LINE AND CONTINUUM SURVEYS OF THE GALACTIC PLANE WITH THE 100-M TELESCOPE

D. Downes Max-Planck-Institut fur Radioastronomie, Bonn, West Germany

A new continuum survey of the galactic plane has been made with the Effelsberg 100-m telescope at a frequency of 4.875 GHz with a beamwidth of 2!6. The data are available in the form of radio contour maps covering $\ell = 357^{\circ}5$ to 60°, b = +1°, together with a list of 1186 radio sources. (Altenhoff, Downes, Pauls and Schraml, 1978, Astron. Astrophys. Suppl. <u>35</u>, 1).

All of the sources with antenna temperatures greater than 1 K in the continuum survey have been observed in the hydrogen 110α recombination line at 4.874 GHz and the formaldehyde line at 4.830 GHz. The line data provide a wealth of new information on the kinematic distances of the HII regions and their associated molecular clouds in this part of the Galaxy. (Downes, Bieging, Wilson and Wink, in preparation).

We have also searched for H_2O emission at 22 GHz near the peaks of 476 compact sources from the continuum survey, including all continuum sources in the survey with antenna temperatures > 0.3 K. In this longitude range, there are 59 H_2O masers, with concentrations at $l = 32^{\circ}$ and 47° as in the distributions of CO line intensity and radio continuum sources. (Genzel and Downes, Astron. Astrophys. in press).

W. B. Burton (ed.), The Large-Scale Characteristics of the Galaxy, 80. Copyright © 1979 by the IAU.