Photoionization spectroscopy of even-parity autoionizing Rydberg states of argon atoms\textsuperscript{1} J.D. WRIGHT, T.J. MORGAN, Physics Department, Wesleyan University, Q. GU, L. LI, J.L. KNEE, Chemistry Department, Wesleyan University — We use the \(J=0\) and \(J=2\) metastable states of argon created in a plasma discharge to perform photoionization spectroscopy of even-parity autoionizing Rydberg states of the argon atom between the first and second ionization limits. Fitting the data to a linear combination of Fano-type peaks allows us to extract the widths and q-parameters of the resonances. Finally, we compare the experimental profile of p-type multiplets to the results of recent theoretical calculations [1]. Agreement is good.


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