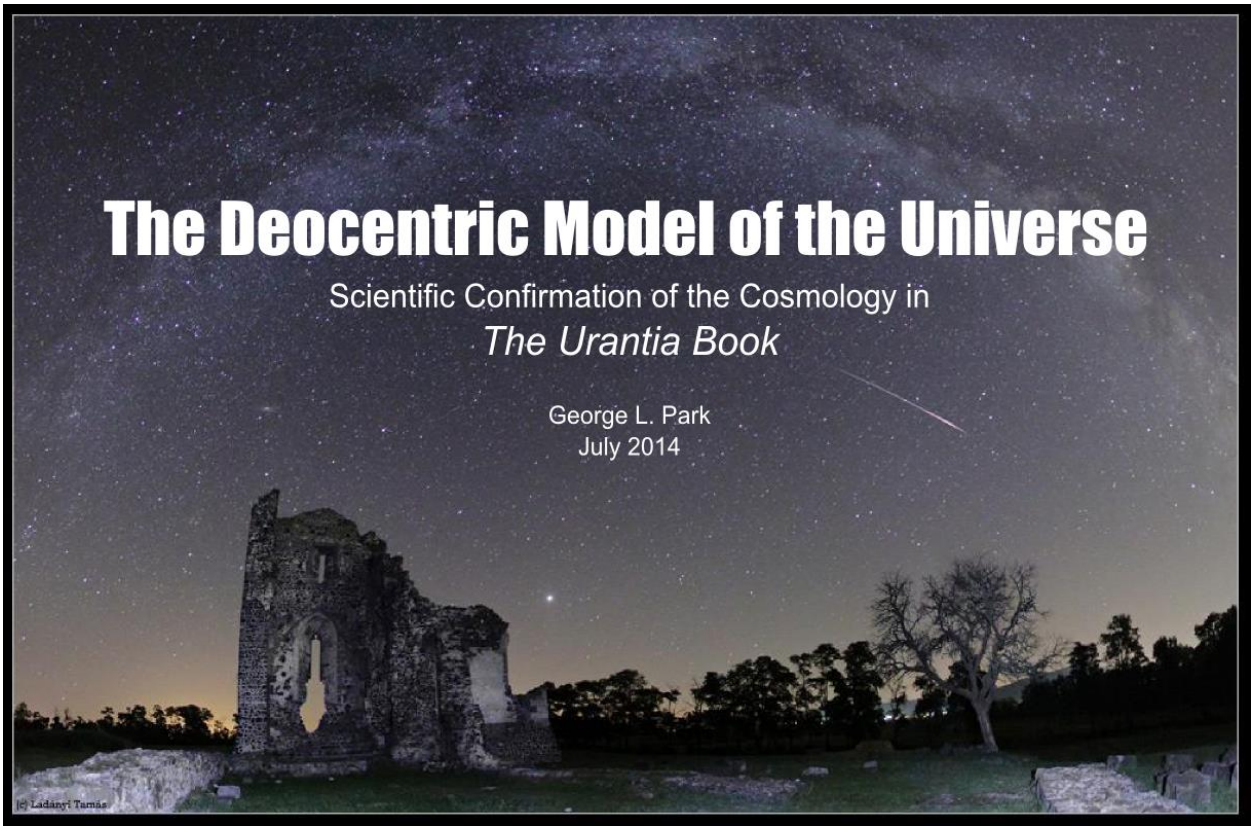
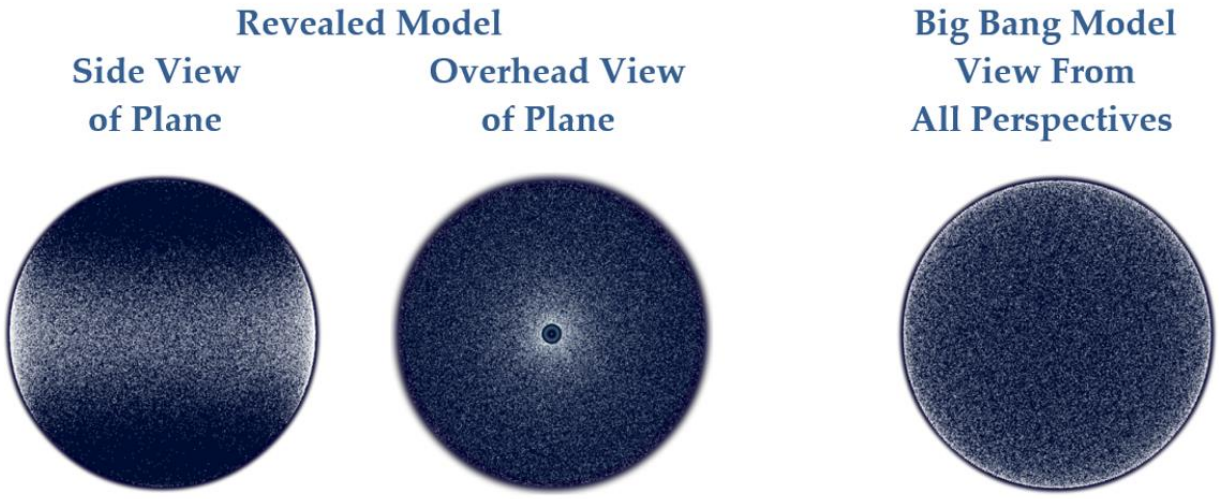


Good morning. This workshop is on the cosmology in *The Urantia Book.* I have been fascinated with this cosmology ever since I came upon the book in the spring of 1971. I believe this new model of the universe is true, because it is part of an epochal revelation. I believe even though its various features could not be observed. I believe even though modern physics is certain that it is theoretically impossible. Without any empirical or scientific justification, I became resigned to believing in revealed cosmology purely on faith.

And then, in the fall of 2007, I was amazed to discover evidence of the superuniverse space level. I can't express how thrilled I was by this vindication of *The Urantia Book*. This turned out to be the first of several stunning discoveries over a five year period. I published my findings in 2013 on the website www.ubcosmology.com. Today I'm going to share some of the discoveries which prove that the cosmology in *The Urantia Book* is true.

Revealed Model of the Universe is Antithesis of the Modern Big Bang Model

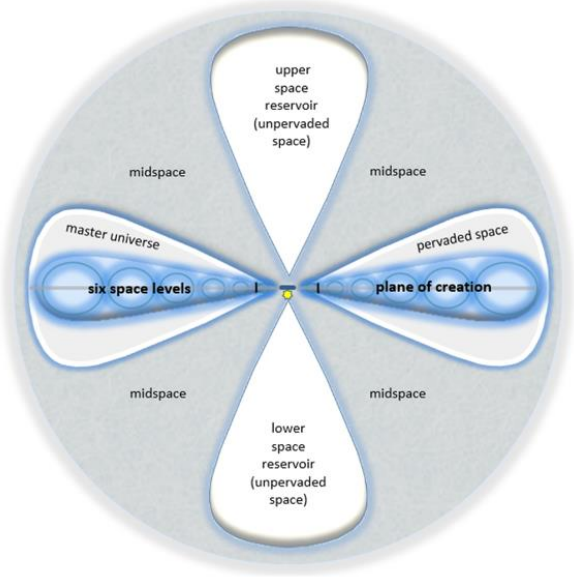


The cosmology in *The Urantia Book* describes a physical universe which is literally centered about the physical location of God. This is the antithesis of the standard model of cosmology or the Big Bang theory. In the revealed model material creation revolves in a universal plane about Paradise at the center of the universe. If we could stand outside the universe, we would see galaxies concentrated about this plane. Looking down on this plane we would see that it has a center of revolution. In the Big Bang model galaxies are randomly and uniformly distributed throughout the universe; the universe has no form or structure or center.

In principle, it is easy to test which of these two models is true. Either we will observe a random distribution of galaxies in the universe or a concentration of galaxies about a plane. In practice, our telescopes have not been powerful enough to carry out this test, until recently. Throughout the 20th century, the plane of creation could not be confirmed by observation. Instead, observations were consistent a random distribution of galaxies.

The Revealed Model is Impossible under 20th Century Physics

Cross-Section of the Universe of Universes



Scientific Concepts

Modern Physics	Revealed Physics
1. Newtonian Gravity	1. Absolute Gravity
2. Relative space-time	2. Timeless Space
3. Relative Motion	3. Absolute Motion
4. Uncreated Energy	4. Created Energy

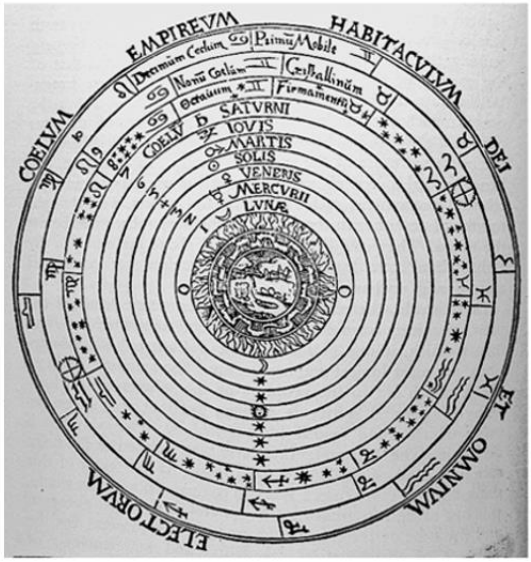
In addition to this lack of observational data, modern physics has deep theoretical objections to this revealed model. It is impossible for the short-range force of Newtonian gravity to cause the total mass of the universe to revolve about a single point. *The Urantia Book* tells us there is a long-range gravitational force called absolute gravity which causes universal revolution. The revealed model depends upon the force of absolute gravity, but modern does not recognize or even suspect the existence of anything other than the linear gravity of Newton.

This cross-section of the universe of universes discloses additional concepts which contradict modern physics. Different types of space are revealed, such as timeless space, but modern physics only recognizes relative space-time. Universal revolution about a center is necessarily an absolute motion, but absolute motion is impossible under Einstein's theory of relativity. The law of conservation of energy asserts that energy is never created. Revelation says energy is created here and there in the universe and then becomes indestructible. The revealed model is theoretically impossible under currently accepted physics. For the scientifically inclined, the inclusion of this fantastic model in *The Urantia Book* has raised serious doubts about its revelatory nature.

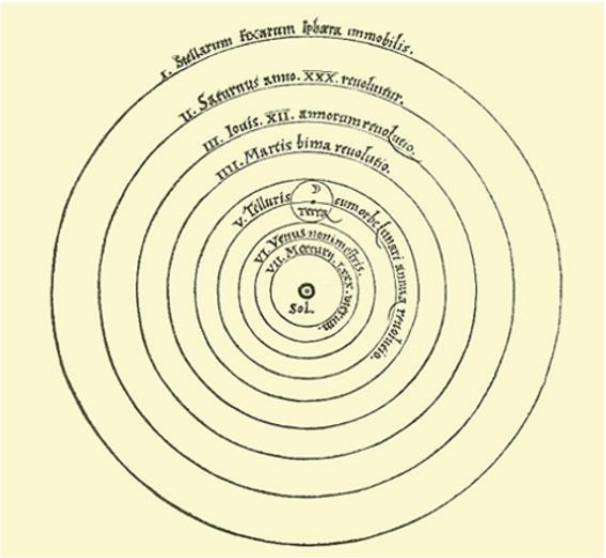
But then something extraordinary happened. There has been an explosion of new astronomic observations since the year 2000. The number of identified galaxies has increased more than a 100-fold. We suddenly find ourselves in a situation similar to that which existed at the beginning of the 17th century, when man's worldview changed.

17th Century Transition from Ancient to Modern Worldview due to New Observations

Ancient Geocentric Model (300-100 B.C.)



Copernicus's Heleocentric Model (1543)



The geocentric model (4th century B.C.) was the worldview at the beginning of the 17th century. The motions of the stars and planets were successfully explained in terms of their revolution about the earth. The location of the earth at the center of the universe was explained by the physics of Aristotle. Earth is the heaviest element in Aristotelian physics and, therefore, the earth must necessarily be at the center of the universe.

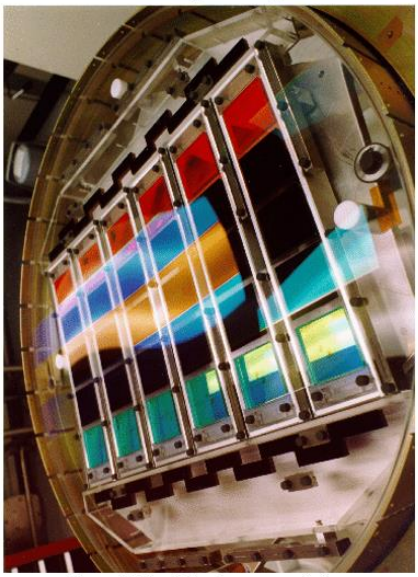
Copernicus boldly challenged the geocentric model with the publication of his heliocentric model in the middle of the 16th century. But the idea of the universe revolving about the sun was universally rejected, because it contradicts Aristotle's physics. Since the sun consists of the lighter element of aether, it cannot be at the center of the universe.

Two Technological Advances Leading to Sudden Changes in Man's Worldview

Galileo explaining his invention of the telescope (1609)

1754 painting by H. J. Detouche

Invention of Charge-Coupled Devices

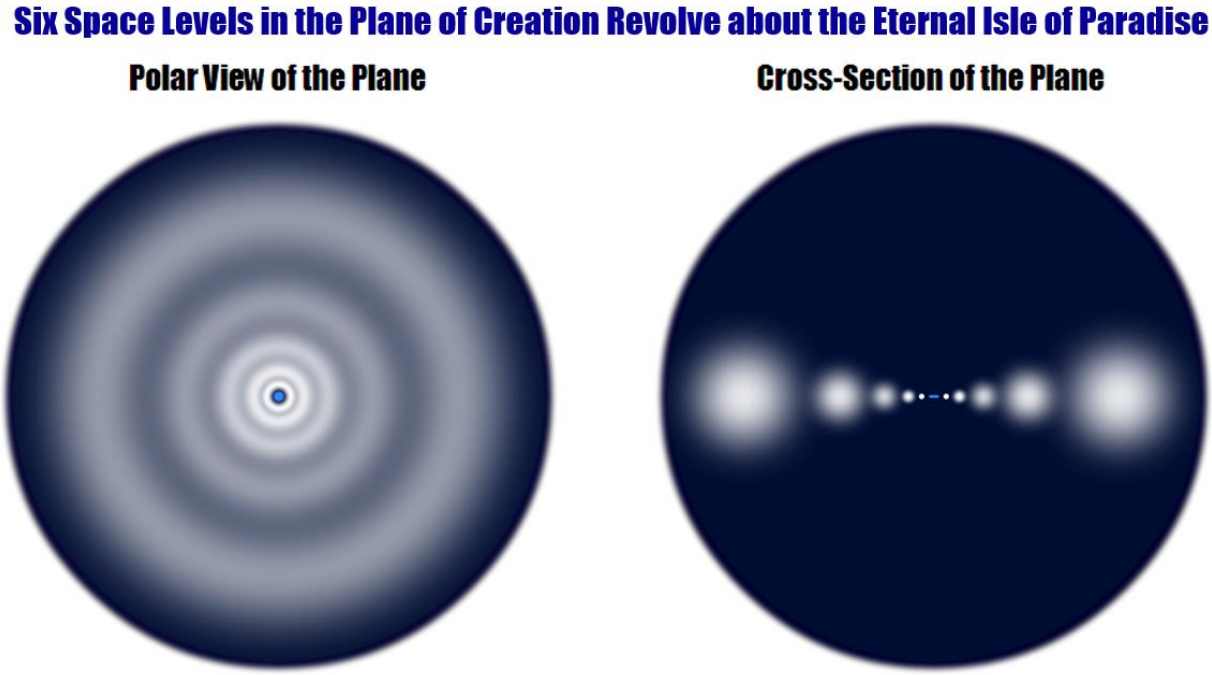


Sloan Digital Sky Survey website

This situation suddenly changed with Galileo's invention of the telescope in 1609. His discoveries of the moons of Jupiter and the phases of Venus immediately destroyed the ancient geocentric model, while confirming the heliocentric model. However, by the middle of the 17th century the heliocentric model was no longer credible. It was generally believed that the stars are like the sun. The random distribution of innumerable suns across the sky is the origin of the modern idea of a random universe.

The invention of the telescope caused a profound change in man's worldview. The invention of charge-coupled devices in the 1970s will cause another profound change. These solid-state devices replace photographic film in digital cameras, like those in smart phones. They are used in the Sloan Digital Sky Survey telescope. This survey has discovered hundreds of millions of new galaxies over the last decade. At the beginning of this century, there were only a few million identified galaxies.

These new telescopic observations immediately destroy the Big Bang model of a random universe. At the same time they confirm the deocentric model of the universe in *The Urantia Book*.

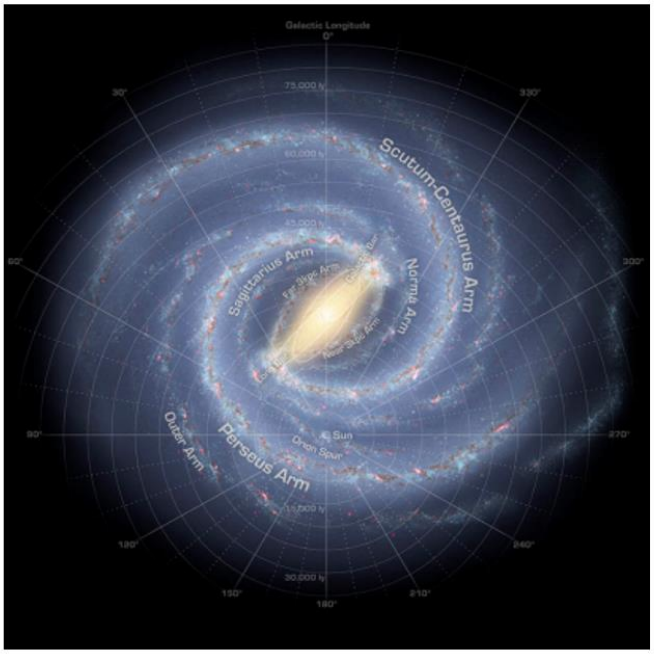


Havona, Superuniverse, 1st, 2nd, 3rd, and 4th Outer Space Levels

In the deocentric model the material universe is organized about a plane of creation. This plane consists of six concentrically arranged space levels. These rings of energy-matter revolve about the Isle of Paradise, which is at the center of the central universe of Havona. Various statements in the book suggest that Havona has a radius of less than 1,000 light-years (ly). We are in the superuniverse space level, which immediately surrounds Havona. This space level contains seven superuniverses. Each of these seven superuniverses contains multiple galaxies. Our superuniverse of Orvonton contains ten major sectors, also called star drifts. One of these star drifts is our own Milky Way galaxy.

The Milky Way Galaxy is One of Ten Star Drifts in the Superuniverse of Orvonton

Overhead View of Milky Way

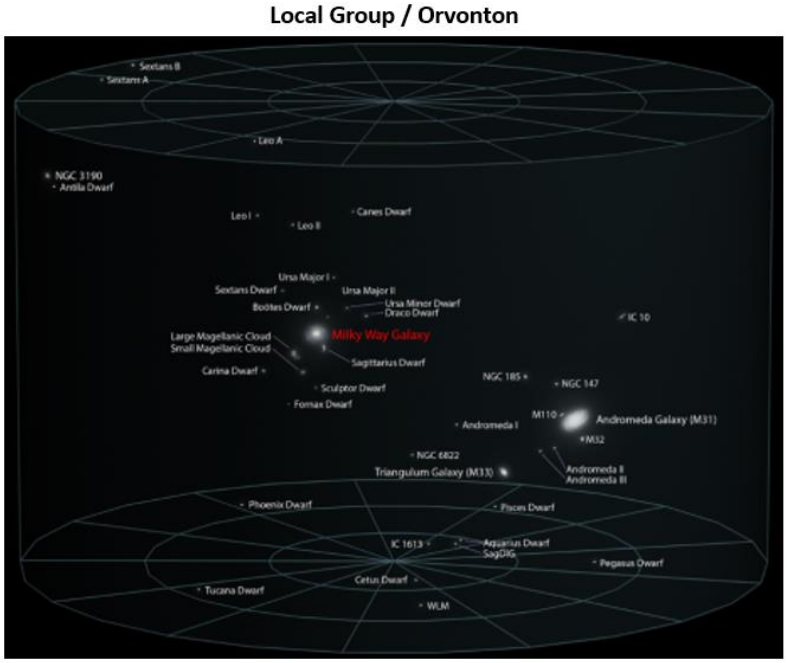


NASA rendering (2008)

1. Milky Way has a radius of 50,000 ly.
2. Contains about one trillion suns.
3. Sun is 26,000 ly from the center.
4. Milky Way revolves about Uversa.
5. Uversa less than 250,000 ly away.

This is a 2008 rendering of an overhead view of the Milky Way by NASA. The Milky Way has a radius of 50,000 light-years (ly) and contains about one trillion suns. We are located about 26,000 ly from its center. Lines of longitude in the galactic coordinate system radiate outward from our location. Zero degrees of galactic longitude is defined by a line from the sun to the center of the galaxy. The Milky Way is relatively near Uversa, the capital and rotational center of the superuniverse of Orvonton, since it is less than 250,000 ly from us.

The Local Group of Galaxies is the Superuniverse of Orvonton



Revealed Facts about Orvonton

1. 8 trillion suns.
2. galaxies bound together by gravity.
3. Milky Way near center of Orvonton.

Empirical Facts about Local Group

1. about 6 trillion suns.
2. galaxies bound together by gravity.
3. radius of 4 Mly from Milky Way.

Conclusions

1. Local Group is Orvonton.
2. Orvonton has a radius of 4 Mly.

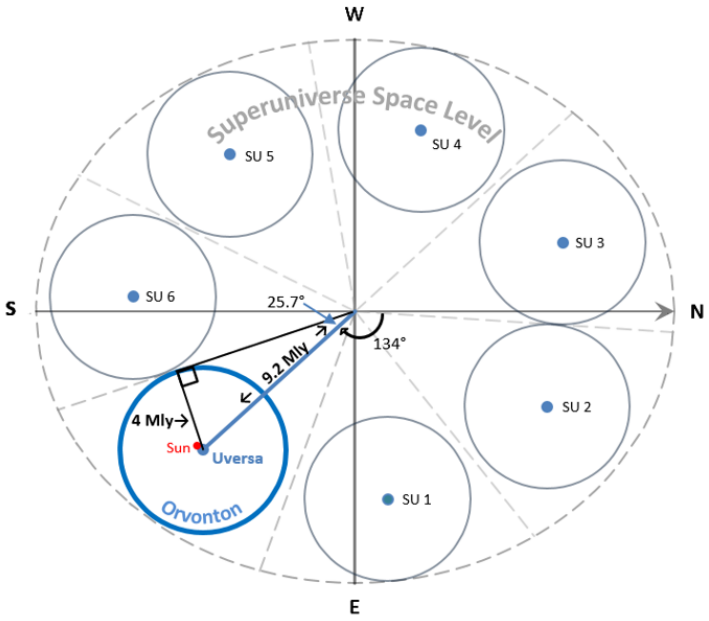
Revelation gives us some key facts about Orvonton. The Milky Way is part of Orvonton, which contains about 8 trillion suns. Since the galaxies of Orvonton revolve about Uversa at its center, we know that Orvonton is bound together by gravity. The Milky Way is relatively near Uversa.

The Local Group of galaxies was first identified by Edwin Hubble in 1936 as eight galaxies, including the Milky Way and the Andromeda galaxy. It is now known that the Local Group of galaxies which is bound together by gravity. It has an estimated mass of 6 trillion suns. It has a radius of about 4 million light-years (Mly), as measured from our location.

The Local Group is the only gravitationally bound, potentially revolving cosmic structure with the approximate mass of Orvonton. It is clear that the Local Group is the superuniverse of Orvonton. From this we know Orvonton has a radius of 4 Mly. Knowing the radius of Orvonton is important, because we can use this to calculate the dimensions of the grand universe.

Calculating the Distance to Paradise From the Internal Structure of the Grand Universe

Revealed Internal Structure of the Grand Universe



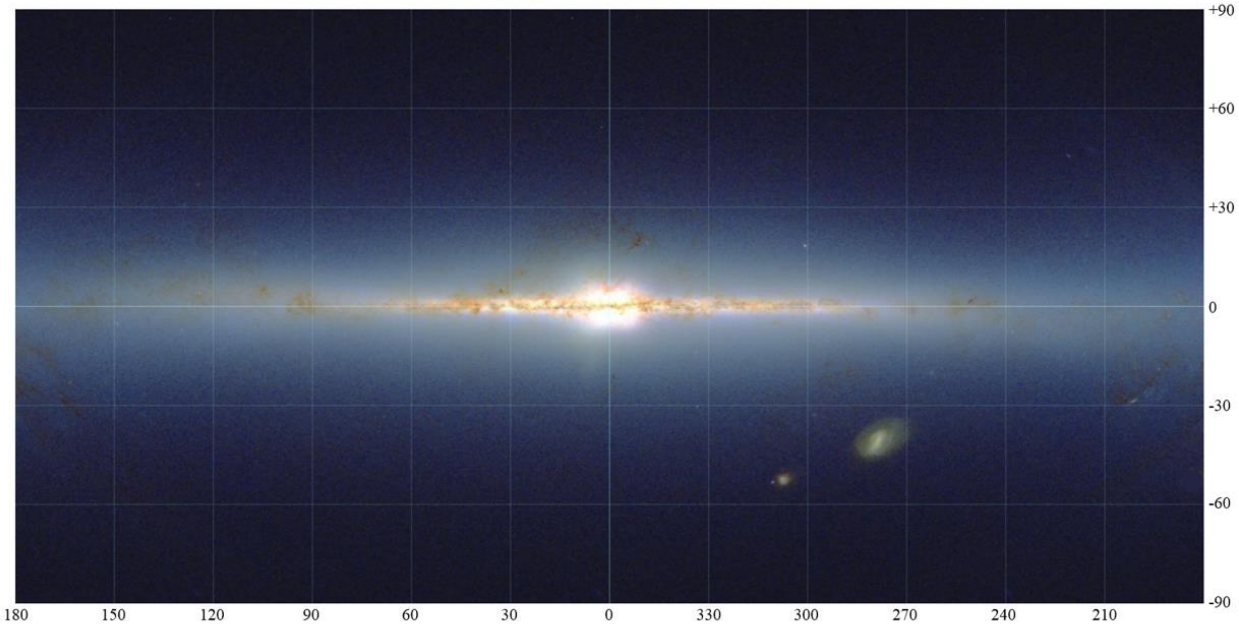
Dimensions

1. Orvonton radius: 4 Mly.
2. 9.2 Mly to Paradise (2.3 X 4 Mly)
3. Superuniverse space level radius: 13 Mly
4. Farthest border: 22 Mly
5. Other superuniverses within 36 Mly

Together the central universe of Havona and the superuniverse space level are referred to as the grand universe. This is the domain of the Supreme Being. We are given enough details about the grand universe to draw a basic chart of it. Each superuniverses has a radius of 4 Mly. Using the chart of the grand universe, the distance to Paradise should be 2.3 times the radius of Orvonton or 9.2 Mly. The radius of the grand universe should be about 13 Mly, and the distance to the farthest border should be about 22 Mly.

We have an idea of the size and shape of the grand universe, but there is no indication of the existence of the other six superuniverses in the scientific literature. However, we can search for these superuniverses in the new astronomic observations which are suddenly available. The other superuniverses should be found within 36 Mly of us.

Whole Sky Photograph of the Plane of the Milky Way

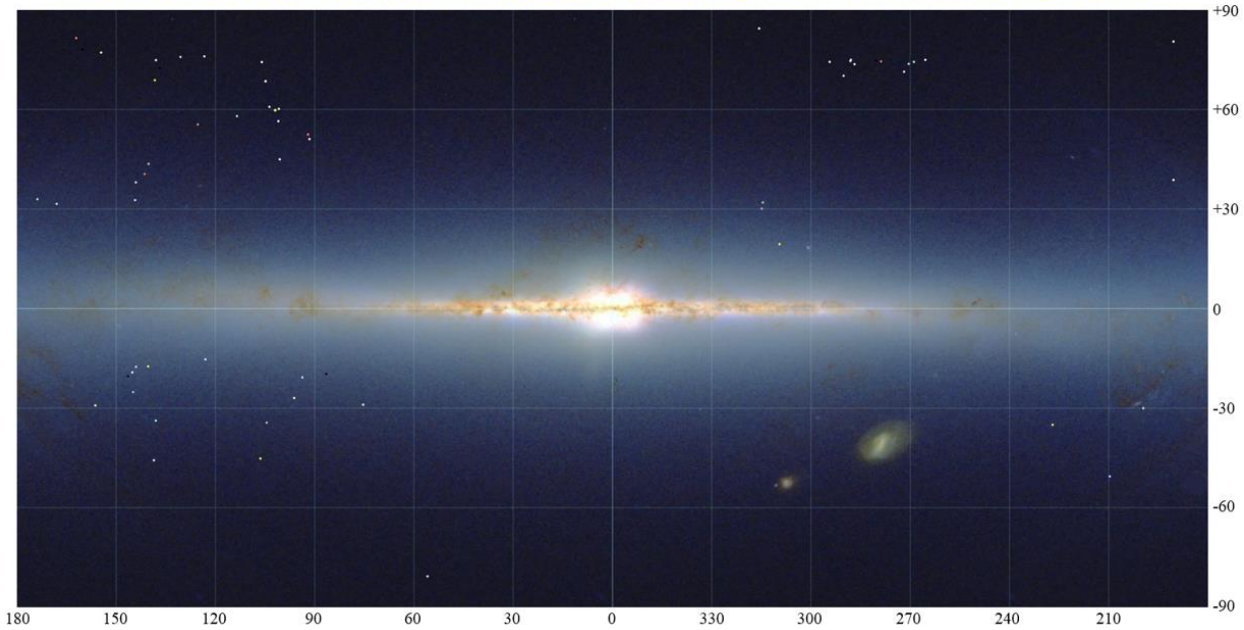


2002 composite photograph of stars within a few hundred thousand light-years – NASA's 2MASS Project

Almost everyone has seen the belt of stars making up the Milky Way in the summer sky. The plane of the Milky Way will be used as a starting frame of reference in the search for the other superuniverses.

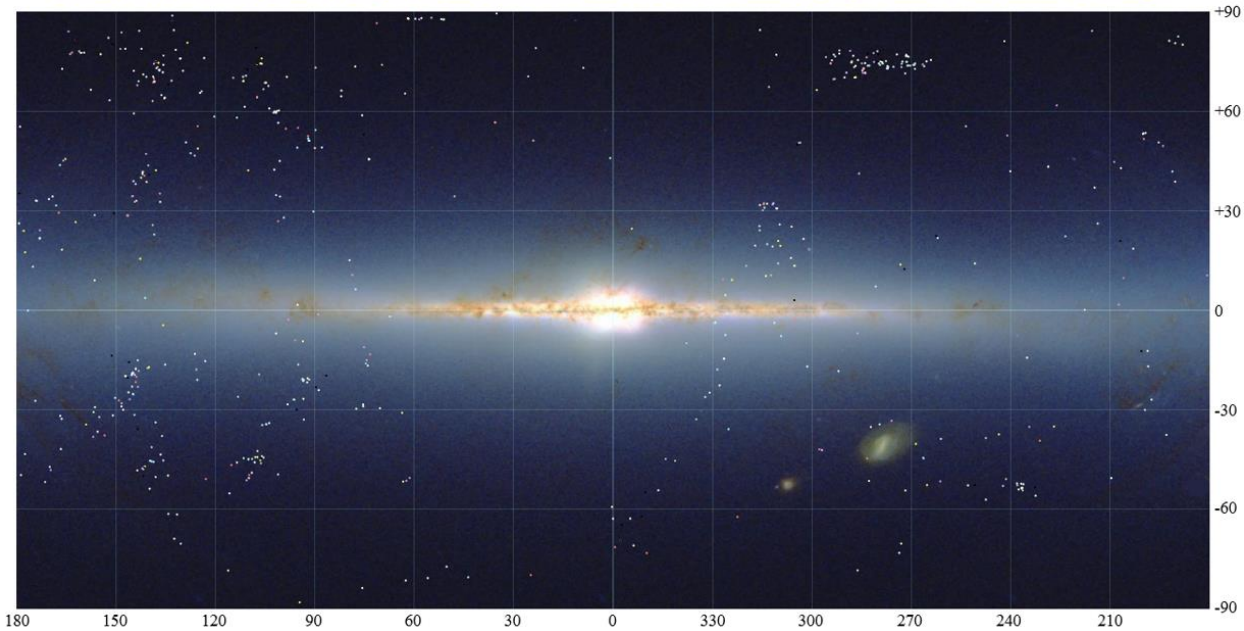
This is a 2002 all-sky composite photograph of the plane of the Milky Way from NASA's 2MASS project. It shows all of the stars within a few hundred thousand light-years. The Large and Small Magellanic Clouds can be seen towards the lower right. The plane of the Milky Way is seen in the horizontal concentration of stars forming the galactic plane. The center of our galaxy is the spherical bulge at the center of the photo.

No Evidence of Other Superuniverses in 1956 (58 known galaxies within 36 Mly)



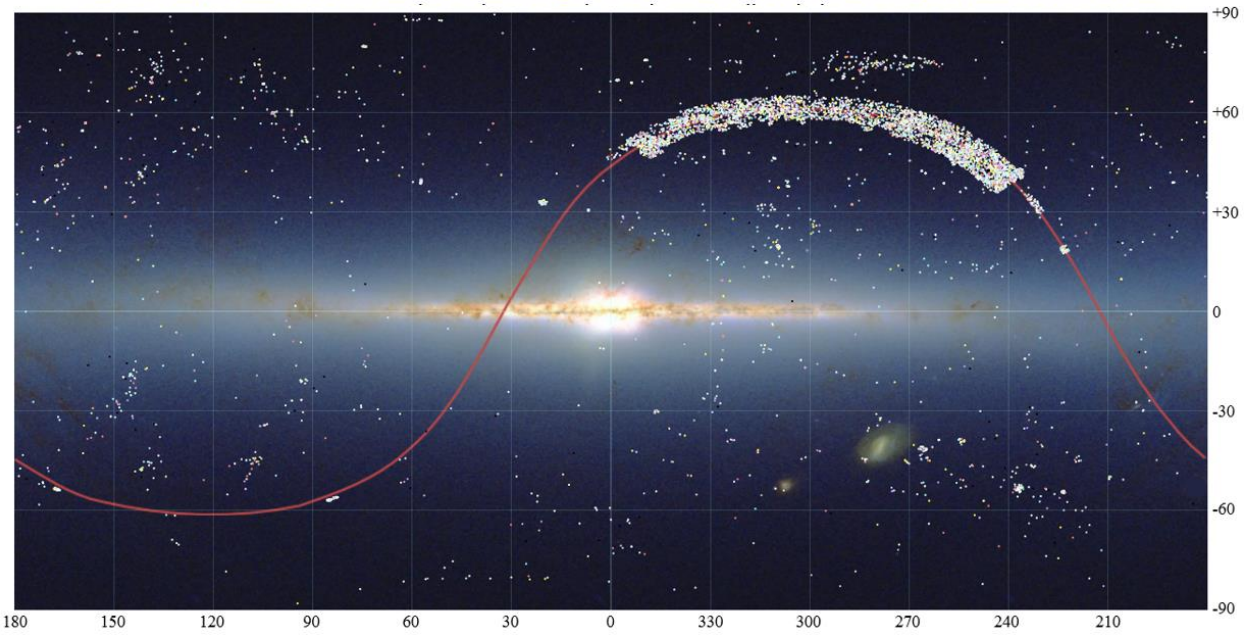
We can plot the locations of other galaxies within 36 Mly on this all-sky photograph of the plane of the Milky Way. We know from the historical record that only 58 galaxies could have been identified in 1956 as being beyond the Local Group/Orvonton but within a distance of 36 Mly. Plotting these 58 galaxies shows that they are randomly scattered across the sky. There was no evidence of the other superuniverses in 1956.

No Evidence of Other Superuniverses in 2000 (726 known galaxies within 36 Mly)



By the year 2000 a total of 726 galaxies were known to be within 36 Mly, but there was still no clear evidence of the other superuniverses.

Other Superuniverses are Visible by 2010 in the Belt of the Superuniverse Wall

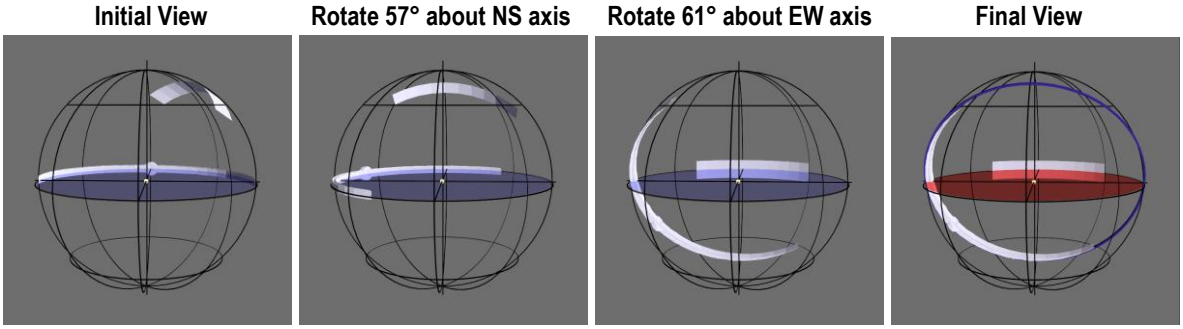


By 2010 the number of galaxies within 36 Mly increases dramatically to 8,450. Plotting their locations reveals the dense belt of the Superuniverse Wall. This structure contains 61 percent (5,163/8,450) of all galaxies within 36 Mly. The density of galaxies in the Superuniverse Wall is 35 times greater than the average galactic density within 36 Mly. This high concentration of mass identifies the gravitational plane of the grand universe.

The galaxies in the Superuniverse Wall are organized about a plane. The superuniverse plane follows a curved path, because we are measuring locations relative to the plane of the Milky Way. The superuniverse plane is tilted to the galactic plane, so its galaxies follow the curved path of a great circle, shown as the red line.

The Superuniverse Wall is aligned with the Plane of a Great Circle

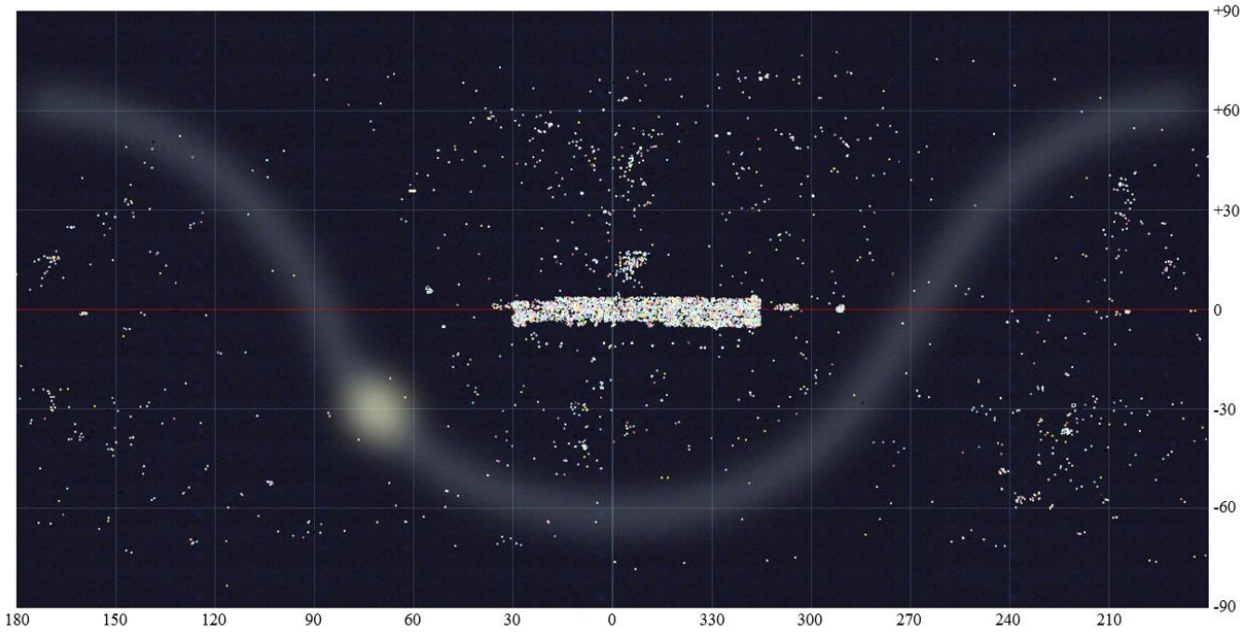
(Animation)



A 3-dimensional model of the galactic and superuniverse planes gives a better idea of how they are related to one another. The yellow dot at the center of the celestial sphere is the sun. The bluish plane is the reference plane of the celestial sphere. The white horizontal band is the outline of the densest half of the galactic plane on the celestial sphere. The curved band in the upper right is the outline of the Superuniverse Wall on the celestial sphere.

The outlines of both the Superuniverse Wall and the Milky Way can be rotated 57 degrees around the North-South axis. They can then be tilted 61 degrees around the east-west axis. This demonstrates that the Superuniverse Wall is, in fact, organized about its gravitational plane in the same way that the stars of the Milky Way are organized about the galactic plane.

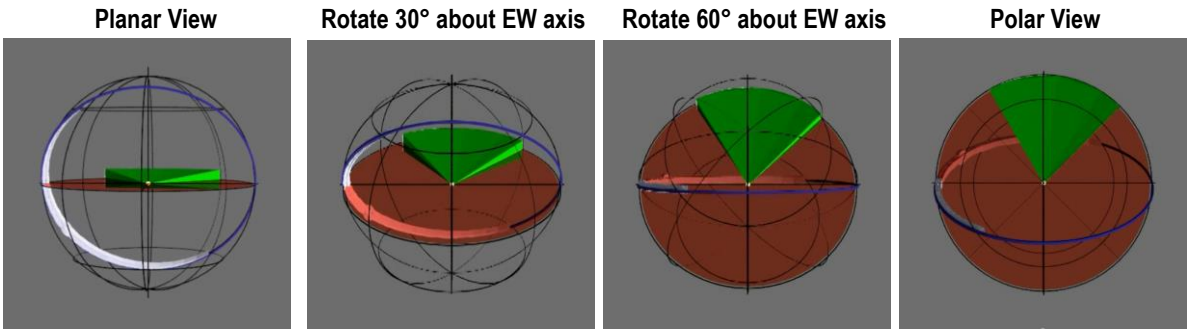
Superuniverse Wall is Bisected by the Gravitational Plane of Grand Universe



Measuring locations using the gravitational plane of the grand universe demonstrates the linear structure of the 5,163 galaxies in the Superuniverse Wall. In this different coordinate system, it is now the galactic plane which follows the curved path of a great circle.

Changing from a Planar to a Polar View of the Superuniverse Wall

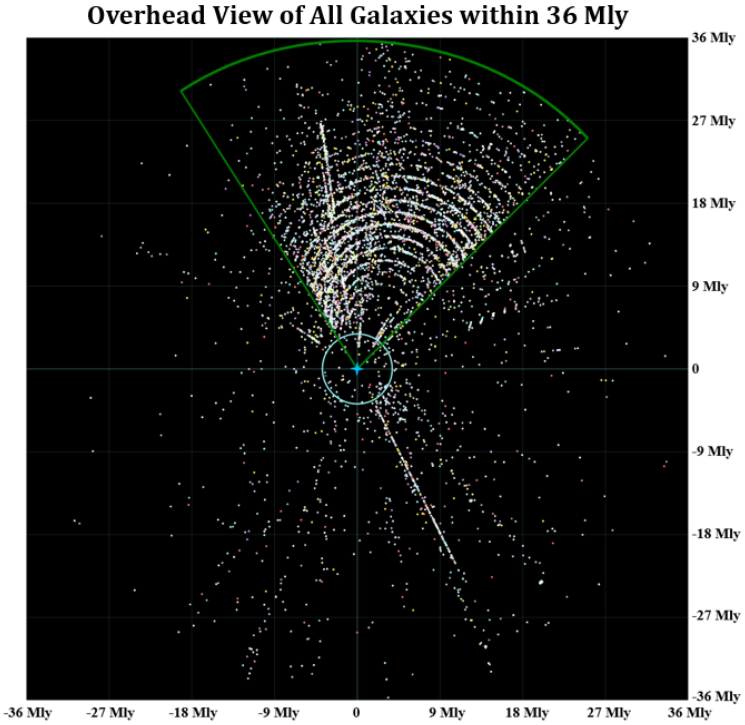
(Animation)



So far we have only considered where galaxies are located on the surface of the celestial sphere; that is, their longitude and latitude. There are 8,450 galaxies within 36 Mly, but we have not examined how individual galaxies are distributed within this

distance. This is the same 3-D model of the galactic and superuniverse planes, except for the green wedge-shaped volume. This volume contains the 5,163 galaxies in the Superuniverse Wall. Before examining how galaxies are distributed within the Superuniverse Wall, we can move our viewpoint up, so that we are directly above the sun, looking down on the plane of the grand universe.

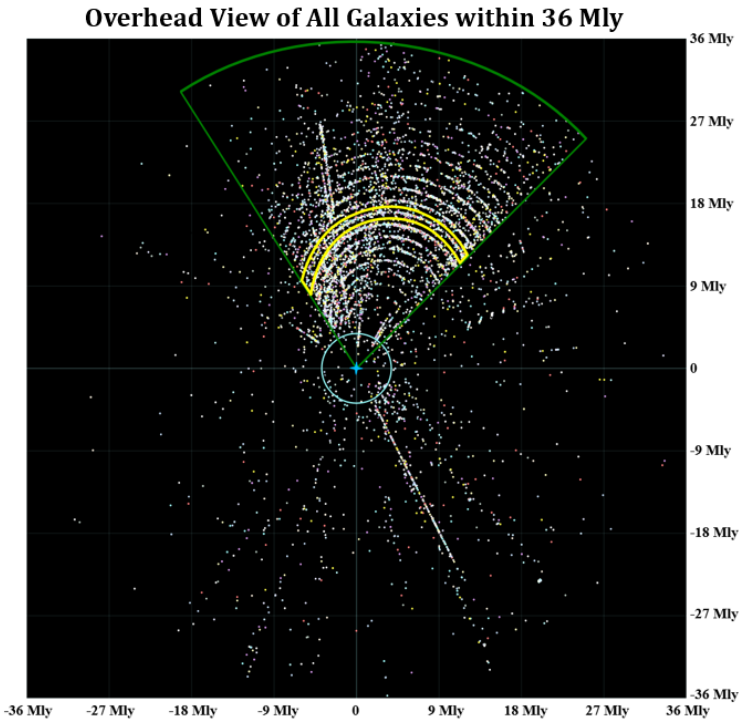
Polar View of the Superuniverse Wall – All Galaxies Within 36 Million Light-Years



1. 8,450 galaxies within 36 Mly.
2. 5,163 in green outline of SU Wall.

In this polar view of everything within 36 million light-years we are located next to Uversa, shown as a blue star at the center. Uversa is at the center of Orvonton, whose border is marked by the blue circle with a radius of 4 Mly. The 5,163 galaxies in the visible portion of the Superuniverse Wall are found within the green wedge-shaped outline. From directly overhead galaxies appear to be concentrated in narrow bands spaced more than 1 Mly apart. These rib-like structures are apparent and not real. Current technology limits the accuracy of distance calculations to these galaxies. This limitation causes the apparent concentration of galaxies in curved rib-like structures.

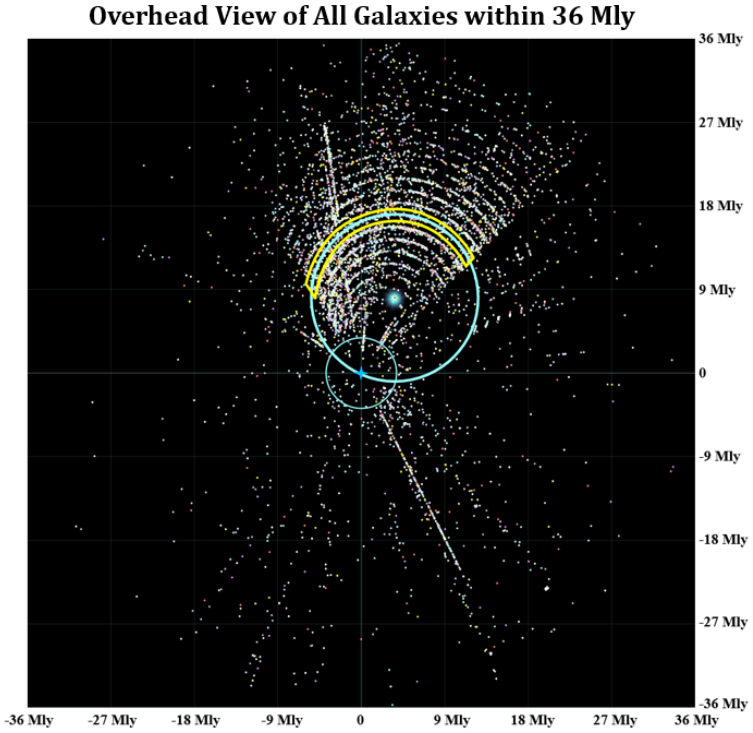
Spike in Galactic Density Identifies Central Core of the Superuniverse Space Level



1. Visible central core 24 Mly long.
2. Central core density 289X avg.
3. Gas vs. solid.

Moving outward from our location, the density of galaxies in each apparent rib increases, reaches a maximum, and then decreases. The region outlined in yellow encompasses the rib where the galactic density suddenly spikes to a maximum. This region is 1.4 Mly wide, 1.4 Mly deep, and 24 Mly long. The galactic density in this region is 289 times greater than the average density within 36 Mly. This difference in mass density of 289-to-1 is comparable to that between a solid and a gas. For example, a board of white pine, which might be used in a piece of furniture, has 291 times the density of air at sea level. This spike in galactic density identifies the massive central core of the superuniverse space level.

The Isle of Paradise is 9 Million Light-years Distant

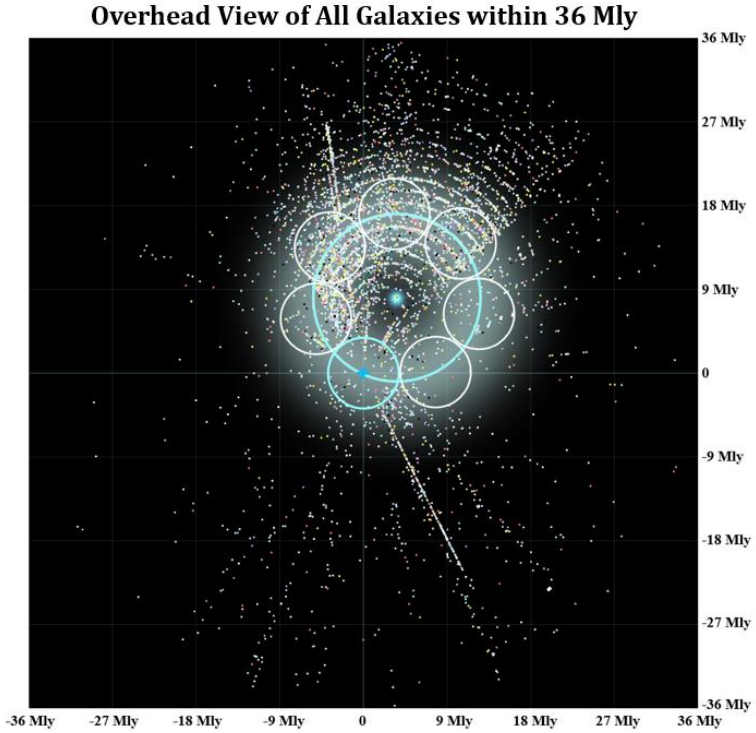


1. 150° of circular orbit.
2. Uversa on orbital path.
3. Center of orbit is 9 Mly distant.
4. Predicted distance of 9.2 Mly.

The capitals of the superuniverses are at the gravitational centers of their respective groups of galaxies. This means that Uversa, the capital of Orvonton, should be located on the orbital path traced out by the central core of the superuniverses. The visible portion of the central core traces out 150 degrees of a circular orbit. This orbit passes right over Uversa.

Based upon the revealed internal structure of the grand universe and the radius of Orvonton, Paradise should be 9.2 Mly distant. The center of the circular orbit passing over Uversa is 9 Mly distant.

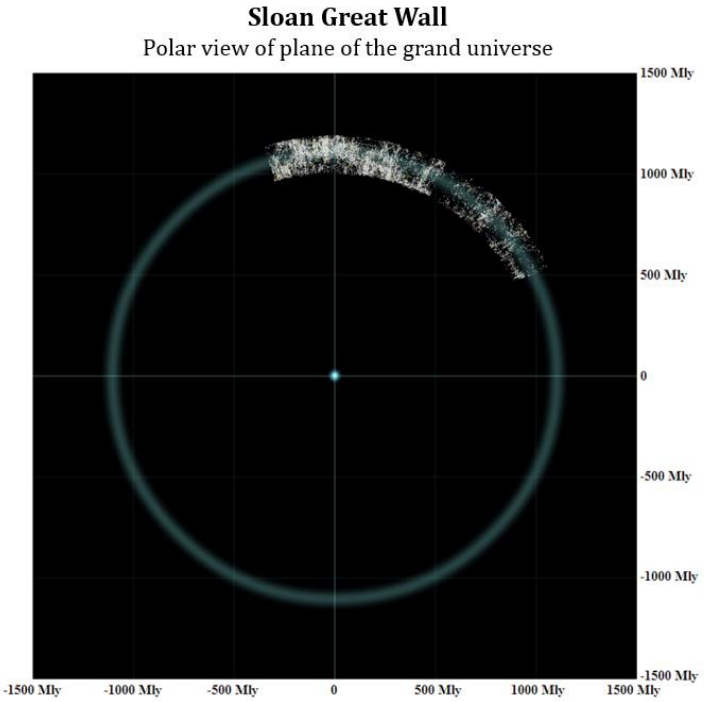
The Revelation of the Grand Universe is Scientifically Confirmed



1. Orbital radius: 9 Mly.
2. Circumference: 56.5 Mly.
3. 7 SU X 8 Mly ≅ 56.5 Mly.
4. GU Radius: 13 Mly.
5. Farthest border: 22 Mly.

It is impossible that anyone could have guessed in 1955 that the Local Group is part of a larger circular structure whose radius is 2.3 times the radius of the Local Group. *The Urantia Book* does the impossible by predicting the size and shape of this cosmic structure. Overlaying the plot of all galaxies within 36 Mly with the chart of the grand universe reveals an astonishing degree of correspondence. This cannot be accidental. Whoever wrote *The Urantia Book* knew about the grand universe before there was any possible human knowledge of it.

Discovery of the Sloan Great Wall



Predictions (1955)

1. 1st OSL much larger than GU
2. At least 70,000 galaxies in its core.
3. Revolves in same plane as GU.
4. Concentric with SU space level.

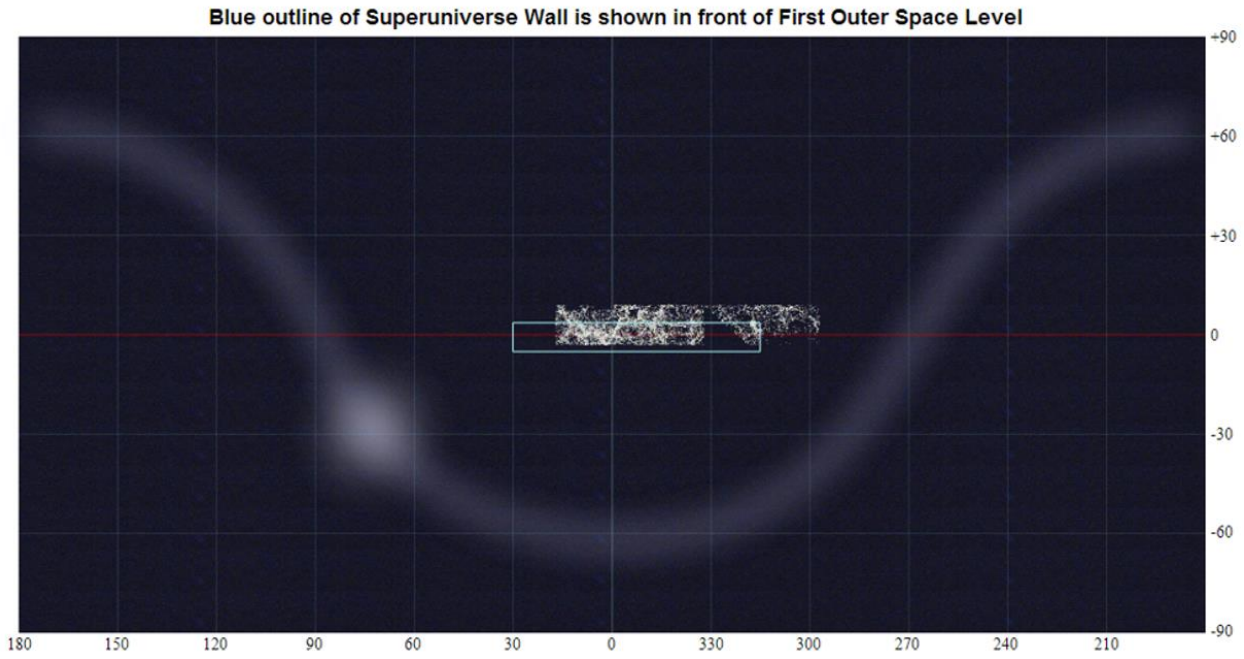
Sloan Great Wall (2003)

1. SGW is 1.4 Bly long.
2. SGW has circular shape; r = 1.1 Bly.
3. 18,000 galaxies in the SGW.
4. 80,000 galaxies over whole orbit.

Confirmation that the seven superuniverses are organized about a center does not demonstrate that this center is the center of the universe. Encircling the superuniverse space level is the first outer space level, which is many times larger. The ring of its central core contains more than 70,000 galaxies, each of which is larger than any of the superuniverses. The galaxies of the first outer space level revolve about Paradise in the same plane as the superuniverses.

There was no evidence of anything like this cosmic structure until J. Richard Gott discovered the Sloan Great Wall in 2003. With a length of 1.4 billion light-years (Bly) it is currently the largest known structure in the universe. The Sloan Great Wall is organized on a plane. It also stretches along a circular path at a radial distance of 1.1 Bly from us. There are roughly 18,000 galaxies in the Sloan Great Wall. This equates to 80,000 galaxies over a whole circle. All of these facts are consistent with the predictions of revelation.

The Sloan Great Wall is the Central Core of the First Outer Space Level



If the Sloan Great Wall is the central core of the first outer space level, it must be on the same plane as the grand universe. The gravitational plane of the Sloan Great Wall aligns exactly with the gravitational plane of the grand universe.

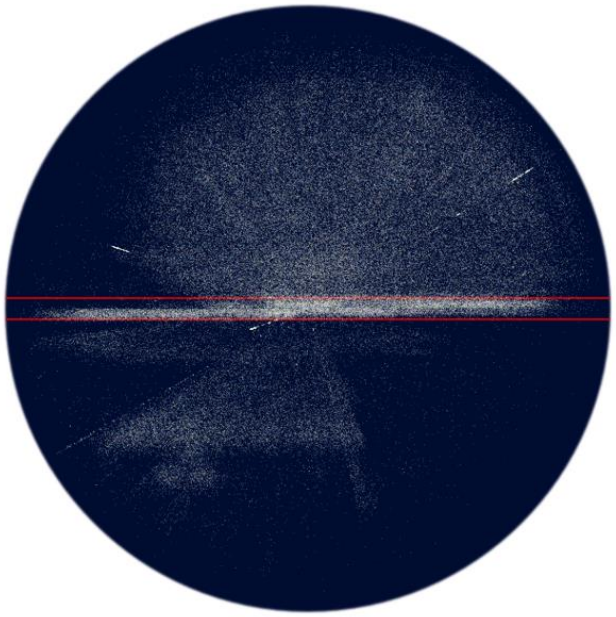
There is no question that the Sloan Great Wall is the central core of the first outer space level. It has the predicted form, mass, center, and orientation of the first outer space level. This is a second major prediction in *The Urantia Book* confirmed by observation. And there is a third prediction that is also substantiated.

Gravity is the only credible explanation for the Sloan Great Wall. However, astrophysicists know that the Sloan Great Wall is much too large to have formed in response to the short-range force of Newtonian gravity. There is not one scientific theory which can explains the Sloan Great Wall. Revelation can and does explain its existence.

The structure and alignment of the Sloan Great Wall are both explained by the long-range force of absolute gravity. The existence of the Sloan Great Wall empirically confirms the existence of absolute gravity, as predicted by *The Urantia Book*.

Quasar Distribution in the Observable Universe Proves Existence of Plane of Creation

150,000 Quasars within 28 Bly (2013)
Viewing universe from a point on the plane of creation



1. Current limit for observable things is 28 Bly.
2. Quasars cluster about plane of GU & 1st OSL.
3. Quasar density 10X greater around this plane.
4. Conclusively disproves Big Bang theory.
5. Conclusively confirms plane of creation.
6. Empirical proof of absolute gravity.

Beyond the first outer space level are the galaxies of the other three outer space levels. We are not told much, except the galaxies in these outer space levels are concentrated about the plane of creation.

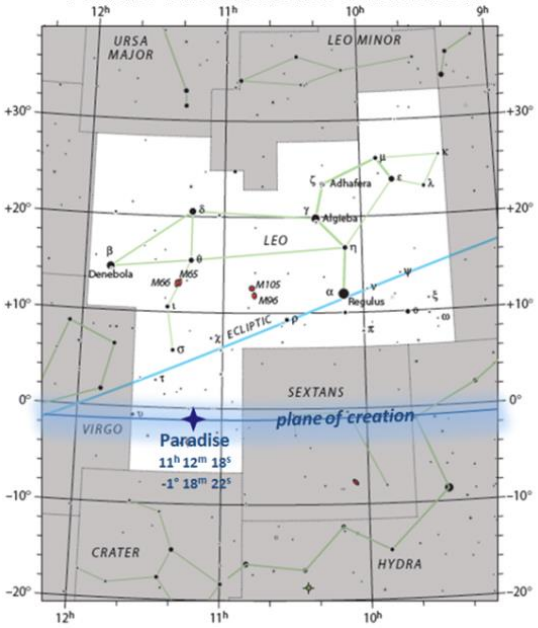
Quasars are extremely massive and luminous galaxies which can be seen as far away as 28 Bly. This is the approximate limit for the observable universe. NASA's Extragalactic Database contains almost 150,000 quasars (as of 2013). Plotting these quasars in a volume with a radius of 28 Bly shows how they tend to concentrate about the plane of the superuniverse and the first outer space levels. The density of quasars in a disk with a radius of 28 Bly that extends 500 Mly above and below the plane of creation is 10 times greater than the average density.

If modern cosmology is correct, matter must be randomly distributed on the largest scales of the universe. To the limit of the observable universe, matter tends to concentrate in a planar structure. The Big Bang theory is immediately and conclusively disproven by this fact. The plane of creation exists, as predicted. The only credible cause for this planar form is universal revolution under the force of absolute gravity.

The existence of the plane of creation is verified on every scale of the universe from tens of millions of light-years to tens of billions of light-years. The deocentric model of the universe is scientifically confirmed.

The Scientific Vindication of Revealed Cosmology is a Miracle

Paradise is below the Leo Constellation



Wide-Field Image of Leo Constellation

Hubble Space Telescope (2007)

The Isle of Paradise is one of the Seven Absolutes of Infinity. It is the origin, center, and controller of the physical universe. It is the home, the personal dwelling of absolute and infinite Deity, the Paradise Trinity. The discovery of its location is a truly momentous event which will have unprecedented ramifications for world civilization.

The discovery of Paradise is only possible because the authors of *The Urantia Book* give us the knowledge we need to make it. But we were unable to use this knowledge until we could observe certain revealed cosmic structures. This resulted in a delay in confirming the deocentric model of the universe. This delay is by design. It is intended to validate *The Urantia Book*.

What could not possibly have been known in 1955 was nevertheless somehow known. A model of the universe which modern science is certain is theoretically impossible is nevertheless confirmed to be true. There is no possible scientific explanation for these historical facts: The vindication of revealed cosmology is a miracle. It is a vindication of *The Urantia Book.* It is a miraculous sign that *The Urantia Book* is authored by celestial personalities and is in fact, as well as in truth, an epochal revelation.