$$y(x,t) \sim A \cos\omega t \sin kx$$

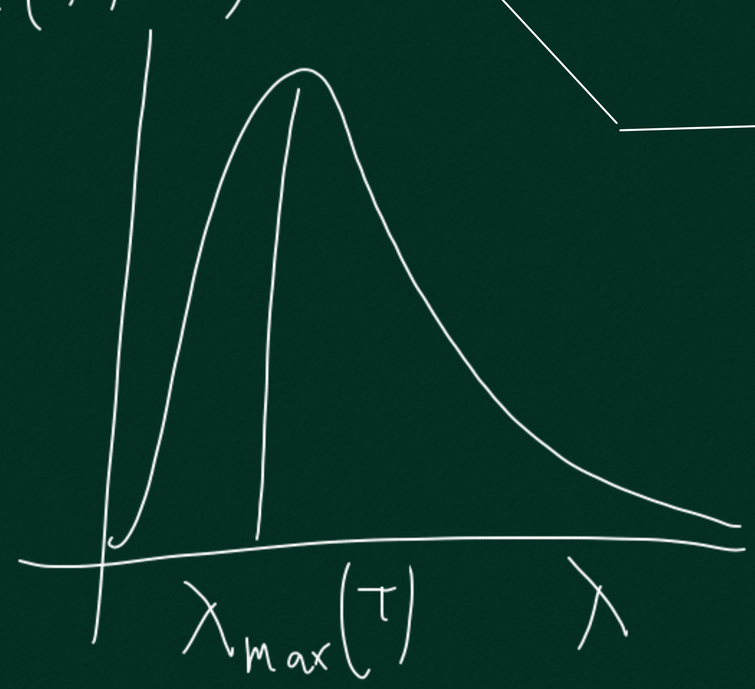
$$k = \frac{2\pi}{L}$$

$$kL = 2\pi n$$

$$k_n = \left(\frac{2\pi}{L}\right) n$$

$u(f,T)$

energy dnsty /vol.



$$u(f,T) \simeq \frac{f^3 \quad k_B T}{f} \sim f^2 k_B T$$

small f

large λ

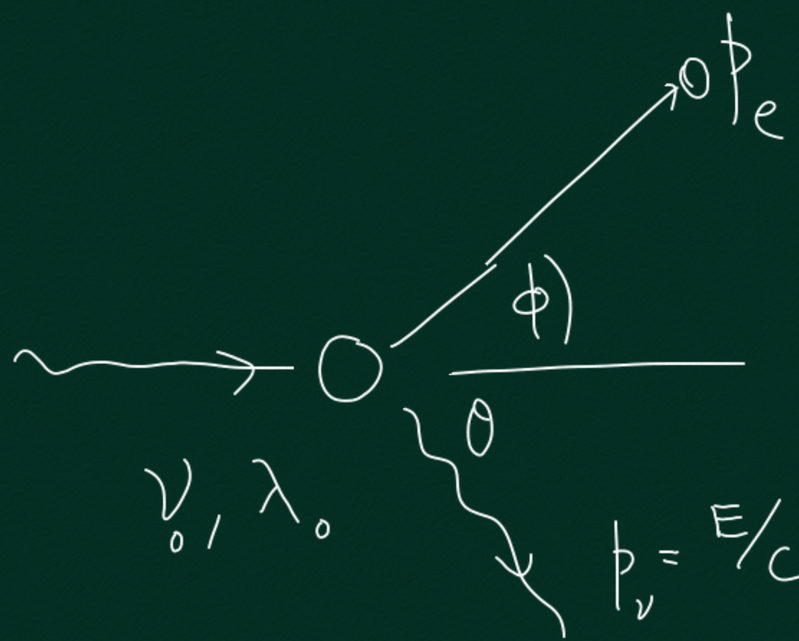
$\frac{c}{\lambda}$ $\qquad e^x - 1$

$\sim 1 + x + 0(x^2) - 1$

$$\bar{p} = \frac{m_0 \bar{u}}{\sqrt{1 - u^2/c^2}}$$

$$E^2 = p^2 c^2 + m_0^2 c^4$$

$$p_\nu = \frac{E}{c} \Rightarrow m_0^\nu = 0$$



Unknowns : θ, ϕ, p_e, ν

$$E^2 = p^2c^2 + m_0^2c^4$$

$$\lambda - \lambda_0 = \frac{h}{m_0 c}(1 - \cos\theta)$$

$$K_{max} = hf - \phi$$

photo electric