Nuclear Physics in Astrophysics XI



Contribution ID: 22

Type: Invited talk

Indirect experimental approaches to charged particle reactions in astrophysics

Wednesday 18 September 2024 10:10 (25 minutes)

Due to the Coulomb barrier or the low-intensities of radioactive ion beams (or both!), indirect approaches to determining thermonuclear reaction rates are vital. There are many different tools, ranging from improving spectroscopy of nuclei to constrain resonance properties using charged-particle or γ -ray spectroscopy to identify resonance states and determine their spins and parities, to using transfer reactions to access information about partial widths.

In this talk, I will introduce recent developments in indirect methods for determining charged particle-induced reactions with a focus on different techniques which can be used to try to answer specific questions about important astrophysical reaction rates.

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