The Inverse Fine Structure Constant: A Redundant Notation

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The fine structure constant and its inverse expression reflect a specific spacetime/movement event in matter-energy. Yet, the formula that is often given to state the manner in which the inverse fine structure constant, 137.03599911 value appears redundant. Its equation is expressed as follows:

\[
e^2 \frac{1}{\hbar \cdot c \cdot 4\pi \cdot \epsilon_0} \tag{1}
\]

A version of the fine structure constant, 7.29735257, follows as shown in some computations for electrostatics. The \(4\pi \mu_0\) is taken as dimensionless constant 1.

\[
e^2 \frac{1}{hc} \tag{2}
\]

Consider the expression of its inverse (1) in its symbolic notation without certain abbreviations:

\[
e^2 \left(\frac{\hbar \cdot c \cdot 4\pi \cdot \frac{1}{e^2 \mu_0}}{2\pi}\right) \tag{3}
\]

\[c \cdot 4\pi \text{ times } 1/c^2 \mu_0 \text{ represents actually } c \cdot 4\pi \text{ times } 1/c^2 \cdot 4\pi.
\]

A redundancy appears in repeated terms although distinctly:

\[
c \cdot 4\pi \text{ times } 1/c^2 \cdot 4\pi
\]

After cancellations, these apparently four distinct terms represent in fact **the reciprocal of the speed of light in a vacuum**, since \(c \cdot 4\pi \text{ times } 1/c^2 \cdot 4\pi\) equals fractal \(0.333564095 \cdot (1/c)\)

\[
1 / 0.333564095 = 2.99792458 \text{ fractal speed of light in vacuum}
\]

\[
e^2 \left(\frac{\hbar}{2\pi}\right) \frac{1}{c} \tag{4}
\]

\[2.566969633 \text{ divided by } 1.05457168 \text{ times } 0.333564095 \text{ means:}
\]

\[0.333564095 \times 1.05457168 = 0.351767248
\]

\[2.566969633 / 0.351767248 = 1.3703599911 \text{ inverse fine structure constant}
\]

And, if one prefers the use of the **reduced** Planck Constant, then the expression for the **inverse** fine structure constant, 1.3703599911, would be:

\[
e^2 \frac{1}{h \cdot \left(\frac{1}{c}\right)} \tag{5}
\]

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