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Experimental Investigation of (p,n) reactions relevant to the astrophysical νp process G. PERDIKAKIS, R.M. ALMUS, Department of Physics, Central Michigan University, R. AVETISYAN, A.A. BATAGLIA, B.M. BUCHER, C.R. CASARELLA, Department of Physics, University of Notre Dame, C. FRÖHLICH, Department of Physics, North Carolina State University, S. LIPSCHUTZ, NSCL, Michigan State University, A.M. LONG, S. LYONS, S.T. MARLEY, K.M. OSTDIEK, Department of Physics, University of Notre Dame, T.H. REDPATH, Department of Physics, Central Michigan University, K.I. SMITH, M.K. SMITH, Department of Physics, University of Notre Dame, A. SPYROU, NSCL, Michigan State University, E.J. STECH, W. TAN, R. TALWAR, M. WIESCHER, Department of Physics, University of Notre Dame, R.G.T. ZEGERS, NSCL, Michigan State University — A recently discovered nucleosynthesis process, the νp process is thought to take place in core-collapse supernovae and could explain some of the observed abundance trends. The underlying nuclear physics and its role is not yet known due to a lack of experimental information. Aiming to study relevant reaction rates, the (n,p) reactions on ^{61}Cu and ^{59}Ni have been studied through their time-inverse reactions ^{61}Ni(p,n) and ^{59}Co(p,n). Protons with energies between 2.2 and 4 MeV from the FN Tandem of the University of Notre Dame were used to extract excitation functions in 100 keV steps covering the energy range of relevance. Neutrons from the (p,n) reactions with energies between 130 keV and 1 MeV where detected using a subset of the LENDA neutron array. Preliminary results from this investigation will be presented and the impact to nucleosynthesis will be discussed.

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