

**AMR Quantum Mechanics
Homework, Week 2**

1. Write the Hamiltonian for the Li atom and indicate the physical significance of each term in your Hamiltonian
2. Determine if the spatial part of the He atom (ground state) wave function is symmetric or antisymmetric with respect to the permutation operator.
3. Write the spatial part of the wavefunction for the He atom in its first excited state. Make sure that your wavefunction reflects the fact that the two electrons are indistinguishable.