

$$\begin{aligned}
 & \rho V = nRT \quad \psi = R = \rho \frac{d}{S} \\
 & E = mc^2 \\
 & \beta = \frac{\Delta I_c \phi_e}{\hbar / k/m} \\
 & \Delta I_B \phi = \omega \\
 & \vec{E} \times \vec{B} \\
 & k^2 1 \text{ pc} = \frac{1 \text{ AU}}{M_r \cdot 10^{-3}} \\
 & \sigma = \frac{1}{M} \\
 & \pi \sqrt{CL} \\
 & \vec{E} = - \int \frac{\partial \vec{B}}{\partial t} \cdot d\vec{S} \\
 & \rho V = nRT \quad \psi = \vec{S} = \frac{1}{\mu_0} (\vec{E} \times \vec{B}) \\
 & S \frac{\Delta \psi}{2\pi} = \frac{\Delta x}{\lambda} = \frac{x_2 - x_1}{\lambda} \\
 & X_L = \frac{U_m}{I_m} = \omega L = 2\pi f L \\
 & E = \frac{1}{2} \hbar / k/m \quad \beta = \frac{\Delta I_c \phi_e}{\hbar / k/m} \\
 & \Delta I_B \phi = \frac{2\pi \sin^2 \theta}{\lambda} \\
 & E_k = \frac{\hbar^2}{8mL^2} h^2 \\
 & M_0 = \frac{4\pi^2 r^3}{\hbar T^2} \\
 & \phi_e = \frac{1}{\Delta t} \\
 & \psi = \frac{1}{\sqrt{2}} (\vec{E} \times \vec{B}) \\
 & E = \frac{\hbar k^2}{2m} 1 \text{ pc} = \frac{1 \text{ AU}}{r} S \\
 & \omega = \frac{U}{W_A}
 \end{aligned}$$

$$i\hbar \phi \frac{dT}{dt} = T \left[-\frac{\hbar^2}{2m} \nabla^2 + V \right] \phi \text{ and } H = E \quad \text{--- ①}$$

$$\psi(\vec{r}, t) = \phi(\vec{r}) T(t) \quad \text{--- ②}$$

$$i\hbar \frac{\partial}{\partial t} |\psi\rangle = \hat{H} |\psi\rangle$$

$$i\hbar \frac{1}{T} \frac{dT}{dt} = \frac{1}{\phi} \hat{H} \phi$$

$$= \frac{1}{\phi} \hat{H} \phi$$

$$= \alpha \text{ (say)}$$

$$i\hbar \frac{1}{T} \frac{dT}{dt} = \alpha$$

$$\Rightarrow \frac{dT}{T} = -\frac{i\alpha}{\hbar} dt$$

$$\ln T = -\frac{i\alpha}{\hbar} t + K.$$