

Abstract Submitted  
for the DAMOP14 Meeting of  
The American Physical Society

**Progress towards a measurement of the proton radius in hydrogen**<sup>1</sup> A.C. VUTHA, N. BEZGINOV, I. FERCHICHI, M.C. GEORGE, M. WEEL, C.H. STORRY, E.A. HESSELS, York University — The proton's charge radius continues to have a 7 standard-deviation discrepancy between its CODATA value and determinations from muonic hydrogen measurements. Improved measurements in atomic hydrogen will shed light on this discrepancy. We present a novel experimental scheme, using frequency-offset separated oscillatory fields in standing-wave waveguides, to measure the n=2 Lamb shift in a fast metastable hydrogen beam. We report on our progress, including our first observations of microwave transitions in a fast metastable beam and high signal-to-noise ratio detection in a large-solid-angle photoionization detector.

<sup>1</sup>We acknowledge funding from NSERC, CFI, CRC, ORF, and NIST.

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Date submitted: 31 Jan 2014

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