

Abstract Submitted
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Observing angular precession of a Rydberg wave packet due to spin-orbit coupling by orthogonal polarized half-cycle pulses HAIDAN WEN, SANTOSH PISHARODY, JOEL MURRAY, PHILIP BUCKSBAUM, FOCUS Center, Department of Physics, University of Michigan, Ann Arbor — We investigate the response of an np Rydberg wave packet to orthogonal polarized half-cycle pulses(HCPs) over the course of its field free evolution. The population redistribution from p to s states is highly sensitive to the polarization of HCPs and changes with the precession of the electron orbits due to spin-orbit coupling. The selection rules of HCP redistribution are obtained and an intuitive classical interpretation is given.

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