

Charge-exchange reaction studies combine with gamma-ray spectroscopy for astrophysical applications

Tuesday

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4 P.M.

Rm 124 NSH

Dr. Shumpei Noji, NSCL, MSU

Charge-exchange reactions at intermediate energies are a powerful tool for studying the spin-isospin structure of nuclei. They become even more so when combined with high-resolution gamma-ray spectroscopy, allowing one to pin down specific excitations with precise energy determination or providing new spin-isospin selectivities that are not possible with conventional reaction probes. They are useful in particular for studying stellar electron captures, supernova nucleosynthesis, and a variety of other astrophysical phenomena. In this seminar, I will discuss some of these instances including recent results of the $(t, {}^3\text{He} + \gamma)$ experiments with the germanium detector array GRETINA and the S800 spectrometer at NSCL/MSU. Further, I will describe an upcoming $({}^6\text{Li}, {}^6\text{Li}' [3.56 \text{ MeV}] + \gamma)$ experiment with a Clover germanium detector array CAGRA at the Grand Raiden spectrometer at RCNP, Osaka University.

Refreshments
served prior to
the seminar in
Rm 124.