[GC21] The HII Region Luminosity Function in M51

Jong Hwan Lee, Myung Gyoon Lee, Ho Seong Hwang, Narae Hwang
Department of Physics and Astronomy, Seoul National University

We present a study of HII region luminosity function in M51 using the Hubble Heritage Data. Using a HII region catalog generated from the HST ACS H α image, we have derived the H α luminosity function. We have also investigated the spatial variation of the properties of HII regions: spiral arm, interarm, and nucleus regions. It is found that the luminosity function is well represented by a double power law with a steeper slope for $L_{H\alpha} > 10^{37} ergs^{-1}$ and that the luminosity functions in the spiral arm and nucleus are significantly flatter compared to that of the interarm regions. We will discuss the implications of position-dependent luminosity function of HII regions.

[GC22] Near-infrared spectroscopy of BzK-selected star-forming galaxies at z ≃ 2

Masato Onodera[1]
[1]*Yonsei University*

We have taken near-infrared (NIR) spectra of BzK-selected massive ($M_\star \simeq 10^{11} M_\odot$) star-forming galaxies ($sBzK$s) at $1.5 < z < 2.4$ with OHS and CISCO on Subaru telescope and SINFONI on VLT. Targets are selected from the K-selected catalogs in EIS Deep3a and Daddi fields. Among observed galaxies, Hα emission line from about 10 objects are detected. Star-formation rates and metallicities are derived from NIR spectra combined with properties derived from broad band photometric data such as stellar masses and dust extinctions. Then we have investigated mass-metallicity (M-Z) relation of $sBzK$s, and compared it with M-Z relations at $z = 0.1$, $z \simeq 0.7$, and other $z \simeq 2$ galaxies from literature. Here, we will talk about details of observations and derived properties, and discuss about M-Z relation.