

Fall Term 2009-2010

Problem Set 6

Due on Dec 2, 2009 by 5pm

“When the Sun shrinks to a dull red dwarf, it will not be dying. It will just be starting to live and everything that has gone before will merely be a prelude to its real history.” – Arthur C. Clarke

Reading assignments: Carroll & Ostlie Chapter 12 and 13

1. Carroll & Ostlie problem 12.1
2. Carroll & Ostlie problem 12.10
3. Carroll & Ostlie problem 13.1
4. Carroll & Ostlie problem 13.2
5. Carroll & Ostlie problem 13.11
6. Consider a large hollow spherical shell of hot gas surrounding a star. Under what circumstances would you see the shell as a glowing ring around the star? What can you say about the optical thickness of the shell?