Abstract Submitted
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Frequency-offset separated oscillatory fields: A demonstration of a new technique for a measurement of the helium n=2 triplet P fine structure[1] D. W. FITZAKERLEY, K. KATO, M. C. GEORGE, York University, A. C. VUTHA, University of Toronto, T. D. G. SKINNER, N. BEZGINOV, E. A. HESSELS, York University — We perform a proof-of-principle demonstration of the frequency-offset separated oscillatory field (FOSOF) technique [Phys. Rev. A 92,052504 (2015)]. For the FOSOF technique, the two separated field have frequencies which are offset from each other, so that the relative phases of the fields varies linearly in time. This proof-of-principle demonstration measures the 2^3P_1 m=1 to 2^3P_2 m=1 transition in atomic helium and demonstrates the usefulness of the FOSOF technique for high-precision atomic measurements.

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