

Problem Set 10
(due Monday, April 6, 5:00 pm)

1. Problem 6.23, page 166. (Numerical solutions for a spherically symmetric linear potential.)
2. Problem 6.24, pages 166–167. (Application of the previous problem to charmonium.)
3. Problem 6.28, page 171. (Hydrogen energies and wavefunctions by the shooting method. We ordinarily would have worked this problem in class.)
4. Problem 6.29, page 173. (Plot 3s hydrogen wavefunction and check normalization.)
5. Problem 6.30, page 174. (Check that 3p hydrogen wavefunction satisfies the reduced radial TISE.)
6. Problem 6.31, page 174. (Density plots and colored-pencil sketches of $n = 2$ hydrogen wavefunctions.)