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The β-Oslo Method

Friday 25 May 2018 09:00 (20 minutes)

Neutron-capture reactions on very neutron-rich nuclei are essential for heavy-element nucleosynthesis through the rapid neutron-capture process, now shown to take place in neutron-star merger events. For these exotic nuclei, radiative neutron capture is sensitive to their γ-emission probability at low γ energies.

In this talk, we present measurements of the γ-decay strength for neutron-rich systems applying the β-Oslo method. The experiments were conducted at the National Superconducting Cyclotron Laboratory, Michigan State University, using the Summed NaI (SuN) total absorption spectrometer. Results on ^{78}Ge, ^{70}Ni and ^{51}Ti are shown.

The β-Oslo method relies on measuring γ-decay spectra at well-defined excitation energies. The unfolding technique for obtaining reliable excitation energies is discussed.

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