Formulário Geral

$\text{div}\,\mathbf{E}=\rho/\varepsilon_0$; $\text{rot}\,\mathbf{E}=-\partial\mathbf{B}/\partial t$; $\text{div}\mathbf{B}=0$; $\text{rot}\,\mathbf{B}=\mu_0(\mathbf{j}+\varepsilon_0\,\partial\mathbf{E}/\partial t)$;

$I = I_c \times [\text{sen}(\phi/2)/(\phi/2)]^2 \times [\text{sen}(N\delta/2)/\text{sen}(\delta/2)]^2$

$I = I_0\,[\text{sen}(N\delta/2)/\text{sen}(\delta/2)]^2$; $I = 4I_0 \times \cos^2(\delta/2)$; $D \equiv \Delta\theta_m/\Delta\lambda$; $\Delta\theta_m = (m\,\Delta\lambda)/(d\cos\theta_m)$;

$R \equiv m\,N = \lambda/\Delta\lambda$

$\Delta\theta_{1/2} = \lambda/(N\,d\cos\theta_m)$; $\theta_R = 1{,}22\lambda/D \approx 1{,}2\lambda/D$; $\mu_0 = 4\pi \times 10^{-7}$ H/m ; $\varepsilon_0 = 8{,}8 \times 10^{-12}$ F/m ;

$c = 3{,}0 \cdot 10^8$ m/ s

$h = 6{,}6 \times 10^{-34}$ J s $= 4{,}1 \times 10^{-15}$ eV s ; $\hbar = 1{,}0 \times 10^{-34}$ J s $= 0{,}66 \times 10^{-15}$ eV s ; $hc = 1240$ eV.nm

1 eV $= 1{,}6 \times 10^{-19}$ J ; 1J $= 6{,}2 \cdot 10^{18}$ eV ; $m_p c^2 = 938$ MeV ; $m_e c^2 = 0{,}511$ MeV ;

$e = 1{,}6 \cdot 10^{-19}$ C ; $m_e = 9{,}1 \cdot 10^{-31}$ kg ; $c = 3{,}0 \cdot 10^8$ m/ s ; $\langle \text{sen}^2\theta \rangle = \langle \cos^2\theta \rangle = ½$

1μm $= 10^{-6}$ m ; 1nm $= 10^{-9}$ m ; 1 Å $= 10^{-10}$ m ; 1pm $= 10^{-12}$ m ; 1GeV $= 10^3$ MeV $= 10^6$ keV $= 10^9$ eV

$E^2 = (pc)^2 + (m_0 c^2)^2$; $u/c = pc/E$; $E = K + m_0c^2 = \gamma\, m_0c^2$; $p = \gamma\, m_0 u$; $\gamma = (1 - (v/c)^2)^{-1/2}$

$x' = \gamma\,(x - vt)$ $t' = \gamma\,(t - vx/c^2)$ $u_x = (u'_x + v)/(1 + u'_x\, v/c^2)$ $u_y = u'_y / \gamma\,(1 + u'_x\, v/c^2)$

$\lambda_2 - \lambda_1 = (h/mc)(1 - \cos\theta) = \lambda_c (1 - \cos\theta)$, $\lambda_c = 2{,}43$ pm ; $f = f_0\,\{(1+v/c)/(1-v/c)\}^{1/2}$

$E_n = -(13{,}6 \cdot Z^2/n^2)$ eV ; $r_n = (0{,}0529 \cdot n^2/Z)$ nm ; $\Delta x \cdot \Delta p_x \geq \hbar/2$; $\Delta E \cdot \Delta t \geq \hbar/2$

$-(\hbar^2/2m)(\partial^2\psi(x,t)/\partial x^2) + U(x,t)\psi(x,t) = i\hbar\,[\partial\psi(x,t)/\partial t]$; $-(\hbar^2/2m)(d^2u(x)/dx^2) + U(x)\,u(x) = E\,u(x)$