

**PHY 410**

**HW# 9**

Assigned: April 6, 2009: Due April 13, 2005

- 9.1 Problem # 7.1 of the Text
- 9.2 Problem # 7.2 of the Text
- 9.3 Problem # 7.3 of the Text
- 9.4 Problem # 7.5 of the Text
- 9.5 For the Fermi gas in two dimensions (see Problem 7.1 above) calculate the chemical potential  $\mu$  as a function of  $N/A$  and  $\tau$ . Discuss the low  $\tau \ll \varepsilon_F$  and high  $\tau \gg \varepsilon_F$  temperature behavior of  $\mu$ .