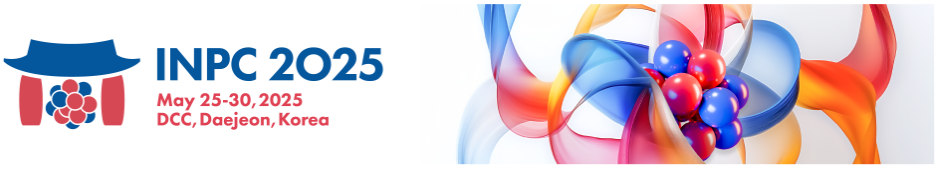

Contribution ID: **672** Type: **Invited Talk for Parallel Sessions (Invitation Only)**

Direct Measurements of Key Reactions in Nuclear Astrophysics

Thursday, 29 May 2025 11:00 (25 minutes)

Astrophysical observables, such as the luminosity of X-ray bursts, are influenced by nuclear reaction chains occurring within stars. The nuclear properties of both stable and radioactive isotopes involved in nucleosynthesis, including nuclear masses and reaction rates, play a critical role in shaping stellar evolution. However, significant uncertainties in theoretical models and a lack of experimental data for proton-, neutron-, and alpha-induced reactions with stable or radioactive beams limit the accuracy of our understanding of these phenomena. To address these challenges, the nuclear astrophysics group at CENS conducts direct measurements of key reaction cross-sections. This presentation will highlight current efforts at CENS to study nuclear properties relevant to nucleosynthesis and outline future research plans.

Primary author: Dr AHN, Sunghoon(Tony) (Center for Exotic Nuclear Studies, Institute for Basic Science)

Presenter: Dr AHN, Sunghoon(Tony) (Center for Exotic Nuclear Studies, Institute for Basic Science)

Session Classification: Parallel Session

Track Classification: Nuclear Astrophysics