Confinement of the hydrogen molecular ion H2+ under a magnetic field inside a spheroid MARTIN MOLINAR, DIFUS, Universidad de Sonora — A study of the confinement of the hydrogen molecular ion H2+ is done. The molecular ion is subject to the action of a magnetic field. In the Born – Oppenheimer approximation, we solve numerically the Schrödinger's equation, using trial functions and one algorithm that allows us to calculate the energies for different given values of the confinement parameters. We use the variational method in order to estimate the energy of the ground state. Some properties of the system as the pressure exerted by the confinement, the polarizability in the approximations of Kirkwood and Buckingham and the energies of the vibrational states are calculated. The behavior of the internuclear separation is analyzed for the geometry considered.

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Date submitted: 24 Nov 2009   Electronic form version 1.4