Const in Physics

Lime

2019 年 8 月 31 日

$$G = 6.6726 \times 10^{-11} N \cdot m \cdot kg^{-1}$$

$$\hbar c = 197 fm \cdot MeV$$

$$m_e c^2 = 0.511 MeV$$

$$e = 1.602176487 \times 10^{-19} C$$

$$\frac{1}{4\pi\varepsilon_0} = 8.987 \times 10^9 N \cdot m^2 C^{-2}$$

$$\frac{e^2}{4\pi\epsilon_0} = 1.44 fm \cdot MeV$$

$$= 1.43988 \times 10^{-9} N \cdot m^2$$

$$h = 6.62607 \times 10^{-34} J \cdot s$$

$$= 4.135667 \times 10^{-15} eV \cdot s$$

$$\hbar c = 197 fm \cdot MeV$$

$$\hbar = 1.05457 \times 10^{-34} J \cdot s$$

$$N_A = 6.02214179 \times 10^{-23} mol^{-1}$$

$$a_0 = 0.529 \rho A$$

$$\alpha = \frac{e^2}{4\pi\epsilon_0 \hbar c} = 1/137$$

$$a_1 = 0.053 nm$$

$$K_B = 1.3806504 \times 10^{-23} J \cdot K^{-1}$$

$$F = 96485.3399 C \cdot mol^{-1}$$

$$m_e = 9.10938215 \times 10^{-31} Kg$$

$$m_e c^2 = 0.511 MeV$$

$$m_p = 1.672621637 \times 10^{-27} Kg$$

$$m_n = 1.674927211 \times 10^{-27} Kg$$

$$\varepsilon_0 = 8.854187817 \times 10^{-12} C^{-2} J^{-1} m^{-1}$$

$$c = \frac{1}{\sqrt{\mu_0 \varepsilon_0}} = 299792458 m \cdot s^{-1} (exactly)$$

$$g = 9.80665 m \cdot s^{-1} (exactly)$$

$$R_H = \frac{2\pi^2 e^4 m_e}{(4\pi\epsilon_0)^2 c h^3}$$

$$= 109677.58 cm^{-1}$$

$$\mu_B = \frac{e\hbar}{2m} = \frac{1}{2}\alpha c (e a_1)$$

$$= 0.9274 \times 10^{-23} J T^{-1}$$