

FAR-INFRARED EMISSION FROM CLUMPY IRREGULAR GALAXIES

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The four clumpy irregular galaxies Mkr 8, 296, 297 and 325 have been observed by IRAS. All galaxies have been detected in at least two of the four detector bands. The ratios of the 100 to 60- μ m flux densities are comparable to those of H II regions or violently star forming galaxies. The average star formation rate in clumpy irregular galaxies is of the order of a few solar masses per year (based on their average far-infrared luminosity and a Hubble constant of $75 \text{ km s}^{-1} \text{ Mpc}^{-1}$).

The continuum spectra of the galaxies over a range of 7 decades in frequency are presented and compared to those of the starburst galaxy M82 and the giant H II region NGC 604 in M33. The ratio of radio to far-infrared luminosity of two clumpy irregular galaxies is significantly higher than that of normal galaxies. This may be due to the large number of massive stars in these galaxies, consistent with the results of previous IUE investigations.

Mkr 297 is found to emit about 3 times the far-infrared luminosity of M82. This is in agreement with its high radio luminosity and suggests a star formation rate which is about 10 times higher than that of a normal spiral galaxy. A supernova rate of one event every 2-3 years may not be unrealistic in this galaxy. A complete account of these results is given in *Astron. Astrophys.* 154, 373, 1985.