

$$B(\lambda) = \frac{2hc^2}{\lambda^5} \frac{1}{e^{\frac{hc}{\lambda T}} - 1} \rightarrow B(\nu) = B(\lambda) \frac{d\lambda}{d\nu} \quad (1)$$

$$\lambda\nu = c \rightarrow \boxed{\lambda = \frac{c}{\nu}} \quad \boxed{\frac{d\lambda}{d\nu} = -\frac{c}{\nu^2}} \Rightarrow B(\nu) = \frac{2\nu^3}{c^2} \frac{1}{e^{\frac{h\nu}{kT}} - 1}$$

• $\frac{d\lambda}{d\nu} = -\frac{c}{\nu^2}$ لأن $\lambda = \frac{c}{\nu}$ و $\frac{d}{d\nu} \left(\frac{c}{\nu} \right) = -\frac{c}{\nu^2}$

$$I = \int_0^{\infty} S(\nu) e^{-\nu \cos \theta} d\nu \cos \theta \rightarrow \quad (2)$$

$$a \int_0^{\infty} e^{-\nu \cos \theta} d\nu \cos \theta + b \int_0^{\infty} \nu e^{-\nu \cos \theta} d\nu \cos \theta$$

$$a + b \cos \theta \int_0^{\infty} x e^{-x} dx \Rightarrow \boxed{I(\theta) = a + b \cos \theta}$$