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Chemical signatures of rotating massive stars dying in faint explosions

We have recently investigated the origin of chemical signatures observed in the oldest star of our Galaxy by means of a stochastic chemical evolution model. The elements we have studied are carbon, nitrogen and oxygen and furthermore neutron-capture elements. We have found that rotating massive stars are a promising way to explain several signatures observed in these fossil stars.

Analysing the chemical abundance characteristics of the extremely and ultra metal-poor stars we also found that our model can be improved if we consider the presence of faint supernovae.

These results seem to imply that rotating massive stars and faint supernovae scenarios are complementary to each other and are both required in order to match the observed chemistry of the earliest phases of the chemical enrichment of the Universe.

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