

$$E = k_B \cdot T$$

Boltzmann's constant

$$k_B = 1.38 \cdot 10^{-23} \frac{\text{J}}{\text{K}}$$

$$E = h \cdot f$$

Planck's constant

$$h = 6.63 \cdot 10^{-34} \frac{\text{J}}{\text{Hz}}$$

$$\lambda = \frac{c}{f}$$

wave length

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

Wien's law

$$h \cdot f_{\text{max}} = \alpha \cdot k_B T$$

$$\alpha \approx 2.82$$