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Neutron Spectroscopic factors of ^{56}Ni[1] A. SANETULLAEV, NSCL/MSU, T.K. GHOSH[2], VECC, Kolkata, India, W.G. LYNCH, D. BAZIN, Z. CHAJECKI, DANIEL COUPLAND, R. HODGES, JENNY LEE, V. HENZL, D. HENZLOVA, A.M. ROGERS, Z.Y. SUN, M.B. TSANG, J. WINKELBAUER, M. YOUNGS, NSCL/MSU, M. FAMIANO, WMU, R.R.C. CLEMENT, LANL, M.E. HOWARD, J.A. CIZEWSKI, P.D. O'MALLEY, B. MANNING, Rutgers University, R.J. CHARITY, L.G. CHARITY, Washington University in St. Louis, D. SHAPIRA, K.T. SHMITT, University of Tennessee — The exact shell-structure of the unstable doubly-magic nucleus ^{56}Ni has attracted a lot of interest recently. To test if ^{56}Ni is a good core, ^{56}Ni(p, d)^{55}Ni transfer reactions were measured using ^{56}Ni beam at two different energies, 37 MeV/u and 80 MeV/u, in inverse kinematics in two experiments. The second measurement was done in order to test the sensitivity of reaction cross sections and models to reaction energies. The measurements were performed at NSCL using HiRA array and S800 spectrometer. Spectroscopic factors have been extracted for the first experiment. The results show good agreement with shell-model calculations. Preliminary results of the measurements with 80 MeV/u beam will be presented as well.

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