

Abstract Submitted
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Photoionization and electron-impact ionization of Ar^{5+1} JING CHENG WANG, M. LU, D. ESTEVES, M. HABIBI, G. ALNA'WASHI, R.A. PHANEUF, University of Nevada, Reno, A.L.D. KILCOYNE, Advanced Light Source, LBNL, B.M. MCLAUGHLIN, Queens University, Belfast, U.K. — Absolute cross sections for photoionization and electron-impact ionization of Ar^{5+} have been measured using two different interacting-beams setups. In the energy range from 90 to 111 eV, both electron-impact ionization and photoionization of Ar^{5+} are dominated by indirect $3s$ subshell excitation-autoionization. From 270 to 285 eV, resonances due to $2p - 3d$ excitation-autoionization are prominent in the photoionization spectrum. An enhancement due to $2p-nl$ ($n>2$) excitations is evident in the electron-impact ionization cross section between 225 and 335 eV. The electron and photon impact data show features due to excitation of the same autoionizing states. The photoionization measurements will be compared to Breit-Pauli R-Matrix calculations.

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