## Abstract Submitted for the APR14 Meeting of The American Physical Society

On gravity, other forces in nature and the creation of mass particles and force fields in the universe PETER SUJAK, Gluon o.s. — This work derives the relation between the Planck constant and currently valid Einstein's gravitational constant  $h/c = \kappa = 8\pi G/c^4 = 2.13 - 2.21 \times 10^{-42}$ . The relation between the Planck constant and Newton's gravitational, between the Planck constant and 1 Coulomb and 1 Henry is deduced. This work establishes that the Planck constant represents the density of momentum of the void space in the Universe, and momentum of a photon  $p = h/\lambda$  represents the compression of this density, and that the momentum of the photon  $p = h/\lambda_o$  inevitably equals internal momentum of created proton by  $p_{pi} = h/\lambda_o = m_p c$ . In this work, we state that through generating mass particles, by compressing the density of momentum of the vacuum into a photon and bring this photon to stop, we concurrently generate a gravitational field of these particles. The value of momentum of the gravitational field on the surface of the proton is equal in size, but reversely oriented to the value of the internal momentum of the proton in explicit direction as  $p_{pi}/\pi = h/\lambda_o = m_p c/\pi$ . This work proves that gravitational force has its opposite force in the internal momentum of atomic particles of matter. This work maintains that the essence of the composition of all mass matter, as well as force fields in its vicinity, are created in full by the compression of the momentum of the void space in the universe.

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