

However, since the amount of polarization of the two WR stars studied here is very small and can only just be detected photographically, our results must remain tentative until they are tested by further observations. Systematic spectropolarimetry of WR and OB stars by the present method is, in principle at any rate, capable of contributing to the important study of dust grains in interstellar and circumstellar clouds.

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10 μ EMISSION SPECTRUM OF COMET BENNETT

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Infra-red photometry of Comet Bennett (1969i) by Maas, Ney and Woolf^{1,2} shows an emission peak at 10.5 μ . This has been interpreted as being due to silicate emission. The peak could equally well have been caused by one or more sharp emission lines, and to test this hypothesis an infra-red spectrum was obtained on 1970 April 21, using the Kitt Peak metal mirror telescope (effective diameter 42 inches) and a filter wheel spectrometer.

The spectrum is not of high quality. To reduce problems associated with atmospheric absorption, the readings were not taken until just before dawn when the object had an altitude of about 30 degrees. The bright sky made guiding difficult and gave a total observation time of only 15 minutes before the comet was lost.

Time did not permit a suitable calibration object to be observed on the same night, and atmospheric absorption has been corrected by comparing the spectrum of the comet with that of the limb of the Moon taken at a similar altitude, on the same instrument, but a few weeks earlier. As both

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spectra were taken on "dry" nights, with similar atmospheric water vapour content, the uncertainties introduced here are not likely to be important except in the centre of the strong ozone absorption band at 9.6μ .

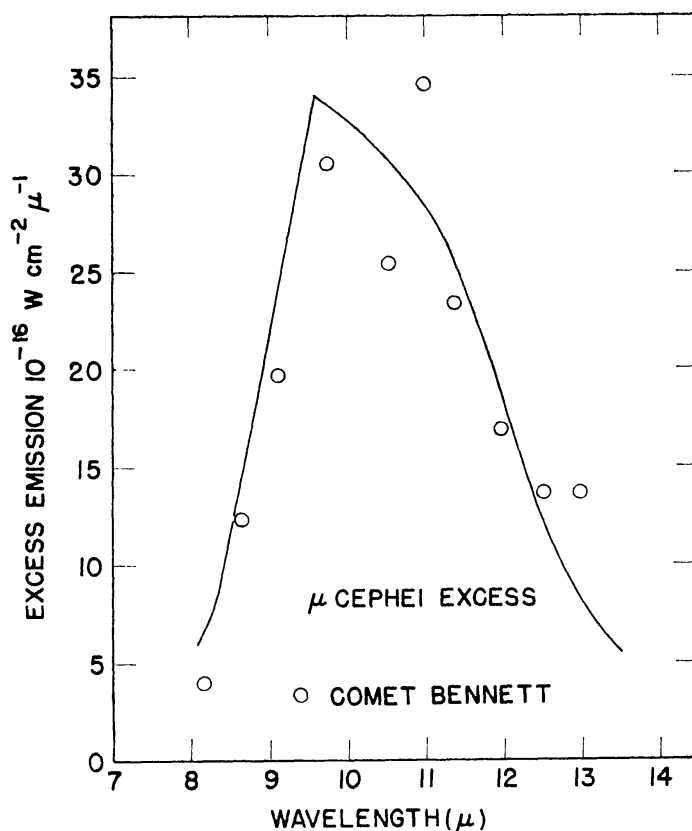


FIG. 1

Excess emission of Comet Bennett over a 500°K black-body background.

Fig. 1 shows the excess emission of the comet over its 500°K black body background. To reduce scatter, neighbouring points of the original 65 point plot have been averaged. The excess is clearly not due to a single emission line and the spectrum is not inconsistent with that of the excess emission of μ Cep taken from Woolf and Ney³, here shown normalized to the comet spectrum.

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