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The Ion H_3^+ in a Strong Magnetic Field NICOLAIS GUEVARA LEON, Univ of Florida - Gainesville , ALEXANDER V. TURBINER, JUAN C. LOPEZ VIEYRA, Instituto Ciencias Nucleares. UNAM — A detailed study of the low-lying electronic states of the H_3^+ molecular ion in linear parallel configuration is carried out for $B = 0 - 4.414 \times 10^{13}$ G in the Born-Oppenheimer approximation. It is shown that the ground state depends on the magnetic field strength. It evolves from the spin-singlet $^1\Sigma_g$ for small magnetic fields $B \leq 5 \times 10^8$ G to the weakly-bound spin- triplet $^3\Sigma_u$ for intermediate fields and eventually to the strongly-bound spin-triplet $^3\Pi_u$ state for 5×10^{10} G$\leq B \leq 4.414 \times 10^{13}$ G. For $B \geq 5 \times 10^{10}$ G the H_3^+ molecular ion is stable towards all possible ionization and dissociation channels.

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