

Light Elements as cosmic clocks in the Inhomogeneous Early Galaxy

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The amount of heavy elements, such as iron, in our Universe has been increasing since the Hot Big-Bang, by nuclear production processes in stellar interiors. Therefore, metallicity of stars were believed to determine the epochs of their formation. However, recent observations reveal that abundances of heavy elements in very old metal-poor stars just reflect informations of local circumstances at the epochs of their formation, and their metallicity is not an appropriate age indicator. We have constructed a new model for investigation of the evolution of light elements in the early Galaxy, taking into account such effects of local circumstances, and claim that their abundances in metal-poor stars can be used as better age indicators, because they are produced mainly by Galactic Cosmic Rays propagating globally.