

Abstract Submitted
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Electron Impact Excitation of Atmospheric Species¹ C.P. MALONE, P.V. JOHNSON, J.W. MCCONKEY², J.M. AJELLO, I. KANIK, Jet Propulsion Laboratory, Caltech, MS 183-601, 4800 Oak Grove Drive, Pasadena, CA 91109, USA — Electron collisions with neutral molecular targets, such as O₂, H₂, and N₂, have been investigated. Resulting fluorescence was probed using various monochromator-detector combinations. Line and band intensities were investigated as a function of wavelength and incident electron energy. The emission cross sections for these atmospheric species will be presented. In the case of O₂, previous values in the literature, such as [J.M. Ajello and B. Franklin, *J. Chem. Phys.* **82**, 2519 (1985); O. Wilhelmi and K.-H. Scharfner, *Eur. Phys. J. D* **11**, 79 (2000)], demonstrated significant discrepancies and provided a strong impetus for this work. The present results are compared to available cross sections.

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