

Plenary Talk PV III Tue 9:00 Kurt-Alder HS Chemie
Nuclear Structure and Reaction Features in Nuclear Astrophysics — ●MICHAEL WIESCHER — University of Notre Dame, Department of Physics and Astronomy, Notre Dame, IN 46556, USA

This presentation will examine the impact of nuclear threshold effects on nuclear reaction rates. It will highlight a number of significant

single-particle and cluster phenomena near the particle threshold that emerge due to quantum coupling effects. These configurations may exert considerable influence on low-energy charged particle and neutron capture reactions in stellar burning environments. The potential consequences of these threshold features will be demonstrated and discussed for a range of quiescent and explosive nucleosynthesis environments.