The Holographic Universe and the Lorentz Transformation of Space and Length Contraction

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1. Abstract

"In The Holographic Principle and How can the Particles and Universe be Modeled as a Hollow Sphere" [1] We found that the amount of matter in the universe is equal to the outside layer of the universe. We also find that the universe is not isotropic. In "Predicting the Gravitational Constant from the New Physics of a Rotating Universe"[2] We show that if red shifting of light is due to travel perpendicular to our location instead of away from our location that the universe is no longer isotropic looking. This would be contrary to the cosmological principle.

In "Gravity Most Related to the Proton Mass, Charge Most Related to the Electron Mass" [3], we showed that space was granular with the same particle everywhere. We called this particle the Plank sphere. In this paper we show that the Planck Sphere can follow the Lorentz transformation. As the Planck Sphere accelerates the discontinuities move away from the center of the Planck Sphere. This increases the energy which happens as the same proportion as the Lorentz transformation. Mass acts on the Planck spheres in the same way and creates the gravitational field. Once a Planck sphere has its momentum altered my any amount, that increased momentum travels, through adjacent Planck spheres, at the speed of light, settling only when it has reached a uniform field.

It is proposed here, that the actual length change in Lorentz contraction, would be that all of the discontinuities in a sphere are moving toward the edge of the sphere, the higher the energy level. Therefor, the sphere would not shrink in size, but sphere would be changed more and more to a hollow sphere in the sense that all of the imperfections would move towards the edge of the sphere and perfect packing would be inside the sphere.

2.0 Calculations

The Sphere Discontinuity Theory begins with the assumption that the Universe is a spinning sphere made of spinning spheres. Below is a picture of spheres made of spheres.

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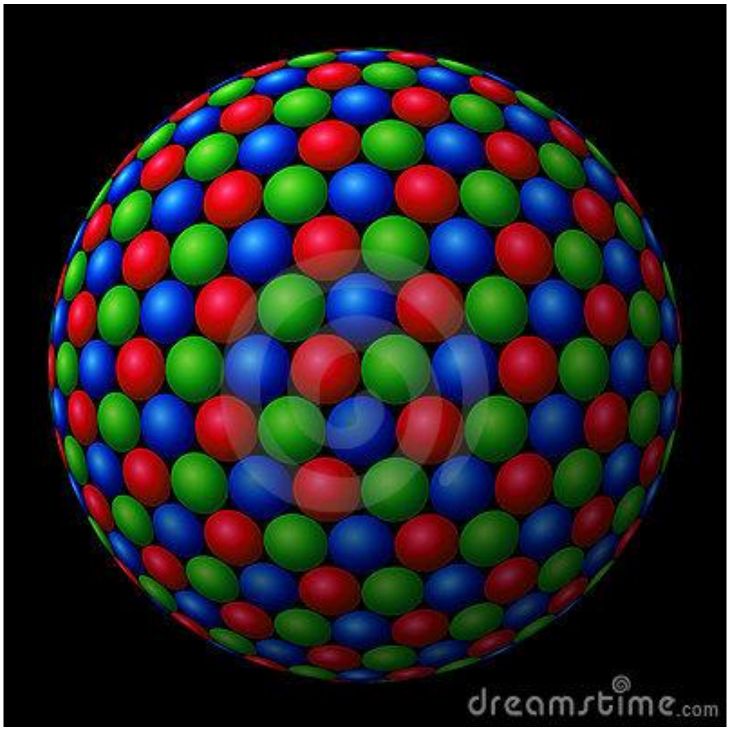

The easiest way to pack spheres, in an efficient method is to pack in a cuboctahedron structure. However, with gravity, there is a tiny force that causes each sphere to a center and thus results in a thin spherical layers of packing. The interesting phenomena with thin spherical shell packing is that each next larger thin spherical shell has more spheres than the interior sphere. For example, a sphere, as shown above, looks like it has a radius of about four smaller spheres. This would yield an outer surface of 64*pi spheres. The next layer would have a radius of 5 resulting in 100 pi spheres. This creates some discontinuity in the packing. When starting from the first few layers, the concentration of discontinuities is high. As one works out to a very large radius, the percentage of discontinuities drops dramatically. The billionith, billionith, billionith layer, the percentage of discontinuities get very small as a percentage. So one ends up with areas of cuboctahedron perfect packing and then boundaries like grain boundaries in materials.

How does one figure out the amount of discontinuities? A simple integration can solve this problem! Each layer has $4*\pi*x^2$. Whre x is the radius of the sphere in spheres. So if we use the Equation 3, below, we

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can find out the total amount of discontinuities. Discontinuities between layers would be

$$Discontinuitiesbetweenadjacentlayers = 4pi*(x+1)^2 - 4pi*x^2$$

If we integrate this from 0 to x

Let Sd= Sum of Discontinuities between adjacent layers of concentrically packed sphere made of spheres

$$Sd = \int_0^x 4pi*(x+1)^2 - 4pi*x^2 dx$$

We obtain

Equation 3 $Sd = 4pi(x^2 + x)$

Please note that, as x becomes very large, x^2 dwarfs x

And then the equation becomes

Equation 4 $Sd = 4pi(x^2)$

Note that equation 4 is the equation for the outer surface area of a sphere and note that all the discontinuities of packing sphere upon sphere in a spherical fashion, all adds up to the surface area of the outer layer of spheres, even though all the discontinuities are distributed throughout the sphere.

The Lorentz Factor is as follows.

Equation 5 $$\lambda = \frac{1}{\sqrt{(1-\frac{v^2}{c^2})}}.$$

If one proposes that there is a relation between the discontinuities and the Lorentz Factor, what relationship would be consistent with the Lorentz Factor. Lets propose that the fraction of the speed of light is "A". If this fraction of the speed of light is equivalent to a fraction of the discontinuities in the sphere packed sphere.

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Then the fraction of the speed of light would have the following equivalent of discontinuities within the sphere of spheres from Equation 4 $SdA = 4pi((Ax)^2)$. Further, the whole hollow sphere would have the following amount of spheres $Sd = 4pi((x)^2)$ from equation 4. If one then calculates a radius of these discontinuities using Equation 4 again one gets the following radius.

Equation 6 $\sqrt{(4pi(x^2) - 4pi((Ax)^2)/4pi)}$

If one then takes x and divides by Equation 6. This becomes

Equation 7 $\frac{x}{\sqrt{(4pi(x^2) - 4pi((Ax)^2)/4pi)}}$

Which simplifies to the Lorentz Factor.

Equation 8 $\lambda = \frac{1}{\sqrt{1 - A^2}}$ where A is the fraction of the speed of light

As the energy increases, the interior of diameter D becomes perfect packing. All the other volume includes all the discontinuities, but they are now at higher energies increasing by the factor λ. As the speed of light increases, all the discontinuities move toward the edge of the sphere.

It is proposed here, that the actual length change in Lorentz contraction, would be that all of the discontinuities in a sphere are moving toward the edge of the sphere, the higher the energy level. Therefor, the sphere would not shrink in size, but sphere would be changed more and more to a hollow sphere in the sense that all of the imperfections would move towards the edge of the sphere and perfect packing would be inside the sphere.

I. Conclusion

The model above of a sphere made of spheres shows how a solid sphere can be modeled as a hollow sphere, when it is the discontinuities of trying to pack concentric layers of spheres. The Sphere Discontinuity Theory of the universe shows a potential physical interpretation of the Lorentz Factor length contraction has been modeled with this sphere.

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