

Plenary Talk PV IV Tue 9:45 Kurt-Alder HS Chemie
Nuclear astrophysics with radioactive beams — ●ARTEMIS SPY-
ROU — Michigan State University, East Lansing, MI, USA

Advances during the last decade have shown that the field of Nuclear Astrophysics is more complex than previously thought. The original nucleosynthesis processes proposed in the 1950s are still mostly valid and continue to exhibit important open questions. However, today we understand that additional processes may have significant contributions. In particular, the production of heavy elements, which includes nucleosynthesis in explosive environments, is one of the topics where

major discoveries have been made in the last years. These are driven by new astronomical observations, sophisticated new astrophysical models, and new developments in radioactive ion beam facilities around the world. In this talk I will present an overview of the field of nuclear astrophysics, focusing on heavy element nucleosynthesis. I will discuss the exciting opportunities that open up at the new generation of radioactive beam facilities like the Facility for Rare Isotope Beams (FRIB) at Michigan State University. In addition, I will present recent efforts on constraining neutron-capture reactions on short-lived nuclei and their implications on astrophysical processes.