

Abstract Submitted
for the DNP11 Meeting of
The American Physical Society

Impact of beta-decay rate uncertainties on the slow neutron capture process in massive stars¹ MARCO PIGNATARI, University of Basel, MARY BEARD, MICHAEL WIESCHER, University of Notre Dame, RAPHAEL HIRSCHI, University of Keele — The slow neutron capture process in massive stars is mostly activated during He-burning and C-burning phases. Most of the abundances of elements such as copper or germanium, which have been observed in both the Solar System and Galaxy, are produced in these conditions, together with most of the s-process isotopes between iron and strontium ($60 < A < 90$). Nucleosynthesis predictions from stellar models depend on the nuclear physics networks used in simulations. A key ingredient in these simulations are the beta-decay and electron capture rates. In particular, the s-process yields beyond iron are affected by the present uncertainties associated with these rates. We aim to present the impact of these rate uncertainties on s-process calculations, focusing the discussion on few examples relevant for their astrophysical impact.

¹For a complete acknowledgement we refer to <http://forum.astro.keele.ac.uk:8080/nugrid>

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Date submitted: 06 Jul 2011

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