Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

Constraining neutron-capture reactions for the astrophysical i-process ARTEMIS SPYROU, CALEY HARRIS, MALLORY K SMITH, SEAN N LIDDICK, KATIE CHILDERS, REBECCA LEWIS, STEPHANIE LYONS, ALICIA PALMISANO, ANDREA L RICHARD, DEBRA RICHMAN, CHANDANA SUMITHRARACHCHI, Michigan State University, MAGNE GUTTORMSEN, VETLE INGEBERG, ANN-CECILIE LARSEN, University of Oslo, ALEX DOMBOS, REBECCA KELMAR, FARHEEN NAQVI, University of Notre Dame, PAUL DEYOUNG, Hope College, PANAGIOTIS GASTIS, Central Michigan University, CHRISTINA BURBAGE, EVA KASANDA, DENNIS MUECHER, University of Guelph, DARREN BLEUEL, NICHOLAS D SCIELZO, Lawrence Livermore National Laboratory, ADRIANA SWEET, University of California Berkeley — The synthesis of heavy elements in the Universe has been one of the main open questions in Nuclear Astrophysics. Recent astronomical observations of carbon enhanced metal-poor stars (CEMP) showed a significant number of stars with abundance patterns that cannot be reproduced by the traditional neutron-capture processes (s and r). An alternative process was introduced for this purpose with intermediate neutron densities, called the i process. From the nuclear physics point of view, most nuclear properties are known experimentally, and the main uncertainty comes from neutron-capture reaction rates. This talk will focus on an experimental program taking place at the NSCL to provide indirect constraints for (n,γ) reactions using the β-Oslo method.

Artemis Spyrou
Michigan State University

Date submitted: 28 Jun 2019 Electronic form version 1.4