OBSERVATIONS OF THE 3.3μm EMISSION FEATURE IN PLANETARY NEBULAE

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Absolute fluxes of the 3.3μm features were measured for 12 planetary nebulae. Both narrow-band photometry and low resolution spectrophotometry were used. Photometry was performed with narrow bandpass filters centered at 3.28μm and 3.72μm($\lambda/\Delta\lambda$ = 14). Using a CVF spectrophotometer, the 3.1μm - 3.8μm spectra of four nebulae (IC 418, IC 2149, NGC 6543, NGC 6572) were obtained. The values of the fluxes measured with the two different methods agree well.

The 3.3μm feature appears in the spectrum of each nebula. In addition, the spectral scans show the 3.4μm feature to be present in IC 2149, to be weak or probably absent in NGC 6572 and to be absent in IC 418 and NGC 6543.

The intensities of the 3.3μm feature of the planetary nebulae in our sample are correlated with the total infrared emission (taken from Mosley, H. 1980, Ap. J. 238, 892 and Cohen, M. and Barlow, M.J. 1980, Ap. J. 238, 585). This implies that the 3.3μm emission is associated with the major dust component. No correlations between this feature and other parameters of either the nebula or the central star were found.

LOW TEMPERATURE DIELECTRONIC RECOMBINATION COEFFICIENTS FOR IONS OF C, N AND O

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Dielectronic recombination coefficients have been calculated for some ions of C, N and O by Storey (1981, Mon. Not. R. astr. Soc., 195, 27P). Using the same approach, we have extended those calculations to all other ions of C, N and O for which a dielectronic contribution to the