

Abstract Submitted
for the DNP08 Meeting of
The American Physical Society

Progress on a Polarimeter for the Deuteron EDM Search E.J. STEPHENSON, Indiana University Cyclotron Facility, DEUTERON EDM COLLABORATION — The design of the storage ring for the deuteron electric dipole moment (EDM) search uses crossed \mathbf{E} and \mathbf{B} fields to nearly stop the magnetic moment precession of the deuteron in the ring bending magnets. This allows time for the EDM (whose precession is based on $E = \gamma \mathbf{v} \times \mathbf{B}$) to generate a detectable vertical polarization component [1]. A polarimeter for the EDM ring must monitor continuously and with high statistical precision. Recent tests at COSY-Jülich have demonstrated high efficiency ($\sim 1.5\%$) using a thick-walled carbon tube target that also determines the ring aperture. Extraction onto the target was tested using beam position ramping and beam heating with a cluster jet target or a white-noise electric field. Systematic errors were investigated. Continuous monitoring demonstration measurements were made using an RF solenoid whose frequency was ramped through the $1 - G\gamma$ depolarizing resonance. [1] F.J. Farley *et al*, Phys. Rev. Lett. **93**. 052001 (2004).

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Date submitted: 30 Jun 2008

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