

ISOLDE experiments and astrophysics implications

Monday, October 10, 2005 3:15 PM (25 minutes)

A variety of astrophysical processes contribute to the synthesis of heavier elements in nature. The characteristics of the processes are governed by the astrophysical environment and details of the nuclear processes involved. Experiments performed at ISOLDE have played a central role in developing understanding of these processes. In this presentation, highlights to be discussed include: the beta decay of ^{12}B , which resulted in the revised rates for the triple alpha -process; spectroscopic studies along the rapid proton capture process path and decay studies in the vicinity of the rapid neutron capture process path. In addition, an important contribution of precision atomic mass measurements performed at ISOLTRAP will be reviewed with particular emphasis on nuclear astrophysical consequences.

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Session Classification: Nuclear Astrophysics

Track Classification: Nuclear astrophysics