



Contribution ID: 50

Type: Oral

First results of total and partial cross-section measurements of the $^{107}\text{Ag}(p, \gamma)^{108}\text{Cd}$ reaction

Monday, 19 June 2017 17:50 (20 minutes)

The γ process is assumed to play an important role in the nucleosynthesis of the majority of the p nuclei. Since the network of the γ process includes so many different reactions and - mainly unstable - nuclei, cross-section values are predominantly calculated in the scope of the Hauser-Feshbach statistical model. The values heavily depend on the nuclear physics input-parameters. The results of total and partial cross-section measurements are used to improve the accuracy of the theoretical calculations. In order to extend the experimental database the $^{107}\text{Ag}(p, \gamma)^{108}\text{Cd}$ reaction was studied via the in-beam method at the high-efficiency HPGe γ -ray spectrometer HORUS at the University of Cologne. Proton beams with energies between 3.5 and 5.0 MeV were provided by the 10 MV FN-Tandem accelerator. First results on total and partial cross sections will be presented.

Supported by the DFG (ZI 510/8-1) and the "ULDETIS" project within the UoC Excellence Initiative institutional strategy. P.S. and J.M. are supported by the Bonn-Cologne Graduate School of Physics and Astronomy.

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Session Classification: Direct measurements 1

Track Classification: Explosive scenarios in astrophysics: observations, theory, and experiments