



LNGS SEMINARS

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SHADES – An ERC Starting Grant to study the synthesis of the heavy elements in the Universe at the LNGS Underground Accelerator Facility

Abstract

Using the new 3.5 MV particle accelerator financed by “Fondi Premiali LUNA-MV” and currently under commissioning at the manufacturer’s site, “SHADES” (Scintillator-He3 Array for Deep-underground Experiments on the S-process) aims to provide new direct measurement data on a reaction of critical importance for the synthesis of the heavy elements in the Universe: $Ne-22(a,n)Mg-25$. An improved measurement has been a long-standing goal of the nuclear astrophysics community, but the very low reaction rates at low energies have prevented any progress in direct measurements in the last 20 years.

Through the construction of an innovative hybrid neutron detector Dr. Best aims to measure this important stellar reaction directly in the energy region of stellar burning, the so-called “Gamow window”.

The project with a duration of five years has been awarded ~1.4 Million Euro by the European Research Council and is hosted by the University of Naples Federico II, with the INFN as a project partner.

October 1st, 2019 - h 2:30 pm

LNGS - “B. Pontecorvo” room

<https://agenda.infn.it/e/best>