

Abstract Submitted
for the APR07 Meeting of
The American Physical Society

Basic-Particle Formation Scheme & Experimental Tests J.X. ZHENG-JOHANSSON, P.-I. JOHANSSON, IOFPR, SWE — Based on overall experimental observations, especially the pair processes, we have since several years proposed that a basic particle like the electron, proton, etc. is formed of an oscillatory elementary charge of zero rest mass (a vaculeon), and the resulting electromagnetic waves in a dielectric vacuum. The charge and its total kinetic energy endowed at creation are the two sole inputs. The remaining particle properties and their relations are given by the classical-mechanics solutions. In this way we have predicted among others particle's total energy, mass, Einstein mass-energy relation, relativistic energy- momentum relation, de Broglie wave and parameters, Schrödinger/Dirac equations (incl. nonlinear terms), and Newton's gravity, in overall agreement with observations, the descriptions by the Standard Model, and the basic laws of classical, quantum and relativistic mechanics. Also, the model vacuum contains an enormous "dark energy" of much current interest. There appears to exist no known indications that contradict the proposed scheme. It seems to take yet ingenious designs for measuring the yet not observables to directly verify, or else falsify, the scheme. Refs: JXZJ & PIJ in *Unif. of Clas., Quant. & Rel. Mech. & Four Forces*, Nova Sci. 2005, Fwd R Lundin; *Quant. Theory & Symm. IV*, ed V Dobrev, Heron Press, 2006, 763; 771 (with RL); *Prog. in Phys.* **4**, 32, 2006; *Phys. Essays*, **19**, Nr.4, 2006; refs therein.

J..X.. Zheng-Johansson
Inst. of Fundamental Physics Research, 611 93 Nyköping, Sweden

Date submitted: 12 Jan 2007

Electronic form version 1.4