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## Best and Furthest: Searching for Extremely- and Ultra Metal Poor Stars in the Outermost Halo

*Tuesday, 7 February 2017 15:30 (15 minutes)*

The study of extremely metal-poor (EMP;  $[Fe/H] < -3.0$ ) and ultra metal-poor (UMP;  $[Fe/H] < -4.0$ ) stars is crucial for better understanding first-star nucleosynthesis and constraining the initial mass function in the early Universe. However, UMP stars discovered in the past 25 years only number about 25 stars. A few recent theoretical studies have pointed out that there is likely to exist large numbers of EMP and UMP stars in the periphery of the Galactic halo, at distances exceeding 30-50 kpc. We present a project begun to expedite discovering hundreds to thousands of EMP and UMP stars in the outermost halo in the next few years, which will revolutionize studies of chemical evolution in the Galaxy.

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