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Electron Impact Induced VUV Emission from Argon J.A. YOUNG, The Aerospace Corporation, C.P. MALONE, P.V. JOHNSON, Jet Propulsion Lab — Emission intensity and spectra are important tools for diagnosing plasma properties such as electron temperature and neutral density. In order to properly interpret emissions from low-density plasmas, accurate cross sections are needed, particularly low energy electron-impact cross sections. Of interest are the cross sections for Argon, a common species used in industrial and lighting applications. In this paper, we present recent measurements of electron-impact induced VUV emissions from Ar using a magnetically collimated monoenergetic beam of electrons and a 0.2m spectrometer. Specifically, we present emission excitation functions for both Ar I(1048Å) and Ar I(1066Å) emissions. Similarities and differences between current results and previously published emission results will be discussed. Also discussed will be the relation to recent electron energy loss results.

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