ASSIGNMENT 9
(due Wednesday, March 26)

READING
Read Secs. 10.1 through 10.4 in your text.

PROBLEMS

Problem 1
8 points  Problem 9.16. In part (c) use a density 1 kg/m$^3$ (approximately atmospheric density) for the Argon gas.

Problem 2
5 points  Problem 10.3

Problem 3
5 points  Problem 10.7

Problem 4
5 points  Problem 10.17

Problem 5
5 points  Problem 10.19

Problem 6
5 points  Problem 10.21. The answer is a verbal one, given in the back of the book. Your job is to explain that answer in a few clear sentences.

Problem 7
5 points  Problem 10.22. Note: The neon 3s level in Fig. 10.15 is the lower level involved in the lasing transition.

Problem 8
5 points  Problem 10.35. The book's answer is only the extreme limiting answer. Give the next correction to the low temperature limit. In other words, for $\tilde{\mu} = \mu(1 + \text{small})$ find “small.”

Problem 9
5 points  Problem 10.38. The density of iron is around 8 gm/cm$^3$.

Problem 10
5 points  Answer Question 7, on p. 357, in a few clear sentences.