Physics Department Seminar

February 7, Friday at 2 PM in Science Building Room 250

# On the trail of black body radiation


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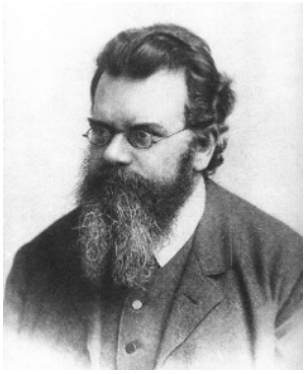

Wilhelm Wien

Max Plank

With the completion of Thermodynamics and Electrodynamics in the mid 19th century, it soon became obvious that light radiation must potentially be considered as a thermodynamic system. What such a theory would look like, however, no one knew as light was non-material. Equilibrium "heat radiation", the so-called "Black Body Radiation", was quickly recognized as the key to the entire problem. Thus began a monumental sleuthing story with many famous physicists contributing essential new ideas, ultimately leading to much of our modern conception of the physical world. We recognize, in particular, Ludwig Boltzmann, Willy Wien, and Max Planck for their monumental contributions, which ultimately led us to Statistical Mechanics and Quantum Mechanics. We study in this talk just two of the many surprising steps in this long journey and inquire into what these scientists learned, how they did it, and the manner of their understanding.