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The Fabrication of de Broglie Wave J.X. ZHENG-JOHANSSON, P.-I. JOHANSSON, IOFPR, SWE — If an electron e^- of de Broglie wavelength Λ_d is fired at A into a field-free chamber of size $AB >> \Lambda_d$, then, it is a classical point particle. We will be able to register its position, e.g. B, and time T. If at B is a diffraction grating of spacing $\sim \Lambda_d$, then the e^- arriving in it is a quantum particle and produces diffraction patterns; e^- must be a train of traveling plane wave of many Λ_d's. Naturally a viable theory for the formation of basic particles, like the electron, ought to pass among others the above simple but critical test: being a particle and wave. One may illustrate the former feature by a wave packet which yet lacks periodicity in space-time of a plane wave. We recently developed [1-3] based on overall experiments a particle formation scheme. By it a basic particle like the electron is made of a massless oscillatory charge $-e$ or $+e$ of a fixed oscillatory energy, and the resulting electromagnetic waves. When the particle is in motion, so is its source charge, then owing to the resulting Doppler effect the EM wave evolves into a beat wave resembling precisely a traveling de Broglie wave. It firstly passes the above test well, it obeys de Broglie relations and Schrödinger equation, and it has the overall other observational particle properties. Refs: JXZJ & PIJ in 1. *Unif. of Clas., Quant. & Rel. Mech. & Four Forces*, Nova Sci. 2005, Fwd R Lundin; 2. *Quant. Theory & Symm. IV*, ed V Debrev, Heron Press, 2006, 763; 771; 3. *Prog. in Phys.* **4**, 32, 2006; refs therein.

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