

Abstract Submitted
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Excitation of atoms by bicircular laser pulses¹ YONAS GEBRE, JOEL VENZKE, ANDREAS BECKER, AGNIESZKA JARON-BECKER, JILA and Department of Physics, University of Colorado, Boulder — We study the excitation of Rydberg states for the interaction of atoms with intense bi-circular laser pulses using numerical solutions of the time-dependent Schrödinger equation. By identifying the pathways in co-rotating and counter-rotating bi-circular laser pulses, we interpret an enhancement in excitation for the counter-rotating case consistent with the experimental results in Ref. [1]. We further identify several other features, e.g. angular momentum selection rules for the populations in the excited states and a cut-off in angular momentum that is dependent on the frequency and intensity of the two circular laser pulses. [1] C. A. Mancuso, et al., PRA 96, 023402 (2017)

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