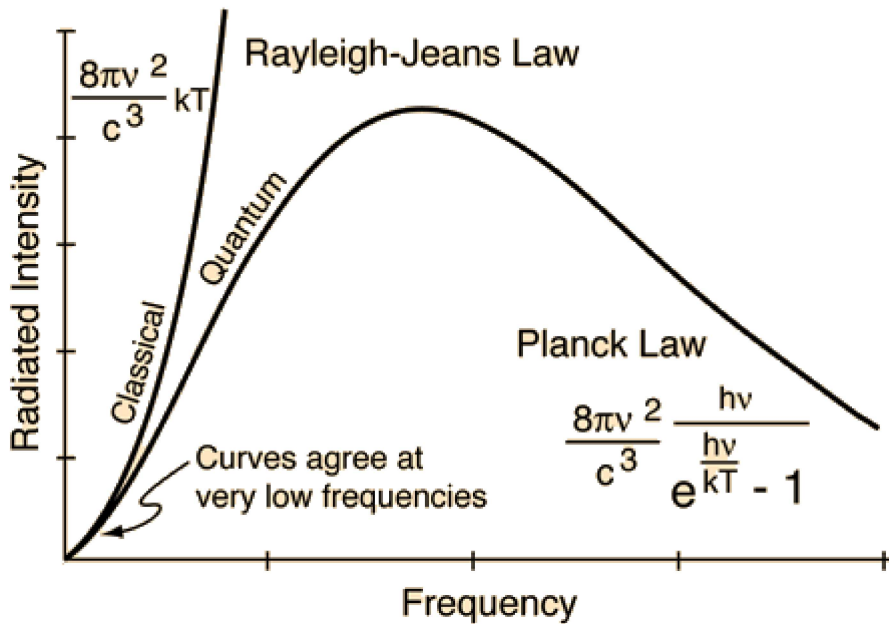


Blackbody Intensity as a Function of Frequency

Toward the "ultraviolet catastrophe"



The Rayleigh-Jeans curve agrees with the [Planck radiation formula](#) for long wavelengths, low frequencies.

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R Nave

Comments on the Development of the Rayleigh-Jeans Law

The [Rayleigh-Jeans Law](#) was an important step in our understanding of the equilibrium radiation from a hot object, even though it turned out not to be an accurate description of nature. The careful work in developing the Rayleigh-Jeans law laid the foundation for the quantum understanding expressed in the [Planck radiation formula](#). In outline form, here are the steps which led to the Rayleigh-Jeans law.

Equilibrium standing wave electromagnetic radiation in a cubical cavity of dimension L must meet the condition:

$$n_1^2 + n_2^2 + n_3^2 = \frac{4L^2}{\lambda^2}$$

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The number of modes in the cavity is:

$$N = \frac{8\pi L^3}{3\lambda^3}$$

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