

SEARCH AND REDSHIFT SURVEY FOR *IRAS* GALAXIES BEHIND THE MILKY WAY AND STRUCTURE OF THE LOCAL VOID

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Received 1996 November 8; accepted 1997 April 7

ABSTRACT

This is the third and final paper of our systematic visual search for *IRAS* galaxies behind the Milky Way at $|b| \leq 15^\circ$. This paper presents a catalog of 950 *IRAS* galaxies with $60 \mu\text{m}$ flux densities larger than 0.6 Jy located between $l = 0^\circ$ and 150° , of which 293 are newly identified by this search. We made a redshift survey for the identified galaxies and obtained new redshift data of 171 galaxies. We also present newly measured redshifts of 27 *IRAS* galaxies between $l = 150^\circ$ and 225° at $|b| \leq 15^\circ$.

In this paper we studied the structure of the Local void using *IRAS* galaxies and galaxies from the Third Reference Catalogue of Bright Galaxies in the region $l = 30^\circ\text{--}120^\circ$ and $b = -50^\circ$ to $+30^\circ$. The center of the Local void turned out to be located at $l \sim 60^\circ$, $b \sim -15^\circ$, and $cz \sim 2500 \text{ km s}^{-1}$, and the size is about 2500 km s^{-1} along the direction toward the center.

Subject headings: catalogs — infrared: galaxies — large-scale structure of universe — surveys

1. INTRODUCTION

The Milky Way region covers about one-fourth of the whole sky and has long been a “zone of avoidance” of search for galaxies because of large Galactic extinction. In order to understand the overall large-scale structure of the Local universe, it is necessary to reveal the spatial distribution of galaxies in this region. The *Infrared Astronomical Satellite* (*IRAS*) survey allows us to explore the galaxy distribution even in the Milky Way region because interstellar extinction is negligible at far-infrared wavelengths. Some galaxy searches have been performed based on the *IRAS* data for the sky regions including the Milky Way. Table 1 summarizes the systematic visual searches and redshift surveys for *IRAS* galaxies whose regions contain the Milky Way region; the first two and the last three have performed the redshift surveys at optical wavelengths and the middle three at the 21 cm radio line.

We have also carried out a search for and redshift survey of *IRAS* galaxies behind the Milky Way region, and the previous results have been reported in two papers by Yamada et al. (1993b) and Takata et al. (1994b). This is the third and final paper in this series, in which we present the search for and redshift survey of *IRAS* galaxies with $60 \mu\text{m}$ flux densities higher than 0.6 Jy in a zone between $l = 0^\circ$ and 150° at $|b| \leq 15^\circ$.

The present survey region contains the northern Supergalactic Pole and the “Local void.” The existence of the Local void was first pointed out by Tully & Fisher (1987). They studied the sky distribution of galaxies within $cz = 3000 \text{ km s}^{-1}$ and discovered that a relatively few galaxies lie in the region between $l = 0^\circ$ and 90° , $b = -30^\circ$ and $+30^\circ$. They named this region devoid of galaxies the Local void. Because the great portion of the Local void is located in the Milky Way, its size and distance have not been definitely measured. The Local void might be relevant to the

origin of the “Local Anomaly” motion (see, e.g., Faber & Burstein 1988); therefore, its detailed structure must be clarified.

In § 2 we describe our search for and redshift survey of *IRAS* galaxies. In § 3 we present a catalog of all known *IRAS* galaxies in the region $l = 0^\circ\text{--}150^\circ$ and $|b| \leq 15^\circ$ with the redshift data obtained by us as well as by others. We also present newly obtained redshift data of *IRAS* galaxies at the Milky Way region $l = 150^\circ\text{--}225^\circ$. We depict the sky and spatial distribution of detected galaxies in § 4 and discuss the structure of the Local void in § 5.

2. SEARCH AND OBSERVATION

2.1. *Infrared Selection and Visual Identification of IRAS Galaxies*

The procedure of our *IRAS* galaxy search behind the Milky Way is same as those of Yamada et al. (1993b) and Takata et al. (1994b); we first picked up galaxy candidates from *IRAS* point sources using the criteria that the $60 \mu\text{m}$ flux density be higher than 0.6 Jy and the colors made by the four *IRAS* bands be similar to those of galaxies. These infrared criteria are shown in Table 2. The flux densities are quoted from the *IRAS* Point Source Catalog (*IRAS* PSC, 1988). In our surveyed region of $l = 0^\circ\text{--}150^\circ$ and $|b| \leq 15^\circ$, we selected 4296 sources.

Next we visually inspected all of these point sources with a magnifier using the Palomar Observatory Sky Survey (POSS) E prints for the northern sky and the film copies of the UK Schmidt Southern Infrared Atlas of the Milky Way (UK-I) and the ESO/SRC Atlas of the Southern Sky (ESO-J) for the southern sky. The fields and materials surveyed are listed in Tables 3 and 4. If we found galaxy-like image(s) within a radius of $1'$ of the point-source position, we adopted the object(s) as galaxy candidate(s). The advantages and disadvantages of our *IRAS* galaxy search in the Milky Way region have been described by Yamada et al. (1993b) and Takata et al. (1994b, 1996). We identified about 770 point sources as galaxies or galaxy candidates through this visual inspection. The contamination of Galactic objects is small enough that it barely affects the description of the large-scale structures behind the Milky Way (Yamada et al. 1993b).

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TABLE 1
SYSTEMATIC VISUAL SEARCHES AND REDSHIFT SURVEYS FOR *IRAS* GALAXIES BEHIND THE MILKY WAY

Survey	<i>IRAS</i> Flux Limit (Jy)	Region	Number of Galaxies
Saunders et al. 1997 ^a	$f_{60} \geq 0.6$	Whole sky	... ^d
Fisher et al. 1995 (“1.2 Jy survey”) ^b	$f_{60} \geq 1.2$	$0^\circ \leq l \leq 360^\circ, b \geq 5^\circ$	987 ^e
Lu et al. 1990	$f_{100} \geq 1.5$	$30^\circ \leq l \leq 80^\circ, 160^\circ \leq l \leq 210^\circ, 2^\circ \leq b \leq 16^\circ$	371
Lu & Freudling 1995.....	$1.5 \leq f_{100} \leq 8$	$140^\circ \leq l \leq 240^\circ, b \leq 55^\circ$	245 ^f
Bottinelli et al. 1994		$0^\circ \leq l \leq 30^\circ, 85^\circ \leq l \leq 180^\circ, 210^\circ \leq l \leq 225^\circ, 350^\circ \leq l \leq 360^\circ, b \leq 20^\circ$	74 ^g
Yamada et al. 1993b ^c	$f_{60} \geq 0.6$	$210^\circ \leq l \leq 360^\circ, b \leq 15^\circ$	966 ^h
Takata et al. 1994b	$f_{60} \geq 0.6$	$150^\circ \leq l \leq 240^\circ, b \leq 15^\circ$	649 ^h
This work	$f_{60} \geq 0.6$	$0^\circ \leq l \leq 150^\circ, b \leq 15^\circ$	950 ^h

^a The extension of the sparse-sampled redshift survey for *IRAS* sources with $f_{60} \geq 0.6$ Jy at $|b| > 10^\circ$ by Rowan-Robinson et al. 1991.

^b The extension of the “1.936 Jy survey” by Strauss et al. 1992b.

^c A redshift survey for detected galaxies has also been carried out by Visvanathan & Yamada 1996.

^d The individual redshift values have not been published.

^e The number of *IRAS* galaxies at $5^\circ \leq |b| \leq 15^\circ$.

^f The number of *IRAS* galaxies at $|b| \leq 15^\circ$.

^g The number of *IRAS* galaxies that they first detected.

^h The numbers contain galaxy candidates with unknown redshift.

2.2. Redshift Survey

In order to find out the spatial distribution of *IRAS* galaxies, we made a redshift survey of the detected objects. The optical redshift measurements were carried out in 1993 July, 1994 January, May, and October, and 1995 May and October at the Okayama Astrophysical Observatory (OAO, a branch of the National Astronomical Observatory, an inter-university research institute operated by the Ministry of Education, Science, Sports and Culture of Japan) using the 1.88 m telescope with the New Cassegrain Spectrograph equipped a 300 grooves mm^{-1} grating and PM CCD (516×516) as a detector. This gives a wavelength resolution of $2.4 \text{ \AA pixel}^{-1}$. In the observation of 1995 October, we used the SI502AB CCD (512×512) as a detector, and this gives a wavelength resolution of $3.0 \text{ \AA pixel}^{-1}$. We observed about 200 objects.

We made the data reduction in the usual manner using IRAF⁴ package. On the spectra we detected $\text{H}\alpha$, $[\text{N II}]$, and $[\text{S II}]$ emission lines and obtained redshifts for 171 galaxies. The radial velocities of these galaxies are shown in Table 5. The errors in measurement of radial velocities are less than 50 km s^{-1} . Some of the remaining objects have neither emission nor absorption lines, and some others turned out to be Galactic objects.

Here we comment on the following five galaxies: Strauss et al. (1992) identified IRAS 20340+5124 as cirrus, and Fisher et al. (1995) identified IRAS 03029+4800 as cirrus. But our optical spectra of both objects show $\text{H}\alpha$, $[\text{N II}]$, and $[\text{S II}]$ emission lines with a high S/N ratio, and we obtained a radial velocity of 3152 km s^{-1} for IRAS 20340+5124 and 4111 km s^{-1} for IRAS 03029+4800. IRAS 18510+2746 has broad Balmer emission lines, and the $\text{H}\alpha$ profile has a FWZI of 5000 km s^{-1} or more; this galaxy has a Seyfert 1 type AGN. The spectrum of IRAS 18150+1117 shows weak nuclear activity, and this galaxy may be classified as a LINER-type galaxy. The detailed properties of these two active galaxies have been described by Takata et al. (1994a). We also detected broad Balmer emission lines for IRAS 00058+5658.

⁴ IRAF is distributed by the National Optical Astronomy Observatories, which is operated by the Association of Universities for Research in Astronomy, Inc. under cooperative agreement with the National Science Foundation.

3. CATALOG

In Table 5, we present 950 *IRAS* galaxies and galaxy candidates with $f_{60} \geq 0.6$ Jy in the region of $0^\circ \leq l \leq 150^\circ$ and $|b| \leq 15^\circ$, of which 757 objects are identified in the present search, including 293 new identifications. In the course of the cross identification of our objects with those in other galaxy catalogs and literature, we moreover found 193 *IRAS* galaxies that were not identified by us; 99 of them were omitted owing to our color criteria (Table 2), and 94 were missed in our visual inspection. Among these 94, only 25 galaxies have radial velocities less than $10,000 \text{ km s}^{-1}$. These galaxies are also listed in Table 5 without data in Columns (6)–(11).

The following data are shown in Table 5.

Column (1): *IRAS* point source name.

Columns (2) and (3): Galactic longitude and latitude, which were derived from the right ascensions and declinations of the *IRAS* point sources listed in the *IRAS* PSC.

Columns (4) and (5): Flux densities at 60 and $100 \mu\text{m}$ quoted from *IRAS* PSC.

Column (6): Features of optical image detected in our visual inspection on the Schmidt Atlas. “G”: galaxy; “G?”: possible galaxy.

Column (7): Apparent morphological type of galaxies. “E”: elliptical galaxy; “S”: spiral galaxy; “I”: irregular galaxy; “E/S”: galaxy we could not classify.

Columns (8) and (9): Diameters of major and minor axes of the image measured on the Schmidt Atlas in mm (1 mm corresponds to $67''$ in angular size).

Column (10): Emulsion of the Schmidt Atlas on which the galaxy was visually identified and the size was measured. “I” and “J” indicate the UK Schmidt I and the

TABLE 2
INFRARED FLUX DENSITY AND COLOR CRITERIA

Number	Meaning of Criterion	Criterion
1	Quality of $60 \mu\text{m}$ flux density	$Q_{60} \geq 2$
2	Range of $60 \mu\text{m}$ flux density	$f_{60} \geq 0.6 \text{ Jy}$
3	Exclusion of stars	$f_{60}^2 > f_{12} \cdot f_{25}$
4	Exclusion of hot H II regions and cool cirrus	$0.8 < f_{100}/f_{60} < 5.0$

TABLE 3

LIST OF SURVEYED POSS E FIELDS

Plate Number	α	δ
1213.....	00 05	+78
1214.....	01 41	+78
1226.....	03 16	+78
1322.....	04 51	+78
1232.....	21 26	+78
1210.....	23 02	+78
1217.....	00 05	+72
1218.....	01 15	+72
1230.....	02 25	+72
0865.....	03 34	+72
0866.....	04 43	+72
0975.....	05 52	+72
0809.....	20 24	+72
0772.....	21 33	+72
0559.....	22 43	+72
0560.....	23 53	+72
0555.....	00 05	+66
1234.....	00 58	+66
0878.....	01 51	+66
1241.....	02 44	+66
0973.....	03 37	+66
1303.....	04 29	+66
1246.....	05 22	+66
0777.....	19 57	+66
0546.....	20 49	+66
1165.....	21 42	+66
0553.....	22 35	+66
0548.....	23 28	+66
1233.....	00 05	+60
0596.....	00 50	+60
1240.....	01 34	+60
0597.....	02 19	+60
0968.....	03 03	+60
0957.....	03 48	+60
0663.....	04 32	+60
0993.....	05 16	+60
0959.....	06 01	+60
0545.....	19 50	+60
0593.....	20 34	+60
0540.....	21 18	+60
0594.....	22 03	+60
0874.....	22 48	+60
1173.....	23 32	+60
0636.....	00 05	+54
1237.....	00 43	+54
0945.....	01 22	+54
1245.....	02 00	+54
1617.....	02 39	+54
1231.....	03 17	+54
1236.....	03 55	+54
0846.....	04 34	+54
0542.....	19 02	+54
0774.....	19 40	+54
0543.....	20 18	+54
0598.....	20 57	+54
1496.....	21 35	+54
0588.....	22 14	+54
0872.....	22 52	+54
0595.....	23 30	+54
0839.....	00 05	+48
1224.....	00 39	+48
0863.....	01 14	+48
0861.....	01 48	+48
0907.....	02 22	+48
0845.....	02 57	+48
1249.....	03 31	+48
1253.....	04 05	+48
0814.....	19 19	+48
0283.....	19 53	+48
1099.....	20 27	+48
0533.....	21 01	+48
0589.....	21 35	+48
0599.....	22 10	+48

TABLE 3—Continued

Plate Number	α	δ
0590.....	22 44	+48
1162.....	23 18	+48
0368.....	23 53	+48
1243.....	00 05	+42
0851.....	00 35	+42
0627.....	01 05	+42
0824.....	01 36	+42
0931.....	02 06	+42
0824.....	01 36	+42
0931.....	02 06	+42
0449.....	02 36	+42
1618.....	03 06	+42
0643.....	03 36	+42
0340.....	19 03	+42
0281.....	19 33	+42
1145.....	20 03	+42
0754.....	20 33	+42
1133.....	21 04	+42
0806.....	21 34	+42
0580.....	22 04	+42
0537.....	22 34	+42
0876.....	23 04	+42
0554.....	23 35	+42
1307.....	02 54	+36
1333.....	03 22	+36
0148.....	18 43	+36
1434.....	19 11	+36
0530.....	19 39	+36
0200.....	20 08	+36
0288.....	20 36	+36
0279.....	21 04	+36
0269.....	21 32	+36
0815.....	22 00	+36
0267.....	18 42	+30
0153.....	19 08	+30
0275.....	19 34	+30
0771.....	20 00	+30
0332.....	20 26	+30
0757.....	20 52	+30
0803.....	21 18	+30
1212.....	21 44	+30
1089.....	18 16	+24
0284.....	18 42	+24
0149.....	19 08	+24
0185.....	19 34	+24
0289.....	20 00	+24
1608.....	20 26	+24
1103.....	20 52	+24
0290.....	21 18	+24
0529.....	18 04	+18
0808.....	18 28	+18
0287.....	18 52	+18
0793.....	19 16	+18
0190.....	19 40	+18
0372.....	20 04	+18
0276.....	20 28	+18
0831.....	20 52	+18
1141.....	21 16	+18
1580.....	17 40	+12
0123.....	18 04	+12
0184.....	18 28	+12
0544.....	18 52	+12
0506.....	19 16	+12
0782.....	19 40	+12
0325.....	20 04	+12
0812.....	20 28	+12
0780.....	17 41	+06
0164.....	18 04	+06
0166.....	18 29	+06
0264.....	18 53	+06
0202.....	19 17	+06
0171.....	19 41	+06
0805.....	20 05	+06

TABLE 3—Continued

Plate Number	α	δ
0315.....	20 29	+06
1144.....	17 41	+00
0773.....	18 05	+00
1084.....	18 29	+00
0193.....	18 53	+00
0323.....	19 17	+00
0167.....	19 41	+00
0297.....	20 05	+00
0300.....	18 29	-06
1085.....	18 53	-06
0327.....	19 17	-06
0835.....	19 41	-06
0268.....	20 05	-06

NOTE.—Units of right ascension are hours and minutes, and units of declination are degrees.

ESO/SRC J film copies, respectively. Blank means the POSS E paper prints.

Column (11): Comment on multiplicity and image appearance. For multiplicity, “pair”: two galaxies are located within a separation as wide as the galaxy sizes;

TABLE 4
LIST OF SURVEYED UK SCHMIDT I AND
ESO/SRC J FIELDS

Plate Number	Emulsion	α	δ
878.....	UK-I	18 20	+00
879.....	UK-I	18 40	+00
880.....	UK-I	19 00	+00
881.....	UK-I	19 20	+00
805.....	UK-I	18 00	-05
806.....	UK-I	18 20	-05
807.....	UK-I	18 40	-05
808.....	UK-I	19 00	-05
809.....	UK-I	19 20	-05
733.....	UK-I	18 00	-10
734.....	UK-I	18 20	-10
735.....	UK-I	18 40	-10
736.....	UK-I	19 00	-10
660.....	UK-I	17 40	-15
661.....	UK-I	18 00	-15
662.....	UK-I	18 20	-15
663.....	UK-I	18 40	-15
664.....	UK-I	19 00	-15
586.....	ESO-J	16 48	-20
587.....	ESO-J	17 09	-20
588.....	UK-I	17 30	-20
589.....	UK-I	17 51	-20
590.....	UK-I	18 12	-20
591.....	UK-I	18 33	-20
592.....	ESO-J	18 54	-20
593.....	ESO-J	19 15	-20
518.....	ESO-J	16 52	-25
519.....	UK-I	17 14	-25
520.....	UK-I	17 36	-25
521.....	UK-I	17 58	-25
522.....	UK-I	18 20	-25
523.....	UK-I	18 42	-25
524.....	ESO-J	19 04	-25
455.....	UK-I	17 38	-30
456.....	UK-I	18 01	-30
457.....	UK-I	18 24	-30
458.....	ESO-J	18 47	-30
459.....	ESO-J	19 10	-30
395.....	ESO-J	18 24	-35
396.....	ESO-J	18 48	-35

NOTE.—Units of right ascension are hours and minutes, and units of declination are degrees.

“tri”: triplet; “group”: group of galaxies; and “int”: two galaxies appear to be interacting. For image appearance, “PN?”: possible planetary nebula; “LSB”: low surface brightness; “HSB”: high surface brightness; “ND”: nuclear dominated, and “pec”: peculiar.

Column (12): Heliocentric radial velocities of the galaxy.

Column (13): Reference for the radial velocity. (A): Measurement at OAO by us; (1): Third Reference Catalogue of Bright Galaxies (de Vaucouleurs et al. 1991); (2) A General Catalog of H I Observations of Galaxies (Huchtmeier & Richter 1989); (3) “1.936 Jy sample” by Strauss et al. (1992); (4) Lu et al. (1990); (5) Seeberger, Huchtmeier, & Weinberger (1994); (6) Bottinelli et al. (1994); (7) “1.2 Jy sample” by Fisher et al. (1995); (8) Kraan-Korteweg et al. (1994); (9) Weinberger, Saurer & Seeberger (1995); (10) Marzke, Huchra, & Geller (1996); and (11) “The IRAS PSC Redshift Survey (PSCz)” and the extension to low latitude BTP survey by Saunders et al. (1997).

Column (14): Cross identification with objects in other catalogs and literature. When the galaxy has two or more catalog names, only the first one is written in full name. “UGC”: Uppsala General Catalogue of Galaxies (Nilson 1973); “ESO”: the ESO/Uppsala Survey of the ESO(B) Atlas (Lauberts 1982); “Z”: Catalogue of Galaxies and of Clusters of Galaxies (Zwicky et al. 1961–1968); “MCG”: Morphological Catalog of Galaxies (Vorontsov-Velyaminov et al. 1962–1968); “NGC”: The Revised New General Catalogue of Nonstellar Astronomical Objects (Sulentic & Tift 1973); “IC”: Index Catalogue (Dreyer 1908); “I Zw” to “VII Zw”: Catalogue of Selected Compact Galaxies and of Post-eruptive Galaxies (Zwicky & Zwicky 1971); “Anon”: Anonymous galaxy taken from Huchtmeier & Richter (1989); and “UA”: Catalogue of Selected Non-UGC Galaxies (Nilson 1974). “Lu (Arecibo)” indicates newly identified galaxies by Lu et al. (1990), “Bottinelli (Nançay)” by Bottinelli et al. (1994), “Seeberger (Effelsberg)” by Seeberger et al. (1994), “1.936 Jy sample” by Strauss et al. (1992), and “1.2 Jy sample” by Fisher et al. (1995).

In the course of the redshift survey at OAO, we also newly obtained radial velocities of 27 IRAS galaxies with $f_{60} \geq 0.6$ Jy at $l = 150^\circ$ – 225° and $|b| \leq 15^\circ$, which were identified by Takata et al. (1994b). We present these radial velocities in Table 6. Columns (1)–(5) are the same as those of Table 5. Column (6) lists the heliocentric radial velocity obtained by us, and column (7) lists the cross identifications. Other properties of these galaxies have been described by Takata et al. (1994b).

4. DISTRIBUTION OF GALAXIES

4.1. Sky Distribution

Figure 1a shows the sky distribution of 950 IRAS galaxies listed in Table 5, and Figure 1b shows that of infrared-selected IRAS point sources not identified as galaxies in our visual inspection of the Schmidt Atlases. The filled and open circles in Figure 1a specify the objects with or without known radial velocities, respectively. There are 828 galaxies with known redshift data. The average surface density of IRAS galaxies in Figure 1a is about 0.21 deg^{-2} , and this corresponds to 0.46 times the whole sky average of IRAS galaxies with $f_{60} \geq 0.6$ Jy at $|b| > 20^\circ$ (Rowan-Robinson et al. 1991).

We see a high surface density region crossing the Galactic

TABLE 5
THE CATALOG OF *IRAS* GALAXIES WITH $f_{60} \geq 0.6$ Jy

<i>IRAS</i> NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	f_{60} (Jy) (4)	f_{100} (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
00010+7019.....	118.955	8.107	0.72	3.27	G	S	0.6	0.4		LSB			
00014+5127.....	115.505	-10.453	0.84	5.49							12098	11	
00019+5605.....	116.438	-5.905	0.85	1.78							14188	11	
00032+6348.....	117.981	1.655	1.29	3.38	G?	S	0.2	0.1					
00053+5323.....	116.440	-8.654	1.12	5.40							11312	11	
00058+5658.....	117.127	-5.137	0.63	2.26	G	S	0.4	0.2			18546	A	
00059+5514.....	116.845	-6.851	0.96	2.85	G	S	0.8	0.6			5154	6	“Bottinelli (Nancay)”
00069+7347.....	120.018	11.429	0.60	1.71							25463	11	
00072+4934.....	116.082	-12.468	0.66	2.12	G	S	0.4	0.3			9960	11	Z0007.1+4934
00098+7404.....	120.268	11.681	0.78	1.95	G	S	0.9	0.2			11877	A	
00111+5054.....	116.927	-11.253	0.62	1.35							30134	11	
00113+4757.....	116.519	-14.173	0.83	1.38	G	S	1.3	0.6			1776	1	NGC 48, UCG, MCG
00136+6103.....	118.738	-1.251	3.67	12.92	G	S	0.2	0.1					
00150+4937.....	117.384	-12.605	0.89	1.66	G	S	0.2	0.1			44369	11	
00153+5454.....	118.140	-7.373	2.22	2.72	G	S	0.3	0.1		LSB	33448	3	“1.936 Jy sample”
00157+4827.....	117.332	-13.781	3.27	6.57	G	S	0.8	0.5			5219	3	UGC 00171, MCG
00162+5113.....	117.792	-11.044	0.66	6.41							24195	11	
00177+5900.....	118.980	-3.344	31.23	71.25							-342	1	IC 10, UCG, MCG
00193+4851.....	117.990	-13.457	1.71	3.93	G	S	0.7	0.4			5163	7	Z0019.3+4851, MCG
00198+4754.....	117.955	-14.407	0.94	2.38	G	S	0.4	0.2			13475	A	
00242+4945.....	118.905	-12.649	2.26	5.84	G	S	1.2	0.2			5170	1	UGC 00256, MCG
00245+5707.....	119.665	-5.322	0.69	8.36							9220	11	
00254+4848.....	119.021	-13.604	0.70	1.72	G	S	0.4	0.3		Int?	5344	A	Z0025.5+4849
00305+5058.....	120.039	-11.523	0.81	5.37							31668	11	
00312+7657.....	121.964	14.387	0.67	1.46							34351	11	
00356+4827.....	120.725	-14.078	1.39	2.23	G	S	0.3	0.2			12487	7	“1.2 Jy sample”
00362+5819.....	121.326	-4.239	8.36	15.78	G	S	0.8	0.4			2101	A	MCG +10-02-001
00368+4944.....	120.983	-12.816	1.52	2.30	G	S	0.3	0.2			6541	7	“1.2 Jy sample”
00371+5239.....	121.177	-9.907	0.62	1.99	G	S	0.3	0.1			9730	A	
00405+5024.....	121.628	-12.176	1.10	2.03	G	S	0.8	0.5			5219	2	UGC 00460
00437+5454.....	122.239	-7.685	0.69	8.72							11571	11	
00446+5036.....	122.292	-11.984	0.89	2.01	G	S	0.7	0.6			5176	2	UGC 00486, MCG
00458+6508.....	122.673	2.536	3.29	14.52	G	S	0.2	0.1					
00479+4748.....	122.818	-14.796	0.81	1.43							17845	11	
00501+5004.....	123.188	-12.530	0.64	1.36	G	S	0.7	0.2			6258	A	
00506+7248.....	123.126	10.213	21.72	28.78	G	S	0.7	0.3		Pair	4706	3	MCG +12-02-01,001
00543+5128.....	123.849	-11.109	0.99	1.73	G	S	0.6	0.2			7948	A	
00554+7035.....	123.537	7.998	0.72	2.21	G	E/S	0.2	0.2			24073	A	
00555+4823.....	124.120	-14.193	0.84	2.66	G	S	1.1	0.7			6812	2	UGC 00600, MCG
00555+7614.....	123.401	13.649	5.13	10.35	G	E/S	0.6	0.4			4739	3	“1.936 Jy sample”
00565+5434.....	124.105	-8.004	0.67	2.43	G	S	0.2	0.1			23838	11	
00565+5640.....	124.048	-5.910	0.63	6.99							12200	11	
00575+4743.....	124.493	-14.850	1.70	5.13	G	S	1.0	0.6			2711	2	UGC 00622, MCG
00576+4816.....	124.479	-14.295	1.02	1.60	G	S	0.2	0.1			19491	11	
00597+4835.....	124.833	-13.978	0.68	1.44	G	S	0.4	0.2			11630	11	
01001+5346.....	124.661	-8.797	1.78	2.82	G	S	0.5	0.3			5806	3	“1.936 Jy sample”
01031+7520.....	123.915	12.759	0.73	2.33	G	S	0.8	0.7			5664	A	UGC 00670, MCG
01041+7007.....	124.295	7.556	0.61	1.49	G	S	0.6	0.2			6943	A	
01041+7256.....	124.131	10.379	0.72	2.03	G	S	0.5	0.2			43165	11	
01072+4954.....	126.013	-12.584	0.83	1.80	G	S	0.4	0.4			7080	A	Z0107.2+4955
01076+7153.....	124.467	9.352	1.21	1.54	G	S	0.2	0.2					
01089+5834.....	125.600	-3.918	1.31	4.33	G	S	0.3	0.1		Pair	10552	A	
01106+7322.....	124.578	10.842	3.81	9.70	G	S	0.4	0.2			13217	3	“1.936 Jy sample”
01121+5005.....	126.798	-12.337	1.77	3.37							7280	7	Z0112.1+5005
01125+5637.....	126.252	-5.824	0.66	11.28							4966	11	
01130+5802.....	126.190	-4.406	0.80	2.44	G	E	0.2	0.2			18977	11	
01132+5337.....	126.634	-8.808	0.74	2.69	G	S	0.4	0.2			13384	A	
01133+7706.....	124.403	14.572	0.61	10.57							19916	11	
01161+5554.....	126.819	-6.493	0.92	8.77							5882	11	
01180+5724.....	126.923	-4.977	0.81	5.21							5331	11	
01195+4947.....	128.041	-12.508	0.72	1.13	G	S	0.5	0.3			6116	11	MCG +08-03-018
01197+5039.....	127.972	-11.642	1.34	2.91	G	S	0.5	0.2			7534	7	“1.2 Jy sample”
01207+7304.....	125.345	10.611	0.83	3.09	G	S	0.2	0.2					

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
01211+5946.....	127.045	-2.566	0.63	2.89	G	S	0.5	0.2			17678	A	
01213+5555.....	127.549	-6.394	3.95	6.36	G	S	1.0	0.4			5428	3	“1.936 Jy sample”
01235+4807.....	128.938	-14.070	0.82	1.82	G	S	0.4	0.4			10474	1	Z0123.6+4808, MCG
01244+6847.....	126.220	6.405	0.73	2.69	G	S	0.3	0.1					
01254+4807.....	129.258	-14.029	1.65	3.33	G	S	0.9	0.8			10254	1	NGC 562, UCG, MCG
01257+5015.....	128.992	-11.921	2.39	5.68	G	S	0.7	0.2			15522	3	“1.936 Jy sample”
01258+4753.....	129.361	-14.252	0.68	2.07	G	S	0.3	0.2			10141	A	
01259+5804.....	127.881	-4.177	1.88	4.33	G	S	0.9	0.2			5299	A	
01262+5544.....	128.254	-6.473	0.65	5.43							11839	7	“1.2 Jy sample”
01265+5140.....	128.901	-10.492	1.24	3.94	G	S	1.2	0.4			5711	7	UGC 01067
01300+4728.....	130.150	-14.556	0.81	2.13	G	S	0.2	0.1			10077	11	
01315+5510.....	129.094	-6.929	0.82	2.41	G	S	0.6	0.6			5257	2	UGC 01124
01331+7558.....	125.740	13.603	0.74	2.08	G	S	0.3	0.2			15943	11	
01342+7411.....	126.130	11.872	1.66	1.60	G	S	0.3	0.1					
01355+5009.....	130.590	-11.754	0.66	1.18							26619	11	
01362+4830.....	131.007	-13.355	2.01	4.20	G	S	0.5	0.5			5281	1	UGC 01168, MCG
01380+5022.....	130.941	-11.476	0.60	1.41	G	S	0.2	0.1			17418	11	
01393+5402.....	130.426	-7.833	2.08	4.24	G	S	0.4	0.3			8080	3	“1.936 Jy sample”
01395+5357.....	130.462	-7.905	0.65	6.90							7785	11	
01413+5125.....	131.255	-10.343	0.96	2.01	G	S	0.5	0.3			8085	A	
01454+5224.....	131.668	-9.250	0.64	9.09							14210	11	
01461+5519.....	131.129	-6.378	0.79	2.86	G	S	0.3	0.2			640	A	
01466+5300.....	131.711	-8.615	0.75	4.95							11773	11	
01470+7104.....	127.723	9.001	0.63	1.40	G	S	0.4	0.4			6989	A	
01470+5558.....	131.105	-5.716	0.74	2.86	G	S	0.2	0.1			14938	11	
01475+7343.....	127.145	11.602	2.01	3.30	G	S	0.5	0.4			6589	3	“1.936 Jy sample”
01509+6423.....	129.632	2.585	3.37	4.11							10461	11	
01519+7302.....	127.625	11.003	0.67	3.44							2940	2	UGC 01378, MCG
01521+5224.....	132.675	-9.000	3.01	4.37	G	S	0.4	0.2			23957	3	“1.936 Jy sample”
01524+4718.....	134.009	-13.926	1.38	2.62	G	S	0.4	0.2		Pair	16580	7	Z0152.4+4719
01542+7052.....	128.348	8.952	2.37	6.60	G	S	0.4	0.2			3155	3	“1.936 Jy sample”
01542+6500.....	129.830	3.281	1.13	3.01	G	S	0.4	0.2		LSB	10493	11	
01544+4621.....	134.599	-14.760	1.14	1.48							34386	11	
01545+5651.....	131.903	-4.609	0.77	2.15	G	S	0.2	0.1			16071	11	
01547+5157.....	133.173	-9.338	0.62	1.75							40142	11	
01560+5607.....	132.288	-5.264	0.67	7.05							26274	11	
01569+5133.....	133.621	-9.637	0.67	4.76							34795	11	
01575+6809.....	129.335	6.410	1.26	11.27							4554	7	“1.2 Jy sample”
01579+5015.....	134.115	-10.846	5.04	6.97	G	E	0.5	0.4			4865	3	UGC 01493A
01579+5025.....	134.070	-10.683	0.71	2.79	G	S	0.1	0.1					
01579+5500.....	132.848	-6.267	1.29	2.52	G	S	0.6	0.4		Pair	8396	7	Z0158.0+5500
01583+6807.....	129.414	6.386	5.94	11.27	G	S	1.1	0.6		ND	3675	3	“1.936 Jy sample”
01584+5243.....	133.525	-8.449	1.31	2.17							19399	7	“1.2 Jy sample”
01588+5207.....	133.756	-9.012	1.75	1.68	G	S	0.2	0.1			23066	7	“1.2 Jy sample”
01591+6531.....	130.186	3.905	1.39	4.02	G	S	0.2	0.1			9593	11	
01593+4849.....	134.739	-12.164	2.12	3.46	G	S	0.2	0.2		Pair	14926	3	“1.936 Jy sample”
02005+4806.....	135.142	-12.807	0.73	1.56	G	S	0.5	0.3			7400	A	MCG +08-04-014
02019+5257.....	133.980	-8.074	1.10	2.21	G	S	0.3	0.2			15364	7	“1.2 Jy sample”
02044+7048.....	129.180	9.109	0.78	2.68	G	S	0.8	0.7		LSB	3380	A	
02065+4705.....	136.443	-13.476	1.05	1.56							39796	11	
02075+7012.....	129.611	8.615	0.83	1.99	G	S	1.1	0.3			3015	A	
02087+5022.....	135.761	-10.242	0.66	1.48	G	S	0.2	0.1					
02094+5418.....	134.654	-6.469	0.63	1.37	G	S	0.2	0.1		LSB			
02099+5310.....	135.064	-7.522	1.42	2.53	G	S	1.3	0.8					
02100+5244.....	135.226	-7.924	0.62	1.31							4784	7	UGC 01699, MCG
02106+5104.....	135.843	-9.479	2.49	3.27	G	S	0.3	0.2			17148	11	
02125+5339.....	135.294	-6.945	0.81	2.13	G	S	0.8	0.2			10615	3	“1.936 Jy sample”
02141+4648.....	137.805	-13.341	0.71	1.17	G	S	0.7	0.5			7080	A	
02146+5028.....	136.630	-9.844	0.72	3.47							10095	A	UGC 01758
02168+5018.....	137.039	-9.893	0.74	3.66	G	S?	0.1	0.1			14127	11	
02170+6924.....	130.649	8.127	0.78	2.45	G	S	0.4	0.2		LSB			
02171+7024.....	130.321	9.071	0.98	2.33	G	S	1.0	0.4					
02184+4619.....	138.681	-13.541	0.85	1.72	G	S	0.5	0.2		Pec	9821	A	
02187+4941.....	137.543	-10.371	0.62	1.30	G	S	0.4	0.4			14937	A	

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
02192+4737	138.346	-12.276	1.18	3.08	G	S	1.2	0.8		ND	5070	A	UGC 01830, MCG
02198+5309	136.493	-7.042	0.84	2.01	G	S	0.8	0.4			7354	A	Z0219.9+5310
02208+4744	138.563	-12.069	9.99	15.61	G	S	0.8	0.6			4679	3	UGC 01845, MCG
02211+5206	137.052	-7.970	0.95	2.03	G	S	0.3	0.1			6852	A	
02217+6430	132.774	3.676	1.54	3.50	G	S	0.2	0.1			12145	11	
02221+5035	137.742	-9.327	0.90	2.48	G	S	0.8	0.3			4842	A	UGC 01869, MCG
02253+5114	137.980	-8.547	1.07	2.26	G	S	0.5	0.2			15942	A	
02258+4812	139.185	-11.333	1.34	3.27	G	S	0.6	0.4			7447	7	Z0225.8+4813, MCG
02283+6440	133.375	4.096	0.72	3.00	G	S	0.5	0.2		LSB			
02297+6351	133.830	3.395	3.13	6.21	G	S	0.5	0.3			4202	6	“Bottinelli (Nancay)”
02307+4407	141.592	-14.781	1.23	3.40	G	S	0.8	0.5			5077	1	UGC 02035, MCG
02312+5016	139.217	-9.092	0.61	1.53	G	S	0.3	0.1			28321	A	
02315+5500	137.416	-4.694	0.64	1.27	G	E	0.2	0.2			20282	A	
02317+5801	136.274	-1.905	0.73	3.76							5650	2	
02319+6832	132.229	7.794	3.22	14.51	G	S	0.3	0.2			4192	3	“1.936 Jy sample”
02325+4351	142.002	-14.895	0.96	2.43	G	S	0.6	0.2			6170	A	
02354+6418	134.222	4.053	2.23	4.38	G	S	0.5	0.2			5306	11	
02356+5237	138.919	-6.659	0.84	1.57	G	S	0.3	0.1			17221	A	
02359+6457	134.019	4.668	1.07	3.29	G	S?	0.5	0.2		LSB			
02368+5402	138.513	-5.289	0.63	1.26	G	S	0.2	0.1		LSB			
02373+4517	142.206	-13.241	0.70	1.06	G	S	0.3	0.2			9138	11	
02373+4526	142.149	-13.106	0.86	2.14	G	S	0.4	0.3			10415	A	
02380+5243	139.207	-6.425	0.76	1.63	G	S	0.2	0.1					
02381+5923	136.498	-0.327	93.36	226.60	G	S	1.0	1.0			20	2	UA 039, Maffei 2
02384+4533	142.275	-12.914	1.52	2.95	G	S	0.3	0.2			9796	7	“1.2 Jy sample”
02388+5102	140.026	-7.902	2.55	3.85	G	S	0.3	0.2			7263	3	“1.936 Jy sample”
02410+6215	135.638	2.431	0.77	32.30							13191	9	
02421+6233	135.627	2.765	77.36	110.10							-6	11	
02425+5102	140.553	-7.657	0.65	1.43	G	S	0.5	0.4			10429	11	
02430+4444	143.389	-13.305	0.74	2.91	G	S	1.4	0.3			8359	A	UGC 02233
02443+4437	143.658	-13.304	0.64	1.90	G	S	0.5	0.4		Pair	11770	A	
02450+5032	141.126	-7.935	3.55	11.41	G	S	1.6	1.2			4944	2	UGC 02270, MCG
02450+4746	142.356	-10.418	0.67	1.97	G	S	1.0	0.5			7400	A	UGC 02273, MCG
02460+5152	140.692	-6.676	0.65	1.60	G	S	0.6	0.3			6808	11	
02463+4622	143.190	-11.588	1.09	2.21	G	S	0.8	0.5			8542	A	Z0246.4+4623, MCG
02468+4650	143.051	-11.127	0.79	2.59	G	S	0.7	0.5			8405	A	UGC 02308
02471+5430	139.676	-4.240	1.17	2.72	G	S	1.0	0.2			4534	6	“Bottinelli (Nancay)”
02477+5040	141.467	-7.633	1.49	3.18	G	S	0.6	0.5			4983	7	Z0247.8+5040
02483+4302	145.046	-14.398	4.45	7.47	G	S	0.6	0.4			15571	3	“1.936 Jy sample”
02486+4409	144.584	-13.386	0.71	1.49	G	S	0.3	0.2			15769	11	
02493+5208	141.032	-6.202	1.29	3.05	G	S	0.7	0.3			12789	7	“1.2 Jy sample”
02496+5516	139.659	-3.394	1.88	5.29	G	S	0.5	0.4		LSB	3834	11	
02498+4721	143.282	-10.430	0.63	2.01	G	S	0.7	0.6			9182	A	MCG +08-06-019
02499+4347	144.964	-13.603	0.69	1.29	G	S	0.3	0.1			21561	A	
02503+4622	143.821	-11.275	1.59	3.10	G	E/S	0.2	0.2			9284	7	“1.2 Jy sample”
02505+5027	141.967	-7.627	0.91	1.72	G	S	0.3	0.2			10826	A	
02508+6611	134.878	6.442	2.56	8.15	G	S	0.8	0.5			3544	3	MCG +11-04-003
02510+4231	145.746	-14.639	1.42	2.71	G	S	0.7	0.4			6342	7	Z0251.0+4232, MCG
02516+5142	141.545	-6.435	0.78	2.35	G	S	1.4	0.5			4629	1	UGC 02380
02518+4703	143.737	-10.553	0.63	2.31	G	S	0.6	0.2			6884	7	“1.2 Jy sample”
02525+4736	143.585	-10.010	3.97	4.51	G	S	0.9	0.5		Pec	9393	3	Z0252.6+4736, MCG
02527+4414	145.211	-12.964	0.63	1.29	G	S	0.3	0.1			20510	A	
02528+4350	145.419	-13.310	3.00	2.22							33678	11	
02530+5843	138.515	-0.104	1.83	15.50							110	8	Dwingeloo 1
02531+4659	143.954	-10.509	0.98	2.28	G	S	0.4	0.2			7255	11	
02532+4553	144.496	-11.475	1.19	2.97	G	S	0.8	0.4			7491	A	
02532+4719	143.818	-10.205	2.15	4.25	G	S	0.6	0.4			4429	3	Z0253.2+4720
02532+5023	142.380	-7.480	3.73	8.37	G	S	1.0	0.2			3884	3	UGC 02409
02533+4446	145.053	-12.456	0.65	1.35	G	S	0.3	0.1			9936	11	
02538+4511	144.922	-12.041	2.53	2.70	G	S	0.4	0.2			9412	3	“1.936 Jy sample”
02547+4617	144.529	-10.995	1.37	2.64	G	S	0.5	0.4			4631	7	Z0254.7+4618
02555+4831	143.597	-8.958	0.83	1.86	G	S	0.3	0.3			18546	A	
02564+4443	145.562	-12.230	0.62	6.86							7973	11	

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
02571+4850.....	143.670	-8.558	0.96	2.89	G	S	2.5	0.3			2464	1	UGC 02459
02572+7002.....	133.604	10.123	5.44	8.05	G	S	0.5	0.3			4917	2	Anon 0257+70
02573+4403.....	146.045	-12.735	1.09	2.07	G	S	0.5	0.2			8167	A	
02575+4257.....	146.610	-13.682	1.38	3.13	G	S	0.6	0.4		HSB	2633	7	NGC 1159, UCG
02579+4442.....	145.811	-12.131	2.06	5.51	G	E	1.8	1.5			1940	1	NGC 1161, UCG, MCG
02579+4445.....	145.782	-12.078	2.78	5.51	G	S	1.3	0.6			2429	1	NGC 1160, UCG, MCG
02587+4223.....	147.099	-14.077	1.95	5.25	G	S	1.0	0.7			4175	2	NGC 1164, UCG, MCG
02588+4531.....	145.545	-11.324	0.90	2.73	G	S	0.3	0.3			10004	A	
02593+4615.....	145.255	-10.644	0.63	2.23	G	S	0.7	0.2			12085	A	
02597+4455.....	145.982	-11.772	1.93	3.58	G	S	0.2	0.1			16087	3	"1.936 Jy sample"
03001+4644.....	145.151	-10.147	0.72	2.03	G	S	1.2	0.5		Pec	6898	A	UGC 02504, MCG
03002+4612.....	145.437	-10.612	1.03	5.16							2374	2	NGC 1169
03006+4312.....	147.007	-13.193	1.26	4.02	G	S	1.5	0.8			2742	1	NGC 1171, UCG, MCG
03009+4804.....	144.601	-8.926	0.78	2.82	G	S	1.1	0.3			3654	A	UGC 02511, MCG
03010+4915.....	144.030	-7.881	0.61	2.26	G	S	0.2	0.1			11452	7	"1.2 Jy sample"
03010+4124.....	147.998	-14.719	0.81	1.54	G	S	0.2	0.2			18683	A	
03015+4139.....	147.947	-14.447	0.75	1.87	G	S	1.2	0.6			8911	A	
03022+4238.....	147.547	-13.536	3.84	9.69	G	S	2.5	0.8			2658	1	NGC 1186, UCG, MCG
03028+6516.....	136.420	6.213	1.63	2.38	G	S	0.5	0.2			3599	7	"1.2 Jy sample"
03029+4211.....	147.898	-13.868	0.78	3.86	G	S	2.6	1.1			2723	1	IC 284, UCG, MCG
03029+4800.....	144.927	-8.820	1.41	1.77	G	S	0.3	0.2			4111	A	
03036+4625.....	145.839	-10.131	0.61	2.14	G	S	0.8	0.7			4997	1	UGC 02537, MCG
03040+7022.....	133.953	10.692	3.38	7.29	G	S	1.5	0.3			4276	1	UGC 02542
03041+4719.....	145.450	-9.312	1.72	3.47	G	S	0.6	0.2			10691	7	Z0304.0+4720
03044+6528.....	136.459	6.464	1.18	3.63	G	E	1.2	1.2			2460	2	Anon 0304+65
03063+4624.....	146.251	-9.916	0.67	1.77	G	S	0.4	0.3			9136	A	
03064+4103.....	149.075	-14.506	0.63	2.18	G	S	0.4	0.2			6381	11	Z0306.5+4104
03067+6055.....	138.977	2.654	2.87	6.67	G	S	0.5	0.3			2350	2	Anon 0306+60
03069+4034.....	149.420	-14.862	2.05	4.62	G	S	1.0	0.5			3018	1	IC 292.1887, UCG, MCG
03074+4233.....	148.437	-13.121	0.64	5.57							9700	11	
03074+5202.....	143.539	-4.968	2.81	2.61	G	S	0.2	0.2			9227	A	
03076+6712.....	135.852	8.133	1.27	3.62	G	S	1.0	0.6			3087	7	"1.2 Jy sample"
03078+5138.....	143.791	-5.273	3.67	4.69							14268	3	"1.936 Jy sample"
03091+4936.....	145.009	-6.930	0.98	3.01	G	S	0.2	0.1					
03098+4248.....	148.692	-12.672	0.68	1.90	G	S	0.5	0.3			9011	A	Z0309.9+4249
03101+4356.....	148.130	-11.681	0.67	1.61	G	S	1.0	0.5			5343	1	UGC 02596, MCG
03108+6441.....	137.442	6.137	1.75	4.82	G	S	1.5	1.3			2358	7	"1.2 Jy sample"
03108+4550.....	147.231	-9.993	2.41	4.74	G	S	1.5	0.5			7571	3	MCG+08-06-029
03109+4559.....	147.167	-9.855	1.11	2.77	G	S	0.5	0.4			7605	A	
03117+4151.....	149.516	-13.305	8.25	11.81	G	S	0.8	0.7			7041	2	UGC 02608, MCG
03119+6137.....	139.152	3.577	1.08	4.54	G	S	0.2	0.1					
03122+4731.....	146.541	-8.442	1.32	2.00	G	S	0.3	0.2			17042	7	"1.2 Jy sample"
03123+6450.....	137.504	6.351	2.02	6.36	G	S	1.3	0.7			3145	3	"1.936 Jy sample"
03127+4153.....	149.652	-13.173	1.00	2.82	G	S	1.1	0.4			5385	1	UGC 02618, MCG
03127+4244.....	149.195	-12.453	0.62	1.15	G	S	0.7	0.5			8830	11	Z0312.7+4244
03130+6951.....	134.890	10.641	0.65	5.22							4431	11	
03145+4307.....	149.264	-11.959	2.11	4.37	G	S	0.6	0.4			6081	1	UGC 02640, MCG
03154+4207.....	149.960	-12.711	1.51	4.72	G	S	1.2	0.3			5736	1	UGC 02654, MCG
03154+4303.....	149.444	-11.921	0.77	2.27	G	S	1.6	0.6			6149	1	UGC 02655, MCG
03158+4227.....	149.843	-12.381	4.39	4.62							40288	3	"1.936 Jy sample"
03167+4722.....	147.284	-8.160	0.90	2.01	G	S	0.5	0.2			11024	A	
03178+5022.....	145.802	-5.539	1.03	2.35	G	S	0.2	0.1		LSB	25367	11	
03189+5828.....	141.559	1.368	3.08	10.09							2320	6	"Bottinelli (Nancay)"
03197+6515.....	137.935	7.121	0.88	2.88	G	S	0.3	0.3					
03221+6824.....	136.384	9.875	1.42	5.46	G	S	2.5	1.2			1936	2	UGC 02729
03228+6934.....	135.767	10.872	3.01	6.16	G	S	0.5	0.3			7080	3	"1.936 Jy sample"
03231+4621.....	148.761	-8.416	0.67	2.54	G	S	0.3	0.1			20784	A	
03236+4646.....	148.608	-8.017	1.34	2.66	G	S	0.7	0.2			5895	7	"1.2 Jy sample"
03237+4948.....	146.906	-5.490	1.37	2.60	G	S	0.8	0.3			6355	7	UGC 02739
03238+7043.....	135.174	11.872	0.62	1.95	G	S	0.4	0.2			7080	A	
03245+7040.....	135.261	11.859	0.87	3.90	G	S	0.5	0.3		LSB			
03248+6551.....	138.047	7.905	1.45	3.55	G	S	1.4	0.4		LSB			
03266+6619.....	137.929	8.402	1.43	4.55	G	S	1.7	0.4			1578	7	"1.2 Jy sample"
03273+6811.....	136.902	9.970	3.11	12.05	G	S	2.5	1.1			1679	2	UGC 02765
03277+6755.....	137.091	9.773	0.89	2.90	G	S	0.6	0.5		ND	1333	6	"Bottinelli (Nancay)"

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
03285+4737	148.812	-6.840	2.93	5.75	G	E/S	1.1	0.8			242	3	UGC 02773, MCG
03312+7155	134.957	13.197	0.76	1.77	G	S	0.8	0.3			4294	A	
03315+6723	137.700	9.549	5.09	11.27	G	S	1.7	1.0			3135	1	UGC 02789, MCG
03324+7224	134.739	13.633	4.15	8.63	G	S	2.1	1.4		ND	2215	2	NGC 1343, UCG, MCG
03326+5038	147.601	-4.000	0.99	4.34	G	S	0.7	0.3			5009	A	
03335+4729	149.574	-6.473	1.04	1.72							55062	11	
03335+4853	148.746	-5.336	1.17	1.85	G	S	0.4	0.2			14800	A	
03337+6725	137.858	9.699	1.15	3.67	G	S	0.1	0.1		LSB			
03338+6409	139.825	7.069	0.73	1.85	G	S	0.3	0.2			11272	11	
03354+6633	138.525	9.094	1.40	6.90	G	S	1.3	0.6			1501	2	UA 081
03370+6115	141.850	4.945	0.94	4.08	G	S	0.4	0.3		LSB			
03379+6754	137.890	10.322	1.56	3.14	G	S	0.5	0.3			10739	7	"1.2 Jy sample"
03388+6808	137.816	10.562	2.63	6.22	G	S	1.3	0.7			1353	3	UGC 02826, MCG
03419+6756	138.172	10.579	85.55	127.50	G	S	17.6	15.0			34	1	IC 342, UCG, MCG
03425+6846	137.689	11.268	0.65	2.21	G	S	0.7	0.7		LSB			
03431+6958	136.968	12.244	31.40	79.10	G	S	3.5	1.5			1201	2	UGC 02855, MCG
03434+6626	139.228	9.490	0.74	1.77	G	S	0.5	0.2		Tri			
03443+6754	138.378	10.688	0.89	2.11	G	S	0.6	0.6		LSB			
03444+4946	149.642	-3.556	8.47	13.74	G	S	0.3	0.2		Group	9684	A	
03449+7252	135.198	14.581	5.27	11.44	G	S	1.4	0.5			4312	1	UGC 02865, MCG
03451+6956	137.123	12.320	40.56	49.99	G	S	1.0	0.7			1232	3	UGC 02866, MCG
03472+6316	141.553	7.275	1.69	9.85							20930	7	"1.2 Jy sample"
03477+6320	141.549	7.355	0.92	3.37	G	S	0.1	0.1					
03490+6011	143.664	5.005	1.64	3.65							5403	7	"1.2 Jy sample"
03504+7246	135.584	14.764	1.36	2.63	G	S	2.0	0.4			1165	2	UGC 02890, MCG
03523+5608	146.580	2.152	1.00	2.34	G	S	0.2	0.2			10415	A	
03527+5051	149.991	-1.880	2.75	6.04	G	S	0.6	0.3		LSB	4675	6	"Bottinelli (Nancay)"
03547+6657	139.769	10.610	1.04	4.98							85	2	UA 086
03571+6022	144.323	5.790	1.59	3.74	G	S	0.3	0.3			7834	7	"1.2 Jy sample"
03572+7134	136.811	14.203	1.38	4.16	G	E/S	1.0	0.8			4517	1	UGC 02916
03576+7134	136.832	14.231	0.81	2.81	G	S	0.7	0.2			4509	2	Z0357.9+7135
03582+6012	144.538	5.754	5.46	7.03	G	S	0.3	0.1		Pair, LSB	8997	3	"1.936 Jy sample"
04008+6001	144.910	5.830	0.85	3.28							23451	11	
04025+6940	138.463	13.109	3.38	24.44							898	2	IC 356, UCG, MCG
04032+6932	138.607	13.050	1.01	2.79	G	S	0.7	0.2			1007	1	UGC 02955
04033+6942	138.499	13.176	0.87	24.44							4921	11	
04036+7135	137.180	14.565	0.74	1.74	G	S	0.6	0.3			9730	A	
04116+5506	149.305	3.177	0.93	2.44							4849	6	"Bottinelli (Nancay)"
04122+6047	145.415	7.359	2.26	6.67	G	S	1.3	1.0			1109	3	"1.936 Jy sample"
04128+6103	145.282	7.594	0.64	2.20	G	S	0.4	0.3			7674	A	
04133+5853	146.845	6.071	0.97	2.60							12853	11	
04151+5545	149.211	3.996	2.37	6.21	G	S	0.8	0.5			5213	2	Anon 0415+55
04162+6557	142.067	11.344	1.80	2.89	G	S	0.4	0.4			8154	7	"1.2 Jy sample"
04206+7002	139.327	14.469	0.85	2.17	G	S	0.8	0.3			7537	A	UGC 03026, MCG
04233+7014	139.342	14.766	2.31	6.07	G	S	1.3	0.6			3039	1	UGC 03042, MCG
04233+5803	148.370	6.421	0.92	2.30	G	S	0.4	0.2			15257	A	
04235+5638	149.415	5.440	2.20	6.00	G	S	0.6	0.5			4804	3	"1.936 Jy sample"
04235+6928	139.942	14.262	1.84	3.23	G	S	0.7	0.5			10290	7	Z0423.4+6929
04239+7018	139.322	14.858	2.26	5.19	G	S	1.0	0.6			3049	2	UGC 03048, MCG
04240+6925	140.009	14.262	1.44	3.44	G	S	1.2	0.7			4699	1	UGC 03046, MCG
04260+6444	143.680	11.241	46.68	51.71	G	S	2.2	1.2		HSB	-77	2	NGC 1569, UCG, MCG
04269+6048	146.676	8.641	1.04	1.82	G	S	0.7	0.3			4359	A	
04277+6141	146.089	9.310	2.11	7.15	G	S	0.5	0.2		LSB	7587	3	"1.936 Jy sample"
04277+5918B	147.856	7.687	0.83	4.32							4533	7	"1.2 Jy sample"
04286+5940	147.662	8.013	2.07	4.46	G	S	0.5	0.3			5025	3	"1.936 Jy sample"
04318+5912	148.277	8.010	3.73	6.79	G	S	0.4	0.3			5124	3	"1.936 Jy sample"
04336+6034	147.413	9.081	3.76	6.30	G	S	0.4	0.2			8478	3	"1.936 Jy sample"
04336+6513	143.863	12.156	0.63	1.57	G	S	0.7	0.7			3882	1	UGC 03100, MCG
04341+6029	147.507	9.079	1.22	6.30							8608	7	"1.2 Jy sample"
04355+6632	142.967	13.165	0.74	2.68	G	S	1.5	0.5			3725	1	UGC 03114, MCG
04356+6738	142.113	13.886	5.26	5.40	G	E/S	0.4	0.3			4830	3	VII Zw 019
04370+6109	147.244	9.779	0.63	2.22	G	S	0.2	0.1					
04372+6907	141.036	14.949	1.68	3.98	G	S	0.8	0.5			4552	7	UGC 03124, MCG
04391+6423	144.889	12.068	0.78	1.48							20085	11	
04422+6557	143.863	13.314	0.68	2.47	G	S	1.2	0.6			4698	1	UGC 03149

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
04432+6201.....	147.047	10.904	0.66	2.17	G	S	0.2	0.1					
04433+6020.....	148.389	9.842	0.64	3.03	G	S	0.3	0.2		Pair	10917	A	
04438+5926.....	149.123	9.314	0.99	4.16	G	S	0.9	0.3			11129	7	“1.2 Jy sample”
04447+6350.....	145.728	12.183	1.95	5.72	G	S	1.3	0.3			4735	1	UGC 03167
04450+6258.....	146.435	11.674	1.12	2.32	G	S	0.5	0.3			4821	A	
04455+5903.....	149.554	9.238	1.49	3.92							4845	7	“1.2 Jy sample”
04460+6218.....	147.040	11.338	0.79	1.82	G	S	0.5	0.3			4728	A	
04474+6357.....	145.830	12.492	0.76	2.11	G	S	0.6	0.4			4248	A	
04487+6346.....	146.064	12.490	1.04	6.58							5011	11	
04501+6629.....	143.944	14.275	2.05	4.71	G	S	0.1	0.1		LSB			
04506+6521.....	144.905	13.616	0.69	1.90	G	S	0.3	0.2			19846	11	
04561+6210.....	147.886	12.179	1.95	6.11	G	S	1.7	0.9			5223	2	UGC 03218, MCG
04586+6544.....	145.090	14.520	1.63	1.60	G	S	0.4	0.3			9965	7	VII Zw 023
05041+6222.....	148.275	13.054	1.37	4.00	G	S	0.6	0.5			5092	7	Z0504.1+6222
05058+6306.....	147.777	13.628	0.97	3.37	G	S	1.2	1.0			4530	1	UGC 03250, MCG
16509-2006.....	0.618	14.623	1.32	3.00							5947	7	“1.2 Jy sample”
16573-1857.....	2.498	14.102	0.63	1.45	G	S	0.4	0.1	J		8943	11	
16581-2039.....	1.207	12.930	0.79	2.42	G	S	0.3	0.2	J		18654	11	
16582-1919.....	2.332	13.697	0.62	2.61							24746	11	
16591-1654.....	4.487	14.951	1.25	3.53							8503	7	“1.2 Jy sample”
16592-2019.....	1.639	12.929	0.84	2.10	G	S	1.0	0.2	J				
17008-2032.....	1.684	12.498	0.76	2.00	G	S	0.6	0.2	J	Pec	9881	11	
17031-2155.....	0.858	11.252	1.15	2.36	G	S	0.5	0.1	J				
17032-1851.....	3.429	13.019	0.68	1.20							17897	11	
17050-2111.....	1.724	11.327	0.77	3.83	G	S	0.3	0.1	J	Pair, LSB			
17062-1652.....	5.505	13.575	2.70	3.06	G	S	0.4	0.2	J		10250	3	“1.936 Jy sample”
17062-2021.....	2.595	11.570	1.02	3.19	G	S	0.7	0.4	J	LSB	9143	11	
17085-2024.....	2.874	11.108	1.19	2.53	G	S	0.2	0.1	J				
17119-1816.....	5.124	11.660	0.64	6.45							23701	11	
17122-2001.....	3.693	10.603	2.31	4.14	G	S	0.9	0.8	J		8881	3	“1.936 Jy sample”
17134-1539.....	7.547	12.823	1.15	2.72							8530	6	“Bottinelli (Nancay)”
17153-1819.....	5.529	10.971	0.66	4.36							8616	7	“1.2 Jy sample”
17156-1823.....	5.527	10.863	1.04	5.09	G	S	0.4	0.2	J	LSB			
17159-1719.....	6.465	11.399	0.92	3.08	G	S	0.6	0.5	J		8129	11	
17164-1659.....	6.817	11.489	0.91	2.60	G	S	0.3	0.1	J	Pair	16039	11	
17167-1725.....	6.485	11.185	0.91	2.28	G	S	0.6	0.2	J		8773	11	
17176-1320.....	10.113	13.246	0.63	8.07							11270	11	
17177-1857.....	5.325	10.143	1.29	14.28							8899	7	“1.2 Jy sample”
17180-1536.....	8.211	11.922	0.75	2.03							9124	11	
17241-1240.....	11.565	12.260	1.53	2.82							7404	7	“1.2 Jy sample”
17249-1132.....	12.646	12.709	1.37	3.17							7536	7	“1.2 Jy sample”
17254-1805.....	7.084	9.085	0.73	3.19	G	S	0.4	0.1	I				
17281-1016.....	14.164	12.701	2.75	5.28							11664	3	“1.936 Jy sample”
17284-0824.....	15.849	13.589	1.22	2.57							8437	3	“1.936 Jy sample”
17297-1022.....	14.300	12.311	1.61	2.68							11751	7	“1.2 Jy sample”
17307-1739.....	8.132	8.273	0.92	3.40	G	S	0.5	0.3	I	Pair, LSB			
17319-1451.....	10.693	9.490	1.41	2.97	G	S	0.2	0.1	I				
17330-1337.....	11.897	9.911	0.93	2.87	G	S	0.3	0.3	I				
17348-0944.....	15.509	11.562	1.30	3.83							5440	7	“1.2 Jy sample”
17397-0155.....	23.094	14.397	0.84	2.67							18641	7	“1.2 Jy sample”
17406-0421.....	21.019	13.022	2.29	3.95							11955	3	“1.936 Jy sample”
17407-0139.....	23.452	14.303	1.46	2.97							6792	3	Z1740.8-0140, MCG
17420-1409.....	12.584	7.789	0.93	3.35	G	S	0.4	0.2	I	LSB			
17423-1306.....	13.524	8.258	0.76	3.48	G?	E	0.5	0.3	I	ND			
17439-0304.....	22.581	12.926	2.94	4.12							7133	3	“1.936 Jy sample”
17465-0339.....	22.374	12.067	2.66	2.78							22538	3	“1.936 Jy sample”
17472-0438.....	21.594	11.441	0.71	3.56							7682	3	“1.936 Jy sample”
17513+0052.....	27.053	13.174	0.69	1.49	G	S	0.2	0.1			18951	11	
17518-0202.....	24.476	11.700	0.60	1.60	G	S	0.6	0.4					
17523-0856.....	18.416	8.223	0.93	3.50	G	S	0.3	0.2	I	LSB			
17553-1240.....	15.511	5.728	3.83	7.33	G	S	0.2	0.1	I				
17555+0336.....	30.044	13.517	0.92	1.38	G	S	0.2	0.2		LSB	18140	11	
17566+0042.....	27.530	11.926	0.78	1.52							25362	11	
17569+0617.....	32.665	14.418	3.19	7.40	G	S	1.5	1.0			1814	1	NGC 6509, UCG, MCG

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
17574+0629.....	32.900	14.406	2.22	2.35	G	E	0.2	0.2			32860	3	“1.936 Jy sample”
17578-0400.....	23.449	9.419	27.68	34.60	G	S	0.7	0.2	I	Pair	3780	2	Anon 1757-04
17582+0258.....	29.783	12.618	1.06	2.13							22561	11	
17591+0154.....	28.911	11.939	0.79	1.87	G	S	1.0	0.8			6762	10	Z1759.1+0155
17594+0657.....	33.566	14.180	2.36	7.86	G	S	3.1	0.7			1961	2	UGC 11093, MCG
18007+0741.....	34.390	14.214	0.69	2.66	G	E	0.2	0.2					
18018+0702.....	33.907	13.685	0.65	3.47							1757	7	Z1801.8+0702
18030+0705.....	34.099	13.437	0.84	4.40							43708	3	“1.936 Jy sample”
18090+0130.....	29.731	9.552	7.87	14.18	G	S	0.3	0.2	I	Pair, LSB	8662	3	“1.936 Jy sample”
18099+0623.....	34.237	11.590	0.63	2.52	G	S	0.6	0.5		LSB	13792	11	
18104+0641.....	34.576	11.614	0.61	8.21							6153	11	Z1810.5+0642
18113+1055.....	38.558	13.288	1.02	1.63	G	S	0.4	0.3		Pair	6669	A	
18116+1315.....	40.770	14.217	1.68	4.84	G	S	1.0	0.4			2307	1	UGC 11168, MCG
18118-0226.....	26.526	7.099	0.91	15.99							1750	2	
18124+1344.....	41.292	14.256	0.67	2.12	G	S	0.2	0.1		Pair	16728	11	
18126+1230.....	40.179	13.676	1.21	1.58	G	S	0.3	0.2			13641	7	“1.2 Jy sample”
18128-0254.....	26.218	6.650	2.42	6.39	G	S	0.4	0.3	I	LSB			
18136+0643.....	34.968	10.925	3.69	7.08	G	S	0.9	0.4		HSB	6157	1	UGC 11177
18136+1216.....	40.060	13.358	1.22	1.78	G	E/S	0.2	0.1					
18136+1346.....	41.455	13.998	1.32	3.35	G	S	0.9	0.4			2999	7	MCG+02-46-012
18144+1516.....	42.948	14.473	0.85	2.06	G	S	0.7	0.4		Pair	13198	11	
18147+1553.....	43.557	14.663	1.28	2.05	G	E	0.1	0.1			30695	7	“1.2 Jy sample”
18150+1117.....	39.311	12.621	0.67	1.87	G	S	0.4	0.3			17449	A	
18151+0726.....	35.797	10.901	0.84	1.90	G	S	0.5	0.3			9775	A	
18166+1218.....	40.423	12.728	0.64	12.05							14664	11	
18175+0251.....	31.918	8.298	0.69	2.17	G	E/S	0.3	0.2		LSB			
18190+0455.....	33.956	8.898	0.97	2.08	G	E	0.1	0.1					
18194+1552.....	44.025	13.643	1.77	3.24							23363	7	“1.2 Jy sample”
18194+1355.....	42.210	12.804	0.86	1.92	G	E	0.2	0.1			16219	7	“1.2 Jy sample”
18203+1540.....	43.939	13.341	2.87	5.72	G	S	1.0	0.9			5268	1	NGC 6627, UCG, MCG
18205+1224.....	40.936	11.896	0.91	3.80	G	S	0.8	0.7			2646	1	UGC 11214, MCG
18211+0403.....	33.415	8.056	0.61	2.90	G	E	0.2	0.2		ND			
18214+1347.....	42.303	12.304	1.36	2.44	G	E	0.3	0.2			16525	7	“1.2 Jy sample”
18221+0147.....	31.494	6.789	3.24	6.58	G	S	0.4	0.3			2845	3	“1.936 Jy sample”
18222+1440.....	43.207	12.505	1.09	7.76							37821	11	
18226+0953.....	38.867	10.340	0.71	2.12	G	S	0.5	0.2			14023	A	
18232-3134.....	1.985	-8.981	1.91	5.15	G	S	0.5	0.2	I		8326	7	“1.2 Jy sample”
18235+0259.....	32.745	7.015	0.72	3.60	G	S	0.4	0.2		LSB	9684	A	
18263+2242.....	51.135	14.986	4.38	8.61	G	S	1.3	0.5			3938	1	UGC 11246, MCG
18268+2252.....	51.344	14.939	0.97	2.15	G	S	1.0	0.8			4145	1	NGC 6641, UCG, MCG
18272+1602.....	45.004	12.001	0.60	1.81							26412	11	
18273+0928.....	38.995	9.118	0.71	2.51	G	E	0.2	0.1			16442	11	
18275+2301.....	51.570	14.854	1.31	2.92	G	S	1.2	0.2			4145	7	UGC 11253
18285+2009.....	48.965	13.473	0.71	3.02							20145	11	
18290+1910.....	48.087	12.951	1.62	3.43	G	S	1.0	0.2			5209	7	Z1829.0+1910, MCG
18293-3413.....	0.148	-11.308	35.35	52.87							5100	2	Anon 1829-34
18294+1636.....	45.762	11.777	1.05	5.34							4750	11	
18296+0554.....	36.043	6.992	1.62	2.51	G	S	0.5	0.2		LSB	6263	7	“1.2 Jy sample”
18315+2249.....	51.758	13.941	0.86	1.21	G	S	0.1	0.1			39287	11	
18317+0210.....	32.955	4.826	2.17	5.02	G?	E	0.2	0.2					
18318-3240.....	1.807	-11.099	1.07	2.51	G?	E/S	0.1	0.1	J				
18319+2105.....	50.173	13.133	0.98	2.26	G	S	0.6	0.2			3061	A	
18323+1856.....	48.217	12.131	0.76	2.39	G	S	0.5	0.4			4796	A	Z1832.3+1856
18330+1930.....	48.813	12.226	0.83	1.76	G	S	0.2	0.1			22018	11	
18334+2014.....	49.531	12.460	0.63	1.64	G	S	0.3	0.1			12745	11	
18336+2225.....	51.597	13.320	0.69	2.76	G	S	1.0	0.5			3991	1	UGC 11289, MCG
18338-2302.....	10.759	-7.243	1.26	5.54	G	S	0.5	0.2	I	LSB			
18340-3327.....	1.279	-11.853	0.67	2.09	G?	S?	0.2	0.1	J				
18340+1016.....	40.469	7.994	1.24	5.10	G	S	0.8	0.3			3571	3	“1.936 Jy sample”
18343+1023.....	40.617	7.982	0.96	2.34	G	S	0.9	0.4			3426	A	UGC 11293, MCG
18344+1952.....	49.303	12.081	0.80	2.58	G	S	1.2	0.9			4779	11	UGC 11294, MCG
18346-2744.....	6.588	-9.511	1.45	2.71	G	S	0.2	0.1	I		7916	7	“1.2 Jy sample”
18349-3207.....	2.599	-11.448	0.63	1.69	G	S	0.5	0.1	J		16283	11	
18350+1956.....	49.415	11.980	0.75	2.15	G	S	1.5	0.2			5801	A	UGC 11297

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
18354+2622.....	55.472	14.571	0.67	2.29	G	S	1.0	0.6			4111	A	NGC 6671, UCG, MCG
18356+1729.....	47.222	10.803	1.30	2.84	G	S	2.2	0.2			4496	7	UGC 11301, MCG
18360-2753.....	6.581	-9.837	0.73	2.16	G?	S	0.3	0.1	J		8540	11	
18365+2519.....	54.594	13.918	0.64	3.23							3502	1	NGC 6674, UCG, MCG
18366+0103.....	32.520	3.230	2.22	10.87	G	E	0.1	0.1					
18368+0524.....	36.422	5.186	1.78	6.73	G	S	0.8	0.2		LSB			
18377+1451.....	45.026	9.222	0.65	10.76							4981	11	
18385-2534.....	8.952	-9.336	0.93	2.33	G	E/S	0.2	0.2	I	LSB			
18390+2653.....	56.297	14.035	1.05	2.13	G	S?	0.2	0.2		Pec	15485	A	
18394-3503.....	0.261	-13.529	0.96	1.50							22604	11	
18402+2450.....	54.493	12.960	0.69	1.22	G	S	0.8	0.2			3472	A	Z1840.0+2450
18411+2155.....	51.866	11.537	2.08	4.44	G	S	0.5	0.2			12708	3	Z1841.1+2155
18421+2405.....	53.981	12.236	0.78	2.74	G	S	0.6	0.4			3822	1	UGC 11344, MCG
18421+1218.....	43.212	7.117	0.77	11.85							4649	11	
18422+2210.....	52.208	11.408	0.62	7.05							20468	11	
18424-2515.....	9.625	-9.984	0.71	2.22	G	S	0.2	0.1	I				
18428+2144.....	51.866	11.106	0.60	2.06	G	S	0.5	0.2			4385	A	
18441+2233.....	52.761	11.176	0.83	2.74	G	S	1.0	0.5			4696	1	UGC 11350, MCG
18448+1552.....	46.729	8.119	1.73	3.76	G	E/S	0.5	0.2			7324	7	“1.2 Jy sample”
18451+2544.....	55.808	12.316	1.14	2.41	G	E/S	0.5	0.3			3928	A	Z1845.1+2544
18464+2306.....	53.481	10.941	0.71	1.74	G	E/S	0.4	0.2			4340	A	Z1846.3+2306
18466+1829.....	49.289	8.903	0.82	2.05	G	E/S	0.3	0.2			5025	A	
18470+3233.....	62.384	14.724	4.25	3.43							23626	3	“1.936 Jy sample”
18472-1730.....	17.166	-7.587	0.95	2.56	G?	E	0.2	0.2	I				
18477-2007.....	14.851	-8.858	0.63	2.48	G	S	0.5	0.2	J	LSB	13612	11	
18482+1617.....	47.468	7.587	0.74	9.52							4772	11	
18489+3353.....	63.811	14.890	0.88	2.20	G	E/S	0.8	0.4			5207	A	NGC 6713, UCG
18491-2738.....	8.078	-12.360	0.84	6.35							7721	11	
18491-2940.....	6.190	-13.203	4.19	5.55	G	S	0.5	0.4	J	LSB	12698	3	“1.936 Jy sample”
18495+2334.....	54.230	10.493	4.26	5.40	G	S	0.9	0.6			4548	3	UGC 11369, MCG
18496+1148.....	43.592	5.265	1.39	5.95	G	S	0.9	0.6			2603	7	“1.2 Jy sample”
18499+2625.....	56.895	11.635	0.84	2.38	G	S	1.0	0.3			3746	1	UGC 11371, MCG
18503+3213.....	62.342	13.947	0.68	1.96	G	S	0.3	0.1		HSB	20144	A	
18504-1737.....	17.412	-8.320	0.75	2.66	G	S	0.3	0.2	J		15303	11	
18510+2853.....	59.296	12.444	0.92	2.59	G	E/S	0.3	0.2			14069	A	
18510+2746.....	58.262	11.966	0.94	1.74	G	S	0.5	0.4			18591	A	
18519-2231.....	13.089	-10.776	0.69	1.70	G	S	0.5	0.2	J	ND			
18526-2445.....	11.090	-11.866	1.75	1.65	G	S	0.2	0.1	I	ND	11242	7	“1.2 Jy sample”
18539-1916.....	16.264	-9.781	3.10	6.87	G	E/S	0.4	0.2	J		13803	3	“1.936 Jy sample”
18544-2937.....	6.704	-14.230	0.93	4.46							35539	11	
18544-1938.....	15.990	-10.048	1.32	3.74	G	E	0.4	0.3	J	ND	7230	7	“1.2 Jy sample”
18546+2510.....	56.205	10.128	1.06	2.00	G	S	0.9	0.3			4410	1	UGC 11379, MCG
18550+3633.....	66.853	14.782	1.70	5.35	G	S	1.7	0.6			2889	7	UGC 11380, MCG
18556+1925.....	51.092	7.391	1.51	2.73							25952	11	
18565-2730.....	8.902	-13.795	0.74	2.35	G?	E/S	0.4	0.2	J				
18569+1312.....	45.653	4.304	3.92	6.27	G	S	0.7	0.6		ND	7309	A	
18570+1915.....	51.092	7.021	0.97	3.81	G	S	0.8	0.3			5116	A	
18574+1921.....	51.212	6.994	1.19	3.20	G	E/S	0.8	0.6			3111	1	UGC 11385, MCG
18579-2446.....	11.586	-12.968	0.91	6.63							15429	11	
18580+2652.....	58.103	10.190	0.68	1.53	G	S	0.2	0.1					
18584-2438.....	11.759	-13.001	3.03	5.93	G	S	0.8	0.6	J	Pec	8786	3	ESO 524-2
18585+2148.....	53.549	7.859	0.62	1.93							33396	11	
18587-1653.....	18.949	-9.786	5.41	7.84	G	E/S	0.2	0.1	J		14431	3	“1.936 Jy sample”
18587+2841.....	59.843	10.818	0.79	1.95	G	S?	1.0	0.7			4248	A	UGC 11388, MCG
18588+3517.....	65.970	13.569	1.80	1.76	G	S	0.2	0.1			31973	7	“1.2 Jy sample”
18597+1852.....	51.027	6.294	0.96	2.74	G	E	0.2	0.1					
18599-0944.....	25.556	-6.864	0.73	2.49	G	S	0.2	0.1	I				
19000+3400.....	64.880	12.816	0.91	1.34	G	S	0.4	0.2			4514	11	
19007+2713.....	58.693	9.795	0.67	2.14	G	S	1.1	0.8			4209	1	UGC 11393, MCG
19011-2508.....	11.552	-13.785	0.73	1.89	G	S	0.6	0.1	J	Pec	12802	11	
19023+2918.....	60.753	10.387	1.03	5.59							22708	11	
19026-1820.....	18.025	-11.233	0.60	1.59	G	S	0.6	0.1	J		11330	11	
19030+3423.....	65.499	12.408	3.13	5.80	G	S	0.6	0.2			6363	3	UGC 11399
19031+2646.....	58.507	9.121	1.05	1.68	G	S	0.8	0.2			5390	A	

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
19033–2001	16.547	–12.113	0.83	3.18	G	S	1.4	0.3	J		5777	11	ESO 592–10
19038–2358	12.915	–13.864	0.95	2.63	G	I	0.4	0.2	J	Pec	6408	7	“1.2 Jy sample”
19040+3356	65.170	12.036	0.72	1.12	G	E?	0.1	0.1			54322	11	
19048–2505	11.947	–14.510	1.10	4.72	G	S	0.2	0.1	J		22390	11	
19050+2855	60.664	9.677	2.66	7.67	G	E/S	1.5	0.8			3907	1	UGC 11404, MCG
19063+2136	54.183	6.154	0.62	2.98	G	E/S	0.2	0.2					
19063+2246	55.238	6.674	1.03	2.77							14438	11	
19066+1419	47.736	2.738	2.04	9.93	G	E	0.1	0.1					
19066+1919	52.186	5.033	3.10	4.15	G	S	0.6	0.2			4680	3	“1.936 Jy sample”
19069–1800	18.776	–12.023	1.68	4.50	G	S	0.6	0.3	J	HSB	6702	7	ESO 593–1, MCG
19070–0047	34.373	–4.370	1.07	4.66	G	E/S	0.3	0.2	I				
19072+3129	63.224	10.379	0.63	3.06	G	S	0.2	0.1			22984	11	
19075–1027	25.763	–8.864	0.72	2.29	G	S	0.4	0.1	I	LSB			
19080+2852	60.906	9.068	0.75	1.75	G	S	1.0	0.8			4020	A	MCG+05-45-005
19081+1928	52.474	4.800	0.85	3.48	G	S	0.5	0.5					
19082–1605	20.685	–11.487	0.87	2.16	G	S	0.5	0.2	I	Pair			
19084+3719	68.698	12.651	0.74	2.81	G	S?	0.1	0.1			32697	11	
19087–2214	15.013	–14.175	0.66	1.37	G	S	0.2	0.1	I	ND	23676	11	
19088–1715	19.677	–12.110	0.76	1.93	G	S	0.6	0.4	I		7035	A	
19088–1718	19.630	–12.142	0.62	1.43	G	S	1.4	0.1	I				
19099+2506	57.708	7.001	1.45	3.34	G	S	0.2	0.2		LSB			
19103–1444	22.148	–11.371	1.13	1.39	G	S	0.3	0.3	I				
19104–1708	19.959	–12.417	0.70	1.16	G?	S	0.4	0.2	I	PN?	7220	11	
19105+2223	55.336	5.644	1.23	3.70	G	S	0.5	0.3			4595	7	“1.2 Jy sample”
19114+4310	74.422	14.566	1.86	2.46	G	S	0.3	0.2			8675	7	“1.2 Jy sample”
19115–2124	16.074	–14.425	6.27	10.29	G	S	0.6	0.2	I	Int	14608	3	ESO 593–8
19120+4046	72.210	13.484	0.86	1.61	G	S	0.5	0.2			14390	11	
19121+2638	59.308	7.262	1.35	1.89							6902	11	
19123–1701	20.259	–12.783	0.65	2.13	G	S	1.6	0.3	I				
19127–0538	30.691	–7.854	0.79	2.44	G	E/S	0.1	0.1					
19130+2838	61.191	7.991	0.61	1.72	G	S	0.6	0.4			25182	11	
19132–1404	23.078	–11.707	1.54	3.36							33635	7	“1.2 Jy sample”
19142+4321	74.806	14.179	0.68	1.90	G	S	1.2	0.1			4654	1	UGC 11422, MCG
19147+0237	38.313	–4.505	1.62	5.36	G	S	0.5	0.2	I	LSB			
19151+0421	39.883	–3.775	2.05	4.81	G	S	0.5	0.2			6337	4	“Lu (Arecibo)”
19154+3320	65.664	9.648	3.42	6.14	G	S	0.5	0.2			4477	3	Z1915.4+3320
19154+2704	60.037	6.793	1.50	2.85							29792	11	
19161–1127	25.793	–11.212	1.55	2.26							24004	7	“1.2 Jy sample”
19165+3444	67.050	10.067	1.47	4.24	G	E/S	0.8	0.5			4385	A	UGC 11426
19172+2806	61.143	6.927	1.31	2.10	G	S	0.3	0.1		LSB	22820	7	“1.2 Jy sample”
19173+2835	61.588	7.118	1.77	2.19	G	E/S	0.1	0.1					
19177+3228	65.118	8.818	1.10	2.65	G	E	0.4	0.3			16353	A	
19182+0604	41.776	–3.649	1.39	6.31	G	S	0.3	0.2			6442	4	“Lu (Arecibo)”
19185+3043	63.619	7.880	1.63	4.36	G	S	1.0	0.9			3945	1	UGC 11428, MCG
19187–1714	20.703	–14.247	0.65	1.09	G	S	0.8	0.3	I		8956	11	MCG –03-49-002
19189+3436	67.156	9.574	0.89	2.09							10011	11	
19189+4328	75.284	13.444	1.09	2.00	G	S	0.4	0.2		Pec	17815	A	
19191–0648	30.362	–9.807	1.72	10.62							8562	11	
19193+4302	74.909	13.201	0.75	3.64	G	S	1.7	1.1			4638	1	NGC 6792, UCG, MCG
19206+4342	75.640	13.272	1.07	1.56	G	E	0.3	0.2			15735	11	
19210–0757	29.524	–10.730	1.07	2.33							41265	11	
19212+2701	60.589	5.642	0.72	2.39	G	S	0.1	0.1					
19213+4503	76.939	13.742	0.80	3.44	G	S	0.6	0.3			13900	7	“1.2 Jy sample”
19213+3732	70.041	10.443	1.17	1.57	G	E	0.2	0.2			28093	A	
19214+0104	37.713	–6.687	0.74	2.96	G	S	0.1	0.1					
19215–1343	24.296	–13.369	0.77	3.94							22846	11	
19218+3927	71.817	11.222	0.80	1.15	G	S	0.4	0.2			8701	11	
19221+0019	37.120	–7.203	2.00	5.06	G	S	0.4	0.3		LSB	6275	3	“1.936 Jy sample”
19238–0917	28.640	–11.955	0.96	1.34							14853	11	
19253–0004	37.143	–8.102	0.95	1.77	G?	S	0.2	0.1					
19260–0136	35.853	–8.972	0.61	8.55							8090	11	
19261+3439	67.877	8.272	0.86	3.06	G	S	0.6	0.2			6532	A	
19270+3945	72.556	10.465	0.86	2.06	G	S	0.4	0.2			6532	A	
19270+4423	76.782	12.543	0.75	2.14	G	E/S	0.2	0.2		Pair?	29874	A	

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
19270-0655	31.162	-11.607	0.96	1.54	G	E/S	0.3	0.2			12751	11	
19278+4112	73.939	10.970	0.61	1.89	G	S	1.1	0.8			4850	10	UGC 11446, MCG
19279+3534	68.883	8.365	5.11	9.49	G	S	0.8	0.3			4612	3	“1.936 Jy sample”
19288+4701	79.356	13.411	0.74	2.06	G	E	0.6	0.6			8214	11	
19289+4611	78.592	13.043	0.88	2.08	G	E	0.2	0.1			25868	11	
19290+3540	69.077	8.223	1.32	2.28	G	S	0.9	0.5			4655	1	IC 1302, MCG
19292+0235	39.984	-7.697	1.78	2.41	G	S	0.6	0.5			13138	7	“1.2 Jy sample”
19296+3546	69.218	8.152	1.18	3.14	G	S	1.0	0.7			4465	1	IC 1303, UCG, MCG
19297-0406	34.020	-10.920	7.33	8.33	G	E	0.2	0.2			25674	3	“1.936 Jy sample”
19312+0001	37.930	-9.352	0.68	2.80	G	E	0.3	0.2					
19314+3452	68.591	7.408	1.72	3.35	G	S	0.6	0.2			4506	7	“1.2 Jy sample”
19314+3854	72.193	9.307	0.82	3.24	G	S	0.7	0.2			9410	A	
19315+4054	73.998	10.222	2.38	1.53							4664	3	“1.936 Jy sample”
19316+3542	69.357	7.778	2.47	5.56	G	S?	0.5	0.4			4491	3	“1.936 Jy sample”
19318+3917	72.569	9.412	0.65	1.53	G	S	0.3	0.2			8770	A	
19326+4954	82.301	14.111	1.37	4.49	G	S	0.8	0.2			9642	7	MCG +08-35-015
19327+4909	81.619	13.767	1.51	2.74	G	S	0.3	0.3			7933	7	Z1932.7+4908
19340+4411	77.175	11.329	0.88	3.43	G	E	0.2	0.2					
19344+3837	72.211	8.668	0.90	1.95							17275	11	
19346+0238	40.666	-8.880	1.05	4.30	G	E/S	0.5	0.5			7172	A	Z1934.7+0237
19347+0928	46.727	-5.624	2.38	12.12							3085	3	“1.936 Jy sample”
19348+5153	84.306	14.673	0.63	6.42							24366	11	
19348+3400	68.159	6.379	0.64	11.26							30889	11	
19348-0619	32.589	-13.073	2.98	5.05	G	E	0.7	0.6			3174	3	“1.936 Jy sample”
19349-0609	32.753	-13.012	2.15	1.79	G	S	0.4	0.2			7217	3	“1.936 Jy sample”
19354+4559	78.928	11.932	0.69	1.69	G	S?	0.2	0.2		Pair	19426	7	“1.2 Jy sample”
19354+0716	44.876	-6.846	0.78	2.16	G	S	0.3	0.2			6989	A	
19356+4035	74.086	9.384	1.02	4.33	G	S	1.3	0.8			3124	1	UGC 11459, MCG
19360-0312	35.576	-11.922	1.06	2.29	G	S	1.0	0.2			8740	11	
19367+0012	38.736	-10.474	1.39	2.48	G	S?	0.4	0.4			15549	7	“1.2 Jy sample”
19367+4544	78.811	11.626	0.66	2.61	G	S	0.2	0.2			9227	A	
19367+0841	46.284	-6.432	1.22	4.04	G	S	1.3	0.2			3115	1	UGC 11461
19369+0318	41.535	-9.064	0.75	2.31	G	E/S	0.2	0.1			10822	11	
19370-0131	37.218	-11.361	2.52	2.31	G	S	0.5	0.3			6188	3	“1.936 Jy sample”
19370+0614	44.150	-7.687	1.37	4.34	G	S	0.5	0.4			5873	7	Z1937.0+0614
19372+0320	41.608	-9.121	0.71	2.22	G	S	0.2	0.1			10822	11	
19374+4239	76.096	10.067	0.63	1.85	G	E/S	0.3	0.1			17175	A	
19377+0129	40.010	-10.091	0.77	1.60	G	E/S	0.1	0.1					
19387+0145	40.365	-10.189	0.67	2.16	G	E/S	0.7	0.4			5897	6	“Bottinelli (Nancay)”
19390+0320	41.821	-9.519	1.91	2.26	G	E?	0.2	0.1					
19393+3657	71.208	7.014	0.71	2.83	G?	S	0.3	0.2					
19401+5142	84.499	13.854	2.16	5.75	G	S	0.8	0.4			10578	3	UGC 11464, MCG
19402+0948	47.679	-6.631	0.77	2.48	G	E	0.3	0.2		Pair	5162	A	
19405-0703	32.567	-14.652	2.76	5.45	G	S	1.1	0.4			1489	1	MCG -01-50-001
19406+4758	81.144	12.072	1.44	2.90	G	S	0.5	0.3		Pair	9550	7	“1.2 Jy sample”
19408-0117	37.878	-12.095	2.58	5.25	G	S	1.2	0.5			1429	3	Z1940.9-0117, MCG
19412-0657	32.733	-14.762	0.73	1.11	G	S	0.4	0.2			15411	11	
19412+4423	77.967	10.288	1.60	1.81	G	E	0.2	0.2		Pair?	10078	7	“1.2 Jy sample”
19413+4546	79.222	10.934	0.60	1.66							10242	11	
19414+4510	78.690	10.632	9.12	16.48	G	S	1.3	0.7			782	1	UGC 11466
19415+4155	75.810	9.050	0.63	2.47	G	S	0.8	0.7		Irr	4933	A	UGC 11467, MCG
19417-0657	32.804	-14.877	3.72	5.96	G	E/S	0.1	0.1			1525	1	NGC 6821, MCG
19420+1808	55.161	-2.890	3.94	7.09	G	S	0.3	0.2		Pair, HSB	4477	A	
19420+4556	79.428	10.893	1.50	2.70	G?	E?	0.2	0.2			35356	7	“1.2 Jy sample”
19421+4309	76.945	9.554	0.78	2.23	G?	S	0.2	0.1			33815	11	
19425+0131	40.625	-11.148	0.66	2.40	G	E/S	0.2	0.2			18849	11	
19429+3752	72.372	6.836	0.99	3.19	G	S	0.3	0.2			11237	A	
19431+4752	81.249	11.641	0.84	1.92	G	S	1.1	0.3			8222	A	UGC 11471, MCG
19439+4301	76.986	9.200	0.63	4.83							4653	1	UGC 11473
19442+4557	79.623	10.565	1.33	1.88	G	S	0.2	0.2			8187	7	“1.2 Jy sample”
19454+4459	78.874	9.922	1.08	3.07	G	S	0.5	0.3			9593	A	
19455+5245	85.856	13.594	0.64	6.36							17051	11	
19458+0944	48.314	-7.876	3.95	7.11							29848	3	“1.936 Jy sample”
19462+4942	83.144	12.068	1.02	2.06	G	S	0.5	0.2			8770	A	

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
19463+0321.....	42.735	-11.108	0.72	2.19	G	S	0.7	0.2			5847	A	Z1946.5+0322
19467+4617.....	80.140	10.360	0.79	2.82	G	S	1.0	0.6			8040	A	UGC 11480
19468+1651.....	54.642	-4.522	0.69	3.05	G	E/S	0.4	0.2		LSB			
19472+4902.....	82.635	11.614	0.87	1.40	G	S	0.3	0.2			7674	A	
19475+5045.....	84.196	12.389	0.77	2.48	G	S	0.5	0.2			8314	A	
19476+5011.....	83.686	12.103	2.44	4.46	G	S	1.2	0.6			7663	3	UGC 11485
19481+0410.....	43.686	-11.103	0.63	1.69	G	S	0.4	0.2		Pair	8784	11	
19482+4128.....	76.035	7.748	1.23	5.46	G	S	0.1	0.1					
19482+1815.....	56.007	-4.101	2.18	5.20	G	S	0.9	0.4			3975	4	“Lu (Arecibo)”
19484+5034.....	84.100	12.168	0.65	2.40	G	S	0.9	0.4			7811	A	UGC 11486
19486+4400.....	78.296	8.937	0.92	4.57	G?	S	0.2	0.2					
19487+1814.....	56.057	-4.197	2.18	6.78	G	S	0.9	0.3			3978	4	“Lu (Arecibo)”
19488+5011.....	83.793	11.931	0.68	1.59	G	S	0.2	0.2		Tri, LSB	23896	11	
19489+0425.....	43.986	-11.146	1.15	1.79							8833	11	
19496+5217.....	85.733	12.822	0.61	1.00	G	S	0.4	0.2			18500	A	
19499+0412.....	43.921	-11.465	1.39	3.95	G	S	0.7	0.2			5995	7	“1.2 Jy sample”
19501-0245.....	37.659	-14.829	0.62	1.31							28540	11	
19502+3858.....	74.050	6.154	1.04	4.59	G?	S	0.1	0.1		LSB			
19505+5008.....	83.873	11.667	1.27	2.72	G	S	0.5	0.2			7490	7	“1.2 Jy sample”
19512+4312.....	77.818	8.134	1.71	7.14	G	E/S	0.1	0.1		LSB			
19513+4157.....	76.745	7.495	1.12	4.53	G	E/S	0.8	0.2		ND	8588	A	
19514+0156.....	42.073	-12.892	1.67	2.76	G	E/S	0.5	0.4		HSB	7565	7	“1.2 Jy sample”
19516+5719.....	90.448	14.954	1.12	2.84	G	S	1.3	0.6			3562	2	UGC 11492, MCG
19526+4948.....	83.753	11.213	1.62	3.52	G	S	1.4	0.5		Pair	7518	7	UGC 11494, MCG
19531+0202.....	42.382	-13.209	3.52	6.69	G	S	0.5	0.3			7522	3	UGC 11497
19541+0753.....	47.707	-10.568	0.66	1.39	G	S	0.4	0.3			5490	11	
19542+1110.....	50.614	-8.933	6.26	6.66							19473	11	
19545+4017.....	75.622	6.114	0.99	4.43	G	E	0.7	0.5		HSB	4794	1	MCG +07-41-001
19545+1625.....	55.207	-6.331	2.03	4.98	G	S	0.4	0.2			11784	3	“1.936 Jy sample”
19547+0545.....	45.909	-11.769	0.97	4.58	G	S	2.3	0.7			3264	2	UGC 11498, MCG
19554+4708.....	81.642	9.474	2.23	3.05	G	E	0.6	0.4		HSB, ND	8081	3	Z1955.5+4709, MCG
19556+4808.....	82.534	9.957	0.81	15.03							14407	11	
19559+1618.....	55.265	-6.665	0.88	2.26	G	S	0.2	0.1			41853	11	
19559+1710.....	56.011	-6.217	0.71	3.90							24357	11	
19567+1046.....	50.589	-9.680	0.97	1.89							23397	11	
19574+1437.....	54.012	-7.844	1.24	2.88	G	S	0.6	0.5			4430	7	Z1957.5+1438
19575+1322.....	52.943	-8.504	0.81	1.79	G	S	0.5	0.2			13201	A	
19577+4035.....	76.189	5.755	2.33	8.28	G	S?	0.4	0.3		LSB	16837	1	Cyg A, MCG +07-41-003
19578+5016.....	84.591	10.721	1.01	1.80	G	S	0.3	0.2		HSB	7572	11	
20002+3717.....	73.628	3.607	3.29	42.54							3988	11	
20017+0700.....	47.894	-12.639	0.84	4.91							5615	11	
20022+1235.....	52.861	-9.890	1.02	3.19	G	S	1.0	0.5			4425	1	UGC 11512
20033+4456.....	80.445	7.172	2.05	9.14	G	S?	0.2	0.1					
20042+1826.....	58.147	-7.232	0.87	4.45							14086	7	“1.2 Jy sample”
20046+2120.....	60.679	-5.778	2.52	2.57							14438	11	
20053+1851.....	58.646	-7.248	1.94	10.14							14769	7	“1.2 Jy sample”
20060+4428.....	80.319	6.510	2.63	11.84	G	E?	0.2	0.1					
20061+5032.....	85.509	9.728	0.90	4.37	G	S	0.5	0.2			7674	A	
20061+5022.....	85.366	9.629	0.98	4.73	G	S	0.5	0.1			7371	11	
20065+1456.....	55.449	-9.565	0.77	1.19	G	S	0.3	0.2			12653	A	
20069+5929.....	93.408	14.253	2.22	4.13	G	S	0.6	0.4			11132	3	Z2006.9+5929
20093+0536.....	47.641	-14.983	3.86	8.24	G	S	0.8	0.4			5288	1	UGC 11522, MCG
20097+1726.....	58.008	-8.883	1.23	2.50	G	S	0.3	0.3			8910	7	“1.2 Jy sample”
20101+1908.....	59.499	-8.044	1.55	4.67	G	S	0.8	0.3			9683	7	“1.2 Jy sample”
20107+0640.....	48.771	-14.745	0.94	1.52	G	E/S	0.3	0.3		Pair	14080	11	
20108+1555.....	56.852	-9.912	0.84	1.49							12711	11	
20118+6132.....	95.558	14.769	1.06	3.19	G	S	0.7	0.4			5619	A	Z2011.8+6132, MCG
20119+2852.....	67.907	-3.031	2.47	4.25	G	S	0.5	0.3		LSB			
20120+1426.....	55.729	-10.946	1.39	2.08	G	E	0.4	0.3			6297	7	“1.2 Jy sample”
20130+1833.....	59.389	-8.944	0.90	2.37							21164	11	
20139+0757.....	50.333	-14.756	1.49	1.87	G	S	0.5	0.3			7455	7	“1.2 Jy sample”
20144+2649.....	66.509	-4.650	1.17	2.37	G	S	0.4	0.2		LSB	12435	11	
20144+6017.....	94.620	13.849	0.93	1.90	G	S	0.3	0.2			12561	11	
20156+1855.....	60.036	-9.254	1.10	3.74	G	S	0.3	0.1		Pair	20843	11	
20158+5653.....	91.765	11.899	0.68	2.81	G	S	0.2	0.1			12226	11	

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
20162+1641.....	58.219	-10.590	0.67	4.79							20708	11	
20165+1712.....	58.708	-10.373	0.60	1.75							16631	11	
20193+5605.....	91.344	11.045	0.71	10.63							10155	11	
20199+1003.....	52.990	-14.926	0.60	2.29							7778	11	II Zw 81
20204+5934.....	94.412	12.831	0.92	3.47	G	S	0.6	0.5			5527	A	Z2020.5+5935, MCG
20205+5215.....	88.200	8.774	1.05	3.57	G	S	1.0	0.3			2945	5	UGC 11545
20206+5720.....	92.508	11.595	1.50	4.35	G	S	0.3	0.2		Pec	7605	7	“1.2 Jy sample”
20207+1256.....	55.606	-13.536	0.60	1.72	G	S	0.3	0.2		LSB	25717	A	
20210+1121.....	54.270	-14.450	3.35	2.89	G	S	0.4	0.4		Pair	16905	3	“1.936 Jy sample”
20211+1710.....	59.284	-11.293	0.65	1.35	G	S	0.2	0.1					
20212+1548.....	58.123	-12.077	0.68	2.88	G	S	0.5	0.3			8508	11	
20217+1535.....	58.021	-12.298	1.04	4.19	G	S	0.7	0.4			8359	A	Z2021.7+1535
20219+1224.....	55.308	-14.078	0.84	1.73	G	S	0.7	0.4			4568	A	Z2022.0+1225, MCG
20222+1216.....	55.230	-14.204	1.22	4.86	G	S	1.7	0.6			4523	1	UGC 11552, MCG
20224+5810.....	93.357	11.854	2.59	7.99	G	S	1.7	1.0			3101	1	NGC 6916, UCG, MCG
20230+6001.....	94.981	12.815	0.68	1.86	G	S	0.6	0.5			1389	1	UGC 11557, MCG
20231+2905.....	69.473	-4.944	0.71	1.71	G	E	0.1	0.1					
20248+1734.....	60.126	-11.822	0.74	2.53	G	S	0.2	0.1		Pair			
20254+3203.....	72.186	-3.609	1.56	6.37	G	E/S	0.3	0.2		LSB			
20264+2533.....	67.002	-7.571	11.16	17.64	G	S	0.9	0.3		Pair	4399	1	NGC 6921, UCG, MCG
20265+2235.....	64.567	-9.303	3.59	4.40	G	S	0.4	0.2		LSB	16740	3	“1.936 Jy sample”
20271+6221.....	97.256	13.695	1.52	2.88	G	S	0.5	0.3			11700	7	“1.2 Jy sample”
20277+3234.....	72.901	-3.714	1.91	7.59	G	S	0.3	0.1		LSB			
20280+1341.....	57.261	-14.622	0.86	1.90	G	S	0.4	0.3			17861	A	
20284+2730.....	68.855	-6.800	0.77	3.36	G	S	0.7	0.2			14709	A	
20286+1846.....	61.661	-11.888	0.93	2.25							40396	11	
20293+5508.....	91.357	9.357	0.75	2.22	G	S	0.4	0.2		LSB	2846	11	
20307+3601.....	76.040	-2.155	2.98	13.39	G?	E	0.2	0.1		LSB			
20315+2551.....	67.917	-8.335	0.68	2.19							19614	11	
20318+2343.....	66.213	-9.647	0.94	2.96							30302	11	
20322+1849.....	62.198	-12.551	0.75	1.40	G	S?	0.2	0.1			32038	11	
20338+5958.....	95.720	11.672	52.43	127.90	G	S	8.5	8.0			50	2	NGC 6946, UCG, MCG
20340+5124.....	88.732	6.594	4.73	11.10	G	S	0.6	0.5			3152	A	
20343+5545.....	92.276	9.137	0.65	2.24	G	S	0.6	0.5		LSB			
20343+6437.....	99.657	14.298	1.24	3.80	G	S	1.0	1.0			2778	7	NGC 6949, UCG, MCG
20349+5812.....	94.338	10.517	0.94	2.03	G	S	0.3	0.2			11663	11	
20351+2521.....	67.995	-9.290	6.24	9.23	G	S	0.6	0.5			10222	3	“1.936 Jy sample”
20361+2028.....	64.123	-12.349	1.46	2.88	G	S	0.5	0.1			6970	7	“1.2 Jy sample”
20364+2507.....	67.993	-9.661	0.81	1.77	G	E	0.2	0.2			19688	A	
20366+6555.....	100.895	14.852	13.49	37.14	G	S	2.6	2.0			1426	1	NGC 6951, UCG, MCG
20386+5049.....	88.701	5.660	1.23	7.24							2807	7	Anon 2038+50
20394+2359.....	67.476	-10.880	0.78	2.08	G	S	0.2	0.2					
20394+2302.....	66.693	-11.453	0.95	0.75							31568	11	
20398+2745.....	70.585	-8.693	1.43	8.28							30715	11	
20400+6630.....	101.591	14.905	1.68	2.69	G	S	0.3	0.1			17500	7	“1.2 Jy sample”
20403+5530.....	92.606	8.312	0.97	3.86	G	S	0.8	0.3			2857	5	MCG +09-34-001
20408+2733.....	70.549	-8.987	0.77	3.90							20573	11	
20408+2127.....	65.589	-12.659	1.13	2.98	G	S	0.6	0.2			14451	11	Z2041.0+2127
20435+2759.....	71.266	-9.186	0.60	2.12							1102	11	Z2043.6+2800
20438+5755.....	94.835	9.413	0.65	2.98	G	S	0.2	0.1					
20438+2821.....	71.601	-9.025	0.71	2.45	G	S	0.9	0.5			14570	11	UGC 11625
20439+1845.....	63.793	-14.839	1.18	2.96	G	S	0.5	0.3			6930	4	Z2043.9+1845, MCG
20442+2438.....	68.675	-11.357	0.67	1.76	G	S	0.5	0.3			12105	A	
20442+5654.....	94.060	8.738	2.42	3.66	G	S	0.4	0.3			7869	3	“1.936 Jy sample”
20448+2515.....	69.256	-11.105	1.31	2.39	G	E	0.3	0.3			14810	7	IV Zw 065
20450+2140.....	66.360	-13.303	0.73	1.90	G?	S	0.3	0.1			38480	11	
20460+1925.....	64.665	-14.839	0.91	1.00	G	S	0.2	0.1			54262	11	
20473+2356.....	68.544	-12.344	0.90	1.67	G	S	0.2	0.1		LSB			
20475+2925.....	72.957	-8.997	1.21	2.29	G	S	0.5	0.2			4770	7	“1.2 Jy sample”
20478+5705.....	94.511	8.469	1.66	3.39	G	S	0.2	0.1		LSB			
20482+2758.....	71.905	-10.023	0.68	1.72	G	S	0.4	0.2			15531	A	
20490+2212.....	67.384	-13.714	0.63	1.14	G	S	0.6	0.2			16909	11	
20496+2206.....	67.395	-13.901	0.66	1.27	G?	E/S	0.2	0.1			17467	11	
20525+6659.....	102.751	14.205	1.70	7.22	G	S	0.6	0.2			3378	3	UGC 11648
20536+2536.....	70.789	-12.432	0.90	2.21	G	E/S	0.4	0.3			10369	A	

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
20540+6458	101.225	12.828	1.75	2.96	G	S	0.4	0.3			2398	7	Z2054.0+6458, MCG
20551+2441	70.287	-13.269	1.06	1.44	G	S	0.3	0.2			72702	11	
20557+2454	70.534	-13.245	1.16	1.68	G	S	0.9	0.3			3106	A	Z2055.7+2454
20561+2952	74.515	-10.141	0.87	6.65							9700	11	
20563+3551	79.160	-6.316	0.99	2.61							26740	11	
20589+2659	72.665	-12.473	0.61	1.92	G	S	0.4	0.2			14784	11	
20599+3150	76.567	-9.500	0.73	1.74	G	S	0.3	0.1			15257	A	
21003+3908	82.165	-4.764	2.17	8.58	G	S	0.2	0.1					
21008+3751	81.257	-5.675	1.05	6.50							15958	11	
21012+3417	78.623	-8.108	0.84	1.42							26650	11	
21014+2941	75.136	-11.144	1.86	6.71	G	S	3.5	1.0			779	1	NGC 7013, UCG, MCG
21040+6530	102.337	12.369	0.62	2.68	G	S	0.3	0.2			7263	A	
21046+2642	73.292	-13.630	0.74	1.61	G	S	0.3	0.1			16328	11	
21048+3351	78.793	-8.937	1.82	2.38	G	S	0.2	0.1		Pair	14875	3	“1.936 Jy sample”
21050+3023	76.181	-11.278	0.81	2.16	G	S	0.2	0.1					
21066+5858	97.586	7.802	1.87	5.25	G	S	0.4	0.1			11941	7	“1.2 Jy sample”
21077+3358	79.288	-9.320	0.89	1.55							52874	11	
21086+6534	102.711	12.063	1.20	2.78	G	S	0.3	0.3			2578	7	“1.2 Jy sample”
21087+6557	103.016	12.310	3.69	7.11	G	S	1.0	0.7			2890	1	UGC 11689, MCG
21093+2739	74.725	-13.799	0.90	1.05	G	S	0.3	0.2			15079	11	
21100+3216	78.343	-10.813	0.64	2.43	G	E	0.2	0.2					
21101+5810	97.305	6.928	6.99	10.53	G	S	0.2	0.2			11705	3	“1.936 Jy sample”
21102+5704	96.507	6.163	1.71	18.79							11372	11	
21107+2952	76.627	-12.543	1.52	5.91	G	S	0.5	0.3			12787	7	“1.2 Jy sample”
21152+6709	104.362	12.632	0.92	4.10	G	S	0.3	0.1					
21189+4503	88.849	-3.203	2.23	4.65	G	S	0.8	0.4			228	A	
21284+4137	87.695	-6.877	1.66	6.19	G	S	0.9	0.8			4282	7	UGC 11757
21287+6418	103.301	9.651	2.95	5.45							14432	11	
21292+4801	92.177	-2.290	1.83	5.61	G	S	1.0	0.9			3775	2	Anon 2129+48
21295+4323	89.051	-5.720	2.49	5.80	G	S	1.1	0.5		Pec	5467	3	“1.936 Jy sample”
21316+4230	88.731	-6.637	3.19	8.14	G	S	1.0	0.2			4075	3	“1.936 Jy sample”
21319+4137	88.171	-7.313	3.22	8.05	G	S	0.8	0.3			4355	3	UGC 11767
21321+4050	87.669	-7.931	0.69	2.40							18527	11	
21344+4002	87.446	-8.816	0.80	3.10	G	S	0.5	0.2			9623	11	
21350+4348	90.074	-6.085	0.80	2.78	G	S	0.5	0.2					
21396+3623	85.721	-12.195	2.16	3.52							29034	3	“1.936 Jy sample”
21406+4317	90.502	-7.155	1.44	3.90	G	E	0.7	0.7			5339	7	“1.2 Jy sample”
21416+4327	90.749	-7.135	0.83	3.06	G	S	1.1	1.0		Pair	5338	1	UGC 11799, MCG
21419+4622	92.705	-4.956	1.61	12.58							3468	9	U11802, MCG
21422+4600	92.506	-5.267	1.36	14.31							5543	7	UGC 11804.11805, MCG
21423+4623	92.762	-4.991	1.51	4.38	G	S	1.2	0.5			3273	1	UGC 11806, MCG
21426+3532	85.611	-13.230	0.71	1.71	G	E/S	0.6	0.3			13293	A	
21438+6539	105.415	9.583	2.69	5.13	G	S	0.8	0.2			8386	3	“1.936 Jy sample”
21439+4102	89.480	-9.250	1.34	5.10	G	S	1.3	1.0			4501	1	UGC 11808
21444+3534	85.913	-13.448	0.91	1.93							45523	11	
21453+4351	91.522	-7.269	0.67	3.18	G	S	0.5	0.1			9593	A	
21458+3642	86.900	-12.780	0.60	1.35	G	S	0.1	0.1					
21458+4429	92.003	-6.849	1.14	3.03	G	S	0.2	0.2			9658	11	
21461+3521	86.035	-13.841	0.63	2.57	G	E/S	0.2	0.2			17848	11	
21466+7214	109.998	14.404	2.56	9.35	G	S	1.3	0.8			2400	3	UGC 11818
21484+4151	90.681	-9.172	0.86	6.63							5810	11	
21488+4603	93.423	-5.975	0.89	2.91	G	S	0.2	0.1					
21492+3900	88.942	-11.453	0.61	2.02	G	S	0.3	0.1			19437	11	
21498+4239	91.390	-8.709	0.90	2.76	G	S	0.3	0.2			5390	A	
21499+5312	98.053	-0.509	5.01	8.27							4700	9	
21499+6601	106.137	9.456	1.47	24.20							6978	5	“Seeberger (Effelsberg)”
21505+7059	109.402	13.252	1.01	4.20	G	S	1.0	0.6		LSB			
21505+3613	87.314	-13.761	1.53	3.62	G	S	1.0	0.2			6051	1	UGC 11839
21524+4130	91.027	-9.915	0.81	3.03	G	S	0.6	0.2			5476	5	“Seeberger (Effelsberg)”
21525+4511	93.378	-7.046	0.75	2.30	G	S	0.7	0.3					
21525+4409	92.734	-7.860	0.79	2.50	G	S	0.4	0.2			3721	11	
21535+3627	87.945	-13.971	1.15	1.51	G	S	0.2	0.1		Pair	7384	11	
21538+4110	91.030	-10.347	0.60	7.78							13819	11	
21553+4017	90.692	-11.211	0.70	1.79							23050	11	

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
21556+3841	89.720	-12.491	0.74	1.88	G	S	1.0	0.2			5847	11	
21557+7301	111.053	14.569	2.89	9.41	G	S	2.5	1.8		Pec, LSB	1484	1	UGC 11861
21558+5146	97.878	-2.202	1.18	4.68	G	S	0.2	0.1					
21559+4318	92.676	-8.899	1.65	3.66	G	S	0.6	0.2			11178	3	"1.936 Jy sample"
21567+4344	93.067	-8.644	1.67	3.39	G	S	0.2	0.1			15977	7	"1.2 Jy sample"
21583+3626	88.709	-14.583	0.66	2.40	G	S	0.2	0.1			21952	11	
21589+5119	97.996	-2.849	4.79	7.77	G	S	0.8	0.3			731	A	UGC 11874, MCG
21592+4607	94.881	-7.035	0.82	2.45	G	S	0.3	0.2			9933	11	
22001+3934	90.991	-12.331	1.11	2.57	G	S	0.3	0.1			20948	11	
22002+7142	110.488	13.325	2.87	8.77	G	S	1.5	1.4		LSB	2498	3	"1.936 Jy sample"
22008+4427	94.097	-8.536	0.99	2.79	G	S	1.0	0.4			5733	11	UGC 11886, MCG
22008+4049	91.873	-11.435	0.95	3.56	G	S	1.5	0.8			5436	A	NGC 7197, UCG, MCG
22012+4214	92.809	-10.354	0.82	2.98	G	S	0.5	0.5		Pec	4284	11	
22014+4330	93.612	-9.358	1.00	3.90							461	1	UGC 11891
22020+4134	92.515	-10.963	0.96	2.61	G	S	1.0	0.5			5207	A	UGC 11894, MCG
22021+3640	89.478	-14.879	0.61	1.21	G	S	0.4	0.2			5916	11	
22021+4122	92.412	-11.146	1.16	2.10	G	S	0.5	0.2			5306	11	
22022+3930	91.276	-12.647	0.90	3.92	G	S	0.8	0.5			4702	1	UGC 11895, MCG
22023+4010	91.713	-12.118	0.79	2.02	G	S	0.2	0.1			21173	11	
22024+4110	92.324	-11.333	3.13	7.04	G	S	1.2	1.0			4415	1	UGC 11897, MCG
22025+4205	92.902	-10.612	9.72	14.52	G	S	0.7	0.5			4323	3	UGC 11898, MCG
22033+6712	107.940	9.570	0.95	3.97	G	S	0.3	0.1		LSB			
22034+4024	92.017	-12.061	0.73	4.80							4546	11	
22040+4131	92.792	-11.222	1.43	2.88	G	S	0.3	0.2			14101	7	"1.2 Jy sample"
22042+4700	96.119	-6.835	3.02	8.75	G	S	2.6	0.5			1108	2	UGC 11909, MCG
22060+4055	92.744	-11.933	1.60	3.84	G	S	1.2	0.8			5352	1	UGC 11919, MCG
22064+4811	97.117	-6.087	0.72	2.58	G	S	1.5	1.0			1145	1	UGC 11920, MCG
22067+4417	94.851	-9.290	0.74	3.13	G	S	1.0	0.5			3173	11	UGC 11923, MCG
22072+3858	91.747	-13.652	0.71	1.54	G	S	0.6	0.2			4887	11	Z2207.3+3858
22074+3902	91.817	-13.620	1.27	2.73	G	S	0.8	0.5			4730	7	UGC 11929, MCG
22078+4834	97.526	-5.904	1.48	2.92	G	S	0.3	0.2			15714	A	
22081+4046	92.976	-12.282	3.38	8.11	G	S	1.3	1.0			4634	1	NGC 7223, UCG, MCG
22083+4038	92.932	-12.422	0.72	6.09							4555	11	
22095+4603	96.309	-8.140	0.76	2.62	G	S	0.9	0.6			5536	2	UGC 11946, MCG
22104+4504	95.861	-9.028	3.10	6.28	G	S	1.7	0.6			1086	1	NGC 7231, UCG
22105+3843	92.122	-14.214	0.66	1.58	G	S	0.5	0.3			6212	A	
22112+4720	97.286	-7.250	2.84	2.95	G	S	0.6	0.3			4504	3	"1.936 Jy sample"
22113+4934	98.579	-5.420	0.69	2.25	G	S	0.3	0.3			5547	11	
22114+5015	98.979	-4.871	1.87	3.03	G	S	0.7	0.2			8555	6	"Bottinelli (Nancay)"
22116+3859	92.471	-14.134	1.13	2.10	G	S	0.6	0.4			5344	A	UGC 11955, MCG
22125+5312	100.772	-2.522	0.90	9.09							15550	11	
22126+4156	94.368	-11.837	0.78	2.34	G	S	1.0	0.3			4157	A	UGC 11961, MCG
22128+5027	99.279	-4.825	0.60	1.42	G	S	0.2	0.1			20093	11	
22128+3824	92.320	-14.747	0.71	1.82	G	S	0.1	0.1			18118	11	
22147+4115	94.292	-12.615	2.09	6.29	G	S	2.7	0.8			4219	1	UGC 11973, MCG
22150+4050	94.108	-12.981	0.90	1.53	G	S	0.3	0.2			4585	11	Z2215.0+4051
22151+4822	98.404	-6.766	1.08	2.20							10620	11	V Zw 383
22154+4556	97.086	-8.802	0.75	1.56	G	S	0.3	0.2			16925	11	
22155+4859	98.816	-6.296	0.86	1.58	G	S	0.3	0.1		LSB	10747	11	
22161+4018	93.974	-13.543	3.01	5.04	G	S	1.0	0.4			1163	3	NGC 7250, UCG, MCG
22166+3930	93.599	-14.260	0.63	1.14							35156	11	
22196+3935	94.134	-14.521	0.81	2.05	G	S	0.2	0.1			20903	11	
22207+6118	106.144	3.637	3.34	11.11	G	E	0.1	0.1					
22212+4055	95.157	-13.575	0.98	2.06	G	E	0.4	0.3			4440	1	Z2221.3+4055
22217+4914	99.803	-6.621	1.00	1.37	G	S	0.3	0.2			5319	11	
22217+5125	100.977	-4.777	0.68	6.45							11489	11	
22236+4003	95.067	-14.552	0.74	3.24	G	S	1.2	0.6			4542	1	NGC 7282, UCG, MCG
22266+4216	96.775	-12.990	0.93	6.01							13684	11	
22267+5047	101.326	-5.735	1.41	2.36	G	S	0.8	0.5		Pair	10609	7	"1.2 Jy sample"
22282+7506	114.186	14.969	0.68	3.10	G	S	1.2	0.8		LSB	2445	6	"Bottinelli (Nancay)"
22283+4019	95.987	-14.808	1.63	11.05							5176	7	"1.2 Jy sample"
22287+6137	107.127	3.413	7.13	13.89	G	S	0.4	0.2		Int, LSB	3504	5	"Seeberger (Effelsberg)"
22288+5233	102.512	-4.399	4.83	7.24	G	S	0.5	0.2			9136	A	
22293+4549	99.099	-10.207	0.79	2.48							27112	11	

TABLE 5—Continued

IRAS NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		VISUAL SEARCH						REDSHIFT		CROSS IDENTIFICATION (14)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	<i>f</i> ₆₀ (Jy) (4)	<i>f</i> ₁₀₀ (Jy) (5)	Id (6)	Typ (7)	Max (mm) (8)	Min (mm) (9)	Em (10)	Com (11)	<i>cz</i> (km s ⁻¹) (12)	Ref (13)	
22320+4103.....	97.012	-14.552	0.85	2.36	G	E/S	0.7	0.6			5253	A	UGC 12086, MCG
22321+4332.....	98.342	-12.425	1.13	3.41	G	S	1.0	0.9			5619	A	UGC 12088, MCG
22325+6810.....	110.821	8.860	0.97	2.80	G	S	1.0	0.3			4355	6	“Bottinelli (Nancay)”
22326+4954.....	101.678	-6.981	0.85	1.47	G	S	1.1	0.6		Pair	3345	5	UGC 12095.12096, MCG
22335+4042.....	97.068	-14.989	1.09	2.94	G	E/S	0.3	0.2					
22339+4753.....	100.845	-8.832	1.03	2.09	G?	S	0.2	0.2			12632	11	
22352+5106.....	102.638	-6.133	0.92	6.51							12553	11	
22372+7239.....	113.438	12.541	1.47	2.44	G	S	0.2	0.2			30102	7	“1.2 Jy sample”
22374+6359.....	109.173	4.980	4.09	9.05	G	E	0.2	0.1		LSB			
22374+7217.....	113.267	12.211	0.86	4.35							4109	7	“1.2 Jy sample”
22378+4206.....	98.514	-14.193	1.56	3.15	G	S	0.3	0.1			19441	7	“1.2 Jy sample”
22392+7516.....	114.897	14.757	0.66	1.63	G	S	0.2	0.1			18610	11	
22397+7454.....	114.736	14.413	2.33	6.24	G	S	1.3	0.6			1552	3	UGC 12160
22447+5037.....	103.730	-7.271	0.69	2.01	G	S	0.3	0.2			13315	11	
22452+5243.....	104.769	-5.453	1.10	3.35							12235	11	
22474+4344.....	100.906	-13.601	0.90	2.12	G	S	0.7	0.4			8907	A	Z2247.4+4344, MCG
22478+4915.....	103.547	-8.718	2.01	3.63	G	S	0.2	0.1			20489	11	
22480+7533.....	115.541	14.740	0.81	2.84	G	E	0.2	0.1		HSB			
22493+4944.....	103.994	-8.408	0.89	2.79	G	S	0.6	0.3			10141	A	
22501+7248.....	114.381	12.229	0.90	3.62							35057	11	
22517+6824.....	112.518	8.227	0.85	3.10	G	S	0.7	0.3			3472	A	
22518+7159.....	114.130	11.441	0.60	10.63							6895	11	
22522+6712.....	112.019	7.120	4.13	8.66							4767	11	
22547+5336.....	106.448	-5.287	1.62	3.76	G	S	0.5	0.3			5288	7	“1.2 Jy sample”
22570+4441.....	102.938	-13.508	0.81	2.01	G	E	0.3	0.3			10013	7	“1.2 Jy sample”
22571+5450.....	107.282	-4.322	1.24	3.54	G	S	0.2	0.1			13422	11	
22572+5328.....	106.723	-5.568	1.29	3.32	G	S	1.5	0.8			5323	7	“1.2 Jy sample”
23032+5144.....	106.862	-7.517	0.67	2.30	G	S	0.3	0.2			11465	A	
23083+5155.....	107.658	-7.658	1.25	6.77							11941	7	“1.2 Jy sample”
23085+6723.....	113.546	6.647	6.98	9.22	G	S	0.4	0.2		LSB	1478	3	“1.936 Jy sample”
23104+5431.....	108.929	-5.374	1.04	2.85	G	S	0.2	0.1		LSB			
23130+4842.....	107.142	-10.927	0.73	1.49							28761	11	
23151+7137.....	115.669	10.369	1.41	3.15	G	S	0.6	0.3			7651	7	“1.2 Jy sample”
23160+7020.....	115.271	9.144	1.07	3.10							17105	11	
23182+6813.....	114.714	7.098	1.37	4.72	G	S	0.2	0.1			3473	7	“1.2 Jy sample”
23201+4520.....	107.064	-14.505	1.29	2.02	G	S	0.7	0.4			4616	7	Z2320.1+4520
23256+4707.....	108.602	-13.139	4.24	8.43	G	S	0.4	0.2			7298	3	“1.936 Jy sample”
23302+5213.....	110.964	-8.524	1.04	1.45							34206	11	
23330+4812.....	110.166	-12.495	0.72	1.71	G	S	0.2	0.1		LSB	24192	11	
23348+4916.....	110.771	-11.554	0.70	2.24	G	S	1.0	0.6			5801	A	Z2334.8+4917
23390+7014.....	117.100	8.439	0.74	2.60	G	S	0.4	0.3			7195	11	
23393+5022.....	111.799	-10.706	1.82	1.93	G	S	0.3	0.1			13293	A	
23400+5102.....	112.084	-10.095	0.72	2.23	G	S	0.6	0.3			13521	A	
23402+5052.....	112.074	-10.265	0.80	1.20	G	S	0.3	0.1			23799	A	
23407+4942.....	111.842	-11.419	0.67	2.65	G	S	1.0	0.5			8907	A	UGC 12750, MCG
23410+5443.....	113.218	-6.582	0.63	10.49							15659	11	
23436+5257.....	113.134	-8.391	5.28	7.84	G	S	0.5	0.3			10233	3	“1.936 Jy sample”
23463+5417.....	113.860	-7.202	1.08	7.02							5747	11	
23470+7321.....	118.528	11.305	1.09	2.36							29480	11	
23525+6954.....	118.152	7.843	1.01	3.55	G	S	0.3	0.2		LSB	7103	7	“1.2 Jy sample”
23559+5145.....	114.714	-9.980	1.16	1.27	G	S	0.5	0.1		LSB	12014	11	
23576+6945.....	118.553	7.596	0.96	3.13	G	S	0.8	0.1		LSB	4588	11	

NOTE.—See text for explanation of columns.

plane at $l = 140^\circ\text{--}150^\circ$. This density enhancement is a superposition of the northern Local supercluster and an extension of the Perseus supercluster. We also notice density enhancements around $l = 50^\circ\text{--}80^\circ$ at $b > 0^\circ$ and $l = 90^\circ\text{--}100^\circ$ at $b < 0^\circ$. These two high-density structures seem to form a filament crossing the Galactic plane, and we call this structure the Cygnus-Lyra filament (Takata et al. 1996). This filament is connected to an extension of the Pisces-Perseus supercluster.

4.2. Spatial Distribution

Figure 2a shows the spatial distribution of 502 IRAS galaxies with $f_{60} \geq 0.6$ Jy and radial velocities less than $10,000 \text{ km s}^{-1}$ at $0^\circ \leq l \leq 150^\circ$ and $|b| \leq 15^\circ$. Figures 2b, 2c, and 2d are the distribution at the three equally divided zones in Galactic latitude; i.e., $-15^\circ \leq b \leq -5^\circ$, $-5^\circ \leq b \leq +5^\circ$, and $+5^\circ \leq b \leq +15^\circ$, respectively.

In Figure 2a, there are some voids and some density-

TABLE 6
 RADIAL VELOCITIES OF *IRAS* GALAXIES WITH $f_{60} \geq 0.6$ Jy AT $150^\circ < l < 225^\circ$ AND $|b| \leq 15^\circ$

<i>IRAS</i> NAME (1)	GALACTIC COORDINATES		FLUX DENSITY		REDSHIFT	CROSS IDENTIFICATION (7)
	<i>l</i> (deg) (2)	<i>b</i> (deg) (3)	f_{60} (Jy) (4)	f_{100} (Jy) (5)	<i>cz</i> (km s ⁻¹) (6)	
03232+3829.....	153.331	-14.886	0.63	1.78	17481	Z0323.3+3830
04126+3029.....	166.668	-14.416	0.99	1.26	13305	
04234+2829.....	169.841	-14.079	0.87	2.02	9586	
04379+3843.....	164.187	-4.983	1.27	3.20	7999	
04595+3006.....	173.711	-7.019	0.64	2.12	19216	
05041+5232.....	156.373	7.289	0.75	1.49	9748	
05048+5131.....	157.257	6.769	0.78	2.64	7020	
05065+5431.....	154.966	8.747	0.72	1.23	5710	
05186+5409.....	156.300	9.988	1.12	2.44	9722	
05218+6141.....	150.046	14.415	0.81	2.66	12543	
05260+4713.....	162.793	7.140	0.62	1.33	6262	
05278+5005.....	160.531	8.941	0.75	2.71	10397	
05390+0639.....	198.769	-12.213	1.09	22.45	429	Z0539.0+0640
05391+4437.....	166.245	7.682	0.66	1.26	12790	
05489+3932.....	171.579	6.649	0.82	1.23	17105	
05496+3811.....	172.816	6.082	0.79	1.39	8076	
05538+3737.....	173.726	6.505	0.75	1.85	13928	
05546+3107.....	179.470	3.399	2.52	3.68	19014	
05581+3343.....	177.576	5.326	0.89	3.27	7895	
06006+2735.....	183.188	2.777	1.42	1.91	5154	
06047+4312.....	169.774	11.002	0.73	1.10	10905	
06247+4158.....	172.563	13.776	0.80	1.83	35693	
06357-1134.....	221.849	-8.191	0.79	2.21	10120	
06429+3607.....	179.561	14.629	0.87	1.02	26731	
06468+2000.....	194.869	8.606	0.72	1.17	17233	
07040+2507.....	191.845	14.378	0.76	1.28	8509	
07148+1246.....	204.454	11.492	0.82	1.54	13934	

NOTE.—See text for explanation of columns.

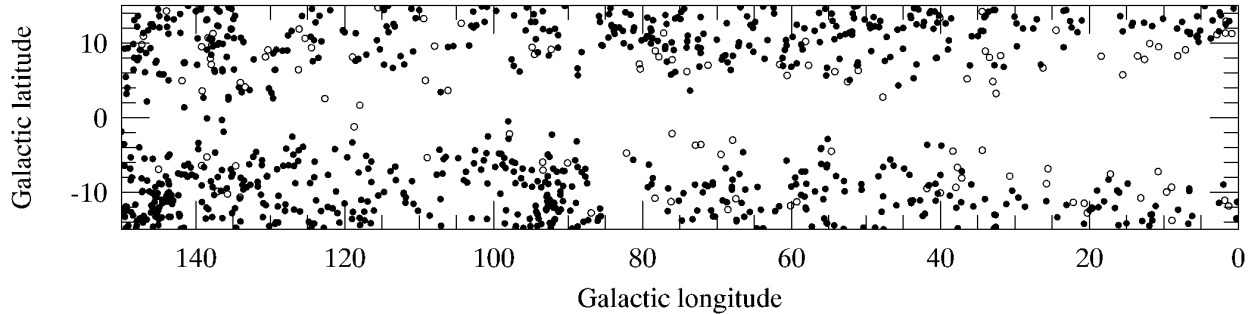


FIG. 1a

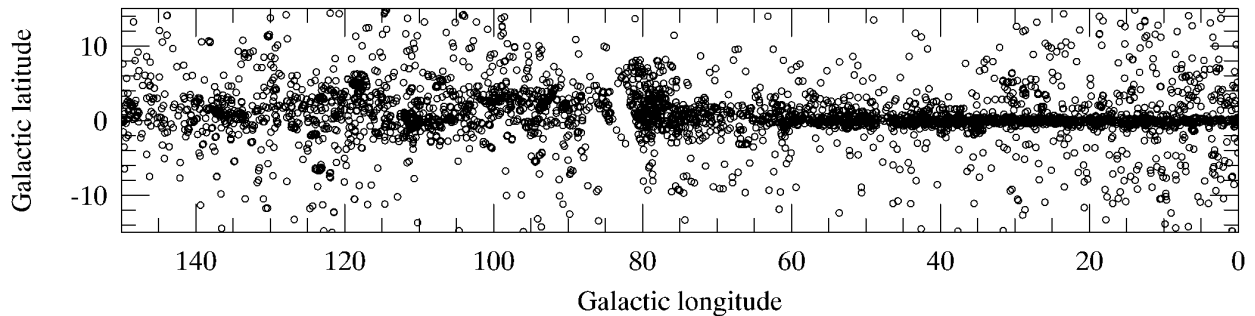


FIG. 1b

FIG. 1.—(a) Sky distribution of 828 *IRAS* galaxies with known redshifts (*filled circles*) and 122 galaxy candidates with unknown redshifts (*open circles*) shown in Table 5 ($0^\circ \leq l \leq 150^\circ$ and $|b| \leq 15^\circ$). (b) Sky distribution of infrared-selected *IRAS* point sources not identified as galaxy in our visual search.

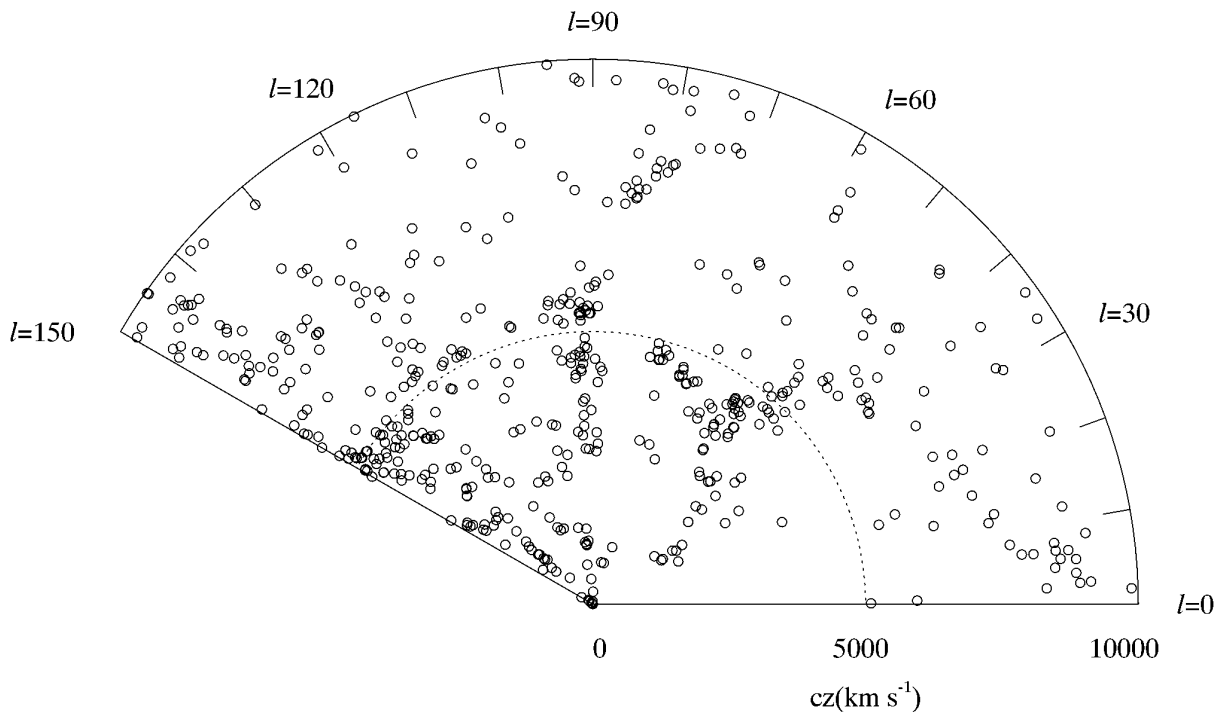


FIG. 2a

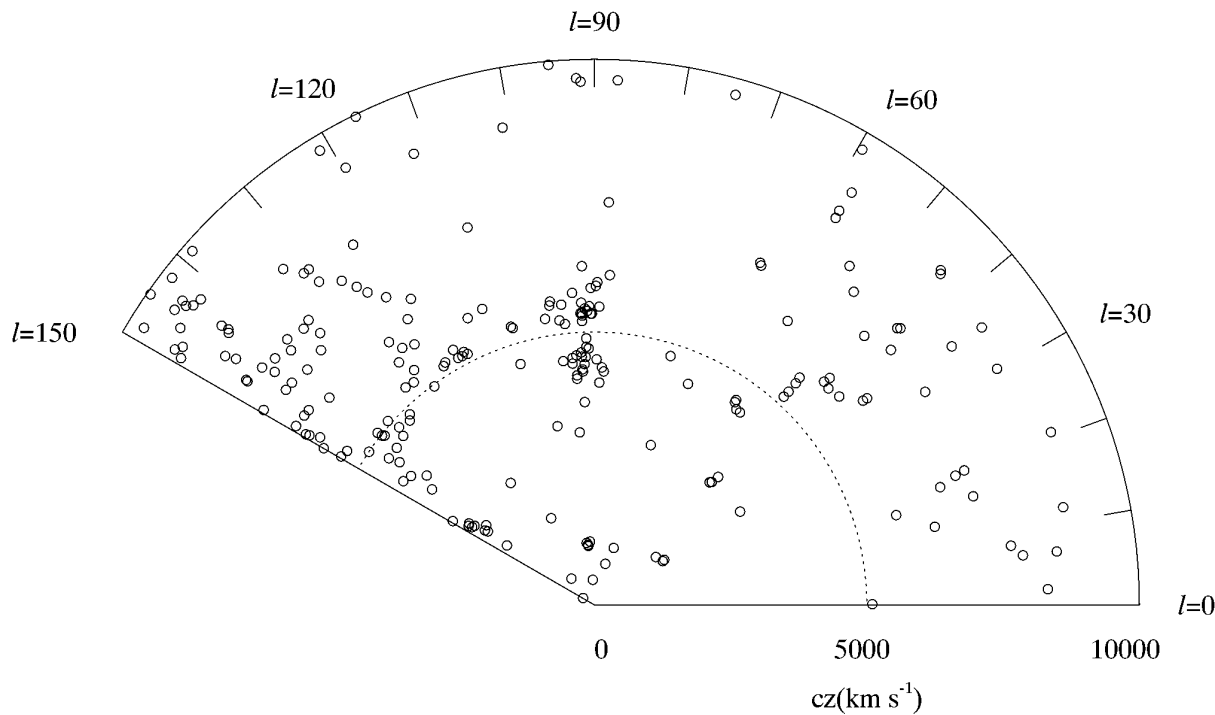


FIG. 2b

FIG. 2.—Spatial distribution of 502 IRAS galaxies with $f_{60} \geq 0.6$ Jy and radial velocities less than $10,000 \text{ km s}^{-1}$ at $0^\circ \leq l \leq 150^\circ$. (a) $|b| \leq 15^\circ$, (b) $-15^\circ \leq b \leq -5^\circ$, (c) $-5^\circ \leq b \leq +5^\circ$, and (d) $+5^\circ \leq b \leq +15^\circ$.

enhanced regions. The nearest void is located around $l = 60^\circ$ and $cz = 2500 \text{ km s}^{-1}$. This void corresponds to part of the Local void defined by Tully & Fisher (1987). Further discussion on this void is presented in § 5. Another nearby large void extends to near the Galactic center, around $l = 0^\circ$ – 40° . This void has been partly confirmed by

Wakamatsu et al. (1994) and Hasegawa (1995) who named it the “Ophiuchus void.” It is very difficult to confirm fully the real extent of this void because of the severe Galactic extinction toward the Galactic center.

The most prominent density enhancement located around $l = 140^\circ$ – 150° and $cz = 5000 \text{ km s}^{-1}$ is the exten-

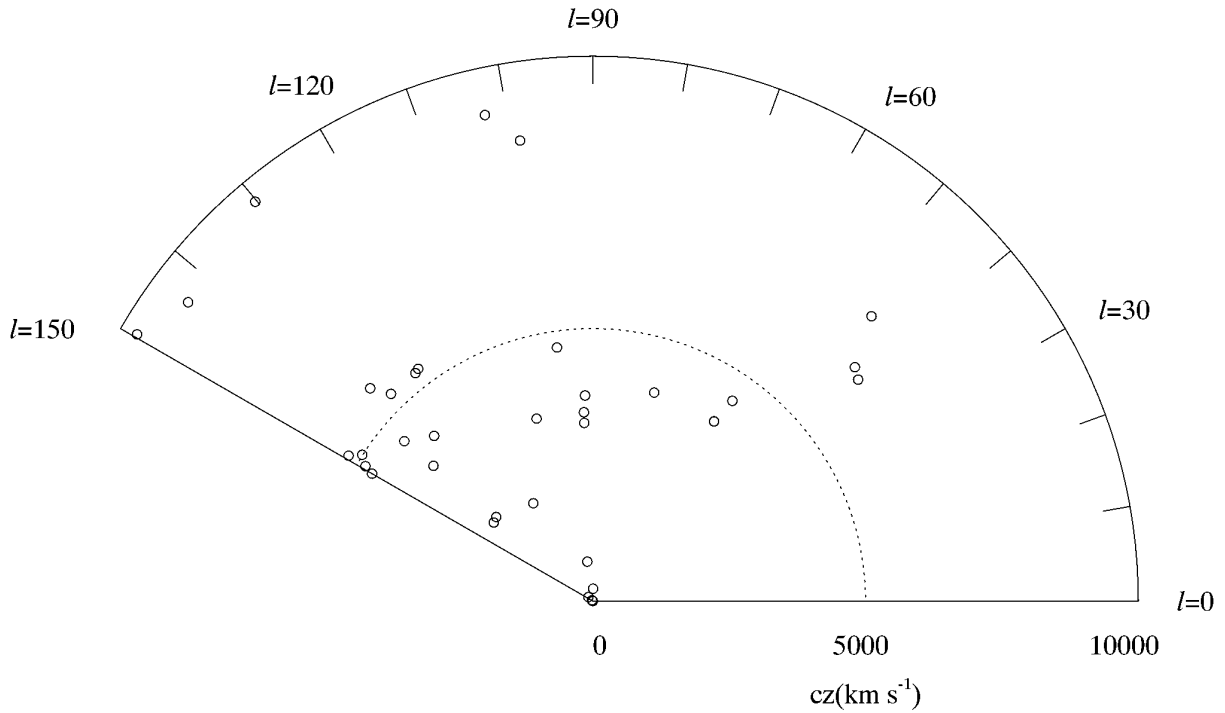


FIG. 2c

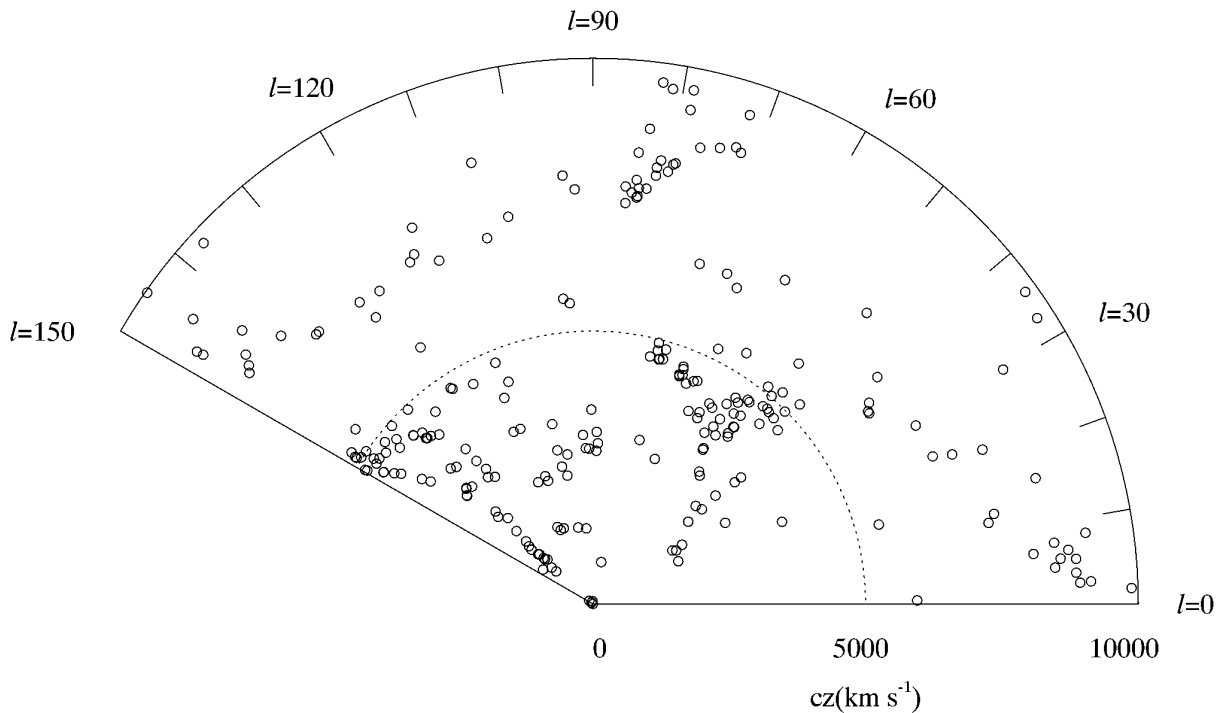


FIG. 2d

sion of the Perseus supercluster. The Cygnus-Lyra filament appearing in Figure 1a is also seen in Figures 2b and 2d, around $l = 50^\circ - 100^\circ$ and $cz = 4000 - 5000 \text{ km s}^{-1}$.

Figure 3 is a histogram of the redshifts of 715 *IRAS* galaxies up to $20,000 \text{ km s}^{-1}$ in Table 5; the number of galaxies with radial velocities larger than $20,000 \text{ km s}^{-1}$ is

113. In Figure 3, the dotted curve indicates the homogeneous distribution of *IRAS* galaxies normalized by the area, and the solid curve is that normalized by the total number of *IRAS* galaxies identified in our surveyed region. These curves are made by using the luminosity function of *IRAS* galaxies constructed by Saunders et al. (1990). The redshift

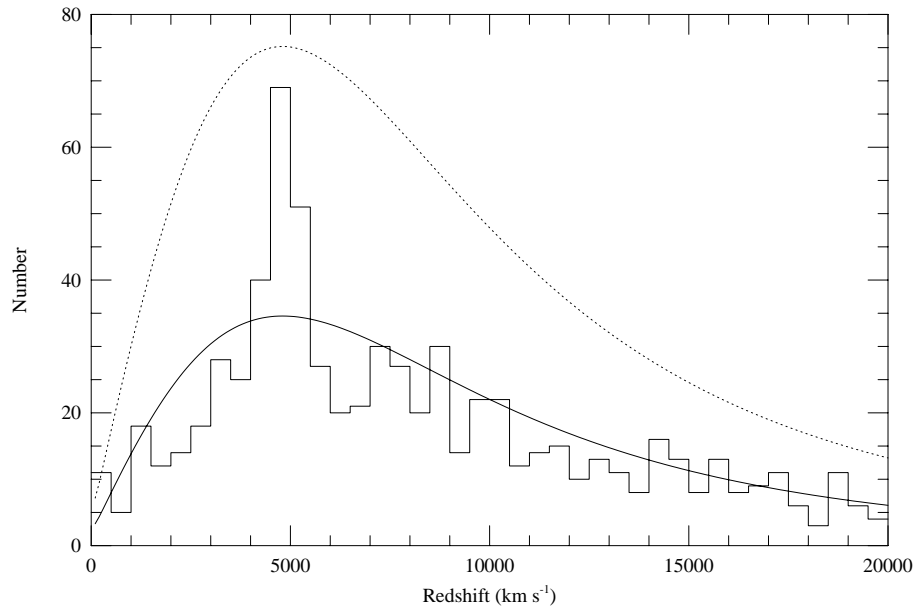


FIG. 3.—Histogram of the redshifts of 715 *IRAS* galaxies with $f_{60} \geq 0.6$ Jy and $cz \leq 20,000$ km s $^{-1}$ in Table 4. The dotted line indicates a homogeneous distribution of *IRAS* galaxies normalized by the surveyed area, and the solid line indicates a homogeneous distribution normalized by the total number of *IRAS* galaxies identified in the region.

distribution has an enhancement around 5000 km s $^{-1}$, owing to the Perseus supercluster and the Cygnus-Lyra filament.

4.3. Nearby Galaxies

Here we comment on the following three nearby galaxies with heliocentric radial velocities less than 1000 km s $^{-1}$, whose redshifts were first measured by us.

The Galactocentric radial velocity is 459 km s $^{-1}$ for IRAS 21189 + 4503 and 958 km s $^{-1}$ for IRAS 21589 + 5119 (=UGC 11874). These two galaxies are close to UGC 11891 ($l = 93^{\circ}.6$, $b = -9^{\circ}.4$, $v_{\text{GSR}} = 688$ km s $^{-1}$), and these form a loosely clustering structure delineating the Local void with UGC 11909, UGC 11920, NGC 7013, NGC 7231, and NGC 7250.

IRAS 01461 + 5519 has a Galactocentric radial velocity of 806 km s $^{-1}$. This galaxy is located somewhat farther from Maffei 2 and IC 10. Though IRAS 01461 + 5519 is a nearby galaxy whose distance may be less than 10 Mpc, it appears very faint and compact (0.3×0.2) on the POSS E print. This may be due to an intrinsic low surface brightness disk and a severe obscuration with Galactic extinction.

5. THE LOCAL VOID

Tully & Fisher (1987) claimed that the “Local void” extends from $l = 0^{\circ}$ to 90° and from $b = -30^{\circ}$ to $+30^{\circ}$ for the distribution of galaxies with radial velocities less than 3000 km s $^{-1}$. Saunders et al. (1991) constructed a density field of the distributions of *IRAS* galaxies with $f_{60} \geq 0.6$ Jy at $|b| > 10^{\circ}$ and found the Local void in the density field with a $5 h^{-1}$ Mpc smoothing scale (their Fig. 2a) around $l = 40^{\circ}$, $b = -17^{\circ}$, and $cz = 2300$ km s $^{-1}$ with an extent of about $50 h^{-1}$ Mpc (the Hubble constant $H_0 = 100 h$ km s $^{-1}$ Mpc $^{-1}$).

In Figure 2a, we see a void extending around $l = 60^{\circ}$ and $cz = 1000$ –5000 km s $^{-1}$. In order to find out the spatial structure of this void at the outside of $|b| = 15^{\circ}$, as well as

$|b| \leq 15^{\circ}$, we use the data of the Third Reference Catalogue of Bright Galaxies (RC3; de Vaucouleurs et al. 1991) and *IRAS* galaxies that are the combined data of our *IRAS* galaxy sample listed in Table 5 and the “1.2 Jy sample” (Fisher et al. 1995). Figure 4 is the distribution of galaxies in the RC3-*IRAS* combined sample around the Local void detected in Figure 2a; Figures 4a, 4b, 4c, 4d, and 4e show, respectively, the distribution of galaxies with heliocentric radial velocities from -500 to 1000 km s $^{-1}$, 1000–2000 km s $^{-1}$, 2000–3000 km s $^{-1}$, 3000–4000 km s $^{-1}$, and 4000–5000 km s $^{-1}$. In Figure 4a, the larger and smaller circles indicate galaxies with radial velocities between -500 and 500 km s $^{-1}$ and between 500 and 1000 km s $^{-1}$, respectively. The filled circles in each diagram specify the galaxies cataloged in RC3, and open circles specify the *IRAS* galaxies not cataloged in RC3.

As shown in Figure 4c, only one galaxy has been detected in the region between $l = 30^{\circ}$ and 120° , $b = 0^{\circ}$ and -30° , and $cz = 2000$ and 3000 km s $^{-1}$, which implies that the center of the Local void locates at this region that is almost devoid of galaxies. The galaxies that are located along $b = 20^{\circ}$ and $b = -40^{\circ}$ delineate the Local void at the higher and the lower Galactic latitudes, respectively, but the boundary in Galactic longitude is not clear in this diagram. Several filaments appear in Figures 4d and 4e, some of which are crossing the Galactic plane. These filaments of galaxies at $cz = 3000$ –5000 km s $^{-1}$ form the higher redshift (far side) boundary of the Local void. The near side boundary is not clear in Figures 4a and 4b, though it seems to be about $cz = 1000$ km s $^{-1}$ in Figure 2a.

Figures 5a, 5b, and 5c show the distribution of RC3 and *IRAS* galaxies between $b = -90^{\circ}$ and $+90^{\circ}$ with radial velocities less than 10,000 km s $^{-1}$ at $30^{\circ} \leq l \leq 50^{\circ}$, $50^{\circ} \leq l \leq 70^{\circ}$, and $70^{\circ} \leq l \leq 90^{\circ}$, respectively. The meanings of the filled and open circles in each diagram are the same as those in Figure 4. In Figure 5b, the Local void clearly appears with a size of about 2500 km s $^{-1}$ between

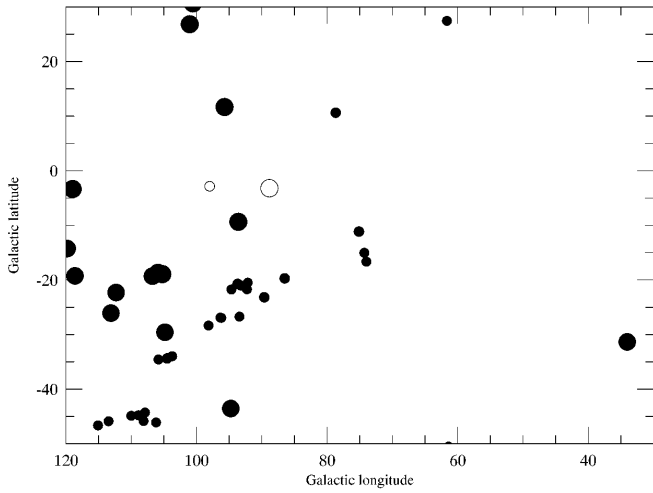


FIG. 4a

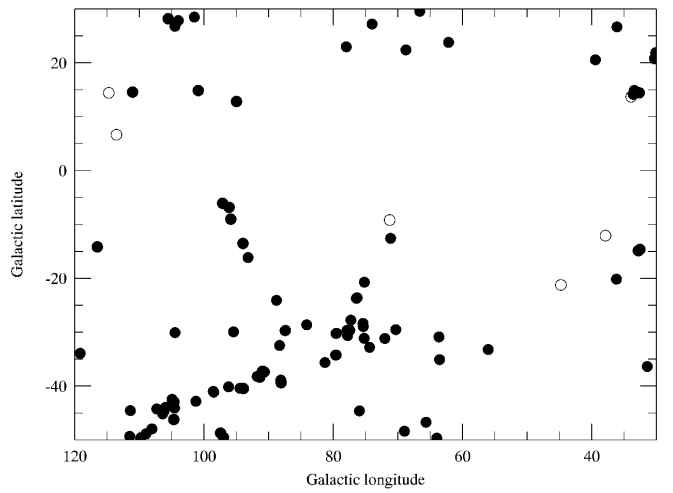


FIG. 4b

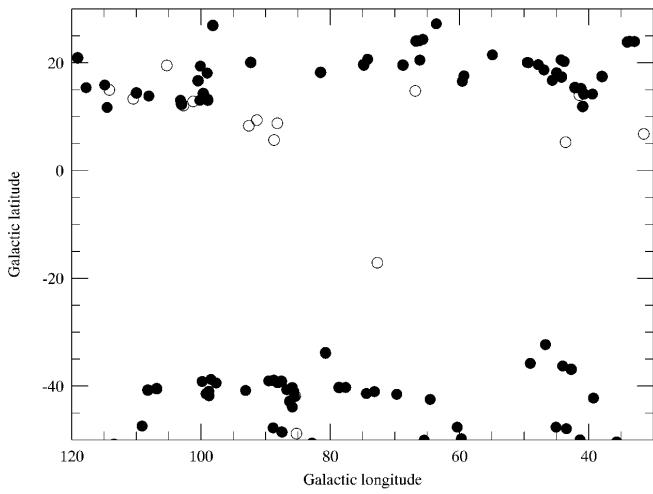


FIG. 4c

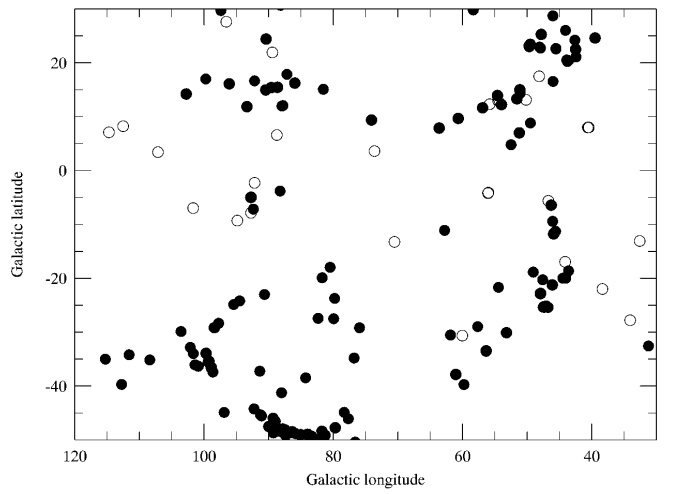


FIG. 4d

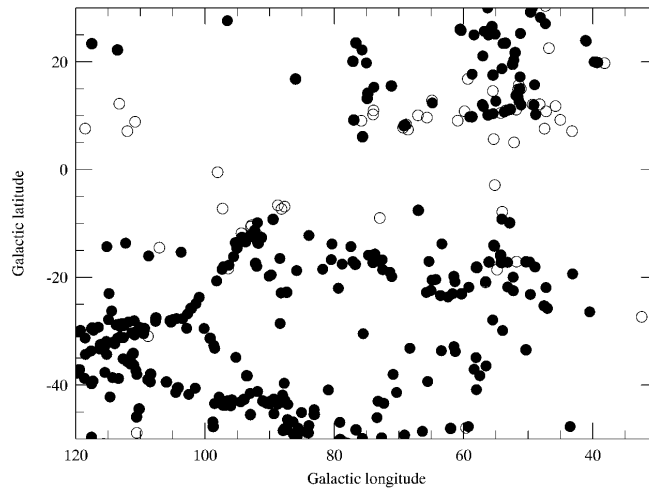


FIG. 4e

FIG. 4.—Distribution of galaxies of the RC3-IRAS combined sample around the “Local void” ($30^\circ \leq l \leq 120^\circ$, $-50^\circ \leq b \leq +30^\circ$) with heliocentric radial velocities between (a) -500 and 1000 km s^{-1} , (b) 1000 and 2000 km s^{-1} , (c) 2000 and 3000 km s^{-1} , (d) 3000 and 4000 km s^{-1} , and (e) 4000 and 5000 km s^{-1} . In (a), the larger and smaller circles specify galaxies with radial velocities between -500 and 500 km s^{-1} and between 500 and 1000 km s^{-1} , respectively. The filled circles in each diagram specify the galaxies cataloged in RC3; the open circles specify the IRAS galaxies not cataloged in RC3.

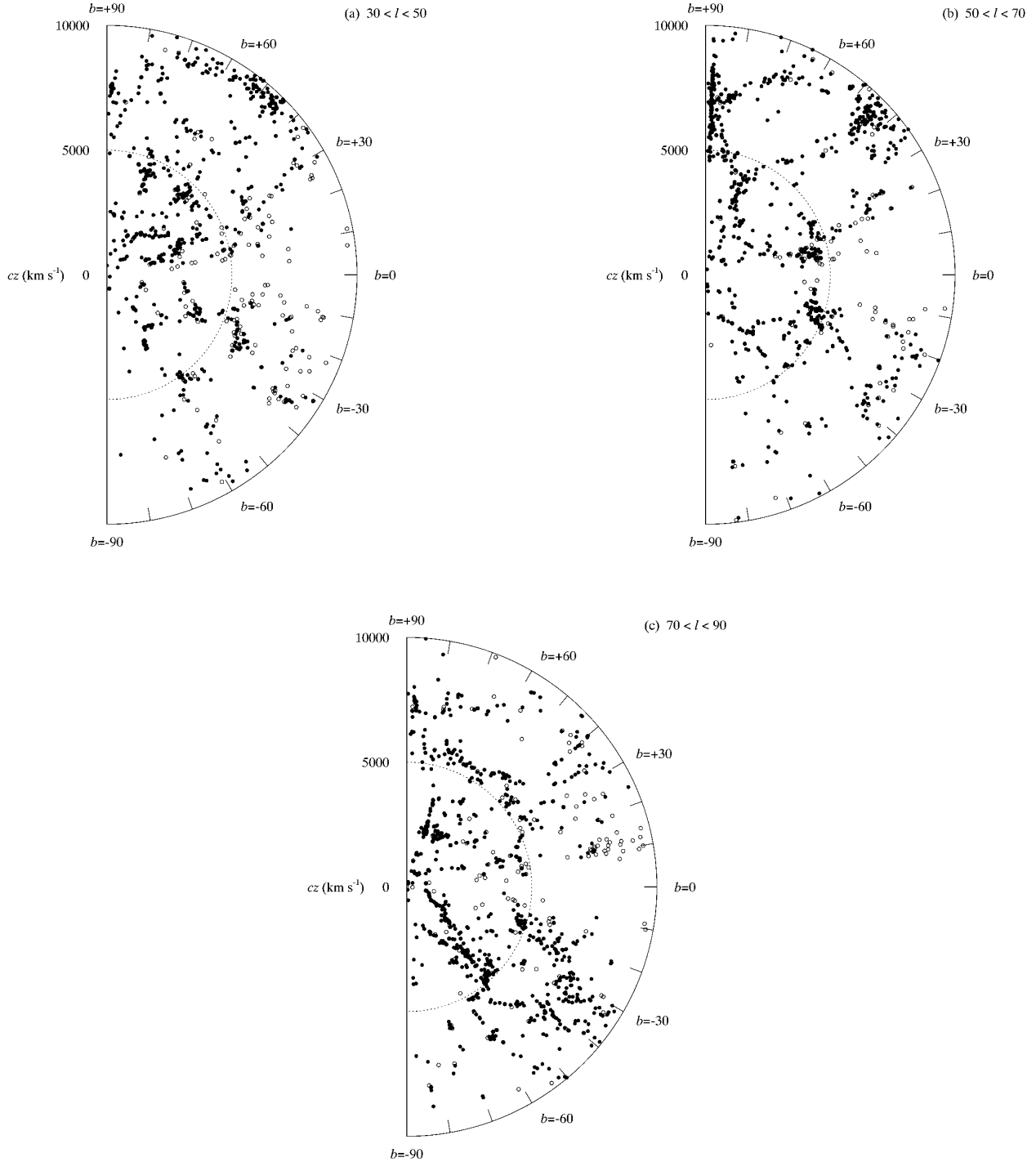


FIG. 5.—Spatial distribution of the RC3 and *IRAS* galaxies between $b = -90^\circ$ and $b = +90^\circ$ with heliocentric radial velocities less than $10,000 \text{ km s}^{-1}$ at (a) $30^\circ \leq l \leq 50^\circ$, (b) $50^\circ \leq l \leq 70^\circ$, and (c) $70^\circ \leq l \leq 90^\circ$. The meanings of the filled and open circles are the same as those of Fig. 4.

$b = -40^\circ$ and $+20^\circ$, and in Figures 5a and 5c, the extent becomes less, consistent with the features in Figures 2 and 4.

Based on the galaxy distribution shown in Figures 4 and 5, we conclude that the center of the Local void is at $l \sim 60^\circ$, $b \sim -15^\circ$, and $cz \sim 2500 \text{ km s}^{-1}$, and the size is about 2500 km s^{-1} along the direction toward the center. The direction of the Local void is separated by 15° from the Supergalactic pole and is just opposite to the Puppis concentration across

the Local Group, which has been studied by Yamada et al. (1993a, 1994). The Local void seems to be loosely enclosed by filaments of galaxies, and the shape is distorted from a sphere.

The center of the Local void agrees with that given by Saunders et al. (1991), but its size is much smaller than those proposed by them and Tully & Fisher (1987). We found that a loose galaxy concentration existing around $l = 40^\circ$ at

$|b| < 15^\circ$ forms a southern boundary of our Local void. The Local void proposed by Saunders et al. and Tully & Fisher is divided by this galaxy concentration into our Local void and the southern part; the latter may contain the Ophiuchus void existing around $l = 0^\circ$, $b = 10^\circ$ (Wakamatsu et al. 1994; Hasegawa 1995).

Lindner et al. (1995) analyzed the size distributions of voids in the northern Local supervoid which is delineated by the Local supercluster, the Coma supercluster, and the Hercules supercluster; they found that the voids tend to be divided into smaller structures by means of fainter galaxies and the mean diameter of voids for galaxies brighter than $M = -18.8$ (-19.7) is about $14 h^{-1}$ Mpc ($19 h^{-1}$ Mpc) with a dispersion of $4 h^{-1}$ Mpc ($5 h^{-1}$ Mpc). In this paper

we studied the distribution of galaxies brighter than about $M = -19$ within $cz = 5000 \text{ km s}^{-1}$ and found the diameter of the Local void is about $25 h^{-1}$ Mpc; therefore, the Local void is one of the largest voids within the $100 h^{-1}$ Mpc Local universe.

We thank A. Tomita, A. T. Roman, D. Nogami, S. Masuda, I. Iwata, Y. Yamamoto, T. Hattori, H. Horashita, H. Nomura, and OAO staffs for their great help with our observations. We are also grateful to Will Saunders for providing the redshift data of *IRAS* galaxies and giving useful comments, and to the PSCz and BTP collaborations for communications of redshifts prior to publication.

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