Proton Radius, Solving the Puzzle

Abstract

The 2018 CODATA proton charge radius is 8.414(19)*10^(-16) meters[1] A new measurement in Nature, “Progress on the proton-radius puzzle” is 8.33 ± 0.10 *10^(-16) meters(4).This information may help in deciphering the construction of the universe. The value is not precise enough to make conclusion. This paper proposes a couple precise values. One being 8.40077662 × 10^-16 meters These numbers are from the Compton wavelength of the neutron. The calculations for the proton charge radius, done in this paper, are a continuation of Spinning Sphere Theory started in the paper “Gravity most related to the Proton Mass, Charge most related to the Electron Mass”[2] where the universe is discovered to be spinning spheres made out spinning spheres for many layers which is better described in “Predicting the Gravitational Constant from the New Physics of a Rotating Universe”[3]

2.0 Calculations

The Compton Wavelength has some meaning. It is shown in here, a prediction for the proton charge radius, when more accurate measurements are made.

The Compton wavelength of the neutron is as follows.

$$ComptonWavelengthNeutron = \frac{h}{cMn} = 1.3195909058 * 10^{-15} meters$$

In “Predicting the Gravitational Constant from the New Physics of a Rotating Universe”[3] it was discovered that the addition of all of the dark energy of the universe can be summed up as the kinetic and Lorentz kinetic energy of a rotating universe. This dark energy also takes place within the particles of the universe, within protons and neutrons and other particles. The rest mass of particles includes the dark energy of spinning particles. This total value is multiplied by π, however for charge this value is $\frac{\pi}{2}$

The charge radius is not an actual radius, but is related to the radius of particles.

The equation for calculating the total energy of a particle is as follows.

$$n \neq 0 \int_{-n}^{n} x/n \frac{(x/n)^2 - ((x-1)/n)^2}{(1-(x/n)^2)^{.5}} dx = \pi$$

The difference for charge is that instead of n to -n to 0 to n. Thus the equation becomes.

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$$\int_0^n x/n \frac{(x/n)^2 - ((x-1)/n)^2}{(1-(x/n)^2)^{.5}} dx = \frac{\pi}{2}$$

Therefore, the charge radius would be the neutron Compton wavelength divided by $\frac{\pi}{2}$

$$ProtonChargeRadius = \frac{2h}{\pi cMn} = 0.840077662 * 10^{-15} meters$$

The full explanation is shown in Appendix A

Appendix A

Explanation for the value of π in the denominator below the value of E

This value of π is similar to a calculation for Cherenkov radiation we are essentially adding up all of the energy of a spinning sphere and including the Lorentz factor. Since the discontinuity particles are distributed amongst the sphere, some are moving near the speed of light and some are moving hardly at all. The summation of all of these particles equals a ratio of π if there were no Lorentz factor involved. The equation for this is shown below. Note that since the discontinuities $x^2 - (x-1)^2$ are less and less dense towards the edge of the universe, the Lorentz factor, although very large, contributes less than expected to the actual mass of the universe. Also note, that since the travel of light is a spiral the density of matter, at the edge of the universe, and since the Lorentz factor shrinks the appearance of distance, the density of matter appears much greater than it is.

$$n \neq 0 \int_{-n}^{n} x/n \frac{(x/n)^2 - ((x-1)/n)^2}{(1-(x/n)^2)^{.5}} dx = \pi$$

3.0 Discussion

We see that spinning sphere theory may be deciphering the puzzle of what the universe is made of, and the proton radius is helping to solve the puzzle. The square root of two in the equation continues with charge, coming from, in a sense, a two dimensional particle. The predicted value of the proton charge radius $0.840077662 * 10^{-15} meters$

References

[1] https://physics.nist.gov/cgi-bin/cuu/Value?rp

[2] http://vixra.org/pdf/1403.0502v7.pdf

[3] http://vixra.org/pdf/1903.0253v3.pdf

[4] https://www.nature.com/articles/d41586-019-03364-z