"normal" or weak C_2 bands. Our IDS calibration shows also that our criteria permit the ^{13}C rich J stars (Bouîgue, 1954, *Annales d'Astrophysique* **17,** 104) to be identified. We have also noted some differences between the two fields, which are in significantly different parts of the SMC. Thus, we may hope that our investigation will contribute to the understanding of the structure of the SMC, which, indeed, appears to become more and more complex (Mathewson and Ford, 1984, IAU Symp. No. 108, 125).

The Dwarf Spheroidal Galaxies

These satellites of the Galaxy appear to be old Population II systems with no evident central concentration and a noticeable lack of gas or dust. Their stars are of relatively low luminosity. Due to their rather low surface brightness their detection has been rather difficult. At present, seven dwarf spheroidal galaxies are known, namely the Sculptor, Fornax, Leo I, Leo II, Draco, Ursa Minor and Carina Systems. The last one was not found until 1977 (Cannon et al., *Monthly Notices Roy. Astron. Soc.* **180,** 81P).

The Sculptor and Fornax dwarf galaxies have been surveyed for carbon stars previously by Frogel et al. (1982, *Astrophys. J.* **252,** 133) and by Richer and Westerlund (1983, *Astrophys. J.* **264,** 114), both groups using the GRISM technique in the near-infrared. Frogel and his associates discovered two carbon stars in Sculptor and considered three more as possible carbon stars. Richer and Westerlund found the two carbon stars and added one carbon star outside the other survey. They did not confirm the three possible candidates. In our survey, which covers a larger area than the previous ones, we confirm the three known carbon stars and added three. In the Fornax galaxy, a total of 49 carbon stars were known from the previous surveys. We have now found a number of new objects so that the total number of certain carbon stars is 60 and additional 16 may be considered as possible carbon stars. The total numbers of carbon stars known in the two galaxies agree thus rather well with the estimates by Richer and Westerlund, 5 and 64, respectively.

In the Carina dwarf galaxy, Cannon et al. (1980, *Monthly Notices Roy. Astron. Soc.* **196,** 18) discovered two carbon stars which were selected as the two brightest members. Then, by carrying out a systematic survey with the UK Schmidt telescope Mould et al. (1982, *Astrophys. J.* **254,** 500) increased the number of certain carbon stars to seven; they also suggested one possible candidate. We have found the seven carbon stars and have added three certain and one possible carbon star. We were unable to confirm the character of the possible carbon star (C8), suggested by Mould and associates (see Fig. 2).

The Draco, Leo I, Leo II and Ursa Minoris systems have been surveyed recently by Aaronson et al. (1982, *Astrophys. J.* **254,** 507; 1983, *Astrophys. J.* **267,** 271). They did not detect any carbon stars on their KPNO IV-N GRISM plates of the Leo dwarf galaxies. Nevertheless, they found spectroscopically, from a selection of very red stars, one and four C stars in Leo I and Leo II, respectively. On our CFHT GRENS plates we have found twelve certain carbon stars and four possible ones in Leo I, and five certain carbon stars and two possible ones in Leo II (Fig. 3). Unfortunately, since Aaronson and his associates have not provided identification charts in their paper of the carbon stars they identified, we do not know to what extent our identifications agree.

In the Draco and Ursa Minoris systems, Aaronson and his associates found three and two carbon stars, respectively, on their near-infrared GRISM plates. We have not yet had the opportunity to observe these systems, but we expect to search them for carbon stars in the near future.

In general, the new carbon stars that we have detected are either outside the fields of earlier surveys, or bluer, and possibly fainter, than those previously found. The latter may indicate that carbon stars can form lower on the asymptotic giant branch than usually assumed.

Although the absolute magnitudes, masses and luminosities of the dwarf spheroidal galaxies are rather uncertain, it is clear that there is some relation between the number of carbon stars per unit luminosity and the luminosity or the metallicity of the galaxy in the sense that as the luminosity or/and the metallicity decrease carbon stars form more easily.

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