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Transluminal Energy Quantum (TEQ) Model of the Electron RICHARD GAUTHIER, Santa Rosa Junior College, California — A transluminal energy quantum (TEQ) is proposed that forms an electron by its circulatory motion. The TEQ is particle-like with a helical wave-like motion. It carries electric charge, energy, momentum and angular momentum but no mass, and easily passes through the speed of light c. An electron is modeled by a –e charged TEQ circulating at 1.2×10^{20} hz, the Compton frequency mc^2/h, in a closed double-looped helical trajectory whose circular axis' double-looped length is one Compton wavelength h/mc. In the electron model the TEQ's speed is superluminal 57% of the time and subluminal 43% of the time, passing through c twice in each trajectory cycle. The TEQ's maximum speed in the electron model's rest frame is $2.515c$ and its minimum speed is $.707c$. The TEQ's spatio-temporal helical parameters for the electron model produce the Dirac equation's electron spin $s_z = \hbar/2$ as well as the Dirac equation's magnetic moment $M_z = -e\hbar/2m$, *zitterbewegung* frequency $2mc^2/h$, *zitterbewegung* amplitude $\hbar/2mc$ and internal forward speed c, while the TEQ's two helicities correspond to the electron and the positron. In the electron model, the TEQ moves on the mathematical surface of a self-intersecting torus (spindle torus). http://www.superluminalquantum.org

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