Elliptic Interpretation of the Fine Structure Constant

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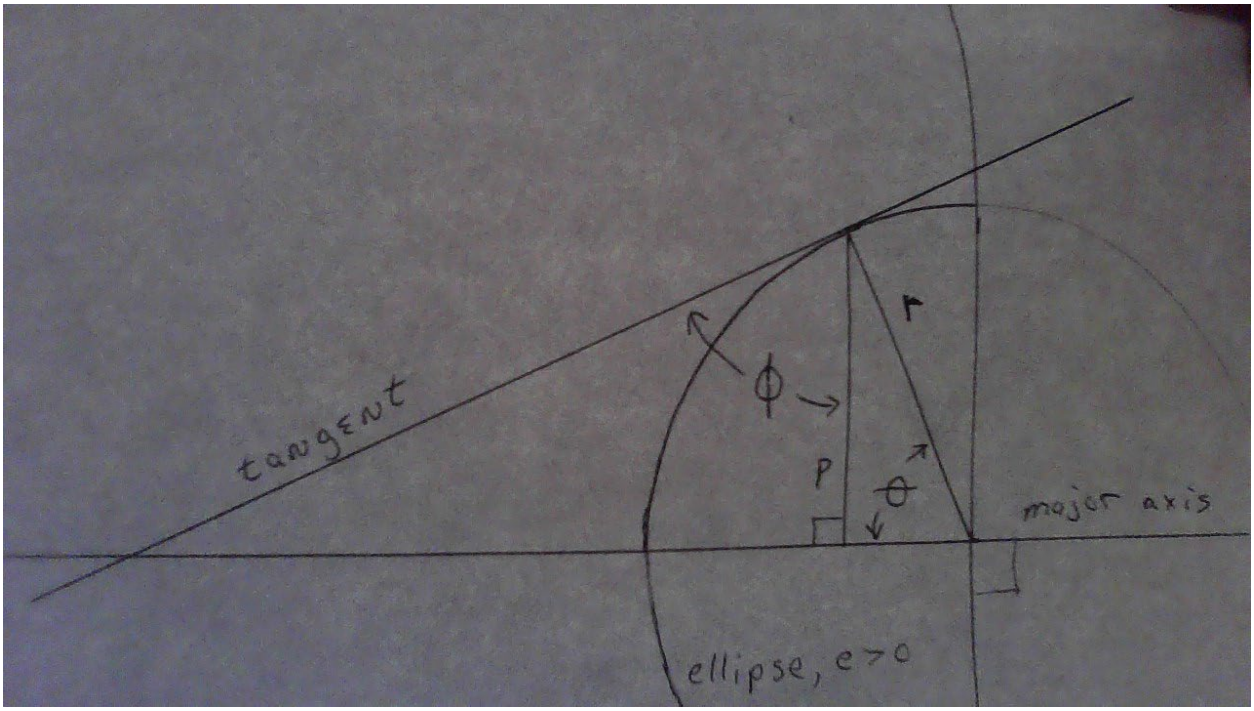
Paper presents fine structure constant as geometric ratio.

Equation 1)

$$\left[\sin\left[\sqrt[\pi]{\frac{\pi}{2}}\right] - \left[1 - \frac{1}{\sqrt[2]{x}}\right]\right]^{-1} - \left[x^2 + x + \sqrt[4]{x}\right] = 0 \ , x > 1$$

$$x = 137.035\ 999\ 184\ 7 \ldots$$

Elliptic interpretation of equation 1



(e)ccentricity of ellipse is such that:

Angle between tangent line (touching point where r meets ellipse perimeter) and line segment (p)erpendicular to major axis equals $\sqrt[\pi]{\pi/2}$ radian.

$$\phi = \sqrt[\pi]{\pi/2}$$

$$\sin\phi - \frac{1}{x^2 + x^1 + x^{1/4}} = 1 - \frac{1}{x^{1/2}} = \sin\theta$$

$$p = [\sin\theta]r$$

The ratio of $\frac{r}{r-p}$ squared equals x.

$$\left[\frac{r}{r-p}\right]^2 = x = 137.0359991847\ldots$$

CODATA recommended fine structure constant value; $7.2973525643 \cdot 10^{-3}$

2022 CODATA value: fine-structure constant. The NIST reference on constants ,units, and uncertainty. NIST. May 2024 , retrieved 8 October , 2024

CODATA recommended value inverse; 137.035999177...