A dusty star in the Small Magellanic Cloud

I. S. Glass South African Astronomical Observatory, PO Box 9, Observatory 7935, Cape, South Africa

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Summary. The peculiar emission-line star R50 has been found to have an infrared excess of the type usually ascribed to emission from dust. This is the first such object found in the Small Magellanic Cloud.

Infrared photometry of R50 (Feast, Thackeray & Wesselink 1960) in the Small Magellanic Cloud was carried out on 1976 September 3 using the photometer described by Glass (1973) attached to the 1.88-m reflector at Sutherland. Standard stars were taken from Glass (1974a). The results are: J = 10.76, H = 10.46, K = 9.72 and L = 8.09, with probable errors $<0^m.06$ each.

The infrared colours of R50 are clearly those of a much cooler object than an ordinary star. Similar colours and absolute infrared magnitudes have already been reported for three objects in the Large Magellanic Cloud by Allen & Glass (1976), namely HD 34664, HD 269217 (R82) and HD 37974 (R126). All four objects have peculiar spectra with [Fe II] emission which is known to accompany infrared excesses in galactic stars. Indeed, Maurice (1976) has remarked recently on the similarity of the spectra of R50 and R82 to the well-known galactic emission-line and infrared object HD 45677. Certain other peculiar emission-line stars in the Large Magellanic Cloud have been interpreted as being of VV Cephei type (Glass 1974b) but these have the infrared characteristics of late-type supergiants and are, in addition, about $1^m.5$ brighter at J than the objects considered here. Thus it seems that R50 and the other members of its group are supergiant Be stars with dust shells.

References