

AU Zong, W, Dunn, GH, Djuric, N, Larsson, M, Greene, CH, Al-Khalili, A, Neau, A, Derkatch, AM, Vikor, L, Shi, W, Le Padellec, A, Rosen, S, Danared, H, Ugglas, MA

TI Resonant ion pair formation in electron collisions with ground state molecular ions

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ID DISSOCIATIVE RECOMBINATION; CROSS-SECTIONS

AB Resonant ion pair formation from collisions of electrons with ground state diatomic molecular ions has been observed and absolute cross sections measured. The cross section for HD<sup>+</sup> is characterized by an abrupt threshold at 1.9 eV and 14 resolved peaks in the range of energies 0 less than or equal to E less than or equal to 14 eV. The dominant mechanism responsible for the structures appears to be resonant capture and stabilization, modified by two-channel quantum interference. Data on HF<sup>+</sup> show structure correlated with photoionization of HF and with dissociative recombination of electrons with this ion.

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