Mathematical Geometric Origin of Masses of Particles Proton and Electron

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.

Section 1 Proton/Neutron Mass Ratio

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

Where y~~0.998623461644084 and y~~0.00137653835591585

One can notice that the first y=0.998623461644084 is very close to the Codata Value of the ratio of the mass of the proton to the mass of the neutron. Within 0.999999983. This is not within the expected 3 sigma standard deviation, but there could be a second relativistic factor that would easily make up this small difference. The second relativistic affect is not calculated here as it could distract from the original amazing correlation to the mass ratio of the proton to the neutron.

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

(1)

What is the evidence that this is possible? Is there a relationship between the mass of the 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 $\int_0^1 x^2(1-x)^2 dx$

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 x*(x-1) could come from "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. 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. The calculation down to the final

dimension uses the equation derived in "How can the Particles and Universe be Modeled as a Hollow Sphere" (3)

Integrating Equation 1

Equation 1 $Discontinuities between adjacent layers = 4pi*(x+1)^2 - 4pi*x^2$ from 0 to x

Equation 1a $Sd = \int_0^x 4pi*(x+1)^2 - 4pi*x^2 dx$.
Therefore
Equation 1b $Sd = 4pi(x^2 + x)$

Section 2 (Proton-Electron)/Neutron Mass Ratio and Electron/Neutron Mass Ratio

Can this technique be extended to the electron?

If one uses the following equation. If one proposes that the mass of the proton over the mass of the neutron is important and that a vector of 3 perpendicular forces are important one can derive a new dimensionless constant called "D" Where

Equation 2 $D^2 = \frac{(Mp)^2 + Mn^2 + Mn^2}{Mn^2}$ **=**

This is very similar to Equation 2.1 $T^2 = \frac{(Mp - Me)^2 + Mn^2 + Mn^2}{Mn^2}$ **(5) in "The Aether Found, Discrete Calculations of Charge and Gravity with Planck Spinning Spheres and Kaluza Spinning Spheres"**

Therefore what serendipitious equation gives us the ratio of the mass of the electron to the neutron?

Equation 3 $D^2(y)(1-y) = ((\sqrt{2})^8)/(\sqrt{3})^5 \int_0^1 x^4(1-x)^4 dx$

This gives two answers

y1 = 0.000543863302 y2 = 0.999456137

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y1 is within 0.9999926 of electron over neutron mass ratio.

electron-neutron mass ratio m_e/m_n	
Value	5.438 673 4461 x 10^{-4}
Standard uncertainty	0.000 000 0032 x 10^{-4}
Relative standard uncertainty	5.8 x 10^{-10}
Concise form	5.438 673 4461(32) x 10^{-4}

(6)

That Y1 is close to the ratio can be adjusted with vectors and relativistic affects without affecting Y2. This is not shown here for fear that it might distract from the amazing correlation to the mass ratios of the electron and proton to the neutron.

y2 is exactly the ratio of the mass of the neutron minus the mass of the electron divided by the mass of the neutron.

Equation 4 $$\frac{1.674927351*10^{-27} - 9.10938291*10^{-31}}{1.674927351*10^{-27}} = 0.999456132655390.$$

This value calculated y2 of 0.999456137 is virtually equal to Equation 4 of 0.999456133 within 0.999999996.

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

1) 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 $T^2 = \dfrac{((Mp - Me)^2 + Mn^2 + Mn^2)}{Mn^2}$ 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.
2) 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)

When one reaches the Confucius layer, one, almost seemingly magically, sees the same ration of the mass of the proton minus the mass of the electron, all over the mass of the neutron.

3) Note that both values of "y" calculated for mass ratio of the proton and neutron are used in the calculation of the mass ratio of the electron and neutron.
4) 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.
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Section 2 (Proton-Electron)/Neutron Mass Ratio and Electron/Neutron Mass Ratio

References

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

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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

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