

ABSTRACTS OF CONTRIBUTED PAPERS

POSTER SESSION II

OBSERVATIONS OF THE 30 μm FEATURE IN IRC + 10216

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New observations of the unidentified 30 μm spectral feature found in two planetary nebulae and four carbon stars are reported. The carbon star IRC + 10216 was observed from the Kuiper Airborne Observatory over the range 30 to 37 μm . These new data confirm the existence of the feature and determine its shape beyond 30 μm . The determination of the long wavelength end of the spectral excess depends critically on the assumed underlying continuum. A combined spectrum of the excess is presented and shows the feature to extend at least to 37 μm .

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OH/IR STARS: DARK PLANETARY NEBULAE?

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The OH maser emission from OH/IR stars (type IIb) originates from the thick circumstellar dust shell. As the envelope is expanding and the strongest maser emission comes from the front- and the backside, where the gain pathlength is longest, we can measure a definite phaselag (and hence a diameter) between front- and backside of the shell for all sources that are variable.

A monitor program for 60 OH masers with the Dwingeloo Radio Telescope shows that most OH/IR stars are variable, with periods up to 2000 days. They appear to be extreme members of the Mira variables, the precursors of planetary nebulae. The monitor program reveals phase delays in the right sense, giving diameters of the envelopes typically of 10^{16} - 10^{17} cm. This is comparable with the sizes of the more massive planetary nebulae.

V.L.A. maps show pointlike structure for the strongest peaks and ring- or extended structure for the emission coming from halfway between the outer peaks, consistent with an expanding shell model. Combination