

# Nuclear theory and r-process observables

*Thursday 12 June 2025 09:00 (30 minutes)*

The nucleosynthetic pathway of the rapid neutron capture process (r-process) proceeds far to the neutron-rich side of the valley of beta stability. Particularly for the heaviest species, this region of the nuclear chart lies well past where current rare isotope facilities have so far been able to reach. Thus simulations of the r-process rely on nuclear theory for key nuclear properties including masses and fission rates and yields. In this review talk, we will examine the role played by these nuclear properties in shaping r-process observables such as abundance patterns and electromagnetic signatures.

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