

Nuclei in the Cosmos (NIC XVII)



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Heavy Element Nucleosynthesis and Galactic Chemical Evolution

Tuesday, 19 September 2023 17:00 (5 minutes)

The origin and evolution of heavy elements in nature are not yet fully understood. This talk will overview the current status of models for both the formation of both r-process and nu-p-process elements. We summarize recent state-of-the-art developments of supernova and binary neutron star evolution in the context of both the r-process and p-process nucleosynthesis. In particular, we highlight two recent works detailing the emerging evidence for the important role of hypernovae (energetic supernovae) and collapsars (jets from the collapse of massive stars to a black hole). These studies illuminate how such events may play a key role in the origin and early evolution of explosive heavy-element nucleosynthesis.

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