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Magnesium enhanced stars of the Milky Way Galaxy

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It is well known that magnesium is largely produced by massive stars which explode as core-collapse supernovae at the end of their evolutionary stage. We observed several magnesium-enhanced metal poor stars with the Gemini North 8m telescope and obtained high-resolution (R~42,000) spectroscopic data using the GRACES system. We measured the abundance ratios of alpha elements (e.g. Mg, Si) and some s-process elements (e.g. Y, Ba) of our targets and compared their abundance patterns with the nucleosynthesis yields from stellar models for different initial masses and various physical assumptions such as rapid rotation, and mixing and fall-back during supernova explosion. We find relatively high [Mg/Ni] ratios in our targets compared to other metal-poor stars. Further discussion is needed to explain our observation results.

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Talk/Poster

Poster

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