

Heavy element production:merging neutron stars versus supernovae

Tuesday, 26 June 2018 18:30 (15 minutes)

I will discuss the Eu production in the Milky Way under different assumptions about its nucleosynthesis. In particular, Eu formation via merging neutron stars and supernova core-collapse will be discussed in the light of the results from a detailed chemical evolution model that will be compared with the abundances of Eu in stars of the solar vicinity. The formation of Eu via merging neutron stars seems to be favored by chemical evolution results, and I will suggest that this is the dominant mechanism for the formation of heavy nuclei, such as Eu, in the light of the gravitational event GW170817 detected by Ligo/Virgo. The various assumptions and least uncertainties on: i) the time delay for neutron star merging, ii) the progenitors of neutron stars and iii) the stellar yields will be critically discussed.

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Session Classification: Galactic chemical evolution