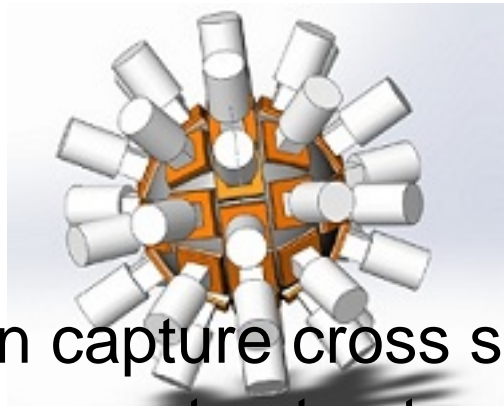


Frontiers in Gamma Ray Spectroscopy FIG18

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Proton capture cross section measurements at astrophysical relevant energies

Tuesday 13 Mar 2018 at 14:45 (00h15')

Content :

The energy on which our life depends originates in nuclear reactions at the center of the nearest star, our sun. The understanding of these processes has developed greatly by the major efforts in observations, however there are still challenging questions remain to answer. The understanding of these phenomena requires precise cross section information's. The 3 MV particle accelerator facility at Guru Ghasidas Vishwavidyalaya, Bilaspur with high current proton and alpha beams will provide a unique opportunity to perform the experiments at astrophysical relevant energies. In recent years, studies of experimental level densities and γ -ray strength functions have been gaining considerable interest due to their important role in study of nuclear reaction mechanisms as well as calculations of reaction cross sections. The proposed studies are focus to study gamma strength function using the spectra of two step gamma cascade following the proton capture reactions. This will provide more accurate knowledge of nuclear reaction cross sections which will definitely enhance our understanding about Universe and further, will be used to design new generation reactors.

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