

Abstract Submitted
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A Generalized Unified Electro-Gravity Theory for the Proton, and Related Composite Particles NIROD DAS, New York University, Tandon School of Engineering — A new Unified Electro-Gravity (UEG) theory was recently proposed and presented in the APS April-2020 Meeting, which self-consistently models the complete stable structure of a spinning electron. The UEG theory is as well applicable to model rotation in spiral galaxies, without any hypothetical dark matter, providing independent support to the theory in the astrophysical domain. In its basic form, the theory introduces a modified gravitational field proportional to the energy density surrounding the charge, with the constant of proportionality referred to as the UEG constant. The theory is now generalized by allowing the UEG constant to be a function of increasing energy density, allowing stable structures of an elementary charge with increasing levels of mass/energy. The stable elementary charge particle, which is equivalent to the electron but with the next higher level of mass/energy, is recognized to be the proton. The generalized UEG theory would explain the physical origin of protons g-factor, and the measured radius of proton in close relation to the classical radius of electron. The theory would also lead to recognizing neutron, muon and pion as possible composite particles, built upon the basic structure of proton, but with additional surrounding charged layers.

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