

Abstract Submitted  
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**Electron impact excitation of atomic oxygen.**<sup>1</sup> CHARLES MALONE, PAUL JOHNSON, WILLIAM MCCONKEY, JOSEPH AJELLO, ISIK KANIK, Jet Propulsion Laboratory, MS 183-601, 4800 Oak Grove Drive, Pasadena, CA 91109 USA — A composite beam of atomic and molecular oxygen was generated using a microwave cavity and special gas handling surfaces to minimize O recombination. Further, a magnetically constrained electron beam of well-known energy was used to excite the oxygen gas target. The resulting fluorescence was probed using a 0.2m vacuum monochromator and a CsI-coated channel electron multiplier. Spectral scans (intensity as a function of wavelength with fixed impact energy) and excitation function scans (intensity as a function of impact energy for a wavelength interval) were used to quantify the VUV emissions of atomic oxygen. The monitored dissociation fraction and known 130.4nm atomic oxygen emission cross section [Johnson et al., Can. J. Phys. 83, 589-616 (2005)] were used for normalization of the measured excitation functions. Resulting VUV emission cross sections of atomic oxygen via electron impact will be presented.

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