

# Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

©2011. Japan Geoscience Union. All Rights Reserved.



PPS025-03

Room:101

Time:May 23 14:45-15:00

## Estimation of s-process condition based on the isotopic composition of heavy elements

Kentaro Terada<sup>1\*</sup>, Nobuyuki Iwamoto<sup>2</sup>, Takashi Yoshida<sup>3</sup>

<sup>1</sup>Hiroshima University, <sup>2</sup>Japan Atomic Energy Agency, <sup>3</sup>The University of Tokyo

Approximately half of the amount of elements heavier than the iron-group in solar-system material originates from the slow neutron-capture process (s-process). The main component of the s-process is known to be produced in Asymptotic Giant Branch (AGB) stars, i.e. evolved intermediate or low mass stars. The chemical abundances, especially, isotopic ratios around branching points of s-process provide an unique information on the neutron density and temperature of the s-process site (Terada et al. 2006).

Here, we report the dependency of heavy element isotopic composition on temperature and neutron density, and compare them with previously reported isotopic composition of various planetary materials to constrain on the possible s-process condition in AGB star.

Keywords: Nuclear synthesis, Isotopic composition, meteorite, AGB star, s-process, Neutron capture process