

Chemical signatures of rotating massive stars dying in faint explosions

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We have recently investigated the origin of chemical signatures observed in the oldest star of our Galaxy using a stochastic chemical evolution model. The elements we have studied are carbon, nitrogen, and oxygen, but also the neutron capture elements. We have found that rotating massive stars are a promising way to explain several signatures observed in these fossil stars. Analyzing 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 complement each other, and are both required to match the observed chemistry of the earliest phases of the chemical enrichment of the Universe.

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