

Abstract Submitted
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Double Photoionization of Be and Mg Atoms using the *R*-Matrix with Pseudo-States Method¹ DONALD GRIFFIN, Rollins College, Winter Park, FL, MITCH PINDZOLA, CONNOR BALLANCE, Auburn University, Auburn, AL, JAMES COLGAN, Los Alamos National Laboratory — We report on *R*-matrix with pseudo-states (RMPS) calculations of the total cross sections for double photoionization of Be and Mg atoms from their singlet ground and triplet metastable terms. Time-dependent close-coupling (TDCC) calculations are also carried out for the double photoionization cross sections of Mg from its ground term. The RMPS total ground-term cross sections for Be and Mg are in good agreement with results from TDCC and convergent close-coupling (CCC) calculations at lower energies, but are above them at higher energies. They are also in good agreement with the results of synchrotron measurements. The total cross sections for double photoionization from the triplet metastable terms of Be and Mg are found to be 2-3 times smaller than those from their singlet ground terms.

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