A 21 cm SURVEY OF THE PISCES-PERSEUS SUPERCLUSTER. II. THE DECLINATION ZONE +21.5 TO +27.5 DEGREES

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ABSTRACT

Neutral-hydrogen 21 cm line spectra and derived parameters are presented for a sample of spiral galaxies in the region bounded by $22^h < \text{R.A.} < 04^h$, $+21°30' < \text{Dec.} < +27°30'$, covering the Zwicky fields 470 to 488, as the second installment of a survey of the region of the Pisces-Perseus supercluster. New H I line observations made with the Arecibo 305 m telescope detected 275 galaxies of 318 studied. A tabulation of derived galaxian properties is given. The redshift distribution shows gross departures from that expected for a sample with similar magnitude characteristics but homogeneously located in space. These new data will be incorporated into the overall survey of the three-dimensional structure in the Pisces-Perseus region.

I. INTRODUCTION

The tracing of large-scale structure in the local area of the universe is currently advancing at a rapid pace because of the exponential growth of the number of measured redshifts. Recent technological improvements at both optical and radio wavelengths today make possible the acquisition of accurate redshifts of galaxies of moderate apparent magnitude in less than half an hour per object. The steady accumulation of galaxy redshifts in specific regions of the sky allows the delineation of known features and some previously unrecognized ones.

In a previous paper, we (Giovanelli and Haynes 1985: PP1) have presented the rationale behind, and description of, a survey of 21 cm neutral hydrogen in galaxies in the region of the Pisces-Perseus supercluster. The area of sky covered is defined roughly by the boundaries of 22 to 04 hr in right ascension and 0 to + 50 deg in declination. The observation of galaxies in the 21 cm line provides as the measured parameters the systemic velocity, profile velocity width, and 21 cm line flux integral. Because early-type galaxies contain little or no detectable H I, the survey has concentrated on galaxies of morphological class S0a and later. We have attempted to observe as many spirals as possible in the survey region, beginning from the list of galaxies given in the *Uppsala General Catalog* (Nilson 1973: UGC). The exact definition of the sample, as well as the associated limitations of a survey undertaken with this approach, are described in more detail in PP1 and are not repeated here.

Most of the region outlined above lies within the declination range visible with the Arecibo 305 m telescope. The data obtained with that instrument constitute the deeper part of our survey, that is, the portion that probes the larger volume of the local area of the universe. Both the declination zone studied in PP1 and that presented here refer to that more deeply sampled region. Contiguous on the south to the strip discussed in PP1, the data contained here cover the declination zone bounded by + 21.5 to + 27.5 deg and overlap with the Zwicky fields (Zwicky *et al.* 1961–1968: CGCG) 470–488.

In Sec. II, we describe the extent of the coverage of this survey region, present the data, and discuss instrumental details. Section III includes a brief discussion of the statistical properties of this partial sample.

II. DATA

Figure 1 illustrates the distribution, on the sky, of all the galaxies with radial velocity currently known to us that are located in the regions covered by PP1 and this paper. Circles identify galaxies with a recessional velocity measured in the 21 cm H I line, while crosses mark those with redshifts obtained optically. This contribution of the Pisces-Perseus H II survey includes new observations of 318 galaxies. Of those, 275 are detections. Five galaxies of previously known redshift were not detected; upper limits to H I content can be derived for those. An additional 38 galaxies were observed, but not detected in the 21 cm line; since their redshifts were not known, a search technique as described in PP1 was employed.

The observed and derived properties of the galaxies with known redshift are listed in Table I, while those of the other 38 are given in Table II. As in PP1, we have assembled in Table I not only the new observations, but also data on all other galaxies in the same region that have published 21 cm measures from other sources. This inclusion adds an additional 46 galaxies. In compiling data from the literature, we have preferentially used data from our own previous work. In addition, we have included one object of known redshift which was not detected in our survey of isolated galaxies (Haynes and Giovanelli 1984: HG), but we do *not* include nondetections from other sources. In total, the set of galaxies with 21 cm data and known redshift, as listed in Table I, includes 326 objects. An additional 150 galaxies have reported redshifts from other sources; some of those are also derived from 21 cm observations for which no other H I line

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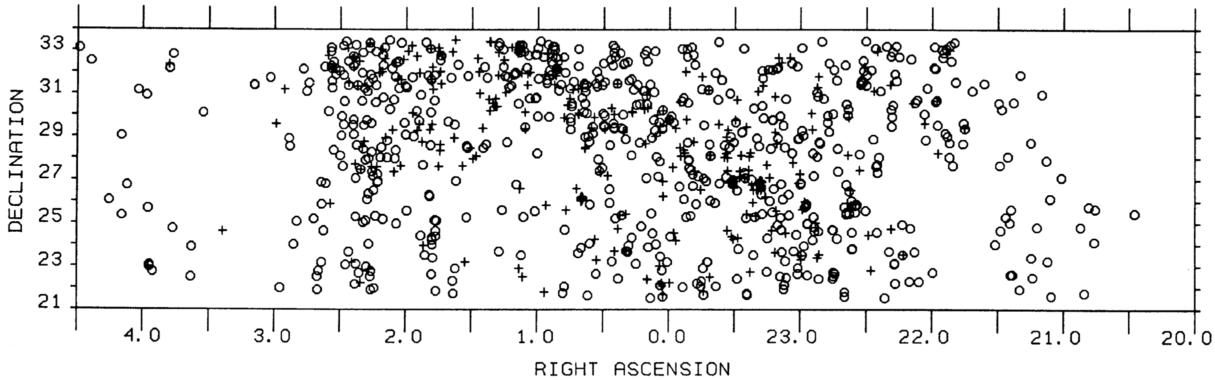


FIG. 1. Sky distribution of all galaxies with known radial velocity located in the declination zones covered by PP1 and the current paper. Circles identify galaxies with redshifts obtained from 21 cm observations; crosses mark objects with optically derived redshifts (vertical scale expanded).

parameters other than systemic velocity are available. It should be noted that 27 of the new detections in Table I and seven of the nondetections in Table II lie outside the right ascension range of 22 to 04 hr; we can consider them a gift from the telescope scheduler.

The instrumentation used to obtain the data here has been described in PP1 and HG. In addition to the standard dual-circular 21 cm feed discussed in HG, a remotely tunable 22 cm feed was available for observations made subsequent to early 1985. The 22 cm feed is designed for optimum feed response to a lower frequency than the 21 cm feed and allows the maintenance of high sensitivity even at redshifts from 8000 to 25 000 km/s. In other respects, the feed design provides response characteristics analogous to those of the 21 cm feed discussed by HG. For other equipment, observational procedures, and data-analysis techniques, the reader is referred to PP1 or HG.

The observations presented here refer to galaxies in the $+24°$ declination zone of the Palomar Sky Survey, corresponding to fields 470–488 in the CGCG. The majority of the observed galaxies are also included in the UGC. In this declination zone, the UGC contains 348 galaxies in the range $22^h < \text{R.A.} < 04^h$, while the CGCG lists 627 galaxies.

The 21 cm line profiles of the new detections presented here are displayed in Fig. 2. The smooth curve superimposed on each spectrum is the polynomial baseline corresponding to blank sky, or occasionally, to the weak continuum emission associated with the galaxy. This baseline was subtracted from the data before the profile parameters were measured. Where appropriate, each spectrum is identified by two galaxy designations: first, the CGCG field and entry number in that field (upper left), and second, the UGC entry number. The velocity reference frame used in Fig. 2 is in all cases heliocentric. References to peculiar features in individual line profiles are found in the notes to Table I.

The contents of Tables I and II are briefly described in the remainder of this section. The format of Table I is identical to that of Table I in PP1, which is itself explained in greater detail in that paper. The entries for each galaxy in Table I are as follows:

Column (1)—CGCG identification, given as the field number and the sequential entry number within that field.

Column (2)—UGC identification number.

Column (3)—NGC or IC designation.

Column (4)—1950 right ascension.

Column (5)—1950 declination.

Column (6)—Morphological type code T as adopted in HG and PP1. T ranges from 0 to 10 in the order E (and "compacts"), S0, S0/a, Sa, Sab, Sb (and S..., generic spirals), Sbc, Sc, Sd, Irr (and dwarfs), Pec.

Column (7)—Blue major and minor angular diameters, $a \times b$, in arcminutes, either from the UGC or measured by us on Palomar Sky Survey prints.

Column (8)—Inclination of the optical disk i in degrees, computed from the apparent axial ratio.

Column (9)—Apparent photographic magnitude, m, from the CGCG for objects of $m = +15.7$ or brighter, or from the UGC if fainter. In the few cases for which neither CGCG nor UGC magnitudes were available, visual estimates from the Palomar Sky Survey prints were used.

Column (10)—Apparent magnitude m_c corrected for systematic errors in the CGCG scale, galactic extinction, internal absorption, and redshift.

Column (11)—Observed heliocentric velocity V_h in km/s, measured as the midpoint at 50% of the profile mean signal.

Column (12)—Corrected velocity v_0 in km/s, taking into account the motion of the Sun with respect to the Local Group, assumed to be 300 km/s toward $l = 180°$, $b = 0°$.

Column (13)—Line-profile width W_1 in km/s, measured at a level of 50% of the mean signal intensity.

Column (14)—Line-profile width W_2 in km/s, measured at a level of 50% of the peak signal intensity.

Column (15)—Corrected velocity width W_c in km/s, derived from W_1 with adjustments for redshift broadening and viewing inclination. W_c is given only for $i > 30°$.

Column (16)—Observed 21 cm line flux integral S in Jy km/s.

Column (17)—Corrected 21 cm line flux integral S_c in Jy km/s, after accounting for the effects of random pointing errors, beam dilution, and H I self-absorption within the galaxian disk.

Column (18)—Rms noise per channel, rms, in mJy, measured in signal-free portions of the spectrum after smoothing.

Column (19)—Signal-to-noise parameter S/N taken as the ratio of the maximum signal strength, after smoothing, and the rms.

Column (20)—Logarithm of the blue luminosity h^2L in solar units, derived from m_c and scaled by the dimensionless Hubble parameter $h = H/100$.

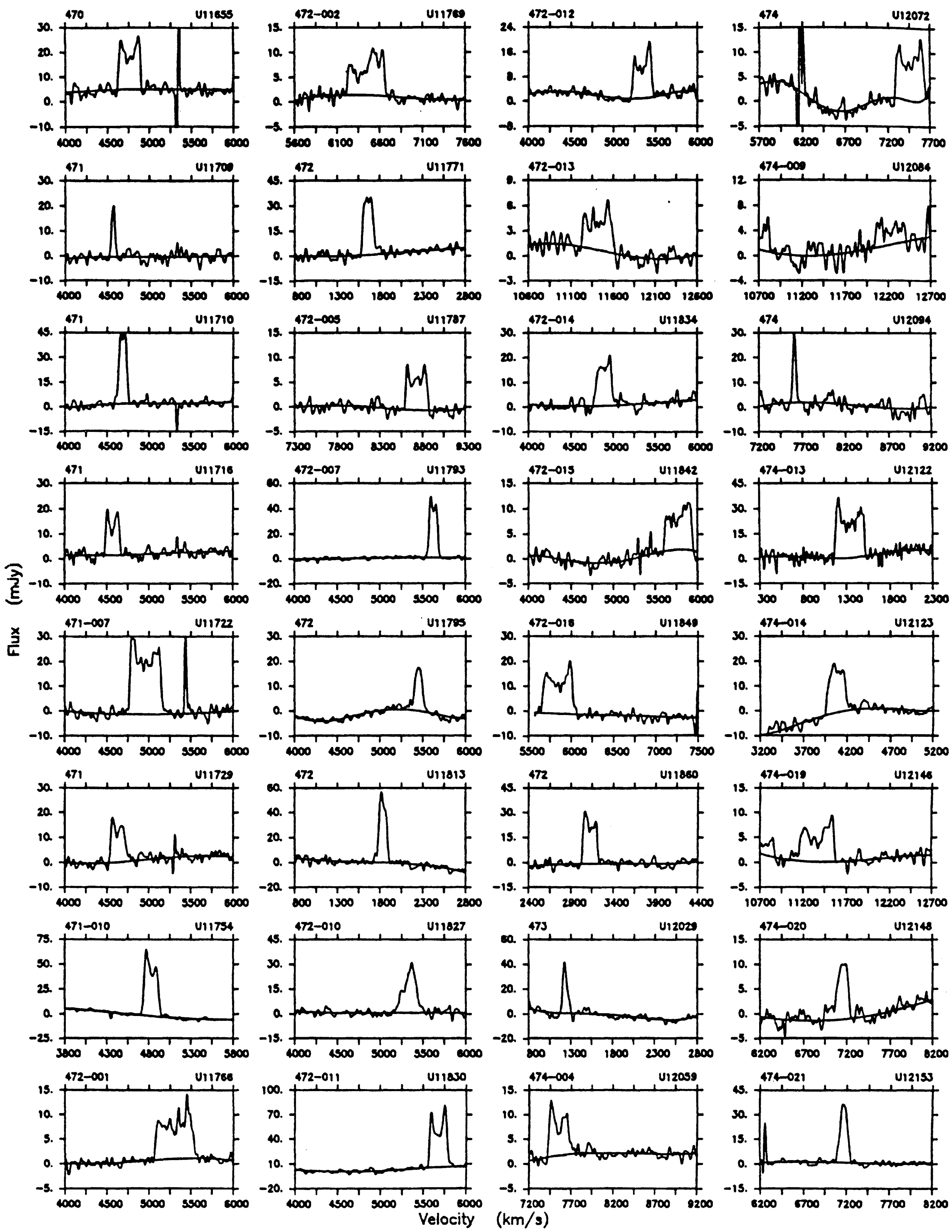


FIG. 2. 21 cm profiles of galaxies for which new observations are reported here. The smooth curve superimposed on each H I spectrum is the polynomial baseline that was subtracted before profile parameters were derived. Each spectrum is identified by the CGCG field and entry number and by UGC, where appropriate.

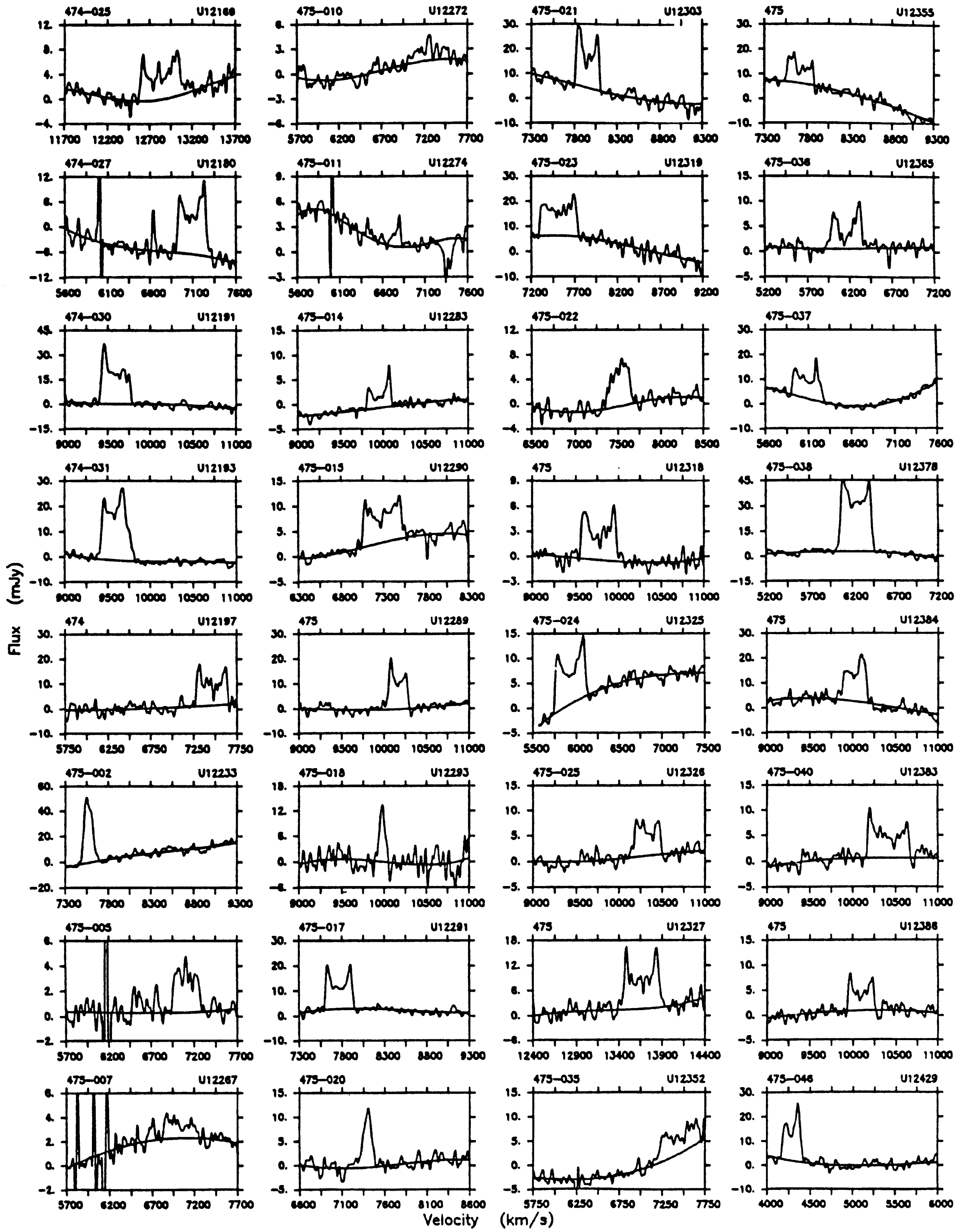


FIG. 2. (continued)

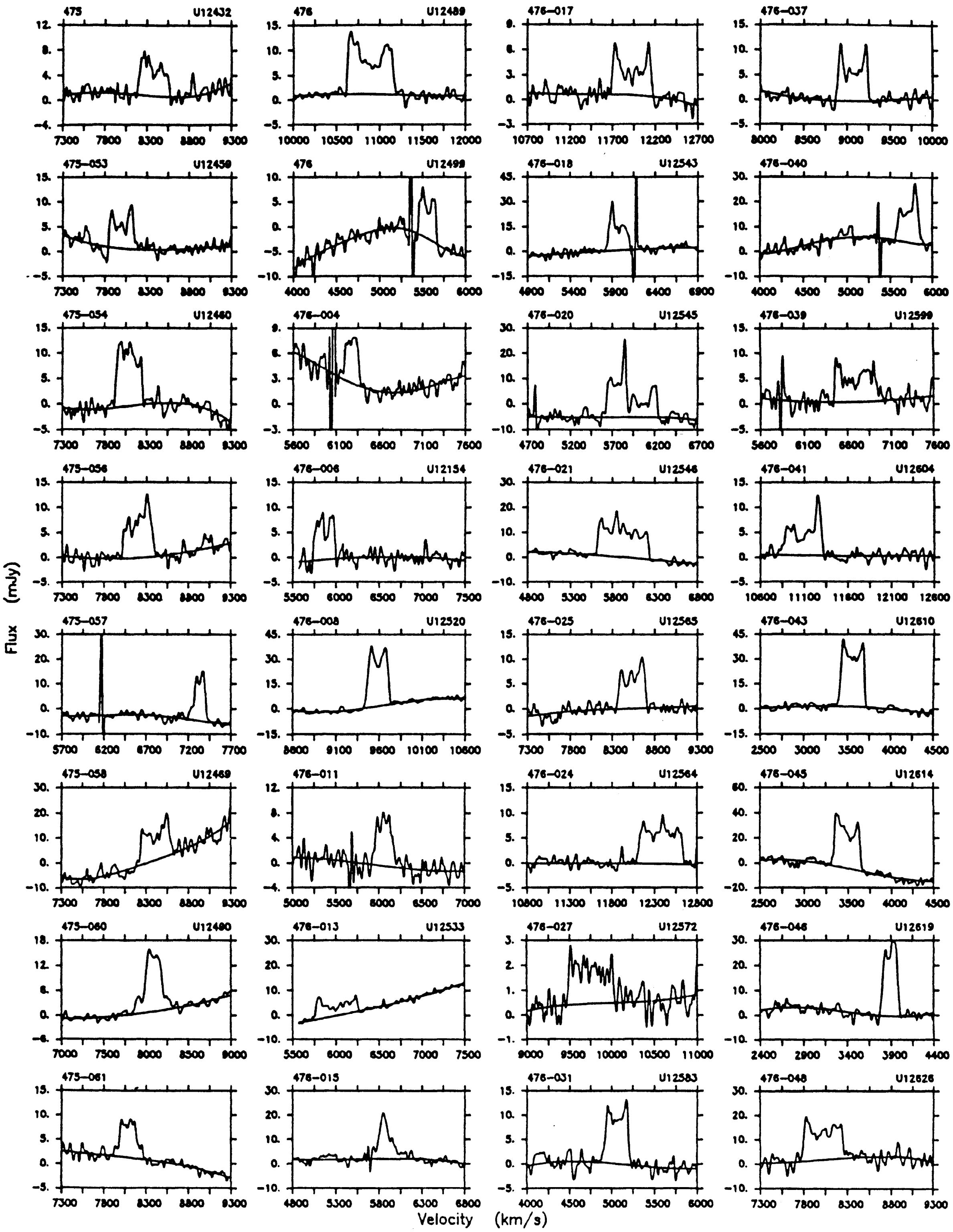
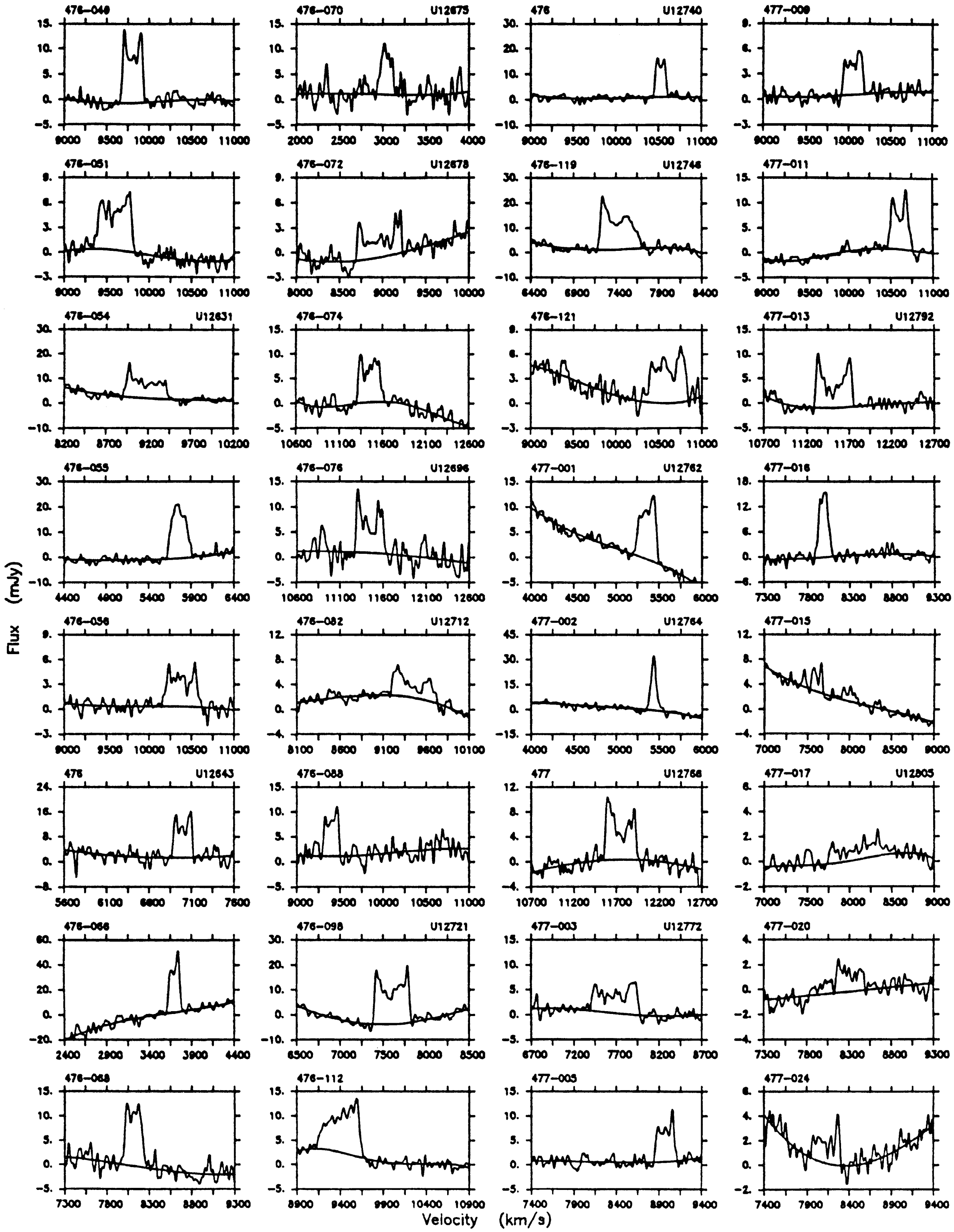


FIG. 2. (continued)



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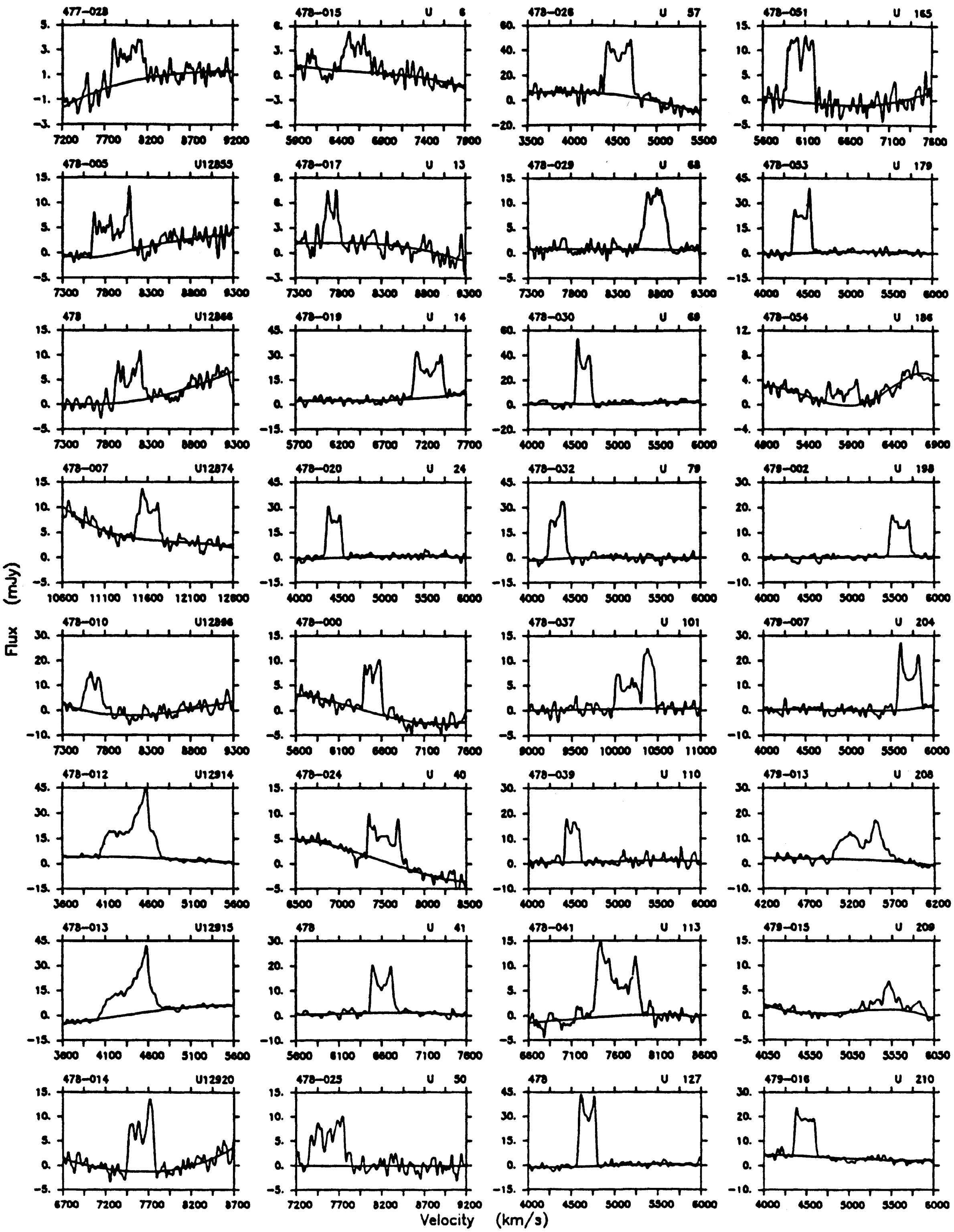

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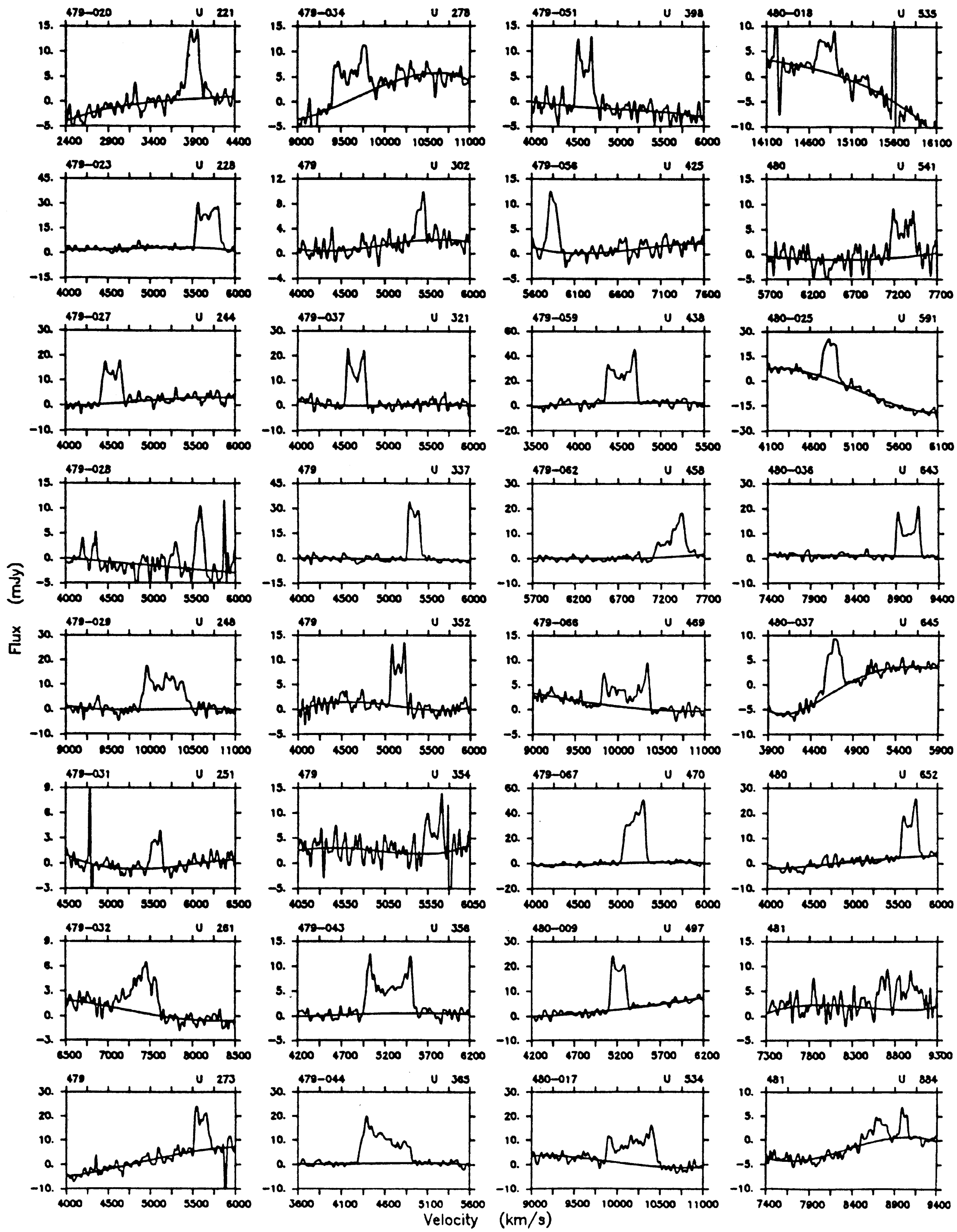

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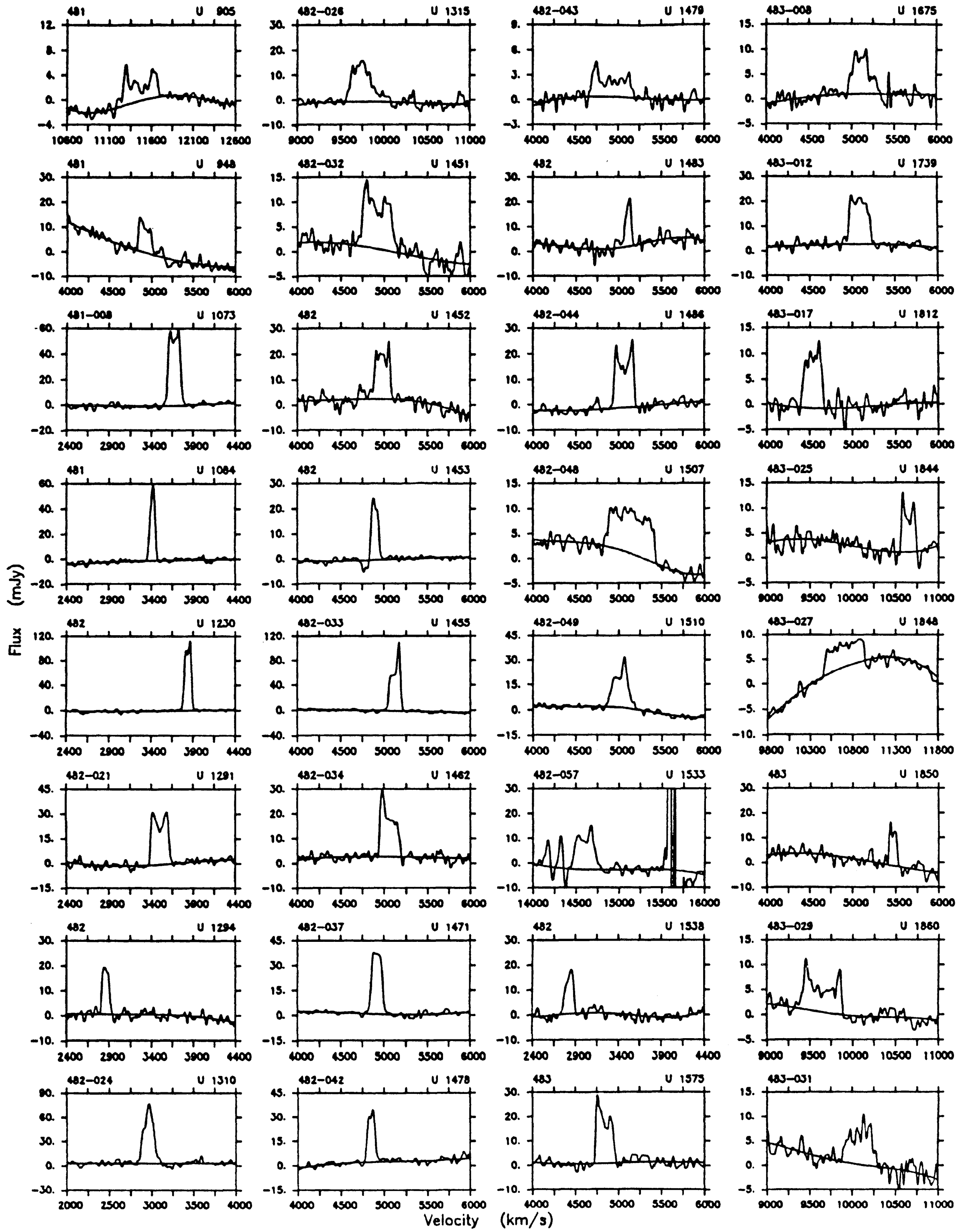

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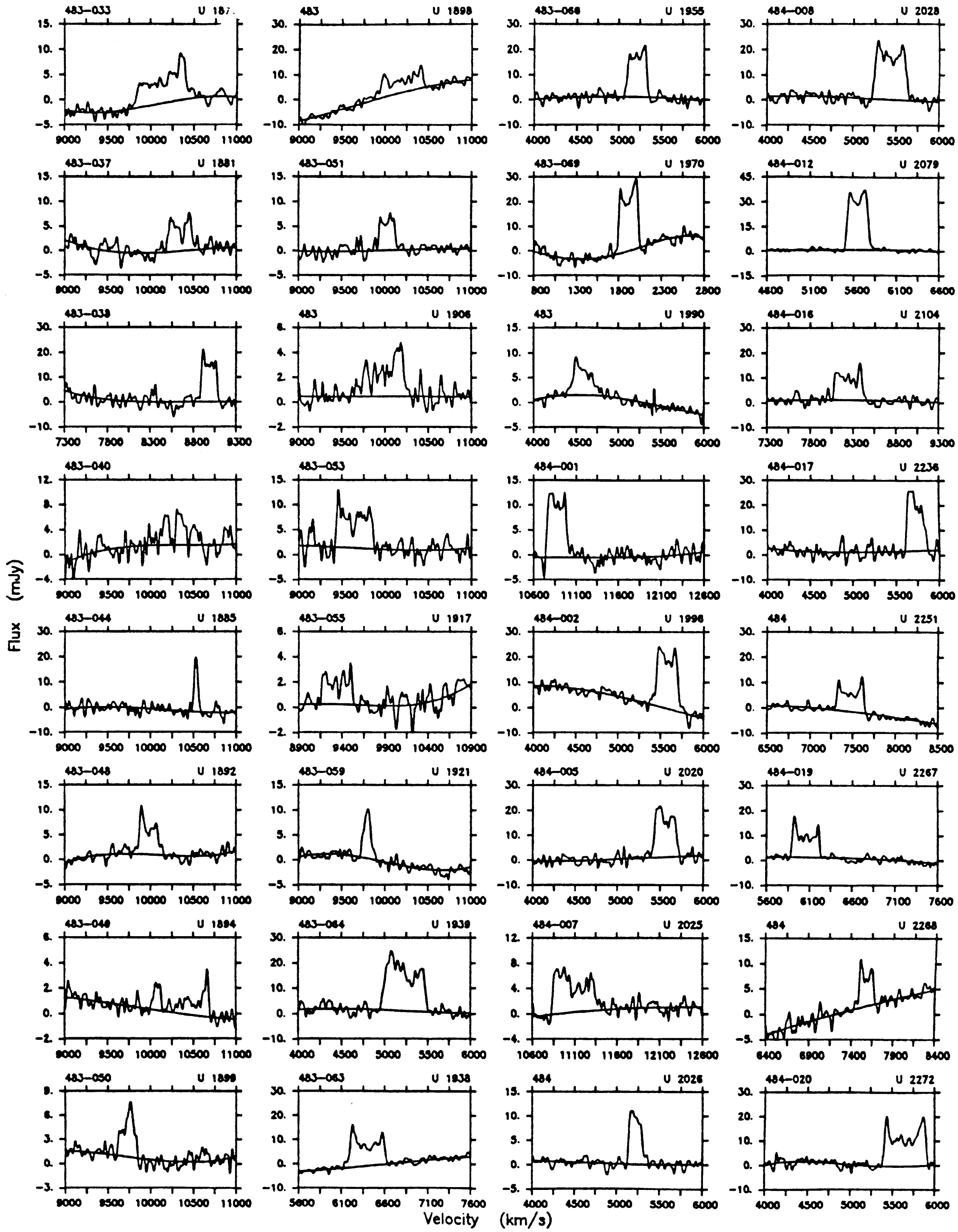

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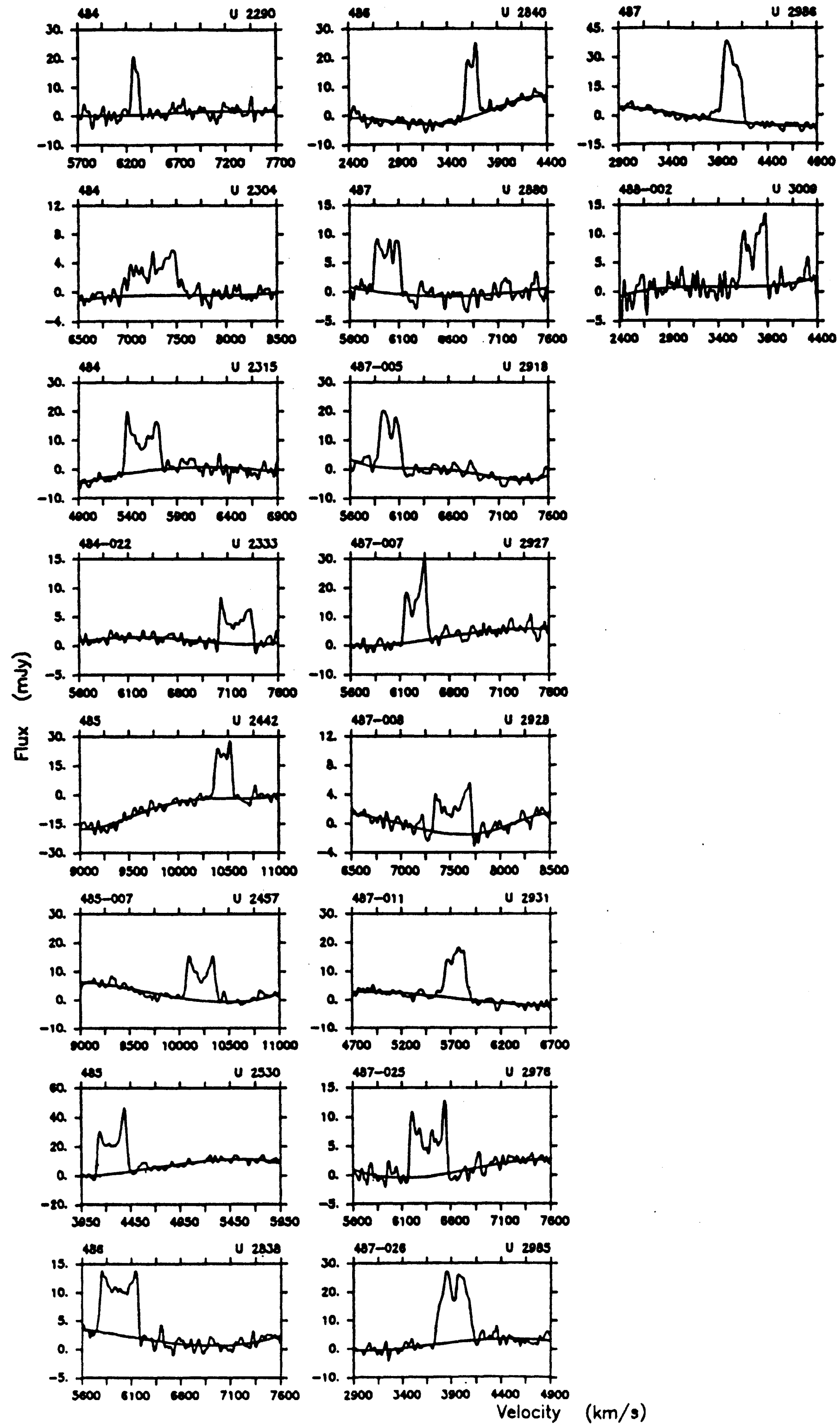

FIG. 2. (continued)

TABLE I. Properties of galaxies with known 21 cm redshift.

CGCG	UGC	NGC/IC	R.A.(1950)	Dec(1950)	T	a x b	i	m	m_c	V_h	V_o	W_1	W_2	W_c	S	S_c	rms	S/N	log h^2L	log h^2M_H	log hM_T	Codes
			h m s	° ' "		' '	°			km/s	km/s	km/s	km/s	km/s	Jy-km/s		mJy		solar	units		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
	11655		205538.3	252643	9	1.3x0.3	77	16.5	15.98	4756	5032	269	259	271	4.19	4.70	1.81	12.0	9.16	9.45	11.16	01 2
	11709		211242.0	253927	9	1.6x1.4	29	16.5	16.00	4568	4845	64	47		0.98	1.21	1.84	11.1	9.12	8.83		01 2
	11710		2113 8.8	240813	9	1.5x1.4	21	16.5	16.07	4687	4961	117	99		4.38	5.36	1.79	24.4	9.11	9.49		01 2
	11716		211530.0	254507	9	1.5x1.2	37	16.5	16.07	4569	4846	175	164	285	2.32	2.79	1.74	10.5	9.09	9.19	11.35	01 2
471-007	11722		211721.8	214533	5	1.7x0.5	75	15.3	14.01	4957	5226	382	368	388	8.87	12.56	1.74	18.0	9.98	9.91	11.20	01 2
	11729		2119 0.7	244900	7B	1.2x0.3	76	16.5	15.41	4634	4909	196	171	198	2.59	3.48	1.48	12.1	9.37	9.30	10.71	01 2
471-010	11754		212719.0	270603	7	2.1x1.8	31	15.6	15.01	4825	5105	196	167	372	9.29	12.96	1.26	52.9	9.56	9.90	11.56	01 2
472-001	11766	5119	213137.9	213650	3	1.0x0.3	82	15.3	14.51	5303	5571	459	406	453	3.32	3.82	0.69	18.9	9.84	9.45	11.18	01 2*
472-002	11769		2132 8.0	260750	5	1.6x0.6	69	15.5	14.50	6438	6715	443	427	462	2.75	3.73	0.81	12.0	10.00	9.60	11.47	01 2
	11771		213310.8	231440	7	1.5x0.3	79	16.0	14.89	1665	1936	149	128	150	4.55	6.47	1.98	17.4	8.77	8.76	10.12	01 2
472-005	11787		213748.0	244857	3	1.0x0.7	46	15.7	15.26	8731	9005	265	252	354	1.76	1.98	0.90	10.4	9.95	9.58	11.26	01 2
472-007	11793		213940.9	222907	5B	1.4x1.3	22	15.0	14.51	5627	5896	118	102		4.53	5.50	1.09	44.5	9.88	9.65		01 2
	11795		214011.5	232400	9	1.2x0.9	41	16.0	15.68	5452	5723	123	98	182	1.75	2.00	1.03	17.1	9.39	9.19	10.95	01 2
	11813		214512.0	215553	9	1.0x0.4	66	17.0	16.70	1833	2100	120	96	130	5.37	5.89	2.05	27.9	8.11	8.79	10.11	01 2
472-008	11815	7137	214554.1	215543	5	1.6x1.3	36	13.3	12.92	1679	1946	94		157	8.00	8.42			9.56	8.88	10.06	11 62
472-010	11827		214821.9	223700	10	1.0x0.4	67	15.2	14.91	5331	5599	236	133	250	4.67	5.12	1.82	16.7	9.68	9.58	10.71	01 2
472-011	11830		214851.0	253754	5	1.4x1.4	0	15.0	14.63	5679	5954	223	202		11.05	13.39	1.84	40.7	9.84	10.05		01 2
472-012			214910.9	223633	5	0.8x0.4	60	15.7	15.10	5342	5610	237	217	267	2.80	3.37	1.08	16.9	9.61	9.40	10.71	01 2
472-013			214915.4	222507	6	0.9x0.3	75	15.6	14.71	11413	11681	368	340	366	1.34	1.73	0.78	8.0	10.40	9.75	11.53	01 2
472-014	11834		214926.3	250118	5	1.1x1.0	25	14.5	13.94	4885	5158	204	180		3.13	3.62	1.76	11.5	10.00	9.36		01 2
472-015	11842		2151 3.5	251633	4	1.0x0.2	86	15.5	14.44	5773	6047	327	317	320	2.26	2.79	0.98	9.7	9.94	9.38	10.89	01 2
472-016	11849		215322.9	243936	7B	1.7x1.0	53	14.8	14.10	5841	6113	361	339	440	5.09	6.61	1.38	15.6	10.08	9.77	11.68	01 2
	11860		215540.5	240133	9	1.6x0.7	63	16.0	15.76	3126	3396	181	171	199	4.28	5.02	1.92	16.4	8.91	9.14	10.85	01 2
			221346.9	224106	0	1.0x0.7	46	15.7	15.45	3855	4119	186		252	1.80	1.81	2.50		9.20	8.86	10.63	11 70
	12029		222225.3	224307	9	1.6x0.5	71	17.0	16.84	1237	1499	94	58	98	2.59	3.01	2.18	19.0	7.76	8.20	9.85	01 2
474-004	12059		222820.6	221711	5B	1.2x0.8	48	15.0	14.51	7552	7811	252	226	328	1.85	2.23	0.83	13.8	10.13	9.51	11.19	01 2
	12072		223013.8	234027	5	1.0x0.2	83	16.5	15.44	7458	7720	354	336	347	3.32	4.65	1.12	12.3	9.75	9.82	11.07	01 2
474-009	12084		2232 4.4	244610	5B	1.6x1.2	41	15.3	14.87	12210	12474	373	342	535	1.27	1.61	0.69	3.2	10.39	9.77	11.92	02 2
	12094		223222.6	221810	9	1.0x0.8	37	16.5	16.31	7604	7862	62	39	100	1.14	1.27	2.40	11.5	9.41	9.27	10.51	01 2
474-010	12106	5233	223410.3	253007	5	1.1x0.9	35	14.8	14.32	7375	7640	259	242	432	4.00	4.68	1.60		10.18	9.81	11.41	01 0
474-013	12122	7339	223523.5	233128	6	2.8x0.8	74	13.1	12.25	1335	1595	337	324	347	7.90	12.78	2.76	12.9	9.65	8.89	10.99	01 2
474-014	12123		223530.0	245600	7B	1.1x0.1	90	15.6	14.23	4077	4340	221	200	217	3.50	5.34	1.63	12.2	9.73	9.38	10.62	01 2
474-019	12146		223832.4	221249	6	1.1x0.3	75	15.7	14.84	11363	11619	406	387	403	2.30	3.02	0.90	10.4	10.34	9.98	11.68	01 2
474-020	12148	5242	223851.4	230830	10	1.0x0.9	26	14.7	14.24	7082	7340	287	140		1.77	1.99	1.16	9.7	10.18	9.40		01 2*
474-021	12153	5243	2239 0.5	230651	5	0.7x0.6	31	14.3	13.75	7153	7411	130	93	242	3.49	3.88	1.16	30.9	10.39	9.70	10.75	01 2*
474-025	12169		224114.9	234107	5	1.1x0.4	70	15.7	14.85	12821	13080	486	461	494	2.19	2.83	0.96	7.8	10.44	10.06	11.69	01 2
474-027	12180		2243 3.9	213233	2	1.0x0.3	77	15.5	14.96	7091	7344	349	328	349	3.91	4.27	1.46	12.5	9.90	9.74	11.09	01 2
474-030	12191		224616.9	272041	5	1.5x0.8	58	14.9	14.23	9589	9854	349	316	397	7.31	9.39	1.70	21.7	10.44	10.33	11.51	01 2*
474-031	12193		224621.3	271903	7B	1.3x1.2	22	14.1	13.66	9597	9862	351	289		7.19	8.57	1.05	27.6	10.67	10.29		01 2*
	12197		224628.0	243413	6	1.2x0.2	84	17.0	15.83	7460	7719	371	360	363	3.60	5.10	1.99	8.5	9.59	9.86	11.39	01 2
475-002	12233		225121.0	253433	5B	1.1x1.0	25	15.4	15.00	7569	7829	143	106		5.51	6.38	2.15	24.0	9.94	9.97		01 2
475-003	12245		225223.8	213206	7	1.0x0.5	63	15.6	14.98	8360	8610	357	331	389	2.10	2.57	1.20		10.03	9.65	11.53	01 0
475-005			2255 3.0	255027	5	0.7x0.4	55	15.5	14.93	7105	7364	318	294	376	0.92	1.08	0.63	7.1	9.91	9.14	11.09	01 2
475-007	12267	7435	225529.5	255157	3B	1.5x0.7	64	15.5	14.99	7012	7271	368	351		1.11	1.32	1.35	3.0	9.88	9.22		02 2*
475-010	12272		225552.4	253003	3	1.0x0.8	38	15.0	14.55	7245	7503	483	306		0.60	0.68	0.78	3.9	10.08	8.95		02 2*

TABLE I. (continued)

CGCG (1)	UGC (2)	NGC/IC (3)	R.A.(1950) h m s (4)	Dec(1950) ° ' " (5)	T (6)	a x b ' ' (7)	i ° (8)	m (9)	m_c (10)	V_h km/s (11)	V_o km/s (12)	W_1 km/s (13)	W_2 km/s (14)	W_c km/s (15)	S Jy-km/s (16)	S_c Jy-km/s (17)	rms mJy (18)	S/N (19)	log h^2L solar units (20)	log h^2M_H solar units (21)	log hM_T (22)	Codes (23)
475-011	12274		225555.7	254716	5	1.3x0.5	68	15.4	14.63	6611	6870	418	398		0.50	0.65	0.70	3.3	9.97	8.86		02 2*
475-014	12283		225653.9	234956	4B	1.2x1.2	0	15.7	15.37	9949	10203	293	267		0.97	1.13	0.64	13.0	10.02	9.44		01 2*
475-015	12290		225712.0	243433	5	1.5x0.2	90	15.7	14.43	7287	7543	468	455	456	2.93	4.57	1.18	7.8	10.13	9.79	11.39	01 2*
	12289		225714.7	234806	7	1.4x1.3	21	16.0	15.73	10160	10414	244	218		3.09	3.75	1.39	14.9	9.89	9.98		01 2*
475-018	12293		225720.9	254544	3	1.1x1.0	25	15.5	15.14	9980	10238	113	69		1.06	1.21	2.22	5.8	10.11	9.48		01 2
475-017	12291		225723.9	260153	7	1.6x1.1	46	15.6	15.16	7764	8023	328	313	442	3.61	4.58	1.02	17.4	9.89	9.84	11.80	01 2
475-020			225821.5	252550	5	0.5x0.5	0	15.6	15.33	7393	7650	152	104		1.32	1.41	1.13	10.8	9.78	9.29		01 2
475-021	12303		225824.0	262800	5	1.7x1.3	40	14.8	14.30	7947	8206	286	273	426	4.54	5.86	2.15	11.2	10.26	9.97	11.56	01 2
475-023	12319	7466	225938.3	264701	5	1.6x0.5	73	14.4	13.40	7513	7772	433	419	439	4.78	6.64	2.21	7.7	10.57	9.98	11.47	01 2
475-022			225940.2	252933	5	0.8x0.3	69	15.5	14.73	7503	7760	286	232	297	1.57	1.97	0.88	8.6	10.04	9.45	10.92	01 2*
	12318		225941.9	252407	5B	1.2x0.4	72	16.0	15.19	9763	10019	427	409	433	1.68	2.22	0.68	10.0	10.08	9.72	11.48	01 2*
475-024	12325		230018.0	213613	7	1.5x0.7	61	15.2	14.45	5927	6174	362	348	402	2.91	3.74	0.93	13.2	9.95	9.53	11.55	01 2
475-025	12326		230019.0	214853	7	1.2x1.0	33	15.6	15.20	10315	10563	336	299	583	1.72	2.03	0.99	7.3	10.12	9.73	12.08	01 2
	12327		230026.9	254444	5	1.5x0.1	90	16.5	14.84	13660	13917	435	399	415	3.58	6.24	1.42	10.6	10.50	10.45	11.52	01 2
			230135.6	222110	0	0.3x0.3	0	14.8	14.24	11830	12079	165			1.70	1.80			10.61	9.79		01 76
475-035	12352		230314.0	272340	5	1.8x0.9	60	14.7	13.87	7447	7706	485	453	543	1.92	2.59	0.87	6.6	10.37	9.56	11.73	01 2
	12355		230332.9	241739	7	1.2x0.3	76	16.5	15.52	7712	7965	318	304	319	2.41	3.23	1.58	7.2	9.74	9.68	11.33	01 2
475-036	12365	5285	230431.5	224000	10	1.7x1.3	40	14.4	13.82	6151	6399	385	353	577	1.77	2.19	0.97	9.5	10.23	9.33	11.72	01 2*
475-037			230457.4	223227	5	1.0x0.2	83	15.6	14.49	6081	6329	350	291	344	3.13	4.39	0.92	19.1	9.95	9.62	10.98	01 2*
475-038	12378	7489	2305 5.3	224335	7	2.2x1.1	59	14.3	13.43	6238	6486	379	359	430	12.47	17.69	1.36	32.5	10.40	10.25	11.76	01 2
	12384		230519.6	244120	7B	1.0x0.8	37	16.0	15.55	10020	10273	287	267	460	3.72	4.29	1.84	10.5	9.95	10.03	11.80	01 2*
475-040	12383		230520.5	222553	5B	1.5x1.0	48	15.7	15.07	10412	10660	501	480	647	2.41	3.03	1.01	9.7	10.18	9.91	11.99	01 2
	12386		230534.3	244157	7	1.2x0.6	59	16.0	15.32	10094	10347	307	292	343	1.29	1.59	0.93	8.0	10.05	9.60	11.57	01 2*
475-046	12429		231121.0	222520	7	1.5x1.1	42	15.6	15.14	4285	4530	229	195	333	3.35	4.17	1.54	15.7	9.40	9.31	11.29	01 2
	12432		231130.5	243716	7	1.0x0.1	83	16.0	14.78	8375	8625	361	328	353	1.71	2.42	0.87	8.4	10.11	9.63	11.35	01 2
475-053	12459		231312.0	243737	6	1.1x0.4	69	15.6	14.78	7994	8244	302	285	314	1.70	2.15	1.10	7.9	10.07	9.54	11.33	01 2
475-054	12460	5296	231316.1	244920	5B	1.0x0.6	53	15.5	14.85	8086	8336	314	300	380	3.19	3.81	1.15	10.9	10.05	9.80	11.28	01 2
475-056		5298	231333.5	251700	5B	0.8x0.7	29	15.0	14.49	8199	8450	360	291		2.72	3.05	1.12	11.3	10.21	9.71		01 2
475-057			231333.9	271054	7	0.8x0.6	37	15.4	14.90	7320	7575	180	127	291	2.62	2.94	1.12	18.4	9.95	9.60	11.18	01 2
475-058	12469	7568	231356.8	241327	5	1.0x0.6	53	14.5	13.74	8416	8664	365	339	442	4.07	4.86	2.31	7.4	10.53	9.94	11.42	01 2
475-060	12490		231610.8	245733	3B	1.0x0.8	38	14.0	13.42	8060	8309	350	194	552	3.26	3.67	0.70	21.6	10.62	9.78	11.62	01 2*
475-061			231612.3	245937	5	0.7x0.7	0	15.7	15.36	8117	8366	278	201		1.73	1.88	0.78	10.5	9.85	9.49		01 2*
	12489		231614.4	223553	7	1.3x0.1	86	16.0	14.69	10888	11131	540	520	521	4.30	6.46	0.74	16.8	10.36	10.28	11.86	01 2
	12499		231639.2	255236	9	1.1x0.7	49	17.0	16.80	5555	5806	209	199	268	1.50	1.68	1.28	7.2	8.96	9.13	11.25	01 2
476-004			231647.2	254700	7	0.8x0.6	37	14.8	14.34	6276	6527	171	161	277	0.83	0.93	0.87	6.5	10.04	8.97	11.07	01 2
476-006	12514		231721.1	254407	9	1.1x0.5	62	15.6	15.37	5863	6113	247	235	272	1.70	1.89	1.17	7.5	9.57	9.22	11.26	01 2
476-009			231735.0	255626	0	0.3x0.2	56	15.0	14.60	7945	8196	300			0.90	0.95	2.00		10.13	9.18		02 70
476-008	12520	7620	231737.4	235650	7	1.3x1.2	22	13.5	13.04	9582	9828	256	235		7.38	8.80	0.94	39.3	10.92	10.30		01 2
476-011			231742.0	254457	5	0.4x0.3	41	15.5	15.09	6062	6312	226	201	331	1.57	1.74	1.27	6.9	9.71	9.21	10.76	01 2
476-012	12527	7624	231755.2	270231	7	1.0x0.7	45	13.7	13.14	4276	4529	331		459	3.79	4.42			10.21	9.33	11.43	01 51
476-013	12533		231824.0	233200	5	1.5x0.2	90	15.6	14.32	6004	6249	496	475	485	2.24	3.50	0.74	11.8	10.01	9.51	11.37	01 2
476-015			231836.0	260833	5	0.8x0.3	73	15.7	14.83	5858	6109	267	107	272	2.68	3.46	1.25	15.0	9.79	9.48	10.72	01 2
476-016	12541	5315	231849.8	250633	0	1.0x1.0	0	14.6	14.20	4431	4679	183	102		0.99	1.12	1.00		9.81	8.76		01 0
476-017			231854.7	215640	4	0.8x0.3	74	15.7	14.87	11923	12164	472	449	470	1.64	1.93	0.76	8.6	10.37	9.83	11.49	01 2
476-018	12543		2319 6.0	265050	7	1.0x0.3	72	15.4	14.55	5972	6224	252	159	258	3.93	5.06	1.71	17.3	9.92	9.67	11.00	01 2*

TABLE I. (continued)

CGCG	UGC	NGC/IC	R.A.(1950)	Dec(1950)	T	a x b	i	m	m_c	V_h	V_o	W_1	W_2	W_c	S	S_c	rms	S/N	log h^2L	log h^2M_H	log hM_T	Codes
			h m s	° ′ ″		′ ′	°			km/s	km/s	km/s	km/s	km/s	Jy-km/s		mJy		solar units			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
476-020	12545		231911.0	264813	7B	1.3x0.6	62	15.3	14.67	5751	6003	247	194	273	3.93	4.94	1.71	16.2	9.84	9.62	11.15	01 2*
476-021	12546		231913.5	264840	6	1.4x0.4	74	15.3	14.44	5923	6175	608	586	618	6.80	9.14	0.88	21.0	9.95	9.91	11.85	01 2*
476-025	12565		232015.6	225600	5	1.1x0.7	50	15.4	14.94	8534	8777	324	303	407	2.19	2.63	1.01	10.2	10.06	9.68	11.39	01 2
476-024	12564		232018.5	223940	7	1.0x0.3	69	15.3	14.55	12371	12613	520	497	532	3.45	4.36	0.78	11.8	10.53	10.21	11.94	01 2
476-027	12572		232053.6	242830	4	1.0x0.2	86	15.6	14.61	9756	10002	544	526	527	0.75	0.93	0.50	4.7	10.30	9.34	11.54	01 2
476-031	12583		2322 4.9	234237	7	1.3x0.3	77	15.7	14.76	5055	5299	289	262	291	2.88	3.94	1.34	10.0	9.69	9.42	11.09	01 2
476-032	12587		232221.8	262200	6	1.1x0.8	43	15.6	15.16	12795	13045	367	349	511	1.24	1.46	1.06		10.32	9.77	12.02	01 0
476-037			2324 5.3	252203	7	0.9x0.3	70	15.7	14.94	9061	9308	364	343	374	2.54	3.20	0.90	12.8	10.11	9.82	11.47	01 2
476-038	12598	7664	232410.6	244818	5	3.3x1.8	57	13.3	12.66	3477	3722	354			27.40	30.07	4.00		10.23	9.99		72 0
476-040			232418.2	261944	7	0.9x0.6	47	15.5	15.07	6688	6935	496	471	484	2.55	2.80	1.44	6.2	9.90	9.50	11.33	01 2
476-039	12599		232419.2	252440	2	1.1x0.2	90	15.4	14.83	5717	5966	268	227	354	3.83	4.44	1.96	11.9	9.67	9.57	11.29	01 2
476-041	12604		2325 9.9	222840	3B	1.0x0.7	46	15.6	15.24	11088	11327	444	320	589	2.45	2.76	0.92	13.2	10.16	9.92	11.80	01 2
476-042	12607	7673	232511.8	231851	0	1.7x1.6	20	12.7	12.38	3407	3648	202			8.17	8.36	4.00		10.32	9.42		11 61
476-043	12610	7677	232536.2	231518	5B	1.7x1.1	49	13.9	13.33	3554	3795	285	270	368	9.14	11.89	1.45	28.0	9.97	9.61	11.09	01 2
476-045	12614	7678	232558.2	220850	7B	2.5x1.8	43	12.7	12.29	3487	3725	306	292	437	9.91	14.91	2.32	18.0	10.38	9.69	11.60	01 2
476-046	12619		232614.9	215700	9	1.6x1.0	50	15.4	15.29	3887	4125	191	176	243	4.90	5.86	1.48	20.3	9.26	9.37	11.14	01 2
476-048	12626		232647.0	260640	5	1.2x0.4	72	15.7	14.86	8016	8263	466	448	475	5.65	7.46	2.36	7.7	10.04	10.08	11.47	01 2
476-049			2327 7.5	234013	7	0.9x0.7	39	15.6	15.25	9799	10040	259	242	397	2.63	3.00	0.96	15.1	10.05	9.85	11.63	01 2
476-051			232724.5	244147	5	0.8x0.3	65	15.6	14.96	9596	9840	411	424	439	2.16	2.65	0.70	10.5	10.15	9.78	11.37	01 2
476-054	12631		232732.5	264820	5	1.1x0.3	80	14.8	13.70	9168	9416	510	461	500	3.58	4.96	1.06	13.3	10.61	10.02	11.51	01 2
476-055			232740.0	251527	10	0.5x0.5	0	15.0	14.73	5749	5994	240	206		4.09	4.38	1.24	17.2	9.81	9.57		01 2*
476-056			232745.4	223240	5	0.8x0.4	60	15.5	14.93	10380	10618	402	359	446	1.39	1.67	0.68	8.0	10.23	9.65	11.43	01 2
	12643		232858.8	245536	9	1.4x0.6	64	16.5	16.36	6998	7241	232	221	251	2.44	2.79	1.89	7.4	9.32	9.54	11.33	01 2
476-058	12646		2329 9.4	254013	5B	1.9x1.7	27	14.4	13.99	8028	8273	196	174		2.62	3.51	1.30		10.39	9.75		01 0
476-066			233043.5	263453	8	0.9x0.8	27	15.5	15.26	3696	3942	148	128		5.13	5.69	2.94	16.6	9.24	9.32		01 2
476-068			233115.7	253040	7	0.8x0.7	29	14.8	14.46	8116	8360	233	210		2.52	2.81	1.46	8.9	10.21	9.67		01 2
476-070	12675		2332 6.0	225700	6	1.0x0.2	81	15.7	14.76	3031	3268	182	148	182	1.31	1.78	1.93	5.3	9.27	8.65	10.38	01 2
476-072	12678		233220.0	260113	5	1.2x0.2	90	15.4	14.26	8954	9198	528	515	511	1.31	1.92	0.88	5.9	10.37	9.58	11.53	01 2
476-074			233319.0	241837	7	0.7x0.4	54	15.7	15.21	11444	11684	269	256	317	2.00	2.32	1.17	8.4	10.20	9.87	11.39	01 2
476-073	12694	7712	233320.8	232032	10	0.9x0.8	27	13.7	13.36	3055	3293	193	168		9.04	10.03	3.30		9.84	9.41		01 0
476-076	12696		233330.0	224527	6B	1.0x0.9	26	15.1	14.79	11444	11680	334	314		2.31	2.64	2.02	6.3	10.37	9.93		01 2
476-082	12712	7718	233535.9	252607	5	1.2x0.8	48	15.2	14.81	9452	9694	524	460	679	1.35	1.63	0.67	7.6	10.20	9.56	11.91	01 2
476-088			233559.5	261853	7	0.9x0.7	39	15.6	15.25	9395	9638	184	174	282	1.36	1.55	1.56	6.4	10.02	9.53	11.31	01 2
476-098	12721		233641.0	265007	5B	1.5x0.6	67	15.0	14.23	7604	7848	420	406	442	6.27	8.33	1.21	18.9	10.24	10.08	11.48	01 2
476-106	12732		2338 9.1	255730	9	3.0x3.0	0	14.5	14.15	756	998	132			67.50	72.68			8.49	9.23		11 63
476-112			233845.0	251630	5	0.9x0.5	56	14.7	14.06	9400	9640	480	352	556	3.58	4.28	0.80	14.9	10.49	9.97	11.63	01 2
	12740		233921.9	233210	7	1.1x1.1	0	16.5	16.36	10522	10757	137	126		1.74	2.00	1.00	15.1	9.67	9.74		01 2
476-118	12745		234012.0	264600	2	1.1x0.5	65	14.8	14.28	7638	7880						1.24		10.23	< 9.29		00 2
476-119	12746		234015.1	270123	7	1.4x0.2	83	15.0	13.78	7426	7669	458	368	449	5.74	8.45	1.23	17.6	10.41	10.07	11.61	01 2
476-121			234044.4	224433	5	0.8x0.3	73	15.7	14.88	10604	10837	440	418	441	2.01	2.59	0.99	7.0	10.27	9.86	11.39	01 2
476-125	12754	7741	234122.7	254753	7B	4.4x2.9	48	11.8	11.37	750	990	204		272	51.50	60.91			9.59	9.15	10.79	11 63
477-001	12762		234158.6	214040	5	1.3x0.7	57	15.6	15.08	5362	5591	239	210	277	2.33	2.92	0.77	17.4	9.61	9.33	10.90	01 2*
477-002	12764		2342 6.2	214427	7	1.0x1.0	0	15.6	15.41	5435	5664	113	63		2.65	3.00	1.23	26.8	9.49	9.36		01 2*
	12766		234235.9	251427	5	1.1x0.2	85	16.0	14.95	11747	11985	371	354	357	2.20	3.15	0.98	10.3	10.32	10.03	11.31	01 2
477-003	12772	7747	2343 0.7	270454	5B	1.7x0.6	71	14.5	13.59	7685	7927	552	530	569	2.32	3.21	0.95	7.2	10.51	9.68	11.73	01 2

TABLE I. (continued)

CGCG (1)	UGC (2)	NGC/IC (3)	R.A.(1950) h m s (4)	Dec(1950) ° ' " (5)	T (6)	a x b ' ' (7)	i ° (8)	m (9)	m_c (10)	V_h km/s (11)	V_o km/s (12)	W_1 km/s (13)	W_2 km/s (14)	W_c km/s (15)	S Jy-km/s (16)	S_c Jy-km/s (17)	rms mJy (18)	S/N (19)	log h^2L solar units (20)	log h^2M_H solar units (21)	log hM_T (22)	Codes (23)
477-005			234317.5	271940	7	0.7x0.5	44	15.3	14.92	8971	9213	231	207	320	1.56	1.76	0.90	11.6	10.11	9.55	11.32	01 2
477-009			234547.6	234847	7	0.7x0.5	44	15.7	15.34	10055	10288	244	233	339	0.93	1.05	0.58	8.8	10.04	9.42	11.41	01 2
477-011			234617.7	222544	7	0.8x0.7	29	15.7	15.43	10610	10839	257	209		1.99	2.22	0.71	17.0	10.05	9.79		01 2
477-012	12791		234618.0	255700	9	1.7x0.6	69	15.2	15.04	799	1037	110		117	9.43	9.56			8.16	8.38	9.87	11 63
477-013	12792		234630.0	263040	5B	1.5x0.7	63	14.8	14.12	11514	11753	444	423	479	2.55	3.32	0.94	11.2	10.64	10.03	11.74	01 2
477-016			234816.0	270040	2	0.7x0.6	32	14.9	14.51	7997	8236	152	119	279	1.90	2.06	0.97	16.0	10.17	9.52	10.92	01 2
477-015		7765	234820.5	265320	5	0.9x0.8	27	15.7	15.43	7561	7800	247	225		0.54	0.61	0.59	8.4	9.76	8.94		02 2*
477-017	12805	7767	234824.5	264835	2	1.1x0.2	90	14.2	13.47	8066	8305	640	586	622	0.61	0.67	0.41	5.3	10.60	9.04	11.63	02 2*
477-020			234828.0	265627	5	1.0x0.3	74	15.5	14.66	8312	8551	346	330	347	0.54	0.71	0.59	4.5	10.15	9.09	11.15	01 2*
477-024			234926.5	270333	5	0.6x0.3	60	15.7	15.12	8124	8363	345	116	384	0.66	0.78	0.72	5.8	9.94	9.11	11.11	01 2
477-028			235115.5	270820	5	0.8x0.4	60	15.3	14.73	7972	8210	401	356	448	0.95	1.14	0.64	6.0	10.09	9.26	11.32	01 2
478-005	12855		2354 4.5	264934	2	1.4x0.7	61	14.7	14.18	7877	8113	467	442	515	2.69	3.09	1.33	9.6	10.29	9.68	11.62	01 2
	12866		235520.4	220434	7	1.0x0.3	72	16.0	15.24	8073	8296	328	301	334	1.98	2.55	1.39	7.2	9.89	9.62	11.34	01 2
478-006	12873		235558.8	255607	9	1.5x1.3	30	15.6	15.44	3260	3493	160	138	315	4.75	5.76	1.40	16.0	9.06	9.22	11.30	01 0*
478-007	12874		2356 7.5	265140	7	1.1x0.8	43	15.7	15.29	11598	11833	280	250	393	1.94	2.28	1.09	9.3	10.18	9.88	11.75	01 2
478-010	12896		235758.0	260248	5	1.0x0.9	26	14.7	14.12	7656	7888	238	190		2.89	3.30	1.96	8.2	10.29	9.69		01 2
478-012	12914		2359 4.0	231223	5	2.7x1.3	61	13.2	12.51	4392	4616	628	181	700	12.69	19.87	0.82	52.9	10.47	10.00	11.85	01 2*
478-013	12915		2359 8.6	231259	5B	1.6x0.5	73	13.9	12.96	4392	4616	599	186	614	11.02	15.30	1.04	38.1	10.29	9.89	11.53	01 2*
478-014	12920		235948.0	265600	6	1.3x0.2	85	15.5	14.32	7613	7846	307	287	300	2.89	4.17	1.16	12.8	10.21	9.78	11.25	01 2
478-015	6		000035.8	214049	10	1.0x0.7	45	14.4	14.02	6602	6822	346	300	471	1.07	1.19	0.82	6.0	10.21	9.12	11.39	01 2
478-017	13		000055.5	270413	2B	1.1x1.0	25	15.0	14.62	7721	7954	200	146		0.80	0.91	0.93	6.8	10.10	9.13		01 2
478-019	14		0001 1.2	225519	7	1.9x1.0	57	14.0	13.31	7253	7476	364	345	419	6.92	9.33	1.74	16.3	10.57	10.09	11.76	01 2
478-020	24		000139.6	221840	7B	1.2x0.8	47	15.4	14.95	4442	4663	196	177	260	4.57	5.48	1.53	20.2	9.51	9.45	11.01	01 2
478-000			000153.0	220445	9	1.0x0.5	62	16.0	15.81	6494	6714	222	209	243	2.20	2.42	1.04	10.6	9.48	9.41	11.17	01 2
478-024	40		000314.0	271007	5B	1.2x0.7	54	15.2	14.72	7531	7763	398	379	476	2.18	2.67	0.98	9.7	10.04	9.58	11.50	01 2
	41		000323.0	221247	7B	1.2x0.3	76	16.0	15.15	6597	6816	277	258	278	3.70	4.96	0.99	19.3	9.76	9.74	11.15	01 2
478-025	50		0004 6.0	255233	4	1.0x0.3	75	14.9	14.07	7561	7789	419	404	420	2.89	3.47	1.18	8.3	10.31	9.70	11.27	01 2
478-026	57	1	000441.3	272550	5	1.8x1.2	48	13.4	12.85	4555	4787	329	318	433	11.86	15.66	3.49	13.4	10.37	9.93	11.35	01 2*
478-029	68		000535.3	264331	5B	1.0x0.6	57	14.4	13.71	8774	9004	308	252	356	2.93	3.54	1.01	12.2	10.57	9.83	11.25	01 2
478-030	69		000535.5	271453	7	1.3x0.9	45	14.7	14.21	4638	4869	193	173	264	6.95	8.42	1.78	29.9	9.84	9.67	11.07	01 2
478-031	78	9	000620.1	233224	4	1.3x0.7	58	14.5	13.80	4528	4749	187	136	216	2.69	3.21	1.30		9.98	9.23	10.62	01 0
478-032	79		000628.5	252020	7	1.7x1.3	40	15.7	15.41	4341	4567	208	188	317	5.30	6.81	1.72	19.9	9.30	9.53	11.29	01 2
478-033	80	16	000629.7	272708	1	1.8x1.0	57	12.5	12.07	3041	3272						1.09		10.35	< 8.48		00 2
478-034	89	23	000719.3	253850	3B	2.2x1.6	44	12.5	12.11	4557	4783	438		616	6.38	8.71			10.66	9.67	11.73	01 51
478-036	94	26	000751.3	253316	5	2.0x1.1	57	13.9	13.28	4602	4827	331		388	8.32	11.48			10.20	9.80	11.27	01 51
478-037	101		000821.0	251700	3B	1.4x0.6	67	15.4	14.92	10231	10456	474	451	496	2.92	3.44	0.91	13.2	10.22	9.95	11.69	01 2*
478-039	110		000924.0	260653	7	1.3x0.8	51	15.3	14.89	4510	4736	183	173	230	2.57	3.14	1.66	10.5	9.54	9.22	10.93	01 2
478-041	113		000938.5	220227	3	1.2x0.4	74	14.9	14.33	7629	7844	526	483	531	4.52	5.24	1.12	13.4	10.20	9.88	11.55	01 2
	127		001119.5	264126	7B	1.8x0.8	63	16.5	15.99	4685	4911	211	199	232	7.25	9.75	1.39	31.8	9.14	9.74	11.03	01 2
478-051	165		0015 5.5	242320	4	1.0x0.2	86	15.4	14.58	6047	6265	336	327	330	3.82	4.72	1.65	8.3	9.91	9.64	10.93	01 2
478-053	179		001625.2	231200	7	1.3x0.7	56	15.3	14.83	4464	4679	232	210	272	5.54	6.86	1.37	27.9	9.56	9.55	11.05	01 2
478-054	186		001714.3	232943	5B	1.1x0.5	63	14.9	14.26	5834	6049	385	365	420	0.88	1.10	0.82	5.2	10.01	8.98	11.23	01 2
479-002	198	1543	001819.8	213518	5	0.8x0.7	29	14.2	13.83	5593	5802	251	237		3.27	3.66	0.95	17.4	10.15	9.46		01 2
479-007	204	1544	001842.0	224853	7	1.4x0.9	49	14.6	14.12	5713	5925	278	258	359	4.39	5.42	1.50	17.8	10.05	9.65	11.44	01 2
479-013	208	91	001915.5	220723	5	2.4x0.9	69	14.5	13.64	5345	5555	634	455	664	5.60	8.48	1.00	16.3	10.18	9.79	11.83	01 2*

TABLE I. (continued)

CGCG (1)	UGC (2)	NGC/IC (3)	R.A.(1950) h m s (4)	Dec(1950) ° ' " (5)	T (6)	a x b ' ' (7)	i ° (8)	m (9)	m_c (10)	V_h km/s (11)	V_o km/s (12)	W_1 km/s (13)	W_2 km/s (14)	W_c km/s (15)	S Jy-km/s (16)	S_c Jy-km/s (17)	rms mJy (18)	S/N (19)	log h^2L solar units (20)	log h^2M_H solar units (21)	log hM_T (22)	Codes (23)
479-015	209	93	001926.4	220747	5	1.5x0.7	63	14.7	14.02	5687	5897	496	125	545	1.11	1.45	0.58	9.8	10.08	9.08	11.55	01 2*
479-016	210		001929.4	232747	5	1.3x0.5	71	15.0	14.25	4481	4695	259	246	268	4.00	5.30	1.01	19.6	9.79	9.44	10.76	01 2
479-020	221		002034.1	270921	10	0.7x0.5	44	14.5	14.14	3908	4130	178	148	249	2.03	2.19	1.35	10.2	9.73	8.95	10.50	01 2
479-023	228		002120.0	240144	6	1.3x0.9	46	14.8	14.41	5683	5897	296	282	402	6.45	7.81	1.40	19.6	9.93	9.81	11.52	01 2
479-027	244		002252.0	243200	6B	1.1x0.5	63	14.9	14.34	4544	4758	254	235	280	3.24	4.00	1.59	10.8	9.77	9.33	11.02	01 2
479-028			002325.2	213117	7	0.7x0.5	44	15.7	15.38	5582	5788	121	97	170	1.17	1.32	1.91	6.8	9.52	9.02	10.56	01 2*
479-029	248		002329.5	252700	10	1.9x1.3	47	14.9	14.61	10151	10367	525	466	693	5.75	7.28	1.72	10.4	10.33	10.27	12.11	01 2*
479-031	251	109	002336.0	213200	3B	1.3x1.1	33	15.0	14.71	5572	5778	148	132	265	0.49	0.58	0.61	6.6	9.79	8.66	10.92	01 2*
479-032	261		002439.4	235326	10	1.3x1.0	40	14.8	14.53	7348	7560	514	282	774	1.66	1.92	0.67	9.3	10.09	9.41	11.96	01 2
	273		002529.7	254313	9	1.2x0.8	47	17.0	16.91	5602	5818	176	159	233	2.44	2.77	1.65	11.1	8.91	9.34	11.16	01 2
479-034	278		002544.5	270526	6B	1.5x0.4	76	15.3	14.46	9619	9838	441	394	440	2.70	3.70	1.62	5.9	10.35	9.93	11.78	01 2
	302		002744.5	245141	9	1.0x0.9	26	17.0	16.94	5415	5627	124	107		0.69	0.78	1.14	6.8	8.87	8.76		01 2
479-037	321		002954.5	230707	7B	1.6x0.3	80	15.4	14.48	4668	4874	233	218	232	3.67	5.32	1.73	13.4	9.73	9.47	10.91	01 2
	337		003145.8	242000	7	1.2x1.1	23	16.5	16.38	5332	5540	162	146		4.61	5.41	1.43	24.4	9.08	9.59		01 2
	352		0033 8.8	235732	9	1.4x0.9	49	16.5	16.44	5146	5353	187	176	242	1.67	1.94	1.17	11.3	9.03	9.12	11.20	01 2
	354		003316.3	234557	6	1.0x0.3	73	16.0	15.30	5617	5823	239	213	244	1.37	1.76	1.96	6.1	9.56	9.15	10.92	01 2*
479-043	356	160	003326.0	234100	3	3.0x1.6	59	13.7	13.23	5247	5453	560	535	639	3.58	5.49	0.85	14.1	10.33	9.59	11.89	01 2
479-044	365	169	003413.7	234300	5	3.5x1.1	73	13.7	12.86	4600	4805	600	331	614	6.11	11.18	0.93	20.8	10.37	9.78	11.81	01 2*
479-051	398		003619.0	252140	3	1.5x1.1	43	14.6	14.21	4612	4820	217	199	308	2.05	2.47	1.42	9.8	9.83	9.13	11.00	01 2
479-056	425		003732.6	222632	10	0.7x0.5	44	14.5	14.17	5850	6050	160	120	222	1.45	1.57	1.22	10.0	10.05	9.13	10.57	01 2
479-059	438	214	003848.9	251333	7	2.2x1.7	39	13.0	12.64	4539	4745	366	349	565	9.49	13.44	2.48	17.1	10.44	9.85	11.90	01 2
479-062	458	228	004013.9	231339	3B	1.2x1.1	24	14.9	14.64	7314	7514	357	151		3.23	3.75	1.03	16.7	10.05	9.70		01 2*
479-066	469		004124.0	255607	5	1.6x0.3	81	15.3	14.31	10081	10288	563	539	550	2.11	3.08	0.82	11.6	10.45	9.89	11.75	01 2
479-067	470		004130.0	263433	9	1.1x0.3	71	14.8	14.49	5191	5399	266	241	275	9.60	10.60	1.35	37.0	9.82	9.86	11.18	01 2
480-002	483		004410.5	261206	4	1.2x0.5	67	15.7	15.13	4956	5162	255	238	272	2.68	3.20	1.20		9.52	9.30	10.80	01 0
480-006		1586	004517.1	220602	0	0.3x0.3	34	14.9	14.61	5830	6024	200		344	1.99	2.10	2.50		9.87	9.26	10.69	01 70
480-009	497	260	004554.0	272506	9	0.9x0.9	0	14.3	13.88	5212	5420	192	175		3.19	3.56	1.04	19.6	10.06	9.39		01 2
480-011	506		004659.5	223936	10	1.6x1.3	36	14.5	14.11	7461	7655						0.78		10.27	< 8.85		00 2
480-017	534	280	004949.2	240336	5	1.8x1.3	44	14.6	14.08	10169	10365	585	554	812	5.39	7.09	1.56	10.9	10.55	10.26	12.24	01 2
480-018	535		004950.5	255121	5B	1.0x0.6	53	15.5	15.00	14797	14998	248	216	294	1.42	1.70	1.26	6.8	10.50	9.95	11.31	01 2
	541		005029.5	213906	7	1.2x0.2	81	16.0	14.99	7296	7485	295	279	290	1.84	2.61	1.79	5.5	9.90	9.54	11.19	01 2
480-023	573		005325.7	235116	10	1.4x0.9	50	14.0	13.61	4991	5184						1.39		10.13	< 8.84		00 2
480-025	591		005438.9	233707	10	1.0x0.8	37	15.2	14.95	4835	5027	196	176	316	4.08	4.56	1.82	13.6	9.57	9.43	10.92	01 2
480-028	612		005620.1	233458	10	1.0x0.5	64	14.5	14.14	5058	5249						1.41		9.93	< 8.79		00 2
480-036	643		010023.8	244219	7	1.2x1.0	33	15.7	15.38	9041	9232	292	275	509	3.44	4.06	1.12	18.0	9.93	9.91	11.91	01 2
480-037	645	354	010035.8	220426	5B	1.0x0.6	53	14.2	13.60	4670	4853	211	185	259	1.77	2.12	0.88	12.1	10.08	9.07	10.71	01 2
	652		0101 9.9	214540	7B	1.3x0.6	62	17.0	16.45	5670	5852	205	186	227	3.14	3.95	1.35	17.0	9.10	9.50	10.98	01 2
	884B		0118 8.4	251708	5	0.8x0.3	69	17.5	16.70	8985	9166	350	444	363	1.50	1.88	1.90	3.9	9.39	9.57	11.16	01 2
	884		011814.0	251715	10	1.5x0.5	72	17.0	16.67	8670	8850	330	384	336	0.75	0.86	1.01	5.5	9.38	9.20	11.28	01 2*
	905		0119 3.7	233113	5	1.5x1.2	37	16.0	15.58	11465	11640	430	398	678	1.32	1.64	0.56	11.6	10.05	9.72	12.08	01 2
	948		012118.4	264719	9	1.1x0.4	68	17.0	16.73	4918	5101	173	157	182	1.83	2.02	1.65	8.3	8.87	9.09	10.81	01 2
481-008	1073		012722.0	253623	9	1.9x1.1	54	15.3	15.01	3675	3850	174	154	212	8.86	11.04	1.55	38.5	9.32	9.59	11.04	01 2
	1084		012835.0	234143	9	1.4x1.2	31	17.5	17.24	3414	3583	90	68	171	4.03	4.79	1.52	39.1	8.36	9.16	10.76	01 2
482-004	1194	656	013939.9	255330	2B	1.5x1.3	30	13.5	12.97	3916	4083						0.78		10.18	< 8.31		00 0
	1230		014244.7	251620	9	2.3x2.3	0	17.0	16.57	3836	3999	115	88		9.52	14.17	1.66	67.3	8.72	9.73		01 2

TABLE I. (continued)

CGCG (1)	UGC (2)	NGC/IC (3)	R.A.(1950) h m s (4)	Dec(1950) ° ' " (5)	T (6)	a x b ' ' (7)	i ° (8)	m (9)	m_c (10)	V_h km/s (11)	V_o km/s (12)	W_1 km/s (13)	W_2 km/s (14)	W_c km/s (15)	S Jy-km/s (16)	S_c Jy-km/s (17)	rms mJy (18)	S/N (19)	log h^2L solar units (20)	log h^2M_H solar units (21)	log hM_T solar units (22)	Codes (23)
482-012	1244		0144 2.0	241300	5	1.4x0.6	65	15.5	14.67	3128	3287	210	193	228	3.12	4.06	2.00		9.31	9.02	10.51	01 0
482-014	1249	1727	014441.6	270455	9	8.0x3.0	67	12.2	11.85	336	503	149			74.20	74.20			8.81	8.65		72 9
482-016	1256	672	0145 4.2	271105	7B	7.2x2.8	67	11.4	10.62	429	596	244			186.00	211.32			9.45	9.25		72 9
482-018	1280	678	014639.3	214458	5	5.0x1.1	81	13.3	12.05	2863	3012	390			10.60	13.42			10.29	9.46		72 9
482-287	1287		014656.3	220806	9	1.2x1.2	0	18.0	17.69	2953	3103	118			1.90	1.90			8.06	8.64		72 9
482-019	1286	680	0147 1.4	214322	0	2.7x2.4	28	13.0	12.56	2779	2928	398			5.00	5.00			10.06	9.00		72 9
482-021	1291	1731	014723.3	265658	7	1.7x1.1	49	14.2	13.58	3498	3662	228	217	297	5.95	7.68	1.66	19.1	9.84	9.39	11.13	01 2
482-022	1292	684	014724.6	272401	5	3.4x0.9	77	13.2	12.14	3477	3643	481		486	8.60	15.70			10.41	9.69	11.46	01 51
	1294		014725.7	225443	9	1.2x1.2	0	18.0	17.71	2867	3019	109	94		1.75	2.04	1.47	12.9	8.03	8.64		01 2
482-023	1305	691	014755.8	213045	6	3.8x2.7	44	13.5	12.95	2662	2809	331			10.20	10.69			9.87	9.30		72 9
482-024	1310	694	014812.5	214505	10	0.6x0.3	50	13.9	13.48	2956	3104	182	137	233	9.55	10.19	2.76	26.8	9.74	9.37	10.23	01 2*
482-025	1313	167	014822.2	214001	7B	3.0x1.7	54	14.0	13.32	2939	3087	189			24.40	26.33			9.80	9.77		72 9
482-026	1315	695	014827.4	222010	10	0.5x0.5	26	13.7	13.13	9742	9892	308	233		3.84	4.10	1.66	10.0	10.89	9.98		01 2
482-027	1317	697	014830.9	220643	7	5.1x1.7	70	12.7	11.73	3109	3258	471			54.80	63.59			10.48	10.20		72 9
482-032	1451		015540.8	250700	5B	1.3x0.7	57	14.3	13.40	4923	5076	368	335	427	3.50	4.38	1.69	8.1	10.20	9.42	11.24	01 2
	1452		015543.9	215133	8	1.4x0.3	78	17.0	16.04	4977	5120	194	180	194	3.30	3.73	2.14	10.6	9.15	9.36	10.80	01 2
	1453		015557.4	242406	9	1.7x1.4	34	17.0	16.62	4897	5047	109	90	188	2.12	2.65	0.92	26.9	8.91	9.20	11.05	01 2
482-033	1455	765	015558.7	243856	6B	3.0x3.0	0	14.2	13.63	5123	5274	154	114		10.10	18.21	1.65	67.3	10.14	10.08		01 2*
482-034	1462		015620.0	250833	7B	1.7x1.4	34	15.6	15.09	5059	5211	230	198	396	3.89	4.99	1.42	19.0	9.55	9.51	11.55	01 2*
482-037	1471	776	0157 6.5	232406	5B	1.9x1.9	0	13.4	12.91	4914	5060	160	133		5.11	6.89	1.11	33.7	10.39	9.62		01 2
482-042	1478		015725.7	240033	7B	1.0x0.9	26	14.6	14.02	4846	4994	116	96		3.00	3.42	1.46	22.1	9.94	9.30		01 2
482-043	1479		015729.9	241356	5	1.1x0.3	80	14.8	13.54	4927	5076	494	449	491	1.08	1.50	0.61	7.0	10.14	8.96	11.23	01 2
	1483		015734.5	223835	9	1.3x1.3	0	18.0	17.66	5106	5250	101	78		1.47	1.75	1.97	9.7	8.52	9.06		01 2
482-044	1486	1764	015734.7	242025	5B	1.7x1.7	0	14.5	13.94	5068	5217	248	233		4.60	5.93	1.47	18.1	10.01	9.58		01 2
482-048	1507		015840.3	261428	3B	2.1x0.8	70	13.9	13.19	5149	5303	551	541	573	4.35	5.60	1.01	9.2	10.32	9.57	11.64	01 2*
482-049	1510		015856.0	261815	5	0.6x0.3	60	14.4	13.58	5012	5166	257	170	290	4.72	5.61	1.05	29.5	10.14	9.55	10.65	01 2*
482-057	1533		015957.1	262033	7B	1.1x0.9	35	15.4	15.02	14601	14754	274	225	451	3.44	4.01	1.22	14.9	10.48	10.31	11.97	01 2*
	1538		020031.1	233130	9	1.4x0.9	49	17.0	16.70	2829	2973	130	108	169	1.76	2.05	1.48	11.9	8.42	8.63	10.64	01 2
482-059	1547		020032.6	214800	9	2.2x2.0	24	15.0	14.64	2646	2785	151	126		15.00	21.23	4.00		9.18	9.59		01 0
482-061	1551		020048.4	235003	9B	3.0x1.5	59	14.1	13.59	2672	2817	125		143	14.50	15.19			9.61	9.45	10.70	11 63
482-064	1561		020112.0	235800	9	1.5x1.0	47	14.7	14.25	595	740	72		97	4.15	4.21			8.19	7.74	9.58	11 63
	1575		020220.9	242544	9	1.2x0.1	90	18.0	17.72	4841	4987	219	197	215	4.10	4.54	1.69	16.6	8.46	9.43	10.84	01 2
483-003	1595		020336.0	264747	6	1.4x0.8	55	15.5	14.96	4962	5114	272	272	327	3.69	4.60	1.90		9.58	9.45	11.28	01 0
483-004	1638		0206 6.0	254747	5	1.0x0.5	60	15.4	14.82	4874	5021	247	204	278	1.20	1.47	1.00		9.62	8.94	10.77	01 0
483-006	1648		020623.2	252006	2	1.2x0.8	49	14.5	13.97	4872	5017	383	349	497	5.06	5.74	1.80		9.96	9.53	11.36	01 0
483-008	1675		020823.4	253434	5B	1.2x0.6	60	15.5	14.87	5128	5273	324	178	366	1.87	2.33	1.01	9.0	9.65	9.18	11.09	01 2
483-009	1706		021042.2	253707	7	1.2x0.4	70	14.7	13.83	4794	4937	294	272	306	2.34	3.03	1.00		10.00	9.24	11.11	01 0
483-011	1733		021231.9	214606	7	1.7x0.2	86	15.6	14.22	4415	4544	280	271	276	5.51	8.60	2.20		9.78	9.62	11.01	01 0
483-012	1739		021252.8	245831	5	1.3x0.3	84	14.9	13.74	5085	5224	261	244	257	4.32	6.25	1.26	15.5	10.09	9.60	10.72	01 2
483-016	1808		021815.9	232203	7	1.2x1.1	23	14.7	14.26	9447	9577	158	149		1.47	1.72	1.90		10.41	9.57		01 0
483-017	1812		021834.1	251137	7	1.1x0.5	62	14.6	13.84	4532	4668	242	218	268	2.38	2.94	1.48	9.1	9.95	9.18	10.97	01 2
483-025	1844		022047.0	265553	9	1.6x1.3	35	15.7	15.41	10646	10785	175	162	288	1.38	1.69	1.44	8.3	10.05	9.67	11.72	01 2
483-027	1848		0221 1.3	271549	5	1.2x0.5	66	15.5	14.65	10704	10844	462	454	485	2.05	2.62	0.78		10.36	9.86	11.63	01 2
	1850		0221 4.8	265323	9	1.1x0.9	35	16.5	16.25	5468	5607	106	92	180	1.40	1.59	2.00	8.8	9.14	9.07	10.91	01 2
483-029	1860		022149.0	252008	5B	1.5x0.9	53	14.7	14.01	9637	9771	483	441	583	2.65	3.36	1.05	9.9	10.52	9.88	11.85	01 2
483-031			0222 7.5	254930	7	0.9x0.3	74	15.7	14.77	10082	10217	380	269	382	2.25	2.91	1.53	6.9	10.26	9.85	11.51	01 2
483-033	1871		022214.3	215933	5	1.0x0.7	45	14.9	14.21	10121	10243	585	534	788	2.93	3.44	0.88	10.7	10.48	9.93	12.01	01 2
483-037	1881		022241.3	263100	5	1.0x0.9	26	14.8	14.33	10341	10478	297	268		1.51	1.73	1.25	6.2	10.46	9.65		01 2
483-038			022245.8	270426	7	0.6x0.6	0	15.6	15.24	8983	9121	199	185		3.13	3.38	2.24	9.5	9.97	9.82		01 2
483-040			022249.0	244433	5	0.8x0.3	69	15.5	14.66	10345	10476	489	371		1.23	1.54	1.54	3.7	10.33	9.60		02 2
483-044	1885		022256.0	271123	5B	1.0x0.9	26	15.6	15.16	10526	10665	72	49		1.19	1.36	1.77	12.3	10.14	9.56		01 2
483-048	1892		022319.0	272236	5B	1.3x1.3	0	15.3	14.92	9997	10136	272	207		1.49	1.77	0.89	11.1	10.19	9.63		01 2
483-049	1894		022322.5	265900	4	1.3x0.3	89	15.5	14.36	10349	10487	681	629	658	0.75	0.95	0.47	8.0	10.45	9.39	11.84	01 2
483-050	1899		022331.0	272549	10	1.3x1.2	23	15.0	14.55	9726	9865	222	97		0.92	1.08	0.75	9.2	10.32	9.40		01 2
	1898		022334.1	224635	7	1.5x0.3	79	16.5	15.36	10187	10311	509	487	500	2.79	3.97	1.30	7.2	10.03	10.00	11.89	01 2

TABLE I. (continued)

CGCG (1)	UGC (2)	NGC/IC (3)	R.A.(1950) h m s (4)	Dec(1950) ° ′ ″ (5)	T (6)	a x b ′ ′ (7)	i ° (8)	m (9)	m_c (10)	V_h km/s (11)	V_o km/s (12)	W_1 km/s (13)	W_2 km/s (14)	W_c km/s (15)	S Jy-km/s (16)	S_c Jy-km/s (17)	rms mJy (18)	S/N (19)	log h^2L solar units (20)	log h^2M_H solar units (21)	log hM_T (22)	Codes (23)
483-051			022337.5	215506	7	0.8x0.7	29	15.7	15.22	10024	10145	201	188		1.19	1.33	0.98	7.8	10.07	9.51		01 2
	1906		022355.0	223147	5	1.4x0.2	90	16.5	15.13	9984	10107	496	459	479	1.14	1.74	0.67	6.4	10.10	9.62	11.55	01 2
483-053			0224 2.5	244834	7	1.0x0.5	61	15.1	14.38	9641	9771	428	404	472	2.73	3.31	1.68	6.9	10.37	9.87	11.74	01 2
483-055	1917		022435.3	240218	5B	1.0x0.7	45	15.5	14.98	9340	9467	364	349	491	0.67	0.79	0.70	4.7	10.11	9.22	11.57	01 2
483-059	1921		022453.7	262155	5B	1.1x1.1	0	14.6	14.11	9786	9921	127	89		0.96	1.10	0.87	11.5	10.50	9.41		01 2
483-064	1939		022523.3	260546	3B	1.2x0.8	49	14.9	14.38	5230	5363	502	461	652	8.00	9.21	1.81	13.0	9.85	9.80	11.62	01 2
483-063	1938		022532.5	225921	6	1.5x0.3	78	15.0	13.86	6395	6518	425	391	424	4.13	5.75	0.93	18.9	10.23	9.76	11.56	01 2
483-066	1955		0226 1.7	250716	5	1.6x0.7	65	15.4	14.64	5208	5338	237	223	256	3.99	5.31	1.51	13.8	9.75	9.55	10.87	01 2
483-069	1970		0227 2.8	250200	7	2.2x0.3	84	15.3	14.03	1915	2044	239	228	238	5.35	8.69	1.87	15.1	9.16	8.93	10.63	01 2
	1990		0228 9.2	272847	10	1.3x0.1	90	15.7	15.33	4617	4753	364	228	357	1.51	1.69	0.73	10.5	9.37	8.95	10.92	01 2
484-001			022841.5	255700	7	0.7x0.6	31	15.6	15.13	10870	11000	241	228	449	2.65	2.94	1.30	10.0	10.18	9.92	11.70	01 2
484-002	1996	1809	022849.7	224200	5B	1.1x0.9	35	15.0	14.44	5576	5695	274	250	460	5.70	6.67	1.59	15.5	9.88	9.71	11.33	01 2
484-005	2020		0230 8.0	230700	7	1.6x0.3	82	15.6	14.20	5559	5679	272	253	269	4.39	6.52	1.69	12.2	9.97	9.70	11.09	01 2
484-007	2025		023024.0	251807	7	1.3x0.1	86	15.7	14.30	11084	11211	508	491	490	2.45	3.68	0.90	8.1	10.53	10.04	11.81	01 2
	2026		023024.0	270500	9	1.5x1.1	42	17.0	16.75	5217	5350	174	156	252	1.67	1.99	0.82	13.5	8.90	9.13	11.27	01 2
484-008	2028		023027.8	221037	7	1.5x0.7	61	14.6	13.62	5431	5547	388	362	432	6.89	8.86	1.72	13.6	10.19	9.81	11.56	01 2
484-012	2079		023316.5	234100	7B	1.8x0.8	63	14.8	13.85	5651	5770	267	246	293	8.16	10.97	0.87	42.3	10.13	9.94	11.30	01 2
484-014	2082		023322.7	251227	7	6.3x1.1	81	14.0	12.54	706	830	222	0		56.00	71.07	5.00		8.97	9.06		73 0
484-016	2104		023435.8	230507	7	1.0x0.8	37	15.5	14.95	8242	8358	346	325	557	3.27	3.77	1.58	9.7	10.01	9.79	11.88	01 2
484-017	2236		024313.0	264947	5	1.3x0.7	57	15.5	14.69	5726	5848	227	196	263	4.27	5.34	2.19	11.1	9.81	9.63	10.88	01 2
	2251		0244 6.4	243900	9	1.0x0.4	66	17.0	16.47	7470	7584	329	311	350	2.74	3.01	1.04	14.1	9.32	9.61	11.53	01 2
484-019	2267		024459.0	231140	5B	1.8x1.8	0	15.6	15.02	6051	6159	335	318		3.14	4.14	0.98	17.0	9.72	9.57		01 2
	2268		024459.6	255253	9	1.1x1.1	0	17.0	16.40	7570	7687	182	164		1.16	1.33	1.09	8.7	9.36	9.27		01 2
484-020	2272		0245 7.0	265327	6	2.0x0.3	83	14.7	13.24	5648	5769	503	484	496	6.31	9.66	1.48	14.0	10.37	9.88	11.71	01 2
	2290		024613.9	224800	9	1.7x1.7	0	18.0	17.47	6283	6389	90	75		1.38	1.78	1.79	11.1	8.77	9.23		01 2
	2304		024638.3	215520	5	1.4x0.3	86	16.0	14.51	7258	7361	499	482	487	1.99	2.94	0.71	8.7	10.08	9.58	11.44	01 2
	2315		024655.6	223207	6	1.1x0.3	78	17.0	15.70	5550	5654	372	352	371	4.58	6.17	1.83	11.5	9.37	9.67	11.28	01 2
484-022	2333		024818.2	251200	6	1.0x0.5	60	15.7	14.70	7184	7296	341	323	384	1.54	1.86	0.71	11.3	9.99	9.37	11.45	01 2
484-023	2357	1861	025011.9	251700	1	1.8x1.3	44	14.7	13.81	6691	6802	430	413	596	1.79	2.24	1.10		10.29	9.39	11.79	01 0
	2442		025540.8	250439	5	1.3x1.1	32	16.0	15.26	10451	10557	186	170	331	4.25	5.10	2.19	13.5	10.09	10.13	11.37	01 2
485-006	2455	1156	025646.8	250221	9	3.7x3.0	36	12.0	11.25	371	476	102	0		76.40	76.40	5.00		9.00	8.61		72 0
485-007	2457		025659.8	240134	7	1.3x1.2	22	15.5	14.72	10218	10320	315	294		3.40	4.05	1.13	14.2	10.29	10.01		01 2
	2530		030253.8	220050	9	1.8x0.9	59	16.5	15.94	4268	4358	313	292	357	7.75	9.41	1.90	23.1	9.05	9.63	11.51	01 2
	2838		034045.8	235417	7	1.4x0.1	87	16.0	14.17	5974	6040	401	388	393	3.53	5.41	0.90	13.2	10.04	9.67	11.37	01 2
	2840		0341 0.7	223027	9	1.8x1.5	33	16.0	15.30	3637	3698	145	126	257	2.73	3.48	1.38	18.0	9.16	9.05	11.20	01 2
	2880		034848.6	244513	7	1.4x0.2	83	16.0	14.64	5983	6046	278	268	274	2.13	3.14	1.25	7.5	9.86	9.43	11.08	01 2
487-005	2918		035721.1	224553	9	1.5x1.4	21	15.7	15.05	6000	6049	234	212		3.61	4.42	1.65	12.0	9.69	9.58		01 2
487-007	2927		035841.9	225840	3B	2.4x1.5	52	15.2	14.33	6257	6306	245	223	303	4.08	5.69	1.75	16.0	10.02	9.73	11.25	01 2
487-008	2928		035842.2	230357	3B	1.0x0.7	46	15.5	14.65	7521	7570	387	374	520	1.60	1.80	0.75	9.4	10.05	9.39	11.52	01 2
487-011	2931		035916.0	254053	7	1.4x1.0	44	14.8	14.03	5747	5806	237	208	333	3.54	4.34	1.03	17.6	10.06	9.54	11.37	01 2
487-016	2941	357	040047.1	220127	5B	1.3x1.0	40	17.0	16.07	6260	6303	173	389	261	5.87	7.10	2.05	9.8	9.32	9.82	10.94	01 16
487-025	2976		040820.0	264450	7	1.8x0.7	67	14.6	13.59	6369	6425	392	379	417	2.81	3.83	1.07	11.7	10.33	9.57	11.64	01 2*
487-026	2985		041028.5	272500	7	1.4x0.4	73	16.0	14.89	3923	3980	344	311	353	6.52	8.77	1.52	16.4	9.39	9.52	11.18	01 2
	2986		041033.5	272727	9	1.0x0.4	66	16.5	16.02	4038	4095	219	192	236	7.11	7.80	1.54	27.5	8.96	9.49	10.92	01 2
487-027	2988		041036.5	252117	5	3.0x1.0	72	15.5	14.37	3823	3872	466			29.60	35.09	2.50		9.57	10.09		72 0
488-002	3009		0416 2.8	260337	7	1.8x0.4	78	16.0	14.70	3756	3803	270	254	272	2.17	3.15	1.68	7.5	9.43	9.03	10.99	01 2

Column (21)—Logarithm of the H I mass $h^2 M_H$ in solar units, derived from the corrected 21 cm line flux integral S_c and scaled by h.

Column (22)—Logarithm of the indicative total mass hM_T in solar units, derived from the corrected velocity width W_c for galaxies with $i > 30°$.

Column (23)—Two-integer code used to identify the telescope used in obtaining the 21 cm data and the bibliographic reference. The first code can be:

00	:	305 m telescope, nondetection
01	:	305 m telescope, detection
02	:	305 m telescope, marginal detection
72 or 73	:	305 m telescope, mapping observations
11	:	91 m telescope

The second code identifies the reference:

0	:	HG
2	:	new data
9	:	Haynes (1981)
16	:	Bicay and Giovanelli (1986)
51	:	Bania *et al.* (1986)
61	:	Peterson (1979)
62	:	Shostak (1978)
63	:	Fisher and Tully (1981)
70	:	Gordon and Gottesman (1981)
76	:	Grayzeck (1983)

An asterisk after column (23) indicates that special comments are included in the notes to Tables I and II.

Table II lists the 38 galaxies of unknown redshift that were

TABLE II. Properties of galaxies with 21 cm measurements but unknown redshift.

CGCG (1)	UGC (2)	NGC/IC (3)	R.A.(1950) h m s (4)	Dec(1950) ° ′ ″ (5)	T (6)	a x b ′ ′ (7)	i ° (8)	m (9)	Bands (10)
470–003	11641		204833.8	214113	5B	1.0x0.4	67	15.7	*********
	11690		21 850.1	224227	2	1.3x0.2	90	16.0	***
	11752		212635.0	244844	6	1.1x0.2	83	16.5	*********
472–006	11788		2138 9.7	245634	5	1.8x1.7	19	15.7	*********
	11791		213926.5	25 940	7	1.0x0.3	73	16.5	********
472–009			214715.9	223533	5	0.9x0.25	76	15.7	********
	11943		22 933.0	2554 7	3	1.0x0.35	73	16.0	******
475–009			225547.5	245710	3	0.5x0.5	0	15.2	*******
475–033	12340		23 2 8.5	265310	5	1.1x0.4	70	15.6	*****
475–043	12425		231041.5	2358 0	4	1.6x0.55	72	15.0	********
475–046B			2311 3.8	222738	7	0.7x0.6	31	16.5	****
476–003	12502		231643.4	22 940	3	1.0x0.35	73	15.5	*******
476–019			231913.2	261240	7	0.85x0.7	35	15.7	****
476–044	12611		232543.8	272447	3	1.1x0.2	90	15.5	**********
476–063			232953.6	2314 6	8	0.8x0.6	41	15.6	******
476–067			233056.5	252227	5	0.7x0.45	46	15.1	****
476–080			233454.1	2648 0	5	0.8x0.4	60	15.6	****
476–082B			233525.6	252812	7	0.9x0.8	27	16.5	****
476–111			233835.1	245340	7	1.0x0.6	52	15.4	******
476–116			233950.5	270032	5	0.65x0.2	71	15.6	******
476	12789		234013.5	26 633	6	1.1x0.2	83	16.5	**********
479	360		03340.5	2532 0	10	0.9x0.5	57	16.0	****
480	585		054 3.8	264432	6	1.1x0.7	50	16.0	******
480	605		05554.5	22 257	5	1.1x1.1	0	16.0	******
480–031			05745.5	264533	7	0.7x0.7	51	15.7	*******
481–003	900		11851.5	232943	10	1.6x1.6	0	15.7	********
482–002	1188		13910.8	222613	5	1.1x0.15	90	15.7	********
483	1752		21330.0	243920	7	1.7x1.7	0	16.5	***********
483	1838		21956.9	24 747	7	1.3x0.3	77	16.5	******
483–022			22040.5	252417	5	0.9x0.2	77	15.7	****
483–056	1918		22446.1	252710	4B	1.3x0.7	58	14.7	*******
483–060		928	22448.0	27 0 0	5	0.85x0.35	66	14.7	****
483–061			22511.3	213440	7	0.7x0.5	44	15.5	****
483–072			22742.0	2656 0	6	0.9x0.2	77	15.7	****
484	2251b		244 2.5	243552	9	0.9x0.8	27	17.0	******
485	2549		3 5 5.9	232726	5	1.2x0.5	67	16.0	******
486–001	2816		33813.2	2351 6	10	1.4x0.4	76	15.7	******
487–024	2964		4 553.5	27 354	7	1.3x1.2	23	15.5	********

Notes to TABLES I and II

Many spectra are affected by strong interference spikes. Most commonly they appear near 5400 km/s and near 6200 km/s. These are erratic, strong signals that typically appear as sharp features, sometimes apparently "in absorption" (when they are stronger in the Off source observation of a total power pair), most frequently going both up and down (when the interference signal has small frequency shifts during the course of the observation.

472-001 : companion at 2.4'; blend ?

474-020 : pair with -021, at 2.9'; blend. Detection of -020 is in doubt; perhaps -021 has unusually extended HI disk.

474-021 : pair with -020 (see note above). Profile appears unaffected by companion.

474-030 : close pair with -030, at 1.8'; severe blend, parameters uncertain.

474-031 : close pair with -031, at 1.8'; severe blend, parameters uncertain. Possible absorption line ?

475-007 : in dense part of cluster, near central E galaxy; marginal detection.

475-010 : marginal detection at 12' from center of dense cluster; cluster velocity about 7300 km/s.

475-011 : marginal detection in core of cluster near 7300 km/s.

475-014 : pair with U12289 at 5.3'; high velocity horn of profile may be slightly contaminated by emission from U12289.

475-015 : Interference near 7800 km/s.

U12289 : pair with 475-014 at 5.3'; low velocity horn of profile may be slightly contaminated by emission from 475-014.

475-022 : visual pair with U12318; no contamination of respective HI emission.

U12318 : see 475-022.

475-036 : IIZw188. In group with -037 and -038. No contamination.

475-037 : In group with -036 and -038. Weak interference spike mildly affects high velocity horn of profile.

U12384 : pair with U12386 at 3.8'; no evidence of blend.

U12386 : see U12384.

475-060 = 476-001 : pair with 475-061 at 2.0'; blend. Contamination of signal mostly affects -061.

475-061 = 476-002 : pair with 475-060 at 2.0'; blend. Signal detected on -061 may come mostly from -060; parameters highly uncertain, especially flux integral.

476-018 : severe interference affects high velocity side of profile, introducing some uncertainty to measured velocity and width. Galaxy is in triple system with -020, at 2.5', and -021, at 3.5'. Possible blend, probably not affecting measured parameters seriously.

476-020 : in triple system with -018, at 2.5', and -021, at 1.0'. Both -20 and -021 within one telescope beam, but well separated in velocity.

476-021 : see -018, -020.

476-019 : in table 2 with non detections, although some indications of possible detection exist both at 9217 and 10370 km/s, at the rms=0.6 mJy level.

Notes to TABLES I and II (continued)

476–055 : tight double or spiral with star superimposed ?

477–001 : pair with –002 at 4.3'; blend, uncertain parameters for –001.

477–002 : pair with –001 at 4.3'; parameters of –002 well determined.

477–015 : marginal detection; optical velocity 7483 km/s.

477–017 : in a dense part of the cluster A2666; marginal detection.

477–020 : in a dense part of the cluster A2666; optical velocity 7468 km/s. Confusion with 234827.0+265747 or with 234829.0+265848 ?

478–006 : previously reported by HG; note flux revision here.

478–012 : VV254a; IIIZw125; interactive pair with –013 at 1.1'. Prob. blended profile, but impossible to separate –012 from –013 with 3.3' beam. Probably the HI distribution is more extended than the beam.

478–013 : see –012.

478–026 : pair with –027 at 1.9'.

478–037 : diffuse dwarf companion at 0.8'; possible blend.

479–013 : Arp65. In a dense part of the NGC 80 group. Probably interacting with companion, –015, at 2.7'. Blend ?

479–015 : companion of –013, at 2.7', and probably interacting with it. In dense part of NGC 80 group. Probable bend affects low velocity part of profile.

479–028 : interference at 5900 km/s. Pair with –031 at 2.8'. Blend possible.

479–029 : disrupted pair in contact; profile probably affected by interaction.

479–031 : pair with –028 at 2.8'. Blend possible.

U354 : interference at 5850 km/s. U356=479–043 at 5.0', no confusion.

479–044 : Most likely the flux is underestimated : source probably larger than beam.

479–062 : strongly asymm. profile : poor pointing or perturbation by companions at 1.5' and 2.4' ?

U884 : pair, separation 1.3'; blend. Highly speculative separation of components of blend. Parameters measured very uncertain.

482–024 : Possible blend with extended companion (–025=U1313=N167) at 5.5'.

482–033 : strong asymmetry in line profile : combination of large source size and slight pointing error ?

482–034 : asymmetry in line profile : pointing error ?

482–048 : pair with –049 at 5.3'; no evidence of contamination of profiles.

482–049 : see –048.

482–057 : spectrum plagued with interference; galaxian profile unaffected.

487–025 : previously reported by Thonnard et al. (1978) at V=1502 km/s; no signal at that velocity.

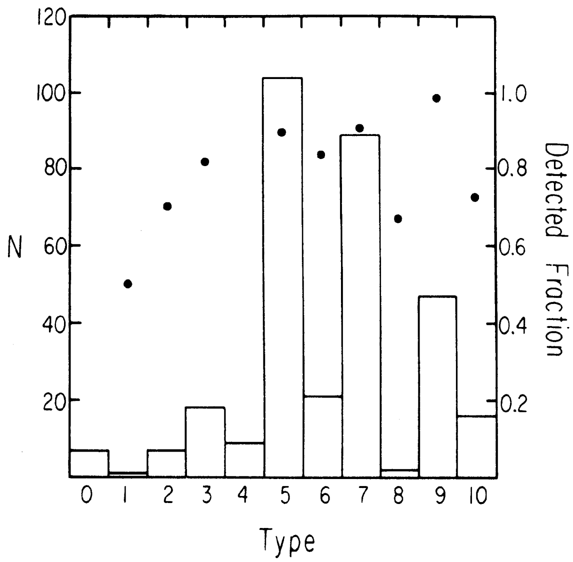

FIG. 3. Detection statistics for the current sample as a function of morphological type index T. The histogram shows the actual number of galaxies detected in the H I line for each T. Superimposed dots indicate the fraction of observed galaxies that were detected.

observed and not detected. We estimate that approximately one-half to three-quarters of those galaxies probably have recessional velocities outside of the redshift search range. Column (10) of Table II indicates which redshift ranges were searched. The spectral bands were 10 MHz in width and offset from one another by 7.5 MHz; the center velocities of adjacent bands were + 169, + 1762, + 3372, + 5000, + 6645, + 8308, + 9989, + 11 688, + 13 406, and + 15 144 km/s, in that order. For each galaxy, the bands actually searched are indicated by asterisks in the appropriate location. The + 5000 km/s band is identified by the vertical bar running in the blank lines through the table. A typical rms for such an observation is 1.7 mJy, although some were occasionally searched with higher sensitivity.

III. DISCUSSION

Although the current results are most useful when combined with those of the rest of our survey, it is important to consider the statistical properties of this particular subsample. The sample of galaxies observed in the + 21.5 to + 27.5 deg strip is similar to that contained in PP1. Figure 3 shows the detection statistics as a function of morphological type. Two quantities are plotted. First, the histogram displays the actual number of galaxies detected in the 21 cm H I line, binned by morphological type; the total number of galaxies is 319. In addition, superimposed dots indicate the fraction of observed galaxies that were detected; the well-known bias

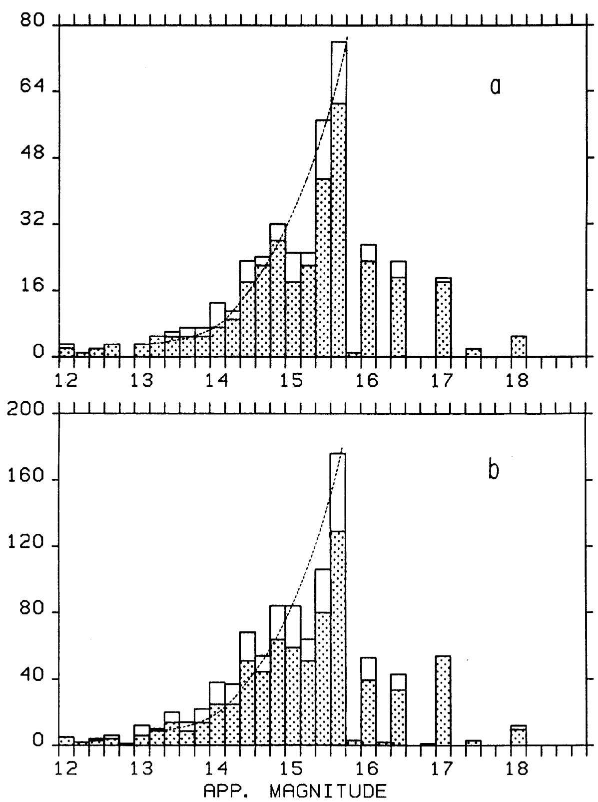

FIG. 4. Distribution of apparent magnitude m. Panel (a) includes galaxies in the 21.5–27.5 deg strip; panel (b) includes all those between 21.5 and 33.5 deg. In each the shaded area corresponds to galaxies detected in the 21 cm line, while the dashed smooth curve illustrates a $10^{-0.6\,m}$ power law.

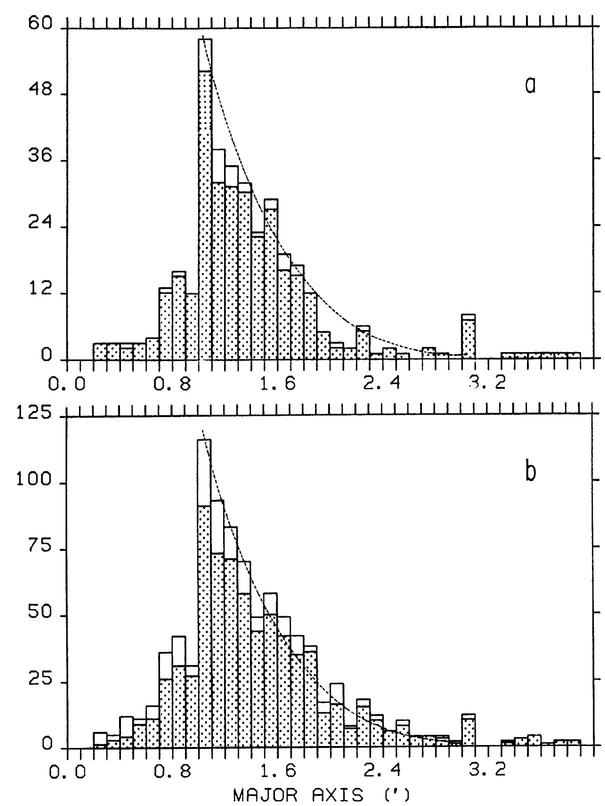

FIG. 5. Distribution of major blue angular diameter. As in Fig. 4, panel (a) includes galaxies in the 21.5–27.5 deg strip, while panel (b) includes all those between 21.5 and 33.5 deg. In each panel the shaded area corresponds to galaxies detected in the 21 cm line, while the dashed smooth curve illustrates the expected behavior of an angular-size-limited fair sample.

of larger detection rates for later spirals is evident. Note that the seven detected galaxies with $T = 0$ come from other sources and include, in several instances, objects cataloged as "compact" in the UGC.

Figure 4 shows the apparent-magnitude distribution of galaxies of known redshift (and tabulated apparent magnitude) in the declination strip described in this paper (upper panel) and that plus the one described in PP1 (lower panel). In both panels, the shaded part of the histograms identifies the subset of objects with 21 cm redshifts, while the dashed line represents a $10^{-0.6\,m}$ power law. The comparison helps, at a glance, to recognize how severely the behavior of the available redshift sample departs from that expected for a fair, magnitude-limited sample, at any given magnitude.

Similar to Fig. 4, Fig. 5 displays the major angular-diameter distribution for galaxies in the same two declination strips as described above. Similarly, the shaded part of the histograms identifies the subset of objects with 21 cm redshifts. Note that several galaxies with known redshift have no size measurements available; they are not included in the plots. The dashed curve here indicates the expected behavior of a fair, angular-size-limited sample of homogeneously distributed galaxies. The comparison of the observed and expected distributions illustrates the angular-size-related biases of our sample.

The distribution of radial velocities V_0, corrected for solar motion with respect to the Local Group, is displayed in Fig. 6. Included are all 448 galaxies with $V_0 < +15\,000$ km/s found in the +21.5 to +27.5 deg strip. The velocity distribution that would be expected from a sample with similar apparent-magnitude characteristics, but homogeneously distributed in space, is superimposed as a smooth curve. Prominent departures from the expected distribution appear in the form of an absence of galaxies at low redshift ($V_0 < +4000$ km/s) and in that of three excesses near +5000, +8000, and +10 000 km/s. The first feature, the low-velocity "void," was noticeable also in the contiguous strip presented in PP1 and is associated with a large-scale phenomenon (Haynes and Giovanelli 1986). The enhancement near +5000 km/s is at the same redshift as the main ridge of the Pisces-Perseus supercluster, although the ridge is significantly more prominent in the +27.5 to +33.5 zone. The second enhancement, near +8000 km/s, arises mostly in the R.A. range from 23 to 24 hr; the main component contributed by the cluster A2666 at R.A. = 23.8 hr, Dec. = +26.8 deg. This enhancement may also be connected to the Pisces-Perseus ridge. The third redshift peak at +10 000 km/s is the result of two concentrations: the cluster A2634 at R.A. +23.6 hr, Dec. = +26.7 deg, and a broad swath of galaxies, extending in the north-south direction, that crosses the strip near 2.4 hr.

The complexity of the redshift distribution is perhaps better conveyed by Fig. 7(a), a cone diagram in which the angular coordinate is right ascension within the +21.5 to +27.5 strip. At first glance, no outstanding clustering characteristics are discernible, except for a preponderance of higher-redshift objects at right ascensions west of 24 hr. In Fig. 7(b), the analogous cone diagram from PP1 is reproduced for comparison. Figure 8 is a combination of the two. Examination of these cone diagrams and the surface-density distribution illustrated in Fig. 1 allow the tracing of connective structures throughout the region. Near R.A. = 0.4^h, a split in the velocity regime of the main ridge of Pisces-Perseus occurs; one branch with a steep gradient in radial velocity extends towards A2666 and A2634, while the other reaches with a milder velocity gradient +6000 km/s near 23.3 hr. The two "branches" surround a void of about $30h^{-1}$ Mpc in diameter, centered near R.A. = 23.8 hr at a redshift of +6100 km/s. It should be pointed out that no obvious selection effects would reduce the detection rate of spiral galaxies located in the volume of the void.

As indicated by the preliminary analysis of a larger redshift sample that includes galaxies further to the south (Haynes and Giovanelli 1986), the pattern of the galaxian

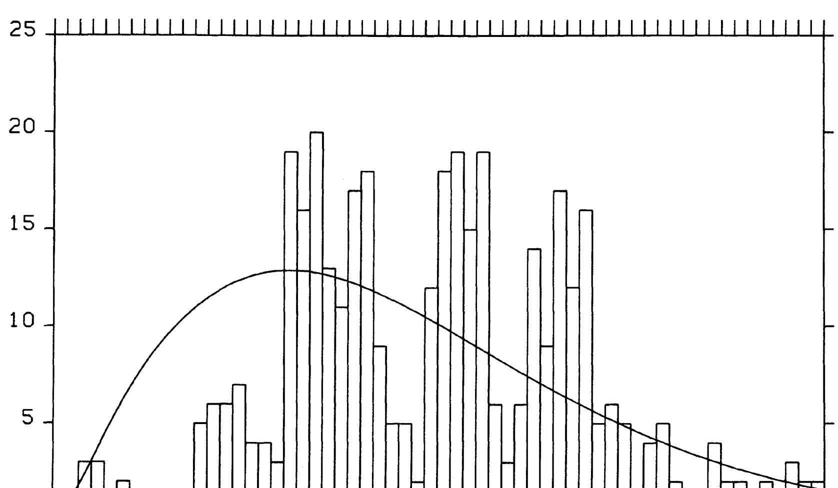

FIG. 6. Redshift distribution for all 448 galaxies in the +21.5 to +33.5 deg strip with $V_0 < 15\,000$ km s^{-1}. The smooth curve indicates the expected distribution if the same sample were homogeneously distributed in space.

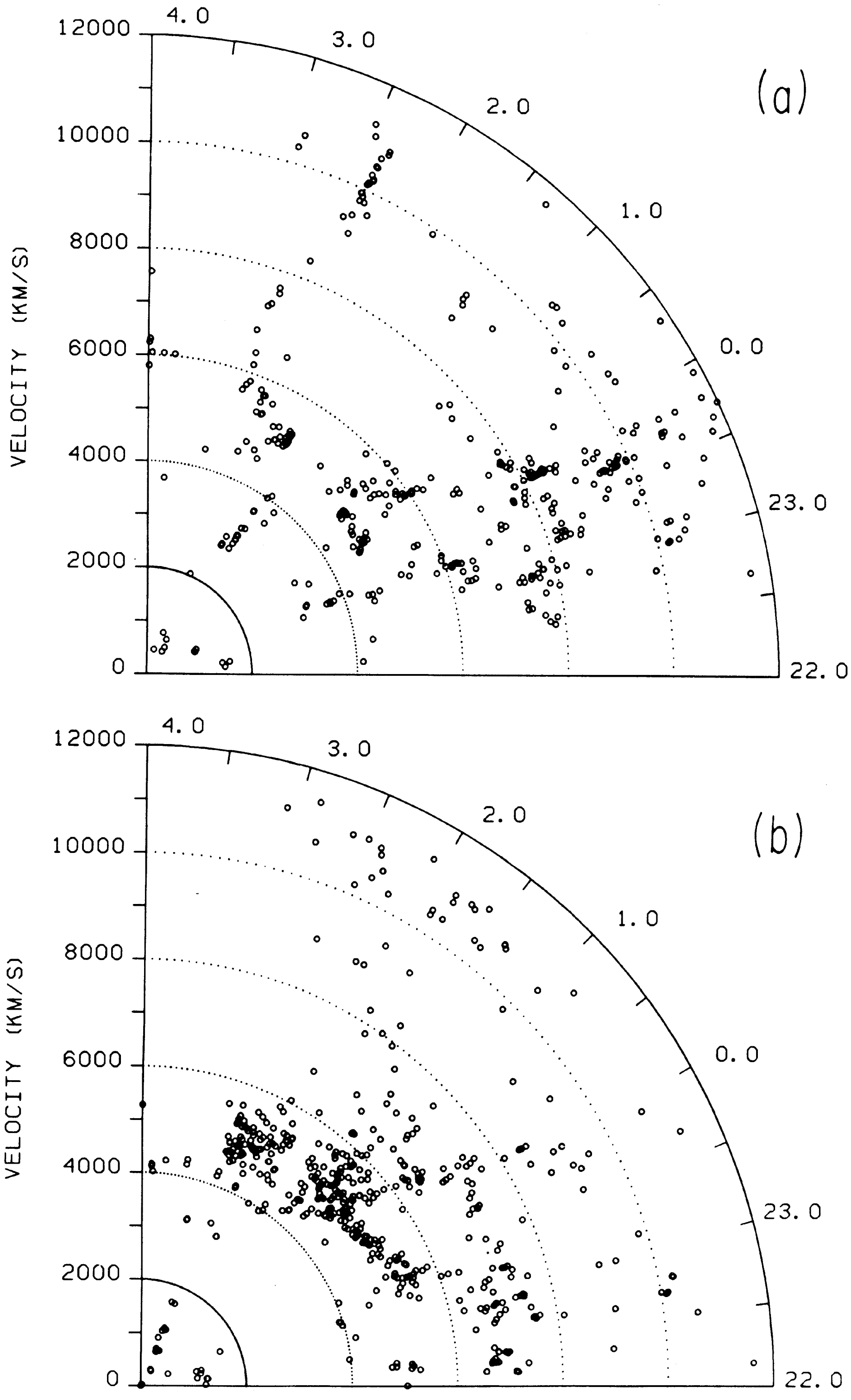

FIG. 7. Cone diagrams with right ascension as the angular coordinate showing galaxies in the current strip (panel a) and the + 27.5 to + 33.5 deg strip reported in PP1 (panel b).

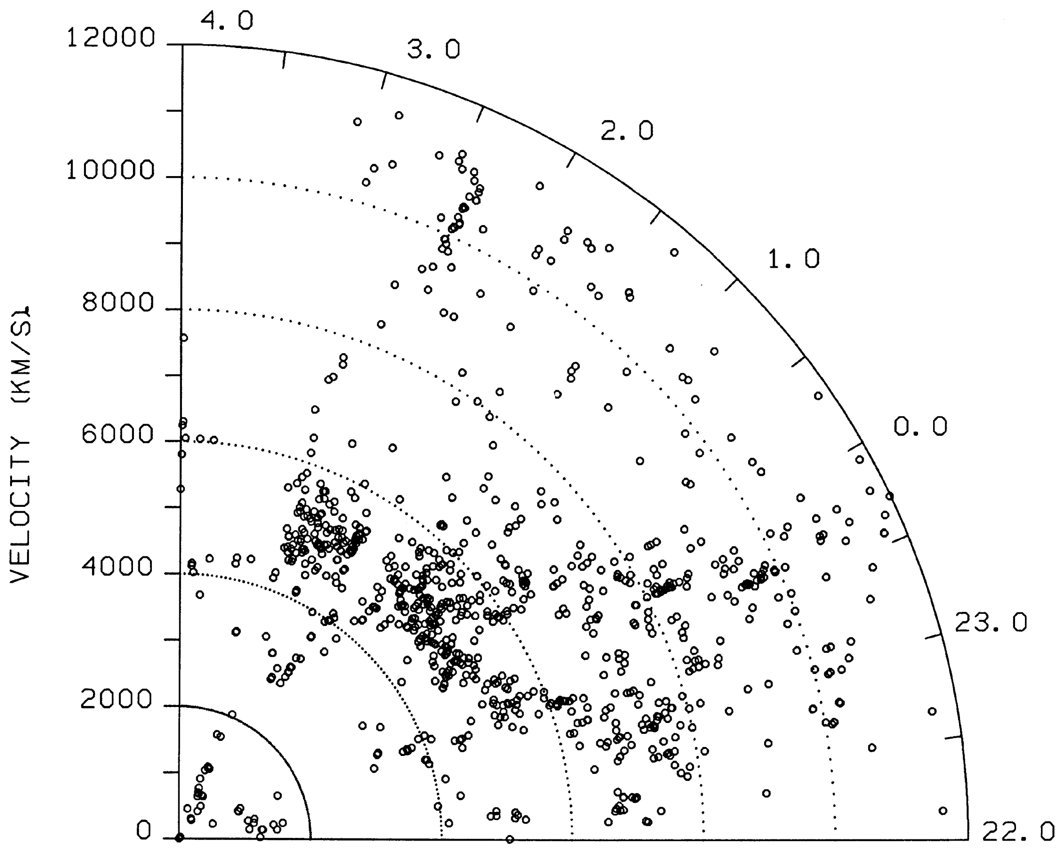

FIG. 8. Cone diagrams with right ascension as the angular coordinate for the combined zone extending from + 21.5 to + 33.5 deg.

distribution in the Pisces-Perseus region is strongly affected by an overall characteristic of connectiveness. The observations presented here will be used elsewhere to trace the large-scale structure in that region.

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