Astrophysics Seminar

TUESDAY

FEBRUARY 16

12:30 P.M.

RM 184 NSH

The astrophysical r-process: neutrino/nuclear aspects and observational constraints

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One of the biggest open questions in nuclear astrophysics is origin of the heaviest elements in the r-process of nucleosynthesis. While the basics of the r-process have been understood for decades, we do not yet know where the r-process takes place. Many of the potential astrophysical sites are environments where neutrino interactions shape the resulting nucleosynthesis. The nuclei created are extremely neutron-rich, beyond what has been observed to date but increasingly accessible to radioactive beam facilities. Here we will point out key nuclear and neutrino physics aspects of the r-process, and discuss how upcoming experiments and observational campaigns can be leveraged to pin down the r-process astrophysical site.