4G Model of Final Unification - A Very Brief Report

Seshavatharam U.V.S [1,2] and Lakshminarayana S[3]

[1]Honorary faculty, I-SERVE, Survey no-42, Hitech city, Hyderabad-84,Telangana, INDIA
[2]Asst. Mgr., QA Dept, DIP-SPUN, Srikalahasthi Pipes Ltd, Srikalahasthi-517641, AP, INDIA
[3] Dept. of Nuclear Physics, Andhra University, Visakhapatnam-03, AP, INDIA
seshavatharam.uvs@gmail.com (and)   lnsrirama@gmail.com

Abstract: With our long experience in the field of unification of gravity and quantum mechanics, we understood that, when mass of any elementary particle is extremely small/negligible compared to macroscopic bodies, highly curved microscopic space-time can be addressed with large gravitational constants and magnitude of elementary gravitational constant seems to increase with decreasing mass and increasing interaction range. In our earlier publications, we proposed that, 1) There exist three atomic gravitational constants associated with electroweak, strong and electromagnetic interactions; 2) There exists a strong interaction elementary charge in such a way that, it's squared ratio with normal elementary charge is close to inverse of the strong coupling constant; and 3) Considering a fermion-boson mass ratio of 2.27, quarks can be split into quark fermions and quark bosons. Further, we noticed that, electroweak field seems to be operated by a primordial massive fermion of rest energy 584.725 GeV and hadron masses seem to be generated by a new hadronic fermion of rest energy 103.4 GeV. In this context, starting from lepton rest masses to stellar masses, we have developed many interesting and workable relations. With further study, a workable model of final unification can be developed.

Keywords: Four gravitational constants; Strong nuclear charge; Electroweak fermion; Hadron mass generator; Super symmetry;

$$G_N \cong \frac{G_w^{21} G_e^{10}}{G_s^{30}} \qquad \frac{1}{\alpha_s} \cong \left(\frac{G_s^{10}}{G_e^4 G_w^6} \right)$$

where,
Newtonian gravitational constant $= G_N$
Electromagnetic gravitational constant $= G_e$
Nuclear gravitational constant $= G_s$
Weak gravitational constant $= G_w$
Strong coupling constant $= \alpha_s$