

Abstract Submitted
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Single photon double ionization of the He-like Li^+ ion B.M. MCLAUGHLIN, School of Mathematics and Physics, Queen's University of Belfast, Belfast BT7 1NN, UK, C.P. BALLANCE, Department of Physics, Auburn University, Auburn, AL 36840, USA — The success of the R-matrix plus pseudo-state (RMPS) method to model single photoionization, is exploited and extended to calculate the single photon double ionization cross-section for the He-like ion, Li^+ , from both the ground state and the $n=2$ excited levels. Comparisons of the present R-matrix plus pseudo-state (RMPS) results are made with other theoretical methods such as time-dependent close-coupling (TDCC), the convergent close-coupling (CCC) and the B-spline approach. Suitable agreement between the various theoretical approaches are achieved but some differences occur which are high-lighted and discussed. The maxima in the respective cross sections are extremely small, being in the region of 2Kb for the ground state and 1Kb and 6 Kb, for the $n=2$ meta stable states which makes their experimental determination very challenging.

B.M. McLaughlin
Queen's University of Belfast, Belfast BT7 1NN, UK

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