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A radio continuum survey of the Galactic Plane at 11 cm wavelength. II. The area $358° \leq l \leq 76°$, $-5° \leq b \leq 5°$

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Abstract. — We present the second section of the Effelsberg 11 cm radio continuum survey of the Galactic Plane covering the range $358° \leq l \leq 76°$, $|b| \leq 5°$. The angular resolution of the survey is 43 and its sensitivity is 50 mK T_B (or about 20 mJy/beam area). Large- scale emission data have been added from lower angular resolution surveys carried out with smaller telescopes.

Key words : Galactic radio emission — radio continuum survey.

1. Introduction.

We have used the Effelsberg 100-m telescope during the last few years to map the Galactic Plane in the latitude range $|b| \leq 5°$ at a wavelength of 11 cm. The observations have been completed in 1989. A first section of this survey has been already published (Reich *et al.*, 1984 ; Paper I). It shows the most intense narrow ridge of the Galactic Plane from $357.^\circ 4 \leq l \leq 76°$, $|b| \leq 1.^\circ 5$. Paper I contains a source list of 1212 small diameter radio sources. In a separate paper (Junkes *et al.*, 1987) the distribution of linearly polarized emission of the first part of the survey for $l \geq 4.^\circ 9$ has been presented at an angular resolution of $6'$. The second section, which is presented in this paper, nearly covers the same longitude range as in Paper I, but extends the latitude coverage to $|b| \leq 5°$. For this area large-scale emission data are of particular importance. They have been taken from surveys carried out with smaller telescopes. The third section of the survey covers the area : $76° \leq l \leq 240°$, $|b| \leq 5°$ (Fürst *et al.*, 1990a, Paper III). A complete list of 6483 small diameter sources from all sections of the survey will be given in Paper IV together with some statistical results (Fürst *et al.*, 1990b).

2. Observations.

Details of the receiver used for the survey and the characteristics of the antenna have been already described in Paper I. To summarize : we used a three - channel cooled FET receiver with a system noise temperature of about 60 K. The receiver was always tuned to a centre frequency of 2695 MHz and the bandwidth was 80 MHz (some exceptions are given in Table I of Paper I). At this frequency the HPBW of the Effelsberg 100-m telescope is about 43. The ratio T_B/S is 2.51 ± 0.05 [K/Jy]. The source 3C286 served as a main calibrator with an assumed flux density of 10.4 Jy. A list of secondary calibrators is given in Paper I.

The method of observations for the latitude range $|b| \leq 1.^\circ 5$ was to scan in Galactic latitude with a speed of 2°/min and a scan separation of $2'$. The latitude range from $|b| = 1.^\circ 4$ to $|b| = 5°$ was scanned at the same speed and scan separation, but in both Galactic coordinates. The scan length in Galactic latitude was always $3.^\circ 6$ except for longitudes below 1°, where the elevation limit of the telescope was met. In longitude the typical scan length was either 3° or $3.^\circ 2$ to get a $0.^\circ 1$ overlap of neighbouring fields. For some areas the scan length in Galactic longitude was smaller to avoid strong emission complexes at the map boundaries. All fields were mapped at least twice. In most cases the fields had to be observed in numerous sections at different days, with one or two scans of overlap to the neighbouring areas. We measured the r.m.s. noise in several small low emission regions from the final maps and found values below 20 mK T_B, which are close to the expected values (see Paper I). However, some small areas show higher noise likely due to some influence of bad weather or low level interference. Some increase of noise at very low declinations ($l < 20°$) is due to increasing ground radiation contribution.

3. Reduction.

The first stages of data reduction were made using standard procedures for radio continuum observations with the Effelsberg telescope. Calibrated maps were computed in the NOD2 format (Haslam, 1974). The two data points at the ends of each scan were used for a linear baseline adjustment. Further reduction steps and the combination of the maps scanned in orthogonal directions have been carried out using the Cyber 172 and the two CONVEX C1 of the MPIfR. In addition the FACOM M380 of the Nobeyama Radio Observatory, Japan, was used for some editing work.

All individual maps were plotted and edited interactively. Spikes caused by impulsive interference were removed and jumps in temperature were corrected, when possible, otherwise distorted data have been flagged. Baseline distortions were removed by the method of unsharp masking (Sofue and Reich, 1979). Observations of the same region were compared to distinguish real structures from bad data. Most observations have been made at nighttime, but sometimes daytime observations had been scheduled. Some of the latter observations had to be rejected because of far side lobe influences of the sun (Kalberla *et al.*, 1980). All edited data were combined into two maps containing all data observed either in longitude or latitude direction. From these maps the final map was computed. Basically three methods have been used : For some fields both maps have been added, if necessary with different weights. For fields still showing some small scanning effects or fields where the initial baseline setting at the ends of each scan causes differences between the longitude and latitude maps the so called the "basket weaving" method introduced by C.J. Salter or the "PLAIT" program (Emerson and Gräve, 1988) have been used. The "basket-weaving" method (see e.g. Sieber *et al.*, 1979) is an iterative process, where the scan intersections of two maps observed in orthogonal directions are used to find improved individual and common baselines for the maps, which are finally added. The "PLAIT" program removes scanning effects in the Fourier plane, adds the Fourier transforms of both maps and gives the final map by an inverse Fourier transformation. Details of the procedure have been described by Emerson and Gräve (1988). The edge areas of neighbouring final maps were compared and the maps were adjusted by adding twisted planes to achieve a common baselevel.

A particular problem was given by the baselevels at $b = 1\overset{\circ}{.}5$ and $b = -1\overset{\circ}{.}5$ of the previously published area (Paper I), because the latter was scanned exclusively in Galactic latitude direction. We used the overlap region with the new data to adjust the low latitude data to the baselevel of the high latitude extensions.

From the procedure described it is clear that large-scale emission with a larger extent than 3° is partly lost. This is mainly the smooth temperature increase with decreasing Galactic latitude. This large-scale structure is, however, contained in the lower resolution survey carried out at 2.72 GHz with the Stockert 25-m telescope of Bonn University, which has been described by Reif *et al.* (1987 ; 1990 in preparation). The HPBW of the telescope at this frequency was measured to be 19′ and the first sidelobes are at a level of −22 dB. The system temperature of the uncooled two-channel receiver was about 100 K. The observations have been made using the "nodding scan technique" (Haslam *et al.*, 1974), where the telescope is moved up and down along the local meridian. The resulting maps are 10° wide in declination with an overlap of $0\overset{\circ}{.}5$ of adjacent strips. The survey extends in Galactic latitude from −15° to 45° for most areas. Some zerolevel fluctuations have been noticed for large-scale emission exceeding 5° with an amplitude up to 100 mK. These have been reduced by using an extrapolated map at 5° angular resolution based on the 408 MHz survey (Haslam *et al.*, 1982) and the 1420 MHz survey (Reich, 1982 ; Reich and Reich, 1986). Details of the procedure have been described by Müller and Reif (1987). The lowest declination of the Stockert 2.72 GHz survey is $-28\overset{\circ}{.}5$. Hence, for the Galactic centre region ($l < 4°$) we used the 2.3 GHz survey of Jonas *et al.* (1985) to add the large-scale emission. This survey has an angular resolution of 20′ and was adjusted to the Stockert temperature scale.

The Effelsberg data and the low resolution data have been each combined into one map gridded at 2′ and convolved to a common angular resolution of $0\overset{\circ}{.}4$. The temperature difference at each data point has been added to the Effelsberg data. By this procedure the adjustment of neighbouring survey sections has been improved and the large-scale emission has been added with an accuracy of 50 to 100 mK as given by the low resolution data.

4. Results.

The results of the survey are shown in the form of contour maps in Figure 1 to Figure 52 and Figure 53 to Figure 57. Both sets of figures show contours of main beam brightness temperatures. In order to show all the wealth of small-scale emission details along the temparature gradients in Galactic latitude we decomposed the original maps into a "source" component and a "diffuse" component using the method described by Sofue and Reich (1979). In an iterative process we derived the "diffuse" component shown in Figure 53 to Figure 57 from the original map, where we used a smoothing beam of 1° × $0\overset{\circ}{.}3$ in l, b. The "diffuse" component has been subtracted from the original map, so that the sum of both components gives the original data. The "diffuse" component represents the large-scale Galactic emission without the 2.7 K background component.

4.1 THE CONTOUR MAPS. — Figure 1 to Figure 52 show the "source component" in Galactic coordinates with a 1° grid of equatorial coordinates (Epoch 1950.0) superposed at the following contour intervals :

−0.25K	to	0.0K	in 50mK steps, dashed
0.0K	to	0.6K	in 50mK steps, labelled every 0.2K
0.6K	to	1.5K	in 100mK steps, labelled at 1K and 1.5K
1.5K	to	3.5K	in 200 mK steps, labelled at 2.5K and 3.5K
3.5K	to	6K	in 500 mK steps, labelled at 6K

6K	to	10K	in 1K steps, labelled at 10K
10K	to	30K	in 2K steps, labelled at 20K and 30K
30K	to	80K	in 5K steps, labelled every 10K
80K	to	340K	in 20K steps, labelled every 40K

Compared with Paper I each figure shows a larger area of the sky and we omitted a number of high intensity contours. Details of the emission at low Galactic latitudes can be better identified on the figures of Paper I.

Figures 53 to 57 show the "diffuse component" for the same region as Figure 1 to Figure 52. Equatorial coordinates are shown for Epoch 2000.0. Contours are shown :

up to 1 K in 125 mK steps, labelled every 0.5 K
above 1 K in 200 mK steps, labelled every 1.0 K

Arrows on contour lines always point to relative temperature minima.

4.2 COMMENTS TO INDIVIDUAL FIGURES. — Figures 1 to 4 : Some remaining scanning effects are visible in low emission regions. They were caused by fluctuations of the strong ground radiation at the very low elevations where the observations had to be made.

Figure 7 : A complete 11 cm map of the supernova remnant G8.7−5.0 has been published by Reich and Fürst (1988).

Figure 28 : At $b = 1\overset{\circ}{.}4$ the map suffers from an adjustment problem of different sections.

Figure 35 and Figure 37 : In Paper I scanning effects at $l \sim 50\overset{\circ}{.}7$ and between $l \sim 52°$ to $52\overset{\circ}{.}5$ are visible. They could be reduced by adding new data for these fields.

Figure 47 : Sidelobes are visible around the strong unresolved source 3C410, which has an observed flux density of 6.39 Jy.

5. Concluding remarks.

We present maps of the Galactic radio emission of the first Galactic quadrant at 11 cm wavelength at 43 angular resolution. The main intention of this survey is to show the extended Galactic radio emission with high sensitivity. A similar survey with the Effelsberg 100-m telescope for absolute Galactic latitudes below 4° at 21 cm has been recently completed (Reich *et al.*, 1990). From these two surveys we already identified some new supernova remnants (Reich *et al.*, 1988). Maps at 11 cm have not been published so far for a number of objects, but are included in the survey maps. These are : G358.4−1.9, G4.2−3.5, G5.2−2.6, G15.1−1.6, G17.4−2.3, G17.8−2.6, G30.7−2.0, G36.6+2.6 and G43.9+1.6.

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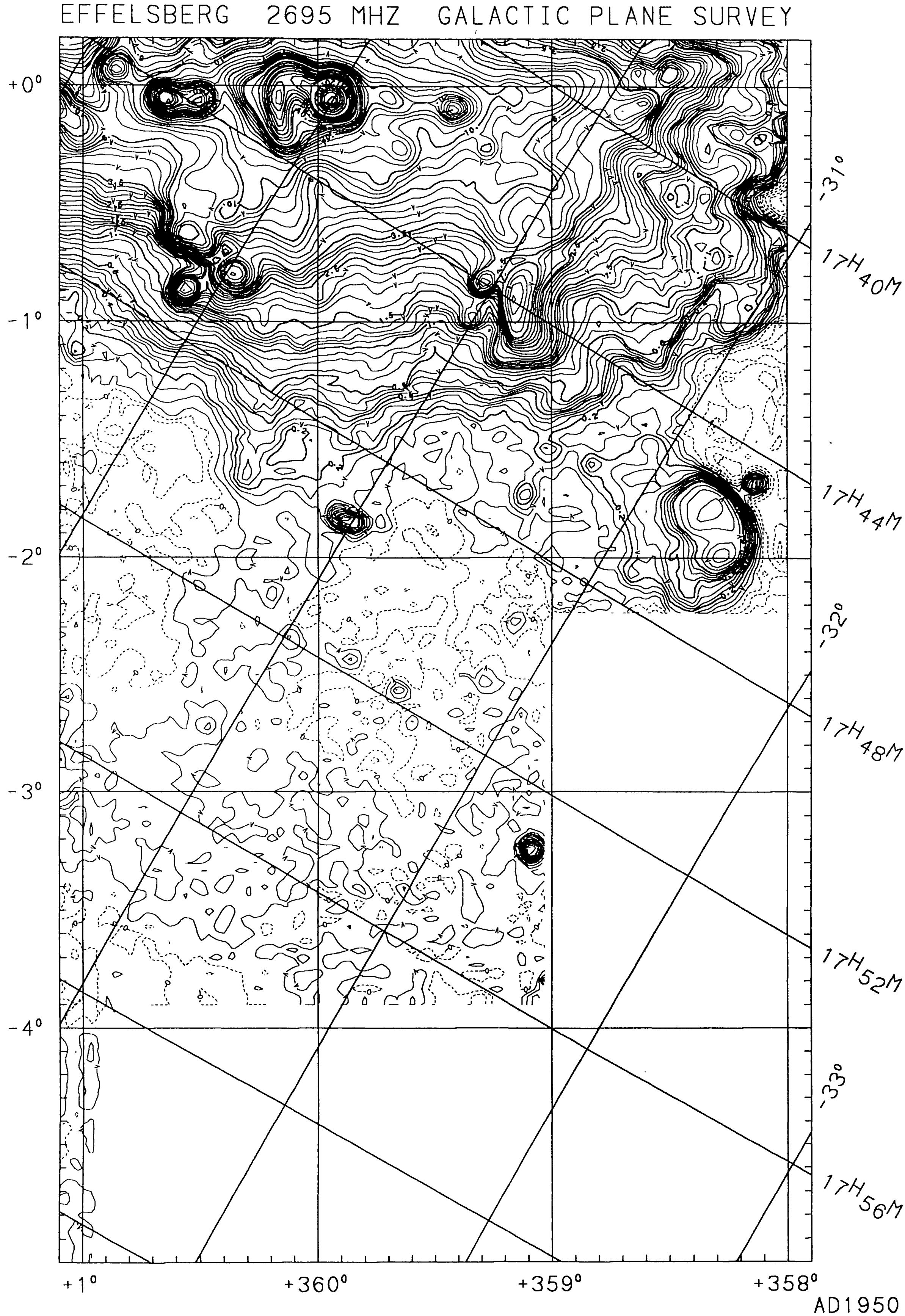
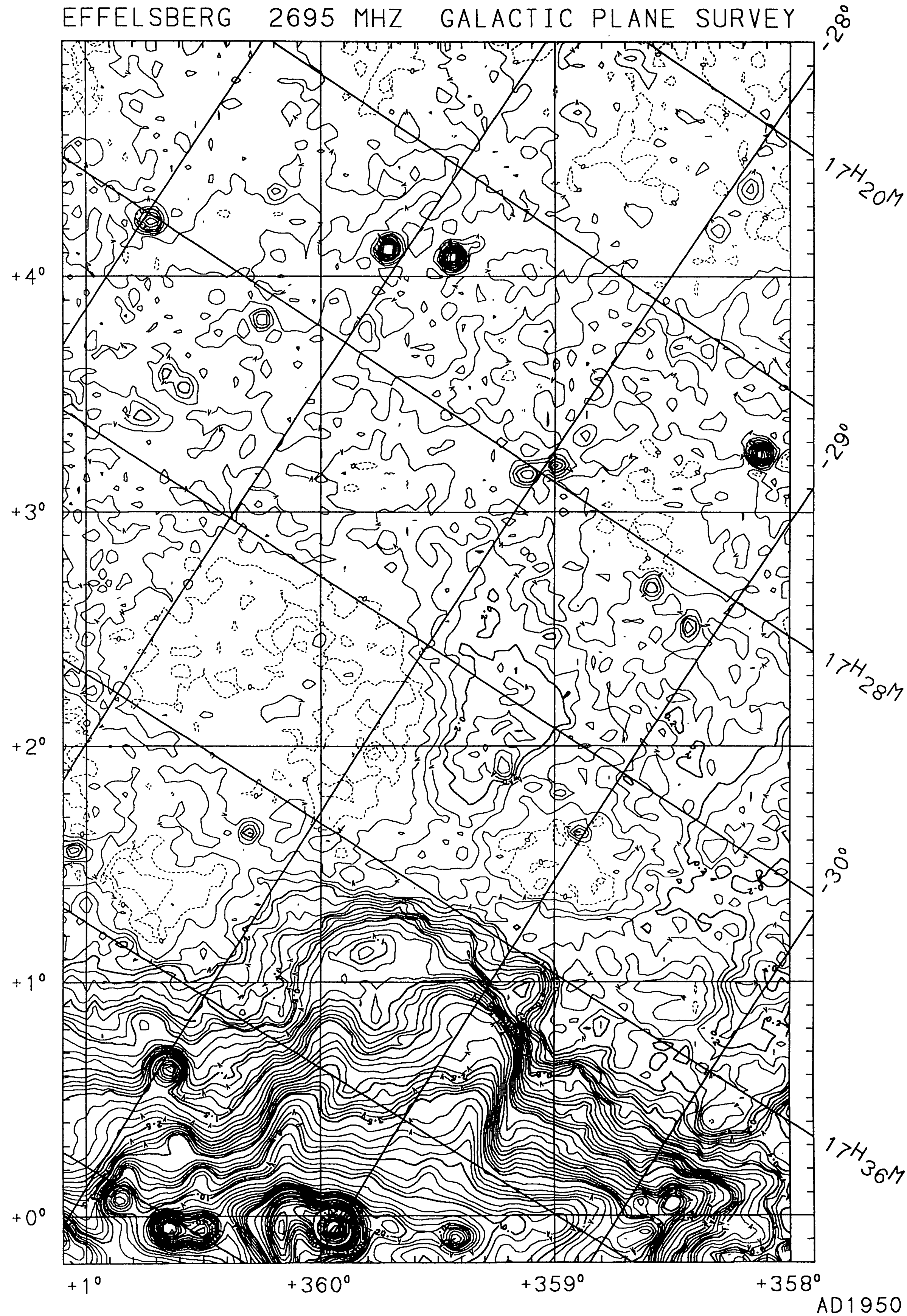
References

EMERSON D. T., GRÄVE R. : 1988, *Astron. Astrophys.* **190**, 353.
FÜRST E., REICH W., REICH P., REIF K. : 1990a, b *Astron. Astrophys. Suppl. Ser.*, same volume (Paper III and Paper IV).
HASLAM C.G.T. : 1974, *Astron. Astrophys. Suppl. Ser.* **15**, 333.
HASLAM C.G.T., WILSON W. E., GRAHAM D. A., HUNT G. C. : 1974, *Astron. Astrophys. Suppl. Ser.* **13**, 359.
HASLAM C.G.T, SALTER C. J., STOFFEL H., WILSON W. E. : 1982, *Astron. Astrophys. Suppl. Ser.* **47**, 1.
JONAS J. L., DE JAGER G., BAART E. E. : 1985, *Astron. Astrophys. Suppl. Ser.* **62**, 105.
JUNKES N., FÜRST E., REICH W. : 1987, *Astron. Astrophys. Suppl. Ser.* **69**, 451.
KALBERLA P.M.W., MEBOLD U., REICH W. : 1980, *Astron. Astrophys.* **82**, 275.
MÜLLER P., REIF K.: 1987, *Kleinheubacher Berichte* **30**, 69.
REICH P., REICH W. : 1986, *Astron. Astrophys. Suppl. Ser.* **63**, 205.
REICH W. : 1982, *Astron. Astrophys. Suppl. Ser.* **48**, 219.
REICH W., FÜRST E., STEFFEN P., REIF K., HASLAM C.G.T. : 1984, *Astron. Astrophys. Suppl. Ser.* **58**, 197 (Paper I).
REICH W., FÜRST E. : 1988, in "Supernova Shells and their Birth Events", W. Kundt Ed. (Springer Verlag) p. 48.
REICH W., FÜRST E., REICH P., JUNKES N. : 1988, in "Supernova Remnants and the Interstellar Medium", *IAU Colloquium* **101**, R.S. Roger and T.L. Landecker Eds. (Cambridge University Press) p. 293.
REICH W., REICH P., FÜRST E. : 1990, *Astron. Astrophys. Suppl. Ser.* **83**, 539.
REIF K., REICH W., STEFFEN P., MÜLLER P., WEILAND H.: 1987, *Mitt. Astron. Ges.* **70**, 419.
SIEBER W., HASLAM C.G.T., SALTER C. J. : 1979, *Astron. Astrophys.* **74**, 361.
SOFUE Y., REICH W. : 1979, *Astron. Astrophys. Suppl. Ser.* **38**, 251.



FIGURES 1 - 52. — The atlas of contour maps in Galactic coordinates ordered for increasing longitude showing the "source component" (see Sect. 4). Details of the maps have been described in Section 4.1. The equatorial grid is shown for Epoch 1950.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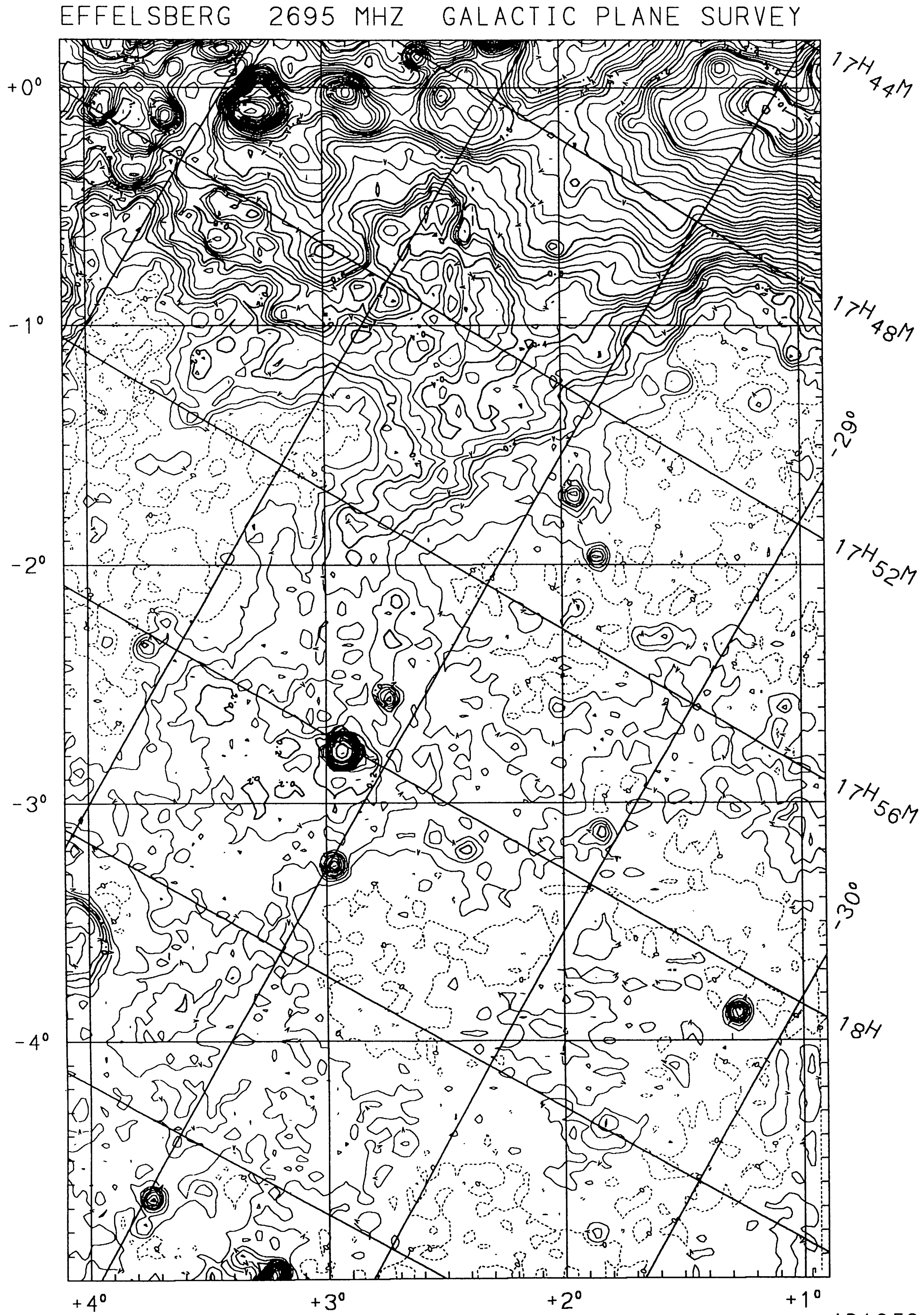
17H20M
-29°
17H28M
-30°
17H36M
+4°
+3°
+2°
+1°
+0°
+1°
+360°
+359°
+358°
AD1950

FIGURE 2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-1°
-2°
-3°
-4°
17H44M
17H48M
-29°
17H52M
17H56M
-30°
18H
+4°
+3°
+2°
+1°
AD1950

FIGURE 3

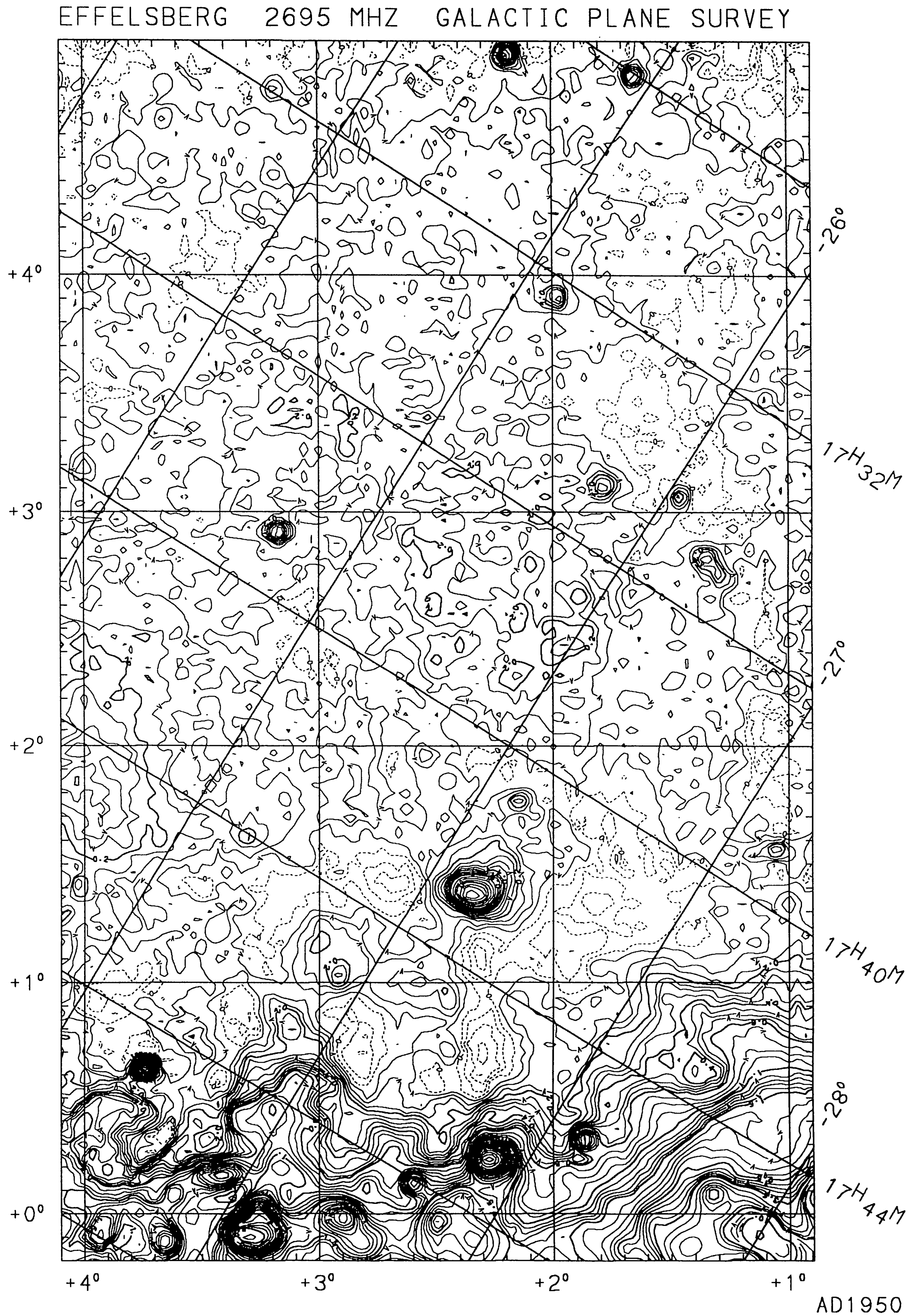
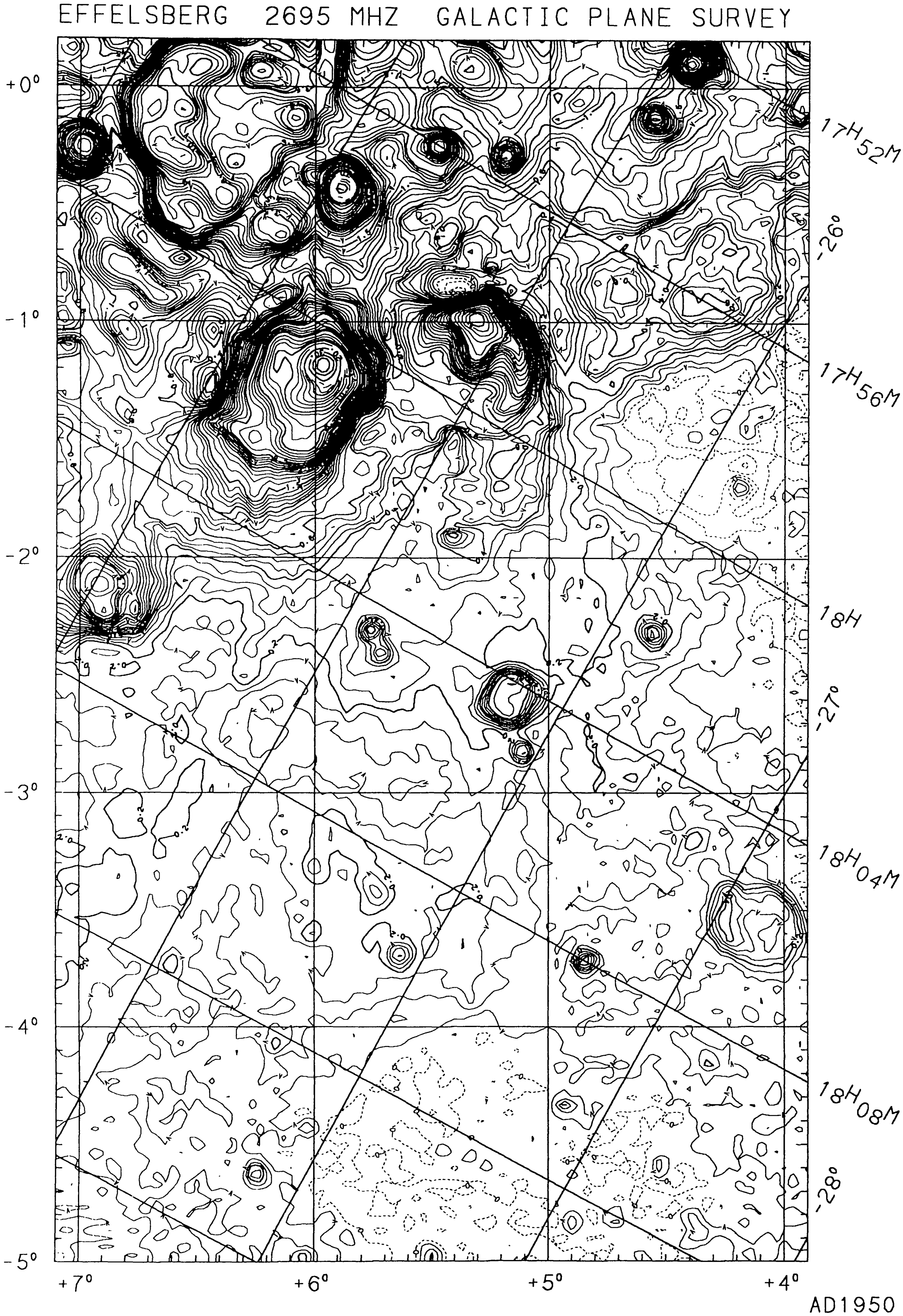

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
-26°
17H32M
-27°
17H40M
-28°
17H44M
+4°
+3°
+2°
+1°
AD1950

FIGURE 4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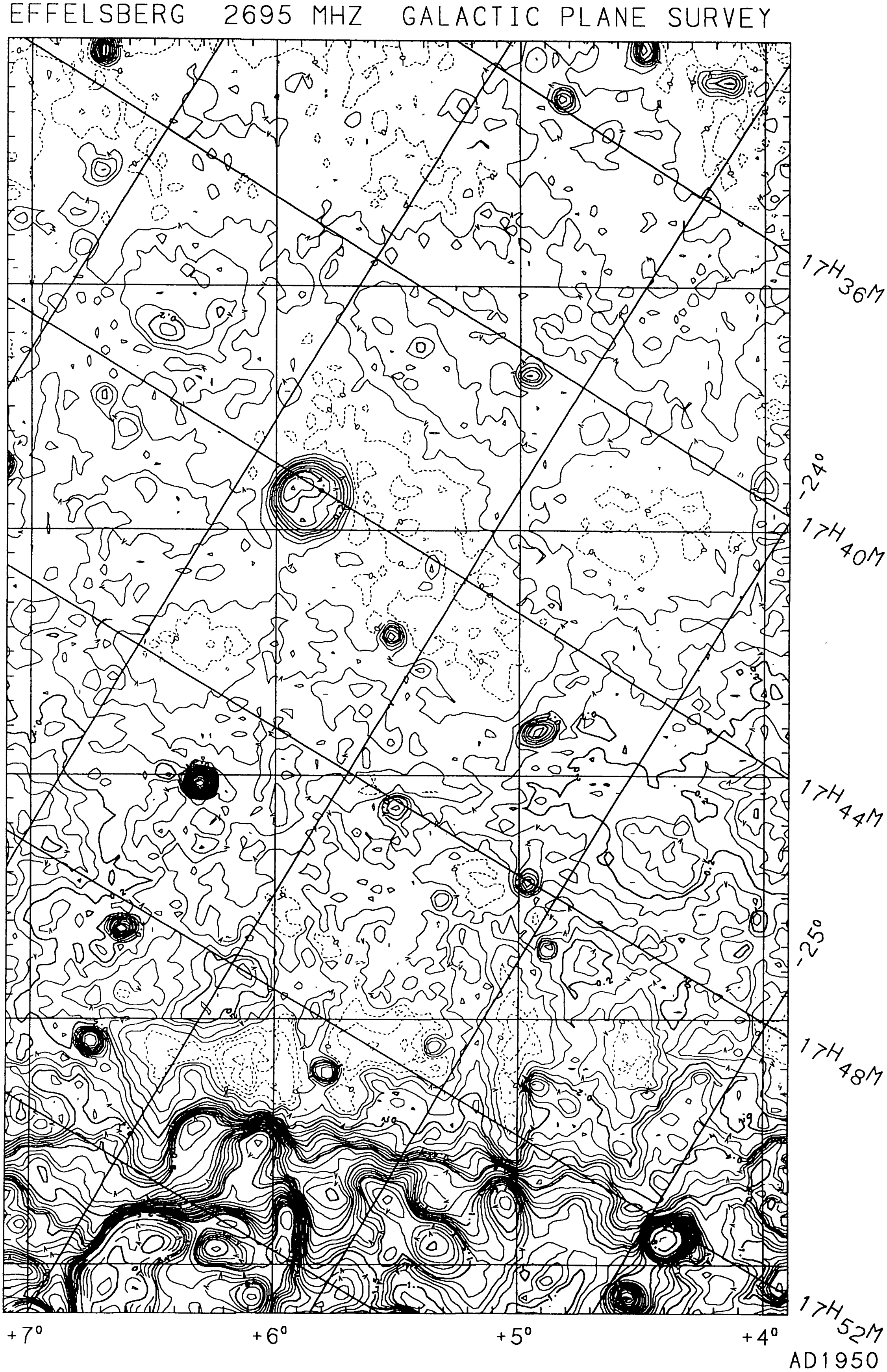
-1°
-2°
-3°
-4°
-5°
+7°
+6°
+5°
+4°
17H52M
17H56M
18H
18H04M
18H08M
-26°
-27°
-28°
AD1950

FIGURE 5



EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+7°
+6°
+5°
+4°
17H36M
-24°
17H40M
17H44M
-25°
17H48M
17H52M
AD1950

FIGURE 6

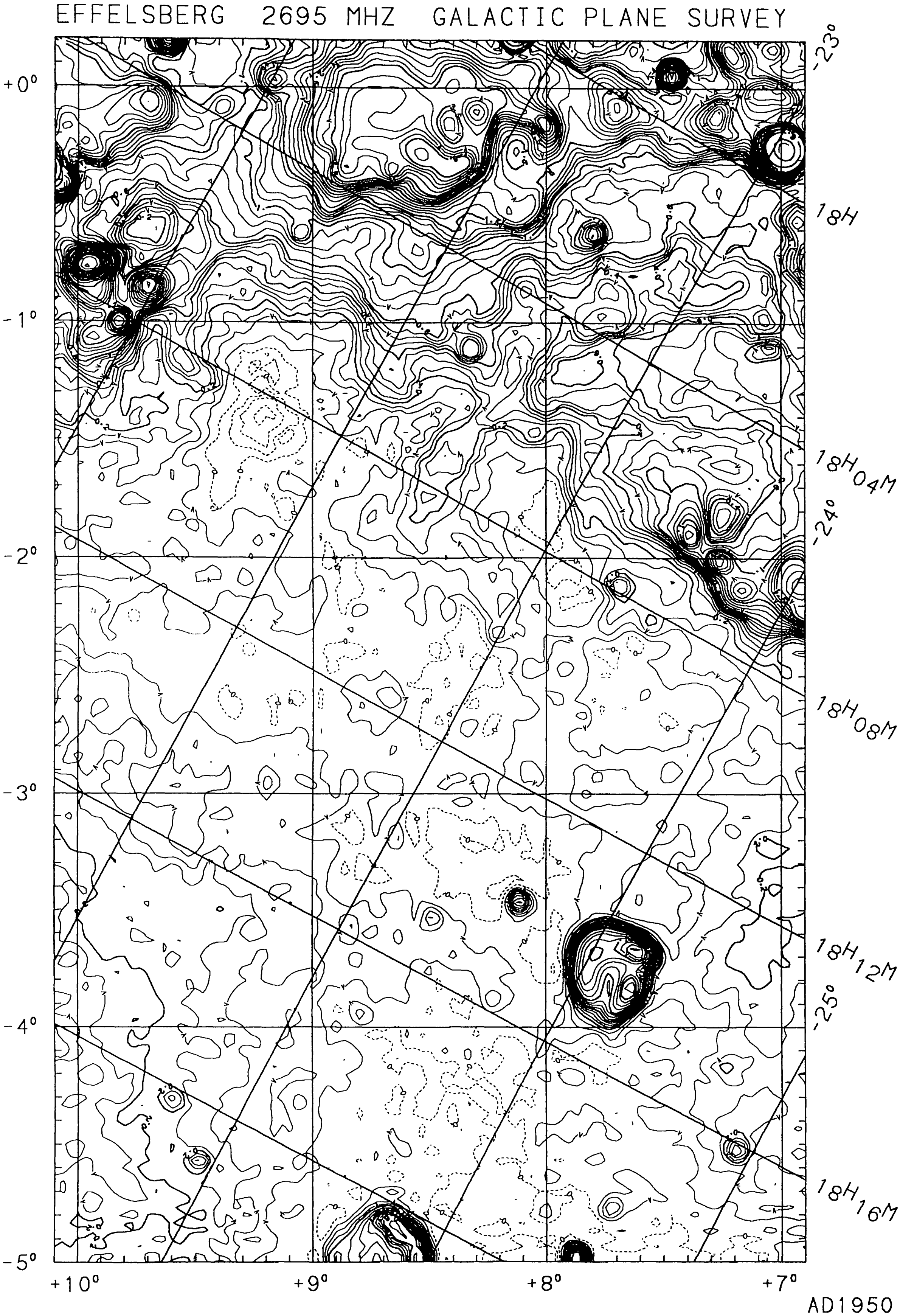
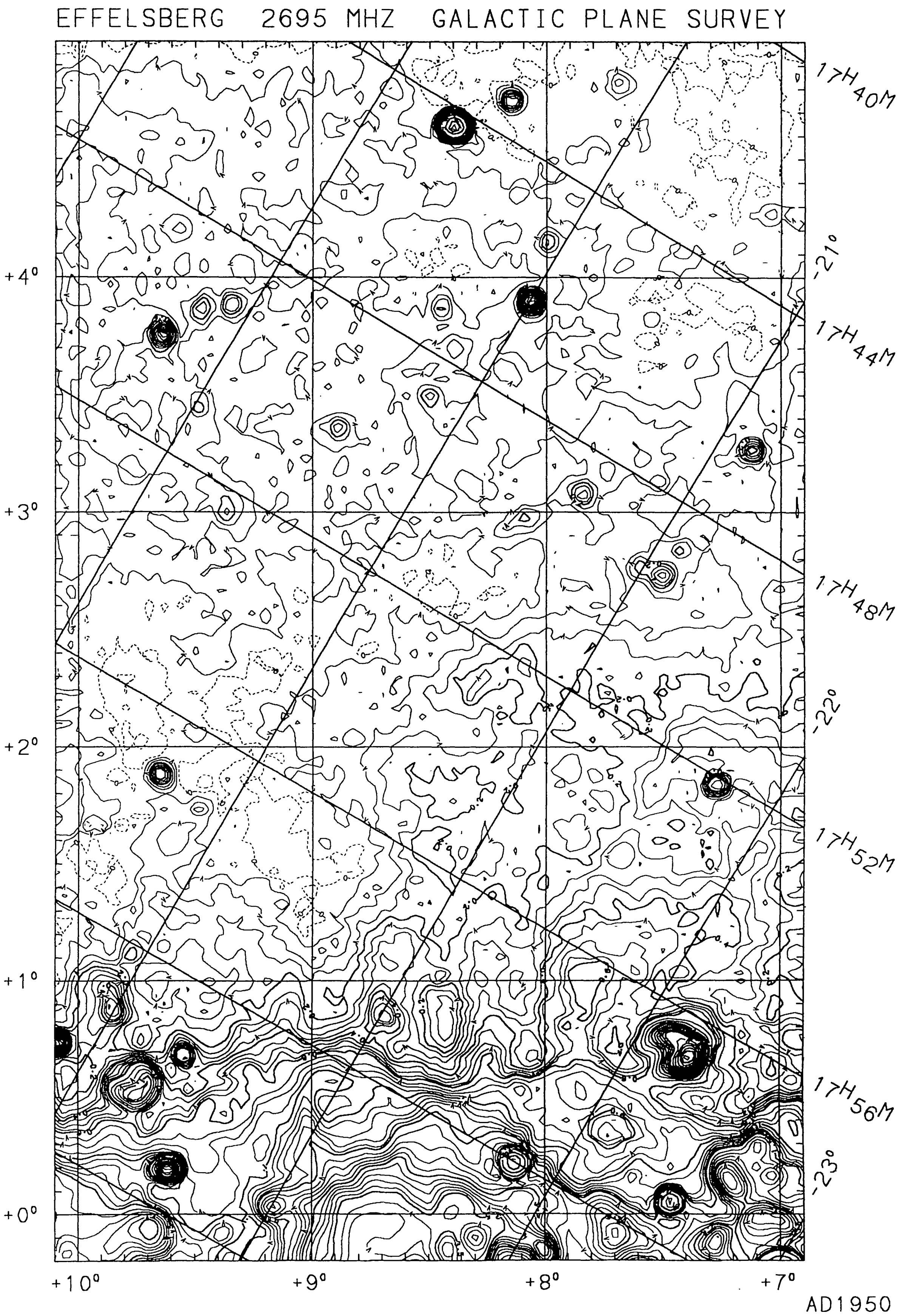

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+10°
+9°
+8°
+7°
AD1950
-23°
18H
18H04M
-24°
18H08M
18H12M
-25°
18H16M

FIGURE 7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17H40M
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17H44M
+4°
+3°
17H48M
-22°
+2°
17H52M
+1°
17H56M
-23°
+0°
+10°
+9°
+8°
+7°
AD1950

FIGURE 8

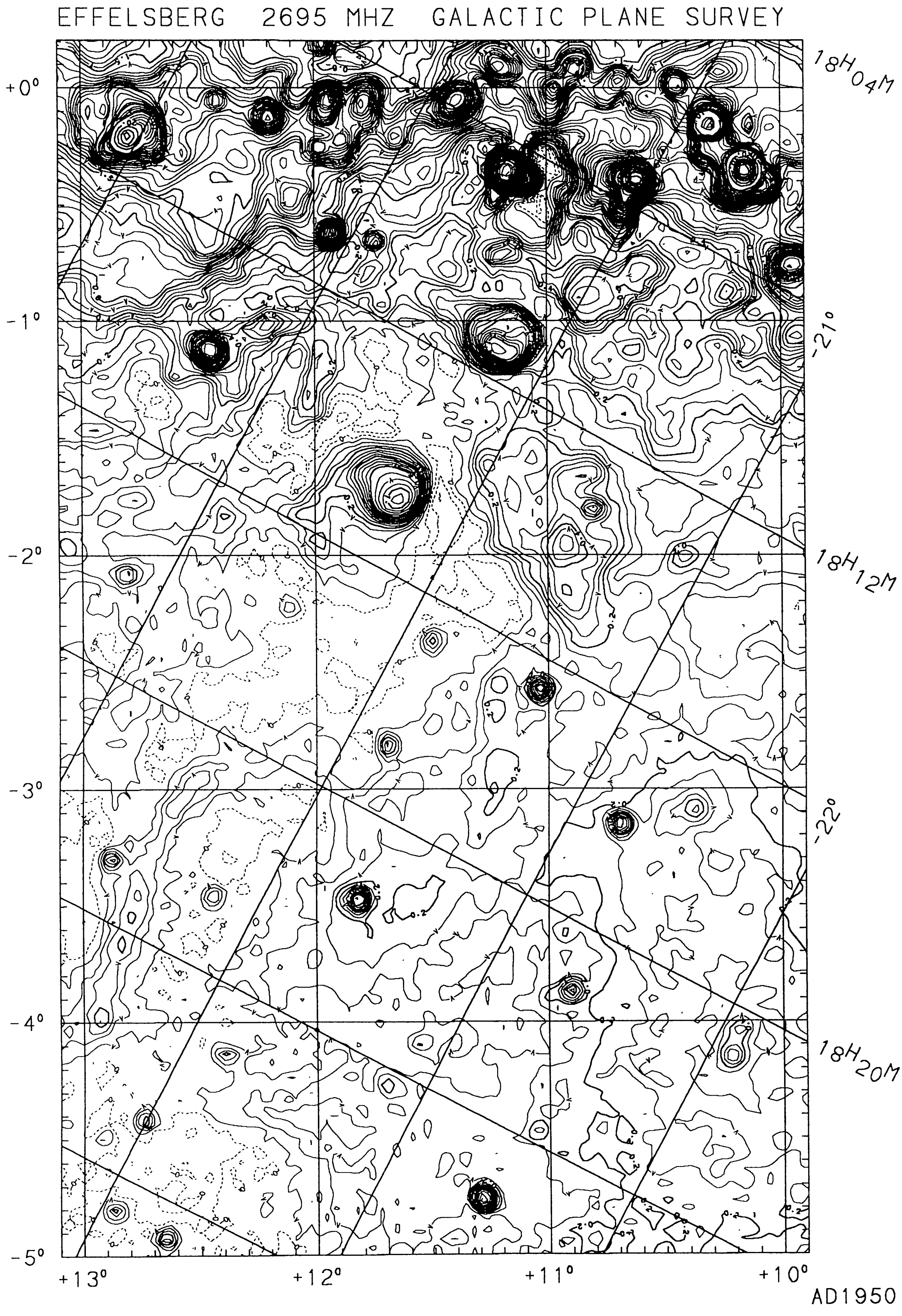
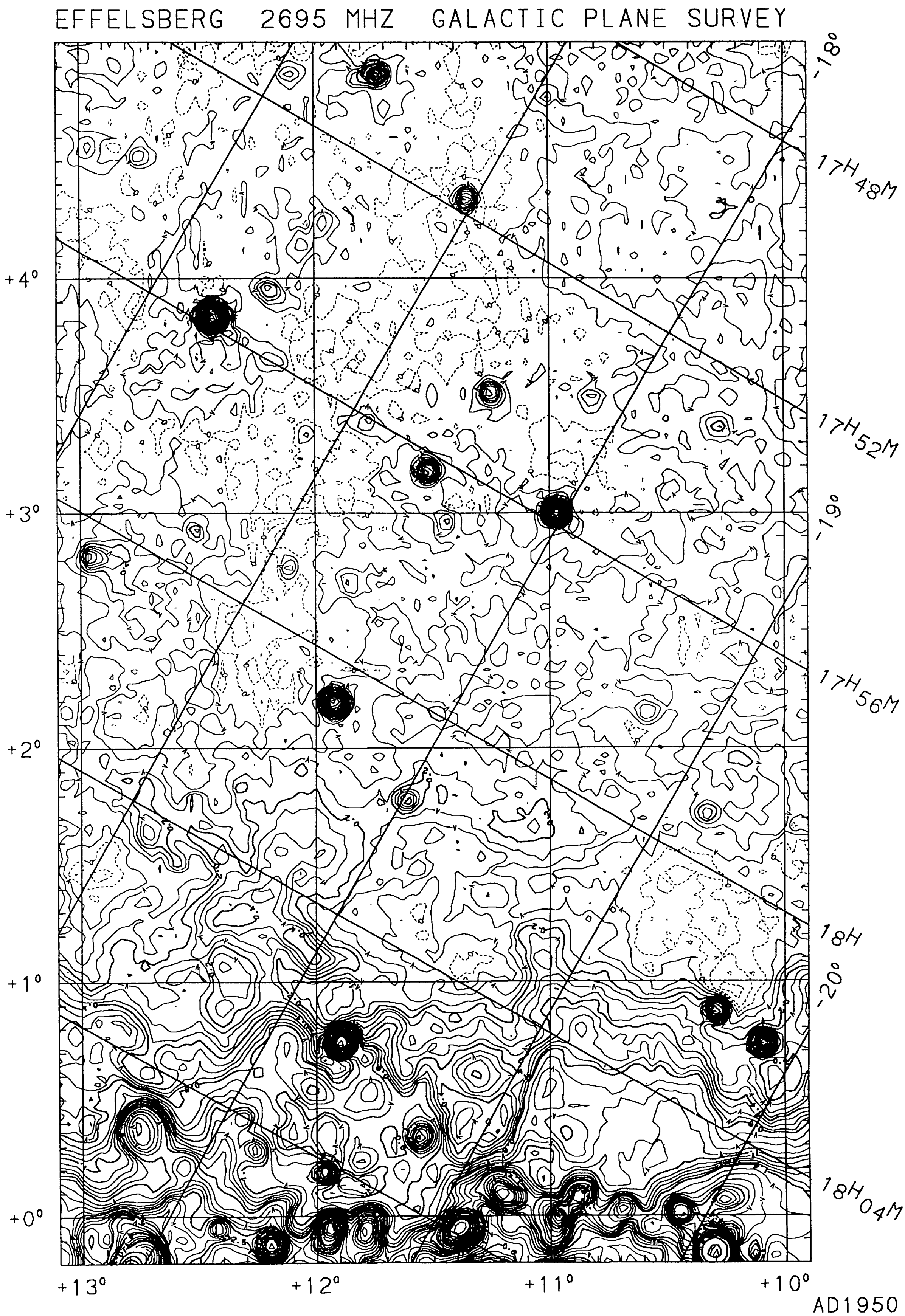
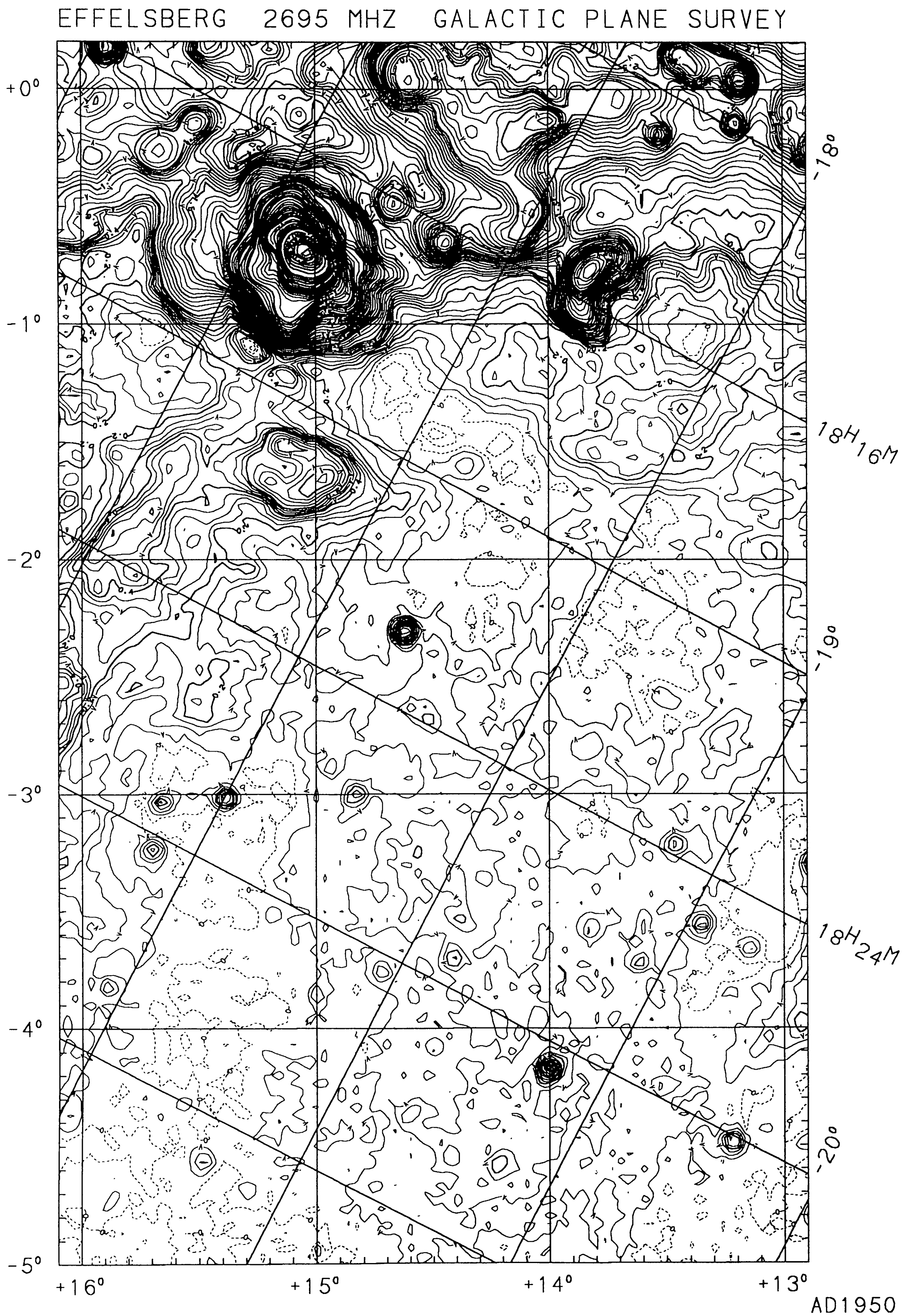

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+13°
+12°
+11°
+10°
18H04M
-21°
18H12M
-22°
18H20M
AD1950

FIGURE 9



EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
-18°
17H 48M
17H 52M
-19°
17H 56M
18H
-20°
18H 04M
+4°
+3°
+2°
+1°
+0°
+13°
+12°
+11°
+10°
AD1950

FIGURE 10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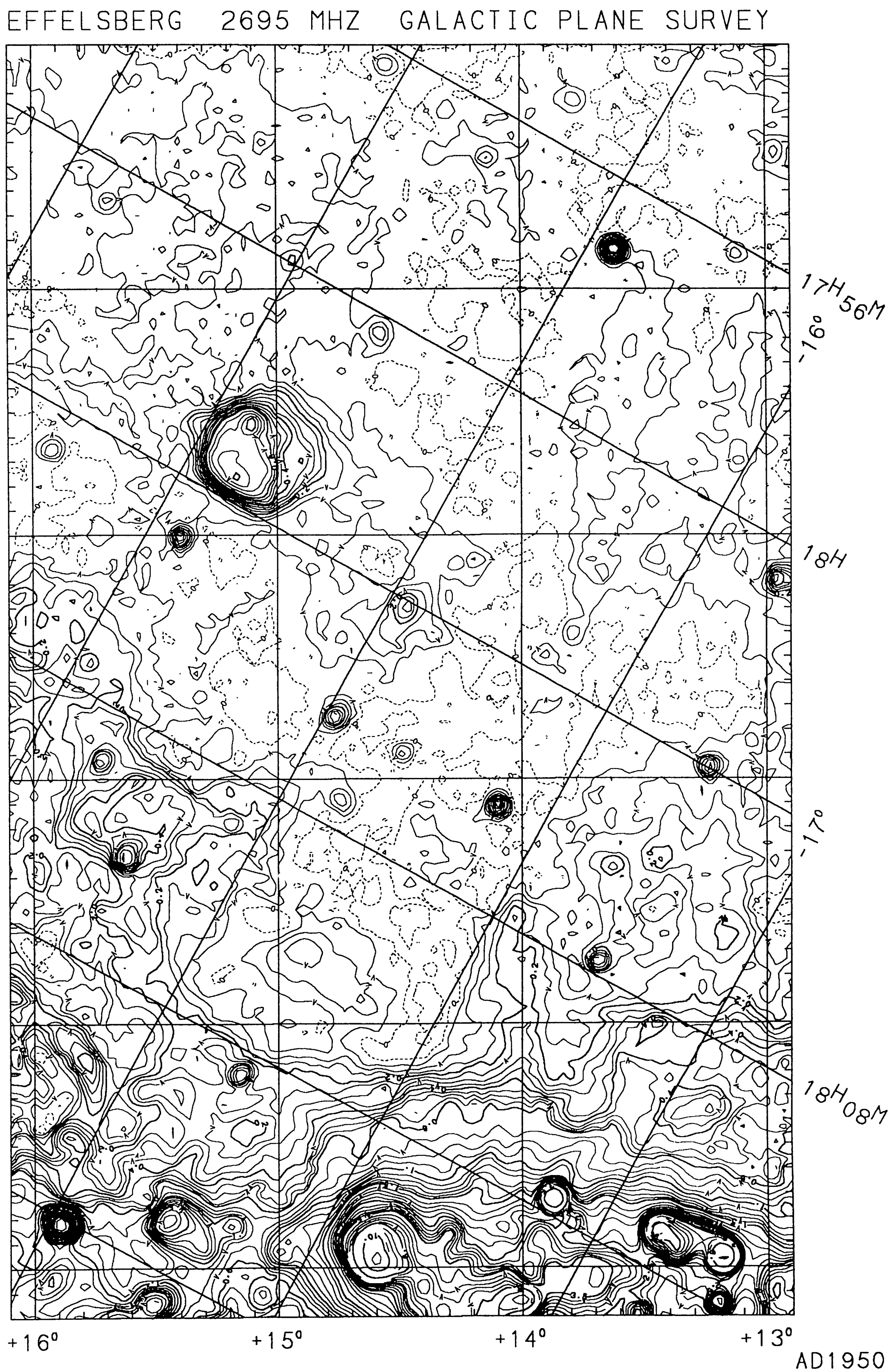
+0°
-1°
-2°
-3°
-4°
-5°
+16°
+15°
+14°
+13°
-18°
-19°
-20°
18H16M
18H24M
AD1950

FIGURE 11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+4°
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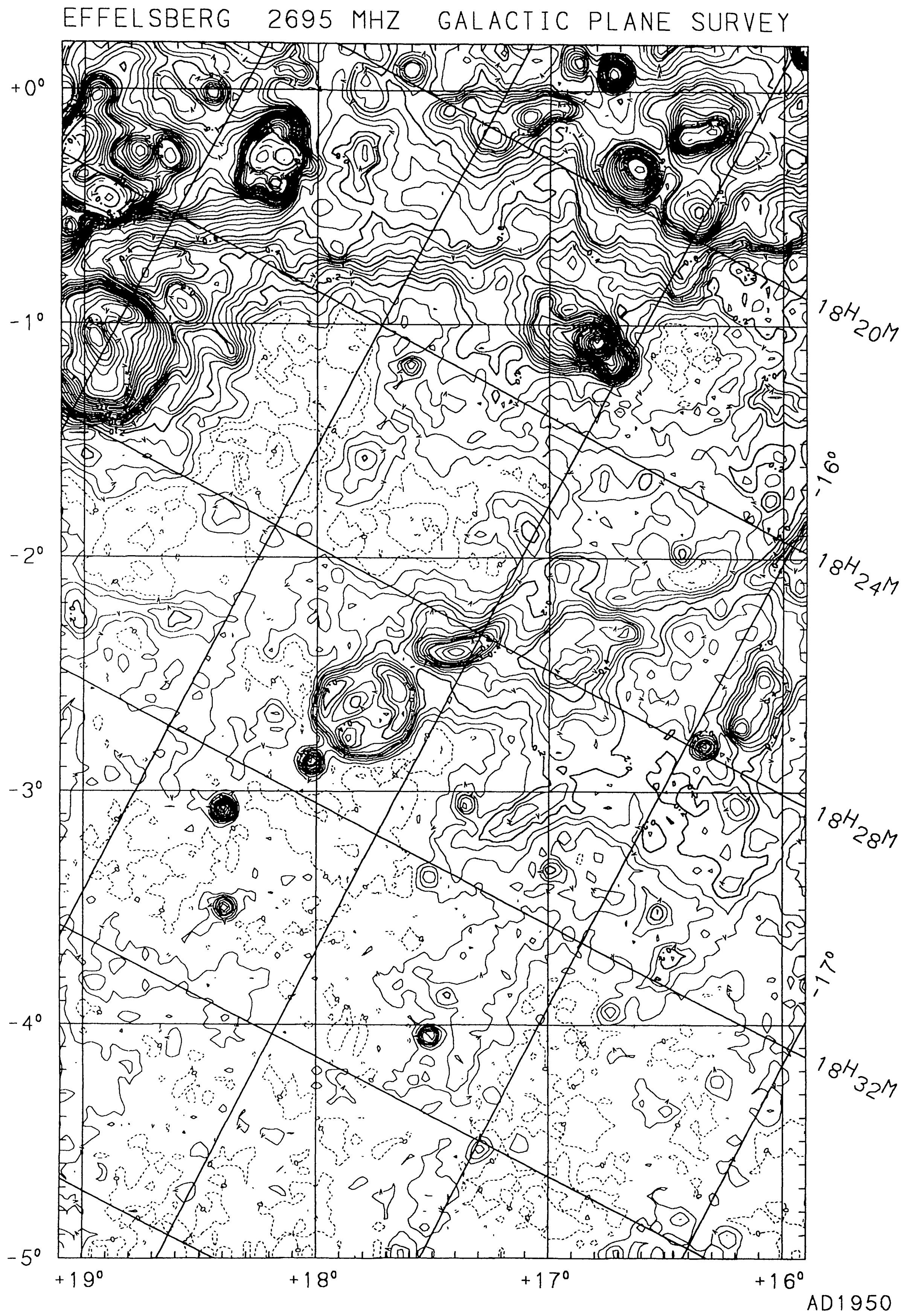
+2°
+1°
+0°
17H56M
-16°
18H
-17°
18H08M
+16°
+15°
+14°
+13°
AD1950

FIGURE 12



EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+19°
+18°
+17°
+16°
18H20M
18H24M
18H28M
18H32M
-16°
-17°
AD1950

FIGURE 13

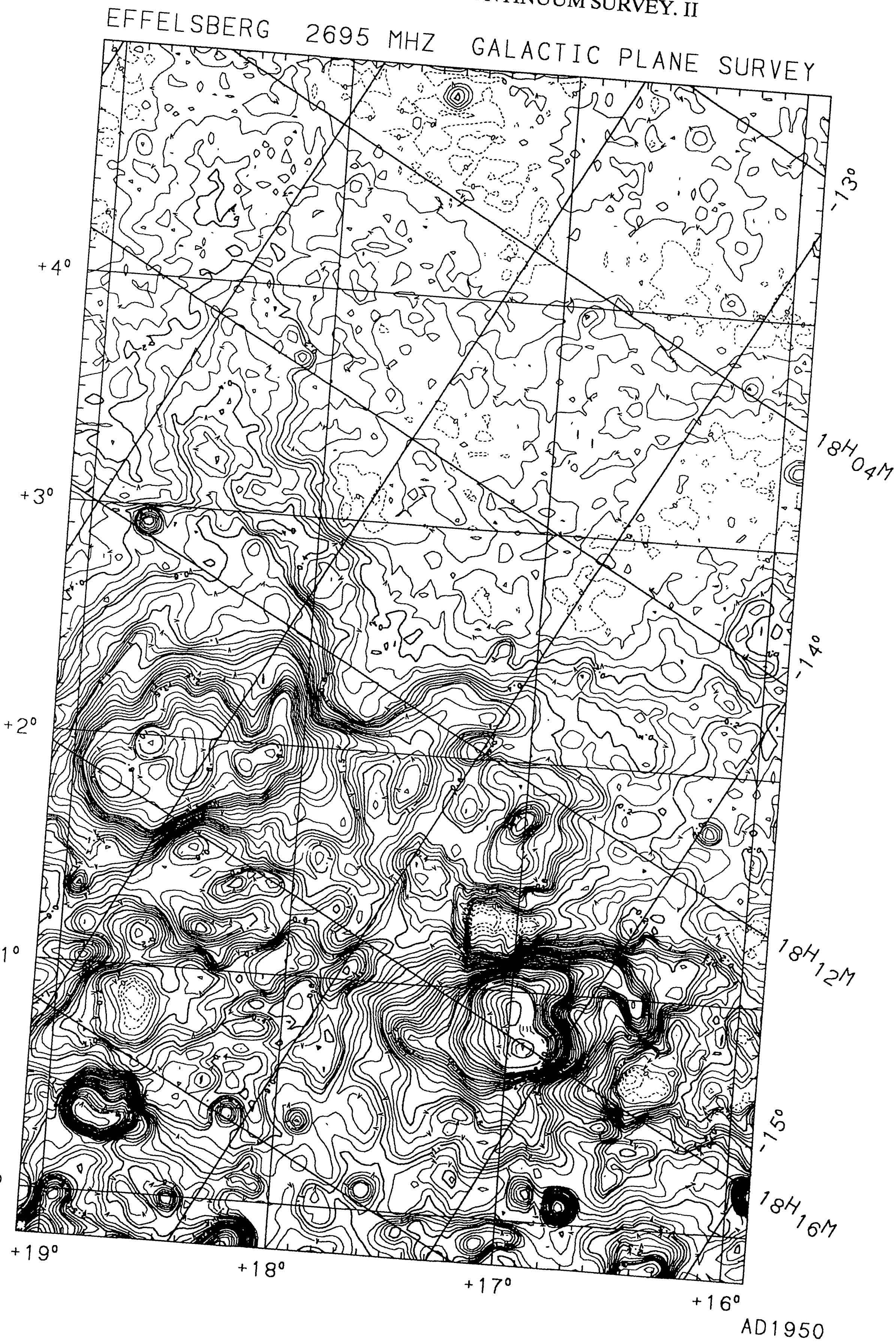

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+19°
+18°
+17°
+16°
-13°
-14°
-15°
18H04M
18H12M
18H16M
AD1950

FIGURE 14

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY

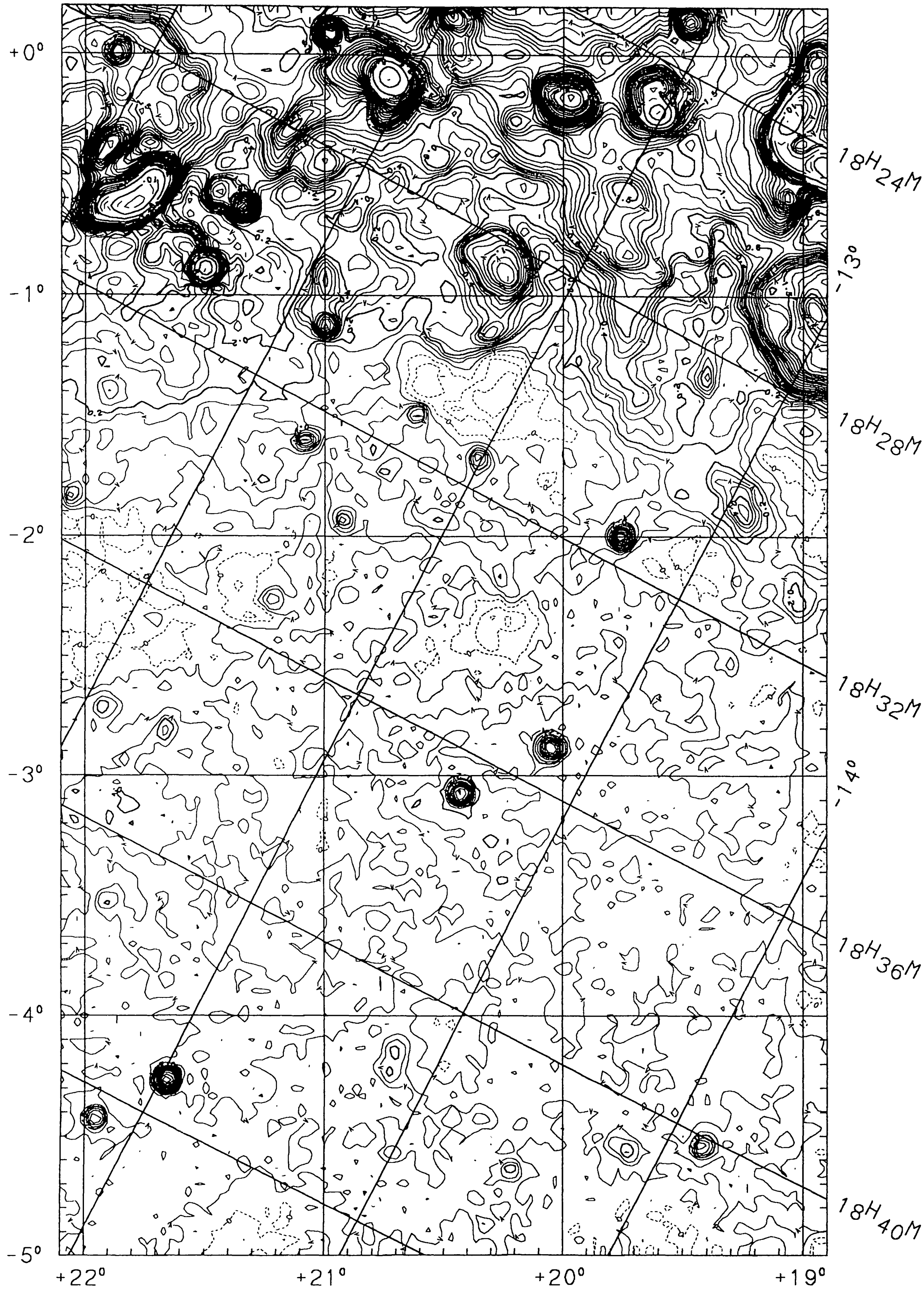


FIGURE 15

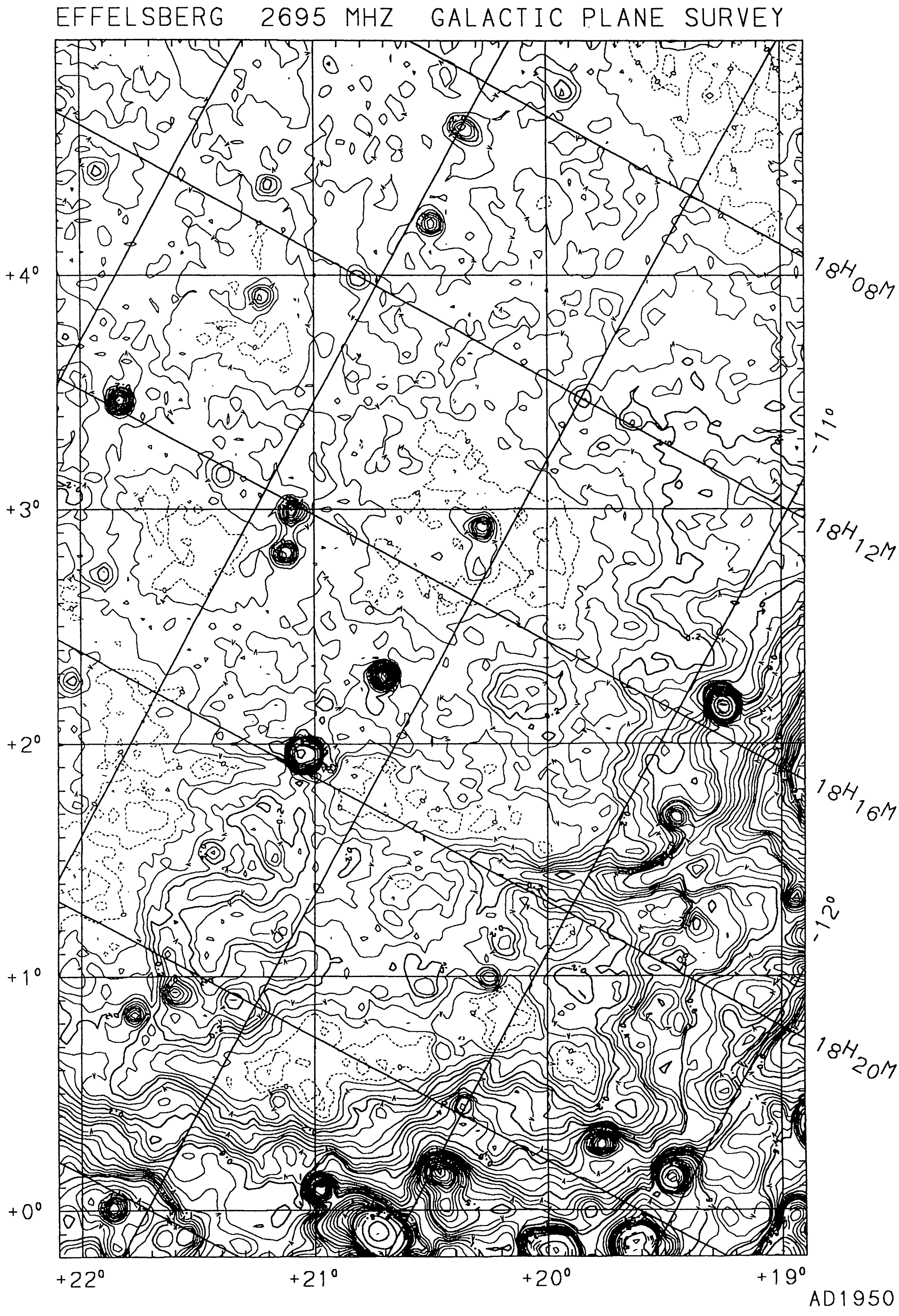

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
18H08M
-11°
18H12M
18H16M
-12°
18H20M
+22°
+21°
+20°
+19°
AD1950

FIGURE 16

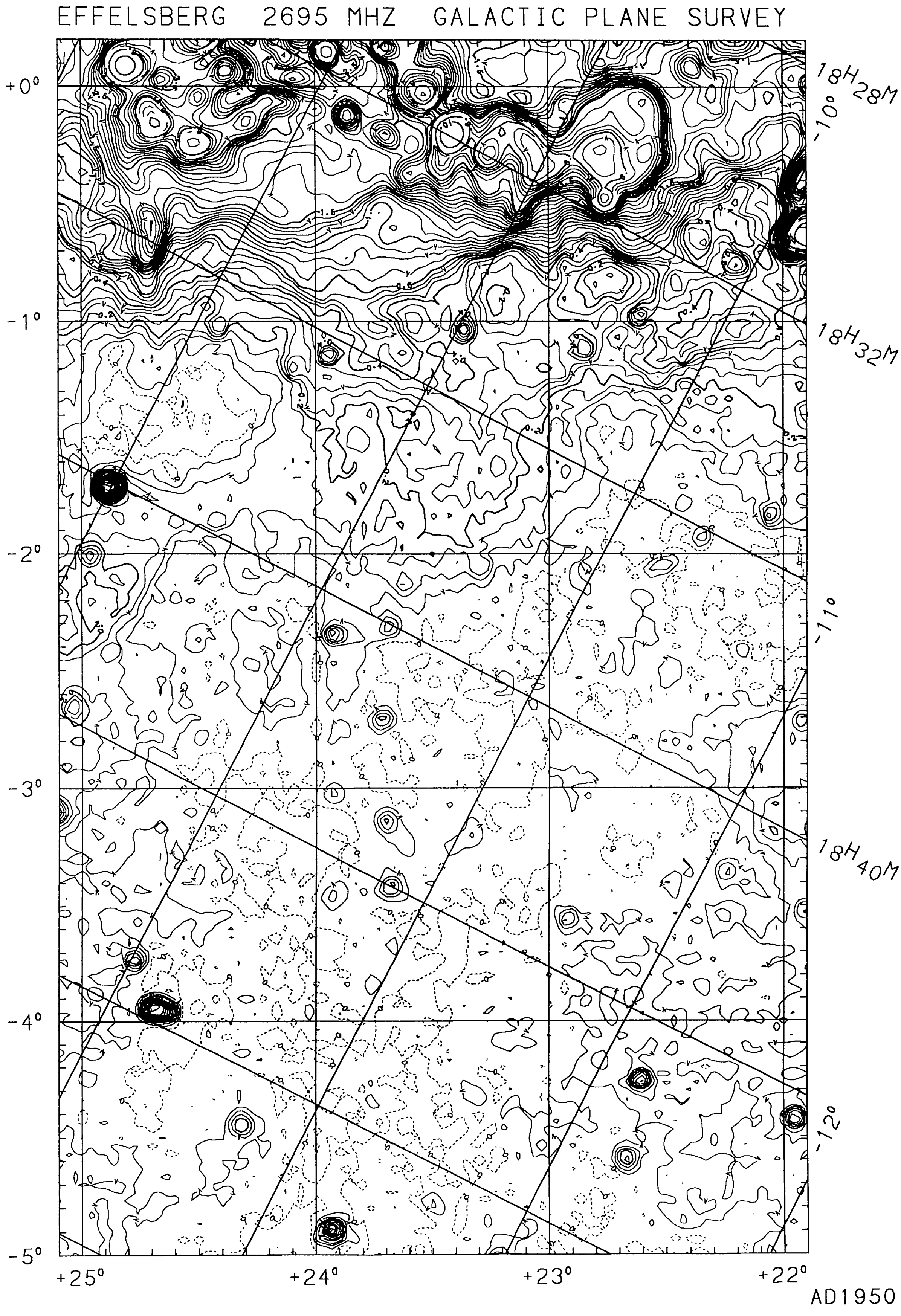
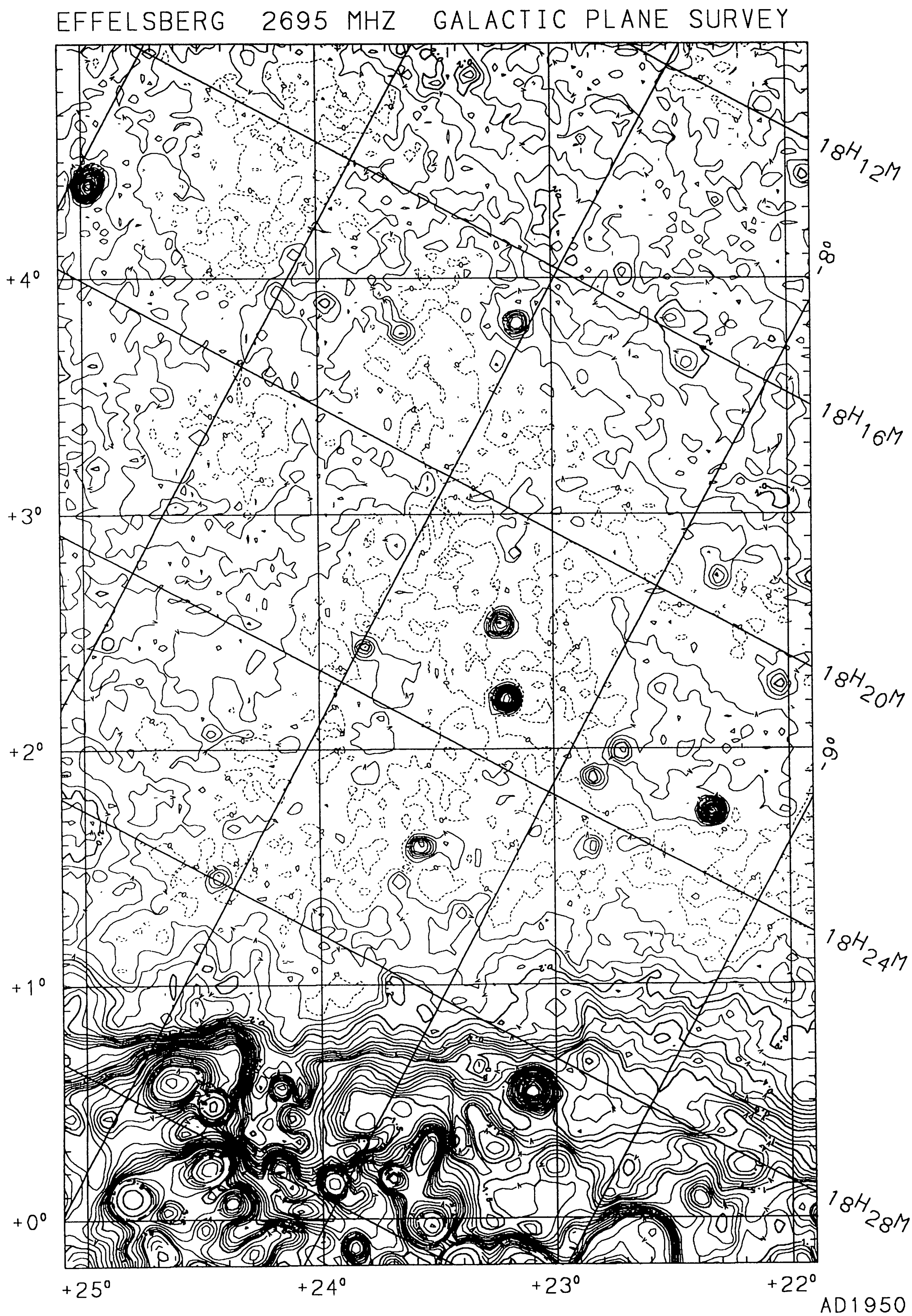

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+25°
+24°
+23°
+22°
AD1950
18H28M
18H32M
18H40M
-10°
-11°
-12°

FIGURE 17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18H12M
-8°
18H16M
18H20M
-9°
18H24M
18H28M
+4°
+3°
+2°
+1°
+0°
+25°
+24°
+23°
+22°
AD1950

FIGURE 18

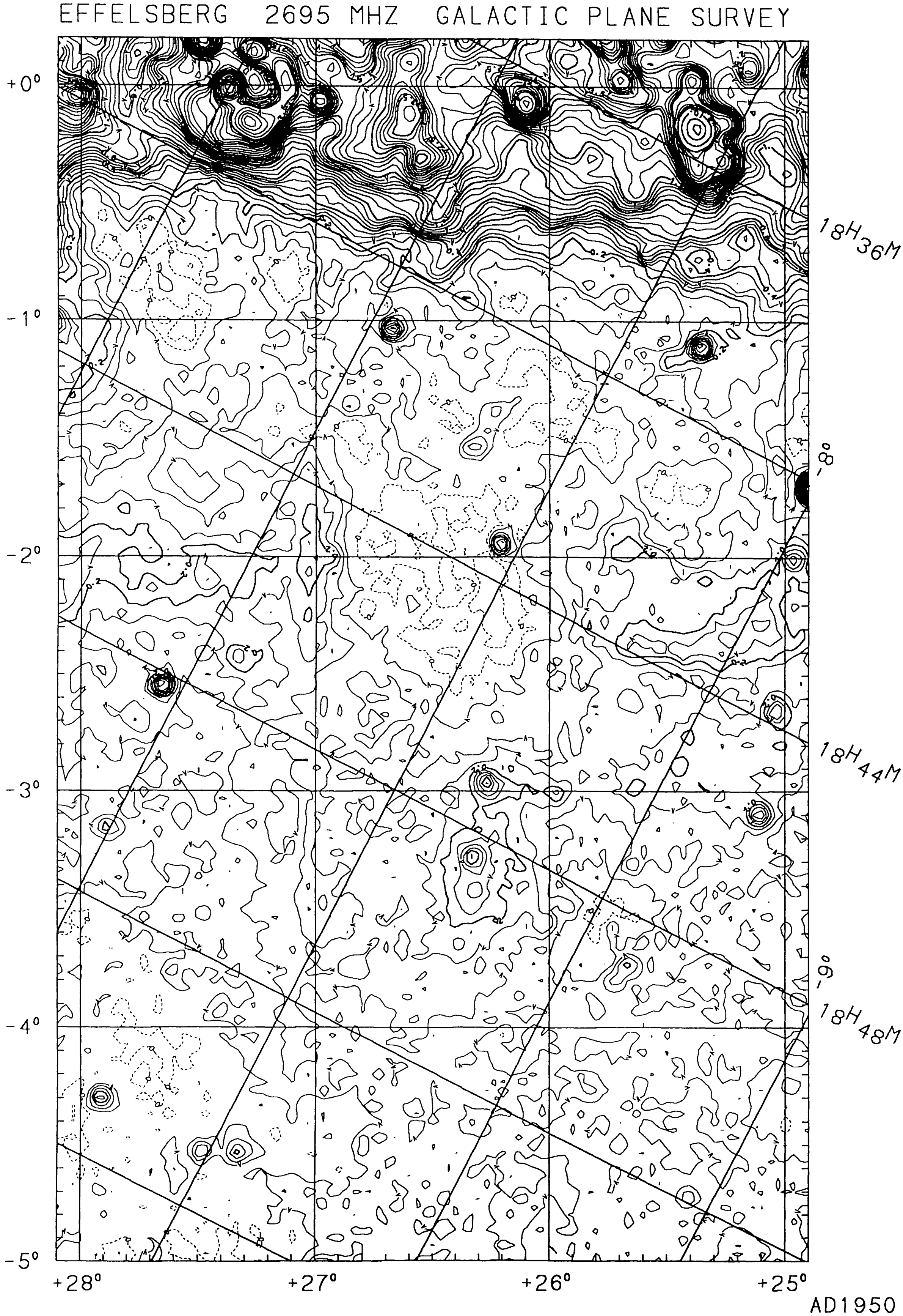
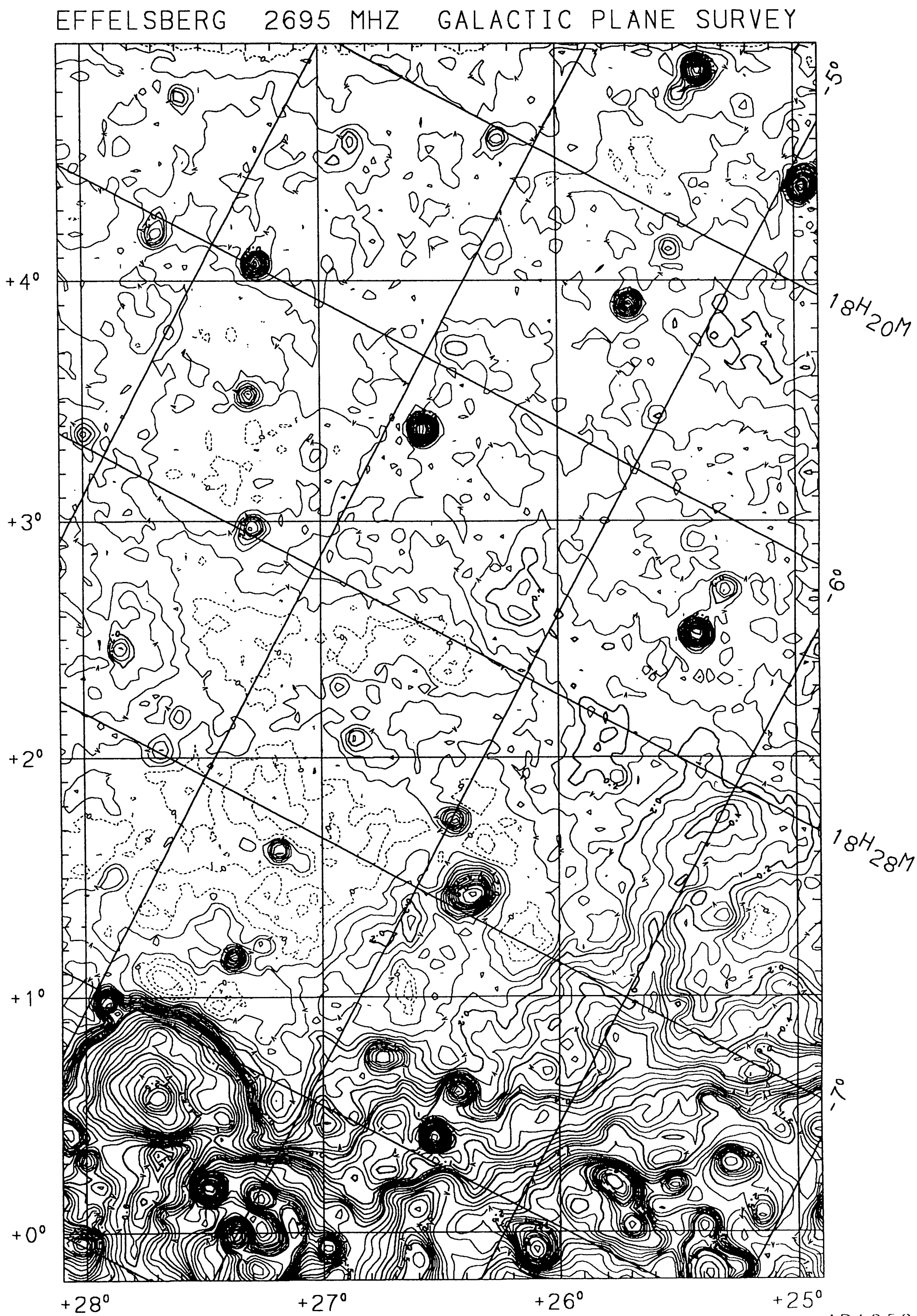

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+28°
+27°
+26°
+25°
AD1950
18H36M
18H44M
18H48M
-8°
-9°

FIGURE 19



EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
-5°
18H20M
-6°
18H28M
-7°
+4°
+3°
+2°
+1°
+0°
+28°
+27°
+26°
+25°
AD1950

FIGURE 20

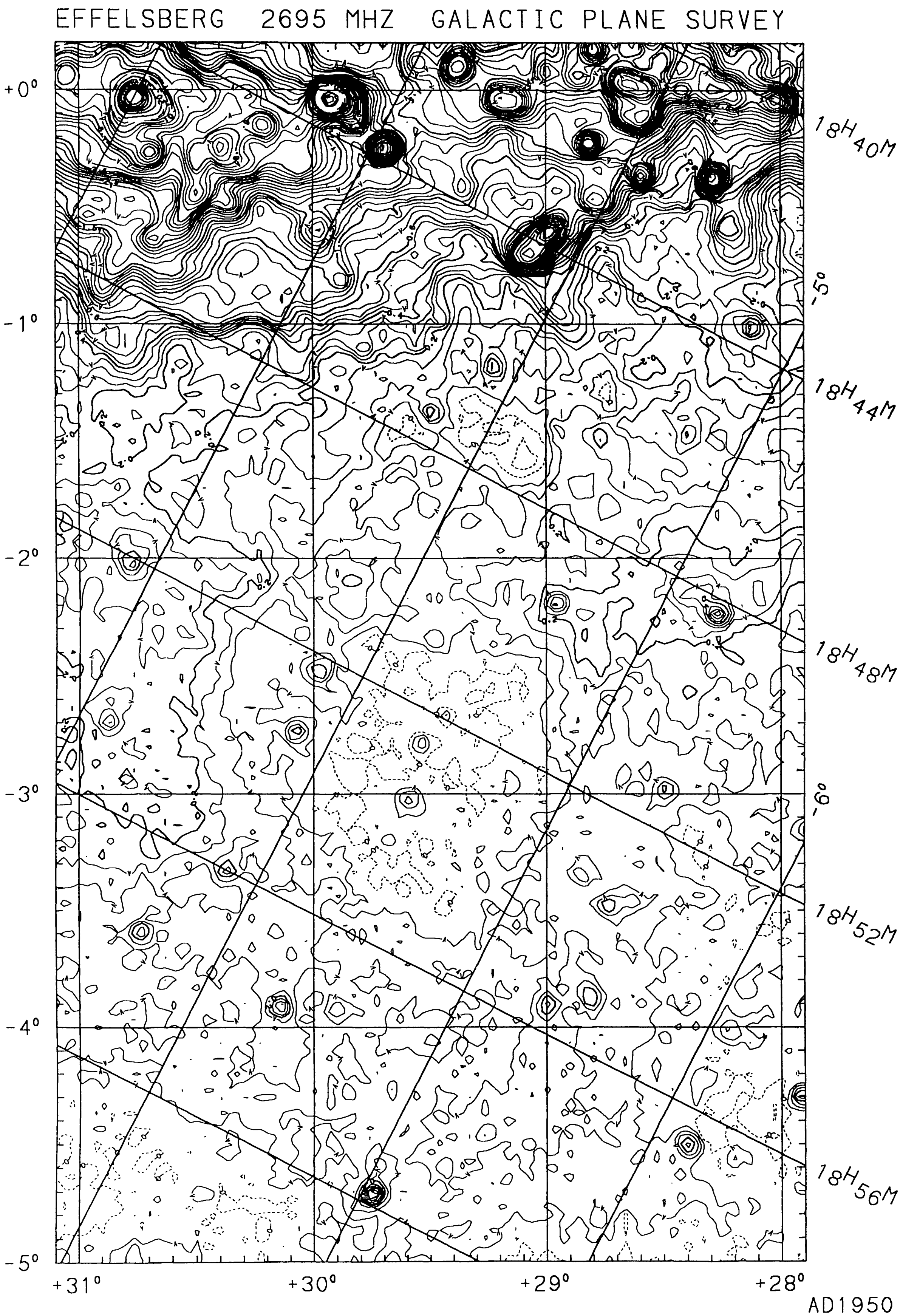

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+31°
+30°
+29°
+28°
18H40M
18H44M
18H48M
18H52M
18H56M
-5°
-6°
AD1950

FIGURE 21

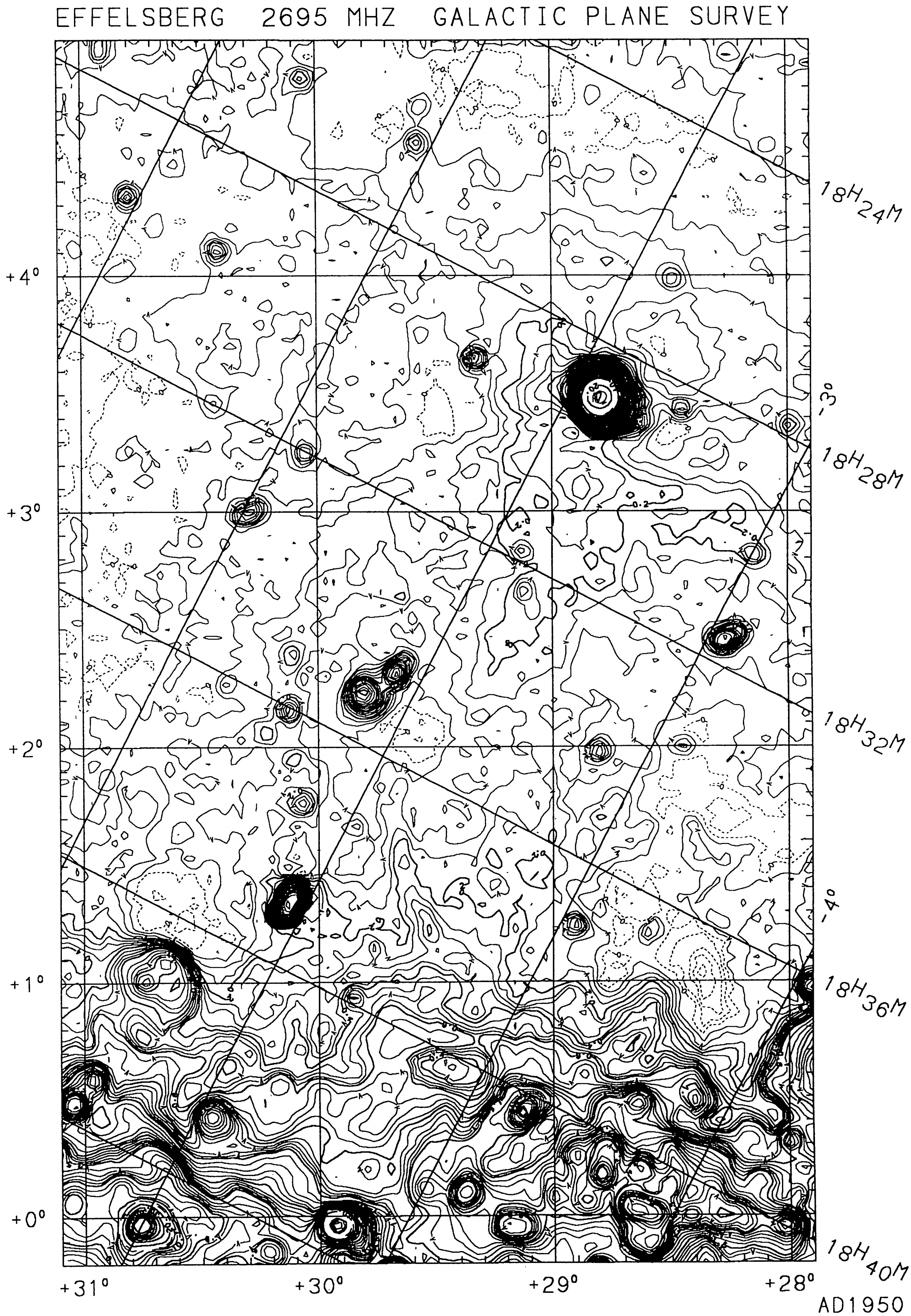

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+31°
+30°
+29°
+28°
18H24M
18H28M
18H32M
18H36M
18H40M
-3°
-4°
AD1950

FIGURE 22

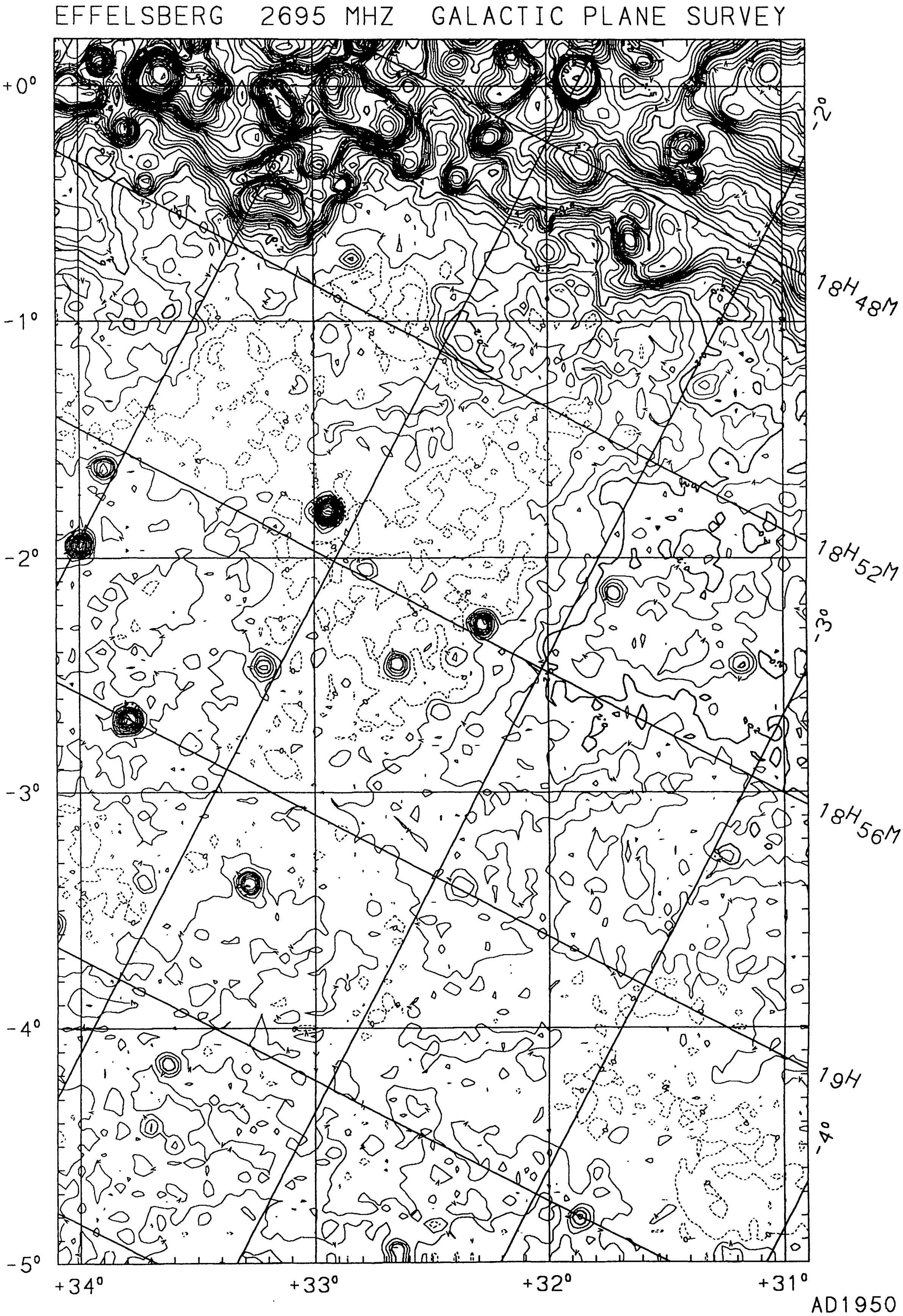

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+34°
+33°
+32°
+31°
-2°
-3°
-4°
18H48M
18H52M
18H56M
19H
AD1950

FIGURE 23

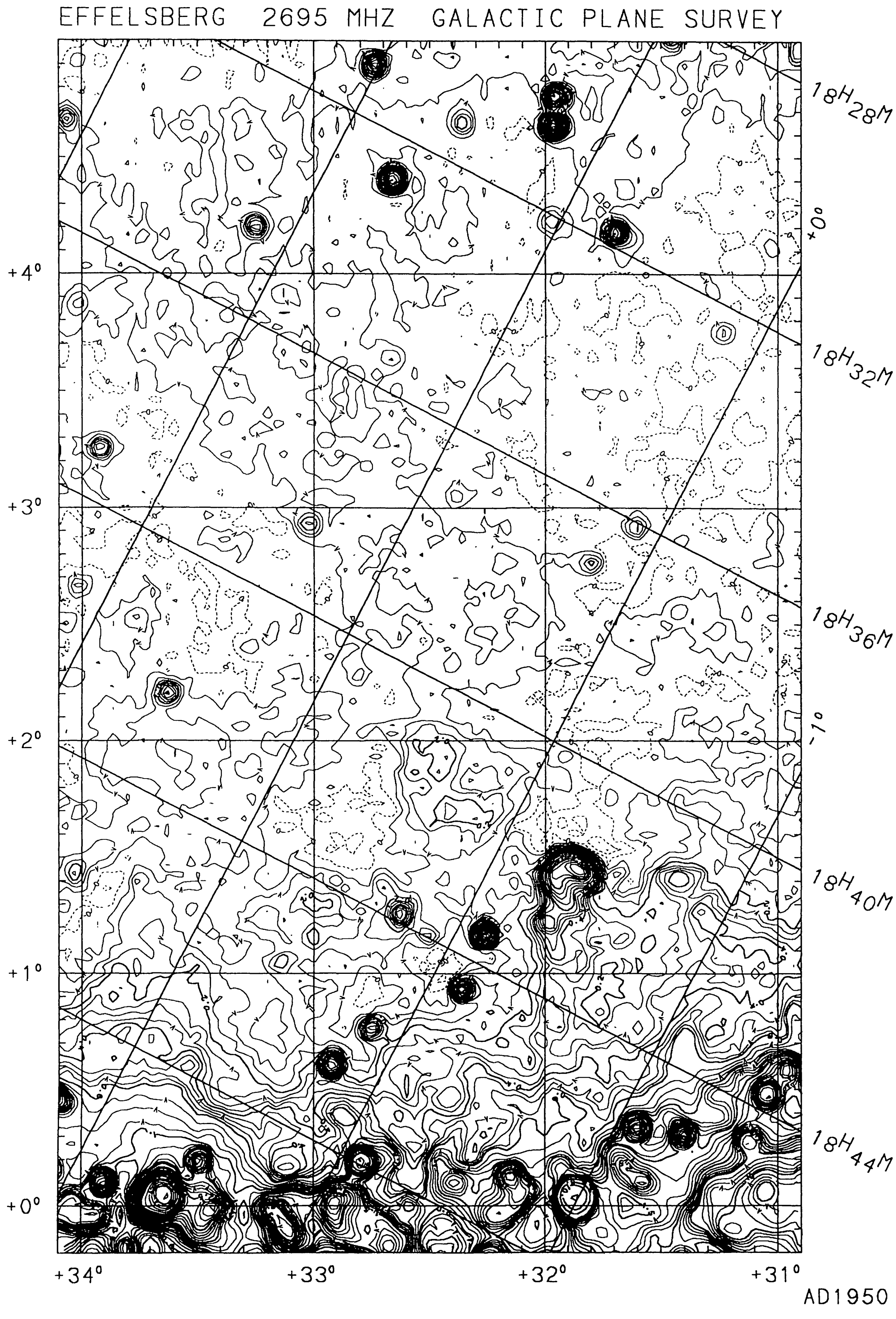

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
18H28M
+0°
18H32M
18H36M
-1°
18H40M
18H44M
+4°
+3°
+2°
+1°
+0°
+34°
+33°
+32°
+31°
AD1950

FIGURE 24

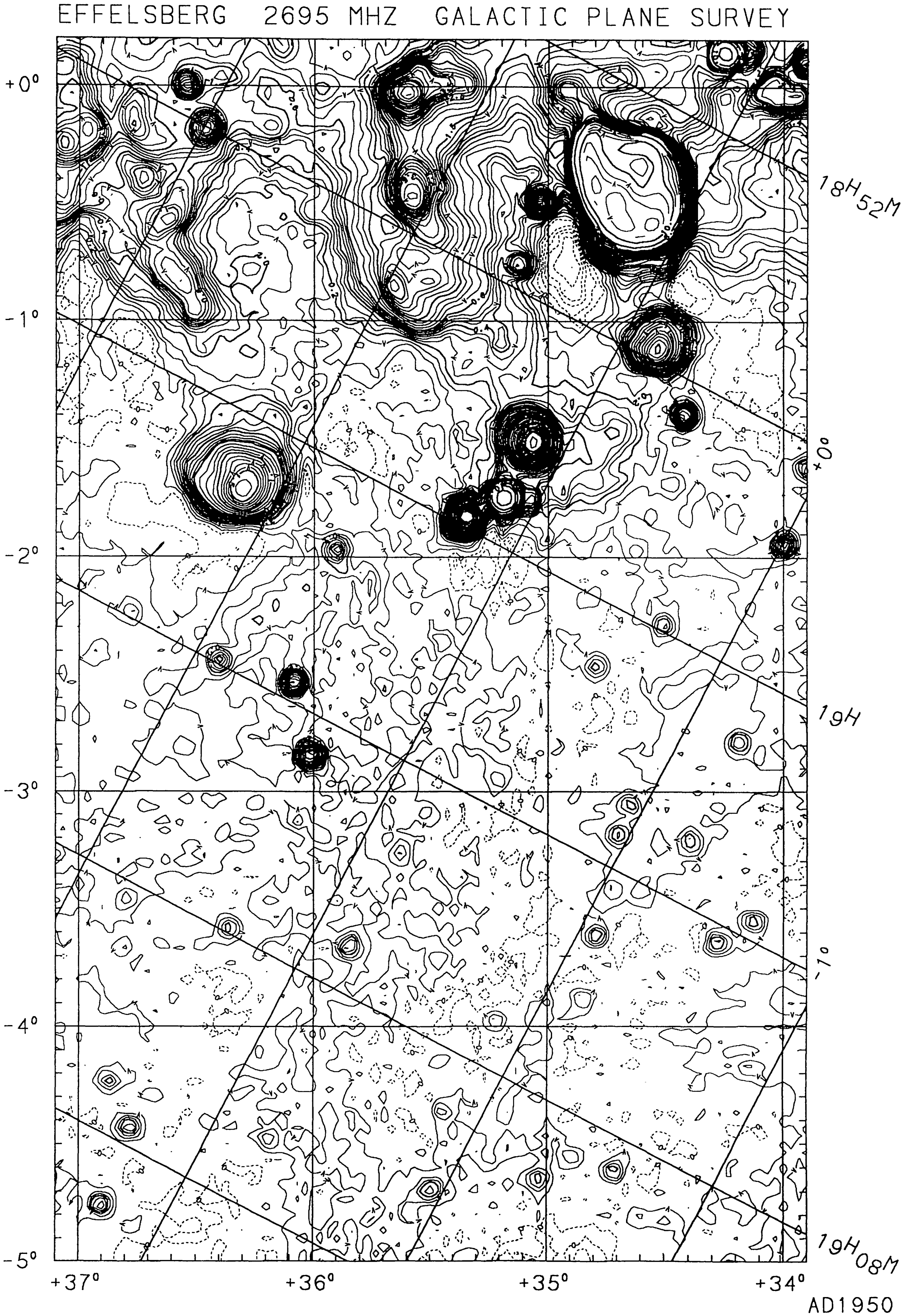
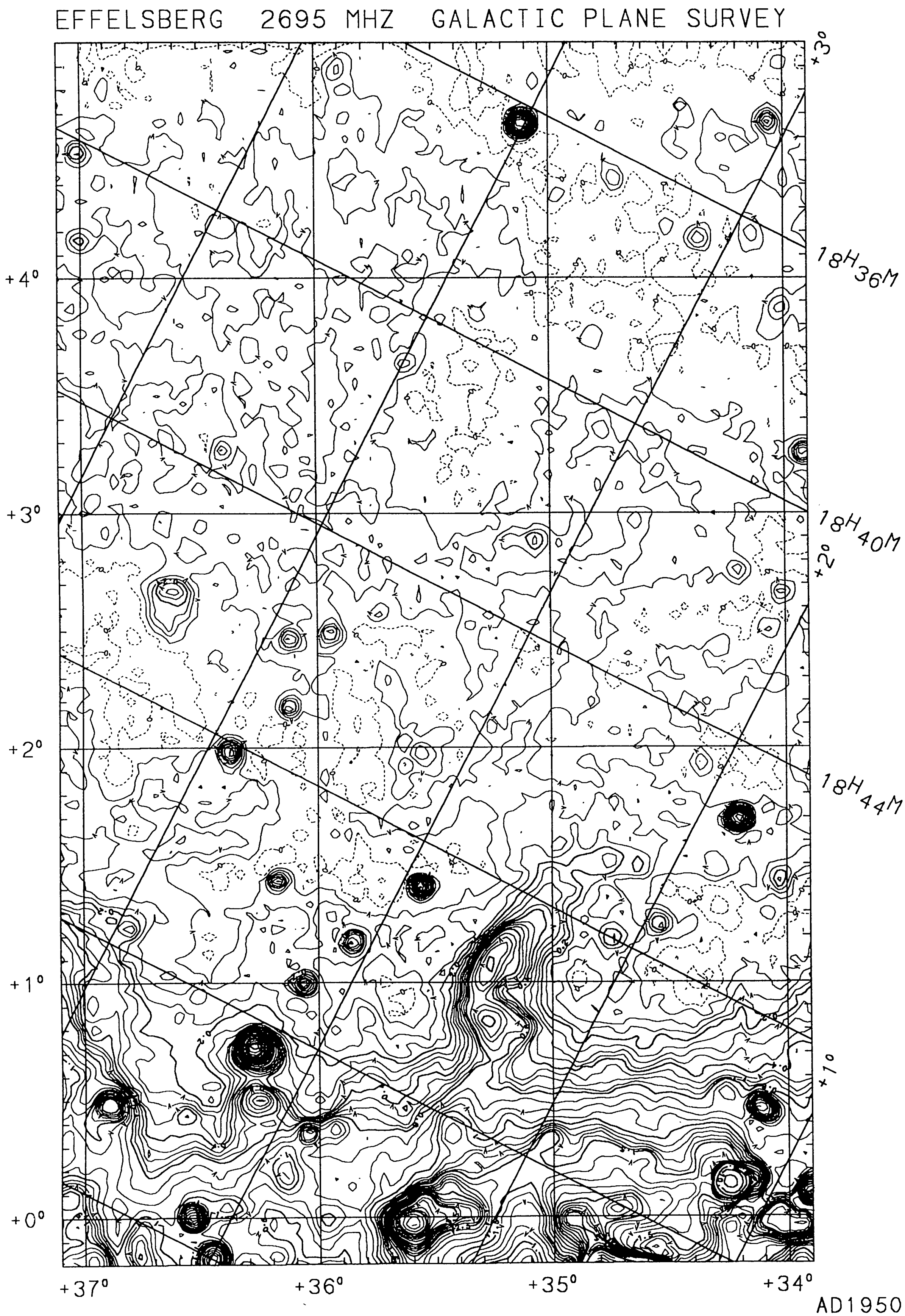

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+37°
+36°
+35°
+34°
18H52M
19H
19H08M
+0°
-1°
AD1950

FIGURE 25



EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+37°
+36°
+35°
+34°
AD1950
18H36M
18H40M
18H44M
+3°
+2°
+1°

FIGURE 26

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY

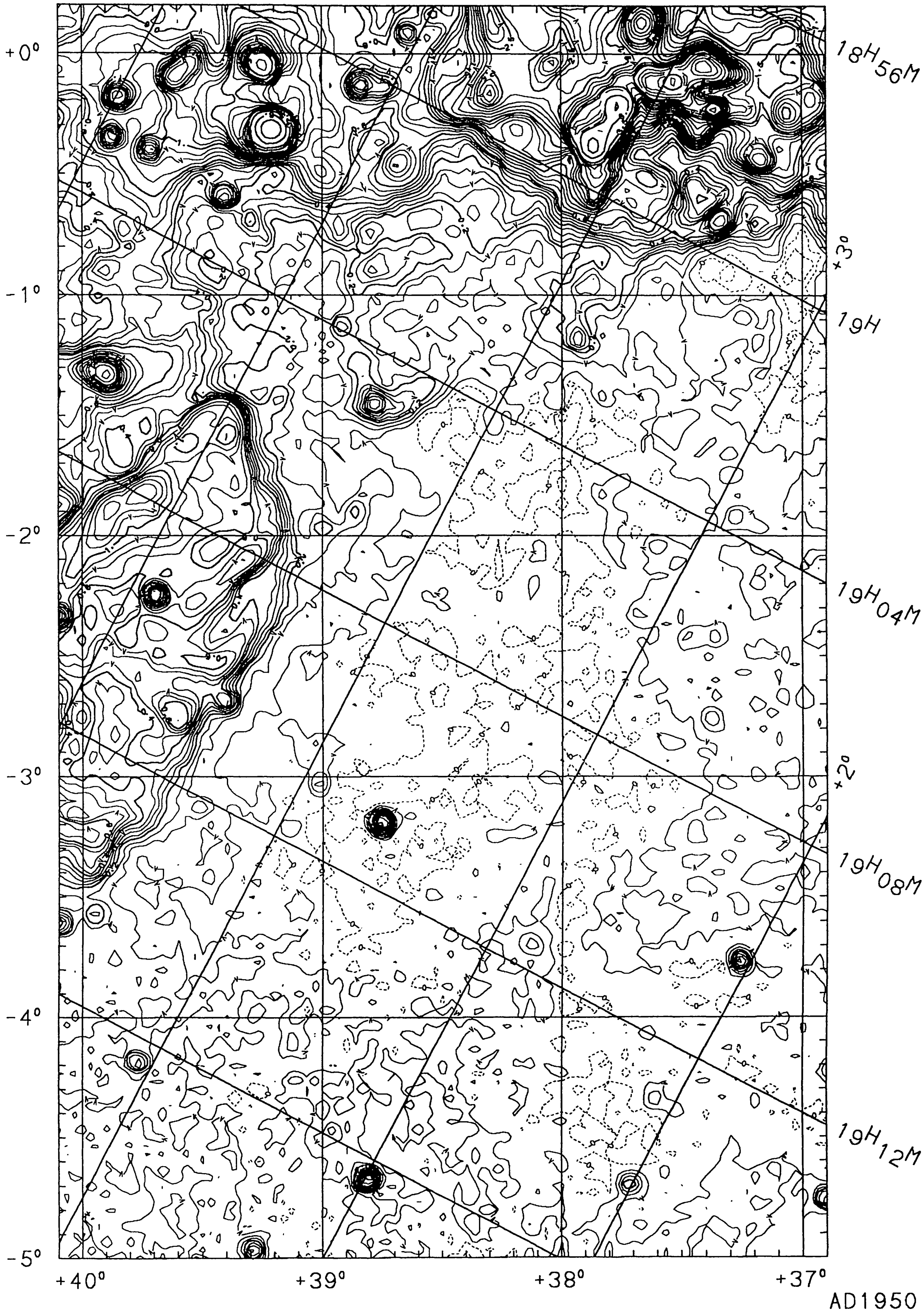
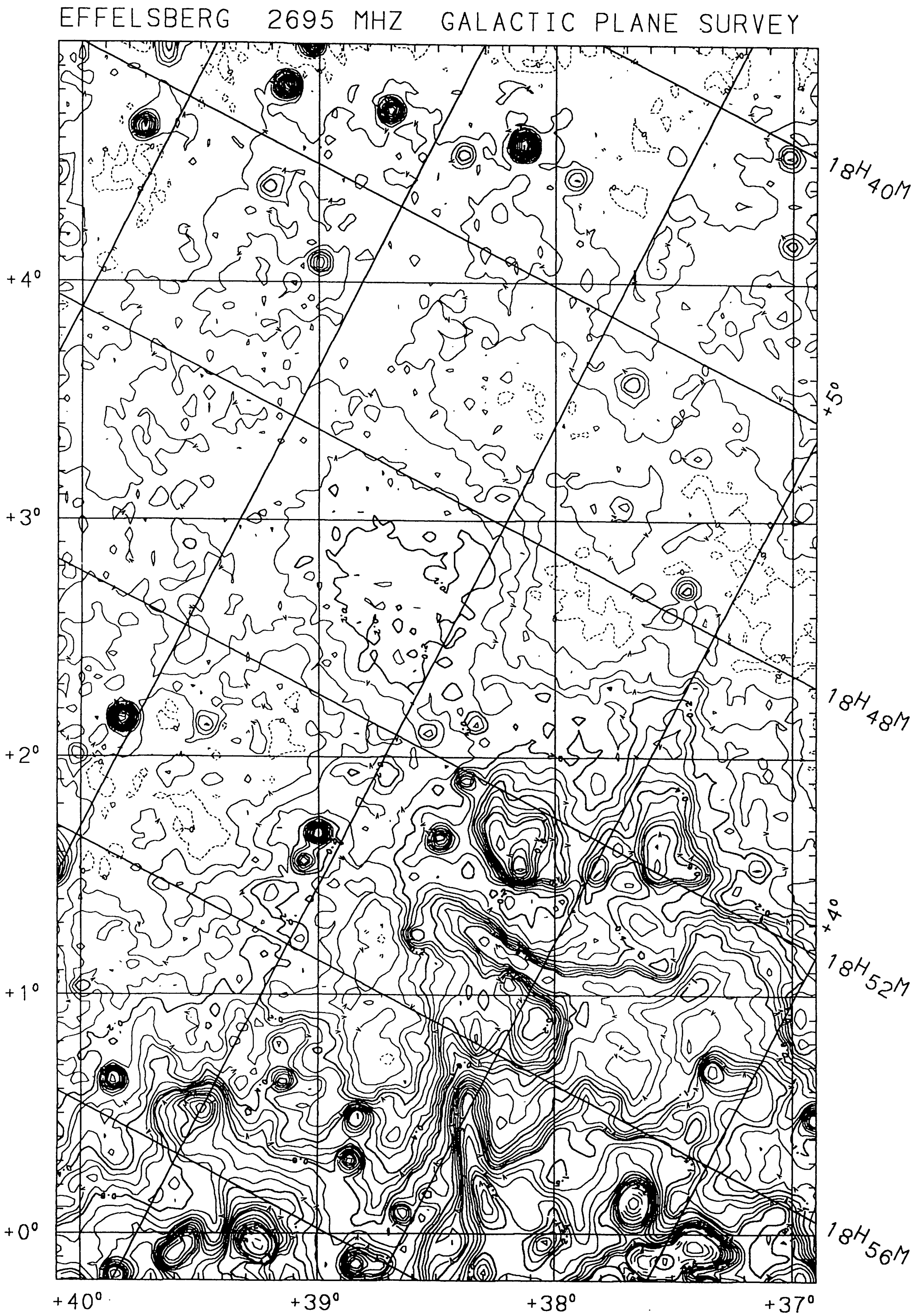


FIGURE 27



EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
18H40M
+5°
18H48M
+4°
18H52M
18H56M
+4°
+3°
+2°
+1°
+0°
+40°
+39°
+38°
+37°
AD1950

FIGURE 28

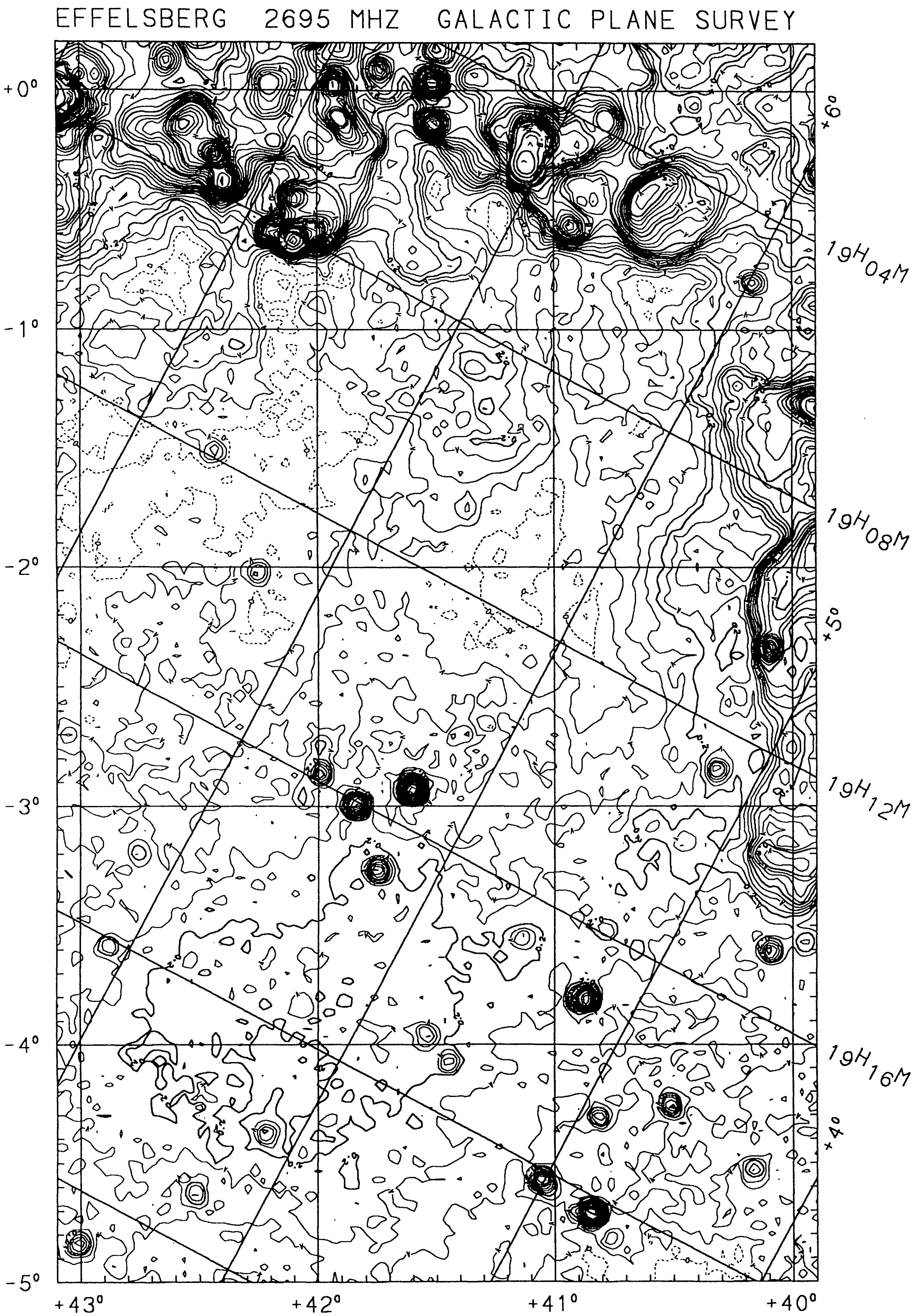

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+43°
+42°
+41°
+40°
AD1950
+6°
19H04M
19H08M
+5°
19H12M
19H16M
+4°

FIGURE 29

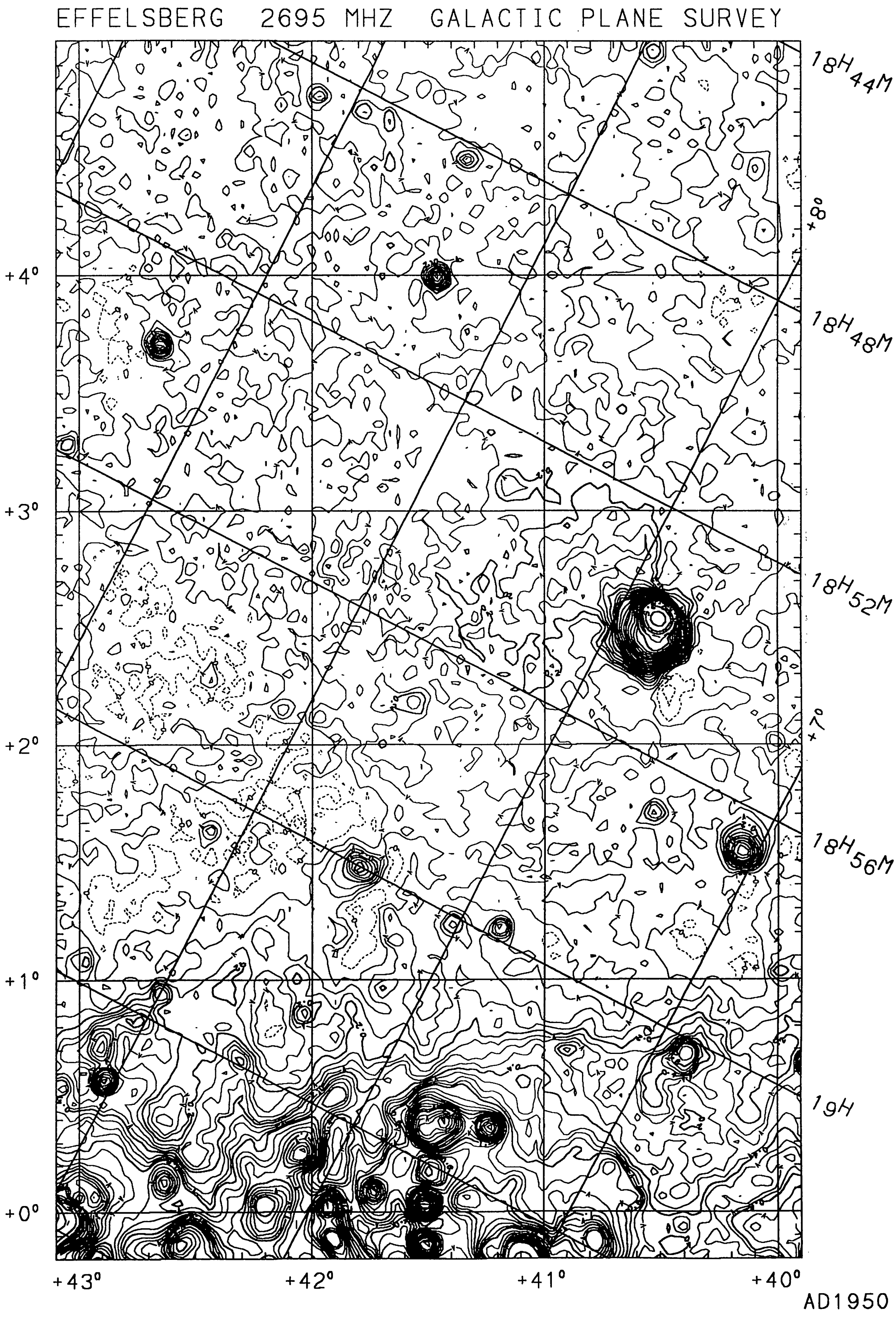

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
18H 44M
18H 48M
18H 52M
18H 56M
19H
+8°
+7°
+4°
+3°
+2°
+1°
+0°
+43°
+42°
+41°
+40°
AD1950

FIGURE 30

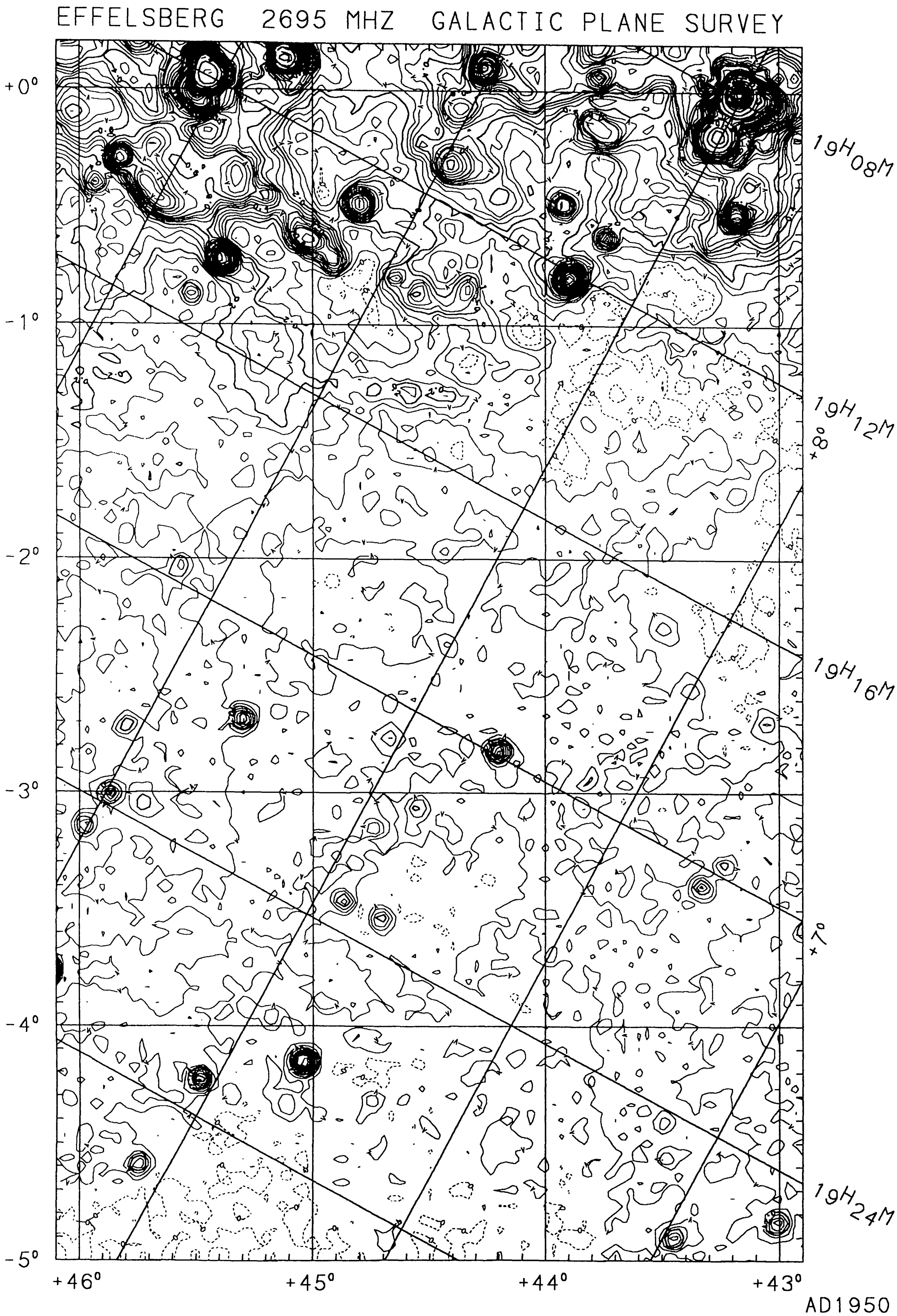

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+46°
+45°
+44°
+43°
AD1950
19H08M
19H12M
19H16M
19H24M
+8°
+7°

FIGURE 31

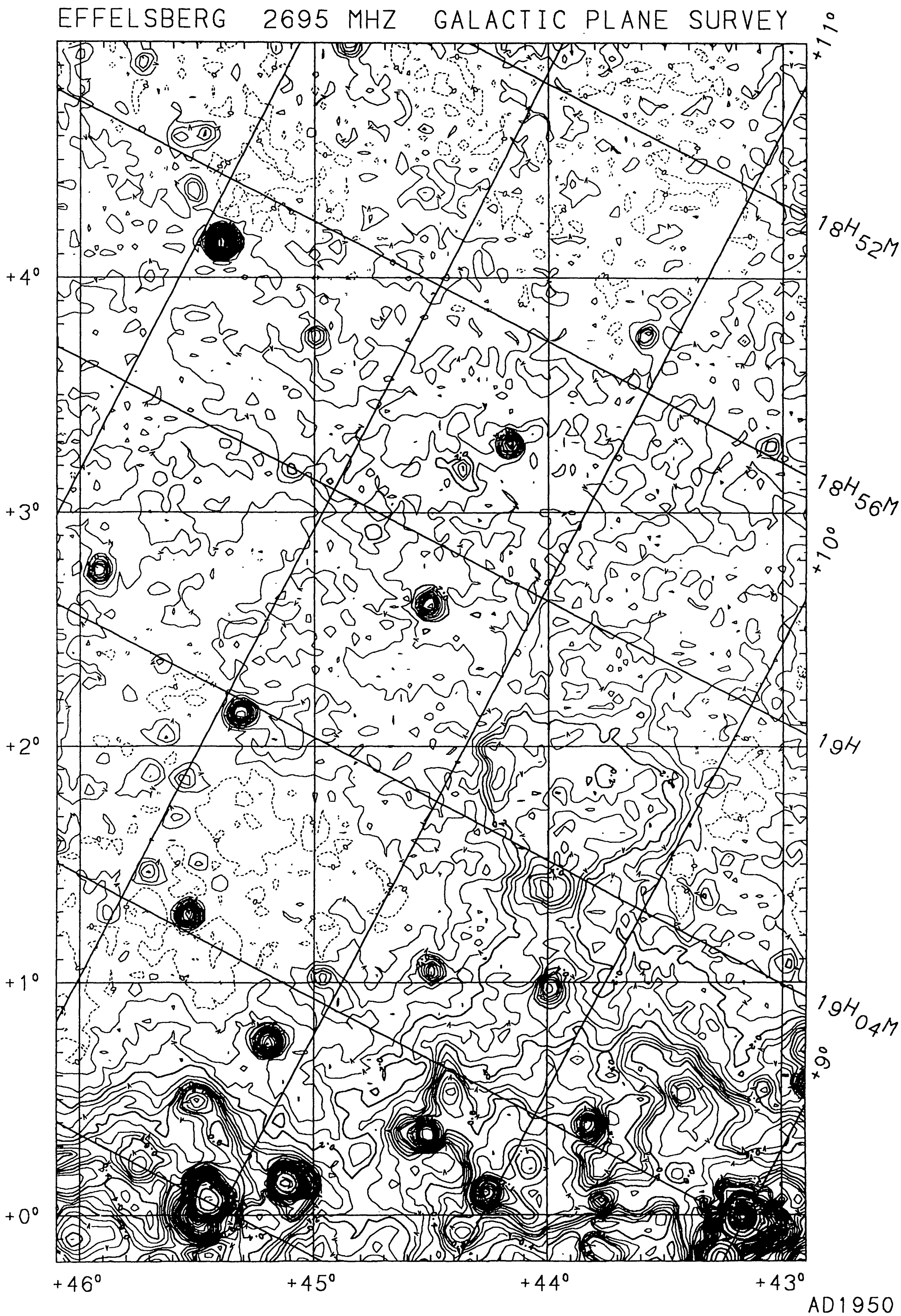

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+11°
18H52M
18H56M
+10°
19H
19H04M
+9°
+4°
+3°
+2°
+1°
+0°
+46°
+45°
+44°
+43°
AD1950

FIGURE 32

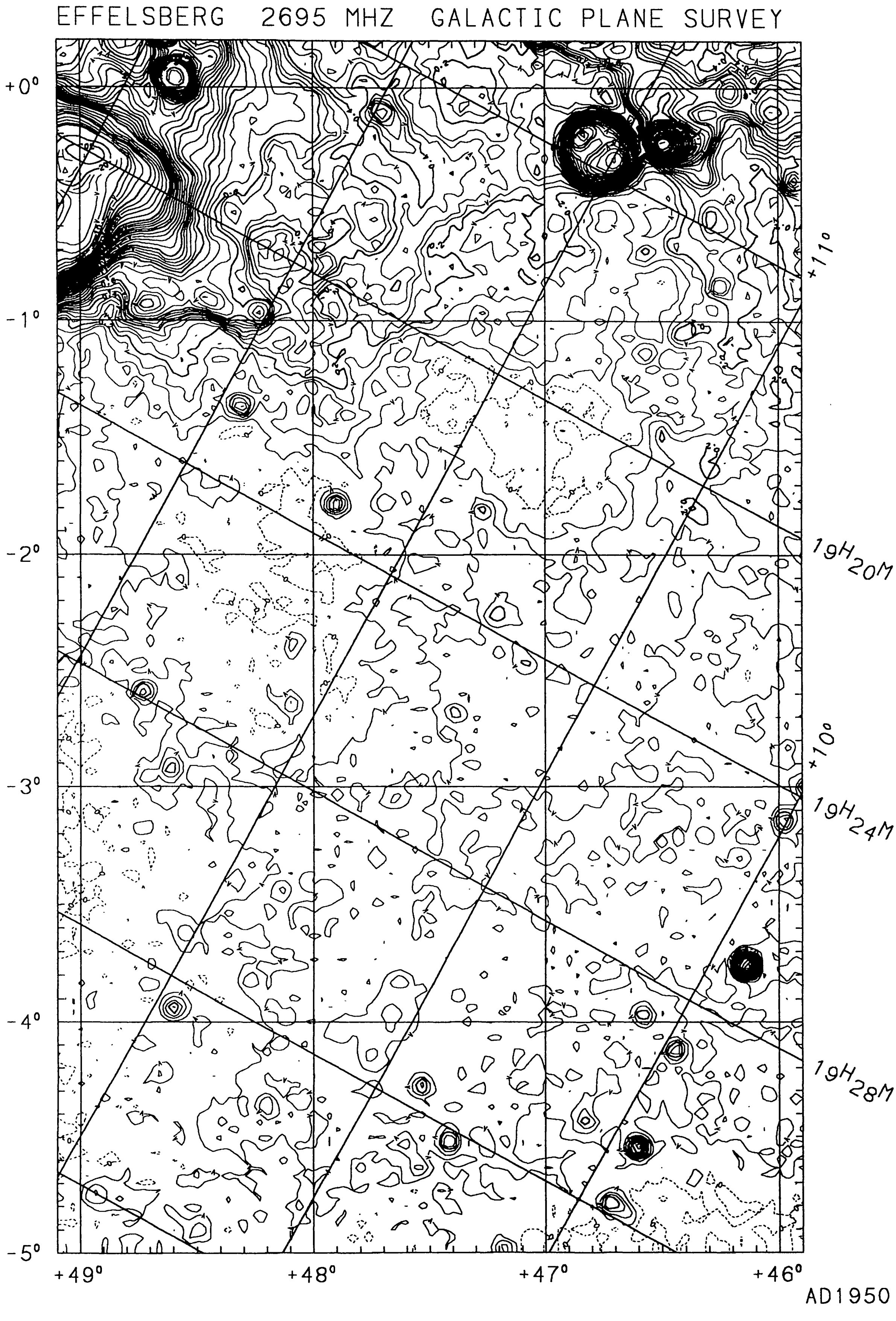

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+49°
+48°
+47°
+46°
+11°
+10°
19H20M
19H24M
19H28M
AD1950

FIGURE 33

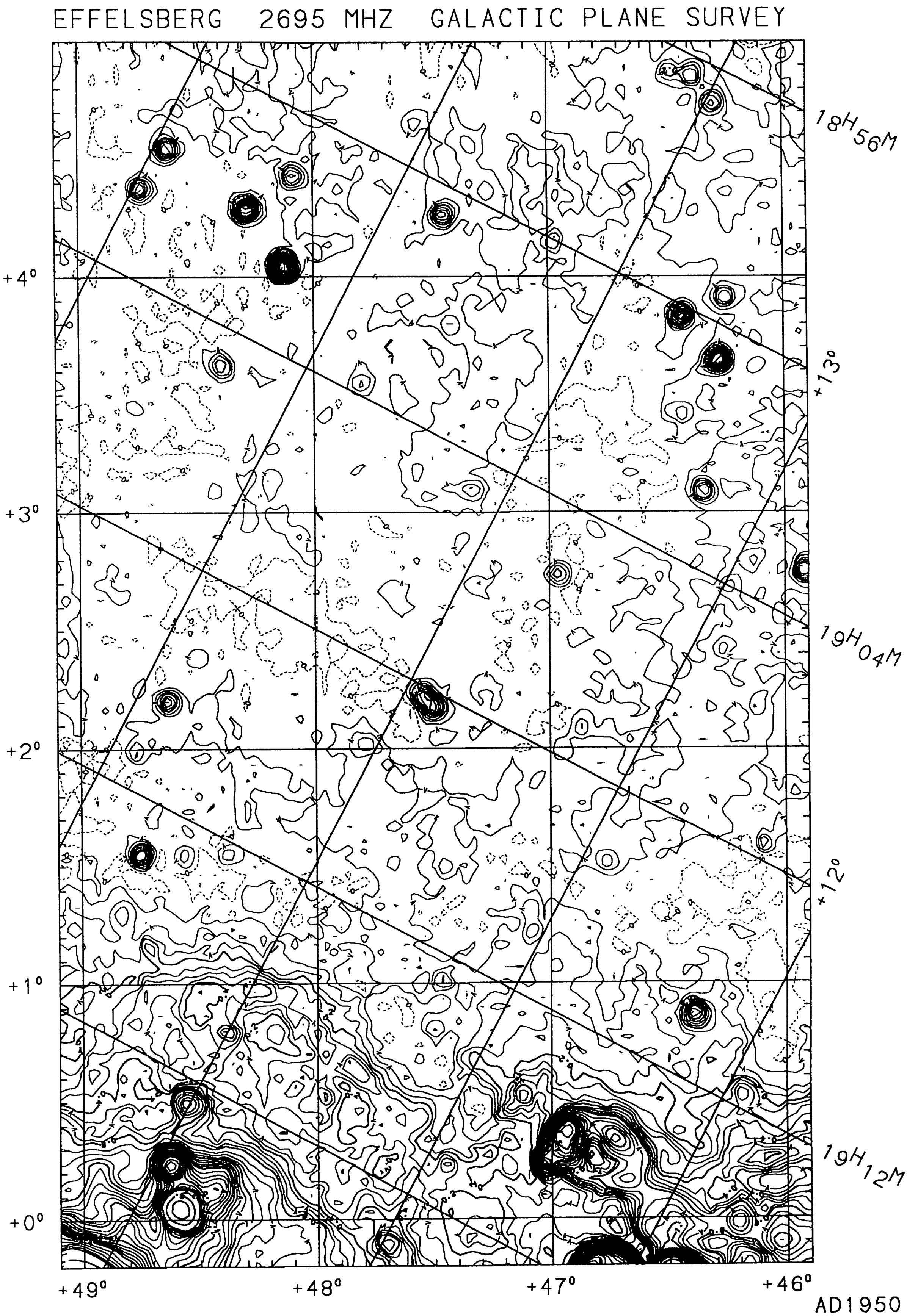

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
18H56M
19H04M
19H12M
+13°
+12°
+4°
+3°
+2°
+1°
+0°
+49°
+48°
+47°
+46°
AD1950

FIGURE 34

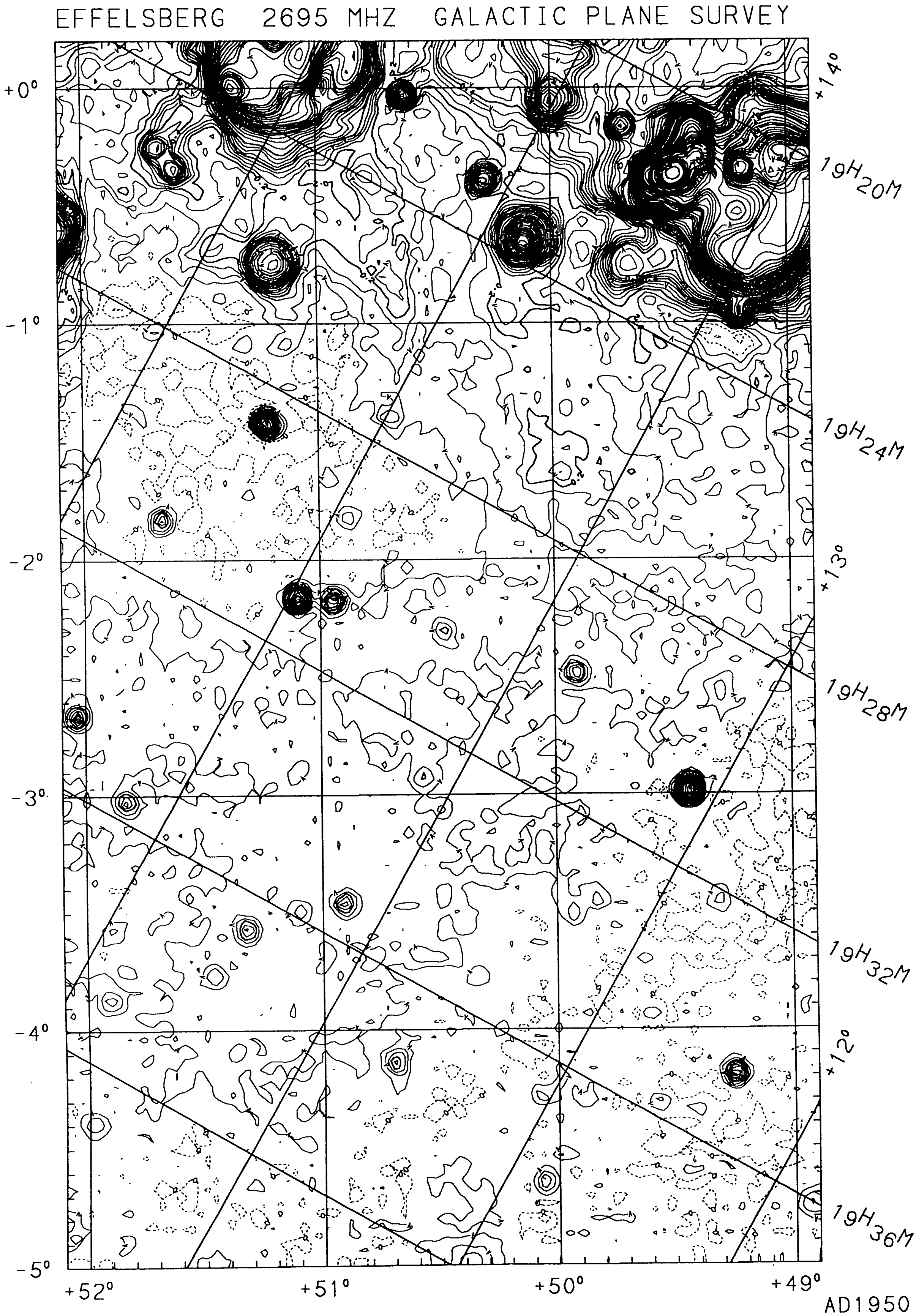

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+52°
+51°
+50°
+49°
+14°
+13°
+12°
19H20M
19H24M
19H28M
19H32M
19H36M
AD1950

FIGURE 35

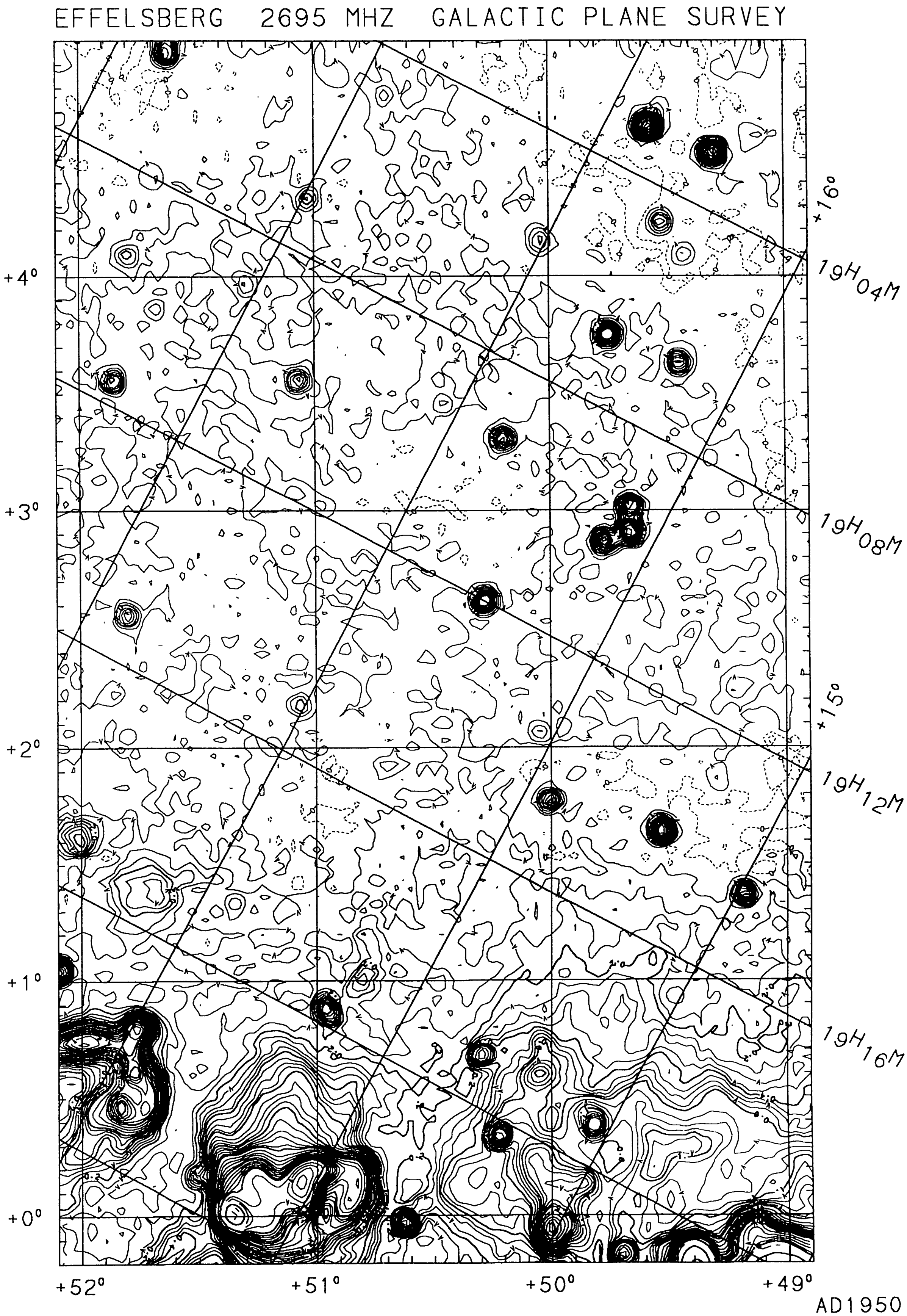

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+52°
+51°
+50°
+49°
AD1950
+16°
+15°
19H04M
19H08M
19H12M
19H16M

FIGURE 36

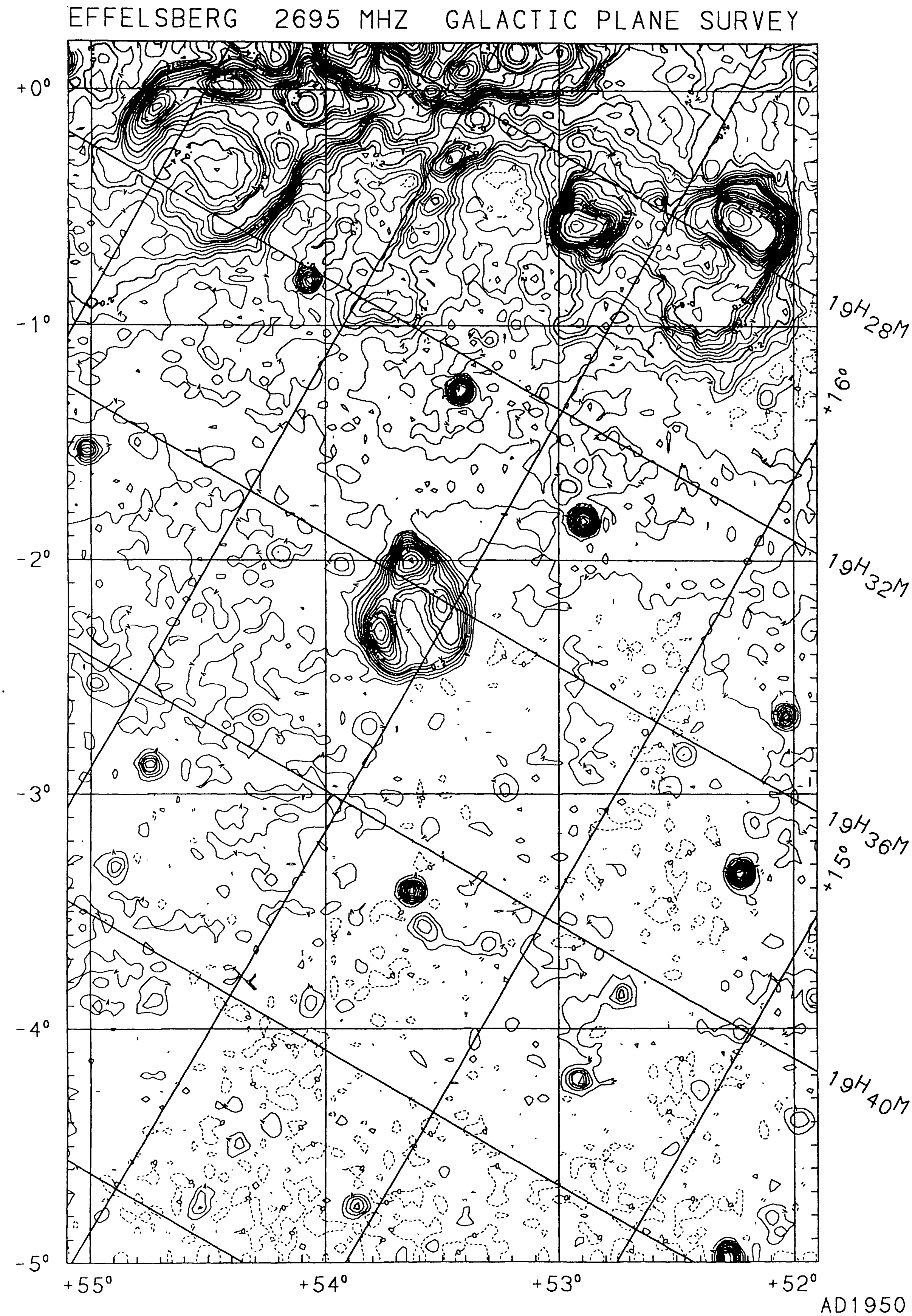

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+55°
+54°
+53°
+52°
19H28M
19H32M
19H36M
19H40M
+16°
+15°
AD1950

FIGURE 37

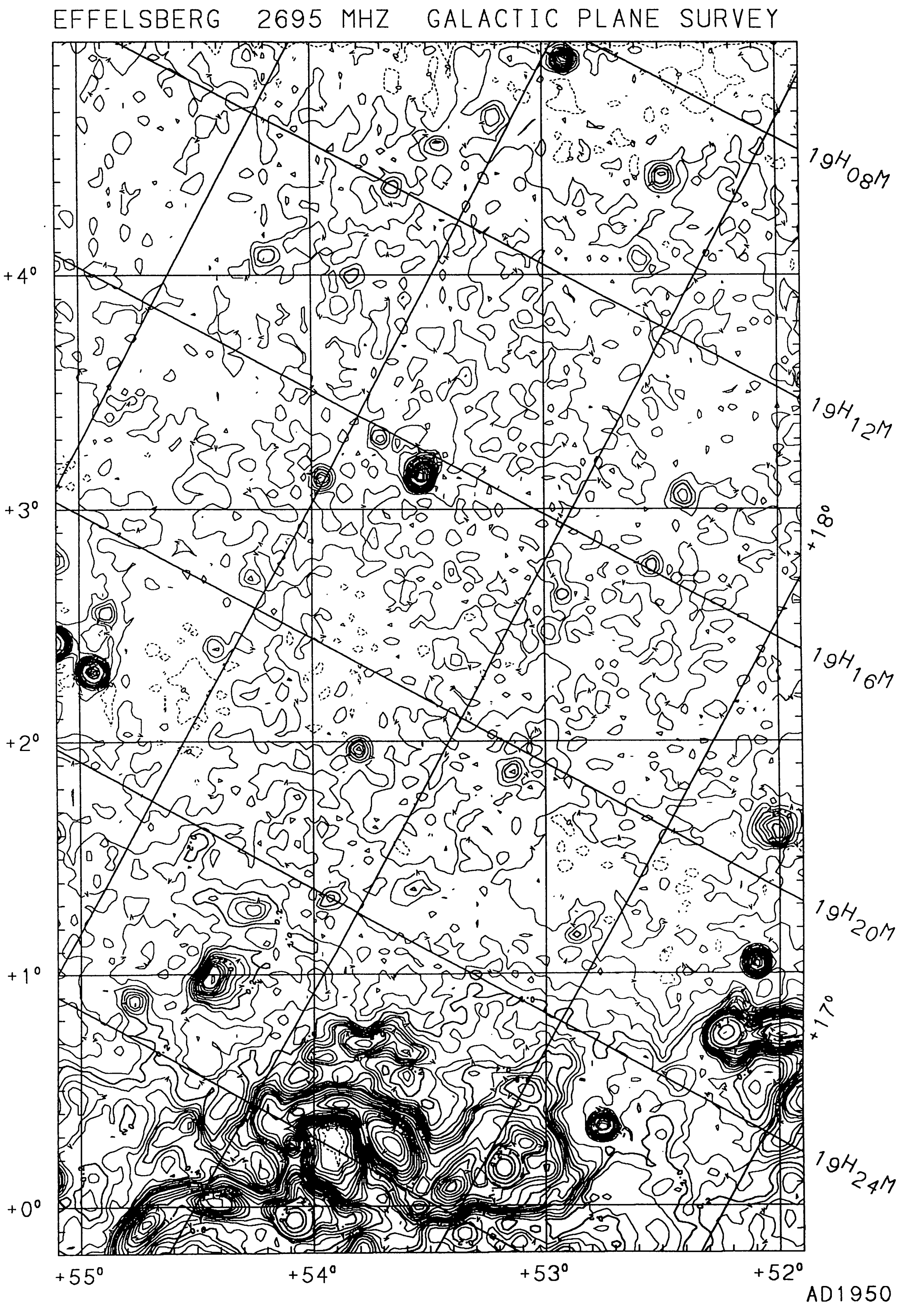

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
19H08M
19H12M
19H16M
19H20M
19H24M
+18°
+17°
+4°
+3°
+2°
+1°
+0°
+55°
+54°
+53°
+52°
AD1950

FIGURE 38

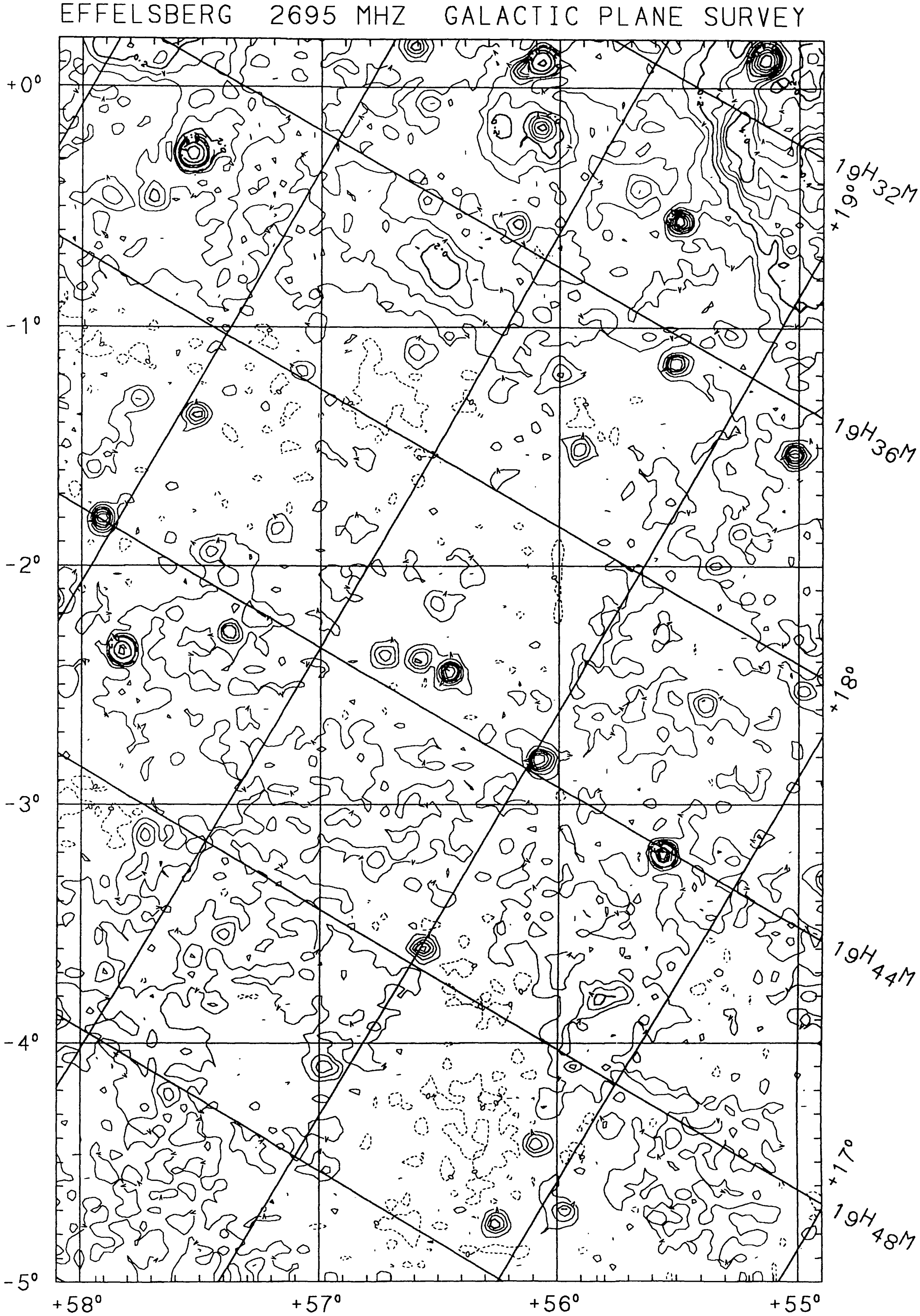

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+58°
+57°
+56°
+55°
19H32M
19H36M
19H44M
19H48M
+19°
+18°
+17°
AD1950

FIGURE 39

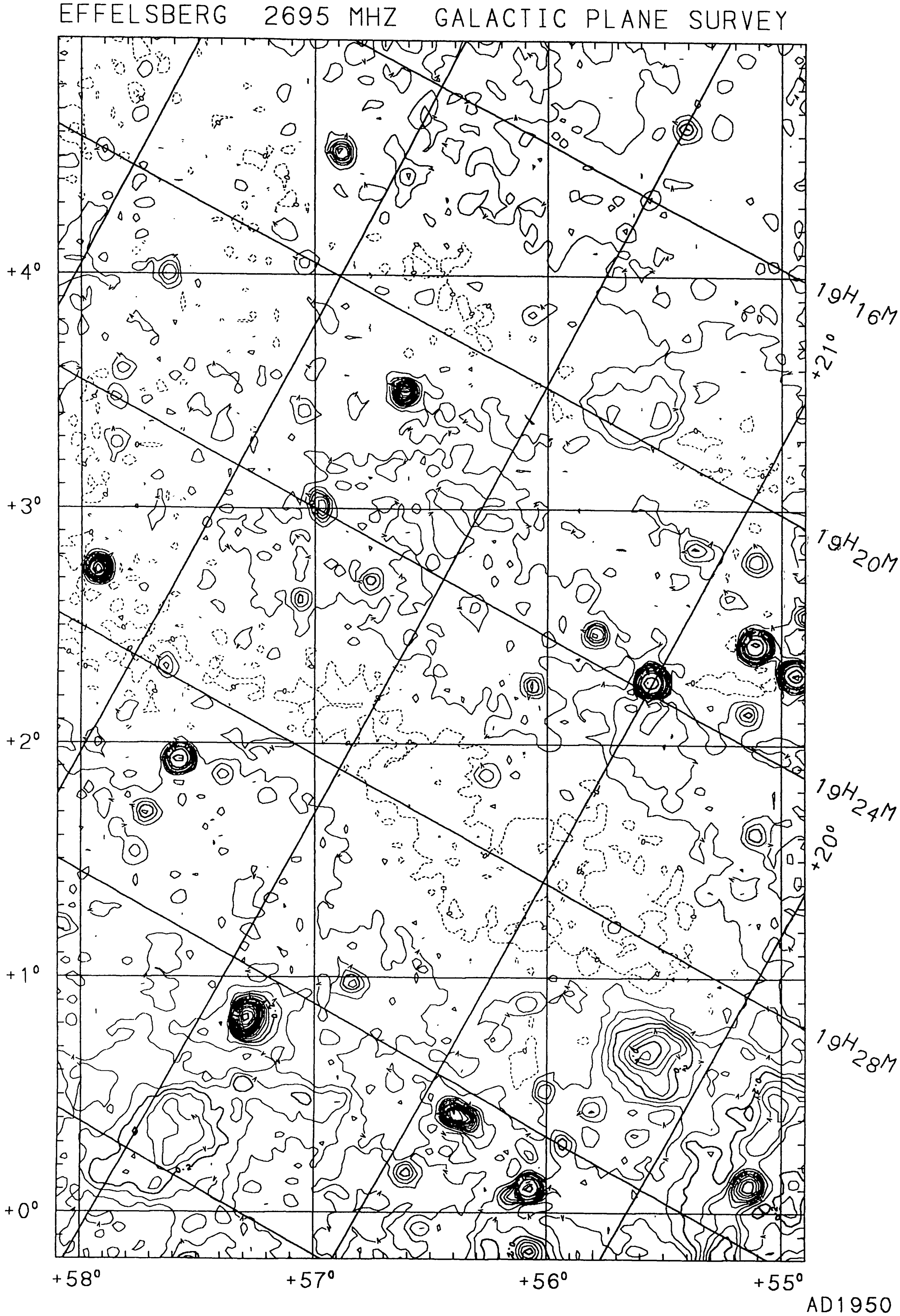

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+58°
+57°
+56°
+55°
19H16M
+21°
19H20M
19H24M
+20°
19H28M
AD1950

FIGURE 40

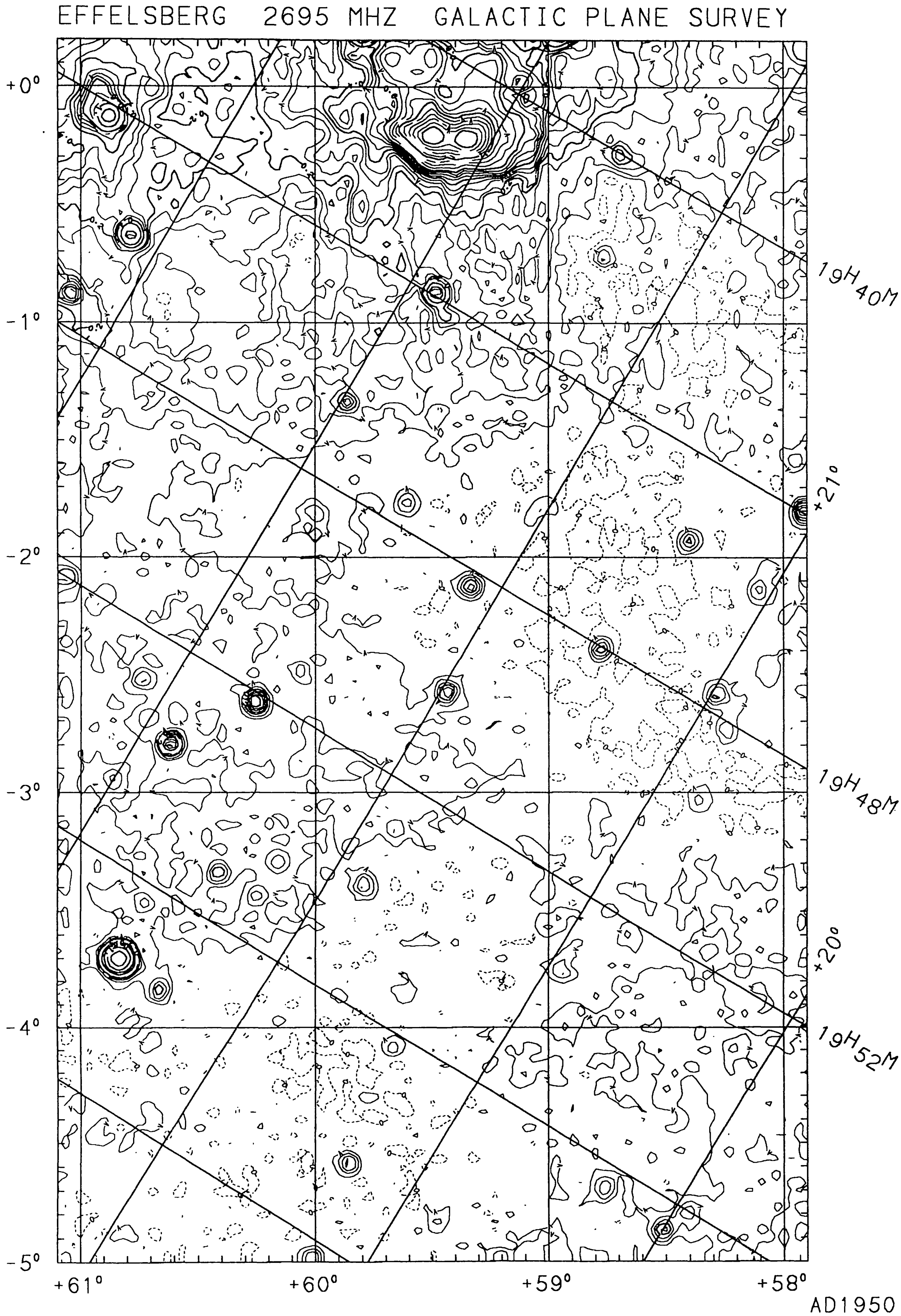

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+61°
+60°
+59°
+58°
19H 40M
+21°
19H 48M
+20°
19H 52M
AD1950

FIGURE 41

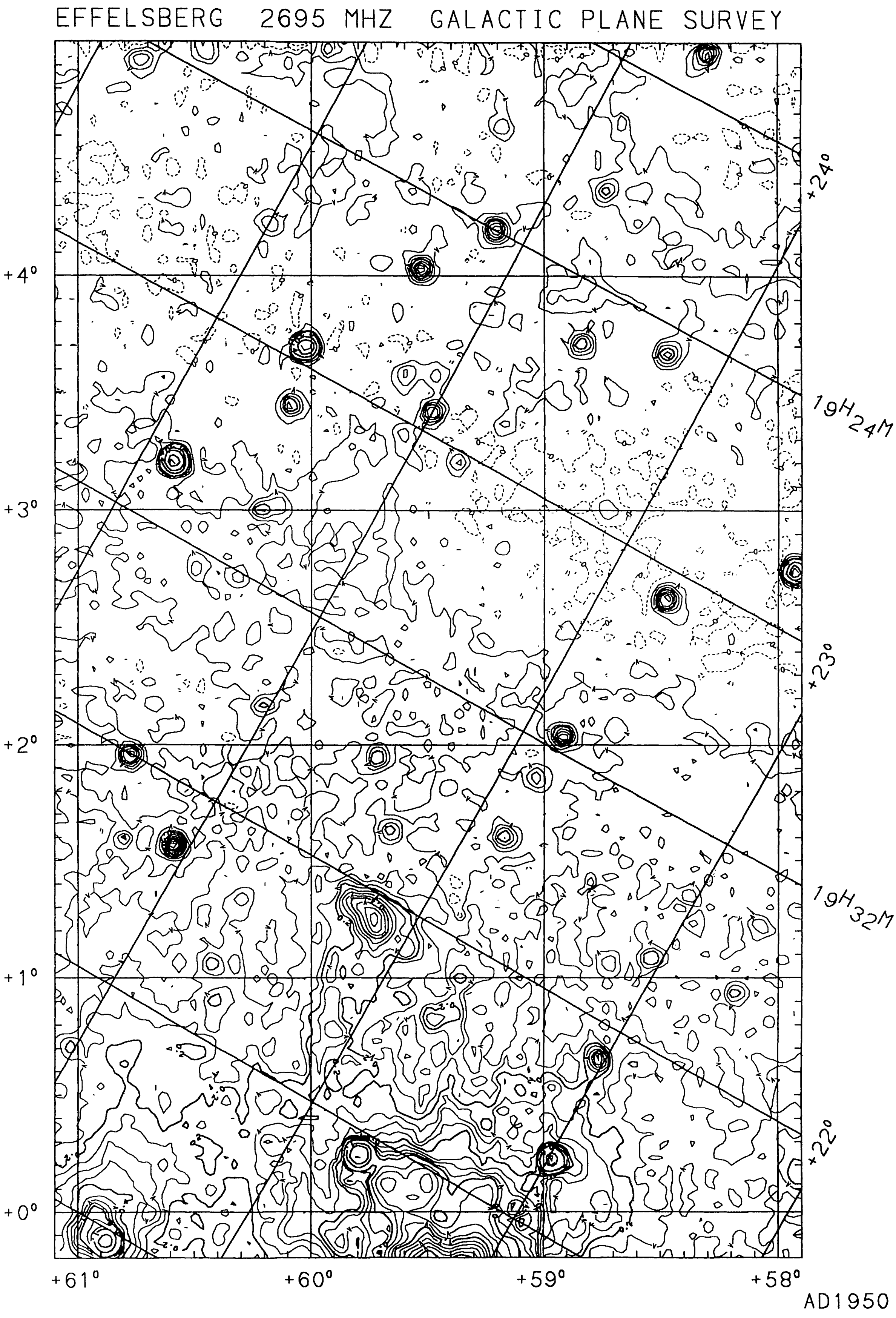

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+61°
+60°
+59°
+58°
AD1950
+24°
19H24M
+23°
19H32M
+22°

FIGURE 42

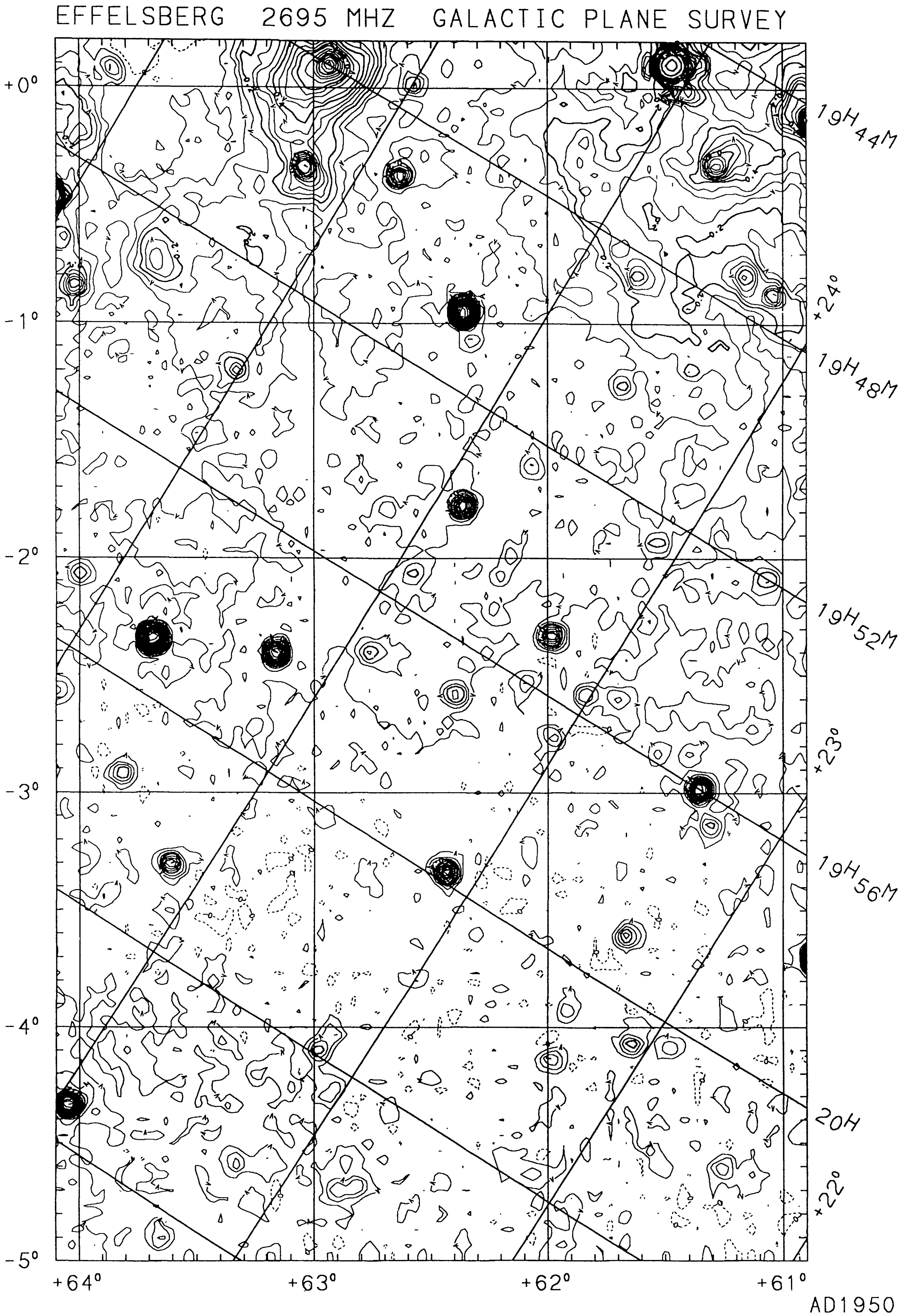

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+64°
+63°
+62°
+61°
19H 44M
19H 48M
19H 52M
19H 56M
20H
+24°
+23°
+22°
AD1950

FIGURE 43

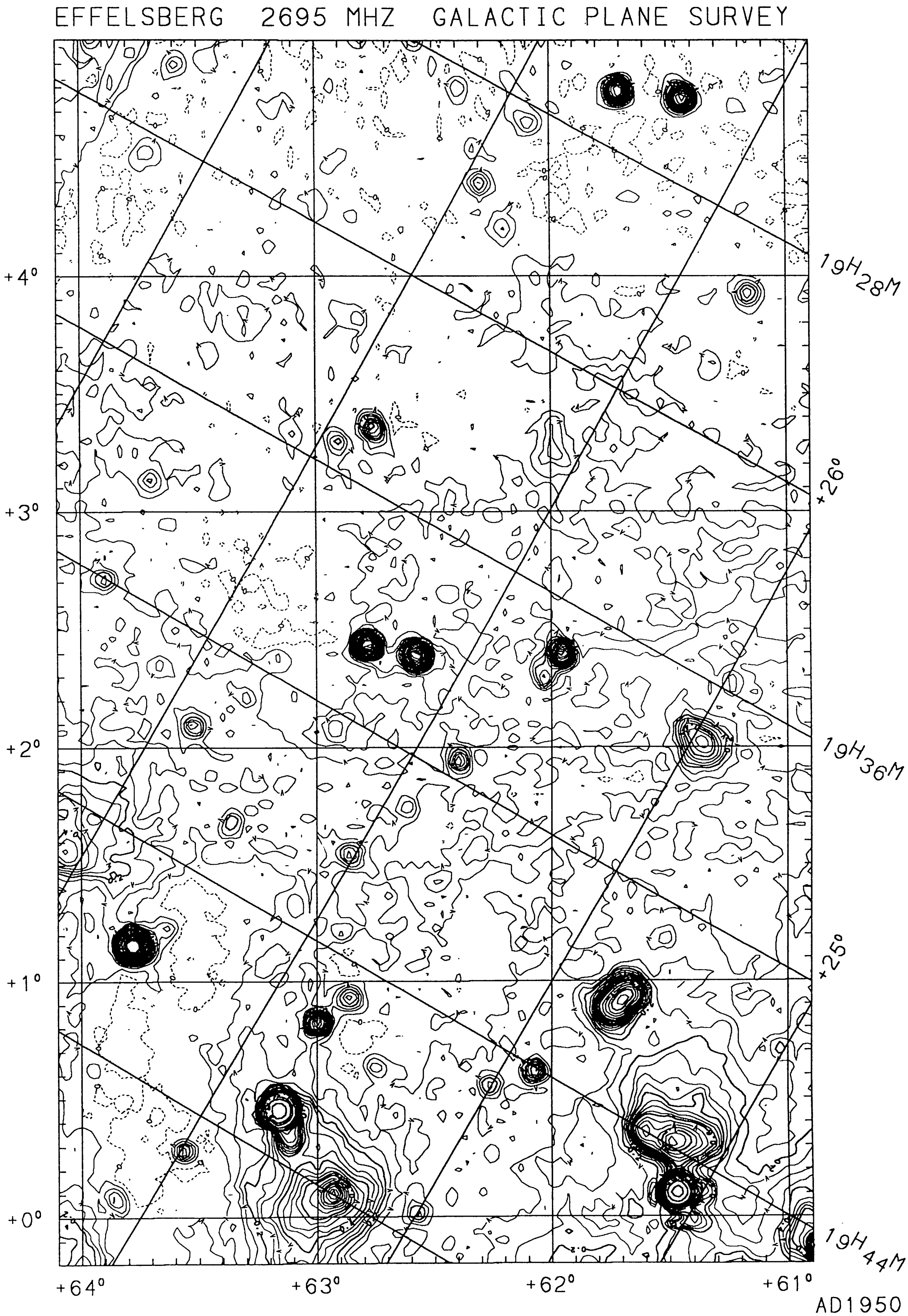
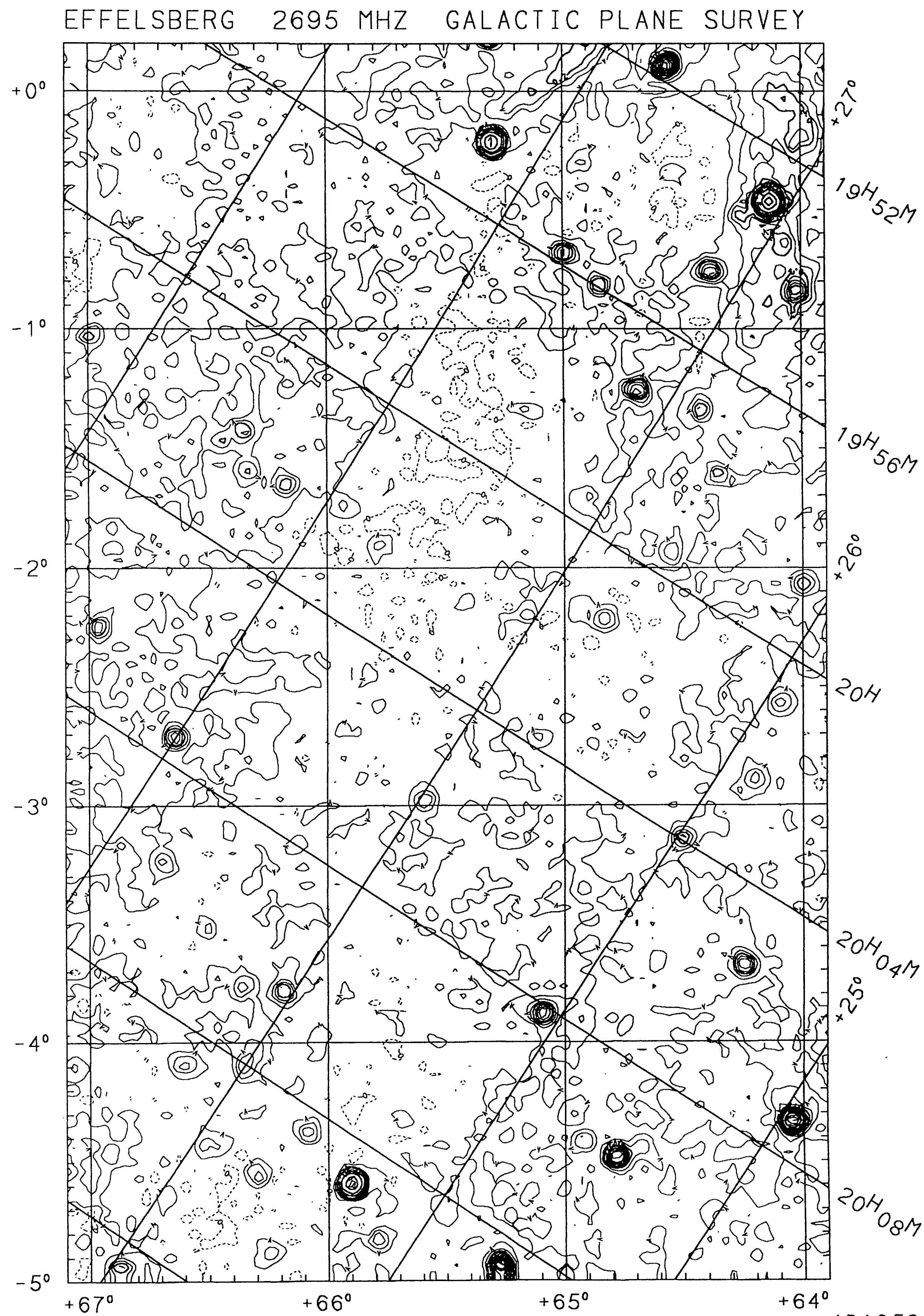
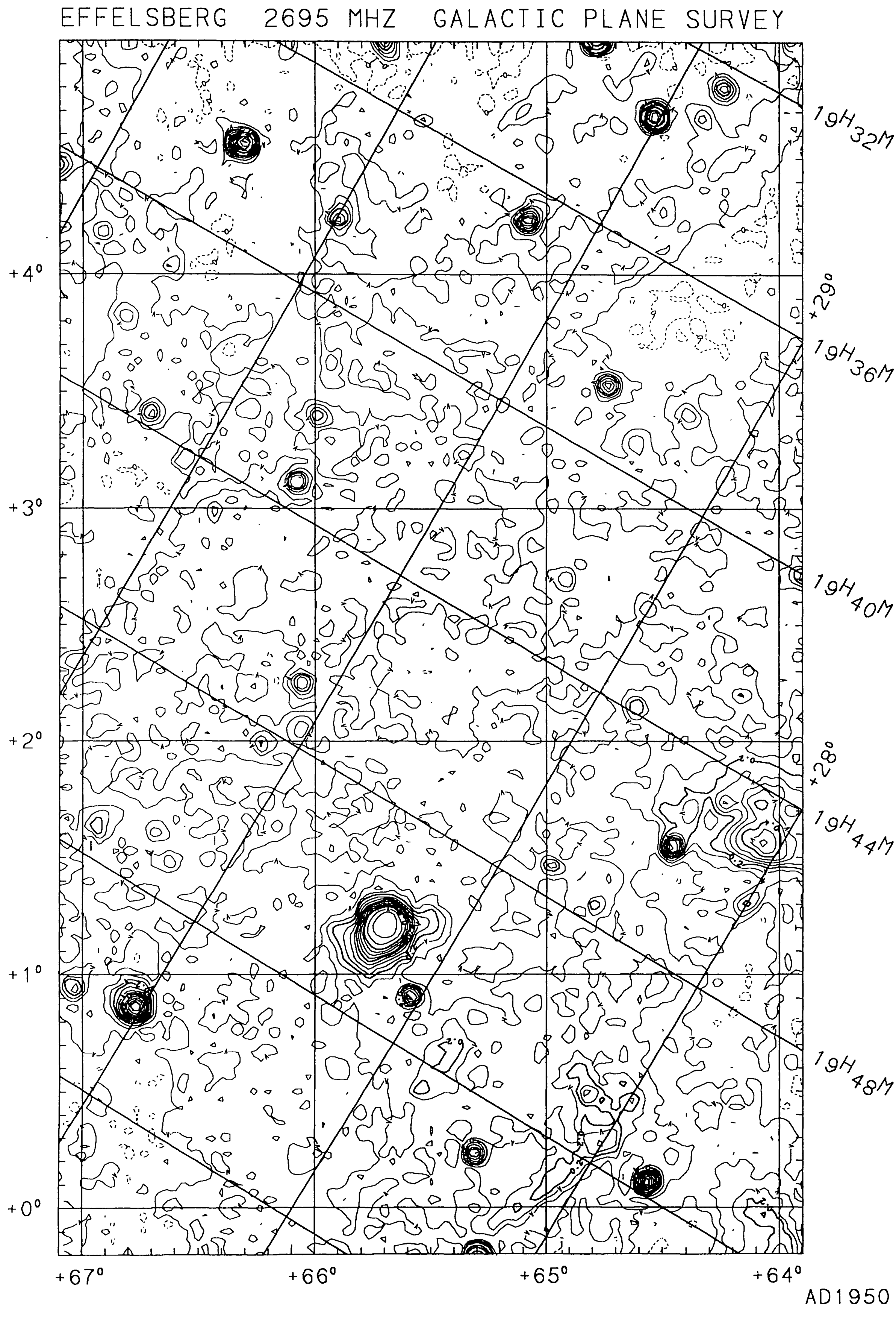

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+64°
+63°
+62°
+61°
19H28M
+26°
19H36M
+25°
19H44M
AD1950

FIGURE 44



EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+67°
+66°
+65°
+64°
+27°
19H52M
19H56M
+26°
20H
20H04M
+25°
20H08M
AD1950

FIGURE 45



EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
19H32M
+29°
19H36M
19H40M
+28°
19H44M
19H48M
+4°
+3°
+2°
+1°
+0°
+67°
+66°
+65°
+64°
AD1950

FIGURE 46

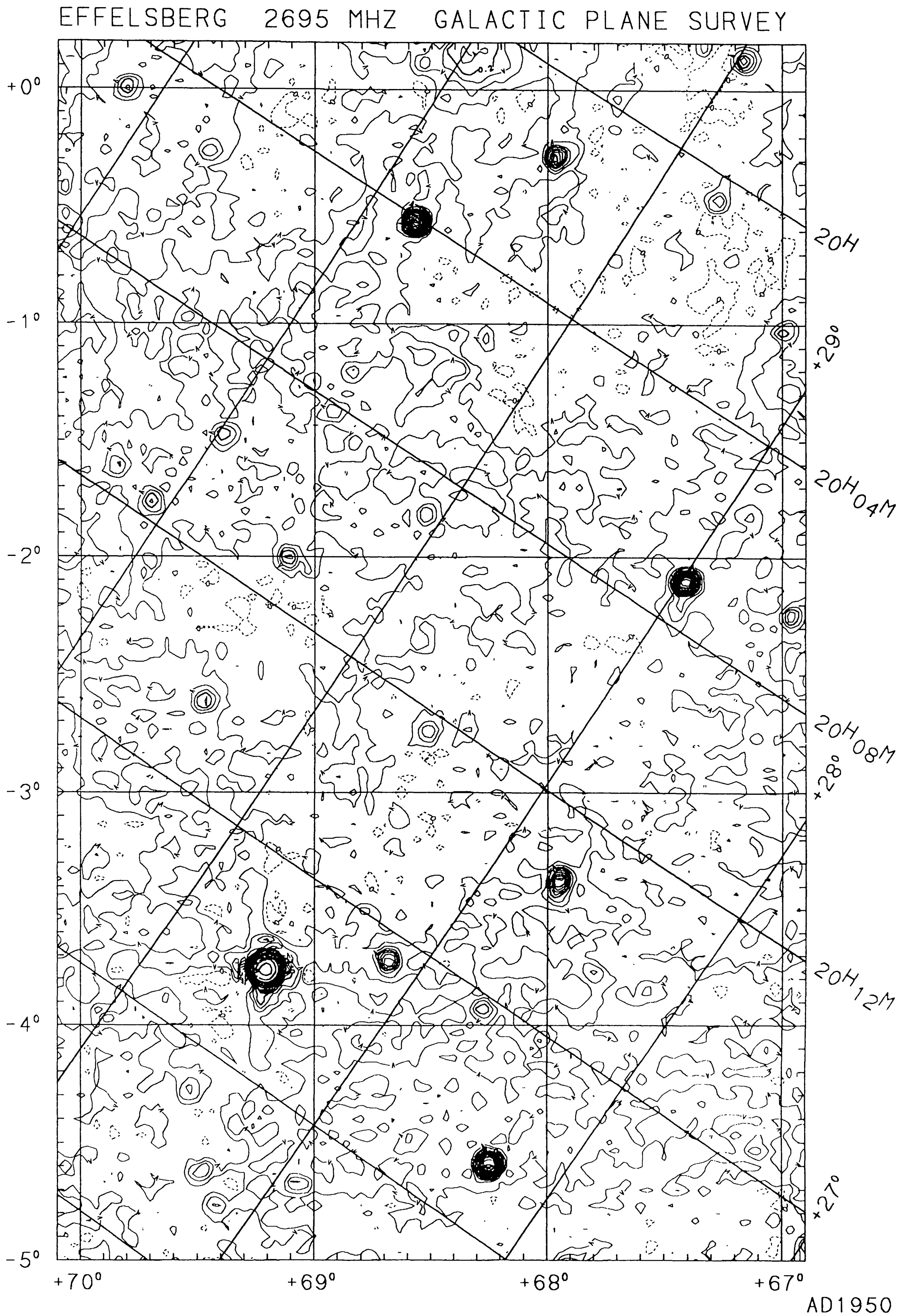

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+70°
+69°
+68°
+67°
AD1950
20H
20H04M
20H08M
20H12M
+29°
+28°
+27°

FIGURE 47

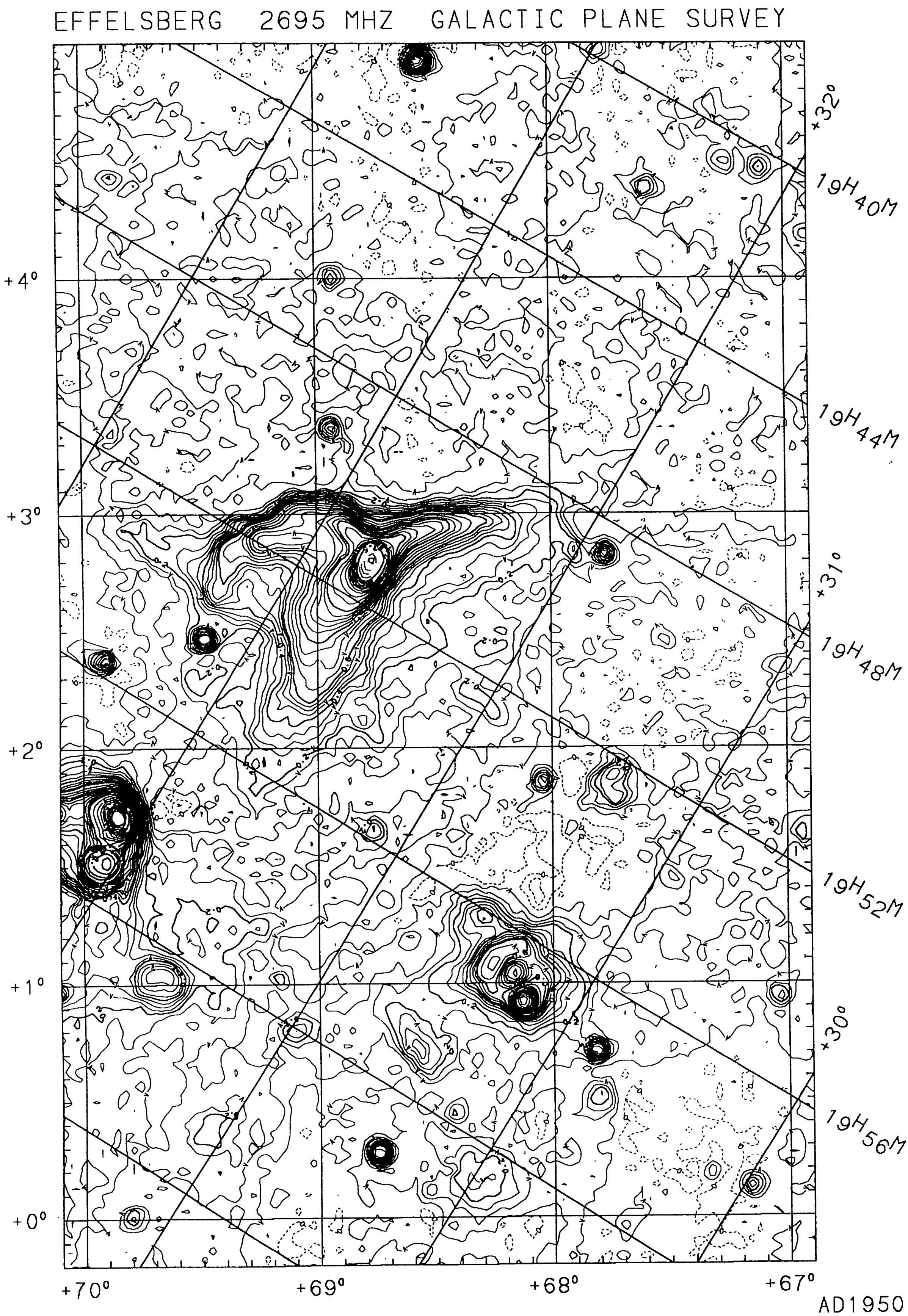

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+70°
+69°
+68°
+67°
+32°
19H40M
19H44M
+31°
19H48M
19H52M
+30°
19H56M
AD1950

FIGURE 48

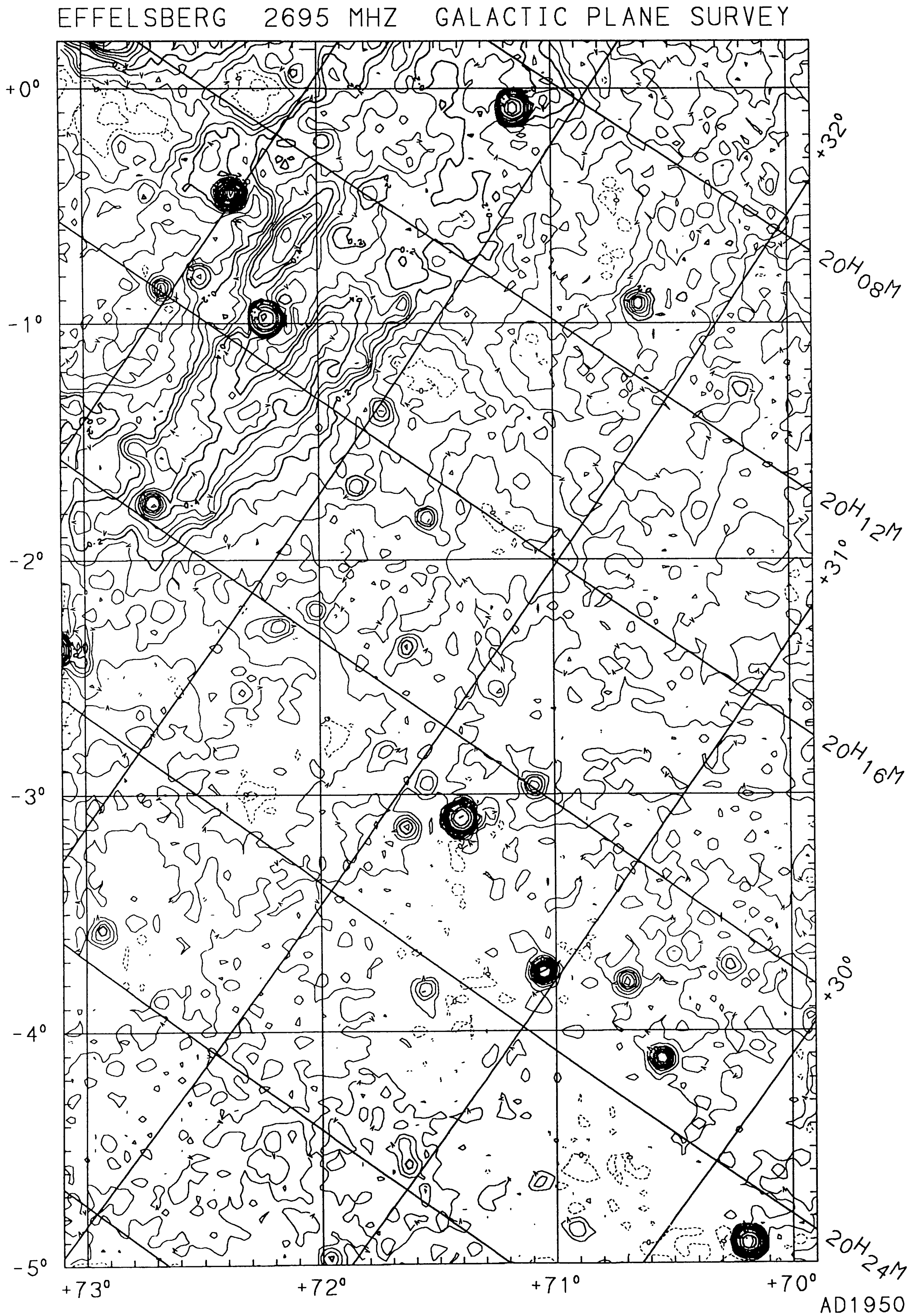

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+73°
+72°
+71°
+70°
AD1950
+32°
20H08M
20H12M
+31°
20H16M
+30°
20H24M

FIGURE 49

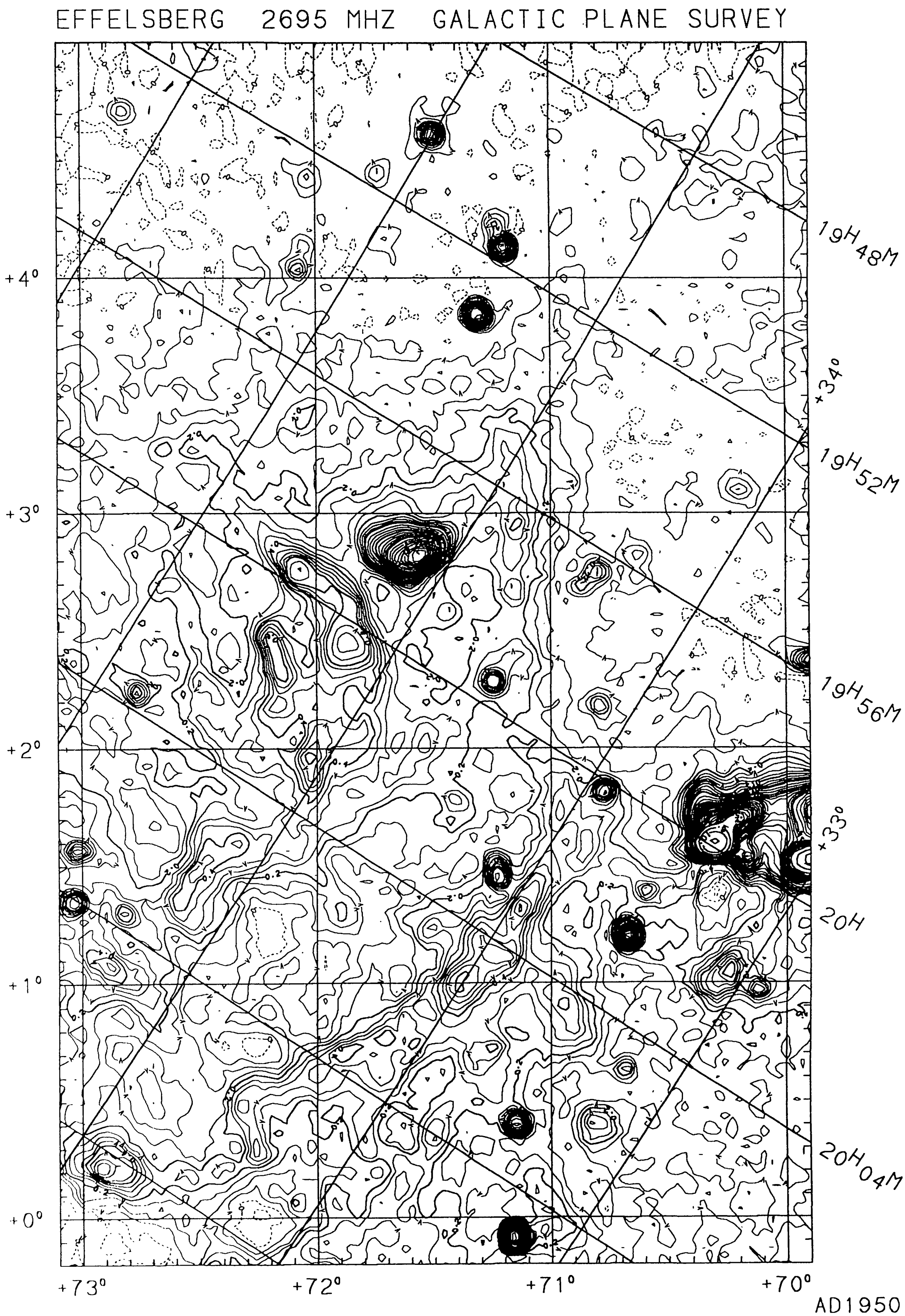

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+73°
+72°
+71°
+70°
19H48M
19H52M
19H56M
20H
20H04M
+34°
+33°
AD1950

FIGURE 50

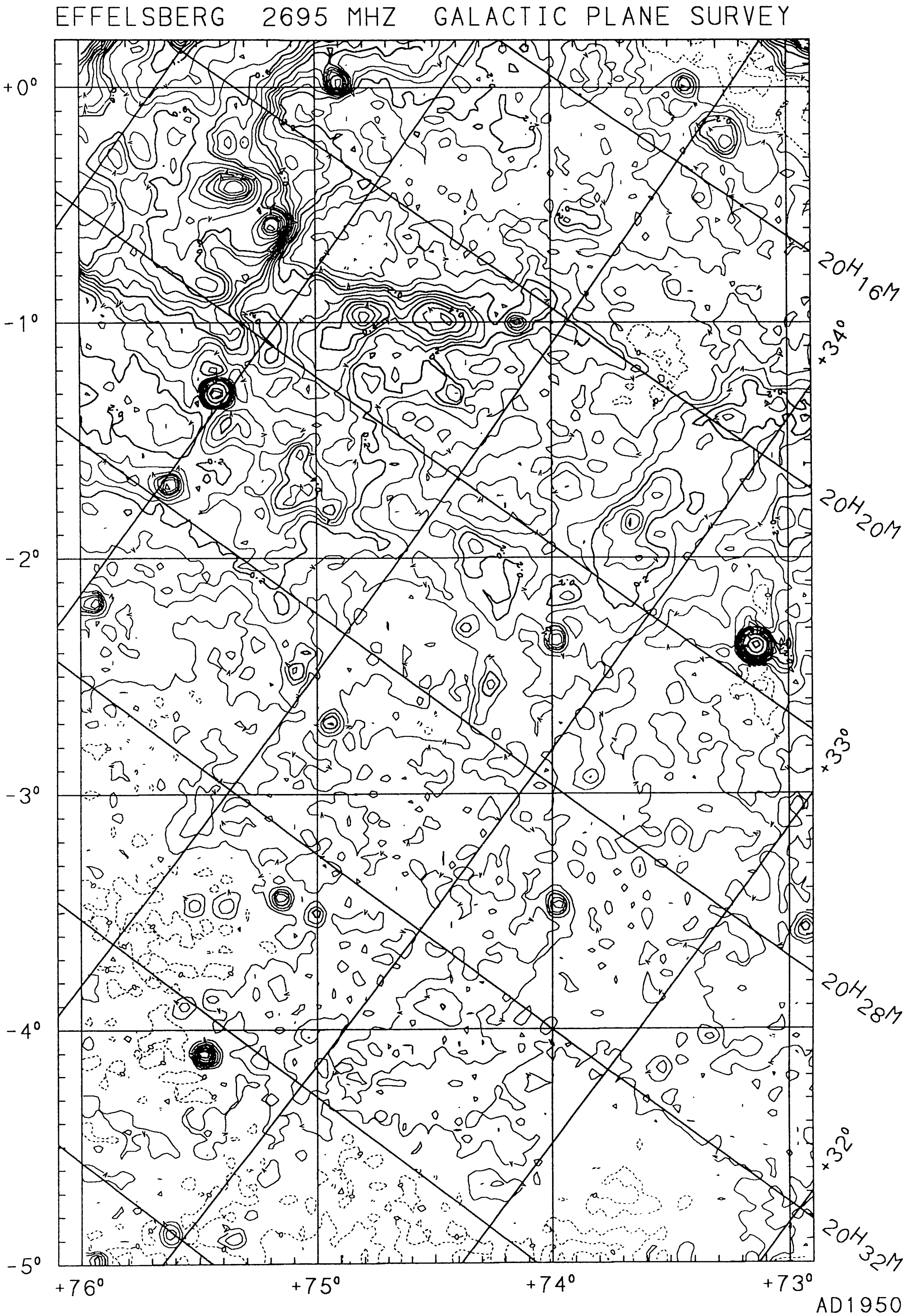

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+0°
-1°
-2°
-3°
-4°
-5°
+76°
+75°
+74°
+73°
20H16M
+34°
20H20M
+33°
20H28M
+32°
20H32M
AD1950

FIGURE 51

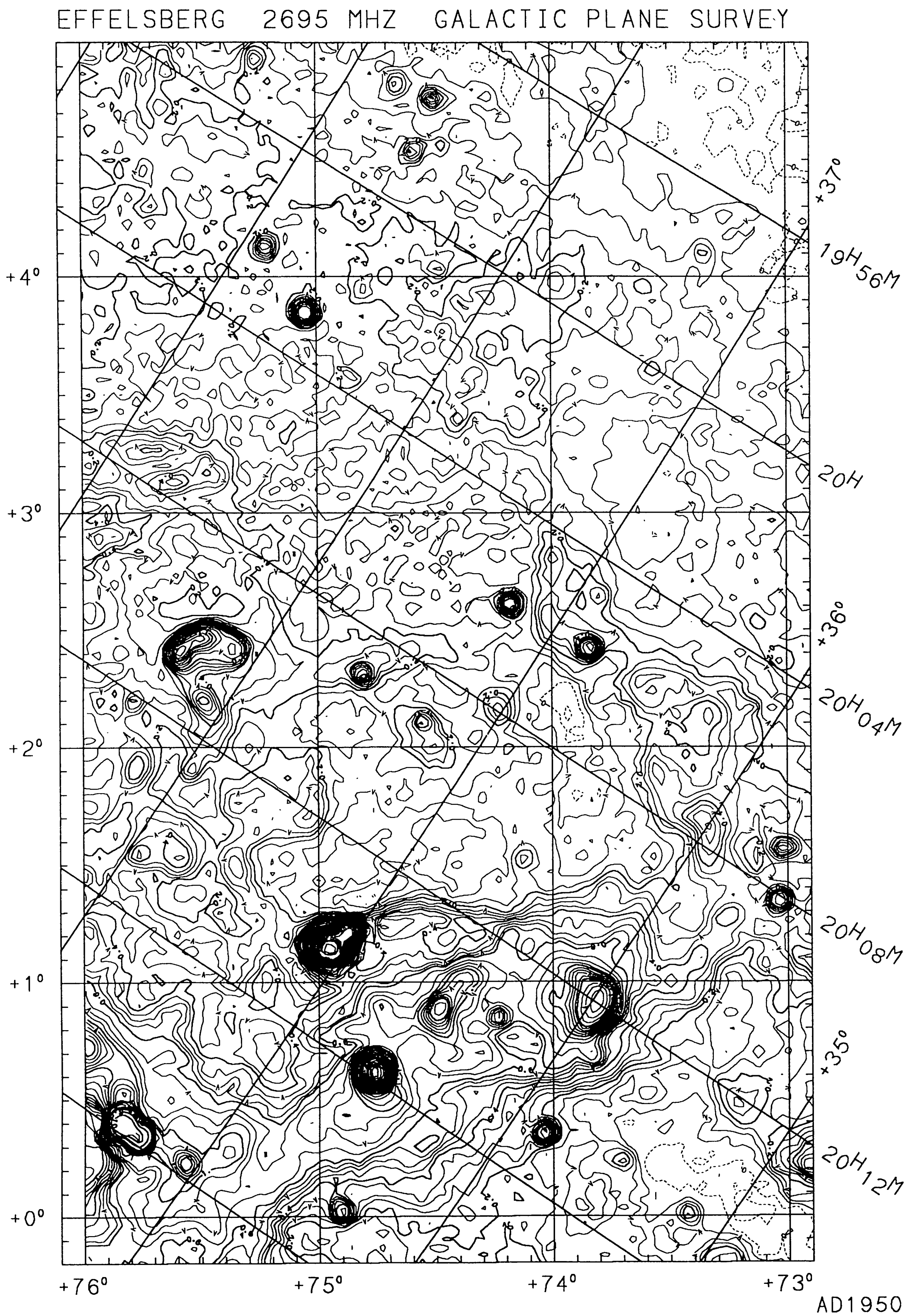

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+3°
+2°
+1°
+0°
+76°
+75°
+74°
+73°
AD1950
+37°
19H56M
20H
+36°
20H04M
20H08M
+35°
20H12M

FIGURE 52

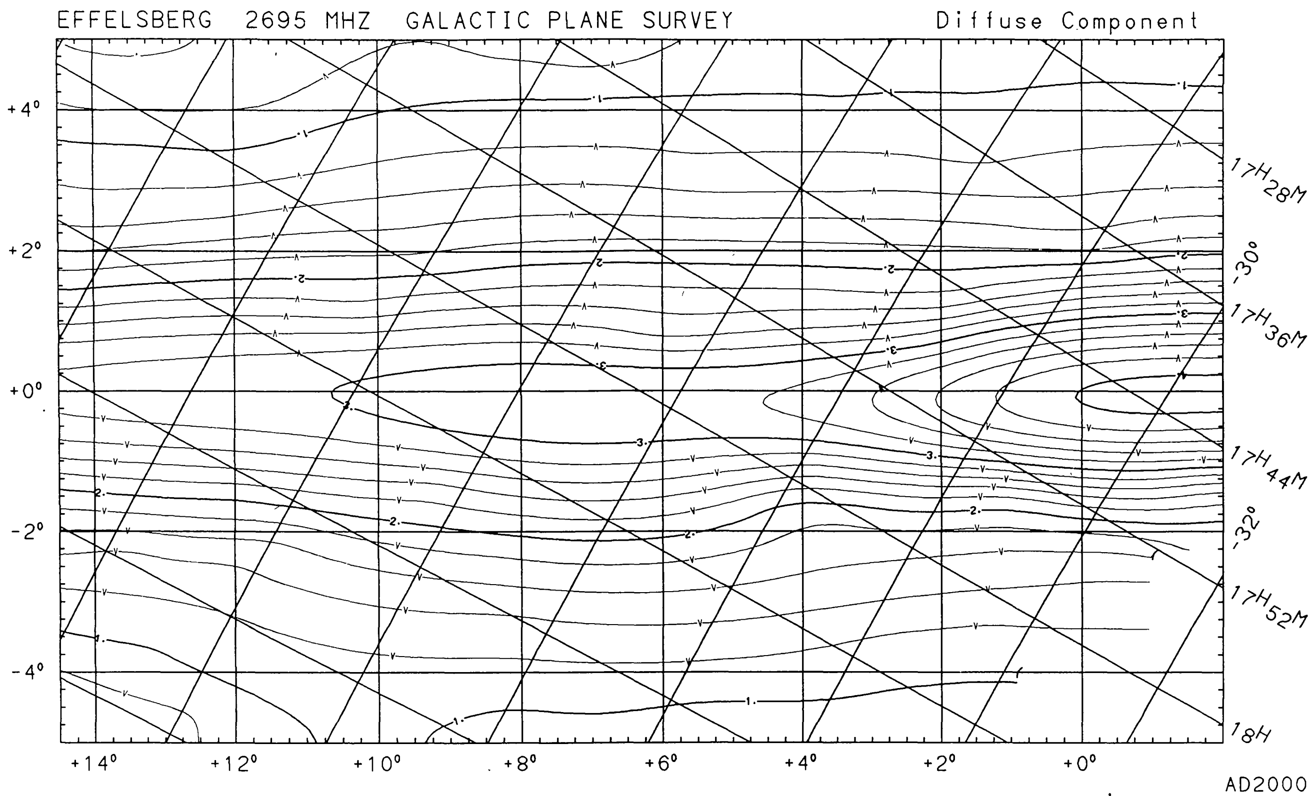


FIGURE 53

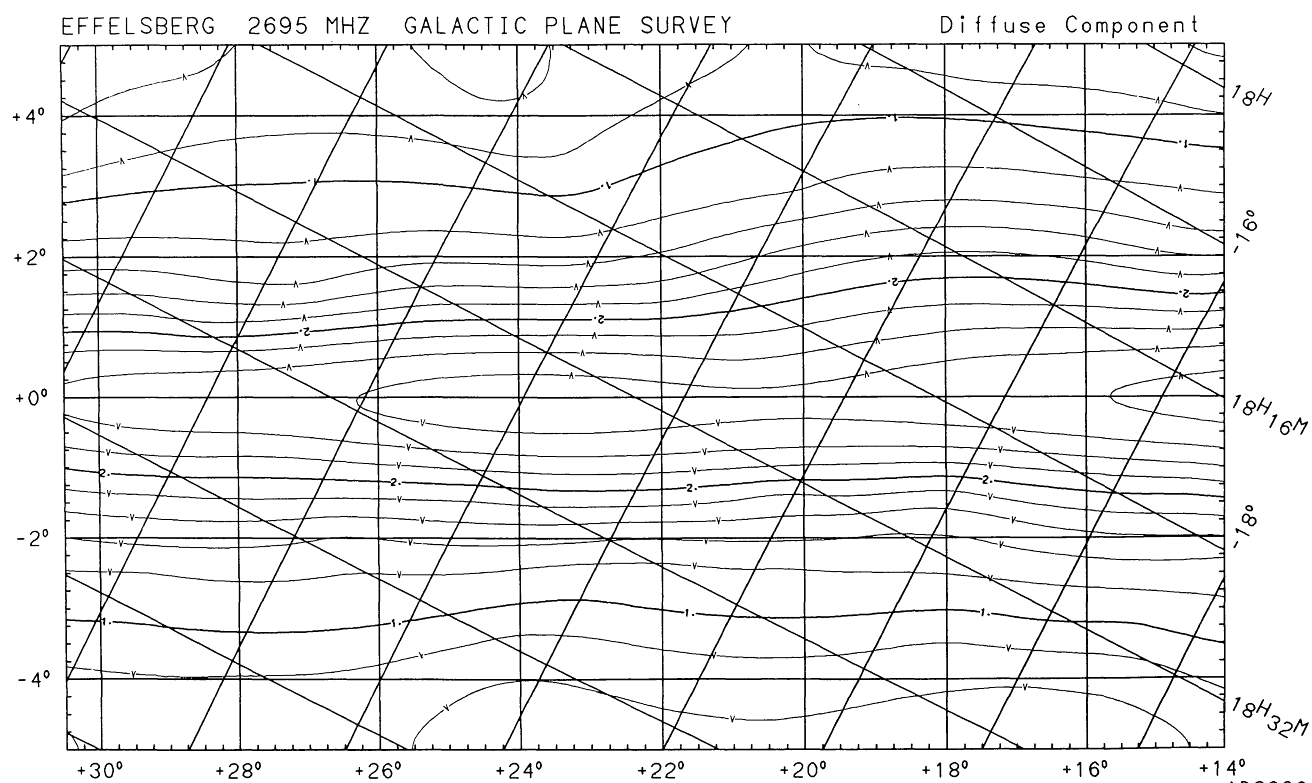


FIGURE 54

FIGURES 53 - 57. — The "diffuse component" of the surveyed area (see Sect. 4). The equatorial grid is shown for Epoch 2000.

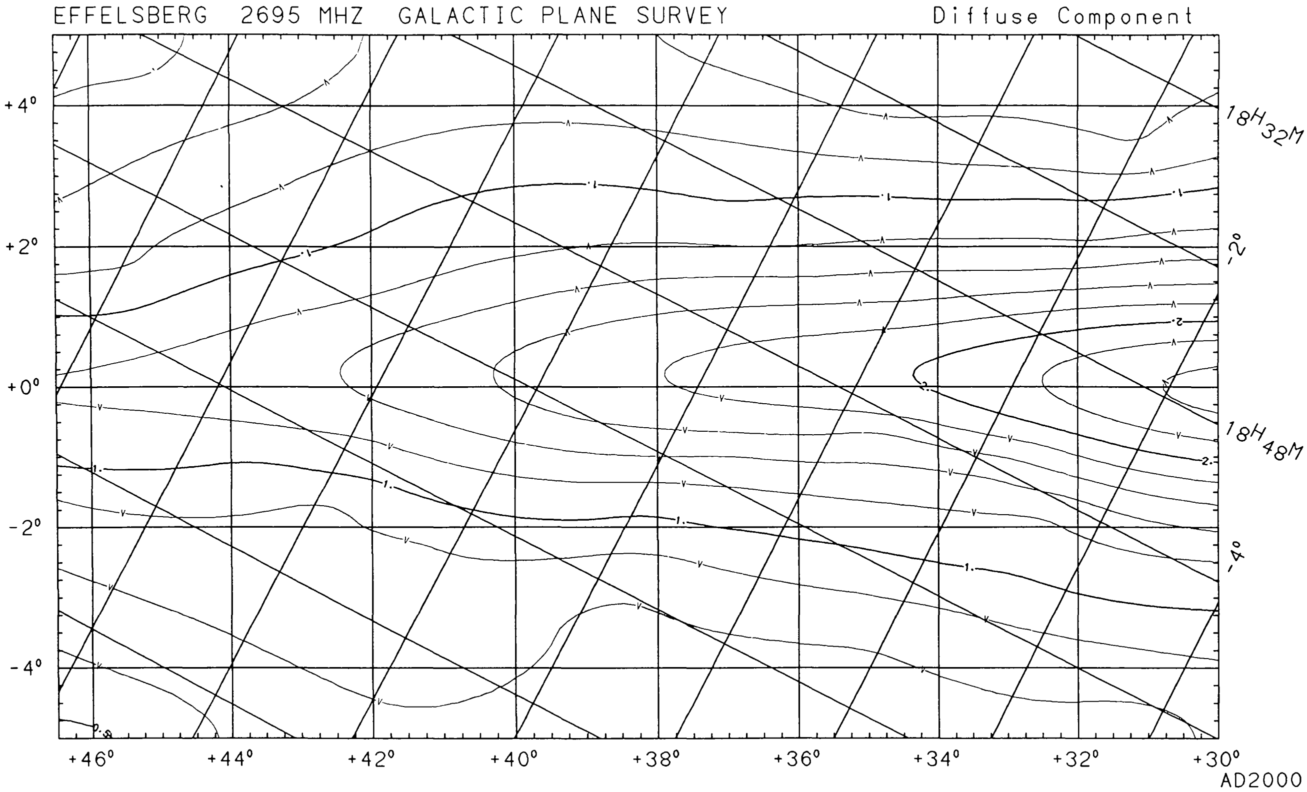


FIGURE 55

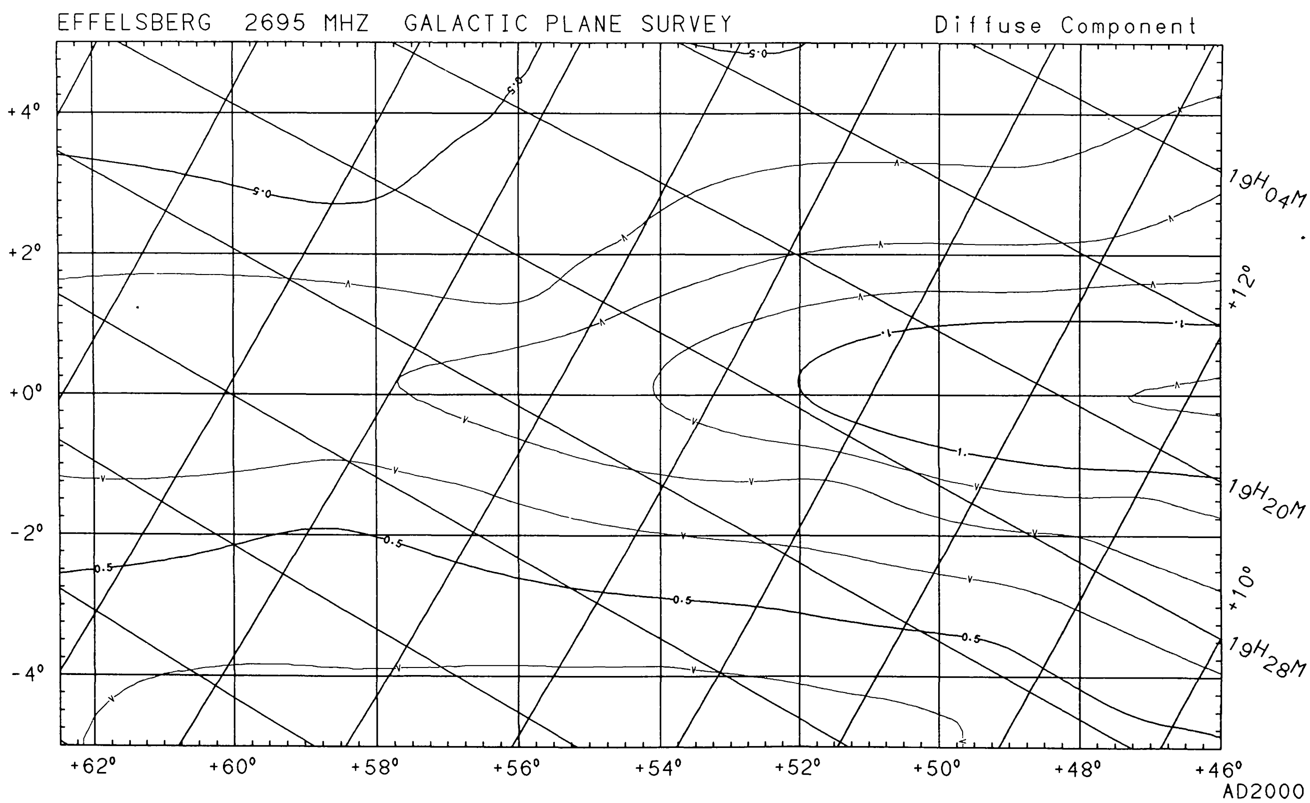


FIGURE 56

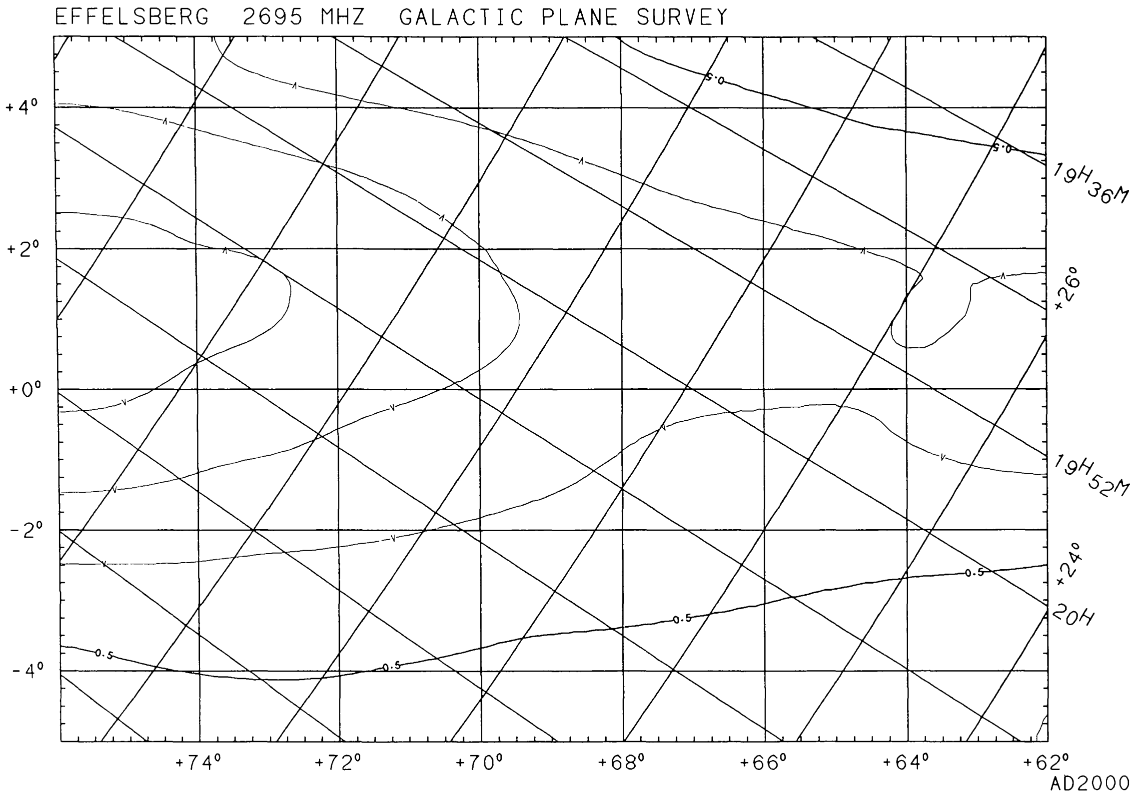

EFFELSBERG 2695 MHZ GALACTIC PLANE SURVEY
+4°
+2°
+0°
-2°
-4°
+74°
+72°
+70°
+68°
+66°
+64°
+62°
AD2000
19H36M
19H52M
20H
+26°
+24°
5.0
0.5

FIGURE 57