Abstract Submitted
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S-matrix calculations of energy levels of the lithium isoelectronic sequence[1] J. SAPIRSTEIN, University of Notre Dame, K.T. CHENG, Lawrence Livermore National Laboratory — A QED approach to the calculation of the spectra of the lithium isoelectronic sequence is implemented. A modified Furry representation based on the Kohn-Sham potential is used to evaluate all one- and two-photon diagrams with the exception of the two-loop Lamb shift. Three-photon diagrams are estimated with Hamiltonian methods. After incorporating recent calculations of the two-loop Lamb shift and recoil corrections a comprehensive tabulation of the $2s$, $2p_{1/2}$ and $2p_{3/2}$ energy levels as well as the $2s - 2p_{1/2}$ and $2s - 2p_{3/2}$ transition energies for $Z = 10 - 100$ is presented.

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