

Abstract Submitted  
for the APR17 Meeting of  
The American Physical Society

**Extracting Spectroscopic Factors of Argon Isotopes from Transfer Reactions**<sup>1</sup> JUAN MANFREDI, Michigan State Univ, J. LEE, Univ of Hong Kong, M.B. TSANG, W.G. LYNCH, J. BARNEY, J. ESTEE, S. SWEANY, K.W. BROWN, G. CERIZZA, C. ANDERSON, H. SETIAWAN, C. LOELIUS, Michigan State Univ, Z. XU, Univ of Hong Kong, A.M. ROGERS, UMass Lowell, C. PRUITT, L.G. SOBOTKA, J.M. ELSON, Washington Univ, C. LANGER, Goether Univ, Z. CHAJECKI, G. CHEN, Western Michigan Univ, K.L. JONES, K. SMITH, Univ of Tennessee, Z. XIAO, Z. LI, Tsinghua Univ, J.R. WINKELBAUER, Los Alamos National Laboratory — A spectroscopic factor (SF) quantifies the single particle occupancy of a given state in a nucleus. For the argon isotopes, there is a discrepancy of the SF between studies that use transfer reactions and knockout reactions. Understanding the SFs of these isotopes, and in particular how the SF changes across the isotopic chain, is important for understanding how single particle structure changes with neutron number. The transfer reactions  $^{34}\text{Ar}(p,d)$  and  $^{46}\text{Ar}(p,d)$  were measured at the National Superconducting Cyclotron Laboratory (NSCL) using the same beam energy (70 MeV/u) as from the previous knockout measurement. Spectroscopic factors were extracted from measured angular distributions via ADWA calculations. Preliminary findings will be presented.

<sup>1</sup>The National Superconducting Cyclotron Laboratory is supported by the NSF (PHY 1102511), and Juan Manfredi is supported by the DOE NNSA Stewardship Science Graduate Fellowship.

Juan Manfredi  
Michigan State Univ

Date submitted: 02 Oct 2016

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