

Abstract Submitted
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New experimental studies of the production of ^{44}Ti DANIEL ROBERTSON, PHILIPPE COLLON, JOACHIM GOERRES, MICHAEL WIESCHER, University of Notre Dame, HANS WERNER BECKER, Ruhruniversitaet Bochum, Germany, JOINT INSTITUT FOR NUCLEAR ASTROPHYSICS TEAM, DTL TANDEM LABORATORY TEAM — The main production reaction of ^{44}Ti observed in core collapse supernovae is the $^{40}\text{Ca}(\alpha,\gamma)^{44}\text{Ti}$ reaction. A number of different experimental studies have been performed over the last years to determine the stellar reaction rate. These measurements were based on in-beam gamma spectroscopy techniques, accelerator mass spectrometer (AMS) techniques, and inverse reaction techniques with a recoil separator for separating and detecting the reaction products. The experimental results showed drastic differences. New experiments have been performed at the DTL Bochum and at the NSL Notre Dame using gamma spectroscopy and AMS techniques, respectively to investigate the reaction and the present discrepancies in the predictions. The results of the experiments will be presented and the impact on the reaction rate will be discussed.

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