

Homework 9

Due Friday, November 15th at 5:30pm

Finish reading Griffiths Ch. 4.

1. Griffiths Problem 4.3 [Hint: None of the calculations for this problem should be especially difficult. If they are, you may be constructing too complex of a physical picture. You first want to compute the electric field of the electron cloud distribution that Griffiths is introducing. After having done that, work on figuring out what the atom would do after an external electric field \vec{E}_0 is applied to it.]
2. Griffiths Problem 4.4
3. Griffiths Problem 4.7 [Hint: There are multiple valid ways to approach this problem. However, note that for the moment Griffiths is only asking you to consider the torquing effects on the dipole, so you don't need to worry about the forces due to a non-uniform electric field.]
4. Griffiths Problem 4.10
5. Griffiths Problem 4.11
6. Griffiths Problem 4.13
7. Griffiths Problem 4.14
8. Griffiths Problem 4.15