

THREE POSSIBLE PLANETARY NEBULAE FROM NEAR-IR OBSERVATIONS

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A catalogue of 388 new possible planetary nebulae was selected by Preite-Martinez (1988) from the IRAS Point Source Catalogue. These unidentified sources have IRAS colours in the range $F(12)/F(25) \leq 0.35$ and $F(25)/F(60) \geq 0.35$, and are located in the proximity of the galactic equator ($|b| \leq 15^\circ$). In order to identify these IRAS sources we have undertaken a programme of near-IR observations using an InSb photometer and a near-IR camera. We report here on results relative to four of these sources.

A scanning at 2.2μ within the positional error box of IRAS sources 12262–6417, 12302–6317, and 12316–6401 was made using the InSb photometer at the ESO 2.2m telescope, with an aperture of 8 arcsec. Photometry in the J, H, K, L, and M filters was obtained for each source.

The J-H, H-K colours of IRAS 12262–6417 and 12302–6317 show a strong IR excess, interpreted in terms of dust emission at a temperature of 1000–1500K. Only a background star was found in the field of IRAS 12316–6401. The IR energy distributions of IRAS 12262–6417 and 12302–6317 both show a hot as well as a cold component. A similar energy distribution has been observed in symbiotic stars, and in He 2-104 by Schwarz *et al.* (1989).

J, H, and K broad-band images of IRAS 11339–6004 were collected with the ESO Hg:Cd:Te 64×64 pixels array camera (IRAC-1) at the same telescope. The images were obtained with a scale of 0.8 arcsec/pix in beam-switching mode, and were calibrated using standard stars. Using IRAF packages we have derived J, H, K photometry of the four sources closer to the IRAS position. Only one of these show near-IR colours typical of an N-type planetary nebula (Whitelock, 1985; Persi *et al.*, 1987).

The source that we associate with IRAS 11339–6004 shows an energy distribution dominated by nebular emission in the near-IR and by a cold component at $T_C = 228\text{K}$.

References

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