

Abstract Submitted
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Double Autoionization of Hollow Atom States M.S. PINDZOLA, F.J. ROBICHEAUX, Auburn University, J.P. COLGAN, LANL — The time-dependent close-coupling method for three electron systems is used to calculate the double autoionization of hollow atom states. Initial excited states are obtained by relaxation of the Schrödinger equation in imaginary time, while autoionization rates are obtained by propagation in real time. A 12 coupled-channels non-perturbative calculation on a 7.1 million point radial lattice yields a double autoionization rate for the $\text{Li}(2s^22p) \rightarrow \text{Li}^{2+} + 2e^-$ transition that is somewhat smaller than earlier many-body perturbation theory calculations and in reasonable agreement with rates extracted from resonance profiles found in $e + \text{Li}^+$ and $\gamma + \text{Li}$ experiments.

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