

\* Give a brief account about Rayleigh - Jeans law to radiation.

Rayleigh and Jeans applied electromagnetic theory to radiation for explaining the discrepancies of Wien's law. They derived the distribution law of radiation which is expressed in terms of wavelength by

$$u_{\lambda} d\lambda = \frac{8\pi}{\lambda^4} \cdot d\lambda \cdot kT \dots (1)$$

In terms of frequency and velocity it is expressed by

$$u_{\nu} \cdot d\nu = \frac{8\pi \nu^2 d\nu}{c^3} \cdot kT$$

The comparison between experiment and Rayleigh - ~~Law~~ Jeans law is done by Lummer and Pringsheim experiment. The curves are indicated.

As is seen the Rayleigh - Jeans curves agrees ~~totally~~ ~~totally~~ with experiment ~~of~~ at high temperature and long wavelength only. It ~~totally~~ fails to explain low temperature and small wavelength radiation.

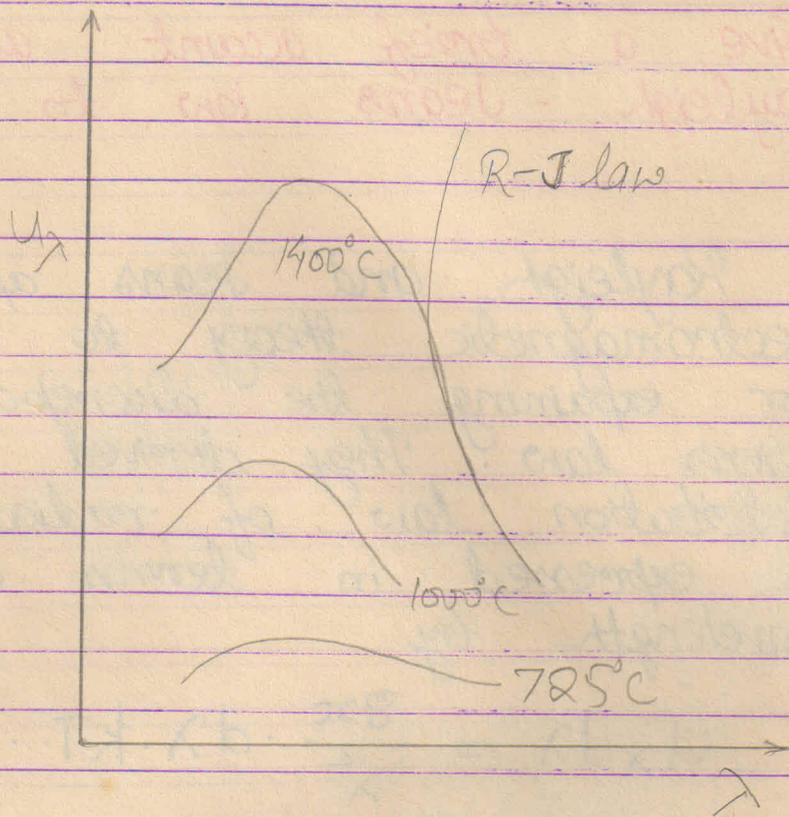


Fig-1