
**A chemical abundance study of the metal-poor globular clusters
in the inner halo**

이 재우 (Jae-Woo Lee)

세종대학교 천문우주학과

I present a chemical abundance study of three metal-poor inner old halo clusters with $R_{GC} \leq 3$ kpc from the Galactic center. The mean α -element abundances of my program clusters are in good agreement with other old halo clusters, confirming previous results. However the individual elemental abundances appear to follow different trends in the sense that the silicon abundances of the inner halo clusters appear to be enhanced and the titanium abundances appear to be depleted compared to the intermediate halo clusters. I found that [Si/Ti] ratios appear to be related to Galactocentric distances, in the sense that [Si/Ti] ratios decreases with Galactocentric distance. I propose that contributions from different masses of the Type II supernovae progenitors that enriched proto-globular cluster clouds' elemental abundances and the different initial physical environment surrounding the proto-globular cluster clouds are responsible for this gradient in [Si/Ti] ratios versus Galactocentric distances of the old halo globular clusters.