Experimental Basis for IED Particle Model J. ZHENG-JOHANSSON — The internally electrodynamic (IED) particle model is built on three experimental facts: a) electric charges present in all matter particles, b) an accelerated charge generates electromagnetic (EM) waves by Maxwell’s equations and Planck energy equation, and c) source motion gives Doppler effect. A set of well-known basic particle equations have been predicted based on first-principles solutions for IED particle (e.g. J Phys CS128, 012019, 2008); the equations are long experimentally validated. A critical review of the key experiments suggests that the IED process underlies these equations not just sufficiently but also necessarily. E.g.: 1) A free IED electron solution is a plane wave $\psi = Ce^{i(k_dX-\omega T)}$ requisite for producing the diffraction fringe in a Davisson-Germer experiment, and of also all basic point-like attributes facilitated by a linear momentum $\hbar k_d$ and the model structure. It needs not further be a wave packet which produces not a diffraction fringe. 2) The radial partial EM waves, hence the total $\psi$, of an IED electron will, on both EM theory and experiment basis -not by assumption, enter two slits at the same time, as is requisite for an electron to interfere with itself as shown in double slit experiments. 3) On annihilation, an electron converts (from mass $m$) to a radiation energy $\hbar \omega$ without an acceleration which is externally observable and yet requisite by EM theory. So a charge oscillation of frequency $\omega$ and its EM waves must regularly present internal of a normal electron, whence the IED model.

J. Zheng-Johansson
Inst. of Fundamental Physics Research, Nykoping, SWE

Date submitted: 21 Nov 2008

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