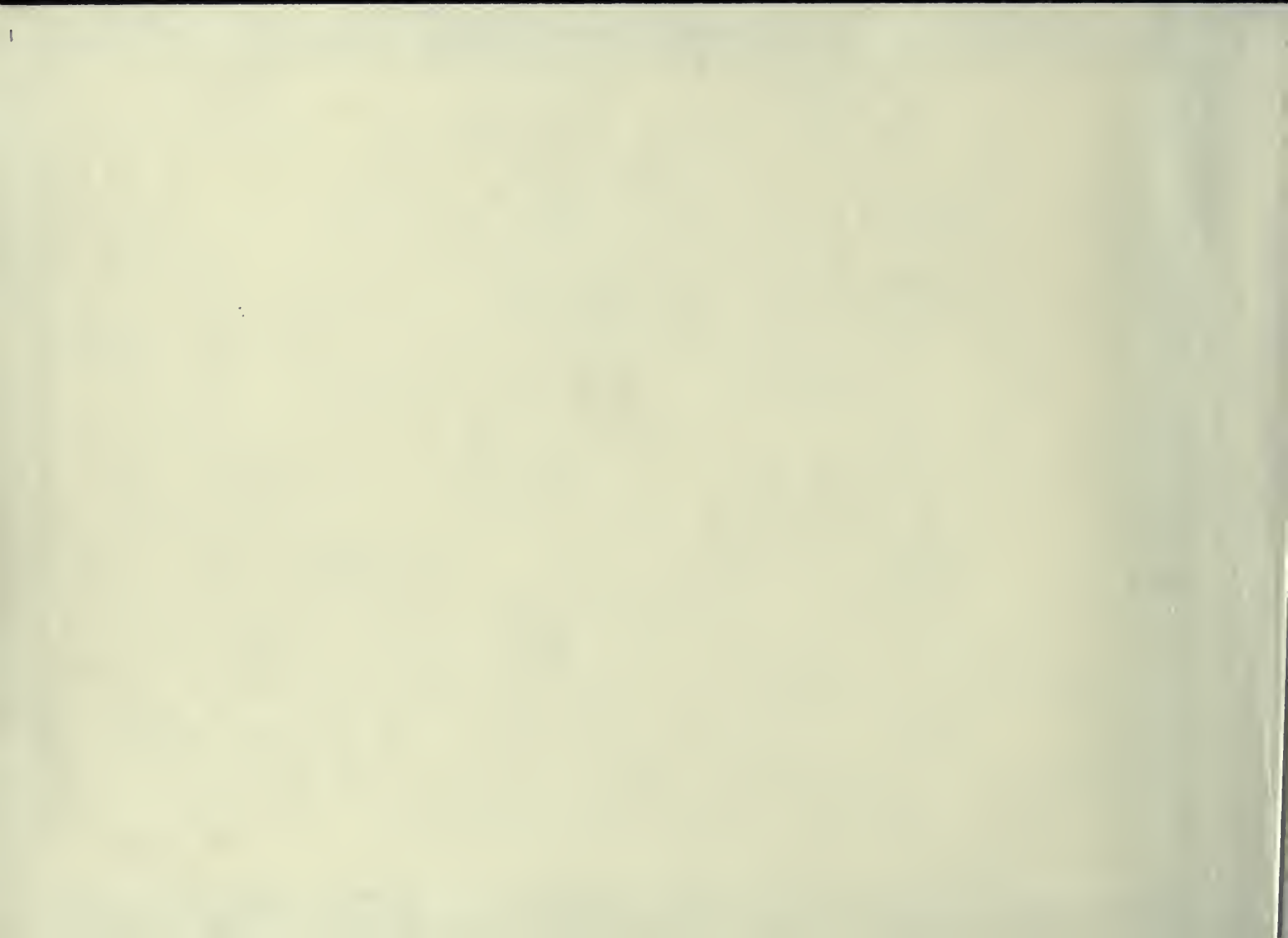


72



2

Echelle Flexure Tests + JAN 25/26/93  
Jan 29/30/93  
CASS Non Motion "Flexure" test setup (pin hole) Nov 6/7/92.

3.

Spect. T

Focus...

Spect. T

Exp. Mir.



Spectr. Temp. ....

Dome Temp./Hum. ....

Transparency Conditions ..... 4.

Focus .....

Spectr. Temp. ....

Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Pig. Mag. | Sp. | Inst. | Grating/Tilt | Slit      | Emulsion | P.H.       | Program | Remarks | Quality |
|-----------|--------|-----------|-----|-------|--------------|-----------|----------|------------|---------|---------|---------|
|           |        |           |     | DAVID | DUNLAP       | OBSE      | VATOR    |            |         |         |         |
|           |        |           |     | 74"   | LOGBOOK      |           |          |            |         |         |         |
|           |        |           |     | VOL   | 72           |           |          |            |         |         |         |
|           |        |           |     | PLATE | NOS          | CC 106 74 | -        | CC 12 71 7 |         |         |         |
|           |        |           |     | NOV   | 92           | MAR       | 93       |            |         |         |         |

5

Emulsion Batches:

Date 1992 Nov. 6/7... Observers T.a..... Test. (non Tel movement  
FLEURO)

Tel. West Side of Piers

| Plate No.     | Object                        | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End           | Declination | Comparison<br>Type/Filter | Exp.  |
|---------------|-------------------------------|--------------|---------------------|-------------------------|-----------------------|-----------------------------|-------------|---------------------------|-------|
| CC10674<br>75 | Comp/Stellar HURTMAN Tests    |              |                     | 219 30                  |                       | All at 0000<br>Side of pier | +45 12 18   | Fen<br>A=1/8              | 10/10 |
| 10676         | Comp.                         |              |                     | 19 46 20                |                       | 00 00                       |             |                           | 10s   |
| 77            |                               |              |                     | 20 03                   |                       |                             |             |                           | "     |
| 78            |                               |              |                     | 20 42 17                |                       |                             |             |                           | "     |
| 79            |                               |              |                     | 21 28                   |                       |                             |             |                           | "     |
| 80            |                               |              |                     | 22 09 30                |                       |                             |             |                           | "     |
| 81            | Using CCD.EXE till this point |              |                     | 23 03 20                |                       |                             |             |                           | "     |
| 82            | Now using CCD3.EXE            |              |                     | 23 32 50                |                       |                             |             |                           | "     |
| 83            | "                             |              |                     | 00 15 43                |                       |                             |             |                           | "     |
| 84            | "                             |              |                     | 00 33 40                |                       |                             |             |                           | "     |
| 85            | Comp                          |              |                     | 01 22 02                |                       |                             |             |                           | "     |



Spectr. Temp. .... Dome Temp./Hum.  $+1.7^{\circ}\text{C}$   $60\%$  Transparency Conditions ... *Cloudy* ... *Dome Closed* ...

Focus ...  $6.90$  .....

Spectr. Temp. .... Dome Temp./Hum.  $-005^{\circ}\text{C}$   $62\% \text{H}$

*Topup finished @ 1910*

*CCDT set to  $-100^{\circ}\text{C}$  90CGAIN*

| Exp. Mtr. | Seeing | Ptg. Mag. | $T_{\text{CC}}$ | Inst.       | Grating/Tilt                   | Slit                 | Emulsion | P.H.       | Program                   | Remarks  | Quality |
|-----------|--------|-----------|-----------------|-------------|--------------------------------|----------------------|----------|------------|---------------------------|--|---------|
|           |        |           | -               | CASS<br>CCD | 1800 $1/4 \text{mm}$<br>G=6020 | 200 $\mu$<br>Pinhole | 6563A    | 1ci<br>2ci | Comp Stability Tests      | No Tel movement<br>No Comp Feed movement         |         |
|           |        |           | $+1.5^{\circ}$  |             |                                |                      |          | 3ci        | 575 0 35 1024 1 1 CCD FMT |  |         |
|           |        |           | $+1.4^{\circ}$  |             |                                |                      |          | 4ci        |                           |  |         |
|           |        |           | $+1.3^{\circ}$  |             |                                |                      |          | 5ci        |                           |  |         |
|           |        |           | $+1.2^{\circ}$  |             |                                |                      |          | 6ci        |                           |  |         |
|           |        |           | $+1.0^{\circ}$  |             |                                |                      |          | 7ci        |                           | no change in Y rel to 6ci                        |         |
|           |        |           | $+0.6^{\circ}$  |             |                                |                      |          | 8ci        |                           | no change in Y<br>CCDT = $-99.6^{\circ}\text{C}$ |         |
|           |        |           |                 |             |                                |                      |          | 9ci        |                           |  |         |
|           |        |           | $+00.2$         |             |                                |                      |          | 10ci       |                           | incr pixel # in Y down ↓                         |         |
|           |        |           | $00.0^{\circ}$  |             |                                |                      |          | 11ci       |                           | decreasing pixel # in Y                          |         |
|           |        |           | $-00.3^{\circ}$ |             |                                |                      |          | 12ci       |                           |  |         |

7  
 pg#1 SAT SUN  
 Date ... Nov. 7. 18. - 92. .... Observers ... Fbr./Tn. (SERVICE) ...

Emulsion Batches:

.....  
 .....  
 .....

| Plate No.  | Object      | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|------------|-------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| cc10686    | Bias (4)    |              |                     |                         |                       |                   |             |                           |      |
| 687        | Comp        |              |                     |                         |                       |                   |             | FcAr<br>Clear             | 60s  |
| 688        | NOVA Cyg 92 | 20 27 43     | 52 17 39            | 18 24 52                |                       |                   |             |                           | 718  |
| 689        | Comp        |              |                     |                         |                       |                   |             | FcAr<br>Clear             | 60s  |
| 690        | NOVA Cyg 92 | 20 27 43     | 52 17 39            | 18 40 55                |                       | 01 27 W           |             |                           | 1490 |
| 691        | Comp        |              |                     |                         |                       |                   |             | FcAr<br>Clear             | 60s  |
| 692        | Bias (4)    |              |                     |                         |                       |                   |             |                           |      |
| 693        | Comp        |              |                     |                         |                       |                   |             | FcAr<br>Clear             | 60s  |
| 694        | HD 177724   | 19 00 49     | +13 43              | 19 20 08                |                       |                   |             |                           | 290s |
| 695        | Comp        |              |                     |                         |                       |                   |             | FcAr<br>Clear             | 60s  |
| 696<br>700 | FLATS x 5   |              |                     |                         |                       | 03 17 W           | +13 51      | TUNG<br>Ap=1/2            |      |
| 701        | Comp        |              |                     | 1                       |                       |                   | Ap=1/2      | FcAr<br>Clear             | 60s  |
| 702        | HD 177724   | 19 00 49     | +13 43              | 19 41 51                |                       |                   |             |                           | 226  |
| 703        | Comp        |              |                     |                         |                       |                   | Ap=1/2      | FcAr<br>Clear             | 60s  |
| 704        | Comp        |              |                     |                         |                       |                   | Ap=Clear    | FcAr<br>Clear             | 60s  |

Spectr. Ter  
 Focus....  
 Spectr. Ter

Exp. Mir.

300

720

26K

30K



Spectr. Temp. .... Dome Temp./Hum. - 0.08/55.49° Transparency Conditions ... PARTLY CLOUDY ..... 2

Focus ..... 6.90 .....

Spectr. Temp. .... Dome Temp./Hum. ....

CCDT → -100°C 90CGAIN

480 0 50 1024 41 ccdfmt

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp.     | Inst.       | Grating/Tilt   | Slit                         | Emulsion | P.H.  | Program                  | Remarks      | Quality                    |
|-----------|--------|-----------|---------|-------------|----------------|------------------------------|----------|-------|--------------------------|--------------|----------------------------|
|           |        |           |         | CASS<br>CCD | 1800<br>G=6020 | 250<br>μ<br>with<br>detector | λ=6563   | 1ci   |                          |              |                            |
| 60s       |        |           |         | ~~~~~       |                |                              |          | 3ci   |                          |              |                            |
| 718       | 300    | 4"        |         |             |                |                              |          |       | Blk pgm                  |              |                            |
| 60s       |        |           |         |             |                |                              |          |       | 3ci                      |              |                            |
| 1490      | 720    | poor      | 310     |             |                |                              |          |       | 4ci                      |              | thinly cloudy - thickening |
| 60s       |        |           |         |             |                |                              |          |       | 5ci                      |              | AIR MASS 1.4748            |
|           |        |           |         |             |                |                              |          |       | 1ci                      |              | Dome T = -1.7°C            |
| 60s       |        |           |         |             |                |                              |          |       | 6ci                      |              |                            |
| 240s      | 26K    | 2.99      | A0 Vann |             |                |                              |          |       | 7ci                      | Telluric std | 7.4K ADU MAX               |
| 60s       |        |           |         |             |                |                              |          |       | 8ci                      |              |                            |
|           |        |           |         |             |                |                              |          |       | 9ci                      |              | 12.4K MAX ADU              |
| 60s       |        |           |         |             |                | 1800<br>G=5930               |          | 6450Å | 10ci                     |              |                            |
| 280s      | 32K    | 2.99      |         |             |                |                              |          |       | 7ci                      | Telluric std |                            |
| 60s       |        |           |         |             |                |                              |          | 11ci  | Comps w/ due to Ap = 1/2 |              |                            |
| 60s       |        |           |         |             |                |                              |          | 12ci  |                          |              |                            |

#2 SAT SUN

Emulsion Batches:

Date .. NOV. 7/8 - 92 .. Observers .. P.B. / Th. (Service)

.....  
 .....  
 .....

| Plate No.  | Object    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.          |
|------------|-----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|---------------|
| 705        | HD 203156 | 21 15 23     | 37 49               | 19 55 13                |                       | 01 34             |             |                           | 371           |
| 706        | Comp      |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s           |
| 707        | Comp      |              |                     |                         |                       |                   |             | "                         | "             |
| 708        | HD 198726 | 20 47 13     | 27 53               |                         |                       |                   |             |                           | 250           |
| 709        | Comp      |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s           |
| 710        | FLATS x 3 |              |                     |                         |                       |                   |             | TUNG<br>A=1/4             | 24s           |
| 712        |           |              |                     |                         |                       | 00 01W            | +2°         |                           |               |
| 713<br>714 |           | Focus Test   |                     |                         | 21 20                 |                   | "           | "                         | FeAr<br>Clear |
|            |           |              |                     |                         |                       |                   |             |                           |               |
|            |           |              |                     |                         |                       |                   |             |                           |               |
|            |           |              |                     |                         |                       |                   |             |                           |               |
|            |           |              |                     |                         |                       |                   |             |                           |               |
|            |           |              |                     |                         |                       |                   |             |                           |               |
|            |           |              |                     |                         |                       |                   |             |                           |               |
|            |           |              |                     |                         |                       |                   |             |                           |               |
|            |           |              |                     |                         |                       |                   |             |                           |               |
|            |           |              |                     |                         |                       |                   |             |                           |               |
|            |           |              |                     |                         |                       |                   |             |                           |               |

Spectr. Ten  
 Focus.....  
 Spectr. Ten  
 Exp. Mir.  
 700  
 380  
 Dom





11 pg #1 sun mon

Date 1992 Nov 8/9

Observers

Hdy... T.n.....

[CSS386 - 10 secs ahead of wuv]

Emulsion Batches:

.....  
 .....  
 .....

| Plate No.      | Object                    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination     | Comparison<br>Type/Filter | Exp.  |
|----------------|---------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-----------------|---------------------------|-------|
| CC10715<br>716 | Focus Comp / Stellar Hunt |              |                     | 17 35                   |                       | 0 08W             | +10 11          |                           | 20/20 |
| 717            | BINS(A)                   |              |                     | 17 51                   |                       | 01 42W            | +13 50 E6T side |                           |       |
| 718            | Comp                      |              |                     |                         |                       |                   |                 | FeAr<br>clear             | 60s   |
| 719            | HD177724                  | 19 00 49     | +13 43              | 17 56 44                |                       |                   |                 |                           | 85s   |
| 720            | "                         |              | "                   | 17 59 50                |                       |                   |                 |                           | 154s  |
| 721            | Comp                      |              |                     |                         |                       |                   |                 | FeAr<br>clear             | 60s   |
| 722<br>724     | FLATS x3                  |              |                     | 18 08                   |                       |                   |                 | TUNG<br>Ap=1/2            | 8s    |
| 725            | BINS(4)                   |              |                     |                         |                       |                   |                 |                           |       |
| 726            | FLAT                      |              |                     |                         |                       |                   |                 | TUNG<br>H=1/2             | 8s    |
| 727            | Comp                      |              |                     |                         |                       |                   |                 | FeAr<br>clear             | 60s   |
| 728            | HD197433                  | 20 38.6      | +75 14              | 18 24 37                |                       |                   |                 |                           | 406s  |
| 729            | "                         |              |                     | 18 32 36                |                       |                   |                 |                           | 400s  |
| 730            | "                         |              |                     | 18 39 56                |                       |                   |                 |                           | 400s  |
| 731            | "                         |              |                     | 18 46 57                |                       |                   |                 |                           | "     |
| 732            | "                         |              |                     | 18 53 58                |                       |                   |                 |                           | "     |
| 733            | "                         |              |                     | 19 01 00                |                       | 01 27W            |                 |                           | "     |

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mir.

CCD=

36k

48k

272

2615

3000

3100

3040

3060



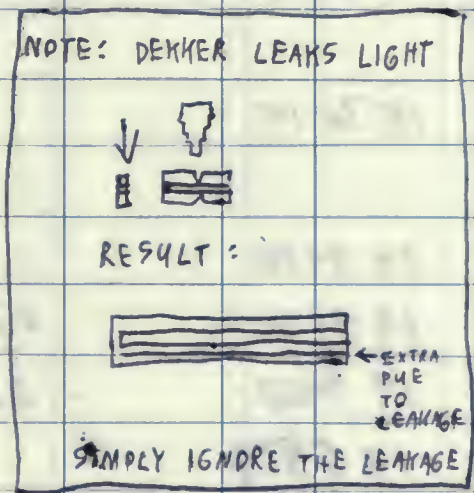
Spectr. Temp. .... Dome Temp./Hum.  $+00.7^{\circ}\text{C}$   $63\% \text{H}$  Transparency Conditions *Fine - inc Haze* 12

Focus ....  $6.90$  THIS IS LOG BOOK 72

Spectr. Temp. .... Dome Temp./Hum.  $-00.5^{\circ}\text{C}$   $66\%$

Tel encoders *NO RIMMILIZED on 2 Cyg BS 7924*  
 CCDT -  $-100^{\circ}\text{C}$   $90\text{CGAIN}$

| Exp.  | Mtr. | Seeing | Pig. Mag.   | Sp. | Inst.                        | Grating/Tilt   | Slit                | Emulsion          | P.H.         | Program              | Remarks  | Quality |
|-------|------|--------|-------------|-----|------------------------------|----------------|---------------------|-------------------|--------------|----------------------|--|---------|
| 20/20 |      |        |             |     | CASS<br>CCD                  | 1800<br>G=5530 | 250 $\mu$<br>doctor | 5880 $\text{\AA}$ | 26ci<br>21ci | 470 0 10<br>480 0 50 | FOR FOCUS TEST<br>1024 20 1 CCD FMT<br>1024 4 1 CCD FMT<br>Dome T = $-00.1^{\circ}\text{C}$                  |         |
|       |      |        |             |     |                              |                |                     |                   | 1ci          |                      | CCDT = $-100.0^{\circ}\text{C}$ (Just Reached that Temp) [CCD had warmed $-5^{\circ}$ to Ambient during day] |         |
| 85s   | 36K  |        | 2.99        |     | AOV $\bar{a}$ <sub>ann</sub> |                |                     |                   | 4ci          | Telluric Std         | MAX THRU   |         |
| 154s  | 48K  |        | "           | "   |                              |                |                     |                   | 5ci          | "                    | 6K MAX   |         |
| 60s   |      |        |             |     |                              |                |                     |                   | 6ci          |                      |  |         |
| 8s    |      |        |             |     |                              |                |                     |                   | 7ci<br>8ci   |                      |  |         |
| 8s    |      |        |             |     |                              |                |                     |                   | 1ci          |                      | Dome T = $-00.1^{\circ}\text{C}$   |         |
| 60s   |      |        |             |     |                              |                |                     |                   | 10ci         |                      |  |         |
| 406s  | 2722 | 3.7"   | 7.3<br>-7.7 |     | B5V<br>+K0V +K5V             |                |                     |                   | 11ci         |                      |  |         |
| 400s  | 2615 | 3.3"   |             |     |                              |                |                     |                   | 12ci         | Hdy pyg              | 5000 ADU $\Sigma$ Avg $\sigma$ line $\Delta$ grad<br>SI Hazy   |         |
| 400s  | 3000 |        |             |     |                              |                |                     |                   | 13ci         |                      |  |         |
|       | 3100 |        |             |     |                              |                |                     |                   | 14ci         |                      | star 400s, bat x7  |         |
|       | 3040 |        |             |     |                              |                |                     |                   |              |                      |  |         |
|       | 3060 |        |             |     |                              |                |                     |                   |              |                      |  |         |



B p942

Sun Mon

Emulsion Batches:

Date 1942 Nov 8/9..... Observers Hedy T. G.....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC10734   | HD197433 | 20 38.6      | +75 14              | 19 08 01                |                       | 01 34W            |             |                           | 400s |
| 35        |          |              |                     | 19 15 02                |                       |                   |             |                           | 4    |
| 36        |          |              |                     | 19 22 04                |                       |                   |             |                           | 4    |
| 37        | BINS(4)  |              |                     |                         |                       |                   |             |                           |      |
| 38        | Comp     |              |                     | 19 30 14                |                       |                   |             | FeAr<br>CLEAR             | 60s  |
| 39        | FLAT     |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 8sec |
| 40        | HD197433 |              |                     | 19 34 00                |                       |                   |             |                           | 400s |
| 41        |          |              |                     | 19 41 01                |                       | 02 07W            |             |                           |      |
| 42        |          |              |                     | 19 48 02                |                       | 02 14W            |             |                           |      |
| 43        |          |              |                     | 19 55 04                |                       |                   |             |                           |      |
| 44        |          |              |                     | 20 02 05                |                       |                   |             |                           |      |
| 45        |          |              |                     | 20 09 06                |                       |                   |             |                           |      |
| 46        |          |              |                     | 20 16 51                |                       |                   |             |                           |      |
| 47        |          |              |                     | 20 23 52                |                       |                   |             |                           |      |
| 48        |          |              |                     | 20 30 53                |                       |                   |             |                           |      |
| 49        | BINS(4)  |              |                     |                         |                       |                   |             |                           |      |

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mtr.

3100

2960

3200

3000

2900

3000

2900

2840

2800

2680

2700

2400



Spectr. Temp. .... Dome Temp./Hum.  $-00.4^{\circ}\text{C}$  66% Transparency Conditions ... *sl. hazy* ..... 14.

Focus ... 6.90 .....

Spectr. Temp. .... Dome Temp./Hum.  $-00.8^{\circ}\text{C}$  67% .....

Tel All EAST side of Piers tonight.

| Exp. Mtr. | Seeing | Ptg. Mag.   | Sp. | Inst.    | Grating/Tilt | Slit      | Emulsion | P.H. | Program | Remarks                          | Quality |
|-----------|--------|---|-----|----------|--------------|-----------|----------|------|---------|----------------------------------|---------|
| 400s      | 3"     | $\begin{matrix} \vee \\ 7.3 \\ -7.7 \end{matrix}$ |     | CHSS CCD | 1800 l/mm    | 250 $\mu$ | 5880Å    | 14ci | Hdy p7m | 1:1938 AIRMASS                   |         |
| 4         |        |   |     |          |              |           |          |      |         | Rechecked Field. Absolutely      |         |
| 4         |        |   |     |          |              |           |          | 14ci |         | CERTAIN. Exp meter               |         |
|           |        |   |     |          |              |           |          |      |         | counts unusually high!           |         |
|           |        |   |     |          |              |           |          | 1cs  |         |                                  |         |
| 60s       | 2      |   |     |          |              |           |          | 15ci |         |                                  |         |
| 8sec      |        |   |     |          |              |           |          | 16ci |         | 12.4K MAX ADU                    |         |
| 400s      | 2-3"   |   |     |          |              |           |          | 17ci | Hdy p7m | Repeat STAR400S. BAT 6           |         |
|           |        |   |     |          |              |           |          |      |         |                                  |         |
|           |        |   |     |          |              |           |          |      |         |                                  |         |
|           |        |   |     |          |              |           |          |      |         |                                  |         |
|           |        |   |     |          |              |           |          |      |         |                                  |         |
|           |        |   |     |          |              |           |          |      |         |                                  |         |
|           |        |   |     |          |              |           |          | 17ci |         |                                  |         |
|           | 2"     |   |     |          |              |           |          | 18ci |         | Repeat x3                        |         |
|           |        |   |     |          |              |           |          |      |         |                                  |         |
|           |        |   |     |          |              |           |          | 18ci |         |                                  |         |
|           |        |   |     |          |              |           |          | 1ci  |         | Dome T = $-00.8^{\circ}\text{C}$ |         |

15 pg #3

Emulsion Batches:

Date 1992 Nov 8/9..... Observers Mdy. I.Tn.....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End    | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|----------------------|-------------|---------------------------|------|
| CC10750   | Comp     |              |                     |                         |                       |                      |             | FeAr<br>CLEAR             | 60s  |
| 10751     | FLAT     |              |                     |                         |                       |                      |             | TUNG<br>Ap=1/2            | 85s  |
| 52        | HD197433 | 20 38.6      | +75 14              | 20 42 55                |                       |                      |             |                           | 400s |
| 53        |          |              |                     | 20 49 56                |                       |                      |             |                           |      |
| 54        |          |              |                     | 20 56 57                |                       |                      |             |                           |      |
| 55        |          |              |                     | 21 03 58                |                       | 03 30 30W            |             |                           |      |
| 56        |          |              |                     | 21 10 59                |                       | <del>03 30 30W</del> |             |                           |      |
| 57        |          |              |                     | 21 18 01                |                       |                      |             |                           |      |
| 58        |          |              |                     | 21 25 02                |                       |                      |             |                           |      |
| 59        |          |              |                     | 21 32 03                |                       |                      |             |                           |      |
| 60        |          |              |                     | 21 39 04                |                       |                      |             |                           |      |
| 61        | BIAS(4)  |              |                     |                         |                       |                      |             |                           |      |
| 62        | Comp     |              |                     |                         |                       |                      |             | FeAr<br>CLEAR             | 60s  |
| 63        | FLAT     |              |                     |                         |                       |                      |             | TUNG<br>Ap 1/2            | 85   |
| 64        | HD197433 | 20 38.6      | +75 14              | 21 50 56                |                       | 04 17W               |             |                           | 400s |
| 65        | n        |              |                     | 21 57 57                |                       |                      |             |                           | n    |

Spectr. Tem

Focus....

Spectr. Tem

Exp. Mir.

2200

2200

2300

2260

2360

2340

2060

2000

2270

2190

2350





17 pg #4

Sun/Mon

Emulsion Batches:

Date 1992 Nov 8/9..... Observers Hdq. Ts.....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |      |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|------|
|           |          |              |                     |                         |                       |                   |             | Type/Filter   | Exp. |
| cc10766   | HD197433 | 20 38.6      | +75 14              | 22 04 58                |                       |                   |             |               | 400s |
| 767       |          |              |                     | 22 12 20                |                       |                   |             |               |      |
| 68        |          |              |                     | 22 19 21                |                       |                   |             |               |      |
| 69        |          |              |                     |                         |                       |                   |             |               |      |
| 70        |          |              |                     | 22 33 23                |                       |                   |             |               |      |
| 71        |          |              |                     | 22: 40: 40              |                       |                   |             |               |      |
| 72        |          |              |                     | 22 47 41                |                       |                   |             |               |      |
| 73        | Birus x4 |              |                     |                         |                       |                   |             |               |      |
| 74        | Comp     |              |                     |                         |                       |                   |             | FeAn<br>CLEAR | 60s  |
| 75        | FLHT     |              |                     |                         |                       |                   |             | TUNG<br>A=1/2 | 85   |
| 76        | HD197433 |              |                     | 22 59 35                |                       |                   |             |               | 400s |
| 77        |          |              |                     | 23 06 36                |                       |                   |             |               |      |
| 78        |          |              |                     | 23 13 38                |                       |                   |             |               |      |
| 79        |          |              |                     | 23 20 40                |                       |                   |             |               |      |
| 80        |          |              |                     | 23 27 41                |                       |                   |             |               |      |

Spectr. Ten

Focus... 6

Spectr. Ten

Exp. Mir.

2000

1800

1100

2000

2000

2000

1150

1800

1700

1700

1800

1610





A 19 #5

SUN/moon

Emulsion Batches:

Date 1992... Nov. 8/9.... Observers ... Hdy. 2A" ... Th... (Some mki)

| Plate No. | Object    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|-----------|-----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| CC10781   | HD 197433 |              |                     | 23 34 42                |                       |                   |             |                           | 400s  |
| 82        |           |              |                     | 23 41 44                |                       |                   |             |                           |       |
| 83        |           |              |                     | 23 48 45                |                       |                   |             |                           |       |
| 84        |           |              |                     | 23 55 47                |                       | 06 23W            |             |                           |       |
| 85        | BIASCA)   |              |                     |                         |                       |                   |             |                           |       |
| 86        | Comp      |              |                     |                         |                       |                   |             | FEAR<br>CLARK             | 60s   |
| 87        | FLAT      |              |                     | 00 03 50                |                       |                   |             | TUNG<br>Hp=1/2            | 8s    |
| 88        | HD197433  | 20 38.6      | +75 14              | 00 07 24                |                       |                   |             |                           | 400s  |
| 89        | "         |              |                     | 00 14 26                |                       |                   |             |                           | v     |
| 90        | "         |              |                     | 00 21 27                |                       |                   |             |                           | "     |
| 91        | "         |              |                     | 00 28 29                |                       |                   |             |                           | "     |
| 792       | "         |              |                     | 00 36 00                |                       |                   |             |                           | "     |
| 793       | "         |              |                     | 00 43 08                |                       |                   |             |                           | 488s! |
| 794       | "         |              |                     | 00 51 54                |                       |                   |             |                           | 400s  |
| 795       | "         |              |                     | 00 58 55                |                       |                   |             |                           | "     |
| 10796     | "         |              |                     | 01 05 56                |                       |                   |             |                           | "     |

Spectr. Tem

Focus... 6

Spectr. Tem

Exp. Mr.

1560

1450

1400

1347

1180

740

445

810

443

622

855

1400

1790



Spectr. Temp. .... Dome Temp./Hum.  $-2.5^{\circ}\text{C}$  73% Transparency Conditions ... *S1 hazy* ..... 20

Focus ... *6:90* .....

Spectr. Temp. .... Dome Temp./Hum. ....

| Comparison Filter | Exp. | Exp. Mtr. | Seeing | Ptg. Mag.                   | Sp. | Inst.    | Grating/Tilt | Slit      | Emulsion | P.H. | Program | Remarks                         | Quality |
|-------------------|------|-----------|--------|-----------------------------|-----|----------|--------------|-----------|----------|------|---------|---------------------------------|---------|
|                   |      | 1550      |        |                             |     | CASS CCD |              | 250 $\mu$ | 5880A    |      |         |                                 |         |
|                   |      | 1450      |        |                             |     |          |              |           |          |      |         |                                 |         |
|                   |      | 1400      | 3"     | $\checkmark$<br>7.3<br>-7.7 |     |          |              |           |          |      |         |                                 |         |
|                   |      | 1347      |        |                             |     |          |              |           |          | 30ci |         | thin cloud now                  |         |
|                   |      |           |        |                             |     |          |              |           |          | 1ci  |         | Dome T = $-2.6^{\circ}\text{C}$ |         |
|                   |      |           |        |                             |     |          |              |           |          | 31ci |         |                                 |         |
|                   |      |           |        |                             |     |          |              |           |          | 32ci |         | 11.5 K ADU MAX                  |         |
|                   |      | 1180      |        |                             |     |          |              |           |          | 33ci |         | Repeat x4                       |         |
|                   |      | 740       |        |                             |     |          |              |           |          |      |         |                                 |         |
|                   |      | 445       |        |                             |     |          |              |           |          |      |         | cloud                           |         |
|                   |      | 810       |        |                             |     |          |              |           |          |      |         | cloud                           |         |
|                   |      | 443       |        |                             |     |          |              |           |          |      |         |                                 |         |
|                   |      | 622       |        |                             |     |          |              |           |          |      |         |                                 |         |
|                   |      | 855       |        |                             |     |          |              |           |          |      |         |                                 |         |
|                   |      | 1400      | 3"     |                             |     |          |              |           |          |      |         | clear again                     |         |
|                   |      | 1790      |        |                             |     |          |              |           |          | 33ci |         |                                 |         |

21 #6 sun/mon

Emulsion Batches:

Date 1997 Nov. 31.9..... Observers Hdq./Th.....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC10797   | BIHS(4)  |              |                     |                         |                       |                   |             |                           |      |
| 798       | Comp     |              |                     |                         |                       |                   |             | FeAr<br>CLEAR             | 60s  |
| 799       | FLAT     |              |                     |                         |                       |                   |             | TUNG<br>Ap=1/2            | 8s   |
| 800       | HD197433 | 20 38.6      | +75 14              | 01 18 29                |                       | 07 45W            |             |                           | 400s |
| 01        |          |              |                     | 01 25 30                |                       |                   |             |                           |      |
| 02        |          |              |                     | 01 32 32                |                       |                   |             |                           |      |
| 03        |          |              |                     | 01 39 34                |                       |                   |             |                           |      |
| 04        |          |              |                     | 01 46 57                |                       |                   |             |                           |      |
| 05        |          |              |                     | 01 53 58                |                       |                   |             |                           |      |
| 06        |          |              |                     | 02 00 59                |                       | <del>08 35W</del> |             |                           |      |
| 07        |          |              |                     | 02 08 01                |                       | <del>08</del>     |             |                           |      |
| 08        |          |              |                     | 02 15 12                |                       | 08 41W            |             |                           | 404  |
| 09        | BIHS(4)  |              |                     |                         |                       |                   |             |                           |      |
| 10        | Comp     |              |                     |                         |                       |                   |             | FeAr<br>CLEAR             | 60s  |
| 11        | FLAT     |              |                     |                         |                       |                   |             | TUNG<br>Ap=1/2            | 8s   |
| 12        | HD197433 |              |                     | 02 27 11                |                       |                   |             |                           | 400  |

Spectr. Ter

Focus... 6

Spectr. Ter

Exp. Mir.

1600

1500

1600

1650

1570

1770

1560

1350

1400

1470



Spectr. Temp. .... Dome Temp./Hum.  $-2.5^{\circ}\text{C}$  73.3% Transparency Conditions *Part cloudy* ..... 22  
 Focus *6.90*  
 Spectr. Temp. .... Dome Temp./Hum.  $-2.7^{\circ}\text{C}$  74.1%

Comparison  
Filter Exp.

1/2 6s  
1/2 8s  
400  
404  
6s  
1/2 8s  
400

| Exp. Mtr. | Seeing | Ptg. Mag.  | Sp. | Inst. | Grating/Tilt | Slit | Emulsion | P.H. | Program  | Remarks                            | Quality |
|-----------|--------|------------|-----|-------|--------------|------|----------|------|----------|------------------------------------|---------|
|           |        |            |     |       |              |      | 5880Å    |      |          |                                    |         |
|           |        |            |     |       |              |      |          | 34c  |          |                                    |         |
|           |        |            |     |       |              |      |          | 8i   |          |                                    |         |
| 1600      |        | 7.3<br>7.7 |     |       |              |      |          | 10ci | Hdg pgrm | AIR MASS 1.678<br>Repeat x 4       |         |
| 1500      | 3-4"   |            |     |       |              |      |          |      |          |                                    |         |
| 1600      |        |            |     |       |              |      |          |      |          |                                    |         |
| 1650      |        |            |     |       |              |      |          | 10ci |          |                                    |         |
| 1570      |        |            |     |       |              |      |          | 13ci |          | Repeat x 4                         |         |
| 1770      |        |            |     |       |              |      |          |      |          | cloud again                        |         |
| 1560      |        |            |     |       |              |      |          |      |          |                                    |         |
| 1350      |        |            |     |       |              |      |          | 13ci |          |                                    |         |
| 1400      |        |            |     |       |              |      |          | 2ci  |          |                                    |         |
|           |        |            |     |       |              |      |          | 1ci  |          |                                    |         |
|           |        |            |     |       |              |      |          | 16ci |          |                                    |         |
|           |        |            |     |       |              |      |          | 17ci |          |                                    |         |
| 1190      |        |            |     |       |              |      |          | 22ci |          | MAX 10K ADU<br>Thick cloud @ 02 32 |         |

23 #7

Emulsion Batches:

Date 1992 Nov 8/9..... Observers ... Hdy... Jn.....

| Plate No.   | Object           | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-------------|------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC10813     | HD197433         | 20 38.6      | +75 14              | 02 34 13                |                       | 09 01 W           |             | 400s                      | 1500 |
| 14          | "                |              |                     | 02 41 15                |                       |                   |             |                           | 1040 |
| 15          | "                |              |                     | 02 49 03                |                       |                   |             |                           | 180  |
| 16          | "                |              |                     | 02 56 04                |                       |                   |             |                           | 340  |
| 17          | "                |              |                     | 03 03 06                |                       |                   |             |                           | 460  |
| 18          | "                |              |                     | 03 11 54                |                       | 09 39 W           |             | 400s                      | 417  |
| 19          | "                |              |                     | 03 18 57                |                       |                   |             | 405s                      | 500  |
| 10820       | BIAS(4)          |              |                     |                         |                       |                   |             |                           |      |
| 821         | COMP             |              |                     | 03 27 31                |                       |                   |             | FeAr<br>Clear             | 60s  |
| 822         | FLAT             |              |                     |                         |                       |                   |             | Tung<br>A=1/2             | 8s   |
| 823         | Comp (WEAK)      |              |                     |                         |                       |                   |             | FeAr<br>A=1/2             | 60s  |
| 824         | AND Comp (USUAL) |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 825         | HD 87901         | 10 03 03     | +12 27              | 03 40 26                |                       |                   |             |                           | 120s |
| 826         | "                |              |                     | 03 43 00                |                       |                   |             |                           | 54s  |
| 827         | COMP             |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 828<br>-830 | FLATS x3         |              |                     |                         |                       |                   |             | Tung<br>A=1/2             |      |

Spectr. Te

Focus....

Spectr. Te

Exp. Mtr.



Spectr. Temp. .... Dome Temp./Hum.  $-2.7^{\circ}\text{C}$  ... 74.7% Transparency Conditions ... Cloud ... coming again ... 24

Focus ... 6.90 .....

Spectr. Temp. .... Dome Temp./Hum. ....

| Comparison Title Exp. | Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst. | Grating/Tilt | Slit          | Emulsion | P.H.            | Program  | Remarks         | Quality |
|-----------------------|-----------|--------|-----------|-----|-------|--------------|---------------|----------|-----------------|----------|-----------------|---------|
| 40s                   | 1500      | 4"     |           |     |       |              | 250u<br>dehex | 5880A    |                 |          |                 |         |
|                       | 1040      |        |           |     |       |              |               |          | 27ci            |          |                 |         |
|                       | 180       |        |           |     |       |              |               |          | 25ci            |          | Repeat 3 cloudy |         |
|                       | 340       |        |           |     |       |              |               |          |                 |          |                 |         |
|                       | 460       |        |           |     |       |              |               |          |                 |          |                 |         |
| 40s                   | 417       |        |           |     |       |              |               |          | 25ci            |          |                 |         |
| 105s                  | 500       | 4.5"   |           |     |       |              |               |          | 26ci            |          |                 |         |
|                       |           |        |           |     |       |              |               |          | 1ci             |          |                 |         |
| 60s                   |           |        |           |     |       |              |               |          | 27ci            |          |                 |         |
| 8s                    |           |        |           |     |       |              |               |          | 28ci            |          | 9417 ADU MAX    |         |
| 60s                   |           |        |           |     |       |              |               |          | 30ci            |          | DO NOT USE      |         |
| 60s                   |           |        |           |     |       |              |               |          | <del>31ci</del> | REVISED  |                 |         |
| 20s                   | 25K       |        | V         | B7V |       |              |               |          | 32ci            | Telluric | X = 1.68        |         |
| 54s                   | 32K       |        |           |     |       |              |               |          | 33ci            |          |                 |         |
|                       |           |        |           |     |       |              |               |          | 34ci            |          |                 |         |
| 60s                   |           |        |           |     |       |              |               |          | 35ci            |          | 9961 ADU MAX    |         |

25.

#8

Emulsion Batches:

Date 1992 Nov 8/9 ..... Observers Hdx. Jn .....

.....  
.....  
.....

| Plate No.           | Object  | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|---------------------|---------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 10831               | BIAS(4) |              |                     |                         |                       |                   |             |                           |      |
| <del>cc/10832</del> | BIAS(4) |              |                     | 04 13 47                |                       | 0 0               | +25°        |                           |      |
| 3                   | DARK    |              |                     | 04 14 34                |                       |                   |             |                           | 600s |
| 4                   | DARK    |              |                     | 04 24 46                |                       |                   |             |                           | 600s |
| 5                   | BIAS(4) |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |
|                     |         |              |                     |                         |                       |                   |             |                           |      |

Spectr. Ten

Focus... 6

Spectr. Ten

Exp. Mir.



Spectr. Temp. .... Dome Temp./Hum.  $-2.5^{\circ}\text{C}$  75.7% Transparency Conditions ..... *cloudy* ..... *db*

Focus ... *6:40* .....

Spectr. Temp. .... Dome Temp./Hum. ....

Comparison  
Filter Exp.

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.   | Grating/Tilt               | Slit | Emulsion                             | P.H. | Program | Remarks   | Quality |
|-----------|--------|-----------|-----|---|----------------------------|------|--------------------------------------|------|---------|---|---------|
|           |        |           |     |   | LASTED 10.5 hrs<br>AT -100 |      | 17:30 EST TOP UP<br>4:00 EST WARMING |      |         | Tccd = $-98.6^{\circ}\text{C}$<br>(WAS STARTING TO WARM UP) |         |
|           |        |           |     | After topup & CCDT back to $-100^{\circ}\text{C}$ |                            |      |                                      |      |         | Dome T = $-23^{\circ}\text{C}$                              |         |
|           |        |           |     |   |                            |      |                                      | 36ci |         |   |         |
|           |        |           |     |   |                            |      |                                      | 36ci |         | tccd = $-100.3^{\circ}\text{C}$                             |         |
|           |        |           |     |   |                            |      |                                      | 1ci  |         |   |         |
|           |        |           |     | All to Perseus & WORM                             |                            |      |                                      |      |         |   |         |

600s

600s

27

Wed Thurs

Date 1992 Nov. 11/12..... Observers Hdg. I.T.n.....

Emulsion Batches:

Flexure Tests: For Hdy

Tel East Side of Piers....

| Plate No.      | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|----------------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| CC 10836<br>37 | Focus Test |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 20/20 |
| 38             | BIAS(4)    |              |                     | 22 15                   |                       |                   |             |                           |       |
| 39             | FLAT       |              |                     |                         |                       |                   |             |                           |       |
| 108 40         | COMP       |              |                     | 22 22 18                |                       | 05 40 W           | +75°        | Tung<br>A=1/2             | 25s   |
| 41             |            |              |                     | <del>22 22 18</del>     |                       | 06 00             |             | FeAr                      |       |
| 42             | COMPS      |              |                     |                         |                       | 06 20 W           | +75°        | Clear                     | 120s  |
| 43             |            |              |                     |                         |                       | 06 40             |             |                           |       |
| 44             | COMPS      |              |                     |                         |                       | 07 20 W           | +75°        |                           | 11    |
| 45             |            |              |                     |                         |                       | 07 40             |             |                           |       |
| 46             | "          |              |                     | 23 02 59                |                       | 07 40 W           |             |                           | 11    |
| 47             |            |              |                     | 23 27 10                |                       | 07 40 W           | +75°        |                           |       |
| 48             |            |              |                     | 23 32 27                |                       | 08 00 W           | +75°        |                           |       |
| 49             | FLAT       |              |                     |                         |                       | 08 00 W           | +75°        | Tung A/12                 | 25s   |
| 50             | BIAS(4)    |              |                     |                         |                       |                   |             |                           |       |
| 51             |            |              |                     |                         |                       |                   |             |                           |       |
| 52             | Comp       |              |                     | 00 24 10                |                       | 08 00 W           | +75°        | FeAr<br>Clear             | 120s  |
| 53             | "          |              |                     | 01 35 11                |                       | "                 | "           | "                         | "     |
| 54             | "          |              |                     | 01 42 39                |                       |                   |             |                           |       |
| 55             | BIAS(4)    |              |                     |                         |                       |                   |             |                           |       |
| 56             |            |              |                     |                         |                       |                   |             |                           |       |
| 57             | Focus Test |              |                     | 01 51                   |                       | 08 00 W           | +75°        | FeAr<br>Clear             | 20/20 |

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mir.

NOT 5



Spectr. Temp. .... Dome Temp./Hum.  $+5.1^{\circ}\text{C}$  75.8% Transparency Conditions *Cloudy* RING AROUND MOON

Focus ... *G. F. 7* .....

*Dome closed For Tests* 28

Spectr. Temp. .... Dome Temp./Hum.  $+4.0^{\circ}\text{C}$  74.8%

*CCDT -> -100°C 90CGain*

| Exp. Mtr. | Seeing | Ptg. Mag.                 | Sp. | Inst.                                 | Grating/<br>Tilt                       | Slit                         | Emulsion | P.H.                                 | Program         | Remarks   | Quality     |
|-----------|--------|---------------------------|-----|---------------------------------------|--|------------------------------|----------|--------------------------------------|-----------------|---|-------------|
| 20/30     |        |                           |     | CASS<br>CCD                           | 1800 $\mu\text{m}/\text{mm}$<br>G=5530 | 550 $\mu\text{m}$<br>decktop | 5880A    | 3ci<br>4ci                           | CCDFMT          | 470 0 10 1024 90 1  | Right<br>on |
|           |        |                           |     |                                       |  |                              |          |                                      | CCDFMT          | 536 0 104 1024 1 1  |             |
| 25s       |        |                           |     |                                       |  |                              |          | 5ci<br>6ci                           |                 |   |             |
|           |        | 28 pcpl<br>430 438 x plot |     |                                       |  |                              |          | JUMP $\rightarrow$ 7ci<br>8ci<br>9ci | FLEXURE<br>TEST | MOVING TELESCOPE<br>SLOWLY BY HAND, DRIVE OFF   |             |
| 11        |        |                           |     |                                       |  |                              |          | JUMP $\rightarrow$ 10ci<br>11ci      |                 | Pcorr T @ 23 EST = $+4.9^{\circ}$   |             |
| 11        |        |                           |     |                                       |  |                              |          | 12ci<br>13ci<br>14ci<br>15ci         |                 |   |             |
| 2-5       |        |                           |     |                                       |  |                              |          | 16ci<br>1ci                          |                 | $\approx$ 1 Pixel between 6ci and 15ci x shift<br>image moves to lower pixel $\Delta t$ in time |             |
| 120s      |        |                           |     | NOT SAVED, OVERWRITTEN BY cc10853.FTS |  |                              |          |                                      |                 | Done T $+4.5^{\circ}\text{C}$ @ 1020  |             |
|           |        |                           |     |                                       |  |                              |          | 17ci                                 |                 | Done T = $+4.1^{\circ}\text{C}$   |             |
|           |        |                           |     |                                       |  |                              |          | 18ci                                 |                 |   |             |
|           |        |                           |     |                                       |  |                              |          | 19ci                                 |                 |   |             |
|           |        |                           |     |                                       |  |                              |          | 30ci<br>4ci                          |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |
|           |        |                           |     |                                       |  |                              |          |                                      |                 |   |             |

T =  $+4.0$  set 6.77 still

871  
P=

Date .. Nov. 13/14 - 92 ..... Observers .. Hdy / Fbr .....

Emulsion Batches:

.....  
.....  
.....

| Plate No.          | Object        | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|--------------------|---------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| cc108589           | Focus TESTS   |              |                     |                         |                       |                   |             |                           |      |
| <del>859</del> 860 | Bias(4)       |              |                     |                         |                       |                   |             |                           |      |
| 861                | COMP          |              |                     |                         |                       |                   |             | FcAr<br>(len)             | 60s  |
| 862                | FLAT          |              |                     |                         |                       |                   |             | TUNG<br>a=1/2             | 5s   |
| 863                | HD177724      | 19 00 48     | 13 43               | 18 43 59                |                       |                   |             |                           | 190s |
| 864                | - " -         | - " -        | - " -               | 18 48 09                |                       |                   |             |                           | 216s |
| 865                | COMP          |              |                     |                         |                       |                   |             | FcAr<br>(len)             | 60s  |
| 866                | FLAT          | 19 00 48     | 13 43               |                         |                       |                   |             | TUNG<br>n=12              | 5s   |
| 867                | FLAT          |              |                     |                         |                       |                   |             | TUNG<br>n=1/2             | 4s   |
| 868                | COMP          |              |                     |                         |                       |                   |             | FcAr<br>(len)             | 60s  |
| 869                | Bias(4)       |              |                     |                         |                       |                   |             |                           |      |
| 870                | Doric(9005)   |              |                     |                         |                       |                   |             |                           |      |
| 871                | Bias(4)       |              |                     |                         |                       |                   |             |                           |      |
| 872                | Kodak Bias(4) |              |                     |                         |                       |                   |             | FcAr<br>(len)             | 60   |
| 873                | FLAT COMP     |              |                     |                         |                       |                   |             | TUNG<br>n=1/2             | 4s   |
| 874                | FLAT          |              |                     |                         |                       |                   |             |                           |      |

Spectr. Ten

Focus .....

Spectr. Ten

Exp. Mtr.

20k

22k





31#2

Date ... Nov 13/14-92 ... Observers ... Hdj / Flor .....

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 875       | HD 197433 | 20 38 36     | 75 14               | 20 25 54                |                       |                   |             |                           | 400s |
| 876       | "         |              |                     | 20 32 48                |                       |                   |             |                           | 400s |
| 877       | "         |              |                     | 20 39 44                |                       |                   |             |                           | 400s |
| 878       | FLAT      |              |                     |                         |                       |                   |             | TUN <sub>1</sub><br>D=1/2 | 4s   |
| 879       | COMP      |              |                     |                         |                       |                   |             | Fed<br>Len                | 60s  |
| 880       | Bias (4)  |              |                     |                         |                       |                   |             |                           |      |
| 881       | HD 197433 | 20 38 36     | 75 14               | 20 54 57                |                       |                   |             |                           | 400s |
| 882       | "         |              |                     | 21 01 51                |                       |                   |             |                           | "    |
| 883       | "         |              |                     | 21 08 45                |                       |                   |             |                           | "    |
| 884       | "         |              |                     | 21 15 38                |                       |                   |             |                           | "    |
| 885       | "         |              |                     | 21 22 32                |                       |                   |             |                           | "    |
| 886       | "         |              |                     | 21 29 26                |                       |                   |             |                           | "    |
| 887       | "         |              |                     | 21 36 20                |                       |                   |             |                           | "    |
| 888       | "         |              |                     | 21 43 13                |                       |                   |             |                           | "    |
| 889       | "         |              |                     | 21 50 07                |                       |                   |             |                           | "    |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

1090

930

935

930

830

915

940

583

385

340

625

930



Spectr. Temp. .... Dome Temp./Hum. .... Transparency Conditions ... PTLY. CLOUDY ... 32

Focus ..... 6.77 .....

Spectr. Temp. .... Dome Temp./Hum. ....

536 0 26 1024 41  
~~536 0 1024 41~~

| Comparison<br>ter Exp. | Exp. Mtr. | Seeing | Ptg.<br>Mag. | Sp. | Inst.       | Grating/<br>Tilt | Slit     | Emulsion | P.H. | Program | Remarks  | Quality |
|------------------------|-----------|--------|--------------|-----|-------------|------------------|----------|----------|------|---------|--|---------|
| 400s                   | 1090      |        | 7.23<br>7.68 | G5V | CASS<br>CCO | 1800<br>α=6020   | 250<br>μ | λ=6563Å  |      | Hdy     | Only Did 3 Exp's   |         |
| 400s                   | 930       |        |              |     |             |                  |          |          |      |         | NOTE: HEADER INFORMATION ABOUT IMAGE SIZE IS WRONG<br>IN FEAR OF THICK CLOUD |         |
| 400s                   | 935       |        |              |     |             |                  |          |          |      |         | All edited CC10876-95 Apr 30/96 TN before CDROM backup.<br>archiving.        |         |
| 4s                     |           |        |              |     |             |                  |          |          |      |         |  |         |
| 60s                    |           |        |              |     |             |                  |          |          |      |         |  |         |
| 400s                   | 930       |        |              |     |             |                  |          |          |      |         |  |         |
| "                      | 830       |        |              |     |             |                  |          |          |      |         |  |         |
| "                      | 915       |        |              |     |             |                  |          |          |      |         |  |         |
| "                      | 940       |        |              |     |             |                  |          |          |      |         |  |         |
| "                      | 583       |        |              |     |             |                  |          |          |      |         | MORE THICK CLOUD   |         |
| "                      | 385       |        |              |     |             |                  |          |          |      |         |  |         |
| "                      | 340       |        |              |     |             |                  |          |          |      |         |  |         |
| "                      | 625       |        |              |     |             |                  |          |          |      |         |  |         |
| "                      | 930       |        |              |     |             |                  |          |          |      |         | A LITTLE CLEARER.  |         |







35

Emulsion Batches:

Date Nov 14/15 - 92 ..... Observers Hdy./Fdr .....

| Plate No. | Object        | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison                |      |
|-----------|---------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
|           |               |              |                     |                         |                       |                   |             | Type/Filter               | Exp. |
| CC10896   | Bias (west)   |              |                     |                         |                       |                   |             |                           |      |
| 897       | Bias (4) east |              |                     |                         |                       |                   |             |                           |      |
| 898       | COMP          |              |                     |                         |                       |                   |             | Fdr<br>Clen               | 60s  |
| 899       | FLAT          |              |                     |                         |                       |                   |             | TUNG<br>$n = \frac{1}{2}$ | 4s   |
| 900       | HD197433      | 20 38 36     | 75 14               | 23 48 28                |                       |                   |             |                           | 400s |
| 901       | "             |              |                     | 23 55 22                |                       |                   |             |                           | "    |
| 902       | "             |              |                     | 00 02 15                |                       |                   |             |                           | "    |
| 903       | "             |              |                     | 00 09 08                |                       |                   |             |                           | "    |
| 904       | "             |              |                     | 00 16 01                |                       |                   |             |                           | "    |
| 905       | "             |              |                     | 00 22 55                |                       |                   |             |                           | "    |
| 906       | "             |              |                     | 00 29 49                |                       |                   |             |                           | "    |
| 907       | "             |              |                     | 00 36 42                |                       |                   |             |                           | "    |
| 908       | "             |              |                     | 00 43 36                |                       |                   |             |                           | "    |
| 909       | FLAT          |              |                     |                         |                       |                   |             | TUNG<br>$n = \frac{1}{2}$ | 4s   |
| 910       | COMP          |              |                     |                         |                       |                   |             | Fdr<br>Clen               | 60s  |
| 911       | Bias (4)      |              |                     |                         |                       |                   |             |                           |      |

Spectr. Temp

Focus ... 6

Spectr. Temp

Exp. Mtr.

900

950

1000

900

920

1020

660

1065

635



Spectr. Temp. .... Dome Temp./Hum.  $-0.08^{\circ}\text{C}/47.7\%$  Transparency Conditions .... Clear ... Partly Cloudy <sup>36</sup>  
 Focus .... 6.77 ..... (2253)

Spectr. Temp. .... Dome Temp./Hum. ....

Normalized on BS800

90 deg in 536 0 26 1024 4 1

Comparison  
Filter Exp.

| Exp. Mtr. | Seeing | Ptg. Mag.                                       | Sp. | Inst.      | Grating/Tilt   | Slit     | Emulsion | P.H. | Program | Remarks                        | Quality |
|-----------|--------|---|-----|------------|----------------|----------|----------|------|---------|--------------------------------|---------|
|           |        |   |     | CSS<br>CCD | 1800<br>G=6020 | 250<br>μ | λ=6563   |      |         | TCCD = -125°C!<br>ACCIDENTALLY |         |
| 603       |        |   |     |            |                |          |          |      |         | T = -1.3°C / H = 68.6%         |         |
| 45        |        |   |     |            |                |          |          |      |         |                                |         |
| 603       | 900    | 3 <sup>4</sup> .4 <sup>4</sup> ?<br>723-<br>268 | 65V |            |                |          |          |      | Hdy     |                                |         |
| "         | 950    |   |     |            |                |          |          |      |         | Airmass = 1.583                |         |
| "         | 1000   |   |     |            |                |          |          |      |         |                                |         |
| "         | 900    |   |     |            |                |          |          |      |         | BIT OF CLOUD                   |         |
| "         | 920    |   |     |            |                |          |          |      |         | CLOUD MOVING IN                |         |
| "         | 1020   |   |     |            |                |          |          |      |         | FROM W & NW - SNOW?            |         |
| "         | 660    |   |     |            |                |          |          |      |         | Hum > 69%                      |         |
| "         | 1065   |   |     |            |                |          |          |      |         |                                |         |
| "         | 635    |   |     |            |                |          |          |      |         | CLOUD MOVING IN                |         |
| 603       |        |   |     |            |                |          |          |      |         | TCCD = -126!                   |         |

37 pg 41

Wed - Thurs

Emulsion Batches:

Date . Nov. 18, 19... 92..... Observers ... H. G. J. / T. N. / P. B. / .....

Time Clock Reset to WWV Time on P.C. ... 55386

| Plate No. | Object                   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison      |      |
|-----------|--------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|-----------------|------|
|           |                          |              |                     |                         |                       |                   |             | Type/Filter     | Exp. |
| cc10912-3 | FOCUS                    |              |                     |                         |                       |                   |             |                 |      |
| 914       | Bias (4)                 |              |                     |                         |                       |                   |             |                 |      |
| 915       | COMP                     |              |                     |                         |                       |                   |             | FAIR<br>CLEAR   | 60s  |
| 916       | H0177724                 | 19 00 49     | 13 43               | 21 02 40                |                       |                   |             |                 | 555s |
| 917       | COMP<br><del>FOCUS</del> | "            | "                   |                         |                       |                   |             | FAIR<br>CLEAR   | 60s  |
| 918       | FLAT                     | "            | "                   |                         |                       |                   |             | TUNG<br>A = 1/2 | 4s   |
| 919       | FLAT                     | "            | "                   |                         |                       |                   |             | "               | "    |
| 920       | Bias (4)                 |              |                     |                         |                       |                   |             |                 |      |
| 921       | COMP                     |              |                     |                         |                       |                   |             | FAIR<br>CLEAR   | 60s  |
| 922       | FLAT                     |              |                     |                         |                       |                   |             | TUNG<br>A = 1/2 | 4s   |
| 923       | H0197433                 | 20 38 36     | 75 14 00            | 21 28 23                |                       |                   |             |                 | 400s |
| 924       | " COMP                   | "            | "                   |                         |                       |                   |             | FAIR<br>CLEAR   | 60s  |
| 925       | TUNG                     |              |                     |                         |                       |                   |             | TUNG<br>A = 1/2 |      |
| 926       | Bias (4)                 |              |                     |                         |                       |                   |             |                 |      |
| 927       | H0197433                 | 20 38 36     | 75 14               | 21 43 20                |                       |                   |             |                 | 400s |

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mir.

4500

585

585



Spectr. Temp. .... Dome Temp./Hum.  $-1^{\circ}\text{C}$  ..... 70% H Transparency Conditions *PART Cloudy* ..... 38

Focus ..... 6.77

Spectr. Temp. .... Dome Temp./Hum. .... CCD T =  $-100^{\circ}\text{C}$  536 0 26 1024 41.

Comparison Filter Exp

| Exp. Mtr. | Seeing | Ptg. Mag.    | Sp.  | Inst.       | Grating/Tilt          | Slit         | Emulsion       | P.H. | Program | Remarks  | Quality                                   |                                |  |
|-----------|--------|--------------|------|-------------|-----------------------|--------------|----------------|------|---------|----------|---|--------------------------------|--|
|           |        |              |      | CASS<br>CCD | 1800<br>$\alpha=6020$ | 250<br>$\mu$ | $\lambda=6563$ |      |         |          |   |                                |  |
| 60s       |        |              |      | ~           |                       | ~            |                |      |         |          |   |                                |  |
| 555s      | 4500   |              |      |             |                       |              |                |      |         | TELLURIC | VERY BAD SEEING<br>in the trees (too low) |                                |  |
| 60s       |        |              |      |             |                       |              |                |      |         |          |   |                                |  |
| 4s        |        |              |      |             |                       |              |                |      |         |          |   |                                |  |
| "         |        |              |      |             |                       |              |                |      |         |          |   |                                |  |
| 60s       |        |              |      |             |                       |              |                |      |         |          |   |                                |  |
| 4s        |        |              |      |             |                       |              |                |      |         |          |   |                                |  |
| 400s      | 0585   | 7.23<br>7.68 | G5 V |             |                       |              |                |      |         |          | HDY                                       | HEAVY THICK CLOUD              |  |
| 60s       |        |              |      |             |                       |              |                |      |         |          |   |                                |  |
| 4s        | 685    | 7.23<br>7.68 | G5 V |             |                       |              |                |      |         | ICI      | HDY.                                      | Dome T = $-20^{\circ}\text{C}$ |  |

39 pg #2

Emulsion Batches:

Date 1992 Nov 18/19..... Observers Hdy./Fbr./Tn.....

| Plate No. | Object    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC10928   | HD 197433 | 20 38.6      | +75 14              | 21 51 13                |                       |                   |             |                           | 400s |
| 29        | "         |              |                     | 22 58 07                |                       |                   |             |                           | "    |
| 30        | "         |              |                     | 23 05 09                |                       |                   |             |                           | "    |
| 31        | Comp      |              |                     |                         |                       |                   |             | FeAr<br>W <sub>0.2</sub>  | 60s  |
| 32        | FLAT      |              |                     |                         |                       |                   |             | JUNK<br>A = 1/2           | 4s   |
| 33        | Bins (4)  |              |                     |                         |                       |                   |             |                           |      |
| 34        | HD 197433 | 20 38.6      | 75 14               | 22 17 36                |                       |                   |             |                           | 400s |
| 35        | "         |              |                     | 22 24 30                |                       |                   |             |                           | "    |
| 36        | "         |              |                     | 22 31 24                |                       | 05 37W            |             |                           | "    |
| 37        | "         |              |                     | 22 38 17                |                       |                   |             |                           | "    |
| 38        | "         |              |                     | 22 45 11                |                       |                   |             |                           | "    |
| 39        | "         |              |                     | 22 52 53                |                       |                   |             |                           | "    |
| 40        | "         |              |                     | 22 59 47                |                       |                   |             |                           | "    |
| 41        | "         |              |                     | 23 06 40                |                       |                   |             |                           | "    |
| 42        | "         |              |                     | 23 13 34                |                       |                   |             |                           | "    |
| 43        | BIAS (4)  |              |                     |                         |                       |                   |             |                           |      |

Spectr. Ter

Focus...6

Spectr. Ter

Exp. Mtr.

860

800

890

1000

975

940

840

840

1000

980

990

970





4<sup>th</sup> pg #3

Wed Thurs

Date 1992 Nov 18/19... Observers Hdy... (Fbr./Tn).....

→ some 24" photometry of some STAR

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC10944   | Comp     |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 45        | FLAT     |              |                     |                         |                       |                   |             | Tung<br>A=1/2             | 45s  |
| 46        | HD197433 | 20 38.6      | +75 14              | 23 28 28                |                       | 06 32 W           |             |                           | 434  |
| 47        | "        |              |                     | 23 36 54                |                       |                   |             |                           | 400s |
| 48        | "        |              |                     | 23 43 50                |                       |                   |             |                           | 1    |
| 49        | "        |              |                     | 23 50 48                |                       | 06 50 W           |             |                           | 1    |
| 50        | "        |              |                     | 23 57 47                |                       |                   |             |                           | 1    |
| 51        | "        |              |                     | 00 05 46                |                       |                   |             |                           | 1    |
| 52        | "        |              |                     | 00 12 45                |                       |                   |             |                           | 1    |
| 53        | "        |              |                     | 00 19 44                |                       |                   |             |                           | 1    |
| CC10954   | Bias (4) |              |                     |                         |                       |                   |             |                           |      |
| 55        | Comp     |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 56        | Flat     |              |                     |                         |                       |                   |             | Tung<br>A=1/2             | 45   |
| 57        | HD197433 |              |                     | 00 32 25                |                       |                   |             |                           | 400s |
| 58        |          |              |                     | 00 39 23                |                       |                   |             |                           | 1    |
| 59        |          |              |                     | 00 46 22                |                       |                   |             |                           | 1    |

Spectr. Te

Focus....

Spectr. Te

Exp. Nr.

1080

1000

950

1000

1010

930

960

875

822

Sun 83

1670





43 P7H4

Emulsion Batches:

Date 1992 Nov 18/19..... Observers Hdg. 24<sup>th</sup> / T.G. 1. Fbr.....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison   |      |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|--------------|------|
|           |          |              |                     |                         |                       |                   |             | Type/Filter  | Exp. |
| CC10960   | HD197433 | 20 38.6      | +75 14              | 00 53 21                |                       | 07 59W            |             |              | 400s |
| 61        |          |              |                     | 01 00 19                |                       |                   |             |              | "    |
| 62        |          |              |                     | 01 10 03                |                       |                   |             |              | "    |
| 63        |          |              |                     | 01 17 02                |                       |                   |             |              | "    |
| 64        |          |              |                     | 01 24 01                |                       |                   |             |              | "    |
| 65        |          |              |                     | 01 30 59                |                       |                   |             |              | "    |
| 66        | BIAS(A)  |              |                     |                         |                       |                   |             |              |      |
| 67        | COMP     |              |                     |                         |                       |                   |             | Ref<br>len   | 60s  |
| 68        | FLAT     |              |                     |                         |                       |                   |             | red<br>n=1/2 | 4s   |
| 69        | HD197433 | 20 38.6      | 75 14               | 01 42 06                |                       |                   |             |              | 400s |
| 70        | "        |              |                     | 01 49 05                |                       |                   |             |              | "    |
| 71        | "        |              |                     | 01 56 03                |                       |                   |             |              | "    |
| 72        | "        |              |                     | 02 03 02                |                       |                   |             |              | "    |
| 73        | "        |              |                     | 02 10 00                |                       |                   |             |              | "    |
| 74        | "        |              |                     | 02 16 59                |                       |                   |             |              | "    |
| 75        | "        |              |                     | 02 23 58                |                       |                   |             |              | "    |

Spectr. Ten

Focus....6

Spectr. Ten

Exp. Mtr.

890

900

940

975

975

910

930

990

50

740

940

470

1000





4<sup>s</sup> pg # 5

Date 92 - NOV. 18/19... Observers Hdy (24") / Tn / Fbr

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| CC10976   | HD197433 | 20 38.6      | 75 14               | 02 33 57                |                       |                   |             |                           | 400s  |
| 77        | "        |              |                     | 02 37 55                |                       | 09 43W            |             |                           | "     |
| 78        | BIAS(4)  |              |                     |                         |                       |                   |             |                           | "     |
| 79        | Comp     |              |                     |                         |                       |                   |             | Fair<br>Clear             | 60s   |
| 80        | FLAT     |              |                     |                         |                       |                   |             | TURB<br>A=1/2             | 4 sec |
| 81        | HD197433 | 20 38.6      | +75 14              | 02 49 40                |                       |                   |             |                           | 400   |
| 82        |          |              |                     | 02 56 39                |                       |                   |             |                           |       |
| 83        |          |              |                     | 03 03 37                |                       |                   |             |                           |       |
| 84        |          |              |                     | 03 10 36                |                       |                   |             |                           |       |
| 85        |          |              |                     | 03 17 54                |                       | 10 24W            |             |                           |       |
| 86        |          |              |                     | 03 24 53                |                       |                   |             |                           |       |
| 87        |          |              |                     | 03 31 51                |                       |                   |             |                           |       |
| 88        |          |              |                     | 03 38 50                |                       |                   |             |                           |       |
| 89        |          |              |                     | 03 45 49                |                       |                   |             |                           |       |
| 90        | BIAS(4)  |              |                     |                         |                       |                   |             |                           |       |
|           | →        |              |                     |                         |                       |                   |             |                           |       |

Spectr. Ter

Focus ...

Spectr. Ter

Exp. Mir.

1000

980

1050

965

1600 →

675

450

375

380





47  
pg#6

Date 92-Nov 18/19 ..... Observers Hdy (24") / Tn / Fb.

Emulsion Batches:  
.....  
.....  
.....

| Plate No.      | Object          | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|----------------|-----------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| cc10991        | FLAT            |              |                     |                         |                       |                   |             |                           |      |
| 992            | COMP            |              |                     |                         |                       |                   |             |                           |      |
| <del>993</del> | <del>COMP</del> |              |                     |                         |                       |                   |             |                           |      |
| 993            | COMP            |              |                     |                         |                       |                   |             | Fc/Dr<br>Clee             | 60s  |
| 994            | H087901         | 10 03 03     | 12 27 22            | 04 12 50                |                       | 9 42 W            |             |                           | 83s  |
| 995            | "               | "            | "                   | 04 14 56                |                       |                   |             |                           | 89s  |
| <del>996</del> | <del>COMP</del> |              |                     |                         |                       |                   |             |                           |      |
| 996            | COMP            |              |                     |                         |                       |                   |             | Fc/Dr<br>Clee             | 60s  |
| 997-999        | FLAT x 3        |              |                     |                         |                       |                   |             | Fc/Dr<br>n = 1/2          | 4s   |
| cc1000         | BINS (4)        |              |                     |                         |                       |                   |             |                           |      |
| cc11001        | DARK            |              |                     |                         |                       | 0 0               |             |                           | 600s |
| 1002           | BI45(4)         |              |                     |                         |                       | "                 |             |                           |      |

Spectr. Ter

Focus ...

Spectr. Ter

Exp. Mtr.

30K

38K



Spectr. Temp. .... Dome Temp./Hum.  $-4.4^{\circ}\text{C} / 75.7\%$  Transparency Conditions ..... *CLOUDY* ..... 48

Focus ..... *6.77* ..... *b*

Spectr. Temp. .... Dome Temp./Hum.  $-4.3^{\circ}\text{C} / 77\%$  H

Comparison  
Filter Exp.

| Exp. Mtr.  | Seeing | Ptg. Mag. | Sp. | Inst.               | Grating/Tilt           | Slit                            | Emulsion                         | P.H.                  | Program         | Remarks                     | Quality |
|------------|--------|-----------|-----|---------------------|------------------------|---------------------------------|----------------------------------|-----------------------|-----------------|-----------------------------|---------|
|            |        |           |     | <i>CRSS<br/>CCD</i> | <i>1800<br/>G=6070</i> | <i>250<br/><math>\mu</math></i> | <i><math>\lambda=6563</math></i> |                       |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  | <del><i>27c</i></del> |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  | <i>27c</i>            | <i>TELLURIC</i> |                             |         |
|            |        |           |     |                     |                        |                                 |                                  |                       |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  |                       |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  |                       |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  |                       |                 | <i>A LITTLE<br/>SNOW...</i> |         |
| <i>60s</i> |        |           |     |                     |                        |                                 |                                  |                       |                 |                             |         |
| <i>83s</i> |        |           |     |                     |                        |                                 |                                  |                       |                 |                             |         |
| <i>89s</i> |        |           |     |                     |                        |                                 |                                  |                       |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  |                       |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  |                       |                 |                             |         |
| <i>60s</i> |        |           |     |                     |                        |                                 |                                  | <i>29c</i>            |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  | <i>30</i>             |                 |                             |         |
| <i>9s</i>  |        |           |     |                     |                        |                                 |                                  | <i>31</i>             |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  | <i>32</i>             |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  |                       |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  |                       |                 |                             |         |
| <i>60Q</i> |        |           |     |                     |                        |                                 |                                  | <i>33c</i>            |                 |                             |         |
|            |        |           |     |                     |                        |                                 |                                  | <i>1c</i>             |                 |                             |         |

4A pg#1

Date .9.2.-Nov.1960... Observers ...Hdy(24'')/Tn/Fbr..

Emulsion Batches:

.....  
 .....  
 .....

| Plate No.      | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|----------------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC11003<br>004 | Focus Test |              |                     |                         | 17 25                 | 00 00             |             |                           |      |
| 005            | BIHSC4)    |              |                     |                         |                       |                   |             |                           |      |
| 006            | Comp       |              |                     |                         |                       |                   |             | Fed/r<br>W                | 60s  |
| 007            | HD213998   | 22 30 13     | -0 37 59            | 17 45 57                |                       |                   |             |                           | 354s |
| 008            | "          | "            | "                   | 17 52 57                |                       |                   |             |                           | 281  |
| 009            | COMP       |              |                     |                         |                       |                   |             | Fed/r<br>Clen             | 60s  |
| 010-012        | FLATx3     | 22 30 13     | -0 37 59            |                         |                       |                   |             | TUNG<br>A=1/4             | 25s  |
| 013            | COMP       |              |                     |                         |                       |                   |             | Fed/r<br>W                | 60s  |
| 014            | Bins (4)   |              |                     |                         |                       |                   |             |                           |      |
| 015            | FLAT       |              |                     |                         |                       |                   |             | TUNA<br>A=1/4             | 20s  |
| 016            | HD197433   | 20 38 36     | 75 14               | 18 24 28                |                       | 134 W             |             |                           | 41s  |
| 17             | "          | "            | "                   | 18 31 28                |                       |                   |             |                           | 401  |
| 18             | "          | "            | "                   | 18 38 52                |                       |                   |             |                           | 400s |
| 19             | "          | "            | "                   | 18 45 50                |                       |                   |             |                           | "    |
| 20             | "          | "            | "                   | 18 52 49                |                       |                   |             |                           | "    |
| 21             | "          | "            | "                   | 18 59 48                |                       |                   |             |                           | "    |

Spectr. Ter  
 Focus...  
 Spectr. Ter  
 Exp. Nr.  
 31K  
 26K  
 1955  
 1900  
 1500  
 990  
 1700  
 1700





sl pg #2

Date 92 - Nov 19 / 20 Observers Hdy / Tn / Fbr

Emulsion Batches:

.....  
 .....  
 .....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| cc11022   | Bias (4) |              |                     |                         |                       |                   |             |                           |      |
| 23        | Comp     |              |                     |                         |                       |                   |             | Felr<br>Clear             | 60s  |
| 24        | FLAT     |              |                     |                         |                       |                   |             | Tung<br>A=1/4             | 20s  |
| 25        | HD197433 | 20 38.6      | +75 14              | 19 11 52                |                       |                   |             |                           | 400s |
| 26        | "        |              |                     | 19 18 51                |                       |                   |             |                           |      |
| 27        | "        |              |                     | 19 25 50                |                       |                   |             |                           |      |
| 28        | Bias     |              |                     |                         |                       |                   |             |                           |      |
| 29        | Comp     |              |                     |                         |                       | 02 40W +75°       |             | Felr<br>Clear             | 60s  |
| 30        | FLAT     |              |                     |                         |                       |                   |             | Tung<br>A=1/4             | 20s  |
| 31        | DARK     |              |                     | 19 40                   |                       |                   |             |                           | 600s |
| 32        | BIHSCA/  |              |                     | 20 20 26                |                       |                   |             |                           |      |
| 33        | Comp     | Tel East     | side                | 20 09                   |                       | -9 19 35          | +62°        | Felr<br>Clear             | 120s |
| 34        | "        |              |                     | 20 55 08                |                       | "                 | "           |                           | "    |
| 35        | "        |              |                     | 21 29 47                |                       | "                 | "           |                           |      |
| 36        | Bias (4) |              |                     |                         |                       |                   |             |                           |      |

Spectr. Temp  
 Focus.....  
 Spectr. Temp

Exp. Mtr.

1310

870

353

5  
 ↓





53 p443

Date 1992 Nov 19/20... Observers (Hdg. 29°) Fbr. Jus.

Emulsion Batches:

.....  
.....  
.....

| Plate No.                            | Object                             | R.A.<br>1900         | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End  | Declination        | Comparison<br>Type/Filter | Exp. |
|--------------------------------------|------------------------------------|----------------------|---------------------|-------------------------|-----------------------|--------------------|--------------------|---------------------------|------|
| CC11037                              | Comp                               |                      |                     | 21 43 12                |                       |                    |                    | F <sub>435</sub><br>CLEAR | 60s  |
| 38                                   | FLAT                               |                      |                     |                         |                       |                    |                    | TUNG<br>Ap=1/4            | 20s  |
| 39                                   | HD197433                           | 20 38.6              | +75 14              | 21 48 57                |                       |                    |                    |                           | 400s |
| 40                                   | FLAT                               |                      |                     |                         |                       |                    |                    | TUNG<br>Ap=1/4            | 20s  |
| 41                                   | Comp                               |                      |                     |                         |                       |                    |                    | F <sub>435</sub><br>CLEAR | 60s  |
| 42                                   | DARK                               |                      |                     | 22 07 17                |                       |                    |                    |                           | 600s |
| 43                                   | BIAS(4)                            |                      |                     | 22 17 27                |                       |                    |                    |                           |      |
| 44                                   | BIAS(4)                            | Now Tel on west side |                     | 00 58 54                |                       | 0 0                | +35°               |                           |      |
| 45                                   | DARK                               | 10 mins              |                     | 00 59 47                |                       | "                  | "                  |                           | 600s |
| 46                                   | BIAS(4)                            |                      |                     |                         |                       | "                  | "                  |                           |      |
| 47                                   | DARK                               | 10 mins              |                     |                         |                       | "                  | "                  |                           | 600s |
| 48                                   | BIAS(4)                            |                      |                     |                         |                       | "                  | "                  |                           |      |
| <del>70(46)</del><br><del>(30)</del> | <del>BIAS</del><br><del>BIAS</del> |                      |                     | <del>23 02</del>        |                       | <del>00 16 W</del> | <del>+44 50°</del> |                           |      |

Spectr. Tem

Focus...6

Spectr. Tem

Exp. Mir.

1260

47.47



Spectr. Temp. .... Dome Temp./Hum.  $-1.9^{\circ}\text{C}$  78.1% Transparency Conditions .. *PCAT... clear* ..... 54

Focus ... *6:8.5* .....

Spectr. Temp. .... Dome Temp./Hum.  $-1.5^{\circ}\text{C}$  79%

*To mostly cloudy*

| Exp. Mtr.        | Seeing | Ptg. Mag.           | Sp. | Inst.   | Grating/Tilt | Slit      | Emulsion | P.H. | Program | Remarks                         | Quality |
|------------------|--------|---------------------|-----|---|--------------|-----------|----------|------|---------|---------------------------------|---------|
|                  |        |                     |     | CHSS<br>CCD   | G=5.530      | 250 $\mu$ | 5880A    | 23c  |         |                                 |         |
|                  |        |                     |     |   |              |           |          | 24c  |         |                                 |         |
| 1260             | 4"     | $\sqrt{7.3}$<br>7.7 |     |   |              |           |          | 25c  | Hdy pgm | cloud at end                    |         |
|                  |        |                     |     |   |              |           |          | 26c  |         |                                 |         |
|                  |        |                     |     |   |              |           |          | 27c  |         |                                 |         |
|                  |        |                     |     |   |              |           |          | 28c  |         |                                 |         |
|                  |        |                     |     |   |              |           |          | 1c   |         |                                 |         |
|                  |        |                     |     |   |              |           |          | 1c   |         | DOMET = $-1.4^{\circ}\text{C}$  |         |
|                  |        |                     |     |   |              |           |          | 31c  |         |                                 |         |
|                  |        |                     |     |   |              |           |          |      |         | Dome T = $-1.4^{\circ}\text{C}$ |         |
|                  |        |                     |     |   |              |           |          | 32c  |         |                                 |         |
|                  |        |                     |     |   |              |           |          | 1c   |         | Dome T = $-1.4^{\circ}\text{C}$ |         |
| <del>47-47</del> |        |                     |     | <del>(no detector, 250<math>\mu</math> slit head)</del> |              |           |          |      |         |                                 |         |
|                  |        |                     |     | <del>(67ms x 2)</del>                                   |              |           |          |      |         |                                 |         |
|                  |        |                     |     | <del>(133ms x 2)</del>                                  |              |           |          |      |         |                                 |         |

56

Fri - SAT

Emulsion Batches:

Date 1942 Nov. 20/21... Observers T. n. .... No one else here at All

Comp STABILITY Tests OR Non movement "Flexure" Tests..... Tel. West Side

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination                 | Comparison<br>Type/Filter | Exp.   |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-----------------------------|---------------------------|--------|
| cc 11049  |            |              |                     |                         |                       |                   |                             |                           |        |
| 50        | Focus      | Comp/stellar | Huriman             | 18 42                   |                       |                   |                             | FelNo<br>Ap=1/8           | 10/10  |
| 51        | Comp       |              |                     | 19 07 36                |                       |                   |                             |                           |        |
| 52        | Comp       |              |                     | 19 48 03                |                       |                   | Actual<br>00 00 37W +45 20' | FelNo<br>Ap=1/8           | 10 sec |
| 53        | "          |              |                     | 20 26 19                |                       |                   |                             |                           |        |
| 54        | "          |              |                     | 21 41 25                |                       |                   |                             |                           |        |
| 55        | "          |              |                     | 21 50 36                |                       |                   |                             |                           |        |
| 56        | "          |              |                     | 22 23 02                |                       |                   |                             |                           |        |
| 57        | "          |              |                     | 22 45 38                |                       |                   |                             |                           |        |
| 58        | "          |              |                     | 23 28 10                |                       |                   |                             |                           |        |
| 59        | BIHS(A)    |              |                     | 23 31 18                |                       |                   |                             |                           |        |
| 60        | Comp       |              |                     | 00 01 08                |                       |                   |                             |                           |        |
| 61        | "          |              |                     | 01 03 19                |                       |                   |                             |                           |        |
| 62        | "          |              |                     | 01 28 09                |                       |                   |                             |                           |        |
| 63        | Focus Test | Comp/stellar |                     | 02 03                   |                       |                   |                             | LeNo<br>Ap 1/8            | 10/10  |
| 64        |            |              |                     |                         |                       |                   |                             |                           |        |
| 65        |            |              |                     |                         |                       |                   |                             |                           |        |
| 66        |            |              |                     |                         |                       |                   |                             |                           |        |
| 67        |            |              |                     |                         |                       |                   |                             |                           |        |
| 68        |            |              |                     |                         |                       |                   |                             |                           |        |
| 69        |            |              |                     |                         |                       |                   |                             |                           |        |
| 70        |            |              |                     |                         |                       |                   |                             |                           |        |
| 71        |            |              |                     |                         |                       |                   |                             |                           |        |
| 72        |            |              |                     |                         |                       |                   |                             |                           |        |
| 73        |            |              |                     |                         |                       |                   |                             |                           |        |
| 74        |            |              |                     |                         |                       |                   |                             |                           |        |
| 75        |            |              |                     |                         |                       |                   |                             |                           |        |
| 76        |            |              |                     |                         |                       |                   |                             |                           |        |
| 77        |            |              |                     |                         |                       |                   |                             |                           |        |
| 78        |            |              |                     |                         |                       |                   |                             |                           |        |
| 79        |            |              |                     |                         |                       |                   |                             |                           |        |
| 80        |            |              |                     |                         |                       |                   |                             |                           |        |

Done Spectr. Ter

Focus...&amp;

Spectr. Ter

Exp. Mtr.

Note G

Token no

No Gen

No Pr

No Dec

Note H

Risi

Nigh



Dome Spectr. Temp.  $+1.5^{\circ}\text{C}$  @ 1820

Dome Temp./Hum. .... 87.6% H

Transparency Conditions Cloudy ..... S6

Focus ... 6.85

Temp outside stable or sl rising  
[580 0 20 1024 1 1 CCD/FWT] in Time.

Spectr. Temp. ....

Dome Temp./Hum. .... 88.5% 90 C6H1N

CCDT  $\rightarrow -100^{\circ}\text{C}$

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.       | Grating/Tilt                           | Slit                         | Emulsion | P.H.   | Program | Remarks   | Quality |
|-----------|--------|-----------|-----|-------------|--|------------------------------|----------|--|---------|---|---------|
|           |        |           |     | CHSS<br>CCD | 1800 $\mu\text{m}/\text{mm}$<br>G=5530 | 200 $\mu\text{m}$<br>pinhole | 5880A    | 3ci<br>4ci   |         | Dome T = $+1.6^{\circ}\text{C}$<br>stellar uv sl Red  |         |
|           |        |           |     |             |  |                              |          | 5ci<br>6ci<br>10ci<br>11ci<br>12<br>13<br>14<br>15 |         | $+1.6^{\circ}\text{C}$ 87.6% H<br><br>$+1.7^{\circ}\text{C}$<br><br>CCDT = $-100.5^{\circ}\text{C}$<br>$+1.7^{\circ}\text{C}$ CCDT = $-100.5^{\circ}\text{C}$<br>$+1.7^{\circ}\text{C}$ CCDT = $-100.5^{\circ}\text{C}$ |         |
|           |        |           |     |             |  |                              |          | 1ci<br>16ci<br>17ci<br>19ci<br>20ci                |         | Dome T = $+1.8^{\circ}\text{C}$<br><br>Dome T = $+1.9^{\circ}\text{C}$<br>T = $+1.9^{\circ}\text{C}$ CCDT = $-101.3^{\circ}\text{C}$  |         |
|           |        |           |     |             |  |                              |          | 23<br>24<br>25<br>26                               |         | [Topup done after 20ci finish at 0150 EST]<br>Prob caused further Y shift up slightly<br><br>(Exactly matches 1st focus test)<br>stellar still uv sl Red  |         |

Note Great Care

Taken not to Touch Telescope

No Generator, No Topup

No Dome Turning etc.

No Door Slamming etc.

Note that Dome Temp is slightly

Rising if anything as night progresses.

57

Mon-Tues

Emulsion Batches:

Date 1992 Nov 23/24... Observers ... Tn.....

(Tel on west side of Press for Tests) Comp/Temp Stability Tests... etc.....

| Plate No.                   | Object       | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp:  |
|-----------------------------|--------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| Cc11065<br>66               | Focus Test   |              |                     | 20 03                   |                       | 00 00 41          | +45 11      | Felke<br>A=1/8            | 10/10 |
| 68                          | Comp         |              |                     | 20 07 22                |                       | "                 | "           | "                         | 10    |
| 67                          | BIIS(4)      |              |                     | 20 13 14                |                       |                   |             |                           |       |
| 69                          | Comp         |              |                     | 21 02 27                |                       |                   |             |                           |       |
| 70                          | Comp         |              |                     | 22 16 48                |                       |                   |             |                           |       |
| 71                          | Comp         |              |                     | 22 54 59                |                       |                   |             |                           |       |
| 72                          | Comp         |              |                     | 23 56 50                |                       |                   |             |                           |       |
| 73                          | Comp         |              |                     | 00 57 42                |                       |                   |             |                           |       |
| 74                          | Comp         |              |                     | 02 06 02                |                       |                   |             |                           |       |
| 75                          | BIIS(4)      |              |                     | 02 13 32                |                       |                   |             |                           |       |
| 76                          | FLAT         |              |                     | 02 17 53                |                       |                   |             | TUNG<br>A=1/4             | 20s   |
| 1992 Nov 26/27 Tn Thurs/Fri |              |              |                     |                         |                       |                   |             |                           |       |
| Cc11077                     | FLAT for Hdy |              |                     | 19 38                   |                       | 00                | +40°        | TUNG<br>A=1/4             | 10s   |
| 78                          | BIIS(4)      |              |                     |                         |                       |                   |             |                           |       |
| 79                          | Comp         |              |                     | 19 42 35                |                       |                   |             | Red<br>Clear              | 60s   |





59 pg #1 Sun/Mon

Date 1992 Nov 29/30 Observers Hdy/Tn

Emulsion Batches:

.....  
 .....  
 .....

| Plate No.                   | Object     | R.A.<br>1900         | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter      | Exp.     |
|-----------------------------|------------|----------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|--------------------------------|----------|
| CC11080<br>81               | Focus Test | Comp/ Stellar Hdr/Tn |                     | 18 33                   |                       |                   |             |                                |          |
| 82                          | BIAS(4)    |                      |                     |                         |                       |                   |             |                                |          |
| 11083                       | FLAT       |                      |                     | 18 50 15                |                       |                   |             | Tung<br>CLEAR                  | 120s     |
| 84                          | "          |                      |                     | 18 54 40                |                       |                   |             | A=1/2 Tung<br><del>CLEAR</del> | 39s      |
| 85                          | "          |                      |                     | 18 57 05                |                       |                   |             | Tung<br>A=1/4                  | 160s     |
| 86                          | BIAS(4)    |                      |                     |                         |                       |                   |             |                                |          |
| 87                          | DARK       |                      |                     | 19 05 28                |                       |                   |             |                                | 900s     |
| 88                          | BIAS4      |                      |                     |                         |                       |                   |             |                                |          |
| 89                          | DARK       |                      |                     | 19 22 00                |                       |                   |             |                                | 900s     |
| 11090                       | BIAS4      |                      |                     |                         |                       |                   |             |                                |          |
| 11091                       | BIAS(1)    |                      |                     | 20 41 34                |                       |                   |             |                                |          |
| 11092<br>-11103             | BIAS(1)    |                      |                     |                         |                       |                   |             |                                |          |
| 11104                       | BIAS(4)    |                      |                     | 22 39 20                |                       |                   |             |                                |          |
| FM06473 <sup>AC</sup><br>BD | B8 941     | 03 08 59             | 144 49 46           | 23 02                   |                       | 00 16W            | +45 50      |                                | "N" mode |
| 11105                       | BIAS(4)    |                      |                     |                         |                       |                   |             | KO III sp                      |          |
| 11106                       | Comp -     |                      |                     | 23 24                   |                       |                   |             | FeAr<br>CLEAR                  | 60s      |
| 11107                       | FLAT -     |                      |                     | 23 27                   |                       |                   |             | TUNG<br>A=1/2                  | 10s      |

Spectr. Te.  
 Focus...  
 Spectr. Te.  
 Exp. Mtr.

47.47 p  
 MAGV=3



Spectr. Temp. .... Dome Temp./Hum.  $+23^{\circ}\text{C}$   $H/67\%$  Transparency Conditions ... *Cloudy* ..... 60

Focus ...  $6.83$  .....

Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.    | Grating/Tilt          | Slit | Emulsion | P.H.       | Program | Remarks  | Quality                      |
|-----------|--------|-----------|-----|----------|-----------------------|------|----------|------------|---------|--|------------------------------|
|           |        |           |     | CASS CCD | 1800/4mm<br>no decker | 250u | 5880A    | 1e1<br>2ci | Focus - | 360 0 12 1024 40 1   | CCD FMT<br>stellar<br>US/Red |
|           |        |           |     |          | G-5530                | "    | "        | 1ci        |         | 510 0 160 1024 1 1   | CCD FMT                      |
|           |        |           |     |          |                       |      |          | 5ci        |         | 1298   | ADU MAX                      |
|           |        |           |     |          |                       |      |          | 6ci        |         | 13137  |                              |
|           |        |           |     |          |                       |      |          | 7ci        |         |  | HOT PIXEL SATURATED          |
|           |        |           |     |          |                       |      |          |            |         | Dome T = $+2.2^{\circ}\text{C}$                                |                              |
|           |        |           |     |          |                       |      |          | 3ci        |         |  |                              |
|           |        |           |     |          |                       |      |          | 3ci        |         |  |                              |
|           |        |           |     |          |                       |      |          | 3ci        |         | 536 0 26 1024 4 1  | CCD FMT                      |
|           |        |           |     |          |                       |      |          |            |         | VARIOUS FORMATS  |                              |
|           |        |           |     |          |                       |      |          | 1ci        |         | +1.7 $^{\circ}\text{C}$ Dome T                                 |                              |
|           |        |           |     |          |                       |      |          |            |         | Semi seeing test (1st use of new FB9 core Grab)                |                              |
|           |        |           |     |          |                       |      |          |            |         | 47x47 pixels [2x 67ms + 2x 133ms Int] Below slit               |                              |
|           |        |           |     |          |                       |      |          |            |         | MAGV = 3.80 [FANS not on, As <del>it</del> should be] The case |                              |
|           |        |           |     |          |                       |      |          | 1ci        |         | Dome T = $+00.7^{\circ}\text{C}$                               | open again                   |
|           |        |           |     |          |                       |      |          | 3ci        |         |  |                              |
|           |        |           |     |          |                       |      |          | 4ci        |         | 12K  | MAX                          |

Comparison Filter Exp.  
2  
39s  
160s  
900s  
900s  
Wings  
10s  
10s

61 p9#2 sun mon

Date 1992 Nov. 29/30

Observers

Hdy. - 24" / Tm. / mki

Tel East side obviously

Note CSS 386 Instr PC ahead 8secs of WWV TIME. Emulsion Batches:

| Plate No.    | Object            | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|--------------|-------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC11108      | HD197433          | 20 38.6      | +75 14              | 23 30 38                |                       | 7 19 W            |             |                           | 400  |
| 09           |                   |              |                     | 23 37 37                |                       |                   |             |                           | 400s |
| 10           |                   |              |                     | 23 45 04                |                       |                   |             |                           | 400s |
| CC11111.offs |                   |              |                     | 23 51 59                |                       |                   |             |                           |      |
| 12           |                   |              |                     | 23 58 56                |                       |                   |             |                           |      |
| 13           |                   |              |                     | 00 06 16                |                       |                   |             |                           |      |
| 14           |                   |              |                     | 00 13 13                |                       |                   |             |                           |      |
| 15           |                   |              |                     | 00 20 10                |                       |                   |             |                           |      |
| 16           |                   |              |                     | 00 27 06                |                       |                   |             |                           |      |
| 17           | BIAS(4)           |              |                     |                         |                       |                   |             |                           |      |
| 18           | FLAT              |              |                     | 00 35 11                |                       |                   |             | TUNG<br>A=1/2             | 10s  |
| 19           | Comp              |              |                     |                         |                       |                   |             | Febr<br>Clear             | 60s  |
| 20           | BIAS(4)           |              |                     |                         |                       |                   |             |                           |      |
| 21           | DARK              |              |                     | 00 43 07                |                       |                   |             |                           | 600s |
| 22           | DARK              |              |                     |                         |                       |                   |             |                           | 600s |
| 23           | BIAS(4)           |              |                     |                         |                       |                   |             |                           |      |
| 24           | BIAS(4)<br>TOP UP |              |                     |                         |                       |                   |             |                           |      |

Spectr. Te

Focus...6

Spectr. Te

Exp. Mtr.

905

900

850

835

877

860

366

162

149



Spectr. Temp. .... Dome Temp./Hum.  $+00.7^{\circ}\text{C}$  72% Transparency Conditions ... hazy ..... 62

Focus ... 6.83 .....

Spectr. Temp. .... Dome Temp./Hum.  $+00.5^{\circ}\text{C}$  75%  
 $\lambda$

536 0 26 1024 4 1 CCD PAT  
 90C GAIN CCD T  $\rightarrow$  -100E

| Exp. Mtr.            | Seeing | Ptg. Mag.   | Sp. | Inst.       | Grating/Tilt                     | Slit | Emulsion | P.H. | Program  | Remarks                              | ADU Quality                             |
|----------------------|--------|-------------|-----|-------------|----------------------------------|------|----------|------|----------|--------------------------------------|---|
| 400<br>905           | 3"     | 7.3<br>-7.7 |     | CHSS<br>CCD | 1800 l/mm<br>(65530) Full decker | 250x | 5880     | 5ci  | Holy pgm | $\Delta$ RA -0000 54<br>Dec +0000 24 | 1500 E Avg<br>of 5 cols<br>above Bkgrnd |
| 400<br>900           |        |             |     |             |                                  |      |          | 6ci  |          |                                      |   |
| 400<br>850           |        |             |     |             |                                  |      |          | 7ci  |          | Repeat STAR4005, PAT x3              |   |
| 835                  |        |             |     |             |                                  |      |          |      |          |                                      |   |
| 877                  |        |             |     |             |                                  |      |          |      |          |                                      |   |
| 860                  |        |             |     |             |                                  |      |          | 8ci  |          | Repeat STAR4005, PAT 4               |   |
| 366                  |        |             |     |             |                                  |      |          |      |          | Variable clouds!                     |   |
| 162                  |        |             |     |             |                                  |      |          |      |          | Clouds.                              |   |
| 149                  |        |             |     |             |                                  |      |          | 8ci  |          |                                      |   |
|                      |        |             |     |             |                                  |      |          | 1ci  |          |                                      |   |
|                      |        |             |     |             |                                  |      |          | 9ci  |          |                                      |   |
|                      |        |             |     |             |                                  |      |          | 10ci |          |                                      |   |
|                      |        |             |     |             |                                  |      |          |      |          |                                      |   |
|                      |        |             |     |             |                                  |      |          | 11   |          |                                      |   |
|                      |        |             |     |             |                                  |      |          | 11ci |          |                                      |   |
| All to worms Perseus |        |             |     |             |                                  |      |          |      |          |                                      |   |

63 p4 #3

SUN/MON

Date 1992 Nov 29/30.. Observers Hdy... Tn.....

Emulsion Batches:

.....  
 .....  
 .....

| Plate No. | Object                        | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison     |       |
|-----------|-------------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|----------------|-------|
|           |                               |              |                     |                         |                       |                   |             | Type/Filter    | Exp.  |
| cc 11125  | BIAS(4) <sup>BREAK BIAS</sup> |              |                     |                         |                       |                   |             |                |       |
| 11126     | BIAS(4) <sup>BREAK BIAS</sup> |              |                     |                         |                       |                   |             |                |       |
| 27        | Comp                          |              |                     |                         |                       |                   |             | FeAr<br>clear  | 60sec |
| 28        | FLAT                          |              |                     | 02 03 52                |                       |                   |             | TUNG<br>A=1/2  |       |
| 29        | HD 197433                     | 20 38.6      | +75 14              | 02 06 16                |                       |                   |             |                | 400s  |
| 30        |                               |              |                     | 02 13 13                |                       |                   |             |                |       |
| 31        |                               |              |                     | 20 10                   |                       |                   |             |                |       |
| 32        |                               |              |                     | 27 07                   |                       |                   |             |                |       |
| 33        | ✓ edit object                 |              |                     | 34 17                   |                       |                   |             |                |       |
| 34        | ✓ "                           |              |                     | 41 14                   |                       |                   |             |                |       |
| 35        | ✓ "                           |              |                     | 48 11                   |                       |                   |             |                |       |
| 36        | ✓ "                           |              |                     | 55 09                   |                       |                   |             |                |       |
| 37        | ✓ "                           |              |                     | 03 02 05                |                       | 10 52W            |             |                |       |
| 38        | BIAS(4)                       |              |                     |                         |                       |                   |             |                |       |
| 39        | FLAT                          |              |                     |                         |                       |                   |             | TUNG<br>Ap=1/2 | 13    |
| 40        | Comp                          |              |                     |                         |                       |                   |             | FeAr<br>clear  | 60    |

Spectr. Te

Focus.. 6

Spectr. Te

Exp. Mtr.

536

645

745

820

824

853

1738

785



Spectr. Temp. .... Dome Temp./Hum.  $+00.6^{\circ}\text{C}$   $75.8\%$  Transparency Conditions ... *PART cloudy* .....  $64$

Focus ...  $6:8.3$  .....

Spectr. Temp. .... Dome Temp./Hum.  $+00.2^{\circ}\text{C}$   $78.0\%$  H

Comparison  
filter Exp.

| Exp. Mtr. | Seeing | Ptg. Mag.                   | Sp. | Inst.       | Grating/<br>Tilt   | Slit             | Emulsion | P.H. | Program | Remarks   | Quality |
|-----------|--------|-----------------------------|-----|-------------|--------------------|------------------|----------|------|---------|---|---------|
|           |        |                             |     | CA55<br>CCD | 1800 l/m<br>G=5530 | 250u<br>detector | 5880A    |      |         | WIERD STRUCTURE NEAR<br>HDT PIXEL NOT IN THE LAST BIN(S)<br>WHICH WAS AVERAGED HERE |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
| 400s      | 4"     | $\checkmark$<br>7.3<br>-7.7 |     |             |                    |                  |          | 14ci | Hdy pgm | MAX<br>Repeat x4  |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          | 15ci |         | AIR mass = 2.00   |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          |      |         |   |         |
|           |        |                             |     |             |                    |                  |          | 16   |         | 11.4 K MAX TOU  |         |
|           |        |                             |     |             |                    |                  |          | 17   |         |   |         |

13  
60

65- 144

Date . Nov. 29/30..... Observers . Hdy... In.....

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object                  | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.   |
|-----------|-------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|--------|
| CC1141    | HD197433                | 20 38.6      | +75 14              | 03 1309                 |                       |                   |             |                           | 400s   |
| 42        |                         |              |                     | 03 2006                 |                       |                   |             |                           | 400s   |
| 43        |                         |              |                     | 03 2704                 |                       |                   |             |                           | 4      |
| 44        |                         |              |                     | 03 3401                 |                       |                   |             |                           | 7      |
| 45        | Comp                    |              |                     | 3 4127                  |                       |                   |             | FeAr<br>Clear             | 60sec  |
| 46        | FLAT                    |              |                     |                         |                       |                   |             | Tung<br>A=1/2             | .      |
| 47        | <del>Comp</del> BIAS(4) |              |                     |                         |                       |                   |             |                           |        |
| 48        | Comp                    |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60sec  |
| 49        | HD87901                 | 10 0303      | +12 27              | 03 5036                 |                       |                   |             |                           | 562sec |
| 50<br>51  | FLATS x2                |              |                     |                         |                       |                   |             | Tung<br>A=1/2             | 10sec  |
| 52        | HD87901                 |              |                     | 04 0646                 |                       |                   |             |                           | 106sec |
| 53        | Comp                    |              |                     | 04 14                   |                       |                   |             | FeAr<br>Clear             | 60s    |
| 11154     | BIAS(4)                 |              |                     |                         |                       |                   |             |                           |        |
|           |                         |              |                     |                         |                       |                   |             |                           |        |
|           |                         |              |                     |                         |                       |                   |             |                           |        |
|           |                         |              |                     |                         |                       |                   |             |                           |        |

Spectr. Tem

Focus...6

Spectr. Tem

Exp. No.

714

720

550

330

14800

27000



Spectr. Temp. .... Dome Temp./Hum. <sup>+00.2°C</sup> 78/76 Transparency Conditions *Hazy* ..... 66

Focus ... *6.83* .....

Spectr. Temp. .... Dome Temp./Hum. .... *78*

| Comparison<br>Filter<br>Exp. | Exp. Mtr. | Seeing | Ptg.<br>Mag. | Sp. | Inst. | Grating/<br>Tilt | Slit | Emulsion | P.H.                          | Program       | Remarks       | Quality |
|------------------------------|-----------|--------|--------------|-----|-------|------------------|------|----------|-------------------------------|---------------|---------------|---------|
| 400s                         | 714       |        |              |     |       |                  |      |          | 18ci                          | Hely pgm      | Repeat x4     |         |
| 400s                         | 720       |        |              |     |       |                  |      |          |                               |               |               |         |
| 4                            | 550       | 4"     |              |     |       |                  |      |          |                               |               |               |         |
| 4                            | 330       |        |              |     |       |                  |      |          |                               |               |               |         |
| 60sec                        |           |        |              |     |       |                  |      |          | 19ci                          |               |               |         |
| 60sec                        |           |        |              |     |       |                  |      |          | 20ci                          |               |               |         |
| 60sec                        |           |        |              |     |       |                  |      |          | 21ci                          |               |               |         |
| 562sec                       | 14800     |        |              |     |       |                  |      |          | 22ci                          | Telluric std, | dead at end   |         |
| 10sec                        |           |        |              |     |       |                  |      |          | 23ci                          |               | 1226          |         |
| 106sec                       | 27000     |        |              |     |       |                  |      |          | 24ci                          |               | 1.26 AIR MASS |         |
| 60s                          |           |        |              |     |       |                  |      |          | 25ci                          |               |               |         |
|                              |           |        |              |     |       |                  |      |          | <i>All now backed up too,</i> |               |               |         |







69<sup>a</sup>

Emulsion Batches:

Date Dec 5/6 - 92... Observers Hdy. (24") / For. / Mki

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |      |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|------|
|           |            |              |                     |                         |                       |                   |             | Type/Filter   | Exp. |
| cc11174-5 | FOCUS TEST |              |                     |                         |                       |                   |             |               |      |
| 11176     | BINS (4)   |              |                     |                         |                       |                   |             |               |      |
| 11177     | FLAT.      |              |                     |                         |                       |                   |             | TUNG<br>A=1/2 | 8s   |
| 78        | COMP       |              |                     |                         |                       |                   |             | FeAr<br>clear | 60s  |
| 79        | BINS (4)   |              |                     |                         |                       |                   |             |               |      |
| 80        | FLAT       |              |                     |                         |                       |                   |             |               |      |
| 81        | HD 24504   | 03 48 46     | 47 34 40            | 22 52 29                |                       |                   |             |               | 474  |
| 82        | HD 24504   | 03 48 46     | 47 34 40            | 23 01 00                |                       |                   |             |               | 492  |
| 83        | COMP       |              |                     |                         |                       |                   |             | FeAr<br>clear | 60s  |
| 84-86     | FLAT x3    |              |                     |                         |                       |                   |             | TUNG<br>A=1/2 | 8s   |
| 87        | BINS (4)   |              |                     |                         |                       |                   |             |               |      |
| 88        | COMP       |              |                     |                         |                       |                   |             | FeAr<br>clear | 60s  |
| 89        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2 | 8s   |
| 90        | HD 197433  | 20 38 36     | 75 14               | 23 45 44                |                       |                   |             |               | 400s |
| 91        | "          |              |                     | 23 52 41                |                       |                   |             |               |      |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

12K

12K

830

950



Spectr. Temp. .... Dome Temp./Hum.  $-3.1^{\circ}/60.7^{\circ}$  Transparency Conditions ... Clear .....  $\text{D}$   
 Focus ..... 6.83 ..... (1715)  
 Spectr. Temp. .... Dome Temp./Hum. ....  
 NORMALIZE ON ~~BS603~~ BS603 CCD = -100.1  
 536 0 26 1024 41 ccd fwt

| Exp. Mtr.             | Seeing | Ptg. Mag. | Sp. | Inst.       | Grating/Tilt   | Slit     | Emulsion       | P.H. | Program | Remarks                                       | Quality                  |
|-----------------------|--------|-----------|-----|-------------|----------------|----------|----------------|------|---------|---|--------------------------|
|                       |        |           |     | C455<br>CCO | 1800<br>G=6020 | 250<br>μ | $\lambda=6563$ |      |         |   |                          |
|                       |        |           |     |             |                |          |                |      |         | HDMED GRATING, <del>MORE</del> -POSITIONED IT |                          |
|                       |        |           |     |             |                |          |                |      |         | TELESCOPE ON E. SIDE                          |                          |
|                       |        |           |     |             |                |          |                |      |         | T = $-5.9^{\circ}$ H = 68.6%                  |                          |
| 474<br>12 K           |        | V<br>5.37 | B6V |             |                |          |                |      |         | TELLURIC STD. POOR SEEING, NO TRAILING.       |                          |
| 492<br>12 K           |        | V<br>5.37 | B6V |             |                |          |                |      |         | TELLURIC                                      |                          |
|                       |        |           |     |             |                |          |                |      |         | 13.3 K.                                       |                          |
| 830<br><del>830</del> |        |           |     |             |                |          |                |      |         | Hdy Pam                                       | POOR SEEING, some cloud. |
| 950                   |        |           |     |             |                |          |                |      |         | some cloud                                    |                          |

71  
#2

Date Dec 5/6 - 92 Observers Hely (24") F6-11K2

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object      | R.A.<br>1900                    | Declination<br>1900    | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison   |      |
|-----------|-------------|---------------------------------|------------------------|-------------------------|-----------------------|-------------------|-------------|--------------|------|
|           |             |                                 |                        |                         |                       |                   |             | Type/Filter  | Exp. |
| CC 11192  | HD 147433   |                                 |                        | 00:59:38                |                       |                   |             |              | 400  |
| 93        | "           |                                 |                        | 00:06:34                |                       |                   |             |              | 400  |
| 94        | COMP        |                                 |                        |                         |                       |                   |             | F4r<br>Cen   | 60s  |
| 95        | F4T         |                                 |                        |                         |                       |                   |             | TUNG<br>S-42 | 9s   |
| 96        | BINS (4)    |                                 |                        |                         |                       |                   |             |              |      |
| 97        | HD 197433   | 20 38 36<br><del>03 38 46</del> | 75 14<br><del>42</del> | 00 26 46                |                       |                   |             |              | 400  |
| 98        | —" —"       |                                 |                        | 00 33 42                |                       |                   |             |              | 400  |
| 99        | —" —"       |                                 |                        | 00:40:39                |                       |                   |             |              | 400  |
| CC 11200  | —" —"       |                                 |                        | 00 47 36                |                       |                   |             |              | 400  |
| 201       | BINS (4)    |                                 |                        |                         |                       |                   |             |              |      |
| 202       | COMP        |                                 |                        |                         |                       |                   |             |              |      |
| 203       | F4T         |                                 |                        |                         |                       |                   |             |              |      |
| 204       | DARK (600s) |                                 |                        |                         |                       |                   |             |              |      |
| 205       | BINS (4)    |                                 |                        |                         |                       |                   |             |              |      |
| 206       | COMP        |                                 |                        |                         |                       |                   |             | F4r<br>Cen   | 60s  |

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mir.

870

870

850

620

790

720

CLAR



Spectr. Temp. .... Dome Temp./Hum.  $-6.2^{\circ}\text{C}/69.1\%$  Transparency Conditions .... CLEAR ..... 72

Focus ..... 6.83 .....

(0012)

Spectr. Temp. .... Dome Temp./Hum. ....

| Comparison<br>Filter | Exp.    | Seeing | Ptg.<br>Mag. | Sp. | Inst.       | Grating/<br>Tilt   | Slit                         | Emulsion       | P.H. | Program | Remarks               | Quality |
|----------------------|---------|--------|--------------|-----|-------------|--------------------|------------------------------|----------------|------|---------|-----------------------|---------|
| 446                  | 820     |        |              |     | Cass<br>CCD | 1800<br>$\mu=6020$ | 250<br>$\mu$                 | $\lambda=6563$ |      |         |                       |         |
| 400                  | 870     |        |              |     |             |                    |                              |                |      |         |                       |         |
| 605                  |         |        |              |     |             |                    |                              |                |      |         |                       |         |
| 55                   |         |        |              |     |             |                    |                              |                |      |         |                       |         |
| 400                  | 850     |        |              |     |             |                    |                              |                |      |         |                       |         |
| 400                  | 620     |        |              |     |             |                    |                              |                |      | Hdy     | THICK CLOUD.          |         |
| 400                  | 790     |        |              |     |             |                    |                              |                |      |         |                       |         |
| 400                  | 720     |        |              |     |             |                    |                              |                |      |         | MORE CLOUD MOVING IN  |         |
|                      |         |        |              |     |             |                    |                              |                |      |         | CLOSE SHUTTERS HUMANS |         |
|                      |         |        |              |     |             |                    |                              |                |      |         |                       |         |
|                      |         |        |              |     |             |                    |                              |                |      |         | LIANTS ON / DENSON    |         |
|                      |         |        |              |     |             |                    |                              |                |      |         |                       |         |
| 605                  | CLEAR!! |        |              |     |             |                    | All to P <sub>1</sub> W<br>1 |                |      |         |                       | SNOW... |

73  
#3

Emulsion Batches:

Date ... DEC 5/6 - 9a ... Observers Hdy. (24") Frs. ....

.....  
.....  
.....

| Plate No.      | Object             | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|----------------|--------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 207            | FLAT               |              |                     |                         |                       |                   |             | TUNG<br>s=1/2             | 9s   |
| <del>208</del> | <del>BIAS(4)</del> |              |                     |                         |                       |                   |             |                           |      |
| 208            | H0197433           | 20 38 36     | +75 14              | 01 44 18                |                       |                   |             |                           | 400s |
| 209            | "                  | "            | "                   | 01 51 15                |                       |                   |             |                           | 400s |
| 210            | "                  | "            | "                   | 01 58 12                |                       |                   |             |                           | 400s |
| 211            | "                  | "            | "                   | 02 05 09                |                       |                   |             |                           | 400s |
| 212            | "                  | "            | "                   | 02 12 28                |                       |                   |             |                           | 400s |
| 213            | "                  | "            | "                   | 02 19 25                |                       |                   |             |                           | 400s |
| 214            | "                  | "            | "                   | 02 26 22                |                       |                   |             |                           | 400s |
| 215            | "                  | "            | "                   | 02 33 19                |                       |                   |             |                           | 400s |
| 216            | COMP               |              |                     |                         |                       |                   |             | F4r<br>Clen               | 60s  |
| 217            | FLAT               |              |                     |                         |                       |                   |             | TUNG<br>s=1/2             | 9s   |
| 218            | BIAS(4)            |              |                     |                         |                       |                   |             |                           |      |
|                |                    |              |                     |                         |                       |                   |             |                           |      |
|                |                    |              |                     |                         |                       |                   |             |                           |      |
|                |                    |              |                     |                         |                       |                   |             |                           |      |

Spectr. Ter  
Focus....  
Spectr. Ter  
Exp. Mtr.

1180  
1300  
1300  
1200  
1000  
618  
814  
240



Spectr. Temp. ....

Dome Temp./Hum.  $-5.8^{\circ}\text{C}/70.1\%$ 

Transparency Conditions .. Now CLEAR ..... 74

Focus ..... 6.82 .....

(0141)

Spectr. Temp. ....

Dome Temp./Hum. ....

| Comparison Filter | Exp. | Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.       | Grating/Tilt   | Slit         | Emulsion       | P.H. | Program | Remarks                       | Quality |
|-------------------|------|-----------|--------|-----------|-----|-------------|----------------|--------------|----------------|------|---------|-------------------------------|---------|
|                   | 85   |           |        |           |     | CASS<br>CCD | 1800<br>G=6020 | 250<br>$\mu$ | $\lambda=6563$ |      |         |                               |         |
|                   | 4005 | 1180      |        |           |     |             |                |              |                |      | Hdy     |                               |         |
|                   | 4005 | 1300      |        |           |     |             |                |              |                |      | Hdy     |                               |         |
|                   | 4005 | 1300      |        |           |     |             |                |              |                |      | Hdy     |                               |         |
|                   | 4005 | 1200      |        |           |     |             |                |              |                |      | Hdy     | CLOUD MOVING IN FROM WEST.    |         |
|                   | 4005 | 1000      |        |           |     |             |                |              |                |      | "       |                               |         |
|                   | 4005 | 618       |        |           |     |             |                |              |                |      | "       | Hum $\approx 73\%$            |         |
|                   | 4005 | 814       |        |           |     |             |                |              |                |      | "       | TOTAL CLOUD (QUITS THICK)     |         |
|                   | 4005 | 340       |        |           |     |             |                |              |                |      | "       | OCCASIONAL HOLE.              |         |
|                   | 605  |           |        |           |     |             |                |              |                |      |         |                               |         |
|                   | 85   |           |        |           |     |             |                |              |                |      |         |                               |         |
|                   |      |           |        |           |     |             |                |              |                |      |         | CLOUD/RACK <u>NOT</u> WORKING |         |
|                   |      |           |        |           |     |             |                |              |                |      |         |                               |         |
|                   |      |           |        |           |     |             |                |              |                |      |         |                               |         |
|                   |      |           |        |           |     |             |                |              |                |      |         |                               |         |
|                   |      |           |        |           |     |             |                |              |                |      |         |                               |         |
|                   |      |           |        |           |     |             |                |              |                |      |         |                               |         |
|                   |      |           |        |           |     |             |                |              |                |      |         |                               |         |

all to P<sup>1</sup><sub>2</sub> W  
1

75

Thurs Fri

Date 1992 Dec 10/11... Observers Hdy... T.a.....

Emulsion Batches:

## SCATTERED LIGHT TEST

| Plate No.         | Object                     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison                |                    |
|-------------------|----------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|--------------------|
|                   |                            |              |                     |                         |                       |                   |             | Type/Filter               | Exp.               |
| cc11 219<br>220   | Comp/stellar HARTMAN Focus |              |                     | 18 41                   |                       |                   | W +         | FeAr<br>Clear             | 20/20              |
| 11221             | BIAS(4)                    |              |                     | 18 43 58                |                       |                   |             |                           |                    |
| <del>11222</del>  | <del>Tung</del>            |              |                     | <del>18 54 130</del>    |                       |                   |             | <del>Tung<br/>Clear</del> | <del>17 sec</del>  |
| 11222             | FLAT                       |              |                     | 19 02 10                |                       |                   |             | Tung<br>Clear             | 14 sec             |
| 11223             | FeNe comp                  |              |                     |                         |                       |                   |             | FeNe<br>A=1/2             | 5 sec              |
| <sup>4</sup><br>5 | Comp/stellar HARTMAN FOCUS |              |                     |                         |                       |                   |             | FeNe<br>A=1/4             | 10/10              |
| 11226             | BIAS(4)                    |              |                     | 19 33 29                |                       |                   |             |                           |                    |
| 11227             | FLAT                       |              |                     | 19 47 32                |                       |                   |             | Tung<br>A=Clear           | 33 sec             |
| 11228             | FeNe comp                  |              |                     | 19 49 34                |                       |                   |             | FeNe<br>A=1/2             | 10 sec             |
| 11229             | FeNe comp                  |              |                     | 19 54 06                |                       |                   |             | FeNe<br>A=1/2             | 10 sec             |
| 11230             | BIAS(4)                    |              |                     | 19 57 11                |                       |                   |             |                           | <del>900 sec</del> |
| 11231             | DARK                       |              |                     | 20 04 11                |                       |                   |             |                           | 900 sec            |
| 11232             | BIAS(4)                    |              |                     | 20 27                   |                       |                   |             |                           |                    |



Spectr. Temp. .... Dome Temp./Hum.  $-00.4^{\circ}\text{C}$  9276 Transparency Conditions SNOW 76  
 Focus ... 6.83 ..... For Focus Test  
 Spectr. Temp. .... Dome Temp./Hum.  $-00.2^{\circ}\text{C}$  9276 CSS 386 CLOCK IS 2 MINUTES SLOW  
 centered 90 again

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.                 | Grating/Tilt   | Slit                     | Emulsion | P.H.       | Program | Remarks  | Quality |
|-----------|--------|-----------|-----|-----------------------|----------------|--------------------------|----------|------------|---------|--|---------|
|           |        |           |     | CASS<br>CCD           | 1800<br>G=6020 | 250 $\mu$<br>no decenter | 6563A    | 1ci<br>2ci |         | 360 0 12 1024 40 1ccdFmt                               |         |
|           |        |           |     |                       |                |                          |          | 1ci        |         | 4 min 45sec FULL CHIP<br>NOW<br>CCDFMT 0 1024 1024 1 1 |         |
|           |        |           |     | TSD STRONG, SATURATED |                |                          |          |            |         |  |         |
|           |        |           |     |                       |                |                          |          | 2ci        | Hdg     | 15526 AD4MAX   |         |
|           |        |           |     |                       |                |                          |          | 2ci        |         | 12721  |         |
|           |        |           |     |                       |                | Pinhole                  |          | 3ci<br>4ci |         | 580 0 20 1024 1 1 CCDFMT<br>-0.03 $^{\circ}$ E         |         |
|           |        |           |     |                       |                |                          |          |            |         | 0 0 1024 1024 1 1                                      |         |
|           |        |           |     |                       |                |                          |          |            |         | 14173  |         |
|           |        |           |     |                       |                |                          |          |            |         | 19194  |         |
|           |        |           |     |                       |                |                          |          |            |         | 15105  |         |
|           |        |           |     |                       |                |                          |          |            |         | ONLY 2 COSMIC RAYS                                     |         |
|           |        |           |     |                       |                |                          |          |            |         | PRE-ENTERED  |         |
|           |        |           |     |                       |                |                          |          |            |         | All, including previous night to<br>PERSEUS = WORM.    |         |





Spectr. Temp. .... Dome Temp./Hum.  $00.0^{\circ}\text{C}$   $84\% \text{H}$  Transparency Conditions *PART CLEAR* ..... 78

Focus *2.35* .....

*But too much snow*

Spectr. Temp. .... Dome Temp./Hum. ....

*CCD T = -100.5°C*

*on Dome,*

| Exp. Mtr.   | Seeing | Ptg. Mag. | Sp. | Inst.                       | Grating/Tilt             | Slit                | Emulsion     | P.H.      | Program                 | Remarks  | Quality   |
|-------------|--------|-----------|-----|-----------------------------|--------------------------|---------------------|--------------|-----------|-------------------------|--|-----------|
| <i>2/2</i>  |        |           |     | <i>Echelle CCD</i>          | <i>600l/mm x grating</i> | <i>60u<br/>600u</i> | <i>5158A</i> |           | <i>vsl Red</i>          | <i>Focus FORMAT<br/>0 0 64 1024 16 1 CCD FMT</i> | <i>OK</i> |
| <i>10se</i> |        |           |     | <i>Echelle Tilt = 17.66</i> | <i>tilt = .403</i>       |                     |              | <i>3d</i> |                         | <i>270 0 120 1024 11 CCD FMT</i>                 |           |
|             |        |           |     |                             |                          |                     |              | <i>4</i>  | <i>Dome T = -00.3°C</i> |  |           |
|             |        |           |     |                             |                          |                     |              | <i>5</i>  |                         |  |           |
|             |        |           |     |                             |                          |                     |              | <i>6</i>  | <i>Dome T = -00.6°C</i> |  |           |
|             |        |           |     |                             |                          |                     |              | <i>7</i>  |                         |  |           |
|             |        |           |     |                             |                          |                     |              | <i>8</i>  | <i>Dome T = -01.4°C</i> |  |           |
|             |        |           |     |                             |                          |                     |              | <i>9</i>  | <i>Dome T = -01.6°C</i> |  |           |

7A P1 #1

SUN MON

Meylan program too

Date 1992 Dec 13/14..... Observers ..K.K./T.A.....

Emulsion Batches:

.....  
.....  
.....

| Plate No.    | Object           | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|--------------|------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| ce 05292     | BIAS(4)          |              |                     |                         |                       |                   |             |                           |      |
| 5293<br>5295 | FLATS x 3        |              |                     | 18 00                   |                       | 02 34W            | +7 27       | TUNG                      | 6sec |
| 5296         | Comp for Capella |              |                     | 18 16 31                |                       |                   |             | ThAr                      | 4sec |
| 5297         | HD 34029         | 05 09 18     | +45 54 00           | 18 <del>24 57</del>     |                       | 05 34 E           |             |                           | 196  |
| 5298         | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 4sec |
| 5299         | HD 34029         | 05 09 18     | +45 54              | 18 30 09                |                       |                   |             |                           |      |
| 5300         | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 4sec |
| 5301         | Comp             |              |                     | 18 42 16                |                       |                   |             | ThAr                      | 6sec |
| 5302         | HD 22484         | 03 31.8      | +00 05              | 18 44 39                |                       | 03 20 E           |             |                           | 1045 |
| 5303         | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 5304         | BIAS(4)          |              |                     |                         |                       |                   |             |                           |      |
| 5305         | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 5306         | HD 4307          | 00 40 24     | -13 26              | 19 24 56                |                       | 00 36 W           |             |                           | 2500 |
| 5307         | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 5308         | HD 4307          |              |                     | 20 10 21                |                       |                   |             |                           | 2513 |
| 5309         | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 6sec |

Spectr. Ten

Focus...

Spectr. Ten

Exp. Mtr.

\*  
2960

190

90

85



Spectr. Temp. .... Dome Temp./Hum.  $-0/10^{\circ}\text{C}$  69% H Transparency Conditions ... FINE - sl. Hazy ...

Focus ... 232 ...

Spectr. Temp. .... Dome Temp./Hum. ....

CCDT  $\rightarrow -100^{\circ}\text{C}$  90 CGAIN as usual

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp.          | Inst.                               | Grating/Tilt               | Slit                  | Emulsion | P.H.           | Program     | Remarks  | Quality |
|-----------|--------|-----------|--------------|-------------------------------------|----------------------------|-----------------------|----------|----------------|-------------|--|---------|
|           |        |           |              | Echelle CCD                         | 60sl/mm<br>x grating width | <del>400</del><br>60u | 5158A    | 1ci            |             | 0 0 256 1624 41 CCD  |         |
|           |        |           |              | Echelle Tilt=17.66<br>x slit = .403 | Height                     | 60u<br>60u<br>400u    |          | 3ci            |             | MAX = 8K ADU/pixel   |         |
|           |        |           |              | Note MAR93 In x probably .4003      |                            |                       |          | 4ci            |             |  |         |
| * 2460    | poor   | V 0.08    | G6V<br>+G2II |                                     |                            | "                     |          | 5ci            | K/K pgm     | *5000 Exp meter sl saturates<br>MAX 11K ADU [this exp]                   |         |
|           |        |           |              |                                     |                            |                       |          | <del>4ci</del> |             |  |         |
|           |        |           |              |                                     |                            |                       |          | 4ci            |             |  |         |
|           |        |           |              |                                     |                            |                       |          | 6ci            |             |  |         |
|           |        |           |              |                                     |                            |                       |          | 6ci            |             |  |         |
| 190       | V poor | V 4.28    | F9<br>LV-V   |                                     |                            |                       |          | 7ci            | Std Vel     | MAX ~ 800 ADU<br>Slit image very out of focus.                           |         |
|           |        |           |              |                                     |                            |                       |          | 6ci            |             |  |         |
|           |        |           |              |                                     |                            |                       |          | 1ci            |             | Pump T = $-1.9^{\circ}\text{C}$  |         |
|           |        |           |              |                                     |                            |                       |          | 6ci            |             |  |         |
| 90        | V poor | V 6.15    | G0V          |                                     |                            |                       |          | 5ci            | Mey Lun pgm | ~ 500 ADU MAX<br>~ 2K ADU SUM AUG<br>above bkgnd on blade<br>for 10 CO/S |         |
|           |        |           |              |                                     |                            |                       |          | 6ci            |             |  |         |
| 85        |        |           |              |                                     |                            |                       |          | 2ci            |             |  |         |
|           |        |           |              |                                     |                            |                       |          | 6ci            |             |  |         |

81 pg #2 Sun Mon

Emulsion Batches:

Date 1992 Dec 13/14... Observers [KK] J.A.....

| Plate No.    | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|--------------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| ce05310      | BIAS(4)  |              |                     |                         |                       |                   |             |                           |      |
| 5311         | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 5312         | HD 47105 | 06 31 56     | +16 29              | 21 12 16                |                       | 3 54 E            |             |                           | 835  |
| 5313         | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 5314         | HD 47105 | 06 31 56     | +16 29              | 21 29 46                |                       | 3 42 E            |             |                           | 688  |
| 5315         | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 5316         | Comp     |              |                     |                         |                       |                   |             | "                         | "    |
| 5317         | HD 62509 | 07 39 12     | +28 16              | 22 05 58                |                       |                   |             |                           | 505  |
| 5318         | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 5319         | BIAS(4)  |              |                     |                         |                       |                   |             |                           |      |
| 5320<br>5324 | FLATS x5 |              |                     |                         |                       | 0231 W            | +10 14      | TUNG                      | 5sec |
|              |          |              |                     |                         |                       |                   |             |                           |      |
|              |          |              |                     |                         |                       |                   |             |                           |      |
|              |          |              |                     |                         |                       |                   |             |                           |      |
|              |          |              |                     |                         |                       |                   |             |                           |      |
|              |          |              |                     |                         |                       |                   |             |                           |      |
|              |          |              |                     |                         |                       |                   |             |                           |      |
|              |          |              |                     |                         |                       |                   |             |                           |      |
|              |          |              |                     |                         |                       |                   |             |                           |      |
|              |          |              |                     |                         |                       |                   |             |                           |      |
|              |          |              |                     |                         |                       |                   |             |                           |      |

Spectr. Ter

Focus...?

Spectr. Ter

Exp. Mtr.

2140

2300

2750

4th Floor  
TOP



Spectr. Temp. .... Dome Temp./Hum.  $-1.9^{\circ}\text{C}$  ..... Transparency Conditions  $.51 \dots \text{Hazy} \dots \dots \dots 82$

Focus  $\dots 232 \dots$

Spectr. Temp. .... Dome Temp./Hum. ....  
C LAMBDA

Comparison  
 filter Exp.

| Exp. Mtr. | Seeing          | Ptg. Mag. | Sp.  | Inst.   | Grating/Tilt | Slit             | Emulsion          | P.H. | Program  | Remarks  | Quality |
|-----------|-----------------|-----------|------|---|--------------|------------------|-------------------|------|--|--|---------|
|           |                 |           |      | Echelle<br>CCD                                    |              | 60,<br>400 $\mu$ | 5158 $\text{\AA}$ | 1c:  |  |  |         |
| 6s<br>835 | V V<br>poor     | B<br>1.9  | A0IV |   |              |                  |                   | 3c:  | KKpgm  | $\approx 8\text{K MAX in blue}$<br>CCDT = $-102.2^{\circ}\text{C}$     |         |
| 6s<br>688 |                 |           |      |   |              |                  |                   | 6c:  |  |  |         |
| 6s<br>688 |                 |           |      |   |              |                  |                   | 3c:  | KKpgm  |  |         |
| 6s<br>?   |                 |           |      |   |              |                  |                   | 6c:  |  |  |         |
| 505       |                 | V<br>1.14 | K0VB |   |              |                  |                   | 4c:  | Std Vel  | some what strong.  |         |
| 6s6       |                 |           |      |   |              |                  |                   | 6c:  |  |  |         |
|           |                 |           |      |   |              |                  |                   | 1c:  |  | Dome T = $-1.7^{\circ}\text{C}$  |         |
| 6s<br>598 |                 |           |      |   |              |                  |                   | 6c:  | All to Perseus & WORM  |  |         |
|           | 4th FROM<br>TOP |           |      | 5094 $\text{\AA}$ $\rightarrow$ 5130 $\text{\AA}$ |              |                  |                   |      | $\lambda$ RANGE of 5th complete<br>ORDER FROM TOP [OF 8 complete orders]<br>5140.5 $\text{\AA}$ $\rightarrow$ 5158 central $\rightarrow$ 5175 $\text{\AA}$ Red |  |         |
|           |                 |           |      |   |              |                  |                   |      |  | 6th ORDER FROM TOP [ 5187 $\text{\AA}$ $\rightarrow$ 5224 $\text{\AA}$ |         |

83

Thurs - Fri

Emulsion Batches:

Date 1992 Dec. 17/18..... Observers Tn.....

Reg Echelle CCD Fleuro... Test.....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End     | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-----------------------|-------------|---------------------------|------|
| 005325    | Bills(A) |              |                     | 22 21 23                |                       | <sup>HRS</sup><br>08E | +45°        |                           |      |
| 5326      | Comp     |              |                     | 22 23 17                |                       | 08E                   | "           | Th/Ar                     | 20s  |
| 27        | "        |              |                     | 22 25 57                |                       | 07E                   |             |                           |      |
| 28        | "        |              |                     | 28 38                   |                       | 06E                   |             |                           |      |
| 29        | "        |              |                     | 31 28                   |                       | 05E                   |             |                           |      |
| 30        | "        |              |                     | 34 34                   |                       | 04E                   |             |                           |      |
| 31        | "        |              |                     | 32 22                   |                       | 03E                   |             |                           |      |
| 32        | "        |              |                     | 40 35                   |                       | 02E                   |             |                           |      |
| 33        | "        |              |                     | 45 03                   |                       | 01E                   |             |                           |      |
| 34        | "        |              |                     | 48 04                   |                       | 00                    |             |                           |      |
| 35        | "        |              |                     | 50 35                   |                       | 01W                   |             |                           |      |
| 36        | "        |              |                     | 52 54                   |                       | 02W                   |             |                           |      |
| 37        | "        |              |                     | 55 13                   |                       | 03W                   |             |                           |      |
| 38        | "        |              |                     | 57 22                   |                       | 04W                   |             |                           |      |
| 39        | "        |              |                     | 22 59 55                |                       | 05W                   |             |                           |      |



Spectr. Temp. .... Dome Temp./Hum.  $+2.2^{\circ}\text{C}$  79.5% Transparency Conditions ... *Cloudy* ..... 84

Focus .. *236* .....

*575 0 140 1024 1 1 CCD FMT*

Spectr. Temp. .... Dome Temp./Hum. ....

*CCD  $\rightarrow$   $-100^{\circ}\text{C}$  90 CGAIN*

| Exp. Mtr. | Seeing                               | Ptg. Mag. | Sp. | Inst.             | Grating/Tilt                                    | Slit                      | Emulsion     | P.H.        | Program   | Remarks   | Quality |  |
|-----------|--------------------------------------|-----------|-----|-------------------|---|---------------------------|--------------|-------------|---|---|---------|--|
|           |                                      |           |     | <i>Edelle CCD</i> | <i>600ln/mm X grating H=200<math>\mu</math></i> | <i>60<math>\mu</math></i> | <i>5170A</i> | <i>1ci</i>  | <i>x grating = .400 Edelle Tilt 1900</i>          | <i>Dome T = +2.1<math>^{\circ}\text{C}</math></i> |         |  |
| <i>28</i> | <i>All H-R changes done smoothly</i> |           |     |                   |   |                           |              | <i>1ci</i>  |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>2ci</i>  |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>3ci</i>  |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>4ci</i>  |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>5ci</i>  |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>6ci</i>  |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>7ci</i>  |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>8ci</i>  | <i>Big Dome Turn from NE To West before exp</i>   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>9ci</i>  |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>10ci</i> | <i>Dome T = +2.0<math>^{\circ}\text{C}</math></i> |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>11ci</i> |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>12ci</i> |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>13ci</i> |   |   |         |  |
|           |                                      |           |     |                   |   |                           |              | <i>14ci</i> | <i>Dome T = +2.0<math>^{\circ}\text{C}</math></i> |   |         |  |





Spectr. Temp. .... Dome Temp./Hum.  $+3.0^{\circ}\text{C}$  82% Transparency Conditions *cloudy* ..... 86  
 Focus ... 6.83 .....  
 Spectr. Temp. .... Dome Temp./Hum. .... *C. LAMBDA* CCDT  $\rightarrow -100^{\circ}\text{C}$  90C6A1h

| Exp. Mtr.   | Seeing | Ptg. Mag. | Sp. | Inst.       | Grating/Tilt        | Slit            | Emulsion | PH    | Program   | Remarks  | Quality   |
|---|--------|-----------|-----|-------------|---------------------|-----------------|----------|-------|-----------|--|---|
|   |        |           |     | CASS<br>CCD | 1800/14mm<br>G=4990 | 200u<br>pinkish | 5140Å    | 1ci   | DOME T °C | Temp last few days very stable<br>$0^{\circ}\text{C} \pm 3^{\circ}\text{C}$<br>(stellar .ol pixel blueshifted) |   |
|   |        |           |     |             |                     |                 |          | 3/4ci | +3.0      |  |   |
|   |        |           |     |             |                     |                 |          | 5ci   | 3.0       |  |   |
|   |        |           |     |             |                     |                 |          | 6ci   | 3.0-3.1   |  |   |
|   |        |           |     |             |                     |                 |          | 7     | +3.1      |  |   |
|   |        |           |     |             |                     |                 |          | 8     | +3.1      |  |   |
|   |        |           |     |             |                     |                 |          | 9     | +3.1      |  |   |
|   |        |           |     |             |                     |                 |          | 10    | +3.1      |  |   |
|   |        |           |     |             |                     |                 |          | 11    | +3.1      |  |   |
|   |        |           |     |             |                     |                 |          | 12    | +3.1      |  |   |
|   |        |           |     |             |                     |                 |          | 13    | 3.0-3.1°  |  |   |
|   |        |           |     |             |                     |                 |          | 1ci   |           |  |   |
| <p>On the spot results show <math>\gamma</math> shift over time Rng of <math>\pm .5</math> pixels</p> |        |           |     |             |                     |                 |          |       |           |  | <p>4.1 pixel x shift<br/>over range<br/>no particular direction</p> |

87 Sun Mon PA#1

Emulsion Batches:

Date 1992 Dec 20/21... Observers Fich./T.n.....

| Plate No.     | Object                             | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.           |
|---------------|------------------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|----------------|
| CC11246       | BIHS(4)                            |              |                     | 18 32                   |                       | 0 0               | +44°        |                           |                |
| 11247         | <del>Focus</del> Comp              |              |                     | 19 17 29                |                       |                   |             | FeNe<br>clear             | 10 sec         |
| 11248         | S128                               | 21 30 36     | +55 38 41           | 19 24 45                |                       | 03 44 W           |             |                           | 565s           |
| 11249         | S128                               | "            | "                   | 19 34 43                |                       |                   |             |                           | 1537           |
| <del>50</del> | <del>Second Obj East of S128</del> |              |                     | <del>20 05 08</del>     |                       |                   |             |                           | <del>498</del> |
| 50            | Comp                               |              |                     |                         |                       |                   |             | FeNe<br>clear             | 10 sec         |
| 51            | BIHS (4)                           |              |                     |                         |                       |                   |             |                           |                |
| 52            | Comp                               |              |                     |                         |                       |                   |             | FeNe<br>clear             | 10s            |
| 53            | S11024694                          | 04 30 44     | +50 54 01           | 20 28 08                |                       |                   | E           |                           | 502s           |
| 54            | Comp                               |              |                     |                         |                       |                   |             | FeNe<br>clear             | 10s            |
| 55            | Comp                               |              |                     |                         |                       |                   |             | "                         | "              |
| 56            | S212                               | 04 36 50     | +50 21 35           | 20 46 40                |                       | 01 41 E           |             |                           | 1800s          |
| 57            | "                                  |              |                     | 21 17 24                |                       |                   |             |                           | 1800s          |
| 58            | "                                  |              |                     | 21 47 45                |                       |                   |             |                           | 1800s          |
| 59            | "                                  |              |                     | 22 18 44                |                       |                   |             |                           | -              |

Spectr. Ter

Focus...

Spectr. Ter

Exp. Mir.

Tel Encod  
on BS 8

44

110

58

1130

79

105

100

100





89

H2 SUN MON

Emulsion Batches:

Date 1992 Dec 20/21... Observers Frch. ~ Tn.....

| Plate No. | Object           | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.                     |
|-----------|------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|--------------------------|
| CC11260   | S212             | 04 3650      | +50 2135            | 22 51 55                |                       |                   |             |                           |                          |
| 11261     | Comp             |              |                     |                         |                       |                   |             | Felke<br>clear            | 10sec                    |
| 62        | BIAS(4)          |              |                     |                         |                       |                   |             |                           |                          |
| 63        | FLAT             |              |                     |                         |                       | 00 40W            | +50°        | TUNG<br>clear             | 60sec<br><del>2055</del> |
| 64        | Comp             |              |                     |                         |                       |                   |             | FeNe<br>clear             | 10sec                    |
| 65        | ORION            | 05 3518      | -05 24              | 23 5247                 |                       |                   |             |                           | 8003                     |
| 66        | "                |              |                     | 00 07 29                | edit header           |                   |             |                           | 1253                     |
| 67        | Comp             |              |                     |                         |                       |                   |             | Felke<br>clear            | 10s                      |
| 68        | Comp             |              |                     |                         |                       |                   |             | "                         | "                        |
| 69        | S219             | 04 5223      | +47 1851            | 00 4733                 |                       |                   |             |                           | 1882                     |
| 70        | "                |              |                     | 01 19 29                |                       |                   |             |                           |                          |
| 71        | Comp             |              |                     |                         |                       |                   |             | Felke<br>clear            | 10s                      |
| 72        | BIAS(4)          |              |                     |                         |                       |                   |             |                           |                          |
| 73        | Comp             |              |                     |                         |                       |                   |             | FeNe<br>clear             | 10s                      |
| 74        | Comp for<br>S2A1 | 06 00 046    | +30 1537            | 02 09 41                |                       |                   |             | FeNe<br>clear             | 10s                      |

Spectr. Ter.

Focus....

Spectr. Ter.

Exp. Mir.

480

860

100

100



Spectr. Temp. .... Dome Temp./Hum.  $-4.8^{\circ}\text{C}$   $65\% \text{H}$  Transparency Conditions  $51 \text{ hazy}$  ..... 90

Focus  $7.00$  .....

Spectr. Temp. .... Dome Temp./Hum.  $-5.7^{\circ}\text{C}$  .....

Comparison Filter Exp. 6 10s 6 60s 6 10s 8 1882 10s 10s 10s

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.    | Grating/Tilt             | Slit | Emulsion | P.H.         | Program               | Remarks                                      | Quality |
|-----------|--------|-----------|-----|----------|--------------------------|------|----------|--------------|-----------------------|--|---------|
|           |        |           |     | CASS CCD | 18001m<br>G4080 no daker | 250u | 3720A    | 14ci         | HII Region            |  |         |
|           |        |           |     |          |                          |      |          | 15ci         |                       |  |         |
|           |        |           |     |          |                          |      |          | 1ci          |                       | Dome T = $-5.0^{\circ}\text{C}$              |         |
|           |        |           |     |          |                          |      |          | 16ci         |                       | MAX = 7KADU/pixel                            |         |
|           |        |           |     |          |                          |      |          | 17ci         |                       |  |         |
| 809       |        |           |     |          |                          |      |          | 18ci         | 30" west of Trapezium |  |         |
| 1232      |        |           |     |          |                          |      |          | 18ci         |                       |  |         |
|           |        |           |     |          |                          |      |          | 17ci         |                       |  |         |
|           |        |           |     |          |                          |      |          | 19ci         |                       |  |         |
| 1882      |        |           |     |          |                          |      |          | 20ci         |                       | guided " SOUTH 8" from central star & S EAST |         |
|           |        |           |     |          |                          |      |          | 21ci         |                       | guided 5" NORTH of central star              |         |
|           |        |           |     |          |                          |      |          | 22ci         |                       |  |         |
|           |        |           |     |          |                          |      |          | 1ci          |                       | $-5.5^{\circ}\text{C}$ Dome T                |         |
|           |        |           |     |          |                          |      |          | 23ci<br>23ci |                       |  |         |
|           |        |           |     |          |                          |      |          | 24ci<br>23ci | HII pgm               | guided 5" south of central star              |         |

91 #3 SUN MON

Emulsion Batches:

Date 1992 Dec 20/21 Observers Fick/Tu

| Plate No.        | Object  | R.A.<br>1900<br>1950              | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.      |
|------------------|---------|-----------------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-----------|
| cc11275          | S241    | 06 00 46                          | +30 15 37           | 02 40 36                |                       | 02 55 W           |             |                           | 2118s     |
| 76               | "       |                                   |                     | 03 18 34                |                       |                   |             |                           | 2081      |
| 77               | Comp    |                                   |                     |                         |                       |                   |             | Fe No<br>CLEAR            | 10s       |
| 78               | BIAS(4) |                                   |                     |                         |                       |                   |             |                           |           |
| 79               | FLAT    |                                   |                     |                         |                       |                   |             | Tung<br>F=CLEAR           | 60s       |
| SBIG<br>Filename |         |                                   |                     |                         |                       |                   |             |                           |           |
| S241             | S241    | SBIG Image on SIIT [CONTAIN STAR] |                     |                         |                       | 03 57 W           |             |                           |           |
| S241B            | "       | "                                 | "                   | "                       | "                     |                   |             |                           | 2 sec Int |
|                  |         |                                   |                     |                         |                       |                   |             |                           |           |
|                  |         |                                   |                     |                         |                       |                   |             |                           |           |
|                  |         |                                   |                     |                         |                       |                   |             |                           |           |
|                  |         |                                   |                     |                         |                       |                   |             |                           |           |
|                  |         |                                   |                     |                         |                       |                   |             |                           |           |
|                  |         |                                   |                     |                         |                       |                   |             |                           |           |
|                  |         |                                   |                     |                         |                       |                   |             |                           |           |
|                  |         |                                   |                     |                         |                       |                   |             |                           |           |
|                  |         |                                   |                     |                         |                       |                   |             |                           |           |

Spectr. Te.  
Focus...  
Spectr. Te.  
Exp. Mir.

2 sec Int  
Non HA





93 pg#1 Mon-Tues

Date 1992 Dec 21/22... Observers FICH / Tn.....

Emulsion Batches:  
 .....  
 .....  
 .....

| Plate No.  | Object            | R.A.<br>1900            | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|------------|-------------------|-------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| CC11280    | BIHS(4)           |                         |                     | 00 11 47                |                       |                   |             |                           |       |
| 281<br>282 | Focus             | Comp / Stellar Heavymen |                     | 00 37                   |                       | 0 0               | +30         | Feltr<br>Clear            | 20/20 |
| 283        | Comp              |                         | 1950                |                         |                       | "                 | "           | "                         | 40s   |
| 284        | S241              | 06 00 43                | +30 22 45           | 00 43 21                |                       |                   |             |                           | 862   |
| 285        | "                 |                         |                     | 01 01 11                |                       |                   |             |                           | 381   |
| 286        | SKY 10" from S241 |                         |                     | 01 11 15                |                       |                   |             |                           | 7354  |
| 287        | Comp              |                         |                     |                         |                       |                   |             | Feltr<br>Clear            | 40s   |
| 288<br>289 | FLATS x2          |                         |                     |                         |                       |                   |             | TUNG<br>A=1/4             | 125s  |
| 290        | Comp              |                         | 1950                |                         |                       |                   |             | Feltr<br>Clear            | 40s   |
| CC11291    | S241              | 06 00 43                | +30 22 45           | 01 57 37                |                       | 01 57 W           |             |                           | 853   |
| 92         | Comp              |                         |                     |                         |                       |                   |             | Feltr<br>Clear            | 40s   |
| 93         | Comp              |                         |                     |                         |                       |                   |             | "                         | "     |
| 94         | ORION             |                         |                     | 02 22 32                |                       |                   |             |                           | 330   |
| 95         | "                 |                         |                     | 29 39                   |                       |                   |             |                           | 77s   |
| 96         | "                 |                         |                     | 34 04                   |                       |                   |             |                           | 600s  |

Spectr. Ter  
 Focus...  
 Spectr. Ter  
 Exp. Mir.

55  
 45  
 300



Spectr. Temp. .... Dome Temp./Hum.  $\rightarrow 1.4^{\circ}\text{C} \dots 69\%$  Transparency Conditions *part cloudy* ..... 94

Focus *6:88* .....

*90CGM CCDT  $\rightarrow -100^{\circ}$*

Spectr. Temp. .... Dome Temp./Hum. ....

*9250 40 1024 8 1 CCD FMT*

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.       | Grating/Tilt        | Slit              | Emulsion | P.H.         | Program     | Remarks                                  | Quality |
|-----------|--------|-----------|-----|-------------|---------------------|-------------------|----------|--------------|-------------|--|---------|
|           |        |           |     | CHSS<br>CCD | 1800/n/mm<br>G=6080 | 250 $\mu$<br>FULL | 6650A    | 1ci          |             |  |         |
| 20/20     |        |           |     |             |                     |                   |          | 3/4          |             | 20 24 <u>Star .4 Red</u><br>650 661 xpld |         |
| 40s       |        |           |     |             |                     |                   |          | 5ci          |             |  |         |
| 862       | 55     |           |     |             |                     |                   |          | 6ci          | HII Regions | cloud at end                             |         |
| 381       | 45     |           |     |             |                     |                   |          | 7ci          |             | more cloud.                              |         |
| 1354      |        |           |     |             |                     |                   |          | 8ci          |             | thick cloud                              |         |
| 40s       |        |           |     |             |                     |                   |          | 9ci          |             |  |         |
| 1250      |        |           |     |             |                     |                   |          | 10ci<br>11ci |             |  |         |
| 40s       |        |           |     |             | 1800/n/mm<br>G=6095 |                   | 6670A    | 12ci         |             |  |         |
| 853       |        |           |     |             |                     |                   |          | 13ci         | HII regions | Part cloudy - mostly SO                  |         |
| 40s       |        |           |     |             |                     |                   |          | 14ci         |             |  |         |
| 330       | 300    |           |     |             |                     |                   |          | 15ci         |             | H $\alpha$ maybe saturated               |         |
| 77s       |        |           |     |             |                     |                   |          | 16ci         |             |  |         |
| 6008      |        |           |     |             |                     |                   |          | 17ci         |             |  |         |

95 pg #2

Emulsion Batches:

Date 1992 Dec 21/22 Observers Fich./Ja.....

.....  
 .....  
 .....

| Plate No. | Object           | R.A.         | Declination | Starting Time | Ending Time | Hour Angle | Declination | Comparison    |        |
|-----------|------------------|--------------|-------------|---------------|-------------|------------|-------------|---------------|--------|
|           |                  | 1900<br>2000 | 1900        | E.S.T.        | E.S.T.      | End        |             | Type/Filter   | Exp.   |
| CC 11297  | ORION            | 05 35 10     | -05 24      | 02 34 35      |             |            |             |               | 60 sec |
| 98        | "                |              |             | 02 35 51      |             |            |             |               |        |
| 99        | "                |              |             | 02 37 10      |             |            |             |               |        |
| 11300     | "                |              |             | 02 38 31      |             | 02 51 W    |             |               |        |
| 01        | "                |              |             | 02 40 14      |             |            |             |               |        |
| 02        | "                |              |             | 02 41 49      |             |            |             |               | 100s   |
| 03        | "                |              |             | 02 43 58      |             |            |             |               | "      |
| 04        | "                |              |             | 02 45 58      |             |            |             |               |        |
| 05        | Comp             |              |             | 02 46         |             |            |             | FeAr<br>Cloud | 40s    |
| 06        | BIAS(4)          |              |             |               |             |            |             | "             |        |
| 07        | Comp             |              |             | 02 53 38      |             |            |             | FeAr<br>CLEAR | 40 sec |
| 08        |                  |              |             |               |             |            |             |               | 10 sec |
| 10        | FLATSx3          |              |             |               |             |            |             |               |        |
| 11        | S270             | 06 07 24     | +12 49      | 03 11 38      |             |            |             |               | 821    |
| 12        | Comp             |              |             |               |             |            |             | FeAr<br>cloud | 40     |
| 13        | Comp FOR HD87901 |              |             |               |             |            |             | "             | "      |

Spectr. Ter  
 Focus....  
 Spectr. Ter  
 Exp. Mr.

140



Spectr. Temp. .... Dome Temp./Hum.  $-0.9^{\circ}\text{C}$  66% Transparency Conditions *PART cloudy* ..... 96

Focus ..... *6.88* .....

Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.       | Grating/Tilt | Slit              | Emulsion | P.H.           | Program    | Remarks                         | Quality |
|-----------|--------|-----------|-----|-------------|--------------|-------------------|----------|----------------|------------|---------------------------------|---------|
|           |        |           |     | CHSS<br>CCD | G-6095       | 250 $\mu$<br>FULL | 6670Å    | 17c            | HII Region |                                 |         |
|           |        |           |     |             |              |                   |          |                |            | 6.6K MAX                        |         |
|           |        |           |     |             |              |                   |          | 17c            |            |                                 |         |
|           |        |           |     |             |              |                   |          | 18c            |            |                                 |         |
|           |        |           |     |             |              |                   |          | 18c            |            |                                 |         |
|           |        |           |     |             |              |                   |          | 19c            |            |                                 |         |
|           |        |           |     |             |              |                   |          | <del>20c</del> |            | Dome T = $-1.0^{\circ}\text{C}$ |         |
|           |        |           |     |             |              |                   |          | 20c            |            |                                 |         |
|           |        |           |     |             |              |                   |          | 21c            |            | MAX 98KADU                      |         |
| 140       |        |           |     |             |              |                   |          | 22c            | HII Region | some cloud again                |         |
|           |        |           |     |             |              |                   |          | 23c            |            |                                 |         |





Spectr. Temp. .... Dome Temp./Hum.  $-1.3^{\circ}\text{C}$  ... 66% Transparency Conditions ... *Cloudy* ..... 98

Focus ... *6.88* .....

Spectr. Temp. .... Dome Temp./Hum.  $-1.5^{\circ}\text{C}$  ... 70%

| Exp. Mtr.  | Seeing | Ptg. Mag. | Sp. | Inst.               | Grating/Tilt             | Slit       | Emulsion     | P.H.        | Program             | Remarks                                  | Quality |
|------------|--------|-----------|-----|---------------------|--------------------------|------------|--------------|-------------|---------------------|--|---------|
| <i>32K</i> |        |           |     | <i>CHSS<br/>CCD</i> | <i>1800ln<br/>G=6095</i> | <i>250</i> | <i>6650A</i> | <i>24s</i>  | <i>Telluric Std</i> | <i>guided fully<br/>Some thick cloud</i> |         |
|            |        |           |     |                     |                          |            |              | <i>25s</i>  |                     | <i>1.19 AIRMASS<br/>5.5 AOU MAX</i>      |         |
|            |        |           |     |                     |                          |            |              | <i>26s</i>  | <i>SKY/spectr</i>   | <i>cloud (drive on)</i>                  |         |
|            |        |           |     |                     |                          |            |              | <i>1c:</i>  |                     |  |         |
|            |        |           |     |                     |                          |            |              | <i>27c:</i> |                     | <i>14K MAX</i>                           |         |
|            |        |           |     |                     |                          |            |              |             |                     | <i>All to Perseus &amp; WORM</i>         |         |

Comparison  
filter Exp.  
*219*  
*40sec*  
*93/5*  
*1/4sec*

99

#1

Emulsion Batches:

Date Dec 26/47...92 Observers ... F. Br. (Seymour) / B. H. M.

| Plate No.           | Object              | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter          | Exp.       |
|---------------------|---------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|------------------------------------|------------|
| <del>CC113202</del> | FOCUS TEST          |              |                     |                         |                       |                   |             |                                    |            |
| 11323               | BIAS                |              |                     |                         |                       |                   |             |                                    |            |
| 324                 | COMP                |              |                     |                         |                       |                   |             | F <sub>45</sub><br>C <sub>60</sub> | 60s        |
| 325                 | HD 203156           | 21 15 23     | +37 40'             | 19 11 28                | 4 09 W                | 4 09 W            |             |                                    | 795        |
| 326                 | COMP                |              |                     |                         |                       |                   |             | F <sub>45</sub><br>C <sub>60</sub> | 60s        |
| 327                 | Bias (4)            |              |                     |                         |                       |                   |             |                                    |            |
| 328 - 330           | FLAT x 3            |              |                     |                         |                       |                   |             | TUNG<br>A = 1/2                    | 10s        |
| 331                 | Bias (4)            |              |                     |                         |                       |                   |             |                                    |            |
| 332                 | COMP                |              |                     |                         |                       |                   |             | F <sub>45</sub><br>C <sub>60</sub> | 60s        |
| 333                 | HD 36485            | 05 26 54     | -00 22 00           | 19 53 31                |                       | 3 02 E            |             |                                    | 1840       |
| 334                 | COMP                |              |                     |                         |                       |                   |             | F <sub>45</sub><br>C <sub>60</sub> | 60s        |
| 335 - 337           | F <sub>45</sub> x 3 |              |                     |                         |                       |                   |             | TUNG<br>A = 1/2                    | 12s        |
| 338                 | Bias (4)            |              |                     |                         |                       |                   |             |                                    |            |
| 339                 | COMP                |              |                     |                         |                       |                   |             | F <sub>45</sub><br>C <sub>60</sub> | 60s        |
| 340                 | HD 37468            | 05 33 44     | -02 39              | 23 33 09                |                       |                   |             |                                    | 540<br>NOR |

← NOTE: NOT A BIAS (THIS A FLAT)

Spectr. Temp.

Focus...

Spectr. Temp.

Exp. Nr.

5500

4550

35K





101

02

Date Dec 26/27-92 Observers Fbr./Bhem

Emulsion Batches:

.....  
 .....  
 .....

| Plate No.    | Object   | R.A.<br>1900                            | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|--------------|----------|---|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 341          | Comp     |   |                     |                         |                       |                   |             | FAR<br>len                | 60s  |
| 342          | HD 37468 | 05 33 44                                | -02 39              | 22 49 42                | (Ori AB)              |                   |             |                           | 780  |
| 343          | Comp     |   |                     |                         |                       |                   |             |                           |      |
| 344          | Bias     |   |                     |                         |                       |                   |             |                           |      |
| 345          | Comp     |   |                     |                         |                       |                   |             |                           |      |
| 346          | HD 37479 | 05 33 44                                | -02 39              | 23 11 32                | (Ori E)               |                   |             |                           | 1049 |
| 347          | Comp     |   |                     |                         |                       |                   |             | FAR<br>len                | 60s  |
| 348          | HD 37479 | 05 33 44                                | -02 39              | 23 35 29                |                       |                   |             |                           | 914  |
| 349          | Comp     |   |                     |                         |                       |                   |             |                           |      |
| 350          | Bias (4) |   |                     |                         |                       |                   |             |                           |      |
| 351 -<br>355 | FLAT x 5 | NOTE 11352 is NOT a flat (it is a dark) |                     |                         |                       |                   |             | TONE<br>B&L               |      |
|              |          |   |                     |                         |                       |                   |             |                           |      |
|              |          |   |                     |                         |                       |                   |             |                           |      |
|              |          |   |                     |                         |                       |                   |             |                           |      |
|              |          |   |                     |                         |                       |                   |             |                           |      |
|              |          |   |                     |                         |                       |                   |             |                           |      |
|              |          |   |                     |                         |                       |                   |             |                           |      |
|              |          |   |                     |                         |                       |                   |             |                           |      |

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mir.

50K

5K

4023











105  
Pg #1

Fri - Sat

Emulsion Batches:

Date 1993 Jan. 8/9

Observers Hdy/Fbr/Fn

| Plate No.                             | Object                  | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.       |
|---------------------------------------|-------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------------|
| FM0047480 <sup>ACE</sup> <sub>F</sub> | HD 3765                 | 00 35.3      | +39 40              | 17 50                   |                       |                   |             |                           | "Nimble    |
| cc 11363 <sup>fts</sup><br>cc 4       | COMP<br>STEL FOCUS TEST |              |                     | 17 55                   |                       |                   |             | FeAr<br>Clear             | 60s<br>60s |
| cc 11365                              | BIAS(4)                 |              |                     |                         |                       |                   |             |                           |            |
| cc 11366                              | DARK                    |              |                     | 18 05 47                |                       |                   |             |                           | 600s       |
| cc 11367                              | BIAS(4)                 |              |                     |                         |                       |                   |             |                           |            |
| 11368                                 | Comp                    |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60sec      |
| 11369                                 | HD 3765                 | 00 35 18     | +39 40              | 18 26 29                | <del>20 29</del>      | 00 55W            |             |                           | 745        |
| 11370                                 | Comp                    |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s        |
| 11371                                 | Comp                    |              |                     |                         |                       |                   |             | "<br>"                    | "<br>"     |
| 11372                                 | HD 42545                | 06 06 70     | +16 09 11           | 18 50 29                |                       | 04 13 E           |             |                           | 656        |
| 11373                                 | "                       | "            | "                   | 19 02 04                |                       |                   |             |                           | 871        |
| 11374                                 | Comp                    |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s        |
| 11375                                 | BIAS(4)                 |              |                     |                         |                       |                   |             |                           |            |
| 11376                                 |                         |              |                     |                         |                       |                   |             |                           |            |
| 11378                                 | FLATS X3                |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 10sec      |
| 11379                                 | Comp                    |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60sec      |

Spectr. Te

Focus... 6

Spectr. Te

Exp. Mtr.

5555

12701

3730

21000 4

30000



Spectr. Temp. .... Dome Temp./Hum.  $-0.4^{\circ}\text{C}$   $52\% \text{RH}$  Transparency Conditions *Fine* ..... 100  
 Focus...  $6.88$  .....  
 Spectr. Temp. .... Dome Temp./Hum.  $-5.4^{\circ}\text{C}$   $54\% \text{RH}$  *FANS ON By 1715*

| Exp. Mtr. | Seeing | Pig. Mag.                  | Sp.              | Inst.            | Grating/Tilt       | Slit        | Emulsion | P.H. | Program      | Remarks                                       | Quality |
|-----------|--------|----------------------------|------------------|------------------|--------------------|-------------|----------|------|--------------|---|---------|
| 55x55     |        | ✓<br>7.36                  | dk5              | 4x67ms + 2x133ms | 300μ<br>Below slit | 300μ        |          |      | seeing test  | EEU 25mm camera FANS ON<br>Dome West, no wind |         |
|           |        | T = $-4.2^{\circ}\text{C}$ |                  |                  | 1600 1/mm          | 300μ        | 5880A    |      |              | 480 0 50 1024 4 1 ccd fnt<br>STELLAR SI Rel.  |         |
|           |        |                            |                  |                  | 530 = G            | no detector |          |      |              |   |         |
| 12701     |        |                            |                  |                  |                    |             |          |      |              |   |         |
| 3730      | 4"     | 7.36                       | dk5              |                  |                    |             |          | 4ci  | std. vel.    |   |         |
|           |        |                            |                  |                  |                    |             |          | 5ci  |              |   |         |
|           |        |                            |                  |                  |                    |             |          | 6ci  |              |   |         |
| 21000     | 4.6"   | ✓<br>4.95                  | B5V <sub>m</sub> |                  |                    |             |          | 7ci  | Telluric std | 5K AOU MAX<br>2.109 H1A MASS                  |         |
| 30000     |        |                            |                  |                  |                    |             |          | 8ci  | "            |   |         |
|           |        |                            |                  |                  |                    |             |          | 9ci  |              |   |         |
|           |        |                            |                  |                  |                    |             |          | 10ci |              | 12.4 K MAX AOU                                |         |
|           |        |                            |                  |                  |                    |             |          | 12ci |              |   |         |

107  
#2

Date 1993 JAN 8/9... Observers Hdq./Fbr...Tn.....

Emulsion Batches:  
.....  
.....  
.....

| Plate No. | Object     | R.A.<br>1900           | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------|------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 11380     | HD 20418   | 03 12.0                | +49 43.8            | 19 40 44                |                       |                   |             |                           |      |
| 81        | Comp       |                        |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 82        | FLAT       |                        |                     |                         |                       |                   |             | Tung<br>A=1/2             | 10s  |
| 83        | BIAS(4)    |                        |                     |                         |                       |                   |             |                           |      |
| 84        | PARK       |                        |                     |                         |                       | 06 39E            | +17°        |                           |      |
| 85        | BIAS(4)    |                        |                     |                         |                       | "                 | "           |                           |      |
| 86        | BD+18°2307 |                        |                     | 20 50 33                |                       |                   |             |                           | 412  |
| 87        | Comp       |                        |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 88        | Bas        |                        |                     |                         |                       |                   |             |                           |      |
| 89        | Flat       |                        |                     |                         |                       |                   |             | Tung<br>A=1/2             | 10s  |
| 11390     | BD+18°2307 |                        |                     |                         |                       |                   |             |                           | 410s |
| 91        | COMP       |                        |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 92        | FLAT       |                        |                     |                         |                       |                   |             | Tung<br>A=1/2             | 10s  |
| 93        | BIAS(4)    |                        |                     |                         |                       |                   |             |                           |      |
| 94        | BD+18°2307 | 9h 56m 12 <sup>s</sup> | +17°53'27"          | 22 48 42                |                       |                   |             |                           | 410s |
| 95        | BD+18°2307 |                        |                     | 22 55 50                |                       |                   |             |                           | 410s |

Spectr. Te

Focus...

Spectr. Te

Exp. Mtr.

37,400

362

1472

378

373





169  
#3

Date 1993 Jan 8/9 Observers Hdy / Fbt / Tn

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object       | R.A.<br>1900                                   | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |                    |
|-----------|--------------|--|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|--------------------|
|           |              |  |                     |                         |                       |                   |             | Type/Filter   | Exp.               |
| CC 11396  | BD +18° 2307 | 9 <sup>h</sup> 56 <sup>m</sup> 12 <sup>s</sup> | +17° 53' 27"        | 23 02 59                |                       |                   |             |               | 410 <sub>sec</sub> |
| 97        | "            |  |                     | 23 10 08                |                       |                   |             |               | "                  |
| 98        | "            |  |                     | 23 17 30                |                       |                   |             |               | "                  |
| 99        | "            |  |                     | 23 24 39                |                       |                   |             |               | "                  |
| 11400     | "            |  |                     | 23 31 48                |                       |                   |             |               | "                  |
| 01        | "            |  |                     | 23 38 57                |                       |                   |             |               | "                  |
| 02        | BIAS4        |  |                     | 23 46 12                |                       |                   |             |               | "                  |
| 03        | COMP         |  |                     | 23 47 16                |                       |                   |             | FeAr<br>Clear | 60sec              |
| 04        | FLAT         |  |                     | 23 49 38                |                       |                   |             | FeAr<br>A=1/2 | 10sec              |
| 05        | BD +18° 2307 | 9 <sup>h</sup> 56 <sup>m</sup> 12 <sup>s</sup> | +17° 53' 27"        | 23 51 33                |                       |                   |             |               | 410 <sub>s</sub>   |
|           | "            |  |                     | 23 58 40                |                       |                   |             |               | "                  |
|           | "            |  |                     | 00 05 49                |                       |                   |             |               | "                  |
|           | "            |  |                     | 00 12 58                |                       |                   |             |               | "                  |
|           | "            |  |                     | 00 20 07                |                       |                   |             |               | "                  |
|           | "            |  |                     | 00 27 16                |                       |                   |             |               | "                  |
| 11        | "            |  |                     | 00 34 26                |                       |                   |             |               | "                  |

Spectr. Te

Focus ...

Spectr. Te

Exp. Mu.

342

340

344

405

415

417

11899

421

414

419

421

412

412

404





III  
#4

Date .93 - Jan 8-9 ..... Observers ... Hcky / Fbr / Tn .....

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object     | R.A.<br>1900                      | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------|-----------------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC 11412  | B0+18°2307 | 9 <sup>h</sup> 56 <sup>m</sup> 12 | 17 53 27            | 00 41 35                |                       |                   |             |                           | 410s |
| 13        | Bias       |                                   |                     |                         |                       |                   |             |                           |      |
| 14        | Flat       |                                   |                     |                         |                       |                   |             | Tung<br>A=1/2             | 10s  |
| 15        | Comp       |                                   |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 16        | B0+18°2307 | 9 56 12                           | 17 53 27            | 00 53 35                |                       |                   |             |                           | 410s |
| 11417     | "          |                                   |                     | <del>00 00 45</del>     |                       |                   |             |                           | /    |
| 18        | "          |                                   |                     | 01 07 56                |                       |                   |             |                           | "    |
| 19        | "          |                                   |                     | 01 15 06                |                       |                   |             |                           | "    |
| 20        | "          |                                   |                     | 01 22 17                |                       |                   |             |                           | "    |
| 21        | "          |                                   |                     | 01 29 27                |                       |                   |             |                           | "    |
| 22        | "          |                                   |                     | 01 36 38                |                       |                   |             |                           | "    |
| 23        | "          |                                   |                     | 01 43 48                |                       |                   |             |                           | "    |
| 24        | COMP       |                                   |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 25        | FLAT       |                                   |                     |                         |                       |                   |             | Tung<br>A=1/2             | 10s  |
| 26        | BIAS(4)    |                                   |                     |                         |                       |                   |             |                           |      |

Spectr. Ter

Focus.....

Spectr. Ter

Exp. Mtr.

399

414

394

385

378

358

350

354

335

234

32





113  
#5

Date 1993 - Jan 8/9 Observers Hdy/Fbr/Tn

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object     | R.A.<br>1900                                   | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |              |
|-----------|------------|--|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|--------------|
|           |            |  |                     |                         |                       |                   |             | Type/Filter   | Exp.         |
| cc11427   | BD+18°2307 | 9 <sup>h</sup> 56 <sup>m</sup> 12 <sup>s</sup> | +17°53'27"          | 01 55 22                |                       |                   |             |               | 410s         |
| 28        | "          |  |                     | 02 02 33                |                       |                   |             |               | "            |
| 29        | "          |  |                     | 02 09 43                |                       |                   |             |               | "            |
| 430       | Buss (4)   |  |                     |                         |                       |                   |             |               |              |
| 431       | Comp       |  |                     |                         |                       |                   |             | FeAr<br>Clear | 60s          |
| 432       | Fast       |  |                     |                         |                       |                   |             | FeAr<br>d=1/2 | 10s          |
| 11433     | BD+18°2307 |  |                     | ?                       |                       |                   |             |               | 410s         |
| 34        | "          |  |                     | 02 31 37                |                       |                   |             |               | "            |
| 35        | "          |  |                     | 02 38 47                |                       |                   |             |               | "            |
| 36        | "          |  |                     | 02 46 41                |                       |                   |             |               | "            |
| 37        | "          |  |                     | 02 53 52                |                       |                   |             |               | "            |
| 38        | "          |  |                     | 03 01 10                |                       |                   |             |               | "            |
| 39        | "          |  |                     | 03 08 21                |                       |                   |             |               | "            |
| 40        | "          |  |                     | 03 15 31                |                       | 00 18W            |             |               | "            |
| 41        | BIAS(4)    |  |                     |                         |                       |                   |             |               |              |
| 42        | COMP       |  |                     |                         |                       |                   |             | FeAr<br>Clear | 500s<br>500s |

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mtr.

320

322

315

336

323

340

345

340

348

351

357



Spectr. Temp. .... Dome Temp./Hum.  $-8.1^{\circ}\text{C} / 59.0\%$  Transparency Conditions .. SOME CIRRUS ..... 114.

Focus ..... 6.88 .....

Spectr. Temp. .... Dome Temp./Hum. ....

| comparison<br>filter | Exp. | Exp. Mtr. | Seeing | Ptg.<br>Mag. | Sp. | Inst. | Grating/<br>Tilt | Slit                     | Emulsion | P.H. | Program | Remarks  | Quality |
|----------------------|------|-----------|--------|--------------|-----|-------|------------------|--------------------------|----------|------|---------|--|---------|
| 410s                 |      | 320       |        |              |     |       |                  | 300 $\mu$<br>Full Length |          | 5c;  | Hdy pgn |  |         |
| //                   |      | 302       |        |              |     |       |                  |                          |          |      |         |  |         |
| //                   |      | 315       |        |              |     |       |                  |                          |          |      |         |  |         |
|                      |      |           |        |              |     |       |                  |                          |          |      |         | SPEC CONTROLLER RESETTED<br>GRATING WAS DISABLED |         |
| 60s                  |      |           |        |              |     |       |                  |                          |          |      |         |  |         |
| 10s                  |      |           |        |              |     |       |                  |                          |          |      |         | 15498 ADU MAX                                    |         |
| 410s                 |      | 336       |        |              |     |       |                  |                          |          | 5c;  |         |  |         |
| //                   |      | 323       |        |              |     |       |                  |                          |          |      |         | TOOK OFF TO FOCUS                                |         |
| //                   |      | 340       |        |              |     |       |                  |                          |          |      |         |  |         |
| '                    |      | 345       |        |              |     |       |                  |                          |          |      |         |  |         |
| "                    |      | 340       |        |              |     |       |                  |                          |          |      |         |  |         |
| "                    |      | 348       |        |              |     |       |                  |                          |          |      |         |  |         |
| "                    |      | 351       |        |              |     |       |                  |                          |          |      |         |  |         |
| "                    |      | 357       |        |              |     |       |                  |                          |          | 5c;  |         |  |         |











Spectr. Temp. .... Dome Temp./Hum.  $-7.5^{\circ}\text{C}$  47.6% H Transparency Conditions ... Clouding in ..... 118

Focus  $6.88 - 6.93$  at 20 30 EST

Spectr. Temp. .... Dome Temp./Hum.  $-10.0^{\circ}\text{C}$  / 47.5% H  
 90 C GAIN, CCD Temp  $-100^{\circ}\text{C}$   
 C LAMBDA  
 480 0 50 1024 4 1 CCD FINT

| Exp. Mtr.      | Seeing    | Pig. Mag. | Sp. | Inst.                          | Grating/Tilt   | Slit                | Emulsion               | P.H. | Program     | Remarks   | Quality          |
|----------------|-----------|-----------|-----|--------------------------------|----------------|---------------------|------------------------|------|-------------|---|------------------|
|                |           |           |     | CASS CCD                       | 1800<br>G=6020 | 300u<br>Full length | 6563 Å                 |      | Focus Test  | Right on says Fbr                                 |                  |
| 55 x 55 pixels | V<br>7.36 | dk5       |     | Integrator<br>2x133ms + 4x67ms |                | 300u<br>Below slit  |                        |      | Seeing Test | Dome West, no wind<br>Tel Normalized on same STAR |                  |
| 1600           | 4"        | V<br>7.36 | dk5 |                                |                |                     |                        |      | std vel     | cloudy  |                  |
|                |           |           |     |                                |                |                     |                        |      |             | 12.5 K ADU MAX                                    |                  |
|                |           |           |     |                                |                |                     |                        |      | 6ci         | Weak, but obvious Hd                              | Tel/East<br>SIDE |
|                |           |           |     |                                | 1800<br>G=5530 |                     | 6563 Å<br><hr/> 5880 Å |      |             | stellar vs 1 Red                                  |                  |
|                |           |           |     |                                |                |                     |                        |      | 3ci         |   |                  |
| 12222          |           |           |     |                                |                |                     |                        |      | 4ci         | Telluric STD                                      | Cloudy X=10.5    |
|                |           |           |     |                                |                |                     |                        |      |             | 11444 ADU<br>10979                                |                  |











Spectr. Temp. .... Dome Temp./Hum. :- 6.5°C/61.3% Transparency Conditions ... P.T.Y. CLOUDY ..... 1.22

Focus ... 6.93 .....

FANS ON @ 1700

Spectr. Temp. .... Dome Temp./Hum. ....

90 CGAIN CCDT → -100°C

| Comparison Filter | Exp. | Exp. Mtr. | Seeing | Ptg. Mag. | Sp.              | Inst.       | Grating/Tilt   | Slit               | Emulsion                     | P.H. | Program       | Remarks                  | Quality |
|-------------------|------|-----------|--------|-----------|------------------|-------------|----------------|--------------------|------------------------------|------|---------------|--------------------------|---------|
|                   |      |           |        |           |                  | CASS<br>CCD | 1800<br>G:6020 | 300<br>Full Length | $\lambda = 6563 \text{ \AA}$ |      |               | 480 0 50 1024 4 1 CCDFWT |         |
| 90s               |      |           |        |           |                  |             |                |                    |                              | 3ci  |               |                          |         |
| 399               |      | 150       |        |           |                  |             |                |                    |                              | 5ci  | NOVA PGM.     | Hazy vv faint            |         |
| 835               |      |           |        |           |                  |             |                |                    |                              | 6ci  | "             |                          |         |
| 90s               |      |           |        |           |                  |             |                |                    |                              | 7ci  |               |                          |         |
| 90s               |      |           |        |           |                  |             |                |                    |                              | 7ci  |               |                          |         |
| 2087              |      | 10,950    | 3"     | 4.95      | B5V <sub>n</sub> |             |                |                    |                              | 8ci  | TELLURIC STA. | 1.83 AIA MASS            |         |
| 90s               |      |           |        |           |                  |             |                |                    |                              | 9ci  |               |                          |         |
|                   |      |           |        |           |                  |             |                |                    |                              | 1ci  |               |                          |         |
| 1/6<br>1/2        |      |           |        |           |                  |             |                |                    |                              | 10ci |               | 11.3 k ADU MAX           |         |
|                   |      |           |        |           |                  |             |                |                    |                              |      |               | Dome T = -7.9°C          |         |

123

Emulsion Batches:

Date ... Jan 15, 1943 ... Observers ... Hdy. (24") / Fbr. ....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T.         | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison   |      |
|-----------|------------|--------------|---------------------|---------------------------------|-----------------------|-------------------|-------------|--------------|------|
|           |            |              |                     |                                 |                       |                   |             | Type/Filter  | Exp. |
| CC11492-3 | Focus Test |              |                     |                                 |                       |                   |             | FeAr<br>Cler | 60s  |
| 494       | Bias (4)   |              |                     |                                 |                       |                   |             |              |      |
| 495       | Comp       |              |                     |                                 |                       |                   |             | FeAr<br>Cler | 60s  |
| 496       | H087901    | 10 03 03     | 12 27 22            | 20 34 36<br><del>20 34 36</del> |                       |                   |             |              | 401s |
| 497       | H087901    | "            | "                   | 20 41 30                        |                       |                   |             |              | 346s |
| 498       | Comp       |              |                     |                                 |                       |                   |             | FeAr<br>Cler | 60s  |
| 499       | FLAT       | 10 03 03     | 12 27 22            |                                 |                       |                   |             | Tung<br>n/2  |      |
| 500       | FLAT       |              |                     |                                 |                       |                   |             | "            |      |
| 501       | FLAT       |              |                     |                                 |                       |                   |             | "            |      |
| 502       | Bias (4)   |              |                     |                                 |                       |                   |             |              |      |
|           |            |              |                     |                                 |                       |                   |             |              |      |
|           |            |              |                     |                                 |                       |                   |             |              |      |
|           |            |              |                     |                                 |                       |                   |             |              |      |
|           |            |              |                     |                                 |                       |                   |             |              |      |
|           |            |              |                     |                                 |                       |                   |             |              |      |
|           |            |              |                     |                                 |                       |                   |             |              |      |
|           |            |              |                     |                                 |                       |                   |             |              |      |

Spectr. Ten

Focus ....

Spectr. Ten

Exp. Mtr.

20K

25K





125  
#1

Date ... Jan 17, 1953 ... Observers ... Hdy (24") / For .....

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900             | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|-----------|------------|--------------|---------------------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| cc11503-4 | Focus      |              |                                 |                         |                       |                   |             |                           |       |
| 505       | Bias (4)   |              |                                 |                         |                       |                   |             |                           |       |
| 506       | Comp       |              |                                 |                         |                       |                   |             | FAR<br>Clear              | 60s   |
| 507       | HD 87901   | 10 03 03     | 12 27 26<br><del>10 03 03</del> | 21 08 55                |                       |                   |             |                           | 117s  |
| 508       | "          | "            | "                               | 21 12 20                |                       |                   |             |                           | 126s  |
| 509       | Comp       | "            | "                               |                         |                       |                   |             | FAR<br>Clear              |       |
| 510       | FLAT       |              |                                 |                         |                       |                   |             | TUNG<br>D=1/2             | 10s   |
| 511       | FLAT       |              |                                 |                         |                       |                   |             | "                         | "     |
| 512       | FLAT       |              |                                 |                         |                       |                   |             | "                         | "     |
| 513       | Bias (4)   |              |                                 |                         |                       |                   |             |                           |       |
| 514       | Comp       |              |                                 |                         |                       |                   |             | FAR<br>Clear              | 60sec |
| 515       | BD+18 2307 | 09 56 12     | 17 53 27                        | 21 30 16                |                       |                   |             |                           | 140s  |
| 516       | "          |              |                                 | 21 37 24                |                       |                   |             |                           | 140s  |
| 517       | "          |              |                                 | 21 44 33                |                       |                   |             |                           | "     |
| 518       | "          |              |                                 | 21 51 42                |                       |                   |             |                           | "     |
| 519       | "          |              |                                 | 21 58 50                |                       |                   |             |                           | "     |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

35K

40K

272

187 (000)

300

480

434



Spectr. Temp. ....

Dome Temp./Hum. = 6.4°C/49.9%

Transparency Conditions ..... CLEAR → P.T.Y. CLEAR. <sup>126</sup>

Focus ..... 6.93 .....

(2056)

Spectr. Temp. ....

Dome Temp./Hum. ....

NORMALIZED ON BS1454

480 050 1024 4 1

| Exp. Mtr. | Seeing     | Ptg. Mag.    | Sp.  | Inst.       | Grating/Tilt   | Slit     | Emulsion | P.H. | Program        | Remarks                 | Quality |
|-----------|------------|--------------|------|-------------|----------------|----------|----------|------|----------------|-------------------------|---------|
|           |            |              |      | CASS<br>CCD | 1800<br>G=5530 | 300<br>μ | λ=5880   |      |                | POOR SEEING ON NaD      |         |
| 60s       |            |              |      |             |                |          |          |      |                |                         |         |
| 117s      | 35K        |              |      |             |                |          |          |      | TELLURIC       | NO TRAILING (LOGGED)    |         |
| 126s      | 40K        |              |      |             |                |          |          |      | — " —          | AIRMASS = 3.91 (LOGGED) |         |
| 10s       |            |              |      |             |                |          |          |      |                | 11,768 MAX              |         |
|           |            |              |      |             |                |          |          |      |                |                         |         |
| 60s       |            |              |      |             |                |          |          |      |                |                         |         |
| 140s      | 272        | ✓<br>9.4-293 | KO V |             |                |          |          |      | Hdy            | HEAVY CLOUD. BATCH      |         |
| 140s      | 187 (000!) |              |      |             |                |          |          |      |                | STARTED - LET RUN TO    |         |
| "         | 300        |              |      |             |                |          |          |      | ALMOST ALL SKY | GET ANY POSSIBLE DATA.  |         |
| "         | 480        |              |      |             |                |          |          |      | SKY ONLY       | - COUNTS ARE SKY!       |         |
| "         | 434        |              |      |             |                |          |          |      | SKY ONLY       |                         |         |

127  
2

Emulsion Batches:

Date ... Jan 17/18-93 ... Observers ... Hdy (24") / Fbr .....

| Plate No. | Object      | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |                  |
|-----------|-------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|------------------|
|           |             |              |                     |                         |                       |                   |             | Type/Filter   | Exp.             |
| 520       | BD+18 2307  | 09 56 12     | 17 53 27            | 22 05 59                | <del>22 13 07</del>   |                   |             |               | 410 <sub>s</sub> |
| 521       | "           | "            | "                   | 22 13 07                |                       |                   |             |               | 410 <sub>s</sub> |
| 522       | "           |              |                     | 22 20 16                |                       |                   |             |               | 410 <sub>s</sub> |
| 523       | BIAS (4)    |              |                     |                         |                       |                   |             |               |                  |
| 524       | COMP        |              |                     |                         |                       |                   |             | R.R.<br>Cler  | 60 <sub>s</sub>  |
| 525       | FLAT        |              |                     |                         |                       |                   |             | TONG<br>A=1/2 | 10 <sub>s</sub>  |
| 526       | BD+18 2307  | 09 56 12     | 17 53 27            | 22 32 09                |                       |                   |             |               | 410              |
| 527       | "           | "            | "                   | 22 39 18                |                       |                   |             |               | 410              |
| 528       | "           | "            | "                   | 22 46 26                |                       |                   |             |               | 410              |
| 529       | COMP        |              |                     |                         |                       |                   |             | R.R.<br>Cler  | 60 <sub>s</sub>  |
| 530       | FLAT        |              |                     |                         |                       |                   |             | TONG<br>A=1/2 | 10 <sub>s</sub>  |
| 531       | DARK (600s) |              |                     |                         |                       |                   |             |               |                  |
| 532       | BIAS (4)    |              |                     |                         |                       |                   |             |               |                  |
| 533       | BIAS (4)    |              |                     |                         |                       |                   |             |               |                  |
| 534       | COMP        |              |                     |                         |                       |                   |             | R.R.<br>Cler  | 60 <sub>s</sub>  |





129  
3

Date ... JAN 17/19-93 ... Observers ... Hdy. / Fbr. ....

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object                  | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| cc11535   | FLAT                    |              |                     |                         |                       |                   |             | TUNG<br>$\Delta = 1/2$    | 10s  |
| 536       | BD <sup>+</sup> 182307  | 09 56 12     | 17 53 27            | 01 21 47                |                       |                   |             |                           | 410s |
| 537       | "                       | "            | "                   | 01 28 56                |                       |                   |             |                           | "    |
| 538       | "                       | "            | "                   | 01 36 04                |                       |                   |             |                           | "    |
| 539       | "                       | "            | "                   | 01 43 27                |                       |                   |             |                           | "    |
| 540       | "                       | "            | "                   | 01 50 36                |                       |                   |             |                           | "    |
| 541       | "                       | "            | "                   | 01 57 44                |                       |                   |             |                           | "    |
| 542       | "                       | "            | "                   | 02 05 00                |                       |                   |             |                           | "    |
| 543       | "                       | "            | "                   | 02 12 08                |                       |                   |             |                           | "    |
| 544       | BIAS(4)                 |              |                     |                         |                       |                   |             |                           |      |
| 545       | COMP                    |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 546       | FLAT                    |              |                     |                         |                       |                   |             | TUNG<br>$\Delta = 1/2$    | 85   |
| 547       | BD <sup>+</sup> 18 2307 | 09 56 12     | 17 53 27            | 02 23 38                |                       |                   |             |                           | 410s |
| 548       | "                       | "            | "                   | 02 30 46                |                       |                   |             |                           | "    |
| 549       | "                       | "            | "                   | 02 37 55                |                       |                   |             |                           | "    |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mtr.

286

317

354

355

385

394

373

357

278

175

65



Spectr. Temp. ....

Dome Temp./Hum. ... 7.3°C / 53.1%  
(0117)

Transparency Conditions .. Occasional Clouds ... 130.

Focus ..... 6.93 .....

Spectr. Temp. ....

Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.      | Grating/Tilt   | Slit     | Emulsion | P.H. | Program | Remarks              | Quality                |  |
|-----------|--------|-----------|-----|------------|----------------|----------|----------|------|---------|----------------------|------------------------|--|
| 10s       |        |           |     | CAS<br>CCD | 1200<br>G=5530 | 300<br>μ | λ=5880   |      |         | 15,181 Max           |                        |  |
| 410s      |        |           |     |            |                |          |          |      |         |                      |                        |  |
| "         | 286    |           |     |            |                |          |          |      |         |                      |                        |  |
| "         | 317    |           |     |            |                |          |          |      |         |                      | Clear Sky ... For Now. |  |
| "         | 354    |           |     |            |                |          |          |      |         |                      |                        |  |
| "         | 355    |           |     |            |                |          |          |      |         |                      |                        |  |
| "         | 385    |           |     |            |                |          |          |      |         |                      |                        |  |
| "         | 394    |           |     |            |                |          |          |      |         | S/N = 50             |                        |  |
| "         | 373    |           |     |            |                |          |          |      |         |                      |                        |  |
| "         | 367    |           |     |            |                |          |          |      |         |                      |                        |  |
| 60s       |        |           |     |            |                |          |          |      |         |                      |                        |  |
| 85        |        |           |     |            |                |          |          |      |         | 11704 ADU            |                        |  |
| 410s      | 278    |           |     |            |                |          |          |      |         | Poor Seeing - System |                        |  |
| "         | 275    |           |     |            |                |          |          |      |         | MAY BE MOVING IN.    |                        |  |
| "         | 265    |           |     |            |                |          |          |      |         | Seeing is in Toilet. |                        |  |







133  
#1

Emulsion Batches:

Date Jan. 18/19 - 93..... Observers ... Hdy. (24") / Fbr.....

| Plate No.         | Object                  | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |      |
|-------------------|-------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|------|
|                   |                         |              |                     |                         |                       |                   |             | Type/Filter   | Exp. |
| CC11558-9         | FOCUS (NAD)             |              |                     |                         |                       |                   |             |               |      |
| 560               | BIAS (4)                |              |                     |                         |                       |                   |             |               |      |
| 561               | DARK (900s)             |              |                     | 185603                  |                       |                   |             |               |      |
| 562               | BIAS (4)                |              |                     |                         |                       |                   |             |               |      |
| 563               | Comp                    |              |                     |                         |                       |                   |             | FcAr<br>Cler  | 60s  |
| 564               | HD 87901                | 10 03 03     | 12 27 22            | 20 14 22                |                       |                   |             |               | 638s |
| 565               | BIAS (4)                |              |                     |                         |                       |                   |             |               |      |
| 566 <del>48</del> | Comp                    |              |                     |                         |                       |                   |             | FcAr<br>Cler  | 60s  |
| 567, 8, 9         | FLAT x 3                |              |                     | <del>203905</del>       |                       |                   |             | TUNG<br>A=1/2 |      |
| 570               | BD <sup>+</sup> 18 2307 | 095612       | 175327              | 203905                  |                       |                   |             |               | 410s |
| 571               | "                       | "            | "                   | 214614                  |                       |                   |             |               | "    |
| 572               | "                       | "            | "                   | 215322                  |                       |                   |             |               | "    |
| 573               | "                       | "            | "                   | 220038                  |                       |                   |             |               | "    |
| 574               | "                       | "            | "                   | 220746                  |                       |                   |             |               | "    |
| 575               | "                       | "            | "                   | 221455                  |                       |                   |             |               | "    |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mtr.

33.5K

175

171

173

179

180

178





136  
#2

Emulsion Batches:

Date ... Jan 18/19-93 ... Observers ... Hedy (24") / Fbr ...

| Plate No. | Object                  | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 576       | BD <sup>+</sup> 18 2307 | 095612       | 175327              | 212203                  |                       |                   |             |                           | 140s |
| 577       | "                       |              |                     | 212912                  |                       |                   |             |                           | 140s |
| 578       | BIAS                    |              |                     |                         |                       |                   |             |                           |      |
| 579       | COMP                    |              |                     |                         |                       |                   |             | Fbr<br>len                | 60s  |
| 580       | FST                     |              |                     |                         |                       |                   |             | Tung<br>A=1/16            | 10s  |
| 581       | BD <sup>+</sup> 18 2307 | 095612       | 175327              | 214254                  |                       |                   |             |                           | 410s |
| 582       | "                       | "            | "                   | 2150                    |                       |                   |             |                           | "    |
| 583       | "                       | "            | "                   | 215712                  |                       |                   |             |                           | "    |
| 584       | "                       | "            | "                   | 220420                  |                       |                   |             |                           | "    |
| 585       | "                       | "            | "                   | 221129                  |                       |                   |             |                           | "    |
| 586       | "                       | "            | "                   | 221838                  |                       |                   |             |                           | "    |
| 587       | "                       | "            | "                   | 222547                  |                       |                   |             |                           | "    |
| 588       | "                       | "            | "                   | 223256                  |                       |                   |             |                           | "    |
| 589       | BIAS                    | "            | "                   |                         |                       |                   |             |                           | "    |
| 590       | COMP                    |              |                     |                         |                       |                   |             | Fbr<br>len                | 60s  |
| 591       | FST                     |              |                     |                         |                       |                   |             | Tung<br>A=1/2             | 10s  |

\*  
HEADER: OBJECT  
 INCORRECT!

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mir.

193

198

227

212

230

228

260

260

263

259





137  
#3

Emulsion Batches:

Date ... JAN 18/19-93. Observers ... Hdy. (24"/Fbr.....

| Plate No. | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison  |      |
|-----------|------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|-------------|------|
|           |                        |              |                     |                         |                       |                   |             | Type/Filter | Exp. |
| CC11592   | BD <sup>+</sup> 182307 | 095612       | 175327              | 224959                  |                       |                   |             |             | 410  |
| 593       | "                      |              |                     | 225707                  |                       |                   |             |             | "    |
| 594       | "                      |              |                     | 230416                  |                       |                   |             |             | "    |
| 595       | "                      |              |                     | 231125                  |                       |                   |             |             | "    |
| 596       | "                      |              |                     | 231835                  |                       |                   |             |             | "    |
| 597       | "                      |              |                     | 232543                  |                       |                   |             |             | "    |
| 598       | "                      |              |                     | 233252                  |                       |                   |             |             | "    |
| 599       | "                      |              |                     | 234001                  |                       |                   |             |             | "    |
| 600       | Bins(4)                |              |                     |                         |                       |                   |             |             |      |
| 601       | Comp                   |              |                     |                         |                       |                   |             |             |      |
| 602       | Flnt                   |              |                     |                         |                       |                   |             |             |      |
| 603       | BD <sup>+</sup> 182307 | 095612       | 175327              | 235254                  |                       |                   |             |             | 410  |
| 604       | "                      | "            | "                   | 000003                  |                       |                   |             |             | "    |
| 605       | "                      | "            | "                   | 000711                  |                       |                   |             |             | "    |
| 606       | "                      | "            | "                   | 001420                  |                       |                   |             |             | "    |

Spectr. Ter

Focus.....

Spectr. Ter

Exp. Mir.

294

260

250

238

265

285

282

288

295

274

274

279





139  
#4

Emulsion Batches:

Date ... JAN 18/19 - 93 ... Observers ... Hd4 (24") / Fbr ...

| Plate No. | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison     |      |
|-----------|------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|----------------|------|
|           |                        |              |                     |                         |                       |                   |             | Type/Filter    | Exp. |
| 607       | BD <sup>+</sup> 182307 | 095612       | 17 5327             | 002129                  |                       |                   |             |                |      |
| 608       | "                      | "            | "                   | 002838                  |                       |                   |             |                |      |
| 609       | "                      | "            | "                   | 003547                  |                       |                   |             |                |      |
| 610       | "                      | "            | "                   | 004255                  |                       |                   |             |                |      |
| 611       | Bas                    |              |                     |                         |                       |                   |             |                |      |
| 612       | Comp                   |              |                     |                         |                       |                   |             | Fe, Ar<br>Clen | 60s  |
| 613       | FNT                    |              |                     |                         |                       |                   |             | TUNG<br>A: 1/2 | 8s   |
| 614       | BD <sup>+</sup> 182307 | 095612       | 17 5327             | 005415                  |                       |                   |             |                | 410s |
| 615       | "                      |              |                     | 01 0124                 |                       |                   |             |                | 410. |
| 616       | "                      |              |                     | 01 0833                 |                       |                   |             |                | 410  |
| 617       | "                      |              |                     | 01 1542                 |                       |                   |             |                | 410  |
| 618       | "                      |              |                     | 01 22 51                |                       |                   |             |                |      |
| 619       | "                      |              |                     | 01 30 00                |                       |                   |             |                |      |
| 620       | "                      |              |                     | 01 37 09                |                       |                   |             |                |      |
| 621       | "                      |              |                     | 014417                  |                       |                   |             |                |      |

Spectr. Te

Focus....

Spectr. Te

Exp. Mtr.

242

230

230

200

211

217

235

268

288

230.

250

230









Spectr. Temp. .... Dome Temp./Hum. - 8.4°C / 64.4% Transparency Conditions ..... Clear - HAZE 142

Focus ..... 6.93

(0153)

Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.       | Grating/Tilt   | Slit     | Emulsion | P.H. | Program | Remarks       | Quality |
|-----------|--------|-----------|-----|-------------|----------------|----------|----------|------|---------|---------------|---------|
|           |        |           |     | CASS<br>CCD | 1800<br>G=5530 | 300<br>μ | λ=5580Å  |      |         |               |         |
| 60s       |        |           |     |             |                |          |          |      |         |               |         |
| 8s        |        |           |     |             |                |          |          |      |         |               |         |
| 410       |        |           |     |             |                |          |          |      | Hdy.    |               |         |
| "         |        |           |     |             |                |          |          |      |         |               |         |
| "         |        |           |     |             |                |          |          |      |         |               |         |
| "         |        |           |     |             |                |          |          |      |         |               |         |
| "         |        |           |     |             |                |          |          |      |         |               |         |
| "         |        |           |     |             |                |          |          |      |         |               |         |
| "         |        |           |     |             |                |          |          |      |         |               |         |
| "         |        |           |     |             |                |          |          |      |         |               |         |
| "         |        |           |     |             |                |          |          |      |         |               |         |
| 60s       |        |           |     |             |                |          |          |      |         | LOST RACK FOR |         |
| 8s        |        |           |     |             |                |          |          |      |         | A BIT         |         |

#143

Date ... JAN 18/19-93. Observers ... Hdy. (24") / Fbr .....

Emulsion Batches:

.....  
.....  
.....

| Plate No.      | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|----------------|------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| cc11636        | BD <sup>+</sup> 182307 | 095612       | 175327              | 030231                  |                       |                   |             |                           | 140  |
| 637            | "                      | "            | "                   | 030940                  |                       |                   |             |                           | "    |
| 638            | "                      | "            | "                   | 031649                  |                       |                   |             |                           | "    |
| 639            | "                      | "            | "                   | 0323                    |                       |                   |             |                           | "    |
| 640            | "                      | "            | "                   | 033107                  |                       |                   |             |                           | "    |
| 641            | "                      | "            | "                   | 033816                  |                       |                   |             |                           | "    |
| 642            | "                      | "            | "                   | 034524                  |                       |                   |             |                           | "    |
| 643            | "                      | "            | "                   | 035233                  |                       |                   |             |                           | "    |
| 644            | Bins (4)               |              |                     |                         |                       |                   |             |                           |      |
| 645            | Comp                   |              |                     |                         |                       |                   |             |                           |      |
| 646            | FRT                    |              |                     |                         |                       |                   |             |                           |      |
| 647            | BD <sup>+</sup> 182307 | 095612       | 175327              | 040744                  |                       |                   |             |                           | 4105 |
| 648            | "                      | "            | "                   | 041450                  |                       |                   |             |                           | "    |
| 649            | "                      | "            | "                   | 042154                  |                       |                   |             |                           | "    |
| <del>650</del> | "                      | "            | "                   | <del>042756</del>       |                       |                   |             |                           | "    |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mr.

275

258

262

260

235

224

220

219

215

215

219

210









Spectr. Temp. ....

Dome Temp./Hum. = 78.0°/68.4%

Transparency Conditions ... PARTLY CLOUDY ... 146

Focus ..... 6.93 .....

(0435)

Spectr. Temp. ....

Dome Temp./Hum. ....

480 0 50 1024 41

| Exp. Mtr.            | Seeing | Ptg. Mag. | Sp. | Inst.       | Grating/Tilt   | Slit     | Emulsion | P.H. | Program | Remarks      | Quality |
|----------------------|--------|-----------|-----|-------------|----------------|----------|----------|------|---------|--------------|---------|
| 4105<br>230          |        |           |     | CASS<br>CCO | 1800<br>G-5520 | 300<br>μ | λ-5880   |      |         |              |         |
| "<br>245             |        |           |     |             |                |          |          |      |         |              |         |
| 230                  |        |           |     |             |                |          |          |      |         | THICK CLOUD. |         |
| 106                  |        |           |     |             |                |          |          |      |         | CLOSELY ..   |         |
| All to Perseus i/w m |        |           |     |             |                |          |          |      |         |              |         |

147

Emulsion Batches:

Date ... Jan 19/20-93 ... Observers ... Fbr/Hdy (24")

| Plate No.      | Object                                       | R.A.<br>1900                    | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|----------------|--|---------------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| FM00476(A-F)   | HD 10006                                     |                                 |                     |                         |                       |                   |             |                           |      |
| <del>657</del> | <del>HD 10006</del> (GOT ERASED BY ACCIDENT) |                                 |                     |                         |                       |                   |             |                           |      |
| 658            | DARK (600s)                                  | <del>015300</del>               | <del>28 54</del>    |                         |                       |                   |             |                           |      |
| 659            | Bias (4)                                     |                                 |                     |                         |                       |                   |             |                           |      |
| 660            | Comp   |                                 |                     |                         |                       |                   |             | Fbr<br>Clear              | 60s  |
| 661            | HD 12029                                     | 015300                          | 28 54               | 18 18 10                |                       |                   |             |                           | 385  |
| 662            | Comp   |                                 |                     |                         |                       |                   |             | Fbr<br>Clear              | 60s  |
| 663            | Bias (4)                                     |                                 |                     |                         |                       |                   |             |                           |      |
| 664            | Comp   |                                 |                     |                         |                       |                   |             | Fbr<br>Clear              | 60s  |
| 665            | HD 87901                                     | 10 03 03                        | 12 27 22            | 20 04 01                |                       |                   |             |                           | 751s |
| 666            | "  | "                               | "                   | 20 17 41                |                       |                   |             |                           | 249s |
| 667            | Comp   |                                 |                     |                         |                       |                   |             | Fbr<br>Clear              | 60s  |
| 668, 9, 70     | FLAT x 3                                     |                                 |                     |                         |                       |                   |             | TUNG<br>n=1/2             |      |
| 671            | Bias (4)                                     | THIS IS THE SAME AS c11663.fts, |                     |                         |                       |                   |             |                           |      |





14A  
#2

Emulsion Batches:

Date ... Jun 19/20-93 ... Observers ... For. / Hdy. (24") .....

| Plate No. | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison  |      |
|-----------|------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|-------------|------|
|           |                        |              |                     |                         |                       |                   |             | Type/Filter | Exp. |
| cc11672   | BD <sup>+</sup> 182307 | 095612       | 175327              | 203315                  |                       |                   |             |             | 410s |
| 673       | "                      |              |                     | 204023                  |                       |                   |             |             | "    |
| 674       | "                      |              |                     | 204732                  |                       |                   |             |             | "    |
| 675       | "                      |              |                     | 205441                  |                       |                   |             |             | "    |
| 676       | "                      |              |                     | 210149                  |                       |                   |             |             | "    |
| 677       | "                      |              |                     | 210858                  |                       |                   |             |             | "    |
| 678       | "                      |              |                     | 211607                  |                       |                   |             |             | "    |
| 679       | "                      |              |                     | 212315                  |                       |                   |             |             | "    |
| 680       | Bins (4)               |              |                     |                         |                       |                   |             |             |      |
| 681       | Comp                   |              |                     |                         |                       |                   |             |             |      |
| 682       | Flat                   |              |                     |                         |                       |                   |             |             |      |
| 683       | BD <sup>+</sup> 182307 | 095612       | 175327              | 213654                  |                       |                   |             |             | 40s  |
| 684       | "                      |              |                     | 214403                  |                       |                   |             |             | "    |
| 685       | "                      |              |                     | 215111                  |                       |                   |             |             | "    |
| 686       | "                      |              |                     | 215820                  |                       |                   |             |             | "    |

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mir.

194

175

183

183

197

198

210

215

222

239

244

257





151  
3

Emulsion Batches:

Date ... JAN 19/20 93 Observers ... Fbr./Hdy (24")

| Plate No. | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison   |      |
|-----------|------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|--------------|------|
|           |                        |              |                     |                         |                       |                   |             | Type/Filter  | Exp. |
| 687       | BO <sup>+</sup> 182307 | 095612       | 175327              | 220528                  |                       |                   |             |              | 410s |
| 688       | "                      |              |                     | 221237                  |                       |                   |             |              | "    |
| 689       | "                      |              |                     | 221945                  |                       |                   |             |              | "    |
| 690       | "                      |              |                     | 222654                  |                       |                   |             |              | "    |
| 691       | Bias (4)               |              |                     |                         |                       |                   |             |              |      |
| 692       | Comp                   |              |                     |                         |                       |                   |             | R4r<br>Cler  | 60s  |
| 693       | Flst                   |              |                     |                         |                       |                   |             | TUNU<br>A=72 | 10s  |
| 694       | BO <sup>+</sup> 182307 | 095612       | 175327              | 223808                  |                       |                   |             |              | 410s |
| 695       | "                      | "            | "                   | 224516                  |                       |                   |             |              | "    |
| 696       | "                      | "            | "                   | 225225                  |                       |                   |             |              | "    |
| 697       | "                      | "            | "                   | 225933                  |                       |                   |             |              | "    |
| 698       | "                      | "            | "                   | 230641                  |                       |                   |             |              | "    |
| 699       | "                      | "            | "                   | 231350                  |                       |                   |             |              | "    |
| 700       | "                      | "            | "                   | 232059                  |                       |                   |             |              | "    |
| 701       | "                      | "            | "                   | 232807                  |                       |                   |             |              | "    |

Spectr. Ten

Focus .....

Spectr. Ten

Exp. Mir.

274

292

292

300

315

325

316

320

319

315

310

318





193  
04

Emulsion Batches:

Date ... JAN 19/20-93 ... Observers ... For./Hdy (24")

| Plate No. | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |      |
|-----------|------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|------|
|           |                        |              |                     |                         |                       |                   |             | Type/Filter   | Exp. |
| 702       | Bias                   |              |                     |                         |                       |                   |             |               |      |
| 703       | Comp                   |              |                     |                         |                       |                   |             | F2r<br>Cen    | 60   |
| 704       | FAT                    |              |                     |                         |                       |                   |             | Tung<br>A=1/2 | 100  |
| 705       | BD <sup>+</sup> 182307 | 095612       | 175527              | 233853                  |                       |                   |             |               | 410  |
| 706       | "                      | "            | "                   | 234601                  |                       |                   |             |               | "    |
| 707       | "                      | "            | "                   | 235310                  |                       |                   |             |               | "    |
| 708       | "                      | "            | "                   | 00 00 19                |                       |                   |             |               | "    |
| 709       | "                      | "            | "                   | 00 07 27                |                       |                   |             |               | "    |
| 710       | "                      | "            | "                   | 00 14 35                |                       |                   |             |               | "    |
| 711       | "                      | "            | "                   | 00 21 44                |                       |                   |             |               | "    |
| 712       | "                      | "            | "                   | 00 28 53                |                       |                   |             |               | "    |
| 713       | Bias(u)                |              |                     |                         |                       |                   |             |               |      |
| 714       | Comp                   |              |                     |                         |                       |                   |             |               |      |
| 715       | FAT                    |              |                     |                         |                       |                   |             |               |      |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mtr.

322

323

304

280

280

290

279

256





155  
#5

Date ... Jan 19/20 -93 Observers ... Fbr./Hdy (24'')

Emulsion Batches:

.....  
.....  
.....

| Plate No.  | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|------------|------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 11716, FTS | BD <sup>+</sup> 182307 | 095612       | 175327              | 003938                  |                       |                   |             |                           | 410c |
| 11717      | "                      | "            | "                   | 004647                  |                       |                   |             |                           | "    |
| 11718      | "                      | "            | "                   | 005355                  |                       |                   |             |                           | "    |
| 11719      | "                      | "            | "                   | 010104                  |                       |                   |             |                           | "    |
| 11720      | "                      | "            | "                   | 010813                  |                       |                   |             |                           | "    |
| 11721      | "                      | "            | "                   | 011521                  |                       |                   |             |                           | "    |
| 11722      | "                      | "            | "                   | 012230                  |                       |                   |             |                           | "    |
| 723        | "                      | "            | "                   | 012939                  |                       |                   |             |                           | "    |
| 724        | Bins (u)               |              |                     |                         |                       |                   |             |                           |      |
| 725        | Comp                   |              |                     |                         |                       |                   |             | Fe Ar<br>Clear            | 60s  |
| 726        | FAT                    |              |                     |                         |                       |                   |             | TUNu<br>A:1/2             | 8s   |
| 727        | BD <sup>+</sup> 182307 | 095612       | 175327              | 014322                  |                       |                   |             |                           | 140  |
| 728        | "                      |              |                     | 015031                  |                       |                   |             |                           | "    |
| 729        | "                      |              |                     | 015739                  |                       |                   |             |                           | "    |
| 730        | "                      |              |                     | 020448                  |                       |                   |             |                           | "    |

Spectr. Te

Focus....

Spectr. Te

Exp. Mtr.

302

~300

~260

370

395

370

442

429

442

460

440

425





157  
#6

Date ... JAN. 19/20. 93 ... Observers ... Fbr./Hdy. (24") .....

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |      |
|-----------|------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|------|
|           |                        |              |                     |                         |                       |                   |             | Type/Filter   | Exp. |
| 731       | BD <sup>+</sup> 18207  | 095612       | 175327              | 021157                  |                       |                   |             |               | 140  |
| 732       | "                      | "            | "                   | 021906                  |                       |                   |             |               | "    |
| 733       | "                      | "            | "                   | 022614                  |                       |                   |             |               | "    |
| 734       | "                      | "            | "                   | 023323                  |                       |                   |             |               | "    |
| 735       | Bins (u)               |              |                     |                         |                       |                   |             |               |      |
| 736       | Comp                   |              |                     |                         |                       |                   |             | Fe Ar<br>Gel  | 60   |
| 737       | Fast                   |              |                     |                         |                       |                   |             | TUNG<br>D=1/2 | 82   |
| 738       | BD <sup>+</sup> 182307 | 095612       | 175327              | 024511                  |                       |                   |             |               | 140. |
| 739       | "                      | "            | "                   | 025219                  |                       |                   |             |               | "    |
| 740       | "                      | "            | "                   | 025928                  |                       |                   |             |               | "    |
| 741       | "                      | "            | "                   | 030637                  |                       |                   |             |               | "    |
| 742       | "                      | "            | "                   | <del>032054</del>       | 031346                |                   |             |               | "    |
| 743       | "                      | "            | "                   | <del>032803</del>       | 032054                |                   |             |               | "    |
| 744       | "                      | "            | "                   | <del>033512</del>       | 032803                |                   |             |               | "    |
| 745       | "                      | "            | "                   | 033512                  |                       |                   |             |               | "    |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Nr.

405

408

420

430

430

419

385

385

325

310





159  
7

Date ... JAN 17/20 ... Observers ... Fbr / Hdy (24")

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison   |      |
|-----------|------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|--------------|------|
|           |                        |              |                     |                         |                       |                   |             | Type/Filter  | Exp. |
| 746       | Bias (4)               |              |                     |                         |                       |                   |             |              |      |
| 747       | Comp                   |              |                     |                         |                       |                   |             | F20<br>len   | 60s  |
| 748       | Flat                   |              |                     |                         |                       |                   |             |              |      |
| 749       | B0 <sup>+</sup> 182307 | 095612       | 175327              | 035004                  |                       |                   |             |              |      |
| 750       | "                      |              |                     | 035712                  |                       |                   |             |              |      |
| 751       | "                      |              |                     | 040421                  |                       |                   |             |              |      |
| 752       | "                      |              |                     | 041130                  |                       |                   |             |              |      |
| 753       | "                      |              |                     | 041838                  |                       |                   |             |              |      |
| 754       | "                      |              |                     | 042547                  |                       |                   |             |              |      |
| 755       | "                      |              |                     | 043256                  |                       |                   |             |              |      |
| 756       | "                      |              |                     | 044004                  | (NO STAR-TOPPING UP)  |                   |             |              |      |
| 757       | Bias (4)               |              |                     |                         |                       |                   |             |              |      |
| 758       | Comp                   |              |                     |                         |                       |                   |             | F20<br>len   | 60s  |
| 759       | Flat                   |              |                     |                         |                       |                   |             | TUN<br>N=1/2 | 8s   |
|           |                        |              |                     |                         |                       |                   |             |              |      |
|           |                        |              |                     |                         |                       |                   |             |              |      |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

265

271

288

305

307

315



Spectr. Temp. .... Dome Temp./Hum.  $-5.2^{\circ}\text{C}/69.2\%$  Transparency Conditions ..... Clear ..... 160

Focus ..... 6.93 ..... (0347)

Spectr. Temp. .... Dome Temp./Hum. .... 480 0 50 1024 41 ccd fnt

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst. | Grating/Tilt | Slit | Emulsion | P.H. | Program | Remarks  | Quality |
|-----------|--------|-----------|-----|-------|--------------|------|----------|------|---------|--|---------|
|           |        |           |     |       |              |      |          |      |         |  |         |
|           |        |           |     |       |              |      |          |      |         | HAO = 11.4 K   |         |
| 265       |        |           |     |       |              |      |          |      | Hdy.    |  |         |
| 271       |        |           |     |       |              |      |          |      |         |  |         |
| 288       |        |           |     |       |              |      |          |      |         |  |         |
| 305       |        |           |     |       |              |      |          |      |         |  |         |
| 307       |        |           |     |       |              |      |          |      |         | T = $-5.2^{\circ}\text{C}$ / Hum = 71.5%                   |         |
| 315       |        |           |     |       |              |      |          |      |         | CCD T = <del>.....</del> <u><math>-92.6^{\circ}</math></u> |         |
|           |        |           |     |       |              |      |          |      |         | → TOPPING UP   |         |
|           |        |           |     |       |              |      |          |      |         | → TOPPING UP   |         |
|           |        |           |     |       |              |      |          |      |         | HAO TO TOP-UP CCD  |         |
|           |        |           |     |       |              |      |          |      |         | TO GET TO $-100.0^{\circ}\text{C}$                         |         |

pg 161

Emulsion Batches:

Date ... Jan 19/20-93 ... Observers ... Fbr./Hdy (24")

| Plate No.      | Object                  | R.A.<br>1900    | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|----------------|-------------------------|-----------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 760            | BD <sup>+</sup> 182307  | 095612          | 175327              | 045724                  |                       |                   |             |                           |      |
| 761            | "                       | "               | "                   | 050433                  |                       |                   |             |                           |      |
| 762            | "                       | "               | "                   | 051142                  |                       |                   |             |                           |      |
| 763            | "                       | "               | "                   | 051851                  |                       |                   |             |                           |      |
| 764            | "                       | "               | "                   | 052601                  |                       |                   |             |                           |      |
| 765            | "                       | "               | "                   | 053310                  |                       |                   |             |                           |      |
| 766            | "                       | "               | "                   | 054019                  |                       |                   |             |                           |      |
| 767            | "                       | "               | "                   | 054727                  |                       |                   |             |                           |      |
| 768            | Bras (*)                |                 |                     |                         |                       |                   |             |                           |      |
| 769            | Comp                    |                 |                     |                         |                       |                   |             | FLA<br>Clear              | 60s  |
| 770            | East                    |                 |                     |                         |                       |                   |             | TUNG<br>n=1/2             | 8s   |
| 771            | BD <sup>+</sup> 18 2307 | 095612          | 175327              | 055839                  |                       |                   |             |                           |      |
| 772            | "                       | "               | "                   | 060545                  |                       |                   |             |                           |      |
| 773            | "                       | "               | "                   | 061247                  |                       |                   |             |                           |      |
| <del>774</del> | <del>XXXX</del>         | <del>XXXX</del> | <del>XXXX</del>     |                         |                       |                   |             |                           |      |

Spectr. Tem

Focus ...

Spectr. Tem

Exp. Mir.

339

323

340

370

740

355

369

313

324

300





163  
#9

Emulsion Batches:

Date ... JAN 19/20-93 ... Observers ... Fbr./Hdy (24") ...

| Plate No. | Object               | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison   |      |
|-----------|----------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|--------------|------|
|           |                      |              |                     |                         |                       |                   |             | Type/Filter  | Exp. |
| cc11774   | Bias (4)             |              |                     |                         |                       |                   |             |              |      |
| 775       | Comp                 |              |                     |                         |                       |                   |             | Fbr<br>Cen   | 60s  |
| 776       | FLAT                 |              |                     |                         |                       |                   |             | TUNG<br>A-12 | 10s  |
| 777       | HD 87901             | 10 03 03     | 12 27 22            | 06 25 <sup>50</sup>     |                       |                   |             |              |      |
| 778       | "                    | "            | "                   |                         |                       |                   |             |              |      |
| 779       | Comp                 |              |                     |                         |                       |                   |             | Fbr<br>Cen   | 60   |
| 780       | <del>FLAT</del> FLAT |              |                     |                         |                       |                   |             | TUNG<br>A-12 | 10s  |
| 781       | FLAT                 |              |                     |                         |                       |                   |             | "            | "    |
| 782       | FLAT                 |              |                     |                         |                       |                   |             | "            | "    |
| 783       | Bias (4)             |              |                     |                         |                       |                   |             |              |      |

Spectr. Temp.

Focus ...

Spectr. Temp.

Exp. Mir.

30K

35K





165  
#1

Emulsion Batches:

Date ... 1993 Jan 20/21 Observers ... Hdy/Fbr/Tn

TIME on CS386, Data Acquisition PC... set. Right on to w/wv TIME.

| Plate No.                         | Object                      | R.A.<br>1900                                    | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End                | Declination | Comparison<br>Type/Filter | Exp.       |
|-----------------------------------|-----------------------------|---|---------------------|-------------------------|-----------------------|----------------------------------|-------------|---------------------------|------------|
| CC 1178 <sup>4</sup> <sub>5</sub> | FOCUS TEST<br>DONE REVERSED |   |                     |                         |                       | 5 <sup>h</sup> 40 <sup>m</sup> E | +53°        | FeAr<br>CLEAR             | 60s<br>60s |
| 11786                             | BIAS(4)                     |   |                     |                         |                       |                                  |             |                           |            |
| 7                                 | COMP                        |   |                     |                         |                       |                                  |             | FeAr<br>CLEAR             | 60s        |
| 788                               | Nova Cyg 92                 | 20 <sup>h</sup> 27 <sup>m</sup> 43 <sup>s</sup> | +52° 17' 39"        | 18 31 08                |                       |                                  |             |                           | 120s       |
| 789                               | "                           | "   | "                   | 18 33 42                |                       |                                  |             |                           | 300s       |
| 790                               | "                           | "   | "                   | 18 39 42                |                       |                                  |             |                           | 537s       |
| 1                                 | COMP                        |   |                     |                         |                       |                                  |             | FeAr<br>CLEAR             | 60s        |
| 2                                 | BIAS(4)                     |   |                     |                         |                       |                                  |             |                           |            |
| 793                               | Nova Cyg 92                 | 20 27 43  | +52 17 39           | 18 53 47                |                       | 6 21 W                           |             |                           | 1780       |
| 794                               | COMP                        |   |                     |                         |                       |                                  |             | FeAr<br>CLEAR             | 60s        |
| 795<br>797                        | FLATS x3                    |   |                     |                         |                       | 6 25 W                           | +52 38      | TUNG<br>A=1/2             | 8sec       |
| 798                               | BIAS(4)                     |   |                     | 19 17 01                |                       |                                  |             |                           |            |
| Fm 00477(A-F)                     | HD19279                     | 03 00 56  | +46 55 21           | 19 25                   |                       |                                  |             | "N" mode                  |            |
| 799                               | COMP                        |   |                     |                         |                       |                                  |             |                           |            |
| 800                               | HD87901                     | 10 03 03  | +12 27 22           | 20 39 49                |                       |                                  |             |                           | 111s       |

Spectr. Tem

Focus....

Spectr. Tem

Exp. Mr.

49

110

173

248

715

A=1/2

31300





167  
#2Hdy  $\rightarrow$  19"/24"

Emulsion Batches:

Date 1993... JAN. 20/21... Observers H.d.g. / T.n. / F.br.....

| Plate No. | Object                            | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |        |
|-----------|-----------------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|--------|
|           |                                   |              |                     |                         |                       |                   |             | Type/Filter   | Exp.   |
| CC11 801  | HD 87901                          | 10 0303      | H2 2722             | 20 4218                 |                       |                   |             |               | 14 sec |
| 802       | Comp                              |              |                     |                         |                       |                   |             | FeAr<br>Clear | 60s    |
| 803, 4, 5 | F <sub>11</sub> x 3 REGULAR FLATS |              |                     |                         |                       |                   |             | 14MG<br>A=1/2 | 10s    |
| 806       | BSA5(C4)                          |              |                     |                         |                       |                   |             |               |        |
| 807       | Comp BD+18°2307 COMP              |              |                     |                         |                       |                   |             | FeAr<br>Clear | 60 sec |
| 808       | BD+18 2307                        | 09 5612      | +17 5327            | 20 5712                 |                       |                   |             |               | 410s   |
| 809       | "                                 |              |                     | 21 04 21                |                       |                   |             |               | "      |
| 810       | "                                 |              |                     | 21 11 31                |                       |                   |             |               | "      |
| 811       | "                                 | 09 56 12     | 17 53 27            | 21 18 41                |                       |                   |             |               | "      |
| 812       | Comp                              |              |                     |                         |                       |                   |             | FeAr<br>Clear | 60s    |
| 813       | BD+18 2307                        |              |                     | 21 33 01                |                       |                   |             |               | 40s    |
| 814       | "                                 |              |                     | 21 40 11                |                       |                   |             |               |        |
| 815       | "                                 |              |                     | 21 47 20                |                       |                   |             |               |        |
| 816       | "                                 |              |                     | 21 54 28                |                       |                   |             |               |        |

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mir.

33,000

220

230

240

260

296

327

325

360





169  
Pg # 3

Emulsion Batches:

Date 93... JAN. 20/21... Observers Hdy./Tn./Fbr.....

| Plate No. | Object                  | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison   |      |
|-----------|-------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|--------------|------|
|           |                         |              |                     |                         |                       |                   |             | Type/Filter  | Exp. |
| 817       | BD <sup>+</sup> 18 2307 | 095612       | 175327              | 220136                  |                       |                   |             |              | 410s |
| 818       | "                       |              |                     | 220845                  |                       |                   |             |              |      |
| 819       | "                       |              |                     | 221554                  |                       |                   |             |              |      |
| 820       | "                       |              |                     | 222302                  |                       |                   |             |              |      |
| 821       | Bins (4)                |              |                     |                         |                       |                   |             |              |      |
| 822       | Comp                    |              |                     |                         |                       |                   |             | Fcd<br>Clen  | 60s  |
| 823       | FAT                     |              |                     |                         |                       |                   |             | run<br>n=102 | 10s. |
| 824       | BD <sup>+</sup> 18 2307 | 095612       | 175327              | 223440                  |                       |                   |             |              | 410s |
| 825       | "                       |              |                     | 224448                  |                       |                   |             |              | "    |
| 826       | "                       |              |                     | 224857                  |                       |                   |             |              | "    |
| 827       | "                       |              |                     | 225614                  |                       |                   |             |              | "    |
| 828       | "                       |              |                     | 230346                  |                       |                   |             |              | 410s |
| 29        | "                       |              |                     | 231054                  |                       |                   |             |              | "    |
| 30        | "                       |              |                     | 231802                  |                       | 0252E             |             |              | "    |
| 31        | "                       |              |                     | 232511                  |                       |                   |             |              | "    |
| 32        | BINS(4)                 |              |                     |                         |                       |                   |             |              |      |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mr.

369

340

376

408

397

455

485

430

380

370

360

350



Spectr. Temp. .... Dome Temp./Hum. ...  $-3.2^{\circ}\text{C}/66\%$  Transparency Conditions ... CLEAR w/ HAZE<sup>170</sup>

Focus ... 6.89 ..... (2200)

Spectr. Temp. .... Dome Temp./Hum. ...  $-4.5^{\circ}\text{C}$  ... 7238 480 0 50 1024 41 CCD fnt

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.       | Grating/Tilt   | Slit         | Emulsion | P.H. | Program | Remarks                         | Quality |
|-----------|--------|-----------|-----|-------------|----------------|--------------|----------|------|---------|---------------------------------|---------|
| 403 369   |        |           |     | CASS<br>CCD | 1800<br>G=6020 | 300<br>$\mu$ | A=563    |      | Hdy     |                                 |         |
| 340       |        |           |     |             |                |              |          |      |         | Airmass = 1.78 / $\mu = 67.6\%$ |         |
| 376       |        |           |     |             |                |              |          |      |         |                                 |         |
| 408       |        |           |     |             |                |              |          |      |         |                                 |         |
| 60s       |        |           |     |             |                |              |          | 14   |         |                                 |         |
| 10s       |        |           |     |             |                |              |          | 15   |         |                                 |         |
| 410s 397  |        |           |     |             |                |              |          | 16ci |         |                                 |         |
| 4 455     |        |           |     |             |                |              |          |      |         |                                 |         |
| 4 485     | 2"-3"  |           |     |             |                |              |          |      |         |                                 |         |
| 4 430     |        |           |     |             |                |              |          | 16ci |         |                                 |         |
| 410s 380  |        |           |     |             |                |              |          | 17ci |         | STAR 4005. BAT for 410 sec LATS |         |
| 370       |        |           |     |             |                |              |          |      |         |                                 |         |
| 360       |        |           |     |             |                |              |          |      |         |                                 |         |
| 350       |        |           |     |             |                |              |          | 17ci |         |                                 |         |
|           |        |           |     |             |                |              |          | 1ci  |         |                                 |         |

17pg#4

Emulsion Batches:

Date 1993 JAN 20/21..... Observers Hdg. J.Tn.....

| Plate No.     | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |        |
|---------------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|--------|
|               |            |              |                     |                         |                       |                   |             | Type/Filter   | Exp.   |
| CC 11833      | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2 | 8 sec  |
| 11834         | Comp       |              |                     |                         |                       |                   |             | FeAr<br>CLEAR | 60s    |
| 835           | BD+18 2307 | 09 56 12     | 17 53 27            | 23 39 07                |                       | 02 30E            |             |               | 410s   |
| 836           |            |              |                     | 23 46 15                |                       |                   |             |               | "      |
| 837           |            |              |                     | 23 53 24                |                       |                   |             |               | "      |
| 838           |            |              |                     | 00 00 33                |                       |                   |             |               | "      |
| 839           |            |              |                     | 00 08 03                |                       |                   |             |               | "      |
| 40            |            |              |                     | 00 15 12                |                       |                   |             |               | "      |
| 41            |            |              |                     | 00 22 20                |                       |                   |             |               | "      |
| 42            |            |              |                     | 00 29 29                |                       | 01 39E            |             |               | "      |
| 43            | BIAS(4)    |              |                     | 00 38                   |                       |                   |             |               |        |
| 45            | Comp       |              |                     |                         |                       |                   |             | FeAr<br>CLEAR | 60 sec |
| <del>44</del> | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2 | 7 sec  |
| 46            | BD+18 2307 | 09 56 12     | 17 53 27            | 00 44 39                |                       |                   |             |               | 410s   |
| 47            | "          |              |                     | 00 51 48                |                       |                   |             |               | "      |
| 48            | "          |              |                     | 00 58 57                |                       |                   |             |               | "      |

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mir.

340

340

300

240

270

270

274

260

250

290

280



Spectr. Temp. .... Dome Temp./Hum. ... -10.5°C ...

Transparency Conditions ... in CR ... Haze / cloud<sup>170</sup>

Focus ... 6.89 .....

@ 00 EST

Spectr. Temp. .... Dome Temp./Hum. ....

Air Pressure 103.4 hPa seals ↓

| Expansion<br>filter | Exp.   | Exp. Mtr. | Seeing | Ptg.<br>Mag. | Sp. | Inst.       | Grating/<br>Tilt    | Slit                | Emulsion | P.H.   | Program  | Remarks  | Quality |
|---------------------|--------|-----------|--------|--------------|-----|-------------|---------------------|---------------------|----------|--------|----------|--|---------|
| 6                   | 8 sec  |           |        |              |     | CASS<br>CCD | 1800 l/mm<br>G=6020 | 300μ<br>Full length | 6563Å    | 18ci   |          | MAX = 13 K ADU/pixel                                 |         |
| 2                   | 60s    |           |        |              |     |             |                     |                     |          | 19ci - |          | Comp checked (looks good)                            |         |
| 4                   | 4/10s  | 340       | 3"     |              |     |             |                     |                     |          | 20ci   | Hdy pgm  | STAR9005.BAT Repeat 4                                |         |
| v                   |        | 340       |        |              |     |             |                     |                     |          | "      |          | 1.34 AIR MASS  |         |
| y                   |        | 300       |        |              |     |             |                     |                     |          | "      |          |  |         |
| n                   |        | 240       |        |              |     |             |                     |                     |          | 20ci   |          |  |         |
| i                   |        | 270       |        |              |     |             |                     |                     |          | 21ci   |          | <u>45/1 S/N</u>                                      |         |
| i                   |        | 270       |        |              |     |             |                     |                     |          |        |          | Some cloud now, here                                 |         |
| v                   |        | 274       |        |              |     |             |                     |                     |          |        |          | 2.500 ADU sum AVG above<br>Background → 2000 photons |         |
| n                   |        | 260       |        |              |     |             |                     |                     |          | 21ci   |          | only thin cloud so far                               |         |
|                     |        |           |        |              |     |             |                     |                     |          | 1ci    |          | Dome T = -5.0°C                                      |         |
| h                   | 10 sec |           |        |              |     |             |                     |                     |          | 22ci - |          |  |         |
| UR                  | 7 sec  |           |        |              |     |             |                     |                     |          | 23ci   |          | <u>13K ADU MAX</u>                                   |         |
| 16                  | 4/10s  | 250       | 2-3"   |              |     |             |                     |                     |          | 24ci   | Hdy star |  |         |
| 2                   |        | 290       |        |              |     |             |                     |                     |          | "      |          |  |         |
| 2                   |        | 280       |        |              |     |             |                     |                     |          | "      |          |  |         |

173  
pg# 5

Emulsion Batches:

Date 1993 JAN 20/21..... Observers Hdy./T.A.....

| Plate No. | Object      | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| cc11849   | BD+18 2307  | 09 5612      | +17 5327            | 01 06 06                |                       | 01 03 E           |             |                           | 410s |
| 50        |             |              |                     | 01 14 03                |                       |                   |             |                           | "    |
| 51        |             |              |                     | 01 21 12                |                       |                   |             |                           | "    |
| 52        |             |              |                     | 01 28 20                |                       |                   |             |                           | "    |
| 53        |             |              |                     | 01 35 42                |                       |                   |             |                           | 413s |
| 54        | BIAS(A)     |              |                     |                         |                       |                   |             |                           |      |
| 55        | FLAT        |              |                     |                         |                       |                   |             | Tung<br>H=V2              | 75s  |
| 56        | Comp        |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 57        | BD +18 2307 | 09 5612      | +17 5327            | 01 46 57                |                       |                   |             |                           | 410s |
| 58        | "           |              |                     | 01 54 06                |                       |                   |             |                           | "    |
| 59        | "           |              |                     | 02 01 14                |                       |                   |             |                           | "    |
| 60        | "           |              |                     | 02 08 23                |                       |                   |             |                           | "    |
| 61        | "           |              |                     | 02 15 48                |                       |                   |             |                           | "    |
| 62        | "           |              |                     | 02 22 56                |                       |                   |             |                           | "    |
| 63        | "           |              |                     | 02 30 17                |                       |                   |             |                           | "    |
| 64        | "           |              |                     | 02 37 26                |                       |                   |             |                           | "    |

Spectr. Ten

Focus... 6

Spectr. Ten

Exp. Mir.

275

280

280

285

260

256

245

236

216

201

197

215

235





50 175  
pg #6

Date 1993 Jan 20/21 Observers Hdy/Tn

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object       | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|--------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 11865     | BIAS(4)      |              |                     |                         |                       |                   |             |                           |      |
| 66        | COMP         |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 67        | FLAT         |              |                     |                         |                       |                   |             | Tung<br>A=1/2             | 7s   |
| 68        | BD +18° 2307 | 09 56 12     | +17 53 27           | 02 50 45                |                       |                   |             |                           | 410s |
| 69        | "            |              |                     | 02 57 54                |                       |                   |             |                           | "    |
| 70        | "            |              |                     | 03 05 03                |                       |                   |             |                           | "    |
| 71        | "            |              |                     | 03 12 11                |                       |                   |             |                           | "    |
| 72        | "            |              |                     | 03 19 40                |                       | 1" 10" W          |             |                           | "    |
| 73        | "            |              |                     | 03 28 49                |                       |                   |             |                           | "    |
| 74        | "            |              |                     | 03 33 58                |                       |                   |             |                           | "    |
| 75        | "            |              |                     | 03 41 07                |                       |                   |             |                           | "    |
| 76        | BIAS(4)      |              |                     |                         |                       |                   |             |                           |      |
| 77        | FLAT         |              |                     |                         |                       |                   |             | Tung<br>A=1/2             | 7s   |
| 78        | COMP         |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s  |
| 79        | BD +18° 2307 | 09 56 12     | +17 53 27           | 03 52 14                |                       |                   |             |                           | 410s |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

13198

146

170

201

189

201

250

228

170

166



Spectr. Temp. .... Dome Temp./Hum.  $-4.9^{\circ}\text{C}/81.9\%$  Transparency Conditions <sup>THICK</sup> HAZE ... some clearing 16.

Focus .....

Spectr. Temp. .... Dome Temp./Hum.  $84.4\%$

| Comparison<br>Filter | Exp. | Exp. Mtr. | Seeing | Ptg.<br>Mag. | Sp. | Inst. | Grating/<br>Tilt | Slit | Emulsion | P.H.            | Program | Remarks                          | Quality |
|----------------------|------|-----------|--------|--------------|-----|-------|------------------|------|----------|-----------------|---------|----------------------------------|---------|
|                      |      |           |        |              |     |       |                  |      |          |                 |         | RESET SPECTROGRAPH<br>CONTROLLER |         |
|                      | 60s  | 13198     |        |              |     |       |                  |      |          | 30ci            |         |                                  |         |
|                      | 7s   |           |        |              |     |       |                  |      |          | 31ci            |         | 12.6 K                           |         |
|                      | 410s | 146       |        |              |     |       |                  |      |          | 32ci            |         |                                  |         |
|                      | "    | 170       |        |              |     |       |                  |      |          |                 |         | thick cloud now                  |         |
|                      | "    | 201       |        |              |     |       |                  |      |          |                 |         |                                  |         |
|                      | "    | 189       |        |              |     |       |                  |      |          | <u>32ci</u>     |         | X=1.14                           |         |
|                      | "    | 201       |        |              |     |       |                  |      |          | 33ci            |         |                                  |         |
|                      | "    | 250       |        |              |     |       |                  |      |          |                 |         | Less hazy now                    |         |
|                      | "    | 228       |        |              |     |       |                  |      |          |                 |         |                                  |         |
|                      | "    | 170       |        |              |     |       |                  |      |          | <u>32ci</u>     |         |                                  |         |
|                      | 7s   |           |        |              |     |       |                  |      |          | 34ci            |         | 13.3 k                           |         |
|                      | 60s  |           |        |              |     |       |                  |      |          | 35ci            |         |                                  |         |
|                      | 410s | 166       |        |              |     |       |                  |      |          | <del>36ci</del> |         |                                  |         |







179  
pg#1 Mon-Tues

Emulsion Batches:

Date 1993. JAN 25/26... Observers [Meylan = Mln] / [Kk.] / Fbr/Tn

| Plate No.      | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|----------------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| ce05340        | BINS(4)    |              |                     | 18 17                   |                       |                   |             |                           |       |
| 41<br>42       | Focus Test | in board     | outboard            | 18 35                   |                       | 33 W              | 3 + 30°     |                           | 3/3   |
| 5343           | Bins(4)    |              |                     |                         |                       |                   |             |                           |       |
| 44<br>→ 48     | FLAT x 5   | at HD10307   | pos'n               |                         |                       |                   |             | TUNG                      | 4sec  |
| 5349           | Comp       |              |                     |                         |                       |                   |             | THAr                      | 6sec  |
| 5350           | HD10307    | 0135 42      | 42 07               | 19 04 44                |                       |                   |             |                           | 2400s |
| 5351           | "          | "            | "                   | 19 45 15                |                       | 02 47 W           |             |                           | 2400s |
| 5352           | Comp       |              |                     |                         |                       |                   |             | THAr                      | 6sec  |
| 5353           | HD10307    | 0135 42      | 42 07               | 20 27 39                |                       |                   |             |                           | 2400  |
| 5354           | Comp       |              |                     |                         |                       |                   |             | THAr                      | 6sec  |
| 5355           | Bins(4)    |              |                     |                         |                       |                   |             |                           |       |
| 5356 -<br>5360 | FLAT x 5   |              |                     |                         |                       |                   |             | TUNG                      | 6sec  |
| 5361           | Comp       | 03 31 48     | 00 05               | <del>21 21 01</del>     |                       |                   |             | THAr                      | 6sec  |
| 5362           | HD22484    | 033148       | 00 05               | 21 21 01                |                       |                   |             |                           | 850   |
| 5363           | Comp       |              |                     |                         |                       |                   |             | THAr                      | 6s    |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

561

978

848

340

340





181 pg #2 Mon - Tues

Date 93 - JAN 25/26 Observers M. L. W. / K. / F. / T. ....

Emulsion Batches:

.....  
.....  
.....

| Plate No.   | Object                        | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T.  | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-------------|-------------------------------|--------------|---------------------|-------------------------|------------------------|-------------------|-------------|---------------------------|------|
| ce 05364    | Comp for Capella              |              |                     |                         |                        |                   |             |                           | 6    |
| 65          | HD 34029                      | 05 09 18     | +45 54              | 21 41 37                |                        |                   |             |                           | 218s |
| 66          | Comp                          |              |                     |                         |                        |                   |             |                           | 6    |
| 67          | HD 34029                      |              |                     | 21 51 57                |                        |                   |             |                           | 198  |
| 68          | Comp                          |              |                     |                         |                        |                   |             |                           | 6    |
| 69          | BIAS(4)                       |              |                     | 21 58                   |                        |                   |             |                           |      |
| 70<br>74    | FLATS x5                      |              |                     | 22 07                   |                        | 01 37E            | +16°        |                           | 5sec |
| 5375        | Comp                          |              |                     |                         |                        |                   |             |                           | 6sec |
| NO<br>5217E | HD 71148                      | 08 20 42     | +6 00               | 22 17 14                | (ABORTED - TOO CLOUDY) |                   |             |                           | 1750 |
| 5376        | Bias (4)                      |              |                     |                         |                        |                   |             |                           |      |
| 5378        | BIAS(4) 340 0 140             | 1024 11      | ccdfmt              | Dura T=6.4              |                        | 8E                | +45°        |                           |      |
| 5377        | Comp (START of Flexure Tests) |              |                     | 01 11                   |                        | 8E                |             | Th Ar                     | 30s  |
| 79          | "                             |              |                     | 01 13 15                |                        | 7E                |             | "                         | "    |
| 80          | "                             |              |                     | 01 15                   |                        | 6E                |             | "                         | "    |
| 81          | "                             |              |                     | 01 17                   |                        | 5E                |             | "                         | "    |
| 82          | "                             |              |                     | 01 20 29                |                        | 4E                |             | "                         | "    |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

3900

4000

02



Spectr. Temp. .... Dome Temp./Hum.  $-7.0^{\circ}\text{C}$  58% Transparency Conditions ... *cloudy mostly* ..... 182

Focus .....  $\phi: 2.5$  .....

Spectr. Temp. .... Dome Temp./Hum.  $-6.4^{\circ}\text{C}$  65% .....

| Comparison Filter | Exp.   | Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.          | Grating/Tilt | Slit               | Emulsion | P.H. | Program | Remarks                          | Quality |
|-------------------|--------|-----------|--------|-----------|-----|----------------|--------------|--------------------|----------|------|---------|----------------------------------|---------|
|                   | 6      |           |        |           |     | ECHELLE<br>CCD |              |                    |          | 4c   |         |                                  |         |
|                   | 2185   | 3900      |        |           |     |                |              |                    | 5180Å    | 6c   | HK pgrm | MAX = 12 H ADU/pixel             |         |
|                   | 6      |           |        |           |     |                |              |                    |          | 4c   |         |                                  |         |
|                   | 178    | 4000      |        |           |     |                |              |                    |          | 7c   | HK pgrm | cloud sometimes                  |         |
|                   | 6      |           |        |           |     |                |              |                    |          |      |         | Pore T = $-71^{\circ}\text{C}$   |         |
|                   | 5 sec  |           |        |           |     |                |              | H = $800\mu = 195$ |          | 3c   |         |                                  |         |
|                   | 6 sec  |           |        |           |     |                |              | H = $600\mu = 125$ |          | 4c   |         |                                  |         |
|                   | 1750   | 102       |        | V<br>6.32 | G5V |                |              |                    |          | 5c   |         | Thick Cloud H = 62.4% T = $-7.8$ |         |
|                   |        |           |        |           |     |                |              |                    |          |      |         | Domo Closed since 23:30 UT       |         |
|                   |        |           |        |           |     |                |              |                    |          | 1c   |         |                                  |         |
|                   | Ar 30s |           |        |           |     |                |              | 600<br>600         |          | 1c   |         |                                  |         |
|                   | " "    |           |        |           |     |                |              |                    |          | 3c?  |         |                                  |         |
|                   | " "    |           |        |           |     |                |              |                    |          | 2c   |         |                                  |         |
|                   | " "    |           |        |           |     |                |              |                    |          | 4c   |         |                                  |         |
|                   | " "    |           |        |           |     |                |              |                    |          | 5c   |         |                                  |         |





Spectr. Temp. .... Dome Temp./Hum.  $-69^{\circ}C$   $65\%$  Transparency Conditions ..... *cloudy* ..... 184

Focus ... *1225* .....

Spectr. Temp. .... Dome Temp./Hum. ....

Comparison  
filter Exp.

| Exp. Mtr.  | Seeing | Ptg. Mag. | Sp. | Inst.                | Grating/<br>Tilt               | Slit        | Emulsion     | P.H.        | Program             | Remarks | Quality |
|------------|--------|-----------|-----|----------------------|--------------------------------|-------------|--------------|-------------|---------------------|---------|---------|
| <i>305</i> |        |           |     | <i>Edele<br/>CCJ</i> | <i>600 lines<br/>x grazing</i> | <i>600u</i> | <i>5180A</i> | <i>6i</i>   | <i>Flexure Test</i> |         |         |
|            |        |           |     |                      |                                |             |              | <i>7i</i>   |                     |         |         |
|            |        |           |     |                      |                                |             |              | <i>7ci</i>  |                     |         |         |
|            |        |           |     |                      |                                |             |              | <i>8ci</i>  |                     |         |         |
|            |        |           |     |                      |                                |             |              | <i>9ci</i>  |                     |         |         |
|            |        |           |     |                      |                                |             |              | <i>10ci</i> |                     |         |         |
|            |        |           |     |                      |                                |             |              | <i>3ci</i>  |                     |         |         |
|            |        |           |     |                      |                                |             |              | <i>4ci</i>  |                     |         |         |
|            |        |           |     |                      |                                |             |              | <i>5ci</i>  |                     |         |         |

185

Emulsion Batches:

Date ... Jan. 27/28-73 ... Observers ... Fox. (S.C. PHONING IN.)

| Plate No.       | Object             | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.             |
|-----------------|--------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------------------|
| ce05392         | BIAS (4)           |              |                     |                         |                       |                   |             |                           |                  |
| 5393            | Comp               |              |                     |                         |                       |                   |             | ThAr                      | 6s               |
| 5394            | H022484            | 033148       | 00 05               | 19 08 50                | 0130W                 |                   |             |                           | 1050             |
| 5395            | Comp               |              |                     |                         |                       |                   |             | ThAr                      | 6s               |
| 5396            | BIAS (4)           |              |                     |                         |                       |                   |             |                           |                  |
| 5397 -<br>5401  | FLATS x 5          |              |                     |                         |                       |                   |             | TUNG                      | 5s               |
| 5402            | Comp               |              |                     |                         |                       |                   |             | ThAr                      | 6s               |
| 5403            | H071148            | 08 20 42     | 46 00               | 19 47 06                |                       |                   |             |                           | 3100s            |
| 5404            | H071148            | "            | "                   | 20 39 41                | 2 35 E                |                   |             |                           | 3600s            |
| <del>5405</del> | <del>H071148</del> | <del>"</del> | <del>"</del>        | <del>21 40 54</del>     |                       |                   |             |                           | <del>3600s</del> |
| 5405            | Comp               |              |                     |                         |                       |                   |             | ThAr                      | 6s               |
| 5406 -<br>5410  | FLATS x 5          |              |                     |                         |                       |                   |             | TUNG                      | 4s               |
| 5411            | BIAS (4)           |              |                     |                         |                       |                   |             |                           |                  |

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mir.

355

255

310



Spectr. Temp. .... Dome Temp./Hum. = 4.6°C / 62.1% Transparency Conditions ... PARTLY CLOUDY ... 115

Focus ..... 0.225

Spectr. Temp. .... Dome Temp./Hum. = 7.9°C / 64.5% (2200) FANS OFF - CCD T = -100.1°C

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.          | Grating/Tilt | Slit | Emulsion                  | P.H.                    | Program   | Remarks                              | Quality                                     |
|-----------|--------|-----------|-----|----------------|--------------|------|---------------------------|-------------------------|-----------|--------------------------------------|---|
|           |        |           |     | GCHELLC<br>CCO | 600ln/mm     | 600μ | λ <sub>c</sub> = 5180Å    | Echelle Tilt<br>= 19.05 |           | 0 0 256 1024 41                      | ccdf-t                                      |
| 355       |        | V<br>4.28 | F8V |                |              |      | w=60(.270)<br>h=600(.205) |                         | KK STO.   | PASSING CLOUD                        |   |
|           |        |           |     |                |              |      | w=60μ<br>h=800μ(.285)     |                         |           | ~ 12.3 K MAX                         |   |
| 255       |        | V<br>6.32 | G5V |                |              |      | w=60μ<br>h=600μ           |                         | Min / Fbr | DOMET = -6.2°C / H=61.4%<br>Sky Hazy |   |
| 310       |        | V<br>6.32 | G5V |                |              |      |                           |                         | Min / Fbr | POOR SEEING                          |   |
|           |        | m         | m   |                |              |      |                           |                         |           | 336 CRASH - LOST LAST                |   |
|           |        |           |     |                |              |      |                           |                         |           | PICTURE OF 71148                     |   |
|           |        |           |     |                |              |      |                           |                         |           | 11.7 MAX                             |   |
|           |        |           |     |                |              |      |                           |                         |           | CLOUD / SOME SNOW                    |   |
|           |        |           |     |                |              |      |                           |                         |           | All to Perseus<br>WORM               | H <sub>10</sub> = 70% H <sub>00</sub> = 68% |

187

Fri - Sat

Date 1993 JAN 29/30. Observers [KK] Tm./Fbr....

Emulsion Batches:

.....  
.....  
.....

| Plate No.  | Object             | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|------------|--------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 005412     | BIAS(4)            |              |                     | 19 05                   |                       |                   | +40°        |                           |      |
| 413        | Comp               |              |                     | 19 16                   |                       |                   |             | ThAr                      | 45e  |
| 414        | HD8890             | 01 22.6      | +88 46              | 19 18 21                |                       |                   |             |                           | 455  |
| 415        | "                  | "            | "                   | 19 26 39                |                       |                   |             |                           | 447e |
| 416        | Comp               |              |                     | 19 35                   |                       |                   |             | ThAr                      | 45   |
| 417        | Comp               |              |                     |                         |                       |                   |             | "                         | "    |
| 418        | HD34029            | 05 09 18     | 45 54               | 19 42 18                |                       |                   |             |                           | 109e |
| 419        | "                  | "            | "                   | 19 45 06                |                       |                   |             |                           | 131  |
| 420        | COMP               |              |                     |                         |                       |                   |             | ThAr                      | 46   |
| 421        | BIAS(4)            |              |                     |                         |                       |                   |             |                           |      |
| 422        | COMP               |              |                     |                         |                       |                   |             | ThAr                      | 45   |
| 423        | HD22484            | 03 31 48     | 00 05               | 19 56 25                |                       |                   |             |                           | 1528 |
| 424        | COMP               |              |                     |                         |                       |                   |             | ThAr                      | 45   |
| 425        | <del>BIAS(4)</del> |              |                     |                         |                       |                   |             | <del>ThAr</del>           |      |
| 426<br>730 | FLAT x 5           |              |                     |                         |                       | 01 10W            | +27°        |                           |      |

Spectr. Te

Focus...

Spectr. Te

Exp. Mr.

1325

1330

2800

3470

571





189  
Pg #2

Date 1993 JAN 29/30... Observers [KK] Tn / Fbr.....

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object    | R.A.<br>1900                    | Declination<br>1900 | Starting Time<br>E.S.T.           | Ending Time<br>E.S.T. | Hour Angle<br>End        | Declination                | Comparison<br>Type/Filter | Exp.  |
|-----------|-----------|---------------------------------|---------------------|-----------------------------------|-----------------------|--------------------------|----------------------------|---------------------------|-------|
| ce05431   | Comp      |                                 |                     |                                   |                       |                          |                            | ThAr                      | 4s    |
| 432       | HD 47105  | 06 31.9<br><del>16 270</del>    | +16 29              | 22 36 59                          |                       |                          |                            |                           | 484   |
| 433       | Comp      |                                 |                     |                                   |                       |                          |                            | ThAr                      | 4s    |
|           |           |                                 |                     | FLEXURE TESTS FORMAT <sup>o</sup> |                       | 560<br><del>3000</del> 0 | 160<br><del>1000</del> 102 | 4 11                      |       |
| 434       | BIAS (4)  |                                 |                     |                                   |                       | 10 E                     | +88 <sup>o</sup>           | ThAr                      |       |
| 435       | Comp      | Flexure Tests, near Polaris Dec |                     |                                   | 00 02.                | 10 E                     |                            | ThAr                      | 60s   |
| 436       | Comp      |                                 |                     | 00 04 24                          |                       | 9 E                      | .26 .14                    | "                         | "     |
| 437       | Comp      |                                 |                     | 07                                |                       | 8 E                      | .30 .24                    | "                         | "     |
| 438       | Comp      |                                 |                     |                                   |                       | 7 E                      | .07 .11                    | "                         | "     |
| 439       | Comp      |                                 |                     | 00 11 25                          |                       | 6 E                      | -.30 -.21                  | "                         | "     |
| 440       | Comp      |                                 |                     |                                   |                       | 5 E                      | -.81 -.49                  | "                         | "     |
| 441       | Comp      |                                 |                     | 00 20                             |                       | 4 E                      | -1.40 -.99                 | "                         | "     |
| 442       | Comp      |                                 |                     |                                   |                       | 3 E                      | -2.10 -1.61                | "                         | "     |
| 443       | Comp      |                                 |                     |                                   |                       | 2 E                      | -2.86 -2.11                | "                         | "     |
| 444/445   | Comp/Comp |                                 |                     | 00 26<br>00 28                    |                       | 1 E / 0                  | -3.60 -2.73<br>-4.26 -2.79 | " / "                     | " / " |

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mir.

1299

11k











193  
p<sup>1</sup>

Mon - Tues

[HK] [Meglan] Seavico OBS

Emulsion Batches:

Date 1993 - FEB 1/2 ..... Observers .....  
Tn / Fbr

| Plate No.       | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison  |      |
|-----------------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|-------------|------|
|                 |            |              |                     |                         |                       |                   |             | Type/Filter | Exp. |
| ce 5464<br>5465 | Focus Test |              | INBOARD/OUTBOARD    | 17 40                   |                       | 03 W              | +27°        | ThAr        | 3/3  |
| 05466           | BINS (4)   |              |                     |                         |                       |                   |             |             |      |
| 5467            | Comp       |              |                     |                         |                       |                   |             | ThAr        | 6s   |
| 5468            | HD 8890    | 01 22.6      | +88 46              | 18 12 34                |                       |                   |             |             | 659s |
| 5469            | Comp       |              |                     |                         |                       |                   |             | ThAr        | 6s   |
| 70              | HD 8890    | 01 22.6      | +88 46              | 18 27 56                |                       |                   |             |             | 587* |
| 71              | Comp       |              |                     |                         |                       |                   |             | ThAr        | 6s   |
| 72              | Comp       |              |                     |                         |                       |                   |             | TWR         | 6s   |
| 73              | HD 22 484  | 03 31 48     | +00 05              | 18 48 55                |                       |                   |             |             | 1444 |
| 74              | Comp       |              |                     |                         |                       |                   |             | ThAr        | 6s   |
| 75              | HD 22 484  | 03 31 48     |                     | 19 17 54                |                       |                   |             |             | 1607 |
| 76              | Comp       |              |                     |                         |                       |                   |             | ThAr        | 6s   |
| 77              | BINSCA)    |              |                     |                         |                       |                   |             |             |      |
| 5478 -<br>5482  | FLAT x 5   |              |                     |                         |                       | 01 W              | +14°        | TUNU        | 5s   |
| 5483            | Comp       |              |                     |                         |                       |                   |             | TWR         | 6s   |

} Tel/west side

Spectr. Ter

Focus...?

Spectr. Ter

Exp. Mir.

1316

1300

500

600



Spectr. Temp. .... Dome Temp./Hum.  $-12.5^{\circ}\text{C}$  ...  $5.75\% \text{H}$  Transparency Conditions ... *FINE* ..... 194.

Focus ...  $22.5$  .....

Spectr. Temp. .... Dome Temp./Hum. ....  $90\text{CGAIN CCDT} \rightarrow -100^{\circ}\text{C}$

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp.       | Inst.                    | Grating/Tilt                 | Slit                   | Emulsion | P.H. | Program     | Remarks  | Quality |
|-----------|--------|-----------|-----------|--------------------------|------------------------------|------------------------|----------|------|-------------|--|---------|
| 3/3       |        |           |           | Echelle<br>CCD<br>18'00" | 600 l/m<br>x grating<br>3985 | 60u<br>600u            | 5200f    |      |             | Outboard 401 pixel Rad<br>0 0 256 1024 4 1 ccd fnt |         |
| 6s        |        |           |           |                          |                              |                        |          | 1ci  |             |  |         |
| 6s        |        |           |           |                          |                              |                        |          | 3ci  |             |  |         |
| 6s        | 1316   | poor      | 2         | F                        |                              |                        |          | 4ci  | k.k.pgm     | Tel East SIDE<br>5K MAX                            |         |
| 6s        |        |           |           |                          |                              |                        |          | 5ci  |             |  |         |
| 6s        | 1300   |           |           |                          |                              |                        |          | 2ci  | k.k.pgm     | *<br>image focus better                            |         |
| 6s        |        |           |           |                          |                              |                        |          | 3ci  |             |  |         |
| 6s        |        |           |           |                          |                              |                        |          | 3ci  |             |  |         |
| 6s        | 500    | 5"        | V<br>4.28 | F8V (F9 IV-V)            |                              |                        |          | 5ci  | std vel k.k |  |         |
| 6s        |        |           |           |                          |                              |                        |          | 3ci  |             |  |         |
| 6s        | 600    |           |           |                          |                              |                        |          | 5ci  | std vel     |  |         |
| 6s        |        |           |           |                          |                              |                        |          | 3ci  |             |  |         |
| 6s        |        |           |           |                          |                              |                        |          | 1ci  |             | Dome T = $-14.2^{\circ}\text{C}$                   |         |
| 6s        |        |           |           |                          |                              | 600 u width<br>800 u H |          |      |             |  |         |
| 6s        |        |           |           |                          |                              | 60 u                   |          |      |             |  |         |
| 6s        |        |           |           |                          |                              | 600 u                  |          |      |             |  |         |

195  
p2

Emulsion Batches:

Date 93 - FEB 1/2 ..... Observers [KK] [M] [br/T]

| Plate No.              | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|------------------------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| <sup>ce</sup><br>05484 | HD71148  | 08 2042      | +46 00              | 20 15 08                | (386                  | CRASH)            |             |                           | ~180 |
| 5485                   | "        | "            | "                   | 20 46 03                |                       |                   |             |                           | 3600 |
| 5486                   | Comp     |              |                     | 21 47                   |                       |                   |             | ThAr                      | 6sec |
| 5487                   | HD71148  | 08 20 42     | +46 00              | 21 48 58                |                       |                   |             |                           | 3602 |
| 5488                   | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 5489                   | HD71148  | 08 20 42     | +46 00              | 22 51 23                |                       |                   |             |                           | 3601 |
| 5490                   | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 5491                   | Bins (u) |              |                     |                         |                       |                   |             |                           | 6s   |
| 5492                   | HD71148  | 08 20 42     | +46 00              | 23 54 59                |                       |                   |             |                           | 323  |
| 5493                   | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 5494                   | HD71148  | 08 20 42     | +46 00              | 00 57 05                |                       | 02 03W            |             |                           | 3602 |
| 5495                   | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| → 5496                 | HD71148  | 08 20 42     | +46 00              | 01 59 27                |                       | 03 06W            |             |                           | 3600 |
| 5497                   | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 5498 -<br>5502         | FLATX5   |              |                     |                         |                       | 03 10W            | +46°        | ThAr                      |      |

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mtr.

?

360

332

312

323

390

400



Spectr. Temp. .... Dome Temp./Hum.  $+15^{\circ}\text{C}$   $55\% \text{H}$  Transparency Conditions. *Fine. ... s/1.4.29. .... 196..*

Focus .....  $0.225$  .....

Spectr. Temp. .... Dome Temp./Hum.  $-17.4^{\circ}\text{C}$   $55.2\% \text{H}$

| Comparison Filter | Exp. | Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.              | Grating/Tilt    | Slit         | Emulsion           | P.H. | Program | Remarks                                  | Quality                 |
|-------------------|------|-----------|--------|-----------|-----|--------------------|-----------------|--------------|--------------------|------|---------|--|-------------------------|
|                   |      | ?         | 2"4"   | V<br>6.32 | G5V | ECHILL<br>CLO      | 6001n/mm<br>18° | 60μ<br>600nH | $\lambda_c = 5200$ | 5ci  | M1n     | 1/2 MOON ABOVE<br>(AK Σ AUG above bkgrd) | 2K Σ AUG<br>above bkgrd |
| 360               |      | 360       | 2"4"   |           |     | x-grating<br>.3985 |                 |              |                    | 6ci  | "       | Hum = 52.1% T: -15°C                     | 130/1                   |
| 650               |      |           | 2"     |           |     |                    |                 |              |                    | 3ci  |         |  |                         |
| 3002              |      | 332       | 3"     |           |     |                    |                 |              |                    | 7ci  |         |  |                         |
| 65                |      |           |        |           |     |                    |                 |              |                    | 3ci  |         |  |                         |
| 3601              |      | 312       | 3"4"   |           |     |                    |                 |              |                    | 4ci  |         |  |                         |
| 65                |      |           |        |           |     |                    |                 |              |                    | 3ci  |         |  |                         |
| 65                |      |           |        |           |     |                    |                 |              |                    |      |         | -16.3°C Dome T                           |                         |
|                   |      | 323       | 3"     |           |     |                    |                 |              |                    | 5ci  |         | 126 128 pixels                           |                         |
| 650               |      |           |        |           |     |                    |                 |              |                    | 2ci  |         |  |                         |
| 3602              |      | 390       | 4"3"   |           |     |                    |                 |              |                    | 4ci  |         | 17011 S/N<br>7K Σ AUG NOV above bkgrd    |                         |
| 650               |      |           |        |           |     |                    |                 |              |                    | 1ci  |         |  |                         |
| 3600              |      | 400       |        |           |     |                    |                 |              |                    | 7ci  |         | Hum = 54.3% T = -17.2°C                  |                         |
| 65                |      |           |        |           |     |                    |                 |              |                    |      |         |  |                         |
|                   |      |           |        |           |     |                    |                 | 60μ<br>800nH |                    |      |         |  |                         |

197

3

Mon - Tues

Date 1993. Feb 1. 12.... Observers [K.H.] [M.L.] Tn. / F.G.

Emulsion Batches:

.....  
 .....  
 .....

| Plate No. | Object    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CE05503   | Bias (4)  |              |                     |                         |                       |                   |             |                           |      |
| 504       | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 65   |
| 505       | HD 8890   | 01 22.6      | +88 46              | 03 16 46                |                       | W                 |             |                           | 448  |
| 506       | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 65   |
| 507       | HD 8890   |              |                     | 03 26 27                |                       |                   |             |                           |      |
| 508       | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 65   |
| 509       | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 65   |
| 510       | HD 99028  | 11 18 42     | +11 05              | 03 45 47                |                       |                   |             |                           | 1208 |
| 511       | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 65   |
| 512       | HD 99028  | 11 18 42     | 11 05               | 04 07 30                |                       |                   |             |                           | 1184 |
| 513       | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 65   |
| 514       | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 65   |
| 515       | HD 102870 | 11 45 30     | 02 20               | 04 33 34                |                       |                   |             |                           | 1601 |
| 516       | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 65   |
| 517       | Bias (4)  |              |                     |                         |                       |                   |             |                           |      |

Spectr. Ten

Focus...?

Spectr. Ten

Exp. Mir.

1757

280

865

885

700



Spectr. Temp. .... Dome Temp./Hum. <sup>-17.5°C 55%</sup> Transparency Conditions ... *Fine* ..... <sup>198</sup> ..

Focus ... <sup>1225</sup> ..

*not windy anymore anyway*

Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Ptg. Mag.                      | Sp.              | Inst.                                   | Grating/Tilt | Slit          | Emulsion                 | P.H. | Program           | Remarks | Quality |
|-----------|--------|--------------------------------|------------------|---|--------------|---------------|--------------------------|------|-------------------|---------|---------|
|           |        |                                |                  | 18-00 <sup>4/11</sup><br>Echelle<br>CCD |              |               | 5200A                    |      |                   |         |         |
|           |        |                                |                  |   |              | 60μ<br>600μ H |                          | 3ci  |                   |         |         |
| 1757      | 3"     | 2                              | F2               |   |              |               | <del>B<sub>2</sub></del> | 2ci  | kk pgr            |         |         |
|           |        |                                |                  |   |              |               |                          | 3ci  |                   |         |         |
| 1760      |        | 0                              | F2               |   |              |               |                          | 4ci  |                   |         |         |
|           |        |                                |                  |   |              |               |                          | 3ci  |                   |         |         |
|           |        |                                |                  |   |              |               |                          | 3ci  |                   |         |         |
| 865       | 4"     | <sup>✓</sup><br><del>403</del> | F2 IV            |   |              |               |                          | 4ci  | kk pgr            | i Leo   |         |
|           |        |                                |                  |   |              |               |                          | 3ci  |                   |         |         |
| 885       |        | <sup>✓</sup><br><del>361</del> | <del>F2 IV</del> |   |              |               |                          |      | <del>kk pgr</del> | i Leo   |         |
|           |        |                                |                  |   |              |               |                          |      |                   |         |         |
| 1700      |        | <sup>✓</sup><br>3161           | F9 V             |   |              |               |                          | 4ci  | S10. VCL.         |         |         |
|           |        |                                |                  |   |              |               |                          | 3ci  |                   |         |         |

199  
pg 11

Tues - wed

Emulsion Batches:

Date 1993 Feb 21/3... Observers [K.K.] T.Y.....

CSS38 Time Right on WWV Time

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| ce05518   | BIASCA)  |              |                     | 18 18                   |                       |                   |             |                           |       |
| 19        | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6s    |
| 20        | HD8890   | 01 22.6      | +88 46              | 18 20 98                |                       | 00 49 W           |             |                           | 334   |
| 21        | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6s    |
| 22        | HD8890   | 01 22.6      | +88 46              | 18 22 3A                |                       |                   |             |                           | 344   |
| 23        | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec  |
| 24        | Comp     |              |                     |                         |                       |                   |             | "                         | "     |
| 25        | HD 22484 | 03 31 48     | +00 05              | 18 52 34                |                       | 00 20 W           |             |                           | 1660s |
| 26        | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec  |
| 27        | HD 22484 | 03 31 48     | +00 05              | 19 22 37                |                       |                   |             |                           | 1399  |
| 28        | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec  |
| 29        | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec  |
| 30        | HD 3712  | 00 34 48     | +55 59              | 19 59 42                |                       |                   |             |                           | 336   |
| 31        | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec  |
| 32        | BIASCA)  |              |                     |                         |                       | 04 W              | +56 30      |                           |       |

Tel still  
East  
of PIENS

Spectr. Ter

Focus ...

Spectr. Ter

Exp. Nr.

1660

1666

597

570

1466



Spectr. Temp. .... Dome Temp./Hum.  $-8.0^{\circ}\text{C}$  68% Transparency Conditions ... Clear ..... 200.

Focus ... 225 .....

Spectr. Temp. .... Dome Temp./Hum.  $-6.7^{\circ}\text{C}$  72% <sup>cross</sup> Top up by 1800 Finished 90CGAIN CCDT  $\rightarrow -100^{\circ}$

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp.    | Inst.            | Grating/Tilt       | Slit        | Emulsion | P.H. | Program    | Remarks               | Quality |
|-----------|--------|-----------|--------|------------------|--------------------|-------------|----------|------|------------|-----------------------|---------|
|           |        |           |        | Echelle<br>18:00 | 600 lines<br>+3985 | 60u<br>600u | 5200A    | 1c   | HR399 used | for Tel normalization |         |
|           |        |           |        |                  |                    |             |          | 3c   |            |                       |         |
| 334       | 3"     | 2         | F      |                  |                    |             |          | 2c   | kfp gm     | Tel East Side         |         |
|           |        |           |        |                  |                    |             |          | 3c   |            |                       |         |
| 344       | 3-4"   |           |        |                  |                    |             |          | 4c   | kfp gm     | some cloud in area    |         |
|           |        |           |        |                  |                    |             |          | 1c   |            |                       |         |
|           |        |           |        |                  |                    |             |          | 1c   |            |                       |         |
| 1660s     | 3-5"   | 4.28      | F8V    |                  |                    |             |          | 5c   | std vel KK | Tel east side         |         |
|           |        |           |        |                  |                    |             |          | 1c   |            |                       |         |
| 1399      | 4"     | 4.28      | F8V    |                  |                    |             |          | 5c   | std vel KK |                       |         |
|           |        |           |        |                  |                    |             |          | 3c   |            |                       |         |
|           |        |           |        |                  |                    |             |          | 3c   |            |                       |         |
| 336       | 3"     | 2.23      | K0IIIa |                  |                    |             |          | 6c   | std vel    |                       |         |
|           |        |           |        |                  |                    |             |          | 7c   |            |                       |         |
|           |        |           |        |                  |                    |             |          | 1c   |            |                       |         |

201  
Pg #2

Tues-Wed cont.

Emulsion Batches:

Date 1993 Feb 2/3..... Observers [KK] Tn.....

| Plate No.          | Object    | R.A.<br>1900               | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|--------------------|-----------|----------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| ce05533            | Comp      |                            |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 34                 | HD5890    | 01 22.6                    | +88 46              | 20 13 49                |                       |                   |             |                           | 547  |
| 35                 | Comp      |                            |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 36                 | HD8890    |                            |                     | 20 25 26                |                       |                   |             |                           | 500  |
| <del>ce05543</del> | Comp      | <u>written after flats</u> |                     |                         |                       |                   |             | ThAr                      | 6s   |
| <del>5537</del>    |           |                            |                     |                         |                       |                   |             |                           |      |
| → 5542             | FLATS x 6 |                            |                     | 20 45                   |                       | 01 E              | +65°        | TUNG                      | 4.5s |
| 5544               | BIAS(4)   |                            |                     | 20 53                   |                       | 03 E              | ✓           |                           |      |
| 45                 | Comp      |                            |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 46                 | HD 72905  | 08 30 18                   | +65 22              | 20 59 37                |                       |                   |             |                           | 2900 |
| 47                 | Comp      |                            |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 48                 | HD 72905  | 08 30 18                   | +65 22              | 21 51 50                |                       | 01 22 E           |             |                           | 2901 |
| 49                 | Comp      |                            |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 50                 | HD 72905  |                            |                     | 22 42 28                |                       | 00 33 E           |             |                           | 305  |
| 51                 | Comp      |                            |                     |                         |                       |                   |             | ThAr                      | 6s   |
| 52                 | HD 72905  |                            |                     | 23 33 46                |                       |                   |             |                           |      |
| 53                 | Comp      |                            |                     |                         |                       |                   |             | ThAr                      | 6s   |

Spectr. Ter

Focus...!

Spectr. Ter

Exp. Mir.

2500

2450

360

320

350

115



Spectr. Temp. .... Dome Temp./Hum.  $-7.1^{\circ}$   $73\%$  Transparency Conditions *Fine - sl/cldy 202*

Focus *1225* .....

Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr.   | Seeing      | Ptg. Mag.   | Sp.        | Inst.                   | Grating/Tilt                        | Slit                              | Emulsion     | P.H.       | Program                  | Remarks   | Quality |
|-------------|-------------|-------------|------------|-------------------------|-------------------------------------|-----------------------------------|--------------|------------|--------------------------|---|---------|
|             |             |             |            | <i>Echelle</i><br>18.00 | <i>600/4/m</i><br><i>x9 grating</i> | <i>60u</i><br><i>60u slit</i>     | <i>5200A</i> | <i>3ci</i> |                          |   |         |
| <i>2500</i> | <i>3"</i>   | <i>2</i>    | <i>F</i>   |                         |                                     |                                   |              | <i>2ci</i> | <i>K/K pgn</i>           |   |         |
|             |             |             |            |                         |                                     |                                   |              | <i>3ci</i> |                          |   |         |
| <i>2450</i> |             |             |            |                         |                                     |                                   |              | <i>4ci</i> | <i>K/K pgn</i>           |   |         |
|             |             |             |            |                         |                                     |                                   |              | <i>7ci</i> |                          |   |         |
|             |             |             |            |                         |                                     | <i>60u</i><br><i>800u height</i>  |              | <i>3ci</i> | <i>Tel west side row</i> | <i>MAX 11.7K ADU/pixel</i>                          |         |
|             |             |             |            |                         |                                     |                                   |              | <i>1ci</i> |                          | <i>Dome T = <math>-7.2^{\circ}</math></i>           |         |
|             |             |             |            |                         |                                     | <i>60u width</i><br><i>600u H</i> |              | <i>3ci</i> |                          |   |         |
| <i>360</i>  | <i>3-6"</i> | <i>5.64</i> | <i>G2V</i> |                         |                                     |                                   |              | <i>4ci</i> | <i>M/n pgn</i>           | <i>6K ADU 2 Hrs of 10 cols</i><br><i>Some cloud</i> |         |
|             |             |             |            |                         |                                     |                                   |              | <i>2ci</i> |                          |   |         |
| <i>320</i>  | <i>3-4"</i> |             |            |                         |                                     |                                   |              | <i>5ci</i> | <i>M/n pgn</i>           | <i>Some cloud patches</i>                           |         |
|             |             |             |            |                         |                                     |                                   |              | <i>7ci</i> |                          |   |         |
| <i>350</i>  |             |             |            |                         |                                     |                                   |              | <i>4ci</i> | <i>M/n pgn</i>           |   |         |
|             |             |             |            |                         |                                     |                                   |              | <i>3ci</i> |                          |   |         |
| <i>115</i>  |             |             |            |                         |                                     |                                   |              | <i>5ci</i> |                          | <i>cloud</i>  |         |







205

Emulsion Batches:

Date 1993 Feb 3/4 ..... Observers ... [K.K.] ... T.9 .....

CSS 386 Time only 3 secs ahead of U.W.V. Time. Not changed

| Plate No.  | Object                     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|------------|----------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| ce05563    | BIAS(4)                    |              |                     |                         |                       |                   |             |                           |      |
| 64         | Comp                       |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 65         | HD 8890                    | 01 22.6      | +88 46              | 21 4535                 |                       |                   |             |                           | 477s |
| 66         | Comp                       |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 67         | HD 8890                    | 01 22.6      | +88 46              | 21 5507                 |                       | 04 29W            |             |                           | 317  |
| 68         | Comp                       |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 69         | Comp (Tel east side STILL) |              |                     |                         |                       |                   |             | "                         | "    |
| 70         | HD 22484                   | 03 31.48     | +00 05              | 22 1256                 |                       | 03 41 W           |             |                           | 1496 |
| 71         | Comp                       |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| → 72<br>76 | FLATS x5                   |              |                     |                         |                       | 5 16 W            | +89°        | TUNG                      | 9sec |
| ce05577    | BIAS(4)                    |              |                     |                         |                       |                   |             |                           |      |
| 78<br>79   | Focus Test                 |              |                     |                         |                       | ≈ 3 W             | ≈ +40°      | ThAr                      | 3/3  |
|            | Feb 4                      |              |                     |                         |                       |                   |             |                           |      |
| 80         | Focus test                 | - OUT        |                     |                         |                       |                   |             | ThAr                      | 6    |
| 81         |                            | - IN         |                     |                         |                       |                   |             |                           | 8    |

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mir.

384

T=

T=



Spectr. Temp. .... Dome Temp./Hum.  $0^{\circ}\text{C}$  : 67% Transparency Conditions ... *mostly cloudy* ... 20%

Focus \* .225

Spectr. Temp. .... Dome Temp./Hum.  $-1.5^{\circ}\text{C}$  : 67%

PRIMARY MIRROR STILL HALF FROSTED OVER.  
90CGAIN - CCOT  $\rightarrow +100^{\circ}$  by 2130 EST

| Exp. Mtr. | Seeing | Ptg. Mag.      | Sp.  | Inst.                 | Grating/Tilt       | Slit            | Emulsion | P.H. | Program   | Remarks   | Quality  |
|-----------|--------|----------------|------|-----------------------|--------------------|-----------------|----------|------|---|---|----------|
|           |        |                |      | Ecdelle<br>18:00 tilt | 600nm/deg<br>.3985 | 60m<br>600m H   | 5700A    | 1ci  | #   | Note: No chance to change or check focus. Its same set as for previous very cold nights. Comp look OK |          |
| 65e       |        |                |      |                       |                    |                 |          | 3ci  |   |   | Thought. |
| 473       | 1320   | 2              | F    |                       |                    |                 |          | 4ci  | kk pgm  |   |          |
| 65e       |        |                |      |                       |                    |                 |          | 5ci  |   |   |          |
| 317       | 1330   |                |      |                       |                    |                 |          | 6ci  | kk pgm  |   |          |
| 65e       |        |                |      |                       |                    |                 |          | 7ci  |   |   |          |
| "         |        |                |      |                       |                    |                 |          | 2ci  |   |   |          |
| 198       | 384    | 3 <sup>v</sup> | 4.28 | F8V                   |                    |                 |          | 4ci  | st lvel kk (getting <sup>some cloud a</sup> very gusty) |   |          |
| 65e       |        |                |      |                       |                    |                 |          | 3ci  | (cloud a few)   |   |          |
| 65e       |        |                |      |                       |                    | 60m<br>800m     |          | 3ci  |   | MAX = 11.8K ADU/pixel   |          |
|           |        |                |      |                       |                    |                 |          | 1ci  |   |   |          |
| 3/3       |        |                |      |                       |                    | 60m W<br>600m H |          |      | Focus   | OUT BOARD sh: Fled 7 pixels<br>Rel. $\therefore$ shall use set warmer.                                |          |
| 6         |        |                |      |                       |                    |                 |          |      |   |   |          |
| 8         |        |                |      |                       |                    |                 |          |      |   | right on  |          |

207  
pg #1 Thurs - Fri

Date 1993 Feb 4/5 ..... Observers [K.K.] Tn/Fbr .....

Emulsion Batches:

.....  
.....  
.....

| Plate No.      | Object  | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T.                        | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|----------------|---------|--------------|---------------------|-------------------------|--|-------------------|-------------|---------------------------|------|
| ce05582        | BIAS(4) |              |                     |                         |  |                   |             |                           |      |
| 83             | Comp    |              |                     | 18 36                   |  |                   |             | ThAr                      | 6s   |
| 84             | HD8890  | 01 22 36     | +88 46              | *<br>18 39 04           | *<br>Bulk of weak exp<br>Between 1843 → 1852 |                   |             |                           | 1042 |
| 85             | Comp    |              |                     |                         |  |                   |             | ThAr                      | 6sec |
| 86             | Comp    |              |                     | 21 16 31                |  |                   |             | "                         | 6sec |
| 87             | HD8890  | 01 22 36     | +88 46              | 21 21 06                |  |                   |             |                           | 450  |
| 88             | Comp    |              |                     | 21 29 26                |  |                   |             | ThAr                      | 6s   |
| 89             | HD8890  | 01 22 36     | +88 46              | 21 30 44                |  |                   |             |                           | 553  |
| 90             | Comp    |              |                     |                         |  |                   |             | ThAr                      | 6s   |
| 91             | BIAS(4) |              |                     |                         |  |                   |             |                           |      |
| 92             | Comp    |              |                     | 21 52 26                |  |                   |             | ThAr                      | 6s   |
| 93             | HD8890  | 01 22 36     | +88 46              | 21 54 37                |  | 4 38W             |             |                           | 632  |
| 94             | Comp    |              |                     | 22 05 36                |  |                   |             | ThAr                      | 6s   |
| 95             | HD8890  |              |                     | 22 09 01                |  |                   |             |                           | 303  |
| 96             | Comp    |              |                     | 22 15 15                |  |                   |             | ThAr                      | 6s   |
| 5597 -<br>5601 | FLAT X5 |              |                     |                         |  | 233W              | +68°        | Tuna                      | 4s   |

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mir.

55

285

8°

500

320

560



Spectr. Temp. .... *adjustment* Dome Temp./Hum.  $-1.0^{\circ}\text{C}$  ..... 64% Transparency Conditions ... *Cloudy* ..... 200

Focus ..... 240 ..... *Focus test done previous page*

Spectr. Temp. .... Dome Temp./Hum.  $-1.1^{\circ}\text{C}$  ..... 60.6% 90CGAIN CCDT  $\rightarrow -100^{\circ}\text{C}$

Comparison  
iter/Exp.  
6s  
1042  
6s  
6s  
450  
6s  
553  
6s  
6s  
632  
6s  
303  
6s  
45

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.             | Grating/<br>Tilt  | Slit   | Emulsion   | P.H. | Program | Remarks  | Quality          |        |
|-----------|--------|-----------|-----|-------------------|-------------------|--------|------------|------|---------|--|------------------|--------|
|           |        |           |     | echelle<br>18.00  | Xgrating<br>.3985 | W<br>H | 600<br>600 | 5200 | 1ci     |  | 0 0 256 1024 9 1 | CCDFMT |
|           |        |           |     |                   |                   |        |            | 3ci  |         |  |                  |        |
| 55        |        | 2         | F   |                   |                   |        |            | 4ci  | KK pgm  | <i>1/2 KADU SAUG above bkgrnd<br/>ie no counts<br/>cloudy nothing before 18.93</i> | 6/1              |        |
|           |        |           |     |                   |                   |        |            | 5ci  |         |  |                  |        |
|           |        |           |     |                   |                   |        |            | 5ci  |         |  |                  |        |
| 285       |        |           |     |                   |                   |        |            | 6ci  | KK pgm  | 6 KADU SAUG above bkgrnd   |                  |        |
| 8         |        |           |     |                   |                   |        |            | 5ci  |         |  |                  |        |
| 500       |        |           |     |                   |                   |        |            | 7ci  | KK pgm  |  |                  |        |
|           |        |           |     |                   |                   |        |            | 2ci  |         |  |                  |        |
|           |        |           |     |                   |                   |        |            | 1ci  |         | Dome T = $-1.0^{\circ}\text{C}$  |                  |        |
|           |        |           |     |                   |                   |        |            | 2ci  |         |  |                  |        |
| 1320      |        |           |     |                   |                   |        |            | 4ci  | KK pgm  |  |                  |        |
|           |        |           |     |                   |                   |        |            | 3ci  |         |  |                  |        |
| 560       |        |           |     |                   |                   |        |            | 6ci  | KK pgm  | } - comps Right on each<br>ie. OK after.   |                  |        |
|           |        |           |     |                   |                   |        |            | 2ci  |         |  |                  |        |
|           |        |           |     | TELESCOPE E 6.00s |                   |        |            | 3ci  |         | C-000  |                  |        |

209  
Pg #2

Date 1993 Feb 4/5 Observers [KK] Jn./Fbr.

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| ce05602   | Comp     |              |                     |                         |                       |                   |             | T <sub>1</sub> Ar         | 6s   |
| 03        | HD3712   | 003448       | 55 59               | 23 2005                 |                       |                   |             |                           | 607  |
| 04        | Comp     |              |                     |                         |                       |                   |             | T <sub>1</sub> Ar         | 65s  |
| 05        | HD3712   | 003448       | 55 59               | 23 3250                 |                       |                   |             |                           | 6855 |
| 06        | Comp     |              |                     |                         |                       |                   |             | T <sub>1</sub> Ar         | 65s  |
| 07        | Comp     |              |                     |                         |                       |                   |             | T <sub>1</sub> Ar         | 65s  |
| 08        | HD22484  | 03 3148      | 00 05               | 23 5628                 |                       |                   |             |                           | 1195 |
| 09        | Comp     |              |                     |                         |                       |                   |             | T <sub>1</sub> Ar         | 6s   |
| 5610      | Comp     |              |                     |                         |                       |                   |             | T <sub>1</sub> Ar         | 6s   |
| 5611      | HD72905  | 0830 18      | 65 22               | 002957                  |                       |                   |             |                           | 2400 |
| 5612      | Comp     |              |                     |                         |                       |                   |             |                           |      |
| 5613      | HD72905  | 0830 18      | 65 22               | 01 1145                 |                       |                   |             |                           | 2400 |
| 5614      | Comp     |              |                     |                         |                       |                   |             | T <sub>1</sub> Ar         | 6s   |
| 5615      | Bins (4) |              |                     |                         |                       |                   |             |                           |      |
| 5616      | HD72905  | 0830 18      | 65 22               | 015525                  |                       | 2 41W             |             |                           | 2368 |
| 5617      | Comp     |              |                     | 023537                  |                       |                   |             | T <sub>1</sub> Ar         | 6s   |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

885

1385

130

350

373

440



Spectr. Temp. ....

Dome Temp./Hum.  $-0.04^{\circ}\text{C}/57.87\%$ 

Transparency Conditions .. VARIABLE CLOUD ..... 210.

Focus ..... 0.240 .....

Spectr. Temp. ....

Dome Temp./Hum. ....

| Exp. Mtr. | Seeing          | Ptg. Mag.   | Sp.       | Inst.          | Grating/Tilt      | Slit                  | Emulsion           | P.H. | Program    | Remarks                             | Quality |
|-----------|-----------------|-------------|-----------|----------------|-------------------|-----------------------|--------------------|------|------------|-------------------------------------|---------|
|           |                 |             |           | Edelle<br>18.0 | *grating<br>.3985 | 60 $\mu$<br>600 $\mu$ | $\lambda_c = 5200$ |      |            |                                     |         |
| 65        |                 | V =<br>2.23 | KO IIIa   |                |                   |                       |                    | 6c   | S to Vel   |                                     |         |
| 607       | 885             |             |           |                |                   |                       |                    | 2ci  |            |                                     |         |
|           | <del>1185</del> |             |           |                |                   |                       |                    | 7ci  | Std vel    |                                     |         |
| 655       | 1385            |             |           |                |                   |                       |                    |      |            |                                     |         |
| 654       |                 |             |           |                |                   |                       |                    |      |            |                                     |         |
| 658       |                 |             |           |                |                   |                       |                    |      |            |                                     |         |
| 1195      | 730             | Big         | V<br>4.28 | FS             |                   |                       |                    | 4c   | Std vel Kk | some what extreme<br>THROUGH TREES! |         |
| 65        |                 |             |           |                |                   |                       |                    |      |            |                                     |         |
| 65        |                 |             |           |                |                   |                       |                    |      |            |                                     |         |
| 240       | 350             | 1"-2"       | V<br>5.64 | G2 V           |                   |                       |                    | 4ci  | MLN.       |                                     |         |
|           |                 |             |           |                |                   |                       |                    |      |            |                                     |         |
| 240       | 373             |             |           |                |                   |                       |                    | 5ci  | MLN        |                                     |         |
|           |                 |             |           |                |                   |                       |                    |      |            |                                     |         |
| 65        |                 |             |           |                |                   |                       |                    |      |            |                                     |         |
|           |                 |             |           |                |                   |                       |                    |      |            |                                     |         |
| 028       | 440             | 2"          |           |                |                   |                       |                    | 6ci  | MLN        |                                     |         |
|           |                 |             |           |                |                   |                       |                    |      |            |                                     |         |
| Ar 65     |                 |             |           |                |                   |                       |                    | 2ci  |            |                                     |         |

Point =  $-14^{\circ}$

211  
pg #3

Emulsion Batches:

Date 1993 Feb. 4/5..... Observers [K.K.] [Maylan]... Fbr./Tu

| Plate No.       | Object                       | R.A.<br>1900     | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.                   |
|-----------------|------------------------------|------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------------------------|
| CE05618         | HD 72965                     | 08 30 18         | +65 22              | 02 37 24                |                       |                   |             |                           | 2400<br><del>501</del> |
| 5619            | Comp                         |                  |                     |                         |                       |                   |             | ThAr                      | 6s                     |
| 5620            | BIAS (4)                     |                  |                     |                         |                       |                   |             |                           |                        |
| 21              | <del>HD 72965</del> HD 72905 | 08 30 18         | +65 22              | 03 21 26                | <del>03 21 26</del>   |                   |             |                           | 2400                   |
| 22              | Comp                         |                  |                     | 04 02                   |                       |                   |             |                           |                        |
| 23              | BIAS (4)                     |                  |                     |                         |                       |                   |             |                           |                        |
| 5624 -<br>5628  | FLAT (x5)                    |                  |                     |                         |                       | 01 53W            | +21°        | TUNG                      |                        |
| 5629            | COMP                         |                  |                     |                         |                       |                   |             | ThAr                      | 6s                     |
| 5630            | HD 102870                    | 11 45 30         | 02 20               | 04 20 05                |                       |                   |             |                           | 935                    |
| <del>5631</del> | <del>Comp</del>              | Lost not written |                     |                         |                       |                   |             | ThAr                      | 6s                     |
| 5631            | Comp (for HD 8890)           |                  |                     | 04 51                   |                       | <del>04 51</del>  |             | "                         | "                      |
| 5632            | HD 8890                      | 01 22.6          | +88 46              | 04 54 45                |                       |                   |             |                           | 437                    |
| 5633            | Comp                         |                  |                     |                         |                       |                   |             | ThAr                      | 6s                     |
| 5634            | HD 8890                      | 01 22.6          | +88 46              | 05 03 24                |                       |                   |             |                           | 385                    |
| 5635            | *                            |                  |                     |                         |                       |                   |             | ThAr                      | 6s                     |
| 5636            | BIAS (4)                     |                  |                     |                         |                       |                   |             |                           |                        |

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mir.

307

420

936

100

1500

1500

1531

\* No

\* One



Spectr. Temp. .... Dome Temp./Hum.  $-1.3^{\circ}\text{C}$  55.4% Transparency Conditions .. FINE - cirrus... 212..

Focus ..... 0.240 .....

Spectr. Temp. .... Dome Temp./Hum.  $-1.3$  57.5%  
 C LAMBDA

coming

| Comparison Filter | Exp. | Exp. Mtr.   | Seeing | Ptg. Mag. | Sp. | Inst.            | X Grating/Tilt | Slit         | Emulsion | P.H.          | Program  | Remarks                         | Quality |
|-------------------|------|---|--------|-----------|-----|------------------|----------------|--------------|----------|---------------|----------|---------------------------------|---------|
| 2400              | 6s   | 307   |        |           |     | eckelle<br>18.00 | .3985          | 60u<br>600uH | 5200R    | 7c            | M.14 pgm |                                 |         |
|                   |      |   |        |           |     |                  |                |              |          | 3c            |          | THIN CLOUD.                     |         |
|                   |      |   |        |           |     |                  |                |              |          | 1c            |          |                                 |         |
| 2400              |      | 420   | 2"     |           |     |                  |                |              |          | 4c            | m14 pgm  |                                 |         |
|                   |      |   |        |           |     |                  |                |              |          | 3c            |          |                                 |         |
|                   |      |   |        |           |     |                  |                |              |          | 1c            |          | Done T = $-1.3^{\circ}\text{C}$ |         |
|                   |      |   |        |           |     |                  |                | 60u<br>800u  |          | 4c            |          | Tel still East Side             |         |
| 935               | 6s   | 930   | 2"     | 3.61      | F9V |                  |                |              |          | 6c            | Std/6c   |                                 |         |
|                   |      | <del>930</del>  |        |           |     |                  |                |              |          | <del>2c</del> |          |                                 |         |
|                   |      |   |        |           |     |                  |                |              |          | 2c            |          |                                 |         |
| 437               | 6s   | 1500  | 3"     | 1.9       | F   |                  |                |              |          | 4c            | K.K. pgm |                                 |         |
|                   |      | <del>1500</del>   |        |           |     |                  |                |              |          | .             |          |                                 |         |
| 385               | 6s   | 1531  |        |           |     |                  |                |              |          | 5c            | K.K. pgm |                                 |         |
|                   |      | * Note Feb 16 In This comp not valid. I think. Original lost and this may have been done when at different <u>dec</u> |        |           |     |                  |                |              |          |               |          |                                 |         |
|                   |      | (x On examination, comp c5535 does have a bad shift) c  |        |           |     |                  |                |              |          |               |          |                                 |         |

213

Date 1993 Feb 5 Observers KK

Echelle  
Alignment  
TESTS

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object                                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.                  |
|-----------|--|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-----------------------|
| CE05637   | Hartmann - IN                          |              |                     |                         |                       |                   |             | ThA                       | 8                     |
| 8         | Hartmann - OUT                         |              |                     |                         |                       |                   |             | ThA                       | 8                     |
| 5639      | Beam illumination TESTS                |              |                     |                         |                       |                   |             | ThA<br><del>Tung</del>    | 15<br><del>0.3</del>  |
| 5640      |  |              | +22°                |                         |                       | 3 1/2 W           |             | Tung                      | 0.3                   |
| 5641      |  |              |                     |                         |                       | "                 |             | Tung<br><del>ThA</del>    | 1.0<br><del>0.3</del> |
| 5642      | prism moved to stellar position & back |              |                     |                         |                       | "                 |             | ThA                       | "                     |
| 5643      | " " " " " "                            |              |                     |                         | again                 | "                 |             | "                         | "                     |
| 5644      | moved to meridian                      |              | +22°                |                         |                       | Oh                |             | ThA                       | 15                    |
| 5645      | Red light                              |              | +22°                |                         |                       | 3 1/2 W           |             | ThA                       | 5                     |
| 5646      | Blue light                             |              | +22                 |                         |                       | 3 1/2 W           |             | ThA                       | 30                    |
| 5647      | "                                      |              | "                   |                         |                       | "                 |             | "                         | "                     |
| 5648      | " flat                                 |              | "                   |                         |                       | "                 |             | Tung                      | 1                     |
| 5649      | green flat                             |              | "                   |                         |                       | "                 |             | "                         | "                     |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

O again



Spectr. Temp. ....

Dome Temp./Hum. ... -1.4°C

Transparency Conditions ..... 2/4..

Focus .....

Spectr. Temp. ....

Dome Temp./Hum. .... 0.0°C

0 0 512 512 22 ccd fwt

| Comparison Filter | Exp. | Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.            | Grating/Tilt | Slit         | Emulsion         | P.H. | Program | Remarks           | Quality |
|-------------------|------|-----------|--------|-----------|-----|------------------|--------------|--------------|------------------|------|---------|-------------------|---------|
| A                 | 8    |           |        |           |     | echelle<br>18.00 | .3985        | 60 μ<br>body | slit pos<br>.215 |      |         | T = -1.4 F = .240 |         |
| A                 | 8    |           |        |           |     |                  |              |              |                  |      |         |                   |         |
| A                 | 15   |           |        |           |     |                  |              |              |                  |      |         |                   |         |
| A                 | 0.3  |           |        |           |     |                  |              |              |                  |      |         |                   |         |
| A                 | 10   |           |        |           |     |                  |              |              |                  |      |         |                   |         |
| A                 | 15   |           |        |           |     |                  |              |              |                  |      |         |                   |         |
| A                 | 5    |           |        |           |     |                  | .3300        |              |                  |      |         | λ = 6000 Å        |         |
| A                 | 30   |           |        |           |     |                  | .4555        |              |                  |      |         | λ = 4400          |         |
| "                 | "    |           |        |           |     |                  |              |              | .150             |      |         |                   |         |
| "                 | "    |           |        |           |     |                  |              |              | .150             |      |         |                   |         |
| "                 | "    |           |        |           |     |                  | .3985        |              | .150             |      |         |                   |         |

0 c gain





Spectr. Temp. .... Dome Temp./Hum.  $-14.7^{\circ}\text{C} / 44.6\%$  Transparency Conditions .....  $\text{CLM}$  ..... 216..

Focus .....  $2.98$  .....

Spectr. Temp. .... Dome Temp./Hum. ....

FANS ON  
480 0 50 1024 41 CCD/mt

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp.   | Inst.       | Grating/Tilt             | Slit         | Emulsion           | P.H. | Program | Remarks   | Quality |
|-----------|--------|-----------|-------|-------------|--------------------------|--------------|--------------------|------|---------|---|---------|
|           |        |           |       | CASS<br>CCD | 1300<br>$\lambda = 6070$ | 250<br>$\mu$ | $\lambda_c = 6610$ |      |         |   |         |
| 50K       | 1"-3"  | V<br>5.48 | B5V   |             |                          |              |                    |      | Blr     | DIFFICULT GUIDING. BAD<br>TELESCOPE DRIFT IN RA.<br>BAD 74" DRIFT<br>SEEING VERY POOR                             |         |
| 50K       | 4"     | V<br>3.81 | O9.5V |             |                          |              |                    |      | Blr     | RACK PROBLEMS!<br>REGION MAY BE TOO BLUE<br>Hum = 50.6% T = $-19^{\circ}\text{C}$<br>RA motion <u>NOT</u> WORKING |         |
|           |        |           |       |             |                          |              |                    |      |         | Cloud   |         |

217  
P1

Date FEB 8/9 - 93 ..... Observers ... Fbr. (Bl'n by phone)

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object           | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.                |
|-----------|------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|---------------------|
| CC11897   | BIAS (4)         |              |                     |                         |                       |                   |             |                           |                     |
| 898       | COMP             |              |                     |                         |                       |                   |             | FcAr<br>Cler              | 60s                 |
| 899       | HD 25642         | 03 59 08     | 50 04 48            | 18 21 18                |                       | 032E              |             |                           | 812s                |
| 900       | COMP             |              |                     |                         |                       |                   |             | FcAr<br>Cler              | 60s                 |
| 901       | COMP             |              |                     |                         |                       |                   |             | "                         | "                   |
| 902       | HD 35502         | 05 20 00     | -02 54 22           | 18 48 21                |                       |                   |             |                           | 2015                |
| 903.      | COMP             |              |                     |                         |                       |                   |             | FcAr<br>Cler              | 60s                 |
| 404-906   | FLAT X3          |              |                     |                         |                       |                   |             | Tung<br>A=1/2             | 8s<br><del>4s</del> |
| 907       | BIAS (4)         |              |                     |                         |                       |                   |             |                           |                     |
| 908       | COMP             |              |                     |                         |                       |                   |             | FcAr<br>Cler              | 60s                 |
| 909       | HD 36485 (Soric) | 05 26 54     | -00 21 30           | 20 20 01                |                       |                   |             |                           | 2100s               |
| 910       | COMP             |              |                     |                         |                       |                   |             | FcAr<br>Cler              | 60s                 |
| 911       | COMP             |              |                     |                         |                       |                   |             | "                         | "                   |
| 912       | HD 87901         | 10 03 03     | 12 27 22            | 21 07 55                |                       |                   |             |                           | 143s                |
| 913       | COMP             |              |                     |                         |                       |                   |             | FcAr<br>Cler              | 60s                 |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

.5K

9700

6700

85K



Spectr. Temp. .... Dome Temp./Hum. = 7:50°C / 47.6% (1755) Transparency Conditions ..... CLEAR - HAZE 218

Focus ..... 2.690 .....

Spectr. Temp. .... Dome Temp./Hum. ....

NORMALIZE ON H1012929  
480 0 50 1024 4 1 CCDfmt

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp.    | Inst.       | Grating/Tilt                           | Slit     | Emulsion           | P.H. | Program      | Remarks  | Quality |
|-----------|--------|-----------|--------|-------------|--|----------|--------------------|------|--------------|--|---------|
|           |        |           |        | CASS<br>CCD | 1800<br>G=6075                         | 250<br>M | $\lambda_c = 6610$ |      |              |  |         |
| 45K       | 1"-2"  | V<br>4.29 | A0 IVn | (NOT A LOT  |  | OF       | LINES!)            | 4ci  | Blu-TELLURIC | $V_{\text{sin}i} = 196 \text{ km s}^{-1}$ $A_{\text{IR}} = 1.0146$ |         |
| 5700      |        | V<br>7.36 | B5 IVn |             |  |          |                    | 5ci  | Blu(HeW)     | took SD16 frame<br>SIGNAL TOO LOW                                  |         |
|           |        |           |        |             |  |          |                    |      |              | BREAK FOR SBIC TESTS.  |         |
|           |        |           |        |             |  |          |                    |      |              | CHANGE GRATING TO ALLOW<br>MORE CONTINUUM @ $H_{\alpha}$           |         |
|           |        |           |        |             | NOTE: GRATING CHANGE<br>1800<br>G=6050 |          | $\lambda_c = 6610$ |      |              |  |         |
| 6700      |        | V<br>6.85 | B2 Vsn |             |  |          |                    |      | Blu(HeS)     | Airmass: 1.39 Hum: 63.9% T: -10.4<br>THIN CLOUD → CLEAR → CLOUD    |         |
|           |        |           |        |             |  |          |                    |      |              | COVERING 6530Å - 6690Å   |         |
| 85K       |        | V<br>1.36 | B7 V   |             |  |          |                    |      | Blu-TELLURIC | $D_{\text{IRMS}} = 2.05$   |         |

p<sup>2</sup> 2A

Date Feb 8/9 - 93 Observers Fbr (Bln by phone)

Emulsion Batches:

.....  
.....  
.....

| Plate No.  | Object                        | R.A.<br>1900        | Declination<br>1900  | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|------------|-------------------------------|---------------------|----------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 914        | Bias (4)                      |                     |                      |                         |                       |                   |             |                           |      |
| 915        | Comp                          |                     |                      |                         |                       |                   |             | F <sub>Ar</sub><br>Clear  | 60s  |
| 916        | HD 37479 (50:1E)              | 05 33 45            | - 2 38 48            | 21 20 11                |                       |                   |             |                           | 240s |
| 917        | Comp                          |                     |                      |                         |                       |                   |             | F <sub>Ar</sub><br>Clear  | 60s  |
| 918        | Bias (4)                      |                     |                      |                         |                       |                   |             |                           |      |
| 919        | Comp                          |                     |                      |                         |                       |                   |             | F <sub>Ar</sub><br>Clear  | 60s  |
|            | <del>ADD 422422 (50:1E)</del> | <del>05 33 42</del> | <del>- 2 39 12</del> |                         |                       |                   |             |                           |      |
| 920        | HD 37468                      | 05 33 44            | - 02 39 28           | 22 09 50                |                       |                   |             |                           | 454  |
| 921        | HD 37468                      | "                   | "                    | 22 18 21                |                       |                   |             |                           | 640s |
| 922        | Comp                          |                     |                      |                         |                       |                   |             | F <sub>Ar</sub><br>Clear  | 60s  |
| 923        | Bias (4)                      |                     |                      |                         |                       |                   |             |                           |      |
| 924        | Comp                          |                     |                      |                         |                       |                   |             | F <sub>Ar</sub><br>Clear  | 60s  |
| 925        | HD 77327                      | 08 56 48            | + 47 33 08           | 22 42 37                |                       |                   |             |                           | 358s |
| 926        | Comp                          |                     |                      |                         |                       |                   |             | F <sub>Ar</sub><br>Clear  | 60s  |
| 927<br>931 | FLAT x 5                      |                     |                      |                         |                       |                   |             | TUNG<br>A=1/2             | 10s  |

Spectr. Ten

Focus ....

Spectr. Ten

Exp. Mtr.

9080

50K

60K

45K



Spectr. Temp. ....

Dome Temp./Hum. = 10.4 / 66%

Transparency Conditions ..... CLOUDY AT TIMES ... 220

Focus ..... 0.690

Spectr. Temp. ....

Dome Temp./Hum. ....

COVERAGE 6530Å → 6690Å

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp.                     | Inst.      | Grating/Tilt   | Slit     | Emulsion             | P.H. | Program                    | Remarks  | Quality |
|-----------|--------|-----------|-------------------------|------------|----------------|----------|----------------------|------|----------------------------|--|---------|
|           |        |           |                         | USS<br>CCO | 1800<br>λ=6050 | 250<br>μ | λ <sub>c</sub> =6610 |      |                            |  |         |
| 9080      | 2"-3"  | ✓<br>6.53 | B2V <sub>pe</sub>       |            |                |          |                      |      | Bl <sub>n</sub> (HeS)      | THROUGH CLOUD<br>AIRMASS = 1.48 - 1.55 AT END.                           |         |
| 50K       | 3"-4"  | ✓<br>3.81 | <del>B2V</del><br>A9.5V |            |                |          |                      |      | Bl <sub>n</sub>            | SEEING VERY BAD<br>ATTEMPTED SOIIC, COULD NOT<br>GET SOIIB OUT OF SLIT.  |         |
| 60K       | "      | "         | "                       |            |                |          |                      |      | Bl <sub>n</sub>            | 23 - 28 cols ΣAVG = 48K.   |         |
| 45K       |        | ✓<br>3.60 | A1V <sub>n</sub>        |            |                |          |                      |      | Bl <sub>n</sub> (TELLURIC) | AIRMASS = 1.06 V <sub>sin i</sub> = 219<br>CLOUD Hum = 65.5% T = -10.6°C |         |

221

#3

Date ... FEB 8/9 - 93 ... Observers ... Fbr. (Bln by phone)

Emulsion Batches:

.....  
.....  
.....

| Plate No.    | Object                    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|--------------|---------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| cc11932      | BIAS (4)                  |              |                     |                         |                       |                   |             |                           |       |
| 933          | Comp                      |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s   |
| 934          | HD112028                  | 12 48 23     | + 83 57             | 00 02 38                |                       |                   |             |                           | 2489s |
| 935          | Comp                      |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s   |
| 936          | BIAS (4)                  |              |                     |                         |                       |                   |             |                           |       |
| 937 -<br>941 | FLAT X 5                  |              |                     |                         |                       |                   |             | TUNG<br>n=Clear           | 45s?  |
| cc11942      | Comp ( $\lambda_c=6610$ ) |              |                     |                         |                       |                   |             |                           |       |
| 943          | HD 87901                  | 10 03 03     | 12 27 22            | 01 13 35                |                       |                   |             |                           | 73s   |
| 944          | Comp                      |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s   |
| 945          | Comp                      |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 60s   |
| 946          | HD 79158                  | 09 07 16     | + 43 37 48          | 01 22 44                |                       |                   |             |                           | 813s  |
| 947          | Comp                      |              |                     |                         |                       |                   |             |                           |       |
| 948 -<br>950 | FLAT X 3                  |              |                     |                         |                       |                   |             | TUNG<br>n=1/2             | 8s    |
| 951          | BIAS (4)                  |              |                     |                         |                       |                   |             |                           |       |

PLEASE CHECK HEADR

FOR CLAMBOA-MM  
READ 4476 RATHER THAN 6610!

\* Note Feb 10/93 Tu

No, The previous 4476A

Headers were wrong instead

corrected now &amp; rewritten.

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mir.

85K

35K









Spectr. Temp. .... Dome Temp./Hum.  $-20.7^{\circ}\text{C}$   $66.2\%$  Transparency Conditions *Cloudy* ..... 224.

Focus ....  $6.97$  .....

CCD FMT for Rotata Tests

Spectr. Temp. .... Dome Temp./Hum. ....

*C Lambda 90 CGain*

510 0 130 1024 1 1

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.  | Grating/Tilt             | Slit              | Emission | P.H.       | Program | Remarks   | Quality |
|-----------|--------|-----------|-----|--|--------------------------|-------------------|----------|------------|---------|---|---------|
|           |        |           |     | CASS<br>CCD  | 1800<br>G=4990           | 310u<br>3 windows | 5140A    | 6ci        | Rotata  | Lower slit $\approx$ .5 pixel Rel<br>of upper window. |         |
|           |        |           |     |  |                          |                   |          | 6ci        | Tests   | Upper & Lower slit pos<br>Line up. Right on           |         |
|           |        |           |     | Blue end Right on<br>stellar .3 pixel Rel,               |                          | 310u              | 5140A    | 1ci<br>2ci | Focus   | 510 0 30 1024 5 1 CCD FMT                             |         |
|           |        |           |     |  |                          |                   |          |            |         | (Lower $\angle$ 1.0 pixel Rel of upper)               |         |
|           |        |           |     | Dome T = $-00.7^{\circ}\text{C}$ set 6.97<br>CASS<br>CCD | 1800/4990<br>Length Full | 300u              | 5140A    | 3ci<br>9ci |         | 510 0 160 1024 1 1 CCD FMT                            |         |

Comparison  
iter Exp.

20s

20s

20/20

20

20

225  
Pg #1

Wed - Thurs

Date .1993. Feb. 17/18.. Observers . Hdg. - Tn .....

Emulsion Batches:

.....

.....

SET CS386 Time Ahead 2 min. to MATCH. MKID. W.W.V. Time.

| Plate No.        | Object                                 | R.A.<br>1900         | Declination<br>1900 | Starting Time<br>E.S.T.           | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|------------------|--|----------------------|---------------------|-----------------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| CC11958<br>11959 | Focus <i>Comp Hartman/stellar Hart</i> |                      |                     | 230 42                            |                       | 0 0               | +12°        | FeAr<br>clear             | 20/20 |
| 960              | BIAS(4)                                |                      |                     |                                   |                       |                   |             |                           |       |
| 961              | Comp                                   |                      |                     |                                   |                       |                   |             | FeAr<br>clear             | 60s   |
| 962              | HD 87901                               | 10 0307              | +12 27              | 20 5000                           |                       |                   |             |                           | 103s  |
| 963              | HD 87901                               | "                    | "                   | 20 5320                           |                       |                   |             |                           | 101s  |
| 964              | Comp                                   |                      |                     |                                   |                       |                   |             | FeAr<br>clear             | 60s   |
| 965              |  |                      |                     |                                   |                       |                   |             |                           |       |
| 967              | FLATS x3                               |                      |                     |                                   |                       |                   |             | TUNG<br>A=1/2             | 75s   |
| 968              | Comp                                   |                      |                     |                                   |                       |                   |             | FeAr<br>clear             | 60s   |
| 969              | BD+18 2307                             | 09 5612              | +17 5327            | 21 10                             |                       |                   |             |                           | 157   |
| 970              | Comp                                   |                      |                     |                                   |                       |                   |             | FeAr<br>clear             | 60s   |
| 971              | FLAT                                   |                      |                     |                                   |                       |                   |             | TUNG<br>A=1/2             | 75s   |
| 972              | BIAS(4)                                |                      |                     |                                   |                       |                   |             |                           |       |
| 973              | BIAS(4)                                | <i>Reopened dome</i> |                     | <i>Topup complete by 0040 EST</i> |                       |                   |             |                           |       |
| 974              | FLAT                                   |                      |                     |                                   |                       |                   |             | TUNG<br>A=1/2             | 75    |
| 975              | Comp                                   |                      |                     | 00 5342                           |                       |                   |             | FeAr<br>clear             | 60s   |

TIME IN HEADER IS  
2 MINUTES SLOW

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

T=

30k

30k

99



Spectr. Temp. .... Dome Temp./Hum.  $-6.5^{\circ}\text{C}$  65% H Transparency Conditions PART CLEAR ..... 226.

Focus ~~7.07~~ 6.93 new set

Spectr. Temp. .... Dome Temp./Hum. ....

90CGAIN CCDT  $\rightarrow -100^{\circ}\text{C}$

Comparison  
ter Exp.

20/20

60se

103s

101s

60se

75e

60s

157

60s

75e

7s

60s

| Exp. Mtr. | Seeing                     | Ptg. Mag.            | Sp. | Inst.            | Grating/Tilt                      | Slit                  | Emulsion | P.H.       | Program      | Remarks                                  | Quality           |
|-----------|----------------------------|----------------------|-----|------------------|-----------------------------------|-----------------------|----------|------------|--------------|--|-------------------|
|           | $T = -7.0^{\circ}\text{C}$ |                      |     | CASS<br>CCD      | 1800 l <sub>h</sub> /mm<br>G=6020 | 300a<br>FULL          | 6563A    | 1ci<br>2ci | Focus test   | 920 010 124 30 1                         | Stellar<br>13 Red |
|           |                            |                      |     |                  |                                   | NOT PERFECTLY CENTRED |          | 1ci        |              | CCD FINT<br>480 0 50 1624 4 1            |                   |
|           |                            |                      |     |                  |                                   |                       |          | 3ci        |              |  |                   |
| 30K       |                            | $\checkmark$<br>1.35 |     | B7V <sub>n</sub> |                                   |                       |          | 4ci        | Telluric Std | MAX 6000ADU                              |                   |
| 30K       |                            |                      |     |                  |                                   |                       |          | 4ci        | "            | MAX 5000ADU                              |                   |
|           |                            |                      |     |                  |                                   |                       |          | 5ci        |              |  |                   |
|           |                            |                      |     |                  |                                   |                       |          | 6ci        |              |  |                   |
|           |                            |                      |     |                  |                                   |                       |          | 7ci        |              |  |                   |
| 99        | poor                       |                      |     |                  |                                   |                       |          | 8ci        | Holygram     | CLOUDED IN                               |                   |
|           |                            |                      |     |                  |                                   |                       |          | 7ci        |              |  |                   |
|           |                            |                      |     |                  |                                   |                       |          | 9ci        |              | MAX = 12.1K ADU                          |                   |
|           |                            |                      |     |                  |                                   |                       |          | 1ci        |              | $T = -8.5^{\circ}\text{C}$ To Perseus    |                   |
|           |                            |                      |     |                  |                                   |                       |          | 1ci        |              | P <sub>me</sub> T = $-9^{\circ}\text{C}$ |                   |
|           |                            |                      |     |                  |                                   |                       |          | 9ci        |              | MAX = 13,650 ADU                         |                   |
|           |                            |                      |     |                  |                                   |                       |          | 10ci       |              |  |                   |

227  
pg #2

Wed - Thurs

Emulsion Batches:

Date 1993 Feb 17/18... Observers Hdg. / T.n.....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| cc11976   | BD+18 2307 | 09 5612      | +17 5327            | 00 57 42                |                       | 00 38 W           |             | 410s                      | 209  |
| 77        | "          |              |                     | 01 04 53                |                       |                   |             | 410s                      | 225  |
| 78        | "          |              |                     | 01 12 08                |                       |                   |             | 410                       | 225  |
| 79        | "          |              |                     | 01 19 28                |                       |                   |             | 410                       | 220  |
| 80        | "          |              |                     | 01 26 33                |                       |                   |             | 410                       | 215  |
| 81        | "          |              |                     | 01 34 01                |                       |                   |             | 410                       | 220  |
| 82        | "          |              |                     | 01 41 14                |                       |                   |             | 410                       | 210  |
| 83        | BIHSCA)    |              |                     |                         |                       |                   |             |                           |      |
| 84        | Comp       |              |                     |                         |                       |                   |             | Fear<br>Clear<br>60s      |      |
| 85        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2<br>65s      |      |
| 86        | BD+18 2307 | 09 5612      | +17 5327            | 01 53 19                |                       |                   |             | 410s                      | 220  |
| 87        | "          |              |                     | 02 00 25                |                       |                   |             | "                         | 210  |
| 88        | "          |              |                     | 02 07 34                |                       |                   |             | "                         | 220  |
| 89        | "          |              |                     | 02 14 43                |                       |                   |             | "                         | 210  |
| 90        | "          |              |                     | 02 22 07                |                       |                   |             | "                         | 202  |
| 91        | "          |              |                     | 02 29 18                |                       |                   |             | "                         | 203  |
| 92        | "          |              |                     | 02 36 25                |                       |                   |             | "                         | 217  |



Spectr. Temp. .... Dome Temp./Hum.  $-9.0^{\circ}\text{C}$  70.7% Transparency Conditions ... Clearing again ... 228  
 Focus ... 6.93 ... Temp Dropping Fast  $-10.5^{\circ}$  By 01:30 HIGH CIRRUS  
 Spectr. Temp. .... Dome Temp./Hum. .... CLIMBIX CCDT =  $-10.5^{\circ}\text{C}$

| Comparison Filter | Exp. | Exp. Mtr. | Seeing | Pgs. Mag. | Sp. | Inst.    | Grating/Tilt        | Slit      | Emulsion | P.H. | Program | Remarks                               | Quality |
|-------------------|------|-----------|--------|-----------|-----|----------|---------------------|-----------|----------|------|---------|---------------------------------------|---------|
| 410s              |      | 209       | 5"     | 10        |     | CASS CCD | 1800 in/m<br>G=6020 | 300μ Full | 6563A    | 11ci | Hdy p9m | 1128 HiA MASS                         |         |
| 410s              |      | 225       |        |           |     |          |                     |           |          | 12ci |         | over 7 cols<br>TK photons above bkgnd |         |
| 410               |      | 225       |        |           |     |          |                     |           |          | 13ci |         |                                       |         |
| 410               |      | 220       | 5-8"   |           |     |          |                     |           |          | 14ci |         |                                       |         |
| 410               |      | 215       |        |           |     |          |                     |           |          | 15ci |         |                                       |         |
| 410               |      | 220       |        |           |     |          |                     |           |          | 16ci |         |                                       |         |
| 410               |      | 210       |        |           |     |          |                     |           |          | 17ci |         |                                       |         |
|                   |      |           |        |           |     |          |                     |           |          | 1ci  |         | Dome T = $-11.2^{\circ}\text{C}$      |         |
| Ar<br>arc<br>1/2  | 65s  |           |        |           |     |          |                     |           |          | 18ci |         |                                       |         |
| 1/2               | 65s  |           |        |           |     |          |                     |           |          | 19ci |         | MAX = 11.9 KA DCL/pixel               |         |
| 410s              |      | 220       |        |           |     |          |                     |           |          | 20ci |         | USE STAR410S.BAT x4                   |         |
| "                 |      | 210       |        |           |     |          |                     |           |          |      |         |                                       |         |
| "                 |      | 220       |        |           |     |          |                     |           |          |      |         |                                       |         |
| "                 |      | 210       |        |           |     |          |                     |           |          | 20ci |         |                                       |         |
| "                 |      | 202       |        |           |     |          |                     |           |          | 21ci |         |                                       |         |
| "                 |      | 203       |        |           |     |          |                     |           |          | "    |         |                                       |         |
| "                 |      | 217       |        |           |     |          |                     |           |          | "    |         |                                       |         |

RELOADED BAT AFTER 2 min







231  
pg #1

Thurs - Fri

Emulsion Batches:

Date 1993 Feb 18/19..... Observers Hely, I.T.

CS386 Time exactly same as MKIII... u.v.v. time

| Plate No.     | Object               | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination       | Comparison<br>Type/Filter | Exp. |
|---------------|----------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------------|---------------------------|------|
| CC11996<br>97 | Focus Comp/Stellar   |              |                     |                         |                       |                   |                   |                           |      |
| 11998         | BIAS(4)              |              |                     | 18 29 48                |                       |                   |                   |                           |      |
| FM00478       | HD 29587             | 04 41 09     | +42 06 25           | 18 44                   |                       | 00 18 E           | 2x67ms<br>2x133ms | 'N' mode                  |      |
| 11999         | Comp                 |              |                     | 18 46 27                |                       |                   |                   |                           |      |
| 12000         | HD 29587             | 04 41 09     | +42 06 25           | 18 49 17                |                       |                   |                   |                           | 279s |
| 1             | COMP                 |              |                     |                         |                       |                   |                   | FeAr Clear                | 60s  |
| 2             | FLAT                 |              |                     |                         |                       |                   |                   | Tung A=1/2                | 7s   |
| 12003         | BIAS(4)              |              |                     |                         |                       |                   |                   |                           |      |
| 4             | COMP                 |              |                     |                         |                       |                   |                   | FeAr Clear                | 60s  |
| 5             | HD 87901             | 10 03 03     | +12 27              | 19 09 24                |                       |                   |                   |                           | 151s |
| 6             | HD 87901             | "            | "                   | 19 12 26                |                       |                   | "                 |                           | 146s |
| 7             | COMP                 |              |                     |                         |                       |                   | "                 | FeAr Clear                | 60s  |
| 8             | FLAT 9x3             |              |                     |                         |                       |                   |                   | Tung A=1/2                |      |
| 9             |                      |              |                     |                         |                       |                   |                   |                           |      |
| 10            |                      |              |                     |                         |                       |                   |                   |                           |      |
| 11            | BIAS(4)              |              |                     |                         |                       |                   |                   |                           |      |
| 12            | Shen grabbing frames |              |                     |                         |                       |                   |                   | FeAr Clear                | 60s  |
| 13            | FLAT                 |              |                     |                         |                       |                   |                   | TUNG A=1/2                | 7s   |

Spectr. Te  
Focus...  
Spectr. Te  
Exp. Mtr.  
T=106  
55x55  
1030  
3963  
3660  
38400  
3914



Spectr. Temp. .... Dome Temp./Hum. <sup>\*</sup>-8.3°C 56.7% Transparency Conditions FINE ..... 232  
 Focus .... 6.93 ..... Topup done by 18:15 Dome open & FANS ON BY 17:50  
 Spectr. Temp. .... Dome Temp./Hum. .... 90CGAIN CCD T → -100°C

| Exp. Mtr.                | Seeing                    | Pig. Mag. | Sp.  | Inst.    | Grating/Tilt   | Slit        | Emulsion | P.H.         | Program                            | Remarks                                       | Quality |
|--------------------------|---------------------------|-----------|------|----------|--|-------------|----------|--------------|------------------------------------|---|---------|
| #                        | T = -10.6 Now (Fast drop) |           |      | CASS CCD | 1800<br>G=6020   | 300μ ~ FULL | 6533 Å   |              | (Stellae .2 pixel)<br>Real         | 420 0 10 1024 301 CCD FIT<br>OBSERVING Format | OK      |
|                          |                           |           |      |          | 1800<br>G=6050   |             | 6563 Å   |              |                                    | 480 0 50 1024 4 1 CCD FIT                     |         |
| mode                     | 55x55 pixels              | 7.29      | d62  |          | (Dome SW Light + west wind)<br>(Radio SAY 20 fms/hr from west) |             |          |              | Seeing test. Te/also normalized on |   |         |
| 274s                     | 1030                      | 4"        | 7.29 | d62      |  |             |          | 4ci          | Star Vel                           |   |         |
| Clear 6Ds<br>A=1/2<br>7s |                           |           |      |          | G=6050<br>1800 in/mm<br>G=6035                                 |             | 6563 Å   | 5ci<br>6ci   |                                    | Slight Δ change.                              |         |
| 4<br>Per<br>6Ds          | 13963                     |           |      |          |  |             |          | 7ci          |                                    |   |         |
| 191s                     | 36660                     |           |      |          |  |             |          | 8ci          |                                    | 5688 AD4                                      |         |
| 146s                     | 38400                     |           |      |          |  |             |          | 9ci          |                                    | X = 3.65                                      |         |
| At<br>ear<br>6Ds         | 13914                     |           |      |          |  |             |          | 10ci         |                                    |   |         |
| ng<br>L=1/2              |                           |           |      |          |  |             |          | 11ci<br>12ci |                                    | 10949   |         |
|                          |                           |           |      |          |  |             |          | 1ci          |                                    | Dome T = -12.5°C                              |         |
| ear<br>loop<br>6Ds       |                           |           |      |          |  |             |          | 14           |                                    |   |         |
| raw<br>puls<br>7s        |                           |           |      |          |  |             |          | 15           |                                    | 11.3K AD4 MAX                                 |         |

233  
pg #2

Date 1993 Feb 18/19 Observers Hdy/Tn

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object       | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|--------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC12014   | BD+18°2307   | 09 56 12     | +17 53 27           | 19 34 17                |                       |                   |             |                           | 410s |
| 15        | "            |              |                     | 19 41 32                |                       |                   |             |                           | 412s |
| 16        | "            |              |                     | 19 49 12                |                       |                   |             |                           | 410s |
| 17        | "            |              |                     | 19 56 21                |                       |                   |             |                           | 410s |
| 18        | "            |              |                     | 20 03 48                |                       |                   |             |                           | 410s |
| 19        | "            |              |                     | 20 10 57                |                       |                   |             |                           | "    |
| 20        | "            |              |                     | 20 18 05                |                       |                   |             |                           | "    |
| 21        | BINS(4) FLAT |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 7s   |
| 22        | Comp         |              |                     |                         |                       |                   |             | FeAr<br>CLEAR             | 60s  |
| 23        | BINS(4)      |              |                     | 20 29                   |                       |                   |             |                           |      |
| 24        | BD+182307    |              |                     | 20 30 17                |                       |                   |             |                           | 410s |
| 25        | "            |              |                     | 20 37 26                |                       |                   |             |                           | "    |
| 26        | "            |              |                     | 20 44 34                |                       |                   |             |                           | "    |
| 27        | "            |              |                     | 20 52 01                |                       |                   |             |                           | "    |
| 28        | "            |              |                     | 20 59 09                |                       | 03 16E            |             |                           | "    |
| 29        | "            |              |                     | 21 06 18                |                       |                   |             |                           | "    |
| 30        | "            |              |                     | 21 13 30                |                       |                   |             |                           | 539! |

Spectr. Ter.

Focus. 6.5

Spectr. Ter.

Exp. Mir.

440

240

225

250

230

230

230

240

233

230

230

230



Spectr. Temp. .... Dome Temp./Hum.  $-12.9^{\circ}\text{C}$   $61.3\% \text{RH}$  Transparency Conditions *PART Cloudy* ..... 234  
 Focus *6.93* .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr. | Seeing     | Mag.  | Sp.    | Inst.       | Grating/<br>Tilt    | Slit         | Emulsion         | P.H.             | Program          | Remarks                          | Quality |
|-----------|------------|-------|--------|-------------|---------------------|--------------|------------------|------------------|------------------|----------------------------------|---------|
| 410s      | }          | 9A-99 |        | CASS<br>CCD | 1800/n/mm<br>G=6035 | 300x<br>FULL | exactly<br>6563A | 16ci             | Hd999            |                                  |         |
| 415       |            |       |        |             |                     |              |                  | 17ci             |                  |                                  |         |
| 410s      | 240        | 3"    | KO III |             |                     |              |                  | 18ci             |                  | Repeat x2                        |         |
| 410s      | 225        |       |        |             |                     |              |                  | 18ci             |                  |                                  |         |
| 410s      | 250        |       |        |             |                     |              |                  | 19ci             | x <del>alt</del> | Repeat x3                        |         |
| 410s      | 230        |       |        |             |                     |              |                  | x <del>alt</del> |                  |                                  |         |
| 410s      |            |       |        |             |                     |              |                  | 19ci             |                  |                                  |         |
| 410s      |            |       |        |             |                     |              |                  | 20ci             |                  | Dome T = $-13.2^{\circ}\text{C}$ | 1048    |
| 410s      |            |       |        |             |                     |              |                  | 21ci             |                  |                                  |         |
| 410s      | 230        |       |        |             |                     |              |                  |                  |                  |                                  |         |
| 410s      | 230        |       |        |             |                     |              |                  | 22ci             |                  |                                  |         |
| 410s      | 240        |       |        |             |                     |              |                  |                  |                  |                                  |         |
| 410s      | 233        |       |        |             |                     |              |                  |                  |                  |                                  |         |
| 410s      | 240        |       |        |             |                     |              |                  |                  |                  |                                  |         |
| 410s      | 240<br>330 |       |        |             |                     |              |                  | 23ci             |                  | IGNORED TIME                     |         |

235  
pg #3

Emulsion Batches:

Date 1993 Feb 18/19..... Observers Hdy / T.n. / Shen.....

.....  
.....  
.....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 31        | BIAS(4)    |              |                     |                         |                       |                   |             |                           |      |
| CC 120    | COMP       |              |                     |                         |                       |                   |             |                           |      |
| 33        | FLAT       |              |                     |                         |                       |                   |             |                           |      |
| 34        | BD+18 2307 | 09 5612      | +17 5327            | 21 2802                 |                       |                   |             |                           |      |
| 35        |            |              |                     | 21 3910                 |                       |                   |             |                           |      |
| 36        |            |              |                     | 21 4219                 |                       |                   |             |                           |      |
| 37        |            |              |                     | 21 4958                 |                       |                   |             |                           |      |
| 38        |            |              |                     | 21 5705                 |                       |                   |             |                           |      |
| 39        |            |              |                     | 22 0413                 |                       |                   |             |                           |      |
| 40        |            |              |                     | 22 1122                 |                       |                   |             |                           |      |
| 41        | BIAS(4)    |              |                     | 22 19                   |                       |                   |             |                           |      |
| 42        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 65   |
| 43        | Comp       |              |                     |                         |                       |                   |             | FeAr<br>Cl 200            | 605  |
| 44        | BD+18 2307 |              |                     | 22 2624                 |                       |                   |             |                           |      |
| 45        | "          |              |                     | 22 3332                 |                       | 01 43E            |             |                           |      |
| 46        | "          |              |                     | 22 4041                 |                       |                   |             |                           |      |

Spectr. Te  
Focus...6  
Spectr. Te

Exp. Mtr.

258

Sum #2

540

250

250

260

290

270

280

280



Spectr. Temp. .... Dome Temp./Hum.  $-13.5^{\circ}C$  6570 Transparency Conditions *PART. Cloudy* ..... 23.

Focus .. *6.9.3* .....

Spectr. Temp. .... Dome Temp./Hum. .... *C LAMBDA*

| Exp. Mtr. | Seeing | Ptg. Mag.                   | Sp.  | Inst.       | Grating/Tilt   | Slit              | Emulston | P.H. | Program | Remarks                | Quality |
|-----------|--------|-----------------------------|------|-------------|----------------|-------------------|----------|------|---------|------------------------|---------|
|           |        |                             |      | CHSS<br>CCD | 1800<br>G=6035 | 300 $\mu$<br>FULL | 6563A    | 24ci | Hdy pgm |                        |         |
|           |        |                             |      |             |                |                   |          | 25   |         | 13067                  |         |
| 298       |        |                             |      |             |                |                   |          | 26ci |         | R x 3                  |         |
| Sum of 2  | 2-4"   |                             |      |             |                |                   |          |      |         |                        |         |
| 540       |        |                             |      |             |                |                   |          | 26ci |         |                        |         |
| 250       |        |                             |      |             |                |                   |          | 27ci |         | Repeat x 4             |         |
| 250       |        |                             |      |             |                |                   |          |      |         |                        |         |
| 260       | 3-5"   |                             |      |             |                |                   |          |      |         |                        |         |
| 240       |        |                             |      |             |                |                   |          | 27ci |         |                        |         |
|           |        |                             |      |             |                |                   |          | 1ci  |         |                        |         |
|           |        |                             |      |             |                |                   |          | 28ci |         | MAX = 11.8 K ADU/pixel |         |
|           |        |                             |      |             |                |                   |          | 29ci |         |                        |         |
| 270       | 3"     | $\checkmark$<br>9.4<br>-9.9 | KOII |             |                |                   |          | 30ci |         | Clear again            |         |
| 280       |        |                             |      |             |                |                   |          |      |         |                        |         |
| 280       |        |                             |      |             |                |                   |          | 30ci |         |                        |         |

p937  
256

Date 1993.. Feb. 18/19..... Observers Hdy. J.T.n.....

Emulsion Batches:  
Hdy on 19/24 photometry .....  
of same Obj.....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC12047   | B0+18 2307 | 09 5612      | +17 53 27           | 22 48 24                |                       |                   |             |                           | 4105 |
| 48        |            |              |                     | 5531                    |                       |                   |             |                           |      |
| 49        |            |              |                     | 23 02 40                |                       |                   |             |                           |      |
| 50        |            |              |                     | 23 09 49                |                       |                   |             |                           |      |
| 51        | BIAS(4)    |              |                     |                         |                       |                   |             |                           |      |
| 52        | Comp       |              |                     |                         |                       |                   |             | FeAr<br>CLEAR             | 65   |
| 53        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 65   |
| 54        | B0+18 2307 |              |                     | 23 23 48                |                       |                   |             |                           | 4105 |
| 55        | "          |              |                     | 3057                    |                       |                   |             |                           | "    |
| 56        | "          |              |                     | 3806                    |                       |                   |             |                           | "    |
| 57        | "          |              |                     | 4514                    |                       | 00 30 E           |             |                           | "    |
| 58        |            |              |                     | 5323                    |                       |                   |             |                           | "    |
| 59        |            |              |                     | 00 00 29                |                       |                   |             |                           | "    |
| 60        |            |              |                     | 07 38                   |                       |                   |             |                           | "    |
| 61        | BIAS(4)    |              |                     |                         |                       |                   |             | FeAr<br>CLEAR             |      |
| 62        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 65   |

Spectr. Ter.

Focus... 2

Spectr. Ter.

Exp. Mir.

290

280

290

245

230

255

Star of 2

425

215

230

233



Spectr. Temp. .... Dome Temp./Hum.  $-14.0^{\circ}\text{C}$   $67.0\%$  Transparency Conditions *mos. Hy. CLAR* ..... 238 ...

Focus ...  $G=9.3$  ..... *But incr haze*

Spectr. Temp. .... Dome Temp./Hum.  $-13.9^{\circ}\text{C}$   $66.8\%$

| Exp. Mtr. | Seeing | Mag. Mag.   | Sp.    | Inst.       | Grating/Tilt        | Slit                | Emulsion | P.H. | Program     | Remarks  | Quality |
|-----------|--------|-------------|--------|-------------|---------------------|---------------------|----------|------|-------------|--|---------|
| 413 290   |        | 9.4<br>-9.9 | KO III | CASS<br>CCD | 1800 l/mm<br>G=6035 | 300 $\mu$ m<br>Full | G563A    | 30ci | Hdy pgrm    | Repeat x4  |         |
| 280       | 3"     |             |        |             |                     |                     |          |      |             | HL Em $\approx 8\%$ above continuum                        |         |
| 290       |        |             |        |             |                     |                     |          |      |             |  |         |
| 245       | 3"-4"  |             |        |             |                     |                     |          | 30ci |             |  |         |
|           |        |             |        |             |                     |                     |          |      |             | Dome T = $-13.8^{\circ}\text{C}$                           |         |
|           |        |             |        |             |                     |                     |          | 31ci |             |  |         |
|           |        |             |        |             |                     |                     |          | 32ci |             |  |         |
| 413 230   |        |             |        |             |                     |                     |          | 33ci | Hdy pgrm    |  |         |
| 255       |        |             |        |             |                     |                     |          |      |             | Repeat x4  |         |
| sum of 2  | 4"     |             |        |             |                     |                     |          |      |             |  |         |
| 425       |        |             |        |             |                     |                     |          | 33ci |             | (CCDT = $-10.2^{\circ}\text{C}$<br>unusually cool?)        |         |
| 215       |        |             |        |             |                     |                     |          |      |             |  |         |
| 230       |        |             |        |             |                     |                     |          |      |             |  |         |
| 233       |        |             |        |             |                     |                     |          | 33ci |             |  |         |
|           |        |             |        |             |                     |                     |          |      | Nice bias's | (Real Clean, no noise<br>As are all the others<br>tonight) |         |
|           |        |             |        |             |                     |                     |          | 2ci  | 12Kmax      |  |         |

239  
pg # 5

Emulsion Batches:

Date 1993 Feb 18/19... Observers Hdy/Tn.....

.....  
.....  
.....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| IC12063   | Comp       |              |                     |                         |                       |                   |             | FeAr<br>CLEAR             | 60s  |
| 64        | BD+18 2307 | 09 56 12     | +17 53 27           | 00 20 53                |                       | 00 06 W           |             |                           | 410s |
| 65        |            |              |                     | 28 02                   |                       |                   |             |                           |      |
| 66        |            |              |                     | 35 11                   |                       |                   |             |                           |      |
| 67        |            |              |                     | 42 20                   |                       |                   |             |                           |      |
| 68        |            |              |                     | 49 29                   |                       |                   |             |                           |      |
| 69        |            |              |                     | 56 37                   |                       |                   |             |                           |      |
| 70        |            |              |                     | 01 03 46                |                       |                   |             |                           |      |
| 71        | BIAS(4)    |              |                     |                         |                       |                   |             |                           |      |
| 72        | Comp       |              |                     |                         |                       |                   |             | FeAr<br>clear             | 60s  |
| 73        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>Ap=1/2            | 6s   |
| 74        | BD+18 2307 |              |                     | 01 16 42                |                       |                   |             |                           | 410s |
| 75        | "          |              |                     | 23 51                   |                       |                   |             |                           |      |
| 76        | "          |              |                     | 31 00                   |                       |                   |             |                           |      |
| 77        | "          |              |                     | 38 09                   |                       |                   |             |                           |      |

Spectr. Ter  
Focus...6  
Spectr. Ter  
Exp. Mir.  
240  
270  
Sun 2  
525  
Sun 2  
530  
300  
580  
285  
300  
350





241  
Pg#6

Emulsion Batches:

Date 1993. Feb. 8/19..... Observers Hdy. / Tn.....

| Plate No.  | Object             | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.     |
|------------|--------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|----------|
| CC12078    | BD+18 2307         | 09 56 12     | +17 53 27           | 01 45 45                |                       | 01 31W            |             | 4105                      | 280      |
| 79         |                    |              |                     | 52 52                   |                       |                   |             |                           | 280      |
| 80         |                    |              |                     | 02 00 01                |                       |                   |             |                           |          |
| 81         | BIAS(A)            |              |                     |                         |                       |                   |             |                           |          |
| 82         | FLAT               |              |                     |                         |                       |                   |             | YUNG<br>Ap=1/2            | 65       |
| Da Rite 87 | Comp written later |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 605      |
| 88         | BD+18 2307         |              |                     | 02 12 46                |                       |                   |             | 4105                      | 290      |
| 84         |                    |              |                     | 19 53                   |                       |                   |             |                           | 285      |
| 85         |                    |              |                     | 27 02                   |                       |                   |             |                           | 280      |
| 86         |                    |              |                     | 34 11                   |                       |                   |             |                           | 275      |
| 88         |                    |              |                     | 41 55                   |                       |                   |             |                           | 275      |
| 89         |                    |              |                     | 49 04                   |                       |                   |             |                           | sum of 2 |
| 90         |                    |              |                     | 56 13                   |                       |                   |             |                           | 500      |
| 91         |                    |              |                     | 03 03 21                |                       | 2 52W             |             |                           | 250      |
| 92         | BIAS(A)            |              |                     |                         |                       |                   |             |                           |          |
| 93         | Comp               |              |                     |                         |                       |                   |             | FeAr<br>Clear             | 605      |



Spectr. Temp. .... Dome Temp./Hum. -14.6°C 68.5% Transparency Conditions .. some cloud..... (24)

Focus .. 60.93 .....

Spectr. Temp. .... Dome Temp./Hum. -15.2°C 69.8%

| Exp. Mtr.   | Seeing | Mag.        | Sp. | Inst. | Grating/Tilt | Slit | Emulsion | P.H. | Program | Remarks                   | Quality |
|-------------|--------|-------------|-----|-------|--------------|------|----------|------|---------|---------------------------|---------|
| 410s<br>280 |        | 9.4<br>-9.9 | K6M |       |              |      | 6563A    | 9ci  | Hdy pgn | R x 3 1.179 AIR mass      |         |
| 280         | 3-5    |             |     |       |              |      |          | 9ci  |         | CCDT = -102.0° again      |         |
|             |        |             |     |       |              |      |          | 1ci  |         | Dome T = -14.6°C          |         |
|             |        |             |     |       |              |      |          | 11ci |         | 10.8K HDU max             |         |
|             |        |             |     |       |              |      |          | 12ci |         |                           |         |
| 410s<br>290 | 3"     |             |     |       |              |      |          | 13ci | Hdy pgn | R x 4                     |         |
| 285         |        |             |     |       |              |      |          |      |         |                           |         |
| 280         |        |             |     |       |              |      |          |      |         |                           |         |
| 275         |        |             |     |       |              |      |          | 13ci |         |                           |         |
| 275         |        |             |     |       |              |      |          | 18ci |         | R x 4 Ad engine now gone  |         |
| Sum of 2    |        |             |     |       |              |      |          |      |         | 2 Engine OR Far Blue?     |         |
| 500         |        |             |     |       |              |      |          |      |         |                           |         |
| 250         |        |             |     |       |              |      |          | 18ci |         | CCDT still -102.0 exactly |         |
|             |        |             |     |       |              |      |          | 1ci  |         |                           |         |
|             |        |             |     |       |              |      |          | 21ci |         |                           |         |

243  
Pg # 7

Emulsion Batches:

59 Date 1993 Feb 18/19..... Observers Hdy./Trj.....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| Cc12094   | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 75   |
| 95        | BD+18 2307 |              |                     | 03 17 20                |                       |                   |             |                           | 41G  |
| 96        |            |              |                     | 24 29                   |                       |                   |             |                           | "    |
| 97        |            |              |                     | 31 37                   |                       |                   |             |                           | "    |
| 98        |            |              |                     | 38 46                   |                       |                   |             |                           | "    |
| 99        |            |              |                     | 46 08                   |                       |                   |             |                           |      |
| 12100     |            |              |                     | 53 17                   |                       |                   |             |                           |      |
| 01        |            |              |                     | 4 00 26                 |                       |                   |             |                           |      |
| 02        |            |              |                     | 07 34                   |                       | 03 53 W           |             |                           |      |
| 03        | BIHS(A)    |              |                     |                         |                       |                   |             |                           |      |
| 04        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 85   |
| Cc12113   | Comp       |              |                     | written Later @ 05 17   |                       |                   |             | Fe Ar<br>Clear            | 60SE |
| 05        | BD+18 2307 |              |                     | 4 19 08                 |                       |                   |             |                           | 41G  |
| 06        | "          |              |                     | 26 15                   |                       |                   |             |                           | "    |
| 07        | "          |              |                     | 33 24                   |                       |                   |             |                           | "    |
| 08        | "          |              |                     | 40 33                   |                       |                   |             |                           | "    |

Spectr. Tem

Focus: 6.9

Spectr. Tem

Exp. Mir.

230

230

232

230

250

255

250

250

240

230

255

250



Spectr. Temp. .... Dome Temp./Hum.  $-15.2^{\circ}\text{C}$   $69.7\%$  Transparency Conditions ...  $5\%$  hazy ..... 244  
 Focus .  $6.93$  .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst. | Grating/Tilt | Slit | Emulsion | P.H. | Program | Remarks   | Quality |
|-----------|--------|-----------|-----|-------|--------------|------|----------|------|---------|---|---------|
|           |        |           |     |       |              |      | 6563A    | 20c  |         | MAX 12.9 K ADU/pixel                                |         |
| 7         | 4"     |           |     |       |              |      |          | 22c  | Hdy pgm | R x 4   |         |
| 7         |        |           |     |       |              |      |          |      |         |   |         |
| 7         |        |           |     |       |              |      |          |      |         | Hd Em returning (Abs in Red)                        |         |
| 7         |        |           |     |       |              |      |          |      |         |   |         |
|           |        |           |     |       |              |      |          | 26c  |         |   |         |
|           |        |           |     |       |              |      |          |      |         |   |         |
|           |        |           |     |       |              |      |          |      |         |   |         |
|           |        |           |     |       |              |      |          | 26c  |         |   |         |
|           |        |           |     |       |              |      |          | 1c   |         | Real Clear also<br>Dome T = $-15.4^{\circ}\text{C}$ |         |
|           |        |           |     |       |              |      |          | 28   |         | 11.9 K ADU MAX                                      |         |
|           |        |           |     |       |              |      |          | 29   |         |   |         |
| 40        |        |           |     |       |              |      |          | 30c  | Hdy pgm |   |         |
| 4         | 5"     |           |     |       |              |      |          |      |         |   |         |
| 4         |        |           |     |       |              |      |          |      |         |   |         |
| 4         |        |           |     |       |              |      |          | 30c  |         |   |         |

245  
Pg#8

Emulsion Batches:

71 Date 1993. Feb. 18/19... Observers Hdy./Tr.....

| Plate No.                         | Object      | R.A.<br>1900      | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------------------------------|-------------|-------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC121 <sup>09</sup> <del>10</del> | BD+18 2307  | 09 5612           | +17 5327            | 04 4811                 |                       |                   |             |                           | 410  |
| 10                                |             |                   |                     | 04 5520                 |                       |                   |             |                           | "    |
| 11                                |             |                   |                     | 05 0229                 |                       |                   |             |                           | "    |
| 12                                |             |                   |                     | 05 0938                 |                       | Limit<br>04 52W   |             |                           | "    |
| 14                                | BIAS(A)     |                   |                     |                         |                       |                   |             |                           |      |
| 15                                | Comp        |                   |                     |                         |                       |                   |             | FcAr<br>Clear             | 60s  |
| 16                                | FLAT        |                   |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 8s   |
| 17                                | Comp        | Top up done by    | 05 35               | 05 4440                 |                       |                   |             | FcAr<br>Clear             | 60s  |
| 18                                | BIAS(A)     |                   |                     |                         |                       |                   |             |                           |      |
| 19                                | HD177724    | 19 0049           | +13 4624            | 05 4804                 |                       |                   |             |                           | 243  |
| 20                                | "           |                   |                     | 05 5333                 |                       | 3 27E             |             |                           | 255  |
| 21                                | Comp        |                   |                     |                         |                       |                   |             | FcAr<br>Clear             | 60s  |
| 22                                | FLATS x 3   |                   |                     |                         |                       |                   |             | TUNG<br>A=1/2             |      |
| 23                                | BIAS(A)     |                   |                     |                         |                       |                   |             |                           |      |
| 24                                | Comp        | at Nova Cyg posn. |                     |                         |                       |                   |             | FcAr                      | 60s  |
| 25                                | NOVA Cyg 92 | 20 2743           | +52 1739            | 06 1334                 |                       |                   |             |                           |      |
| 26                                | Comp        | CC12129 FLAT      | + Nova Posn.        |                         |                       | 7sec              | A=1/2       | FcAr                      | 60s  |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mtr.

225

230

220

137

40K

46K

373



Spectr. Temp. .... Dome Temp./Hum.  $-15.8^{\circ}\text{C}$  70.0% Transparency Conditions *s/l. hazy* ..... 246..

Focus ..... *6.93* .....

Spectr. Temp. .... Dome Temp./Hum.  $-16.2^{\circ}\text{C}$  71%

| Comparison Filter | Exp. | Exp. Mtr. | Seeing | Ptg. Mag.  | Sp. | Inst. | Grating/Tilt | Slit | Emulsion | P.H.             | Program  | Remarks                                     | Quality |
|-------------------|------|-----------|--------|------------|-----|-------|--------------|------|----------|------------------|--|---|---------|
| A10               |      | 225       |        |            |     |       |              |      | 6563A    | 30ci             | Hdy ppm  | CCDT @ $-101.9^{\circ}\text{C}$             |         |
|                   |      | 230       |        |            |     |       |              |      |          |                  |  |   |         |
|                   |      | 220       |        |            |     |       |              |      |          |                  |  | CCDT = $-101.8^{\circ}\text{C}$             |         |
|                   |      | * 137     |        |            |     |       |              |      |          | 30ci             |  | Actually 300 secs star Reached Limit @ 452W |         |
|                   |      |           |        |            |     |       |              |      |          | 1ci              |  |   |         |
|                   |      |           |        |            |     |       |              |      |          | 31ci             |  | DRIVE OFF                                   |         |
|                   |      |           |        |            |     |       |              |      |          | 32ci             |  | 11.7 K ADU MAX                              |         |
|                   |      |           |        |            |     |       |              |      |          | 34ci             |  | CCDT = $98.9^{\circ}\text{C}$ WARMING?      |         |
|                   |      |           |        |            |     |       |              |      |          | 1ci              |  | Top update                                  |         |
|                   |      | 40K       |        | 2.99       | A0  | A0 In |              |      |          | 35ci             | Telluric Std   | 4100 ADU MAX                                |         |
|                   |      | 46K       |        |            |     |       |              |      |          | 3ci              | n  | 5630 MAX                                    |         |
|                   |      |           |        |            |     |       |              |      |          | 4ci              |  |   |         |
|                   |      |           |        |            |     |       |              |      |          | <del>3</del> 6ci |  | MAX = 12K ADU                               |         |
|                   |      | 273       | 3"     | VERY faint |     |       |              |      |          | 6ci              | YES it IS Nova Attempt, but <sup>equipment probs</sup> <del>things</del> |   |         |
|                   |      |           |        |            |     |       |              |      |          | 7ci              |  | FOR many stars here.                        |         |

247

Tues - Wed

Emulsion Batches:

Date 1993 Feb 23/24.. Observers Hdy - Tn.....

CSS 386 9 sec ahead of w.v.v. MERT time

| Plate No. | Object                          | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|-----------|---------------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| CC12130   | BIAS(4)                         |              |                     | 23 10                   |                       |                   |             |                           |       |
| 31        | Comp                            |              |                     |                         |                       |                   |             | FcAr<br>Clear             | 60s   |
| 32        | HD 87901                        | 10 03 03     | +12 27              | 23 15 57                |                       |                   |             |                           | 90s   |
| 33        | "                               | "            | "                   | 23 18 04                |                       |                   |             |                           | 109s  |
| 34        | Comp                            | "            | "                   |                         |                       |                   |             | FcAr<br>Clear             | 60s   |
| → 35      | FLATS x 3                       | "            | "                   |                         |                       |                   |             | TUNG<br>Ap = 1/2          | 85sec |
| 37        |                                 |              |                     |                         |                       |                   |             |                           |       |
| 38        | BIAS(4)                         |              |                     | 23 26 26                |                       |                   |             |                           |       |
| 39        | Comp                            |              |                     |                         |                       |                   | * A=1/2     | FcAr<br>Clear             | 60sec |
| CC12140   | BD+18 2307                      | 09 56 12     | +17 53 27           | 23 34 10                |                       | 00 22 E           |             |                           | 444   |
| 41        | FLAT                            |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 85s   |
| 42        | Comp                            |              |                     |                         |                       |                   |             | FcAr<br>Clear             | 60sec |
| 43        |                                 |              |                     | 23 54                   |                       |                   |             |                           |       |
| 44        | Focus Comp HARTMAN/stellar HART |              |                     | 20 54                   |                       | 00 07 E           | +17 27      | FcAr<br>Clear             | 20/20 |
| 45        | BD+18 2307                      |              |                     | 00 17 36                |                       |                   |             |                           | 410s  |

Spectr. Te

Focus...

Spectr. Te

Exp. Mtr.

4

A=K

60K

187

T=-135

198



Spectr. Temp. .... Dome Temp./Hum.  $-9.1^{\circ}\text{C}$   $64\% \text{H}$  Transparency Conditions .. PARTLY CLEARING ... 248..

Focus ... 7.00 set too from 6.93

Spectr. Temp. .... Dome Temp./Hum.  $-13.0^{\circ}\text{C}$   $65\% \text{H}$

CCDT  $\rightarrow$   $-100^{\circ}\text{C}$  90 GAIN

| Exp. Mtr.                  | Seeing  | Mag. | Sp.   | Inst.            | Grating/<br>Tilt   | Slit              | Emulsion | P.H.       | Program    | Remarks                        | Quality                                       |
|----------------------------|---------|------|-------|------------------|--------------------|-------------------|----------|------------|------------|--------------------------------|---|
|                            |         |      |       | C1455<br>CCD     | 1800 l/m<br>G=5530 | 300 $\mu$<br>Full | 5888A    | 1ci        | 480 0      | 50 1024 4 1 CCD FMT            |   |
| 45K                        |         | 1.35 | B7V   |                  |                    |                   |          | 3ci        |            |                                |   |
| 60K                        |         |      |       |                  |                    |                   |          | 4ci        |            | 7.3K ADU MAX                   |   |
|                            |         |      |       |                  |                    |                   |          | 4ci        |            | 9.9K ADU max                   |   |
|                            |         |      |       |                  |                    |                   |          | 5ci        |            |                                |   |
|                            |         |      |       |                  |                    |                   |          | 6ci        |            |                                |   |
|                            |         |      |       |                  |                    |                   |          | 7ci        |            | MAX = 11.8K ADU/pixel          |   |
|                            |         |      |       |                  |                    |                   |          | 8ci        |            | Dome T = $-13^{\circ}\text{C}$ |   |
| 187                        | 6"      | 9.4  | KOIII |                  |                    |                   |          | 8ci        |            | Accident<br>Aperture wrong     |   |
|                            |         |      |       |                  |                    |                   |          | 9ci        | Hdy pgm    | 1.121 AIR MASS                 | 5 cols<br>800 pixels<br>Σ AVG above<br>8 rows |
|                            |         |      |       |                  |                    |                   |          | 10ci       |            | MAX = 12K ADU/pixel            |   |
|                            |         |      |       |                  |                    |                   |          | 11ci       |            | Too cloudy                     |   |
| T = $-135^{\circ}\text{C}$ | Set 700 |      |       | 425-434<br>XP16T |                    |                   |          | 13ci/lites | Focus Test | 420 0 10 1024 30 1 CCD FMT     | .3 Ref  |
| 198                        |         |      |       |                  |                    |                   |          | 15ci       | Hdy pgm    |                                |   |
|                            |         |      |       |                  |                    |                   |          |            |            | All to Perseus & Uorn          |   |

249  
pg #1. wed - Thurs

Emulsion Batches:

Date 1993 Feb 24/25.. Observers Hdy. - Tg.....

| Plate No.                  | Object               | R.A.<br>1900        | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T.              | Hour Angle<br>End | Declination      | Comparison<br>Type/Filter | Exp.  |
|----------------------------|----------------------|---------------------|---------------------|-------------------------|------------------------------------|-------------------|------------------|---------------------------|-------|
| cc 12146<br>147            | Focus                |                     |                     |                         |                                    | 0 0               | ≈ 35°            | FeAr<br>clear             | 20/20 |
| 148                        | BIASCA)              |                     |                     |                         |                                    |                   |                  |                           |       |
| FMOO 479 <sup>H</sup><br>D | HD 21587             | 04 34.5             | +11 57              |                         | 18 43                              | 0 0               |                  | "N" male<br>FeAr<br>clear | 62    |
| cc 12149                   | Comp                 |                     |                     |                         |                                    |                   |                  |                           |       |
| 50                         | HD 87901             | 10 03 03            | +12 27              | 18 55 08                |                                    |                   |                  |                           | 203   |
| 51                         | "                    | "                   | "                   | 18 59 06                |                                    |                   |                  |                           |       |
| 52                         | BIASCA)              |                     |                     |                         |                                    |                   |                  |                           |       |
| 53                         | Comp                 |                     |                     |                         |                                    |                   |                  | FeAr<br>clear             | 60s   |
| → 54<br>56                 | FLATIS x3            |                     |                     |                         |                                    |                   | +12 <sup>m</sup> | TUNG<br>A=1/2             | 9s    |
| 57                         | <del>Comp</del> FLAT | at BD+18 2307 pos'n |                     |                         |                                    |                   | +17 27           | "                         | 9s    |
| cc 12159                   | Comp                 |                     |                     |                         |                                    |                   |                  | FeAr<br>clear             | 60s   |
|                            |                      |                     |                     |                         | ** BIASCA) cc 12158 added<br>HERP. |                   |                  |                           |       |
| cc 12160                   | BD+18 2307           | 09 56 12            | +17 53 27           | 19 16 42                |                                    | 4 37E             |                  |                           | 410   |
| 61                         | "                    |                     |                     | 19 24 11                |                                    |                   |                  |                           | "     |
| 62                         | "                    |                     |                     | 19 31 20                |                                    |                   |                  |                           | "     |
| 63                         | "                    |                     |                     | 19 39 20                |                                    |                   |                  |                           | "     |
| 64                         | "                    |                     |                     | 19 46 26                |                                    |                   |                  |                           | "     |

Spectr. Te.  
Focus...  
Spectr. Te.  
Exp. Mtr.  
420 010  
55x55 plate  
60k  
60k  
230  
310  
210  
310  
315



Spectr. Temp. .... Dome Temp./Hum.  $-10.0^{\circ}\text{C}$   $57.5\%$  Transparency Conditions *FINE* *Lowly moon*  
 Focus *700* ..... Dome Temp./Hum.  $-12.7$   $58.9\%$  Topup complete by 18:15 *& Venus close together*  
 Spectr. Temp. .... Dome Temp./Hum.  $-12.7$   $58.9\%$  90CG41N CCDT  $\rightarrow -100^{\circ}\text{C}$

| Exp. Mtr.  | Seeing | Mag. | Sp. | Inst.    | Grating/Tilt     | Slit              | Emulsion   | P.H.         | Program                     | Remarks  | Quality |
|--|--------|------|-----|----------|------------------|-------------------|------------|--------------|-----------------------------|--|---------|
| 420  | 010    | 1024 | 301 | CASS CCD | 1800nm<br>G=5530 | 300 $\mu$<br>Full | *<br>5893A | 13ci<br>14ci | stellar Rad<br>4 pixels     | * exact $\lambda$ , same setup last night                        |         |
| <p>Focus Funt<br/>         Light N wind - 4Kms/hr (Radio Report) FANS on BYBEST (even/odd criteria) (HD 29587 also encoder NORM star)<br/>         55x55 pixels OK 7.29 dG2 2x67 msec + 2x133 msec Also a st. vel Dome West. not done however.</p> |        |      |     |          |                  |                   |            |              |                             |  |         |
| 60k  | poor   | 1.35 | B7V |          |                  |                   |            | 3ci          | Telluric std                | MAX 10K ADU/pixel  |         |
| 60k  |        |      |     |          |                  |                   |            | 4ci          | u                           |  |         |
|  |        |      |     |          |                  |                   |            | 5ci          |                             |  |         |
|  |        |      |     |          |                  |                   |            | 1c           |                             | Dome T = $-120^{\circ}\text{C}$                                  |         |
|  |        |      |     |          |                  |                   |            | 6            |                             |  |         |
|  |        |      |     |          |                  |                   |            | 7            |                             | MAX 10K ADU/pixel  |         |
|  |        |      |     |          |                  |                   |            | 8ci          |                             |  |         |
|  |        |      |     |          |                  |                   |            | 9ci          |                             |  |         |
| 230  | 4"     | 9.4  | KOU |          |                  |                   |            | CSS386       | Time normalized to uuv Time | $\approx 900$ photons $\Sigma$ Avg. $\approx$ low bl/qual. 30/1? |         |
| 210  |        | 9.9  |     |          |                  |                   |            | 10ci         | Hdy-pgm                     | 2.16 AIR MASS  |         |
| 210  |        |      |     |          |                  |                   |            | 11ci         | u                           |  |         |
| 218  |        |      |     |          |                  |                   |            | 12ci         |                             | Hazy down low here   |         |
| 215  |        |      |     |          |                  |                   |            | 12co         |                             | Repeat x5  |         |

251  
pg#2

wed-Thurs

Hdy 24"/19" for Photometry  
of SAME

Emulsion Batches:

Date 1993. Feb. 24/25. Observers Hdy. T.G. ....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.          |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|---------------|
| CC12165   | BD+18 2307 | 09 5612      | +17 5327            | 19 53 35                |                       | 3 59 <del>E</del> |             |                           | 410s          |
| 66        |            |              |                     | 20 00 44                |                       |                   |             |                           | "             |
| 67        |            |              |                     | 20 07 53                |                       |                   |             |                           | "             |
| 68        | BIAS(4)    |              |                     |                         |                       |                   |             |                           |               |
| 69        | Comp       |              |                     |                         |                       |                   |             | FeAR<br>clear             | 60s           |
| 70        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 9sec          |
| CC12171   | BD+18 2307 | 09 5612      | +17 5327            | 20 20 34                |                       |                   |             |                           | 410s          |
| 72        |            |              |                     | 27 43                   |                       |                   |             |                           | "             |
| 73        |            |              |                     | 34 51                   |                       |                   |             |                           | "             |
| 74        |            |              |                     | 42 00                   |                       | 3 10 E            |             |                           | "             |
| 75        |            |              |                     | 49 26                   |                       |                   |             |                           | 410s          |
| 76        |            |              |                     | 56 36                   |                       |                   |             |                           | "             |
| 77        |            |              |                     | 21 03 44                |                       |                   |             |                           | "             |
| 78        |            |              |                     | 21 10 53                |                       |                   |             |                           | "             |
| 79        | BIAS(4)    |              |                     |                         |                       |                   |             |                           |               |
| 80        | Comp       |              |                     |                         |                       |                   |             | FeAR<br>clear             | TUNG<br>A=1/2 |
| 81        | FLAT       |              |                     |                         |                       |                   |             |                           |               |

FLAT CC12180  
Comp CC12181

Spectr. Te.  
Focus...  
Spectr. Te.

Exp. Mir.

220

215

230

230

220

230

220

220

229

231

231

229 sec



Spectr. Temp. .... Dome Temp./Hum.  $-12.8^{\circ}\text{C}$ : 59.07% Transparency Conditions  $\sim 51$  hazy OK ..... 252

Focus ..... 7:00 .....

Spectr. Temp. .... Dome Temp./Hum. .... C LAMBDA

| Companson<br>filter | Exp. | Exp. Mtr.  | Seeing | Mag.        | Sp.   | Inst.       | Grating/<br>Tilt    | Slit            | Emulsion | P.H.      | Program | Remarks        | Quality |
|---------------------|------|------------|--------|-------------|-------|-------------|---------------------|-----------------|----------|-----------|---------|----------------|---------|
| 910s                |      | 220        | 3-4"   | 9.4<br>-9.9 | KOIII | CASS<br>CCD | 1800ln/mm<br>G-5530 | 300um<br>Full L | 5893A    |           | Hdg pgm |                |         |
| "                   |      | 215        |        |             |       |             |                     |                 |          |           |         |                |         |
| "                   |      | 230        |        |             |       |             |                     |                 |          | 12ci      |         |                |         |
|                     |      |            |        |             |       |             |                     |                 |          |           |         | -13.2°C Dome T |         |
| 60s                 |      |            |        |             |       |             |                     |                 |          | 13ci      |         |                |         |
| 76<br>2             | 9sec |            |        |             |       |             |                     |                 |          | 14ci      |         | 11 K ADU max   |         |
| 910s                |      | 230        |        |             |       |             |                     |                 |          | 15ci      | Hdg pgm | R x 4          |         |
| "                   |      | 220        |        |             |       |             |                     |                 |          |           |         |                |         |
| "                   |      | 230        | 3-4"   |             |       |             |                     |                 |          |           |         |                |         |
| "                   |      | 220        |        |             |       |             |                     |                 |          | 15ci      |         |                |         |
| 910s                |      | 220        | 3-5"   |             |       |             |                     |                 |          | 16ci      |         | R x 4          |         |
| "                   |      | 229        |        |             |       |             |                     |                 |          |           |         |                |         |
| "                   |      | 231        |        |             |       |             |                     |                 |          |           |         |                |         |
| "                   |      | 231        |        |             |       |             |                     |                 |          |           |         |                |         |
|                     |      |            |        |             |       |             |                     |                 |          | 1ci       |         |                |         |
| 46<br>2             |      | 60 / 9 sec |        |             |       |             |                     |                 |          | 17 / 18ci |         |                |         |

253  
Pg #3

Date 1993. Feb. 24/25.. Observers ...H.d.g.-T.n.....

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC12182   | BD+18 2307 | 09 5612      | +17 5327            | 21 22 35                |                       |                   |             |                           | 410s |
| 83        |            |              |                     | 21 29 44                |                       |                   |             |                           | "    |
| 84        |            |              |                     | 21 36 53                |                       |                   |             |                           | "    |
| 85        |            |              |                     | 21 44 01                |                       |                   |             |                           | "    |
| 86        |            |              |                     | 21 52 03                |                       |                   |             |                           | 410s |
| 87        |            |              |                     | 21 59 09                |                       |                   |             |                           | "    |
| 88        |            |              |                     | 22 06 18                |                       |                   |             |                           | "    |
| 89        |            |              |                     | 22 13 27                |                       | 01 38E            |             |                           | "    |
| 90        | BIAS(4)    |              |                     |                         |                       |                   |             |                           |      |
| 91        | Comp       |              |                     | 22 21 47                |                       |                   |             | FeAr<br>Clear             | 60s  |
| 92        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>Ap=1/2            | 9s   |
| 93        | BD+18 2307 |              |                     | 22 27 39                |                       |                   |             |                           | 410s |
| 94        |            |              |                     | 34 46                   |                       |                   |             |                           | "    |
| 95        |            |              |                     | 41 55                   |                       |                   |             |                           | "    |
| 96        |            |              |                     | 49 03                   |                       |                   |             |                           | "    |
| 97        |            |              |                     | 56 12                   |                       |                   |             |                           | "    |

Spectr. Te...

Focus...7

Spectr. Te...

Exp. Mtr.

237

240

239

230

220

220

207

210

206

200

165

190

195



Spectr. Temp. .... Dome Temp./Hum.  $-13.6^{\circ}\text{C}$   $62.1\%$  Transparency Conditions .. *Fine* ..... 254.

Focus ...  $7.00$  ..... *FANS Turned off after hearing that*

Spectr. Temp. .... Dome Temp./Hum. .... *Battonville, here was at  $-26^{\circ}\text{C}$*   
*no sense increasing cooling efficiency of Dome.*

| Exp. Mtr.   | Seeing | Mag.         | Sp.   | Inst.       | Grating/<br>Tilt    | Slit        | Emulsion | P.H. | Program  | Remarks  | Quality |
|-------------|--------|--------------|-------|-------------|---------------------|-------------|----------|------|----------|--|---------|
| 410s<br>237 |        | 9.4<br>→ 9.9 | KO17L | CASS<br>CCD | 1800 l/mm<br>G=5530 | 300<br>Fdlh | 5893A    | 19ci | Hdy pyrm |  |         |
| 240         | 4"-5"  |              |       |             |                     |             |          |      |          |  |         |
| 239         |        |              |       |             |                     |             |          |      |          |  |         |
| 230         |        |              |       |             |                     |             |          | 19ci |          |  |         |
| 410s<br>220 |        |              |       |             |                     |             |          |      |          | Rx4  |         |
| 220         |        |              |       |             |                     |             |          |      |          | CCDT = $-102.0^{\circ}\text{C}$                          |         |
| 207         |        |              |       |             |                     |             |          |      |          |  |         |
| 210         |        |              |       |             |                     |             |          | 20ci |          |  |         |
|             |        |              |       |             |                     |             |          | 1ci  |          | $-13.5^{\circ}\text{C}$ dome T                           |         |
|             |        |              |       |             |                     |             |          | 21ci |          |  |         |
|             |        |              |       |             |                     |             |          | 22ci |          | 4K MAX   |         |
| 410s<br>206 |        |              |       |             |                     |             |          | 23ci |          | Agua x5  |         |
| 200         | 4"     |              |       |             |                     |             |          |      |          | Fans unplugged w/ 22 41 Dome T = $-13.5^{\circ}\text{C}$ |         |
| 165         |        |              |       |             |                     |             |          |      |          | some cloud in area                                       |         |
| 190         | 3"     |              |       |             |                     |             |          |      |          | Note PAUL<br>Em at bottom of NaD? <i>prob not</i>        |         |
| 195         |        |              |       |             |                     |             |          | 23ci |          | Em obvious near 5888A                                    |         |

C LAMBDA

255  
pg#4

Date 1993. Feb. 24/25... Observers Hdy. / T. / M.K.I.....

31

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC12198   | BD+18 2307 | 09 56 12     | +17 53 27           | 23 03 38                |                       | 00 48 E           |             |                           | 410s |
| 99        |            |              |                     | 10 47                   |                       |                   |             |                           |      |
| CC12200   |            |              |                     | 17 55                   |                       |                   |             |                           |      |
| 01        | BIAS(4)    |              |                     |                         |                       |                   |             |                           |      |
| 02        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>Ap=1/2            | 8s   |
| 03        | Comp       |              |                     | 27 06                   |                       |                   |             | FeAr<br>clear             | 60s. |
| 04        | BD+18 2307 |              |                     | 23 30 34                |                       |                   |             |                           |      |
| 5         |            |              |                     | 23:37:41                |                       |                   |             |                           |      |
| 6         |            |              |                     | 23:44:44                |                       |                   |             |                           |      |
| 7         |            |              |                     | 23:51:58                |                       |                   |             |                           |      |
| 8         |            |              |                     | 23:54:51                |                       |                   |             |                           |      |
| 9         |            |              |                     | 00:06:58                |                       |                   |             |                           |      |
| 10        |            |              |                     | 14:07                   |                       |                   |             |                           |      |
| 11        |            |              |                     | 21:16                   |                       |                   |             |                           |      |
| 12        | BIAS       |              |                     |                         |                       |                   |             | FeAr                      |      |
| 13        | Comp       |              |                     |                         |                       |                   |             | clear                     | 60s  |
| 14        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>Ap=1/2            | 8s   |

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mtr.

185

195

200

195

240

215

208

227

235

255

260



Spectr. Temp. .... Dome Temp./Hum.  $-13.9^{\circ}\text{C}$  64% H Transparency Conditions . sl. hazy ..... 256.

Focus ... 7.00 .....

some cloud coming.

Spectr. Temp. .... Dome Temp./Hum.  $-13.9^{\circ}\text{C}$  64.7%

| Exp. Mtr. | Seeing | Mag. <sup>v</sup> | Sp. | Inst.                 | Grating/<br>Tilt | Slit | Emulsion | P.H. | Program  | Remarks                            | Quality |
|-----------|--------|-------------------|-----|-----------------------|------------------|------|----------|------|--|------------------------------------|---------|
| 185       | 2.3"   | 9.4<br>-9.9       |     | Nothing changed here. |                  |      |          |      | Hdy pgn  | R x 3                              |         |
| 195       | 3"     |                   |     |                       |                  |      |          |      | [ now stronger NaD stellar emission<br>weaker em now<br>well, maybe not em ] |                                    |         |
| 200       |        |                   |     |                       |                  |      | 24ci     |      |  |                                    |         |
|           |        |                   |     |                       |                  |      |          | 1ci  |  | Dome T = $-14.1^{\circ}\text{C}$   |         |
|           |        |                   |     |                       |                  |      |          | 25ci |  |                                    |         |
|           |        |                   |     |                       |                  |      |          | 26ci |  |                                    |         |
| 195       |        |                   |     |                       |                  |      |          | 27ci |  | Repeat STAR105.BAT 4 <sub>sp</sub> |         |
| 210       |        |                   |     |                       |                  |      |          |      |  |                                    |         |
| 215       |        |                   |     |                       |                  |      |          |      |  |                                    |         |
| 208       |        |                   |     |                       |                  |      |          |      |  |                                    |         |
| 227       |        |                   |     |                       |                  |      |          |      |  | repeat star105. bat 4              |         |
| 235       |        |                   |     |                       |                  |      |          |      |  |                                    |         |
| 255       |        |                   |     |                       |                  |      |          |      |  |                                    |         |
| 260       |        |                   |     |                       |                  |      |          | 27ci |  |                                    |         |
|           |        |                   |     |                       |                  |      |          | 1ci  |  |                                    |         |
|           |        |                   |     |                       |                  |      |          | 28ci |  |                                    |         |
|           |        |                   |     |                       |                  |      |          | 29ci |  |                                    |         |

257  
py#5

Date 1993. Feb 24/25. Observers Hdq. J. T. n.....

Emulsion Batches:

.....  
.....  
.....

42

| Plate No. | Object                                     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|--|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC12215   | BD+18 2307                                 | 09 5612      | +17 5327            | 00 3625                 |                       | 00 45W            |             |                           | 410s |
| 16        |  |              |                     | 00 4332                 |                       |                   |             |                           | "    |
| 17        |  |              |                     | 00 5041                 |                       |                   |             |                           | "    |
| 18        |  |              |                     | 00 5750                 |                       |                   |             |                           | "    |
| 19        |  |              |                     | 01 0519                 |                       |                   |             |                           | "    |
| 20        |  |              |                     | 1227                    |                       |                   |             |                           | "    |
| 21        |  |              |                     | 1936                    |                       |                   |             |                           | "    |
| 22        |  |              |                     | 2645                    |                       |                   |             |                           | "    |
| 23        | BI45(4)                                    |              |                     |                         |                       |                   |             |                           |      |
| 24        | FLHT                                       |              |                     |                         |                       |                   |             | TUNG<br>Ap=1/2            | 85   |
| 30        | * Comp written later by <del>another</del> |              |                     |                         |                       |                   |             | FeAr<br>CLEAR             | 60s  |
| 25        | BD+18 2307                                 |              |                     | 01 4012                 |                       |                   |             |                           | 410s |
| 26        |  |              |                     | 4719                    |                       |                   |             |                           | "    |
| 27        |  |              |                     | 5428                    |                       |                   |             |                           | "    |
| 28        |  |              |                     | 02 0136                 |                       |                   |             |                           | "    |
| 2930      |  |              |                     | 02 1126                 |                       |                   |             |                           | "    |

Spectr. Ter.

Focus....

Spectr. Ter.

Exp. Nr.

290

sun 2

570

295

290

300

280

290

320

290

285

? but

250



Spectr. Temp. .... Dome Temp./Hum.  $-14.2^{\circ}\text{C}$   $65.3\%$  Transparency Conditions *thin cloud* ..... 258

Focus .....  $7.00$  .....

Spectr. Temp. .....  $-14.5^{\circ}\text{C}$   $69.5\%$  Hum. ....

| Exp. | Exp. Mtr.  | Seeing | P.P. Mag.   | Sp. | Inst. | Grating/Tilt | Slit | Emulsion | P.H. | Program | Remarks                                      | Quality |
|------|------------|--------|-------------|-----|-------|--------------|------|----------|------|---------|--|---------|
| 413  | 290        |        | 9.4<br>~9.9 | KOM |       |              |      | 5893A    |      | Hdy pgn | Rx4  |         |
| 4    | sum 2      |        |             |     |       |              |      |          |      |         |  |         |
| 7    | <u>570</u> |        |             |     |       |              |      |          |      |         |  |         |
| 4    | 295        |        |             |     |       |              |      |          | 30ci |         |  |         |
| 4    | 290        |        |             |     |       |              |      |          |      |         |  |         |
| 4    | 300        | 2-3"   |             |     |       |              |      |          |      |         | cloud by end-                                |         |
| 4    | 280        |        |             |     |       |              |      |          |      |         | then clear again                             |         |
| 7    | 290        |        |             |     |       |              |      |          | 30ci |         |  |         |
|      |            |        |             |     |       |              |      |          | 1ci  |         | Dome $-14.3^{\circ}\text{C}$                 |         |
| 85   |            |        |             |     |       |              |      |          | 2ci  |         |  |         |
| 83   |            |        |             |     |       |              |      |          | 3ci  |         |  |         |
| 410  | 320        | 2-3"   |             |     |       |              |      |          | 32ci | Hdy pgn |  |         |
| 7    | 290        |        |             |     |       |              |      |          |      |         |  |         |
| 7    | 285        |        |             |     |       |              |      |          |      |         | Some cloud here now                          |         |
| 7    | ? bulker   |        |             |     |       |              |      |          |      |         |  |         |
| 7    | 250        |        |             |     |       |              |      |          | 32ci |         | 3 min gap between end<br>and start of CC1229 |         |

259  
pg #6

Wed - Thurs

Hdy on 29"/19"

Emulsion Batches:

Date 1993.. Feb 24/25.. Observers Hdy/Tn.....

55

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.           |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|----------------|
| CC12231   | BD+18 2307 | 09 5612      | +17 53 27           | 02 19 00                | <u>edit time</u>      | 02 29W            |             | <del>48s</del>            | 320            |
| 32        |            |              |                     | 02 27 14                |                       |                   |             | 412s <del>410</del>       | 270            |
| 33        |            |              |                     | 02 34 26                |                       | 02 43W            |             | 410                       | 290            |
| 34        | BIAS(A)    |              |                     |                         |                       |                   |             |                           |                |
| 35        | Comp       |              |                     | 4313                    |                       |                   |             | FeAr<br>clear             | 60s            |
| 36        | Flat       |              |                     |                         |                       |                   |             | TUNG<br>Ap-1/2            | 9s             |
| 37        | BD+18 2307 |              |                     | 02 47 57                |                       | 02 57W            |             | 410s                      | 290            |
| 38        |            |              |                     | 5504                    |                       |                   |             | v                         | 310            |
| 39        |            |              |                     | 03 02 13                |                       |                   |             | v                         | 325            |
| 40        |            |              |                     | 09 22                   |                       |                   |             | v                         | 310            |
| 41        |            |              |                     | 16 41                   |                       |                   |             | v                         | 355            |
| 42        |            |              |                     | 23 50                   |                       |                   |             | "                         | 310            |
| 43        |            |              |                     | 30 59                   |                       |                   |             | v                         | 700            |
| 44        |            |              |                     | 03 38 13                |                       |                   |             | expose                    | 411            |
| 45        | BIAS(A)    |              |                     |                         |                       |                   |             | TUNG                      | <del>60s</del> |
| 46        | FLAT       |              |                     |                         |                       |                   |             | N=1/2                     | 9s             |
| 47        | Comp       |              |                     |                         |                       |                   |             | FeAr<br>clear             | 60s            |









Spectr. Temp. .... Dome Temp./Hum.  $-14.1^{\circ}\text{C}$  73/76 Transparency Conditions ... *Cloudy* ..... 262

Focus ... *7.00* .....

Spectr. Temp. .... Dome Temp./Hum. ....

*Then sl clearing after  
topup*

Companion  
Filter Exp.

| Exp. Mtr. | Seeing | Pr. Mag. | Sp.       | Inst. | Grating/<br>Tilt | Slit              | Emulsion | P.H.       | Program      | Remarks  | Quality |
|-----------|--------|----------|-----------|-------|------------------|-------------------|----------|------------|--------------|--|---------|
|           |        |          |           |       | 1800<br>6-5530   | 300 $\mu$<br>Full | 5893A    | 36c<br>37c | Focus        | Stellar HURTMAN still sl Red<br>of Comp posn. by R. & Pirel @435 $\mu$ |         |
|           |        |          |           |       |                  |                   |          |            |              | <i>ERP<br/>Stellar Right on @586 <math>\mu</math>id #</i>              |         |
|           |        |          |           |       |                  | All to Perseus    |          | 3c         | WORM         |  |         |
| 50 K      |        | 2.99     | A0V $\mu$ |       |                  |                   |          | 4c         | Telluric Std | Cloudy a bit <b>Bk max</b>   |         |
|           |        | "        | "         |       |                  |                   |          | 5c         | "            | AIR MASS = 2.108   |         |
|           |        |          |           |       |                  |                   |          | 1c         |              |  |         |
|           |        |          |           |       |                  |                   |          | 6c         |              |  |         |
|           |        |          |           |       |                  |                   |          | 7c         |              | 10.8 max   |         |

60s  
699

69  
95

263 pg 41

Thurs Fri

Emulsion Batches:

Date .. 1993.. Feb. 25/26.. Observers .. Hd. y. / Tn. / Fbr.....

| Plate No.      | Object                        | R.A.<br>1900       | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T.                | Hour Angle<br>End | Declination   | Comparison    |       |
|----------------|-------------------------------|--------------------|---------------------|-------------------------|--------------------------------------|-------------------|---------------|---------------|-------|
|                |                               |                    |                     |                         |                                      |                   |               | Type/Filter   | Exp.  |
| CC12259<br>260 | Focus Test                    |                    |                     | 18 24                   |                                      | 0 0               | +42°          | FeAr<br>Clear | 40/46 |
| 261            | BIAS(A)                       |                    |                     |                         |                                      |                   |               |               |       |
| 262            | Comp                          |                    |                     |                         |                                      |                   |               | FeAr<br>Clear | 60s   |
| 263            | HD 39801                      | 05 49 45           | +07 23              | 18 49 32                | 23 <del>19 32</del> <sup>50 00</sup> |                   |               |               | 38s   |
| 264            | Comp                          |                    |                     |                         |                                      |                   |               |               |       |
| 265            | HD <del>39801</del><br>391201 | 05 49 45           | +07 23              | 18 56 23                |                                      |                   |               |               | 57    |
| 266            | Comp                          |                    |                     |                         |                                      |                   |               |               |       |
| 271            | BIAS(A)                       |                    |                     | 19 08 30                |                                      |                   |               |               |       |
| - 267<br>270   | FLATS x A                     | at HD 39801 pos'n, |                     |                         |                                      |                   | JUNG<br>A=1/2 | 7,7,6,6       | 60s   |
| 271            | BIAS(A)                       |                    |                     | 21 51 21                |                                      |                   |               |               |       |
| 272            | BIAS(A)                       |                    |                     |                         |                                      |                   |               | FeAr<br>Clear | 60s   |
| 273            | Comp                          |                    |                     |                         |                                      |                   |               |               |       |
| 274            | HD 62509                      | 07 39.2            | +28 16              | 21 59 32                |                                      |                   |               |               | 4.25  |
| 275            | Comp                          |                    |                     |                         |                                      |                   |               | FeAr<br>Clear | 60s   |
| 276            | Comp                          |                    |                     |                         |                                      |                   |               | n             | 17    |
| 277            | HD 87901                      | 10 03 03           | +12 27              | 22 10 29                |                                      |                   |               |               | 60s   |



Spectr. Temp. .... Dome Temp./Hum.  $-7.6^{\circ}\text{C}/65.2\%$  Transparency Conditions Partly Cloudy 264

Focus 6.88 ..... (1815)

Spectr. Temp. .... Dome Temp./Hum. .... 90CGAIN CCD  $\rightarrow -100^{\circ}\text{C}$

| Comparison Filter | Exp. | Exp. Mtr. | Seeing | Mag. | Sp.   | Inst.    | Grating/Tilt                 | Slit                      | Emulsion | P.H. | Program                          | Remarks   | Quality |
|-------------------|------|-----------|--------|------|-------|----------|------------------------------|---------------------------|----------|------|----------------------------------|---|---------|
| Ar 40K            |      |           |        |      |       | CASS CCD | 1800 $\mu\text{m}$<br>G-6035 | 300 $\mu\text{m}$<br>FULL | 6563A    |      |                                  | stellar Righton                                       |         |
|                   |      |           |        |      |       |          |                              |                           |          |      | (ENCODERS)<br>NORMALIZATION STAR | HR1454  |         |
|                   |      |           |        |      |       |          |                              |                           |          | 3    |                                  |   |         |
|                   |      | 210K      |        | 0.80 | M2Iob |          |                              |                           |          | 4    | r6 Pgm                           |   |         |
|                   |      |           |        |      |       |          |                              |                           |          | 5    |                                  |   |         |
|                   |      | 5720K     |        |      |       |          |                              |                           |          | 6    | r6 Pgm                           | FULL SLIT Guided 20cols<br>MAY 3500 ADU               |         |
|                   |      |           |        |      |       |          |                              |                           |          | 7ci  |                                  |   |         |
|                   |      |           |        |      |       |          |                              |                           |          | 1ci  |                                  | Domo T = $-7.8^{\circ}\text{C}$                       |         |
|                   |      |           |        |      |       |          |                              |                           |          | 8ci  |                                  | 13-7 MAX 1404/pixel                                   |         |
|                   |      |           |        |      |       |          |                              |                           |          | 1ci  |                                  | = 7.7 Dome T  |         |
|                   |      |           |        |      |       |          |                              |                           |          | 9ci  |                                  |   |         |
|                   |      | 20K       |        | 1.14 | KOLIB |          |                              |                           |          | 10ci | stelvel                          | FULL slit length guided<br>well $\approx 20$ columns. |         |
|                   |      |           |        |      |       |          |                              |                           |          | 11ci |                                  |   |         |
|                   |      |           |        |      |       |          |                              |                           |          | 12ci |                                  |   |         |
|                   |      | 50K       |        | 1.35 | B7V   |          |                              |                           |          | 13ci | Telluric stel                    | Almost Full slit length<br>guiding 20 columns         |         |

265  
1992

Emulsion Batches:

Date 1993 Feb 25/26 Observers Hdg. J. F. Br. / Tr. ....

| Plate No.  | Object                | R.A.<br>1900              | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp |
|------------|-----------------------|---------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-----|
| CC12278    | HD87901               | 10 03 03                  | +12 27              | 22 12 42                |                       |                   |             |                           | 87s |
| 79         | BIAS(4)               |                           |                     |                         |                       |                   |             |                           |     |
| 80         | Comp                  |                           |                     |                         |                       |                   |             | FeAr<br>CLEAR             | 60s |
| 81<br>→ 83 | FLATS x 3             | Backed to here on PERSEUS |                     |                         |                       |                   |             | TUNG<br>Ap=1/2            | 6s  |
| CC12284    | Comp<br>BIAS(4)       |                           |                     |                         |                       |                   |             | FeAr<br>CLEAR             | 60s |
| 85         | <del>BD+17 2307</del> | <del>09</del>             | <del>+17</del>      |                         |                       |                   |             |                           |     |
| 86         | FLAT                  |                           |                     |                         |                       |                   |             | TUNG<br>Ap=1/2            | 6s  |
| 87         | BD+18 2307            | 09 56 12                  | +17 53 27           | 22 52 09                |                       |                   |             |                           | 410 |
| 88         | "                     |                           |                     |                         |                       |                   |             |                           | "   |
| 89         | "                     |                           |                     | 23 07 20                |                       |                   |             |                           | "   |
| 90         | "                     |                           |                     | 23 14 28                |                       |                   |             |                           | "   |
| 91         | "                     |                           |                     | 23 21 37                |                       |                   |             |                           | "   |
| 92         | "                     |                           |                     | 23 29 03                |                       |                   |             |                           | "   |
| 93         | "                     |                           |                     | 23 36 11                |                       |                   |             |                           | "   |
| 94         | "                     |                           |                     | 23 43 20                |                       |                   |             |                           | "   |
| 95         | "                     |                           |                     | 23 50 29                |                       |                   |             |                           | "   |

Spectr. Ter

ocus... 6

Spectr. Ter

Exp. Mr.

66K

270

328

314

311

312

309

313

306

310





267  
pg #3

Emulsion Batches:

Date 1993 Feb 25/26 Observers Hdy/Tn

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| 6         | BIAS(4)    |              |                     |                         |                       |                   |             |                           |       |
| 7         | FLAT       |              |                     |                         |                       |                   |             |                           | 65sec |
| 12298     | COMP       |              |                     |                         |                       |                   |             |                           | 60sec |
| 12299     | BD+18°2307 | 09 5612      | +17 5327            | 00 02 13                |                       |                   |             |                           | 410s  |
| 12300     | "          |              |                     | 00 09 22                |                       |                   |             |                           | "     |
| 01        | "          |              |                     | 00 16 31                |                       |                   |             |                           | "     |
| 02        | "          |              |                     | 00 23 39                |                       |                   |             |                           | "     |
| 03        | "          |              |                     | 31 40                   |                       | 00 44W            |             |                           | "     |
| 04        | "          |              |                     | 38 47                   |                       |                   |             |                           | "     |
| 05        | "          |              |                     | 45 56                   |                       |                   |             |                           | "     |
| 06        | "          |              |                     | 53 04                   |                       |                   |             |                           | "     |
| 07        | BIAS(4)    |              |                     |                         |                       |                   |             |                           |       |
| 08        | Comp       |              |                     |                         |                       |                   |             | FeAr<br>CLEAR             | 60s   |
| 09        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>Ap=1/2            | 6s    |
| 10        | BD+18 2307 |              |                     | 01 05 12                |                       |                   |             |                           | 410s  |
| 11        | "          |              |                     | 12 21                   |                       |                   |             |                           | 410   |

Spectr. Ter

Focus...6

Spectr. Ter

Exp. Mtr.

4175

302

303

335

370

380

Sun=?

760

317

340

360





264  
pg 54Hdy → 24/19" for photometry  
of SAME

Emulsion Batches:

Date 1993 Feb 25/26... Observers Hdy - Tn.....

| Plate No. | Object      | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter       | Exp. |
|-----------|-------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------------|------|
| CC12312   | BD+18° 2307 | 09 56 12     | +17 53 27           | 01 19 30                |                       |                   |             |                                 | 410s |
| 13        |             |              |                     | 2638                    |                       |                   |             |                                 | "    |
| 14        |             |              |                     | 3403                    |                       |                   |             |                                 | "    |
| 15        |             |              |                     | 4112                    |                       |                   |             |                                 | "    |
| 16        |             |              |                     | 4820                    |                       |                   |             |                                 | "    |
| 17        |             |              |                     | 5529                    |                       |                   |             |                                 | "    |
| 18        | BIAS        |              |                     |                         |                       |                   |             |                                 |      |
| 19        | FLAT        |              |                     |                         |                       |                   |             | TUNG<br>Ap=1/2<br>FeAr<br>clear | 6s   |
| 20        | Comp        |              |                     |                         |                       |                   |             |                                 | 60s  |
| 12321     | BD+18° 2307 |              |                     | 02 09 54                |                       |                   |             | (4100BS)<br>used                | 410s |
| 2         | "           |              |                     | 02 17 03                |                       |                   |             |                                 | "    |
| 3         | "           |              |                     | 02 26 58                |                       |                   |             |                                 | 410s |
| 4         | "           |              |                     | 02 41 09                |                       |                   |             |                                 | "    |
| 5         | "           |              |                     | 02 48 18                |                       |                   |             |                                 | "    |
| 6         | "           |              |                     | 02 55 39                |                       |                   |             |                                 | "    |
| 7         | "           |              |                     | 03 02 54                |                       |                   |             |                                 | "    |

Spectr. Ter

Focus... 6

Spectr. Ter

Exp. Mtr.

370

340

365

360

340

280

203

41

180

227

230

250

315





271  
py#5

Emulsion Batches:

Date 1993 Feb 25/26 Observers ... Hdy. = T.G. ....

37

| Plate No.     | Object                | R.A.<br>1900       | Declination<br>1900  | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.            |
|---------------|-----------------------|--------------------|----------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-----------------|
| CC12328       | BIAS(4)               |                    |                      |                         |                       |                   |             |                           |                 |
| 29            | Comp                  |                    |                      |                         |                       |                   |             | FeAr<br>CLEAR             | 60s             |
| 30            | FLAT                  |                    |                      |                         |                       |                   |             | TUNG<br>Ap-Y2             | 7s              |
| 31            | BD+18 2307            | 09 5612            | +17 53 27            | 03 15 37                |                       |                   | 410         | OBS                       | 410             |
| 32            | "                     |                    |                      | 23 08                   |                       |                   | "           | "                         | "               |
| 33            | "                     |                    |                      | 30 31                   |                       |                   | "           | "                         | "               |
| 34            | "                     |                    |                      | 37 47                   |                       |                   |             | "                         | "               |
| 35            | "                     |                    |                      | 03 45 08                |                       |                   |             | "                         | "               |
| 36            | "                     |                    |                      | 52 17                   |                       |                   |             | "                         | "               |
| 37            | "                     |                    |                      | 59 25                   |                       |                   |             | "                         | "               |
| 38            | "                     |                    |                      | 04 06 34                |                       |                   |             | "                         | "               |
| 39            | BIAS(4)               |                    |                      |                         |                       |                   |             |                           |                 |
| 40            | FLAT                  |                    |                      |                         |                       |                   |             | TUNG<br>Ap-Y2             | 7s              |
| 41            | Comp                  |                    |                      |                         |                       |                   |             | FeAr<br>CLEAR             | 60s             |
| <del>42</del> | <del>BD+18 2307</del> | <del>09 5612</del> | <del>+17 53 27</del> | <del>04</del>           |                       |                   |             |                           | <del>410s</del> |
| 43            | "                     |                    |                      |                         |                       |                   |             |                           | "               |

Spectr. Ter

Focus... A

Spectr. Ter

Exp. Mr.

275

275

280

285

293

288

263

250



Spectr. Temp. .... Dome Temp./Hum.  $-10.3^{\circ}\text{C}$   $71.0\%$  Transparency Conditions *Part Cloudy* ..... 272

Focus ... *6.88* .....

Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr.  | Seeing      | Ptg. Mag.           | Sp.          | Inst. | Grating/Tilt | Slit | Emulsion     | P.H.        | Program         | Remarks                     | Quality |
|------------|-------------|---------------------|--------------|-------|--------------|------|--------------|-------------|-----------------|-----------------------------|---------|
|            |             |                     |              |       |              |      | <i>6563A</i> | <i>1c1</i>  |                 |                             |         |
|            |             |                     |              |       |              |      |              | <i>30c0</i> |                 |                             |         |
|            |             |                     |              |       |              |      |              | <i>31c1</i> |                 | <i>MAX 11.1 K ADY</i>       |         |
| <i>410</i> | <i>3.4"</i> | <i>9.4<br/>-9.9</i> | <i>KOIII</i> |       |              |      |              | <i>32c1</i> | <i>Hdy pgrm</i> |                             |         |
|            |             |                     |              |       |              |      |              | <i>4</i>    |                 |                             |         |
|            |             |                     |              |       |              |      |              | <i>33c1</i> |                 |                             |         |
|            |             |                     |              |       |              |      |              | <i>33c5</i> |                 |                             |         |
|            |             |                     |              |       |              |      |              | <i>34c1</i> |                 |                             |         |
|            |             |                     |              |       |              |      |              |             |                 |                             |         |
|            | <i>4"</i>   |                     |              |       |              |      |              |             |                 |                             |         |
|            |             |                     |              |       |              |      |              | <i>34c5</i> |                 |                             |         |
|            |             |                     |              |       |              |      |              | <i>1c1</i>  |                 | <i>-10.6°C Dome</i>         |         |
|            |             |                     |              |       |              |      |              | <i>11c1</i> |                 | <i>MAX 10.8 K ADY/pixel</i> |         |
|            |             |                     |              |       |              |      |              | <i>12c1</i> |                 |                             |         |
|            |             |                     |              |       |              |      |              | <i>13c1</i> |                 |                             |         |

273 pg #6

Emulsion Batches:

Date 1993. Feb. 25/26. Observers Hdy. - T.G. ....

| Plate No.      | Object    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.   |
|----------------|-----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|--------|
| cc12342        | Comp      |              |                     |                         |                       | 4 44W             |             | FeAr<br>clear             | 60s    |
| 43             | HD 87901  | 10 03 03     | +12 27              | 04 46 55                |                       |                   |             |                           | 222    |
| 44             |           |              |                     | 04 51 37                |                       |                   |             |                           | 234    |
| 45             | BIA 8(4)  |              |                     |                         |                       |                   |             |                           |        |
| 46             | Comp      |              |                     |                         |                       |                   |             | FeAr<br>clear             | 60s    |
| → 47           | FLATS x 3 |              |                     |                         |                       |                   |             | TUNG<br>Ap-1/2            | 83     |
| 12350          | COMP      |              |                     |                         |                       |                   |             |                           |        |
| 51             | HD 148478 | 16 23 17     | -26 13              | 05 13 22                |                       |                   |             |                           | 43s    |
| 52             | HD 148478 | "            | "                   | 05 16 13                |                       |                   |             |                           | 36 sec |
| 53             | COMP      |              |                     |                         |                       |                   |             |                           |        |
| 54<br>55<br>56 | FLATS x 3 |              |                     |                         |                       |                   |             | A=1/2                     | 7sec   |
| 57             | BINS(4)   |              |                     |                         |                       |                   | -26°        |                           |        |

Spectr. Ten

Focus... 6

Spectr. Ten

Exp. Mir.

2400

36000

15000

16000



Spectr. Temp. .... Dome Temp./Hum. *-10.9°C 73.1%* Transparency Conditions ... *PART. Cloudy* ... 2.74

Focus ... *6.88* .....

Spectr. Temp. .... Dome Temp./Hum. *-10.7°C 73.1%*

| Exp. Mtr.  | Seeing       | Pr. Mag.    | Sp.         | Inst. | Grating/Tilt | Slit                            | Emulsion     | P.H.       | Program             | Remarks                       | Quality |
|------------|--------------|-------------|-------------|-------|--------------|---------------------------------|--------------|------------|---------------------|-------------------------------|---------|
|            |              |             |             |       |              | <i>300<sub>m</sub><br/>Full</i> | <i>6563A</i> | <i>14</i>  |                     | <i>Tel East Side of Piers</i> |         |
| <i>22</i>  | <i>24900</i> | <i>1.35</i> | <i>BOV</i>  |       |              |                                 |              | <i>15c</i> | <i>Telluric Std</i> | <i>6.5k MAX</i>               |         |
| <i>234</i> | <i>36000</i> |             |             |       |              |                                 |              | <i>16c</i> | <i>u</i>            |                               |         |
|            |              |             |             |       |              |                                 |              | <i>1c</i>  |                     |                               |         |
| <i>603</i> |              |             |             |       |              |                                 |              | <i>17c</i> |                     |                               |         |
| <i>83</i>  |              |             |             |       |              |                                 |              | <i>18c</i> |                     | <i>MAX 11.7 ADU</i>           |         |
|            |              |             |             |       |              |                                 |              | <i>19c</i> |                     |                               |         |
| <i>435</i> | <i>15000</i> | <i>1.08</i> | <i>MLTB</i> |       |              |                                 |              | <i>20c</i> | <i>r 6pgm</i>       | <i>4000 ADU</i>               |         |
| <i>361</i> | <i>16000</i> |             |             |       |              |                                 |              | <i>21c</i> | <i>u</i>            | <i>5300 ADU</i>               |         |
|            |              |             |             |       |              |                                 |              | <i>22c</i> |                     |                               |         |
| <i>792</i> |              |             |             |       |              |                                 |              |            |                     | <i>10987 ADU</i>              |         |

275  
P1

Emulsion Batches:

Date FEB 26/47 - 73 ..... Observers Hdy (24") / Fbr .....

| Plate No.  | Object                | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |      |
|------------|-----------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|------|
|            |                       |              |                     |                         |                       |                   |             | Type/Filter   | Exp. |
| CC12358    | BIAS (4)              |              |                     |                         |                       |                   |             |               |      |
| 59         | COMP                  |              |                     |                         |                       |                   |             | FeAr<br>Cler  | 60s  |
| 60         | H1087901              | 10 03 03     | +12 27              | 1900 17                 |                       |                   |             |               | 76s  |
| 61         | — " —                 | — " —        | — " —               | 1902 27                 |                       |                   |             |               | 124s |
| 62         | COMP                  |              |                     |                         |                       |                   |             | FeAr<br>Cler  | 60s  |
| 63 -<br>65 | FLAT X 3              |              |                     |                         |                       |                   |             | TUNG<br>A=1/2 |      |
| 66         | BIAS (4)              |              |                     |                         |                       |                   |             |               |      |
| 67         | COMP                  |              |                     |                         |                       |                   |             | FeAr<br>Cler  | 60s  |
| 68         | FLAT                  |              |                     |                         |                       |                   |             | TUNG<br>A=1/2 |      |
| 69         | BD <sup>18</sup> 2307 | 09 56 12     | 17 53 27            | 1920 47                 |                       |                   |             |               | 410  |
| 70         | "                     |              |                     | 1927 55                 |                       |                   |             |               | "    |
| 71         | "                     |              |                     | 1935 04                 |                       |                   |             |               | "    |
| 72         | "                     |              |                     | 1942 12                 |                       |                   |             |               | "    |
| 73         | "                     |              |                     | 1949 21                 |                       |                   |             |               | "    |
| 74         | "                     |              |                     | 1956 30                 |                       |                   |             |               | "    |

Spectr. Tem

Focus .....

Spectr. Tem

Exp. Mtr.

40K

65K

276

250

255

260

280

30





277  
p 2

## Emulsion Batches:

Date FEB 26/27 -93 ..... Observers Hdy. (24") Fbr.....

| Plate No. | Object                  | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |      |
|-----------|-------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|------|
|           |                         |              |                     |                         |                       |                   |             | Type/Filter   | Exp. |
| cc 12375  | BD <sup>+</sup> 18 2307 |              |                     | 20 03 39                |                       |                   |             |               | 410  |
| 76        | "                       |              |                     | 20 10 47                |                       |                   |             |               | "    |
| 77        | BINS (4)                |              |                     |                         |                       |                   |             |               |      |
| 78        | COMP                    |              |                     |                         |                       |                   |             | FAr<br>CCr    | 60s  |
| 79        | FLAT                    |              |                     |                         |                       |                   |             | TUNG<br>A=1/2 |      |
| 80        | BD <sup>+</sup> 182307  | 07 56 12     | 12 53 27            | 20 26 03                |                       |                   |             |               | 410s |
| 81        | "                       |              |                     | 20 33 12                |                       |                   |             |               |      |
| 82        | "                       |              |                     | 20 40 20                |                       |                   |             |               |      |
| 83        | "                       |              |                     | 20 47 29                |                       |                   |             |               |      |
| 84        | "                       |              |                     | 20 54 38                |                       |                   |             |               |      |
| 85        | "                       |              |                     | 21 01 46                |                       |                   |             |               |      |
| 86        | "                       |              |                     | 21 08 55                |                       |                   |             |               |      |
| 87        | "                       |              |                     | 21 16 04                |                       |                   |             |               |      |
| 88        | BINS (4)                |              |                     |                         |                       |                   |             |               |      |
| 89        | COMP                    |              |                     |                         |                       |                   |             | FAr<br>CCr    | 60s  |





279  
p3

Emulsion Batches:

Date ... FEB. 26/27-93 ... Observers ... Hd4 (24") / For .....

| Plate No. | Object                  | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CU12390   | FLAT                    |              |                     |                         |                       |                   |             | TUNG<br>N=1/2             |      |
| 91        | BD <sup>+</sup> 18 2307 | 09 56 12     | 17 53 27            | 21 27 37                |                       |                   |             |                           | 410  |
| 92        | "                       |              |                     | 21 34 46                |                       |                   |             |                           | "    |
| 93        | "                       |              |                     | 21 41 54                |                       |                   |             |                           | "    |
| 94        | "                       |              |                     | 21 49 03                |                       |                   |             |                           | "    |
| 95        | "                       |              |                     | 21 56 12                |                       |                   |             |                           | "    |
| 96        | "                       |              |                     | 22 03 20                |                       |                   |             |                           | "    |
| 97        | "                       |              |                     | 22 10 29                |                       |                   |             |                           | "    |
| 98        | "                       |              |                     | 22 17 38                |                       |                   |             |                           | "    |
| 99        | BIAS (4)                |              |                     |                         |                       |                   |             |                           |      |
| 12400     | COMP                    |              |                     |                         |                       |                   |             | RAR<br>clew               | 60s  |
| 401       | FLAT                    |              |                     |                         |                       |                   |             | TUNG<br>N=1/2             |      |
| 402       | BD <sup>+</sup> 18 2307 |              |                     | 22 34 31                |                       |                   |             |                           | 410s |
| 403       |                         |              |                     | 22:41:39                |                       |                   |             |                           |      |
| 404       |                         |              |                     | 22:48:48                |                       |                   |             |                           |      |

Spectr. Ter

Focus ....

Spectr. Ter

Exp. Mr.

340

320

299

281

306

290

300

300

260

253

251



Spectr. Temp. ....

Dome Temp./Hum. ... 8.7°C / 67%  
(2125)

Transparency Conditions ... Clear ..... 280

Focus ... 6.88

Spectr. Temp. ....

Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.      | Grating/Tilt   | Slit     | Emulsion              | P.H. | Program | Remarks              | Quality |
|-----------|--------|-----------|-----|------------|----------------|----------|-----------------------|------|---------|----------------------|---------|
|           |        |           |     | CAS<br>CCD | 1700<br>L=5530 | 300<br>μ | λ <sub>c</sub> = 5893 |      |         |                      |         |
| 340       |        |           |     |            |                |          |                       |      |         | Wdy                  |         |
| 320       |        |           |     |            |                |          |                       |      |         |                      |         |
| 299       |        |           |     |            |                |          |                       |      |         |                      |         |
| 281       |        |           |     |            |                |          |                       |      |         |                      |         |
| 306       |        |           |     |            |                |          |                       |      |         |                      |         |
| 290       |        |           |     |            |                |          |                       |      |         |                      |         |
| 300       |        |           |     |            |                |          |                       |      |         |                      |         |
| 300       |        |           |     |            |                |          |                       |      |         |                      |         |
|           |        |           |     |            |                |          |                       |      |         |                      |         |
|           |        |           |     |            |                |          |                       |      |         |                      |         |
|           |        |           |     |            |                |          |                       |      |         |                      |         |
| 260       |        |           |     |            |                |          |                       |      |         |                      |         |
| 253       |        |           |     |            |                |          |                       |      |         |                      |         |
| 251       |        |           |     |            |                |          |                       |      |         | Aircraft flew nearby |         |

291  
P4

Emulsion Batches:

Date FEB. 26/27.-93... Observers Hd. y. (24") / Fbr.....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter  | Exp. |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|----------------------------|------|
| 405       | BD+18°2307 |              |                     | 22:55:57                |                       |                   |             |                            |      |
| 406       |            |              |                     | 23:03:06                |                       |                   |             |                            |      |
| 407       |            |              |                     | 23:10:14                |                       |                   |             |                            |      |
| 408       |            |              |                     | 23:17:23                |                       |                   |             |                            |      |
| 409       |            |              |                     | 23:24:32                |                       |                   |             |                            |      |
| 410       | BIAS(4)    |              |                     |                         |                       |                   |             |                            |      |
| 411       | COMP       |              |                     |                         |                       |                   |             | Feb<br>Cen<br>TUN<br>A=1/2 | 60s  |
| 412       | FST        |              |                     |                         |                       |                   |             |                            |      |
| 413       | BD+18°2307 |              |                     | 23 36 51                |                       |                   |             |                            | 410s |
| 414       | "          |              |                     | 2344 00                 |                       |                   |             |                            | "    |
| 415       | "          |              |                     | 2351 08                 |                       |                   |             |                            | "    |
| 416       | "          |              |                     | 2358 17                 |                       |                   |             |                            | "    |
| 417       | "          |              |                     | 00 05 26                |                       |                   |             |                            | "    |
| 18        | "          |              |                     | 00 12 34                |                       |                   |             |                            | "    |
| 19        | "          |              |                     | 00 19 43                |                       |                   |             |                            | "    |
| 20        | "          |              |                     | 00 26 52                |                       |                   |             |                            | "    |

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mtr.

400

256

244

325

356

360

365

390

390

369

360

390

390



Spectr. Temp. .... Dome Temp./Hum.  $-9.5^{\circ}\text{C}/71.8\%$  Transparency Conditions ..... Clear ..... 282.

Focus .... 6.87 ..... (2335)

Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.         | Grating/Tilt   | Slit         | Emulsion | P.H. | Program          | Remarks  | Quality |
|-----------|--------|-----------|-----|---------------|----------------|--------------|----------|------|------------------|--|---------|
| 400       |        |           |     | CASS -<br>LLD | 1800<br>L-5530 | 300<br>$\mu$ |          |      | H1d <sub>1</sub> |  |         |
| 256       |        |           |     |               |                |              |          |      |                  | ↓  |         |
| 244       |        |           |     |               |                |              |          |      |                  |  |         |
| 325       |        |           |     |               |                |              |          |      |                  |  |         |
| 356       |        |           |     |               |                |              |          |      |                  |  |         |
| 360       |        |           |     |               |                |              |          |      | H1d <sub>1</sub> |  |         |
| 365       |        |           |     |               |                |              |          |      |                  | ↓  |         |
| 390       |        |           |     |               |                |              |          |      |                  |  |         |
| 380       |        |           |     |               |                |              |          |      |                  |  |         |
| 369       |        |           |     |               |                |              |          |      |                  |  |         |
| 360       |        |           |     |               |                |              |          |      |                  |  |         |
| 390       |        |           |     |               |                |              |          |      |                  |  |         |
| 390       |        |           |     |               |                |              |          |      |                  |  |         |
|           |        |           |     |               |                |              |          |      |                  | T = $-9.5^{\circ}\text{C}/\text{Hum} = 73.1\%$ |         |

203  
P5

Emulsion Batches:

Date ... FEB. 26./27-93... Observers ... Hdy./Fbr.....

| Plate No. | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T.                       | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------------------|--------------|---------------------|-------------------------|---|-------------------|-------------|---------------------------|------|
| cc12421   | BIAS(4)                |              |                     |                         |   |                   |             |                           |      |
| 22        | COMP                   |              |                     |                         |   |                   |             | FeAr<br>Cen               | 60s  |
| 23        | FLAT                   |              |                     |                         |   |                   |             | TUNG<br>N=1/2             | 8s   |
| 24        | BD <sup>+</sup> 182307 | 095612       | 175327              | 003741                  |   |                   |             |                           | 410s |
| 25        | "                      |              |                     | 004450                  |   |                   |             |                           |      |
| 26        | "                      |              |                     | 00 59 16                | (SYSTEM IN ANOTHER WINDOW - CHECK CC12425!) |                   |             |                           |      |
| 27        | "                      |              |                     | 010625                  |   |                   |             |                           |      |
| 28        | "                      |              |                     | 011334                  |   |                   |             |                           |      |
| 29        | "                      |              |                     | 012042                  |   |                   |             |                           |      |
| 30        | "                      |              |                     | 012751                  |   |                   |             |                           |      |
| 31        | "                      |              |                     | 013500                  |   |                   |             |                           |      |
| 32        | BIAS(4)                |              |                     |                         |   |                   |             |                           |      |
| 33        | COMP                   |              |                     |                         |   |                   |             | FeAr<br>Cen               | 60s  |
| 34        | FLAT                   |              |                     |                         |   |                   |             | TUNG<br>N=1/2             |      |

Spectr. Ter  
Focus....  
Spectr. Ter  
Exp. Mtr.

390  
380  
380  
328  
315  
340  
375  
356





DBS  
p6

Emulsion Batches:

Date FEB 26/27-93 Observers Hd.y./Flx.....

| Plate No. | Object                 | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.             |
|-----------|------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------------------|
| CC12435   | BD <sup>+</sup> 182307 | 095612       | 175327              | 014931                  |                       |                   |             |                           | 410 <sub>s</sub> |
| 36        | "                      |              |                     | 015640                  |                       |                   |             |                           | "                |
| 37        | "                      |              |                     | 020349                  |                       |                   |             |                           | "                |
| 38        | "                      |              |                     | 021058                  |                       |                   |             |                           | "                |
| 39        | "                      |              |                     | 021807                  |                       |                   |             |                           | "                |
| 40        | "                      |              |                     | 022516                  |                       |                   |             |                           | "                |
| 41        | "                      |              |                     | 023224                  |                       |                   |             |                           | "                |
| 42        | "                      |              |                     | 023933                  |                       |                   |             |                           | "                |
| 43        | Bins (4)               |              |                     |                         |                       |                   |             |                           |                  |
| 44        | Comp                   |              |                     |                         |                       |                   |             | R/Sr<br>Clen              | 60s              |
| 45        | Flat                   |              |                     |                         |                       |                   |             | TUNU<br>A=1/2             | 10s              |
| 46        | BD <sup>+</sup> 182307 | 095612       | 175327              | 025118                  |                       |                   |             |                           | 410 <sub>s</sub> |
| 47        | "                      |              |                     | 025827                  |                       |                   |             |                           | "                |
| 48        | "                      |              |                     | 030536                  |                       |                   |             |                           | "                |
| 49        | "                      |              |                     | 031245                  |                       |                   |             |                           | "                |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mtr.

345

330

315

320

279

313

320

350

350

337

305

350





287  
P7

Emulsion Batches:

Date . Feb. 26/27...93. Observers ... H. G. J. / F. G. J. ....

| Plate No. | Object          | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-----------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC12450   | BD+182307       | 095612       | 175327              | 031954                  |                       |                   |             |                           | 410s |
| 51        | "               |              |                     | 032703                  |                       |                   |             |                           | "    |
| 52        | "               |              |                     | 033412                  |                       |                   |             |                           | "    |
| 53        | "               |              |                     | 034120                  |                       |                   |             |                           | "    |
| 54        | Bias (4)        |              |                     |                         |                       |                   |             |                           |      |
| 55        | Comp            |              |                     |                         |                       |                   |             | R/S<br>Cen                | 60s  |
| 56        | FLAT            |              |                     |                         |                       |                   |             | TUNK<br>A=1/2             |      |
| 57        | Bias (4)        |              |                     |                         |                       |                   |             |                           |      |
| 58        | Comp            |              |                     |                         |                       |                   |             | F/S<br>Cen                | 60s  |
| 59        | <del>FLAT</del> |              |                     |                         |                       |                   |             | F/S                       |      |
| 60        | H1087901        | 100307       | 1227                |                         |                       |                   |             |                           | 86s  |
| 61        | H1087901        | "            | "                   | 040858                  |                       |                   |             |                           | 105s |
| 62-64     | FLAT x 3        |              |                     |                         |                       |                   |             | F/S<br>Cen                | 60s  |
| 65        | PARK (600s)     |              |                     |                         |                       |                   |             | TUNK<br>A=1/2             | 10s  |
| 66        | Bias (4)        |              |                     |                         |                       |                   |             |                           |      |

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mir.

330

360

330

305

60k

90k



Spectr. Temp. .... Dome Temp./Hum.  $-10.3^{\circ}\text{C}/71.8\%$  Transparency Conditions ..... Clear ..... 282..

Focus ..... 6.88 ..... (0250)

Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp. | Inst.                | Grating/Tilt   | Slit         | Emulsion | P.H. | Program  | Remarks  | Quality |
|-----------|--------|-----------|-----|----------------------|----------------|--------------|----------|------|----------|--|---------|
| 410s      |        |           |     | CS3 CCD              | 1200<br>G=5530 | 300<br>$\mu$ |          |      |          |  |         |
| "         |        |           |     |                      |                |              |          |      |          |  |         |
| "         |        |           |     |                      |                |              |          |      |          | SEEING GETTING WORSE.                            |         |
| "         |        |           |     |                      |                |              |          |      |          |  |         |
| 60s       |        |           |     |                      |                |              |          |      |          |  |         |
| 60s       |        |           |     |                      |                |              |          |      |          |  |         |
| 86s       |        |           |     | (TELESCOPE REVERSED) |                |              |          |      | TELEURIC | AIRMASS = 1.995                                  |         |
| 105s      |        |           |     |                      |                |              |          |      | TELEURIC |  |         |
| 60s       |        |           |     |                      |                |              |          |      |          | CAN'T FIND                                       |         |
| 10s       |        |           |     |                      |                |              |          |      |          | BD <sup>+</sup> 182307 w/ TELE.<br>REVERSED..... |         |
|           |        |           |     | <u>ALL P&amp;W</u>   |                |              |          |      |          |  |         |

204  
#1

Date FEB 27/28 -93 ... Observers ... Hdy./Fbr.....

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object                                 | R.A.<br>1900      | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|--|-------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC12467-8 | FOCUS TEST                             |                   |                     |                         |                       |                   |             |                           |      |
| 69        | BIAS (4)                               |                   |                     |                         |                       |                   |             |                           |      |
| 70        | Comp                                   |                   |                     |                         |                       |                   |             | FAr<br>Cen                | 60s  |
| 71        | HD87901                                | 100303            | +12 27              | 18 44 27                |                       |                   |             |                           | 300s |
| 72        | "                                      | "                 | "                   | 18 50 24                |                       |                   |             |                           | 178  |
| 73        | COMP                                   |                   |                     |                         |                       |                   |             | FAr<br>Cen                | 60s  |
| 74-76     | FLAT x 3                               |                   |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 14s  |
| 77        | BIAS (4)                               |                   |                     |                         |                       |                   |             |                           |      |
| 78        | COMP                                   |                   |                     |                         |                       |                   |             | FAr<br>Star               | 60s  |
| 79        | <del>FLAT</del><br><del>HD197433</del> | <del>203836</del> | <del>+75 14</del>   |                         |                       |                   |             | TUNG<br>A=1/2             | 11s  |
| 80        | HD197433                               | 203836            | +75 14              | <del>18</del> 23 07     |                       |                   |             |                           | 400s |
|           |  |                   |                     | <del>18</del> 30 08     |                       |                   |             |                           | "    |
|           |  |                   |                     | <del>18</del> 37 09     |                       |                   |             |                           | "    |
|           |  |                   |                     | 19 44 09                |                       |                   |             |                           |      |
|           |  |                   |                     | 19 51 09                |                       |                   |             |                           |      |
|           |  |                   |                     | 19 58 10                |                       |                   |             |                           |      |

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mtr.

36k

36k

1100

234

340

300

330

294





201  
#2

Date FEB. 27/28, 1993

Observers H. V. / FBK

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object    | R.A.<br>1900                       | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-----------|------------------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 12486     | HD 197433 |                                    |                     | 20 05 10                |                       |                   |             |                           | 400s |
| 87        | "         |                                    |                     | 20 12 11                |                       |                   |             |                           | "    |
| 88        | BIAS (4)  |                                    |                     |                         |                       |                   |             |                           |      |
| 89        | COMP      |                                    |                     |                         |                       |                   |             |                           |      |
| 12490     | FLAT      |                                    |                     |                         |                       |                   |             |                           |      |
| 1         | HD 197433 | 20 <sup>h</sup> 38 <sup>m</sup> .6 | +75°14'             | 20 24 54                |                       |                   |             |                           | 400s |
| 2         | "         |                                    |                     | 20 31 55                |                       |                   |             |                           | "    |
| 3         | "         |                                    |                     | 20 38 55                |                       |                   |             |                           | "    |
| 4         | "         |                                    |                     | 20 45 55                |                       |                   |             |                           | "    |
| 5         | "         |                                    |                     | 20 52 56                |                       |                   |             |                           | "    |
| 6         | "         |                                    |                     | 20 59 57                |                       |                   |             |                           | "    |
| 7         | "         |                                    |                     | 21 06 57                |                       |                   |             |                           | "    |
| 8         | "         |                                    |                     | 21 13 58                |                       |                   |             |                           | "    |
| 9         | "         |                                    |                     | 21 20 59                |                       |                   |             |                           | "    |
| 12500     | BIAS      |                                    |                     |                         |                       |                   |             |                           |      |
| 1         | COMP      |                                    |                     |                         |                       |                   |             |                           |      |
| 2         | FLAT      |                                    |                     |                         |                       |                   |             |                           |      |

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

1180

945

6742

762

711

720

789

758

850

890

840

720

500





293  
#3

Date FEB 27/28, 1993

Observers Hdy/Fbr

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object       | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|--------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 12503     | HD 197433    |              |                     | 21 32 32                |                       |                   |             |                           | 400s |
| 4         | "            |              |                     | 21 39 33                |                       |                   |             |                           | "    |
| 5         | "            |              |                     | 21 46 33                |                       |                   |             |                           | "    |
| 6         | "            |              |                     | 21 53 34                |                       |                   |             |                           | "    |
| 7         | "            |              |                     | 22 00 35                |                       |                   |             |                           | "    |
| 8         | "            |              |                     | 22 07 35                |                       |                   |             |                           | "    |
| 9         | "            |              |                     | 22 14 36                |                       |                   |             |                           | "    |
| 12510     | "            |              |                     | 22 21 36                |                       |                   |             |                           | "    |
| 1         | BIAS(4)      |              |                     |                         |                       |                   |             |                           |      |
| 2         | COMP         |              |                     |                         |                       |                   |             |                           |      |
| 3         | FLAT         |              |                     |                         |                       |                   |             |                           | 15   |
| 4         | FLAT REVERSE |              |                     |                         |                       |                   |             |                           | 13   |
| 5         | COMP         |              |                     |                         |                       |                   |             |                           |      |
| 6         | HD 197433    |              |                     | 22 42 47                |                       |                   |             |                           | 400s |
| 7         | "            |              |                     | 22 49 48                |                       |                   |             |                           | "    |
| 8         | "            |              |                     | 22 56 48                |                       |                   |             |                           | "    |

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mr.

763

790

773

725

677

682

639

635

900

928

925





295  
#4

Emulsion Batches:

Date ... FB 27/28, 1933 Observers Hdy/Fbr

.....  
.....  
.....

| Plate No. | Object    | R.A.<br>1900                       | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-----------|------------------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 12519     | HD 197433 | 20 <sup>h</sup> 38 <sup>m</sup> .6 | +75° 14"            | 23 03 49                |                       |                   |             |                           | 400s |
| 12520     | "         |                                    |                     | 23 10 49                |                       |                   |             |                           | "    |
| 1         | "         |                                    |                     | 23 17 50                |                       |                   |             |                           | "    |
| 2         | "         |                                    |                     | <del>23 24 51</del>     |                       |                   |             |                           | "    |
| 3         | "         |                                    |                     | 23 31 51                |                       |                   |             |                           | "    |
| 4         | "         |                                    |                     | 23 38 52                |                       |                   |             |                           | "    |
| 5         | BIAS(4)   |                                    |                     |                         |                       |                   |             |                           |      |
| 6         | COMP      |                                    |                     |                         |                       |                   |             |                           |      |
| 7         | FLAT      |                                    |                     |                         |                       |                   |             |                           |      |
| 8         | HD 197433 |                                    |                     | 23 49 56                |                       |                   |             |                           | 400s |
| 9         | "         |                                    |                     | 23 56 57                |                       |                   |             |                           |      |
| 30        | "         |                                    |                     | 00 03 57                |                       |                   |             |                           |      |
| 1         | "         |                                    |                     | 00 10 57                |                       |                   |             |                           |      |
| 2         | "         |                                    |                     | 00 17 58                |                       |                   |             |                           |      |
| 3         | "         |                                    |                     | 00 24 59                |                       |                   |             |                           |      |
| 4         | "         |                                    |                     | 00 31 59                |                       |                   |             |                           |      |

Spectr. Ten  
Focus.....  
Spectr. Ten  
Exp. Mir.  
800  
782  
835  
870  
735  
880  
854  
887  
890  
920  
960  
975  
925





297  
#5

Emulsion Batches:

Date ... FEB 27/28 - 93 ... Observers ... Hdy. / Fbr .....

| Plate No. | Object    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 12535     | HD 197433 |              |                     | 003900                  |                       |                   |             |                           |      |
| 36        | "         |              |                     | 004601                  |                       |                   |             |                           |      |
| 37        | Bias      |              |                     |                         |                       |                   |             |                           |      |
| 38        | Comp      |              |                     |                         |                       |                   |             |                           |      |
| 39        | FLAT      |              |                     |                         |                       |                   |             | a=1/2                     | 12s  |
| 12540     | HD 197433 |              |                     | 005746                  |                       |                   |             |                           | 40s  |
| 1         | "         |              |                     | 010447                  |                       |                   |             |                           | /    |
| 2         | "         |              |                     | 011147                  |                       |                   |             |                           | /    |
| 3         | "         |              |                     | 011848                  |                       |                   |             |                           | /    |
| 4         | "         |              |                     | 012549                  |                       |                   |             |                           | /    |
| 5         | "         |              |                     |                         |                       |                   |             |                           | /    |
| 6         | "         |              |                     | 013950                  |                       |                   |             |                           | /    |
| 7         | "         |              |                     | 014650                  |                       |                   |             |                           | /    |
| 8         | "         |              |                     | 015351                  |                       |                   |             |                           | /    |
| 9         | BIAS      |              |                     |                         |                       |                   |             |                           | /    |
| 12550     | COMP      |              |                     |                         |                       |                   |             |                           | 60s  |
| 1         | FLAT      |              |                     |                         |                       |                   |             |                           |      |

Spectr. Tem

Focus .....

Spectr. Tem

Exp. Mtr.

1036

1190

1090

1236

1295

1468

1440

1502

1499

1550

1860





299  
p#6

Date FEB 27/28, 1993 Observers Hdy/Fbr

Emulsion Batches:  
.....  
.....  
.....

| Plate No. | Object    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|-----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 12552     | HD 197433 |              |                     | 020508                  |                       |                   |             |                           | 400s |
| 3         | "         |              |                     | 021208                  |                       |                   |             |                           |      |
| 4         | "         |              |                     | 021909                  |                       |                   |             |                           |      |
| 5         | "         |              |                     | 022609                  |                       |                   |             |                           |      |
| 6         | "         |              |                     | 023310                  |                       |                   |             |                           |      |
| 7         | "         |              |                     | 024010                  |                       |                   |             |                           |      |
| 8         | "         |              |                     | <del>0254</del>         |                       |                   |             |                           |      |
| 9         | "         |              |                     | 025411                  |                       |                   |             |                           |      |
| 60        | "         |              |                     | 030112                  |                       |                   |             |                           |      |
| 61        | BWS       |              |                     |                         |                       |                   |             |                           |      |
| 62        | COMP      |              |                     |                         |                       |                   |             |                           |      |
| 63        | FAST      |              |                     |                         |                       |                   |             |                           |      |
| 4         | HD 197433 |              |                     | 031159                  |                       |                   |             |                           |      |
| 5         |           |              |                     | 031900                  |                       |                   |             |                           |      |
| 6         |           |              |                     | 2600                    |                       |                   |             |                           |      |
| 7         |           |              |                     | 3301                    |                       |                   |             |                           |      |

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mtr.

1965

2120

2209

2223

2315

2324

2330

2490

2300

2320

2270

2146

2025





381  
pp7

Date FEB. 27/28-93... Observers Hely/Frs.....

Emulsion Batches:

.....  
.....  
.....

| Plate No.    | Object          | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|--------------|-----------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| 12568        | HD 197433       |              |                     | 03 40 02                |                       |                   |             |                           |      |
| 9            | "               |              |                     | 03 47 02                |                       |                   |             |                           |      |
| 12570        | "               |              |                     | 03 54 03                |                       |                   |             |                           |      |
| 1            | "               |              |                     | 04 01 03                |                       |                   |             |                           |      |
| 2            | "               |              |                     | 04 08 04                |                       |                   |             |                           |      |
| 3            | BIAS(4)         |              |                     |                         |                       |                   |             |                           |      |
| 4            | COMP            |              |                     |                         |                       |                   |             |                           |      |
| 5            | FAST            |              |                     |                         |                       |                   |             |                           |      |
| 6            | COMP            |              |                     |                         |                       |                   |             |                           |      |
| <del>7</del> | <del>FAST</del> |              |                     |                         |                       |                   |             |                           |      |
| 7            | HD 177724       |              |                     |                         |                       |                   |             |                           |      |
| 8            | HD 177724       |              |                     | 04 36 50                |                       |                   |             |                           | 1955 |
| 9            | COMP            |              |                     |                         |                       |                   |             |                           | 60s  |
| 12580-82     | FAST X3         |              |                     |                         |                       |                   |             |                           |      |
| 83           | BIAS(4).        |              |                     |                         |                       |                   |             |                           |      |

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Nr.

2102

1499

890

1780

1706

25100

32500









Spectr. Temp. ....

Dome Temp./Hum. -4.7% / 61.4%  
(2020)Transparency Conditions ... Cloudy - Thick in 304  
PLACES

Focus ..... 6.88 .....

Spectr. Temp. ....

Dome Temp./Hum. ....

anson  
Exp

60s

143s

60s

260s

| Exp. Mtr. | Seeing | Ptg. Mag.   | Sp.   | Inst.       | Grating/Tilt     | Slit     | Emulsion              | P.H. | Program | Remarks                                | Quality |
|-----------|--------|-------------|-------|-------------|------------------|----------|-----------------------|------|---------|--|---------|
|           |        |             |       | CASS<br>CCD | 1800<br>G = 6055 | 250<br>μ | λ <sub>c</sub> = 6600 |      |         |  |         |
| 7800      |        | v =<br>0.80 | m2Iab | ~           |                  | ~        |                       |      |         | Thrown Cloud                           |         |
|           |        |             |       |             |                  |          |                       |      |         |  |         |
| 8500      | 3" (?) | v =<br>0.80 | m2Iab |             |                  |          |                       |      |         | Poor Seeing - Clouds.                  |         |
|           |        |             |       |             |                  |          |                       |      |         | 386 DOWN! NOTHING<br>TO PERSEUS + WORM |         |

P1 305

Date ... 1/27/37 ... Observers ... Pbr / Bla .....

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object                   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T.          | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.            |
|-----------|--------------------------|--------------|---------------------|-------------------------|--------------------------------|-------------------|-------------|---------------------------|-----------------|
| CC12588   | Bins (4)                 |              |                     |                         |                                |                   |             |                           |                 |
| 89-90     | Focus Test               |              |                     |                         |                                |                   |             |                           |                 |
| 91        | <del>HD 39801</del> Comp | 05 49 45     | 07 23               |                         |                                |                   |             | FuAr<br>Cen               | 30s             |
| 92        | HD 39801                 | 05 49 45     | 07 23               | 22 23 37                | HARTMAN<br>MASK @ STELLAR POSN |                   |             |                           | 36s             |
| 93        | Comp                     |              |                     |                         |                                |                   |             | FuAr<br>Cen               | 60s             |
| 94        | HD 39801                 | 05 49 45     | 07 23               | 22 28 24                |                                |                   |             |                           | 41s             |
| 95        | Comp                     |              |                     |                         |                                |                   |             |                           |                 |
| 96-98     | FuAr x 3                 |              |                     |                         |                                |                   |             |                           | TONG<br>A = 1/2 |
| 99        | <del>HD 77327</del> Comp |              |                     |                         |                                |                   |             |                           |                 |
| CC12600   | HD 77327                 | 08 56 48     | +47 3 308           | 22 53 34                |                                |                   |             |                           |                 |
| 1         | Comp                     |              |                     |                         |                                |                   |             | FuAr<br>Cen               | 60s             |
| 2         | Bins (4)                 |              |                     |                         |                                |                   |             |                           |                 |
| 3         | Comp                     |              |                     |                         |                                |                   |             | FuAr<br>Cen               | 60s             |
| 4         | HD 79158                 | 09 07 16     | +43 37 48           | 23 10 13                |                                |                   |             |                           | 351s            |
| 5         | Comp                     |              |                     |                         |                                |                   |             |                           |                 |

Spectr. Tem

Focus .....

Spectr. Tem

Exp. Mir.

28K

36K

15K

10K



Spectr. Temp. .... Dome Temp./Hum. 0.0°C / 79.7° Transparency Conditions ..... C: 5.42 ..... 306.

Focus ..... 0.685 .....

Spectr. Temp. .... Dome Temp./Hum. ....

NORMALIZED ON HR3275

| Unison Exp. | Exp. Mtr. | Seeing | Ptg. Mag.  | Sp.                | Inst.       | Grating/Tilt   | Slit     | Emulsion             | P.H. | Program  | Remarks          | Quality |
|-------------|-----------|--------|------------|--------------------|-------------|----------------|----------|----------------------|------|----------|------------------|---------|
|             |           |        |            |                    | LASS<br>CCD | 1200<br>λ=6055 | 250<br>μ | λ <sub>c</sub> =6600 |      |          |                  |         |
| 60s         |           |        | v =<br>0.8 | m2Iab              |             |                |          |                      |      |          | Airmp: 1.630     |         |
| 36s         | 28 K      |        | ↓          | ↓                  |             |                |          |                      |      |          |                  |         |
| 60s         |           |        |            |                    |             |                |          |                      |      |          | Mask Still In... |         |
| 41s         | 36 K      |        |            |                    |             |                |          |                      |      |          | A LITTLE WIND    |         |
| 12s         |           |        |            |                    |             |                |          |                      |      |          |                  |         |
| 60s         | 15 K      |        | v<br>3.6   | Δ2I <sub>a</sub>   |             |                |          |                      |      | Telluric | Airmp: 1.0022    |         |
| 60s         |           |        |            |                    |             |                |          |                      |      |          |                  |         |
| 35s         | 10 K      | ~2"    | v<br>5.32  | 88III <sub>p</sub> |             |                |          |                      |      | B1 ~     | MAZ-6K           |         |







30SAT-Sun pg 1

Emulsion Batches:

Date March 6/7 93 Observers HIW/Tn

CS386 Time 9 secs ahead of U.U.U. Time

| Plate No.                               | Object                      | R.A.<br>1900          | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|---|-----------------------------|-----------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CC12621<br>22                           | Focus Comp/Stellar position |                       |                     | 19 28                   |                       | 00 48 E           | +45°        | FeNe<br>clear             | 20s  |
| 23                                      | Bias (4)                    |                       |                     |                         |                       |                   |             |                           |      |
| 24                                      | Comp                        |                       |                     |                         |                       |                   |             | FeNe<br>clear             | 20s  |
| 25                                      | AC+82 1111                  | 05 49 05              | 82 06 21            | 19:44:41                | 20:44:40              | 1:18 W            | +82 06 18   |                           | 3599 |
| 26                                      | Comp                        |                       |                     |                         |                       |                   |             | FeNe<br>clear             | 20s  |
| 27                                      | Comp                        |                       |                     |                         |                       |                   |             | "                         | "    |
| <sup>edit</sup><br><sub>waiver</sub> 28 | LHS 1176                    | 00 55 11              | 60 49 52            | 20:58:42                | 21:58:48              | 7:40 W            | +61 20 18   |                           | 3605 |
| 29                                      | Comp                        |                       |                     |                         |                       |                   |             | FeNe<br>clear             | 20s  |
| 30                                      | Comp                        |                       |                     |                         |                       |                   |             | "                         | "    |
| 31                                      | AC+71 532                   | 00 55 26              | 71 08 49            | 22:09:32                |                       | 8:40              | +71 38 57   |                           | 2999 |
| 32                                      | Comp                        |                       |                     |                         |                       |                   |             | FeN<br>clear              | 20s  |
| 33                                      | rewrite of<br>LHS 1176 →    | Compare with CC12628. |                     |                         |                       |                   |             |                           |      |
| 34                                      | Bias (4)                    |                       |                     |                         |                       |                   |             |                           |      |
| 35                                      | Comp                        |                       |                     |                         |                       |                   |             | FeNe<br>clear             | 20s  |
| 36                                      | HD 62509                    | 07 39 12              | 28 16 00            | 23:11:25                |                       |                   |             |                           | 16s  |
| 37                                      | Comp                        |                       |                     |                         |                       |                   |             | FeNe<br>clear             | 20s  |



Spectr. Temp. .... Dome Temp./Hum.  $0^{\circ}\text{C}$  75% Transparency Conditions ... Clearing ..... 316

Focus ... 6.92 .....

FANS on By 18:30

Spectr. Temp. .... Dome Temp./Hum. ....

CCDT  $\rightarrow -100^{\circ}$  by 18:40

90CGAIN 480 0 50 1024 41 CCD F4/T

| Exp. Mtr. | Seeing                  | Ptg. Mag. | Sp.    | Inst.                 | Grating/Tilt        | Slit             | Emulsion | P.H.       | Program              | Remarks   | Quality                       |
|-----------|-------------------------|-----------|--------|-----------------------|---------------------|------------------|----------|------------|----------------------|---|-------------------------------|
| set 6.92  | T = $0^{\circ}\text{C}$ |           |        | CASS<br>CCD           | 18001/line<br>64990 | 310u<br>3 window | 5140A    | 3ci<br>4ci | Focus                | Stellar U51 Red<br>736 745 xplot  |                               |
|           |                         |           |        |                       |                     |                  |          | 1ci        | Tel NORMALIZED on HR |   |                               |
|           |                         |           |        |                       |                     |                  |          | 5ci        |                      | (no noise) VERY FINE  |                               |
| 780       | 2-3"                    | V = 10.5  | M2     | Tel East Side         |                     |                  |          | 6ci        | H/w pgn              | $\Delta\alpha = -0 \ 1 \ 7$<br>$\Delta\delta = +0 \ 0 \ 36$<br>some cloud | 2.5 MK<br>Photons<br>Sun. AVG |
|           |                         |           |        |                       |                     |                  |          | 7ci        |                      |   |                               |
|           |                         |           |        |                       |                     |                  |          | 8ci        |                      |   |                               |
| 809       | 2-4"                    | V = 10.8  | M2     | Tel East Side of pier |                     |                  |          | 9ci        | H/w pgn              | $\Delta\alpha = -0 \ 0 \ 44$<br>$\Delta\delta = -0 \ 0 \ 33$              | Hazy                          |
|           |                         |           |        |                       |                     |                  |          | 10ci       |                      |   |                               |
|           |                         |           |        |                       |                     |                  |          | 11ci       |                      |   |                               |
| 1027      |                         | V = 10.06 | dM4e   |                       |                     |                  |          | 12ci       | H/w pgn              |   |                               |
|           |                         |           |        |                       |                     |                  |          | 13ci       |                      |   |                               |
|           |                         |           |        |                       |                     |                  |          | 9ci        | H/w pgn              | headers corrected   |                               |
|           |                         |           |        |                       |                     |                  |          | 1ci        |                      | BEFORE THIS REWRITE   |                               |
|           |                         |           |        |                       |                     |                  |          | 14ci       |                      |   |                               |
| 3960      |                         | V = 1.14  | KOIIIb |                       |                     |                  |          | 15ci       | Std Vel              | East side of pier   |                               |
|           |                         |           |        |                       |                     |                  |          | 16ci       |                      |   |                               |

31 pg 2

Date March 6/7 93 Observers HIW/Tn

Emulsion Batches:

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|-----------|--|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| 38        | Comp   |              |                     |                         |                       |                   |             | FENE<br>clear             | 20s   |
| 39        | HD 62509   | 07 39 12     | 28 16 00            | 23:21:56                |                       |                   |             |                           | 15s   |
| 40        | Comp   |              |                     |                         |                       |                   |             | "                         | 20s   |
| 41        | Comp*  |              |                     |                         |                       |                   |             | "                         | 20s   |
| 42        | AC+79 3888   | 11 41 34     | 79 14 22            | 23:37:24                |                       | 0:26 E            | +78 40 12   |                           | 3600s |
| 43        | Comp   |              |                     |                         |                       |                   |             | FENE<br>clear             | 20s   |
| 44        | Comp   |              |                     |                         |                       |                   |             | "                         | "     |
| 45        | HD 103095  | 11 47 13     | +38 26 10           | 00:48:17                |                       |                   |             |                           | 320   |
| 46        | Comp   |              |                     |                         |                       |                   |             |                           |       |
| FM00480   | <sup>A</sup><br><sub>D</sub><br><sub>E</sub> HD 103095 | "            | "                   |                         |                       |                   |             | "N" made                  |       |
| 47        | Comp   |              |                     |                         |                       |                   |             | FENE<br>clear             | 20s   |
| 48        | HD 238090  | 12 07 24     | +55 09 00           | 01 16 41                |                       | 0:37 W            |             |                           | 3000  |
| 49        | Comp   |              |                     | 02 08 33                |                       |                   |             | FENE<br>clear             | 20s   |
| 50        | Bias (4)   |              |                     |                         |                       |                   |             |                           |       |
| 51        | Comp   |              |                     |                         |                       |                   |             | FENE<br>clear             | 20s   |
|           | FOR next star AC+76 5308                               |              |                     |                         |                       |                   |             |                           |       |

Spectr. Tem

Focus....

Spectr. Tem

Exp. Mtr.

6211

716

2000

55x55 plates

503



Spectr. Temp. .... Dome Temp./Hum.  $-4.2^{\circ}\text{C} / 77.1\%$  Transparency Conditions ..... Clear - s/hazy... 312

Focus ..... 6.92 .....

Spectr. Temp. .... Dome Temp./Hum.  $-5.3^{\circ}\text{C} / 74\%$

| Exp. Mtr. | Seeing          | Ptg. Mag.      | Sp.     | Inst.                   | Grating/Tilt         | Slit                       | Emulsion | P.H.            | Program                                | Remarks  | Quality |
|-----------|-----------------|----------------|---------|-------------------------|----------------------|----------------------------|----------|-----------------|--|--|---------|
| 20s       |                 |                |         | CASS CCD                | 1800/n/hae<br>G=4990 | 310 $\mu$                  | 5140A    | 17ci            |  |  |         |
| 15s       | 6211            | V=<br>1.14     | KO II b |                         |                      |                            |          | 18ci            | Std Vel.                               | West Side of Piermae                               |         |
| 20s       |                 |                |         |                         |                      |                            |          | 19ci            |  |  |         |
| 20s       |                 | <del>MAA</del> |         |                         |                      |                            |          | 20ci            |  |  |         |
| 3600s     | 716             | * M4           | 10.9    |                         |                      |                            |          | 21ci            | H/W Pgm                                | * The STAR SW of intended<br>Not M sptype probably |         |
| 20s       |                 |                |         |                         |                      |                            |          | 22ci            | H/W Field OK, but wrong star indicated | Fuck you, Jim.                                     |         |
| 1         |                 |                |         |                         |                      |                            |          | 23ci            |  |  |         |
| 320       | 2000            | V=<br>6.45     | G8 V    |                         |                      |                            |          | <del>24ci</del> | Std. Vel                               |  |         |
|           |                 |                |         |                         |                      |                            |          | 24ci            |  |  |         |
|           | 55x55 pixels 3" | V<br>6.45      | G8 V    | Int<br>2x133ms + 2x67ms |                      | 310 $\mu$<br>above etching |          |                 |  | Dome S-W, 5 km/hr West breeze                      |         |
| 20s       |                 |                |         |                         |                      |                            |          | 25ci            |  | → ~56 Signal to noise                              |         |
| 3000      | 1503            | 3-4' V=<br>9.5 | M2      |                         |                      |                            |          | 26ci            | H/W Pgm                                | H/W field OK but a decod<br>is Dec = -00 05 20     |         |
| 20s       |                 |                |         |                         |                      |                            |          | 27ci            |  |  |         |
| 20s       |                 |                |         |                         |                      |                            |          | 28ci            |  |  |         |

Very non noisy bias  
as all are tonight  
and ever pest  
month

33 893

Date Mar 6/7 93 Observers Hlw/Tn

Emulsion Batches:

| Plate No.        | Object                                  | R.A.<br>1900              | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|------------------|---|---------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| <del>52</del> 52 | (not)<br>AC+76 5308                     | 15 43.2                   | 76 20               | 02:25:32                |                       | 1:33 E            | +75:57:06   |                           | 3611 |
| <del>53</del>    | Comp BIAS(4) = CC12654                  |                           |                     |                         |                       |                   |             | FeNe 20                   | comp |
| CC12655          | Comp                                    |                           |                     |                         |                       |                   |             | "                         |      |
| 56               | AC+76 5308                              | 15 43.2                   | 76 20               | 03 40 56                |                       | 0.16 E            |             |                           | 3601 |
| 57               | Comp                                    |                           |                     |                         |                       |                   |             | FeNe 20                   | 5    |
| 58               | Comp                                    |                           |                     |                         |                       |                   |             | "                         | "    |
| 59               | AC+62 26749                             | 17 34 30                  | 61 45 00            | 04:53:04                |                       | 01 30 E           | +61 41 45   |                           | 1800 |
| 60               | Comp                                    |                           |                     |                         |                       |                   |             | FeNe<br>Clear             | 20x  |
| 61               | BIAS(4) CCD warming up to 0525 = -57 °C |                           |                     |                         |                       |                   |             |                           |      |
| 62               | Focus                                   |                           |                     |                         |                       |                   |             |                           |      |
| 63               | Comp/Stellar                            |                           |                     |                         |                       |                   |             |                           |      |
| 64               | FLAT                                    | CCDT now stable @ -100 °C |                     |                         |                       | 00 50 E           | +41°        | TUNG<br>A-Clear           | GS   |
| 65               | "                                       |                           |                     |                         |                       |                   |             | "                         | 6    |
| 66               | "                                       |                           |                     |                         |                       |                   |             | "                         | 6    |
| 67               | BIAS(4)                                 |                           |                     |                         |                       |                   |             |                           |      |

All to Perseus &amp; Worm



Spectr. Temp. .... Dome Temp./Hum.  $-05.2/73.9\%$  Transparency Conditions ..... Clear ..... 314

Focus ..... 6.92 .....

Spectr. Temp. .... Dome Temp./Hum. ....

CCD T =  $-100.50$  02 EST

| Exp. Mtr.   | Seeing                          | Ptg. Mag.          | Sp. | Inst.    | Grating/Tilt | Slit      | Emulsion                    | P.H.          | Program | Remarks   | Quality |  |
|-------------|---------------------------------|--------------------|-----|----------|--------------|-----------|-----------------------------|---------------|---------|---|---------|--|
| 3611<br>467 | 2.3"                            | $\sqrt{=}$<br>11.6 | M4  | CASS CCD | 94990        | 310 $\mu$ | $c\lambda = 5140\text{\AA}$ | 28ci          | H/W Pgm | easy guiding with WRONG STAR!<br>Int = 220ms                                  |         |  |
| 20<br>CAMP  |                                 |                    |     |          |              |           |                             | 29ci          |         |   |         |  |
|             |                                 |                    |     |          |              |           |                             | 30ci          |         |   |         |  |
| 300<br>416  |                                 | $\sqrt{=}$<br>11.6 | M4  |          |              |           |                             | 31ci          | H/W Pgm | $\Delta\alpha = 0000.09$ $\Delta\delta = 0000.30$<br>(weak M spectrum anyway) |         |  |
| 20<br>S     |                                 |                    |     |          |              |           |                             | 32            |         |   |         |  |
|             |                                 |                    |     |          |              |           |                             | <del>33</del> |         |   |         |  |
| 800<br>830  | 3"                              | $\sqrt{=}$<br>9.95 | M17 |          |              |           |                             | 34            | H/W Pgm | * WORKING @<br><u>CCD T = <math>-60^\circ\text{C}</math></u>                  |         |  |
| 20<br>S     |                                 |                    |     |          |              |           |                             | 33ci          |         |   |         |  |
|             | Topup complete By 05:40         |                    |     |          |              |           |                             |               | 1ci     |   |         |  |
|             | $-6.2^\circ\text{C}$ , Set 6.92 |                    |     |          |              |           |                             |               | 3ci     |   |         |  |
|             |                                 |                    |     |          |              |           |                             | 4ci           |         | stellar shift Blue .4 pixels  |         |  |
| 65          |                                 |                    |     |          |              |           |                             | 5ci           |         | MAX 11K ADU   |         |  |
| 6           |                                 |                    |     |          |              |           |                             | 6ci           |         | "   |         |  |
| 6           |                                 |                    |     |          |              |           |                             | 7ci           |         | "   |         |  |

315  
Pg #1

Thur / Fri

Emulsion Batches:

Date 1993 MAR 11/12 Observers KK, T.H. / Fbr.....

CSS-386 Time 7 sec behind... W.W.V. Time

| Plate No. | Object            | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination       | Comparison<br>Type/Filter | Exp.  |
|-----------|-------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------------|---------------------------|-------|
| CE 05651  | Hartmann IN       |              |                     |                         |                       |                   |                   |                           | 10    |
| 5652      | OUT               |              |                     |                         |                       |                   |                   |                           | 10    |
| 5653      | Hartmann - IN     |              |                     |                         |                       |                   |                   |                           | 10    |
| 5654      | OUT               |              |                     |                         |                       |                   |                   |                           | 10    |
| 5655      | HARTMANN in board |              |                     | 19 21                   |                       | 02 50W            | +23°              | THAr                      | 4/4   |
| 5656      | " outboard        |              |                     |                         |                       |                   |                   | "                         | "     |
| 5657      | BIHS(A)           |              |                     | 19 50 30                |                       |                   |                   |                           |       |
| 5658      | Comp              |              |                     |                         |                       |                   |                   |                           |       |
| 5659      | HD 34029          | 05 0918      | +45 54              | 19 55 58                |                       |                   |                   |                           | 153s  |
| 5660      | Comp              |              |                     |                         |                       |                   |                   |                           |       |
| 5661      | HD 34029          |              |                     | 20 0110                 |                       |                   |                   |                           | 157s  |
| 5662      | Comp              |              |                     |                         |                       |                   |                   |                           |       |
| 63        | HD 34029          |              |                     | 20 0815                 |                       | 01 59W            | (comp = cel 5664) |                           | 405   |
| → 66      | FLATS x 3         |              |                     | 20 18 55                |                       |                   |                   |                           | 6 sec |
| 68        | BIHS(A)           |              |                     |                         |                       |                   |                   |                           |       |
|           |                   |              |                     |                         |                       |                   |                   |                           |       |

Spectr. Ter

Focus...

Spectr. Ter

Exp. Mtr.

Exp  
even  
night

FLATS



Spectr. Temp. .... Dome Temp./Hum.  $-5.5^{\circ}\text{C}$   $57\%$  Transparency Conditions ..... 316

Focus ...  $.235$  ...

@ 1930

Spectr. Temp. .... Dome Temp./Hum.  $-9.2^{\circ}\text{C}$   $57\%$

CLAMPDA 90 CGAIN CCDT  $\rightarrow -100^{\circ}\text{C}$

| Exp. Mtr. | Seeing | Pr. Mag. | Sp.    | Inst. | Grating/Tilt | Slit                              | Emulsion                               | P.H.                | Program | Remarks   | Quality |
|-----------|--------|----------|--------|-------|--------------|-----------------------------------|--|---------------------|---------|---|---------|
|           |        |          |        | 18.00 | .3985        | $60\mu = .277$ set                |  |                     |         | T = $-1.6$ F = .240                                   | + .13   |
|           |        |          |        | 0 0   | 128 1024     | 8 1                               | CCD FMT FOR FOCUS                      |                     |         |   |         |
|           |        |          |        |       |              |                                   | ( $5155\text{\AA}$ 4th complete ORDER) |                     |         | T = $-1.6$ F = .230                                   | -.64    |
|           |        |          |        |       |              |                                   | $5200\text{\AA}$ 5th complete ORDER    |                     |         | set to .235   |         |
|           |        |          |        |       |              |                                   | - FROM TOP.                            |                     |         |   |         |
|           |        |          |        | 18.08 | .3990        | $60\mu = .277$<br>$400\mu = .225$ |  |                     |         |   |         |
|           |        |          |        | 18.08 | .3990        |                                   | 0 0                                    | OBSEVING FMT        |         | T = $-46^{\circ}\text{C}$ F = .235                    |         |
|           |        |          |        |       |              |                                   |  | 256 1024 41 CCD FMT |         | Outboard $\approx -.4$ pixels                         |         |
|           |        |          |        |       |              |                                   |  | 3ci                 |         |   |         |
| 153       |        | 0.08     | G6 III |       |              |                                   |  | 4                   | kk pyro | MAX = <del>14K</del> $14\text{K}$ ADU/pixel           |         |
|           |        |          |        |       |              |                                   |  | 5                   |         | (The hot pixel modult)                                |         |
| 153       |        |          |        |       |              |                                   |  | 6                   |         | General MAX $\approx 3800$ ADU                        |         |
|           |        |          |        |       |              |                                   |  | 7                   |         |   |         |
| 465       |        |          |        |       |              |                                   |  | 4ci                 |         | 8300 if ADU general max ignoring hot pixel saturation |         |
| 658       |        |          |        |       |              | W $60\mu$<br>H = $600\mu$         |  | 2ci                 |         |   |         |
|           |        |          |        |       |              |                                   |  | 1ci                 |         |   |         |
|           |        |          |        |       |              |                                   |  |                     |         |   |         |

FLATS ce05665-5667

317 p9#2 Thurs/Fri

Emulsion Batches:

Date 1993 MAR. 11/12... Observers [KK]... Fhr.../Jn.....

| Plate No.       | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| ce05669<br>5671 | FLATS x3 | at Polaris   | pos'n               |                         |                       | 30600W            | +88°        | TUNG                      | 4sec |
| 5672            | Comp     | "            | "                   |                         |                       |                   |             | ThAr                      | 6sec |
| 5673            | HD8890   | 01 22 36     | +88 46              | 20 47 55                |                       |                   |             |                           | 500s |
| 5674            | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 75              | HD8890   | 01 22 36     | +88 46              | 20 59 41                |                       |                   |             |                           | 500s |
| 76              | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 77              | HD8890   |              |                     | 21 10 43                |                       |                   |             |                           | 504s |
| 78              | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 79              | BIAS(4)  |              |                     |                         |                       |                   |             |                           |      |
| 80              | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 81              | HD62509  | 07 39.2      | +28 16              | 21 31 09                |                       | W                 |             |                           | 631  |
| 82              | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 83              | Comp     |              |                     |                         |                       |                   |             | "                         | "    |
| 84              | HD3712   | 06 34 48     | +55 59              | 21 55 00                |                       | W                 |             |                           |      |
| 85              | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 6sec |



Spectr. Temp. .... Dome Temp./Hum.  $-9.5^{\circ}\text{C}$   $56.2\%$  Transparency Conditions  $Sl. 1.79.29$  ..... 318.

Focus  $2.35$  .....

Spectr. Temp. .... Dome Temp./Hum. ....

*Echelle*

| Exposure | Exp. Mtr. | Seeing | Ptg. Mag. | Sp.     | Inst.          | Grating/Tilt        | Slit                              | Emulsion        | P.H. | Program | Remarks                          | Quality |
|----------|-----------|--------|-----------|---------|----------------|---------------------|-----------------------------------|-----------------|------|---------|----------------------------------|---------|
| 4sec     |           |        |           |         | Echelle<br>LCD | <u>18.08</u> W<br>H | 60 $\mu$ = 277<br>600 $\mu$ = 205 | Xgrating<br>2ci |      | .3990   | 10K ADU MAX                      |         |
| 6sec     |           |        |           |         |                |                     | 60 $\mu$<br>400 $\mu$ = 225       |                 | 3ci  |         |                                  |         |
| 500s     |           |        | 2.0       | F5-8 Ib |                |                     |                                   | 5200A           | 4ci  | KK pgm. | General/MAX 2300 ADU.            |         |
| 6sec     |           |        |           |         |                |                     |                                   |                 | 5ci  |         |                                  |         |
| 500s     |           |        |           |         |                |                     |                                   |                 | 6ci  | KK pgm. |                                  |         |
| 6sec     |           |        |           |         |                |                     |                                   |                 |      | KK pgm. |                                  |         |
| 500s     |           |        |           |         |                |                     |                                   |                 |      | KK pgm. |                                  |         |
| 6sec     |           |        |           |         |                |                     |                                   |                 | 7ci  |         |                                  |         |
|          |           |        |           |         |                |                     |                                   |                 | 1ci  |         | Permet = $-10.0^{\circ}\text{C}$ |         |
| 6sec     |           |        |           |         |                |                     |                                   |                 | 2ci  |         |                                  |         |
| 63s      | poor.     |        | ✓<br>1.14 | KOII B  |                |                     |                                   |                 | 2ci  | std vel | 8K MAX generally                 |         |
| 6sec     |           |        |           |         |                |                     |                                   |                 | 3ci  |         |                                  |         |
| "        |           |        |           |         |                |                     |                                   |                 |      |         |                                  |         |
|          |           |        | ✓<br>2.23 | KOII a  |                |                     |                                   |                 | 4ci  | std vel | 1800 ADU max                     |         |
| 6sec     |           |        |           |         |                |                     |                                   |                 | 5ci  |         |                                  |         |





Spectr. Temp. .... Dome Temp./Hum.  $-10.6^{\circ}\text{C}$  5678H Transparency Conditions ... *s/ hazy* ..... 220.

Focus ... *235* .....

Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Mag. | Sp.                  | Inst.          | Grating/<br>Tilt | Slit           | Emulsion | P.H. | Program | Remarks  | Quality |
|-----------|--------|------|----------------------|----------------|------------------|----------------|----------|------|---------|--|---------|
| 6s        |        |      |                      | Echelle<br>CCD |                  | W 60u<br>H 40u | 5200A    | 6i   |         |  |         |
| 674       | 6"     | 20   | F58Ib                |                |                  |                |          |      | kk pgn  | 3K ADU GENERAL MAX                             |         |
| 6s        |        |      |                      |                |                  |                |          |      |         | CCDT = $-102.0^{\circ}\text{C}$                |         |
| 820       |        |      |                      |                |                  |                |          |      |         |  |         |
| 6s        |        |      |                      |                |                  |                |          |      |         |  |         |
| 6s        |        |      |                      |                |                  |                |          |      |         |  |         |
| 6s        |        |      |                      |                |                  |                |          |      |         | Dome T = $-10.8^{\circ}\text{C}$               |         |
| 6sec      |        |      |                      |                |                  |                |          |      |         |  |         |
| 966       | 3"     | 3.1  | G0I-II - G0II - G5Ib |                |                  |                |          | 2ci  |         | 2800 MAX ADU<br>Std Vel & MAX STD for Capella? |         |
| 6sec      |        |      |                      |                |                  |                |          | 3ci  |         |  |         |
| 1         |        |      |                      |                |                  |                |          | 3ci  |         |  |         |
| 1099      | 4" 10" | 1.79 | F5Ib                 |                |                  |                |          | 4ci  |         | <del>not used</del> PERS for KK 4200 MAX       |         |
| 6sec      |        |      |                      |                |                  |                |          | 5ci  |         |  |         |





Spectr. Temp. .... Dome Temp./Hum.  $-12.2^{\circ}\text{C} / 54.7\%$  Transparency Conditions ..... H.A. 3% ..... 322

Focus ..... 0.235

Spectr. Temp. .... Dome Temp./Hum.  $-12.8^{\circ}\text{C} / 50.0\%$   
 $\lambda$  LAMBDA

| Exp. Mtr. | Seeing | Mag.           | Sp.                 | Inst. | Grating/Tilt | Slit                      | Emulsion | P.H. | Program | Remarks          | Quality |
|-----------|--------|----------------|---------------------|-------|--------------|---------------------------|----------|------|---------|------------------|---------|
| 6003      |        |                |                     | CCD   | 18.08        | 60 $\mu$ W<br>400 $\mu$ H | 5200A    |      | KK pgm  | X-ray - 0.3990   |         |
| 60        |        | <del>2.0</del> | F2V                 |       |              |                           |          |      |         |                  |         |
| 900       |        |                |                     |       |              |                           |          |      | KK pgm  |                  |         |
| 65        |        | 3.93           |                     |       |              |                           |          |      |         |                  |         |
| 904       |        |                |                     |       |              |                           |          | 6ci  | KK pgm  | 1100 ADU MAX     |         |
| 65        |        |                |                     |       |              |                           |          | 7ci  |         |                  |         |
|           |        |                |                     |       |              |                           |          | 1ci  |         | Dome T = -12.2°C |         |
| 65        |        |                |                     |       |              |                           |          | 3ci  |         |                  |         |
| 780       | 3"     | 2.0            | F5-8I $\frac{1}{2}$ |       |              |                           |          | 4ci  | KK pgm  | 5500 ADU MAX     |         |
| 65        |        |                |                     |       |              |                           |          | 5ci  |         |                  |         |
| 65        |        |                |                     |       |              |                           |          |      |         |                  |         |
| 779       |        |                |                     |       |              |                           |          | 6ci  | KK pgm  |                  |         |
| 65        |        |                |                     |       |              |                           |          | 5ci  |         |                  |         |
| 783       |        |                |                     |       |              |                           |          | 7ci  | KK pgm  |                  |         |
| 65        |        |                |                     |       |              |                           |          | 3ci  |         |                  |         |





Spectr. Temp. .... Dome Temp./Hum.  $-13.4^{\circ}\text{C}$   $50\% \text{H}$  Transparency Conditions ...  $51 \text{ Hz}$  ...  $324$  ..

Focus .....  $0:235$  .....

Spectr. Temp. .... Dome Temp./Hum.  $-14.2^{\circ}\text{C}$   $50\%$

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp.    | Inst.                   | Grating/Tilt      | Slit        | Emulsion | P.H.           | Program       | Remarks                         | Quality |
|-----------|--------|-----------|--------|-------------------------|-------------------|-------------|----------|----------------|---------------|---------------------------------|---------|
| 6s        |        |           |        | Echelle<br>CCO          | 600 lines<br>3990 | 60u<br>400u | 5200A    |                |               |                                 |         |
| 35s       |        |           |        |                         |                   |             |          |                | $\alpha$ -B00 | std vel                         |         |
| 6s        |        |           |        |                         |                   |             |          | <del>4ci</del> |               |                                 |         |
|           |        |           |        |                         |                   |             |          | 4ci            | $\alpha$ B00  | std vel                         |         |
| 6s        |        |           |        |                         |                   |             |          |                |               |                                 |         |
| 6s        |        |           |        |                         |                   | 60u<br>600u |          | 6ci            |               | CCOT = $-100.3^{\circ}\text{C}$ |         |
|           |        |           |        | Topup finished @ 03 EST |                   |             |          |                |               | Dome T = $-135^{\circ}\text{C}$ |         |
| 6s        |        |           |        |                         |                   |             |          |                |               |                                 |         |
| 690       | poor   | 20        | F5-8Ib |                         |                   |             |          | 7ci            | K K pga       | Tel Far east                    |         |
| 6s        |        |           |        |                         |                   |             |          | 5ci            |               |                                 |         |
| 685       |        |           |        |                         |                   |             |          |                |               |                                 |         |
| 6s        |        |           |        |                         |                   |             |          | 3ci            |               |                                 |         |
| 666       |        |           |        |                         |                   |             |          | 7ci            |               | 8000 MAX ADU                    |         |
|           |        |           |        |                         |                   |             |          | 5ci            |               |                                 |         |
| Asz       |        |           |        |                         |                   |             |          | 3ci            |               |                                 |         |
|           |        |           |        |                         |                   |             |          | 1c             |               |                                 |         |

325  
Pg #1

Fri - SAT

Date ... 9.3 - MAR. 12/13.... Observers ... [KKJ]/[Fbr]/[Tr].....

Emulsion Batches:

.....  
.....  
.....

| Plate No.          | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison  |      |
|--------------------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|-------------|------|
|                    |          |              |                     |                         |                       |                   |             | Type/Filter | Exp. |
| <del>CE05737</del> | BIAS(4)  |              |                     |                         |                       |                   |             |             |      |
| 38                 | Comp     |              |                     |                         |                       |                   |             | THAr        | 65   |
| 39                 | HD 34029 | 05 09 18     | 45 54               | 19 32 59                |                       |                   |             |             | 2085 |
| 40                 | Comp     |              |                     |                         |                       |                   |             | THAr        | 65   |
| 41                 | HD 34029 | 05 09 18     | 45 54               | 19 40 34                |                       |                   |             |             | 2095 |
| 42                 | Comp     |              |                     |                         |                       |                   |             | THAr        | 65   |
| 43                 | HD 34029 | 05 09 18     | 45 54               | 19 48 18                |                       |                   |             |             | 1975 |
| 44                 | Comp     |              |                     |                         |                       |                   |             | THAr        | 65   |
| 45                 | HD 34029 | 05 09 18     | 45 54               | 19 56 09                |                       |                   |             |             | 171  |
| 46                 | Comp     |              |                     |                         |                       |                   |             | THAr        | 65   |
| 47-49              | FLAT x 3 |              |                     |                         |                       |                   |             | THAr        | 65   |
| 50                 | Comp     |              |                     |                         |                       |                   |             | THAr        | 65   |
| 51                 | HD 62509 | 07 39 12     | 28 16               | 20 14 47                |                       |                   |             |             | 538  |
| 52                 | Comp     | 07 39 12     | 28 16               |                         |                       |                   |             | THAr        | 65   |
| 53                 | HD 62509 | 07 39 12     | 28 16               | 20 26 26                |                       |                   |             |             | 500  |



Spectr. Temp. .... Dome Temp./Hum.  $-8.0^{\circ}C$  67.8% H Transparency Conditions ... Hk. Cirrus ..... 326.

Focus ..... 225 .....

Spectr. Temp. .... Dome Temp./Hum. ....  $C$  LAMBDA

Topup complete by 18:30  
90 CGAIN CCDT -  $-100^{\circ}C$

| Exp. Mtr. | Seeing | Mag.             | Sp.  | Inst.          | Grating/<br>Tilt       | Slit | Emulsion | P.H. | Program   | Remarks                     | Quality |
|-----------|--------|------------------|------|----------------|------------------------|------|----------|------|-----------|-----------------------------|---------|
|           |        |                  |      | Echelle<br>CCD | 600 $\mu$ /mm<br>19.12 |      | 5180A    |      |           | Xg rating = 0.3993          |         |
| 65        |        |                  |      |                |                        |      |          |      |           | 5200AD4 MAX                 |         |
| 2085      | 71     | Variable<br>POOR |      |                |                        |      |          |      | Crus. CCD | TEI<br>3/4 OBSCURED by dome |         |
| 65        |        |                  |      |                |                        |      |          | 4c.  |           |                             |         |
| 2095      | 3263   |                  |      |                |                        |      |          | 5ci  |           | MAX $\approx$ 9K            |         |
| 65        |        |                  |      |                |                        |      |          | 4ci  |           |                             |         |
| 1975      | 4660   |                  |      |                |                        |      |          | 6ci  |           | MAX $\approx$ 12K AD4       |         |
| 65        |        |                  |      |                |                        |      |          | 7ci  |           |                             |         |
| 171       | 4500   |                  |      |                |                        |      |          |      |           |                             |         |
| 65        |        |                  |      |                |                        |      |          |      |           |                             |         |
| 65        |        |                  |      |                | 800 $\mu$ -H           |      |          |      |           |                             |         |
| 65        |        |                  |      |                |                        |      |          |      |           |                             |         |
| 585       | 4000   | 1.14             | KOUB |                |                        |      |          |      | Std Vel   | A Few Clouds.               |         |
| 65        | ~4"    |                  |      |                |                        |      |          |      |           | Air is VERY UNSTABLE        |         |
| 580       | ~500   | ~4"              |      |                |                        |      |          |      | Std Vel   | Seeing Very Poor            |         |





Spectr. Temp. .... Dome Temp./Hum.  $-3.9^{\circ}\text{C}/69.1\%$  Transparency Conditions  $\text{Partly Cloudy} \dots 328 \dots$   
 Focus  $\dots 0.225 \dots$  (2028)  
 Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr. | Seeing | Hg. Mag. | Sp.   | Inst.                                       | Grating/Tilt       | Slit   | Emulsion | P.H. | Program             | Remarks  | Quality |
|-----------|--------|----------|-------|---|--------------------|--|----------|------|---------------------|--|---------|
| 6s        |        |          |       | Echelle CCD                                 | 6001m/mm<br>12.12  | 60u<br>600u H                                  | 5180A    |      |                     | Xgrating = <u>0.3993</u>                                 |         |
| 6s        |        |          |       |   |                    |  |          |      |                     |  |         |
| 332       | 2110   | 4"6"     | 3.1   | G07- <del>516</del>                         |                    |  |          | 6ci  | Std Vel = Sp MK STD |  |         |
| 6s        |        |          |       |   |                    |  |          |      |                     |  |         |
| 6s        |        |          |       |   |                    |  |          |      |                     |  |         |
| 6s        |        |          |       | Echelle 17-66                               | xgrating<br>0.4003 | 60u<br>800u Height<br>60u width<br>600u Height | 5158A    | 6ci  |                     | echelle xgrating settings changed to Dec 13/92 settings. |         |
| 169       | 3000   | 0.08     | G6111 | MADE note in Dec 13/92 page on xgrating set |                    |  | 5158A    |      |                     |  |         |
| MP        | 3K     |          |       |   |                    |  |          |      | kk pgm              |  |         |
| 6s        |        |          |       |   |                    |  |          |      |                     |  |         |
| 6s        | 3000   | 0.08     | G6111 |   |                    |  |          |      | Capella             | NICE SPECTRA!  |         |
| 6s        |        |          |       |   |                    |  |          |      |                     |  |         |
|           |        |          |       |   |                    |  |          |      |                     | Dome T = $-9.0^{\circ}\text{C}$                          |         |

329 pg #3

Emulsion Batches:

Date 93-M.A.A. 12/13..... Observers E.K.K. T./Vbr.....

| Plate No.  | Object    | R.A.<br>1900                   | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison  |      |
|------------|-----------|--------------------------------|---------------------|-------------------------|-----------------------|-------------------|-------------|-------------|------|
|            |           |                                |                     |                         |                       |                   |             | Type/Filter | Exp. |
| ce05770    | Comp      |                                |                     |                         |                       |                   |             |             |      |
| 71         | HD 62509  | 07 39 12                       | 28 16               | 21 43 03                |                       | 01 08 W           |             |             | 273  |
| 72         | Comp.     |                                |                     |                         |                       |                   |             |             |      |
| 73         | HD 62509  | 07 39 12                       | 28 16               | 21 50 07                |                       |                   |             |             | 194. |
| 74         | Comp      |                                |                     |                         |                       |                   |             | TWAr        | 6s.  |
| 75         | Comp      |                                |                     |                         |                       |                   |             | TWAr        | 6s   |
| 76         | HD 84441  | 09 40 12                       | 24 14               | 22 01 15                |                       | 00 22 E           |             |             | 985  |
| 77         | Comp      |                                |                     |                         |                       |                   |             | ThAr        | 6s   |
| 78         | HD 84441  | 09 40 12                       | 24 14               | 22 19 58                |                       |                   |             |             | 950  |
| 79         | Comp      |                                |                     |                         |                       |                   |             | TWAr        | 6s.  |
| 80         | Bias (4)  |                                |                     |                         |                       |                   |             |             |      |
| 81         | Comp      |                                |                     |                         |                       |                   |             | ThAr        | 6s   |
| 82         | HD 47105  | 06 31 56                       | +16 29              | 22 49 53                |                       | 03 30 W           |             |             | 702  |
| 83         | Comp      |                                |                     |                         |                       |                   |             | ThAr        | 6s   |
| → 84<br>88 | FLATS x 5 | At Capella posn circ 21 30 EST |                     |                         |                       | 03 35 W +46°      |             | TUNG        | 11s  |



Spectr. Temp. .... Dome Temp./Hum.  $-9.4^{\circ}\text{C}$  ...  $72\%$  Transparency Conditions ..... Thin Clouds ..... 550

Focus ..... 0.225

Spectr. Temp. .... Dome Temp./Hum.  $-9.6^{\circ}\text{C}$  ...  $72.3\%$

| Exp. Mtr. | Seeing | Ptg. Mag. | Sp.      | Inst.                        | Grating/Tilt           | Slit                       | Emulsion | P.H. | Program           | Remarks                         | Quality |
|-----------|--------|-----------|----------|------------------------------|------------------------|----------------------------|----------|------|-------------------|---------------------------------|---------|
|           |        |           |          | 17-66 tilt<br>Etellet<br>C10 | 600 lines/mm<br>0.4003 | 60um<br>400um              | 5158A    |      |                   | X-ray rating - 0.4003           |         |
| 3300      | 1.2"   |           | KOUI6    |                              |                        |                            |          |      | std vel           | Thin Clouds                     |         |
| 2500      |        |           |          |                              |                        |                            |          |      |                   |                                 |         |
| 1350      | 4"     | 3.1       | GOU-G576 |                              |                        |                            |          | 5ci  | std vel & MAX STD | 5K HDU max                      |         |
| 1300      |        |           |          |                              |                        |                            |          |      |                   |                                 |         |
|           |        |           |          |                              |                        |                            |          | 1ci  |                   | Demo T = $-9.8^{\circ}\text{C}$ |         |
|           |        |           |          |                              |                        |                            |          | 4ci  |                   |                                 |         |
| 1270      | 3"     | 1.93      | A125     |                              |                        |                            |          | 5ci  | 1ck pgm           | 4K typical MAX                  |         |
|           |        |           |          |                              |                        |                            | 5158A    | 7ci  |                   |                                 |         |
|           |        |           |          |                              |                        | 60um width<br>600um height |          | 2ci  |                   |                                 |         |







333 Sun-mon  
pg#L

Emulsion Batches:

Date 1993 MAR 14/15... Observers [H.K.] Tn.....

CSS 386 TIME only 3secs. behind... W.W.V. Time

| Plate No.     | Object                    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.      |
|---------------|---------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-----------|
| CE05792<br>93 | in board/OUTBOARD HARTMAN |              |                     |                         |                       | 200 00            | +75°        | ThAr                      | 4 1/4 sec |
| 94            | BIAS(A)                   |              |                     |                         |                       | 00 27E            | 75 44       |                           |           |
| 95<br>99      | FLATS x5                  |              |                     |                         |                       | 00 22E            | +75 44      |                           | 5sec      |
| CE05800       | Comp                      |              |                     |                         |                       |                   |             | ThAr                      | 6sec      |
| 01            | HD 8890                   | 01 22 36     | +88 46              | 19 48 47                |                       | 05 01W            | +89 14 48   |                           | 5+5s      |
| 02            | Comp                      |              |                     |                         |                       |                   |             | ThAr                      | 6sec      |
| 03            | HD 8890                   |              |                     | 20 00 40                |                       |                   |             |                           | 53s       |
| 04            | Comp                      |              |                     |                         |                       |                   |             | ThAr                      | 6sec      |
| 05            | HD 8890                   |              |                     | 20 13 17                |                       | 05 26W            |             |                           | 562s      |
| 06            | Comp                      |              |                     |                         |                       |                   |             | ThAr                      | 6sec      |
| 07            | Comp                      |              |                     | 20 31 36                |                       |                   |             | "                         | 6sec      |
| 08            | HD 34029                  | 05 09 18     | +45 54              | 20 32 45                |                       |                   |             |                           | 163s      |
| 09            | Comp                      |              |                     |                         |                       |                   |             | ThAr                      | 6sec      |
| 10            | HD 34029                  |              |                     | 20 41 42                |                       |                   |             |                           | 153s      |
| 11            | Comp                      |              |                     |                         |                       |                   |             | ThAr                      | 6sec      |

Spectr. Temp  
Focus...  
Spectr. Temp

Exp. Mtr.

Note

500

1585

1587

2530

3530

3520



Spectr. Temp. .... Dome Temp./Hum.  $-10.5^{\circ}\text{C}$  46% H Transparency Conditions ... FINE ..... 334..

Focus ... 225 .....

Spectr. Temp. .... Dome Temp./Hum. .... CCD T  $\rightarrow -100^{\circ}\text{C}$

| Exp. Mtr. | Seeing          | Mag. Mag.      | Sp.    | Inst.                        | Grating/Tilt            | Slit               | Emulsion | P.H. | Program                       | Remarks  | Quality |
|-----------|-----------------|----------------|--------|------------------------------|-------------------------|--------------------|----------|------|-------------------------------|--|---------|
| 4/4s      |                 |                |        | 18.08 filt<br>Eckelle<br>CCD | 600 nm/mm<br>.3990 tilt | 60u<br>600u        | 5200A    |      | outboard SI Red<br>in 3 pixel | T = $-10.5^{\circ}\text{C}$ and dropping fast              |         |
|           |                 |                |        |                              |                         | 80u<br>600u height |          | 3ci  |                               | Dome T = $-11.0^{\circ}\text{C}$<br>MAX 10K ADU/pixel      |         |
| 5sec      |                 |                |        |                              |                         | 60u<br>400u        |          | 4ci  |                               | Tel normalized on HR2289                                   |         |
| 545s      | 500             | 4 <sup>n</sup> | 20     | F5-876                       |                         | "                  |          | 5ci  | KK pgn                        | $\Delta d = -00 18 50$ GFADU<br>$\Delta S = +00 01 42$ MAX |         |
| 6sec      |                 |                |        |                              |                         |                    |          | 6ci  |                               | 6K typical MAX 600amps                                     |         |
| 53s       | 1685            | 3 <sup>n</sup> |        |                              |                         |                    |          | 7ci  | KK pgn                        |  |         |
| 6sec      |                 |                |        |                              |                         |                    |          | 2ci  |                               |  |         |
| 562s      | 1587            |                |        |                              |                         |                    |          | 3ci  | KK pgn                        | SI movement? rel to others                                 |         |
| 6sec      |                 |                |        |                              |                         |                    |          | 4ci  |                               |  |         |
| 6sec      | <del>3530</del> |                |        |                              |                         |                    |          | 6ci  |                               | $\approx 10\text{K max generally}$                         |         |
| 163s      | 3530            | v<br>008       | G6 III |                              |                         |                    |          | 7ci  | KK pgn                        |  |         |
| 6sec      |                 |                |        |                              |                         |                    |          | 5ci  |                               |  |         |
| 153s      | 3520            |                |        |                              |                         |                    |          | 7ci  |                               |  |         |
| 6sec      |                 |                |        |                              |                         |                    |          | 2ci  |                               |  |         |



335 pg #2

Date 1993 MAR 14 1995 Observers [MK] Tn... some HW

Emulsion Batches:

.....  
 .....  
 .....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| ce05812   | HD 34029 | 05 09 18     | +45 54              | 20 46 29                |                       | 02 49 W           |             |                           | 1925 |
| 13        | Comp     |              |                     | 53 24                   |                       |                   |             | ThAr                      | 65   |
| 14        | BIDS (4) |              |                     |                         |                       |                   |             |                           |      |
| 15        | Comp     |              |                     |                         |                       |                   |             | ThAr                      | 680  |
| 16        | HD 62599 | 07 39 12     | +28 16 00           | 21 00 17                |                       |                   |             |                           | 1945 |

Spectr. Temp.  
 Focus.....  
 Spectr. Temp.  
 Exp. Mtr.  
 3591  
 300



Spectr. Temp. .... Dome Temp./Hum.  $-13.0^{\circ}\text{C}$  50.6% Transparency Conditions ... *SI hazy* ..... 35%

Focus ..... *225* .....  
 WARM ROOM Humidity = 32% ∴ Kettle run a bit

Spectr. Temp. .... Dome Temp./Hum. ....

| Exp. Mtr.   | Seeing | Ptg. Mag. | Sp.           | Inst.          | Grating/Tilt    | Slit        | Emulsion | P.H. | Program | Remarks   | Quality |
|-------------|--------|-----------|---------------|----------------|-----------------|-------------|----------|------|---------|---|---------|
| 1925<br>65  |        |           |               | echelle<br>CCD | 600/1mm<br>3990 | 60u<br>400u | 5200A    | 7ci  | ht pgm  | * possible sat'n on LOWER ORDER<br>(incomplete order that is) |         |
|             |        |           |               |                |                 |             |          | 1ci  |         | CCDT = -1020C   |         |
|             |        |           |               |                |                 |             |          | 2ci  |         | MAX = 7400 ADU for cut off                                    |         |
| 1945<br>630 |        | ✓<br>1.14 | KOIMB         |                |                 |             |          | 3ci  | std vel | MAX = 6500 ADU  |         |
|             |        |           |               |                |                 |             |          | 4ci  |         |   |         |
| 287<br>650  |        |           |               |                |                 |             |          | 5ci  | std vel | 9700 ADU MAX  |         |
|             |        |           |               |                |                 |             |          | 6ci  |         |   |         |
|             |        |           |               |                |                 |             |          | 7ci  |         |   |         |
| 638<br>650  |        | ✓<br>3.45 | 1993<br>A1 Ds |                |                 |             |          | 7ci  | ht pgm  |   |         |
|             |        |           |               |                |                 |             |          | 4ci  |         |   |         |
| 750<br>650  |        |           |               |                |                 |             |          | 7ci  |         |   |         |
|             |        |           |               |                |                 |             |          | 2ci  |         |   |         |
|             |        |           |               |                |                 |             |          | 1ci  |         |   |         |
| 650         |        |           |               |                |                 |             |          | 2ci  |         |   |         |

337 pg #3

Date 1993 MAR 14/15... Observers [K.H.] T<sub>2</sub>.....

10

Emulsion Batches:

.....  
.....  
.....

| Plate No. | Object           | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-----------|------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| CE05827   | HD 61421 Procyon | 07 34 07     | +05 29 00           | 21 53 03                |                       | 01 31 W           |             |                           | 233  |
| 28        | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 29        | HD 61421         |              |                     | 21 59 19                |                       |                   |             |                           | 248  |
| 30        | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 31        | Comp             |              |                     |                         |                       |                   |             | "                         | 6sec |
| 32        | HD 8890          | 01 22 36     | +88 46 00           | 22 16 33                |                       | 07 27 W           |             |                           | 441  |
| 33        | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 34        | HD 8890          |              |                     | 22 25 47                |                       |                   |             |                           | 444  |
| 35        | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 36        | HD 8890          |              |                     | 22 36 08                |                       |                   |             |                           | 557  |
| 37        | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 6sec |
| 38        | BIAS (A)         |              |                     | 22 47 44                |                       | 07 52 W           | +89 14      |                           |      |
| 39        | Comp             |              |                     | 22 56 52                |                       |                   |             | ThAr                      | 6s   |
| 40        | HD 84441         | 09 40 12     | +24 14 00           | 22 58 59                |                       | 00 47 W           |             |                           | 1209 |
| 41        | Comp             |              |                     |                         |                       |                   |             | ThAr                      | 6s   |

Spectr. Temp.

Focus... 2

Spectr. Temp.

Exp. Mtr.

3011

3000

1738

1736

1720

1627



Spectr. Temp. .... Dome Temp./Hum.  $-13.7^{\circ}\text{C}$   $66\%$ \* Transparency Conditions  $Sl$  hazy, some cloud 300

Focus  $1.775$  .....

Spectr. Temp. .... Dome Temp./Hum.  $-14.0^{\circ}\text{C}$   $66\%$  *Note BIHS(4) s sure a bit noisy tonight, as I think they were recent nights too.*

| Exp. Mtr. | Seeing | Mag. Mag. | Sp.  | Inst. 18.05 | Grating/Tilt | Slit    | Emulsion | P.H. | Program          | Remarks                           | Quality |
|-----------|--------|-----------|------|-------------|--------------|---------|----------|------|------------------|-----------------------------------|---------|
| 233       | 3011   | 0.34      | F5IV | echelle CCD | 600' 3990    | 60u 40u | 5200A    | 3ci  | Std for tk       | 18 K MAX max generally            |         |
| 65e       |        |           |      |             |              |         |          | 4ci  |                  |                                   |         |
| 248       | 3000   |           |      |             |              |         |          | 5ci  |                  | * Water Relay, clicked during exp |         |
| 65e       |        |           |      |             |              |         |          | 6ci  |                  | 7546 MAX ADU                      |         |
| 65e       |        |           |      |             |              |         |          | 6ci  |                  | 7060 MAX ADU                      |         |
| 441       | 1738   | 2.3"      | 2.0  | F5-8IV      |              |         |          | 7ci  | tk pgm           | CCDT = $-100.5^{\circ}\text{C}$   |         |
| 65e       |        |           |      |             |              |         |          | 2ci  |                  |                                   |         |
| 444       | 1736   |           |      |             |              |         |          | 3ci  |                  | ✓                                 |         |
| 65e       |        |           |      |             |              |         |          | 4ci  |                  |                                   |         |
| 557       | 1720   | 3.4"      |      |             |              |         |          | 7ci  |                  | ✓                                 |         |
| 65e       |        |           |      |             |              |         |          | 2ci  |                  |                                   |         |
| 65        |        |           |      |             |              |         |          | 5ci  | st.              |                                   |         |
| 1209      | 1627   | 2.4"      | 3.1  | G0II-G5IV   |              |         |          | 6ci  | Std Vel c mk Std |                                   |         |
| 65        |        |           |      |             |              |         |          | 2ci  |                  |                                   |         |







341 ~~1993~~ - wed - Thurs  
 1993

Emulsion Batches:

Date 1993 MAR 17/18..... Observers [K.K.] T.H.....

CS386 Clock slow, "Behind" .. W.M.V. .. by .. 7.5 sec. .. OK.

| Plate No. | Object                   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp   |
|-----------|--------------------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| 0005850   | BIAS(4)                  |              |                     | 19 09                   |                       | 04 15 W           | +89°        |                           |       |
| 51        |                          |              |                     |                         |                       |                   |             |                           |       |
| 53        | FLATS x 3                |              |                     | 19 11                   |                       | 04 25             | "           | TUNG                      | 5 sec |
| 54        | Comp                     |              |                     |                         |                       |                   |             | Th Ar                     | 6 sec |
| 55        | HD 8890                  | 01 22 36     | +88 46              | 19 21 44                |                       | 04 50 W           |             |                           | 900   |
| 56        | Comp                     |              |                     |                         |                       |                   |             | Th Ar                     | 6 sec |
| 57        | HD 8890                  |              |                     | 19 39 09                |                       |                   |             |                           | 845   |
| 58        | Comp <u>edit header?</u> |              |                     |                         |                       |                   |             | Th Ar                     | 6 sec |
| 59        | HD 8890                  |              |                     | 19 55 22                |                       |                   |             |                           | 880   |
| 60        | Comp                     |              |                     |                         |                       |                   |             | Th Ar                     | 6 sec |
| 61        | Comp                     |              |                     |                         |                       |                   |             | "                         | "     |
| 62        | HD <del>34</del> 029     | 05 09 18     | +45 54              | 20 18 12                |                       |                   |             |                           | 300   |
| 63        | comp                     |              |                     |                         |                       |                   |             | Th Ar                     | 6 s   |
| 64        | HD 340 29                |              |                     | 20 23 27                |                       |                   |             |                           | 291   |
| 65        | Comp                     |              |                     |                         |                       |                   |             | Th Ar                     | 6 s   |
| 66        | HD 340 29                |              |                     | 20 32 11                |                       |                   |             |                           |       |
| 67        | comp                     |              |                     |                         |                       |                   |             | Th Ar                     | 6 s   |



Spectr. Temp. .... Dome Temp./Hum.  $-9.4^{\circ}\text{C}$  46% Transparency Conditions *FINE* ..... 342

Focus ..... 225 prob. ok. unchanged. SAME cold wave as previous nights. gusty NW wind  
 Spectr. Temp. .... Dome Temp./Hum.  $-11.8^{\circ}\text{C}$  51% Topup done by 18 45  
 90 CG4in CCDT  $\rightarrow -100^{\circ}\text{C}$

| Exp. Mtr. | Seeing | Mag. | Sp.  | Inst.               | Grating/Tilt      | Slit                     | Emulsion | P.H. | Program | Remarks   | Quality |
|-----------|--------|------|------|---------------------|-------------------|--------------------------|----------|------|---------|---|---------|
|           |        |      |      | E-Kelle<br>CCD 1848 | 600 m/mu<br>-3498 | 60u<br>600u              | 5200A    | 1ci  |         | Dome T = $-10.2^{\circ}\text{C}$<br>Tel Normalized on HR 2289 | again   |
| 530       |        |      |      |                     |                   | "                        | "        | 3ci  |         | MAX 13k ADU/pixel   |         |
| 630       |        |      |      |                     |                   | 60u width<br>400u height |          | 4ci  |         |   |         |
| 900       | 450    | poor | 2.0  | F8-816              |                   |                          |          | 5ci  | k/k pgn | 3.2k MAX ADU @ 580-600 rows                                   |         |
| 630       |        |      |      |                     |                   |                          |          | 6ci  |         |   |         |
| 845       | 1030   |      |      |                     |                   |                          |          | 7ci  | k/k pgn | 34k MAX ADU   |         |
| 630       |        |      |      |                     |                   |                          |          | 2ci  |         |   |         |
| 830       | 1040   |      |      |                     |                   |                          |          | 3ci  | k/k pgn |   |         |
| 630       |        |      |      |                     |                   |                          |          | 4ci  |         |   |         |
| 4         |        |      |      |                     |                   |                          |          | 4ci  |         |   |         |
| 330       | 3350   | poor | 0.08 | G6 III              |                   |                          |          | 2ci  | k/k pgn | MAX 10k ADU   |         |
| 630       |        |      |      |                     |                   |                          |          | 4ci  |         | 8k MAX for comp   |         |
| 270       | 3350   |      |      |                     |                   |                          |          | 2ci  | k/k pgn |   |         |
| 630       |        |      |      |                     |                   |                          |          | 6ci  |         |   |         |
| 330       | 3347   |      |      |                     |                   |                          |          | 2ci  | k/k pgn |   |         |
| 630       |        |      |      |                     |                   |                          |          | 4ci  |         |   |         |

343  
M<sup>2</sup>

Emulsion Batches:

Date 1993 MAR 17/18..... Observers [KK] J.L.....

| Plate No. | Object   | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.             |
|-----------|----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------------------|
| 000 5868  | BIHS(4)  |              |                     | 20 38                   |                       | 2.48W             | +16°        |                           |                  |
| 69        | Comp     |              |                     |                         |                       |                   |             | Th Ar                     | 65               |
| 70        | HD 62509 | 07 39 12     | +28 16 00           | 20 44 51                |                       | 00 32 W           |             |                           | 454              |
| 71        | Comp     |              |                     |                         |                       |                   |             | Th Ar                     | 65               |
| 72        | HD 62509 |              |                     | 20 55 19                |                       |                   |             |                           | 306              |
| 73        | Comp     |              |                     |                         |                       |                   |             | Th Ar                     | 65               |
| 74        | Comp     |              |                     |                         |                       |                   |             | "                         | "                |
| 75        | HD 8890  | 01 22 36     | +88 46              | 21 13 49                |                       |                   |             |                           | 664              |
| 76        | Comp     |              |                     |                         |                       |                   |             | Th Ar                     | 65               |
| 77        | HD 8890  |              |                     | 21 27 49                |                       |                   |             |                           | 679              |
| 78        | Comp     |              |                     |                         |                       |                   |             | Th Ar                     | 65               |
| 79        | HD 8890  |              |                     | 21 41 11                |                       | 07 065 W          |             |                           | 600 <sub>3</sub> |
| 80        | Comp     |              |                     |                         |                       |                   |             | Th Ar                     | 65               |
| 81        | Comp     |              |                     |                         |                       |                   |             | "                         | 64               |
| 82        | HD 84441 | 09 40 12     | +24 14 00           | 22 01 25                |                       |                   |             |                           | 1242             |
| 83        | Comp     |              |                     |                         |                       |                   |             | Th Ar                     | 65               |



Spectr. Temp. .... Dome Temp./Hum.  $-11.7^{\circ}\text{C}$  51% Transparency Conditions *FINE* ..... 344

Focus *1225* .....

Spectr. Temp. .... Dome Temp./Hum.  $-12.0^{\circ}\text{C}$  53%

| Exp. Mtr.  | Seeing      | Mag.        | Sp.             | Inst.                                | Grating/<br>Tilt                | Slit                        | Emulsion     | P.H.       | Program                | Remarks  | Quality |
|------------|-------------|-------------|-----------------|--------------------------------------|---------------------------------|-----------------------------|--------------|------------|------------------------|--|---------|
|            |             |             |                 | <i>echelle con</i><br><i>1808:14</i> | <i>600nm max</i><br><i>3990</i> | <i>60nm</i><br><i>400nm</i> | <i>5200A</i> | <i>1ci</i> |                        |  |         |
| <i>6s</i>  |             |             |                 |                                      |                                 |                             |              | <i>4ci</i> |                        | <i>MAX <del>7.2</del> K ADU</i>  |         |
| <i>454</i> | <i>1460</i> | <i>1.94</i> | <i>KO III b</i> |                                      |                                 |                             |              | <i>5ci</i> | <i>std vel</i>         | <i>6.1 K MAX</i>   |         |
| <i>6s</i>  |             |             |                 |                                      |                                 |                             |              | <i>6ci</i> |                        | <i><del>6.4</del> 7.94 K max</i>   |         |
| <i>306</i> | <i>1480</i> |             |                 |                                      |                                 |                             |              | <i>5ci</i> | <i>std vel</i>         |  |         |
| <i>6s</i>  |             |             |                 |                                      |                                 |                             |              | <i>6ci</i> |                        | <i>CCDT = <math>-101.0^{\circ}\text{C}</math></i>                        |         |
|            |             |             |                 |                                      |                                 |                             |              | <i>6ci</i> | <i>6.4 K MAX max</i>   | <i>Real Fwhm Now</i><br><i>Focus TV guide Camera</i>                     |         |
| <i>664</i> | <i>1454</i> | <i>4.6"</i> | <i>200</i>      | <i>FS8 Ib</i>                        |                                 |                             |              | <i>7ci</i> | <i>kk pgn</i>          | <i><del>6.4 K MAX</del> 26 K max ADU</i>                                 |         |
| <i>6s</i>  |             | <i>4.6"</i> |                 |                                      |                                 |                             |              | <i>4ci</i> |                        |  |         |
| <i>679</i> | <i>1428</i> |             |                 |                                      |                                 |                             |              | <i>7ci</i> | <i>kk pgn</i>          |  |         |
| <i>6s</i>  |             |             |                 |                                      |                                 |                             |              | <i>4ci</i> |                        |  |         |
| <i>603</i> | <i>1447</i> | <i>3"</i>   |                 |                                      |                                 |                             |              | <i>3ci</i> |                        | <i>sl left of 7ci?</i>   |         |
| <i>6s</i>  |             |             |                 |                                      |                                 |                             |              | <i>4ci</i> |                        |  |         |
| <i>64</i>  |             |             |                 |                                      |                                 |                             |              | <i>4ci</i> |                        |  |         |
| <i>124</i> | <i>1775</i> | <i>1.3"</i> | <i>3-1</i>      | <i>G0II-5 Ib</i>                     |                                 |                             |              | <i>2ci</i> | <i>std vel, MK std</i> | <i>20 K ADU <math>\Sigma</math> Aug 10 cal's</i><br><i>above bkgrnd.</i> |         |
| <i>6s</i>  |             |             |                 |                                      |                                 |                             |              | <i>6ci</i> |                        | <i>1.280/1 S/N</i>   |         |





Spectr. Temp. .... Dome Temp./Hum.  $-11.9^{\circ}\text{C}$   $53.5\% \text{RH}$  Transparency Conditions  $S1$  hazy ..... 346  
 Focus ..... 225 .....  
 Spectr. Temp. .... Dome Temp./Hum.  $-13.4^{\circ}\text{C}$   $55.5\% \text{RH}$  .....

| Exp. Mtr. | Seeing | Mag.     | Sp.  | Inst.                   | Grating/<br>Tilt      | Slit        | Emulsion | P.H. | Program          | Remarks  | Quality |
|-----------|--------|----------|------|-------------------------|-----------------------|-------------|----------|------|------------------|--|---------|
|           |        |          |      | edelle CCD<br>1808 tilt | 600 h/mm<br>13990 set | 60u<br>400u | 5200A    | 1ci  |                  |  |         |
| 1172      | 1260   | 3"       | 3.1  | G0II-G5IB               |                       |             |          | 2ci  | Std vel's        | mk Std   |         |
| 65        |        |          |      |                         |                       |             |          | 4ci  |                  |  |         |
| 1         |        |          |      |                         |                       |             |          | 4ci  |                  |  |         |
| 330       | 3000   |          | 0.34 | FSIV                    |                       |             |          | 5ci  | Std check for tk | <u>7K MAX</u>  |         |
| 65        |        |          |      |                         |                       |             |          | 6ci  |                  |  |         |
| 299       | 3000   |          |      |                         |                       |             |          | 5ci  |                  |  |         |
| 65        |        |          |      |                         |                       |             |          | 4ci  |                  |  |         |
| u         |        |          |      |                         |                       |             |          | 4ci  |                  |  |         |
| 2720      | 520    | 2"-3"-4" | 5.05 | G0V                     |                       |             |          | 2ci  | Mln pgn          | (Tom Meylan) 28k photos<br>above bkground<br>10 cols.<br>528 x 100/1 (170/1 S/N) |         |
| 65        |        |          |      |                         |                       |             |          | 6ci  |                  |  |         |
| 1300      | 308    | 7"-8"    |      |                         |                       |             |          | 3ci  | Mln pgn          | seeing going to pot  |         |
| 65        | 300    |          |      |                         |                       |             |          | 4ci  |                  |  |         |
|           |        |          |      |                         |                       |             |          | 1ci  |                  | Looks clean<br>Better than others<br>recently.                                   |         |

347  
pg #4

Emulsion Batches:

Date 1993.MAR.17/18... Observers [K.H.] m.l.n. J.n.....

| Plate No.  | Object    | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.  |
|------------|-----------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|-------|
| CE05898    | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 6sec  |
| 99         | HD 8890   | 01 22 36     | +88 46              | 00 36 47                |                       | 10 00W            |             |                           | 491   |
| 5900       | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 6sec  |
| 01         | HD 8890   |              |                     | 00 46 20                |                       |                   |             |                           | 465   |
| 02         | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 6sec  |
| 03         | HD 8890   |              |                     | 00 56 00                |                       | 10 20W            |             |                           | 484   |
| 04         | Comp      |              |                     |                         |                       |                   |             | ThAr                      | 6sec  |
| → 05<br>09 | FLATS x 5 |              |                     |                         |                       |                   |             | JUNG                      | 5 sec |
| CE05910    | BIAS(4)   |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |
|            |           |              |                     |                         |                       |                   |             |                           |       |

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mr.

1309

1278

1200



Spectr. Temp. .... Dome Temp./Hum.  $-13.5^{\circ}\text{C}$   $56\% \text{H}$  Transparency Conditions ...  $51 \text{ hazy}$  ..... 348.

Focus .....  $225$  .....

Spectr. Temp. .... Dome Temp./Hum.  $-14.2^{\circ}\text{C}$   $56.5\%$   
 $\text{C L/HUMIDA}$

anson  
Exp.

| Exp. Mtr. | Seeing | Mag. | Sp. | Inst.                    | Grating/<br>Tilt | Slit                    | Emulsion | P.H. | Program  | Remarks                         | Quality |
|-----------|--------|------|-----|--------------------------|------------------|-------------------------|----------|------|----------|---------------------------------|---------|
| 6sec      |        |      |     |                          |                  |                         | 5200A    | 4ci  |          | CCOT = $-100.3^{\circ}\text{C}$ |         |
| 491       | 1309   | 2.4  | 2.0 | F5-816<br>Edelle<br>1808 | 600<br>3990      | 60u<br>400u             | > 225    | 7ci  | K/L pyrn |                                 |         |
| 6sec      |        |      |     |                          |                  |                         |          | 6ci  |          |                                 |         |
| 465       | 1278   |      |     |                          |                  |                         |          | 5ci  |          |                                 |         |
| 6sec      |        |      |     |                          |                  |                         |          | 4ci  |          | E. in Time                      |         |
| 484       | 1200   |      |     |                          |                  |                         |          | 3ci  | K/L pyrn |                                 |         |
| 6sec      |        |      |     |                          |                  |                         |          | 6ci  |          | 5.5K max                        |         |
| 5 sec     |        |      |     |                          |                  | 60u width<br>600u = 205 |          | 4ci  |          | 135 AD4 MAX                     |         |
|           |        |      |     |                          |                  |                         |          | 1ci  |          | CCOT = $-100.3^{\circ}\text{C}$ |         |
|           |        |      |     | OFF To Persans &         |                  | WORK                    |          |      |          |                                 |         |

349  
Ej

Thurs - Fri

Emulsion Batches:

Date 1993 MAR 18/19... Observers ..(Hdy.)..Tn./Fbr....

| Plate No.                     | Object  | R.A.<br>1900 | Declination<br>1900   | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp. |
|-------------------------------|---|--------------|-----------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|------|
| FM00481<br>CC12668<br>CC12669 | AC<br>BD 67ms HD52860 (+ E Int x 133 msec)<br>Focus Comp / Stellar AuA filter |              | 06 57 39<br>+47 55 21 | 19 30                   |                       | 20 00             | +48°        | "N" male                  |      |
| CC12670                       | BIAS (4)  |              |                       |                         |                       |                   |             |                           |      |
| 1                             | COMP  |              |                       | 22 05 00                |                       |                   |             | FeAr<br>clear             | 60s  |
| 2                             | HD 87901  | 10 03 03     | +12 27 22             | 22 10 18                |                       |                   |             |                           | 63s  |
| 3                             | "   | "            | "                     | 12 02                   |                       |                   |             |                           | 63s  |
| 4                             | COMP  |              |                       | 22 14 25                |                       |                   |             | FeAr<br>clear             | 60s  |
| 5<br>6<br>7                   | FLATS X3  |              |                       |                         |                       |                   |             | Tung<br>A=1/2             | 7s   |
| 8                             | BIAS (4)  |              |                       |                         |                       |                   |             |                           |      |
| 9                             | FLAT  |              |                       |                         |                       |                   |             | Tung<br>A=1/2             | 8s   |
| 12680                         | COMP  |              |                       |                         |                       |                   |             | FeAr<br>clear             | 60s  |
| 1                             | BD +18° 2307  | 09 56 11     | +17 53 27             | 22 25 45                |                       |                   |             |                           | 410s |
| 2                             | "   |              |                       | 22 32 53                |                       |                   |             |                           | "    |
| 3                             | "   |              |                       | 22 40 02                |                       |                   |             |                           | "    |
| 4                             | "   |              |                       | 22 47 21                |                       |                   |             |                           | "    |
| 5                             | "   |              |                       | 22 54 30                |                       |                   |             |                           | "    |

Spectr. Ten

Focus...

Spectr. Ten

Exp. Mtr.

Exp

METER

Temp

NO EXP

METER



Spectr. Temp. .... Dome Temp./Hum. ...  $-7^{\circ}\text{C} / 54.1\%$  Transparency Conditions ... FINE ... 350...

Focus ...  $692$  ... LOG BOOK 72 ...  $(1842)$  ...  $-8.8^{\circ}\text{C}$   $64\%$   $2115$

Spectr. Temp. .... Dome Temp./Hum. ....  $90\text{C Gain CCD} \rightarrow -110^{\circ}\text{C}$

$4800501024$   $41$   $\text{red fnt}$

| Exp. Mtr.         | Seeing | Mag. | Sp.              | Inst.    | Grating/Tilt               | Slit                        | Emulsion           | P.H.   | Program      | Remarks                                 | Quality |
|-------------------|--------|------|------------------|----------|----------------------------|-----------------------------|--------------------|--------|--------------|---|---------|
| NO Exp Meter      | Fine   | 6.34 | B90 <sub>n</sub> | CASS CCD | 18 <sup>00</sup><br>G=6035 | 300<br>M                    | $\lambda_c = 6563$ |        | Seeing Test  | FANSON BY 18:40 Done NW. <u>NO WIND</u> |         |
|                   |        |      |                  |          |                            | 250 <sub>n</sub><br>pointer | "                  | 3ci/ki | Focus        | stellar vs SI Red (OK)                  |         |
|                   |        |      |                  |          |                            |                             |                    | 1ci    |              |   |         |
|                   |        |      |                  |          |                            |                             |                    | 3ci    |              | ↓ All with Telescope East side of PERS  |         |
|                   | 24     | 1.35 | B7 <sub>n</sub>  |          |                            |                             |                    | 4ci    | Telluric Std | MAX 14.858 K MAX ADU                    |         |
|                   |        |      |                  |          |                            |                             |                    | 5ci    |              |   |         |
|                   |        |      |                  |          |                            |                             |                    | 6ci    |              |   |         |
|                   |        |      |                  |          |                            |                             |                    | 7ci    |              | 10 K                                    |         |
|                   |        |      |                  |          |                            |                             |                    | 1ci    |              |   |         |
|                   |        |      |                  |          |                            |                             |                    | 8ci    |              | 12557 ADU                               |         |
|                   |        |      |                  |          |                            |                             |                    | 9ci    |              |   |         |
| NO EXPOSURE METER |        | 9.4  | KOV              |          |                            |                             |                    | 10ci   | Hdy pgm      |   |         |
|                   |        |      |                  |          |                            |                             |                    |        |              |   |         |
|                   |        |      |                  |          |                            |                             |                    |        |              |   |         |
|                   |        |      |                  |          |                            |                             |                    | 10ci   |              |   |         |
|                   |        |      |                  |          |                            |                             |                    | 10ci   |              |   |         |

351  
Pg. 2

Emulsion Batches:

Date 1993 MAR 18/19 Observers Hdy/Tn/Fbr

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison<br>Type/Filter | Exp.    |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------------------|---------|
| 12686     | BD+18 2307 | 09 56 11     | +17 53 27           | 23 01 39                |                       |                   |             |                           | 410 sec |
| 7         | "          |              |                     | 23 08 48                |                       |                   |             |                           | 410s    |
| 8         | "          |              |                     | 23 15 57                |                       |                   |             |                           | 410s    |
| CC12689   | BIAS(A)    |              |                     | 23 23 13                |                       |                   |             |                           |         |
| 90        | Comp       |              |                     |                         |                       |                   |             |                           | 60 sec  |
| 91        | FLAT       |              |                     |                         |                       |                   |             | TUNG<br>A=1/2             | 8 sec   |
| 92        | BD+18 2307 |              |                     | 23 28 20                |                       |                   |             |                           |         |
| 93        |            |              |                     | 23 35 28                |                       |                   |             |                           |         |
| 94        |            |              |                     | 23 42 38                |                       |                   |             |                           |         |
| 95        |            |              |                     | 23 49 47                |                       |                   |             |                           |         |
| 96        |            |              |                     | 23 56 55                |                       |                   |             |                           |         |
| 97        |            |              |                     | 00 04 04                |                       |                   |             |                           |         |
| 98        |            |              |                     | 00 11 13                |                       |                   |             |                           |         |
| 99        |            |              |                     | 00 18 22                |                       | 01 54 W           |             |                           |         |
| CC12700   | BIAS(A)    |              |                     |                         |                       |                   |             |                           |         |
| 01        | FLAT       |              |                     | 00 26                   |                       |                   |             | TUNG<br>A=1/2             | 8 sec   |





33  
Pg #3 cont....

Emulsion Batches:

Date 1993 MAR 18/19..... Observers Hdy/Tn/Fbr.....

| Plate No. | Object     | R.A.<br>1900 | Declination<br>1900 | Starting Time<br>E.S.T. | Ending Time<br>E.S.T. | Hour Angle<br>End | Declination | Comparison    |       |
|-----------|------------|--------------|---------------------|-------------------------|-----------------------|-------------------|-------------|---------------|-------|
|           |            |              |                     |                         |                       |                   |             | Type/Filter   | Exp.  |
| CC12702   | Comp       |              |                     | 00 2739                 |                       |                   |             | FeAr<br>CLEAR | 60sec |
| 03        | BD+18 2307 | 09 5611      | +17 5327            | 00 3035                 |                       | 02 05W            |             |               | 410s  |
| 04        |            |              |                     | 3742                    |                       |                   |             |               | "     |
| 05        |            |              |                     | 44 51                   |                       |                   |             |               | "     |
| 06        |            |              |                     | 52 00                   |                       |                   |             |               | "     |
| 07        |            |              |                     | 00 59 09                |                       |                   |             |               | "     |
| 08        |            |              |                     | 01 0618                 |                       |                   |             |               | "     |
| 09        |            |              |                     | 01 1327                 |                       |                   |             |               | "     |
| CC12710   |            |              |                     | 01 2036                 |                       |                   |             |               | "     |
| 11        | BIAS(4)    |              |                     | 01 28                   |                       |                   |             |               | .     |
| 12        | Comp       |              |                     | 01 2904                 |                       |                   |             | FeAr<br>CLEAR | 60s   |
| 13        | FLAT       |              |                     |                         |                       |                   |             | PUNG<br>A=1/2 | 7sec  |
| 14        | BD+18 2307 |              |                     | 01 3430                 |                       |                   |             |               | 410s  |
| 15        | "          |              |                     | 01 4139                 |                       |                   |             |               | "     |
| 16        | "          |              |                     | 01 4848                 |                       |                   |             |               | "     |
| 17        | "          |              |                     | 01 5557                 |                       |                   |             |               | "     |









356

parson  
Exp







