Abstract Submitted
for the DAMOP10 Meeting of
The American Physical Society

Triple differential cross sections for the double photoionization of Li JAMES COLGAN, LANL, ANATOLI KHEIFETS, ANU, DMITRY FURSA, C.W. HINES, Curtin University, IGOR BRAY, MICHAEL PINDZOLA, Auburn University — A joint theoretical study is presented of the triple differential cross sections arising from the double photoionization of lithium. The time-dependent close-coupling (TDCC) [1] and convergent close-coupling (CCC) [2] approaches are used to predict the cross sections for photon energies of 90 eV, where the non-ionized electron remains in the ground state. It is shown that for the equal energy sharing case the double photoionization process can be described by two symmetrized singlet and triplet amplitudes. The two theoretical approaches generally show good agreement, and detailed comparisons will be given for both equal and unequal energy sharing cases. We also report on our progress in calculating fully differential cross sections for the triple photoionization of lithium. The Los Alamos National Laboratory is operated by Los Alamos National Security, LLC for the National Nuclear Security Administration of the U.S. Department of Energy under Contract No. DE-AC5206NA25396.

[1] J. Colgan, D. C. Griffin, C. P. Ballance, and M. S. Pindzola, Phys. Rev. A **80**, 063414 (2009).
[2] A. S. Kheifets, D. V. Fursa, and I. Bray, Phys. Rev. A **80**, 063413 (2009).

James Colgan
LANL

Date submitted: 27 Jan 2010 Electronic form version 1.4