Abstract Submitted
for the DNP06 Meeting of
The American Physical Society

Measurements of $^{11}B(\vec{p},\alpha)^8Be$[1] A.J. RICHARDS, The College of New Jersey, HENRY WELLER, Triangle Universities Nuclear Laboratory, MOHAMMED AHMED, MATTHEW BLACKSTON, SETH HENSHAW, P. KINGSBURY, BRENT PERDUE, TUNL, RALPH FRANCE, Georgia College and State University, TOM LEWIS, GCSU, RICHARD PRIOR, North Georgia College and State University, M. SPRAKER, NGCSU, TUNL CAPTURE GROUP TEAM —
The vector analyzing powers of the $^{11}B(\vec{p},\alpha)^8Be_{g.s.}$ reaction were measured as a function of energy and angle as part of a program to study the $^{11}B(p,\alpha)2\alpha$ reaction at low energies. Polarized proton beams were produced by the ABPIS source and accelerated through the FN tandem at the Triangle Universities Nuclear Laboratory. The target was composed of 35 $\mu g/cm^2$ of isotopically enriched ^{11}B deposited on a 9 $\mu g/cm^2$ carbon backing. Emitted α-particles were detected in an array of six surface-barrier detectors placed symmetrically to the left and right of the target. Measured asymmetries in scattering from the carbon backing were used to calibrate the beam polarization. Beams of 100 nA to 600 nA were used at energies of $E_p = 1.388$ MeV, 2.65 MeV, 3.9 MeV, 4.0 MeV, 4.93 MeV, 5.11 MeV and 5.5 MeV. An aluminum degrader foil was used to produce 575 keV through 775 keV beams (3 to 6 nA) to study the 675 keV resonance. These data will be used to develop a detailed understanding of the on- and off-resonance nature of this reaction.

[1]NSF grant NSF-05-52723.

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Date submitted: 01 Aug 2006 Electronic form version 1.4