Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

Single-neutron states and the role of the $\nu g_{9/2}$ orbital in ^{71}Zn SIMONE BOTTONI, Argonne Natl Lab, ANL COLLABORATION, MSU - NCSL COLLABORATION, LBNL - LLNL COLLABORATION, U. OF MARYLAND COLLABORATION, U. OF ROCHESTER COLLABORATION — The structure of ^{71}Zn has been studied at ATLAS by means of transfer reactions between heavy ions at beam energies 25% above the Coulomb barrier. The γ rays were detected by GRETINA while scattered charged particles were identified by using CHICO2. In conjunction with data from a Gammasphere stand-alone experiment using a thick target, level schemes associated with the long-lived, $9/2^+$ isomers in ^{71}Zn were delineated. The level sequences built on the $g_{9/2}$ neutron orbital all appear to be of single-particle character. The results will be presented and compared with shell-model calculations, using current effective interactions, which reveal a preferential oblate configuration for high-spin yrast states. The present experiment allowed to investigate, for the first time, the potential of transfer reactions between heavy ions using GRETINA and can serve as a benchmark for future experiments.

Simone Bottoni
Argonne Natl Lab

Date submitted: 28 Jun 2016 Electronic form version 1.4