

## Narrow-band metal-poor star surveys with Subaru/Hyper Suprime Cam and Tomo-e Gozen Camera

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The first metal enrichment in the Universe was made by a supernova explosion of a population III star. Second generation stars were formed from the mixture of the pristine gas and the supernova ejecta. Metal-poor stars were survivors of second-generation stars in the Galactic halo. Their abundance pattern records the metal abundance at their formation and tell us the chemical evolution in the early Universe. Therefore, large programs to survey metal-poor stars are performed and provide metal-poor star candidates and high-resolution spectroscopic follow-ups measure the metallicities and abundances of the metal-poor stars. These intensive observations constrain the chemical evolution and the nature of supernovae in the early Universe. To enhance this study, we are performing narrow-band metal-poor star surveys using Subaru/Hyper Suprime Cam and Tomo-e Gozen Camera. The former is the Zero Enrichment Rare Objects (ZERO) survey currently covering  $30\text{deg}^2$  down to  $g\sim 22$ . This increases the statistical significance in studying EMP stars and obtain their properties in the distant volume of the Galaxy to understand star formation at lowest metallicities. The latter aims the discovery of all bright metal-poor stars in the northern hemisphere, for which the high-resolution spectroscopic follow-up is easy. The pilot survey currently covers  $5000\text{deg}^2$  down to  $g\sim 12$ . We report the status of these surveys and the future plan.

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