Serendiptious Mathematical Geometric Origin of Mass Ratio of the Proton to the Neutron

1.0) Abstract

Science has many examples of serendipitous discoveries. I think the mathematical equation below is one of those serendipitous accidents accompanied by an observant mind. The following equation shows a mathematical relations that may relate to the mass ratio of the Proton/Neutron. Updated version, that relates the proton to neutron mass to Bremsstrahlung and Cherenkov like radiation is at http://vixra.org/pdf/1612.0302v2.pdf

2.0) Proton/Neutron Mass Ratio

Equation 2.0 $P(1-P)=\sqrt{3}/2\int_0^1 x^4(1-x)^4\,dx$

Where P_x~~0.998623461644084 and P_y~~0.00137653835591585

Shown below, Me=Mass of Electron, Mp=Mass of Proton, and Mn=Mass of Neutron.

From Codata, compare the Proton Neutron mass ratio of **0.99862347826(45)** (1), to Px **=0.998623461644084**, one of the solutions to Equation 2. These two numbers are very close. At first blush, this could be coincidental. Can this form of equation be used to calculate other mass ratio's. We see in "Serendipitous hints at shape of Electron and Electron/Neutron Mass Ratio"(7) that the values Px and Py, calculated in equation 2.0 above, are used to determine the mass ratio of the electron to the neutron. Below we see that a Lorentz factor, using the mass ratio of the electron to the neutron, can contribute a small amount of mass to the proton, to achieve the actual mass ratio of the proton to the neutron.

Equation 2.1 $$\alpha=\frac{1}{\sqrt{1-(\frac{Me}{3Mn})^2}}=1.00000001645$$

Multiplying $Px=0.99862346144084$ by the Lorentz factor 1.00000001645

Equation 2.2 $$\frac{Mp}{Mn}=Px*\alpha=0.998623461644084*1.00000001645=0.998623478023$$

Equation 2.2.1 $$\frac{Mp}{Mn}=0.998623478023$$

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One can notice that the first $Px * \alpha = 0.998623478023$ is very close, within one sigma, to the Codata Value of the ratio of the mass of the proton to the mass of the neutron. Within 0.99999999763. It appears that part of the mass that we experience as the rest mass of the proton, is contributed by the rest mass of the electron. It also means that the part that forms the electron and proton and neutron, are not really at rest, since the value $\frac{Me}{3Mn}$ is actually a velocity against the constant motion of the aether. We see the value of $\frac{Me}{3Mn}$ is exactly the same and shown in

"The Aether Found, Discrete Calculations of Charge and Gravity with Planck Spinning Spheres and Kaluza Spinning Spheres" (5)The same identity is dividing the mass ratio of the electron to the neutron by 3.

proton-neutron mass ratio		
Value	0.998 623 478 26	(1)
Standard uncertainty	0.000 000 000 45	
Relative standard uncertainty	4.5×10^{-10}	
Concise form	0.998 623 478 26(45)	

3.0 Discussion

What is the evidence that this is possible? Is there a relationship between the mass of the electron, proton and neutron that is mathematical and geometric.

1) One sees a value of $\sqrt{3}$. This value could be an angle in cuboctahedron packing of spheres. It could also be an approximation of the sum of 3 nearly equal scalar vectors.
2) One sees a value of 2. This could be $\sqrt{2}$ squared. This value could be an angle in cuboctahedron packing of spheres. It could also be an approximation of the sum of 2 nearly equal scalar vectors.
3) One looks at the part of the equation of $\int_0^1 x^4(1-x)^4 dx$. Has this structure been used before in physics? Yes it has. Fermi's coupling constant " I(X)" is very similar to the above equation $\int_0^1 x^4(1-x)^4 dx$ except that Fermi's coupling constant for muon decay is closer to $\int_0^1 x^2(1-x)^2 dx$. When one looks at the value I(x)

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The muon decay width is, from Fermi's golden rule:

$$\Gamma = \frac{G_F^2 m_\mu^5}{192\pi^3} I\left(\frac{m_e^2}{m_\mu^2}\right),$$

where $I(x) = 1 - 8x - 12x^2 \ln x + 8x^3 - x^4$ and G_F is the Fermi coupling constant and $x = 2E_e/m_\mu c^2$ is the fraction of the maximum energy transmitted to the electron. (2)

How Fermi derived this is a mystery to me, but it shows a similarity that should not be overlooked. Is his equation empirical or derived. I am under the impression that much of what is done is empirical, but based off of observed data.

4.) The value of P(P-1) is similar to "How can the Particles and Universe be Modeled as a Hollow Sphere" (3) Where it is shown that the amount of discontinuities formed when packing sphere is the following.

Integrating Equation 2

Equation 2 $Discontinuitiesbetweenadjacentlayers = 4pi * x^2 - 4pi * (x-1)^2$ from 1 to x

Equation 2a $Sd = \int_1^x 4pi * x^2 - 4pi * (x-1)^2 - dx$.

Therefore

Equation 2b $Sd = 4pi(x^2 - x)$ = $4pi * x * (x-1)$

5.) In string theory one speaks of hidden dimensions. Some times 25 dimensions some times 10 dimensions, sometimes 11 dimension. If one studies "Cuboctahedron Sphere Theory of the Universe Shows the Aether to be Composed of Smaller and Smaller Hidden Dimensions of Spheres Until Reaching the Perfect Packing of a Cuboctahedron Packed Spheres" (4) One sees 8 layers of extra 3 perpendicular dimensions each.

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6)Why is the ratio of the proton divided by the neutron mass important? It is important since has been found in other examples to be important. In “The Aether Found, Discrete Calculations of Charge and Gravity with Planck Spinning Spheres and Kaluza Spinning Spheres” (5) In the calculation of the Force of Charge $q^2 = T\pi^3 hc\varepsilon(Me)/2Mn$ where $T^2 = \frac{((Mp-Me)^2 + Mn^2 + Mn^2)}{Mn^2}$ which uses the value described above of the mass of the proton minus the mass of the electron all over the mass of the neutron.

7) Why is the ratio of the proton mass minus the electron mass divided by the neutron mass important? It is important since has been found in other examples to be important. In “Cuboctahedron Sphere Theory of the Universe shows the Aether to be composed of smaller and smaller hidden dimensions of Spheres until reaching the perfect packing of a Cuboctahedron Packed Spheres” (6) Note that both values of “P”, in Equation (2) calculated for mass ratio of the proton and neutron are used in the calculation of the mass ratio of the electron and neutron. (7)

References

1 http://physics.nist.gov/cgi-bin/cuu/Value?mpsmn

2 http://en.wikipedia.org/wiki/Muon

3 http://vixra.org/pdf/1407.0183v3.pdf

4 http://vixra.org/pdf/1412.0195v1.pdf

5 http://vixra.org/pdf/1403.0502v6.pdf

6 http://physics.nist.gov/cgi-bin/cuu/Value?mesmn

7. http://vixra.org/pdf/1508.0027v2.pdf

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