

## Sphere Theory and the Hubble Constant, Hubble Sphere, and a stable Universe

Sphere Theory is a theory of Universe and Quantum world that everything is spheres made of spheres. Hubble size spheres, Planck Spheres and smaller spheres, multiverse spheres and perhaps larger spheres. This however does mean that everything is made of one sphere. Part of what we call the universe would be a sphere made of tightly packed spheres, mostly packed in a cuboctahedron structure. Some small groups of these spheres could be held together by a large scale universe type force similar to electromagnetic force, but obvious a much grander scale and too uniform at our level to perceive. One of these shapes maybe be a toroid. Perhaps similar to proposed radiationless structure as shown by Dr Miroshnichenko in “New theory to lead to radiationless revolution”(1) Dr. Miroshnichenko shows that there may be radiationless structures that are made of radiating materials, that are toroid shape. First we review the Hubble Constant values. We will review the values of the Hubble constant from WMAP, Planck Mission, Hubble Telescope, other measurements and compares it to Sphere Theory Hubble Constant. Reviewing the observable universe we see a universe that we can see back 13.8 billion light years, but because of expansion must be about 91 billion light years in diameter. This paper shows that our universe may be a combination of spheres in a toroid shape. Each sphere would be the size of the Hubble Sphere, as calculated by Sphere Theory. The toroid shape as acknowledged, as a possibility, by other physicists, like Max Tegmark The toroid, which in this paper, is a 6 sphere structure organized as a hexagon that may explain the size of the universe.

### 2.0) Calculations of Hubble Constant.

If we look at Evidence for Granulated Space, we find that the size of the Hubble Sphere is 13.7659 billion light years(2) If we convert this to a constant Hubble Constant it converts to 71.03 (km/s)/Mpc. This compares to the following Hubble constants calculated below.

The following is a list of Hubble Constant values from Wikipedia

Date published	Hubble constant (km/s)/Mpc	Observer	Citation	Remarks / methodology
2016-05-17	73.00±1.75	Hubble Space Telescope	[13]	

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Date published	Hubble constant (km/s)/Mpc	Observer	Citation	Remarks / methodology
2013-03-21	67.80±0.77	Planck Mission	[14][15][16][17][18]	<p>The <a href="#">ESA Planck Surveyor</a> was launched in 2009. Over a four-year period, it performed a significantly more detailed investigation of the microwave radiation than earlier investigations using <a href="#">HEMT radiometers</a> and <a href="#">bolometers</a> to measure the <a href="#">CMB</a> at a smaller scale than <a href="#">WMAP</a>. On 21 March 2013, the European research team behind the Planck cosmology mission released the mission's data including a new all-sky map and their determination of the Hubble constant.</p>
2012-12-20	69.32±0.80	<a href="#">WMAP</a> (9-years)	[19]	
2010	70.4+1.3 -1.4	WMAP (7-years), combined with other measurements.	[20]	<p>These values arise from fitting a combination of WMAP and other cosmological data to the simplest version of the <math>\Lambda</math>CDM model. If they are fit with more general versions, <math>H_0</math> values are smaller and more uncertain: typically around 67±4 (km/s)/Mpc although some allow values near 63 (km/s)/Mpc.<sup>[21]</sup></p>
2010	71.0±2.5	WMAP only (7-years).	[20]	

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Date published	Hubble constant (km/s)/Mpc	Observer	Citation	Remarks / methodology
2009-02	70.1±1.3	WMAP (5-years). combined with other measurements.	<a href="#">[22]</a>	
2009-02	71.9+2.6 -2.7	WMAP only (5-years)	<a href="#">[22]</a>	
2007	70.4+1.5 -1.6	WMAP (3-years)	<a href="#">[23]</a>	
2006-08	77.6+14.9 -12.5	Chandra X-ray Observatory	<a href="#">[24]</a>	
2001-05	72±8	Hubble Space Telescope	<a href="#">[25]</a>	This project established the most precise determination, consistent with a measurement of $H_0$ based upon Sunyaev-Zel'dovich effect observations of many galaxy clusters at a similar accuracy.
prior to 1996	50–90 (est.)		<a href="#">[26]</a>	
1958	75 (est.)	Allan Sandage	<a href="#">[27]</a>	This was the first good estimate of $H_0$ , but it would be decades before a consensus was achieved.

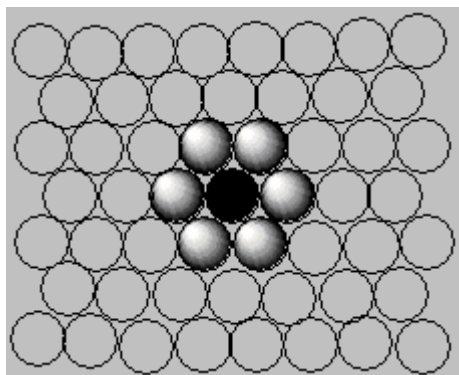
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The Sphere theory yields a Hubble constant of 71.03 Km/s/Mparsec. It is difficult to speculate which one of these values for the Hubble constant is most accurate. If we take the Hubble value obtained in 2016 of  $73 \pm 1.75$  and compare it to the  $67.8 \pm 0.77$  value from the 2013 Planck Mission we see an imprecise prediction that may mean an adjustment to the models. The Sphere Theory model is somewhere between these two models and has been that way for a while.

### 3.0 Shape of Universe

Stable universes could be like fractals of the elements that we see. We could have universe that are like the hydrogen molecule, which would be one of the most common, presumably, or we could have gold universes, electron universes, short lived lone neutron universes, or shorter lived tau lepton universes. One possible shape of the universe is a toroid shape. This could be analogous to the multiple elements that we see, but on a much grander scale when we are talking about the multiverse

Below is a shape of hexagonally packed spheres. A dark circle may represent some type of defect, with the outer six spheres having altered behavior that may cause the group to be connected in a way than just proximity. This could be observed as a toroid shape.



Max Tegmark's analysis hints that the universe may be a toroid shape. (3)

If one looks at the likely radius of the universe per Wikipedia, of 45.5 billion light years(4), it is much larger than the 13.8 billion light years of age. How do we reconcile this. More data and more theory are needed. If one looks at the 13.7659 billion light years predicted by Sphere Theory for the Hubble Sphere and multiply that by 6 for a 6 sphere toroid and divide by  $\frac{\pi}{12^{0.5}}$ , which is the maximum packing density of hexagonal packing, then one obtains a size of the universe of 91.16 billion light years. This compares well with the 91 billion light years of Wikipedia. It does however presume,

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that all light from one Hubble Sphere could travel through an almost point like object into the next Hubble Sphere, where they would, of necessity make contact, of the Hexagonally connected 6 sphere, and make it look like, perhaps, that the Universe expanded from a point like structure. If one takes the surface of a sphere and heads towards the center of the sphere, but only incrementally one can find that perpendicular to that line and to the surface of the sphere traces out a disc. At first the rate of growth of the disc area grows very fast. But gradually the growth is much slower. Just like we imagine the exponential growth of the universe at the beginning of what has been called the big bang. If there are at least two mechanisms of what we view as expansion. The first being expanding from an almost point contact between two Hubble Spheres, the second being another mechanism of expansion that is always accelerating. The first point contact expansion would appear much faster than the always expanding acceleration, but then the always expanding acceleration would take over.

### **4) Discussion**

From the thought discussion above we can see why it may be so difficult to discover the shape of the universe. The universe is typically thought of as the surface of a 4 dimensional space. This definitely complicates the visualization of the universe, and puts it into the abstract realm except for people with the genius of mathematics and physics. In Sarnowski's Sphere Theory, dimensions are 3 dimensional, but defects add up to looking like the outer surface of a sphere as seen in "The Holographic Principle and How can the Particles and Universe be Modeled as a Hollow Sphere" (5). In addition, in Sarnowski's Sphere Theory it shows a physical model of interpreting the Lorentz Factor building on how the Universe, or spheres can be modeled as hollows sphere in, "The Sphere Discontinuity Theory of the Universe and a Physical Model for the Lorentz Factor in the Aether Medium"(6). We find, in thought, that there may be many types of universes made of Hubble Spheres. Some of these universes may have long term stability, some short term stability. Regardless of the stability of these universes, it may be that the contents within Hubble Sphere are what matters for life to exist and this stability maybe a separate discussion. Just like there are different isotopes of oxygen or other elements, if the elements breakup, we still have the stable protons and electrons.

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## 5) References

- 1) <http://www.hngn.com/articles/123689/20150827/radiationless-revolution-born-radical-new-theory.htm>
- 2) <http://vixra.org/pdf/1601.0234v1.pdf>
- 3) [https://en.wikipedia.org/wiki/Three-torus\\_model\\_of\\_the\\_universe](https://en.wikipedia.org/wiki/Three-torus_model_of_the_universe)
- 4) <https://en.wikipedia.org/wiki/Universe>
- 5) <http://vixra.org/pdf/1601.0103v1.pdf>
- 6) <http://vixra.org/pdf/1502.0085v2.pdf>