

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 HII regions being spatially isolated in terms of our 12' by 12' mapped areas. For those HII 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 HII regions, including the cluster emission nebulae S258, S255, S257, and S256. The region (PP56) between S255 and S257 at $\lambda 2$ cm reveals significant flux structure close to OH, H₂O 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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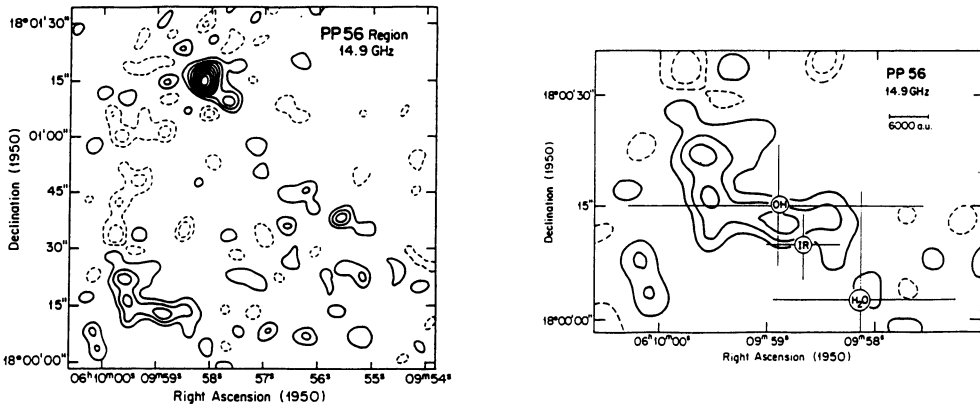


Fig. 1. a) High-resolution 14.9 GHz VLA map of the region PP56, and b) enlarged map indicating the positions of the OH, H₂O and IR sources.

Table 1. PP56 Region at 14.9 GHz

Position (1950)		Flux (mJy)	Remarks
R.A.	DEC.	(14.9 GHz)	
06 ^h 09 ^m 58.1 ^s	18°01'15"	21.5 ± 0.2	G192.58-0.04
06 09 59.6	18 00 16	16.2 ± 0.1	PP56 resolved into three components
06 09 55.6	18 00 38	4.3 ± 0.3	Not detected at 1.6 GHz

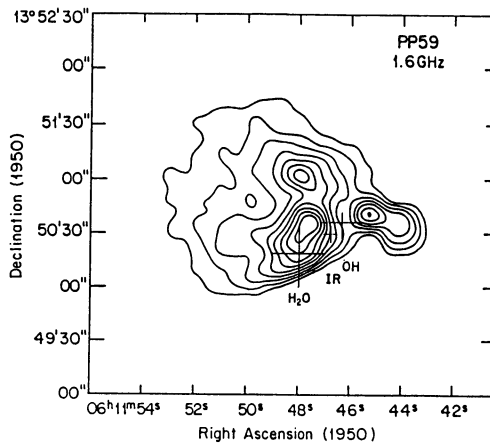


Fig. 2. The VLA map of PP59 (S269) at 1.6 GHz, with the H₂O, OH, and IR source positions also shown.