Abstract Submitted
for the APR05 Meeting of
The American Physical Society

Nature of Gravity Wave[1] J.X. ZHENG-JOHANSSON, IOFPR, SWE, P-I. JOHANSSON, Uppsala Univ., SWE, R. LUNDIN, Swe. Inst. Space Phys., SWE — As direct Newton-Maxwell solutions for particle formation, we obtain: (1) An oscillatory charge $|q_i| = e$ of any sign and the electromagnetic waves generated by it (of an angular frequency ω_i and traveling at the velocity of light c), called as a whole a basic particle, has a mass $m_i = \hbar\omega_i/c^2$, $2\pi\hbar$ being Planck constant. (2) Two such particles, $i, j = 1, 2$, separated R apart in a dielectric vacuum will, in their mutual radiation depolarization-electric-field ($E_{pol.i}(\mathbf{R}_j; T) = -\mathcal{X}E_i(\mathbf{R}_j; T)$) and magnetic-field ($B_i(\mathbf{R}_j; T) = E_i(\mathbf{R}_j; T)/c$), act on each other a mutual RDM Lorentz force $F_g = Gm_1m_2/R^2$, where $G = \mathcal{X}\mu_0^2e^4c^4/4\pi\rho_l\hbar^2$, $\mathcal{X}$ is the susceptibility, μ_0 permeability and ρ_l linear mass density of the medium. F_g is always attractive and identifiable as Newton's gravity, and accordingly G the universal gravitational constant. (3) The RDM radiation fields, $E_{pol.i}, B_i$, accordingly make up the gravity wave, which is transverse and has a wave velocity equal to c. (4) This gravity can penetrate any material objects on the way, whilst a radiation force (always repulsive) will not, yielding as net result a gravity between two large bodies composed of the aforesaid particles. [1] J. X. Zheng-Johansson and P-I. Johansson, with Foreword by Prof. R. Lundin, "Unification of Classical, Quantum and Relativistic Mechanics and of the Four Forces" (Nova Science, 2005); physics/0411245; physics/0501037; Bull. Am. Phys. Soc., C1 (2004).

Dr. J.X. Zheng-Johansson (J.Z. Johansson)
Inst. of Fund. Phys. Res., Nykoping, 61193, SWE

Date submitted: 21 Jan 2005 Electronic form version 1.4