

The diameter of the non-thermal shell source W51C is 30' (or 44 pc at a distance of 5 kpc), and its 11-cm flux is 120 Jy. In X-ray, W51C appears as a center-filled source. The X-ray luminosity is 7×10^{34} erg s⁻¹, and the mass of the X-ray emitting gas is 55 M_⊙. The center-filled X-ray emission and the shell-brightened radio emission of W51C can be explained by the evaporation model of the supernova remnant (White & Long 1991).

Stellar Populations in the Faint Dwarf Galaxy LGS-3

Myung Gyoon Lee

Department of Astronomy, Seoul National University

LGS-3 is a faint dwarf galaxy discovered by Kowal et al.(1978, IAU circular No.3305) in a search for new local group galaxy candidates. HI and CO gas have been detected, although very little, in this galaxy (Lo et al. 1993, AJ, 106, 507, Tacconi and Young 1987, ApJ, 322, 681), but no H α emission has been observed (Hunter, Hawley and Gallagher 1993, AJ, 106, 1797). It is a very unique galaxy in that the ratio of HI gas mass to luminosity is the lowest among known dwarf irregular galaxies and that the mass to luminosity ratio of this galaxy is very high ($M/L_B = 26 \pm 16 M_{\odot}/L_{B,\odot}$ (Lo et al. 1993). The distance to this galaxy is not well-known (0.7 - 1.2 Mpc) (Christian and Tully 1983, AJ, 88, 934, Cook and Olszewski 1989, BAAS, 21, 775). AGB carbon stars are also discovered in this galaxy Cook and Olszewski 1989).

I present a study based on VRI CCD photometry of the LGS-3 dwarf galaxy. Color-magnitude diagrams show that the resolved bright stars are mostly red giant branch (RGB) stars and that there are a small number of asymptotic giant branch (AGB) stars above the tip of the RGB. The mean metallicity of the RGB stars has been estimated using the color of the RGB, and the distance to this galaxy has been measured using the tip of the RGB. LGS-3 has been considered as a red dwarf irregular galaxies (see Lo et al. 1993). However, it appears that it is not a dwarf irregular galaxy, but much closer to a typical dwarf spheroidal galaxy, considering the morphological structure and luminosity of the galaxy and the stellar populations in the galaxy.

Nature of the Blue Compact Dwarf Galaxy Mrk 49*

Eon-Chang Sung¹, Kenneth. C. Freeman², Yong-Ik Byun³, Mun-Suk Chun⁴

¹ KAO; Visiting Astronomer at the Mount Stromlo Observatory

² Mount Stromlo and Siding Spring Observatory, Australian National University

³ Institute for Astronomy, University of Hawaii

⁴ Department of Astronomy & Atmospheric Science, Yonsei University

We present optical and near-IR multicolor photometry, and high/low resolution spectroscopy for the blue compact dwarf galaxy Mrk 49(also known as VCC 324, UGC 7354) in Virgo Cluster. Our UBVRI and JK surface photometry confirms that the radial luminosity distribution is well described an exponential disk in all wavelength domain, except the central