

[P05-2] **Searching for the Lowest Metallicity Nearby Blue Compact Dwarf Galaxies of SDSS**

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We present the results of abundance analysis for 22 nearby BCDGs in Sloan Digital Sky Survey (SDSS) in order to search for the lowest metallicity galaxies in local universe. We chose a sample of BCDGs which had the redshift of smaller than 0.01 and [OIII]/H β ratio of larger than 5. We calculated electron temperatures, electron number densities, ionic abundances, and total abundance based on the bright emission lines from the sample. We found 5 lowest metallicity BCDGs of the sample which oxygen abundance of the range $12+\log O/H=7.28$ to 7.65 . But no galaxies are found lower metallicity than that of I Zw 18 ($12+\log O/H=7.18$).

[P05-3] **Test for the Photometric Selection Criteria for Blue Compact Dwarf Galaxies Based on SDSS**

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We present photometric properties of blue compact dwarf galaxies (BCDGs). We have catalogued about 400 nearby BCDGs within 20Mpc and ~ 200 intermediate z ($z=0.1\sim 0.5$) BCDGs, which have been chosen based on spectroscopic and photometric data from the Sloan Digital Sky Survey Data Release 4 (DR4). In order to select BCDGs, we have examined every spectra and images of BCDG candidates. And also, we have examined environmental conditions of each galaxies using SDSS DR4. We have found that most ($\sim 70\%$) nearby BCDGs have host galaxies or possible companions. And BCDGs have wider color ranges than those of normal galaxies.

We will discuss further the possibility of classification base on photometric properties, and the observational properties of nearby BCDGs including environmental conditions.