

R21b Discovery of a Low Surface Brightness Galaxy near Seyfert's Sextet

T. Murayama, S. Nishiura, T. Nagao, Y. Taniguchi (Tohoku University), Y. Sato (ISAS)

We report on a low surface brightness galaxy (LSBG) serendipitously found during deep CCD imaging of the compact group of galaxies Seyfert's Sextet. LSBGs are often missing from wide field catalogs because of their selection effect and a number of surveys for LSBGs have been undertaken. However, LSBGs with some extreme properties were often discovered accidentally and have given diversity of this population.

The observations were carried out in May 1999 at the University of Hawaii 2.2-m telescope with the 8k CCD mosaic camera attached at the f/10 Cassegrain focus. Total integration time of 184 minutes in $V+R$ and 200 minutes in I provides very deep images. The LSBG is apparently shown at 2.5 arcmin southwest from the group center in the both band images. Its surface brightness within the effective radii of $r_e(VR) = 4.2$ arcsec and $r_e(I) = 4.1$ arcsec is as very low as $\mu_e(VR) = 24.8$ mag arcsec⁻² and $\mu_e(I) = 24.2$ mag arcsec⁻². The apparent magnitudes are $m_{VR} = 19.7 \pm 0.6$ mag and $m_I = 19.1 \pm 0.4$ mag. The color of $V - I = 0.9$ derived when $V - VR = 0.3$ is assumed is almost the same as the typical value of LSBGs.

Measurement of the redshift for the LSBG by HI 21 cm line observations or optical spectroscopy with SUBARU if it has strong emission lines is definitely necessary for general comparison with other LSBGs and investigating its relationship with Seyfert's Sextet if any.