

DVK Project Windhinder
REV

114.0000 □

181.0000 ○

257.0000 ▲

CONS S 3.2500

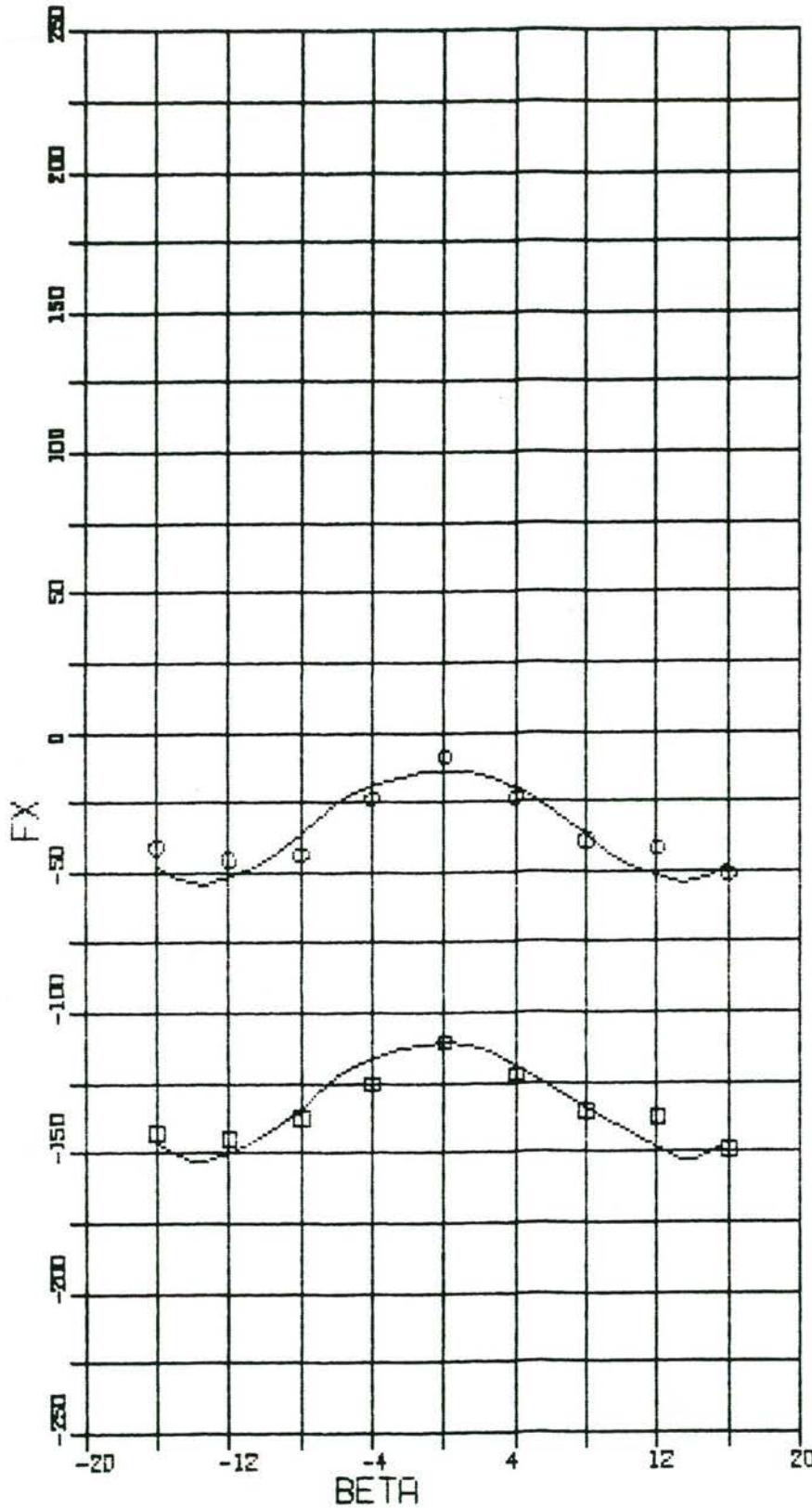
CONS DELTA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FX = F(NN, UN, UU, DDUU, DDNN, DDNNUU, DVUU, DVNN, DVNNUU,

VV, VVVV, VVVV/UU)



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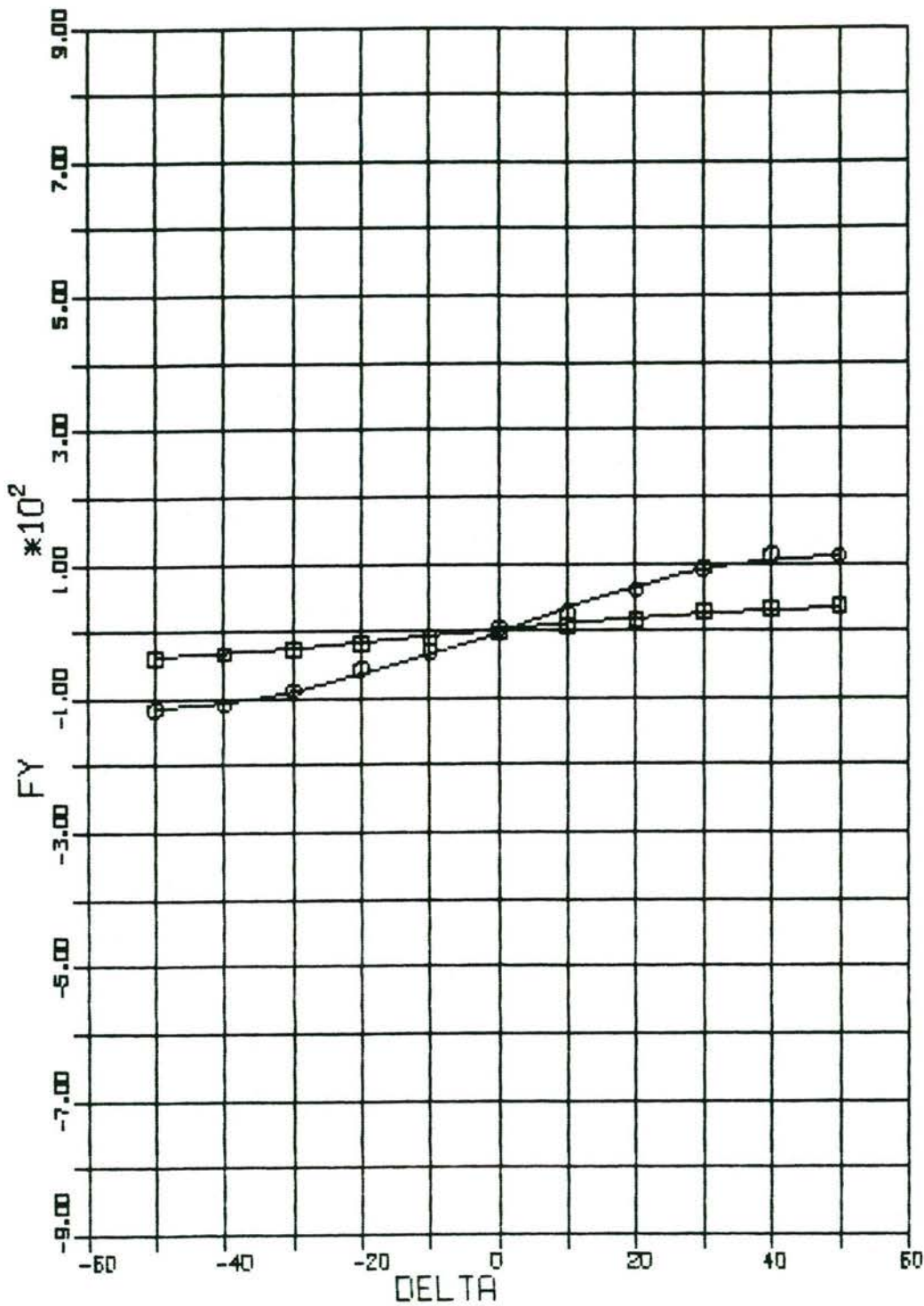
CONS DELTA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FX = F(NN, UN, UU, DDUU, DDNN, DDNNUU, DVUU, DVNN, DVNNUU,

VV, VVVV, VVVV/UU)



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CONS S 2.0000

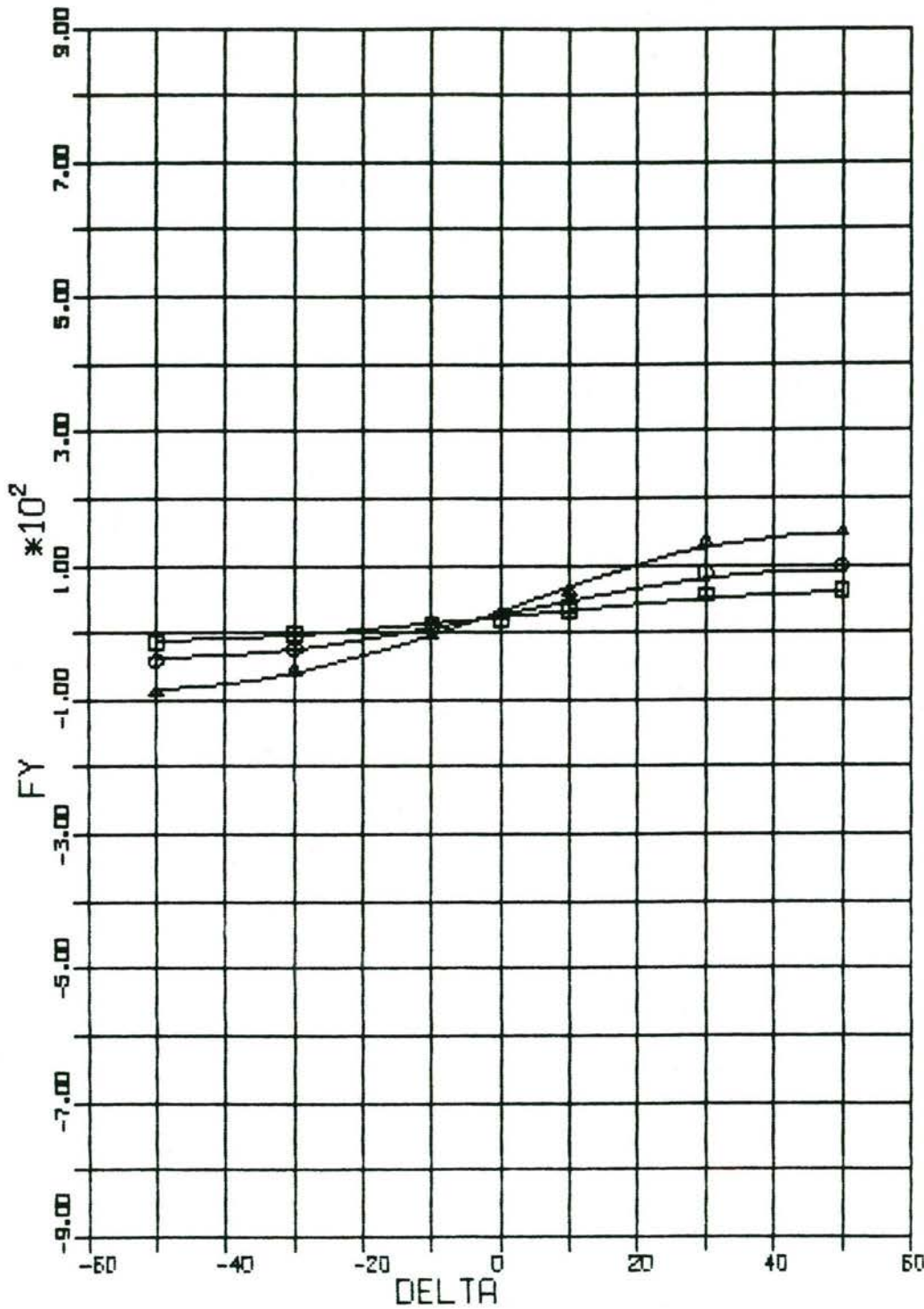
CONS BETA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FY = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVVU, VVVN)



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CONS S 2.0000

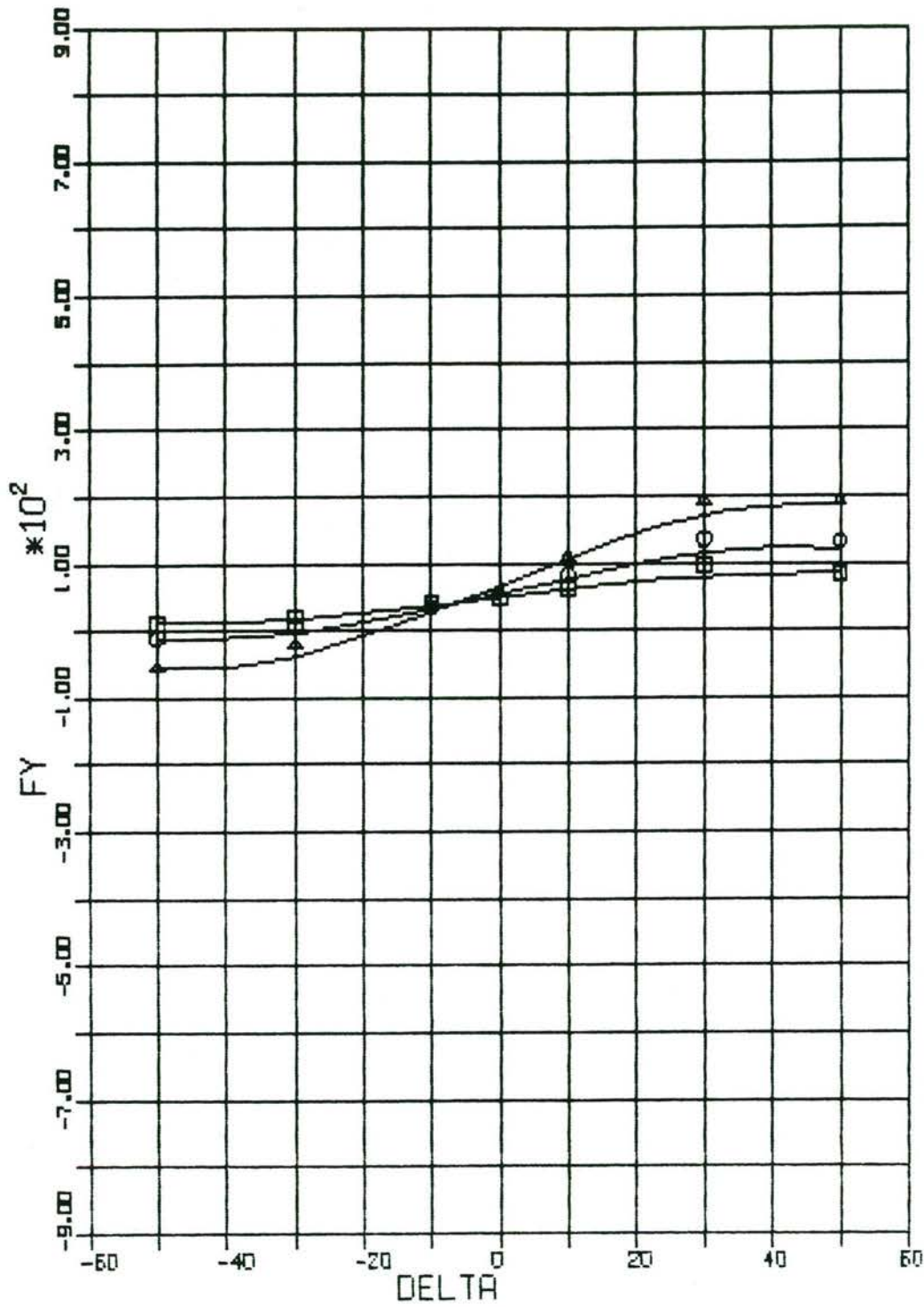
CONS BETA -8.0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FY = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVVU, VVVN)



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CONS S 2.0000

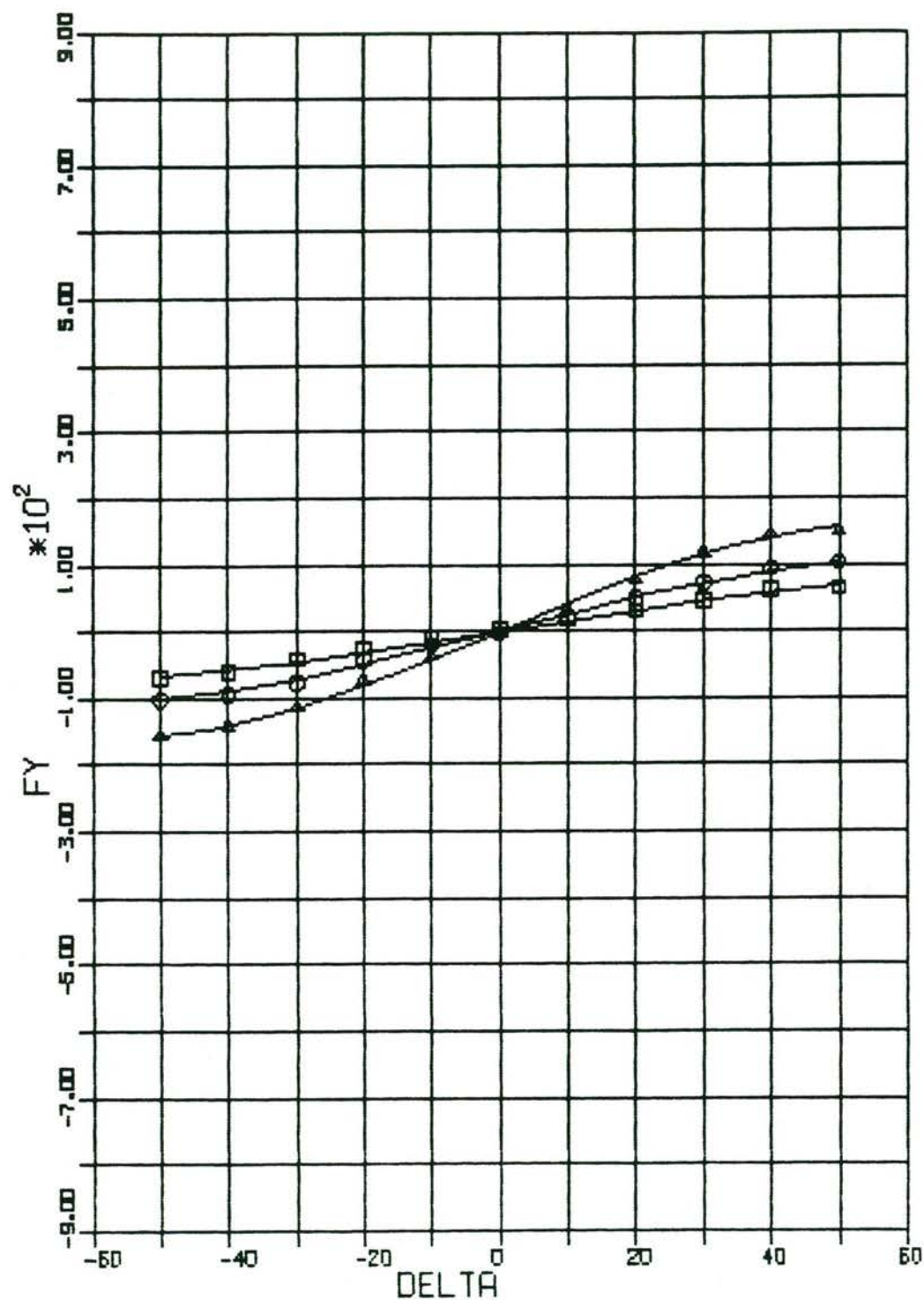
CONS BETA -16.0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FY = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVVU, VVVN)



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CONS S 3.2500

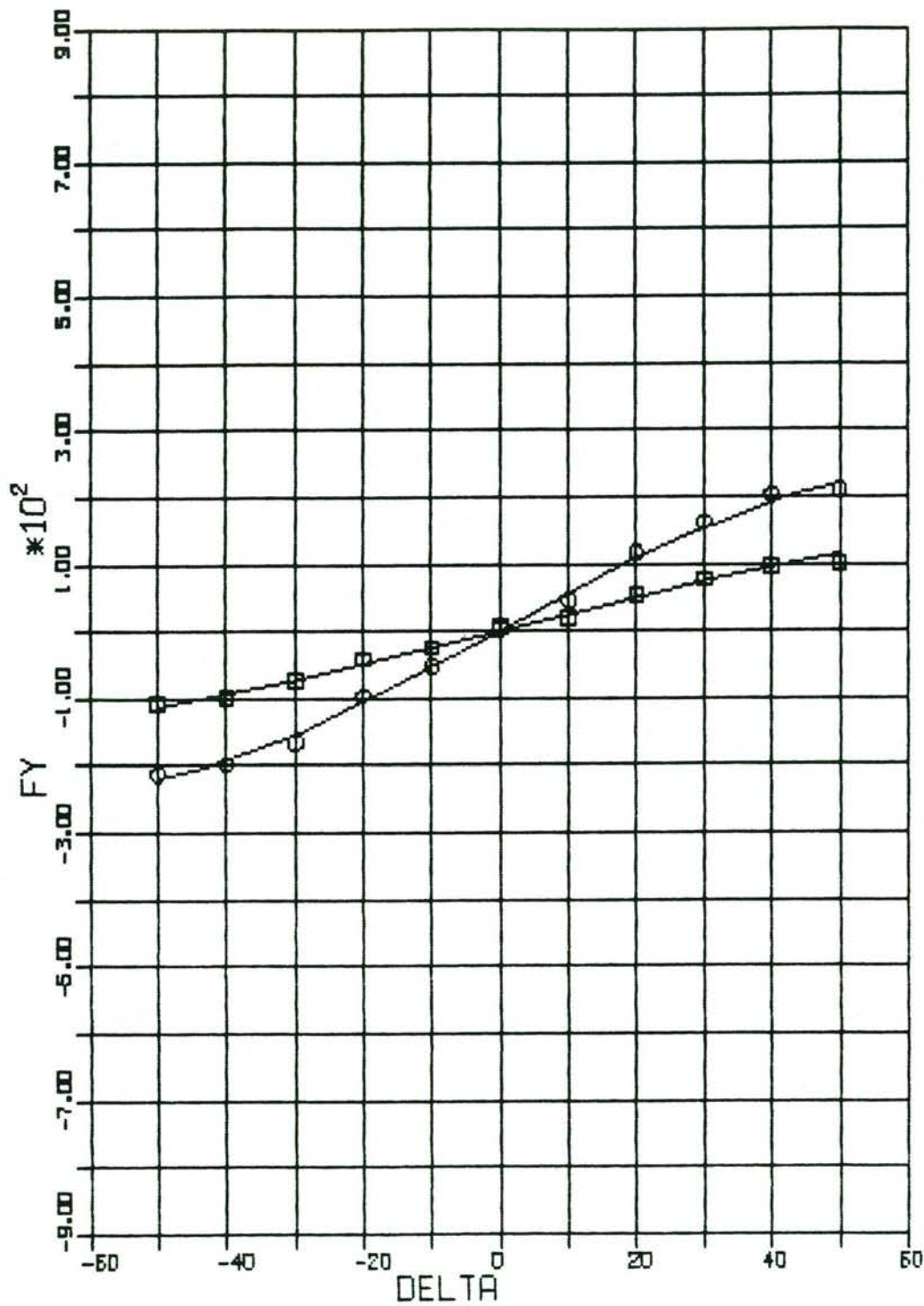
CONS BETA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FY = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVVU, VVVN)



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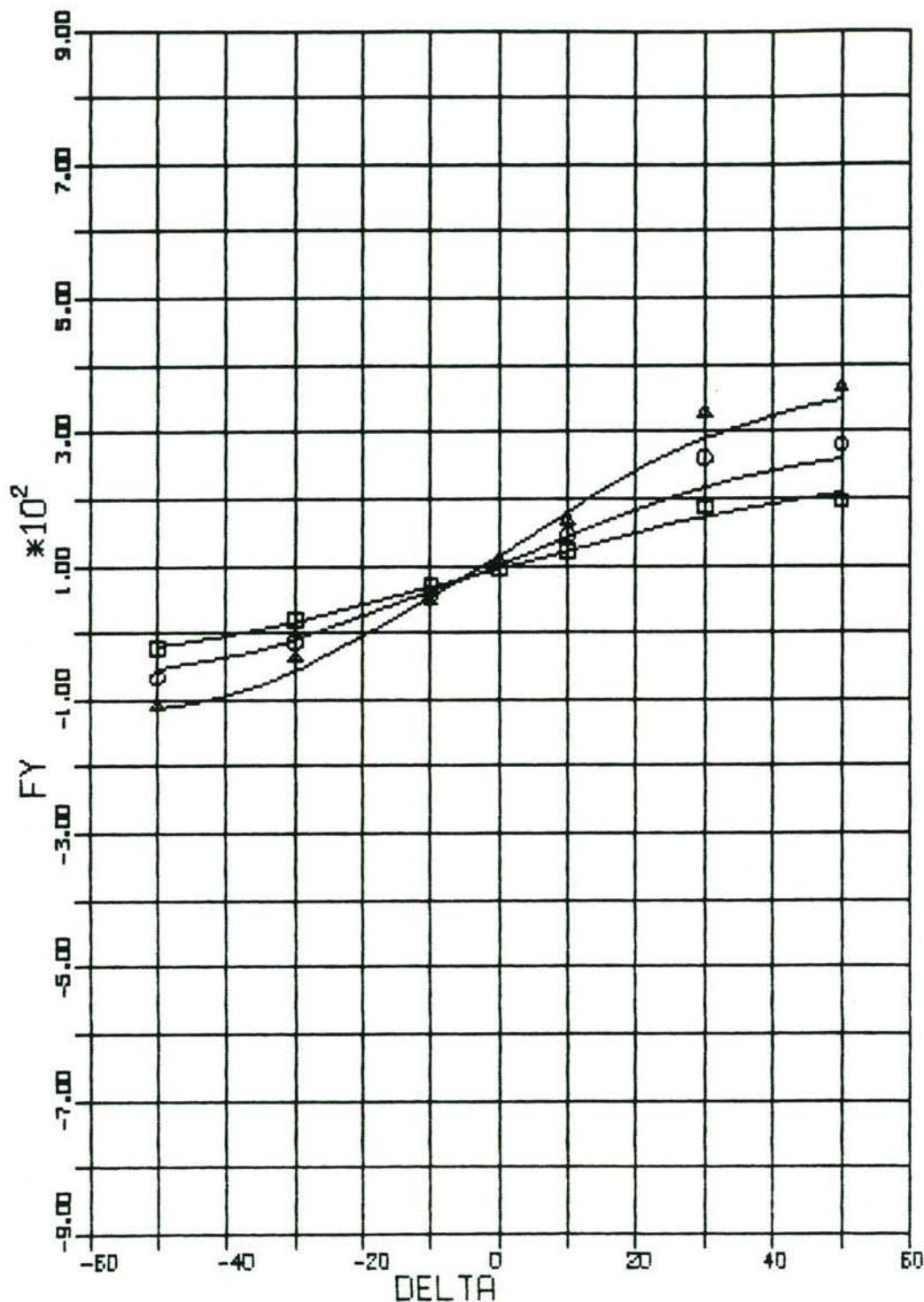
CONS BETA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FY = F(DUU, DNN, DNNJU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVVU, VVVN)



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CONS S 4.5000

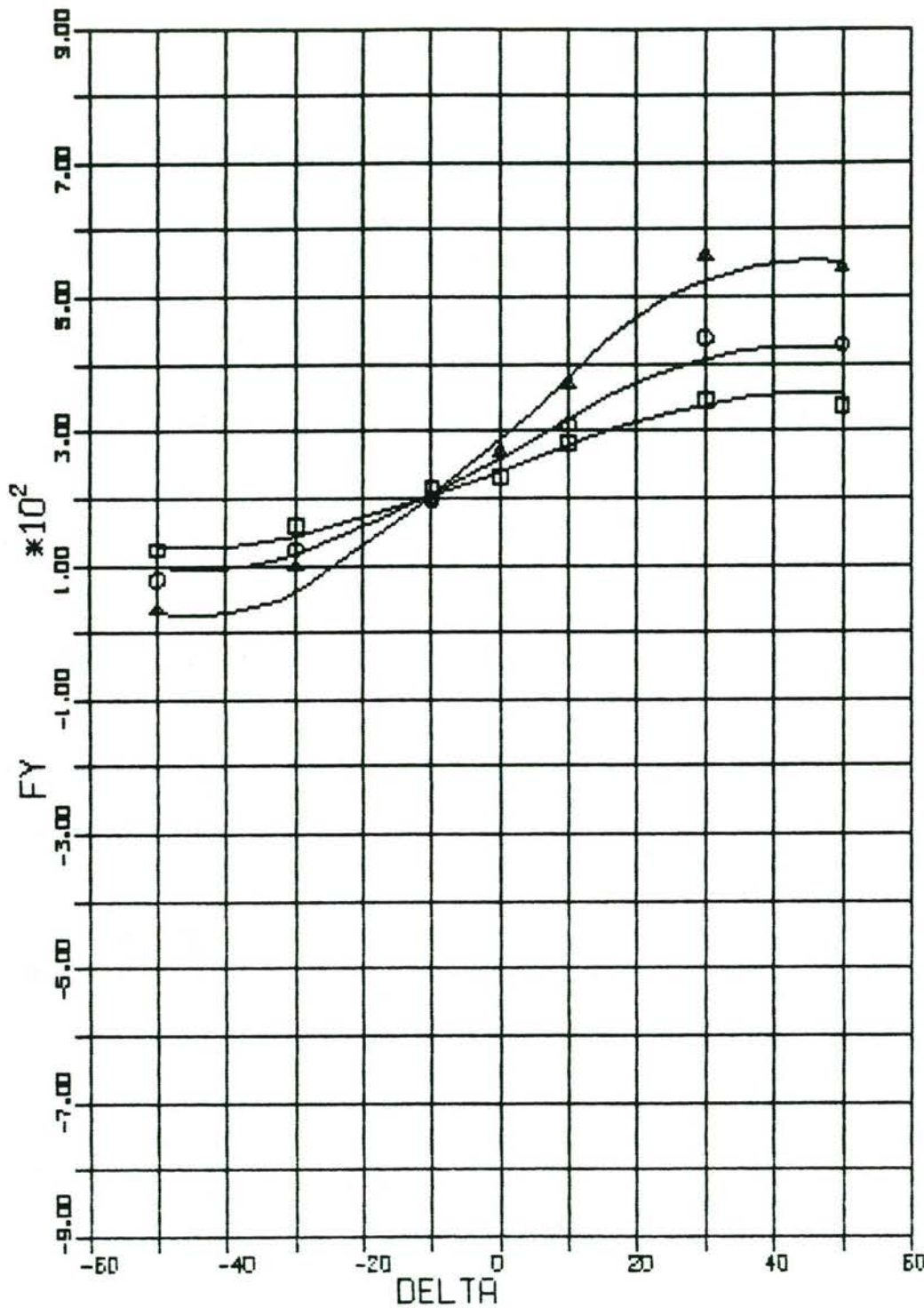
CONS BETA -8.0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FY = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVNN,

V, VUU, VNN, VVVU, VVVN)



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CONS S 4.5000

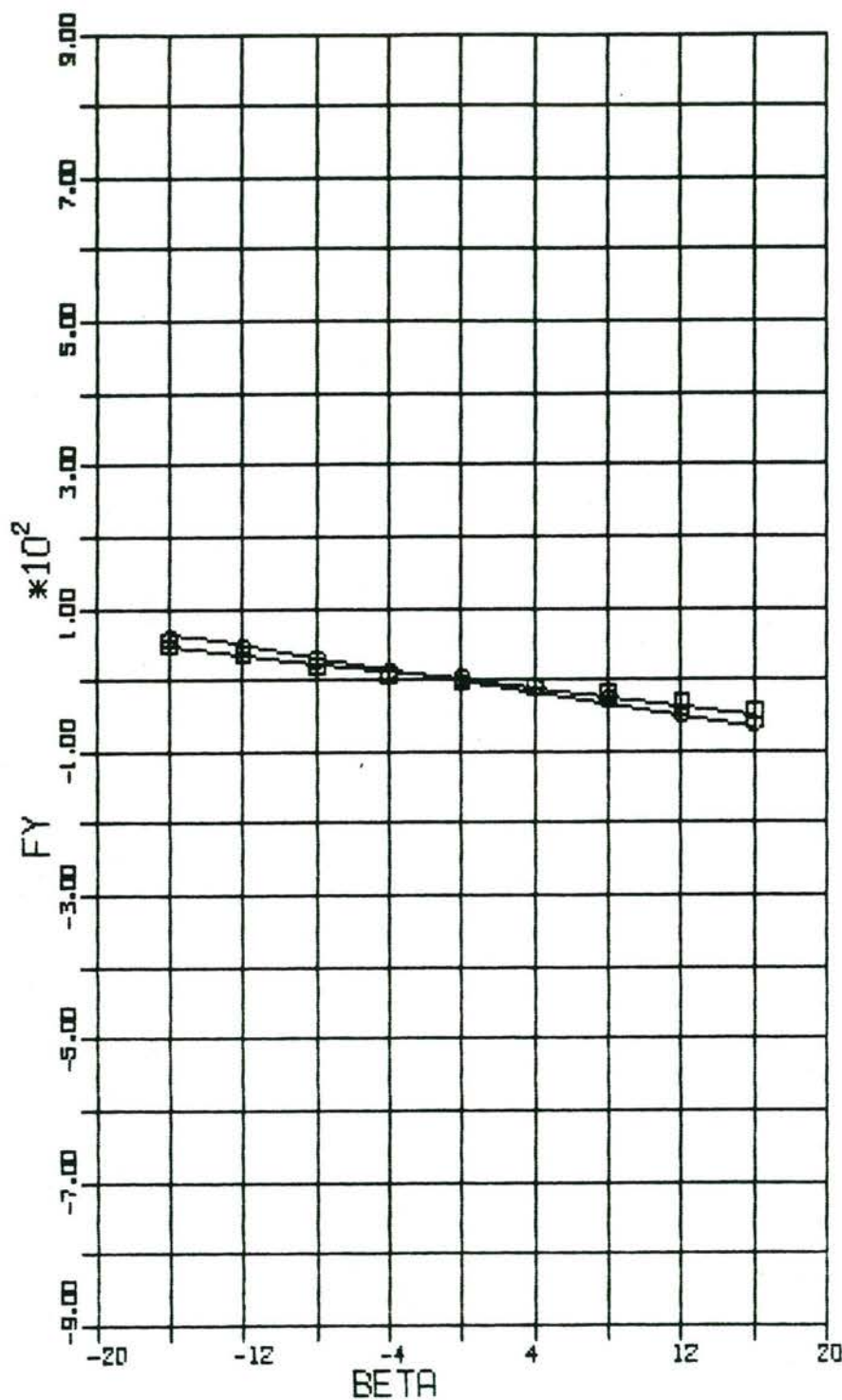
CONS BETA -16.0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FY = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVNN,

V, VUU, VNN, VVVU, VVVN)



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CONS DELTA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

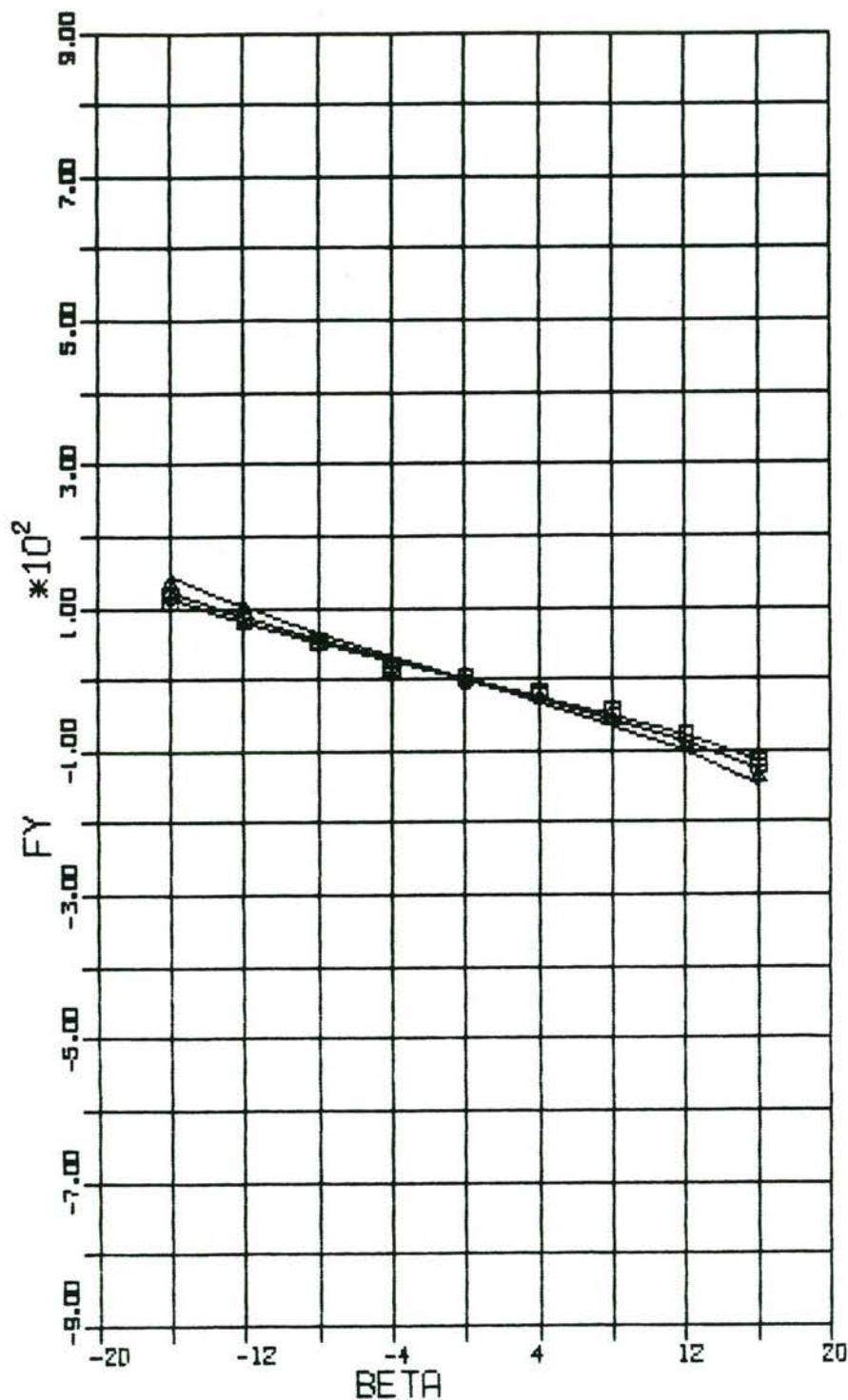
STATISCHE PROEVEN

FY = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVVU, VVVN)

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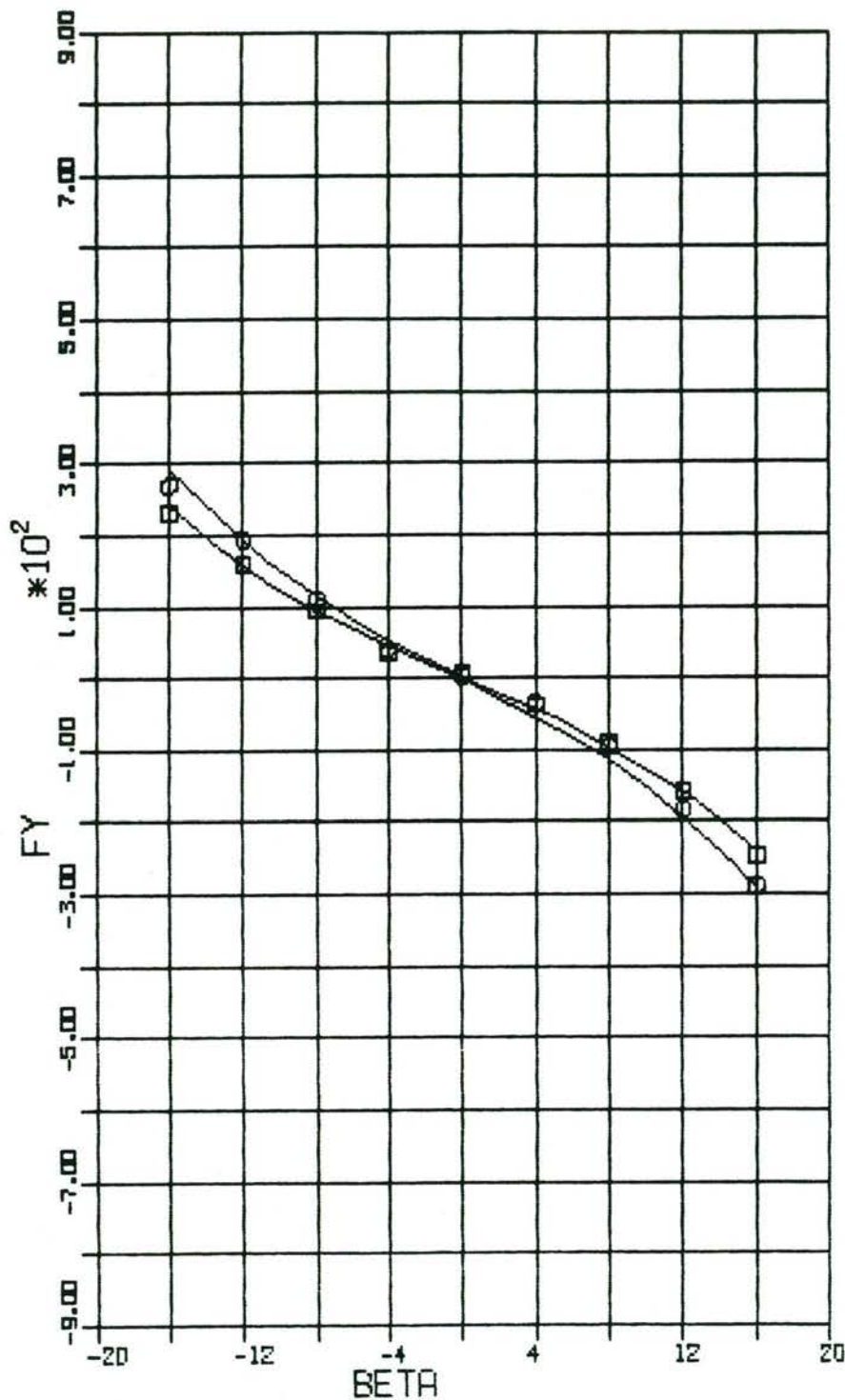
CONS DELTA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FY = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVVU, VVVN)



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CONS S 4.5000

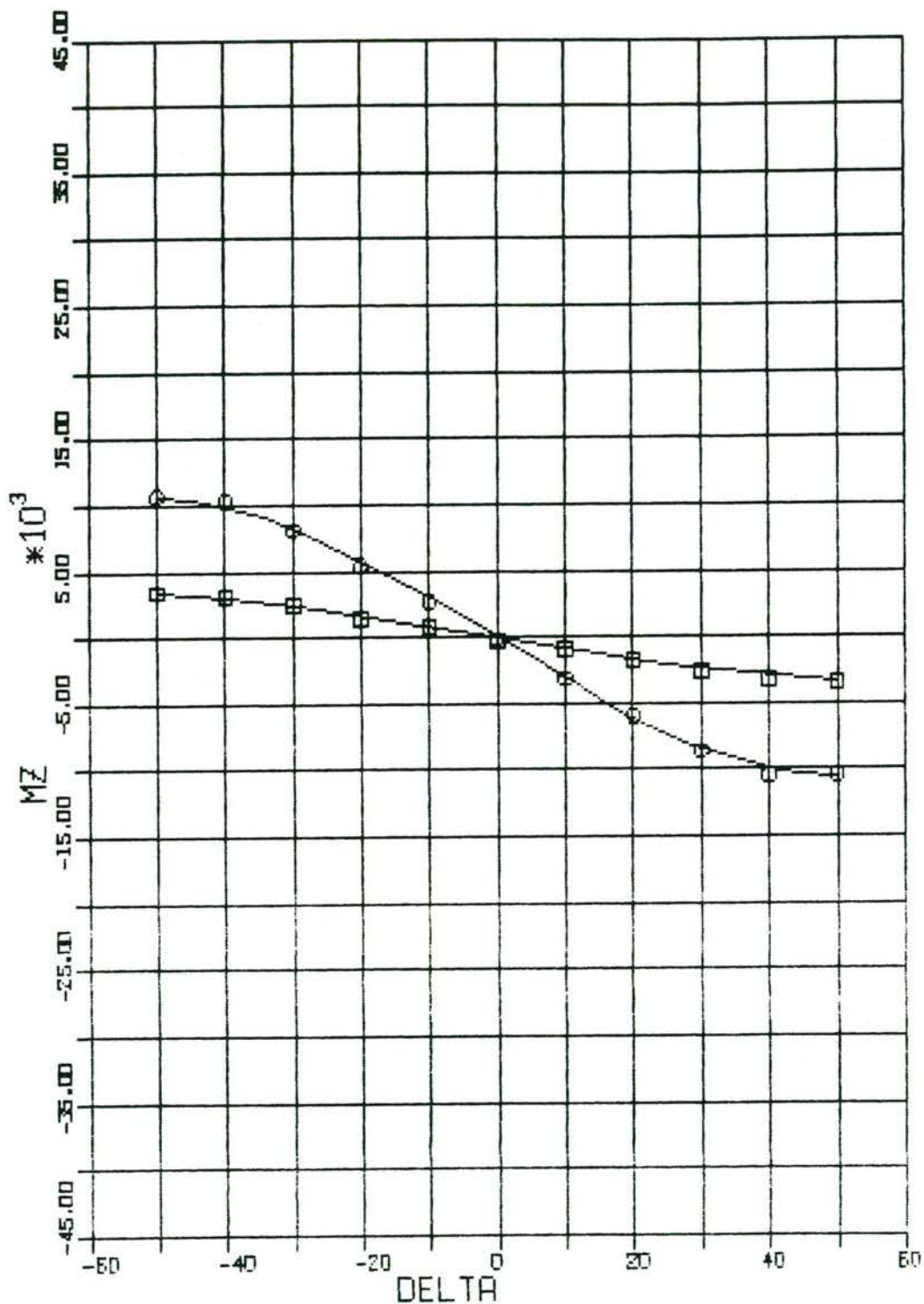
CONS DELTA .0000

2-BAKS DUMSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

FY = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVVU, VVVN)



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CONS S 2.0000

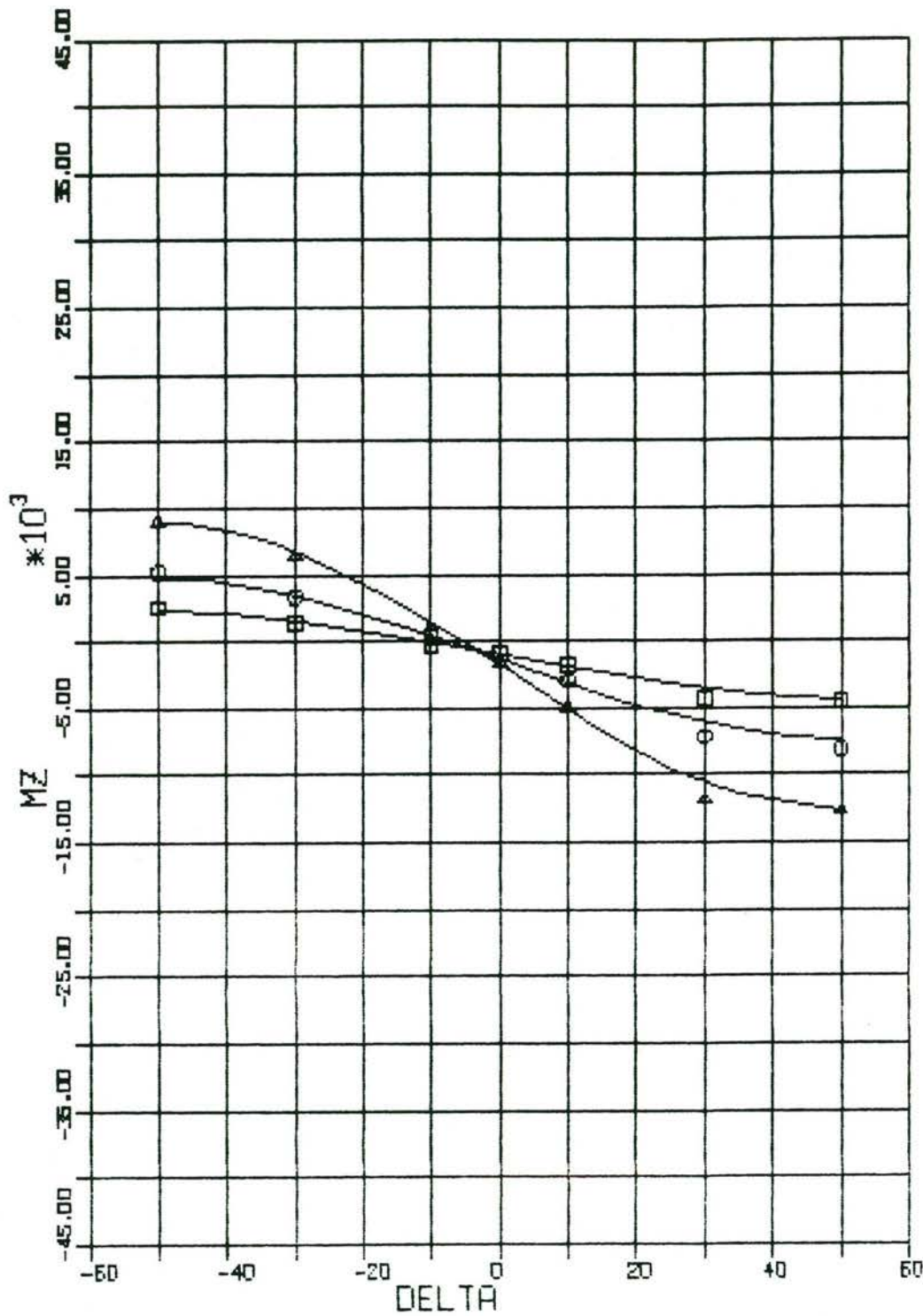
CONS BETA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

MZ = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVV, VVVN)



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CONS S 2.0000

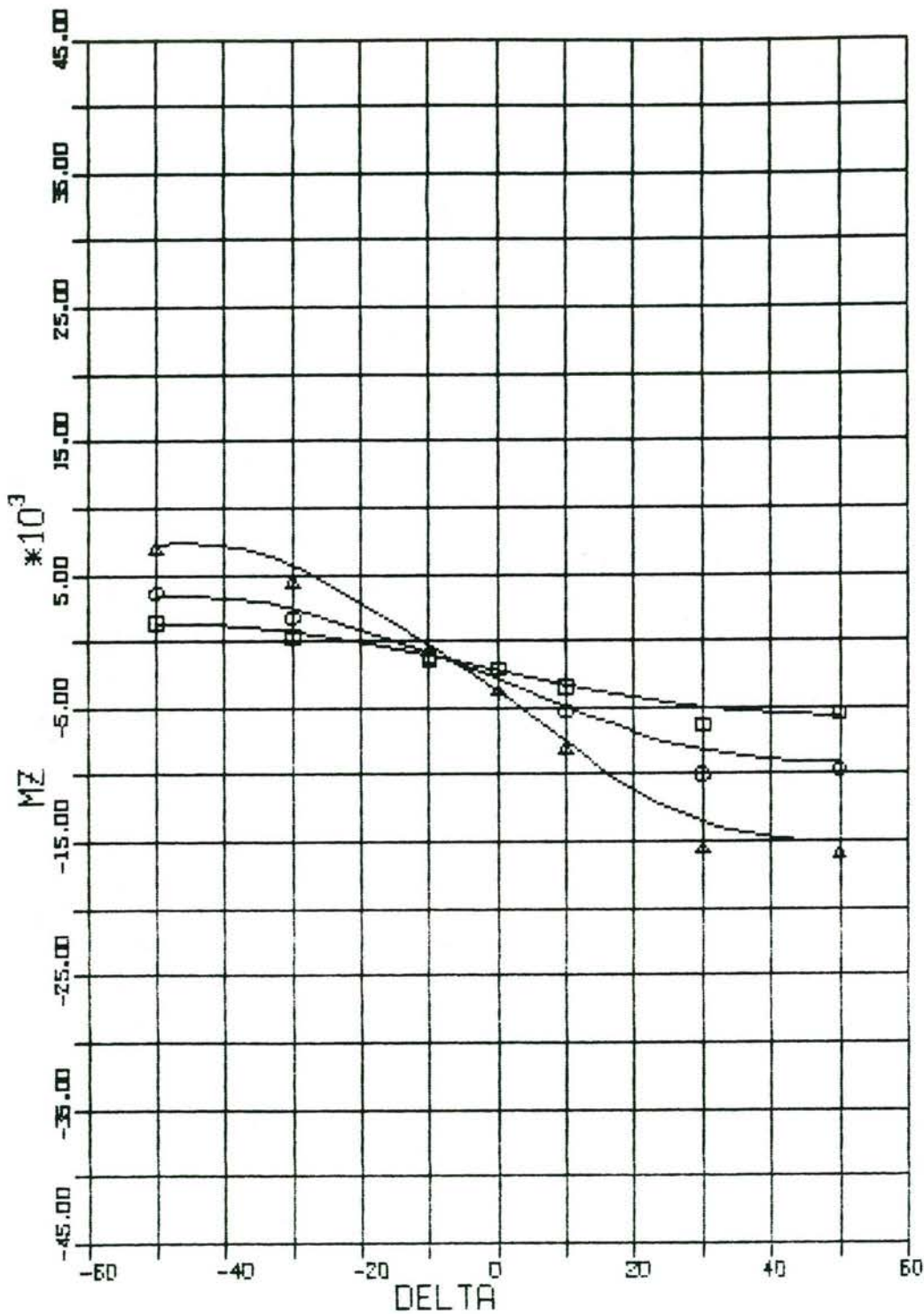
CONS BETA -8.0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

MZ = F(DUU, DNN, DNNLU, DDDNN, DVV, DVVNN, DDDVNN,

V, VUU, VNN, VVV, VVVN)



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CONS S 2.0000

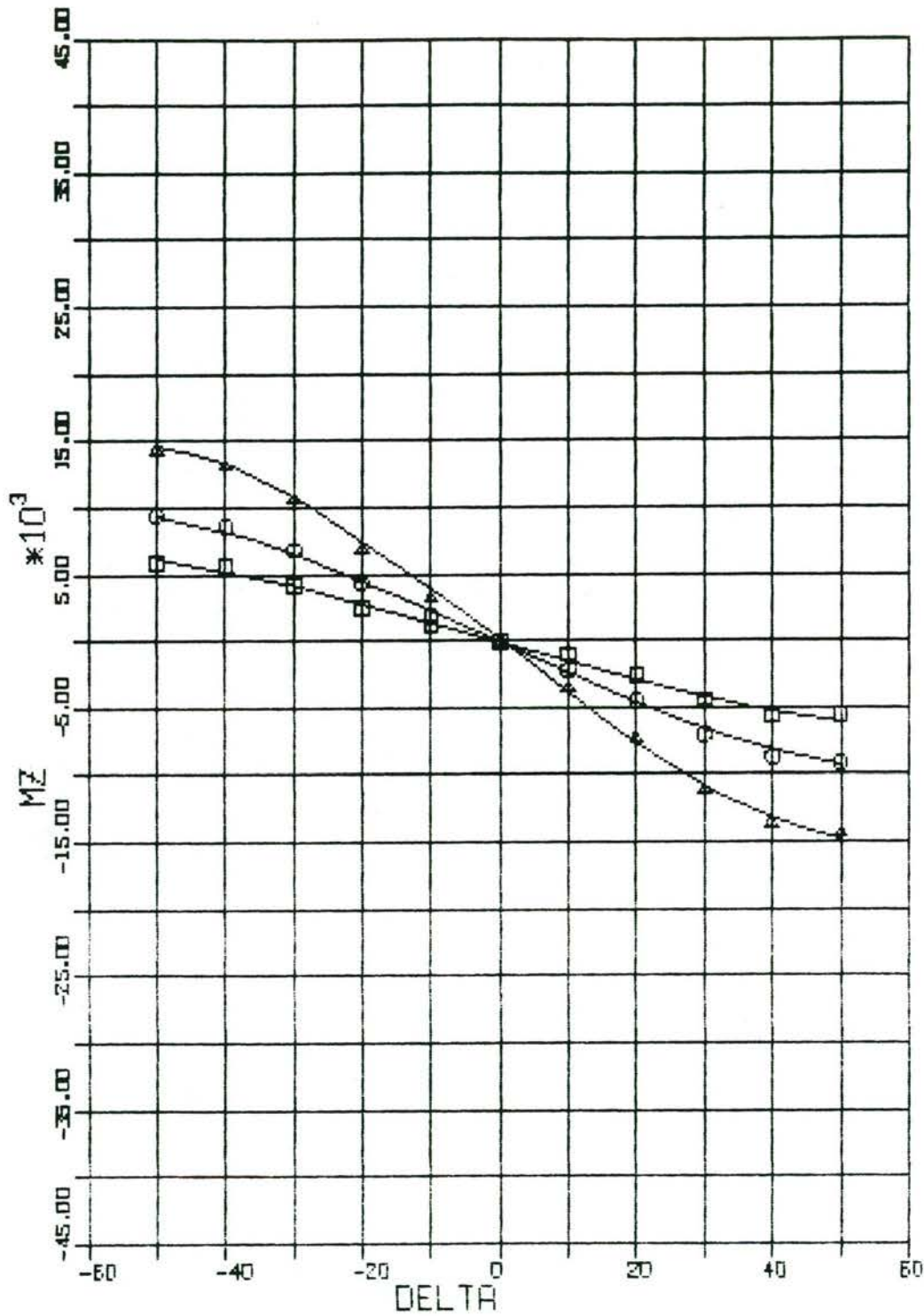
CONS BETA -16.0000

2-BAKS DUMSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

MZ = F(DUU, DNN, DNNUU, DDNN, DVV, DVVNN, DDVVN,

V, VUU, VNN, VVV, VVVN)



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CONS S 3.2500

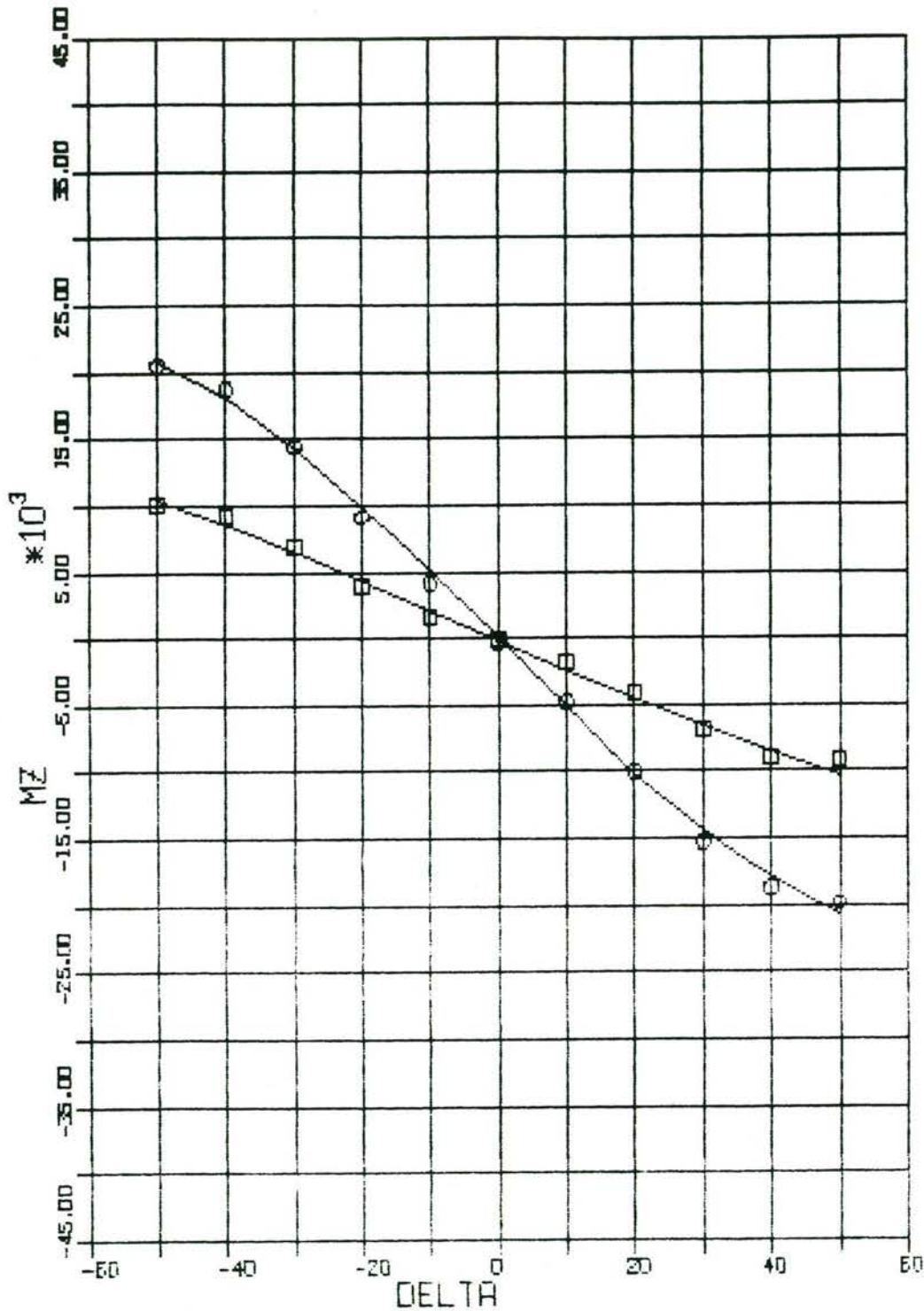
CONS BETA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

MZ = F(DUU, DNN, DNNJU, DDBNN, DVV, DVVNN, DDDVNN,

V, VUU, VNN, VVV, VVVN)



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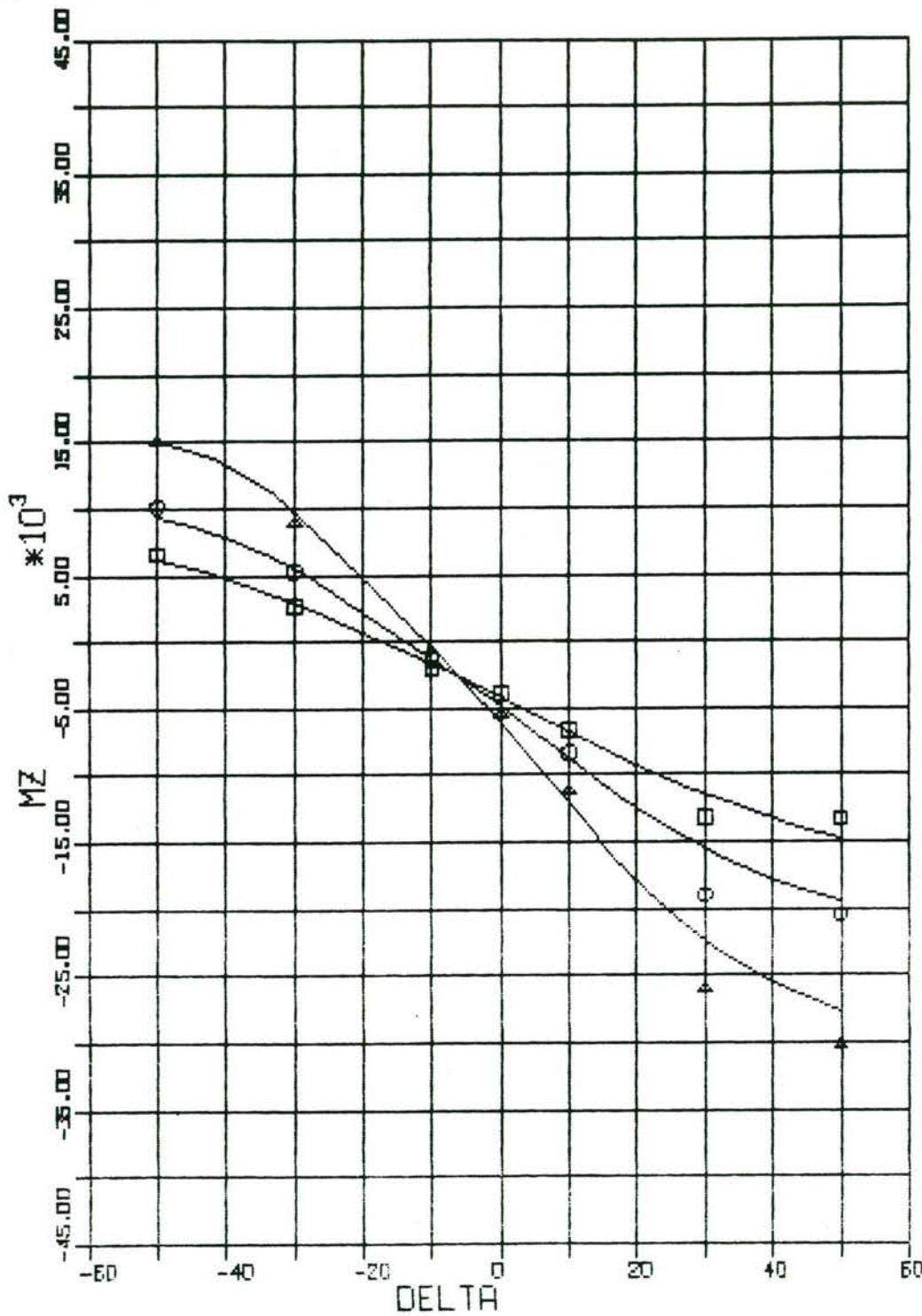
CONS BETA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

MZ = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVV, VVVN)



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CONS S 4.5000

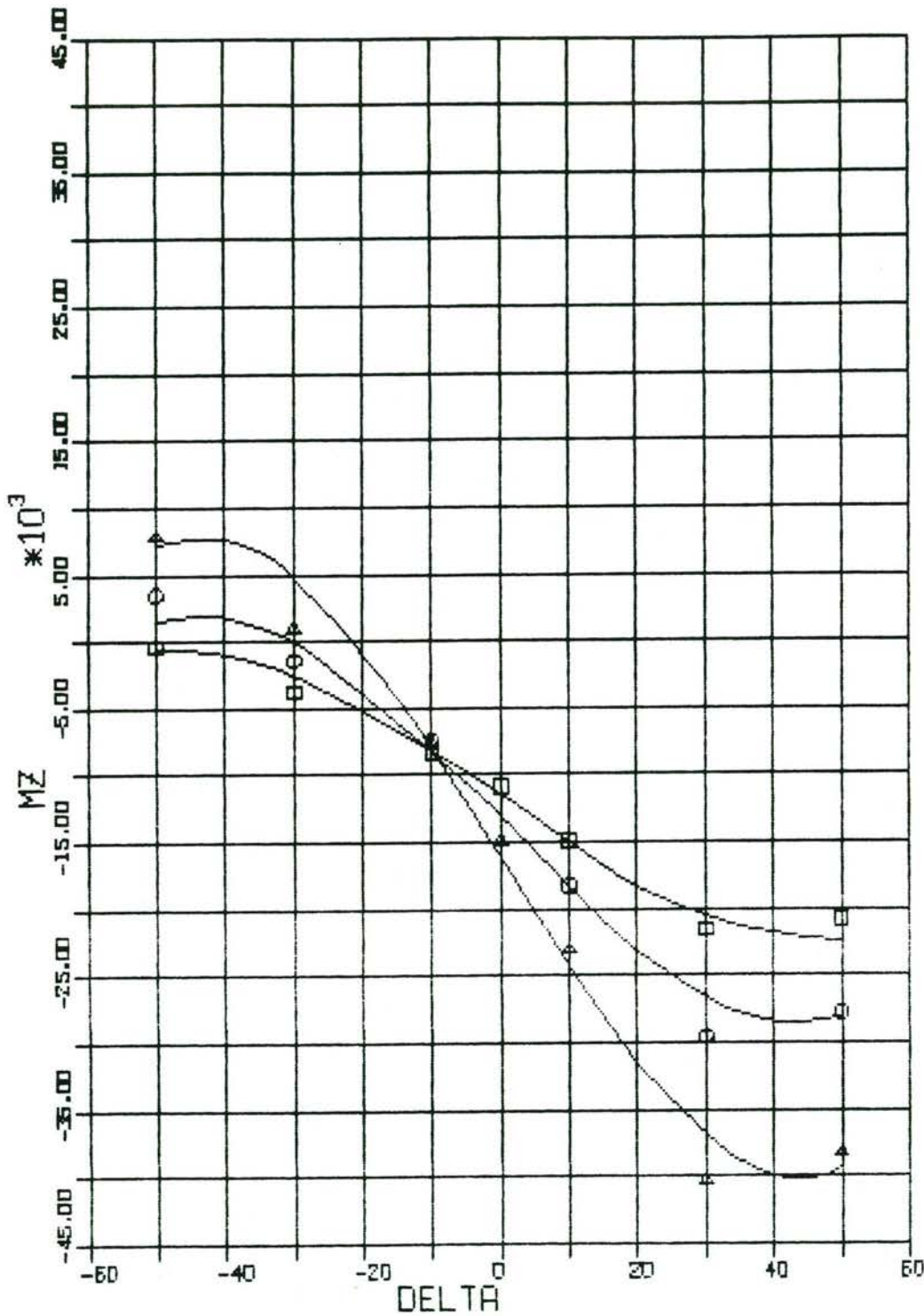
CONS BETA -8.0000

2-BAKS DUNSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

MZ = F(DUU, DNN, DNNJU, DDDNN, DVV, DVVNN, DDDVNN,

V, VUU, VNN, VVV, VVVN)



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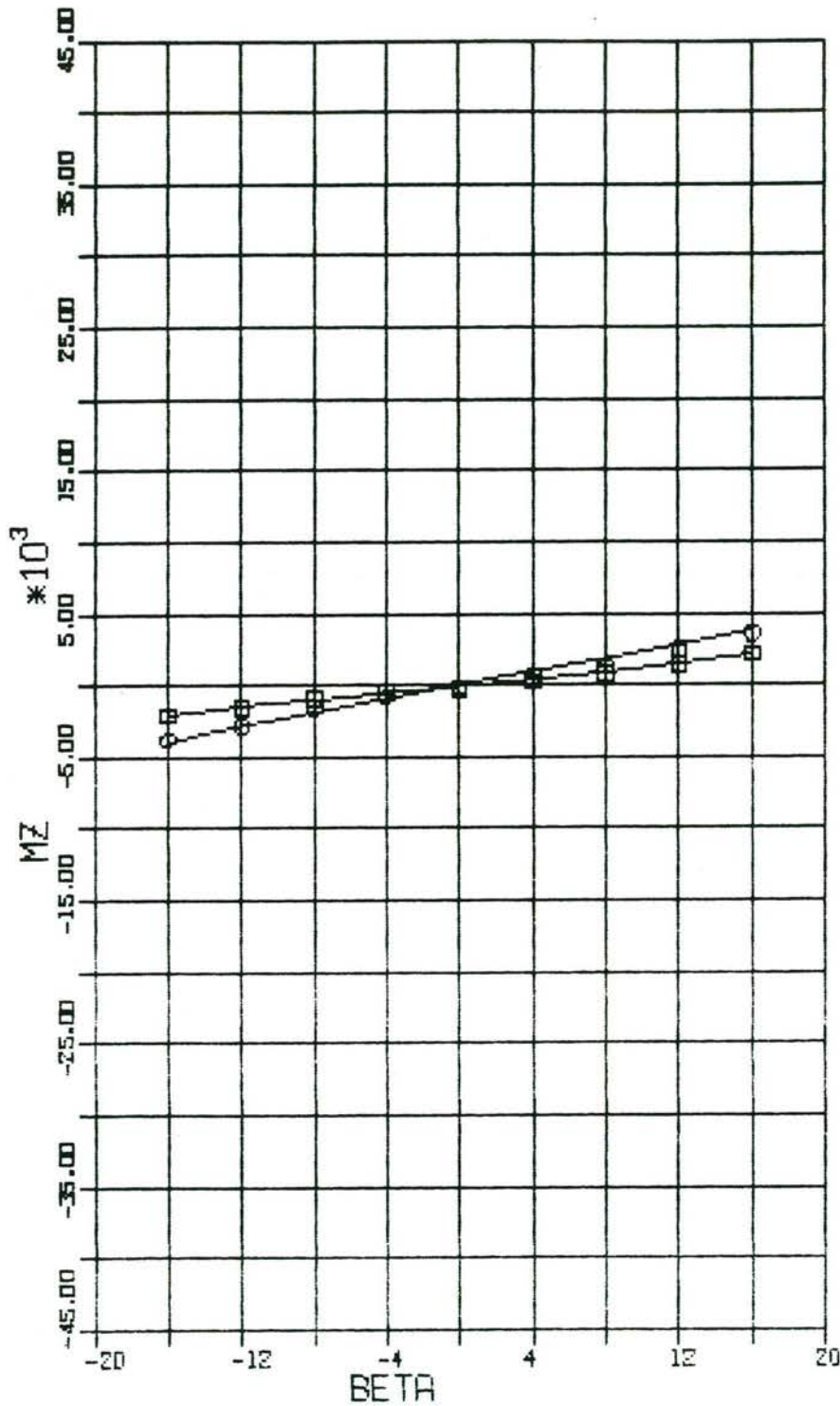
CONS BETA -16.0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

MZ = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVV, VVVN)



DVK Project Windhinder
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CONS S 2.0000

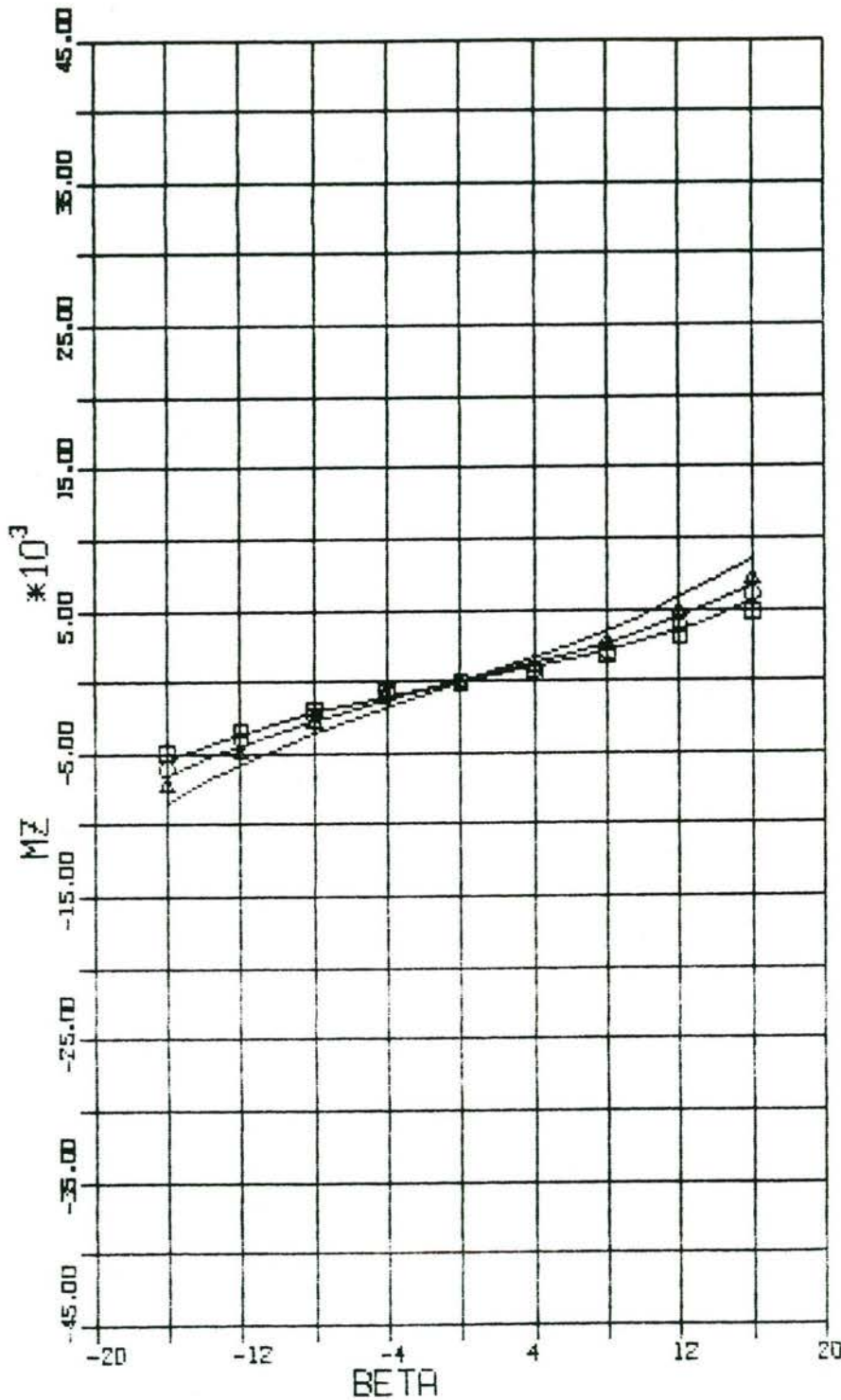
CONS DELTA .0000

2-BAKS DUMSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

MZ = F (DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVV, VVVN)



DYK Project Windhinder
REV

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CONS S 3.2500

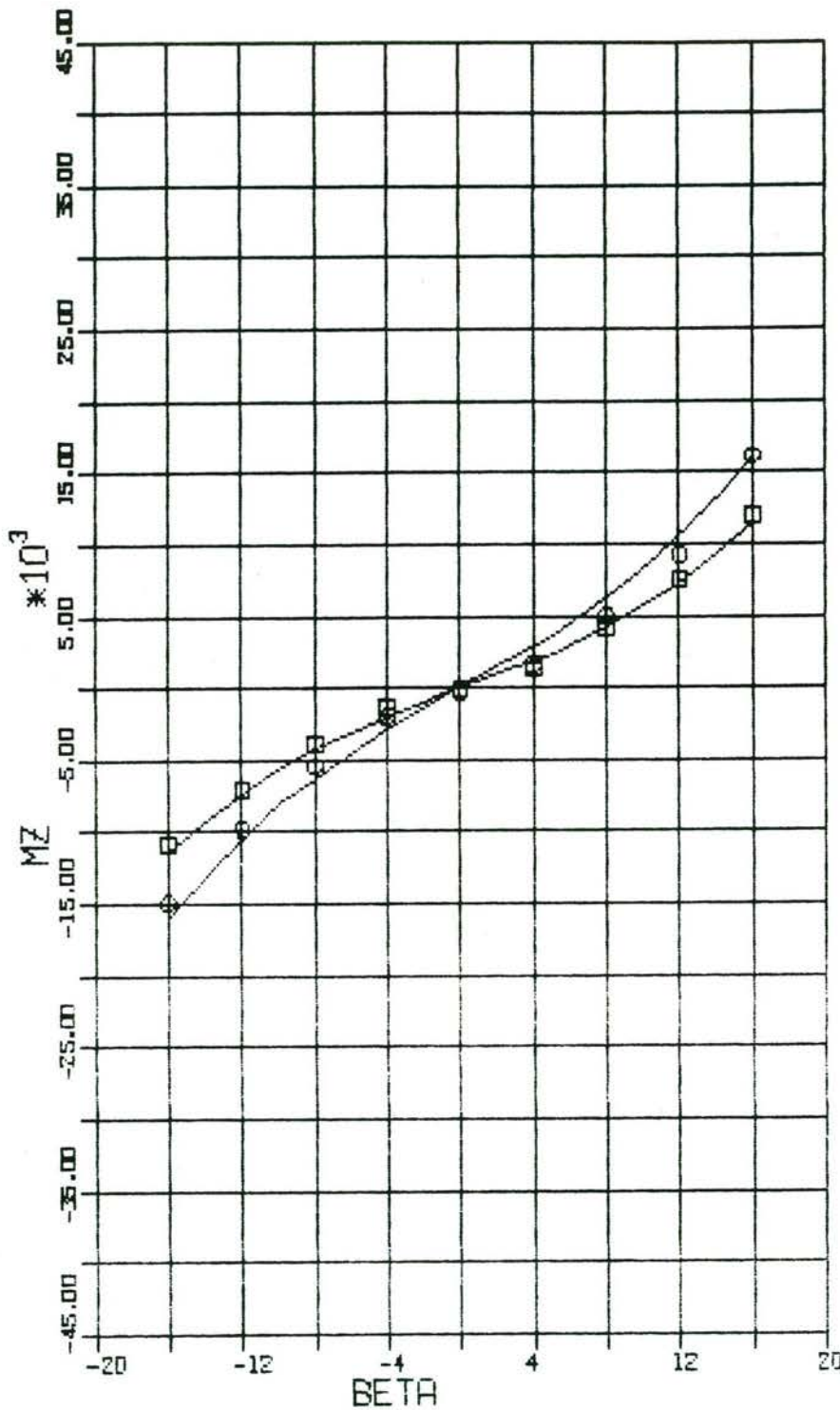
CONS DELTA .0000

2-BAKS DUMSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

MZ = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVV, VVVN)



DVK Project Windhinder
REV

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CONS S 4.5000

CONS DELTA .0000

2-BAKS DUWSTEL (BALLAST, BREED WATER)

STATISCHE PROEVEN

MZ = F(DUU, DNN, DNNUU, DDDNN, DVV, DVVNN, DDDVVN,

V, VUU, VNN, VVV, VVVN)

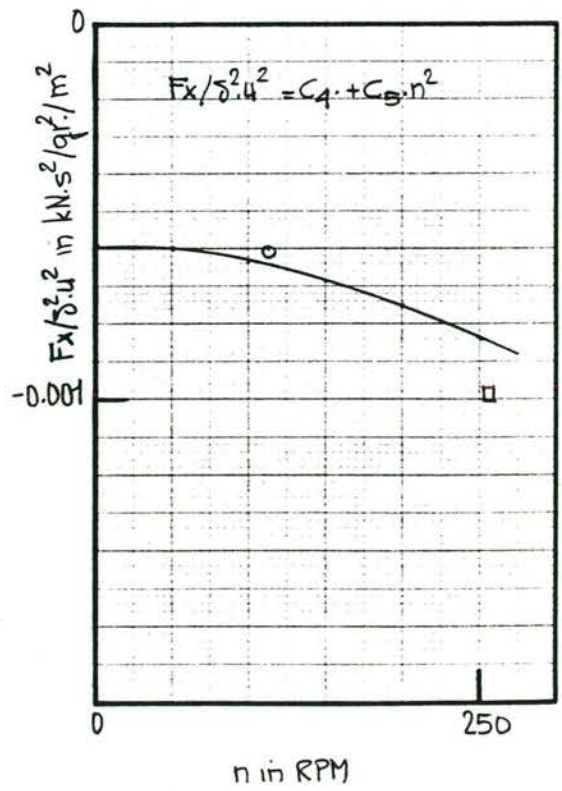
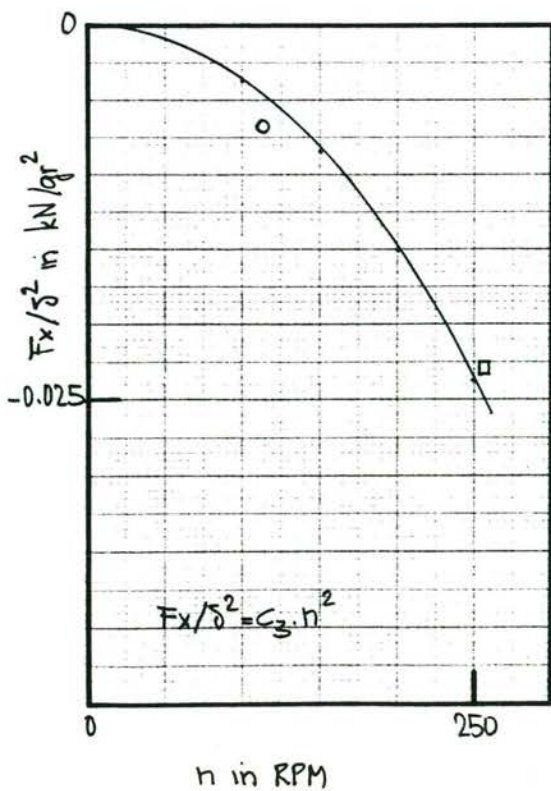
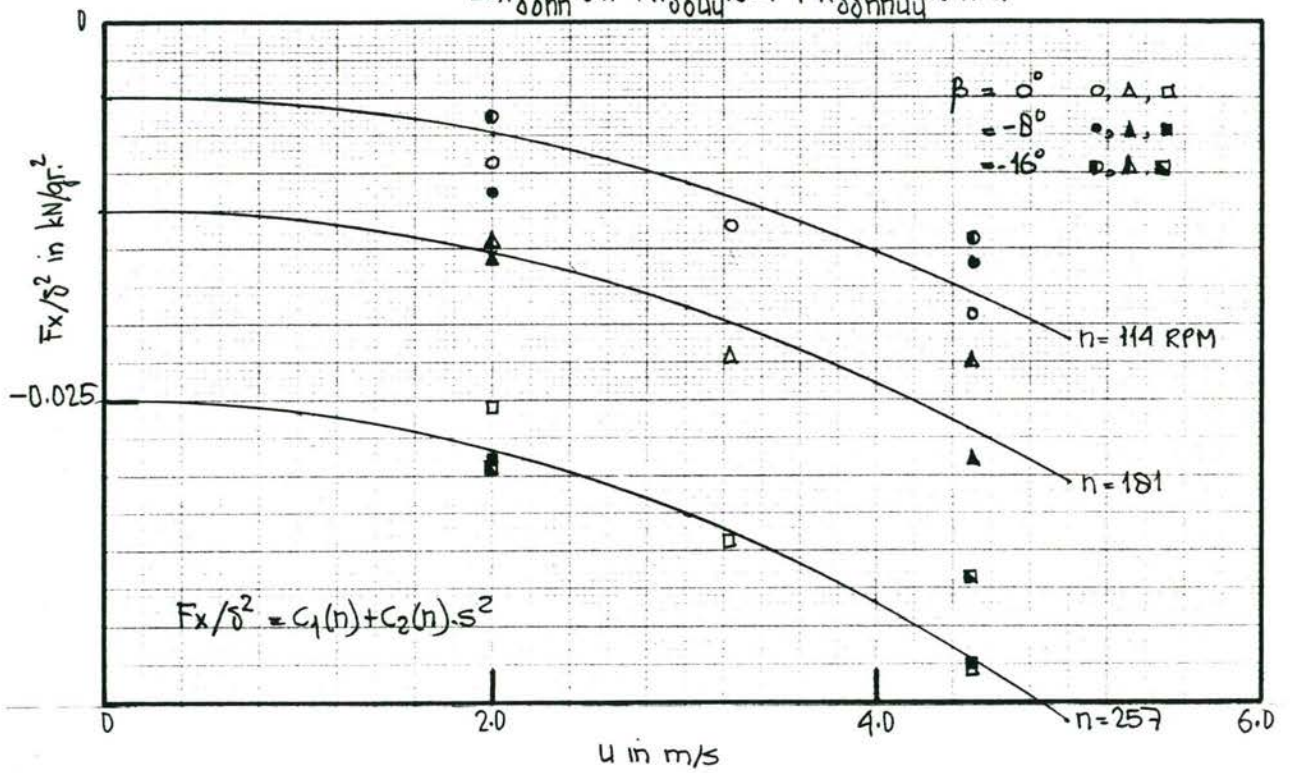
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COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water

$$F_x = F_x(\delta^2) = X_{\delta\delta nn} \cdot \delta^2 \cdot n^2 + X_{\delta\delta ss} \cdot \delta^2 \cdot s^2 + X_{\delta\delta nns} \cdot \delta^2 \cdot n^2 \cdot s^2$$

$$\triangleq X_{\delta\delta nn} \cdot \delta^2 \cdot n^2 + X_{\delta\delta uu} \cdot \delta^2 \cdot u^2 + X_{\delta\delta nnu} \cdot \delta^2 \cdot n^2 \cdot u^2$$



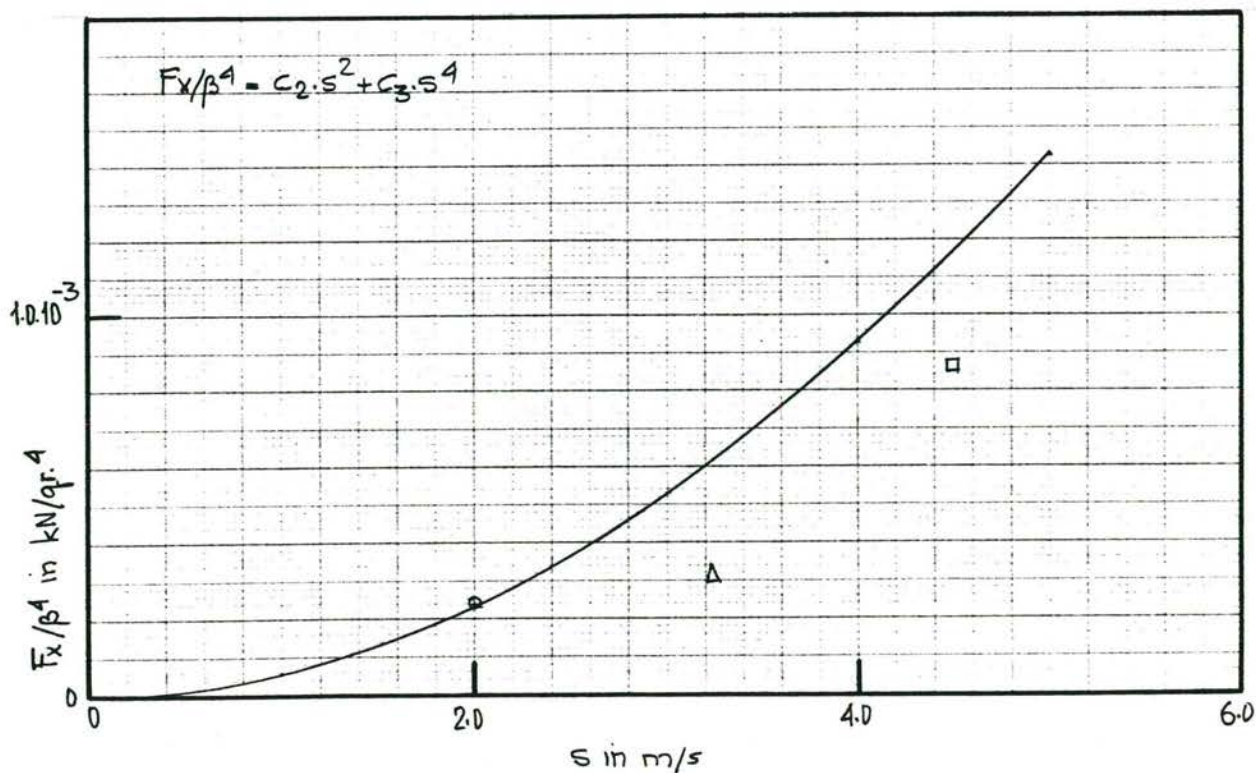
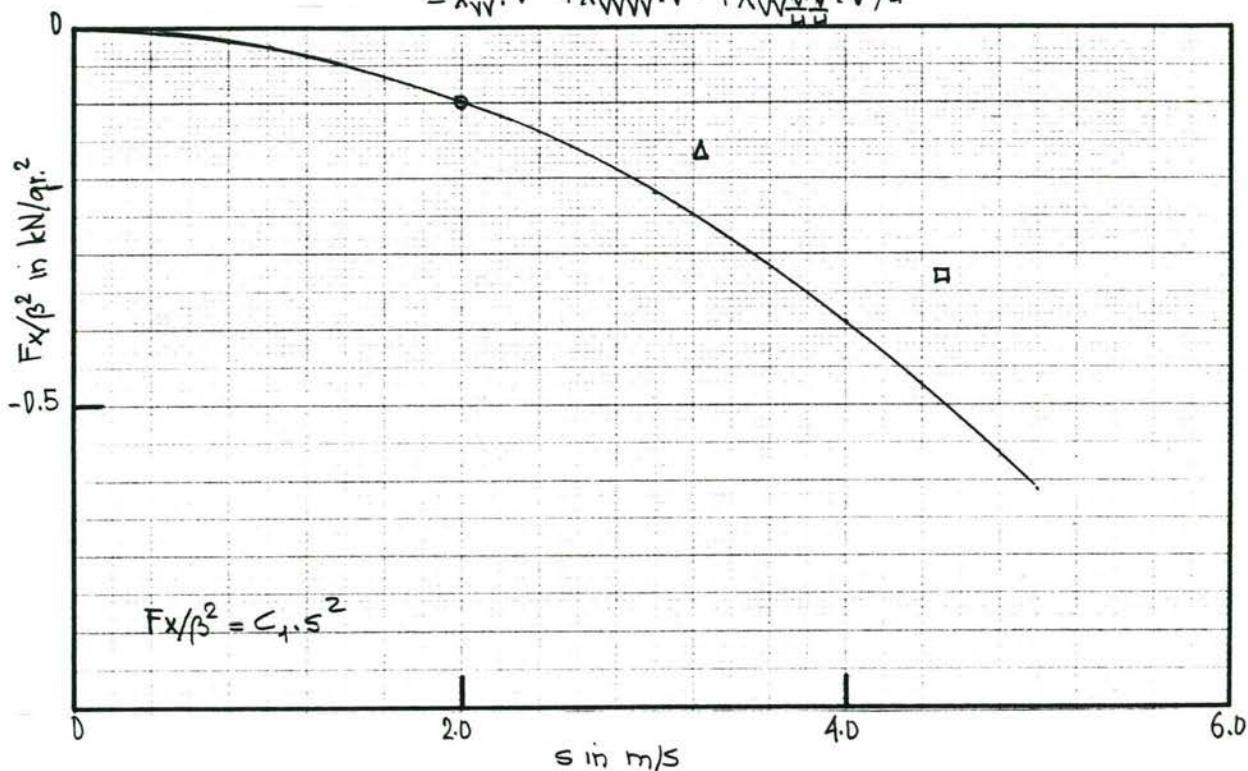
DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water

$$F_x(\delta=0) = \chi_{\beta\beta ss} \cdot \beta^2 \cdot s^2 + \chi_{\beta\beta\beta\beta ssss} \cdot \beta^4 \cdot s^4 + \chi_{\beta\beta\beta\beta ss} \cdot \beta^4 \cdot s^2$$

$$\hat{=} \chi_{vv} \cdot v^2 + \chi_{vvvv} \cdot v^4 + \chi_{vvvv} \cdot \frac{v \cdot y}{H} \cdot v^4 / u^2$$



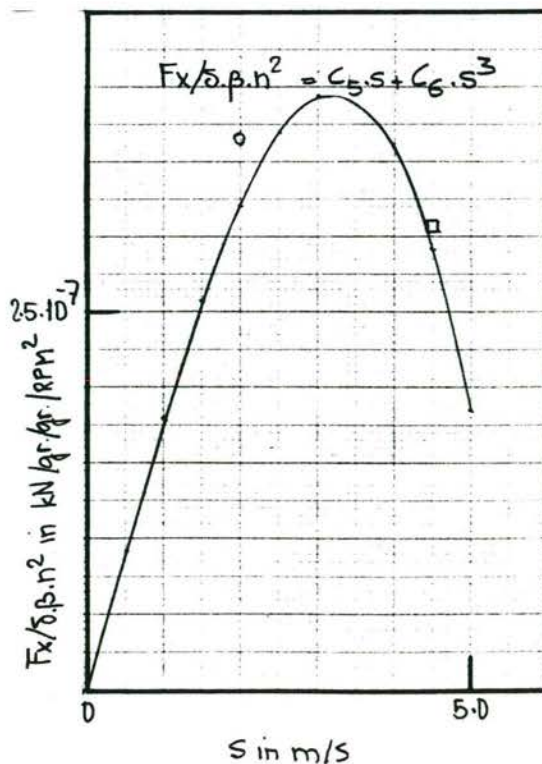
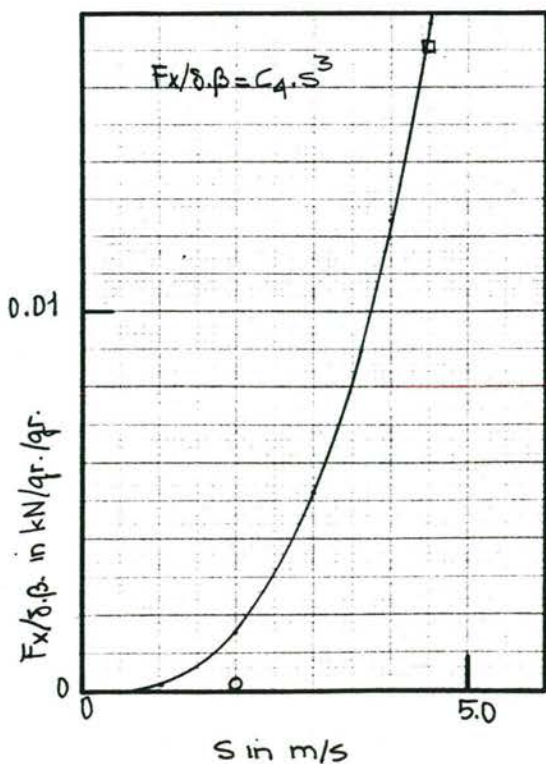
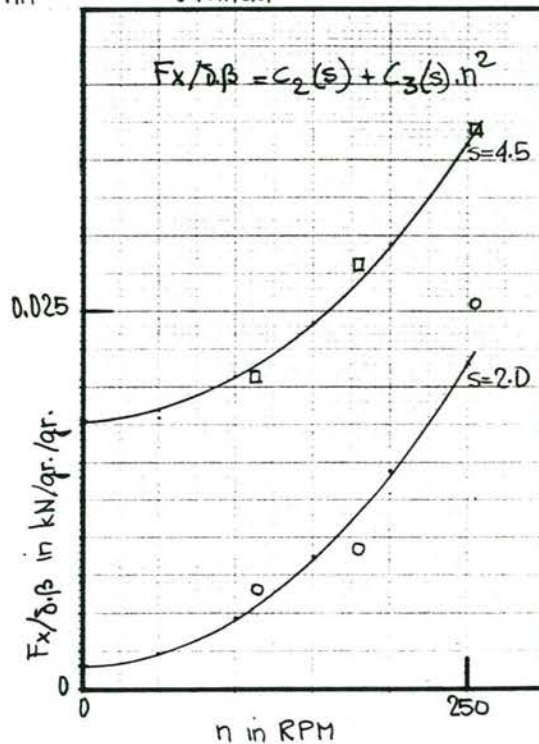
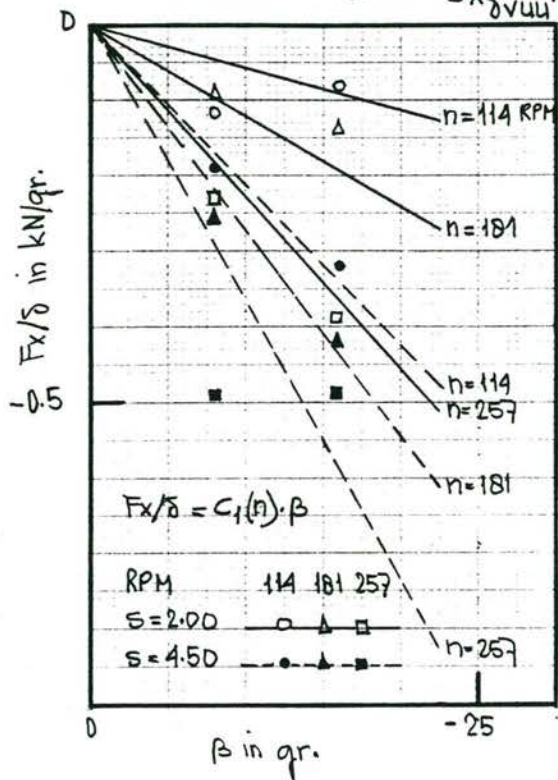
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COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water

$$F_x = F_x(\delta) = X_{\delta, \beta, s s s} \delta \cdot \beta \cdot s^3 + X_{\delta, \beta, s, n n} \delta \cdot \beta \cdot s \cdot n^2 + X_{\delta, \beta, s s s, n n} \delta \cdot \beta \cdot s^3 \cdot n^2$$

$$\hat{=} X_{\delta v u u} \delta \cdot v \cdot u^2 + X_{\delta v n n} \delta \cdot v \cdot n n + X_{\delta v n n u u} \delta \cdot v \cdot n^2 u^2$$



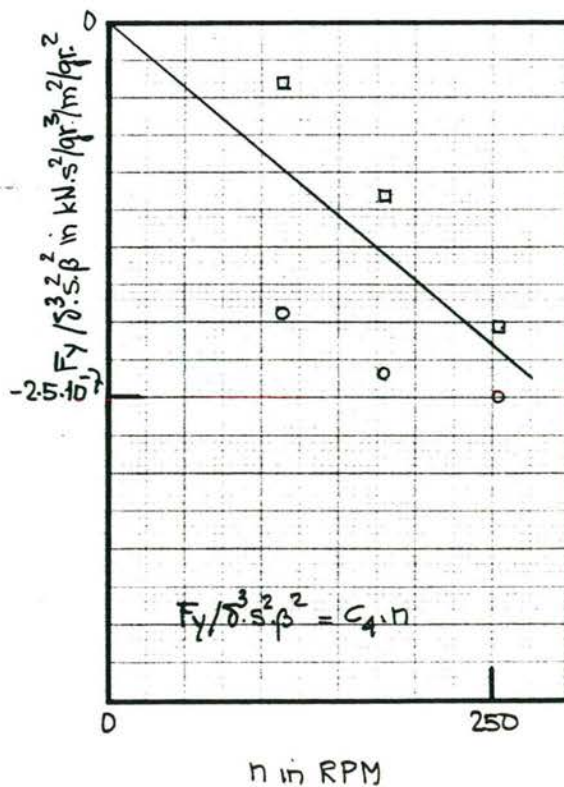
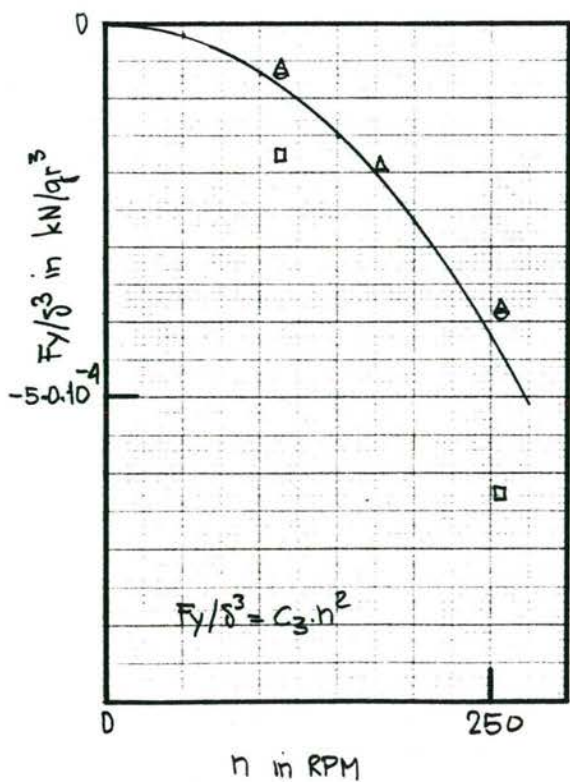
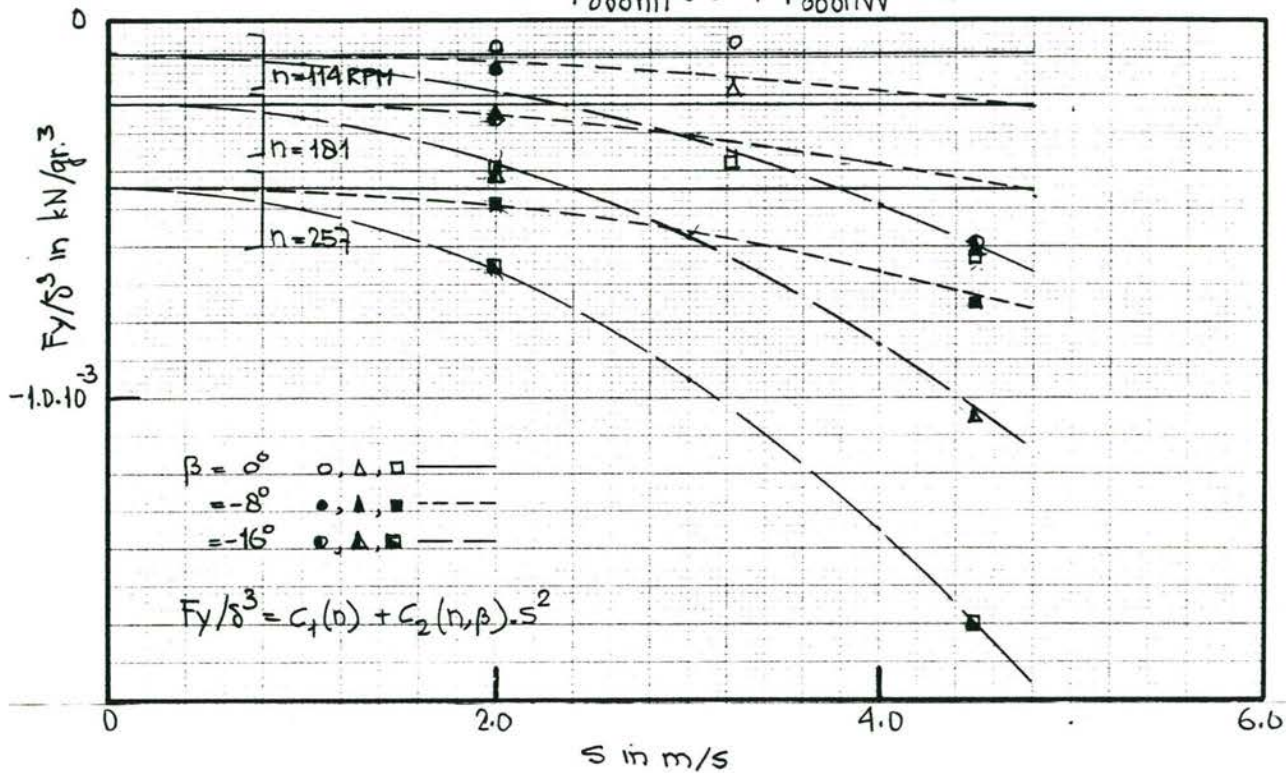
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COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water

$$F_y = F_y(\delta^3) = Y_{\delta\delta\delta} n n \cdot \delta^3 \cdot n^2 + Y_{\delta\delta\delta} n \beta \beta s s \cdot \delta^3 \cdot n \cdot \beta^2 \cdot s^2$$

$$\hat{=} Y_{\delta\delta\delta} n n \cdot \delta^3 \cdot n^2 + Y_{\delta\delta\delta} n v \cdot \delta^3 \cdot n \cdot v^2$$



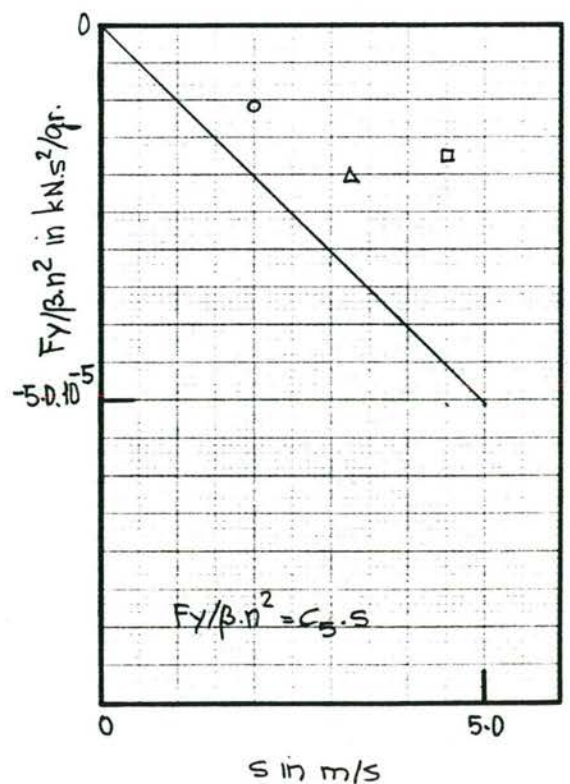
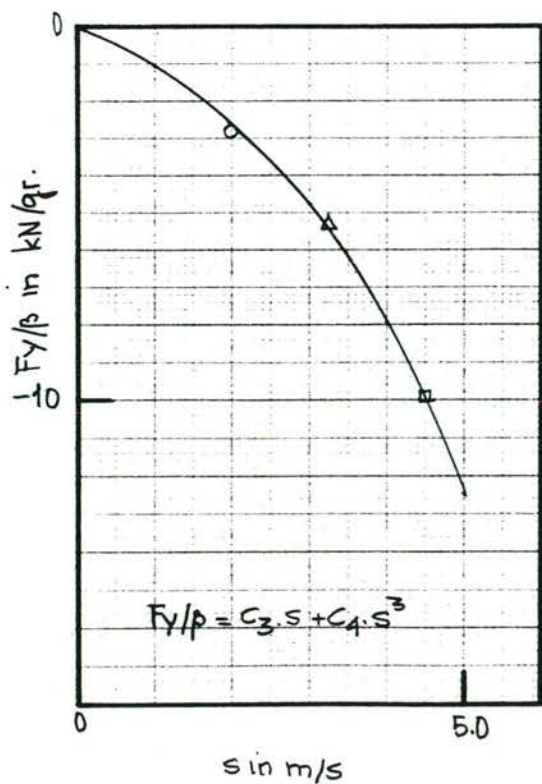
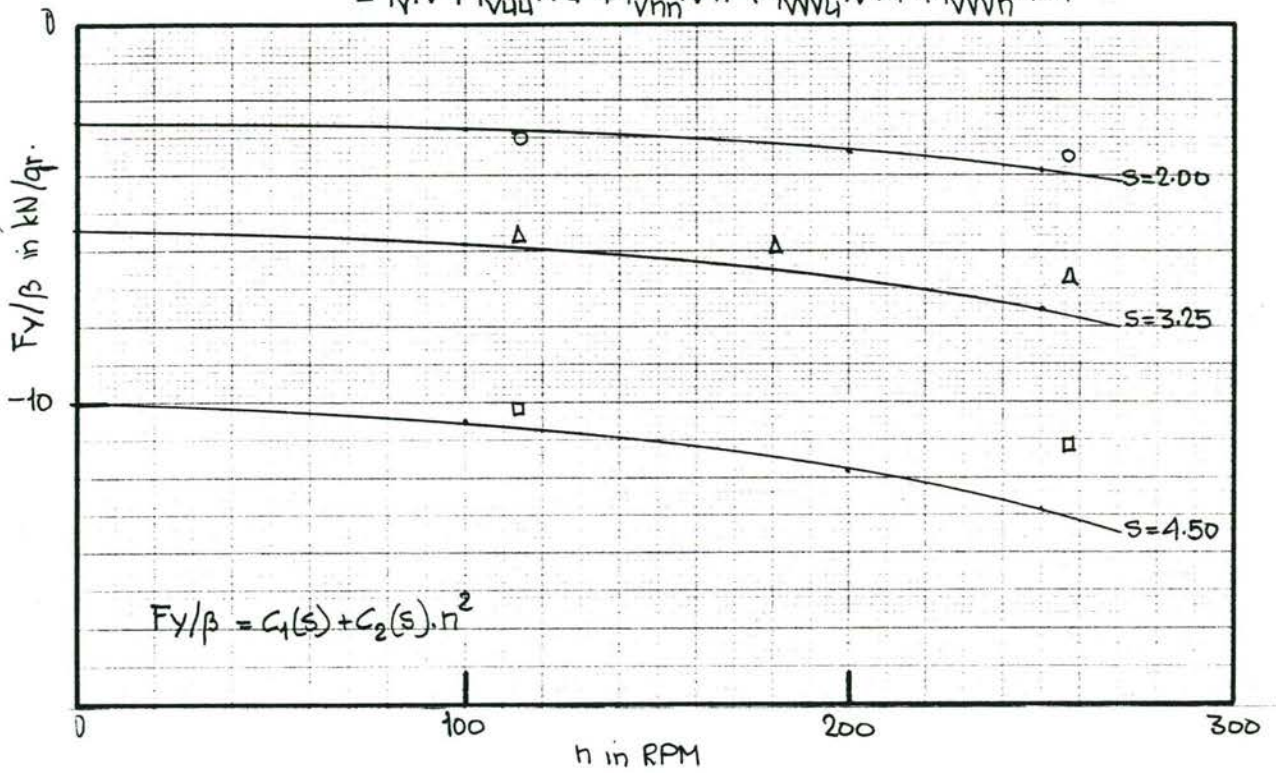
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COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water

$$F_y(\delta=0) = F_y(\beta) + F_y(\beta^3) = Y_{\beta \cdot s} \cdot \beta \cdot s + Y_{\beta \cdot s s s} \beta \cdot s^3 + Y_{\beta \cdot s \cdot n} \beta \cdot s \cdot n^2 + Y_{\beta \beta \beta s s s} \beta^3 \cdot s^4 + Y_{\beta \beta \beta s s s n} \beta^3 \cdot s^3 \cdot n$$

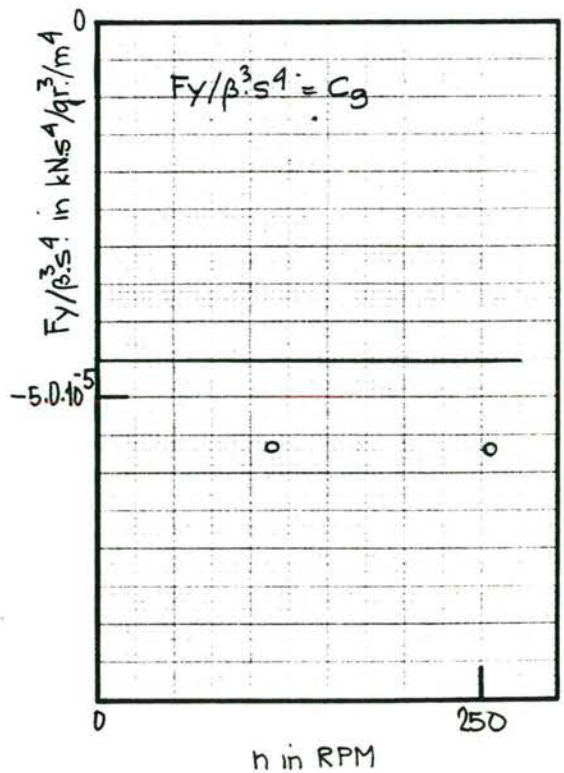
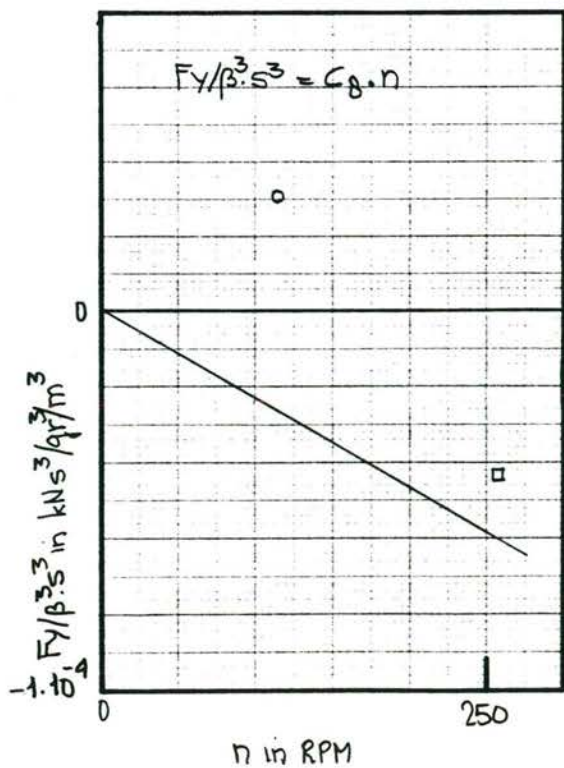
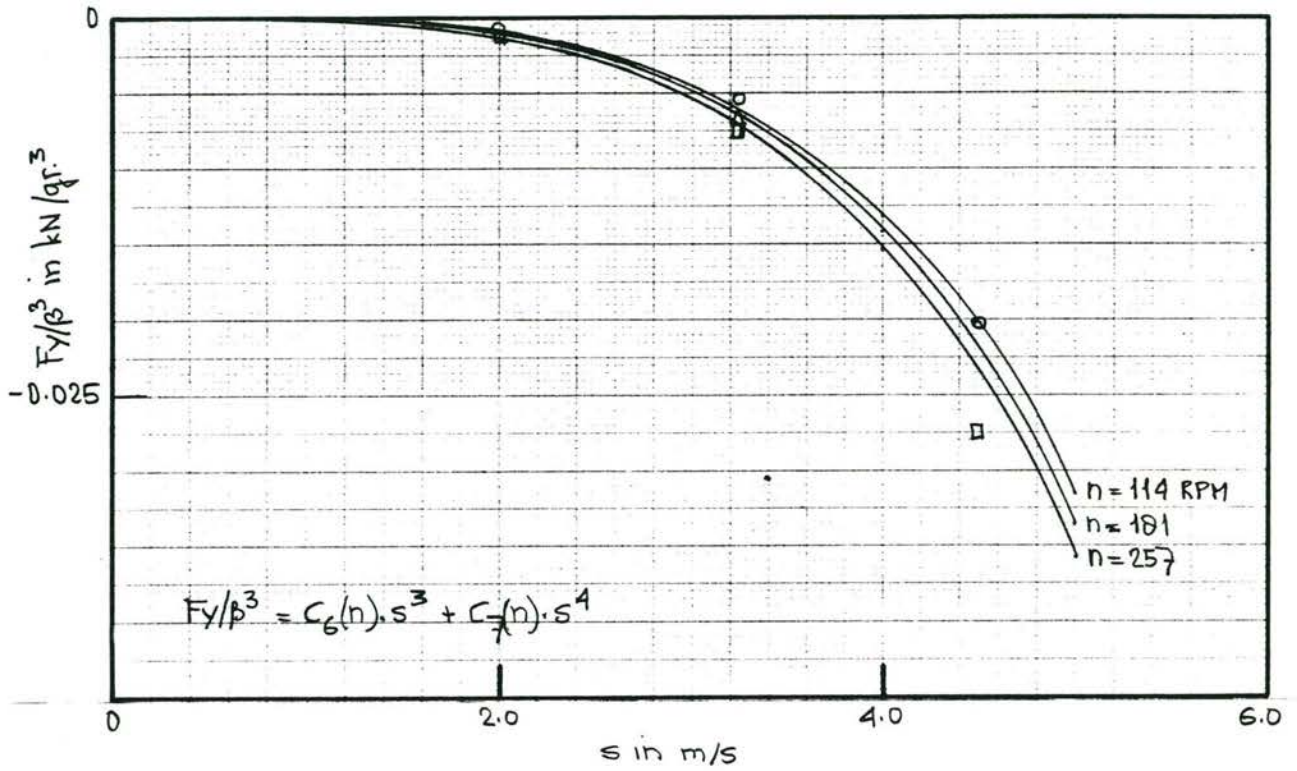
$$\hat{=} Y_v \cdot v + Y_{v v v} \cdot v^3 + Y_{v n n} \cdot v \cdot n^2 + Y_{v v v} \cdot v^3 + Y_{v v v n} \cdot v^3 \cdot n$$



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COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water



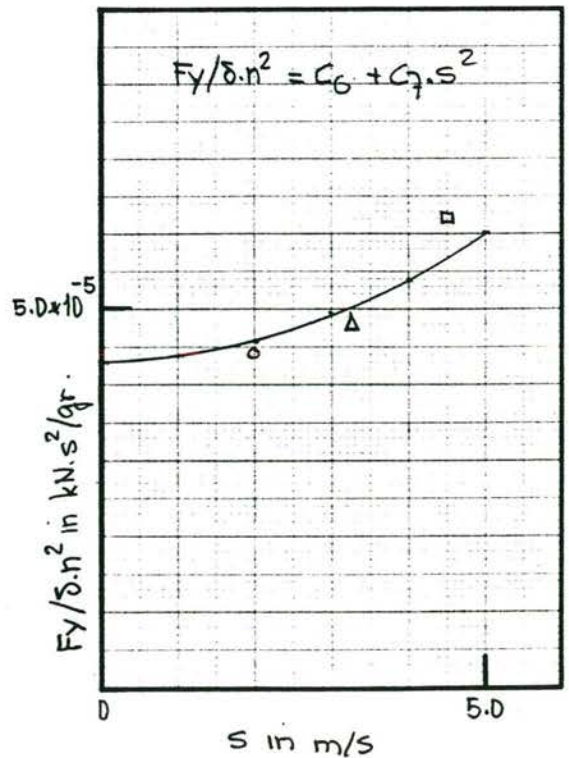
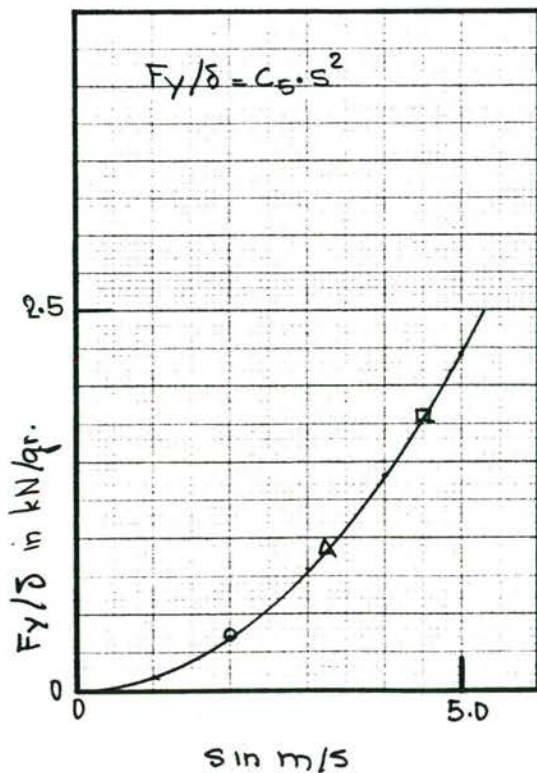
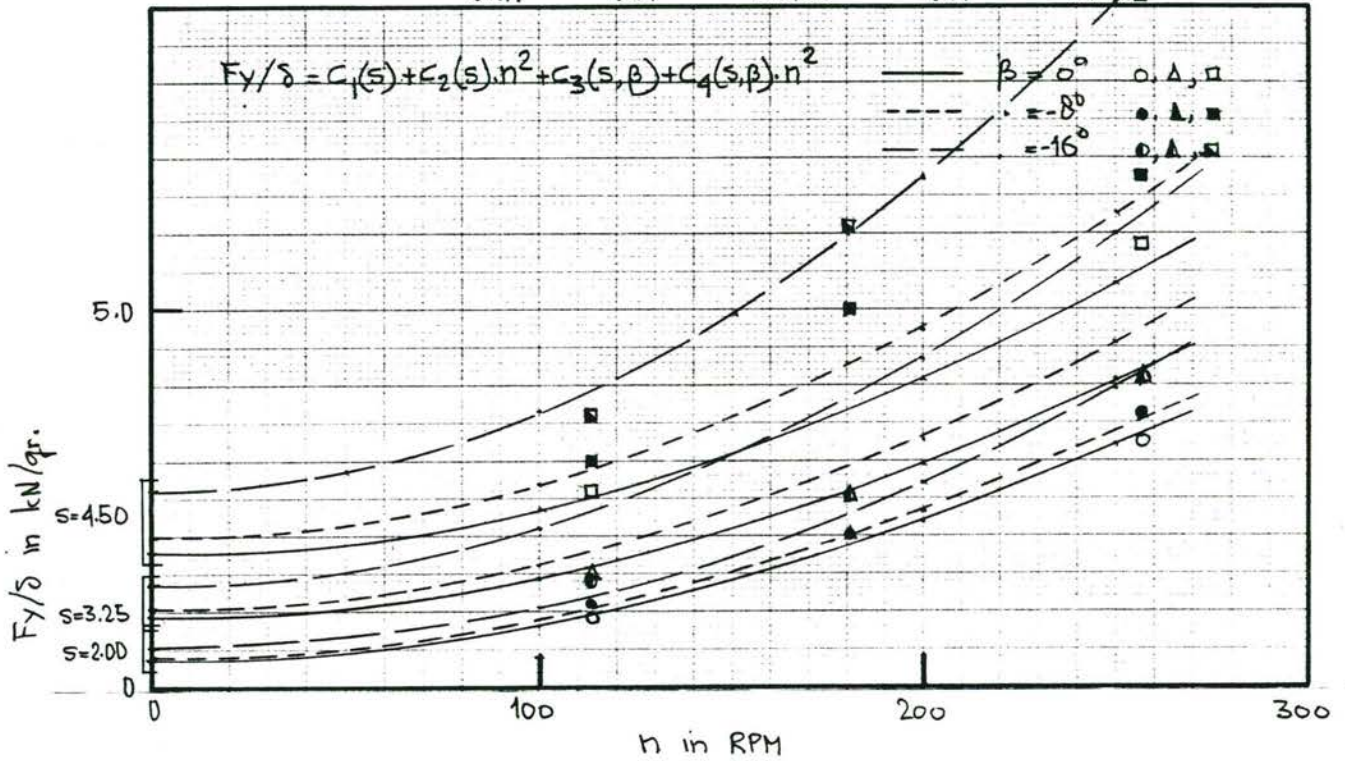
DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water

$$F_y = F_y(\delta) = Y_{\delta nn} \cdot \delta \cdot n^2 + Y_{\delta ss} \cdot \delta \cdot s^2 + Y_{\delta nns} \cdot n^2 \cdot s^2 + Y_{\delta pps} \cdot \delta \cdot \beta^2 \cdot s^2 + Y_{\delta ppsnn} \cdot \delta \cdot \beta^2 \cdot s^2 \cdot n^2$$

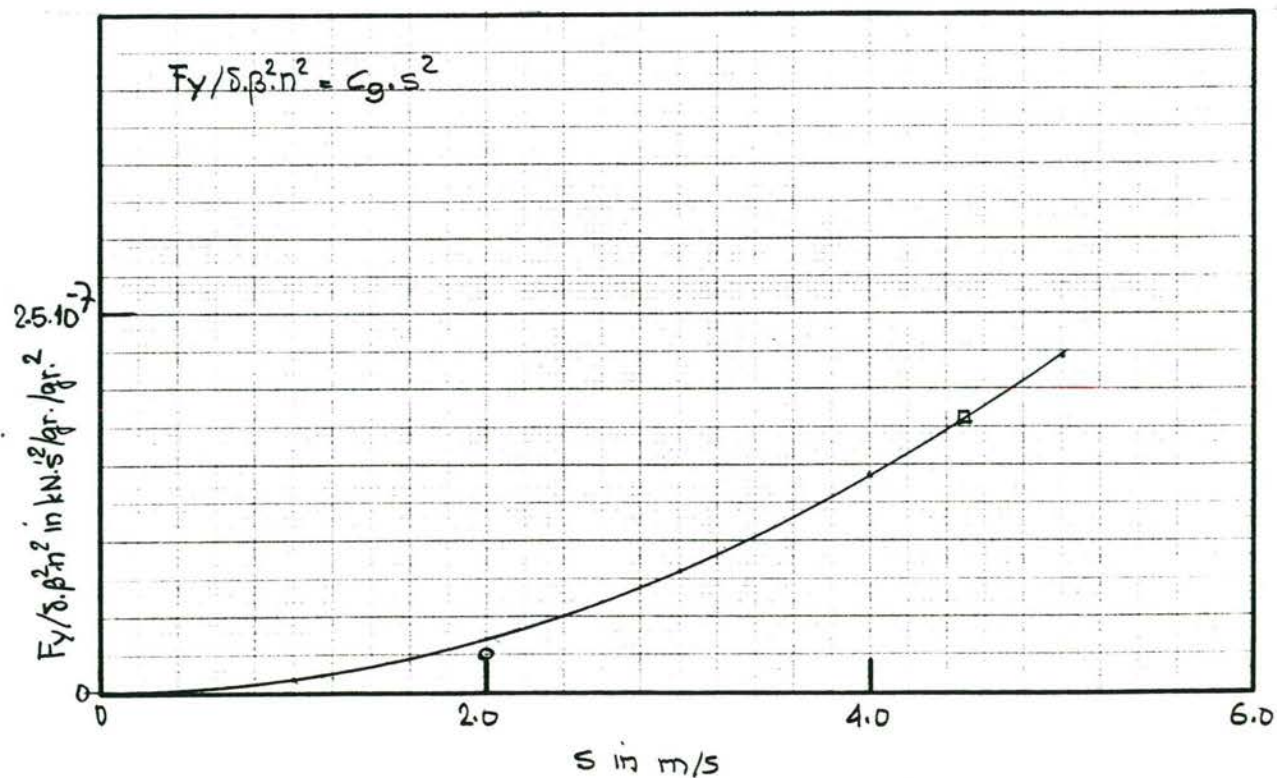
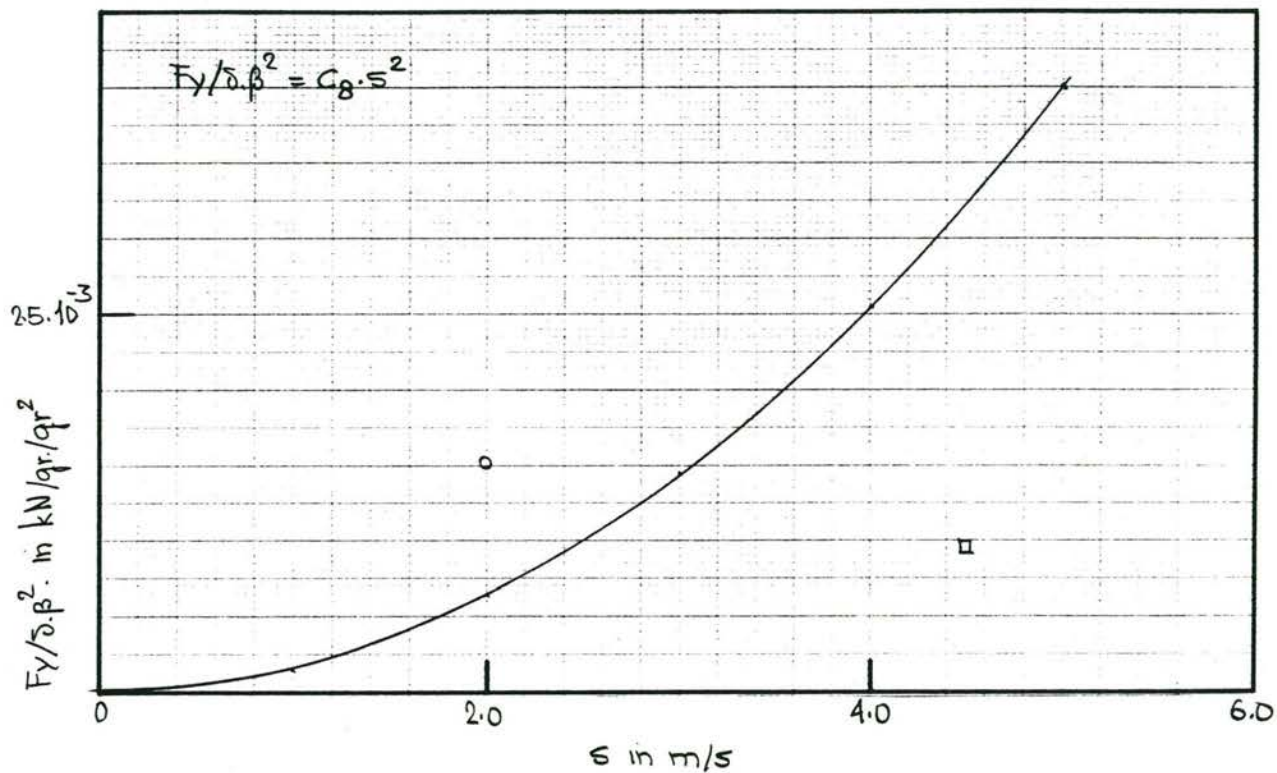
$$\cong Y_{\delta nn} \cdot \delta \cdot n^2 + Y_{\delta uu} \cdot \delta \cdot u^2 + Y_{\delta nnuu} \cdot n^2 \cdot u^2 + Y_{\delta vv} \cdot \delta \cdot v^2 + Y_{\delta vvv} \cdot \delta \cdot v^2 \cdot n^2$$



DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water



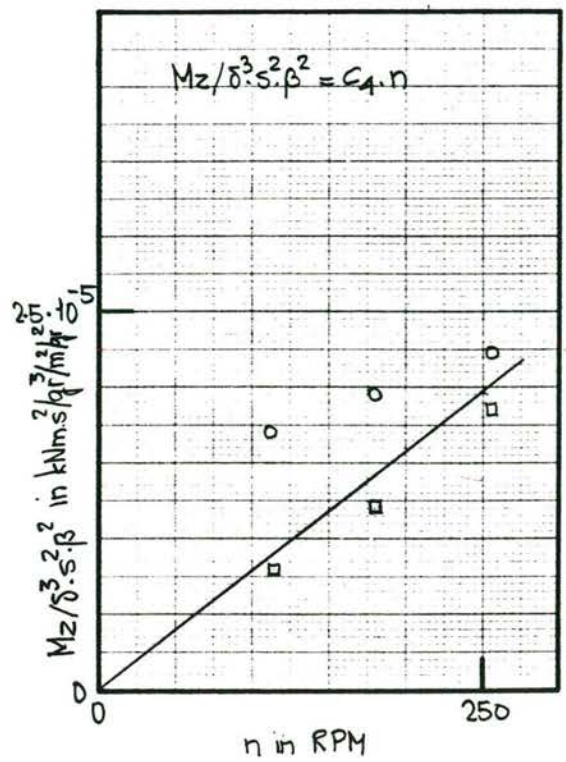
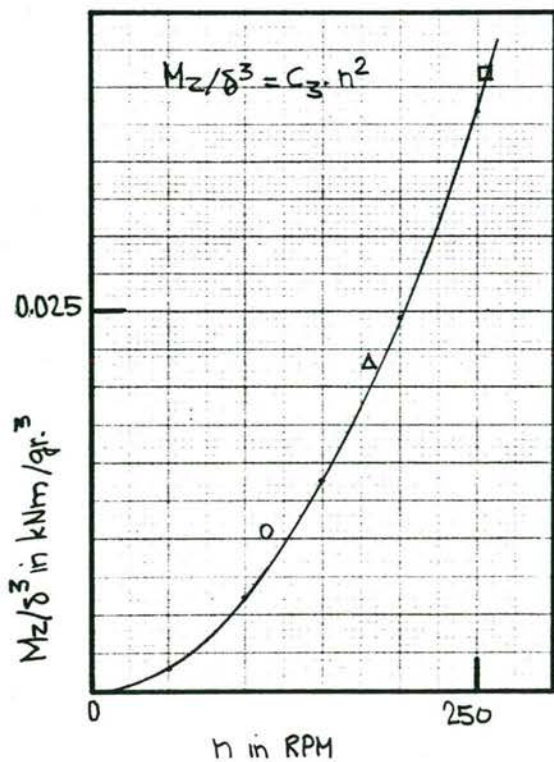
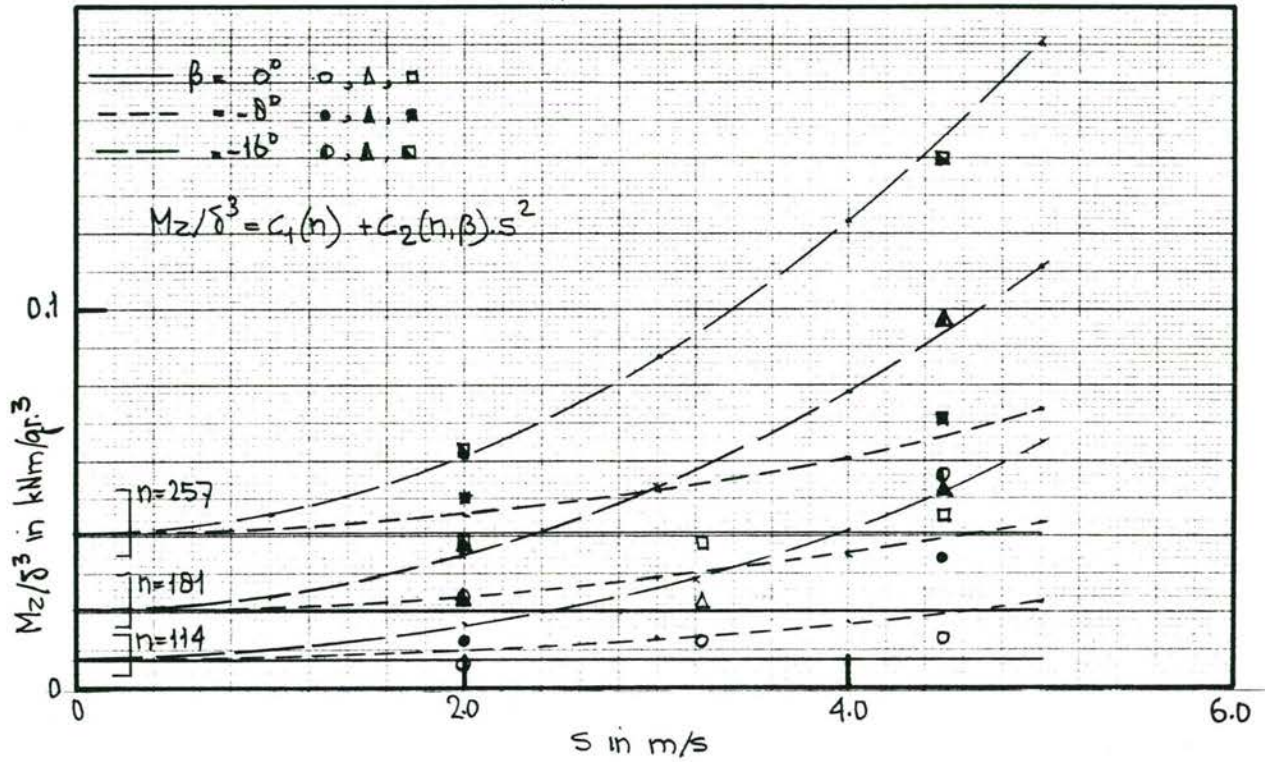
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COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water

$$M_z = M_z(\delta^3) = N_{\delta\delta\delta n n} \cdot \delta^3 \cdot n^2 + N_{\delta\delta\delta n \beta \beta s s} \cdot \delta^3 \cdot n \cdot \beta^2 \cdot s^2$$

$$\cong N_{\delta\delta\delta n n} \cdot \delta^3 \cdot n^2 + N_{\delta\delta\delta n v v} \cdot \delta^3 \cdot n \cdot v^2$$



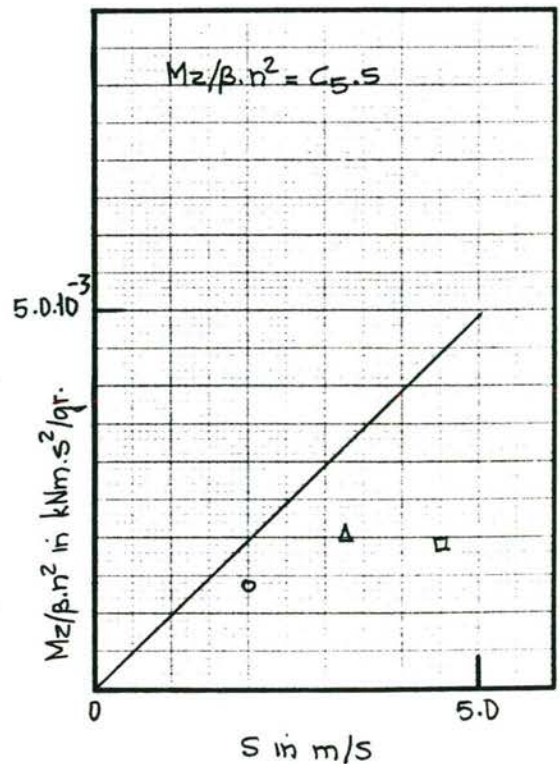
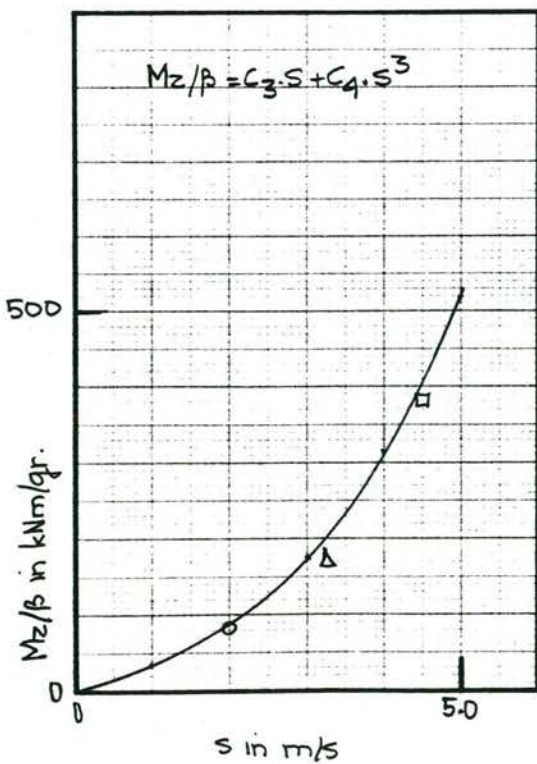
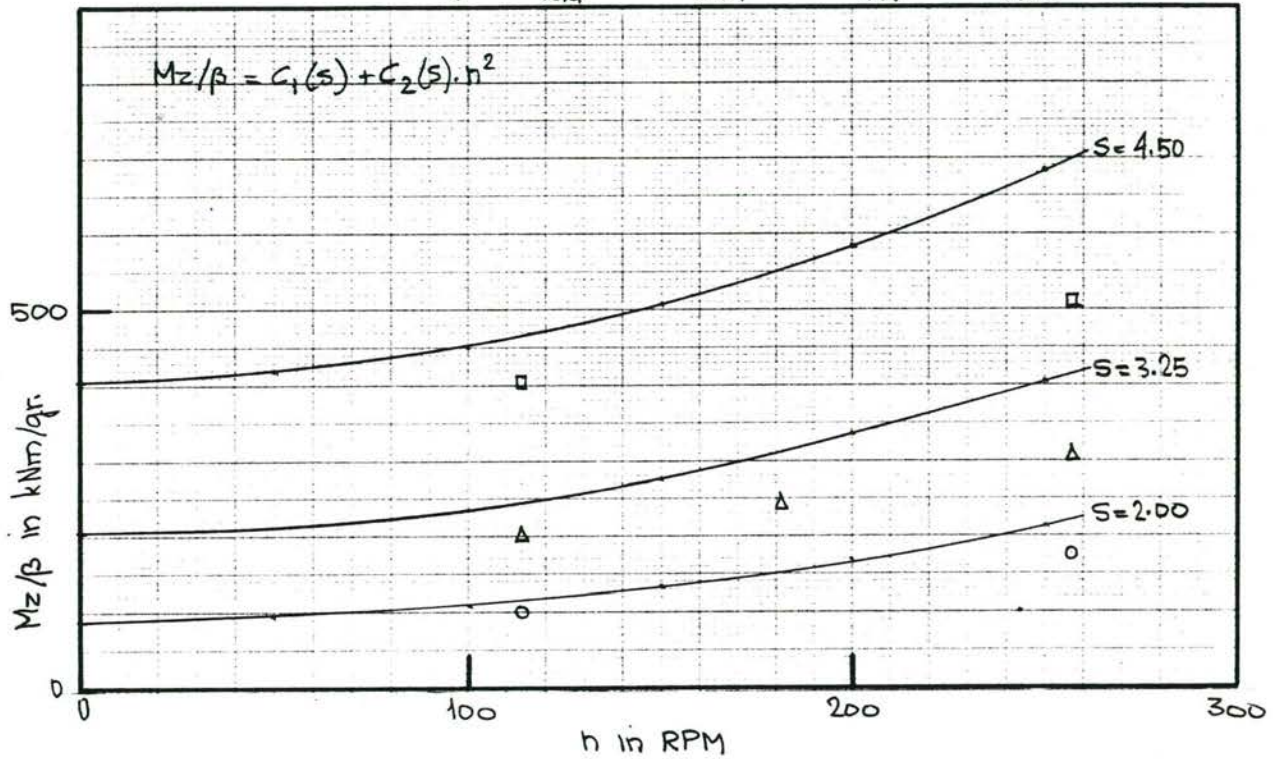
DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water

$$Mz(\delta=0) = Mz(\beta) + Mz(\beta^3) = N_{\beta s} \cdot \beta \cdot s + N_{\beta s s s} \cdot \beta \cdot s^3 + N_{\beta s n n} \cdot \beta \cdot s \cdot n^2 + N_{\beta \beta s s s} \cdot \beta^3 \cdot s^3 + N_{\beta \beta s s s n} \cdot \beta^3 \cdot s^3 \cdot n$$

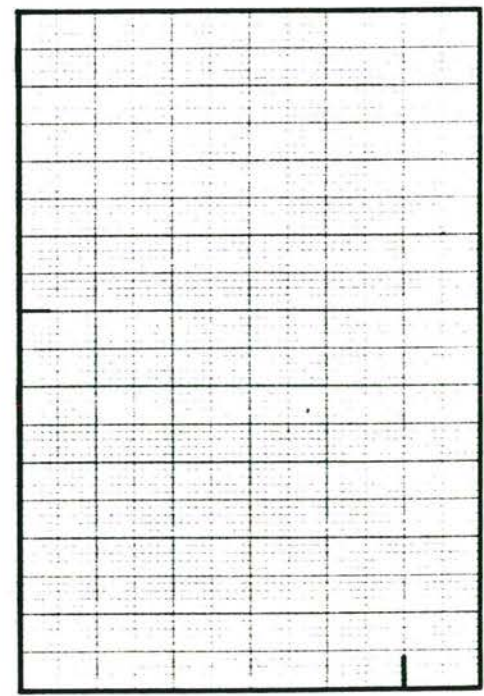
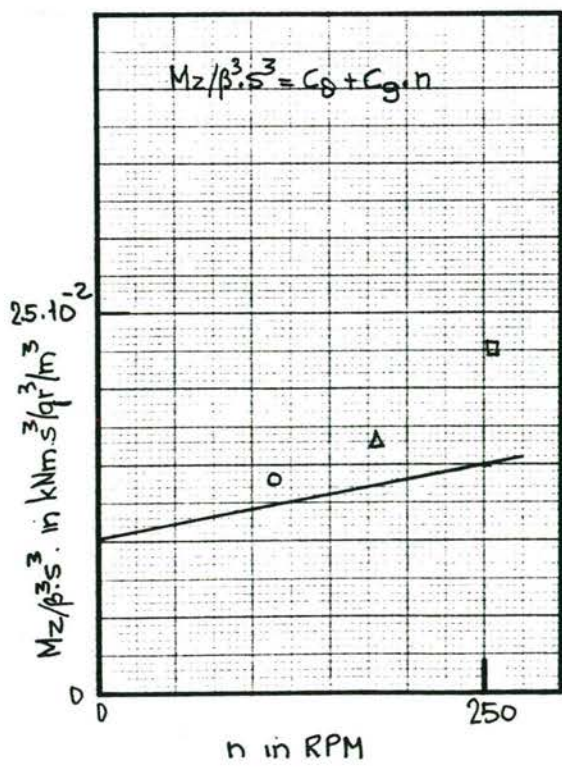
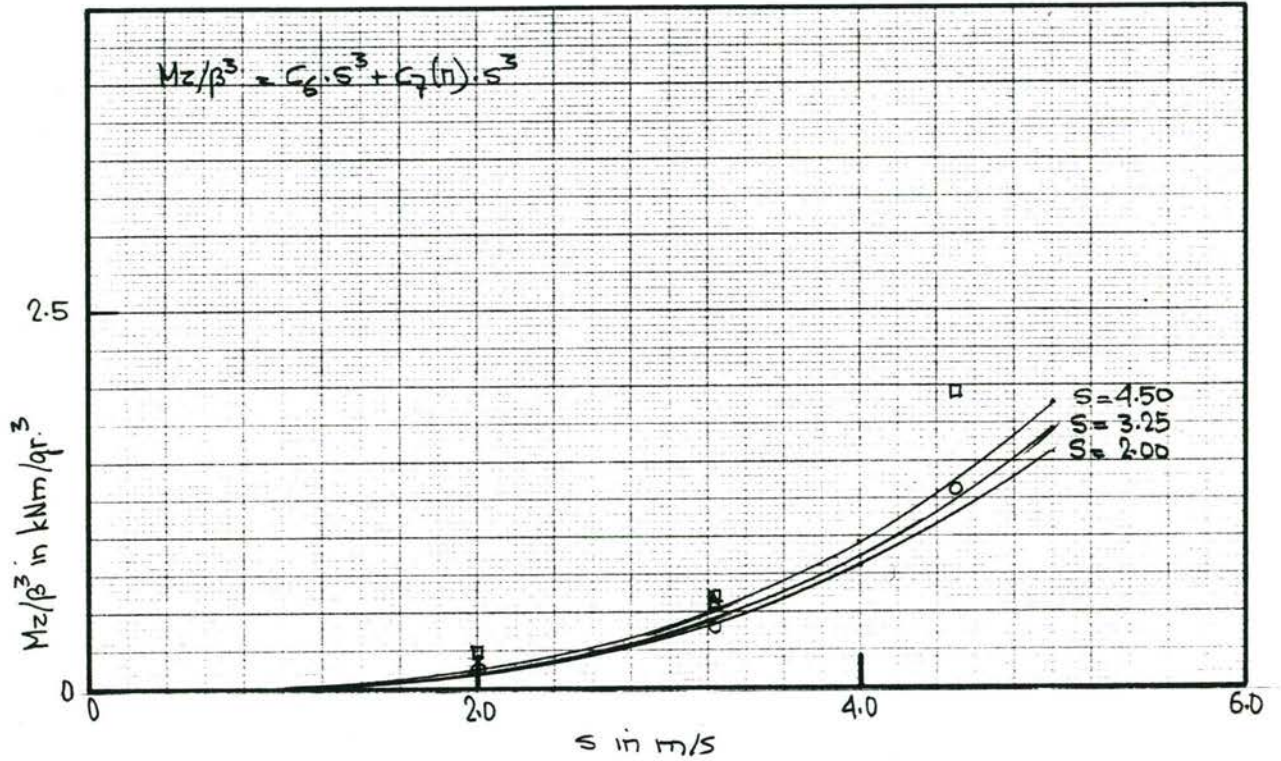
$$\triangleq N_{v \cdot} \cdot v + N_{v u u} \cdot v \cdot u^2 + N_{v n n} \cdot v \cdot n^2 + N_{v v v} \cdot v^3 + N_{v v n} \cdot v^3 \cdot n$$



DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water



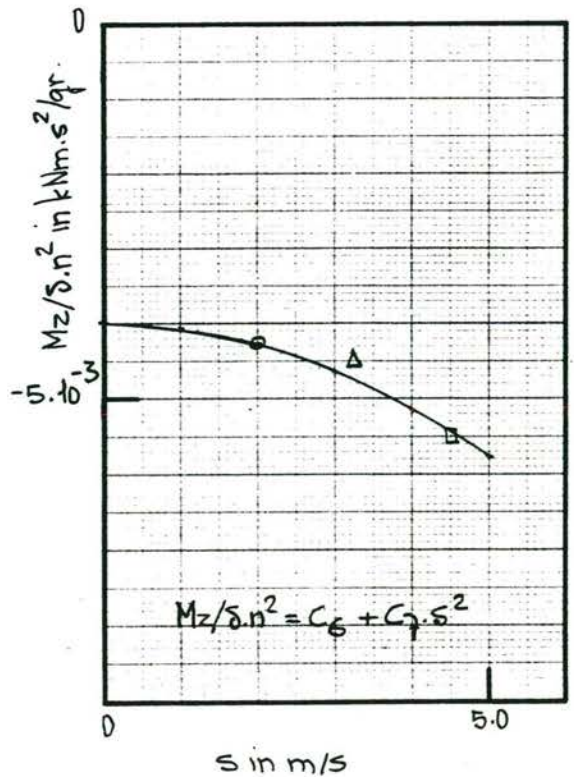
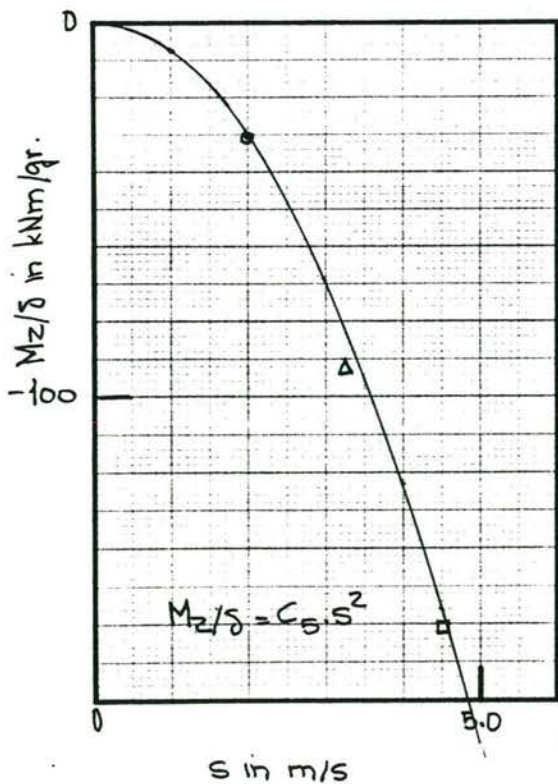
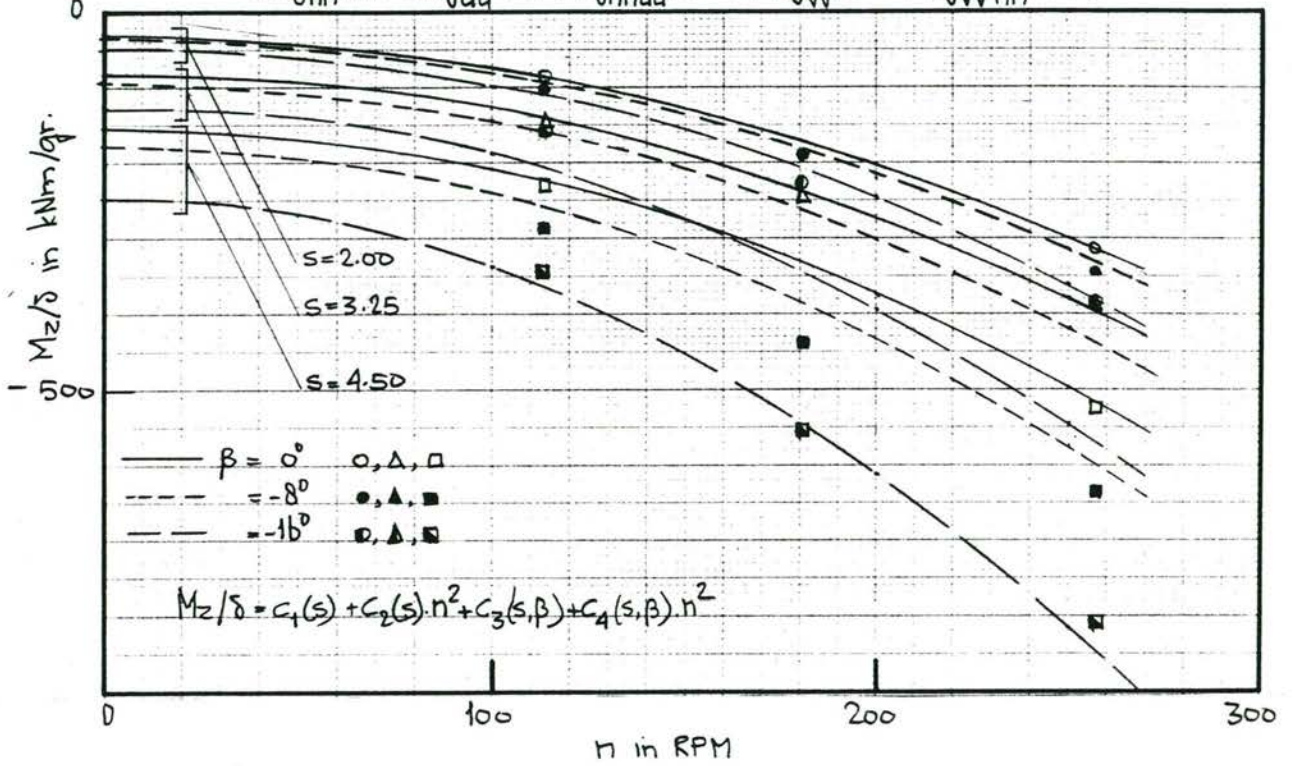
DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak ballast, breed water

$$M_z = M_z(\delta) = N_{\delta nn} \cdot \delta \cdot n^2 + N_{\delta ss} \cdot \delta \cdot s^2 + N_{\delta nss} \cdot \delta \cdot n^2 \cdot s^2 + N_{\delta \beta s s} \cdot \delta \cdot \beta^2 \cdot s^2 + N_{\delta \beta s s n n} \cdot \delta \cdot \beta^2 \cdot s^2 \cdot n^2$$

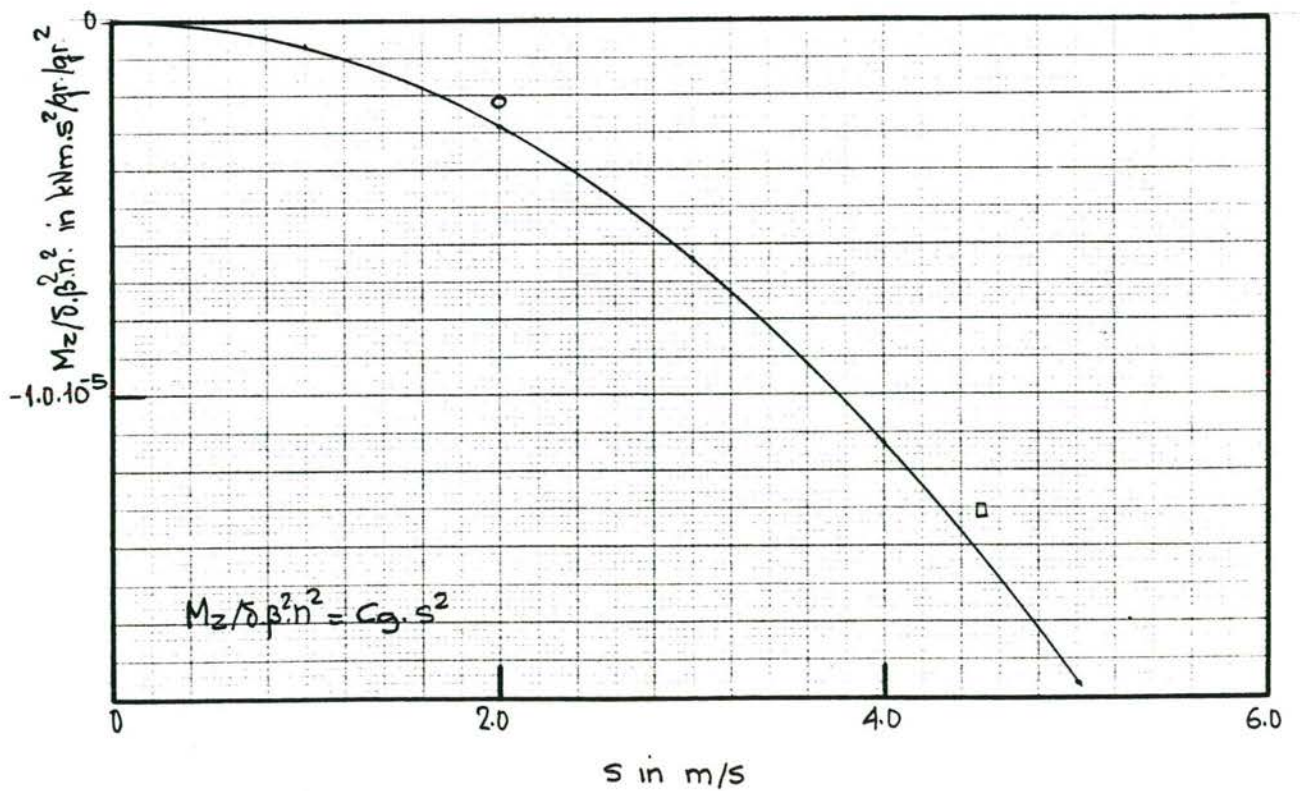
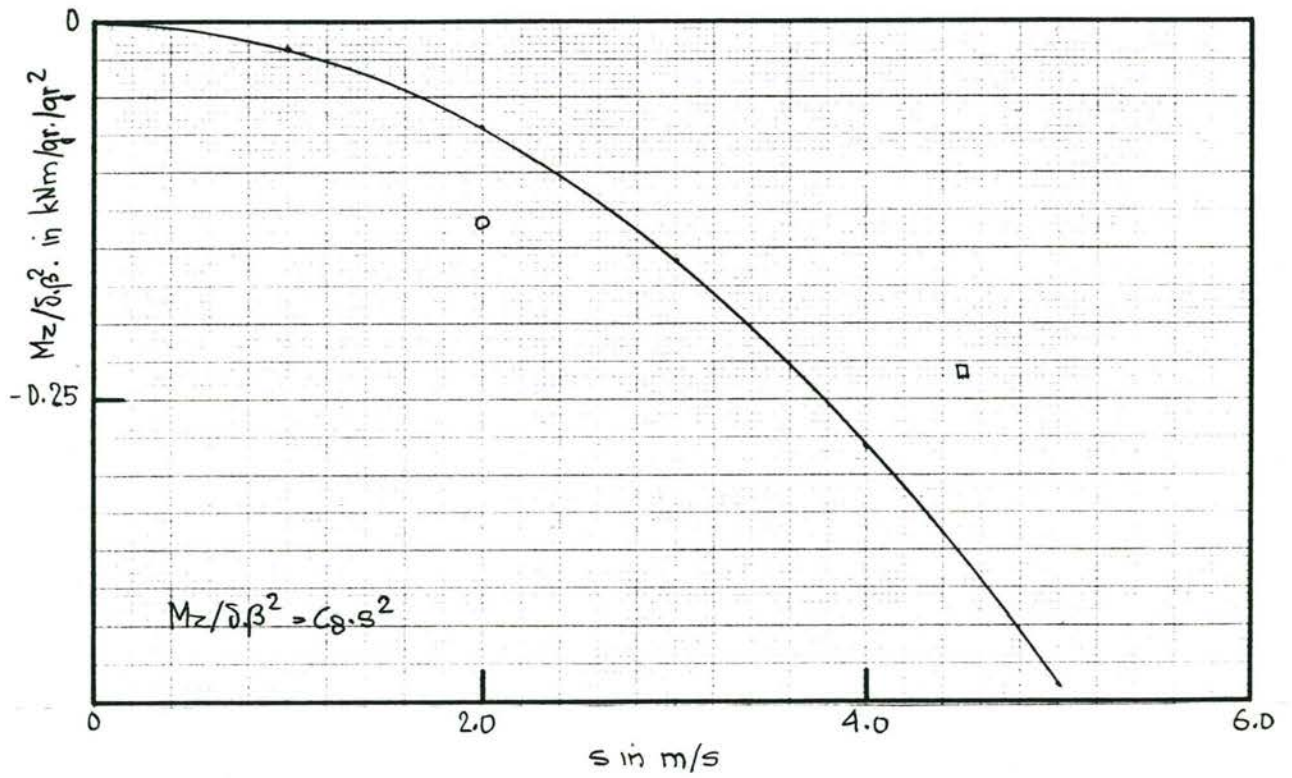
$$\triangleq N_{\delta nn} \cdot \delta \cdot n^2 + N_{\delta uu} \cdot \delta \cdot u^2 + N_{\delta nnuu} \cdot \delta \cdot n^2 \cdot u^2 + N_{\delta vv} \cdot \delta \cdot v^2 + N_{\delta vvn n} \cdot \delta \cdot v^2 \cdot n^2$$



DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

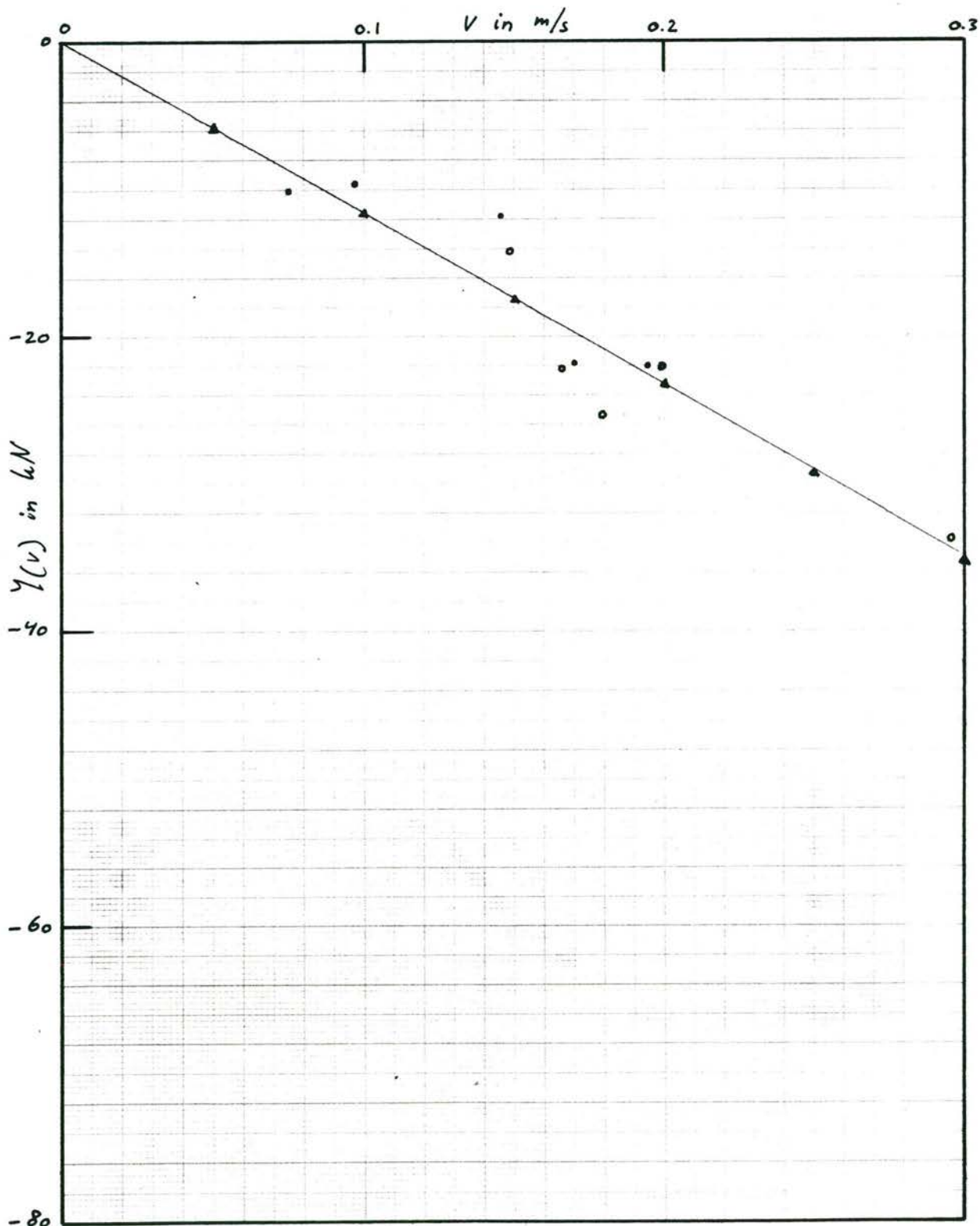
2-bak ballast, breed water



DVK Project Windhinder
2-BAK : ballast , breed water

VERZET OSCILLATIE PROEVEN

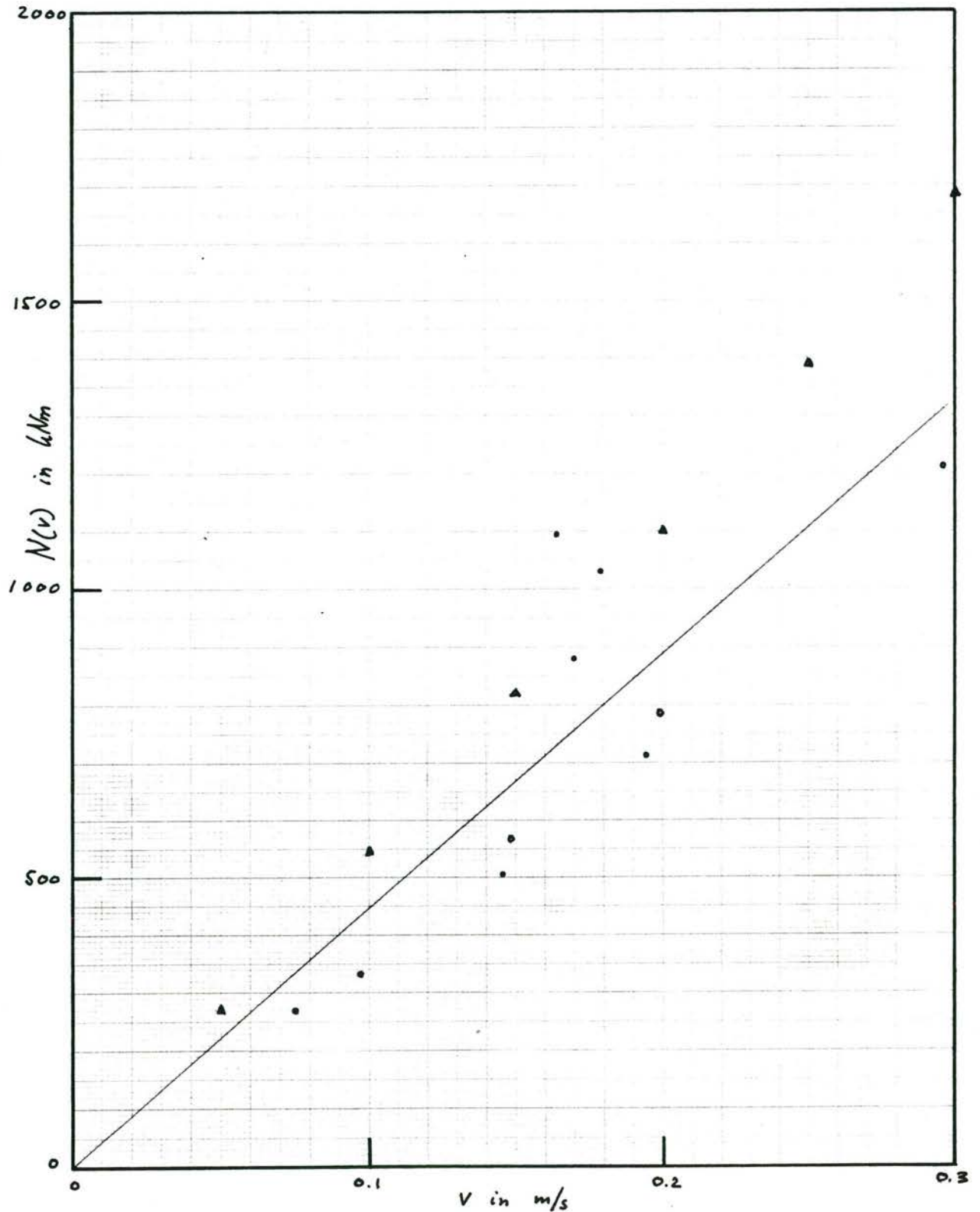
snelheid : U= 3.25 m/s
amplitude 1.25 meter : ●
amplitude 2.50 meter : ○
Δ vergelijk met statische proeven



DVK Project Windhinder
 2-BAK : ballast, breed water

VERZET OSCILLATIE PROEVEN

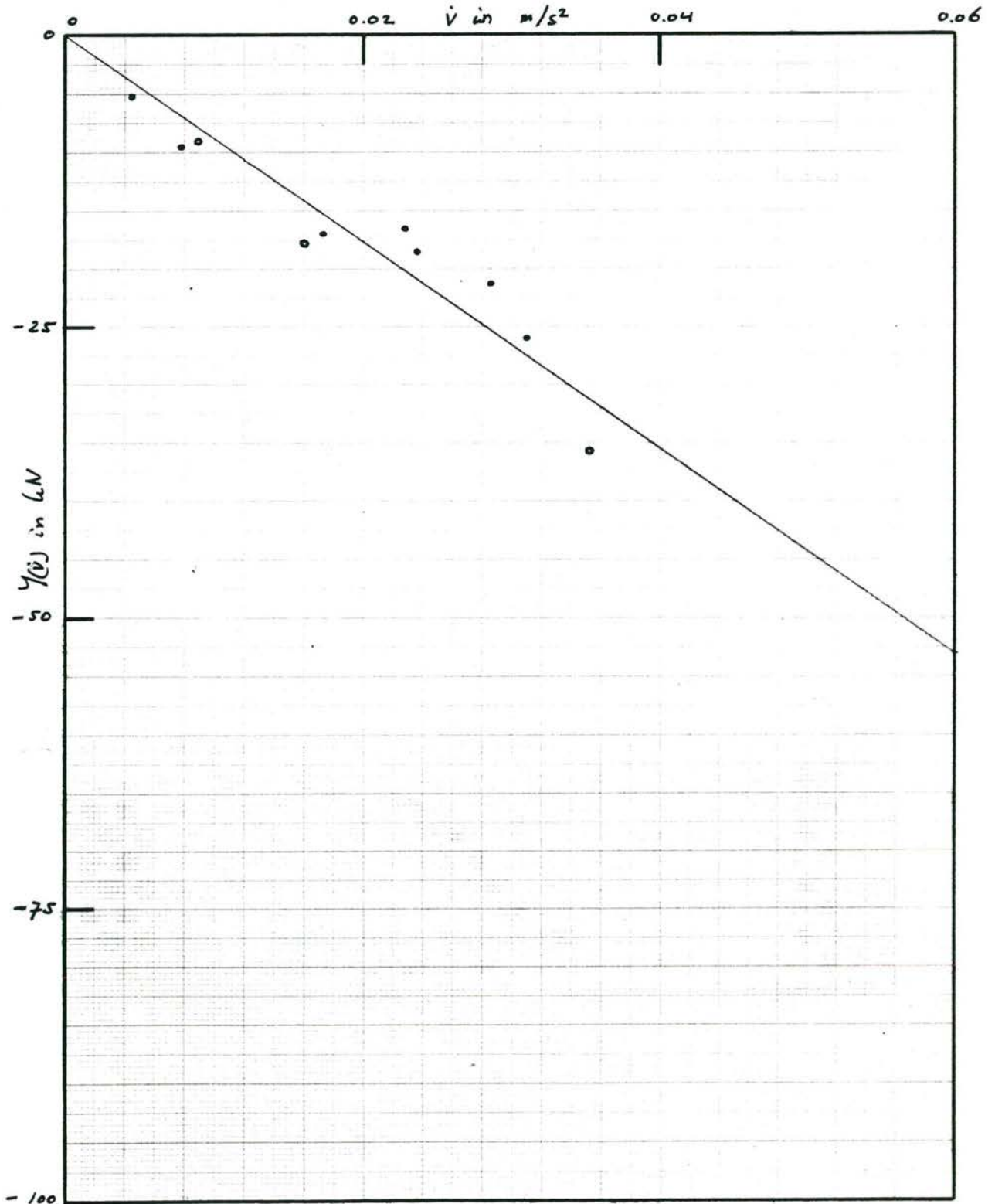
snelheid : $U = 3.25 \text{ m/s}$
 amplitude 1.25 meter : ●
 amplitude 2.50 meter : ○
 Δ vergelijk met statische proeven



DVK Project Windhinder
 2-BAK : ballast , breed water

VERZET OSCILLATIE PROEVEN

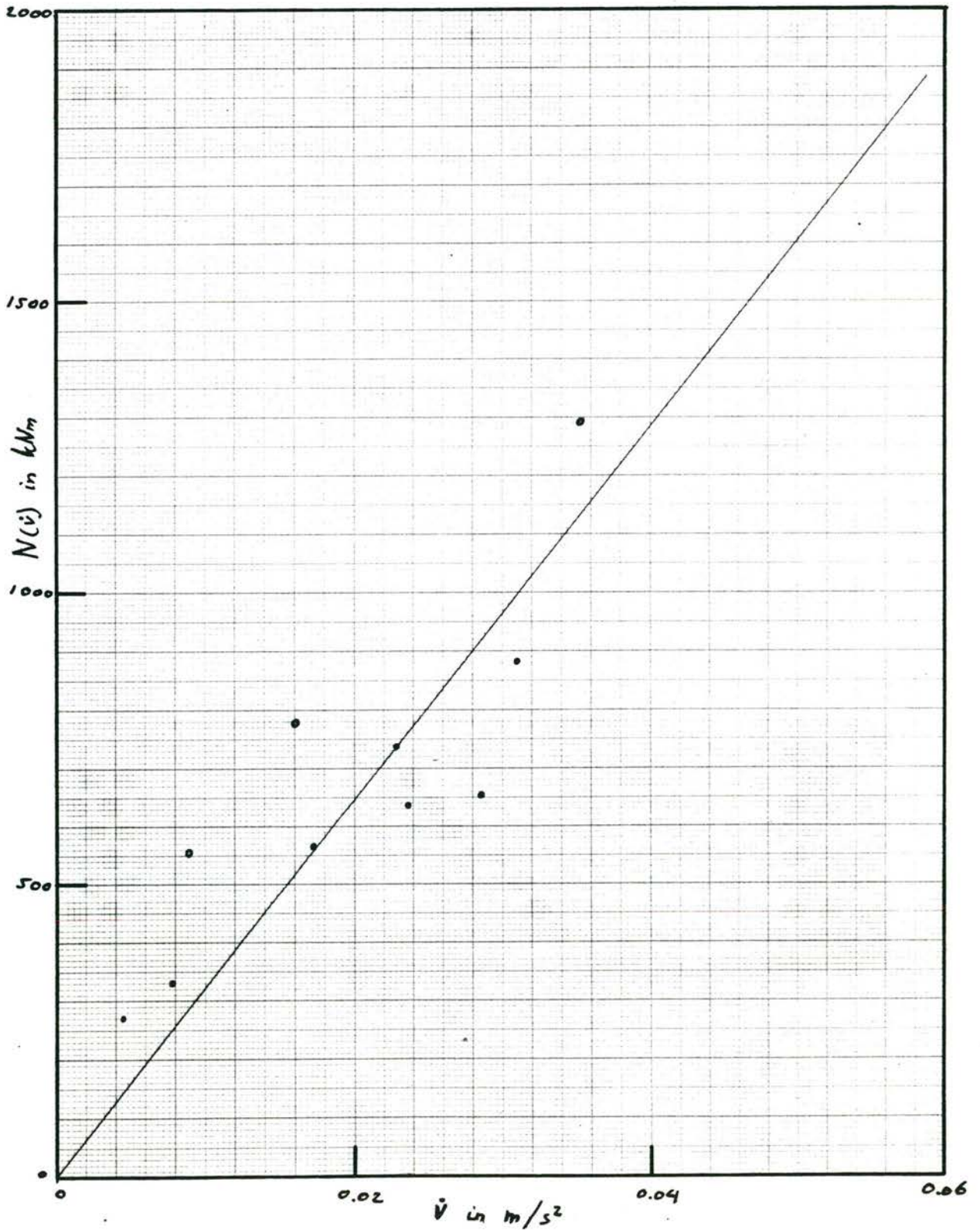
snelheid : $U = 3.25$ m/s
 amplitude 1.25 meter : ●
 amplitude 2.50 meter : ○



DVK Project Windhinder
2-BAK : ballast , breed water

VERZET OSCILLATIE PROEVEN

snelheid : U= 3.25 m/s
amplitude 1.25 meter : ●
amplitude 2.50 meter : ○

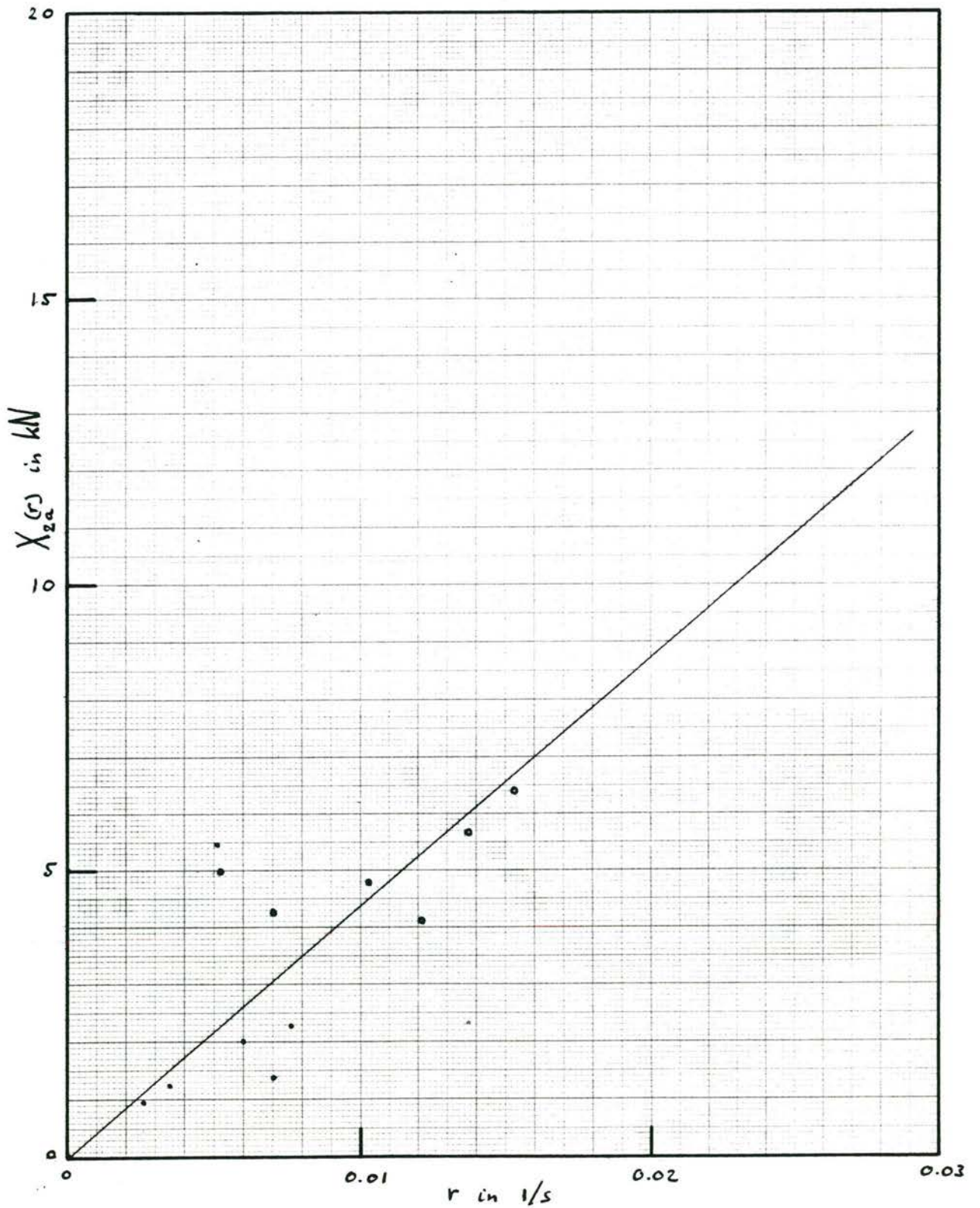


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

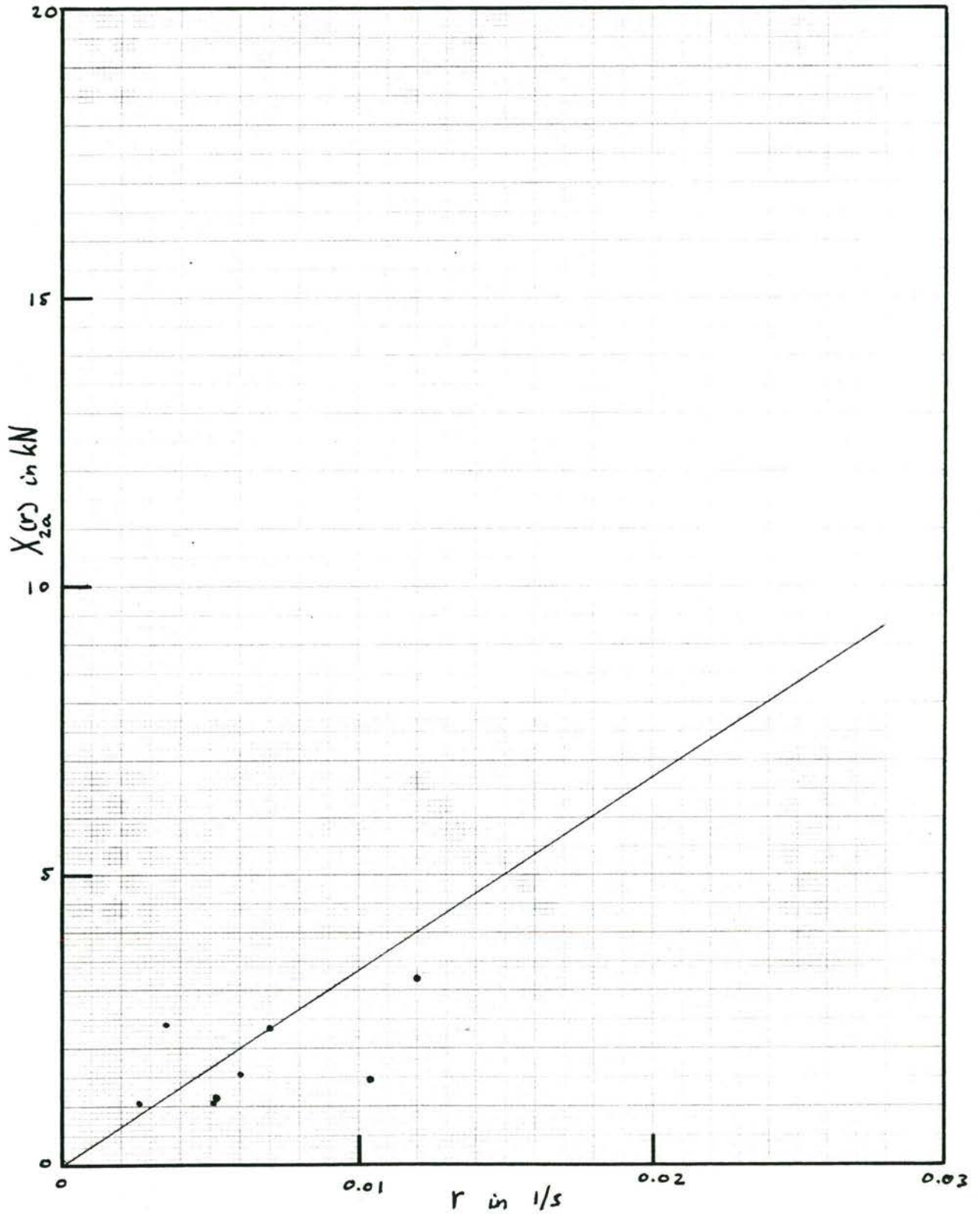


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

 drifthoek : B= 8 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

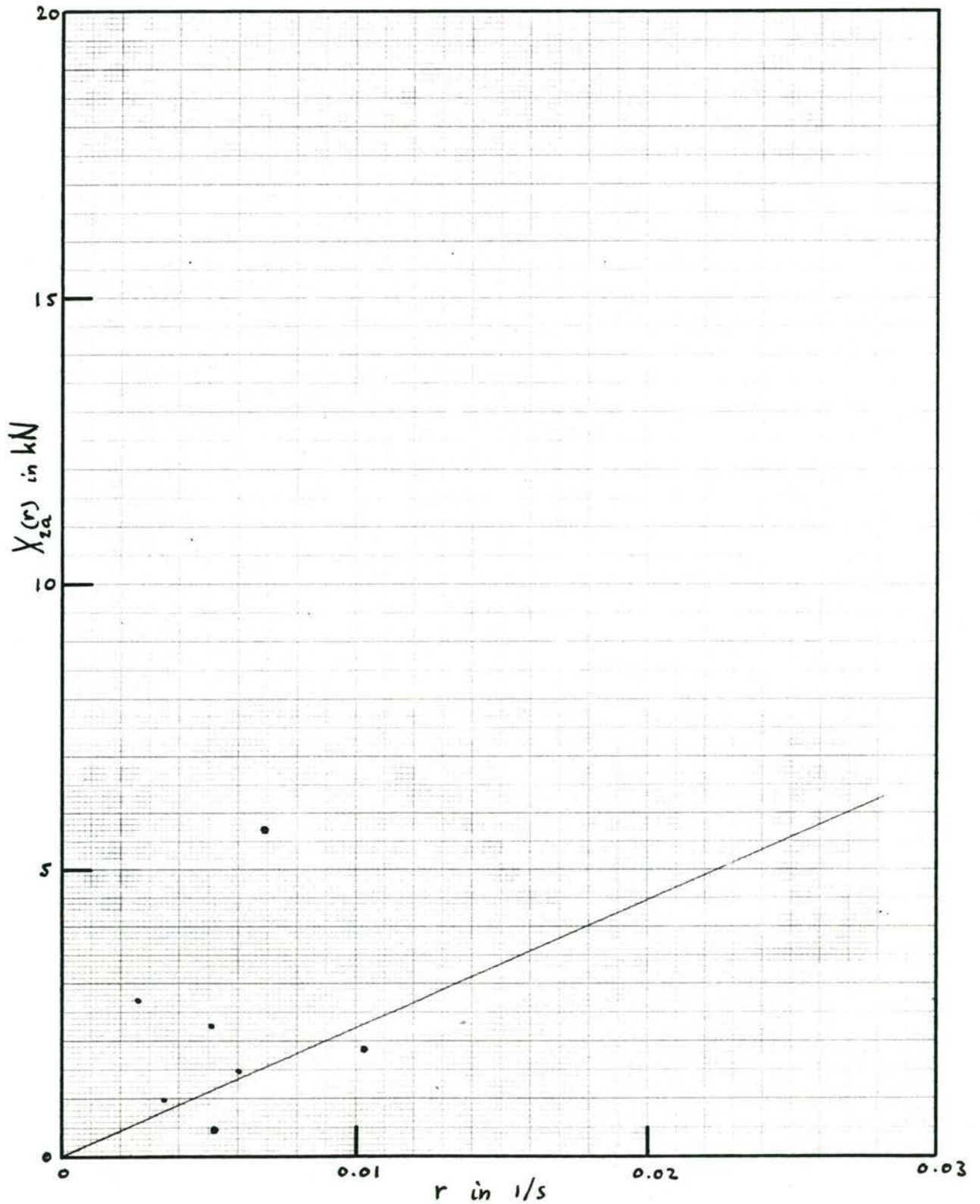


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

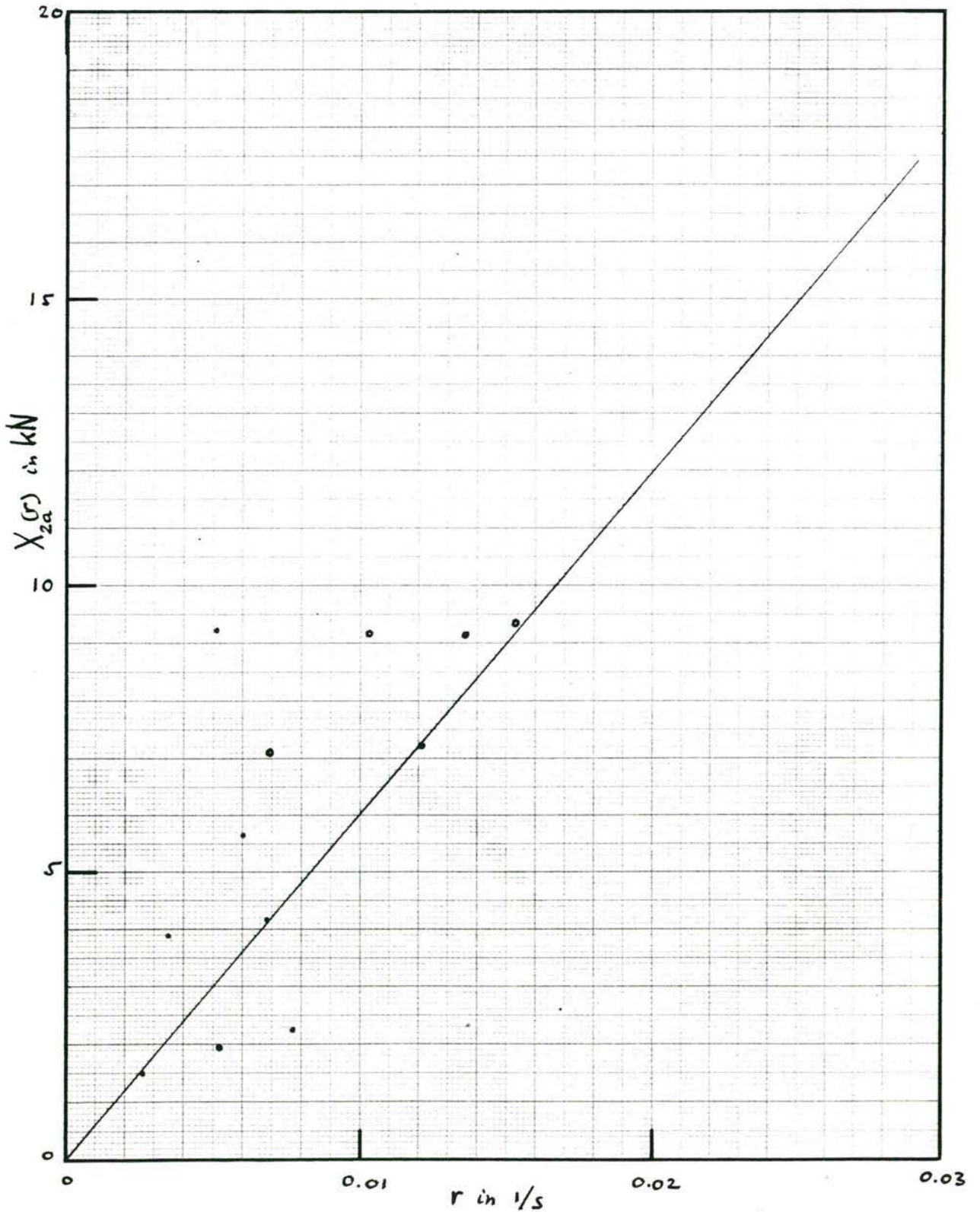


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

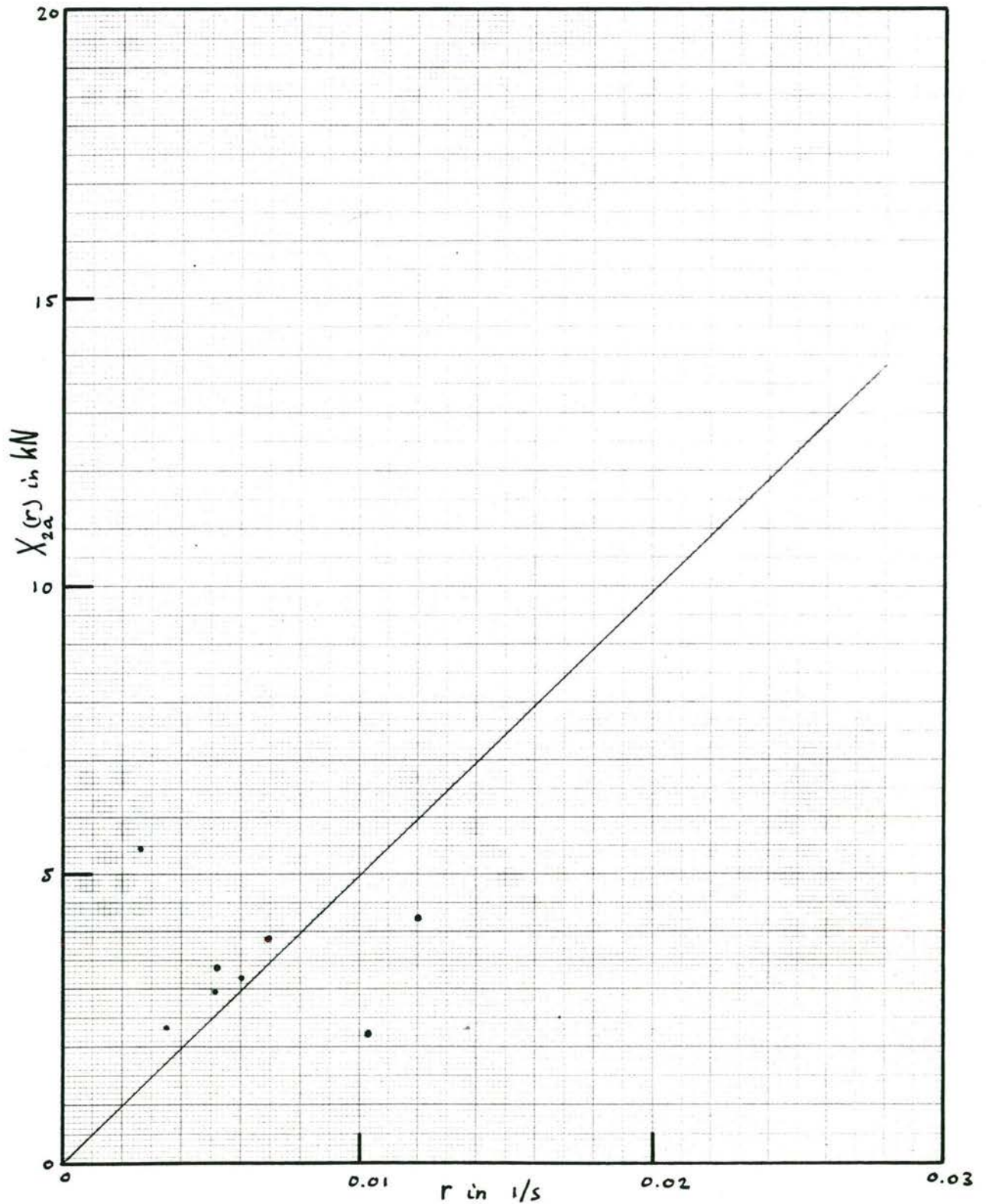


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

drifthoek : B= 8 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

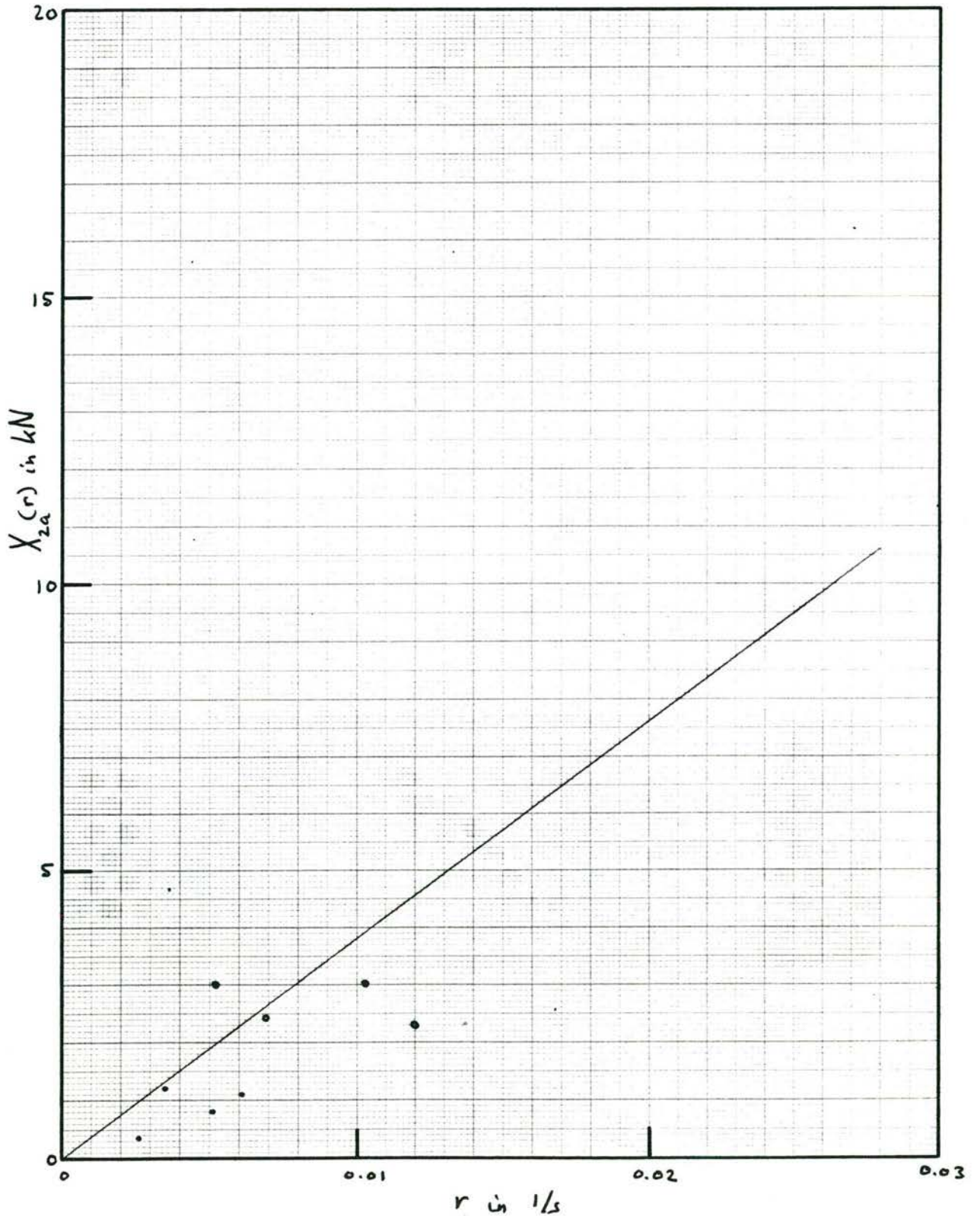


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

 drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

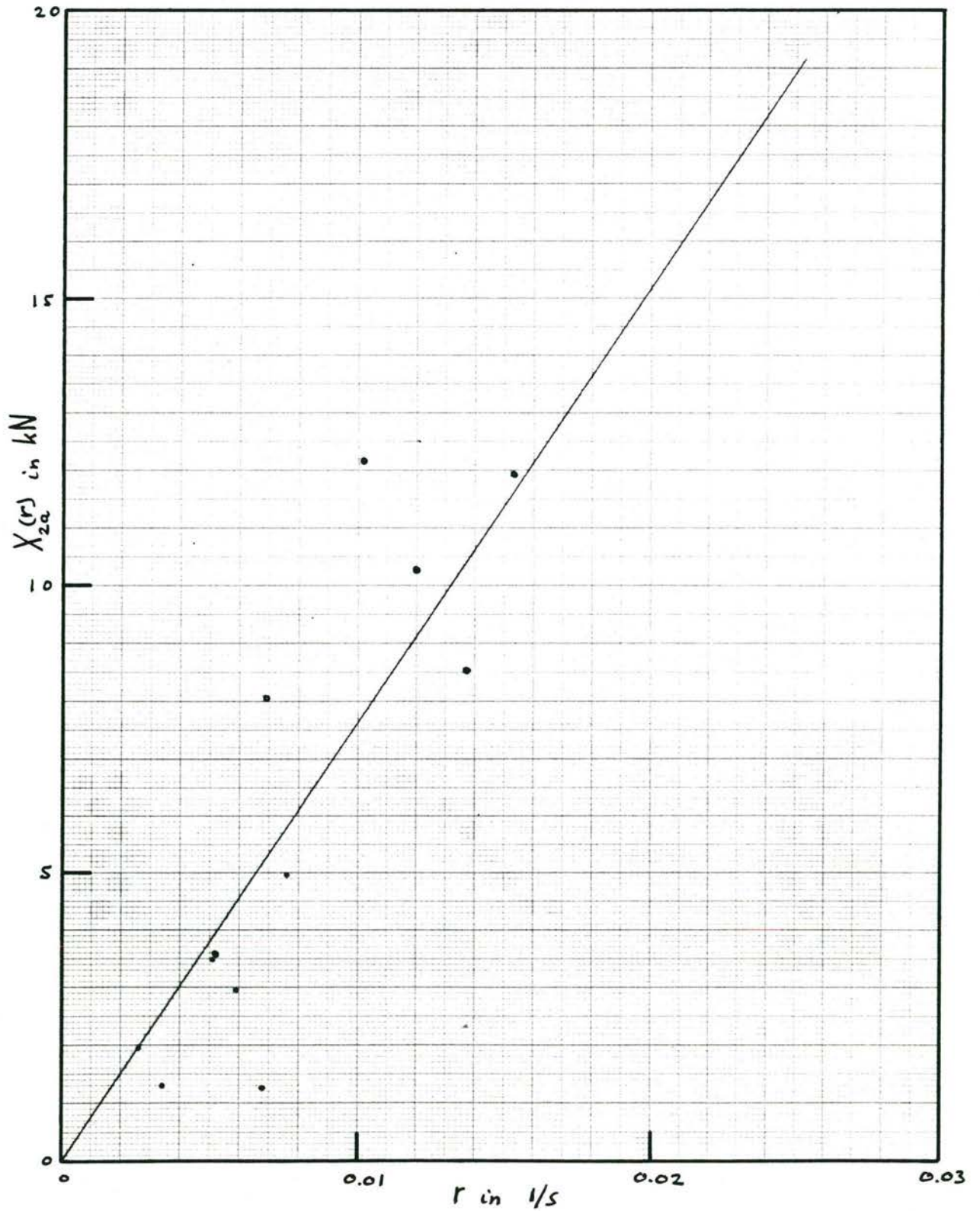


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

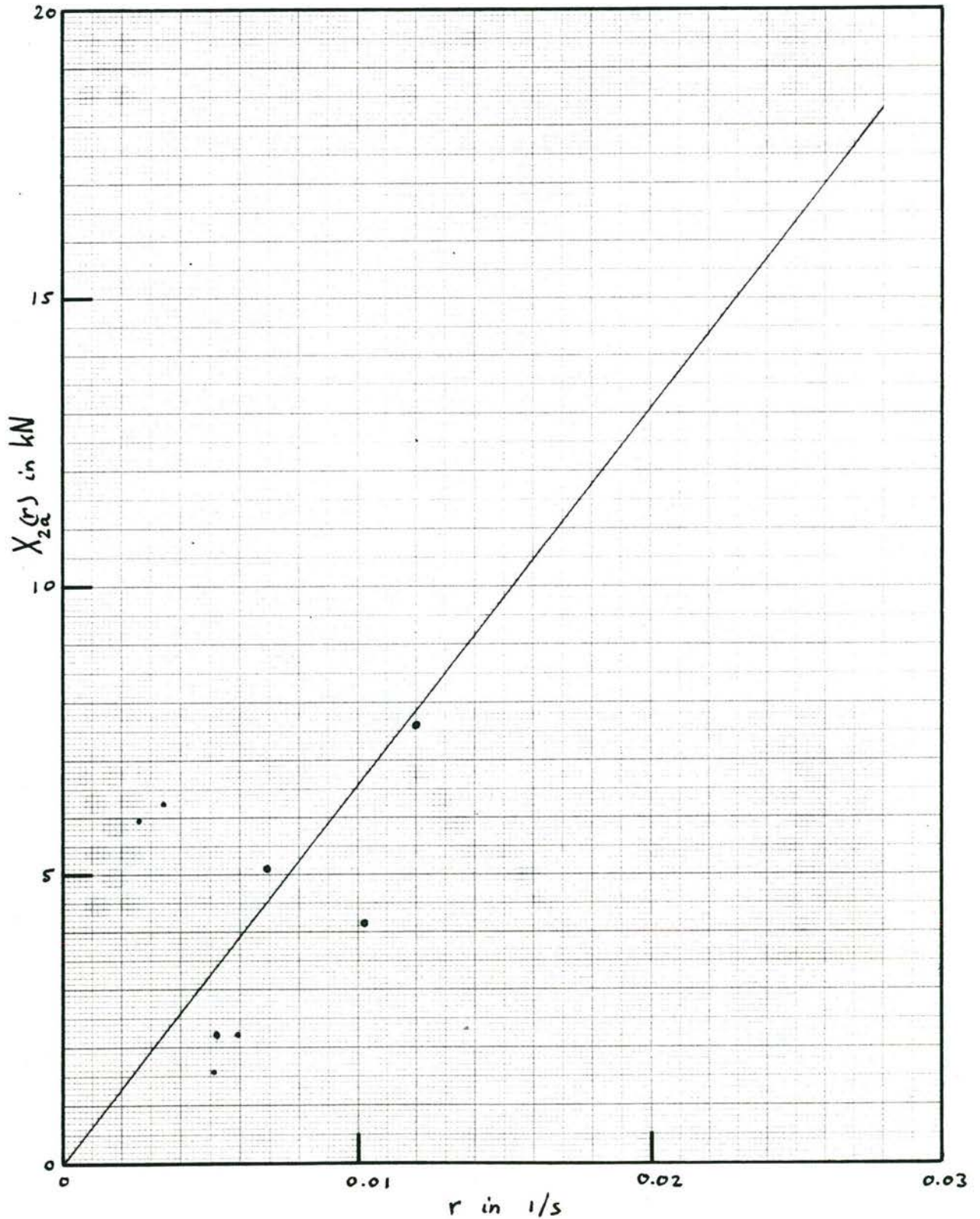


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

 drifthoek : B= 8 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

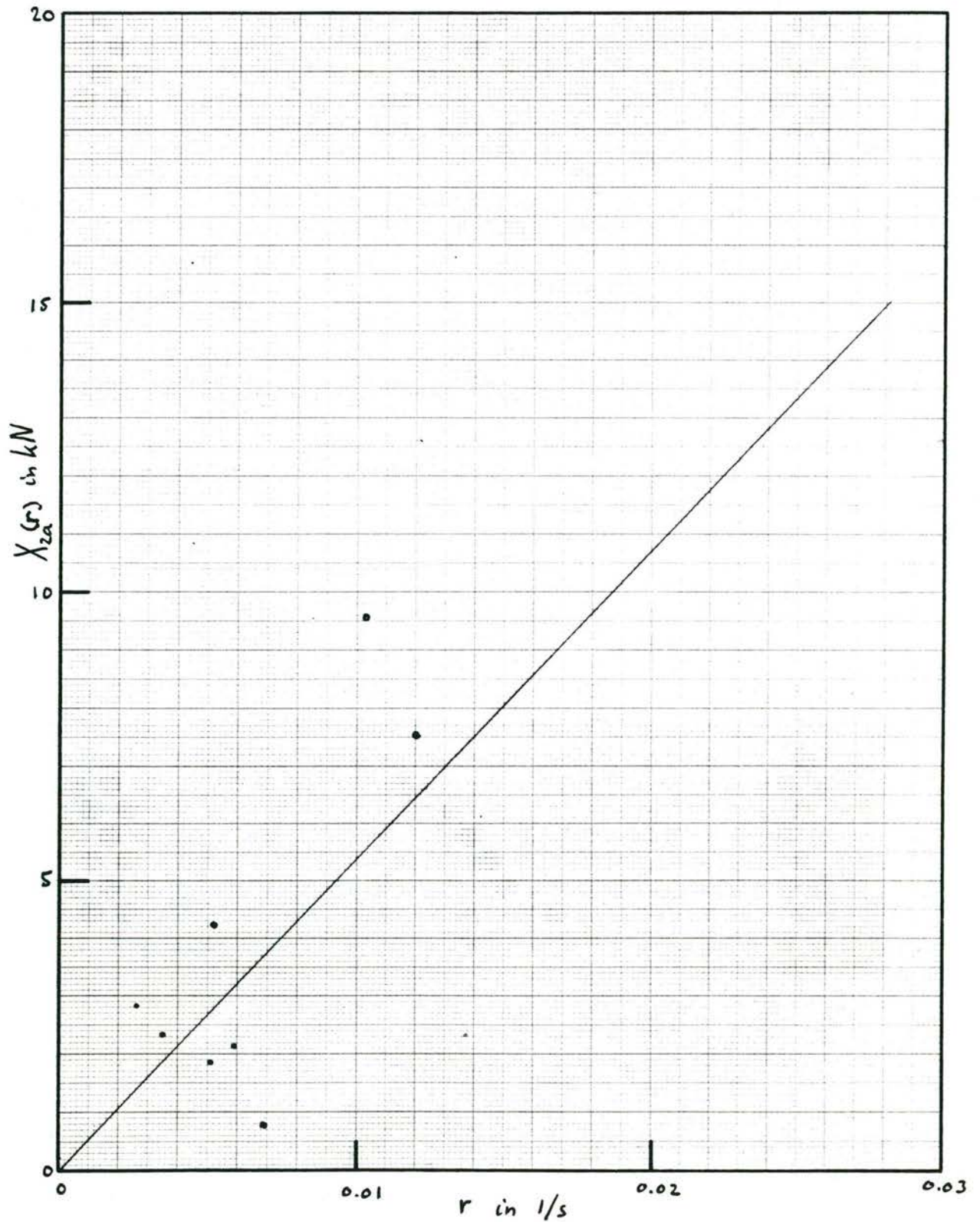


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

 drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

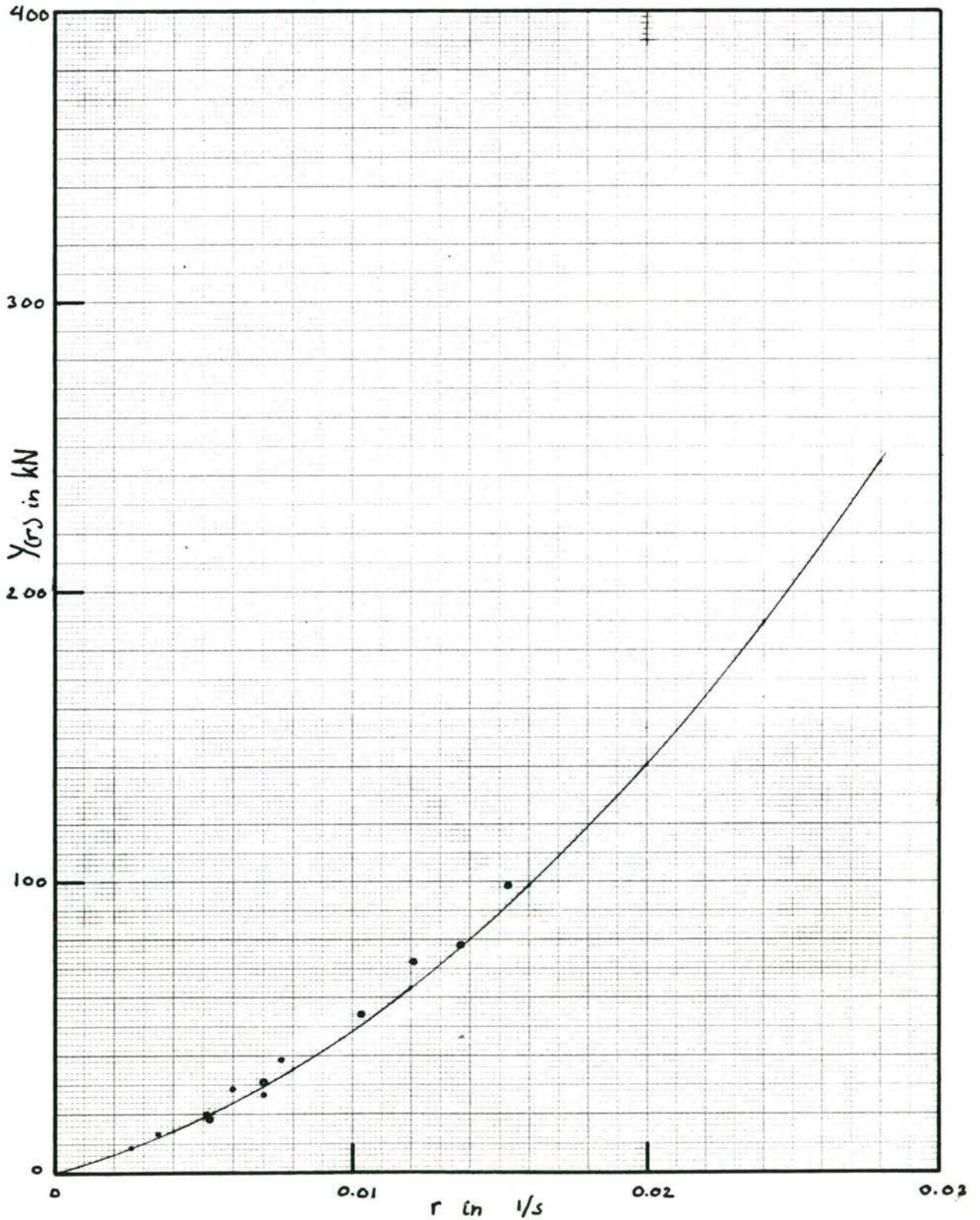


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : B= o deg
amplitude 2.5 graden : ●
amplitude 5.0 graden : ○

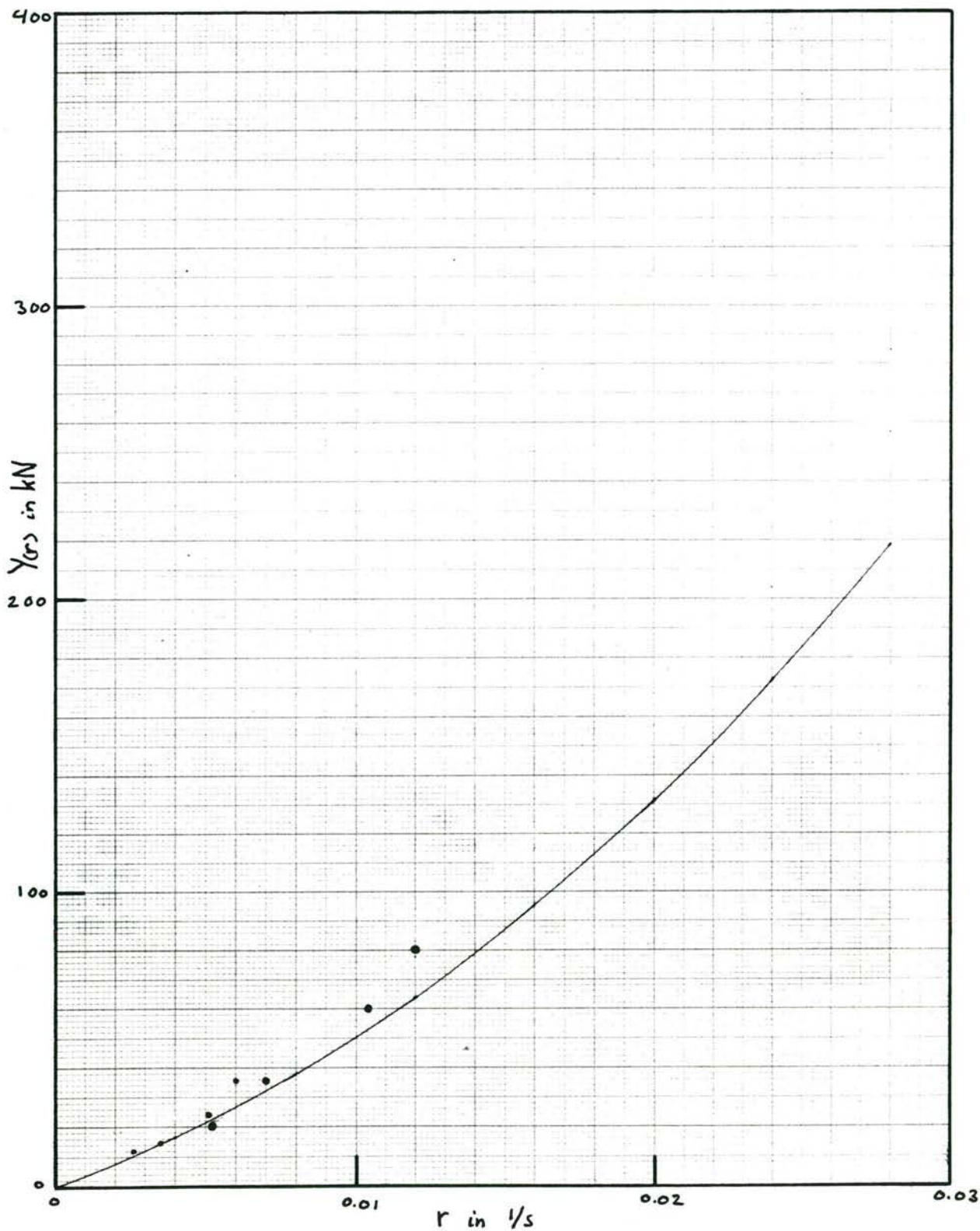


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : B= 8 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

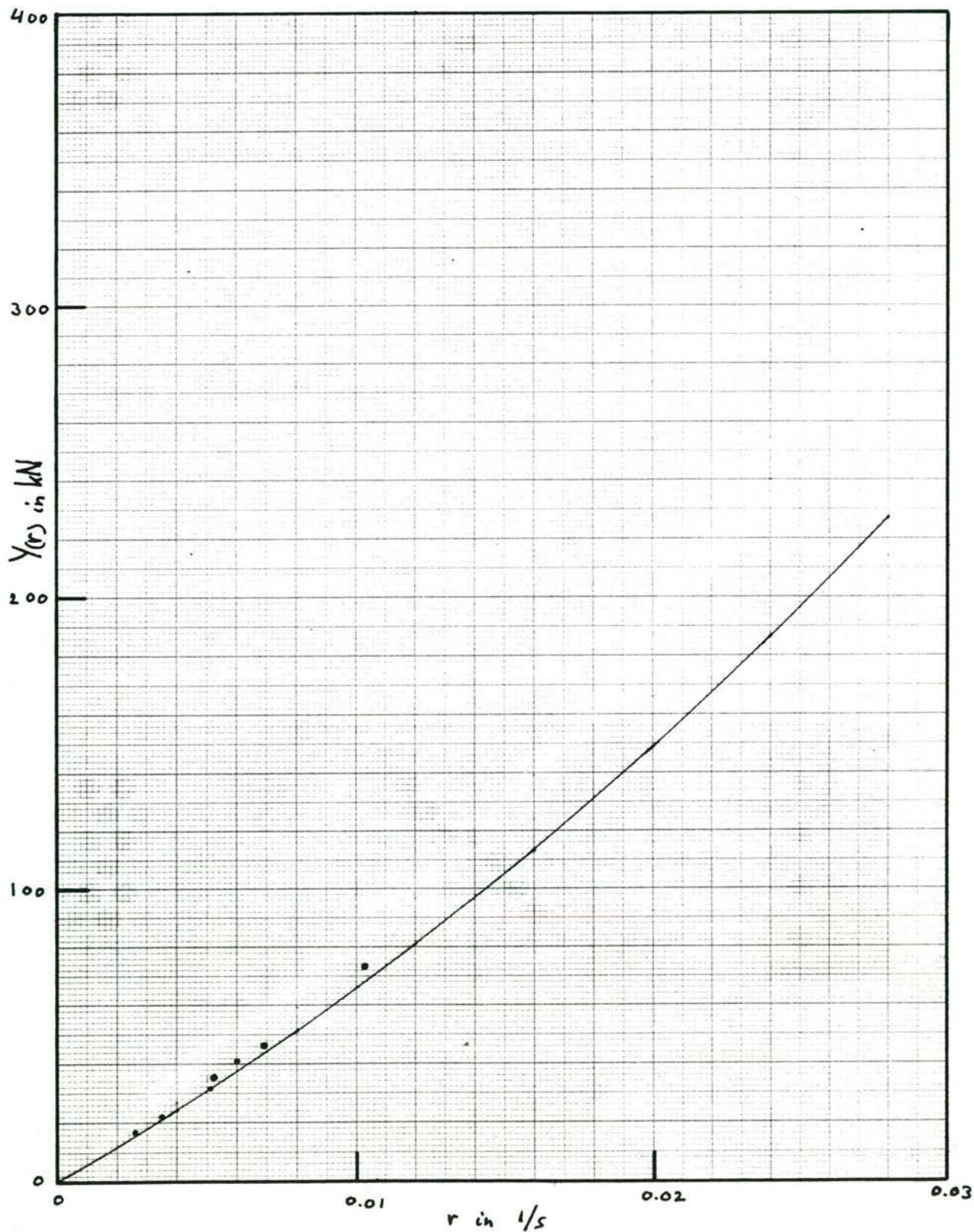


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : B= 16 deg
amplitude 2.5 graden : ●
amplitude 5.0 graden : ○

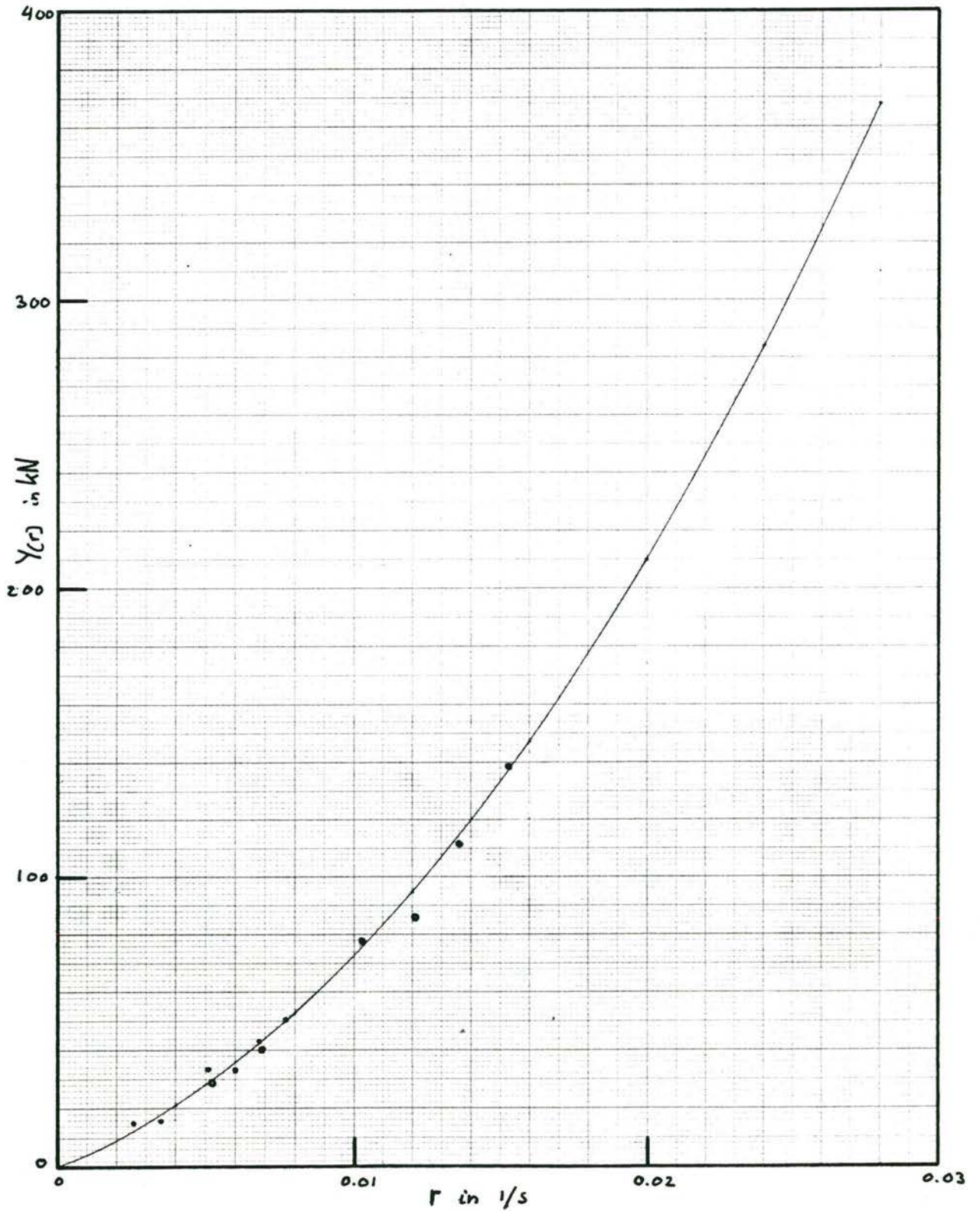


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

 drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

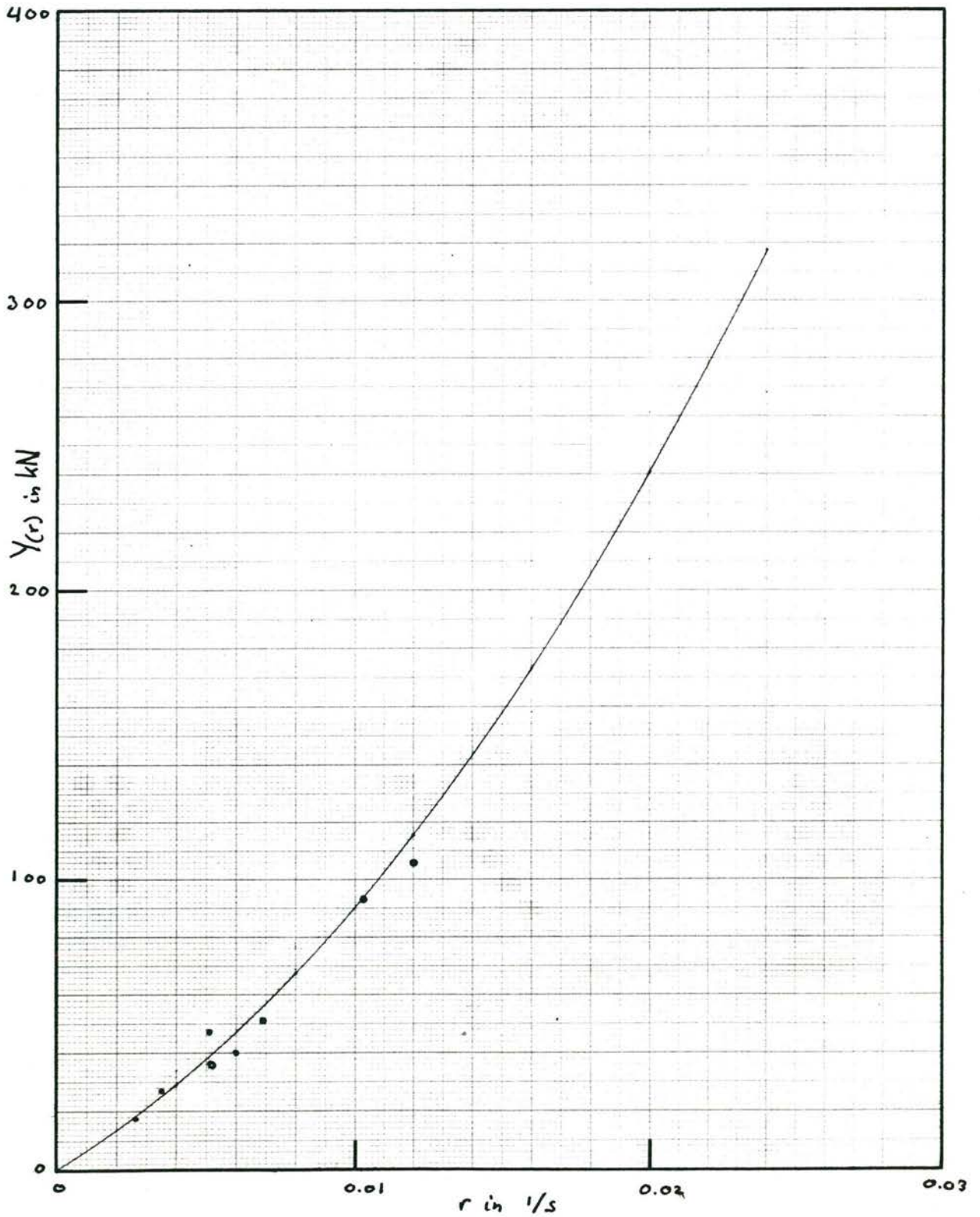


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

 drifthoek : B= 8 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

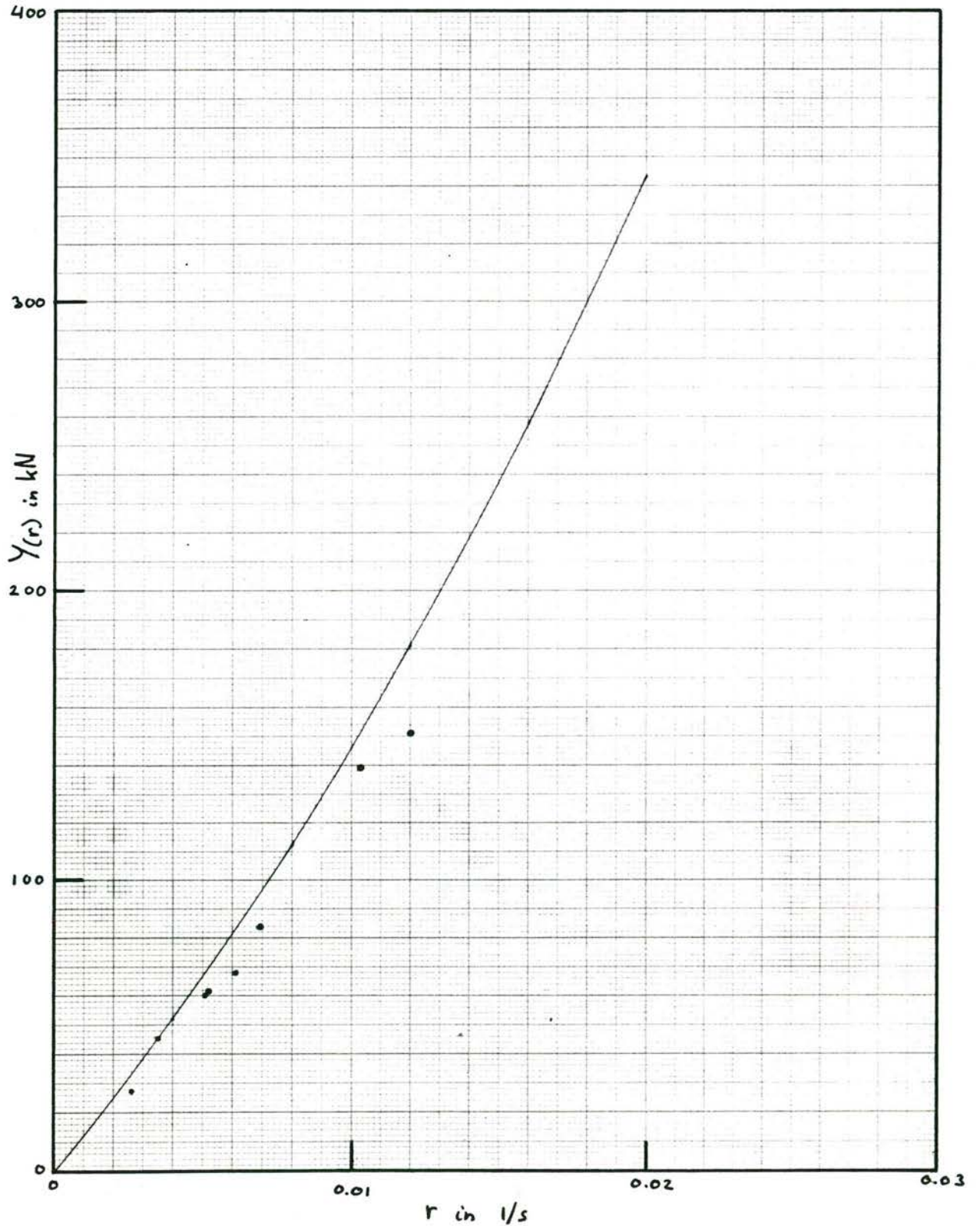


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

 drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

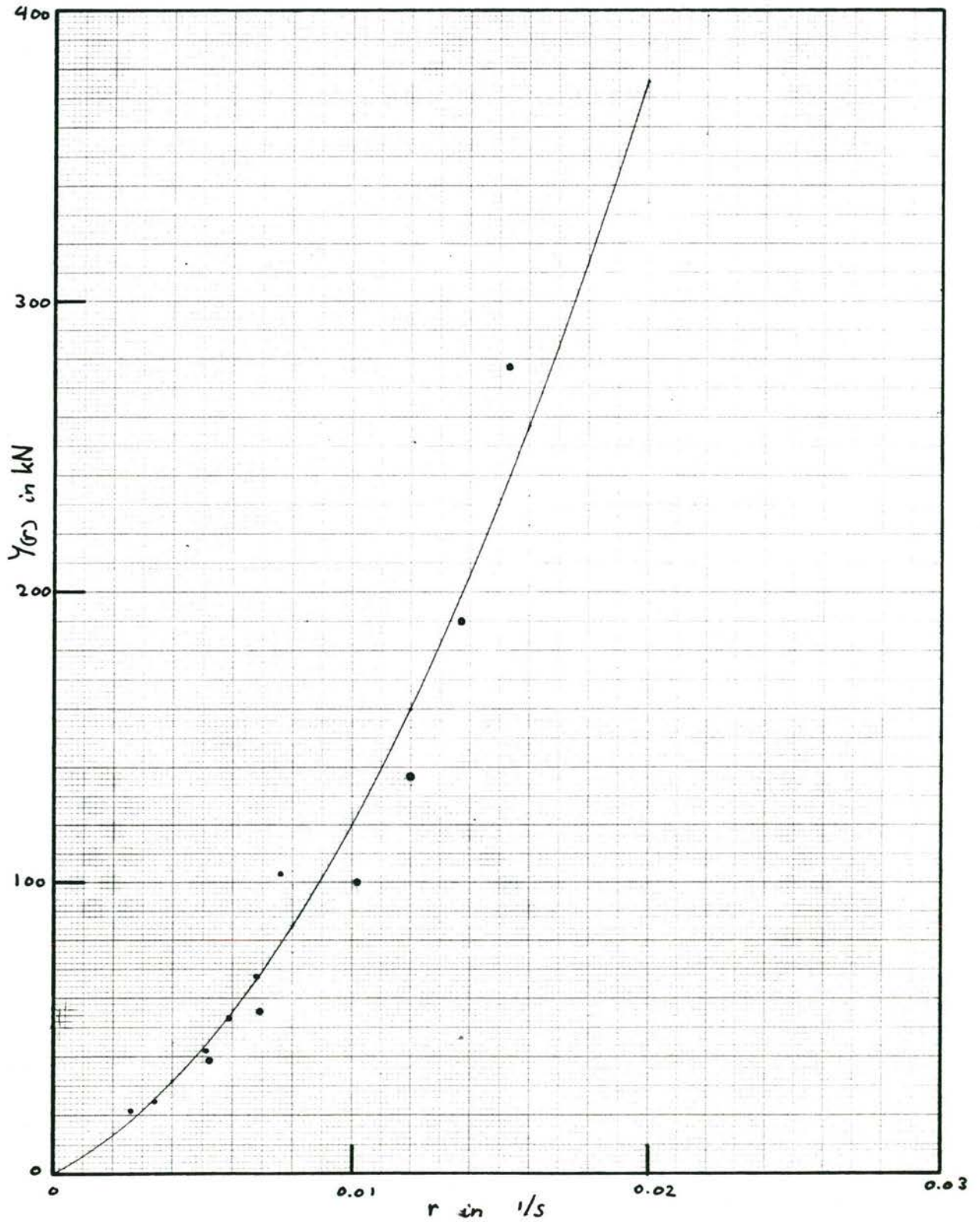


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

drifthoek : B= 0 deg
amplitude 2.5 graden : ●
amplitude 5.0 graden : ○

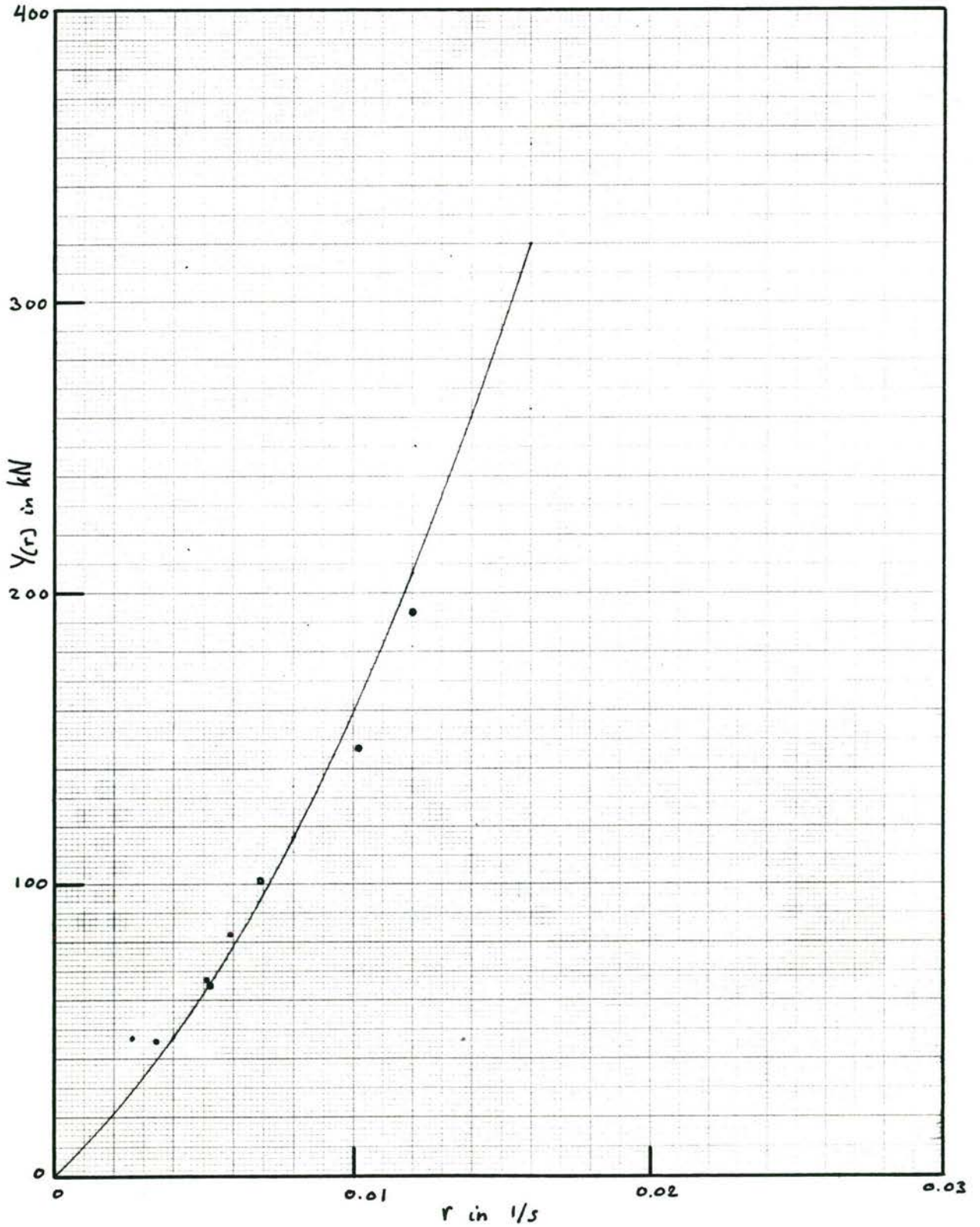


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

drifthoek : B= 8 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

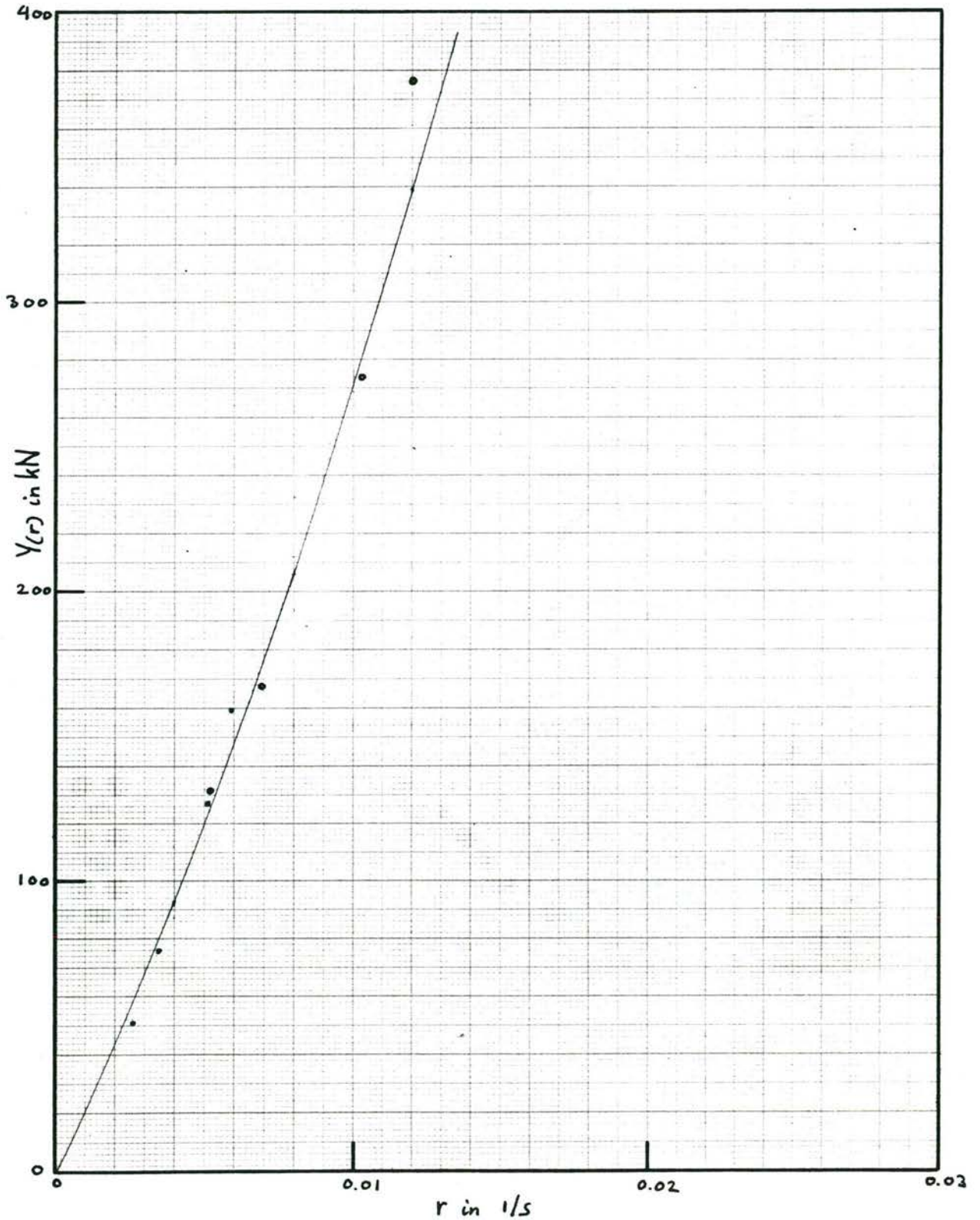


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

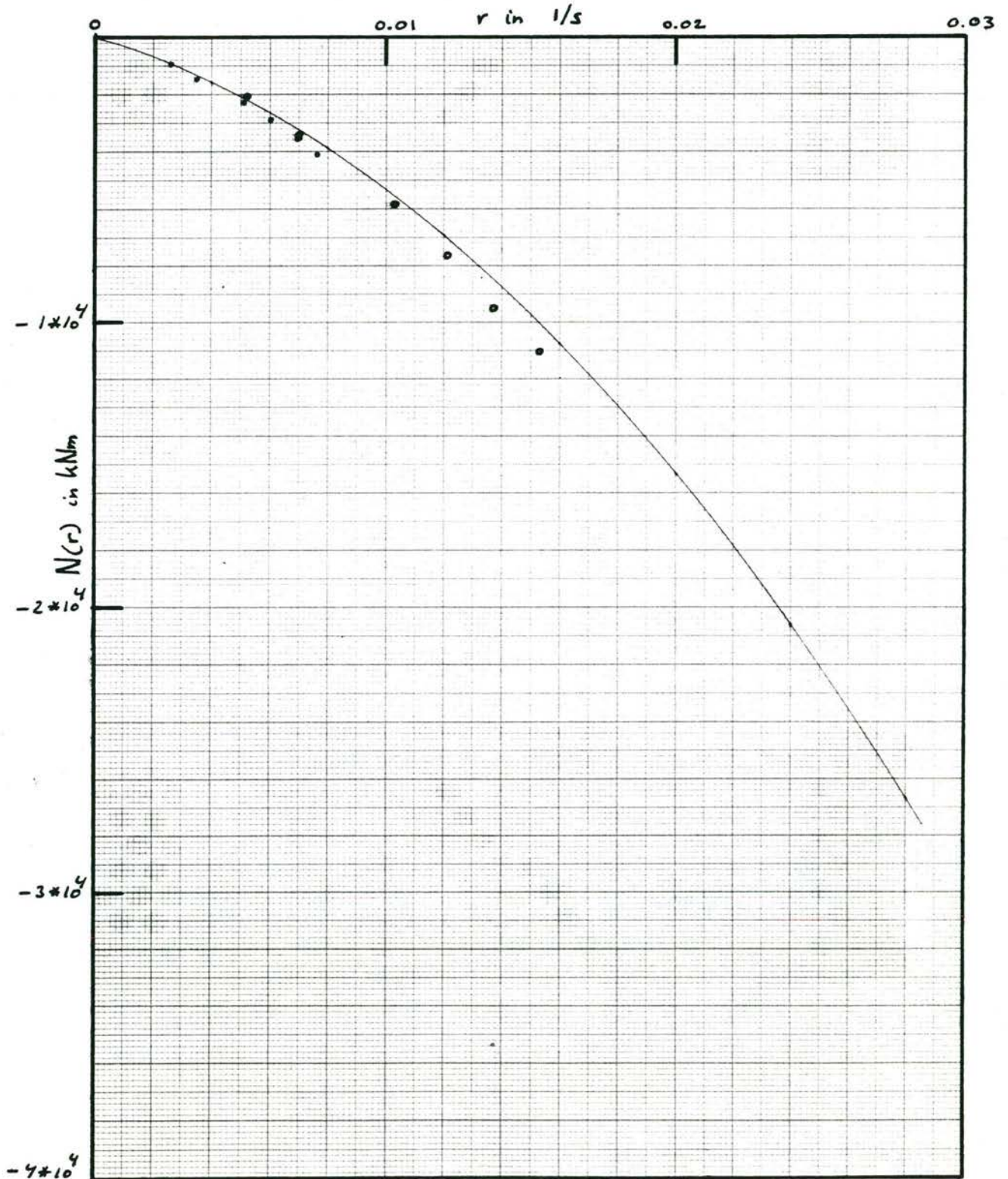


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PRDEVEN (SNELHEID 2.00 m/s)

drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

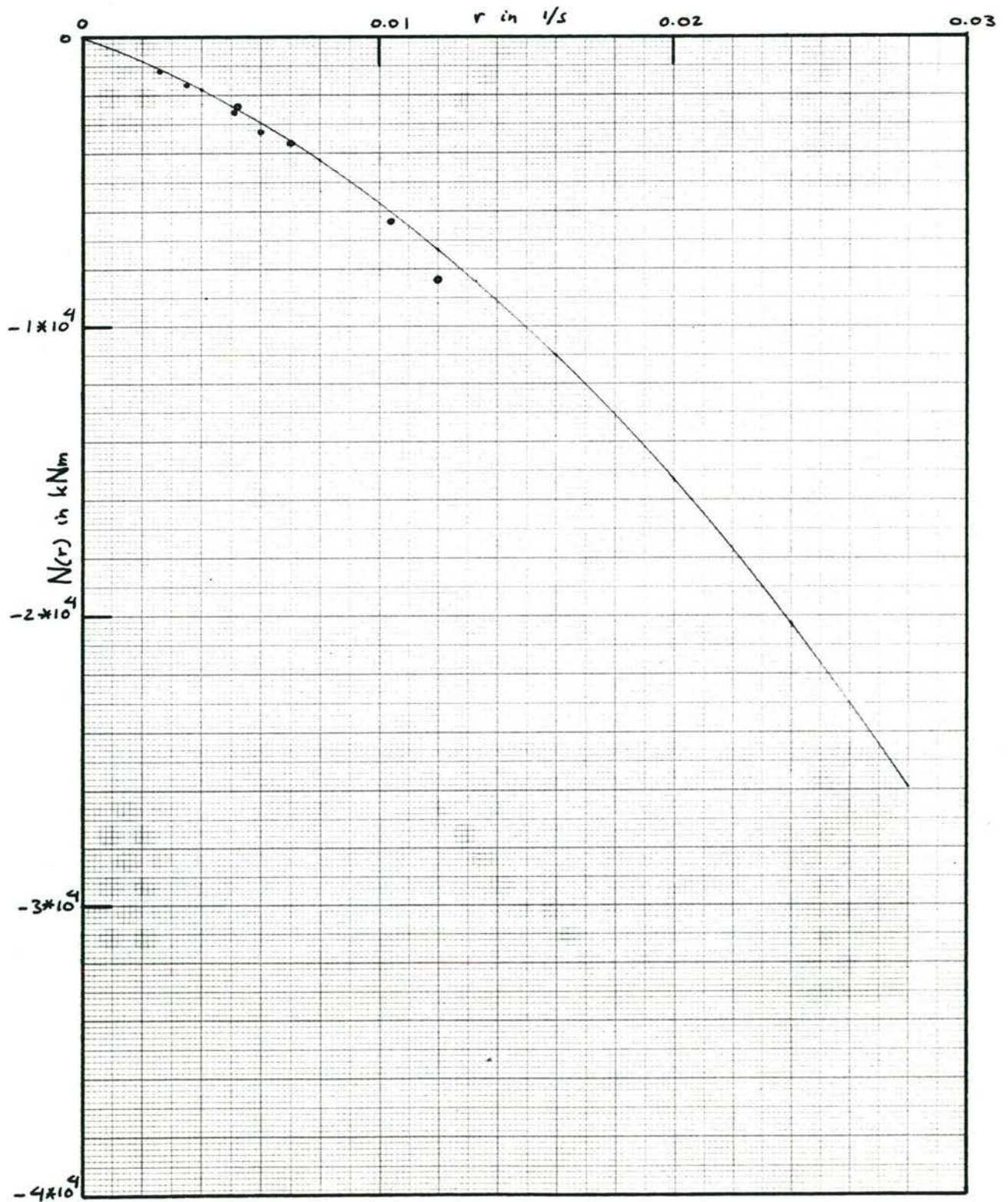


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : B= 8 deg
amplitude 2.5 graden : ●
amplitude 5.0 graden : ○

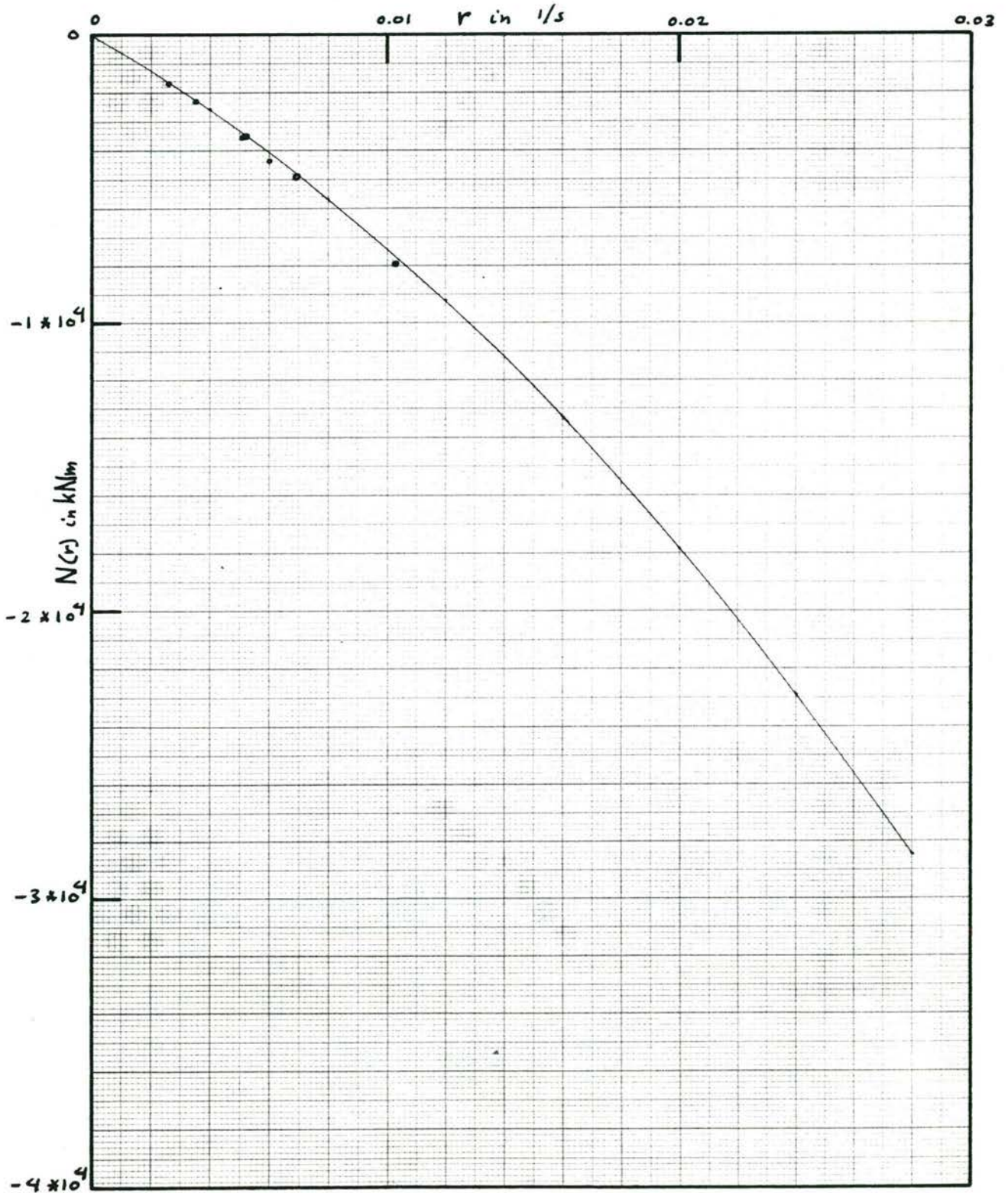


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

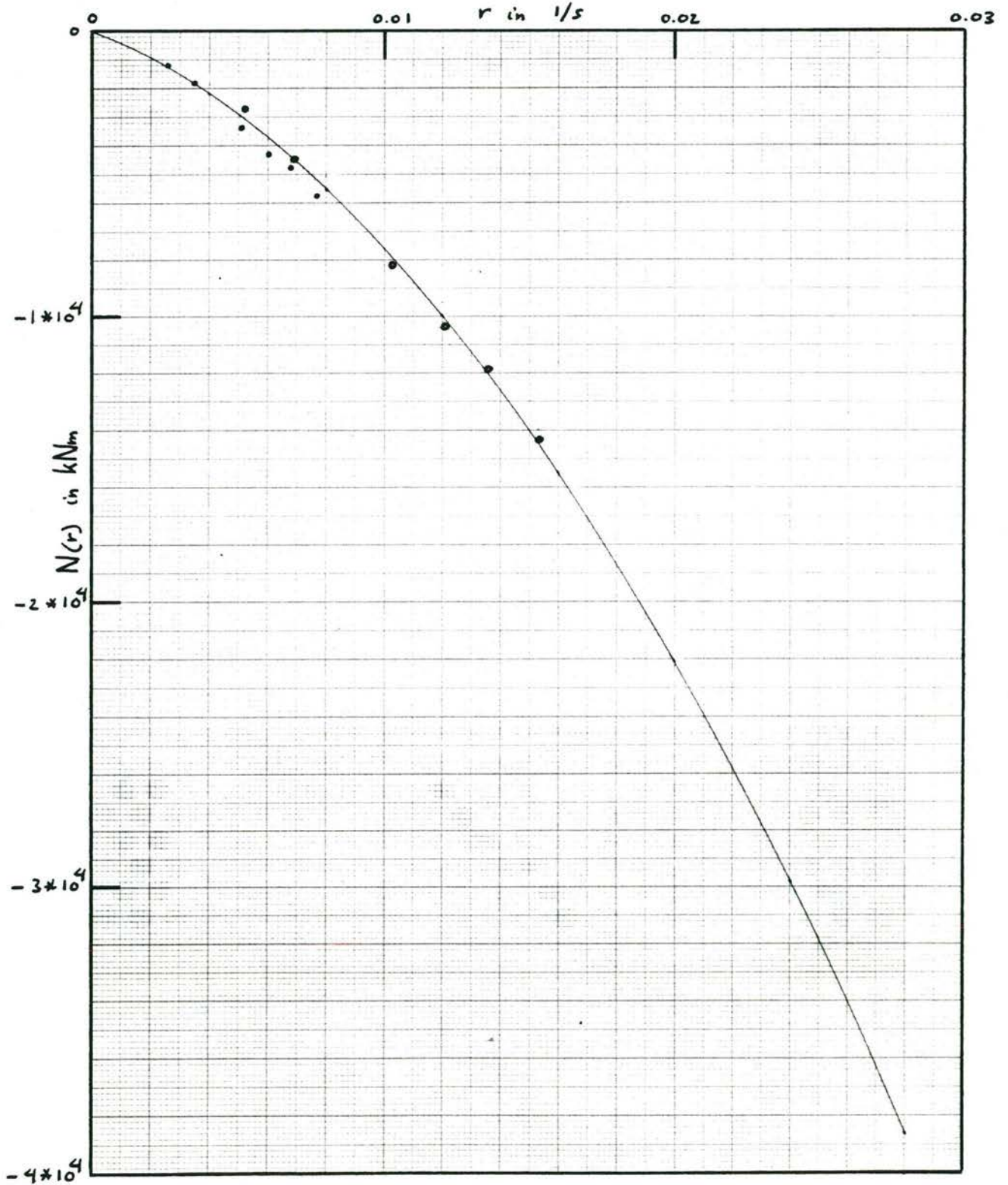


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

drifthoek : B= ○ deg
amplitude 2.5 graden : ●
amplitude 5.0 graden : ○

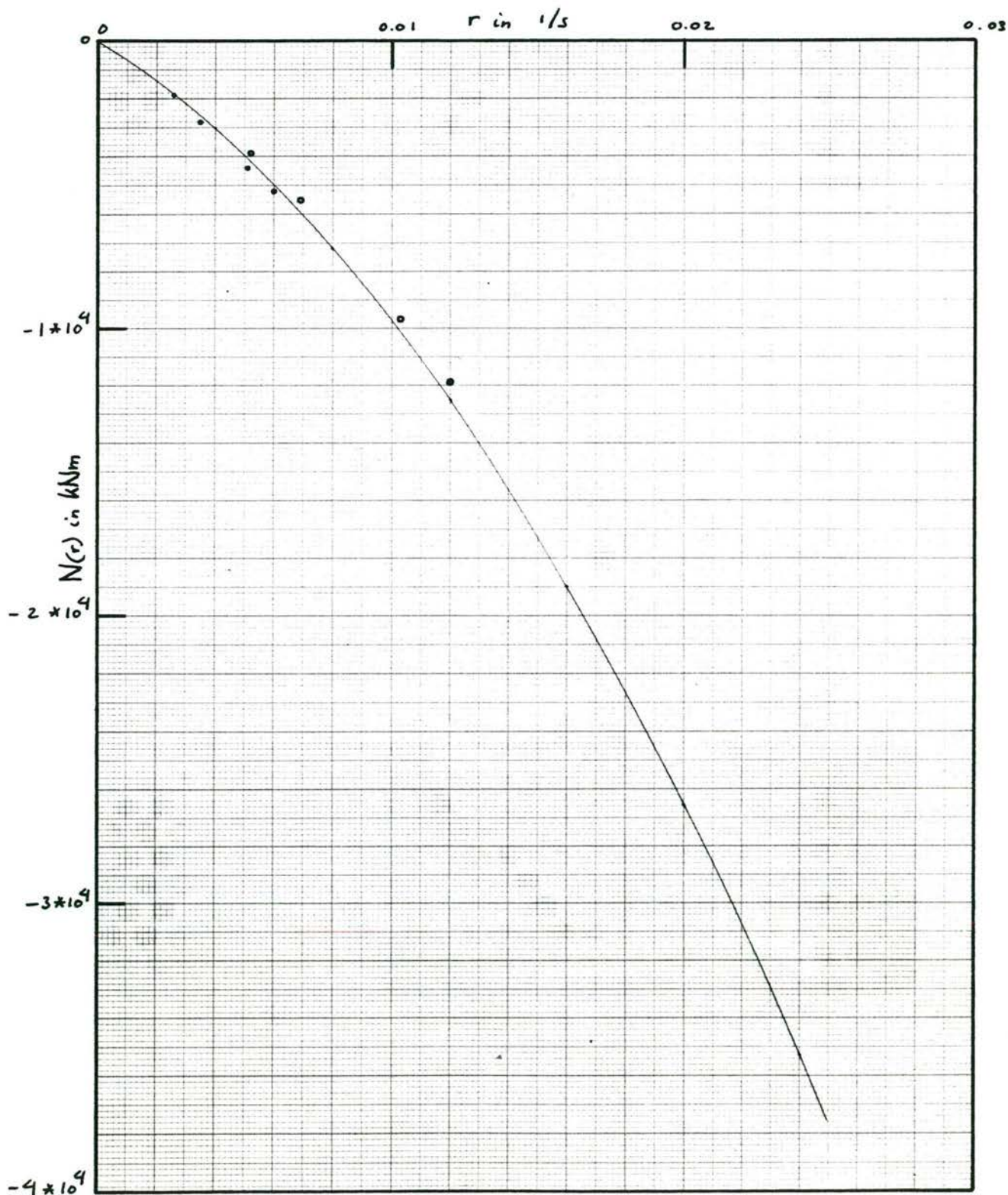


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

drifthoek : $B = 8$ deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

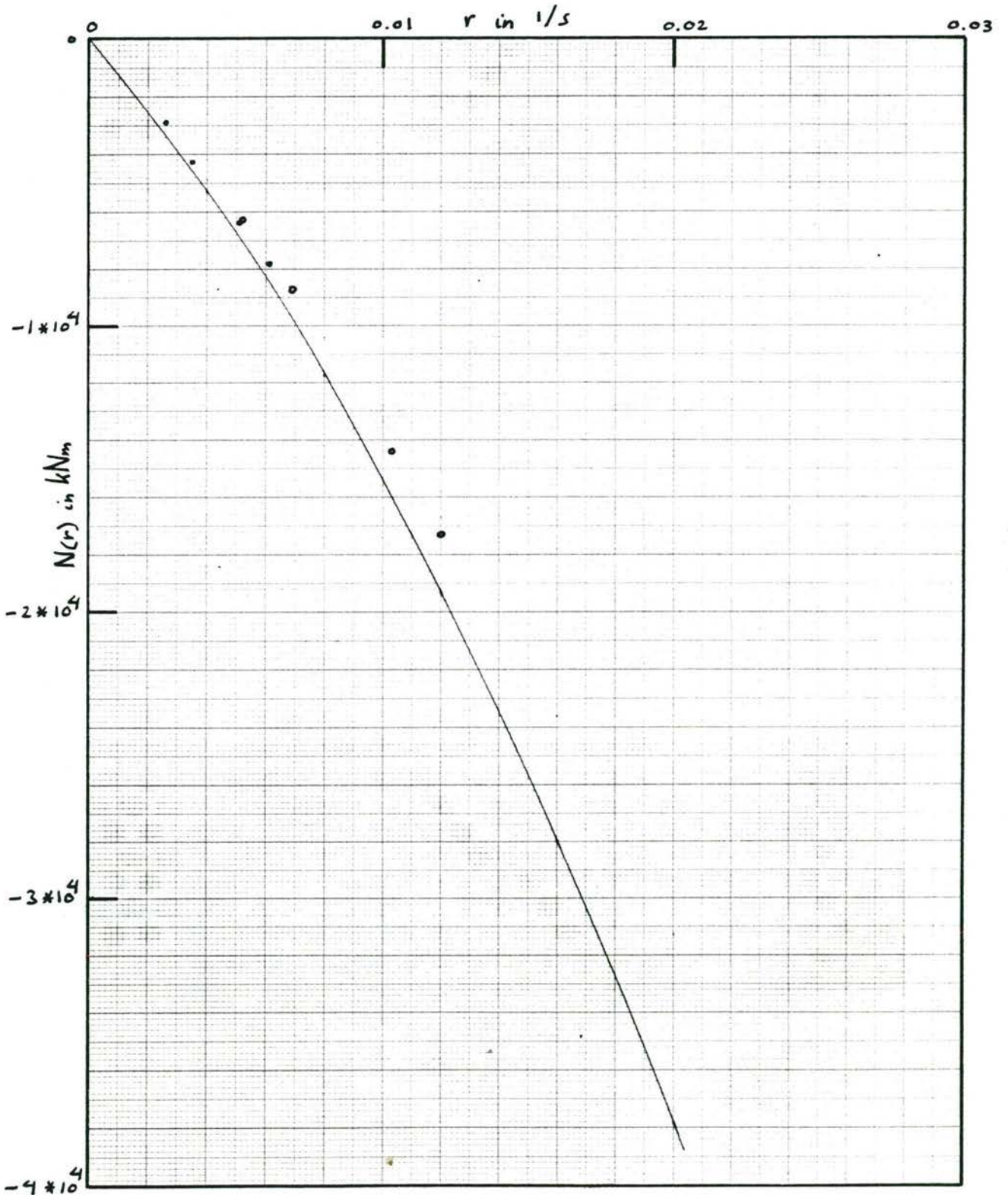


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

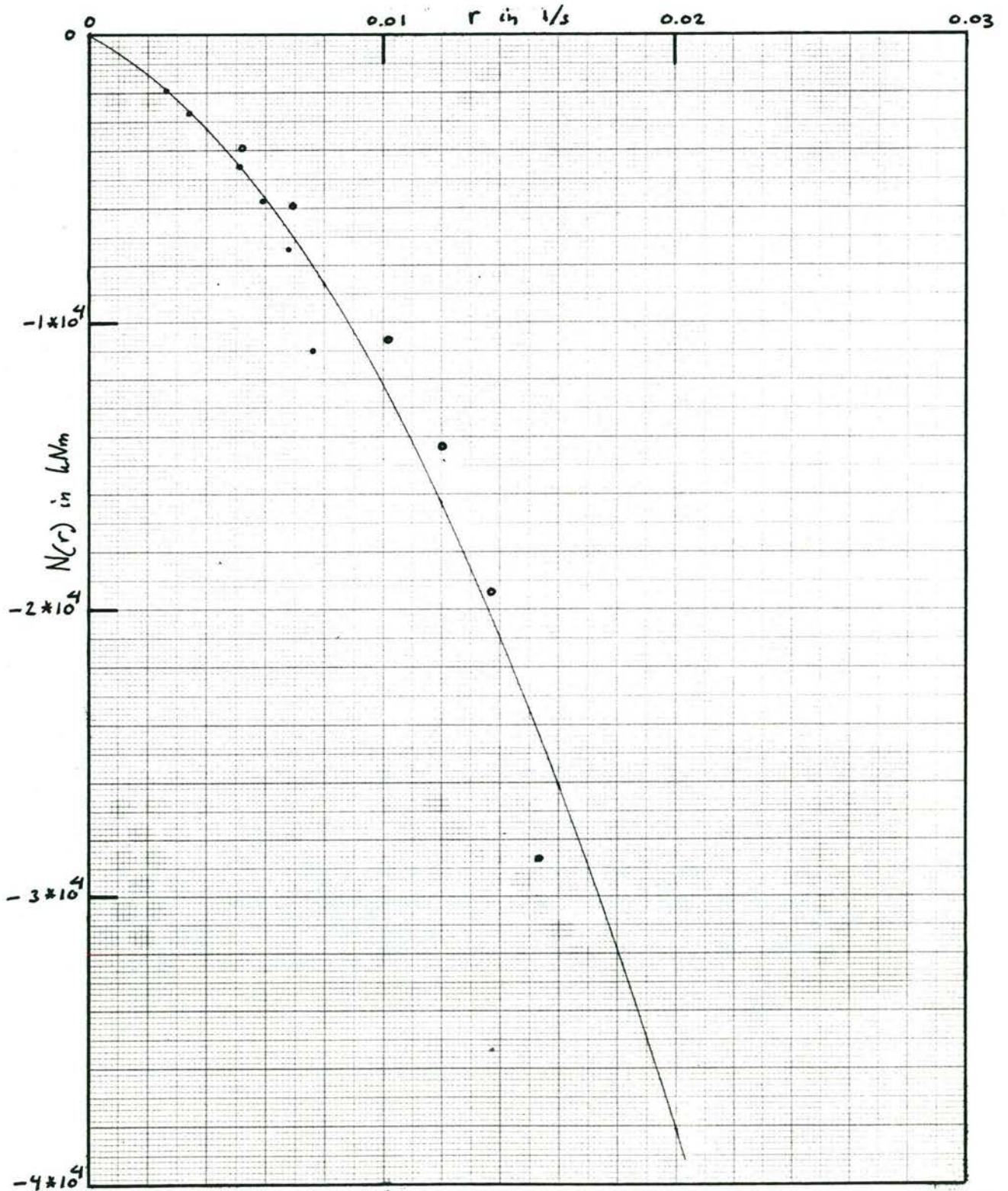
drifthoek : B= 16 deg
amplitude 2.5 graden : ●
amplitude 5.0 graden : ○



DVK Project Windhinder
 2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

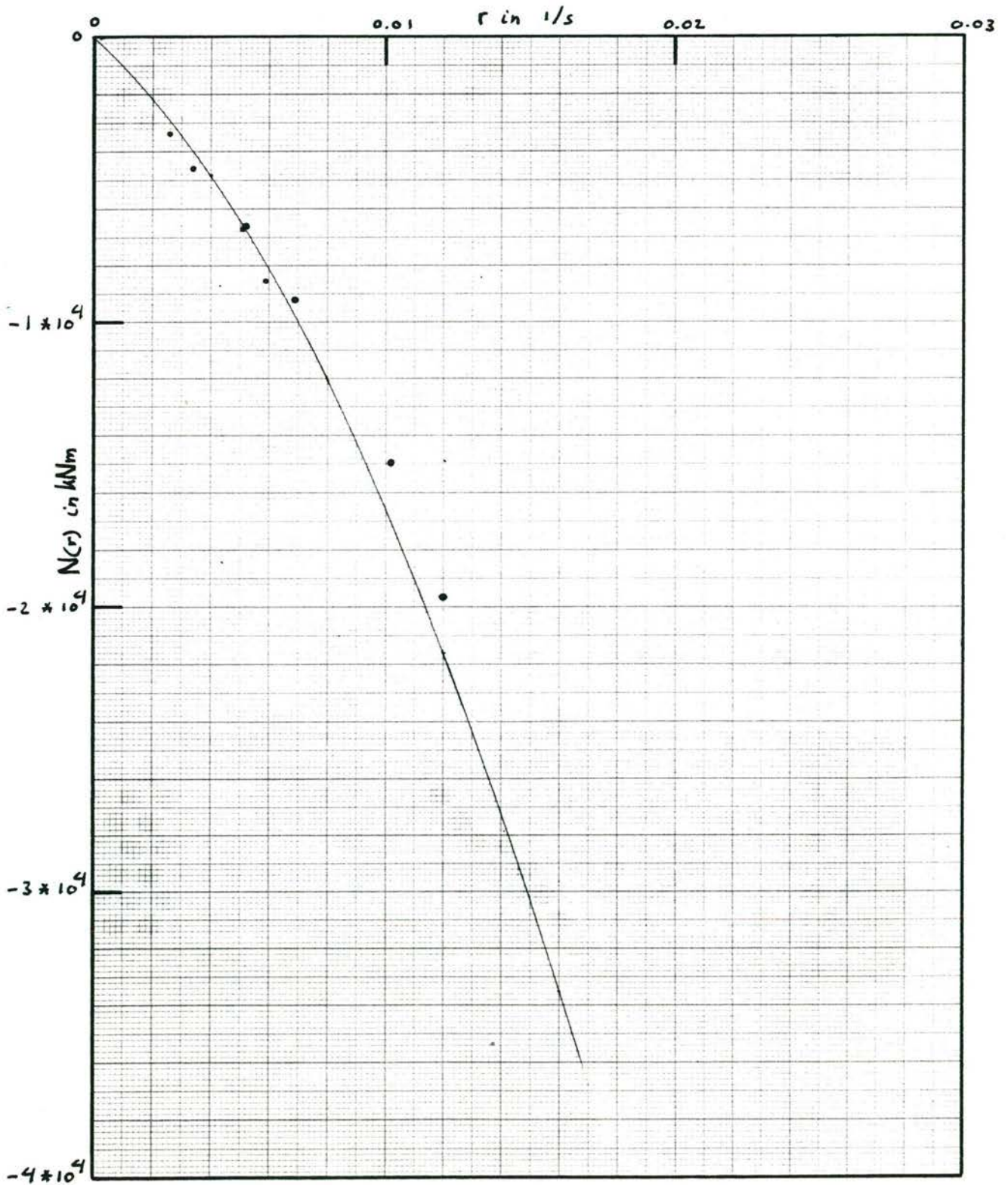


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

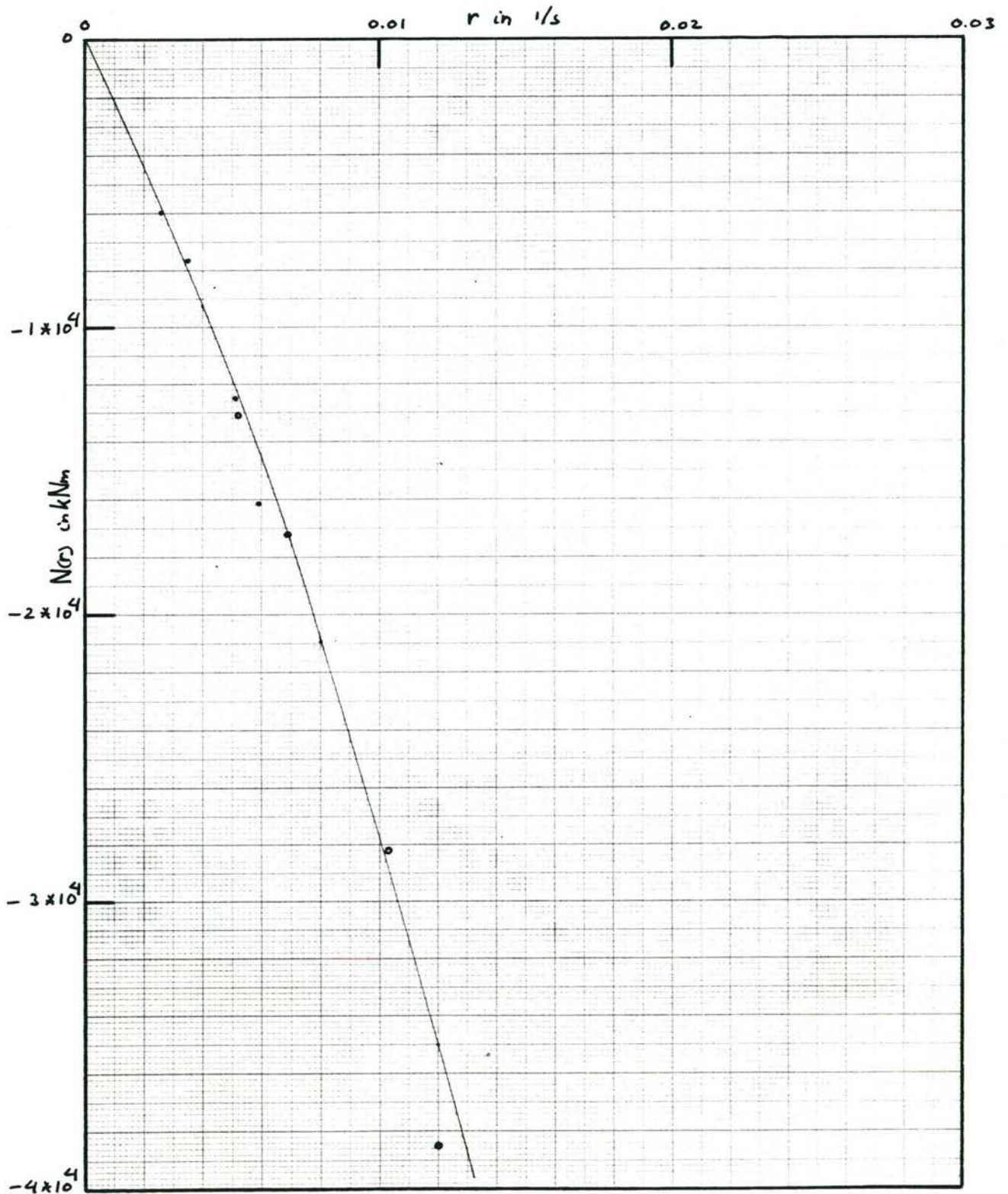
drifthoek : B= 8 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○



DVK Project Windhinder
 2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○



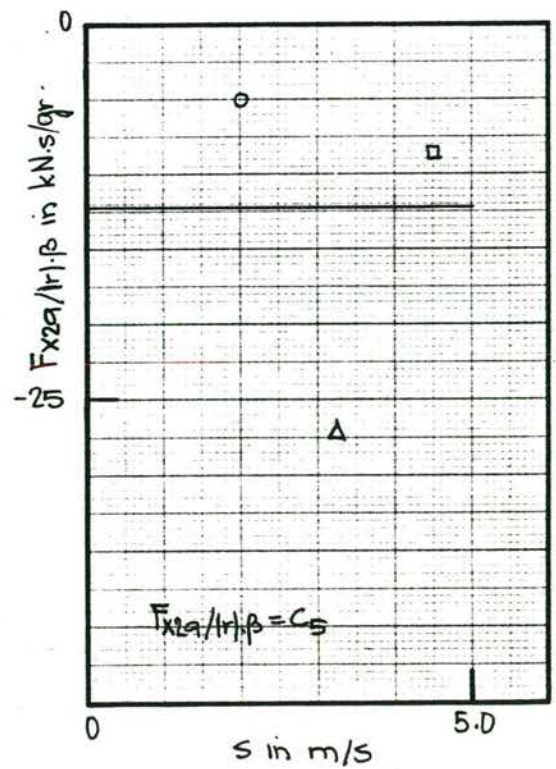
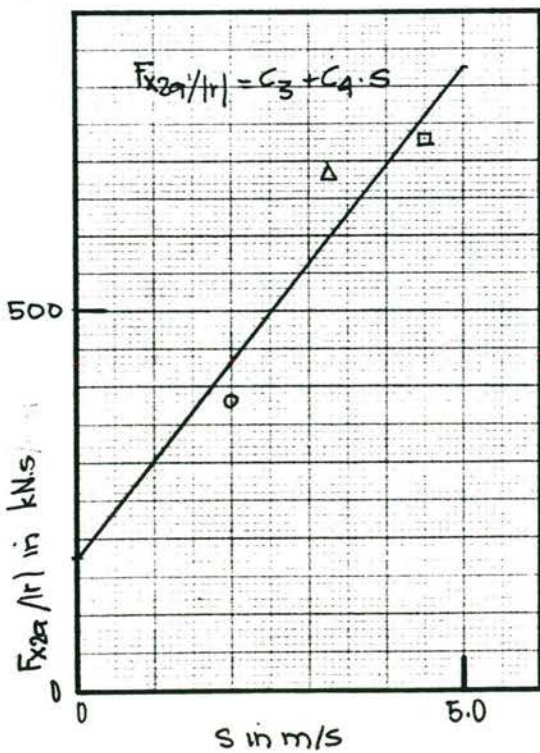
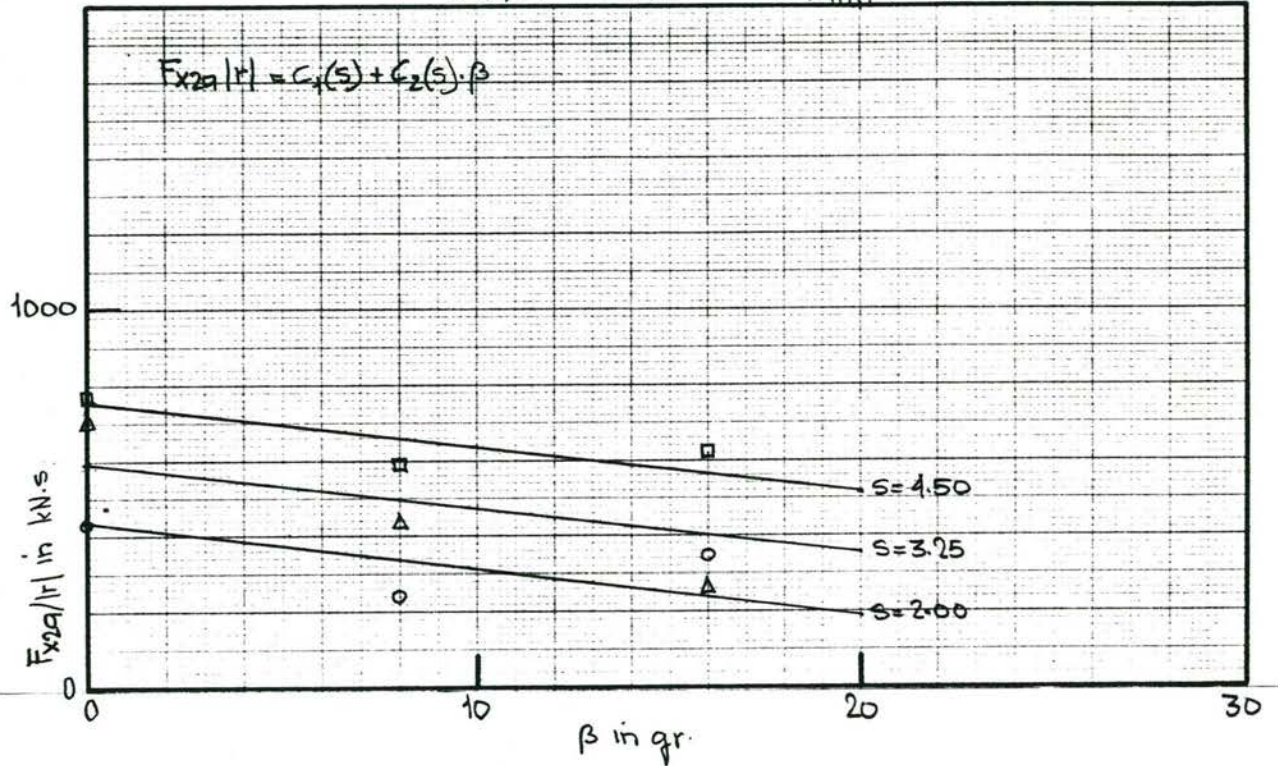
DVK Project Windhinder

COEFFICIENTEN UIT GIEROSCILLATIEPROEVEN

2-bak ballast, breed water

$$F_{x2a}(r) = X_{2a|r} \cdot |r| + X_{2a|r,s} \cdot |r| \cdot s + X_{2a|r,\beta} \cdot |r| \cdot \beta$$

$$\cong X_{2a|r} \cdot |r| + X_{2a|r,u} \cdot |r| \cdot u + X_{2a|r,v} \cdot |r| \cdot |v|$$



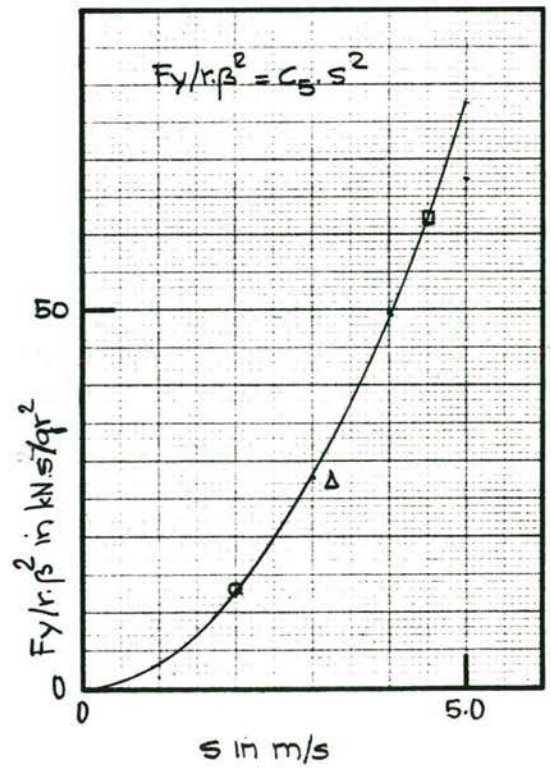
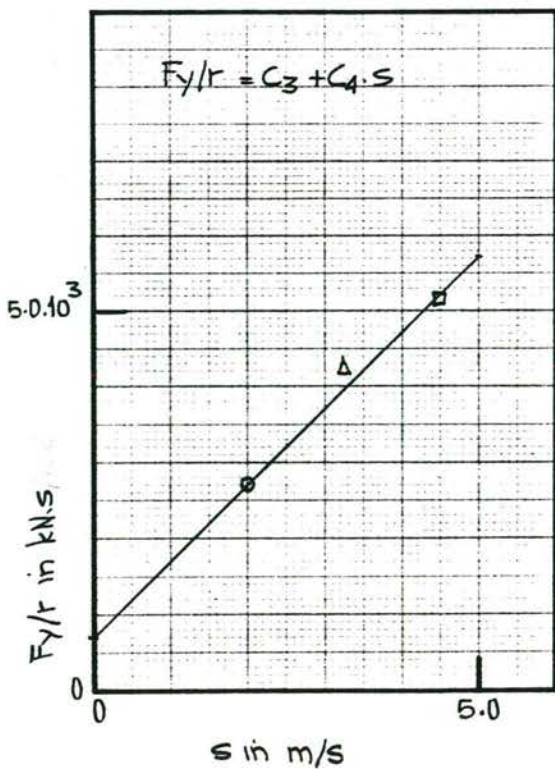
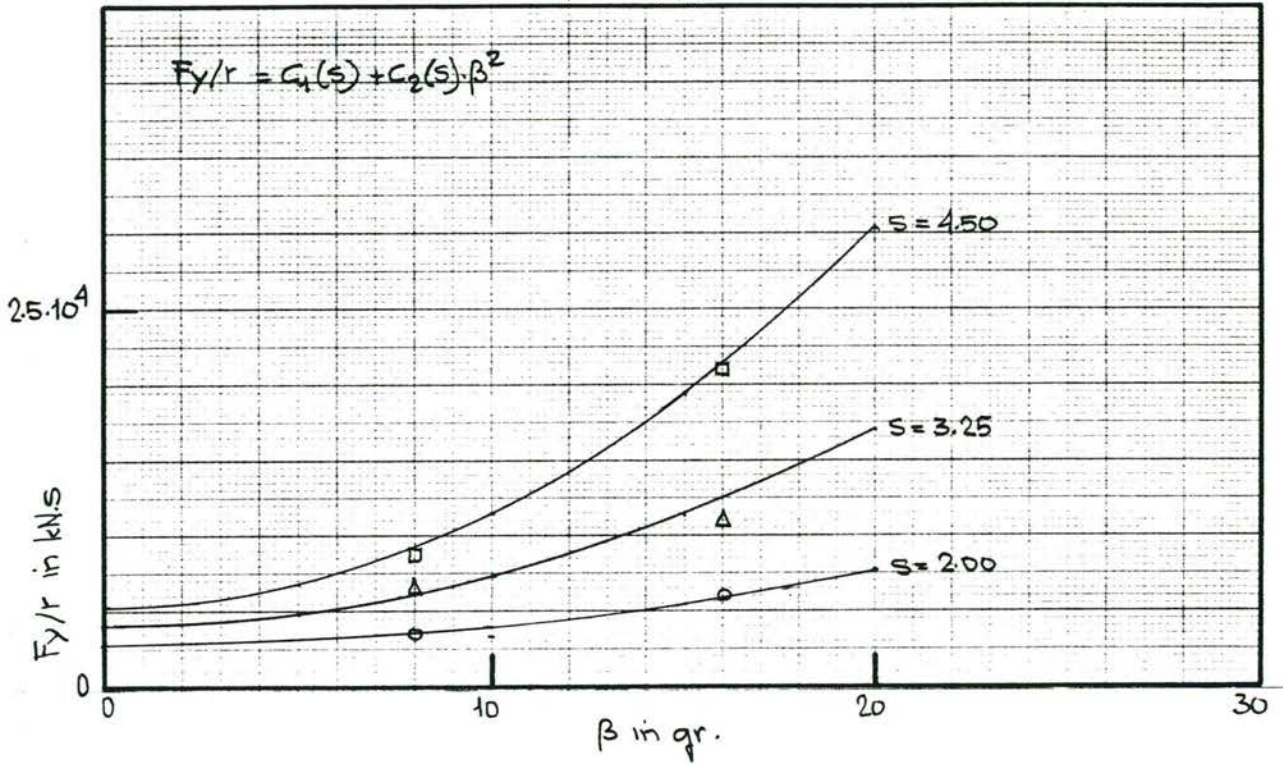
DVK Project Windhinder

COEFFICIENTEN UIT GIEROSCILLATIEPROEVEN

2-bak ballast, breed water

$$F_y(r) = Y_r \cdot r + Y_{r,s} \cdot r \cdot s + Y_{r,\beta\beta,ss} \cdot r \cdot \beta^2 \cdot s^2$$

$$\cong Y_r \cdot r + Y_{r,u} \cdot r \cdot u + Y_{r,vv} \cdot r \cdot v^2$$



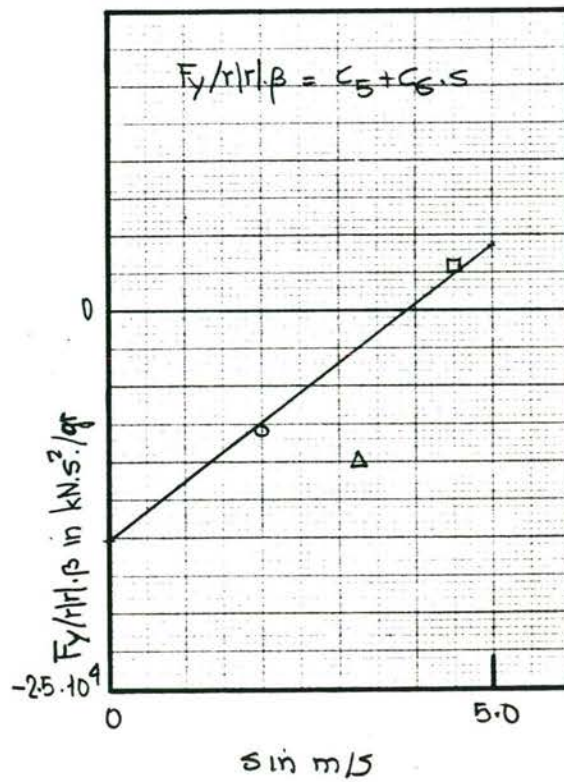
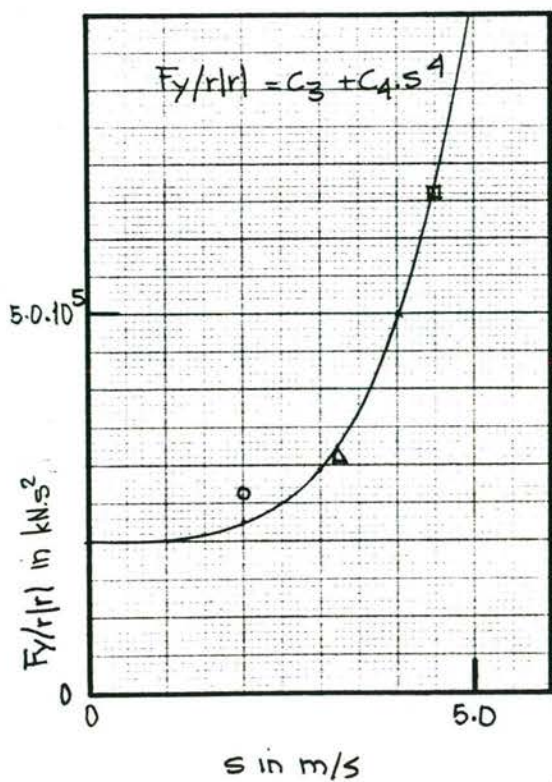
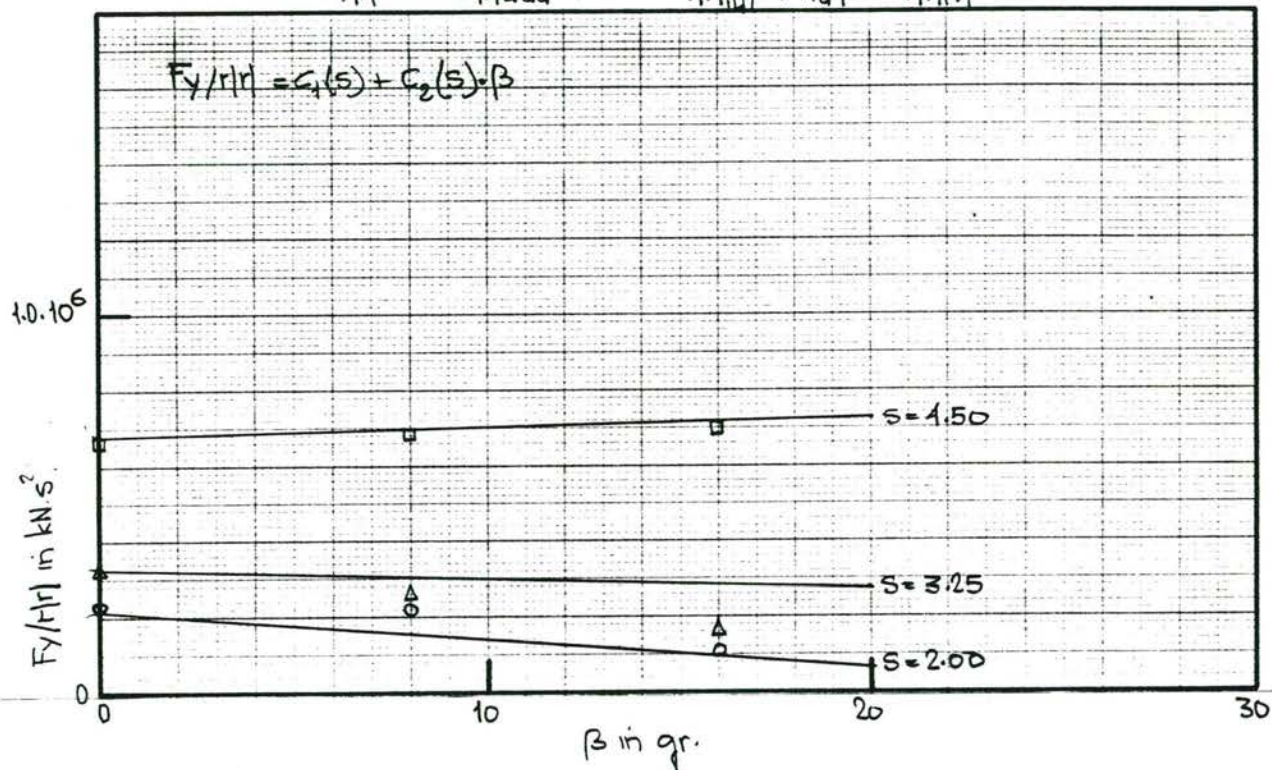
DVK. Project Windhinder

COEFFICIENTEN UIT GIEROSCILLATIEPROEVEN

2-bak ballast, breed water

$$F_y(r^2) = Y_{r/r} |r/r| + Y_{r/r} \cos s \cdot r/r \cdot s^4 + Y_{r/r} \beta \cdot r/r \cdot \beta + Y_{r/r} \rho \cdot s \cdot r/r \cdot \rho \cdot s$$

$$\hat{=} Y_{r/r} |r/r| + Y_{r/r} |u| \cdot r/r \cdot u^3 + Y_{r/r} |v| \cdot r/r \cdot |v| + Y_{r/r} |v| \cdot r/r \cdot |v|$$



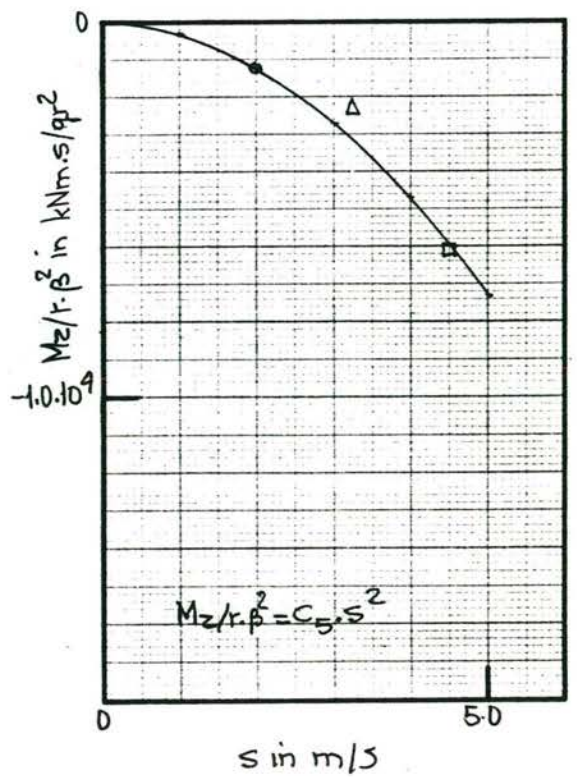
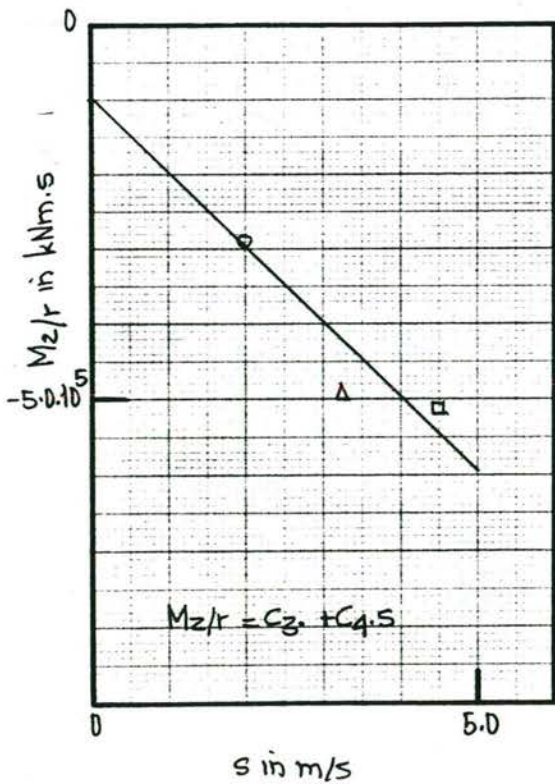
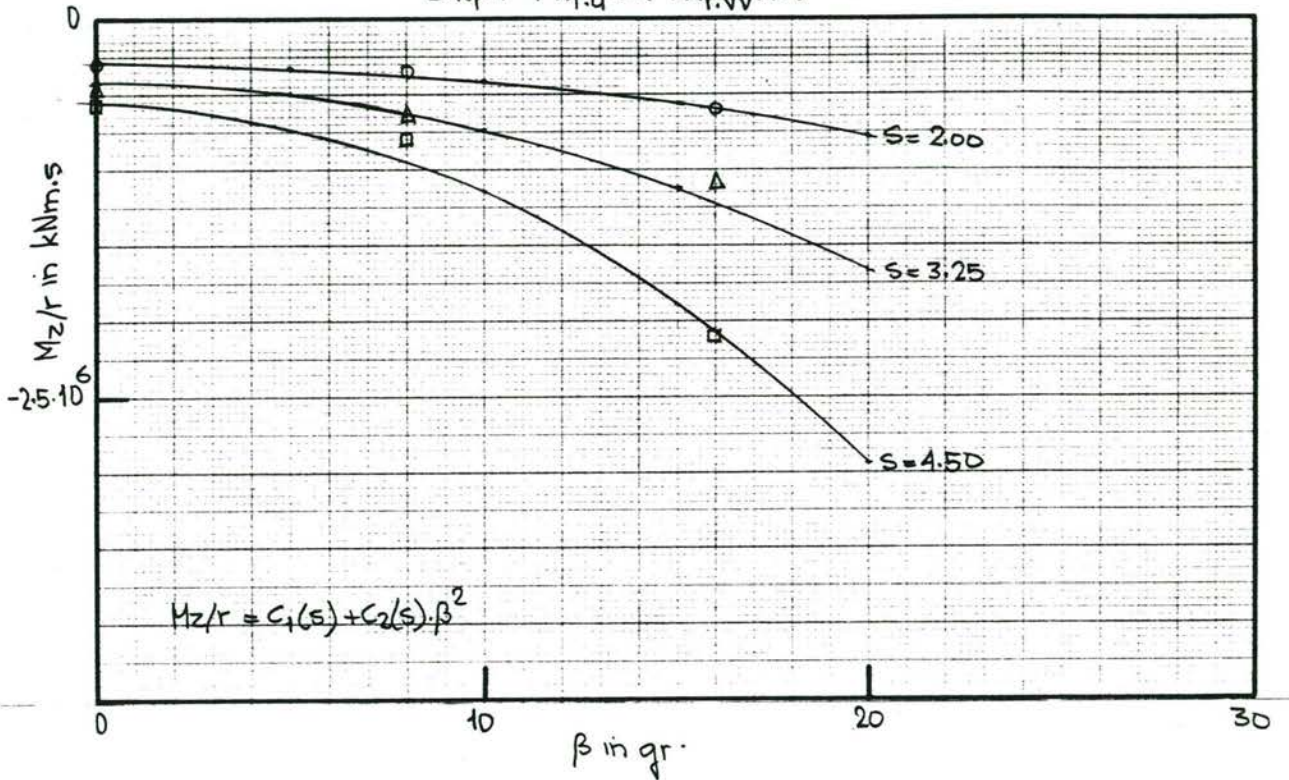
DVK Project Windhinder

COEFFICIENTEN UIT GIEROSCILLATIEPROEVEN

2-bak ballast, breed water

$$M_z(r) = N_r \cdot r + N_{rs} \cdot r \cdot s + N_{r\beta ss} \cdot r \cdot \beta \cdot s^2$$

$$\cong N_f \cdot r + N_{r,u} \cdot r \cdot u + N_{r,vv} \cdot r \cdot v^2$$



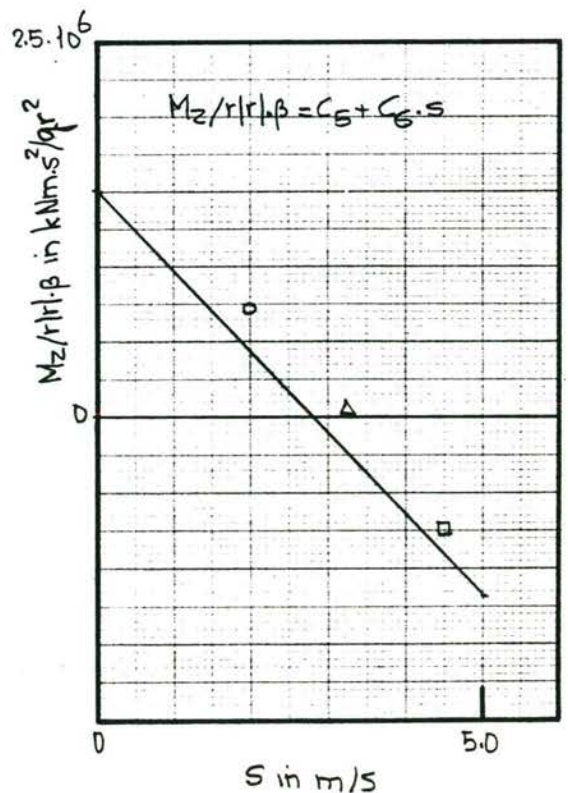
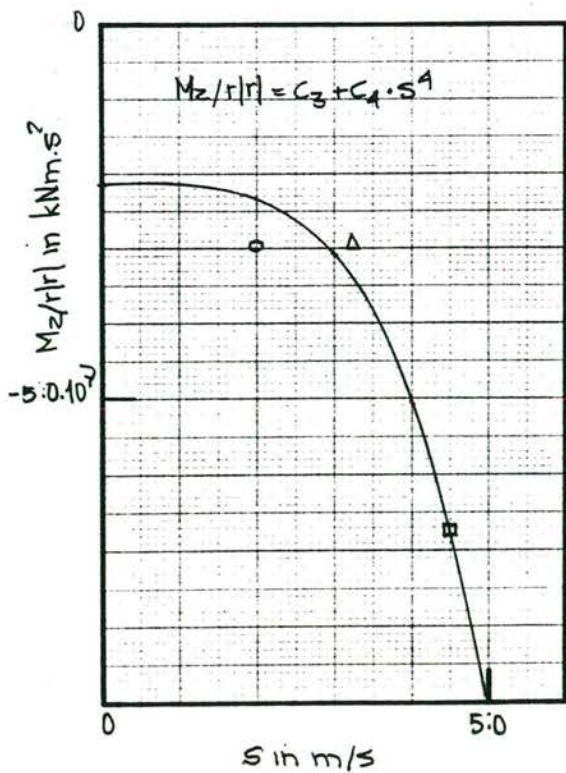
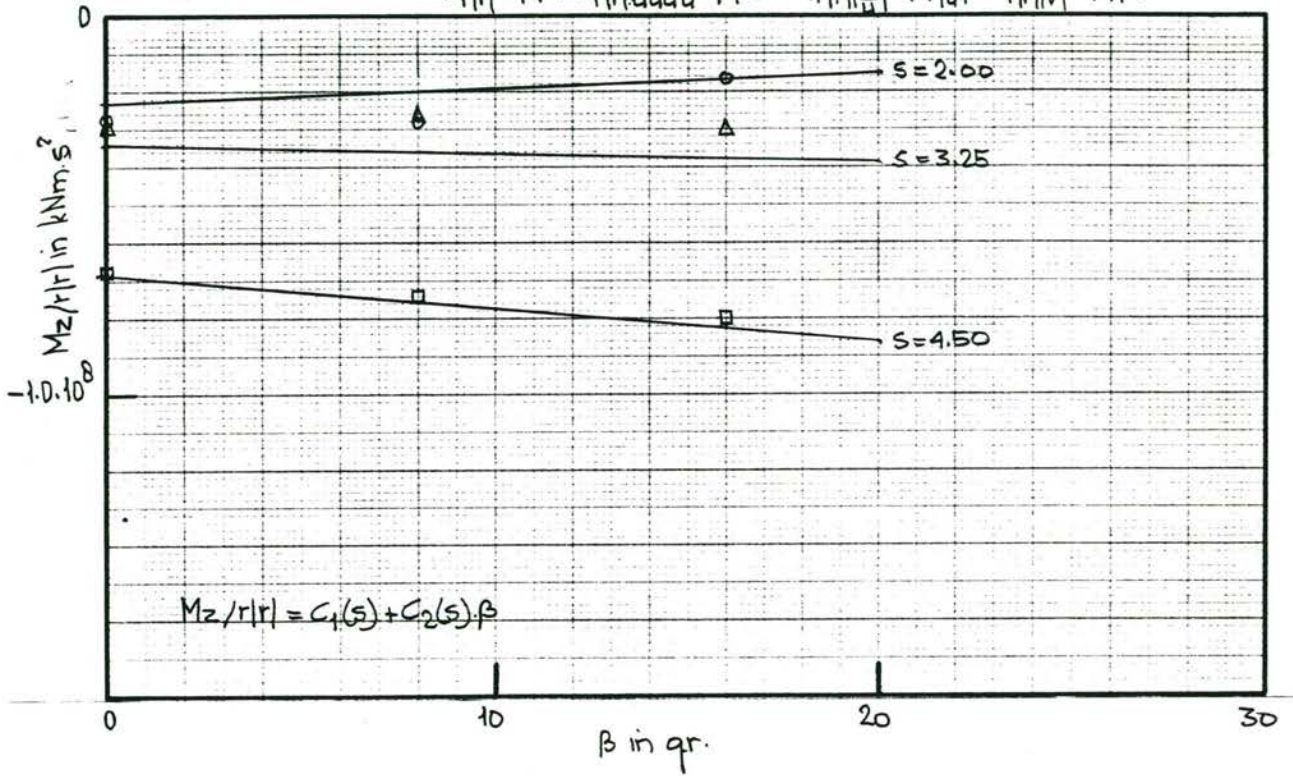
DVK Project Windhinder

COEFFICIENTEN UIT GIEROSCILLATIEPROEVEN

2-bak ballast, breed water

$$M_z(r^2) = N_{r/r} \cdot r/r + N_{r/r} \cdot s \cdot s \cdot r/r \cdot s^4 + N_{r/r} \cdot \beta \cdot r/r \cdot \beta + N_{r/r} \cdot \beta \cdot s \cdot r/r \cdot \beta \cdot s$$

$$\triangleq N_{r/r} \cdot r/r + N_{r/r} \cdot u \cdot u \cdot r/r \cdot u^4 + N_{r/r} \cdot |v| \cdot r/r \cdot |v| + N_{r/r} \cdot |v| \cdot r/r \cdot |v|$$

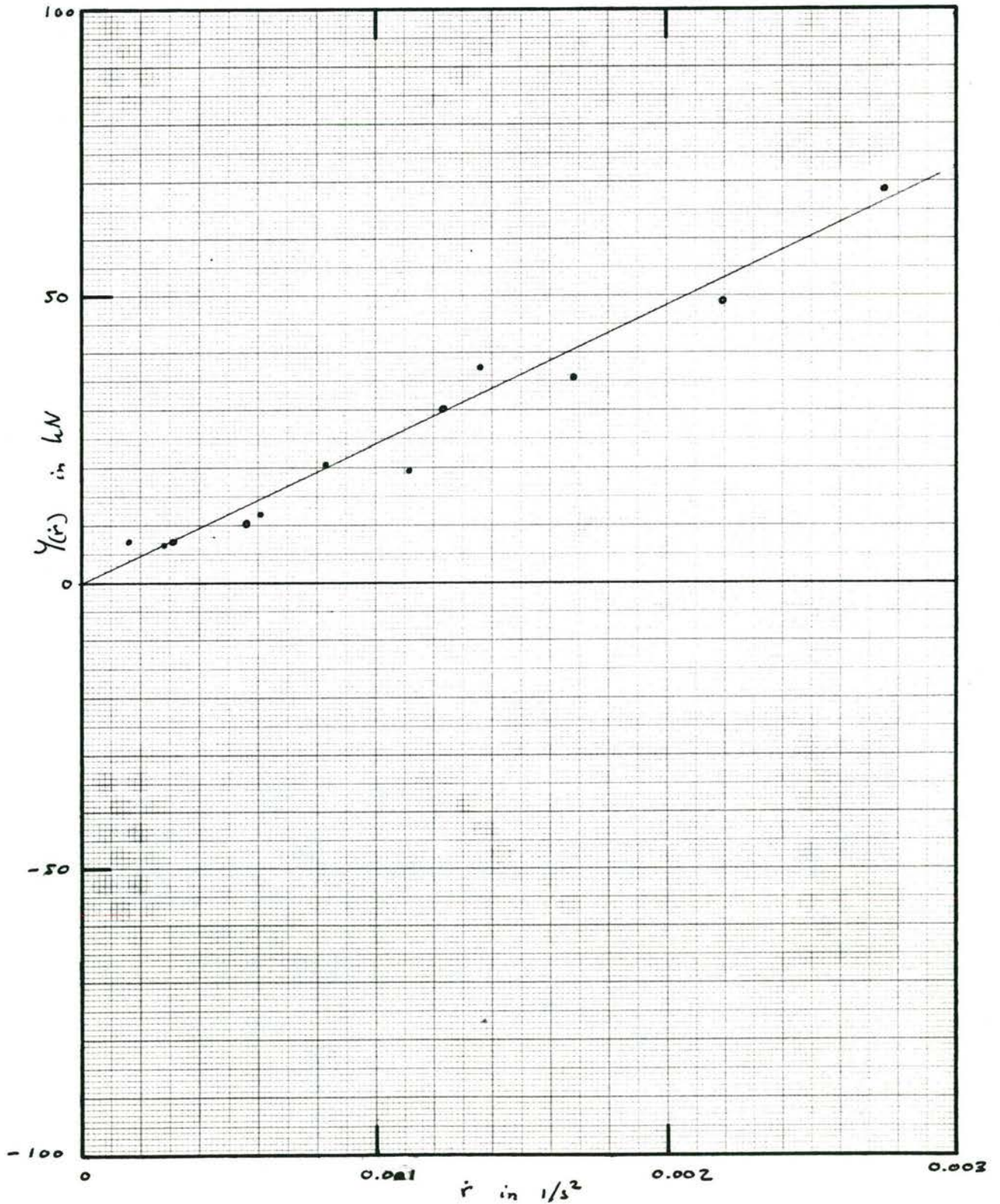


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

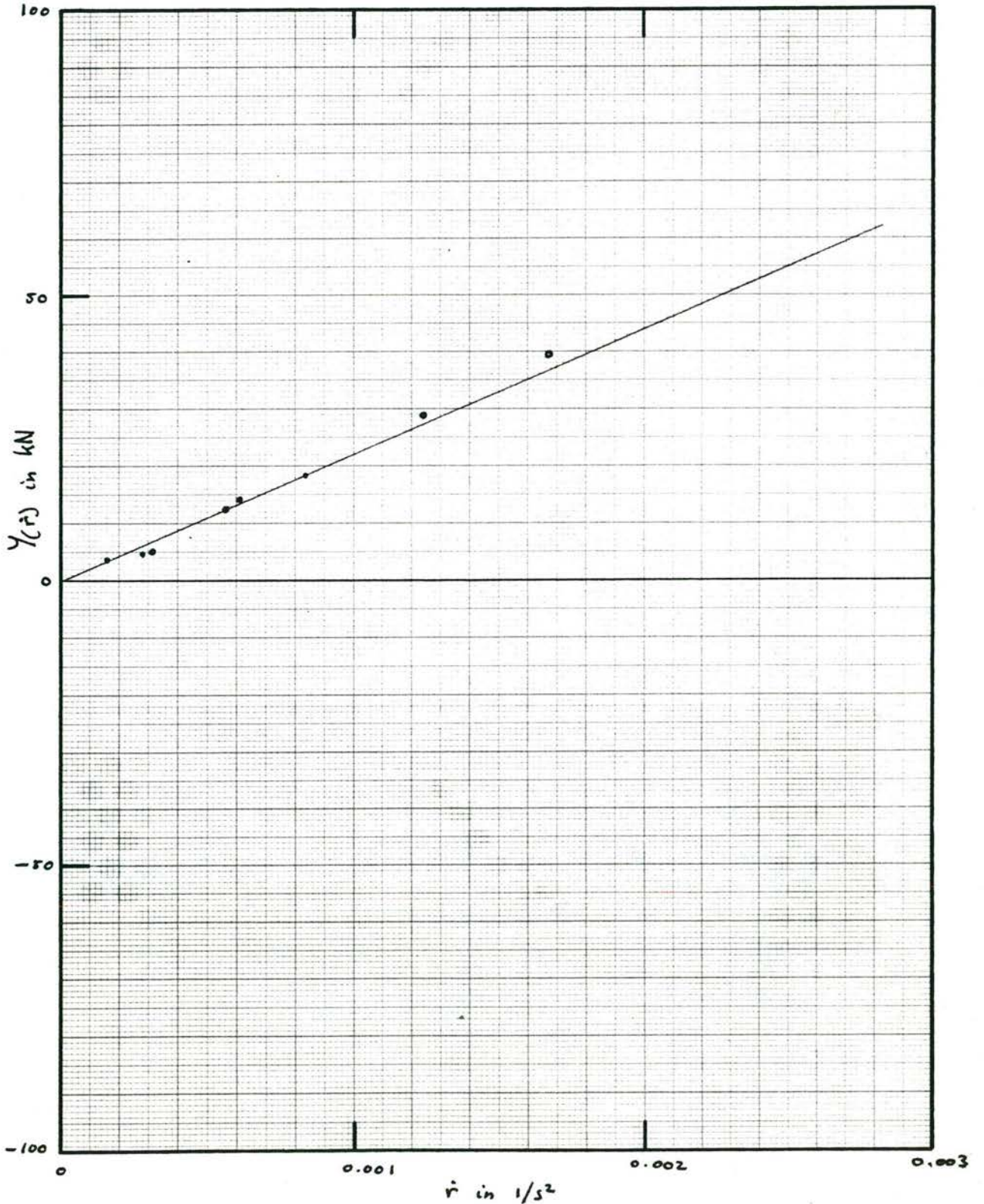


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : $B = \theta$ deg
amplitude 2.5 graden : ●
amplitude 5.0 graden : ○

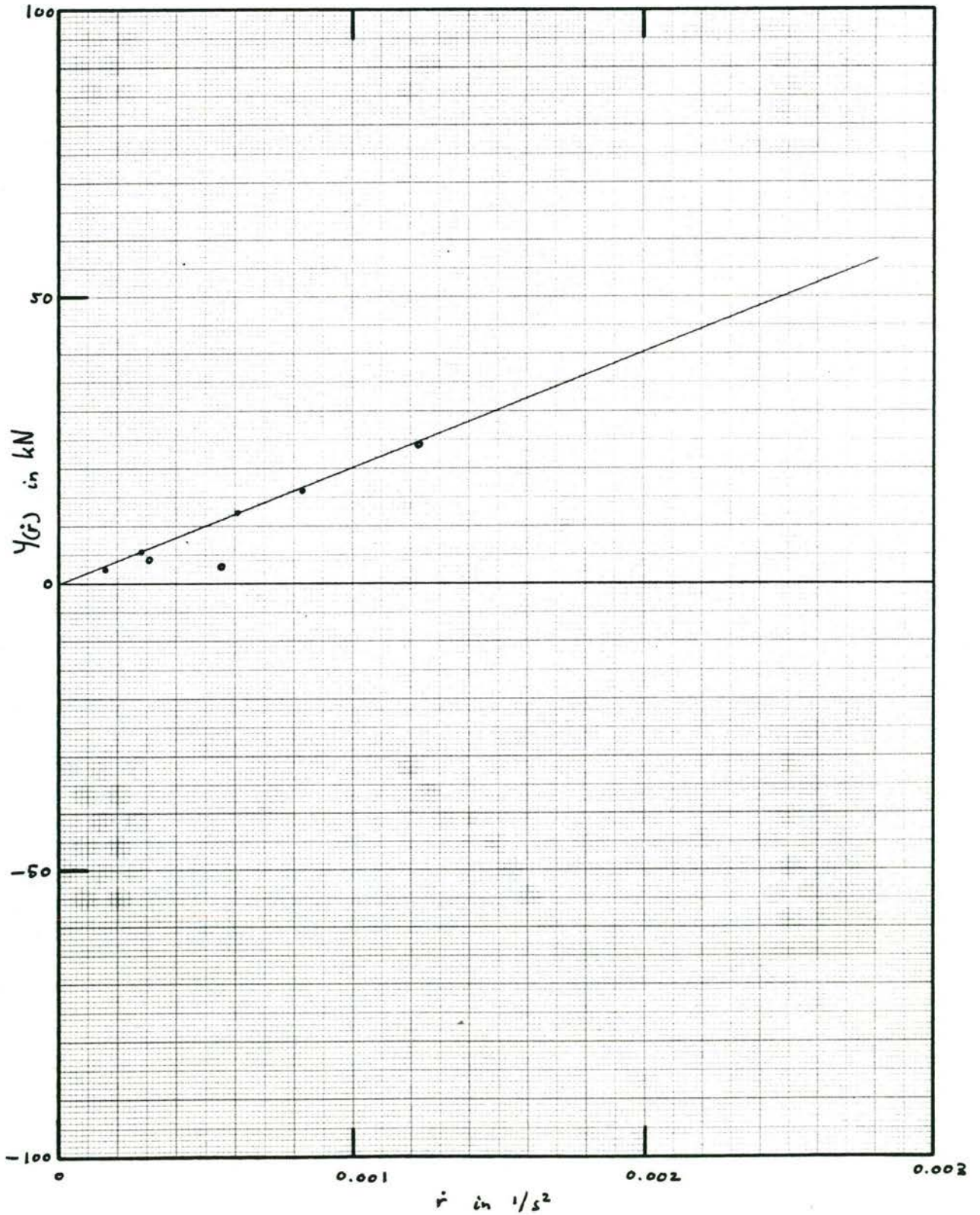


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : $B = 16$ deg
amplitude 2.5 graden : ●
amplitude 5.0 graden : ○

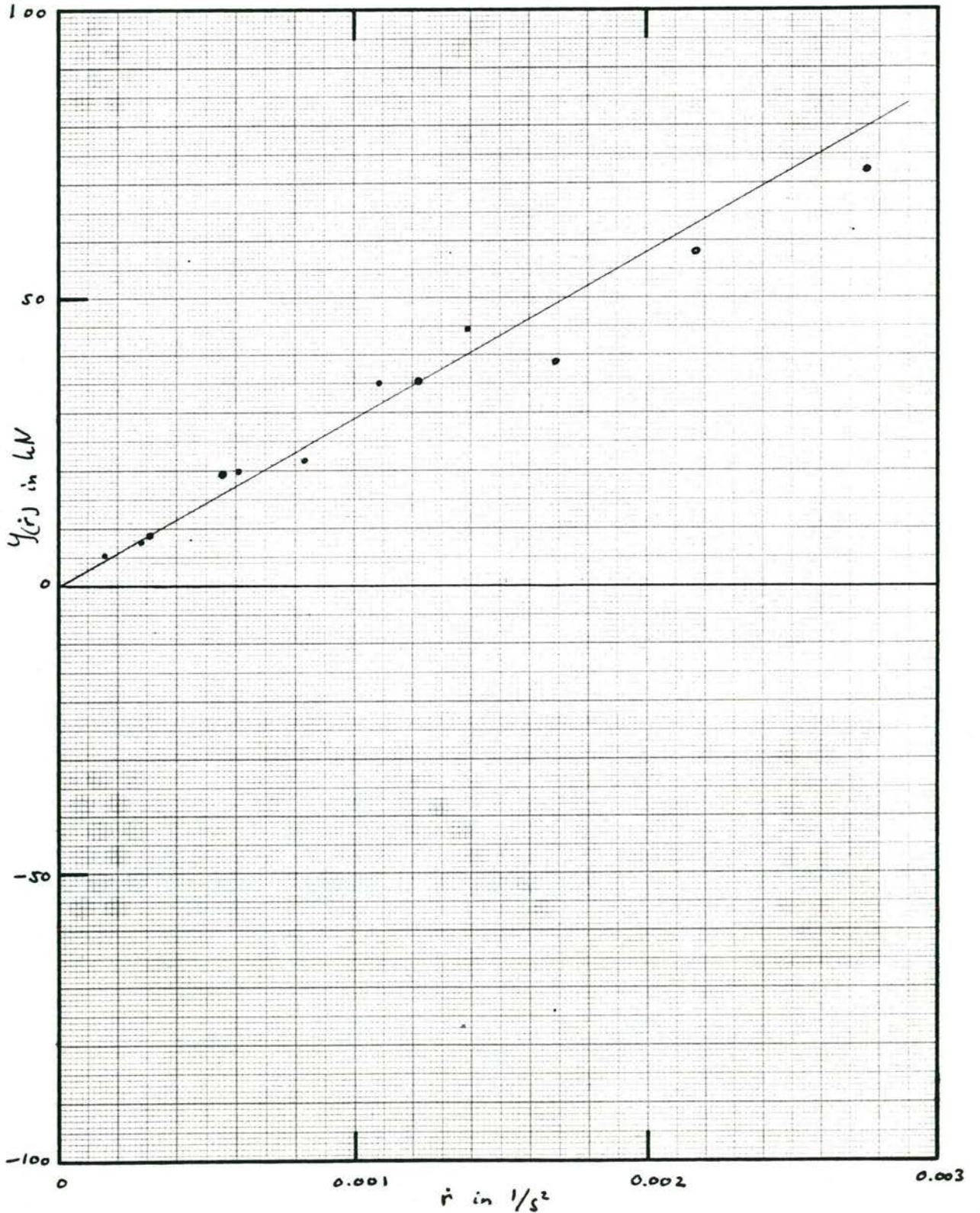


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

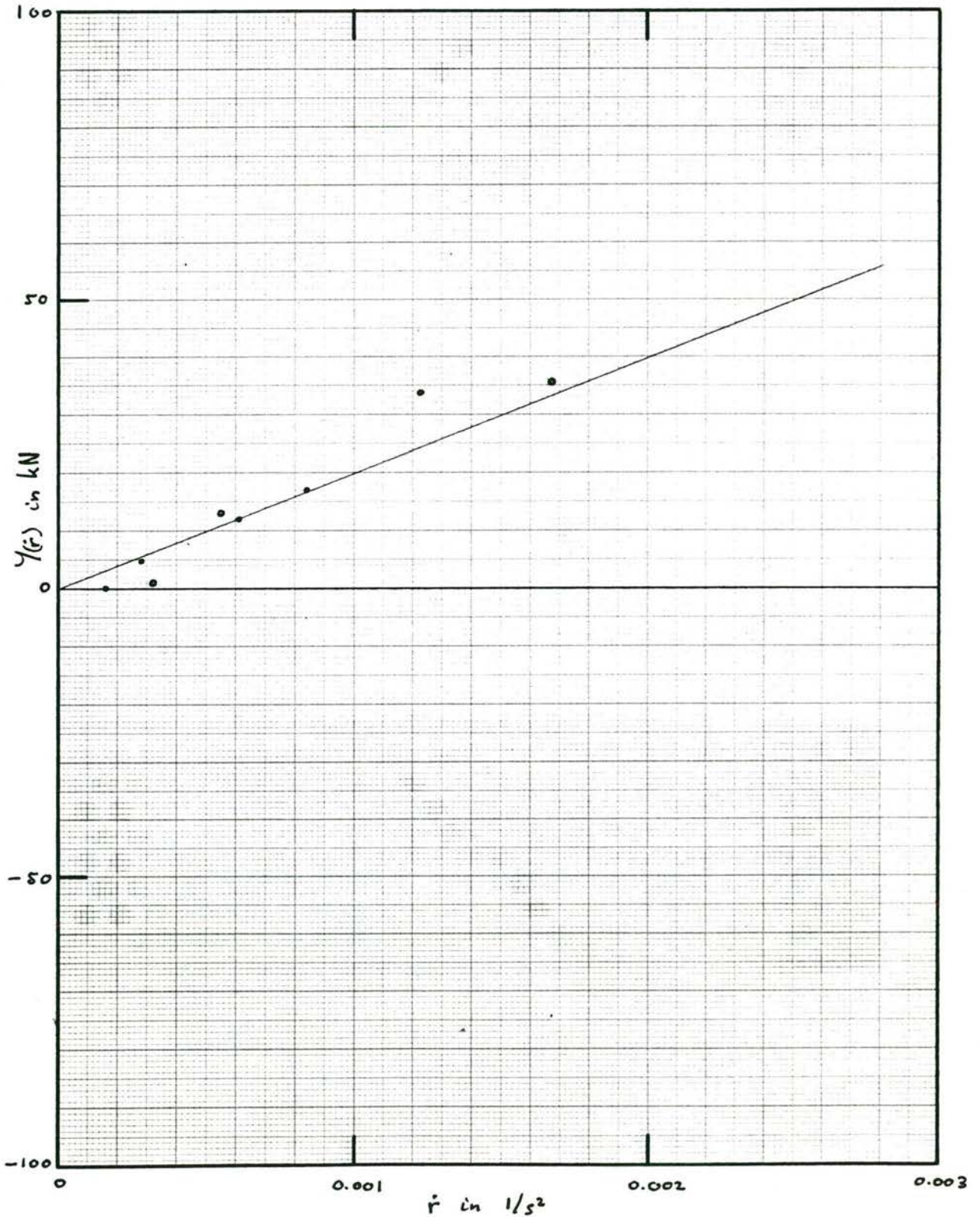


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

drifthoek : B= 8 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

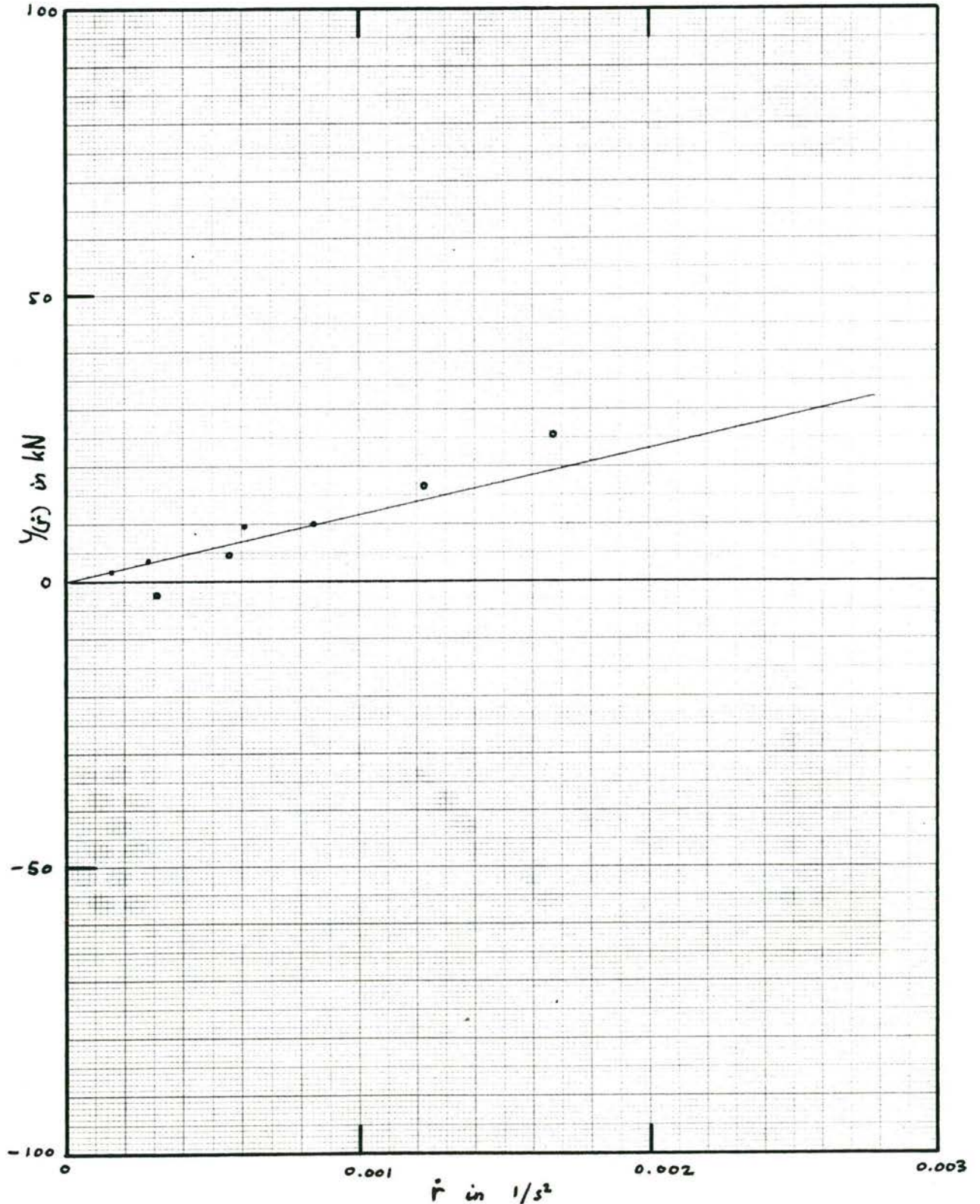


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

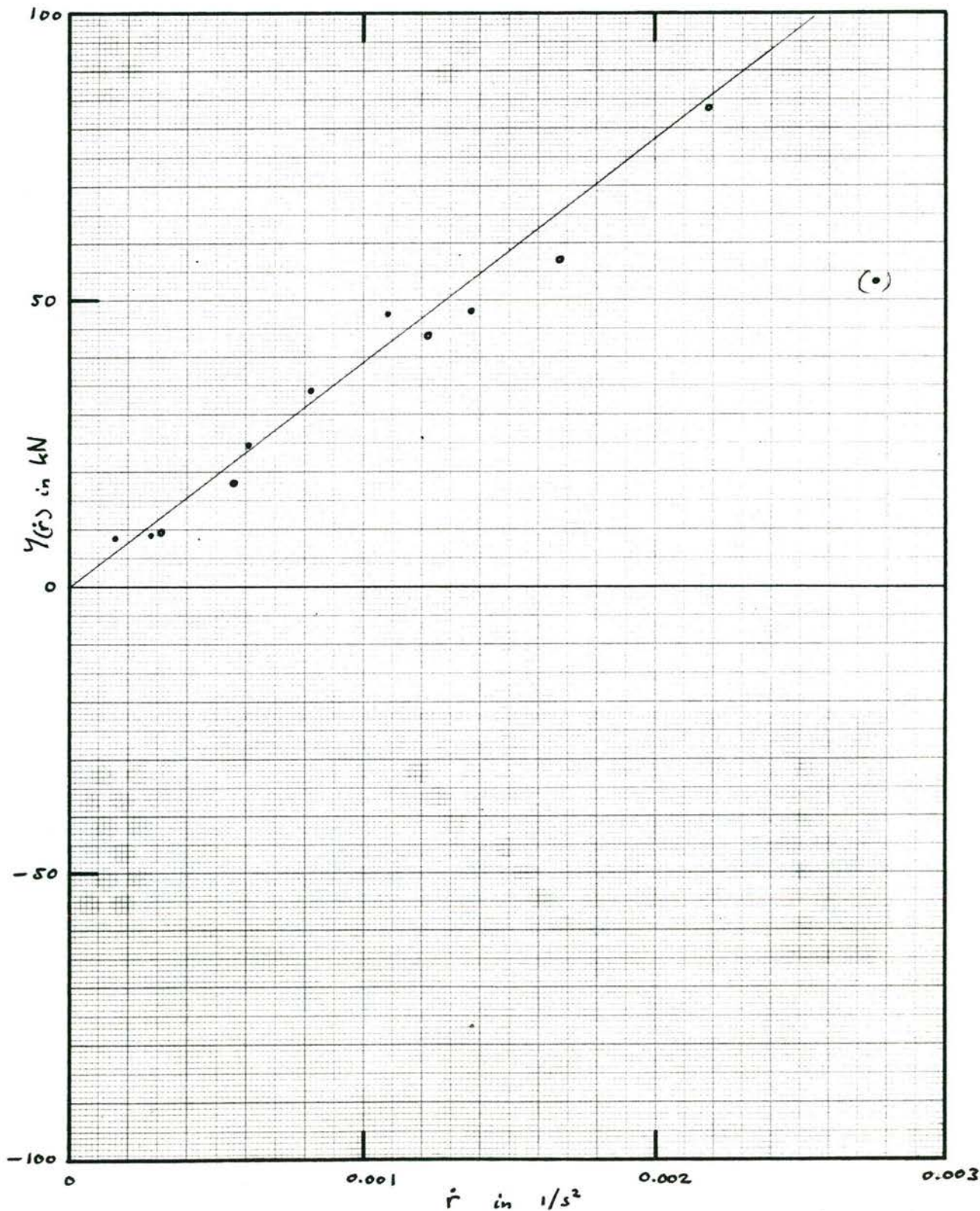
drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○



DVK Project Windhinder
 2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

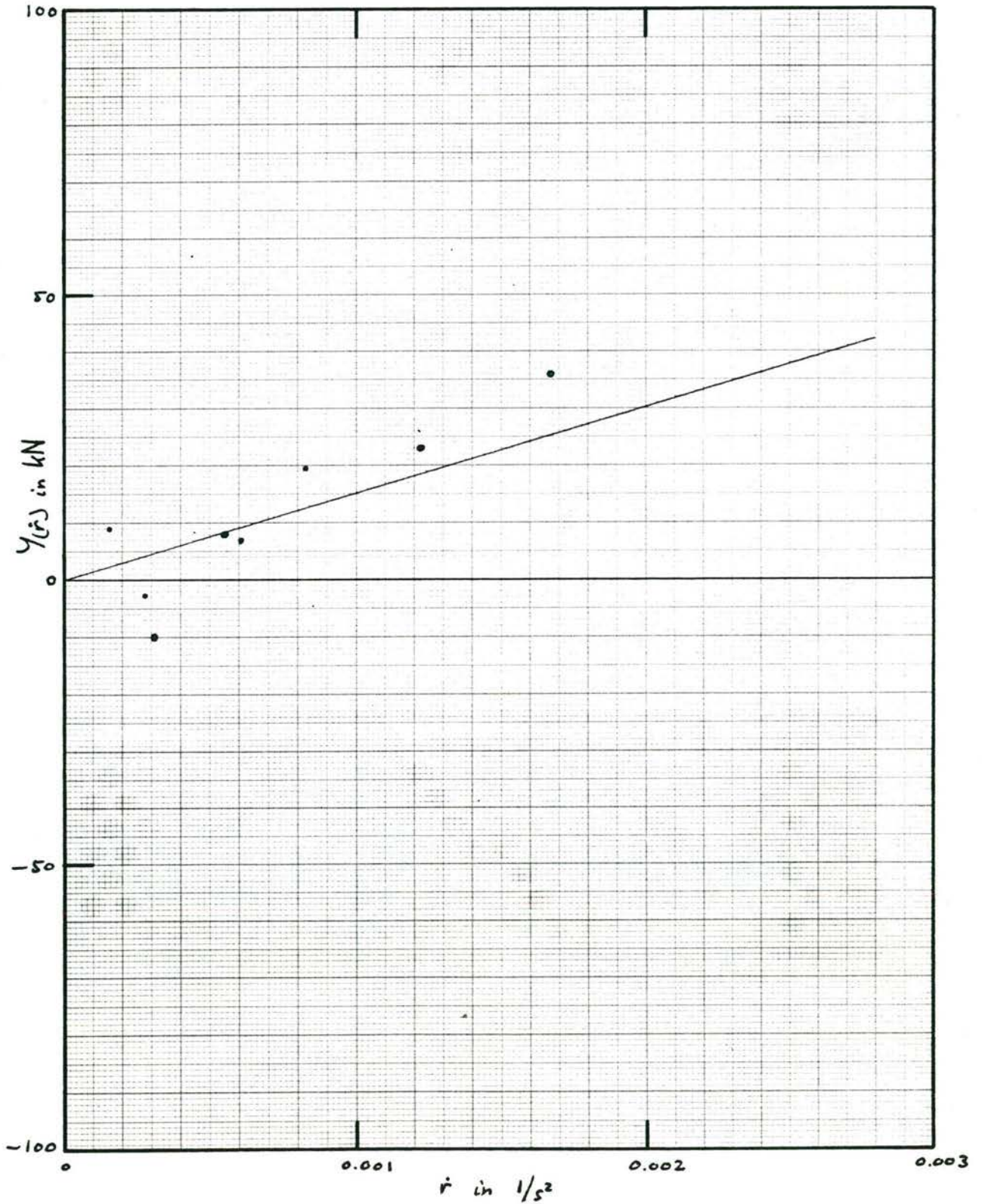
drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○



DVK Project Windhinder
 2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

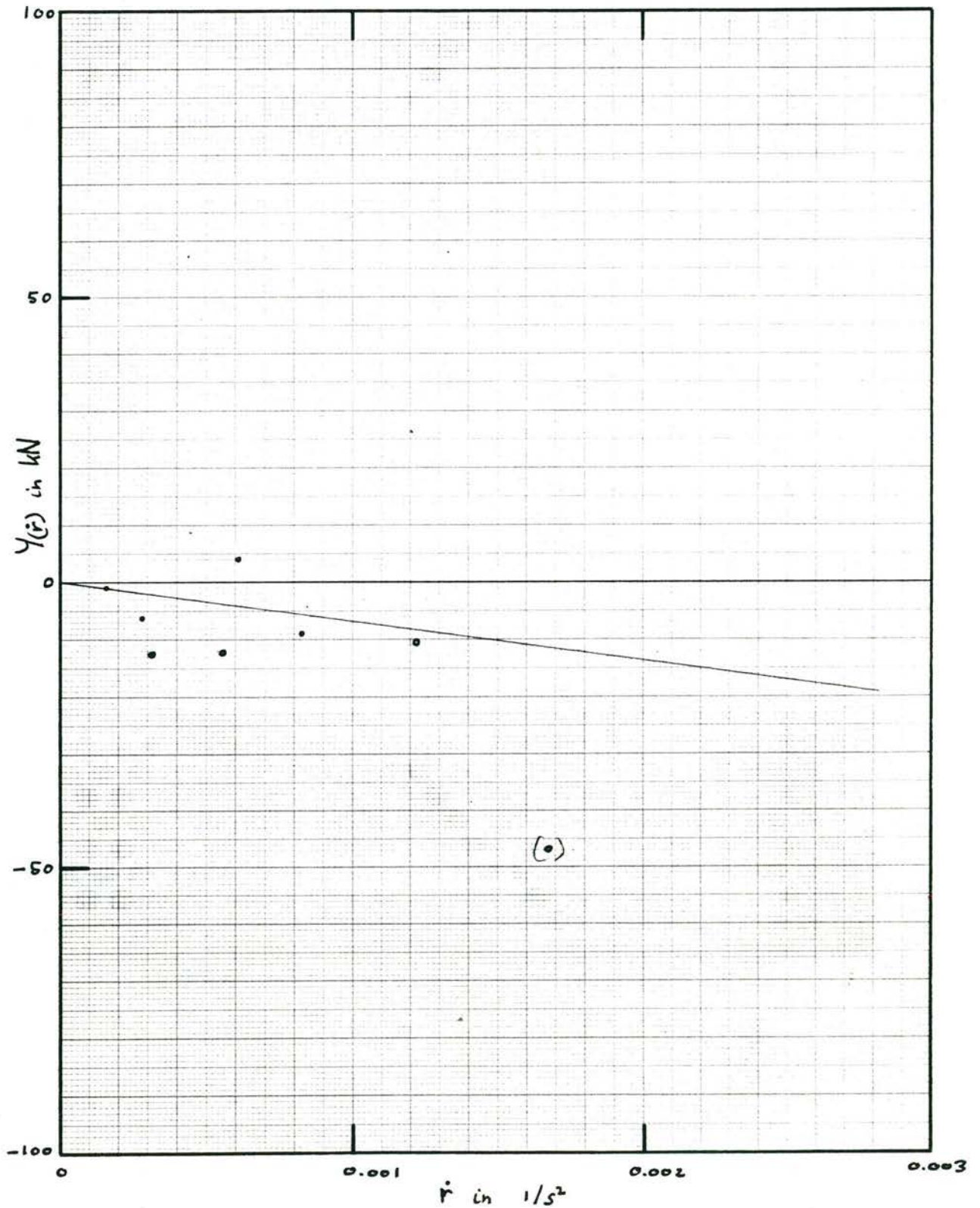
drifthoek : B= 8 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○



DVK Project Windhinder
 2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○



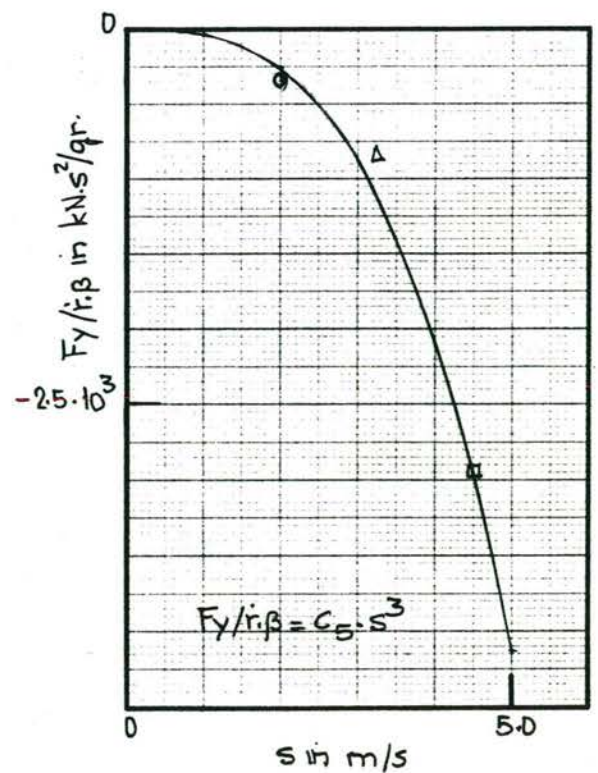
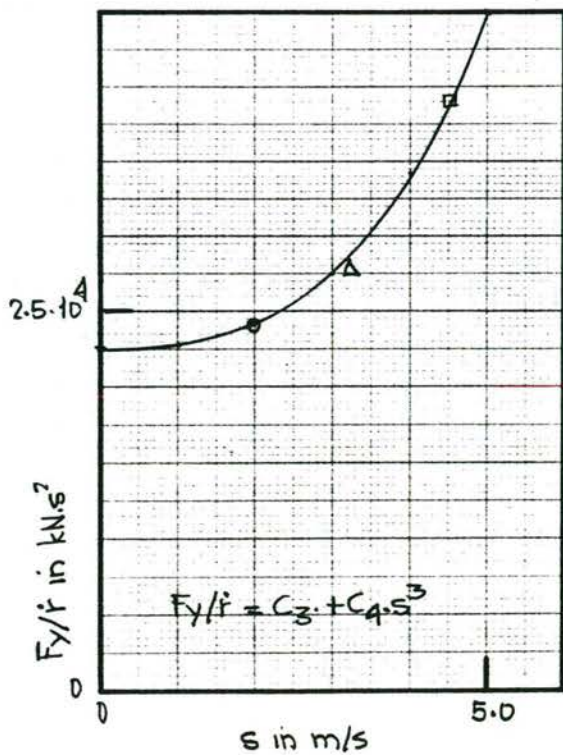
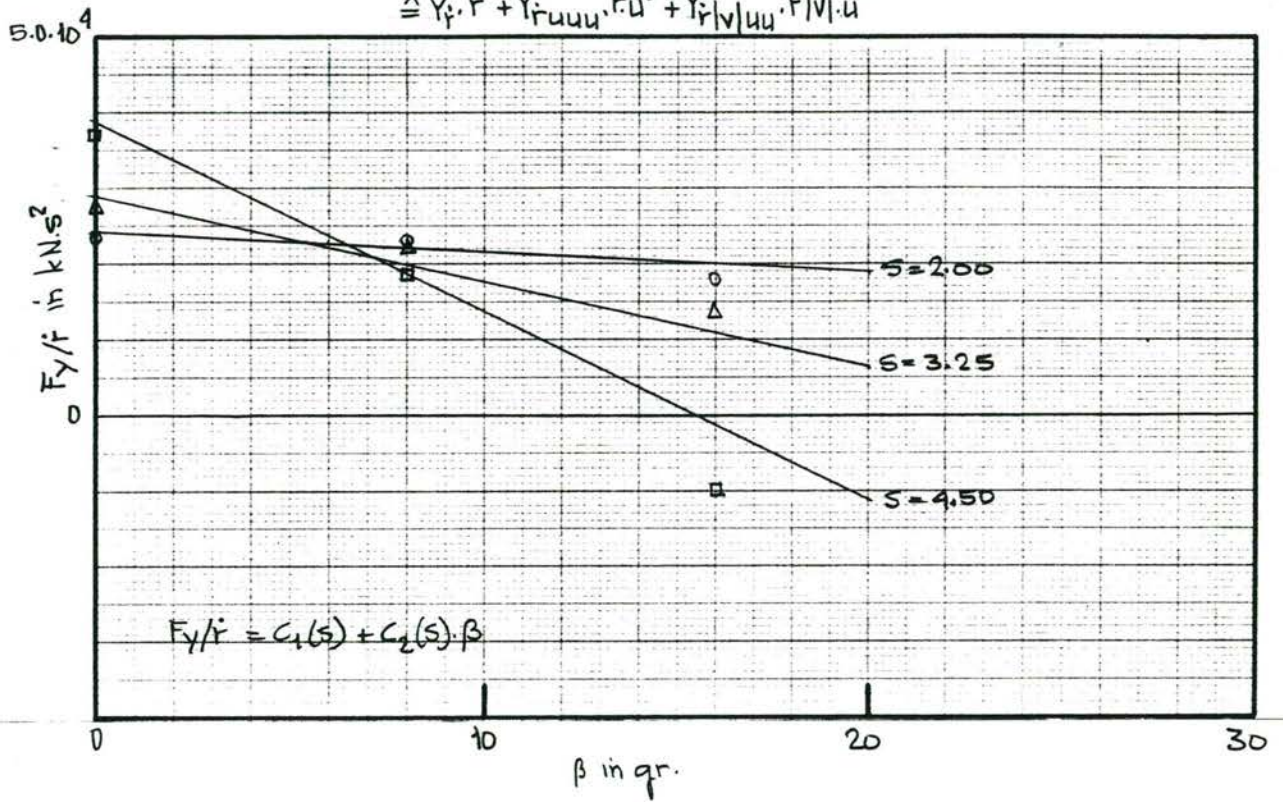
DVK Project Windhinder

COEFFICIENTEN UIT GIEROSCILLATIEPROEVEN

2-bak ballast, breed water

$$F_y = Y_{\dot{r}} \cdot \dot{r} + Y_{\dot{r}sss} \cdot \dot{r} \cdot s^3 + Y_{\dot{r}\beta sss} \cdot \dot{r} \cdot \beta \cdot s^3$$

$$\triangleq Y_{\dot{r}} \cdot \dot{r} + Y_{\dot{r}uuu} \cdot \dot{r} \cdot u^3 + Y_{\dot{r}|\dot{v}|uu} \cdot \dot{r} \cdot |\dot{v}| \cdot u^2$$

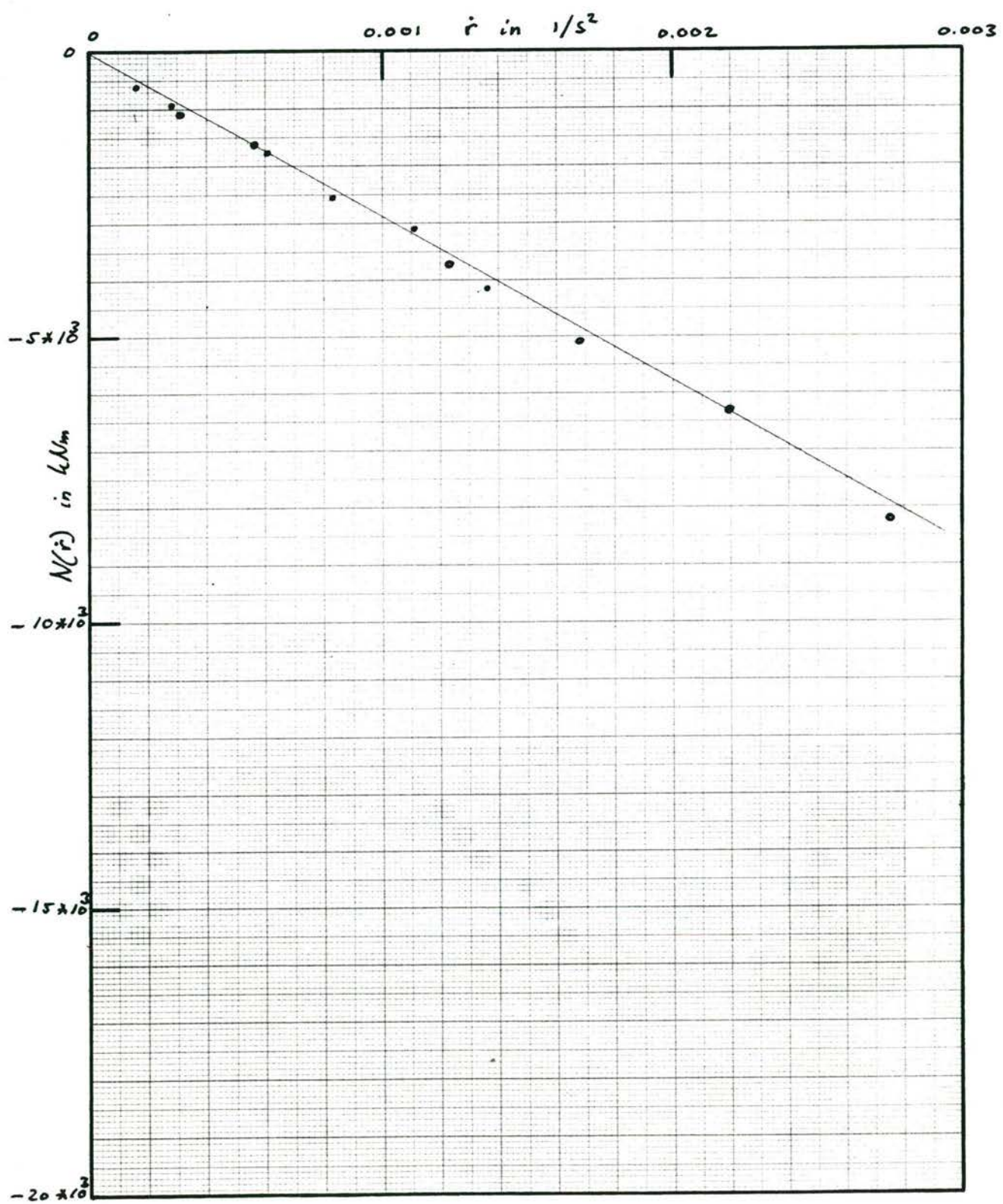


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

 drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

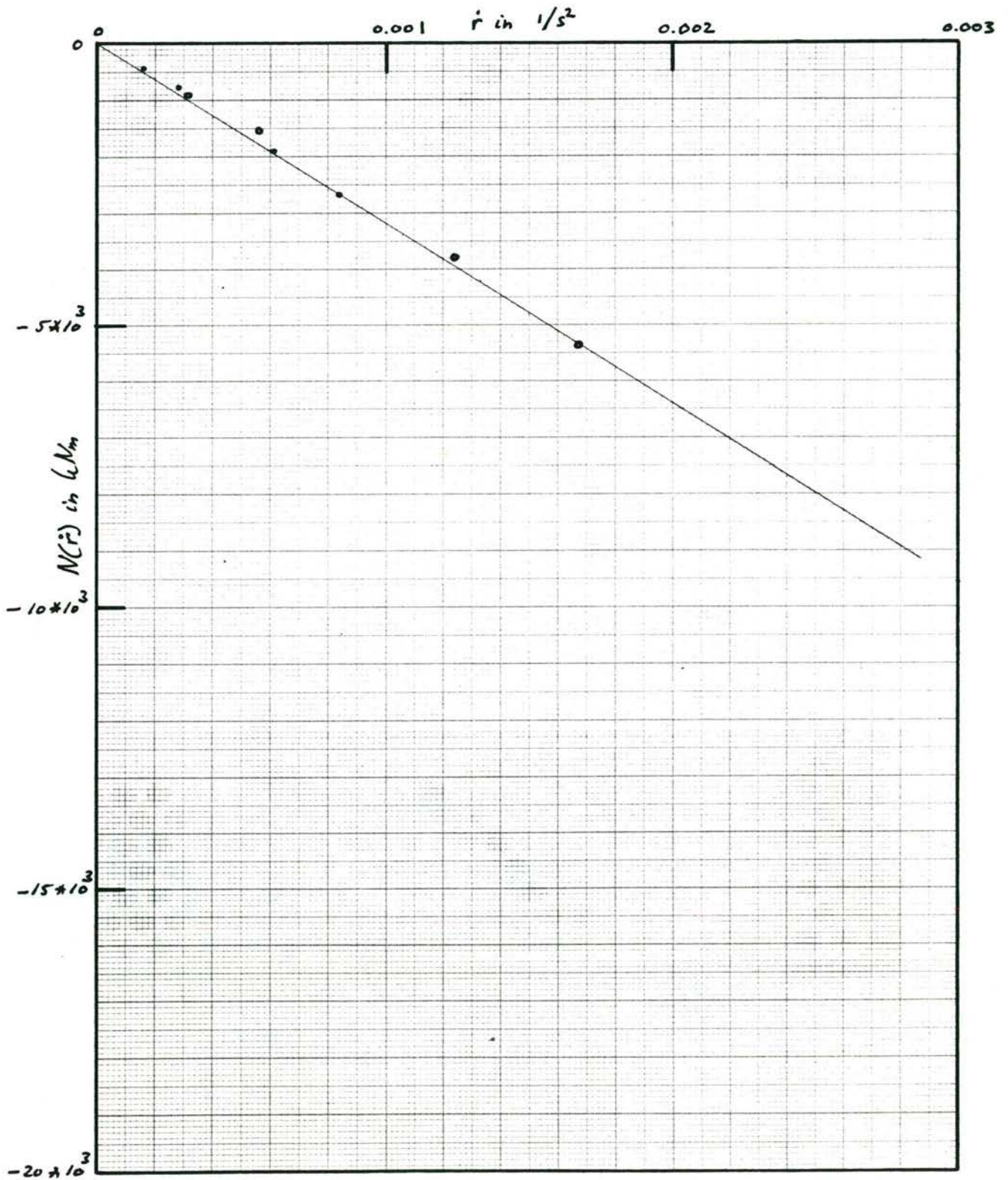


DYK Project Windhinder

2-BAK : ballast, breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

drifthoek : $B = 8$ deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

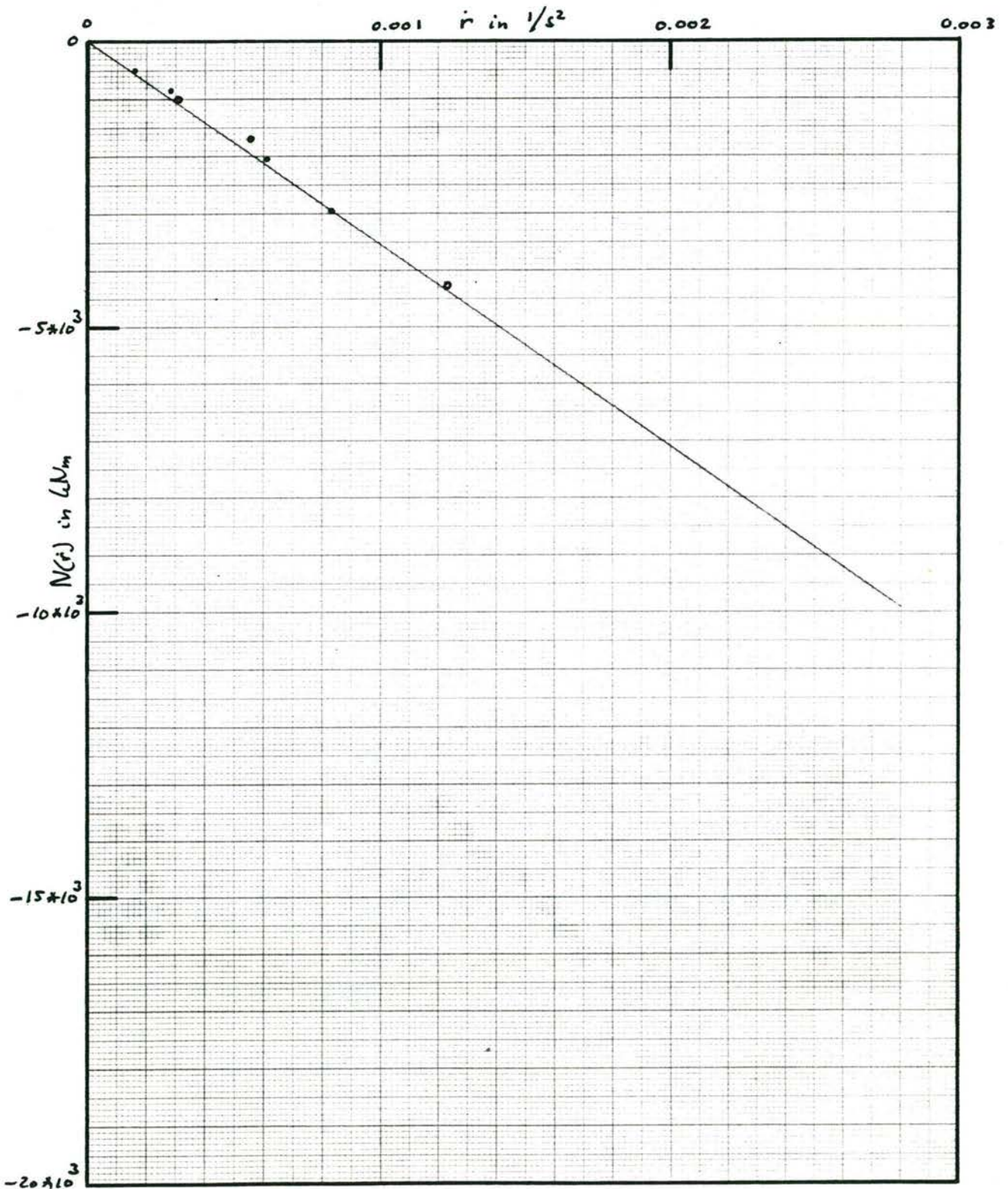


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 2.00 m/s)

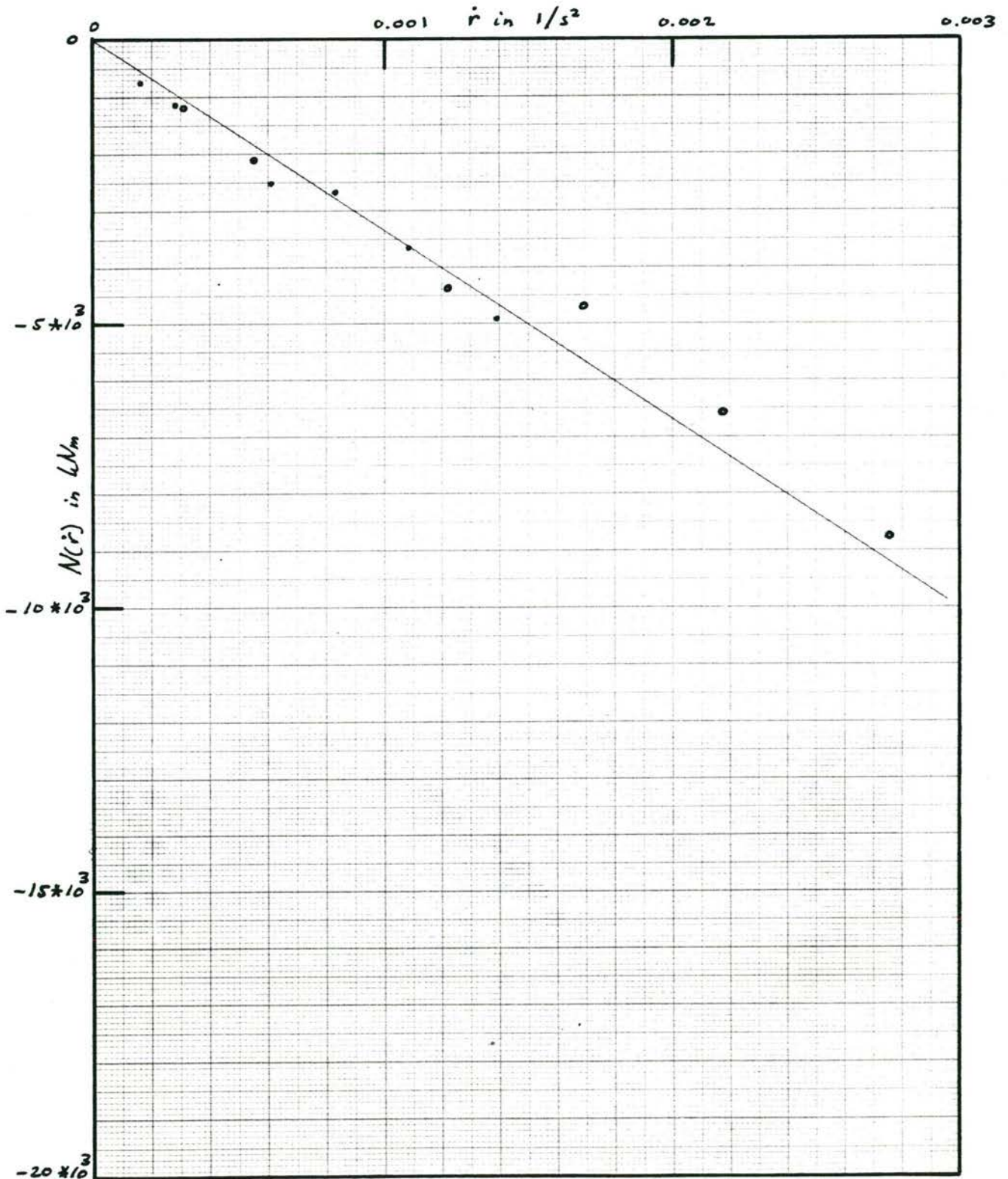
drifthoek : $B = 16$ deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○



DVK Project Windhinder
 2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

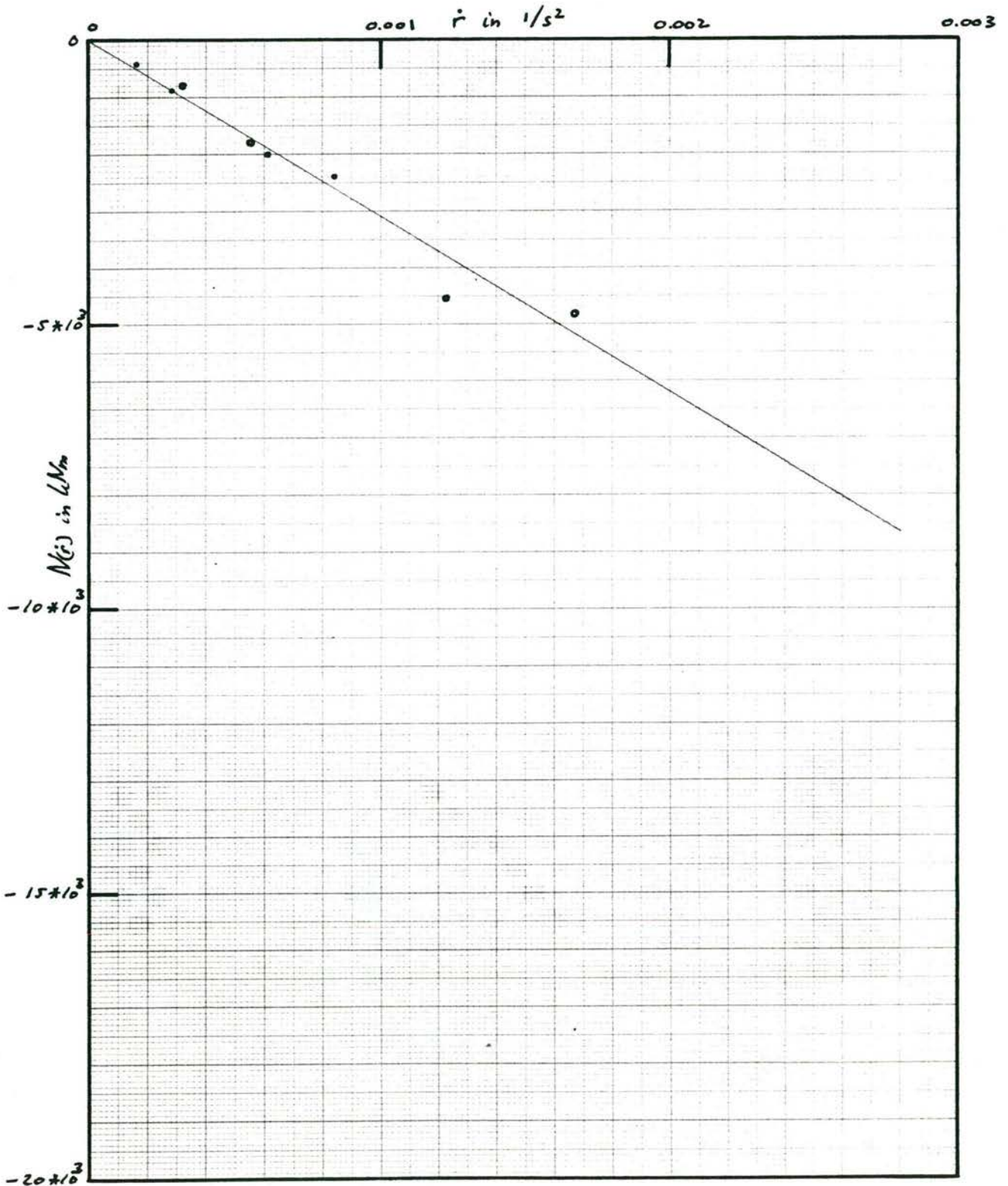


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

drifthoek : $B = 8$ deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

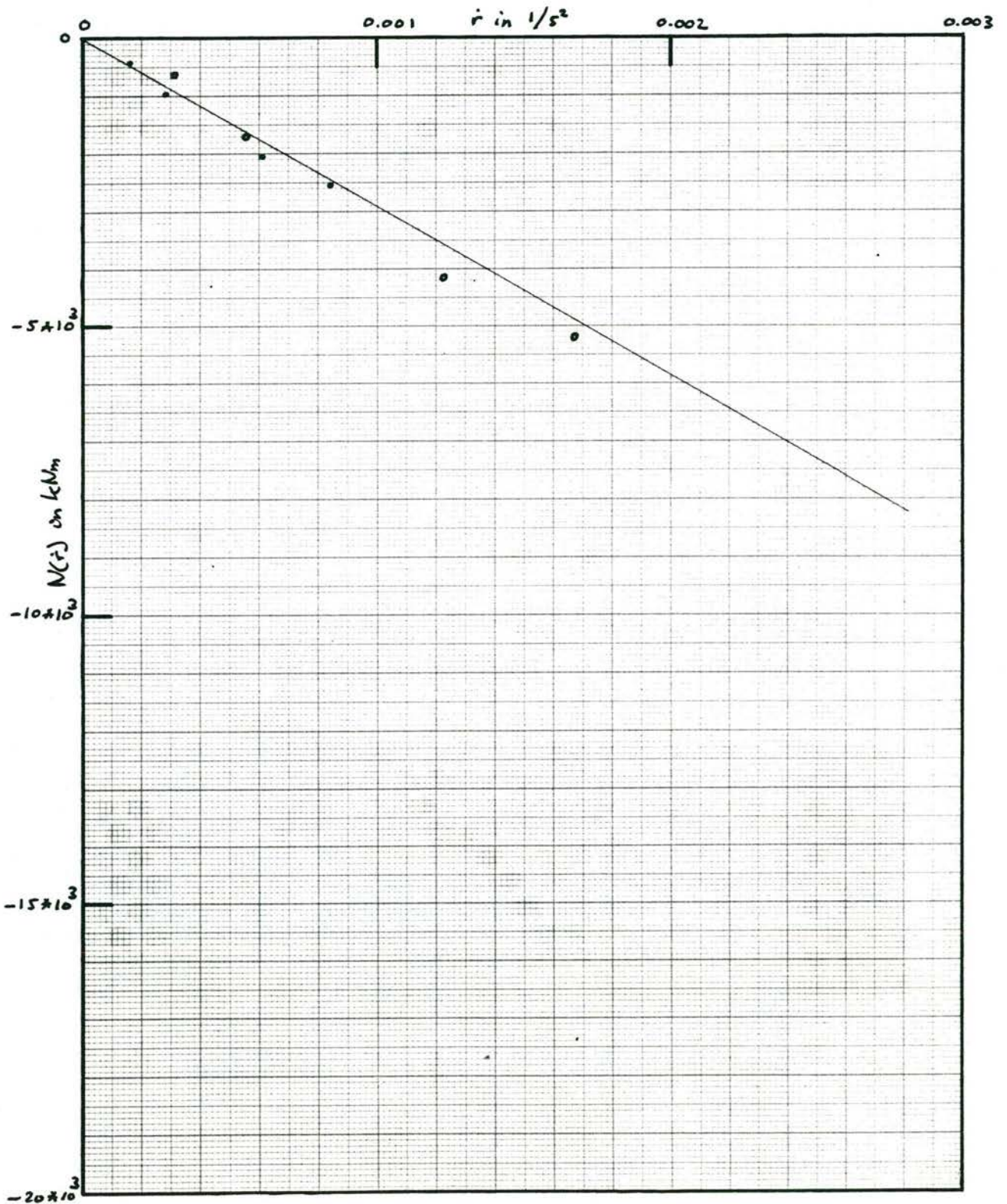


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 3.25 m/s)

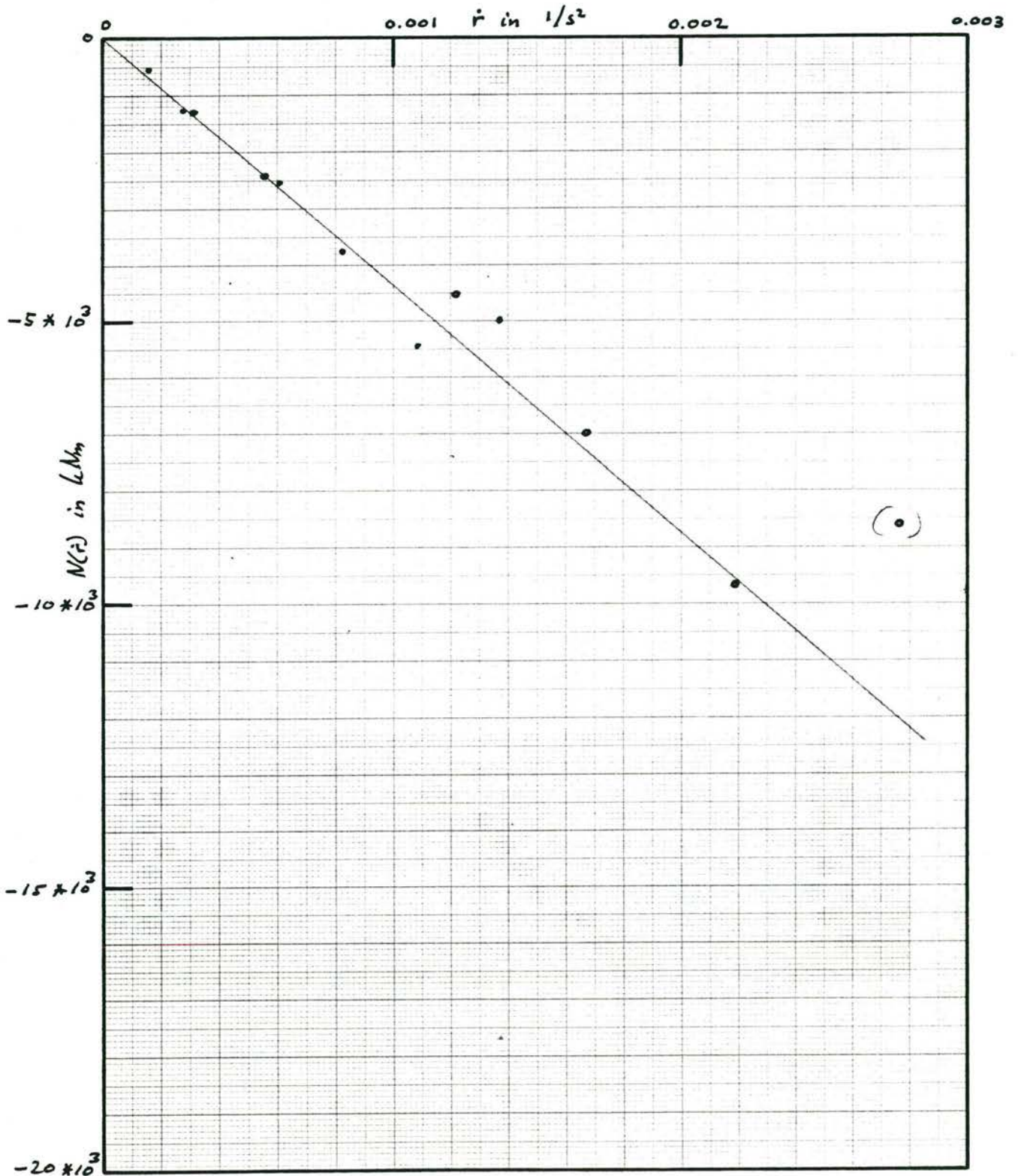
drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○



DVK Project Windhinder
 2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

drifthoek : B= 0 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

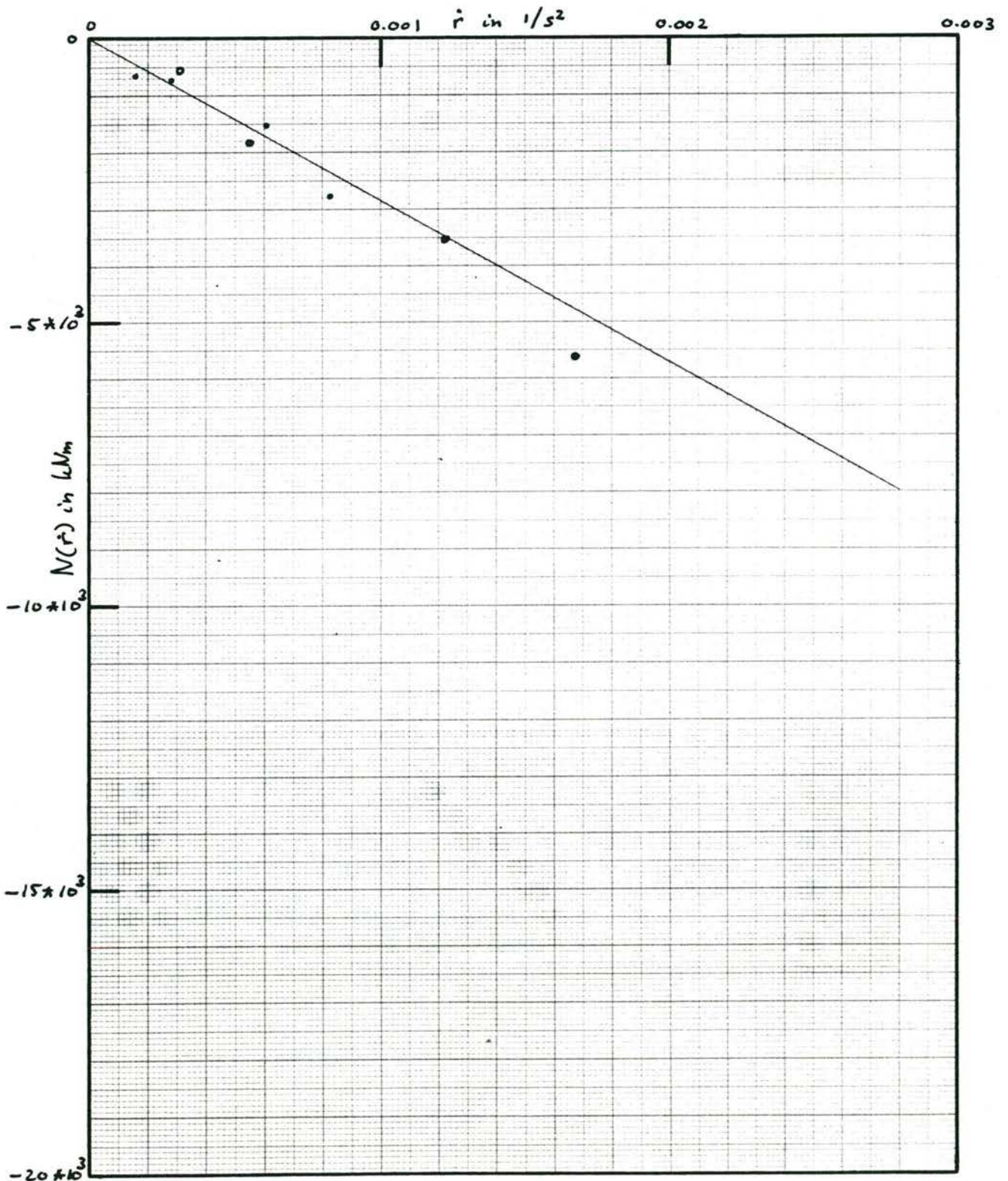


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

drifthoek : $B = \beta$ deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○

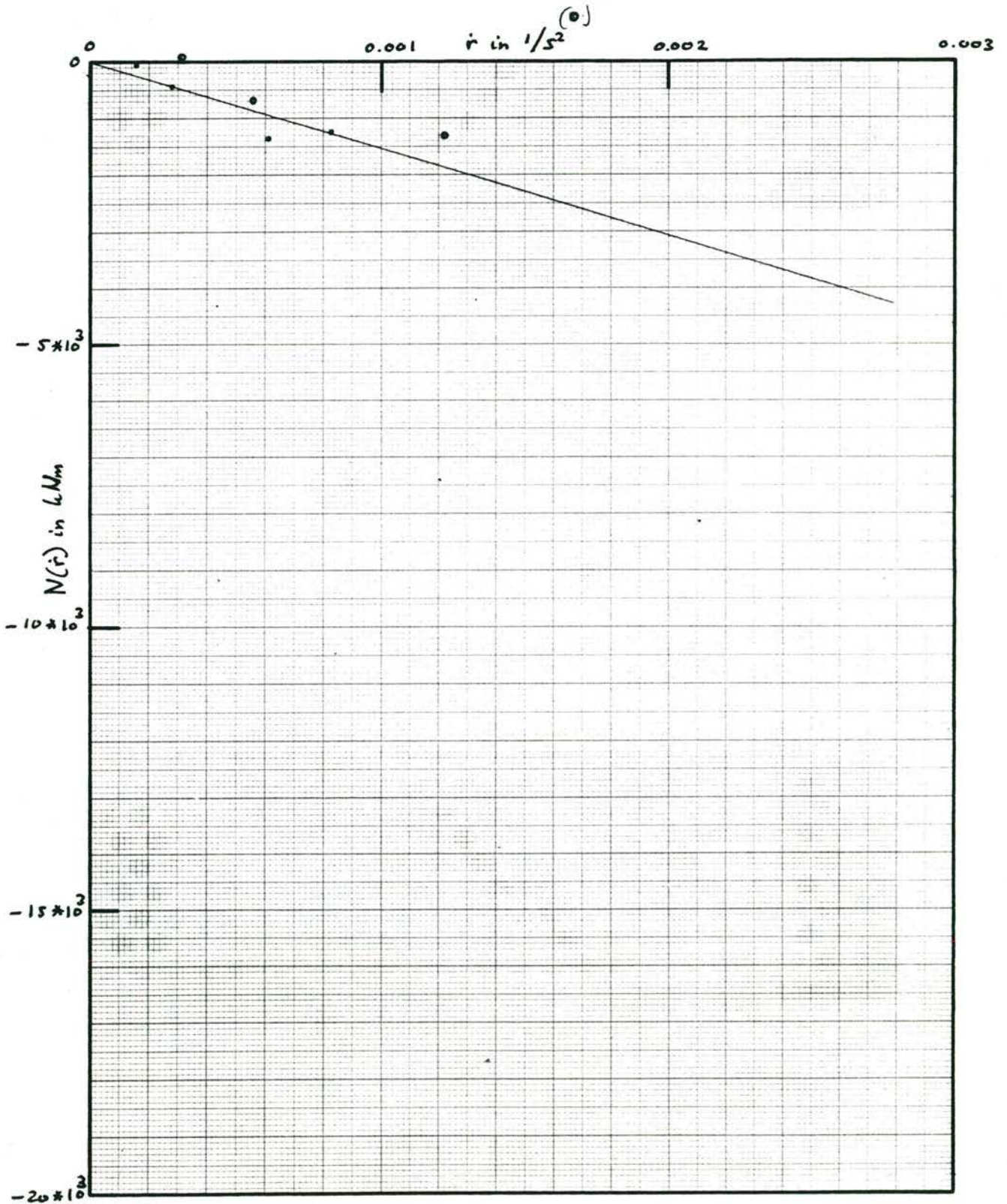


DVK Project Windhinder

2-BAK : ballast , breed water

GIER OSCILLATIE PROEVEN (SNELHEID 4.50 m/s)

drifthoek : B= 16 deg
 amplitude 2.5 graden : ●
 amplitude 5.0 graden : ○



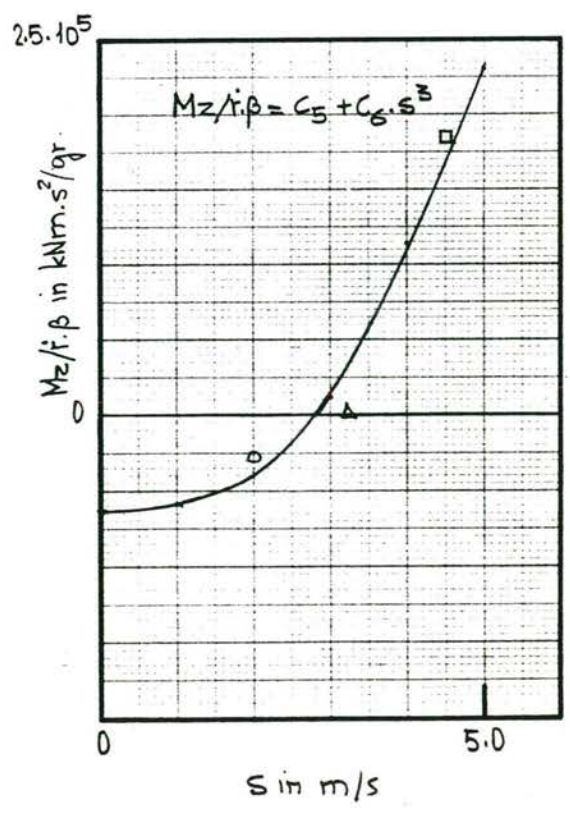
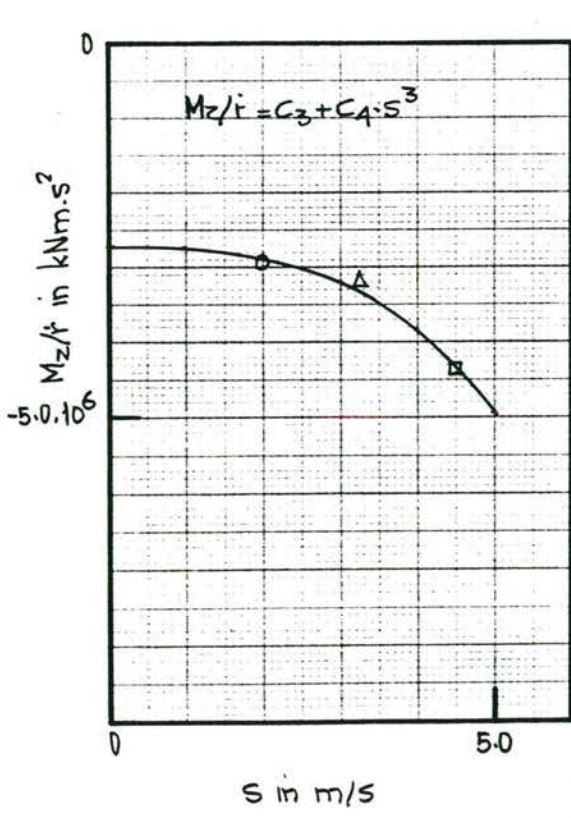
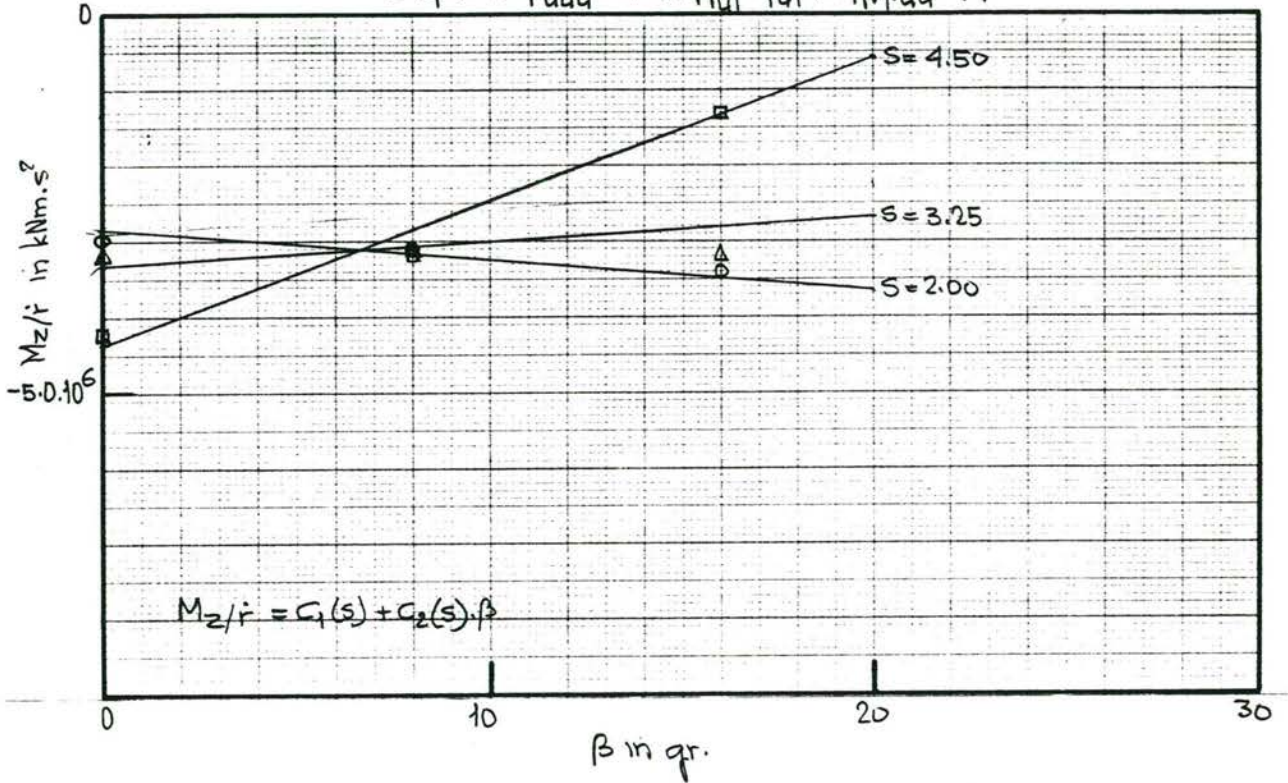
DVK Project Windhinder

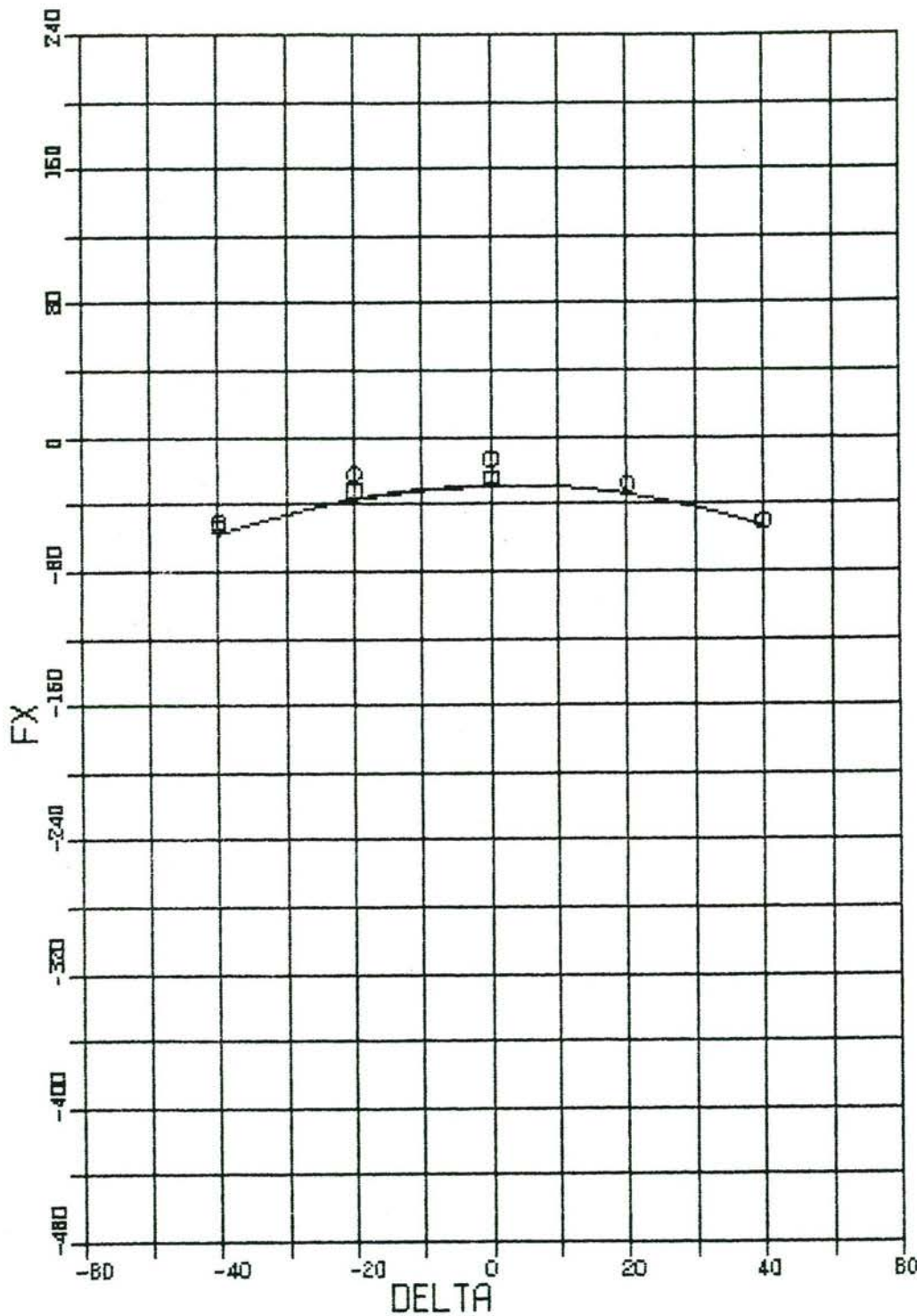
COEFFICIENTEN UIT GIEROSCILLATIEPROEVEN

2-bak ballast, breed water

$$M_z(\dot{r}) = N_r \cdot \dot{r} + N_{r s s s} \cdot \dot{r} \cdot s^3 + N_{r \beta} \cdot \dot{r} \cdot \beta + N_{r \beta s s s} \cdot \dot{r} \cdot \beta \cdot s^3$$

$$\approx N_r \cdot \dot{r} + N_{r u u u} \cdot \dot{r} \cdot u^3 + N_{r |y|} \cdot \dot{r} \cdot |y| + N_{r |v| u u} \cdot \dot{r} \cdot |v| \cdot u^2$$





DVK Project Windhinder
WANDAF

-17.0750 □

-22.7500 ○

CONS S 2.1500

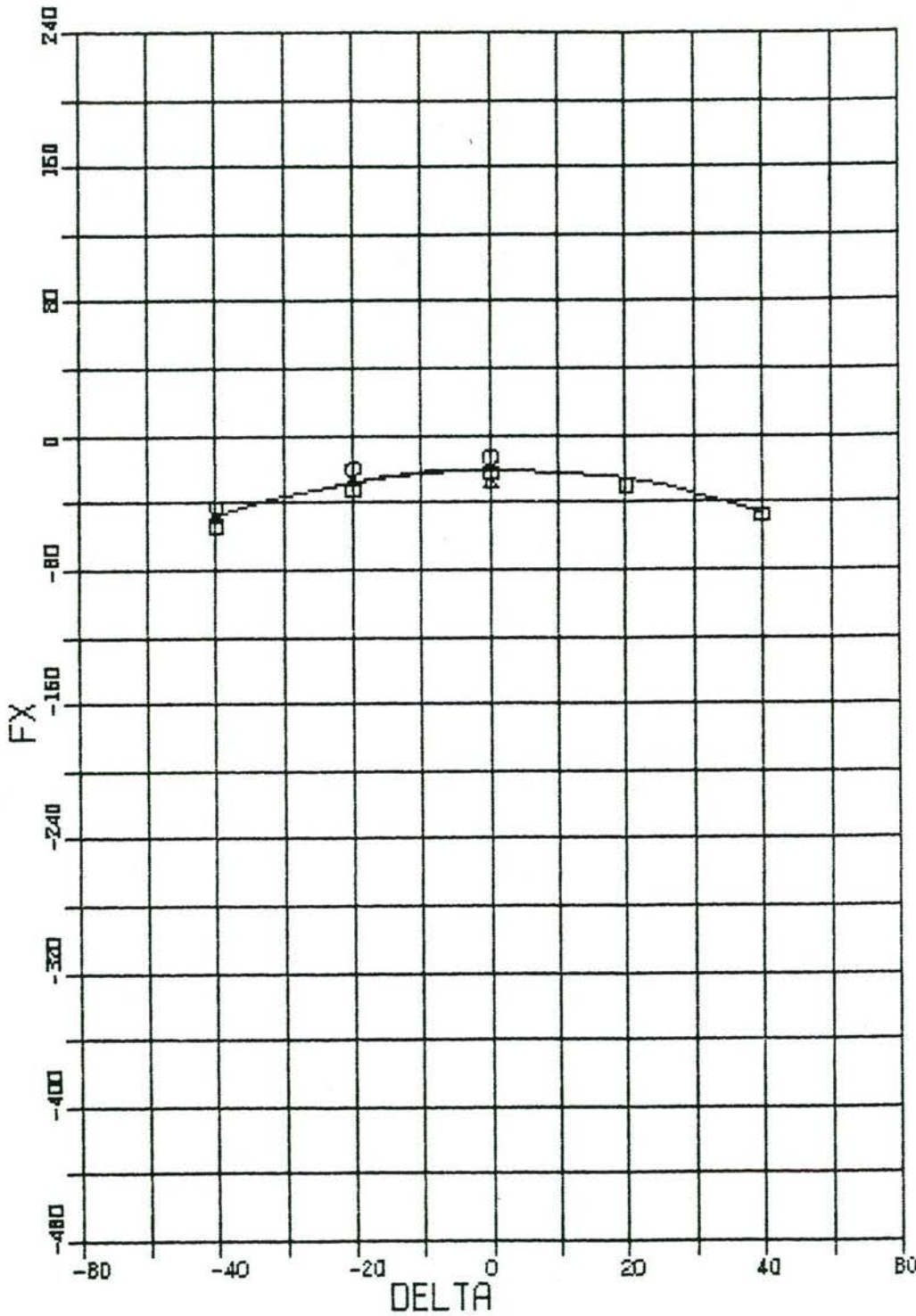
CONS BETA 4.0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FX = FX (BREED WATER) + FX (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

-11.3750

-17.0750

-22.7500

CONS S 2.1500

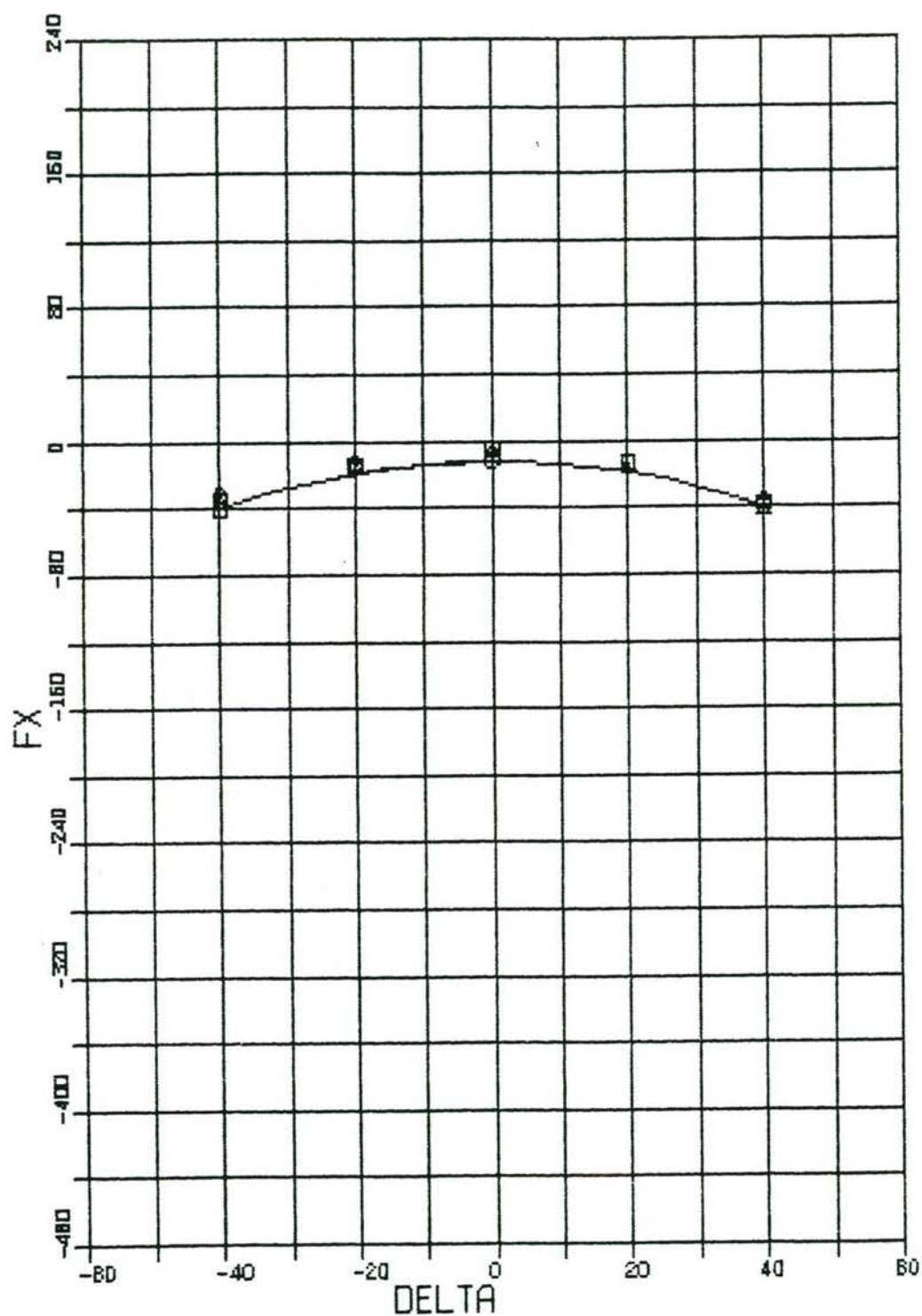
CONS BETA 2.0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FX = FX (BREED WATER) + FX (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

-11.3750 □

-17.0750 ○

-22.7500 ▲

CONS S 2.1500

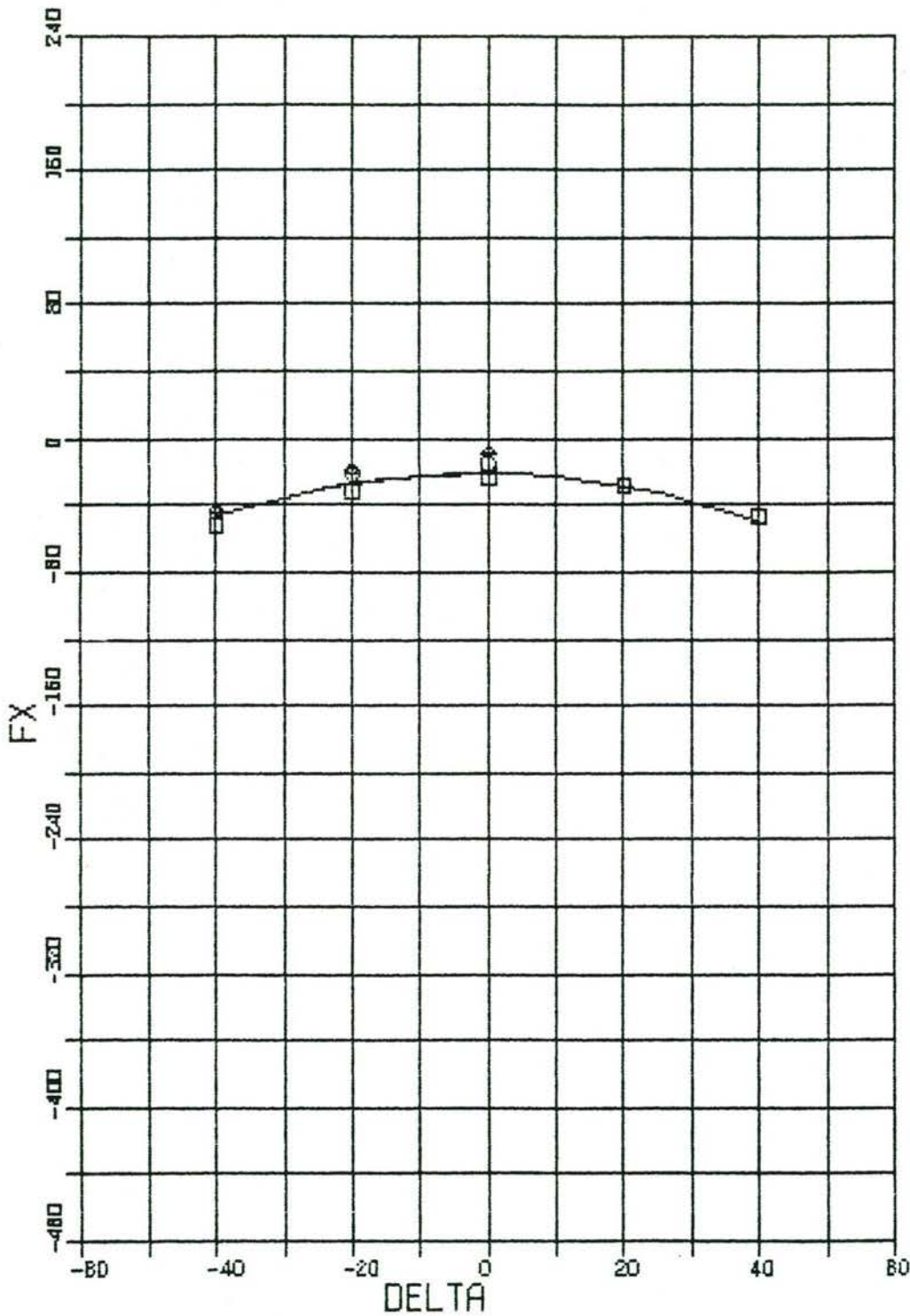
CONS BETA .0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FX = FX (BREED WATER) + FX (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

- 11.3750 □
- 17.0750 ○
- 22.7500 △

CONS S 2.1500

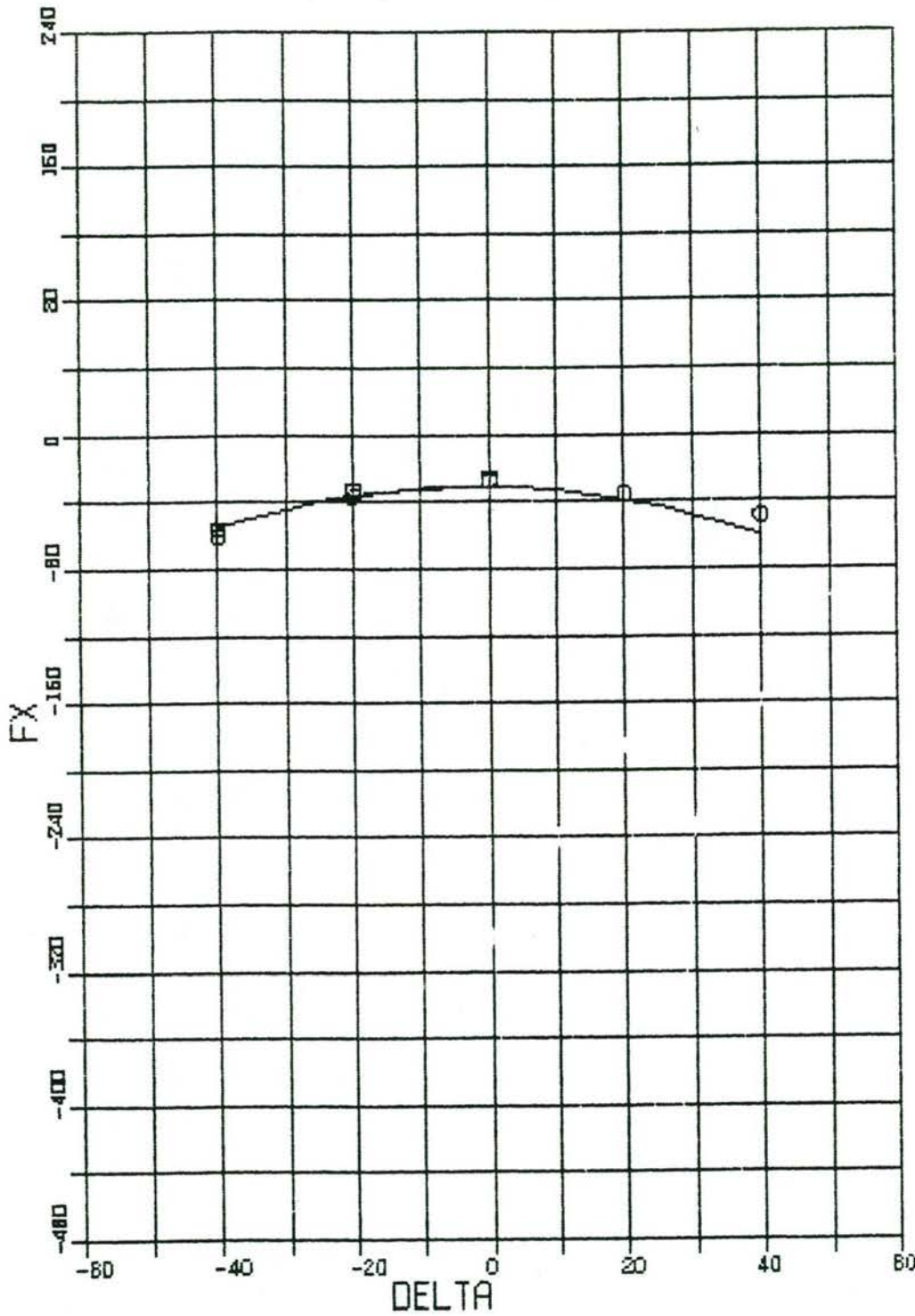
CONS BETA -2.0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FX = FX (BREED WATER) + FX (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

-17.0750 □

-22.7500 ○

CONS S 2.1500

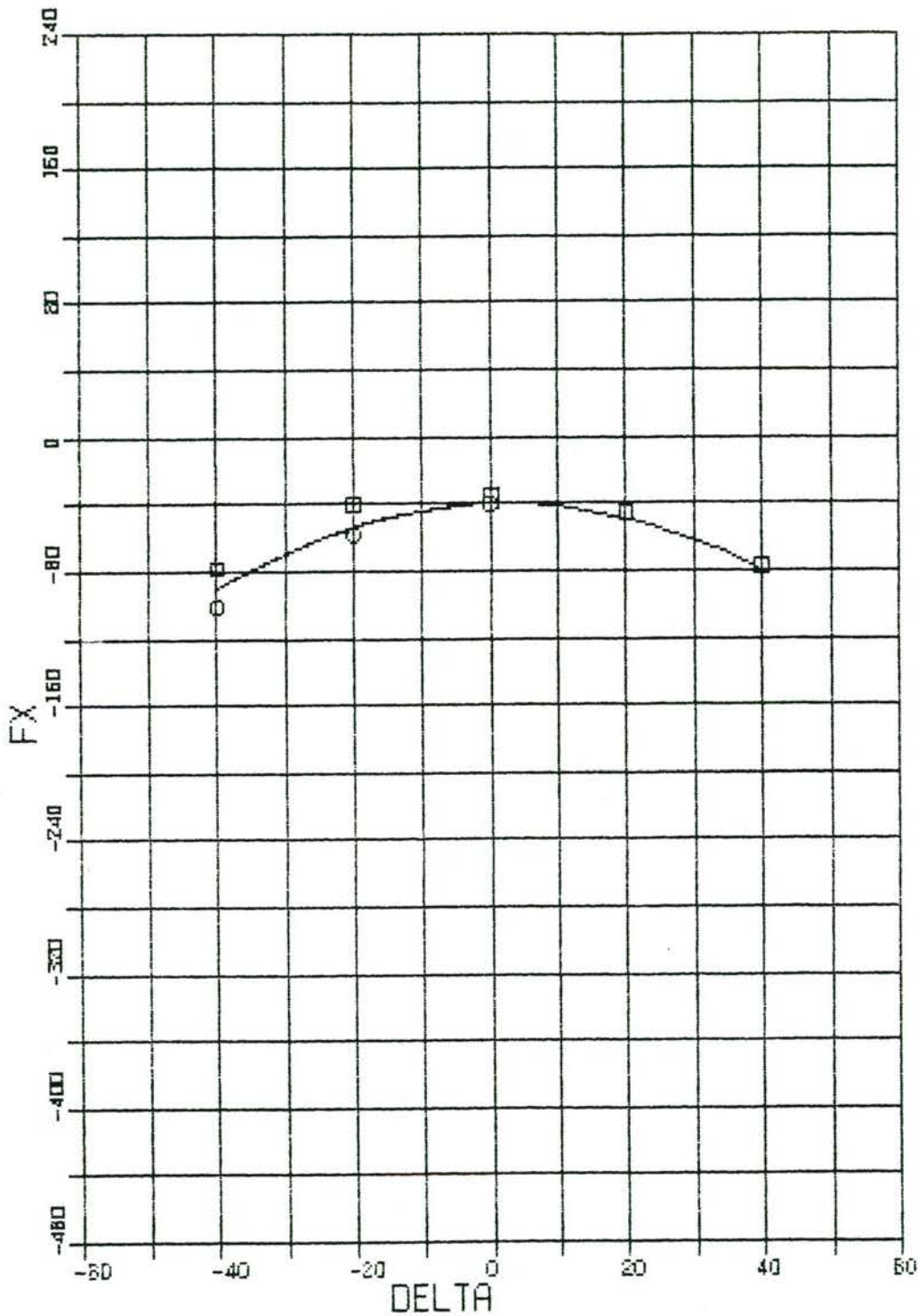
CONS BETA -4.0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FX = FX (BREED WATER) + FX (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

-22.7500 □

-17.0750 ○

CONS S 2.7500

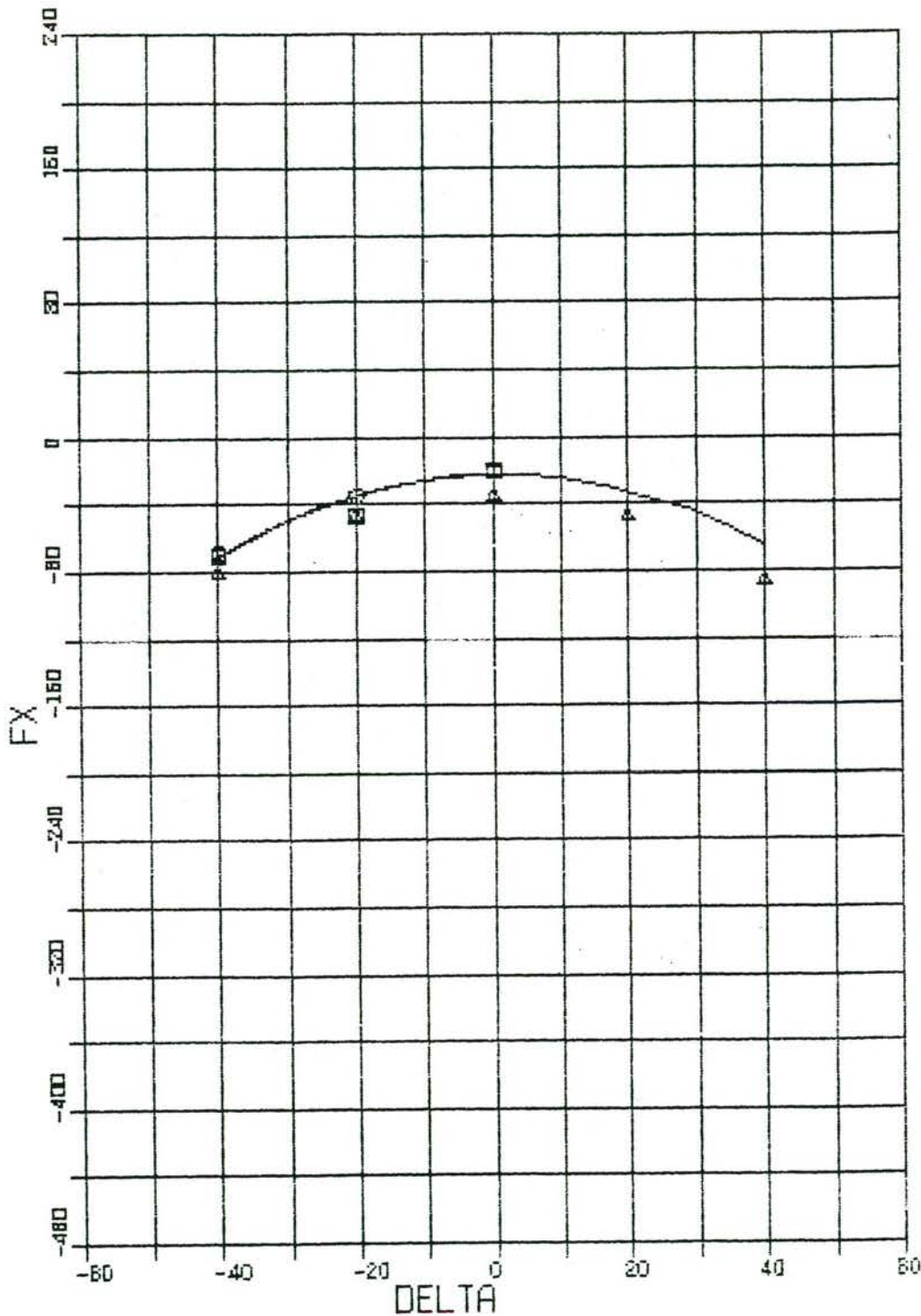
CONS BETA 4.0000

CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FX = FX (BREED WATER) + FX (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

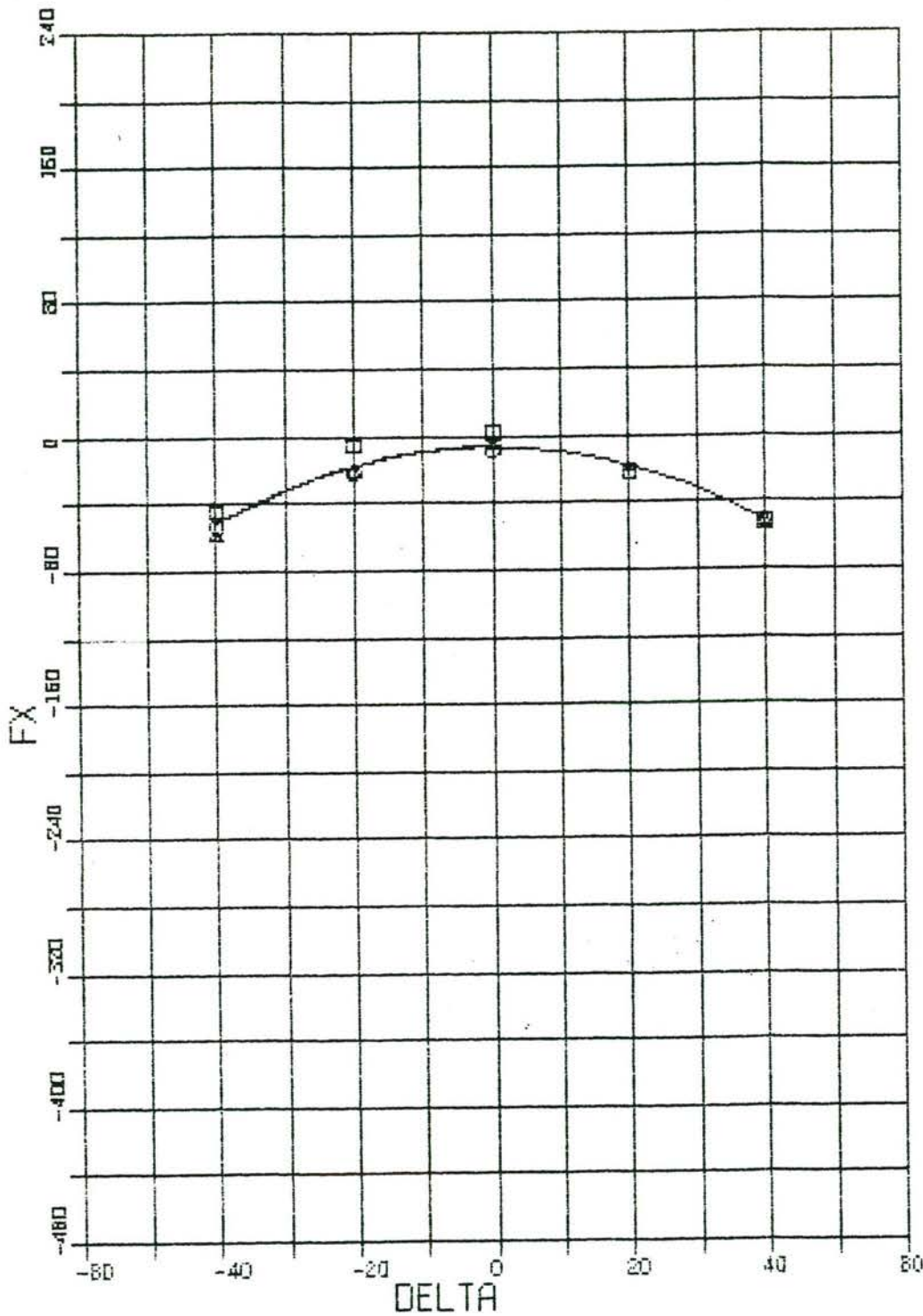
- 22.7500 □
- 17.0750 ○
- 11.3750 ▲

CONS S 2.7500
 CONS BETA 2.0000
 CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FX = FX (BREED WATER) + FX (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

- 22.7500 □
- 17.0750 ○
- 11.3750 △

CONS S 2.7500

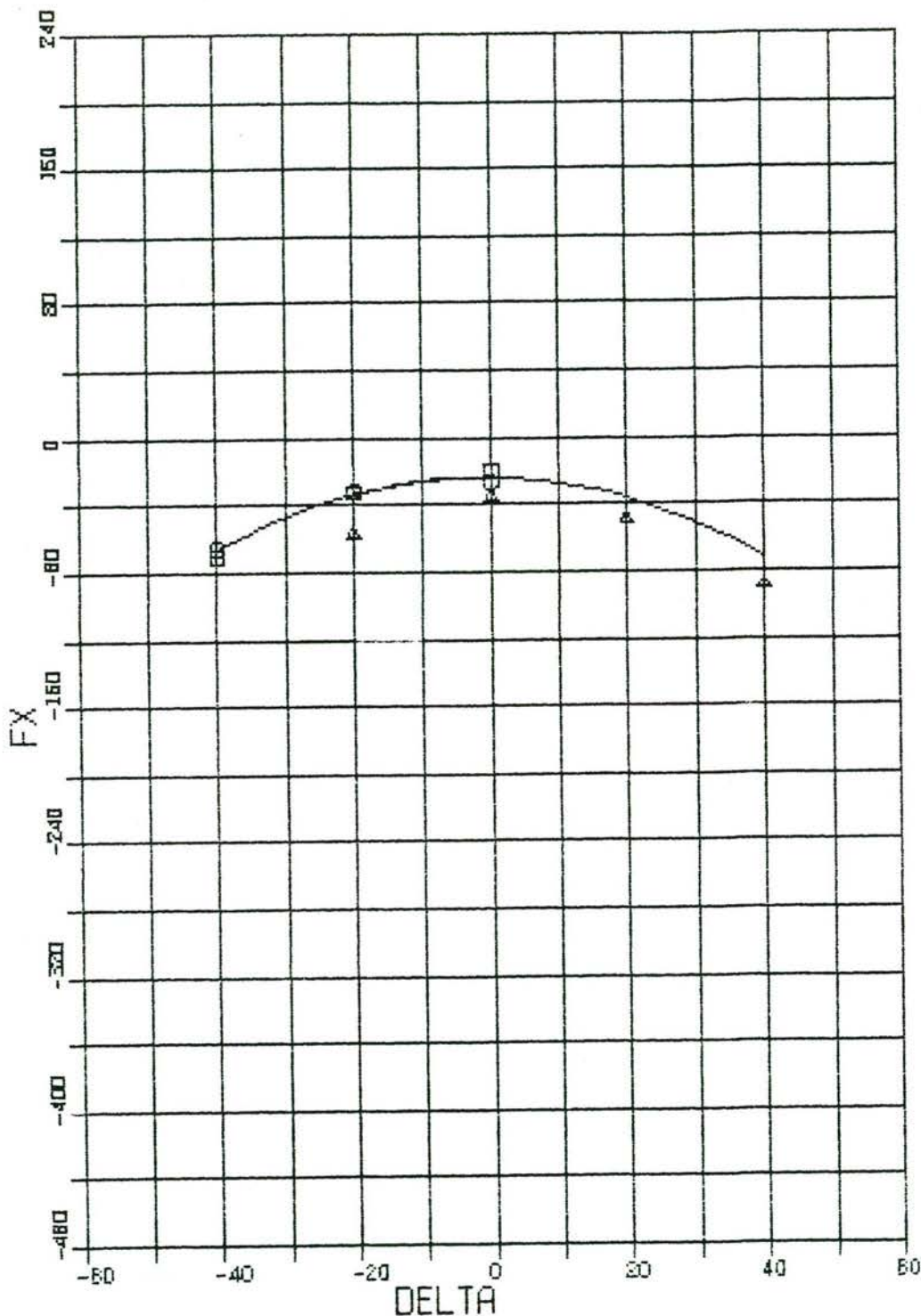
CONS BETA .0000

CONS REV 247.0000

TWEE BAKS-DIJWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FX = FX (BREED WATER) + FX (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

-22.7500 □

-17.0750 ○

-11.3750 ▲

CONS S 2.7500

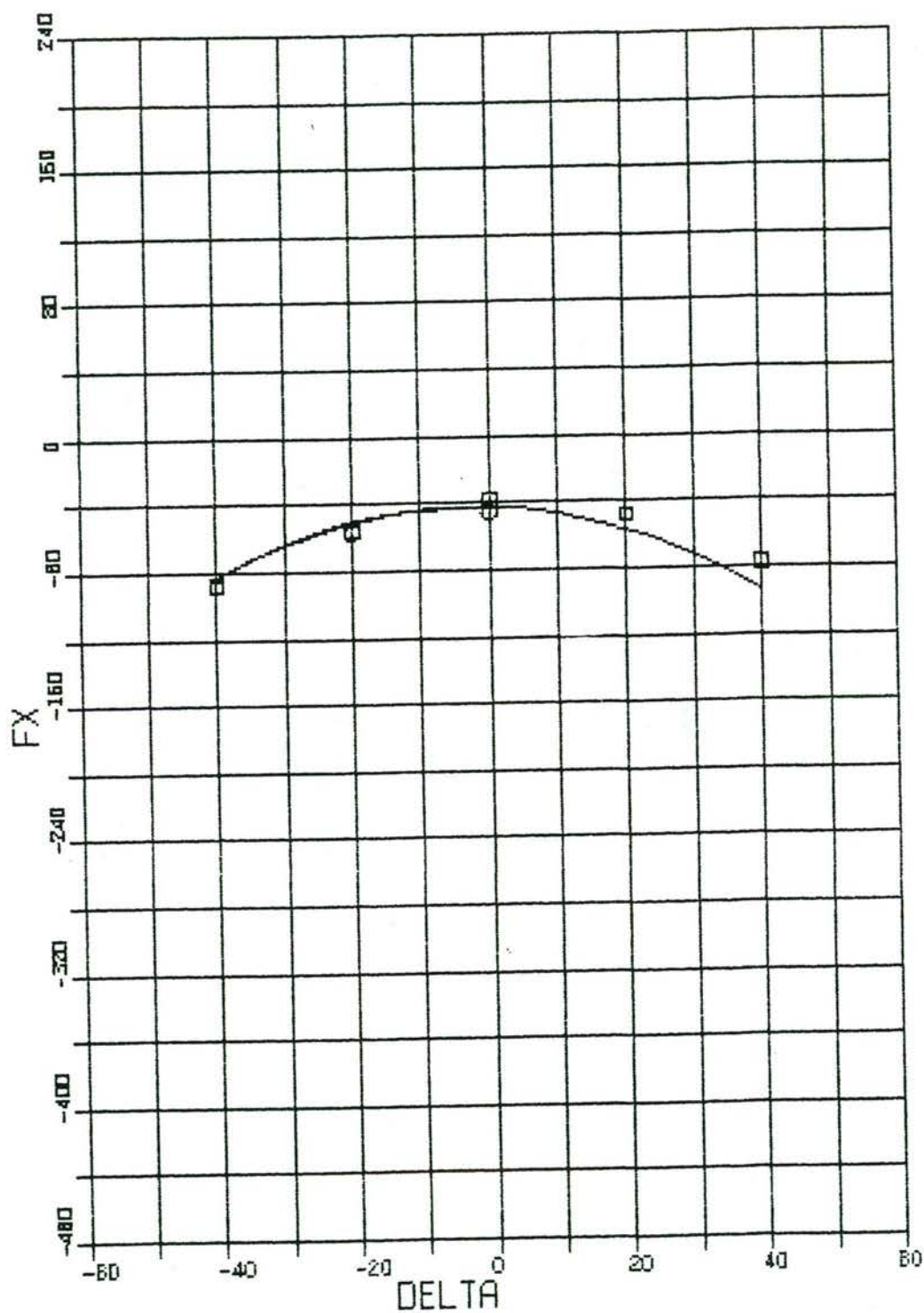
CONS BETA -2.0000

CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FX = FX (BREED WATER) + FX (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

-22.7500 □

-17.0750 ○

CONS S 2.7500

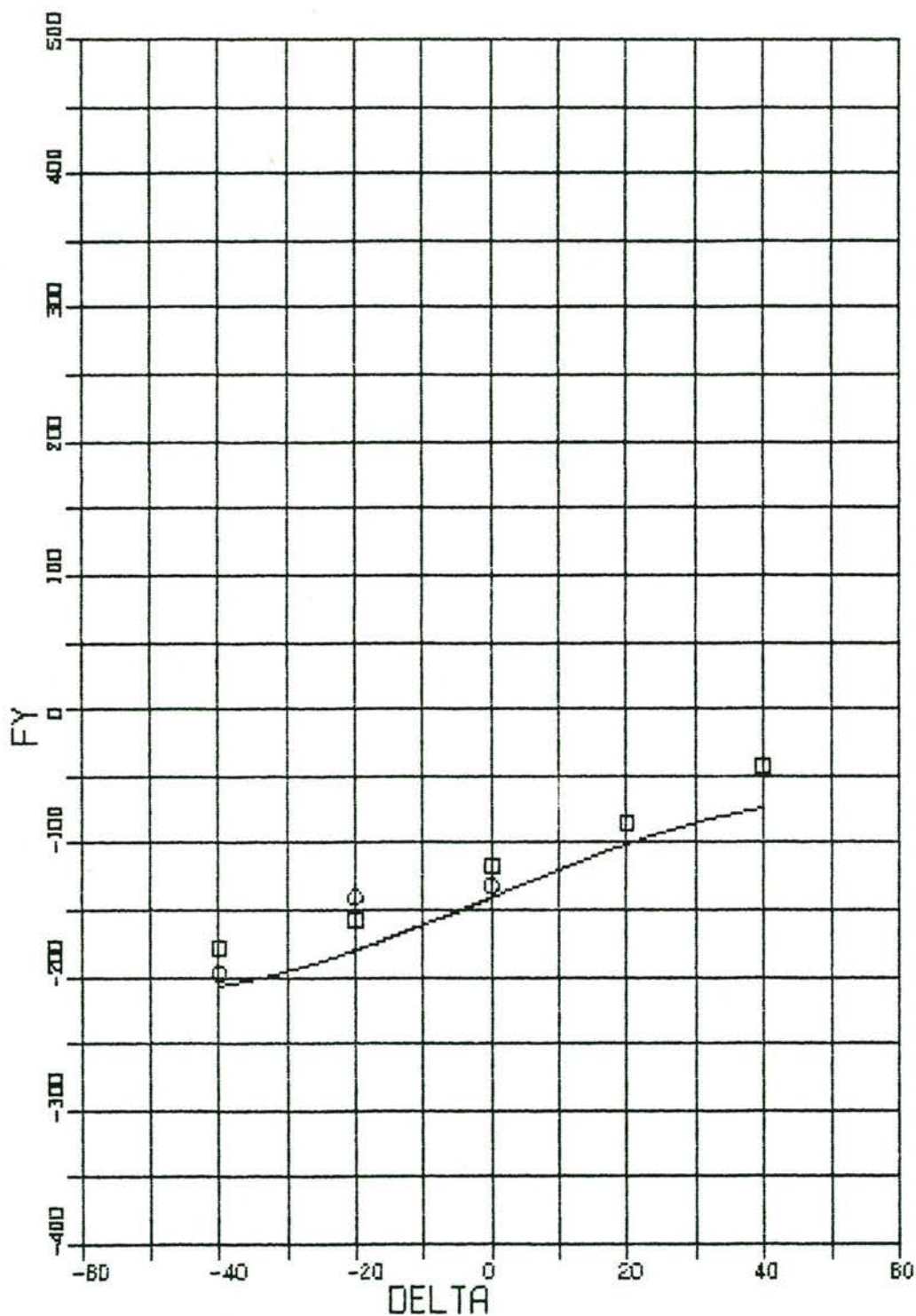
CONS BETA -4.0000

CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FX = FX (BREED WATER) + FX (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

-22.7500 □

-17.0750 ○

CONS S 2.1500

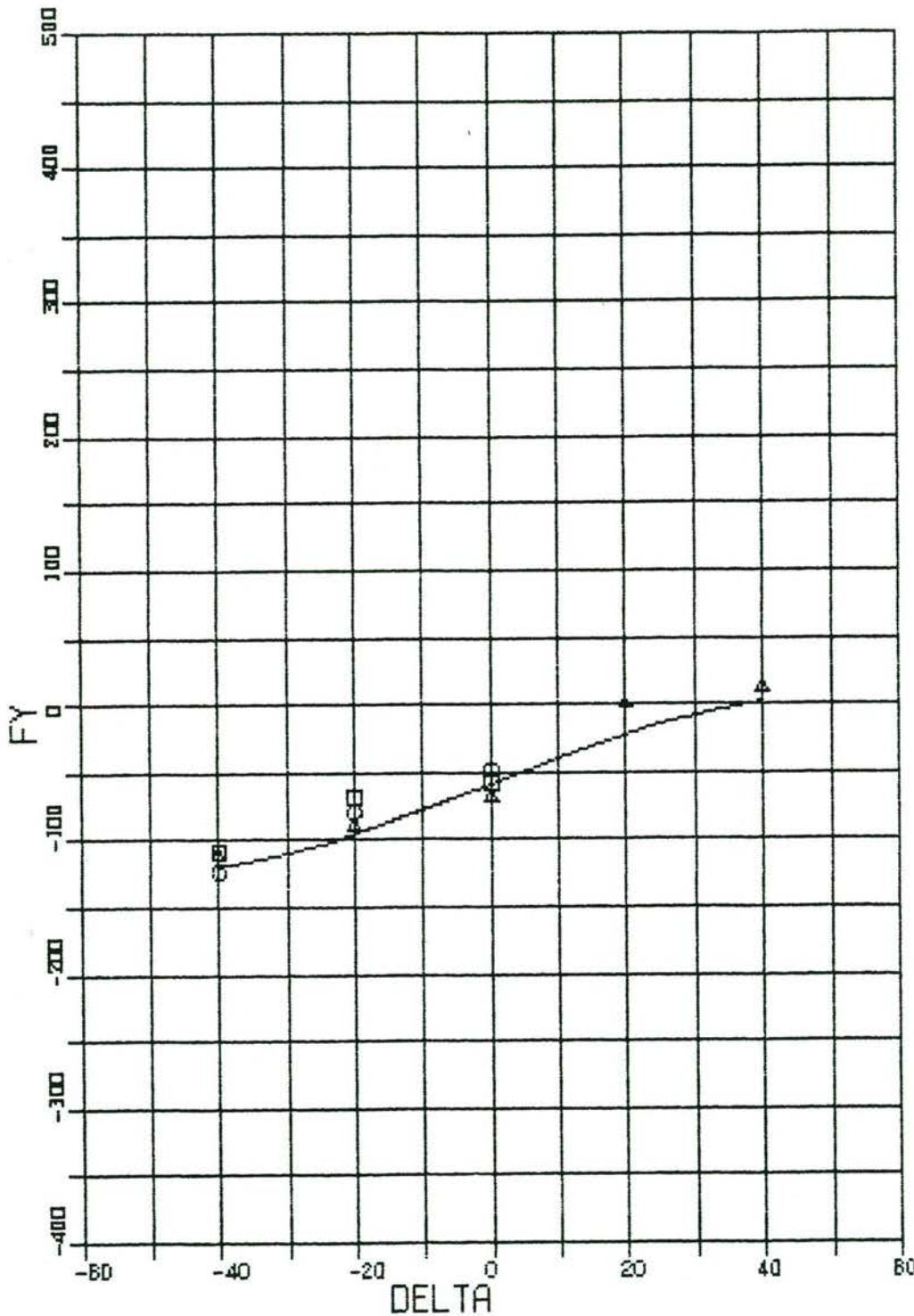
CONS BETA 4.0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FY = FY (BREED WATER) + FY (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

-22.7500 □

-17.0750 ○

-11.3750 △

CONS S 2.1500

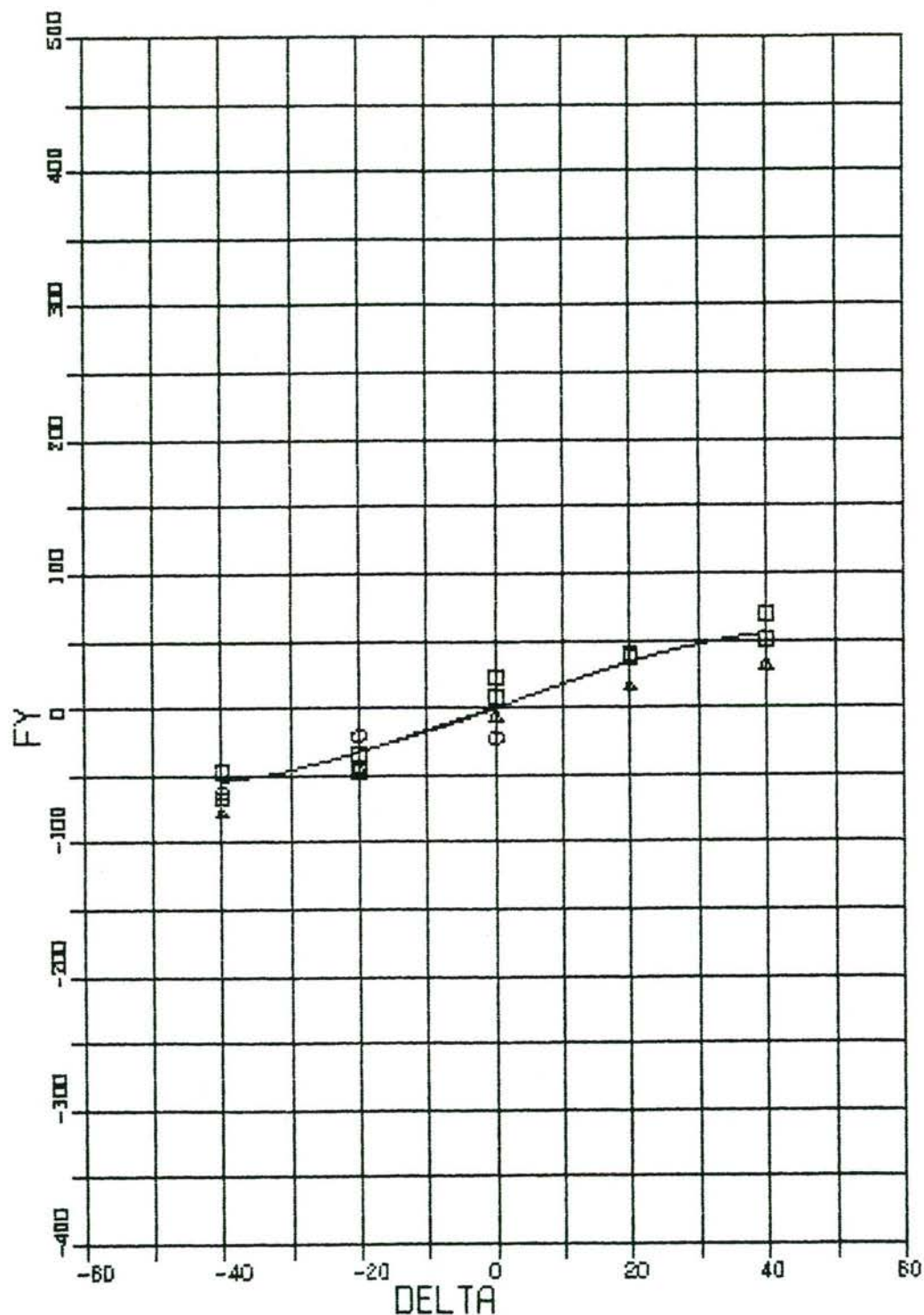
CONS BETA 2.0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FY = FY (BREED WATER) + FY (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

- 22.7500 □
- 17.0750 ○
- 11.3750 ▲

CONS S 2.1500

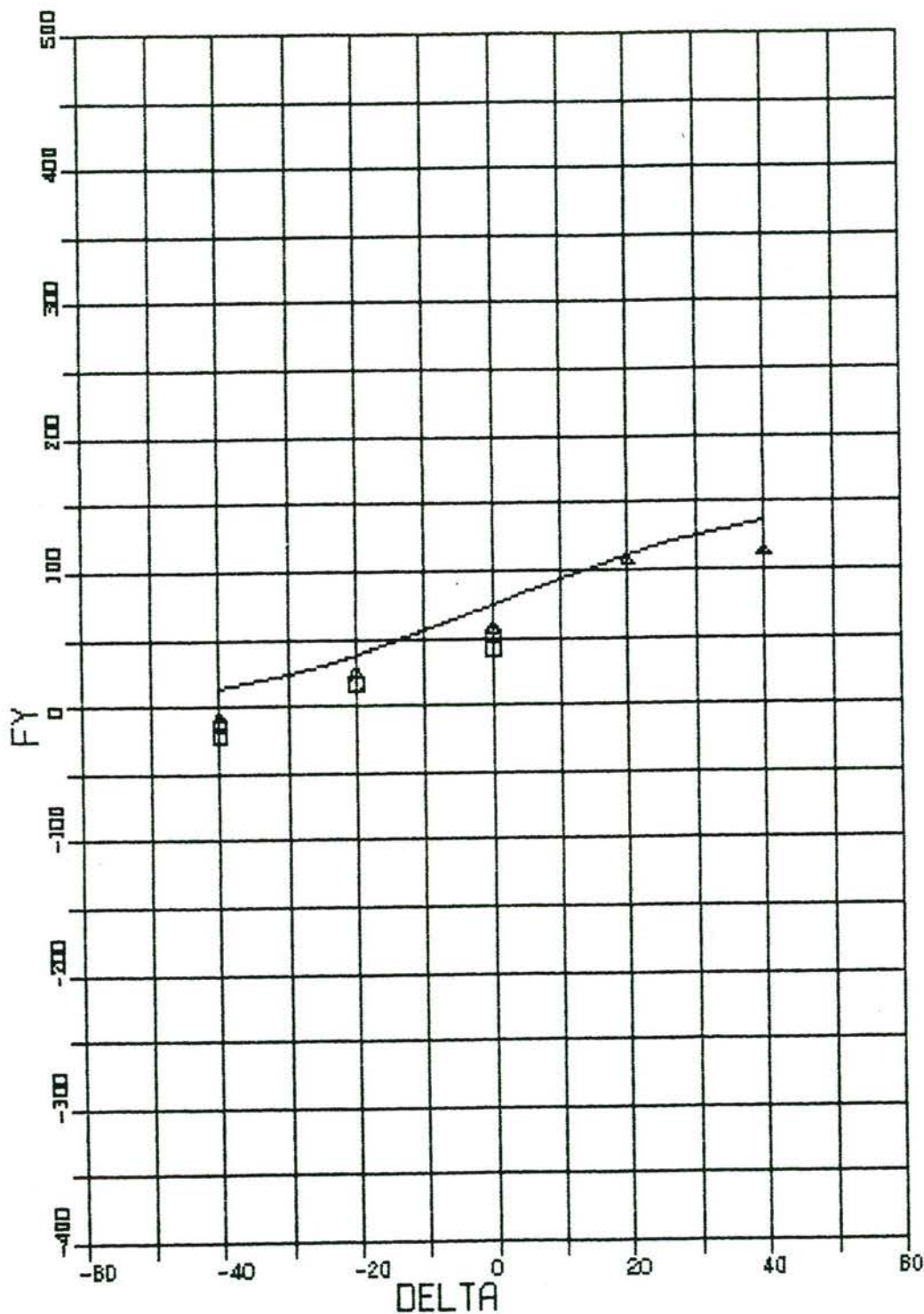
CONS BETA .0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FY = FY (BREED WATER) + FY (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

-22.7500 □

-17.0750 ○

-11.3750 ▲

CONS S 2.1500

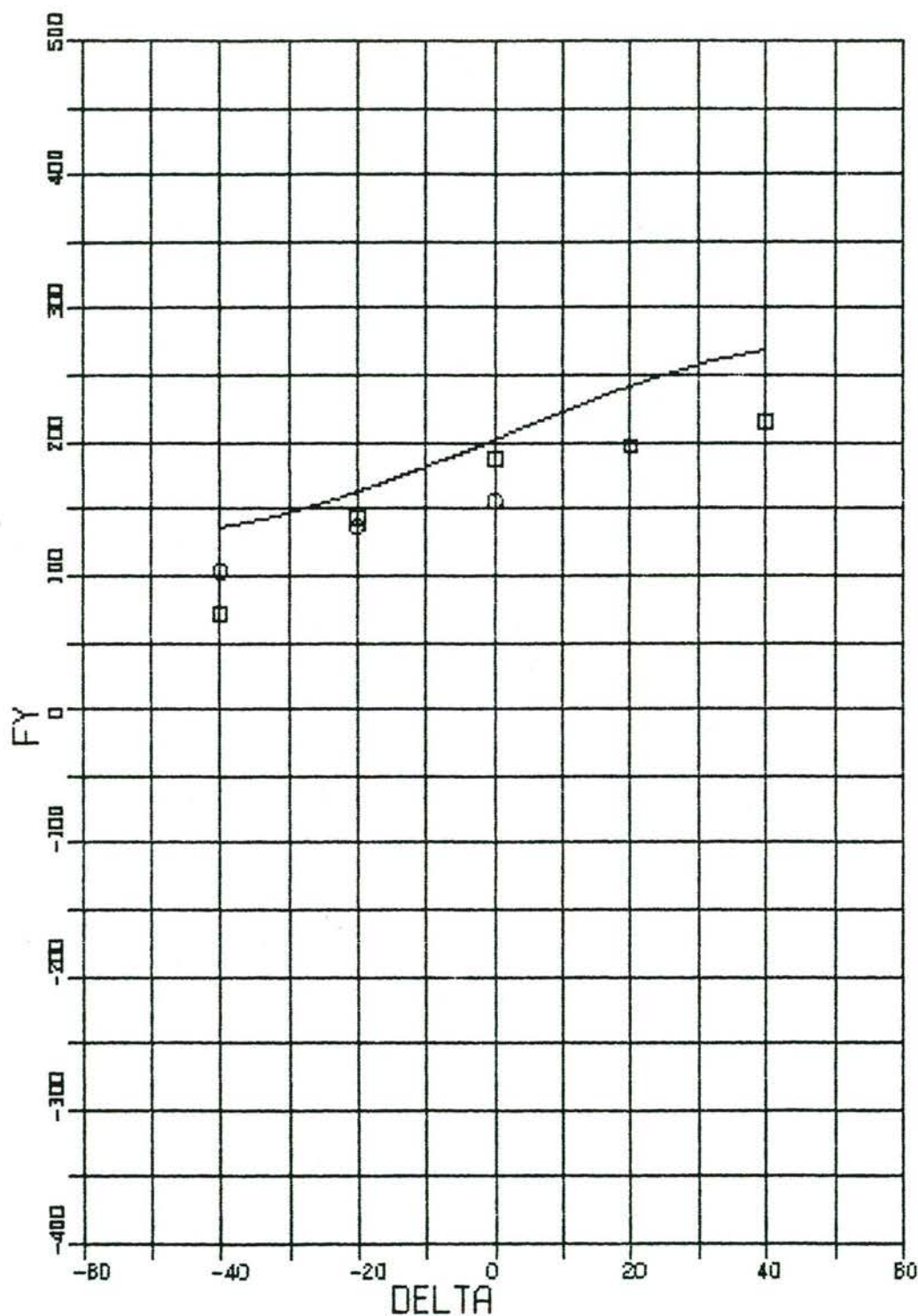
CONS BETA -2.0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FY = FY (BREED WATER) + FY (KANAAL INVLOED)



DVK Project Windhinder
WANDRAF

-22.7500 □

-17.0750 ○

CONS S 2.1500

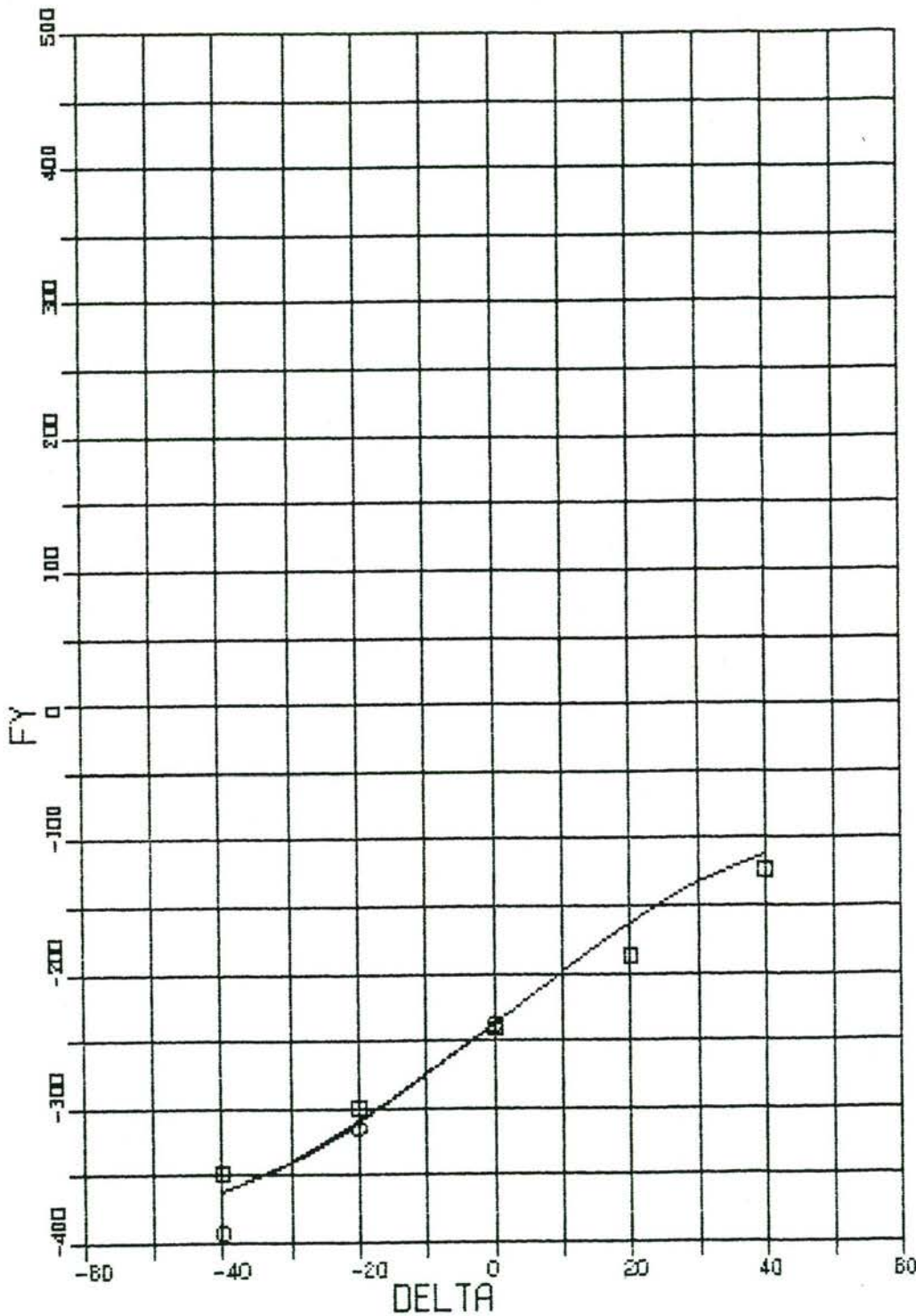
CONS BETA -4.0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FY = FY (BREED WATER) + FY (KANAAL INVLOED)



DVK Project Windhinder
WANDRAF

-22.7500 □

-17.0750 ○

CONS S 2.7500

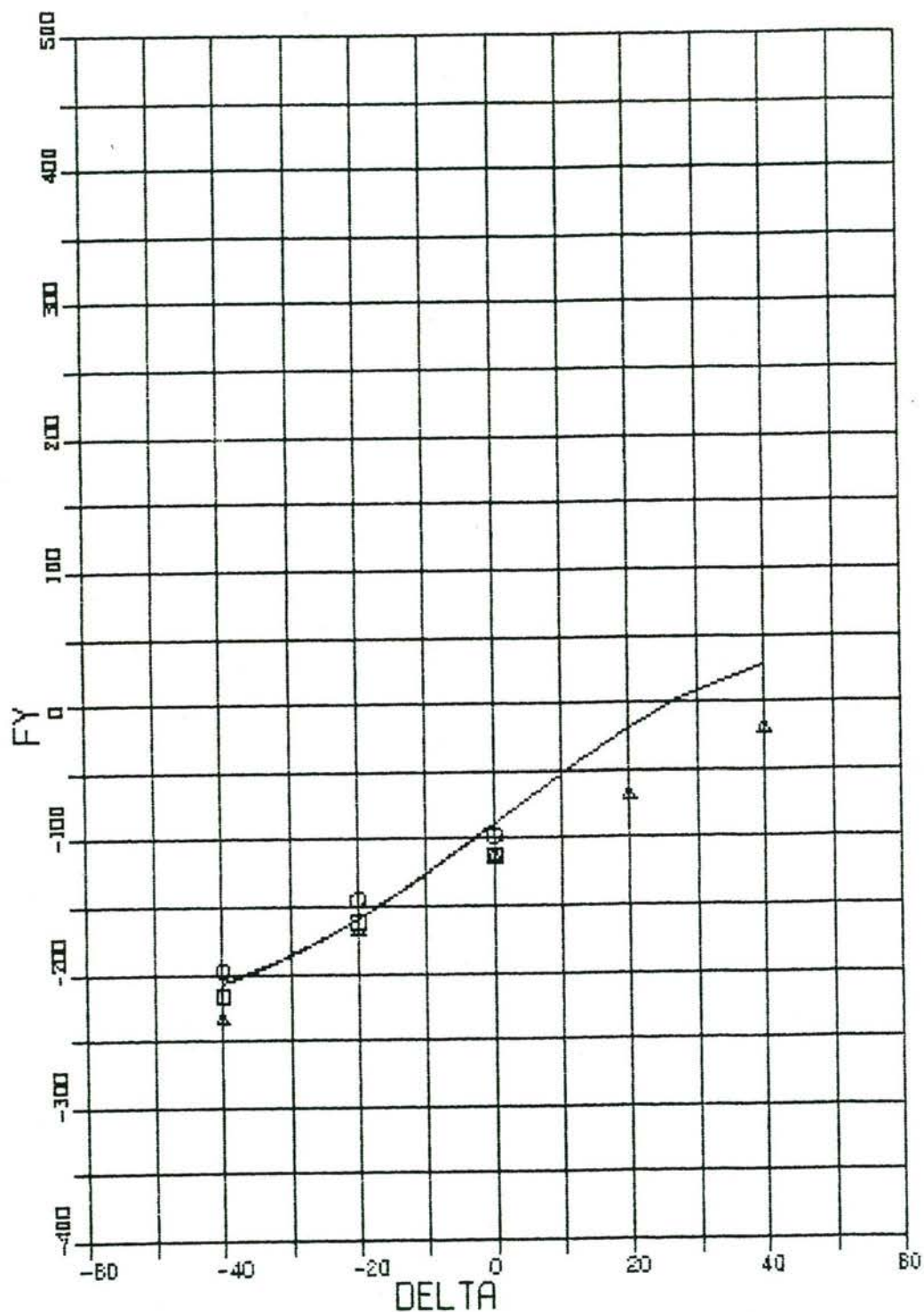
CONS BETA 4.0000

CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FY = FY (BREED WATER) + FY (KANAAL INVLOED)



DVK Project Windbinder
WANDAF

-22.7500 □

-17.0750 ○

-11.3750 △

CONS S 2.7500

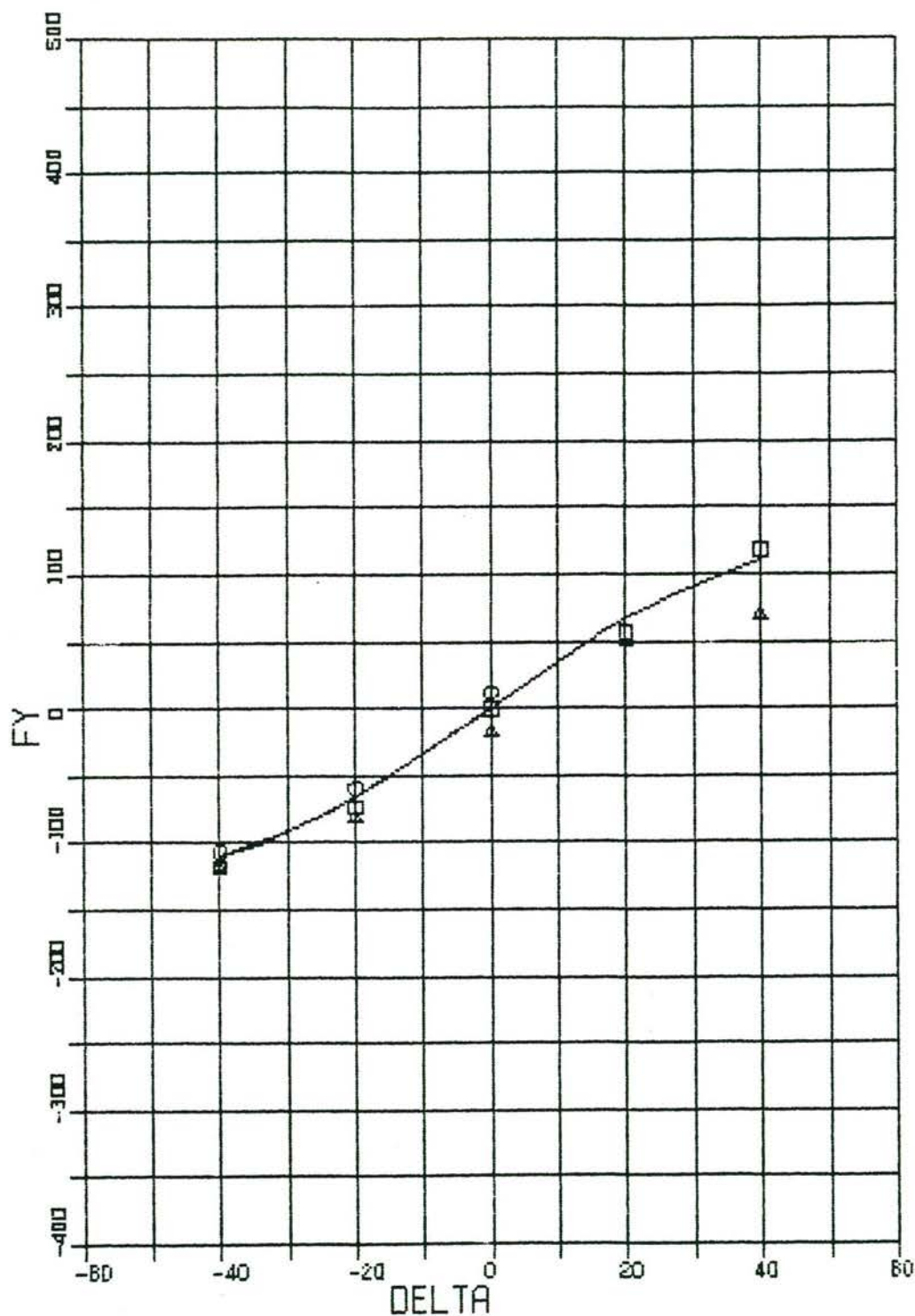
CONS BETA 2.0000

CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FY = FY (BREED WATER) + FY (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

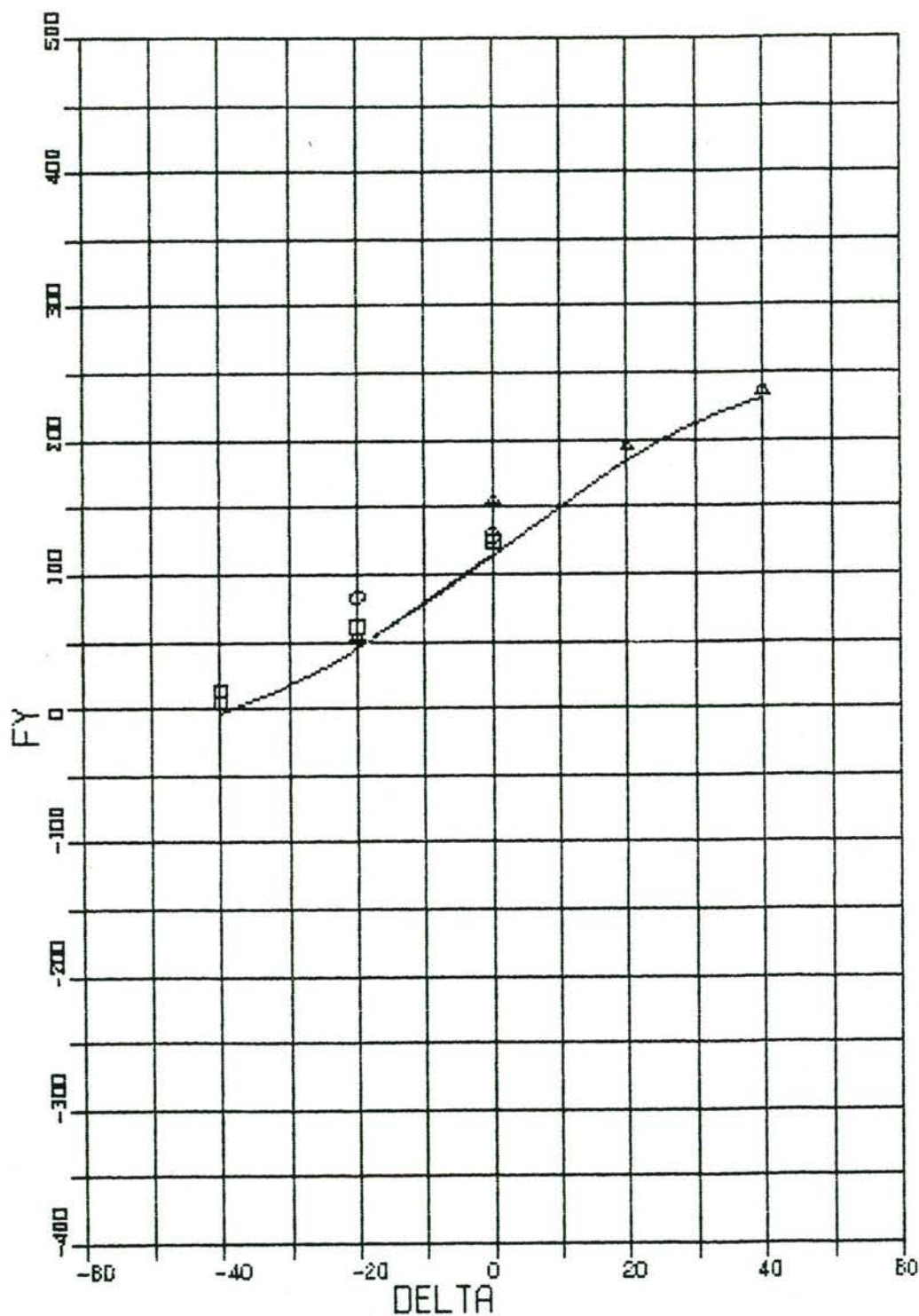
- 22.7500 □
- 17.0750 ○
- 11.3750 △

CONS S 2.7500
 CONS BETA .0000
 CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FY = FY (BREED WATER) + FY (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

- 22.7500 □
- 17.0750 ○
- 11.3750 △

CONS S 2.7500

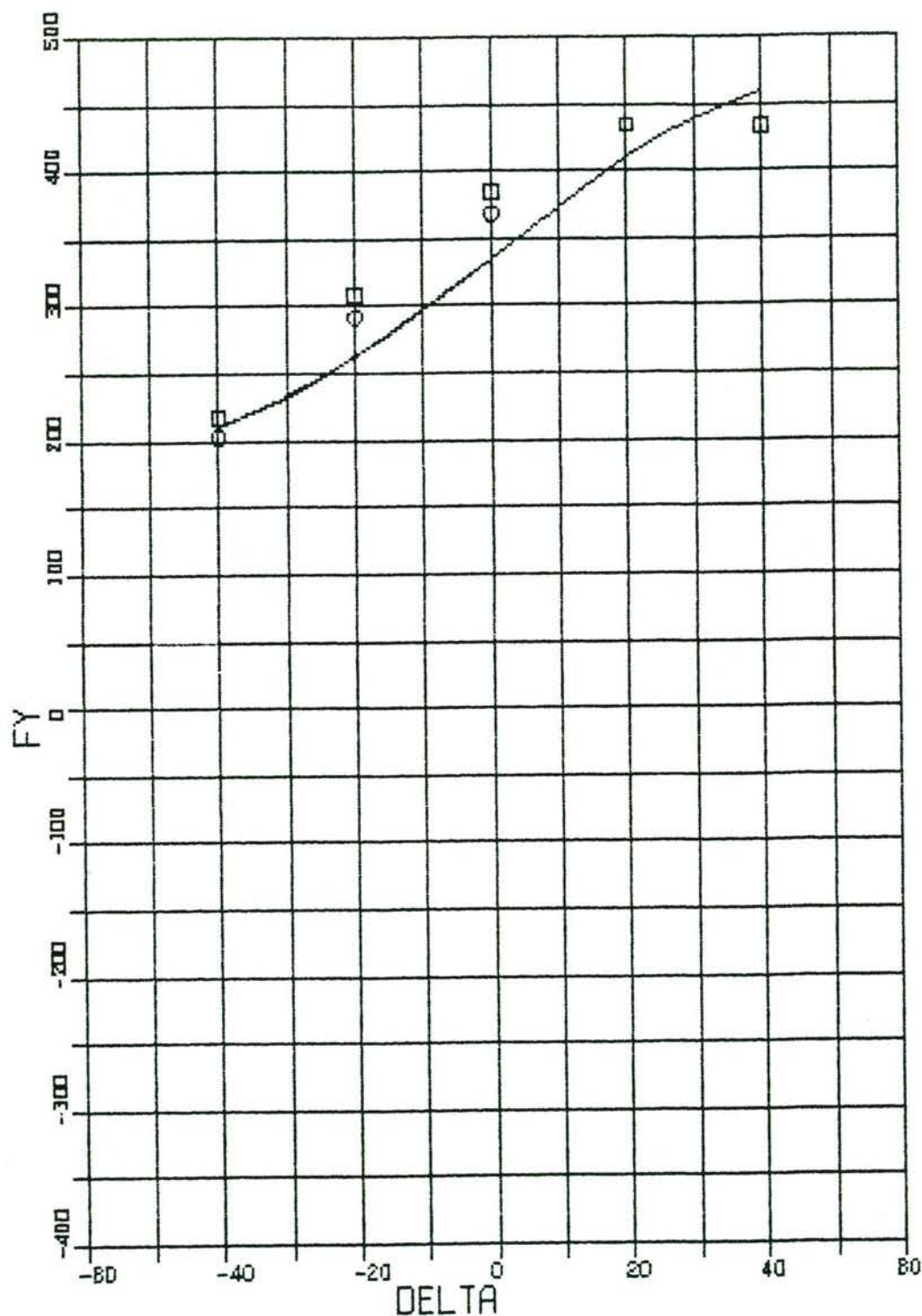
CONS BETA -2.0000

CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FY = FY (BREED WATER) + FY (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

-22.7500 □

-17.0750 ○

CONS S 2.7500

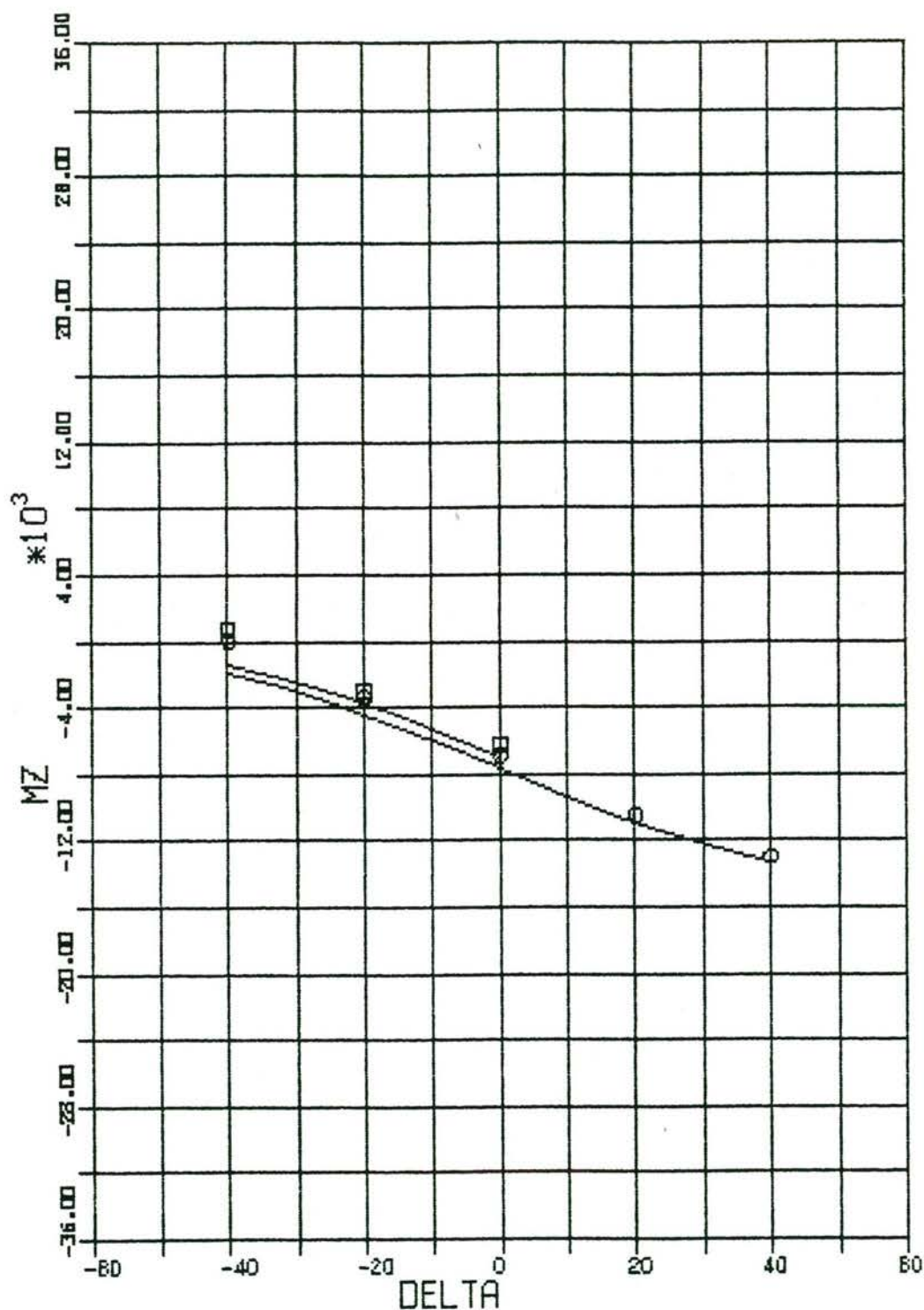
CONS BETA -4.0000

CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

FY = FY (BREED WATER) + FY (KANAAL INVLOED)



DVK Project Windhinder
WANDRAF

-17.0750 □

-22.7500 ○

CONS S 2.1500

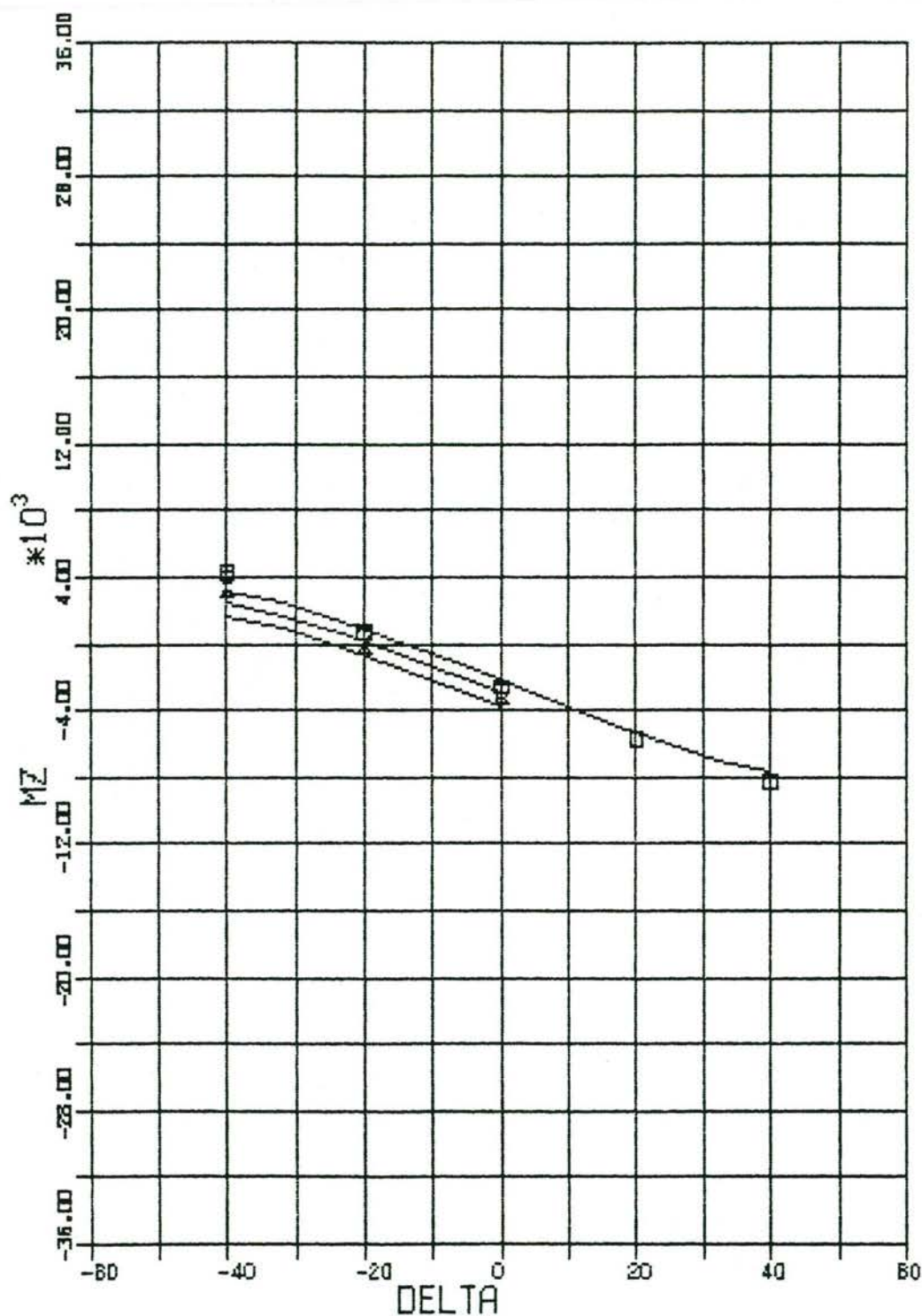
CONS BETA 4.0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

MZ = MZ (BREED WATER) + MZ (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

- 11.3750 □
- 17.0750 ○
- 22.7500 △

CONS S 2.1500

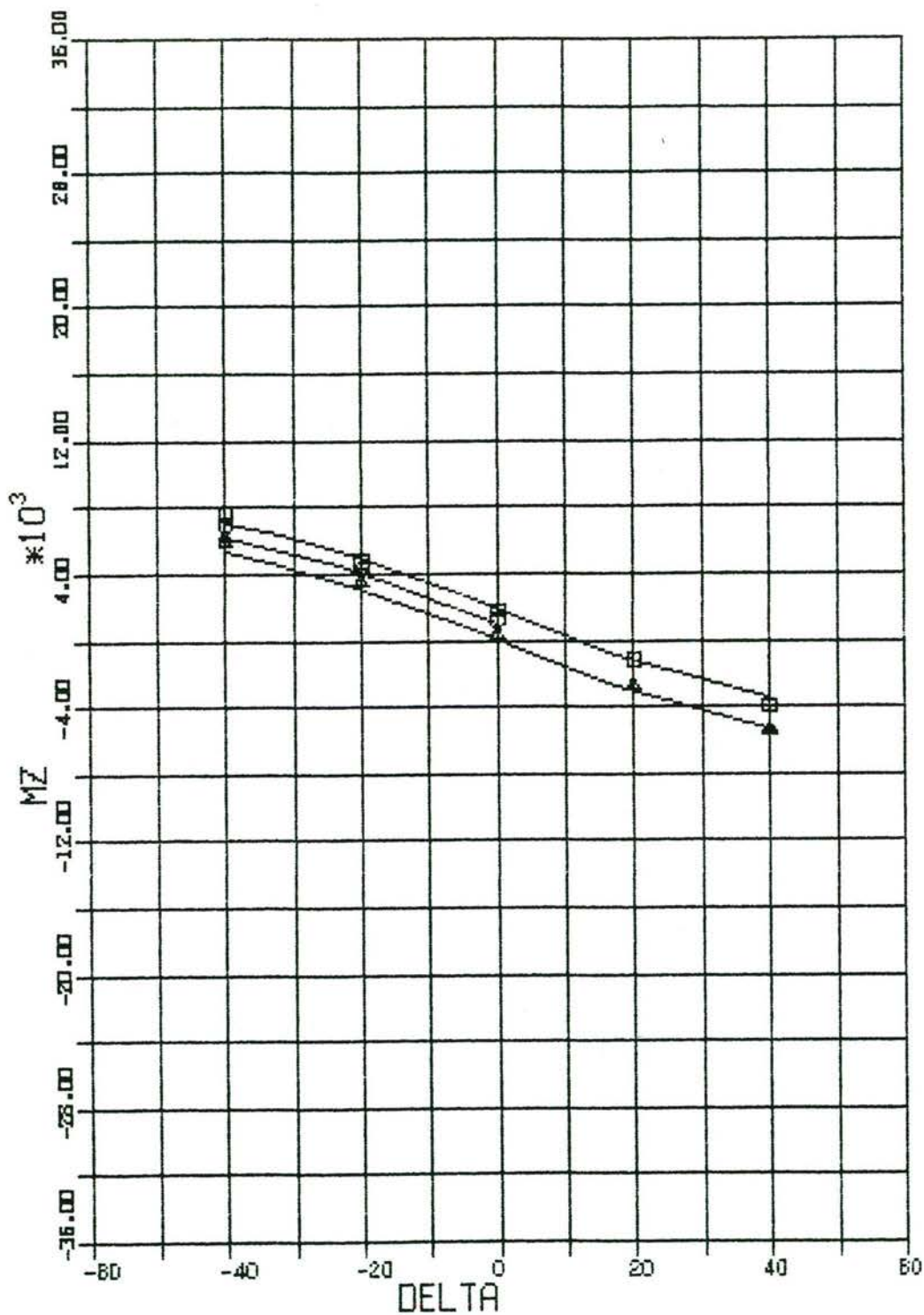
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CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

MZ = MZ (BREED WATER) + MZ (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

- 11.3750 □
- 17.0750 ○
- 22.7500 △

CONS S 2.1500

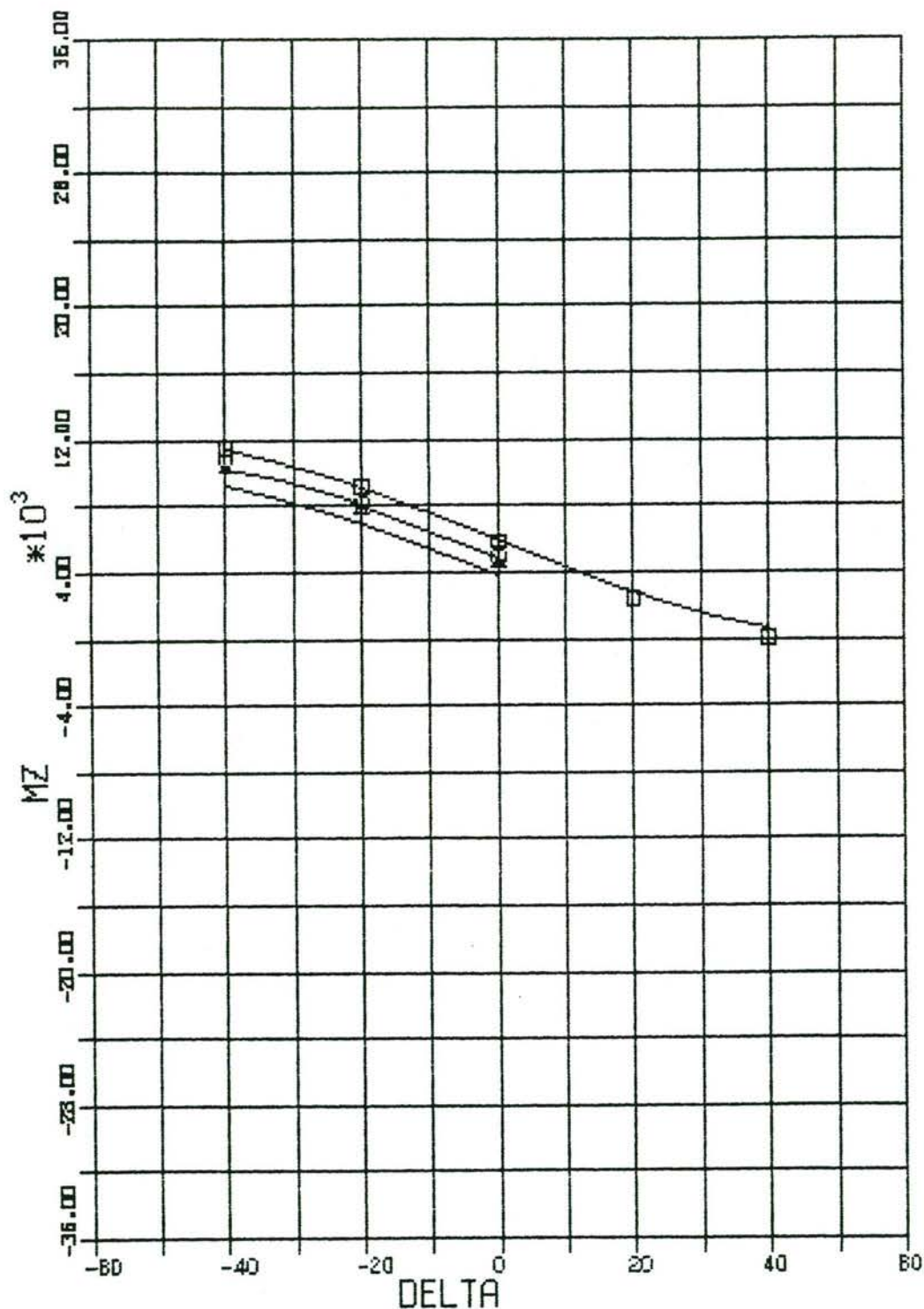
CONS BETA .0000

CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

MZ = MZ (BREED WATER) + MZ (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

- 11.3750 □
- 17.0750 ○
- 22.7500 △

CONS S 2.1500

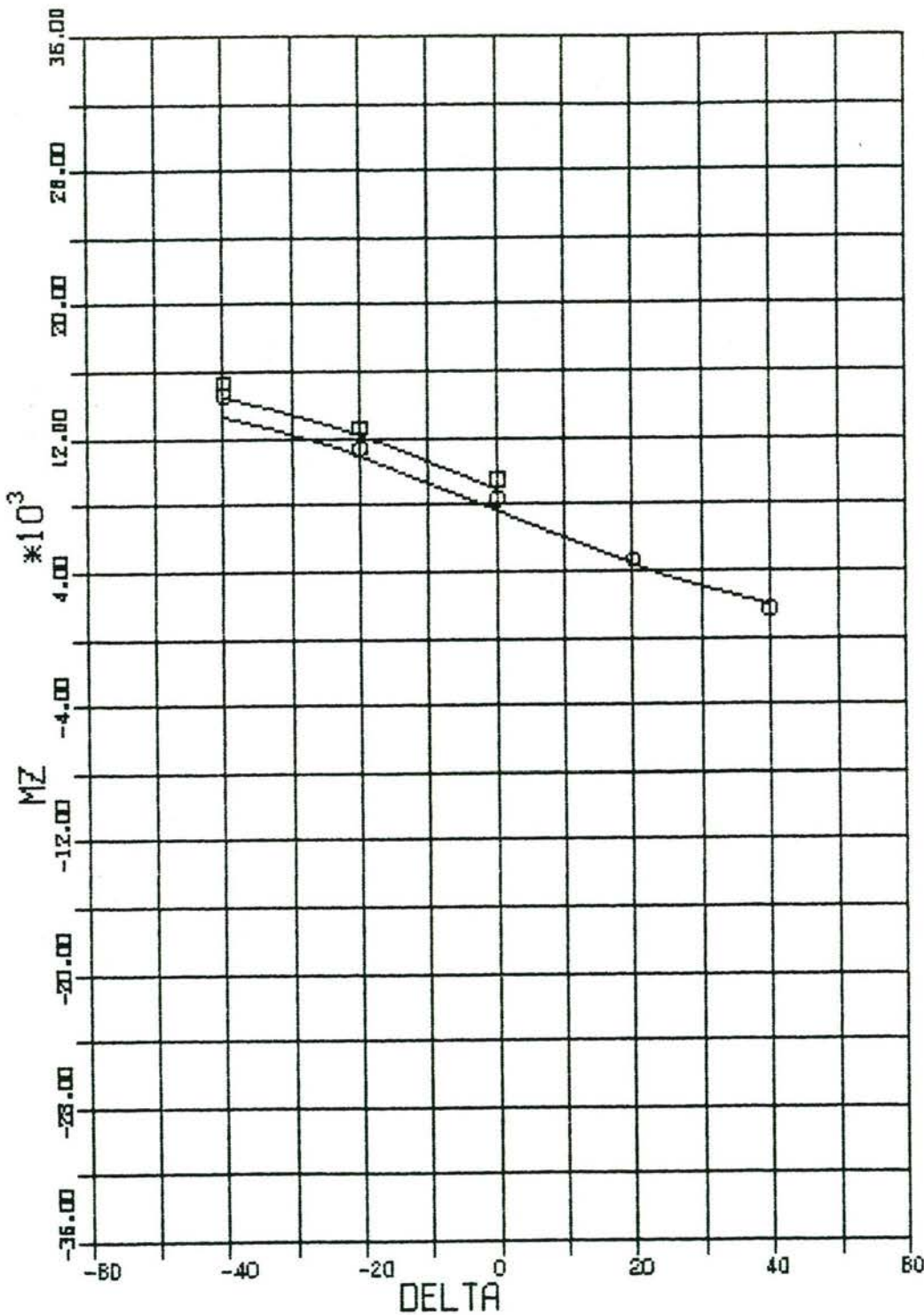
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CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

STATISCHE PROEVEN

MZ = MZ (BREED WATER) + MZ (KANAAL INVLOED)



DVK Project Windhinder
WANDAF

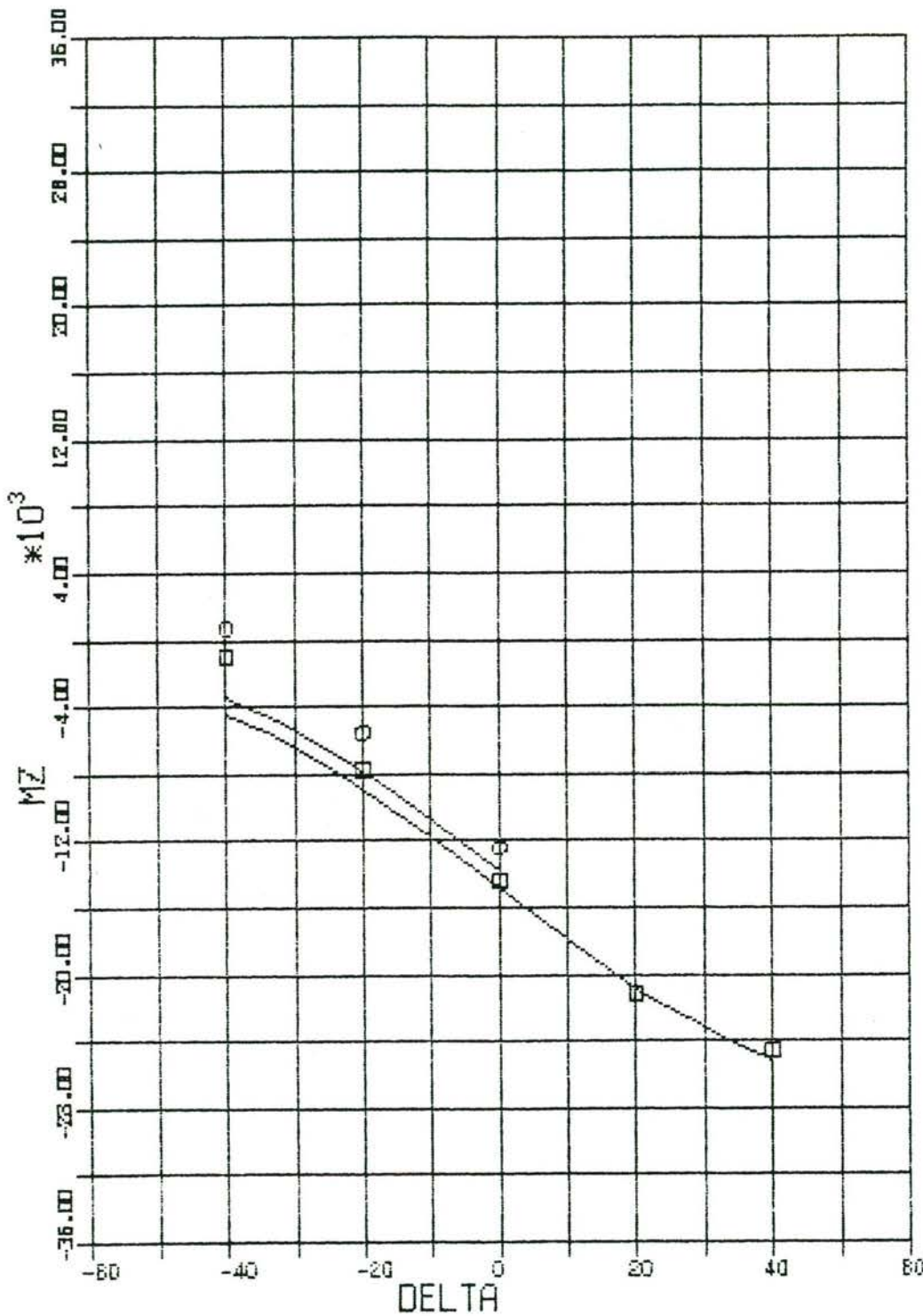
-17.0750 □
-22.7500 ○

CONS S 2.1500
CONS BETA -4.0000
CONS REV 183.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

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DVK Project Windhinder
WANDAF

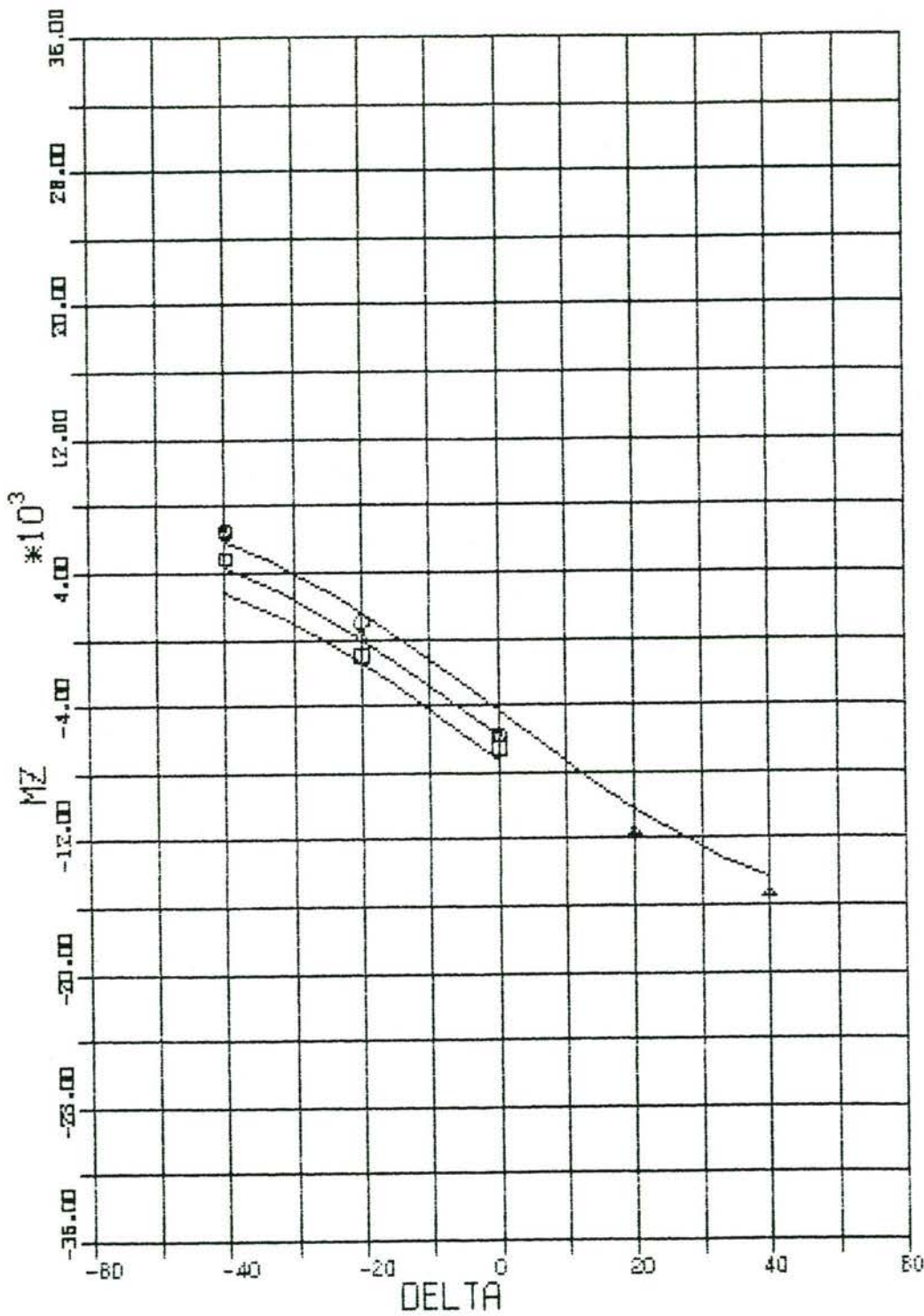
-22.7500 □
-17.0750 ○

CONS S 2.7500
CONS BETA 4.0000
CONS REV 247.0000

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DVK Project Windhinder
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-17.0750 ○

-11.3750 △

CONS S 2.7500

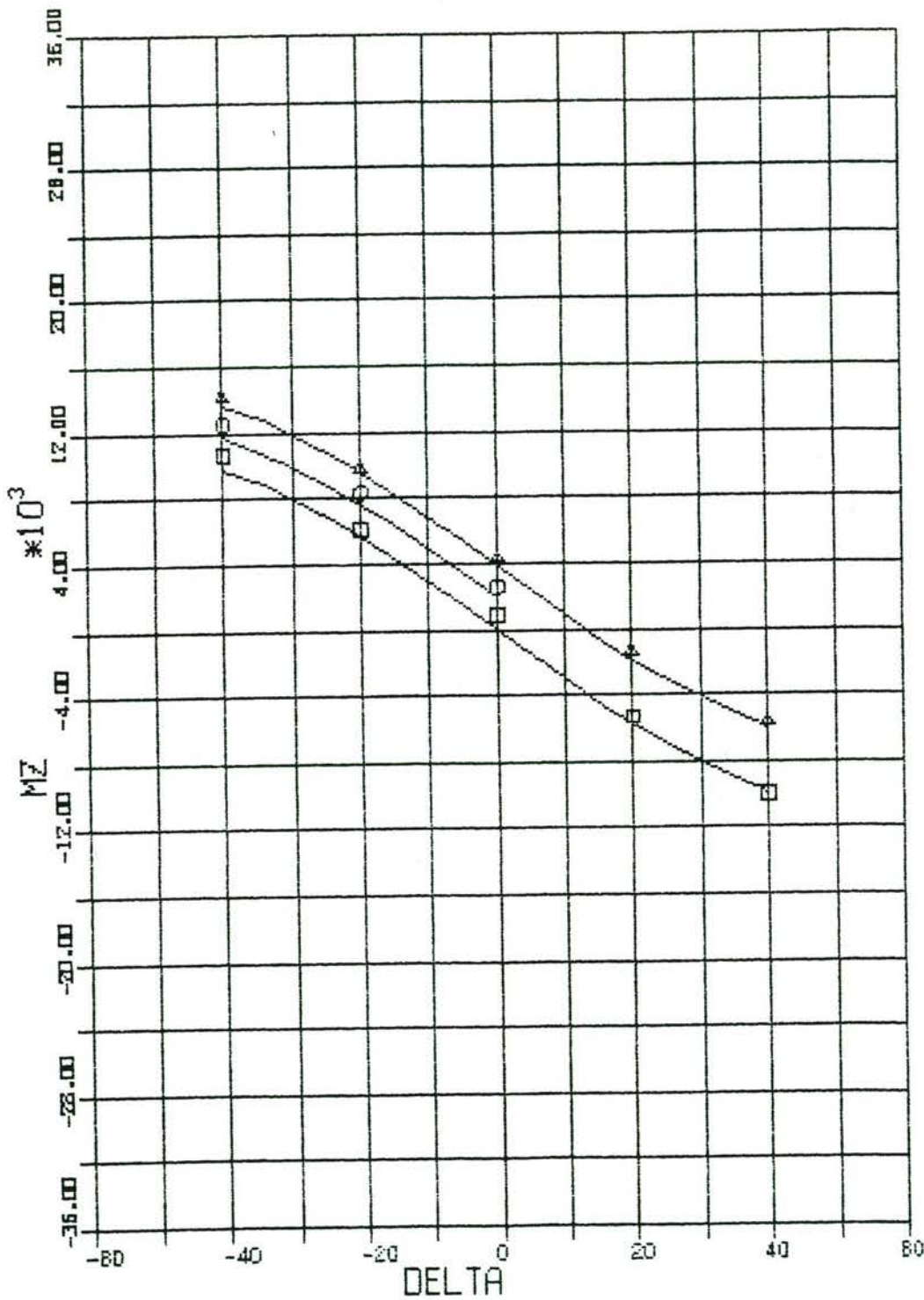
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CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

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DVK Project Windhinder
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- 17.0750 ○
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CONS S 2.7500

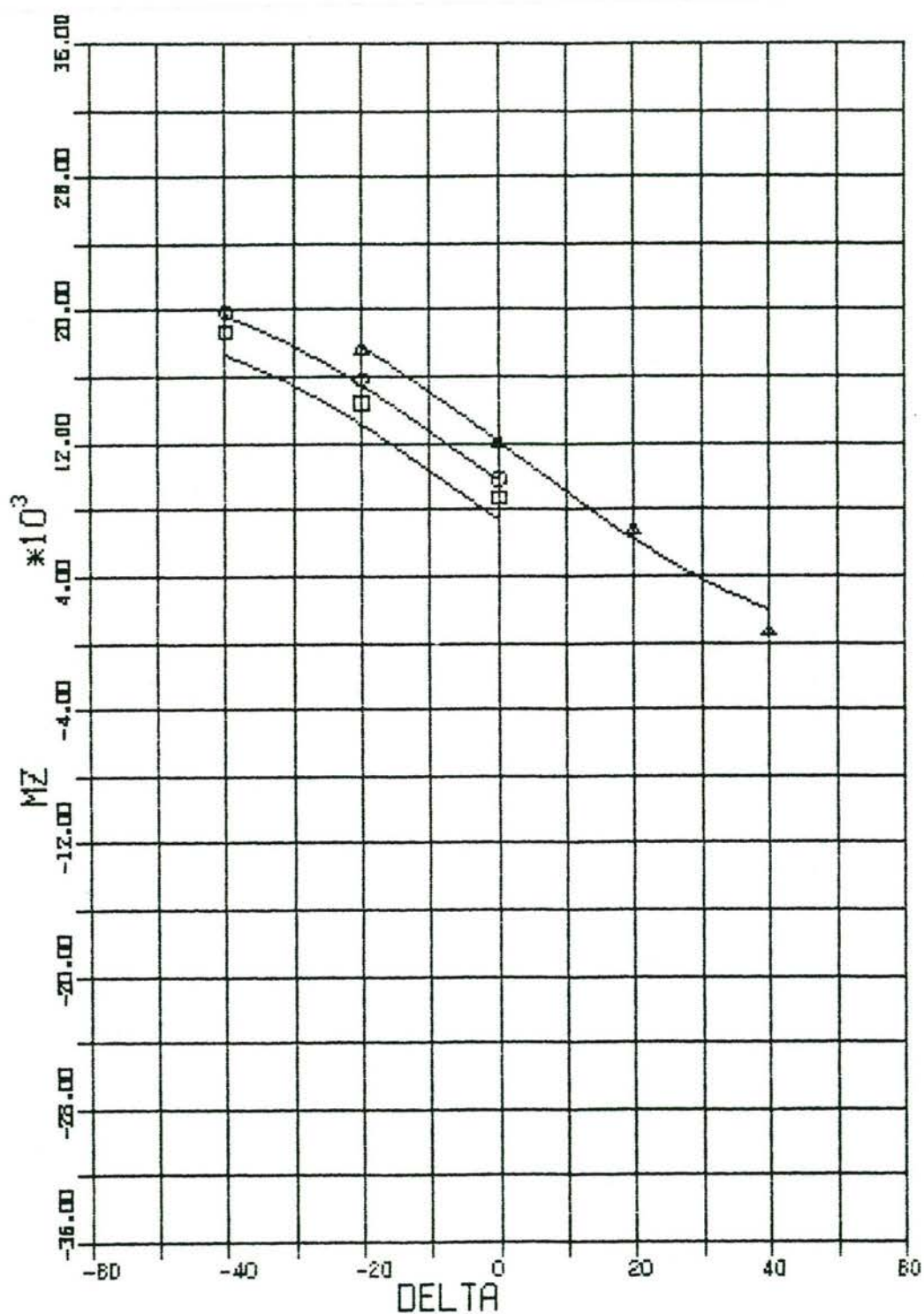
CONS BETA .0000

CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

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DVK Project Windhinder
WANDAF

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- 17.0750 ○
- 11.3750 △

CONS S 2.7500

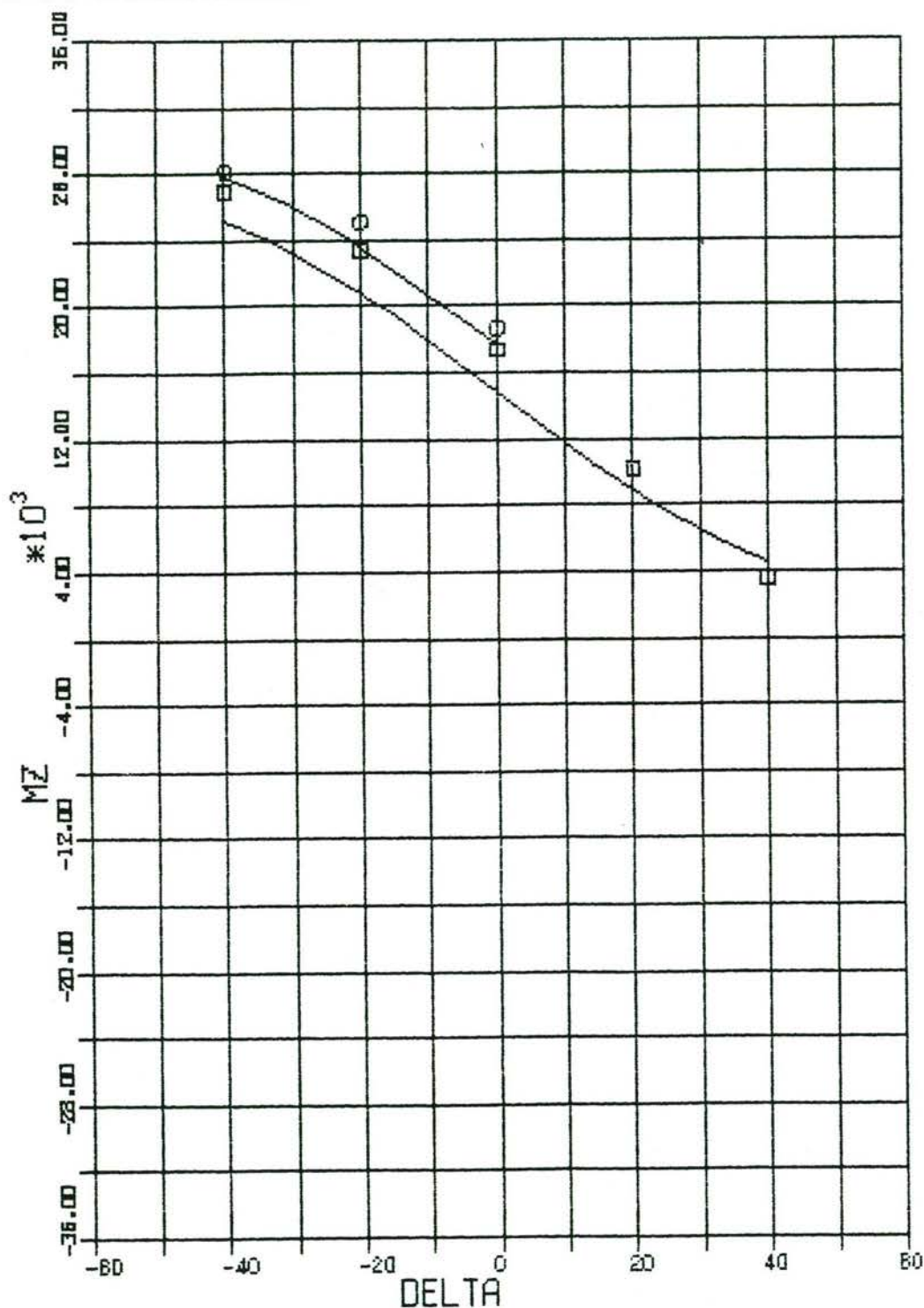
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CONS REV 247.0000

TWEE BAKS-DUWSTEL IN KANAAL (BELADEN)

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DVK Project Windhinder
WANDRAF

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-17.0750 ○

CONS S 2.7500

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CONS REV 247.0000

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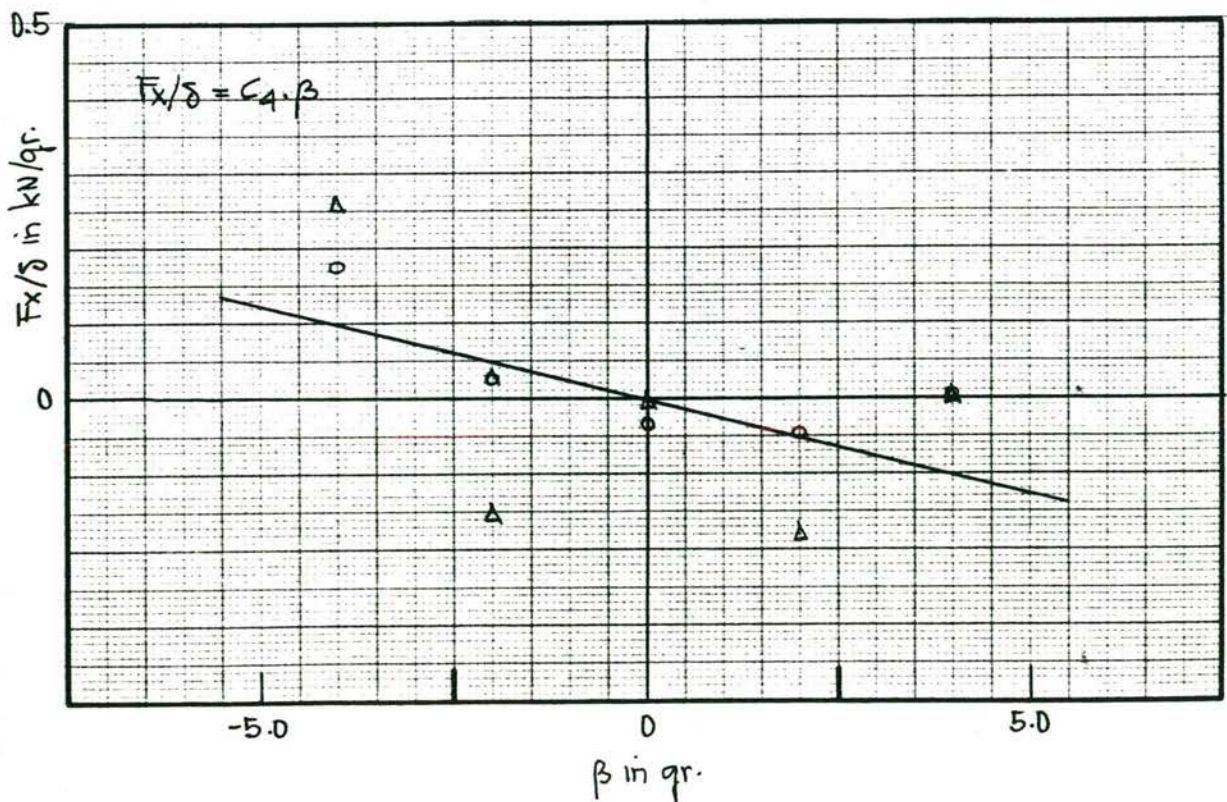
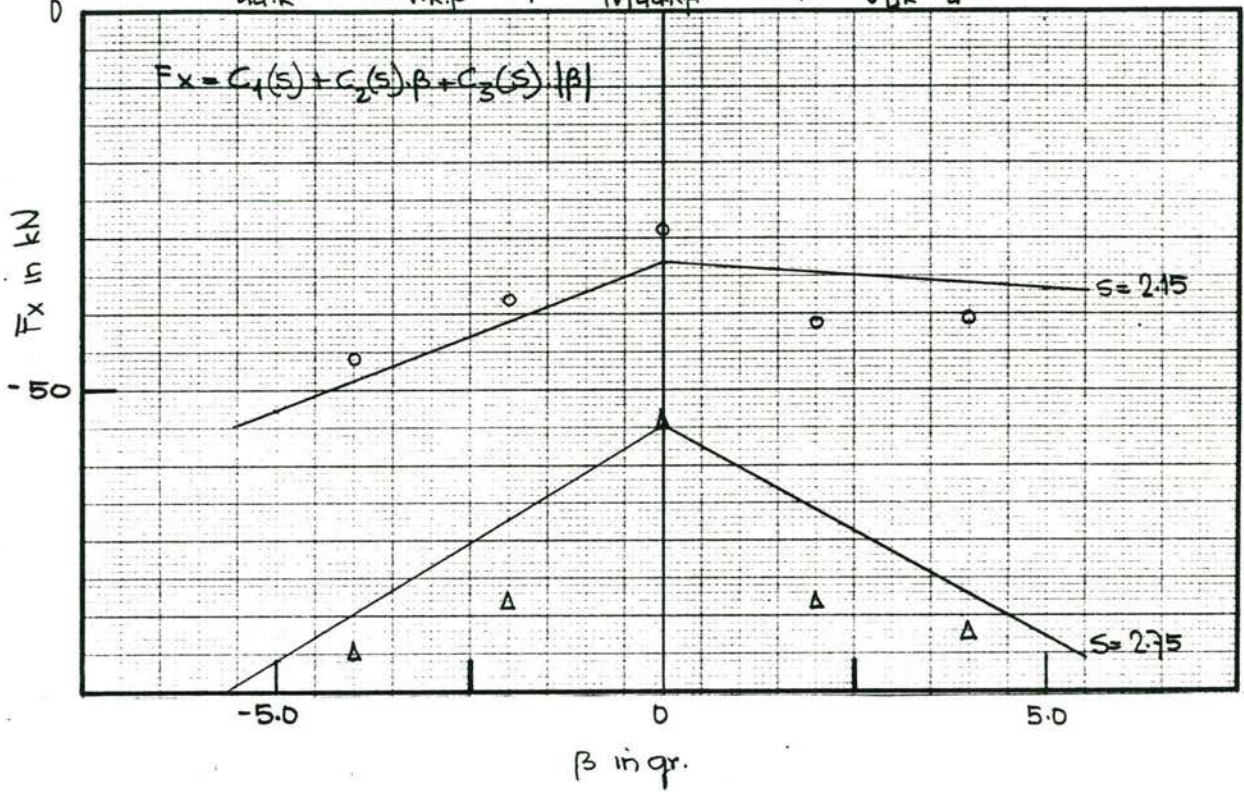
DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak beladen, kanaal invloed

$$F_x(\delta, \beta) = X_{ss} \cdot k \cdot s^2 \cdot k + X_{\beta s} \cdot k \cdot p \cdot \beta \cdot s \cdot k \cdot p + X_{|\beta| s s s} \cdot k \cdot p \cdot |\beta| \cdot s^3 \cdot k \cdot p + X_{\delta \beta} \cdot k \cdot \delta \cdot \beta \cdot k$$

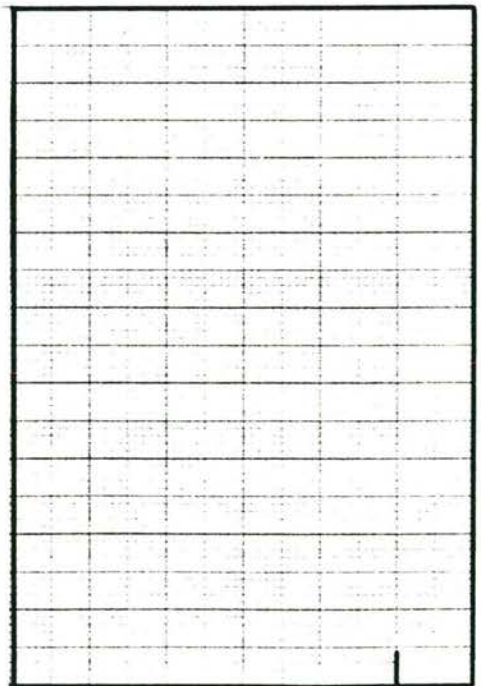
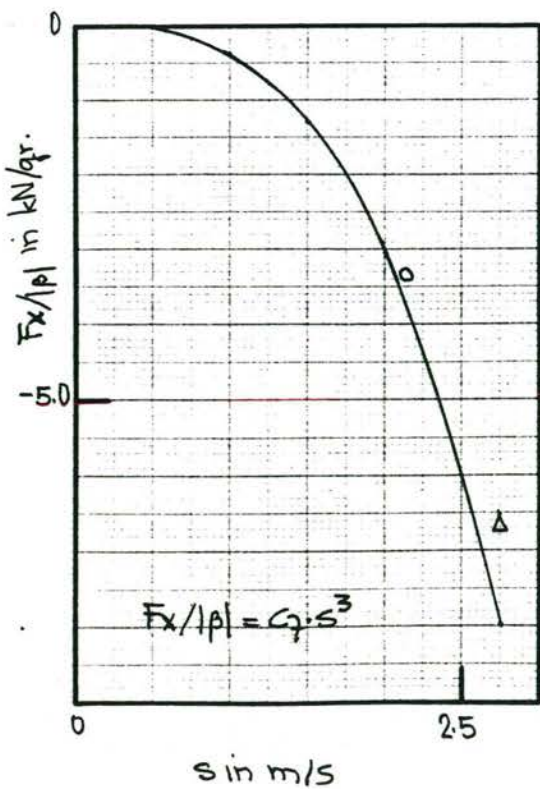
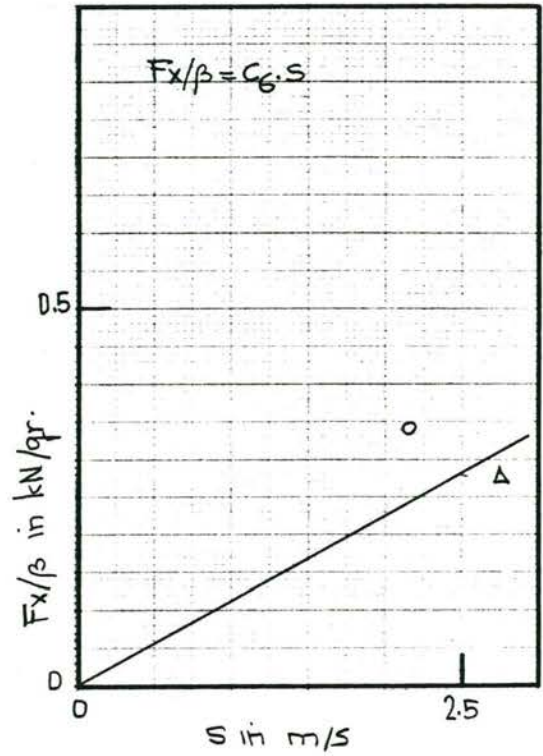
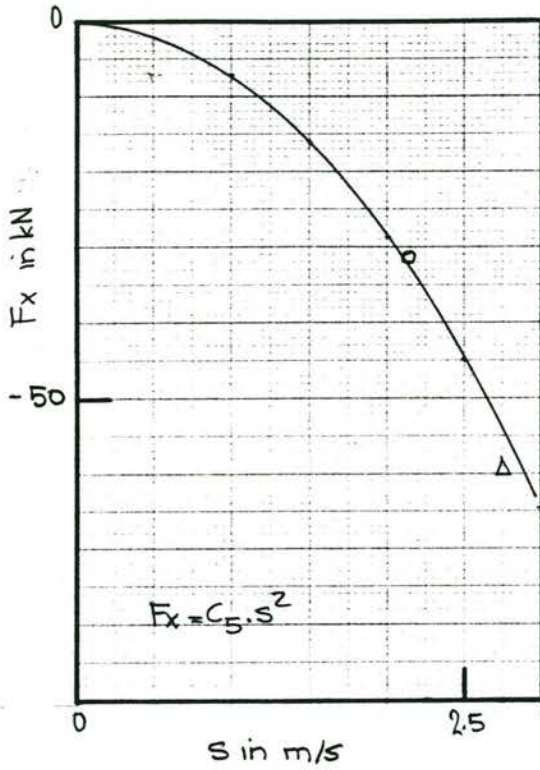
$$\cong X_{uu} \cdot k \cdot u^2 \cdot k + X_{vv} \cdot k \cdot p \cdot v \cdot k \cdot p + X_{|v| u u k p} \cdot |v| \cdot u^2 \cdot k \cdot p + X_{\delta \frac{v}{u}} \cdot \delta \cdot \frac{v}{u} \cdot k$$



DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak beladen, kanaal invloed



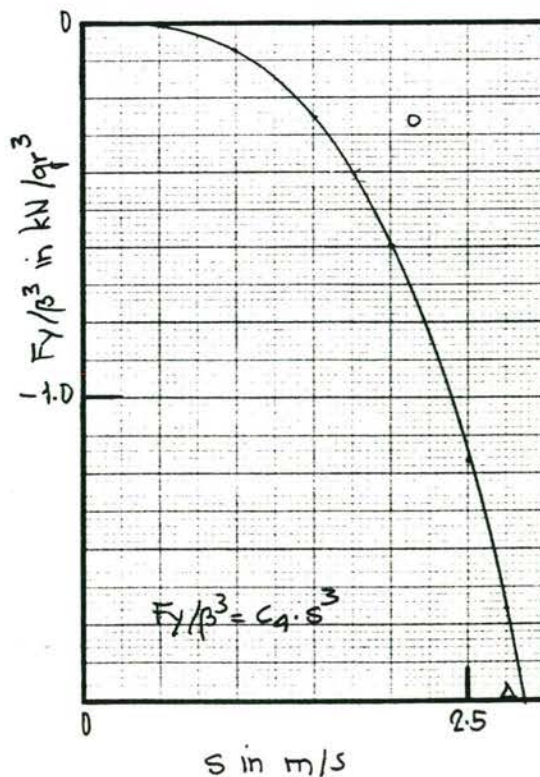
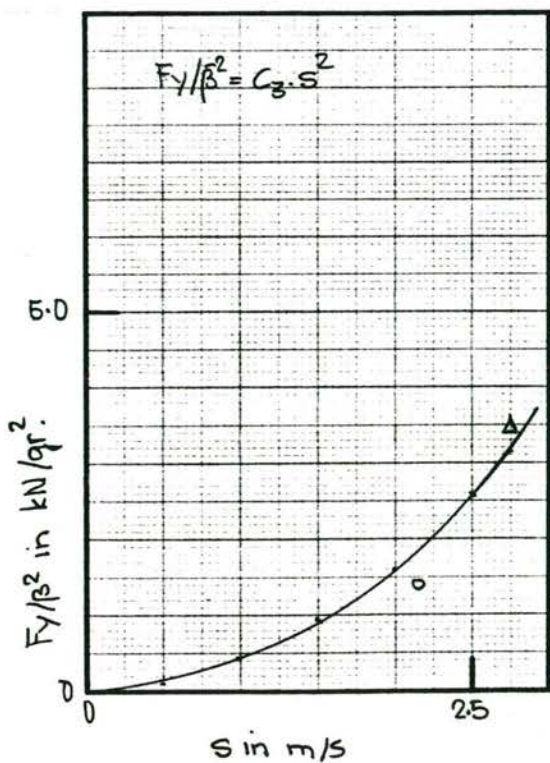
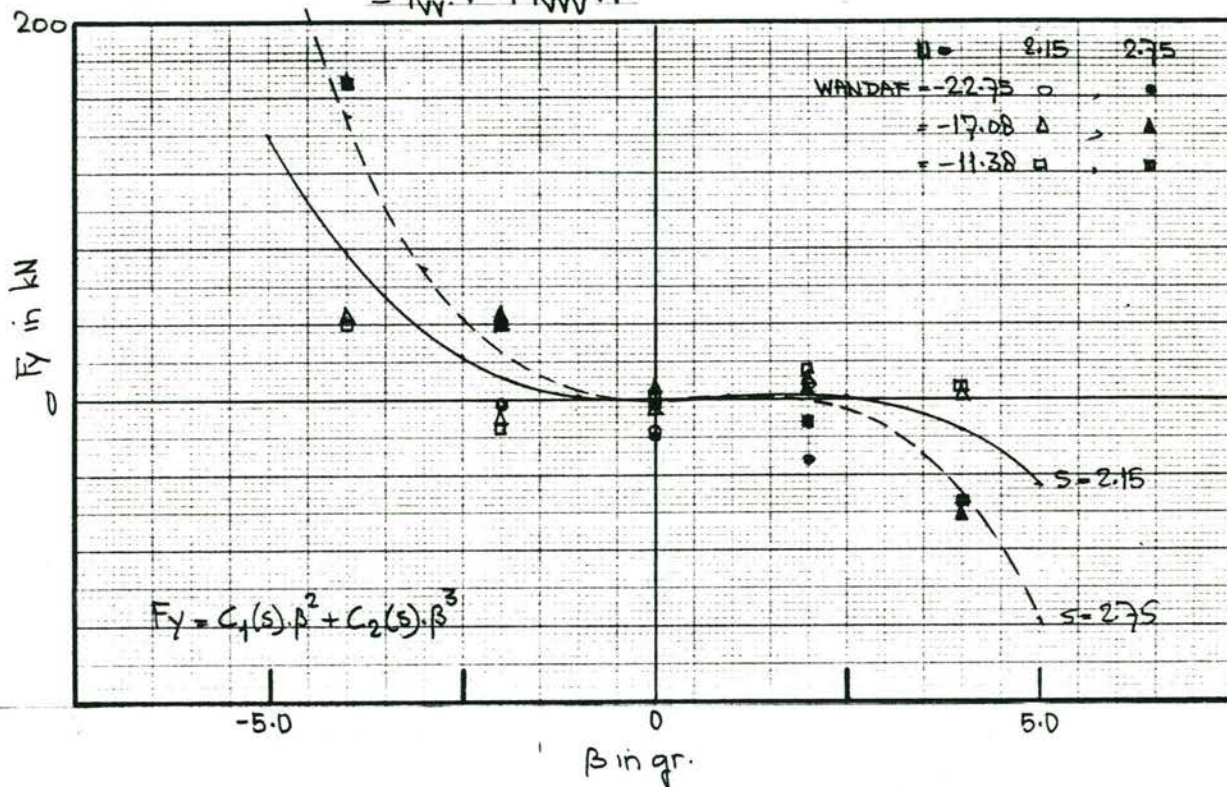
DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak beladen, kanaal invloed

$$F_y = Y_{pp,ss} \cdot \beta^2 \cdot s^2 + Y_{pp,sss} \cdot \beta^3 \cdot s^3$$

$$\triangleq Y_{vv} \cdot v^2 + Y_{vvv} \cdot v^3$$



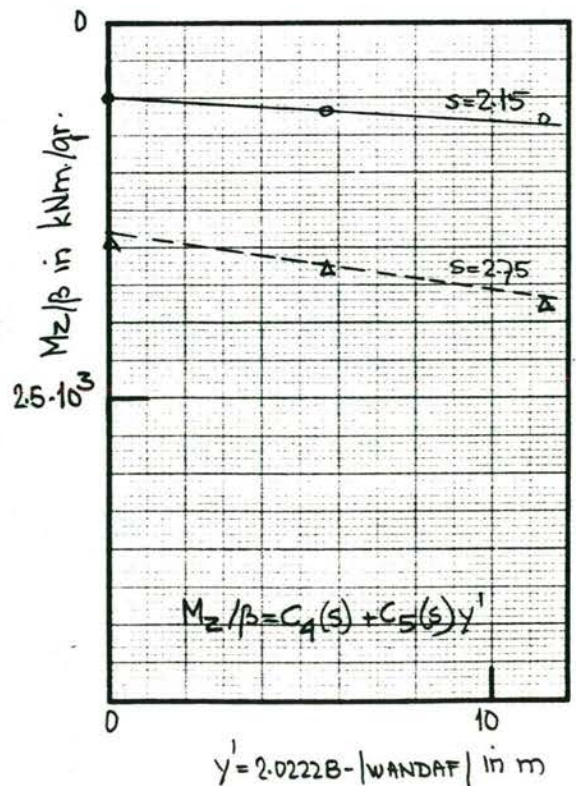
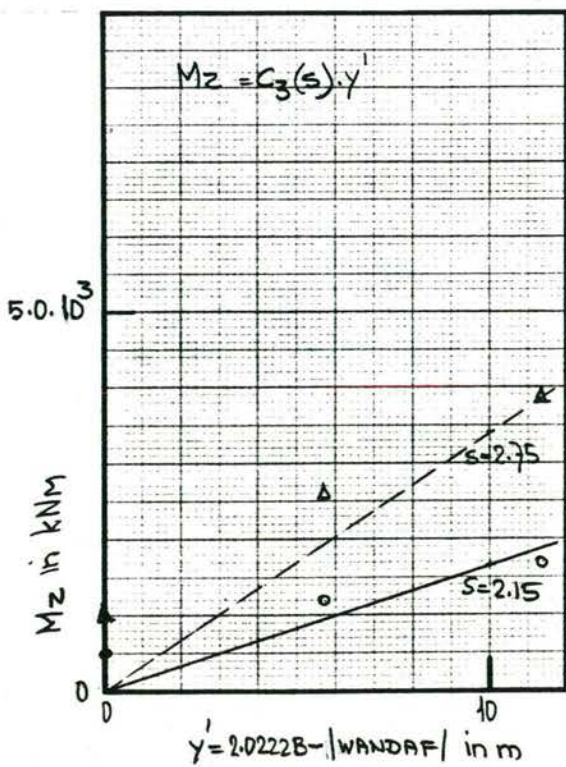
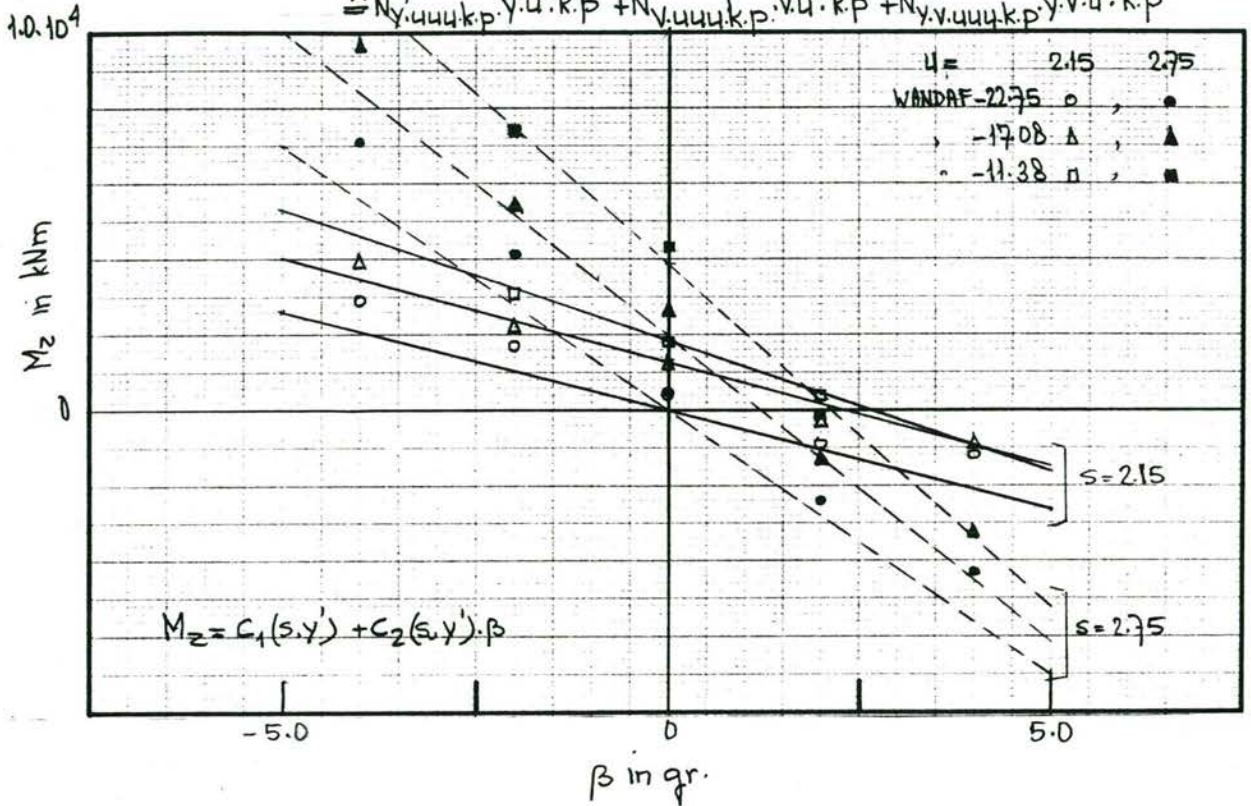
DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak beladen, kanaal invloed

$$M_z(\delta=0) = N_{y'ssss.k.p} \cdot y' \cdot s^3 \cdot k.p + N_{\beta.ssss.k.p} \cdot \beta \cdot s^4 \cdot k.p + N_{y'\beta.ssss.k.p} \cdot y' \cdot \beta \cdot s^4 \cdot k.p$$

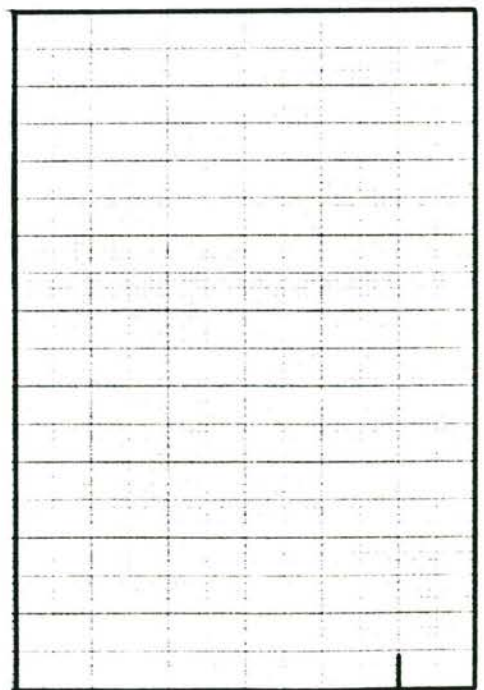
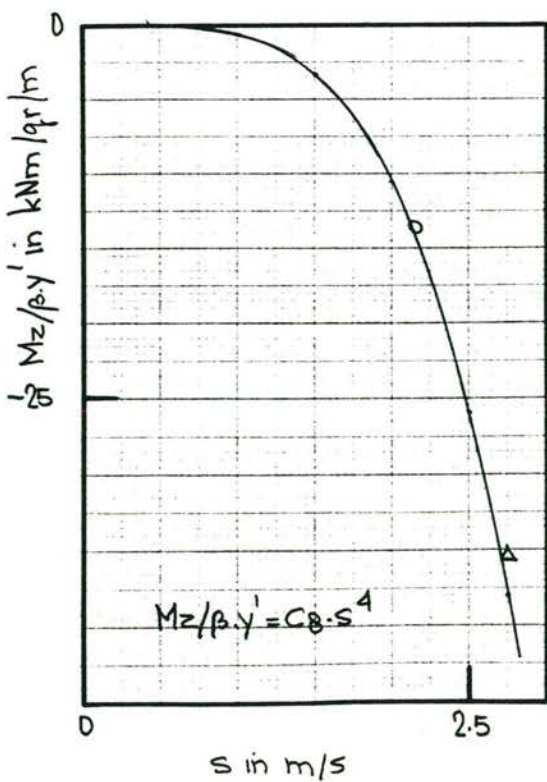
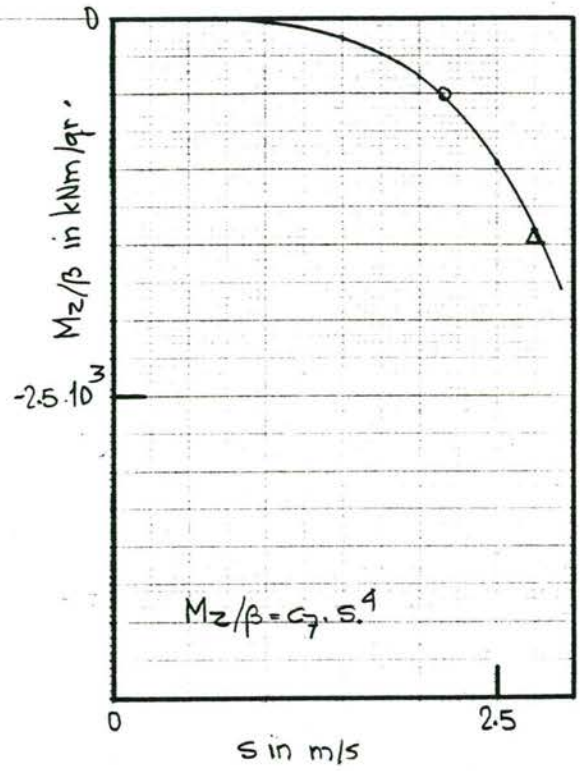
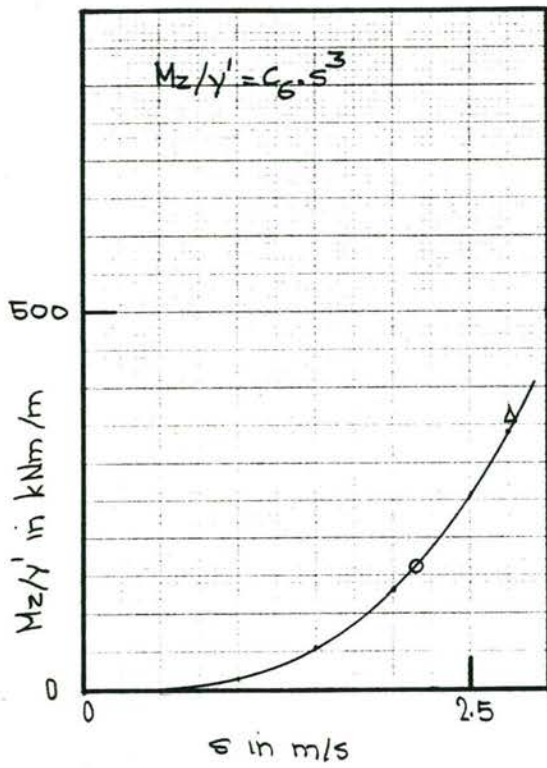
$$\hat{=} N_{y'.uuu.k.p} \cdot y' \cdot u^3 \cdot k.p + N_{v.uuu.k.p} \cdot v \cdot u^3 \cdot k.p + N_{y'.v.uuu.k.p} \cdot y' \cdot v \cdot u^3 \cdot k.p$$



DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak beladen, kanaal invloed



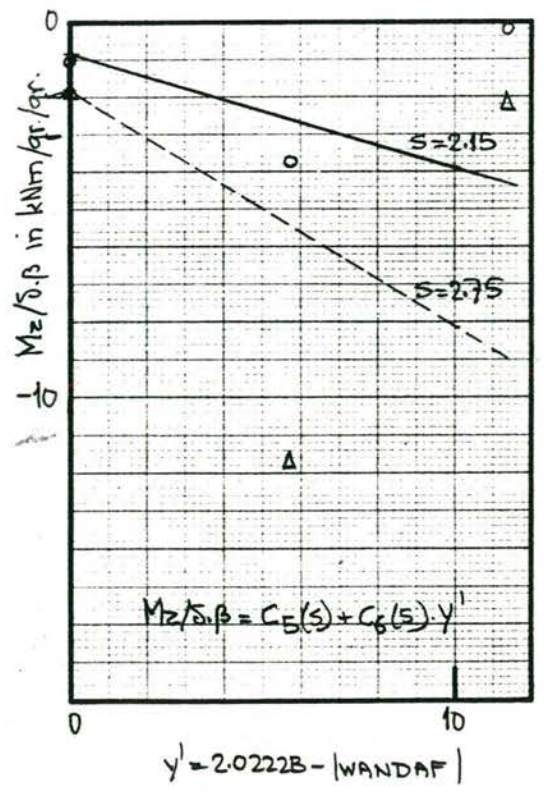
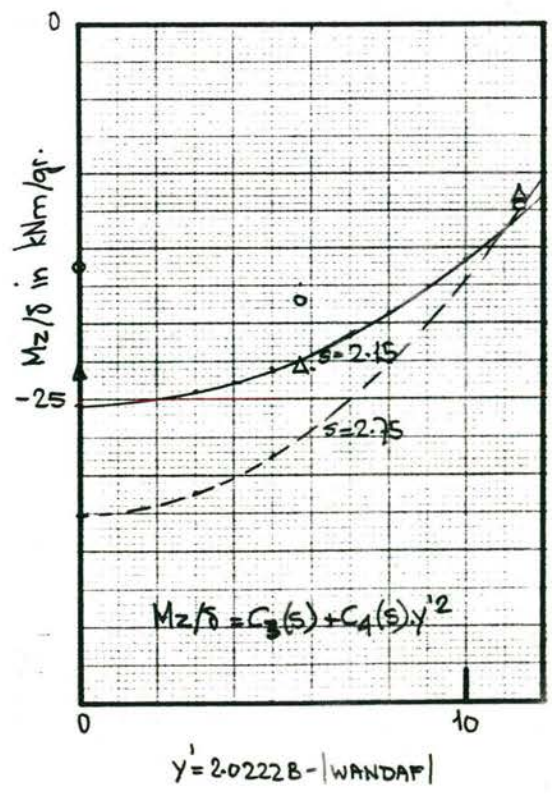
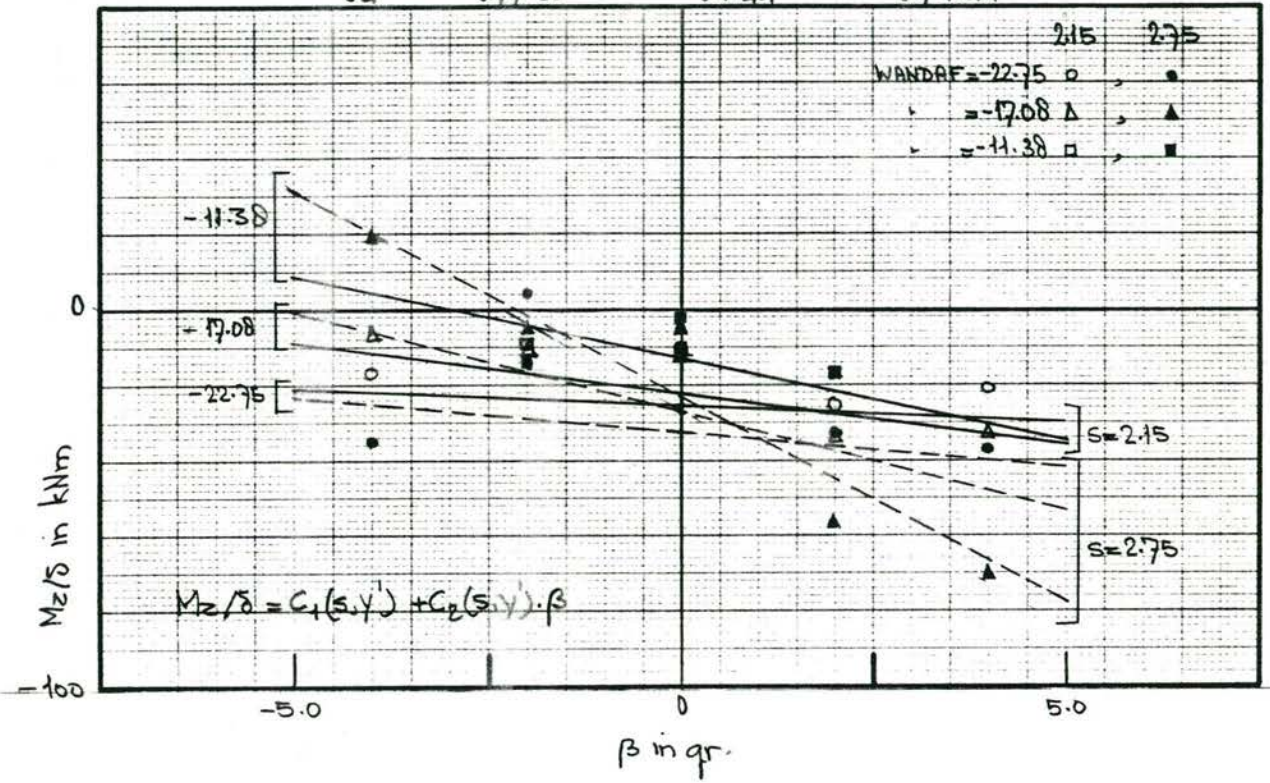
DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak beladen, kanaal invloed

$$M_z(\delta) = N_{\delta s} \cdot \delta \cdot s + N_{\delta y y' s s} \cdot \delta \cdot y'^2 \cdot s^2 + N_{\delta \beta s s s} \cdot \delta \cdot \beta \cdot s^3 + N_{\delta y' \beta s s s} \cdot \delta \cdot y' \cdot \beta \cdot s^3$$

$$\approx N_{\delta u} \cdot \delta \cdot u + N_{\delta y y' s s} \cdot \delta \cdot y'^2 \cdot s^2 + N_{\delta v u u} \cdot \delta \cdot v \cdot u^2 + N_{\delta y' v u u} \cdot \delta \cdot y' \cdot v \cdot u^2$$



DVK Project Windhinder

COEFFICIENTEN UIT STATISCHE PROEVEN

2-bak beladen, kanaal invloed

