

Homework

1) By using the law of Stefan Boltzmann find the thermal flux emitted from the blackbody at temperature (6000,5300,300)k.

2) A The energy radiated by a black body at 2300K is found to have the maximum at a wavelength 1260 nm, its emissive power being 8000W/m^2 . When the body is cooled to a temperature T K, the emissive power is found to decrease to 500W/m^2 . Find :

(i) the temperature T k

(ii) the wave length at which intensity of emission in maximum at the Tk

3) Black body becomes yellow with $\lambda = 589 \text{ nm}$:

a/Calculate the temperature of body

b /Calculate the energy emitted from the body per one second where the total area is $=0.031 \text{ m}^2$

4) If the intensity of radiation black body with $T=3500 \text{ K}$, equal to maximum value at $\lambda = 575 \text{ nm}$: **find λ which make the intensity maximum at $T= 5700 \text{ K}$**