

Abstract Submitted
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Double Photoionization of Lithium Revisited¹ RALF WEHLITZ, Synchrotron Radiation Center, Univ. of Wisconsin-Madison, DRAGAN LUKIĆ, Institute of Physics, Belgrade, Serbia — In a previous paper² we believed to have seen oscillations in the double-photoionization cross section of lithium. However, a recent investigation revealed that resonances at twice the photon energy (compared to the near-threshold energy region) are more pronounced than had been expected³. This prompted us to revisit the near-threshold region of the lithium double-to-single photoionization ratio. Using a slightly higher energy resolution in a new experiment on the same beamline, we could identify resonances in that ratio due to second-order light. While the second-order light contribution is small, so is the double-photoionization cross section in first-order light near threshold. The “resonances” observed near threshold match the inner-shell resonances at twice the photon energy fairly well and can indeed explain the previously seen “oscillations”.

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²R. Wehlitz, J.B. Bluett, and S.B. Whitfield, Phys. Rev. Lett. **89**, 093002 (2002)

³R. Wehlitz and P.N. Juranić, Phys. Rev. A **74**, 042721 (2006)

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