Geometric Quantization of Fundamental Scales

$Requestforar Xivendorsement \mid Code{:}W8NAH3$

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1. Core Geometric Relation

A stable confined wave satisfies
$L = n\lambda\,.\,UsingtheComptonwavelength\lambda_C = h / mcfromE = mc^2 = hc / \lambda, weobtain$: RVED=nℏmc [

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2. Exact Prediction for the Proton Charge Radius

Applying](1) to the proton with the integer $n = 4$ and using CODATA values
$m_p, \hbar, c{:}R_p^{\text{calc}} = \frac{4\hbar}{m_p c} = 0.8412 \times 10^{-15}$ m $< / mi > < mi > T < / mi > < mi > h < / mi > < m$

R_s = \dfrac{2 G m}{c^2} \qquad \text{

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m = \frac{n \hbar}{R_{\text{VED}} c} = \frac{R_s c^2}{2G}

Substituting R_{\text{VED}} from 1 and R_s from 2 into 3 gives the testable p

Gn = $G_{\text{exp}} \cdot \frac{2}{n}$

The experimentally measured value

G_{\text{exp}} = 6.67430 \times 10^{-11} \text{ m}^3 \text{ kg}^{-1} \text{ s
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