

Abstract Submitted  
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**Inverse-kinematics proton scattering and analysis of  $^{54}\text{Ti}$  and  $^{56}\text{Ti}$** <sup>1</sup> R.L. BLANCHARD, J.S. KUSTINA, L.A. RILEY, M.L. AGIORGOUSIS, Ursinus College, T.R. BAUGHER, D. BAZIN, M. BOWRY, NSCL at MSU, P.D. COTTLE, Florida State University, F.G. DEVONE, Ursinus College, A. GADE, NSCL at MSU, M.T. GLOWACKI, Ursinus College, K.W. KEMPER, Florida State University, E. LUNDERBERG, NSCL at MSU, D.M. MCPHERSON, Florida State University, S. NOJI, F. RECCHIA, NSCL at MSU, B.V. SADLER, Ursinus College, M. SCOTT, D. WEISSHAAR, NSCL at MSU, R.G.T. ZEGERS, NSCL and JINA at MSU — In May 2014, several inverse-kinematics proton scattering measurements were made by the Ursinus College nuclear structure group at the Coupled-Cyclotron Facility at the National Superconducting Cyclotron Laboratory at Michigan State University. A stable  $^{76}\text{Ge}$  primary beam was fragmented, which produced a “cocktail beam” of fifty different nuclei. This resulting beam of nuclei passed through the Ursinus College Liquid Hydrogen Target. When the beam nuclei hit the protons in the Liquid Hydrogen Target, they became excited and emitted gamma rays which we collected with the GRETINA gamma ray tracking array. In the present work, we focus on measurements of  $^{54}\text{Ti}$  and  $^{56}\text{Ti}$  and implications for the possible shell closures at  $N = 32$  and  $N = 34$ .

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Rose Blanchard  
Ursinus College

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