

Equations Connecting F_E and F_g

$$\begin{aligned}
 (\underline{F}_g N^2) &= (\underline{F}_E N^2)^2 = \underline{E}_i^4 & F_g/F_E N &= F_E N/F_p \\
 F_g/F_E &= R_s/\lambda_c & R_s \lambda_c &= L_p^2 & \underline{R}_s &= 1/\underline{\lambda}_c \\
 F_g/F_E &= \underline{\lambda}_c^{-2} = \underline{\omega}_c^2 = \underline{E}_i^2
 \end{aligned}$$

In the above $R_s \equiv Gm/c^2$. My particle model has dipole waves in spacetime propagating at the speed of light within a volume with radius λ_c . Such a structure is maximally rotating and has a Schwarzschild radius half of the Schwarzschild radius for non-rotating mass. The underlined symbols are dimensionless Planck units. The symbol F_E is the electrostatic force between two Planck charges (the basis of natural units). To convert this to the force of two particles with charge e use $F_E = F_e \alpha^{-1}$. Finally N is the separation distance between two particles expressed in the dimensionless number of reduced Compton wavelengths $N = r/\lambda_c$ rather than meters.