

Abstract Submitted
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Dissociative Electron Attachment to Acetylene S.T. CHOUROU, A.E. OREL, Department of Applied Science, University of California, Davis — Experimental studies of electron impact on acetylene show the presence of a π^* -shape resonance at 2.6 eV which leads to dissociation into C_2H^- and H. In their ground state, these fragments have $^1\Sigma$ and 1S symmetries respectively; therefore, the DEA process involves a break of the linear symmetry of acetylene and predissociation of the $^2\Pi_g$ resonance in bent geometries. We performed electron scattering calculations using the complex Kohn variational method to determine the resonance parameters of this system. We discuss the dynamics of dissociation into the product channels and report the computed DEA cross sections. The results are then compared to available experimental findings. Work supported by NSF PHY-05-55401.

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