

Abstract Submitted
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Progress towards a precision measurement of the $n=2$ triplet P fine structure of atomic helium¹ K. KATO, D. W. FITZAKERLEY, M. C. GEORGE, York University, A. C. VUTHA, University of Toronto, C. H. STORRY, E. A. HESSELS, York University — We report progress on the measurement of the $J=1$ to $J=2$ 2^3P fine-structure interval of atomic helium. The measurement uses a liquid-nitrogen-cooled DC discharge source of metastable helium and the atomic beam is laser cooled in the transverse directions. The atoms are excited to 2^3P by a 1083-nm diode laser, and the fine-structure transition is driven by microwaves using the frequency-offset separated oscillatory fields technique [Phys. Rev. A 92, 052504 (2015)]. The transition is detected by further laser excitation to a Rydberg state, followed by Stark ionization.

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