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We present H I gas kinematics and star formation activities of NGC 6822, a dwarf galaxy located in the Local Volume at a distance of ~490 kpc. We perform profile decomposition of the line-of-sight velocity profiles of the high-resolution (~42.4" × 12") spatial; ~1.6 km/s spectral) H I data cube taken with the Australia Telescope Compact Array (ATCA). For this, we use a new tool, the so-called BAYGAUD (BAYesian GAUssian Decompositor) which is based on Bayesian Markov Chain Monte Carlo (MCMC) techniques, allowing us to decompose a line-of-sight velocity profile into an optimal number of Gaussian components in a quantitative manner. We classify the decomposed H I gas components of NGC 6822 into kinematically cold, warm or hot ones with respect to their velocity dispersion: 1) cold: < 4 km/s, 2) warm: 4 ~ 8 km/s, 3) hot: > 8 km/s. We then derive the Toomre-Q parameters of NGC 6822 using the kinematically decomposed H I gas maps. We also correlate their gas surface densities with the surface star formation rates derived using both GALEX far-ultraviolet and WISE 22 micron data to examine the impact of gas turbulence caused by stellar feedback on the Kennicutt-Schmidt (K-S) law. The kinematically cold component is likely to better follow the linear extension of the Kennicutt-Schmidt (K-S) law for molecular hydrogen (H2) at the low gas surface density regime where H I is not saturated.

[포 GC-08] Relation between Black Hole Mass and Bulge in Hard X-ray selected Type 1 AGNs

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We present a scaling relation between black hole (BH) mass and bulge luminosity for 35 nearby (z < 0.1) type 1 active galaxies, selected from the 70-month Swift-BAT X-ray source catalog. Thanks to the unbiased selection and proximity of the parent sample, our sample is suitable to study the physical connection between central black holes and host galaxies. We use the F814W images obtained with the Advanced Camera for Surveys on Hubble Space Telescope, to perform the imaging decomposition with GALFIT. With a careful treatment on the PSF model, we measure the I-band bulge brightness robustly. In combination with the BH mass estimated from a single-epoch spectroscopic data, we present the correlation between BH mass and bulge luminosity of the target AGNs. We demonstrate that our sample marginally lies off from the M(BH)-L(bulge) relation of inactive galaxies. We discuss possible physical origins of this discrepancy. Finally, we present how the relation depends on the photometric properties of AGNs and host galaxies, which may provide an useful insight on the co-evolution between BHs and host galaxies.

[포 GC-09] A Wide Field Survey of Intracluster Globular Clusters in Coma and Perseus Galaxy Clusters

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Globular clusters(GCs) are found not only around galaxies (galaxy GCs), but also between galaxies in galaxy clusters (intracluster GCs; ICGCs). The ICGCs, which are not bound to any of cluster member galaxies, are governed by the galaxy clutster potential. ICGCs have been detected in the wide field of Virgo and Fornax galaxy clusters.

However, previous surveys covered only a small fraction of Coma and Perseus. In this study we present a wide field survey of these two galaxy clusters, using Subaru Hyper Suprime-Cam(HSC) archival images, covering a circular field with diameter of ~1.8 deg. We select ICGC candidates, by masking the images of bright galaxies and choosing point sources in the remaining area. We find thousands of ICGCs in each galaxy cluster. These ICGCs show a bimodal color distribution, which is dominated by blue GCs. We investigate spatial distributions and radial number density profiles of the blue and red ICGCs in each galaxy cluster. Implications of the results will be discussed.