

Fine structure constant, Planck Length and Golden ratio

3D Universe Theory
www.3d-universe-theory.com
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The following formulae are in addition to the ones included in the 3D Universe Theory available on <http://www.vixra.org/abs/1304.0094>

Fine structure constant:

$$1/\alpha = \frac{\varphi^2 \times (8\pi - 1)^2}{4\pi \times \left(1 - \frac{1}{8\pi}\right)^3} = \frac{\varphi^2 \times 16\pi}{1 - \frac{1}{8\pi}} = 137.049 \text{ (Official value 137.036)}$$

Planck Length:

$$\ell_P = \frac{2 \times \varphi}{g} = \frac{2 \times 1.61803398}{2.00231930} = 1.616159 \text{ (Official value 1.616199)}$$

φ = Golden ratio

g = Electron's Landé factor

Boltzmann constant:

$$k_B = \frac{4}{\pi \left(1 - \frac{1}{8\pi}\right)^2} = 1.3809 \text{ (Official value 1.3806)}$$