TEMPERATURE DEFINED

By

Francis Fernandes

June 2014

I have added one step to Wien's Law

Empirical evidence as to why two different frequencies [wavelength] represent the same associated temperature

Electron volt eV = Temperature T

$$2.9 \times 10^{-3} = \lambda_1 \times T$$

$$2.9 \times 10^{-3} = \lambda_1 \times eV$$

$$\lambda_1 \times (2\pi \times 10^{-7} \times 137.036) = \lambda_2$$

Example:

eV =511000 and λ_3 the Compton wavelength for an electron of mass m

Kelvin K = Temperature T_2

$$2.9 \times 10^{-3} = \lambda_2 \times T_2$$

- Apply Planck's law,

$$0.0144 = \lambda_3 \times T_2$$

- The photon mass m at wavelength λ_3 obeys de Broglie's equation,

$$m \times c \times \lambda_3 = h$$

A rotational factor of 2Pi $\times 10^{-7} \times 137.036$ explains why the same Kelvin temperature of a body radiates two differently measured frequencies.