

Chapter 1 Assignment

- 1) Plot the following energies in units of Hz on a log scale.
- electron rest energy
 - energy separating H $2p$ and $1s$ states.
 - fine structure splitting of H $2p_{1/2}$ and $2p_{3/2}$ states
 - hyperfine splitting of H ground state
 - Lamb shift for H $2s_{1/2} - 2p_{1/2}$
 - Splitting of $m_J = \pm 1/2$ sub-levels in magnetic field of 1 gauss
 - Splitting of $m_I = \pm 1/2$ sub-levels in magnetic field of 1 gauss.