

Astronomy 304, STARS

Homework # 6, Due Wednesday, Feb. 19, 2003

Show All Your Work

1. Carroll & Ostlie: problem 10.3
2. Carroll & Ostlie: problem 10.4
3. Carroll & Ostlie: problem 10.10
4. Derive the expression for the thermal conductivity of non-degenerate electrons,

$$K = \frac{3^{1/2} k^{7/2} T^{5/2}}{2\pi m^{1/2} e^4}$$

5. (a) What is the dominant source of opacity near the surface of the Sun? (b) Why is this not the main source of opacity near the center of the Sun?