

Workshop

Stellar End Products: The Low Mass - High Mass Connection

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Title:

The temperature and chronology of heavy-element nucleosynthesis in AGB S stars

Abstract:

Detailed abundance determinations in AGB S stars and extrinsic S stars allow to put new strong constraints on the s-process nucleosynthesis.

The s-process temperature can be determined using zirconium and niobium abundances, independently of stellar evolution models. The radioactive pair ^{93}Zr – ^{93}Nb used to estimate the s-process temperature also provides, together with the pair ^{99}Tc – ^{99}Ru , chronometric information on the time elapsed since the start of the s-process, which we determine to be one million to three million years in AGB S stars (Nature 2015, 517, 174–176).