Linking Inverse Square Law with Quantum Mechanical Probabilities

SHANTILAL GORADIA, Gravity Research Institute, Inc. — (©2007 by S Goradia) I modify the Newtonian inverse square law with a postulate that the probability of interaction between two elementary particles varies inversely as the statistical number of Planck lengths separating them. For two nucleons a million Planck lengths apart, the probability of an interaction is a trillionth (almost never), seemingly contradicting gravity. Likewise, statistical expression of the size of the universe implicitly addresses the issue of dark energy by linking fine-structure constant $\alpha = 1/137$ with the cosmological constant $\lambda = 1/R^2$ (abstract submitted 11/11/07 for APS APR2008 meeting). Since light travels one Planck length per Planck time, the radius $R$ of the spherical shape of the universe is $10^{60}$ Planck lengths, linking the cosmological constant $\lambda = 1/10^{120}$ (see equation 14 in Einstein’s 1917 paper) with $\alpha$ by the relationship $1/\alpha \approx \ln\sqrt{1/\lambda}$. Intuitive answers to the questions raised suggest that the elementary particles interact via Planck scale mouths \(^{(1)}\) with higher probabilities at smaller distances. This intuition may be supported by genetics, explaining issues such DNA – nucleosome interaction \(^{(2)(3)}\). \([1]\) http://www.arxiv.org/pdf/physics/0210040 \([v. 3]\) \([2]\) www.gravityresearchinstitute.org \([3]\) Segal E. et al, A genomic code for nucleosome positioning. Nature 442, pp. 772-778, 2006.

Shantilal Goradia
Gravity Research Institute, Inc.

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