Simplified views of 4G Model of final unification

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Abstract: Recently we have proposed a mechanism for understanding the nuclear structure based on three large gravitational constants assumed to be associated with weak, strong and electromagnetic interactions. Considering the Newtonian gravitational constant as the forth gravitational constant, we call our model as 4G model of unification. Interesting points to be noted are, 1) Weak interaction seems to be mediated by a fermion of rest energy $M_w c^2 \cong 584.725$ GeV. 2) Weak gravity seems to play a crucial role in understanding quantum phenomena with a relation of the form, $\hbar c \cong G_w M_w^2$ where G_w is the weak gravitational constant. 3) There exists a nuclear charge e_n in such a way that, $e \cong \left(\dfrac{G_w M_w^2}{G_n m_p^2} \right) e_n \cong \dfrac{1}{3} e_n$ where G_n and m_p are the nuclear gravitational constant and proton rest mass respectively. Based on this kind of approach, we noticed that, 1) Strong nuclear charge is having a crucial role in understanding proton structure, nuclear structure and quark structure. 2) Weak interaction is having a crucial role in understanding nuclear stability and binding energy. In this context, we review the basics of nuclear and atomic physics.

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