[구ST-13] A Feature of Stellar Density Distribution within Tidal Radius of Globular Cluster NGC 6626 in the Bulge Direction

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We have investigated the spatial configuration of stars within the tidal radius of metal poor globular cluster NGC 6626 in the bulge direction. Data were obtained in near-IR J,H,Ks bands with wide-field (20′×20′) detector, WIRCam at CFHT. To trace the stellar density around target cluster, we sorted cluster's member stars by using a mask filtering algorithm and weighting the stars on the color-magnitude diagram. From the weighted surface density map, we found that the stellar spatial distributions within the tidal radius appear asymmetric and distorted features. Especially, we found that more prominent over-density features are extending toward the direction of Galactic plane rather than toward the directions of the Galactic center and its orbital motion. This orientation of the stellar density distribution can be interpreted with result of disk-shock effect of the Galaxy that the cluster had been experienced. Indeed, this over-density feature are well represented in the radial surface density profile for different angular sections. As one of the metal poor globular clusters with extended horizontal branch (EHB) in the bulge direction, NGC 6626 is kinematically decoupled from the normal clusters and known to have disk motion of peculiar motion. Thus, our result will be able to add further constraints to understand the origin of this cluster and the formation of bulge region in early universe.

[구ST-14] THE DISCOVERY OF TWO RED GIANT BRANCHES IN THE GLOBULAR CLUSTERS NGC 288 AND NGC 362

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We investigate the distribution of stars along the red giant branch (RGB) in the globular clusters (GCs) NGC 288 and NGC 362 from Caby photometry using the CTIO 4m Blanco telescope.

Our color-magnitude diagrams in hk index show that the RGB stars have two distinct subpopulations with different Ca abundances apparently supplied by the Type II supernovae explosions.

However, the RGB splits are not shown in the b - y color, as indicated by previous observations.

Our stellar population models show that the presence of two distinct RGBs in these GCs can be reproduced if metal-rich second generation stars are also enhanced in helium and younger by 1 ~ 2 Gyrs.