

2002S Homework #06

Due 05/28/2002

1. Calculate the three lowest energy levels together with their degeneracies for three non-interacting spin 1/2 particles in a box of length L .
2. The Hamiltonian for a spin 1/2 system is given by $H = AS_z^2 + B(S_x^2 - S_y^2)$. Solve this problem exactly to find the normalized energy eigenstates and eigenvalues.