Abstract Submitted
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Hole-states of 55Ni from (p,d) transfer reactions[1] BETTY TSANG, ALISHER SANETULLAEV, WILLIAM LYNCH, JENNY LEE, DANIEL BAZIN, K.P. CHAN, DANIEL COUPLAND, VLAD HENZL, DANIELA HENZLOVA, MICHA KILBURN, ANDREW ROGERS, NSCL/MSU, Z.Y. SUN, NSCL, MICHAEL YOUNGS, NSCL/MSU, ROBERT CHARITY, LEE SOBOTKA, Washington University in St Louis, MICHAEL FAMIANO, Western Michigan University, SYLVIE HUDAN, Indiana University, DANIEL SHAPIRA, W.A. PETERS, Rutgers University, C BARBIERI, University of Surrey, United Kingdon, M. HJORTH-JENSEN, NSCL/MSU, M. HOROI, Central Michigan University, T. OTSUKA, University of Tokyo, Japan, T. SUZUKI, Nihon University, Japan, Y. UTSUNO, Advanced Science Research Center, Japan Atomic Energy Agency — Spectroscopic information has been extracted on the hole-states of ^{55}Ni. Using the ^{1}H(^{56}Ni,d)^{55}Ni transfer reaction in inverse kinematics, neutron spectroscopic factors, spins and parities have been extracted for the $f_{7/2}$, $p_{3/2}$ and the $s_{1/2}$ hole-states of ^{55}Ni. These new data provide a benchmark for large basis calculations that include nucleonic orbits in both the sd and pf shells. Most shell models describe the ground state and the first $p_{3/2}$ excited state very well. However, most models have difficulties describing the deep hole state in the sd orbits. In this talk, we will compare the experimental energy levels and spectroscopic factors to state of the art shell model calculations.

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