Contribution ID: **49** Type: **Oral Contribution**

22Ne(,)26Mg with EAS

Thursday 12 June 2025 09:30 (20 minutes)

The reaction 22Ne(,)26Mg is associated with several questions in nuclear astrophysics, such as the Mg isotope ratio in stellar atmospheres and the nucleosynthesis of element beyond Fe through its competition with the neutron source 22Ne(,)25Mg.
Due to very low stellar energies and therefore very low cross section, direct experiments have been only able to provide upper limits below a strong resonance at 832 keV.
The purpose of the EAS project is to perform the first direct measurement of the 22Ne(,)26Mg in the range of astrophysical interest below 600-800 and the remeasurement of the well-known 832 keV resonance.
The measurement will be performed at Laboratori Nazionali del Gran Sasso and will be carried out using a high and stable α particle current delivered by the newly commissioned LUNA MV accelerator.
Moreover, its position underground and additional passive shielding will reduce the γ-background. The γ-rays produced in the reaction will be detected by a NaI scintillator array surrounding a windowless, recirculating gas target.
I will present the current status of the project and the preliminary results of NaI detector array simulations.

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