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The Newton Force Formula is Valid in the Microworld

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$F = G\frac{m_1 m_2}{R^2}$; G – Variable gravitational constant

Force between two electrons

$F = \frac{khf^4}{w^3} = 1\times10^{-12}\,N$; $f = 1.2\times10^{20}\,Hz$; $w = c$

$F = G_e\frac{m_e^{\,2}}{R_e^{\,2}}$; $G_e = \frac{q^2}{4\pi\varepsilon_0 m_e^{\,2}} = 2.78\times10^{32}$

Rydberg constant -- R_H

$\lambda_H = \frac{1}{R_H}$; $R_e = \frac{\lambda_H}{2\pi}$; $\lambda_H = 2x_e 137^2$

$F = 1\times10^{-12}\,N$

Force between two protons

$F = \frac{khf^4}{w^3} = 13.0N$

$F = G_p\frac{m_p^{\,2}}{R_p^{\,2}} = 13.0N$; $G_p = \frac{q^2}{4\pi\varepsilon_0 m_p^{\,2}} = 8.2\times10^{25}$; $R_p = 4.2\times10^{-15}\,m$

Force between a proton and an electron

$F = 8.2\times10^{-8}\,N$

$F = G_{pe}\frac{m_e m_p}{R_{pe}^{\,2}}$; $G_{pe} = \sqrt{G_p G_e}$

$G_e = 2.78\times10^{32}$; $G_p = 8.24\times10^{25}$

$R_{pe} = R_B = Bohr's..radius$