

CHAPTER OVERVIEW

11: Boltzmann Statistics

The Boltzmann probability distribution that was introduced in Chapter 10 has many applications that describe everyday physical phenomena. These include some of the thermodynamic principles such as the Equipartition Theorem, and why vibrations don't account towards degrees of freedom in the same. Here, we will use the Boltzmann distribution to describe the lightbulb, specifically the white light spectrum and how energy efficient they are (hint: they are not energy efficient). Also we will study the heat capacity of solids, insights into which led to the development of quantum theory.

[11.1: The Black body Radiator](#)

[11.2: Heat Capacity of Solids](#)

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