

**Plenary Talk** PV VI Wed 9:45 Kurt-Alder HS Chemie  
**Ab-initio studies of few-nucleon reactions of astrophysical interest** — ●LAURA ELISA MARCUCCI — Department of Physics "E. Fermi", University of Pisa, Pisa, Italy — Istituto Nazionale di Fisica Nucleare, Pisa branch, Pisa, Italy

Nuclear reactions involving few-nucleon systems are of great interest for astrophysics, such as in stellar evolution modeling or Big Bang

Nucleosynthesis (BBN) theory. Some of these reactions are also considered the best candidates for energy production via nuclear fusion. The great advantage of dealing with light nuclei is that ab-initio techniques can be used to predict cross sections (or astrophysical S-factors for charged nuclei) in the astrophysical energy range, which is difficult to access directly through experiments. In this talk, I will review the most recent ab-initio results obtained for nuclear reactions involving  $A=3$  or  $4$  nuclear systems.