

[XGC-35] HST archival survey of intracluster globular clusters in Virgo cluster

Sungsoon Lim¹, Hong Soo Park¹, Ho Seong Hwang², and Myung Gyoon Lee¹

¹*Department of Physics and Astronomy, Seoul National University, Korea*

²*Smithsonian Astrophysical Observatory, 60 Garden Street, Cambridge, MA, 01238, USA*

Recently it is found that the globular clusters are not only bound in their host galaxies, but also are wandering between galaxies in Virgo and Coma clusters. The cluster-wide distribution of these intracluster globular clusters (IGCs) suggests that IGCs are an important probe to understand hierarchical structure formation.

We present a survey of IGCs in Virgo cluster using HST archive images for four HST/ACS fields located from about 9 arcmin to 40 arcmin from the cluster center. We find ten new IGCs and confirm four previously known IGCs. The number density of IGCs decreases as the distance from the cluster center increases. We derive integrated photometry of IGCs. We also obtain photometry of resolved stars in the outer region of each cluster. These IGCs are fainter than $M_V \approx -9.5$ and mostly blue in (V-I) color, showing that they are mostly metal poor. The locations of red giant branch stars of IGCs in color-magnitude diagrams also show that they are metal-poor. We discuss the implications of these results.

[XGC-36] Hot gas halo in early type galaxies and their environments

Eunbin Kim¹, Yun-Young Choi¹, Sungsoo S. Kim¹ and Changbum Park²

¹*Kyung Hee University*

²*Korea Institute for Advanced Study*

We present an investigation of X-ray hot gas halo in 12 isolated early-type galaxies from cross-matched sample of XMM-Newton and SDSS DR 7 ($0.025 < z < 0.08588$ and $M_r < -19.5$). Isolated galaxies that the separation between galaxy and the closest neighbor is farther than its virial radius are not affected by environments, and their X-ray hot gas halo can be studied without contribution of intragalactic medium in all circumstances. We find that isolated galaxies in low density have correlation of L_X - L_R and those in high density have no trend. This suggests that internal process is much effective in low density and environmental effects play important role of this relationship in high density. We also find the galaxies affected by environments in the large scale structure. In this paper, we report preliminary results for the study.