

Abstract Submitted
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Two-center Effects in One-photon Single Ionization of H_2^+ , H_2 and Li_2^+ with Circularly Polarized Light¹ FRANK L. YIP, Lawrence Berkeley National Lab., JORGE FERNÁNDEZ, FERNANDO MARTÍN, Departamento de Química, Universidad Autónoma de Madrid, Spain, THOMAS N. RESCIGNO, Lawrence Berkeley National Lab., C. WILLIAM MCCURDY, U. C. Davis and Lawrence Berkeley National Lab. — Circularly polarized one-photon single ionization of H_2^+ and H_2 with energies of a few hundred eV and of Li_2^+ with tens of eV allows the investigation of two-center interference effects due to confinement and double-slit diffraction. Accurate theoretical results of Exterior Complex Scaling calculations are presented showing that the angular distributions for circularly polarized light are very similar to those obtained by averaging the corresponding angular distributions for parallel and perpendicular linearly polarized light, implying that coherence between Π_u and Σ_u^+ amplitudes is unimportant in determining those distributions. Consequently, confinement and double-slit effects observed in the case of linear polarization are also present in the case of circularly polarized light. For Li_2^+ , because the effects appear at electron energies that are significantly lower, the results are more sensitive to details of the molecular potential.

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