Contribution ID: **330** Type: **Invited Talk**

Experiments to constrain neutron-capture rates for the intermediate and the rapid neutron-capture process

Wednesday, 29 November 2023 14:00 (25 minutes)

Great progress has been made regarding our understanding of heavy-element nucleosynthesis in recent years. In particular, the 2017 discovery of a neutron-star merger with its kilonova confirmed that such astrophysical sites can produce heavy elements through the rapid neutron-capture process. At the same time, as more and more high-quality observations become available, the heavy-element nucleosynthesis puzzle becomes more and more complex. For example, some very old stars in the Galactic halo show peculiar element distributions that might only be explained invoking an intermediate neutron-capture process.

In this talk, some aspects of the rapid and intermediate neutron-capture processes will be discussed, with particular emphasis on neutron-capture rates that are crucial for realistic abundance calculations. Experimental efforts to obtain indirect constraints of these rates by means of the Oslo method and the beta-Oslo method will be presented.

Attendance Type

In-person

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