

10 μm SPECTRAL OBSERVATIONS OF MODERATELY EXTENDED PLANETARY NEBULAE

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We have obtained 8–13 μm spectra of a sample of eight moderately extended planetary nebulae at a resolution of 0.22 μm using a 20" circular aperture.

Most compact planetaries which have been studied in this way show generally a strong continuum due to thermal emission from dust, together with fine structure line emission. In contrast the extended objects have weak or undetected continuum emission and are dominated by fine structure line emission, especially by (SIV) which in some cases accounts for most of the broad band 10 μm flux.

MATHIS: Do oxygen-rich PN always show a "silicate" feature at 10 μm ?
Do carbon-rich PN ever show it?

ROCHE: There are not many objects on which we can base comparisons, but for the nebulae with accurate abundances derived from optical and ultraviolet work the agreement with the infrared spectra, in terms of oxygen- or carbon-richness, is 100 per cent. The only oddity is Sw St 1, which has an oxygen-rich nebula but apparently a WC central star.