

Physics 220
Homework #6
Spring 2017
Due Wednesday, 5/17/17

1. An electron in the ground state of tritium, for which the nucleus consists of a proton and two neutrons. A nuclear reaction instantaneously changes the nucleus to He^3 , that is, two protons and one neutron. Calculate the probability that the electron remains in the ground state of He^3 .
2. Griffith's 4.19
3. Griffith's 4.22
4. Griffith's 4.44 part c
5. Consider the hydrogen atom wave function $|\psi_{432}\rangle$. What are
 - a. What is the total energy in electron Volts?
 - b. What is the expectation value of the radial coordinate?
 - c. What is the total angular momentum?
 - d. What is the z-component of the total angular momentum?