Numerological Formula for the Mass of the Proton

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The present investigation is concerned with the numerological formulation for the mass of the proton. The formula presented here is accurate to 8 decimal places.

***Keywords**: Planck mass, fine structure constant, electromagnetic coupling constant, NIST*

1. The Formula

The formula I developed is

$$m_p = \frac{m_e^2}{\alpha^{\,a} M_P} \tag{1}$$

Where

m_p = proton rest mass
m_e = electron rest mass
M_P = Planck mass
α = fine structure constant (electromagnetic coupling constant)
a = exponent

$$a = 2^4 - 2^2 + \frac{2^2 + 2^0}{2^{16} - 2^9 + 2^2 - 2^0} \cong 12.000\,076\,89 \tag{2}$$

Where the numbers in the expression of a are all powers of 2

$$M_P = \sqrt{\frac{hc}{2\pi G}} \tag{3}$$

Substituting a with its value gives

$$m_p = \frac{m_e^2}{\alpha^{\,12.00007689} M_P} \tag{4}$$

2. Comparison with the Experimental Value

Formula (1) predicts the following value

$$m_p = 1.672\,621\,776 \times 10^{-27}\,Kg \qquad \text{(R1)}$$

According to NIST the experimental value is

$$m_{p\text{-}\exp} = 1.672\,621\,777 \times 10^{-27}\,Kg \qquad \text{(R2)}$$

Comparing the result (R1) with the experimental value (R2) we find that formula (1) is accurate to 8 decimal places.