Neutron, Proton and Electron Mass Formula

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Abstract. This is an improved and simplified version of [1]. This version of the formula clearly shows the importance of information in physics, through the logarithm of the base 2 and formula \( y=2^{e} \).

I am using mathematical constants: \( e=2.71828… \), \( 2\pi=6.283185… \) and two physical constants: proton/electron mass ratio \( \mu=1836.152\,672\,45\,75 \) and inverse fine structure constant \( \alpha=137.035\,999\,074\,44 \) [2]

The following relation is valid:

\[
\gamma = 2^{\left[3e^{2\pi} / 2-\left(\mu/\alpha'+1\right)\left(\mu/\alpha'+2\right)-1+3\ln_{2}(2\pi)\right]/\left[2(1+\alpha'^{2}\log_{2}\mu)\right]} = 1.00137841920390(92)
\]

That is neutron/proton mass ratio: \( \gamma = 1.001\,378\,419\,17 \) [2]

From personal experience I can say that few people are interested in reading the explanation for this formula. The perspective of the majority can be summed up by the statement of a reputable professor: “The formula is a coincidence, maybe even a curiosity.” In the past ten months I have published dozens of these “curiosities”, with more than ten significant digits correct, thanks to viXra.org. An attentive reader can notice Planck’s values and nucleus in the exponent [3].

I would like to thank the minority who understood the fundamental importance of the formula and contacted me. I would especially like to express my gratefulness to Mr. Hugh Matlock for determining the uncertainty in this version of the formula.

References: