

Abstract Submitted  
for the DAMOP16 Meeting of  
The American Physical Society

**Diode laser frequency stabilization using a low cost, low finesse Fabry-Perot cavity**<sup>1</sup> HANNAH HASTINGS, NOURA B. JABER, GEORGIA PIATT, VINCENT C. GREGORIC, Bryn Mawr College, THOMAS J. CARROLL, Ursinus College, MICHAEL W. NOEL, Bryn Mawr College — Our lab employs low cost, low finesse Fabry-Perot cavities to stabilize the frequency of diode lasers used in ultra-cold Rydberg atom experiments. To characterize the stability of this technique, we perform a self-heterodyne linewidth measurement. For comparison, we also measure the linewidth when using a saturated absorption spectrometer to provide frequency stability.

<sup>1</sup>This work is supported by the National Science Foundation under Grants No. 1205895 and No. 1205897.

Vincent C. Gregoric  
Bryn Mawr College

Date submitted: 29 Jan 2016

Electronic form version 1.4