

**Abstract Submitted for the Southeastern Section  
of the American Physical Society**

**NHMFL, Tallahassee, FL, November 9-11, 1995**

Suggested title of session: Nuclear Physics

**A Planned Polarized Deuteron Target for Investigation of  $\Delta\sigma_L$  and  $\Delta\sigma_T$  in n-d Scattering\*** J. R. WALSTON, C. R. GOULD, D. G. HAASE, B. W. RAICHLE AND M. L. SEELY, *North Carolina State University and Triangle Universities Nuclear Laboratory*, N. R. ROBERSON, W. TORNOW AND W. S. WILBURN, *Duke University and Triangle Universities Nuclear Laboratory*, G. W. HOFFMAN, *UT Austin*, S. I. PENTILLÄ, *LANL*, —We describe a planned modification of an existing polarized proton system to accommodate a dynamically polarized deuteron target for investigation of the tensor component of the n-d interaction for neutron energies of 2-20 MeV. The cryostat is based on a PSI design using a  $^3\text{He}$ - $^4\text{He}$  dilution refrigerator and a magnet system allowing field alignment parallel and perpendicular to the beam direction. A 1.4 cm cube target cup filled with chemically doped deuterated butanol beads will be cooled to 100 mK while dynamically polarized by 70 GHz microwaves in a 2.5 T magnetic field to obtain 40% polarization in a frozen spin mode. The deuteron polarization will be measured by a continuous wave NMR system.

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- Prefer Poster Session  
 Prefer Oral Session  
 No Preference

Submitted by:

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