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Metal Mixing in Primordial Minihaloes and the Abundances in EMP Stars

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There have been many attempts to investigate the first stars by analysing extremely metal-poor stars. Often, these studies rely on the assumption that the abundances observed in old, extremely metal-poor stars directly correspond to the yields of a single Pop III supernova (SN). We run high-redshift cosmological simulations to test this assumption. In these simulations we model the formation of the first stars, radiative and SN feedback and follow the metals produced in the first SNe to self-consistently predict the metal abundances in the second generation of stars. In this talk, I will discuss several characteristic cases with single and multiple selected SNe that give insights into the systematic effects of inhomogeneous metal mixing. I will also present preliminary results from simulations currently in progress that aim to provide a large self-consistent catalogue of simulated second generation stars.

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Talk/Poster

Talk

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