Abstract Submitted
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A new experimental technique for measuring (p,n) reactions relevant to the neutrino-p process in the ReA3 facility[1] PANAGIOTIS GASTIS, GEORGE PERDIKAKIS, Central Michigan University, CARLA FRHLICH, North Carolina State University, DANIEL ALT, Michigan State University, JACOB DAVISON, Central Michigan University, ALEXANDER DOMBOS, Michigan State University, ALFREDO ESTRADE, ASHTON FALDUTO, MIHAI HOROI, Central Michigan University, STEPHANIE LYONS, SEAN LIDICK, FERNANDO MONTES, JORGE PEREIRA, JASPREET RANDHAWA, THOMAS REDPATH, Michigan State University, MATTHEW REDSHAW, Central Michigan University, JACLYN SCHMITT, Michigan State University, JONATHAN SHEEHAN, Central Michigan University, MALLORY SMITH, ARTEMIS SPYROU, ANTONIO VILLARI, Michigan State University, KAILONG WANG, Central Michigan University, REMCO ZEGERS, Michigan State University — Proton rich neutrino driven winds in core-collapse supernovae can be a suitable environment for the formation of elements up to Z$\sim$50 via the so called neutrino-p (νp-)process. The strength of νp-process depends on key (n,p) reactions like the ^{56}Ni(n,p)^{56}Co and ^{64}Ge(n,p)^{64}Ga for which no experimental data exists. With the current state of the art any direct measurement of (n,p) reactions on neutron deficient nuclei is extremely challenging. For this purpose, a new experimental technique has been developed in the ReA3 facility at National Superconducting Cyclotron Laboratory for the study of astrophysical important (n,p) reactions via measuring the time reverse (p,n) reactions. In this presentation, a description of the technique and results from the first proof-of-principle run will be shown.

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