

**PHY 410**

**HW#6**

Assigned Feb 22, 2010: March 1, 2010

- 6.1 Problem 1 Chapter 4 of the Text
- 6.2 Problem 9, Chapter 4 of the Text
- 6.3 Problem 10 Chapter 4 of the Text

6.4 Using the equation  $p = \tau \left( \frac{\partial \sigma}{\partial V} \right)_U$ , show that the pressure of black body radiation

is given by  $p = \frac{1}{3} \frac{U}{V}$ , the same as obtained using  $p = - \left( \frac{\partial U}{\partial V} \right)_\sigma$ .