Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Galactic Chemical Evolution and Origin of r-Process Elements
YUHRI ISHIMARU, International Christian University, SHINYA WANAJO, Technische Universitaet Muenchen — Metal-poor stars record enrichment history of the Galaxy at the early epoch. Observations of these stars show large star-to-star scatters in their abundances of neutron-capture elements. This indicates that these stars were enriched by only one or a few supernovae (SNe), since the inter-stellar medium had not been fully mixed when they were formed. Thus, the huge dispersions suggest that r-process yields are highly dependent on the SN progenitor mass, although the astrophysical site of r-process remains still uncertain. We attempt to determine the origin of r-process elements from the point of view of chemical enrichment of the Galaxy. We construct an inhomogeneous chemical evolution model on the assumption of SN induced star formation. Various stellar mass ranges are assumed for the site of r-process, and the predicted distributions of stellar chemical components are compared with observational data including those collected at the SUBARU Telescope.

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Date submitted: 30 Jun 2009 Electronic form version 1.4