Abstract Submitted
for the DAMOP07 Meeting of
The American Physical Society

Single and double photoionization of the laser-excited 6s6p 1Po state of Barium[1] JOHN R. TOLSMA, Department of Physics and JILA, University of Colorado, Boulder, Colorado 80309-0440, CHRIS H. GREENE, Department of Physics and JILA, University of Colorado, Boulder, Colorado 80309 - 0440, USA
— We calculate the photoionization cross sections of the 6s6p 1Po state of barium by either one or two photons. In both cases the final state energies reach the vicinity of the 5d ionization thresholds. This study uses variational R-matrix and quantum defect techniques to calculate the rich array of autoionizing resonances in this energy range. The two-photon cross section calculation utilizes Siegert pseudostates to describe the intermediate levels that arise in the second-order perturbation expansion.

[1]This work was supported in part by the Department of Energy, Office of Science.

John R. Tolsma
Department of Physics and JILA,
University of Colorado, Boulder, Colorado 80309-0440

Date submitted: 05 Feb 2007 Electronic form version 1.4