Is the Electron a Superluminal Half-Photon with Toroidal Topology?

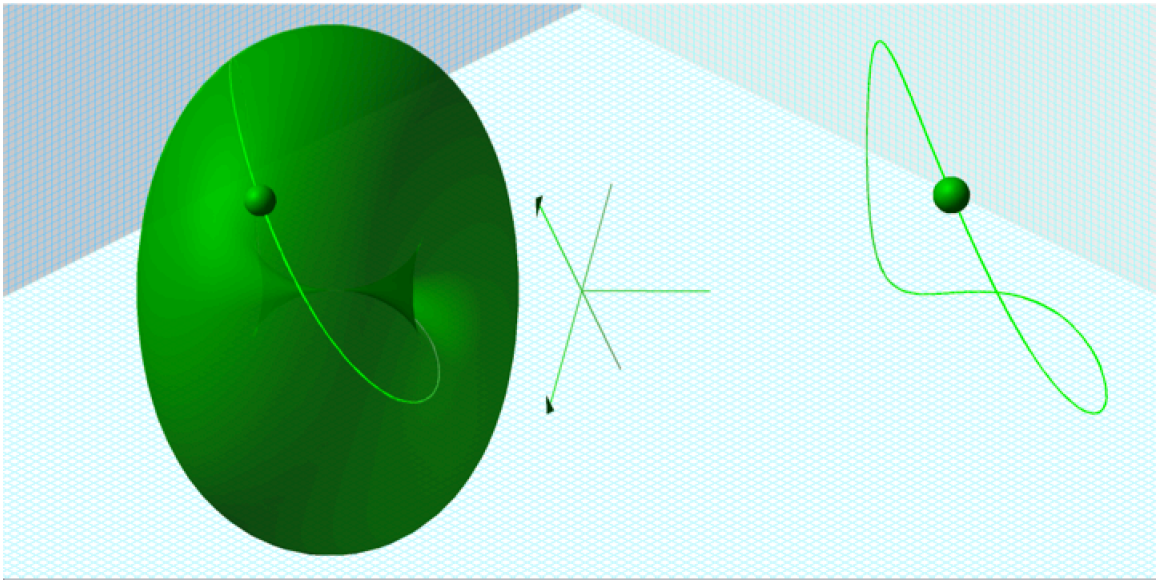
$$x = \frac{\lambda_C}{4\pi}(1+\cos\omega_{zitt}t)(\cos\omega_{zitt}t)$$

$$y = \frac{\lambda_C}{4\pi}(1+\cos\omega_{zitt}t)(\sin\omega_{zitt}t)$$

$$z = \frac{\lambda_C}{4\pi}(\sin\omega_{zitt}t)$$

where $\lambda_C = h/mc = 2.43\times10^{-12}\,\mathrm{m}$ is the Compton wavelength. $\lambda_C/4\pi$ is the radius of a double-helix photon of energy equal to the rest energies of an electron plus a positron, and is also the helical radius of the electron model. $\omega_{zitt} = 2\pi\nu_{zitt} = 2mc^2/\hbar$ is the electron's zitterbewegung angular frequency.

Spin-½ electron model formed from closed helix spin-½ charged half-photon model. The superluminal quantum moves on the surface of a horn torus.



Equations for 3D graphing of the superluminal half-photon electron model

$$\begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} (1 + \cos 2\pi n) \cos 2\pi n \\ (1 + \cos 2\pi n) (\sin 2\pi n) \\ \sin 2\pi n \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} (1 + \cos 2\pi t) \cos 2\pi t \\ (1 + \cos 2\pi t) (\sin 2\pi t) \\ \sin 2\pi t \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} (1 + \cos 2\pi v) \cos (2\pi u) \\ (1 + \cos 2\pi v) \sin (2\pi u) \\ \sin 2\pi v \end{bmatrix}$$

Using the 3D graphing program Graphic Calculator available from Pacific Tech at http://www.pacifict.com, the above three sets of equations correspond to the figure on the left in the above diagram. The range of the variables x, y, z, n, t, v and u need to be set appropriately in the graphing program.

1) The animation of the moving superluminal energy quantum
2) The closed helical trajectory of the superluminal energy quantum for a resting electron
3) The horn torus on which the superluminal energy quantum is moving along its closed helical trajectory in a resting electron.