

[NGC-28] GALAXY LUMINOSITY FUNCTIONS OF SUBGROUPS IN THE URSA MAJOR CLUSTER

Youngdae Lee, Mina Pak, Soo-Chang Rey, and Suk Kim
Department of Astronomy and Space Science, Chungnam National University

We present galaxy luminosity functions (LFs) of subgroups in the Ursa Major cluster. The membership of galaxies is determined by radial velocities which are compiled from the SDSS and NED. We found that the faint end slope (α) of the LF of all sample galaxies in Ursa Major is $\alpha = -1.13$. This is consistent with previous result, but shallower than that of the Virgo cluster. Interestingly, the subgroups in Ursa Major show different slopes in their LFs. The NGC 3992 and NGC 4111, the massive subgroups in the Ursa Major cluster, exhibit steep slopes of their LFs comparable to that of the Virgo cluster. On the other hand, less massive group (NGC 3877) shows a very shallow slope of -0.84 . Based on the results, we discuss the evolution of galaxies and the assembly history of the Ursa Major cluster.

[NGC-29] The Relation between AGN and Star Formation

Kenta Matsuoka¹, Jong-Hak Woo¹, and Hyun-Jin Bae²
¹*Department of Physics and Astronomy, Seoul National University,
599 Gwanak-ro, Gwanak-gu, Seoul 151-742*
²*Department of Astronomy and Center for Galaxy Evolution Research, Yonsei
University, 50 Yonsei-ro, Seodaemun-gu, Seoul 120-749*

To understand the connection between active galactic nuclei (AGNs) and star formation, we investigated the relation between AGN bolometric and far-infrared (FIR) luminosities, using type-2 AGNs. By matching type-2 AGNs at $z < 0.3$ selected from the SDSS based on the emission-line diagnostics, against the AKARI/FIS All-Sky Survey Catalogue and the COSMOS PEP (PACS Evolutionary Probe) Survey Catalogue, we obtained a sample of 729 type-2 AGNs detected in the AKARI survey (90 μ m) and 17 ones detected in the PEP survey (100 μ m). For AGN bolometric luminosities, we adopted an estimate based on the [OIII] and [OI] line luminosities. We confirmed that there is a correlation between the AGN bolometric and FIR luminosities with a large scatter, which is consistent with previous studies. However, we claim that this correlation suffers from various artificial effects, e.g., FIR detection limits, survey volumes, and so on. We will discuss the limitations of studying the connection between AGN and star formation using currently available facilities.