Electron Impact Induced VUV Emission from Argon J.A. YOUNG,
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— Emission intensity and spectra are important tools for diagnosing plasma proper-
ties 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 Ar-
gon, 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 spec-
trometer. 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.