CHAPTER 3: STATISTICAL THERMODYNAMICS

Reading:

Sections 4.2-4.5 of Blandford and Thorne

Chapter 4 is available at http://www.pma.caltech.edu/Courses/ph136/ph136.html

As usual, most of the applications are in Example Exercises. You should read these examples whether or not you attempt to solve them.

TA:

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Problems

NOTE: For students who have had enough prior experience with statistical mechanics that some or all of the problems assigned below are not a useful learning experience: Do **not** waste your time working such problems. Instead, pick other problem(s) that are useful for you.

A. Exercise 4.2 (Non-relativistic Monatomic Gas).
B. Exercise 4.6 (Saha Equation)
C. Exercise 4.7 (Fluctuations of a van der Waals Gas)
D. *either* Exercise 4.10 (Derivation of Ising Model Entropy) *or* Exercise 4.12 (Monte Carlo approach to Ising Model)