

Stellar Neutron Sources and s-Process in Massive Stars

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4 P.M.

Rm 124 NSH

Potential stellar neutron sources for the s-process in massive stars are associated with α -capture reactions on light nuclei. The capture-reaction rates provide the reaction flow for the buildup of the neutron source ^{22}Ne during the helium-burning phase in stars. A critical influence on these reactions is expected to come from low-energy resonances at stellar energies below 800keV. Direct measurements of capture reactions to study these resonances are handicapped by the Coulomb barrier. Also, it is possible that some of these resonances correspond to pronounced cluster structures near the α -threshold. Hence, inelastic α -scattering on ^{26}Mg has been used as an alternative tool to probe into the level structure. Also α -transfer technique has been used to extract α -strength information. In reference to this, the experiments performed using the Grand Raiden Spectrometer at RCNP, Osaka will be discussed and results will be presented.

Refreshments
served prior to
the seminar in
Rm 124.