

Abstract Submitted
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Origins of the Electron's Angular Momentum ERNST WALL, Consultant — The electron may be modeled as a point charge revolving at light speed in a Compton wavelength orbit. This provides the electron's mass energy and the Bohr magneton identically, as well as a plausible origin of its de Broglie waves. At the same time, it may be viewed as if it were a photon trapped in that orbit so that the momentum of this "photon" is $p = E/c = mc$ [1, 2]. If the mass were concentrated at the point charge, its implicit angular momentum would be $L = rp = (\hbar/mc) * mc = \hbar$, where $\hbar = h/(2\pi)$. However, the revolving particle's electric impulse propagates radially inward across the orbit, so one can simplistically postulate that the mean mass over time is uniformly distributed over its surface with a constant angular momentum that is equivalent to a revolving disk. Using this, the electron's overall angular momentum is $L = \hbar/2$. However, there are spinor (360 degree rotation to change sign) and other issues not discussed here that clearly require further investigation [3].

[1] **The Physics of Tachyons**, Ernst Wall (Hadronic Press, 230 pp., 1995).

[2] Web page www.tachyonmodel.com.

[3] Walter Niblack's spinor comments are much appreciated. Also: Gerhard Hahn's criticism was helpful.

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