$$T = \frac{Vs}{m^2} = \frac{N}{Am}$$

$$1T = 10^4 \text{Gauss}$$

$$\mu_0 = 4\pi \cdot 10^{-7} \frac{Vs}{Am}$$

$$j_0 = 10^{-12} \frac{W}{m^2}$$

$$c_0 = \frac{1}{\sqrt{\varepsilon_0 \mu_0}} = 3 \cdot 10^8 \frac{m}{s}$$

$$\vec{F}_m = e \cdot \vec{v} \times \vec{B}$$

$$\vec{F}_m = l \cdot \vec{I} \times \vec{B}$$

$$p_m = SI$$

$$\vec{M}_m = \vec{p}_m \times \vec{B}$$

$$\vec{B} = \frac{\mu_0}{4\pi} \cdot I \cdot \int \frac{d\vec{l} \times \vec{r}}{\|\vec{r}\|^3}$$

$$B = \frac{\mu_0 I}{2\pi d}$$

$$\Phi_m = \vec{B} \circ \vec{S} = BS \cdot \cos\varphi$$

$$U_i = -N \cdot \frac{d\Phi_m}{dt}$$

$$B_{snov} = B_{notr} + B_{zun}$$

$$\vec{B}_{snov} = \mu \cdot \vec{B}_{zun}$$

$$x(t) = x_0 \cdot \cos(\omega t + \varphi_0)$$

$$\omega = \sqrt{\frac{k}{m}} = 2\pi\nu = \sqrt{\frac{mgr^*}{J}}$$

$$W = \frac{kx_0^2}{2}$$

$$x(t) = x_1(\omega) \cdot \cos(\omega t - \delta)$$

$$x_1(\omega) = \frac{x_0}{\sqrt{\left(1 - \left(\frac{\omega}{\omega_0}\right)^2\right)^2 + \frac{\beta}{m\omega_0}\left(\frac{\omega}{\omega_0}\right)^2}}$$

$$tg\delta(\omega) = \frac{\beta}{m\omega_0} \cdot \frac{\frac{\omega}{\omega_0}}{1 - \left(\frac{\omega}{\omega_0}\right)^2}$$

$$W_{TRANS} = mv_y^2$$

$$W_K = \frac{mv_0^2}{2}$$

$$w = \frac{W}{V} = \frac{1}{2}\rho v_0^2$$

$$j = \frac{P}{S} = wc = \frac{1}{2}\rho c \omega^2 x_0^2$$

$$x = ct$$

$$c = \lambda\nu$$

$$k = \frac{2\pi}{\lambda}$$

$$y_{POT}(x,t) = y_0 \cdot \sin(kx - \omega t)$$

$$\nu = \frac{1}{t_0}$$

$$c = \sqrt{\frac{F}{\rho S}}$$

$$c = \sqrt{\frac{E}{\rho S}}$$

$$y_{STOJ}(x,t) = y_0 \cdot \sin(kx) \cdot \sin(\omega t)$$

$$\lambda_N = \frac{2L}{N} \quad N \in \mathbb{N}$$

$$\frac{c_1}{\lambda_1} = \frac{c_2}{\lambda_2}$$

$$\alpha = \alpha'$$

$$\frac{\sin\alpha}{\sin\beta} = \frac{c_1}{c_2} = \frac{n_2}{n_1}$$

$$\sin\alpha_{TOT} = \frac{c_1}{c_2}$$

$$\Delta L = N \cdot \lambda \quad N \in \mathbb{N}_0$$

$$\Delta L = (2N+1) \cdot \frac{\lambda}{2}$$

$$\Delta L = d \cdot \sin\varphi_N$$

$$c = \sqrt{\frac{E}{\rho}}_{(s)} = \sqrt{\frac{1}{\rho\chi}}_{(l)} = \sqrt{\frac{B}{\rho}}_{(l)} = \sqrt{\frac{\kappa RT}{M}}_{(g)} = \sqrt{\frac{1}{\rho\chi_A}}_{(g)}$$

$$\chi_A = \frac{1}{\kappa p}$$

$$\chi = -\frac{1}{V} \cdot \frac{\Delta V}{\Delta p}$$

$$p(x,t) = p_0 + \Delta p_0 \cdot \cos(kx - \omega t)$$

$$\Delta p = -E \cdot \frac{\Delta s}{\Delta x} = -E \cdot \frac{\partial s(x,t)}{\partial x}$$

$$s(x,t) = s_0 \cdot \cos(kx - \omega t)$$

$$\Delta p(x,t) = \Delta p_0 \cdot \sin(kx - \omega t)$$

$$\Delta p_0 = \rho c \omega s_0$$

$$x = x_0 \cdot e^{-\beta t} \cdot \sin\omega_1 t$$

$$\omega_1 = \sqrt{\omega^2 - \beta^2}$$

$$W = W_0 \cdot e^{-2\beta t}$$

$$\omega = \frac{1}{\sqrt{LC}}$$

$$\beta = \frac{R}{2L}$$

$$P = \Delta F \cdot v = S\rho c\omega^2 s_0^2 \cdot \sin^2(kx - \omega t)$$

$$j = \frac{\overline{P}}{S} = \frac{1}{2}\rho c\omega^2 s_0^2$$

$$J = 10 \cdot \log\frac{j}{j_0} \quad / \text{ dB}/$$

$$P_{neabs} = P \cdot e^{-\gamma r}$$

$$j = \frac{P}{S}$$

$$\nu_1 = \nu_0 \cdot \left(1 \pm \frac{v}{c}\right)$$

$$\nu_1 = \frac{\nu_0}{1 \mp \frac{v}{c}}$$

$$E_x = E_0 \cdot \cos(\omega t - kz)$$

$$c = \frac{1}{\sqrt{\varepsilon\varepsilon_0\mu\mu_0}} = \frac{c_0}{\sqrt{\varepsilon\mu}}$$

$$\alpha + \beta = 90^\circ \text{ (Brewstokot)}$$

$$\Delta s \cdot n = N \cdot \lambda_0$$

$$\Delta S = 2hn_2 \cdot \cos\beta$$

$$2hn_2 \cdot \cos\beta - \frac{\lambda_0}{2} = N \cdot \lambda_0 \equiv \Delta S = (2N+1)\frac{\lambda_0}{2}$$

$$2d \cdot \cos\delta = N \cdot \lambda$$

$$f = \frac{r}{2}$$

$$\frac{1}{f} = \frac{1}{a} + \frac{1}{b}$$

$$\frac{S}{P} = \frac{b}{a} = \frac{f}{a - f}$$

$$f = -\frac{r}{2}$$

$$\frac{1}{|f|} = \frac{1}{a} + \frac{1}{b}$$

$$\frac{S}{P} = \frac{b}{a} = \frac{f}{a - f}$$