Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

Efficiency of the High Efficiency Total Absorption Spectrometer (HECTOR)[1] ZAIRE SPROWAL, Univ., of Mary Washington, ANNA SIMON, CRAIG REINGOLD, Univ., of Notre Dame, ARTEMIS SPYROU, FARHEEN NAQVI, ALEXANDER DOMBOS, ALICIA PALMISANO, National Superconducting Cyclotron Laboratory, Michigan State Univ., TYLER ANDERSON, SAMUEL ANDERSON, SHANE MOYLAN, CHRISTOPHER SEYMOUR, MICHAEL SKULSKI, MALLORY K. SMITH, SABRINA STRAUSS, BYANT VANDE KOLK, Univ., of Notre Dame — The p-process is a nucleosynthesis process that occurs in explosive environments such as type II and Ia supernovae and is responsible for production of heavy proton rich nuclei. Gamma rays emitted during these explosions induce several photo-disintegration reactions: (γ,n), (γ,p), and (γ, α). To study these interactions, the inverse of these reactions are measured experimentally. The High Efficiency TOtal absorption spectrometeR (HECTOR) at the University of Notre Dame was built for measuring these reactions. Standard gamma sources ^{60}Co and ^{137}Cs and known resonances in ^{27}Al(p,γ)^{28}Si reaction were used to experimentally determine HECTORs summing efficiency. Here, the preliminary analysis will be presented and the results will be compared to the Geant4 simulation of the array. This work was supported by the National Science Foundation under the grant number PHYS-1614442.

[1]This work was supported by the National Science Foundation under the grant number PHYS-1614442

Zaire Sprowal
Univ., of Mary Washington

Date submitted: 25 Jul 2016 Electronic form version 1.4