

A Study of a Confined Hydrogen Negative Ion

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Abstract: The ground and three low-excited states of the hydrogen negative ion confined by a spherical harmonic oscillator potential are studied employing the adiabatic hyperspherical approach method. Total energies are obtained as a function of the confined potential radii. We find that the confinement may cause accidental degeneracies between levels with different low-excited states and the inversion of the energy values.

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