al. (1983) but with somewhat different distributions. The gas-to-dust mass ratios in these H II regions are two orders of magnitude or more higher than the usual value of 100.

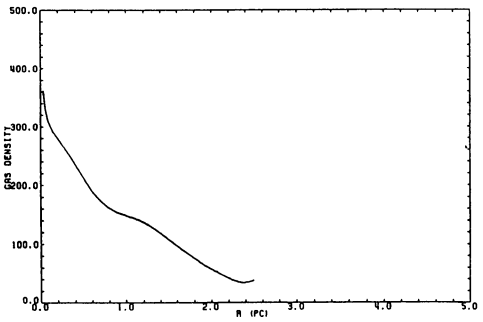

Fig. 1a. The distribution of ionized gas in S237 is plotted as a function of distance from the center. The ordinate values are in cm^{-3}.

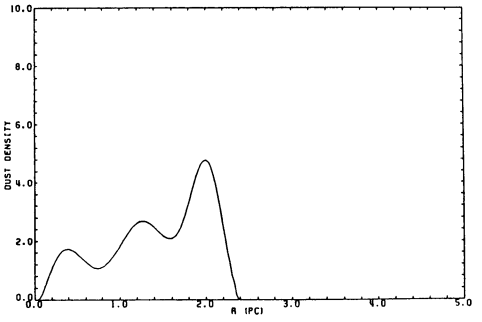

Fig. 1b. Same as Figure 1a, but for the distribution of dust grains. The ordinate values are in $10^{-10} cm^{-3}$.

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A STUDY OF CONTINUUM EMISSION AT 3.5 mm FROM SELECTED H II REGIONS

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As the first part of a program to investigate the thermal emission of dust at millimeter wavelengths, we present maps of the continuum emission from radio-bright H II regions. These maps have been made with

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a filled aperture telescope, the NRAO 12-m telescope at Kitt Peak, with a HPBW of 70 arc seconds at 3.5 mm. We used a switched dual-beam technique and a restoration algorithm developed by Emerson *et al.* (1979 Astron. Ap. 76, 92). We compare these maps with maps made at centimeter wavelengths.

No significant dust emission was detected at 3.5 mm for NGC 1976, NGC 2024, Sgr B2, W49A, W51A, and DR21; these H II regions being spatially isolated in terms of our 12' by 12' mapped areas. For those H II regions (W3, M17, W43, K3-50/NGC 6857, and S158/NGC 7538) lying amidst complex fields, the morphologies of the 3.5 mm maps correspond with those of the centimetric maps.

For the main component of W51A, the observational limits at 3.5 mm imply a spectral index of about 2.5 for dust emission; somewhat between the index expected for silicate grains alone and those with ice mantles (Aannestad 1975, Astrophys. J. 200, 30).

SMALL GALACTIC NEBULAE

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We have performed high resolution VLA radio observations for several small H II regions, including the cluster emission nebulae S258, S255, S257, and S256. The region (PP56) between S255 and S257 at λ2 cm reveals significant flux structure close to OH, H_2O and infrared emitting sources as shown in Figure 1. The flux densities and positions are indicated in Table 1. Observations of the cometary nebula PP59 (S269) also reveal similar characteristics as shown in Figure 2. These regions are considered to be active star-forming clouds. The cometary nebula PP40 was also observed and we note that its physical parameters are very similar to those of a typical planetary nebula.

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