THE POSITIONS, STRUCTURES, AND POLARIZATIONS OF 404 COMPACT RADIO SOURCES

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ABSTRACT

Accurate positions of 404 compact radio sources used as calibrators by the VLA are presented. In addition, the structure and polarization of each source at both 4885 and 1465 MHz are given. Eighty-five percent of the sources have spectral indices flatter than 0.5; all of these are dominated by an unresolved core. Half of these flat-spectrum sources contain nearby, associated diffuse structure at a level exceeding ~0.4% of the core brightness at 20 cm.

I. INTRODUCTION

The need for calibration sources is well established in radio astronomy. The recent completion of the VLA (Thompson *et al.* 1981) has made necessary an expanded list of unresolved sources which are evenly distributed about the sky, and whose positions are accurately known. Prior to the summer of 1980, repeated observations using the partially completed VLA resulted in a list of ~400 objects, most of which were suitable for calibration purposes on at least one VLA observing band. However, the observations of these sources were compiled over an interval of about three years, with various resolutions and under varying atmospheric conditions, with the inevitable result that the accuracies in the positions and structures were very inhomogeneous.

With the completion of the VLA in October 1980, a new and much more powerful mode of observing has become available. This mode, generally termed the "snapshot" mode, utilizes the complete (u, v) coverage given by the VLA at any instant, and the sampling theorem of Fourier transforms, to allow up to ~500 sources to be mapped in 24 hr. The sampling theorem (Bracewell 1958), applied to radio astronomy, states that a source whose full width is θ radians need only be sampled at intervals of θ^{-1} wavelengths in the aperture plane [i.e., the (u, v) plane] for its complete structure to be reconstructed. In Fig. 1 is shown the instantaneous coverage of the VLA for $\delta = 35°$ at H.A. = 0. The average sampling interval is about 1.5 km ("A" array), so we may expect that sources smaller than ~30″ in extent at 20 cm, and ~10″ at 6 cm, may be fully mapped in this mode with the VLA. Numerous tests have shown the correctness of this approach. This mode of observing is ideal for compact sources, since their angular sizes rarely exceed 10″.

As about 500 observations are the most that can be made in one day, two days of observing, one at 6 cm and one at 20 cm, were required to uniformly survey all sources previously considered for VLA calibration. The sources were selected mainly by spectral characteristics from the high-frequency Parkes and NRAO surveys. No attempt at completeness was made, so that some sources of high spectral flux density have been omitted. Continuing observations have expanded the list, and the final list of VLA calibrators, comprising ~700 sources, contains nearly all flat-spectrum sources with $S_6 \gtrsim 0.75$ Jy and $\delta > -40°$.

II. OBSERVATIONS AND DATA REDUCTION

The data were taken in two 24-hr sessions. The first, at 6 cm, was on 18–19 November 1980, with 23 operational antennas. The latter, at 20 cm, was on 18–19 February 1981, with 26 operational antennas. Each

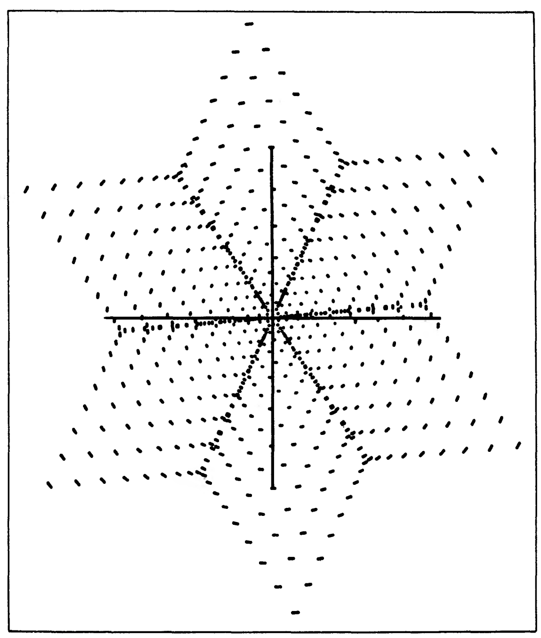

FIG. 1. The instantaneous u-v coverage of the VLA at $\delta = 35°$ and H.A. = 0^h. The u axis is vertical, the v axis horizontal. The length of each axis is equal to the length of the SW or SE arms; i.e., 21 km for the "A" configuration.

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source was scheduled to be observed once near meridian transit for 3 min, but, owing to the usual occasional problems, a few (~6–10) were missed at one frequency or the other. Where possible, data for these missed sources were taken from later observations. Entries in Table II made from these data are enclosed in parentheses.

Amplitude calibration was based on 3C 286, whose fluxes at 4885 and 1465 MHz were assumed to be 7.41 and 14.41 Jy, respectively, in accord with the scale of Baars *et al.* (1977). 3C 286 is slightly resolved to the VLA at both observing frequencies. To avoid flux calibration errors due to this problem, only short baselines were used to determine the fluxes of a number of unresolved secondary calibrators. These were used to calculate the gain of all antennas. The errors in the listed fluxes are believed to be less than 3% for all sources.

The phase calibration was made using 15 astrometric calibrators whose positions are believed accurate to 0″02. This list of sources and their positions are given in Table I. Phase stability was excellent on both days—in particular, the rms phase fluctuation for the astrometric calibrators in the 6-cm data is ~10°. This fortunate circumstance allowed highly accurate positions to be determined for all sources. Independent checks of our accuracies can be determined from the 21 sources in common with the Wade and Johnston (1977) list which

TABLE I. Astrometric calibrators used in the phase calibration.

Source	α	δ
0121+735	02ʰ12ᵐ49ˢ925	73°35′40″10
0316+161 CTA 21	03 16 09.138	16 17 40.45
0711+356	07 11 05.607	35 39 52.51
0727−115	07 27 58.100	−11 34 52.62
0831+557 DA 251	08 31 04.379	55 44 41.32
1226+023 3C 273	12 26 33.248	02 19 43.29
1245−197	12 45 45.218	−19 42 57.51
1311+678	13 11 45.036	67 51 42.31
1547+507	15 47 52.272	50 47 09.23
1611+343 DA 406	16 11 47.916	34 20 19.82
1741−038	17 41 20.619	−03 48 48.88
1928+738	19 28 49.348	73 51 44.90
2021+614	20 21 13.297	61 27 18.12
2134+004	21 34 05.205	00 28 25.08
2200+420 BL Lac	22 00 39.363	42 02 08.57

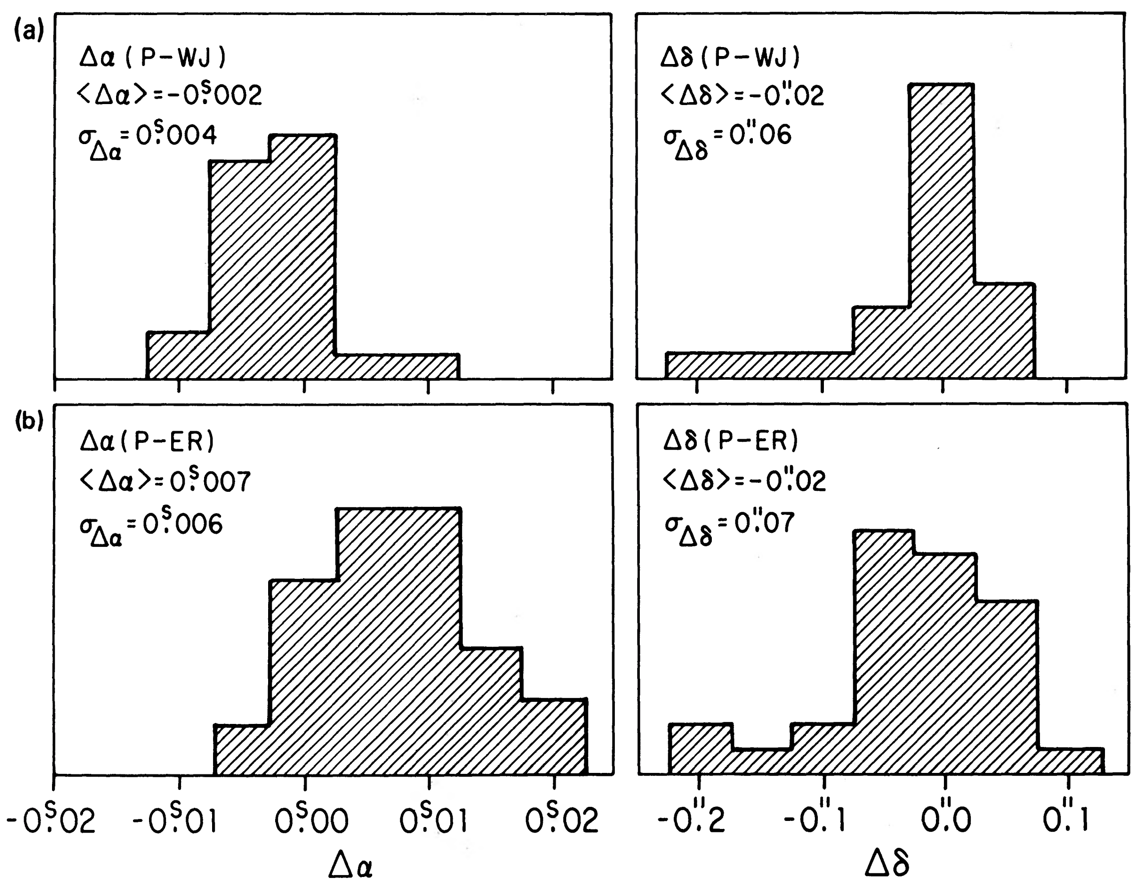

FIG. 2. (a) Histograms of the differences in right ascension and declination for those sources common to our list and that of Wade and Johnston (1977) which are not VLA astrometric calibrators. (b) Histograms of the differences in right ascension and declination for sources common to our list and that of Elsmore and Ryle (1976) whose quoted errors are less than 0″1.

were not used as primary phase calibrators, and from the positions listed by Elsmore and Ryle (1976). In Fig. 2(a) is shown the histogram of the discrepancies between our positions and those listed by Wade and Johnston. The dispersion is less than 0".05 in each coordinate, which is the estimated error of the positions given by Wade and Johnston (the two largest errors in declination are from southern sources). In Fig. 2(b) are the histograms of the discrepancies between our positions and those of Elsmore and Ryle for the sources in common whose quoted errors in Elsmore and Ryle are less than 0.1 arcsec. Here, the dispersion is $\sim$0.07 arcsec, but there is a 0.007-s-of-time difference in the right ascension scales (in the sense that the VLA positions lag). Our positions were determined by the simple method of mapping the sources with a 0".05 grid, and reading off the position of the peak. The accuracy is limited by the errors in the baselines, which are believed to be significant at the 0".05 level. The competing effects of position and baseline errors are separable provided wide hour-angle coverage is obtained—this is not the case in these observations. Given the dispersion in the histograms shown in Fig. 2, our error estimate of 0".05 is probably generous. South of $\delta = -25°$, the errors in declination increase, becoming $\sim$0".15 by $\delta = -40°$.

The polarization calibration was accomplished via seven observations of the northern source 0454+844, observations being separated by two hours. This arrangement allows good separation between the (constant) antenna polarization effects, and the source polarization, which is time varying owing to the varying parallactic angle. The antenna polarization calibration thus obtained was accurate to $\sim$0.20% at 6 cm, and 0.25% at 20 cm. The position angle of polarized flux was based on 3C 286, assumed to be 33° at both 6 and 20 cm.

There are three contributions to errors in polarization: (a) thermal noise; (b) errors in antenna polarization; and (c) ionospheric Faraday rotation. The first two are randomized among the baselines and will be reduced in importance by averaging among the correlators. The last contribution is not important at 6 cm, but can be of extreme importance at 20 cm. There is no evidence that strong Faraday rotation effects occurred on 18/19 February as the position angle of the linearly polarized flux of 3C 286 for three widely separated scans agreed to 1°.

All sources at each band were self-calibrated and mapped. These maps were cleaned by the standard algorithm (Hogbom 1974). The clean window was 26" (full width) at 20 cm, and 6".4 at 6 cm. Two different self-calibrated algorithms were employed: for most sources, the method described by Perley *et al.* (1980) was used. For those not dominated by a central, unresolved core, the algorithm of Schwab (1980) was used.

Many sources at 20 cm display in their visibility functions the presence of large-scale structures which do not appear in the maps. Although in some cases this may be due to single components outside the clean window, in most cases this is the result of confusion from chance sources lying in the field, but outside the area where they can be reliably mapped by the current data. Lower-resolution observations will be required to resolve the confusion.

III. RESULTS

The results are given in Table II. Listed are:

Column 1. Source name, IAU designation.

2. Source name, other catalogs (3C, 4C).

3. Right ascension, epoch 1950.0.

4. Declination, epoch 1950.0.

5. Flux at 4885 MHz (Jy).

6. Flux at 1464 MHz (Jy).

7. Spectral index α_6^{20}, defined by $S_\nu \propto \nu^{-\alpha}$.

8. Polarized flux at 4885 MHz (mJy).

9. Position angle of polarized flux at 4885 MHz in degrees.

10. Degree of polarized flux at 4885 MHz, in percent.

11. Polarized flux at 1465 MHz (mJy).

12. Position angle of polarized flux at 1465 MHz.

13. Degree of polarized flux at 1465 MHz.

14. Peak brightness of secondary structure, or upper limit, as percentage of peak, at 6 cm.

15. Peak brightness of secondary structure, or upper limit, as percentage of peak, at 20 cm.

16. Optical identification.

17. Visual magnitude of optical i.d.

18. Redshift.

19. Note to structure (see Table III) for sources marked by an asterisk. A cross (+) indicates that the identification is from Hewitt and Burbidge (1980).

Important comments concerning Table II follow.

Column 2. It is often difficult to decide whether a given 4C source is to be identified with a compact source. A conservative approach has been used.

5 and 6. This is the flux of the core in all cases where this can be determined. Sources where this could not be done have an asterisk in column 14 or 15. The error in the flux is estimated to be less than $\sim[(0.03S)^2 + (0.002)^2]^{1/2}$ Jy, with S in Jy.

8, 9, 11, and 12. The listed flux applies to the core only, unless the core cannot be distinguished, in which case the listing applies to the whole source. The error in polarized flux is estimated to be $[4 + (0.40S)^2]^{1/2}$ mJy, where S is the total flux in Jy. The error in position angle is strongly dependent upon the polarized flux, and is roughly given by $65[4 + (0.4S)^2]^{1/2}/m$ deg.

14 and 15. Listed secondaries are generally found within the clean-search window defined earlier. Occasionally, larger windows were searched to find more distant structure. The absence of a listed secondary does not guarantee the source has none—it may lie outside the search window. This is particularly true at 6 cm where the search window was 6".4 wide. Entries marked by an asterisk indicate the source is slightly resolved, but not enough for a reliable map.

16–18. These are taken from Hewitt and Burbidge

TABLE II. Positions, fluxes, and polarizations for the 404 compact sources.

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α_{20}^{6} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
0003-066		00 03 40.293	-06 40 17.30	1.25	1.53	.17	8	-40	0.6	17	-20	1.1	0.7	2.0	G	19.7		*
0007+171		00 07 59.383	17 07 37.50	0.97	0.83	-.13	27	67	2.8	8	-12	1.0	<0.2	<0.4	Q	18.0	1.601	+
0008-421		00 08 21.30	-42 09 50.6	(1.24)	4.3	(1.03)	(1)	(-33)	(0.1)	13	-27	0.3	(<0.4)	<0.5	G	18.2		
0016+731		00 16 54.198	73 10 51.46	1.31	(1.02)	-.21	20	27	1.5	--	---	---	<0.2	----	Q	18.2		
0019-000	4C+00.02	00 19 51.650	-00 01 41.77	1.09	2.70	.75	2	23	0.2	8	-23	0.3	<0.3	<0.3	G	21.1		
0019+058		00 19 58.02	05 51 26.6	(0.46)	0.34	(-.25)	(16)	(85)	(3.5)	10	70	2.9	(<0.3)	<0.4	Q	19.5		
0022-423		00 22 15.417	-42 18 40.70	1.70	2.85	.43	5	-1	0.3	3	13	0.1	<0.5	<0.5				
0023-263		00 23 18.914	-26 18 49.25	3.4	8.15	.73	2	--	0.1	9	9	0.1	75	0.4*				*
0026+346		00 26 34.834	34 39 57.70	1.22	1.82	.33	2	-47	0.2	4	75	0.2	<0.2	<0.5	G	20.2		
0038-020	4C-02.04	00 38 24.233	-02 02 59.25	0.60	0.63	.04	11	15	1.8	11	20	1.7	<0.3	<4	Q	18.0	1.178	*+
0039+230		00 39 25.70	23 03 34.9	(0.96)	0.75	(-.20)	(47)	(15)	(4.9)	21	-25	2.8	(<0.2)	<0.5				
0048-097		00 48 09.983	-09 45 24.25	1.12	0.97	-.12	36	55	3.2	4	-44	0.4	<0.4	2.5	BL	17.0		*+
0055+300		00 55 05.634	30 04 57.05	0.59	0.40	-.32	1	4	0.2	1	-59	0.3	<0.3	4.3	G	12.5	0.017	*
0056-001	4C-00.06	00 56 31.762	-00 09 18.80	1.37	2.30	.43	79	84	5.8	73	86	3.2	<0.3	<0.4	Q	17.33	0.720	+
0104-408		01 04 27.575	-40 50 21.20	3.25	0.72	-1.26	45	-56	1.4	12	-31	1.7	0.8	3.2				*
0106+013	4C01.02	01 06 04.523	01 19 01.06	4.55	2.51	-.49	173	-29	3.8	40	-59	1.6	2.1	14	Q	18.39	2.107	*+
0107+562	4C56.02	01 07 53.796	56 16 20.70	0.84	1.83	.65	1	65	0.1	4	-18	0.2	<0.4*	<0.4				
0108+388		01 08 47.254	38 50 32.80	1.27	0.45	-.87	3	72	0.2	1	15	0.2	<0.3	<0.3	EF			
0109+224		01 09 23.611	22 28 44.10	0.70	0.43	-.40	66	69	9.4	62	-75	14.4	<0.5	<0.7	BL	15.5		+
0111+021		01 11 08.570	02 06 24.75	0.55	0.38	-.31	3	47	0.5	15	54	3.9	1.5	3.0	G	16.3	0.047	*
0112-017		01 12 43.920	-01 42 54.95	1.16	0.68	-.45	15	60	1.3	5	70	0.7	<0.3	7.4	Q	17.41	1.365	*+
0113-118		01 13 43.217	-11 52 04.50	1.35	1.00	-.25	43	60	3.2	41	57	4.1	1.4	6.0	Q	18.5		*
0114-211		01 14 25.954	-21 07 55.00	1.21	3.60	.92	5	-22	0.4	4	59	0.1	6.6*	6.0*	G	19		*
0116-219		01 16 32.404	-21 57 15.20	0.49	0.45	-.07	14	37	2.9	6	-86	1.3	<0.4	<0.7	Q	19		
0116+319	4C31.04	01 16 47.249	31 55 05.83	1.48	2.46	.43	2	-74	0.1	1	33	0.1	<0.3*	<0.3	G	16	0.059	

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α_{20}^{6} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
0118-272		01 18 09.531	-27 17 07.35	0.78	0.74	-.04	51	-10	6.5	42	50	5.7	2.2	<2	Q	16.5		*
0119+115		01 19 03.083	11 34 09.30	0.78	0.68	-.11	19	-14	2.4	7	-69	1.0	2.4	6.0	G	19		*
0119+041		01 19 21.393	04 06 44.00	0.85	0.86	.01	24	23	2.8	28	49	3.3	<0.4	1.4	Q	19.5	0.637	*+
0119+247		01 19 54.284	24 46 52.10	0.54	0.60	.09	12	82	2.2	17	38	2.8	<0.8	<2.0	Q	18.5	2.025	*+
0122-003	4C-00.10	01 22 55.177	-00 21 31.25	1.29	1.06	-.16	33	9	2.6	42	64	4.0	<0.3	<0.8	Q	16.7	1.070	+
0133+476		01 33 55.105	47 36 12.80	2.22	1.62	-.26	30	-70	1.4	26	57	1.6	<0.2	<0.3	Q	18.0	0.860	+
0134+329	3C48	01 34 49.832	32 54 20.52	(5.60)	14.6	(.79)	(236)	(-73)	(4.2)	68	-30	0.5	----	<0.4*	Q	16.2	0.367	*+
0135-247		01 35 17.110	-24 46 08.65	0.87	0.80	-.07	12	-10	1.4	11	12	1.4	<0.5	10	Q	16.9	0.831	*+
0138-097		01 38 56.860	-09 43 51.65	1.36	0.60	-.69	56	42	4.1	7	-47	1.2	<0.3	<0.8	Q	18		*
0146+056		01 46 45.53	05 41 00.8	(1.09)	0.60	(-.50)	(25)	(-60)	(2.3)	9	-58	1.5	----	<0.4	Q	19	2.345	+
0147+187		01 47 05.584	18 42 28.60	0.46	0.37	-.18	9	-14	2.0	19	-20	5.1	<0.6	<2.5	Q	17.5		*
0149+218		01 49 31.74	21 52 20.7	(1.07)	1.10	(.02)	(6)	(-66)	(0.6)	2	-35	0.2	---	<0.7	Q	18.0		
0150-334		01 50 56.987	-33 25 10.65	0.82	0.80	-.02	9	37	1.1	8	-70	1.0	<0.3	<2.0	Q	18.6	0.610	+
0153+744		01 53 04.350	74 28 05.65	1.61	1.83	.11	3	53	0.2	3	-7	0.2	<0.3	<0.4	Q	16.0		
0201+113		02 01 05.997	11 20 22.85	0.96	0.92	-.03	3	2	0.3	7	-85	0.8	<1.2	<0.4	G	19.5		
0202+149	4C15.05	02 02 07.403	14 59 50.95	3.62	4.0	.08	7	31	0.2	5	48	0.1	<0.8*	<0.7*	Q	21.9		
0202+319		02 02 09.656	31 58 10.35	1.46	0.87	-.42	17	70	1.2	13	8	1.5	<0.2	<0.5	Q	18	1.466	+
0202-172		02 02 34.515	-17 15 39.43	1.32	1.11	-.14	65	-64	4.9	28	15	2.5	<0.2	0.7	Q	18	1.740	*+
0212+735		02 12 49.937	73 35 40.10	2.27	2.35	.03	55	43	2.4	--	--	---	<0.3	--	Q	19		
0216+011		02 16 32.457	01 07 13.35	0.66	0.37	-.47	7	36	1.1	2	-82	0.5	0.6	5.4	Q	21.1		*
0221+067	4C06.11	02 21 49.960	06 45 50.40	0.74	0.43	-.44	20	36	2.7	18	41	4.2	<1.0	9.0	Q	20.0		*
0224+671	4C67.05	02 24 41.175	67 07 39.70	1.12	1.21	.06	36	84	3.2	49	33	4.0	<0.3	1.4	Q	19.5		*
0229+131	4C13.14	02 29 02.527	13 09 40.60	2.21	1.25	-.46	4	70	0.2	21	-46	1.7	<0.5*	<0.8*	Q	17.71	2.065	+
0234+285	4C28.07	02 34 55.593	28 35 11.35	2.36	2.35	-.00	32	-65	1.4	28	-4	1.2	<0.4	<0.6	Q	18.5	1.213	+
0235+164		02 35 52.630	16 24 03.93	2.28	1.93	-.13	8	-60	0.4	13	-31	0.7	<0.2	<0.2	Q	19		

TABLE II. (continued)

Source (1)	3C, 4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	$α^6_{20}$ (7)	m_6 (8)	$χ_6$ (9)	p_6 (10)	m_{20} (11)	$χ_{20}$ (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
0237-027		02 37 13.717	-02 47 32.85	1.13	0.33	-1.02	15	-7	1.3	5	-40	1.5	0.4	1.0	Q	19.5		*
0237+040		02 37 14.407	04 03 29.65	0.68	0.60	-.10	22	43	3.2	14	58	2.3	0.7	2.6	Q	18.5	0.978	*+
0237-233		02 37 52.789	-23 22 06.27	3.25	5.90	.48	135	-37	4.2	70	12	1.2	<0.2	<1.0	Q	16.63	2.223	+
0238-084		02 38 37.356	-08 28 08.95	1.13	0.74	-.34	3	33	0.3	2	-7	0.3	<0.4	<0.6	-	----	-----	
0239+108		02 39 47.093	10 48 16.15	1.06	1.14	.06	19	45	1.8	5	47	0.4	1.3	0.8	Q	20.0		*
0248+430		02 48 18.490	43 02 56.95	1.40	0.75	-.51	13	79	0.9	20	62	2.7	<0.3	1.6	Q	15.5		*
0305+039	3C78	03 05 49.053	03 55 13.05	0.65	0.79	.16	4	80	0.6	7	-15	0.9	9.8	25	G	14.0	0.029	*
0316+162	4C16.09	03 16 09.135	16 17 40.40	2.95	7.80	.81	3	76	0.1	20	20	0.3	<0.5*	<0.2	EF			
0316+413	3C84	03 16 29.560	41 19 51.89	58.0	15.2	-1.11	70	-39	0.1	22	-39	0.14	<0.2	0.4	G	12.7	0.018	*
0317+188		03 17 00.043	18 50 41.90	0.71	0.42	-.44	1	-87	0.1	1	20	0.2	<0.3	<0.5	Q	19.0		
0319+121		03 19 08.206	12 10 31.60	1.10	1.75	.39	84	67	7.6	77	47	4.4	<0.3	0.6	Q	19		*
0332+078		03 32 12.103	07 50 16.65	0.53	0.45	-.14	9	43	1.7	6	72	1.3	<0.5	<0.4	EF			
0332-403		03 32 25.238	-40 18 23.85	1.92	1.34	-.30	47	-70	2.5	11	15	0.8	<0.3	<0.6	Q	18.5	1.455	+
0333+321	4C32.14	03 33 22.400	32 08 36.67	2.62	3.15	.15	111	57	4.2	38	20	1.2	<0.2	1.1	Q	17.5	1.258	*+
0336-019		03 36 58.954	-01 56 16.92	2.82	2.18	-.21	36	-25	1.3	58	28	2.7	<0.3	2.8	Q	18.4	0.852	*+
0338-214		03 38 23.281	-21 29 07.85	0.94	0.88	-.05	20	-57	2.1	5	-83	0.6	1.0	<0.5	G?	15.6	0.048	*
0355+508	4C50.11	03 55 45.256	50 49 20.29	10.2	4.70	-.64	360	75	3.5	154	-82	3.3	0.8	4.2	EF			*
0400+258		04 00 03.589	25 51 46.50	1.27	1.75	.27	58	-35	4.6	89	70	5.1	<0.3	<0.2	Q	18	2.109	+
0400-319		04 00 23.609	-31 55 41.90	0.81	0.73	-.09	24	-17	3.0	32	37	4.4	<0.5	1.0	Q	16		*
0402-362		04 02 02.598	-36 13 11.75	1.80	0.95	-.53	44	67	2.4	9	-25	0.9	<0.5	4.6	Q	17.17	1.417	*+
0406+121		04 06 35.476	12 09 49.25	0.88	0.92	.04	3	10	0.3	16	31	1.7	<0.3	<0.3	Q	22.0		
0409+229	3C108	04 09 44.666	22 57 27.60	0.45	0.38	-.14	11	50	2.4	20	-65	5.3	32	170	Q	18.7	1.215	*+
0414-189		04 14 23.354	-18 58 29.65	0.65	0.76	.13	1	-9	0.2	11	27	1.4	<0.4	0.6	Q	18.0	1.536	*+
0420-014		04 20 43.540	-01 27 28.81	3.72	1.11	-1.00	37	64	1.0	16	30	1.4	<0.2	<0.4	Q	17.76	0.915	+
0421+019		04 21 32.673	01 57 32.70	0.74	1.15	.37	2	15	0.3	2	-17	0.2	<0.5	0.4	Q	17.5	2.048	*+

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α^6_{20} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
0422+004		04 22 12.520	00 29 16.65	1.31	0.98	-.24	110	-14	8.4	42	-58	4.3	<0.3	<1.5	BL	16		*+
0422-380		04 22 56.168	-38 03 09.10	0.94	0.43	-.65	18	13	1.9	9	83	2.1	<0.3	<1.5	Q	16.5	0.78	+
0426-380		04 26 54.710	-38 02 52.05	0.62	0.58	-.06	38	-70	6.1	39	30	6.7	1.4	7.0	Q	19		*
0428+205		04 28 06.861	20 31 09.13	2.35	3.85	.41	2	60	0.1	7	0	0.2	<0.4*	<0.2	G	20	0.219	
0429+415	3C119	04 29 07.899	41 32 08.55	3.70	8.60	.70	25	-75	0.7	15	0	0.2	<0.4*	<0.2	Q	20	0.408	+
0430+052	3C120	04 30 31.600	05 14 59.50	3.50	3.37	-.03	170	-14	4.9	111	-8	3.2	<0.5	3.6	G	15.0	0.032	*
0434-188		04 34 48.967	-18 50 48.15	0.97	0.74	-.22	8	39	0.8	7	-41	0.9	<0.2	<0.7	Q	20		
0435+487	4C48.13	04 35 14.085	48 42 52.10	0.54	1.37	.77	3	32	0.6	2	-1	0.1	<0.6*	<0.3				
0438-436		04 38 43.184	-43 38 53.10	3.05	4.70	.36	37	19	1.2	18	-43	0.4	1.6	1.8	Q	18.8	2.852	*+
0440-003		04 40 05.293	-00 23 20.60	1.18	1.90	.40	26	23	2.2	46	-2	2.4	2.0	5.2	Q	19.22	.850	*+
0444+634		04 44 42.36	63 26 55.5	(0.40)	0.44	(.08)	(3)	(-66)	(0.8)	8	-3	1.8	----	<0.4	Q			
0446+112		04 46 21.217	11 16 17.80	0.53	0.50	.05	5	43	0.9	8	-50	1.6	2.2	15	G	20		*
0451-282		04 51 15.133	-28 12 29.30	1.83	2.35	.22	83	82	4.5	56	39	2.4	<0.5	1.7	Q	19		*
0454+066		04 54 26.407	06 40 30.05	0.37	0.43	.12	22	-67	5.9	23	-67	5.3	0.8	<1.0	G	19.2		*
0454+844		04 54 57.155	84 27 53.00	1.12	0.73	-.36	41	-34	3.7	19	-42	2.6	<0.2	<0.3	Q	16.5		
0454-234		04 54 57.29	-23 29 28.7	(2.17)	2.43	(.09)	(75)	(-64)	(3.5)	67	89	2.8	----	<0.5	Q	18.0		
0457+024		04 57 15.543	02 25 05.60	1.21	1.81	.33	1	-85	0.1	2	47	0.1	<0.4	<0.2	Q	18	2.384	+
0500+019		05 00 45.176	01 58 53.82	1.94	2.40	.18	4	46	0.2	3	75	0.1	<0.3	<0.3	EF			*
0511-220		05 11 41.815	-22 02 41.20	0.99	0.63	-.37	19	-31	1.9	9	61	1.4	1.0	2.6	Q	19.5		*
0514-161		05 14 01.076	-16 06 22.60	0.83	0.58	-.30	23	1	2.8	58	9	10.0	1.1	12	Q	18	1.278	*+
0518+165	3C138	05 18 16.532	16 35 26.90	4.20	9.40	.67	444	-12	10.6	703	-4	7.5	<2.0*	<0.4*	Q	18.84	0.760	*+
0519+011		05 19 42.346	01 10 41.40	0.44	0.67	.35	18	-83	4.1	2	-10	0.3	1.0	<1.0				*
0528-250		05 28 05.205	-25 05 44.55	0.94	1.32	.28	9	-76	1.0	6	-72	0.5	0.7	<0.5	Q	17.7	2.765	*+
0528+134		05 28 06.760	13 29 42.20	4.30	1.65	-.80	95	-35	2.2	15	-4	0.9	<0.2	1.2	Q	20.3		*
0529+075		05 29 56.494	07 30 38.10	1.84	2.25	.17	8	-53	0.4	25	-41	1.1	0.5	1.8	Q	19		*

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α^6_{20} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
0531+194		05 31 47.357	19 25 24.75	2.50	6.80	.83	7	33	0.3	6	15	0.1	<2.5*	<0.6*	G	17.7		*
0537+531		05 37 13.520	53 10 54.25	0.41	0.72	.47	22	62	5.4	4	3	0.6	<0.4	2.0				*
0537-441		05 37 21.00	-44 06 46.8	(4.00)	4.45	(.10)	(40)	(-55)	(1.0)	68	-26	1.5	----	1.0	Q	15.5	0.894	*+
0537-286		05 37 56.931	-28 41 27.95	1.19	0.79	-.34	29	38	2.4	12	-13	1.5	0.3	<0.8	Q	20	3.110	*+
0538+498	3C147	05 38 43.507	49 49 42.78	7.90	22.0	.85	24	-11	0.3	25	75	0.1	<2*	<0.5*	Q	17.8	0.545	*+
0539-057		05 39 10.993	-05 43 15.10	1.26	1.05	-.17	23	-85	1.8	24	37	2.3	0.6	4.4	Q	20		*
0552+398		05 52 01.34	39 48 21.9	(4.45)	1.67	(-.81)	(36)	(-41)	(0.8)	7	-48	0.4	<0.6	<0.5	Q	18	2.365	+
0605-085		06 05 36.027	-08 34 20.30	2.73	2.93	.06	28	-88	1.0	25	-3	0.8	0.4	2.0	Q	18		*
0606-223		06 06 53.379	-22 19 46.20	0.73	0.73	.00	12	28	1.6	5	30	0.7	<0.4	<0.7	Q	20	1.926	+
0607-157		06 07 26.00	-15 42 03.1	(0.66)	1.64	(.76)	(12)	(10)	(1.8)	50	-18	3.0	----	<0.2	Q	18	0.324	+
0609+607		06 09 50.866	60 47 14.82	1.10	1.04	-.05	16	-80	1.5	17	-58	1.6	0.9	<0.5	Q	19.1		*
0615+820		06 15 32.752	82 03 56.50	1.00	(0.68)	-.32	1	-6	.1	--	---	---	<0.3	----	Q	17.5		
0624-058	3C161	06 24 43.19	-05 51 11.8	(8)	18	.65	---	---	---	1720	12	9.6	----	2*	G	21		*
0636+680		06 36 47.622	68 01 27.24	0.55	0.17	-.97	2	-32	.4	1	35	0.6	<0.4	<1.0	Q	19		
0642-349		06 42 37.42	-34 56 32.8	(1.13)	0.80	(-.29)	(12)	(25)	(1.1)	14	-6	1.8	----	<0.5	Q	18.5	2.165	+
0642+449		06 42 53.014	44 54 30.85	0.73	0.86	.14	4	-16	0.5	7	-2	0.8	<0.3	<0.3	Q	18.49	3.402	+
0646+600		06 46 04.107	60 05 14.20	0.83	0.55	-.34	1	-10	0.1	1	-18	0.2	<0.3	<0.4	EF			
0646-306		06 46 19.2	-30 40 55.1	(0.96)	.70	(-.26)	(12)	(3)	(1.3)	18	-38	2.6	----	2.1				*
0646+692	3C169	06 46 29.261	69 14 46.20	0.45	1.07	.72	10	-33	2.2	2	61	0.2	<1.2*	0.4*				
0648-165		06 48 10.296	-16 34 05.85	2.57	1.70	-.34	3	10	0.1	2	32	0.1	<0.3	<0.7				
0653+694	4C69.09	06 53 20.520	69 24 52.36	0.23	0.80	1.04	1	-57	0.4	1	---	0.1	2.9	3.2	G	19.5		*
0707+476		07 07 02.590	47 37 07.90	0.68	0.71	.03	12	-65	1.8	25	-28	3.5	1.1	5.8	Q	16.0		*
0710+439		07 10 03.36	43 54 26.0	(1.57)	2.20	(.28)	(2)	(15)	(0.1)	5	-17	0.2	----	<0.2	Q	17		
0711+356		07 11 05.603	35 39 52.56	1.11	1.78	.39	9	-76	0.8	29	-15	1.6	<0.3	<0.2	Q	17	1.620	+
0716+714		07 16 13.032	71 26 15.25	0.57	0.44	-.21	16	3	2.8	19	-52	4.3	<0.8	9.8	BL			*

TABLE II. (continued)

Source	3C,4C	α	δ	S_6	S_{20}	α_{20}^{6}	m_6	χ_6	p_6	m_{20}	χ_{20}	p_{20}	B_6	B_{20}	ID	m_v	Z	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
0723-008		07 23 17.837	-00 48 55.40	2.00	2.42	.16	44	90	2.2	39	34	1.6	<0.2	<0.2	Q	18	0.128	
0727-115		07 27 58.100	-11 34 52.62	2.58	2.04	-.19	20	-36	0.8	52	-2	2.5	<0.2	<0.3				
0733-174		07 33 31.417	-17 29 06.23	1.97	3.09	.37	1	38	0.1	6	1	0.2	<0.2	<0.2				
0735+178		07 35 14.126	17 49 09.30	2.20	2.20	.00	21	80	1.0	7	-52	0.3	0.4	1.0	BL	14.85		*+
0736+017		07 36 42.513	01 44 00.20	1.78	2.70	.35	132	58	7.4	256	-57	9.5	<0.2	<0.3	Q	16.47	0.191	*+
0738+313		07 38 00.178	31 19 02.07	1.62	2.00	.17	57	27	3.5	11	43	0.6	<0.4	<0.2	Q	17.0	0.630	+
0738+272		07 38 20.906	27 13 48.45	0.52	1.00	.54	1	60	.2	2	33	0.2	<0.4	<0.4				
0741-063	4C-06.18	07 41 54.700	-06 22 20.00	3.00	8.50	.86	3	53	0.1	9	58	0.1	<0.5*	<0.2*				
0742+318	4C31.30	07 42 30.738	31 50 16.25	0.65	0.62	-.04	1	-85	.2	3	58	0.5	<0.4	1.2	Q	16	0.462	*+
0742+103		07 42 48.465	10 18 32.54	3.85	3.65	-.06	5	63	0.1	8	13	0.2	<0.4	<0.2	EF			
0743-006		07 43 21.050	-00 36 55.75	1.34	0.86	-.37	12	60	0.9	3	-23	0.3	<0.2	<0.5	Q	17.5		
0745+241		07 45 35.726	24 07 55.50	1.08	0.57	-.53	28	27	2.6	3	7	0.5	<0.5	4.0	Q	18.5		*
0748+126		07 48 05.060	12 38 45.35	1.53	1.70	.09	27	14	1.8	23	-58	1.4	<0.5	0.6	Q	17.8	0.889	*+
0748+333		07 48 41.052	33 21 03.55	0.55	0.73	.24	19	20	3.5	15	50	2.1	<0.4	<0.4	Q	18.5	1.932	+
0759+183		07 59 55.293	18 18 15.35	0.65	0.59	-.08	8	65	1.2	8	-67	1.4	<0.4	1.0	Q	18.5		*
0804+499		08 04 58.396	49 59 23.10	1.56	.93	-.43	26	46	1.7	14	57	1.5	<0.2	<0.7	Q	17.5		
0808+019		08 08 51.127	01 55 51.20	0.37	.40	.06	3	-7	0.8	2	-2	0.5	<0.6	1.8	BL	17.5		*+
0812+367		08 12 10.712	36 44 27.45	0.81	.70	-.12	18	65	2.2	37	-70	5.3	2.9	11.5	Q	18	1.025	*+
0814+425		08 14 51.672	42 32 07.73	1.83	1.46	-.19	9	-33	0.5	37	-23	2.5	<0.3	1.2	Q	18		*
0820+560		08 20 53.206	56 02 27.45	0.94	1.18	.19	38	7	4.0	60	-13	5.1	0.8	3.3	Q	18	1.409	*+
0823+033		08 23 13.537	03 19 15.33	1.05	1.08	.02	23	-75	2.2	27	-50	2.5	<0.4	<0.2	Q	18		
0823-223		08 23 50.074	-22 20 34.80	1.78	1.22	-.31	64	-5	3.6	19	47	1.6	<0.3	<1.2	Q	17.5		*
0826-373		08 26 12.009	-37 21 05.98	3.65	3.42	-.05	10	22	0.3	6	-2	0.2	<0.4	<0.2				
0827+243		08 27 54.400	24 21 07.65	0.59	0.62	.04	29	37	4.9	31	54	5.0	<0.3	4.1	Q	17.5	0.939	*+
0828+493		08 28 47.970	49 23 33.00	1.12	1.27	.10	20	-30	1.8	35	-23	2.8	<0.2	<0.2	Q	18.5		

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α^6_{20} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
0831+557	4C55.16	08 31 04.379	55 44 41.37	5.60	8.65	.36	1	70	0.1	20	0	0.2	<0.4*	0.4	G	19	0.242	*
0833+585		08 33 23.757	58 35 30.30	1.23	0.57	-.64	20	-10	1.6	18	-50	3.2	<0.4	1.5	Q	18		*
0834-201		08 34 24.603	-20 06 30.35	1.43	2.84	.57	17	-27	1.2	15	2	0.5	<0.2	<0.4	Q			
0834+250		08 34 42.316	25 04 54.30	0.55	0.57	.03	11	45	2.0	10	-40	1.8	<0.5	<1.5	Q	18.0	1.122	*+
0836+710	4C71.07	08 36 21.560	71 04 22.45	2.67	3.90	.31	203	-78	7.6	266	-84	6.8	1.0	2.8	Q	16.5		*
0839+187		08 39 14.086	18 46 27.25	1.02	1.40	.26	28	-67	2.7	46	15	3.3	<0.2	<0.2	Q	16.5	0.259	
0850+581	4C58.17	08 50 50.153	58 08 55.70	0.96	0.70	-.26	3	-79	0.3	15	47	2.1	<0.5	7.0	Q	18	1.322	*+
0851+202		08 51 57.253	20 17 58.44	2.33	1.70	-.26	106	87	4.5	157	-31	9.2	<0.2	<0.3	BL	14	0.306	+
0859+681		08 59 23.031	68 09 16.20	0.49	0.65	.23	12	-78	2.4	22	59	3.4	<0.4	<0.3	Q	19.5		
0859+470	4C47.29	08 59 39.980	47 02 56.80	1.7	2.0	.13	36	68	2.1	24	30	1.2	5.2	12.8	Q	18.7	1.462	*+
0859-140		08 59 54.950	-14 03 38.85	2.07	3.00	.32	41	77	2.0	95	-72	3.2	<0.3	0.6	Q	16.59	1.327	*+
0906+015	4C01.24	09 06 35.19	01 33 48.0	(1.52)	0.80	(-.53)	(42)	(-37)	(2.8)	55	-54	6.9	----	3.6	Q	17.5	1.018	*+
0917+624		09 17 40.314	62 28 38.60	1.32	1.21	-.07	46	55	3.5	41	42	3.4	<0.3	<0.4	Q	19.5		
0917+449		09 17 41.919	44 54 39.60	1.00	0.67	-.33	4	-27	0.4	15	-54	2.2	<0.6	2.4	Q	19		*
0919-260		09 19 16.706	-26 05 54.55	2.44	1.13	-.64	61	53	2.5	4	12	0.4	<0.2	<0.5	Q	19	2.300	+
0922+005		09 22 33.760	00 32 12.20	0.75	0.81	.06	25	83	3.3	31	27	3.8	<0.3	<0.5	Q	18.07	1.72	+
0923+392	4C39.25	09 23 55.316	39 15 23.51	7.60	1.90	-1.15	66	-4	0.9	2	--	0.1	0.8	15	Q	17.86	0.699	*+
0925-203		09 25 33.545	-20 21 44.95	0.94	0.72	-.22	21	61	2.2	8	-43	1.1	<0.4	6.8	Q	16.4	0.348	*+
0941-080		09 41 08.646	-08 05 44.03	1.17	2.72	.70	1	37	0.1	5	-13	0.2	<0.2	<0.3	G	19		
0945+408	4C40.24	09 45 50.075	40 53 43.35	1.04	1.46	.28	69	12	6.6	115	25	7.9	1.2	4.0	Q	17.5	1.252	*+
0953+254		09 53 59.742	25 29 33.55	1.46	0.92	-.38	15	9	1.0	19	35	2.1	<0.2	<0.6	Q	17.46	0.712	*+
0954+556	4C55.17	09 54 14.355	55 37 16.35	1.90	2.71	.29	64	-16	3.4	57	-7	2.1	2.4	7.4	Q	17.7	0.909	*+
0954+658		09 54 57.853	65 48 15.55	0.64	0.23	-.85	28	-19	4.4	12	-4	5.2	<0.4	4.2	Q	18.5		*
0955+476		09 55 08.530	47 39 28.25	0.74	0.66	-.10	21	58	2.8	22	-59	3.3	<0.3	1.2	Q	18.0	1.880	*+
0955+326	3C232	09 55 25.406	32 38 23.00	1.15	1.5	.22	4	63	0.3	8	73	0.5	<0.5*	<0.5*	Q	15.78	0.533	+

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α_{20}^{6} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
0959-443		09 59 58.764	-44 23 29.75	0.43	0.32	-.25	1	22	0.2	2	55	0.6	<0.7	60	Q	17	0.021	*
1004-018		10 04 31.710	-01 52 30.85	0.52	0.52	.00	19	29	3.7	14	16	2.7	1.3	4.2	Q	19.17	1.212	*+
1015+359		10 15 16.228	35 57 41.30	0.87	0.79	-.08	31	72	3.6	17	89	2.2	<0.3	<0.5	Q	19	1.266	+
1015-314		10 15 53.388	-31 29 11.33	1.45	3.83	.81	2	10	0.1	3	16	0.1	<0.5*	<0.2*	EF			
1020-103		10 20 04.236	-10 22 33.55	0.40	0.65	.40	44	-60	11.0	70	60	10.7	3.6	9.6	Q	16.5	0.197	*+
1021-006		10 21 56.200	-00 37 41.55	0.77	1.04	.25	15	-13	1.9	3	-29	0.3	<0.3	1.6	Q	18.22	2.547	*+
1030+415		10 30 07.803	41 31 34.45	0.58	0.63	.07	9	52	1.6	15	78	2.4	0.6	2.0	Q	18.2	1.120	*+
1031+567		10 31 55.964	56 44 18.15	1.33	1.94	.31	2	-88	0.2	5	-19	0.3	<0.3	<0.2	Q	16		+
1032-199		10 32 37.366	-19 56 02.15	0.94	0.94	0	39	-88	4.1	49	68	5.3	1.1	4.8	Q	19	2.198	*+
1034-293		10 34 55.833	-29 18 26.95	1.44	0.98	-.32	36	-28	2.5	35	-54	3.6	<0.2	<0.5	BL	18		+
1036-154		10 36 39.478	-15 25 28.10	0.38	0.54	.29	22	45	5.7	38	43	7.0	<0.5	<0.5	Q	19.5		
1039+811		10 39 27.788	81 10 23.70	0.83	0.82	-.01	3	-20	0.4	3	-30	0.4	0.4	1.4	Q	16.5		*
1044+719		10 44 49.750	71 59 26.86	1.06	0.65	-.41	20	-12	1.9	2	-17	0.3	0.5	<0.7	EF			*
1049+215	4C21.28	10 49 07.192	21 35 48.45	0.90	0.97	.06	20	-15	2.2	41	-23	4.2	0.5	2.2	Q	18.5	1.300	*+
1055-242		10 55 29.936	-24 17 44.60	0.55	1.03	.52	4	82	0.7	2	-4	0.2	<0.5*	<0.3	EF			*
1055+018	4C01.28	10 55 55.316	01 50 03.45	3.23	3.05	-.05	69	-79	2.1	162	20	5.3	<0.4	0.5	Q	18	0.890	*+
1104+167	4C16.30	11 04 36.640	16 44 16.40	0.39	0.30	-.22	3	80	0.8	5	90	1.7	<0.5	4.5	Q	15.7	0.634	*+
1104-445		11 04 50.417	-44 32 51.90	2.75	2.20	-.19	42	-85	1.5	38	-68	1.7	<0.3	0.9	Q	18.2	1.598	*+
1108+201		11 08 41.034	20 11 54.20	0.58	1.25	.64	1	52	0.2	2	-10	0.2	<0.3	<0.2	G	19		
1116+128	4C12.39	11 16 20.777	12 51 06.65	1.25	1.87	.33	32	-60	2.6	18	-84	1.1	3.4	10.9	Q	19.25	2.118	*+
1117-248		11 17 40.923	-24 51 41.40	0.70	1.68	.73	17	-35	2.4	31	-32	1.8	<2*	<0.3*	Q	17.07	0.466	+
1117+146	4C14.41	11 17 50.992	14 37 21.08	1.08	2.52	.70	2	40	0.2	6	-10	0.2	0.6*	<0.3	Q	20		
1123+264		11 23 14.874	26 26 49.95	0.96	0.95	-.01	23	22	2.4	15	1	1.6	<0.3	<0.3	Q	17.5	2.341	+
1127-145		11 27 35.673	-14 32 54.40	4.52	6.08	.25	222	-30	4.9	300	75	4.9	<0.2	<0.2	Q	16.9	1.187	+
1128-047		11 28 57.502	-04 43 46.05	0.90	0.67	-.25	5	60	0.5	2	1	0.3	<0.5	3.6	G	20		*

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α^6_{20} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
1142-225		11 42 50.233	-22 33 51.55	0.64	0.54	-.14	19	-35	3.0	11	-62	2.0	<0.4	<0.4	Q	19		
1143-245		11 43 36.373	-24 30 52.90	1.18	1.33	.10	25	0	2.1	8	52	0.6	<0.2	<0.3	Q	18	1.950	+
1144+542		11 44 04.582	54 13 22.80	0.49	0.59	.15	2	38	0.4	2	18	0.3	<0.5	<0.4	Q	20.5		
1144+402		11 44 21.024	40 15 14.15	1.35	1.03	-.22	33	-89	2.4	17	-14	1.7	<0.2	<0.4				
1144-379		11 44 30.870	-37 55 30.60	4.70	2.50	-.52	73	13	1.6	29	-42	1.2	<0.4	<0.4	Q	16.2		
1145-071		11 45 18.300	-07 08 00.75	1.05	1.01	-.03	33	24	3.1	14	40	1.4	<0.2	<0.3	Q	18.5		
1147+245		11 47 44.000	24 34 34.60	0.74	0.73	-.01	8	18	1.1	7	1	1.0	<0.4	1.0	BL	16		*+
1148-001	4C-00.47	11 48 10.130	-00 07 13.30	1.94	2.82	.31	80	-37	4.1	128	-27	4.5	<0.4	0.6	Q	17.6	1.982	*+
1150+812		11 50 23.502	81 15 10.25	1.18	1.40	.14	37	-78	3.1	22	33	1.6	<0.3	0.9	Q	18.5		*
1150+497	4C49.22	11 50 48.005	49 47 50.00	0.47	0.58	.17	24	-57	5.1	12	-18	2.1	2.9	14.6	Q	16.1	0.334	*+
1151-348		11 51 49.443	-34 48 47.15	2.68	4.80	.49	13	20	0.5	10	-14	0.2	<0.4*	<2.0	Q	17.5	0.258	*+
1155+251		11 55 51.645	25 06 59.81	0.93	1.08	.12	2	-1	0.2	2	-62	0.2	<0.3	<0.3	G	17.5		
1156+295	4C29.45	11 56 57.791	29 31 25.65	1.56	1.88	.15	44	-60	2.8	47	90	2.5	1.4	4.8	Q	15.6	0.729	*+
1213-172		12 13 11.674	-17 15 05.25	1.50	(1.2)	-.19	27	-56	1.8	--	---	---	3.6	----				*
1213+350	4C35.28	12 13 24.826	35 04 54.95	0.99	1.47	.33	18	-63	1.8	34	-20	2.3	<0.4	0.9	Q	20.5		*
1216+487		12 16 38.570	48 46 34.90	0.82	0.85	.03	24	24	2.9	23	47	2.7	<0.3	<0.5	Q	18.5		
1219+285		12 19 01.120	28 30 36.45	1.97	1.80	-.07	43	85	2.2	26	75	1.4	<0.2	<0.3	BL	16.5		+
1221+809		12 21 47.660	80 56 41.16	0.44	0.48	.07	19	-33	4.3	15	-87	3.1	5.4	16.5	Q	19.0		*
1222+037		12 22 19.100	03 47 27.05	1.02	1.07	.04	21	-76	2.1	16	-17	1.5	<0.3	<0.6	Q	19	0.957	+
1226+023	3C273	12 26 33.248	02 19 43.29	30.5	32.1	.04	730	-25	2.4	394	-16	1.2	3.2	21	Q	12.86	0.158	*+
1236+077		12 36 52.310	07 46 45.35	0.65	0.52	-.19	43	-52	6.6	11	-29	2.1	<0.5	0.9	Q	18.5		*
1237-101		12 37 07.287	-10 07 00.65	0.94	1.28	.26	38	47	4.0	70	73	5.5	<0.3	1.2	Q	17.5	0.753	*+
1243-072		12 43 28.793	-07 14 23.55	1.15	0.81	-.29	29	20	2.5	38	67	4.7	0.3	0.8	Q	18.0	0.267	*+
1245-197		12 45 45.218	-19 42 57.51	2.43	(5.1)	.62	2	16	0.1	--	---	---	<0.4*	----	Q	20.5		*
1252+119		12 52 07.717	11 57 20.82	0.84	1.01	.15	29	-27	3.5	13	12	1.3	0.8	1.3	Q	16.64	0.871	*+

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α_{20}^{6} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
1253-055	3C279	12 53 35.838	-05 31 08.04	9.50	6.8	-.28	140	37	1.5	240	-27	3.5	1.8	8.0	Q	17.75	0.538	*+
1255-316		12 55 15.182	-31 39 05.03	0.98	(1.15)	.13	50	-75	5.1	--	---	---	<0.4	----	Q	18.5		
1302-102		13 02 95.854	-10 17 16.45	0.78	0.57	-.26	6	13	0.8	3	-83	0.5	<0.4	1.7	Q	14.92	0.286	*+
1311+678	4C67.22	13 11 45.036	67 51 42.26	0.93	2.37	.78	2	27	0.2	6	-23	0.3	<0.3*	<0.2*	EF			
1313-333		13 13 20.054	-33 23 09.65	1.47	(1.55)	.04	27	4	1.8	--	---	---	<0.4	----	EF			
1315+347		13 15 17.790	34 41 02.50	0.35	0.40	.11	5	-83	1.4	9	-18	2.2	4.8	11.8	Q	19	1.050	*+
1320-446		13 20 07.395	-44 36 53.40	1.08	3.0	.85	9	72	0.8	11	-25	0.4	<0.4*	<0.2				
1323+799		13 23 30.986	79 58 27.60	0.65	0.54	-.15	7	-63	1.1	1	-50	0.2	<0.3	<0.6*				
1323+321		13 23 57.916	32 09 43.00	2.35	4.70	.58	5	-4	0.2	13	-65	0.3	<0.3*	<0.2	G	19		
1328+254	3C287	13 28 15.927	25 24 37.38	3.30	6.90	.61	151	-24	4.6	50	40	0.7	<0.3*	<0.2	Q	17.67	1.055	+
1328+307	3C286	13 28 49.657	30 45 58.59	7.41	14.41	.55	835	33	11.3	1410	33	9.8	0.4	1.3	Q	17.25	0.849	*+
1334-127		13 34 59.809	-12 42 09.80	4.20	1.90	-.66	201	-15	4.8	43	57	2.3	0.4	3.6	Q	18.5		*
1339+696		13 39 29.919	69 38 30.30	0.19	0.32	.43	4	-8	2.0	2	42	0.6	<0.8	<0.7				
1345+125	4C12.50	13 45 06.170	12 32 20.30	2.90	5.25	.49	7	63	0.2	14	7	0.3	<0.3	<0.2	G	17	0.122	
1347+539	4CP53.28	13 47 42.570	53 56 08.35	0.85	1.10	.21	16	15	1.9	15	27	1.4	<0.5	2.0	Q	17.3		*
1351-018		13 51 32.033	-01 51 20.05	0.88	0.82	-.06	4	68	0.5	5	-29	0.6	<0.2	<0.7				
1354-152		13 54 28.600	-15 12 51.85	2.42	1.33	-.50	40	-50	1.7	19	-76	1.4	0.4	1.6	Q	18.5		*
1354+195	4C19.44	13 54 42.086	19 33 43.95	1.28	1.55	.16	51	67	4.0	53	-88	3.4	0.4	7.0	Q	16.02	0.720	*+
1357+769		13 57 42.129	76 57 53.30	0.52	0.31	-.43	7	-26	1.3	3	-26	1.0	<0.5	<0.6	Q	19		
1358+624		13 58 58.360	62 25 06.70	1.79	4.30	.73	4	60	0.3	13	-12	0.3	<0.2	<0.2	G	19.9		
1402-012		14 02 11.293	-01 16 01.80	0.60	(0.68)	.10	10	-80	1.7	--	---	---	<0.4	----	Q	18.38	2.518	+
1402+660	4C66.14	14 02 48.393	66 05 57.45	0.62	1.93	.94	1	38	0.2	3	50	0.2	<4*	<0.3*	EF			
1404+286		14 04 45.613	28 41 29.22	2.98	0.83	-1.06	6	86	0.2	3	11	0.4	<0.2	<0.3	G	14.0	0.077	
1413+135		14 13 33.910	13 34 17.40	1.23	1.13	-.07	3	45	0.2	3	-15	0.3	<0.2	<0.4	Q	20		
1413+349		14 13 56.270	34 58 29.35	1.02	1.86	.50	2	-61	0.2	6	85	0.3	<0.3	<0.4	EF			

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TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α_{20}^{6} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
1415+463	4C46.29	14 15 13.429	46 20 55.55	0.68	0.53	-.21	3	8	0.4	18	-10	3.4	<0.7	16.2	G	17.9	1.522	*+
1418+546		14 18 06.188	54 36 58.00	1.41	1.05	-.24	36	-5	2.6	21	26	2.0	<0.4	<0.3	BL	15		+
1427+109		14 27 43.703	10 56 44.60	0.97	0.35	-.85	2	46	0.2	1	0	0.3	<0.3	<0.6	Q	18.5		
1427+543		14 27 44.055	54 19 29.70	0.60	0.98	.41	18	50	2.3	5	5	0.5	<0.5	<0.4	Q	19.8		*
1430-178		14 30 10.650	-17 48 24.30	0.68	1.03	.34	23	5	3.4	32	-25	3.2	1.0	1.6	Q	19.5	2.331	*+
1434+235		14 34 25.407	23 34 03.15	0.78	0.61	-.20	36	-88	4.6	35	-49	5.7	0.6	1.4	Q	18		*
1435+638		14 35 37.240	63 49 35.85	0.80	1.12	.28	12	-24	1.5	10	12	0.9	<0.4	3.3	Q	15	2.060	*
1437+624		14 37 32.021	62 24 47.00	0.87	2.27	.80	1	87	0.1	7	0	0.3	<0.6	<0.2	Q	19.0	1.090	*+
1441+252		14 41 43.560	25 14 24.00	0.31	0.36	.12	13	80	4.2	17	-77	4.7	<0.5	<2	Q	19.5		*
1442+101		14 42 50.483	10 11 12.10	1.22	2.50	.60	24	55	2.0	17	-69	0.7	<0.2	<0.2	Q	17.78	3.53	+
1444+175		14 44 15.451	17 33 39.65	0.82	0.67	-.17	18	-23	2.2	22	-28	3.3	<0.3	<0.5	Q	21		
1448+762		14 48 58.264	76 13 13.90	0.83	0.35	-.72	15	-48	1.8	2	-33	0.6	<0.6	<4	G	20.0		*
1451-375		14 51 18.284	-37 35 22.25	1.43	0.76	-.52	50	-30	3.5	25	-12	3.3	0.6	5.1	Q	16.2	0.314	*+
1459+481		14 59 07.240	48 03 04.00	0.40	0.35	-.11	17	-88	4.3	16	-54	4.6	2.9	4.3				*
1502+106		15 02 00.159	10 41 17.71	1.52	1.47	-.03	50	-2	3.3	41	24	2.8	<0.3	0.9	Q	15.5	1.833	*+
1504+377		15 04 12.958	37 42 23.30	0.73	1.05	.30	1	-35	.1	1	72	0.1	<0.5	2.0	EF			*
1504-166		15 04 16.419	-16 40 59.25	2.85	2.03	-.28	16	12	0.6	27	-66	1.3	<0.3	<0.5	Q	18.5	0.876	+
1508-055	4C-05.64	15 08 14.976	-05 31 48.95	0.96	1.60	.42	56	75	5.8	66	34	4.1	9.4*	12.3*	Q	17	1.191	*+
1510-089		15 10 08.903	-08 54 47.55	3.30	2.32	-.29	43	79	1.3	48	47	2.1	<0.3	2.2	Q	16.52	0.361	*+
1511+238		15 11 28.286	23 49 43.75	0.78	1.63	.61	1	86	0.1	4	8	0.2	<0.3	<0.2	EF			
1514-241		15 14 45.275	-24 11 22.55	2.40	2.26	-.05	178	50	7.4	135	37	6.0	1.0	0.9	BL	15		*+
1519-273		15 19 37.282	-27 19 29.45	2.29	2.09	-.08	60	-81	2.6	53	-44	2.5	<0.3	<0.2	Q	18.5		
1524-136		15 24 12.875	-13 40 34.90	1.20	2.72	.68	33	68	2.8	8	63	0.3	<1.5*	<0.4*	Q	20.5		*
1532+016		15 32 20.173	01 41 01.65	0.75	1.06	.29	4	81	0.5	4	-33	0.4	0.6	2.0	Q	18.5		*
1538+149	4C14.60	15 38 30.231	14 57 21.80	1.60	1.50	-.05	140	-33	8.8	68	47	4.5	<3*	<1*	BL	15.5		+

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α_{20}^{6} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
1543+005		15 43 36.252	00 35 41.80	0.84	1.68	.58	1	27	0.1	4	-12	0.2	<0.4	<0.8	Q	19		*
1546+027		15 46 58.293	02 46 06.05	2.27	0.98	-.70	29	-24	1.3	25	-42	2.6	<0.2	<0.4	Q	18	0.413	+
1547+507		15 47 52.276	50 47 09.23	0.69	0.70	.01	11	-42	1.6	2	-65	0.3	<0.3	<0.3				
1548+056	4C05.64	15 48 06.933	05 36 11.25	1.68	2.09	.18	19	69	1.1	3	60	0.1	<0.5	<0.3	Q	18		*
1551+130		15 51 12.032	13 05 41.25	0.70	0.95	.25	20	-85	2.9	8	-83	0.8	1.0	2.5	Q	18		*
1555+001		15 55 17.694	00 06 43.54	0.93	0.95	.02	25	-65	2.7	31	-86	3.3	<0.3	<0.2	Q	19.3	1.770	+
1600+335		16 00 11.910	33 35 09.60	2.03	2.67	.23	2	-23	0.1	5	67	0.2	<0.2	<0.3	EF			
1606+106	4C10.45	16 06 23.397	10 36 59.75	1.65	1.11	-.33	30	33	1.8	31	-82	2.8	<0.4	<0.6	Q	18.5		*
1607+268		16 07 09.289	26 49 18.60	1.68	4.70	.85	3	31	0.2	10	-6	0.2	<0.3	<0.2	Q	19		
1611+343		16 11 47.916	34 20 19.82	2.25	2.67	.14	38	27	1.7	54	83	2.0	<0.2	<0.2	Q	17.5	1.401	+
1616+063		16 16 36.537	06 20 14.25	0.83	1.03	.18	25	51	3.0	17	-74	1.7	1.4	5.8	Q	19	2.086	*+
1622-253		16 22 44.110	-25 20 51.50	1.54	1.75	.11	22	83	1.4	17	-29	1.0	1.0	2.8				*
1622-297		16 22 57.246	-29 44 41.15	2.45	2.02	-.16	121	4	4.9	144	76	7.1	<0.3	2.6				*
1624+416	4C41.32	16 24 18.252	41 41 23.50	1.16	1.75	.34	2	-4	0.2	3	40	0.2	1.4	<0.5	EF			*
1629+680	4C68.18	16 29 50.817	68 03 38.85	0.38	0.84	.66	18	10	4.7	2	-44	0.2	<0.6	<0.4	Q	18.7	2.475	+
1633+382	4C38.41	16 33 30.628	38 14 10.05	2.21	1.85	-.15	31	20	1.4	24	71	1.3	<0.4	<0.4	Q	18	1.814	*+
1634+628	3C343	16 34 01.078	62 51 41.63	(1.53)	4.80	(.96)	(17)	(70)	(1.1)	6	-29	0.1	----	<0.4	Q	20.6	0.988	*+
1636+473	4C47.44	16 36 19.150	47 23 28.55	0.52	0.47	-.08	12	58	2.3	13	-80	2.8	<0.8	17	Q		0.740	*+
1637+574		16 37 17.432	57 26 15.70	1.56	0.90	-.46	36	-72	2.3	13	-30	1.4	0.6	2.0	Q	17	0.745	*+
1637+626	3C343.1	16 37 55.305	62 40 34.30	1.20	4.42	1.10	1	-55	0.1	9	-33	0.2	<1.5*	<0.6*	G	22.5		*
1637+826		16 37 56.970	82 38 18.50	0.65	0.47	-.27	1	-12	0.1	3	71	0.6	<0.5	----	G	14.0	0.023	*
1638+124	4C12.60	16 38 27.923	12 25 46.32	1.00	2.10	.62	1	12	0.1	5	20	0.2	<0.8*	<0.3	Q	19.0		
1638+398		16 38 48.172	39 52 30.08	0.82	0.42	-.56	7	-4	0.9	6	-73	1.4	<0.4	1.8	Q	18.5		*
1641+399	3C345	16 41 17.608	39 54 10.82	7.75	6.95	-.09	330	30	4.3	232	84	3.3	1.0	6.3	Q	15.96	0.595	*+
1642+690	4C69.21	16 42 18.076	69 02 13.20	1.68	1.25	-.25	40	-36	2.4	53	88	4.2	1.1	9.3	Q	20.5		*

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α^6_{20} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
1648+015		16 48 31.579	01 34 25.65	0.72	(0.72)	0.00	28	-15	3.9	--	---	---	<0.3	---				
1654+866		16 54 31.382	86 37 07.21	0.29	0.85	.89	1	52	0.3	1	-12	0.1	<0.6	<0.3				
1656+053		16 56 05.620	05 19 47.05	1.55	1.42	-.07	71	-4	4.6	5	81	0.4	1.4	5.6	Q	16.48	0.879	*+
1656+347		16 56 12.270	34 47 59.80	0.70	0.44	-.39	10	-41	1.4	6	74	1.4	1.3	7.4	Q	19	1.936	*+
1656+571	4C57.28	16 56 26.429	57 10 25.80	0.38	0.41	.06	14	-1	3.7	25	34	6.1	4.3	43	Q	17.4	1.293	*+
1657-261		16 57 47.720	-26 06 29.25	0.72	0.57	-.19	13	65	1.8	11	25	1.9	<0.5	<0.5				
1705+456		17 05 50.41	45 40 02.0	(0.70)	0.81	(.12)	(19)	(-18)	(2.7)	38	34	4.7	----	<0.5	Q	17.6	0.646	+
1714+219		17 14 03.743	21 55 28.55	0.51	0.63	.18	12	53	2.4	16	62	2.5	<0.5	<5	G	19.0		
1716+686		17 16 27.838	68 39 48.30	0.57	0.35	-.40	9	-89	1.6	11	-50	3.1	0.7	2.0	Q	18.5		*
1717+178		17 17 00.322	17 48 08.50	0.59	0.49	-.15	33	18	5.6	20	-80	4.1	<0.4	<0.5	Q	18.5		
1725+123		17 25 47.656	12 18 03.40	0.47	0.25	-.52	11	-86	2.3	9	79	3.6	<0.9	2.0	Q	20		*
1725+044		17 25 56.336	04 29 27.90	0.92	0.65	-.29	9	15	1.0	13	70	2.0	<0.3	1.3	Q	18.2	0.293	*+
1726+455		17 26 01.199	45 33 04.55	0.52	0.61	.13	25	-12	4.8	28	78	4.6	<0.7	<0.6	Q	19		
1730-130		17 30 13.534	-13 02 45.78	5.10	4.45	-.11	148	51	2.9	150	-46	3.4	<0.3	3.2	Q	18.5		*
1732+389		17 32 40.487	38 59 46.90	1.20	0.85	-.29	34	41	2.8	35	-28	4.1	<0.3	<0.3	G	19.0		
1739+522		17 39 29.005	52 13 10.45	0.90	0.86	-.04	11	67	1.2	11	-85	1.3	<0.3	1.4	Q	18.5	1.375	*+
1741-312		17 41 09.340	-31 15 20.70	0.52	0.24	-.64	10	-51	1.9	1	---	0.4	<0.6	5.7				*
1741-038		17 41 20.615	-03 48 48.88	2.70	1.49	-.49	33	53	1.2	13	-40	0.9	<0.3	<0.3	Q	18.5		
1743+173		17 43 22.236	17 21 09.15	1.12	1.10	-.01	48	68	4.3	41	28	3.7	<0.4	0.7	Q	19		*
1748-253		17 48 45.789	-25 23 17.43	0.53	1.27	.73	12	-50	2.3	1	9	0.1	<0.4	<1.0				
1749+701		17 49 03.400	70 06 39.60	0.96	1.07	.09	4	71	0.4	7	-25	0.7	1.3	<0.4*	BL	17		*+
1749+096		17 49 10.386	09 39 42.80	1.85	1.28	-.31	112	80	6.1	11	-36	0.9	<0.7	<0.9	BL	17		+
1751+288		17 51 45.404	28 48 36.60	0.72	0.83	.12	31	10	4.3	9	-38	1.1	<0.4	<0.6	Q	20		
1751+441		17 51 53.715	44 10 17.80	0.86	0.53	-.40	15	10	1.7	1	---	0.2	<0.6	13.2				*
1800+440		18 00 03.191	44 04 18.30	0.65	0.45	-.31	20	-42	3.1	25	18	5.6	3.7	25.2	Q	17.5	0.660	*+

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α^6_{20} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_V (17)	Z (18)	(19)
1803+784		18 03 39.179	78 27 54.30	2.10	1.83	-.11	109	75	5.2	131	-70	7.2	<0.3	<0.4	G	13		
1807+279	4C27.41	18 07 13.632	27 57 35.85	0.37	0.49	.23	10	-18	2.7	20	-52	4.1	5.4	10.3	Q		1.760	*+
1807+698	3C371	18 07 18.543	69 48 57.08	1.45	1.30	-.09	39	61	2.7	--	---	---	2.6	----	G	14.0	0.051	*
1821+107		18 21 41.655	10 42 43.90	1.31	0.98	-.24	3	71	0.2	3	20	0.3	<0.3	<0.3	Q	16	1.360	+
1823+568	4C56.27	18 23 14.949	56 49 18.05	1.25	0.85	-.32	70	31	5.6	2	---	0.2	3.0	20.3	Q	18.5		*
1827-360		18 27 36.841	-36 04 37.90	1.30	6.90	1.39	2	56	0.2	4	23	0.1	<1.5*	1.4*				*
1830+285	4C28.45	18 30 52.378	28 31 17.05	0.54	0.35	-.36	1	59	0.2	3	--	1.0	<2	66	Q	17	0.594	*+
1848+283		18 48 29.070	28 21 38.45	1.01	0.27	-1.09	1	68	0.1	2	52	0.7	<0.2	<0.7				
1849+670		18 49 16.504	67 02 07.90	1.14	0.64	-.50	9	47	0.8	20	49	3.1	<0.3	3.1	Q	18		*
1901+319	3C395	19 01 02.309	31 55 13.91	1.40	2.5	.48	107	72	7.6	93	83	3.7	5.9	<1.0*	Q	17.5		*
1908-202		19 08 12.465	-20 11 55.10	2.46	2.18	-.10	42	-58	1.7	72	-45	3.3	<0.4	<0.8				
1921-293		19 21 42.233	-29 20 26.12	10.0	5.70	-.47	340	27	3.4	65	-63	1.1	<0.3	<0.4	Q	17.5	0.352	
1923+210		19 23 49.788	21 00 23.20	1.48	1.25	-.14	24	-49	1.6	39	-47	3.1	0.9	3.4				*
1928+738	4C73.18	19 28 49.347	73 51 44.90	3.00	3.12	.03	130	-73	4.3	107	-14	3.4	<0.5	<0.2	Q	15.5		
1933-400		19 33 51.118	-40 04 46.80	0.66	0.97	.32	29	64	4.4	37	-55	3.8	<0.5	1.6	Q	19		*
1936-155		19 36 36.024	-15 32 38.75	1.34	0.93	-.30	12	58	0.9	22	-81	2.4	<0.2	<0.7	EF			
1937-101		19 37 12.646	-10 09 39.50	0.73	(0.80)	.08	15	-88	2.1	--	---	---	0.7	----				*
1947+079		19 47 40.160	07 59 35.53	1.00	1.14	.11	2	-35	0.2	4	2	0.4	<0.6	<0.5	Q	18		
1954+513		19 54 22.469	51 23 46.40	1.10	1.18	.06	3	77	0.3	2	-3	0.2	<0.5	6.4	Q	18.5	1.230	*+
1954-388		19 54 39.056	-38 53 13.25	1.78	0.70	-.77	18	-40	1.0	11	-63	1.6	<0.4	<2	Q	17.5	0.63	*+
1958-179		19 58 04.605	-17 57 16.90	0.98	0.54	-.49	11	-81	1.1	9	25	1.7	<0.4	<0.7	Q	17.46	0.65	+
2000-330		20 00 13.021	-33 00 12.50	1.04	0.44	-.71	2	31	0.2	1	-28	0.2	1.1	<1.0	Q	18		*
2004-447		20 04 25.143	-44 43 27.45	0.47	0.85	.49	1	14	0.2	1	16	0.1	1.6	<0.4				*
2005+403		20 05 59.559	40 21 01.75	4.55	3.70	-.17	118	6	2.6	59	89	1.6	<0.3	<0.4	Q	19.5	1.736	+
2007+776		20 07 20.435	77 43 58.10	1.65	1.00	-.42	69	68	4.2	45	23	4.5	<0.3	0.9	Q	16.5		*

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α_{20}^{6} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
2008-159		20 08 25.914	-15 55 38.25	1.23	0.47	-.80	6	75	0.5	8	-40	1.7	<1.0	10	Q	17.2	1.180	*+
2008-068		20 08 33.699	-06 53 01.75	1.33	2.61	.56	1	-4	0.1	8	-8	0.3	<1.0	2.0				*
2010+723	4C72.28	20 10 16.207	72 20 20.75	0.87	1.00	.12	47	-31	5.4	31	13	3.1	1.2	4.1	Q	19		*
2021+614		20 21 13.296	61 27 18.12	2.31	2.15	-.06	1	-26	0.1	6	-6	0.3	<0.3	<0.3	Q	19		
2029+121		20 29 32.679	12 09 28.70	0.66	0.77	.13	4	1	0.6	7	-6	0.9	<0.4	1.8	Q	18.5		*
2037+511	3C418	20 37 07.454	51 08 35.71	3.70	5.1	.27	13	-65	0.4	139	49	2.7	1.7	9.2	Q	20	1.686	*+
2037-253		20 37 10.759	-25 18 26.35	0.63	0.68	.06	23	45	3.7	12	-85	1.8	<0.4	<2.0	Q	18.5		*
2044-168		20 44 30.816	-16 50 09.70	0.60	0.50	-.15	10	56	1.7	4	0	0.8	6.0	32	Q	16.9	1.943	*+
2047+098		20 47 20.779	09 52 02.00	0.62	0.31	-.58	1	7	0.2	1	---	0.3	<0.4	<0.6	EF			
2058-297		20 58 00.914	-29 45 15.00	0.88	0.57	-.36	14	80	1.6	9	-80	1.6	1.2	3.6	Q	18		*
2059+034		20 59 08.009	03 29 41.45	0.50	0.51	.01	20	-41	4.0	4	-55	0.8	<0.5	<0.6	Q	18	1.013	+
2106-413		21 06 19.391	-41 22 33.35	2.40	1.63	-.32	98	33	4.1	75	-61	4.6	1.4	<1.0				*
2121+053		21 21 14.800	05 22 27.45	4.45	3.62	-.17	112	52	2.5	90	60	2.5	<0.2	<0.2	Q	17.5	1.878	+
2126-158		21 26 26.775	-15 51 50.40	1.07	0.60	-.48	4	25	0.4	2	25	0.3	<0.3	<0.7	Q	17.3	3.270	+
2128+048		21 28 02.613	04 49 04.30	2.07	4.12	.57	4	33	0.2	9	-3	0.2	<0.2	<0.3	EF			
2128-123		21 28 52.672	-12 20 20.57	3.07	1.33	-.69	19	-47	0.6	22	-24	1.7	<0.3	<0.3	Q	15.98	0.501	+
2131-021	4C-02.81	21 31 35.126	-02 06 39.95	2.67	2.12	-.19	74	-12	2.8	56	-50	2.6	0.4	2.4	BL	18.67	0.557	*+
2134+004		21 34 05.205	00 28 25.08	10.0	3.58	-.85	78	55	0.8	8	-5	0.2	<0.3	<0.2	Q	18	1.936	+
2135-209		21 35 01.323	-20 56 03.70	1.45	3.62	.76	5	-16	0.3	8	-25	0.2	<0.6*	<0.7*				*
2136+141		21 36 37.407	14 10 00.63	1.40	1.18	-.14	5	51	0.4	11	-14	0.9	<0.4	<0.3	Q	18.5	2.427	+
2143-156		21 43 38.872	-15 39 37.30	0.59	0.75	.20	14	-57	2.4	14	10	1.9	<0.4	<0.8	Q	18.5	2.055	+
2144+092		21 44 42.473	09 15 51.15	1.32	0.82	-.40	13	75	1.0	4	-20	0.5	1.2	8.4	Q	18.5		*
2145+067	4C06.69	21 45 36.076	06 43 40.90	2.53	2.95	.13	25	43	1.0	14	-24	0.5	<0.4	0.6	Q	16.47	0.990	*+
2149-307		21 49 00.592	-30 42 00.15	1.10	1.05	-.04	53	61	4.8	22	-78	2.1	1.3	7.0				*
2149+056		21 49 07.696	05 38 06.85	0.94	0.79	-.14	2	23	0.2	2	-30	0.3	<0.3	<0.3	EF			

TABLE II. (continued)

Source (1)	3C,4C (2)	α (3)	δ (4)	S_6 (5)	S_{20} (6)	α^6_{20} (7)	m_6 (8)	χ_6 (9)	p_6 (10)	m_{20} (11)	χ_{20} (12)	p_{20} (13)	B_6 (14)	B_{20} (15)	ID (16)	m_v (17)	Z (18)	(19)
2150+173		21 50 02.229	17 20 29.80	0.68	0.80	.13	6	46	0.9	13	-32	1.6	1.2	<0.4	G	21		*
2155-152		21 55 23.238	-15 15 30.15	1.33	1.0	-.24	124	31	9.3	26	-86	2.6	0.9	7.6	BL	17.5		*+
2200+420		22 00 39.359	42 02 08.57	7.80	6.05	-.21	61	31	0.8	232	-30	3.8	<0.3	<0.3	BL	14.5		+
2201+315	4C31.63	22 01 01.440	31 31 05.85	1.34	1.48	.08	33	10	2.5	8	36	0.5	<0.5	<0.5	Q	15.47	0.297	+
2203-188		22 03 25.730	-18 50 17.05	3.8	5.5	.31	115	18	3.0	10	7	0.2	1.2	2.6	Q	19.5		*
2210-257		22 10 14.131	-25 44 22.50	1.23	1.04	-.14	53	25	4.3	24	37	2.3	0.9	6.4	Q	19.5		*
2216-038	4C-03.79	22 16 16.380	-03 50 40.65	3.70	0.70	-1.38	50	85	1.4	18	-71	2.6	0.4	6.2	Q	16.38	0.901	*+
2227-088		22 27 02.337	-08 48 17.58	1.13	1.22	.06	21	85	1.9	15	89	1.2	<0.2	<0.7*	Q	18		*
2227-399		22 27 44.980	-39 58 16.75	0.50	0.53	.05	2	-30	0.4	2	9	0.4	<0.7	<0.6	Q	18.5	0.323	+
2229+695		22 29 11.651	69 31 02.65	1.07	0.54	-.57	5	85	0.5	12	-48	2.2	<0.3	0.7	G	19.6		*
2230+114	4C11.69	22 30 07.802	11 28 22.77	4.10	6.2	.34	159	34	3.9	260	-56	4.2	1.3	3.6	Q	17.33	1.037	*+
2234+282		22 34 01.727	28 13 23.20	2.07	1.53	-.25	32	-42	1.5	18	60	1.2	<0.2	<0.4	Q	19	0.795	+
2239+096		22 39 19.846	09 38 09.90	0.94	0.53	-.48	23	57	2.4	7	9	1.3	<0.3	<0.4	Q	19		
2243-123		22 43 39.796	-12 22 40.25	2.90	2.40	-.16	54	-2	1.9	73	-21	3.0	<0.4	0.5	Q	17.3	0.63	*+
2245-328		22 45 51.53	-32 51 42.2	(1.58)	1.60	(.01)	(19)	(-68)	(1.2)	27	37	1.7	----	<0.8	Q	18.6	2.268	+
2247+140	4C14.82	22 47 56.707	14 03 57.40	1.10	1.94	.47	20	-74	1.8	20	-85	1.0	<1.0*	<0.4	Q	17.0	0.237	+
2251+158	3C454.3	22 51 29.521	15 52 54.31	10.2	9.7	-.04	400	6	3.9	870	90	9.0	<0.4	5.4	Q	16.1	0.859	*+
2251+134	4C13.85	22 51 51.876	13 25 48.95	0.43	0.40	-.06	8	-72	1.9	13	90	3.3	13.8	70	Q	19.25	0.673	*+
2254+074		22 54 45.980	07 27 08.95	0.37	0.35	-.05	6	33	1.6	5	20	1.4	<0.6	<0.7	BL	16.5		+
2307+106		23 07 57.543	10 39 13.05	0.43	0.32	-.25	4	38	0.9	13	-14	4.1	<1	<6	G	19		*
2318+049		23 18 12.129	04 57 23.45	0.88	0.48	-.50	21	63	2.4	10	90	2.1	<0.5	2.0	Q	19	0.633	*+
2319+272	4C27.50	23 19 31.990	27 16 19.05	0.68	1.00	.32	29	76	4.3	26	76	2.6	<0.6*	3.6	G	16	0.119	*
2328+107		23 28 08.787	10 43 45.50	1.05	1.05	.00	35	58	3.3	15	43	1.4	0.7	<0.3	Q	18.1	1.498	*+
2329-162		23 29 02.397	-16 13 30.85	0.78	0.95	.17	11	-1	1.4	18	45	1.9	1.6	6.6	G	18.5		*
2331-240		23 31 17.98	-24 00 15.6	(0.94)	1.00	(.05)	(13)	(56)	(1.4)	5	67	0.5	----	<0.7	Q	17	0.048	+
2337+264		23 37 58.279	26 25 18.90	0.90	1.10	.17	1	-45	0.1	2	-86	0.2	<0.2	<0.5	Q	20		
2344+092	4C09.74	23 44 03.773	09 14 05.45	1.68	1.69	.00	15	-36	0.9	62	-17	3.7	<1.2	<0.6	Q	15.97	0.677	+
2345-167		23 45 27.687	-16 47 52.59	1.80	(2.65)	.32	24	40	1.3	--	---	---	0.5	----	Q	18	0.600	*+
2352+495		23 52 37.785	49 33 26.76	1.64	2.56	.37	3	70	0.2	6	37	0.2	<0.4	<0.3	G	19	0.237	

TABLE III. Notes on structure.

0003−066	Single secondary, *r* = 1″.7, p.a. = 30°.
0023−263	Symmetric double, flux ratio at 6 cm, 3:2. Separation = 0″.55, p.a. = 112°.
0038−020	Distance confusing source, *r* = 470″, p.a. = 65°.
0048−097	Single extended secondary, *r* = 6″.1, p.a. = 189°.
0055+300	One-sided continuous jet. See Fomalont *et al.* (1980).
0104−408	Confused at 20 cm. Structure uncertain at 6 cm.
0106+013	Single secondary, *r* = 4″.4, p.a. = 185°.
0111+021	Jet in p.a. 120°, extending to ∼8″.
0112−017	Single, extended secondary, *r* = 7″.1, p.a. = 130°.
0113−118	Single secondary, *r* = 0″.6, p.a. = − 18°.
0114−211	Single secondary, *r* = 0″.6, p.a. = 90°.
0118−272	At least three components within 1″ at 6 cm. Heavily confused at 20 cm.
0119+115	Single secondary *r* = 0″.85, p.a. = 20°.
0119+247	Confused at 20 cm.
0119+041	Two secondaries, *r* = 5″.7, p.a. = 15°; *r* = 3″.6, p.a. = 146°.
0134+329	Slightly extended along p.a. ∼45°.
0135−247	Complex secondary, *r* = 15″.5, p.a. = − 88°.
0138−097	Possible secondary at *r* = 15″, p.a. = 100°.
0147+187	Confused at 20 cm.
0202−172	Single secondary at *r* = 13″.3, p.a. = 55°.
0216+011	Single secondary at *r* = 2″.7, p.a. = − 35°.
0221+067	Single secondary at *r* = 15″.3, p.a. = − 79°. Connected to core by bridge.
0224+671	Single secondary at *r* = 6″.5, p.a. = 180°.
0237−027	Confused at 20 cm.
0237+040	Single secondary at *r* = 2″.7, p.a. = − 35°.
0239+108	Jet-like extension, length = 1″, p.a. = 40°.
0248+430	Single secondary, *r* = 17″, p.a. = 105°.
0305+039	Jet-like extension in p.a. 55°, length = 1″.2. Extended emission at 20 cm extends to 10″. Polarized flux at 20 cm confined to jet, p.a. parallel to jet.
0316+413	Single secondary at *r* = 4″.3, p.a. = 145°. Bridge connects to core.
0319+121	Single secondary at *r* = 12″.5, p.a. = − 18°.
0333+321	Single secondary at *r* = 7″.6, p.a. = 150°.
0336−019	Single secondary at *r* = 5″.2, p.a. = − 15°.
0338−214	Slightly extended E-W.
0355+508	Single secondary at *r* = 1″.9, p.a. = 110°. Extended emission close to core.
0400−319	Single secondary at *r* = 2″.5, p.a. = 230°.
0402−362	Single secondary at *r* = 11″.5, p.a. = 170°.
0409+229	Strongly bent triple. Very asymmetric.
0414−189	Possible single secondary at *r* = 10″.6, p.a. = 50°.
0421+019	Single secondary at *r* = 1″.8, p.a. = 210°.
0422+004	20-cm map confused by large-scale structure.
0426−380	Single secondary at *r* = 2″.7, p.a. = − 24°.
0430+052	Single secondary at *r* = 3″.6, p.a. = 265°. Bridge connects to core.
0438−436	Single secondary at *r* = 2″.2, p.a. = 15°.
0440−003	Triple source oriented E-W. Total extent 2″.5.
0446+112	Secondary at *r* = 2″.5, p.a. = 270°. Strong secondary at 20 cm at *r* = 35″, p.a. = 210°.
0451−282	Single secondary at *r* = 3″.7, p.a. = − 10°.
0454+066	Single secondary at *r* = 0″.5, p.a. = 230°.
0500+019	Insufficient data at 20 cm for mapping.
0511−220	Single secondary at *r* = 0″.7, p.a. = 120°. 20-cm map poor.
0514−161	Single secondary at *r* = 7″.9, p.a. = 55°. Bridge connects to core.
0518+165	Single secondary at *r* = 0″.4, p.a. = 240°.
0519+011	Single secondary at *r* = 0″.4, p.a. = 180°. 20 cm confused.
0528+134	Diffuse emission 2″ in extent centered 1″ north of core.
0528−250	Single secondary at *r* = 0″.7, p.a. = 260°.
0529+075	Single secondary at *r* = 3″.2, p.a. = 220°.
0531+194	Emission extended along p.a. = − 45° for 0″.5.
0537+531	Single secondary at *r* = 5″.7, p.a. = 40°.
0537−286	Confused at 20 cm.
0537−441	Single secondary at *r* = 7″.2, p.a. = 305°.
0538+498	Extended 0″.5 along p.a. = 45°.
0539−057	Single secondary at *r* = 3″.9, p.a. = 50°.
0605−085	Single secondary at *r* = 4″.6, p.a. = 96°.
0609+607	Single secondary at *r* = 0″.4, p.a. = 270°.
0624−058	Extensive extended structures to *r* = 10″ along p.a. 225°.
0646−306	Triple source. Extent = 7″ along p.a. 45°.
0653+694	Single secondary at *r* = 2″.3, p.a. = 240°.
0707+476	Triple source. Extent = 8″.5, p.a. = 90°.
0716+714	Well resolved jet, extent = 7″.5, p.a. = − 60°. Diffuse halo envelops core and jet.
0735+178	Single source at *r* = 1″.8 in p.a. = 170°.
0736+017	Insufficient data at 20 cm for proper map.
0742+318	Single secondary at *r* = 5″, p.a. = 310°.
0745+241	Classical triple. Extent = 15″, p.a. = 65°.
0748+126	Possible single secondary at *r* = 1″.8, p.a. = 145°.
0759+183	Single secondary at *r* = 5″.6, p.a. = 95°.
0808+019	Single secondary at *r* = 1″.6, p.a. = 200°.
0812+367	Complex source. Three compact components plus jet. See Perley, Fomalont, and Johnston (1982).
0814+425	Two secondary components, strongly bent in p.a. *r* = 7″.8, p.a. = − 40°; sep. = 2″.8, p.a. = 45°.
0820+560	Single secondary at *r* = 3″.0, p.a. = 310°.
0823−223	Confused at 20 cm.
0827+243	Single secondary at *r* = 7″.9, p.a. = 200°.
0831+557	Single secondary at *r* = 6″.5, p.a. = 175°.
0833+585	Curved jet, extent = 11″.6, p.a. swings from 90° to 155°.
0834+250	Confused at 20 cm.
0836+710	Single secondary at *r* = 1″.3, p.a. = 200°.
0850+581	Triple source. Extent = 16″, p.a. = 145°.
0859+470	Single secondary at *r* = 1″.5 p.a. = − 25°.
0859−140	Triple source, components extended. Extent = 12″.
0906+015	Single secondary at *r* = 12″.5, p.a. = 95°.
0917+449	Diffuse extension at 20 cm, 2″.5 long in p.a. ∼270°. Possible second component to *S*.
0923+392	Complex. Three secondary components: (a) *r* = 1″.9, p.a. = 78°; (b) *r* = 0″.5, p.a. = 70°; (c) *r* = 1″.3, p.a. = 240°. Last component not found at 6 cm. First component highly polarized at 20 cm.
0925−203	Possible triple source of extent ∼45″ along N-S axis.
0945+408	Single secondary at *r* = 3″.7, p.a. = 35°. Possible component at *r* = 0″.5, p.a. = 30°.
0953+254	Possible extended structure or confused at 20 cm.
0954+556	Triple, strongly bent. Secondary components at (a) *r* = 3″.2, p.a. = 300°; (b) *r* = 2″, p.a. = 50°.
0954+658	Single secondary at *r* = 3″.8, p.a. = 205°.
0955+476	Core embedded in diffuse region 20″ × 10″ in p.a. ∼ 120°.
0959−443	Large triple. Extent = 40″ in p.a. = −35°.
1004−018	Single secondary at *r* = 0″.8, p.a. = 310°.
1020−103	Single secondary at *r* = 1″.4, p.a. = 330°.
1021−006	Single secondary at *r* = 2″.5, p.a. = 190°.
1030+415	Extended emission at 20 cm, 5″ × 4″, centered at 2″ SE of core.
1032−199	Single secondary at *r* = 2″.7, p.a. = 145°.
1039+811	Single secondary at *r* = 2″.5, p.a. = 220°.
1044+719	Possible secondary at *r* = 1″, p.a. = 270°.
1049+215	Extended emission at 20 cm along p.a. ∼ 10° and p.a. ∼ 90°. Extent ∼4″.
1055+018	Single secondary at *r* = 4″, p.a. = 180°.
1055−242	Slightly extended at 6 cm along p.a. 45°.
1104−445	Possible secondary at *r* = 19″, p.a. = 35°.
1104+167	Large triple, extent ∼35″, p.a. ∼ 0°.
1116+128	Single secondary at *r* = 2″.5, p.a. = 315°.
1128−047	Single secondary at *r* = 43″, p.a. = 296°.
1147+245	Single secondary at *r* = 1″.5, p.a. = 180°.
1148−001	Single secondary at *r* = 4″.7, p.a. = 210°.
1150+497	Complex source, jet plus halo. Extent = 17″, p.a. = 15°.
1150+812	Single secondary at *r* = 5″, p.a. = 260°.
1151−348	20-cm data confused.
1156+295	Single secondary at *r* = 1″.9, p.a. = 340°. Bridge connects to core. Halo surrounds core at 20 cm.
1213+350	Triple source. Extent = 14″, p.a. ∼ 25°.
1213−172	Single secondary at *r* = 1″.0, p.a. = 135°. Extended emission joins core and secondary.
1221+809	Single secondary at *r* = 2″.1, p.a. = 205°.
1226+023	Single secondary at *r* = 21″, p.a. = 222°.
1236+077	Jet extends to *r* = 2″.5 in p.a. = 245°.
1237−101	Single secondary at *r* = 17″, p.a. = 30°.
1243−072	Single secondary at *r* = 3″.0, p.a. = 260°.

TABLE III. (continued)

1245−197	Slightly extended along E-W axis at 6 cm.
1252+119	Two secondary components: (a) $r=0''.4$, p.a. = 270°; (b) $r=1''.3$, p.a. = 290°. Further extended emission probably.
1253−055	Continuous jet from core to $r=4''.7$ along p.a. 202°. Diffuse secondary 5″ in diameter centered 11″ from core in p.a. = 325°.
1302−102	Three weak secondaries, or possible confusion.
1315+347	Single secondary at $r=1''.7$, p.a. = 105°, connected to core by curved bridge.
1328+307	Single secondary at $r=2''.5$, p.a. = 245°. Possible secondary 0″.7 E of core.
1334−127	Curved jet extending to 6″.5 east of core.
1347+539	Jet-like extension 5″ long in p.a. 315°.
1354−152	Single secondary at $r=2''.8$, p.a. = 90°.
1354+195	Single secondary $r=16''$, p.a. = 345°.
1415+463	Two secondaries: (a) $r=11''.6$, p.a. = 263°, (b) $r=13''.1$, p.a. = 253°. The proximity of the secondaries suggests a double source.
1427+543	Core slightly resolved at both bands.
1430−178	Single secondary at $r=1''.2$, p.a. = 90°.
1434+235	Single secondary at $r=1''.6$, p.a. = 200°.
1435+638	Classical triple. Extent ≈30″, p.a.≈50°.
1437+624	Core slightly resolved at 6 cm.
1441+252	Confused at 20 cm.
1448+762	Confused at 20 cm.
1451−375	Large triple with curving, one-sided jet. Extent ≈30″ in p.a. 60°.
1459+481	Complex structure. Two main components: (a) $r=1''.5$, p.a. = 30°; (b) $r=4''.6$, p.a. = 140°.
1502+106	Single secondary at $r=7''.0$, p.a. = 160°.
1504+377	Single secondary at $r=11''.6$, p.a. = 83°.
1508−055	Very complex structures. Extent = 9″. Basically double with curving "jets."
1510−089	One-sided jet, length = 8″, p.a. = 160°.
1514−241	Single secondary at $r=0''.2$, p.a. = 120°.
1524−136	Slightly extended along p.a. 45° at 6 cm.
1532+016	Single secondary at $r=1''.4$, p.a. = 45°.
1543+005	Confused at 20 cm.
1548+056	Core surrounded by small halo at both bands.
1551+130	Single secondary at $r=0''.75$, p.a. = 255°.
1606+106	Confused at 20 cm.
1616+063	Single secondary at $r=1''.7$, p.a. = 225°. Bridge connects to core.
1622−253	Single secondary at $r=2''.0$, p.a. = 303°. Diffuse secondary at $r=6''$, p.a. = 90°.
1622−297	Classical triple. Extent = 14″, p.a. = 22°.
1624+416	Single secondary at $r=0''.7$, p.a. = 352°.
1633+382	Possible short extension (∼0″.2) extending SE.
1634+628	Core slightly extended at 20 cm.
1636+473	Complex secondary centered near $r=20''$ in p.a.∼30°. Secondary has double structure.
1637+574	Diffuse structures extending ∼6″ to NW and W. Small-scale (<0″.2) structures in p.a. 220°.
1637+626	Core slightly resolved at 6 cm along p.a. 110°.
1637+826	Insufficient data at 20 cm for map.
1638+398	Single secondary at $r=2''.5$, p.a. = 140°.
1641+399	Single secondary at $r=2''.9$, p.a. = 330°.
1642+690	Single secondary at $r=2''.8$, p.a. = 176°.
1656+347	Triple source. Bright component at $r=2''.7$, p.a. = 140°. Total extent ∼10″.
1656+571	Diffuse jet extends 2″ in p.a. 50°. 9″-diameter halo centered on core.
1656+053	Single secondary at $r=2''.2$, p.a. = 110°.
1716+686	Single secondary at $r=0''.8$, p.a. = 310°.
1725+123	Extended emission centered ∼1″.5 SE of core.
1725+044	Single secondary at $r=5''.1$ at p.a. = 105°.
1730−130	Single secondary at $r=11''.0$, p.a. = 273°.
1739+522	Single secondary at $r=3''.5$, p.a. = 260°.
1741−312	Extensive low brightness structure over 30″ scale.
1743+173	Extended secondary at $r=3''.2$, p.a. = 35°.
1749+701	0″.4 halo surrounds core.
1751+441	Single secondary at $r=11''$, p.a. = 77°.
1800+440	Single secondary at $r=3''.1$, p.a. = 240°.
1807+698	Single secondary at $r=3''.0$, p.a. = 240°. Bridge connects to core. More extensive emission present.
1807+279	Triple source. Extent = 10″ along p.a. 45°.
1823+568	Two secondaries: (a) $r=2''.0$, p.a. = 99°, (b) $r=1''.0$, p.a. = 174°.
1827−360	Close spaced double. Extent = 1″.0 in p.a. = 130°.
1830+285	Classical triple. Extent = 37″ in p.a. 140°.
1849+670	Single secondary at $r=11''.7$, p.a. = 210°.
1901+319	Elongated secondary extending from core to $r=0''.7$ along p.a. = 310°.
1923+210	Single secondary at $r=1''.1$, p.a. = 255°.
1933−400	Diffuse secondary extending from core to $r=3''.5$ in p.a.≈140°.
1937−101	Single secondary at $r=1''.6$ in p.a. = 0°.
1954+513	Classical triple: extent = 16″ in p.a. = 350°.
1954−388	Confused at 20 cm.
2000−330	Single secondary at $r=0''.6$, p.a. = 270°.
2004−447	Single secondary at $r=0''.3$, p.a. = 20°.
2007+776	Single secondary at $r=11''$, p.a. = 90°.
2008−159	Large classical triple. Extent = 120″, p.a. = −22°.
2008−068	Single secondary at $r=52''$, p.a. = 202°.
2010+723	Single secondary at $r=2''.3$, p.a. = 103°.
2029+121	Single secondary at $r=6''.3$, p.a. = 330°.
2037+511	Single extension 2″.4, long in p.a. 335°.
2037−253	20-cm map confused.
2044−168	Single secondary at $r=12''$, p.a. = 145°.
2058−297	Single secondary at $r=1''.1$, p.a. = 34°.
2106−413	Single secondary at $r=0''.6$, p.a. = 260°.
2131−021	Single secondary at $r=3''.0$, p.a. = 135°.
2135−209	Slightly resolved along p.a.∼45° at 6 cm.
2144+092	Single secondary at $r=1''.6$, p.a. = 160°.
2145+067	Single secondary at $r=2''.5$, p.a. = 305°.
2149−307	Single secondary at $r=3''.0$, p.a. = 155°.
2150+173	Single secondary at $r=0''.55$, p.a. = 10°.
2155−152	Triple source, extent = 5″.5, p.a. = 0°.
2203−188	Single secondary at $r=0''.8$, p.a. = 340°.
2210−257	Single secondary at $r=2''.3$, p.a. = 10°.
2216−038	Jet-like extension extending 8″.0 in p.a. 140°.
2227−088	Slightly extended at 20 cm along p.a. 135°.
2229+695	Small (≲3″) halo to E of core at 20 cm.
2230+114	Single secondary at $r=1''.6$ in p.a. = 140°.
2243−123	Single secondary at $r=3''.9$, p.a. = 40°.
2251+134	Classical triple. Extent = 8″ in p.a. 40°.
2251+158	Single secondary at $r=5''.4$ in p.a. = 318°.
2307+106	Heavily confused at both bands.
2318+049	Single secondary at $r=8''.5$, p.a. = 315°.
2319+272	Triple source, bent by ∼45°. Extent = 14″.
2328+107	Single secondary at $r=0''.8$, p.a. = 270°.
2329−162	Single secondary at $r=1''.9$, p.a. = 230°.
2345−167	Single secondary at $r=1''.8$, p.a. = 355°.

(1980), or Veron and Veron (1981), with the former superseding the latter. Those from the former are noted by a cross (+) in column 19.

Those sources with detected structure are listed in Table III, with brief information concerning the structure. In almost all cases, only a single secondary component was found, so the brief information is generally complete. If the secondary structure appears elongated with no dominant brightness maxima, it is referred to as a "jet." Structures dominated by a brightness peak are labeled as a "secondary."

IV. DISCUSSION

These observations, part of an ongoing effort to establish a complete network of calibration sources for the VLA, have clearly shown the following:

(1) Diffuse secondary structure is a common phenomenon among core-dominated objects. Fifty percent of

the flat-spectrum objects in the current list contain secondary structures.

(2) The secondary structures, when seen, are nearly always asymmetrically disposed with respect to the core. For most of these objects, insufficient dynamic range does not allow measurement of the flux ratio between secondary structures. However, a median lower limit of 4:1 on this flux ratio can be placed from these objects. This is much greater than the value for steep-spectrum, non-core-dominated double radio sources, and it can then be inferred that these secondary structures so often seen near compact radio sources cannot *directly* be identified with the normal lobes of radio sources.

The final list of VLA calibrators includes some 700 objects. The observations of all remaining objects will be completed by mid-1982. Further analysis of all results will be reported later.

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