Contribution ID: **96** Type: **Poster, Grant assigned**

7Be(p,p)7Be and its Importance in Nuclear Astrophysics

Tuesday, 26 June 2018 19:00 (1h 30m)

Proton-induced reactions on 7Be play an important role in nuclear astrophysics studies related to solar neutrinos. Recent Earth-bound experiments measuring solar neutrino fluxes from the Sun show discrepancies between both within each other and with the standard solar model (SSM). Of the reactions involved in the production of solar neutrinos, the 7Be(p,g)8B still carries the largest uncertainties. Studies have been performed of both 7Be(p,g)8B and 7Be(p,p)7Be. To further constrain its S-factor at relevant energies, a precise study of the 7Be(p,p)7Be elastic scattering will be carried out at CIRCE (Centre for Isotopic Research on Cultural and Environmental heritage) in Caserta, Italy. Data will help to constrain the 7Be(p,g)8B reaction cross section through a global R-matrix analysis. The ultimate drive of this effort in understanding the neutrino discrepancies is to use the Sun as a standard in the comparison to other stars across the Universe. A brief description of the CIRCE accelerator and target chamber, and an update of the work carried out so far will be presented.

Primary author: CHILLERY, Thomas (University of Edinburgh)

Presenter: CHILLERY, Thomas (University of Edinburgh)

Session Classification: Poster session