THE PARKES CATALOGUE OF RADIO SOURCES

DECLINATION ZONE 0° TO −20°

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Summary

This paper gives details of 628 radio sources between declinations 0° and −20° compiled from observations made at 408 Mc/s with the 210 ft reflector at the Australian National Radio Astronomy Observatory, Parkes, N.S.W.

The survey covers an area of 1·87 steradians, omitting the regions near the galactic plane. Additional measurements of flux density and position were made at 1410 and 2650 Mc/s. Some discussion on spectra, source counts, and source identification is included, and a comparison is made between this survey and other published catalogues covering the same region.

I. Introduction

This paper contains the results of the fourth part of a survey for radio sources being made with the 210 ft radio telescope at the Australian National Radio Astronomy Observatory, Parkes, N.S.W. The earlier parts of the survey have already been published and cover the zones −20° to −60° (Bolton, Gardner, and Mackey 1964), −60° to −90° (Price and Milne 1965), and 0° to +20° (Day, Shimmins, Ekers, and Cole 1966). The present paper covers the declination zone between 0° and −20° (with the exception of two areas within ±10° of the galactic plane), an area of 1·87 steradians.

The observations, as in the earlier sections of the Catalogue, consisted of an initial finding survey at a frequency of 408 Mc/s, measurements of flux density and position at 1410 Mc/s, and measurements of flux density and position at 2650 Mc/s. Spectra and the source count at 408 Mc/s are discussed, and a comparison is made between the results of this survey and other published catalogues covering the same region. The results of an examination of the source positions on the 48 in. Palomar Sky Survey Plates by J. G. Bolton has been included, as have polarization measurements by F. F. Gardner for sources greater than 3 flux units at 1410 Mc/s (1 flux unit (f.u.) = $10^{-26}\,\mathrm{W\,m^{-2}\,(c/s)^{-1}}$). The results of a survey at 150 Mc/s by Ekers for small diameter sources that show interplanetary scintillation are also included.

II. Observations

The observational procedures used in the survey and the characteristics of the receiving equipment have been given in detail in the first part of the Catalogue (Bolton, Gardner, and Mackey 1964).‡ From the declination scans of the 408 Mc/s finding

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‡ Hereafter referred to as the BGM survey.

survey objects were selected that stood out above the background as discrete radio sources. In addition, the survey records were inspected for sources listed in other catalogues covering this region. The two regions within $\pm 10°$ of the galactic plane that were not included are shown in Figure 1.

All the objects selected from the finding survey were re-observed at 1410 Mc/s for position and flux density determination and only those with flux density $\geqslant 0{\cdot}4$ f.u. at 1410 Mc/s have been included in the catalogue. Following the positioning of a source at 1410 Mc/s, a right ascension scan was made to obtain the 408 Mc/s flux density. Sources between $1{\cdot}3$ and $1{\cdot}8$ f.u. at 1410 Mc/s were re-observed at a frequency of 2650 Mc/s using a similar observational procedure to that used for the 1410 Mc/s measurements. Sources with flux density $\geqslant 1{\cdot}8$ f.u. at 1410 Mc/s or $\geqslant 1{\cdot}0$ f.u. at 2650 Mc/s were measured as part of a separate position measurement program (Shimmins, Clarke, and Ekers 1966).*

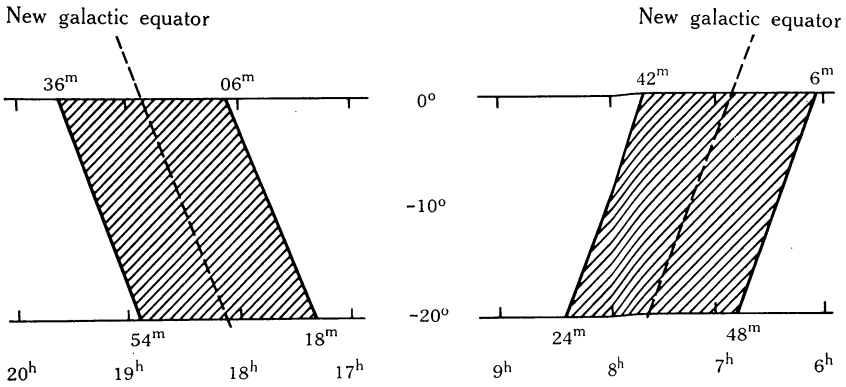

Fig. 1.—Areas within $\pm 10°$ of the galactic plane excluded from this survey.

III. Source Position Errors

The average r.m.s. error in the catalogued position of the sources that are either $\geqslant 1{\cdot}8$ f.u. at 1410 Mc/s or are $\geqslant 1{\cdot}0$ f.u. at 2650 Mc/s as determined by SCE is given as 1 second of time in right ascension and $0{\cdot}2$ minutes of arc in declination. For the remainder of the sources with flux density $\geqslant 1{\cdot}3$ f.u. at 1410 Mc/s, the catalogued positions are an average of the measurements made at 1410 and 2650 Mc/s. The average r.m.s. error in these positions is estimated as $0'{\cdot}7$ in each coordinate.

For sources with flux density $< 1{\cdot}3$ f.u. at 1410 Mc/s position measurements were only made at this frequency. The average r.m.s. error is estimated at $1'{\cdot}0$ in each coordinate.

Mean positions for epoch $1950{\cdot}0$ have been computed for each source using Independent Day Numbers as described in the Astronomical Ephemeris.

* Hereafter referred to as SCE.

IV. Notes on the Catalogue

Table 1 contains details of 628 sources in the declination zone 0° to –20°.

Column 1.—Source number derived from hours and minutes of right ascension and sign and degrees of declination.

Columns 2 and 3.—Mean position for epoch 1950·0. For a discussion of position errors see Section III.

Columns 4 and 5.—Annual precession in right ascension (seconds of time) and declination (seconds of arc).

Columns 6, 7, 8, 9, and 10.—Flux densities in units of 10^{-26} W m^{-2} $(c/s)^{-1}$ at frequencies of 85·5, 159, 408, 1410, and 2650 Mc/s. The values at 85·5 Mc/s are from the Mills, Slee, and Hill (1958) catalogue and at 159 Mc/s from the 3C catalogue. Where the flux density errors are thought to be significantly greater than those quoted in Table 2, the estimated flux density has been placed in parentheses. For a discussion on the determination of flux densities see Section V.

Columns 11 and 12.—The values of mean spectral index, flux density at 400 Mc/s, and estimated r.m.s. errors. C indicates a departure from a power-law spectrum (see Section VII).

Column 13.—Remarks and miscellaneous data. The numerals I–IV refer to the classification of the optical field, on the 48 in. Palomar Sky Survey prints, within a rectangle $\pm 1'{\cdot}0$ from the position of the source (see Section VIII).

Where an optical identification has been made, the following abbreviations apply: QSO = quasi-stellar object; (QSO) = possible quasi-stellar object; E = elliptical galaxy; D = spherical galaxy with diffuse envelope; N = compact blue galaxy; S = spiral galaxy; db. = dumb-bell galaxy; M = estimated photographic magnitude.

Other abbreviations used are as follows:

S incl., the flux density at the stated frequency includes a significant contribution from the source indicated or from an uncatalogued source.

ext., the source appears extended, as indicated by beam broadening at 2650 Mc/s (see Section VI).

scint., interplanetary scintillations have been observed at 150 Mc/s.

P, percentage polarization measured at 1410 Mc/s.

NRAO, source number of those first catalogued in the NRAO 3C Catalogued Source Survey.

NGC, New General Catalogue.

CTA, California Institute of Technology, List A.

Columns 14 and 15.—New galactic coordinates.

Columns 16 and 17.—Catalogue numbers as given by Edge *et al.* (1959)* and by Bennet (1962)* and the catalogue numbers of sources as given by Mills, Slee, and Hill

* Hereafter referred to as 3C and Revised 3C respectively.

TABLE 1. PARKES CATALOGUE OF RADIO

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
0000−17	00	00	48	−17	43·9	3·07	20·0			5·5	2·2	1·4
0003−00	00	03	49	−00	21·0	3·07	20·0		16·5	8·3	4·0	2·3
0005−06	00	05	54	−06	15·4	3·07	20·0	15	(11·0)	4·0	1·2	0·8
0008−06	00	08	12	−06	21·6	3·07	20·0				0·4	
0013−00	00	13	37	−00	31·3	3·07	20·0			1·6	0·8	
0013−14	00	13	48	−14	49·5	3·05	20·0			2·1	0·8	
0016−12	00	16	17	−12	59·3	3·05	20·0	(33)	(9·0)	7·8	2·3	1·3
0016−10	00	16	25	−10	39·2	3·05	20·0	23		2·3	0·9	
0016−04	00	16	59	−04	51·5	3·06	20·0	10	13·5	2·0	0·6	
0018−09	00	18	18	−09	14·4	3·06	20·0			2·4	0·7	
0018−19	00	18	39	−19	26·7	3·03	20·0	9		2·6	1·1	
0018−01	00	18	52	−01	11·9	3·07	20·0			3·1	1·0	
0019−00	00	19	51	−00	01·5	3·07	20·0			4·0	3·2	1·8
0020−08	00	20	47	−08	02·4	3·06	20·0	24		3·6	0·8	0·4
0023−13	00	23	32	−13	04·7	3·04	19·9			5·0	1·3	0·6
0023−20	00	23	36	−20	21·2	3·02	19·9			3·8	1·0	
0027−12	00	27	24	−12	01·2	3·04	19·9	14		4·5	0·8	
0029−01	00	29	02	−01	12·8	3·07	19·9			3·8	0·8	
0031−07	00	31	25	−07	47·5	3·05	19·9			3·1	1·1	
0031−18	00	31	54	−18	14·8	3·01	19·8	17		2·5	0·4	
0033−16	00	33	05	−16	51·9	3·01	19·8			2·3	0·7	
0034−01	00	34	30	−01	25·6	3·07	19·8		(21·5)	10·0	4·2	2·6
0035−02	00	35	46	−02	24·3	3·06	19·8	(67)	(21·5)	15·7	6·2	4·3
0040−06	00	40	10	−06	31·3	3·05	19·7			2·1	0·7	
0041−16	00	41	23	−16	21·7	3·00	19·7			3·7	0·9	
0044−05	00	44	12	−05	37·8	3·05	19·7				0·4	
0046−06	00	46	27	−06	44·4	3·04	19·6	(12)		2·5	0·5	
0047−02	00	47	12	−02	59·8	3·06	19·6	18		4·2	1·3	0·8
0047−10	00	47	23	−10	22·7	3·02	19·6				0·8	
0048−12	00	48	00	−12	19·4	3·01	19·6	18		4·2	1·1	
0048−09	00	48	13	−09	45·7	3·02	19·6			(0·7)	1·1	1·3
0051−03	00	51	36	−03	50·2	3·05	19·5	23	8·0	6·8	2·1	1·2
0053−13	00	53	24	−13	00·8	3·00	19·5				0·5	
0053−01	00	53	39	−01	34·5	3·06	19·5			10·3	2·0	(0·9)
0055−01	00	55	01	−01	39·6	3·06	19·5	(72)	17·0	12·1	4·7	3·6
0056−00	00	56	32	−00	09·4	3·07	19·4			3·9	2·2	1·9
0056−17	00	56	38	−17	16·8	2·97	19·4	29		5·5	1·7	0·9
0056−15	00	56	50	−15	32·3	2·98	19·4	17		2·1	0·5	
0057−13	00	57	18	−13	12·6	3·00	19·4			2·0	0·5	
0057−18	00	57	42	−18	04·6	2·96	19·4			3·9	1·2	0·7
0101−12	01	01	53	−12	51·6	2·99	19·3	18		4·4	1·8	1·3
0102−07	01	02	37	−07	10·1	3·03	19·3				0·7	
0103−12	01	03	45	−12	47·4	2·99	19·3				0·4	
0105−12	01	05	45	−12	17·4	2·99	19·2				0·6	
0105−16	01	05	48	−16	20·4	2·96	19·2	53	20·0	12·3	3·8	2·2

SOURCES, DECLINATION ZONE 0° TO −20°

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
0·7±0·2	5·2±0·8	II N 17·8M	71	−75		
0·7±0·1	8·8±1·0	III	99	−61	2	
0·8±0·1	3·7±0·7		95	−67	(3)	00−*02*
—			96	−67		
0·5±0·5	1·5±0·4	III (QSO) 18·5M	104	−62		
0·7±0·4	1·9±0·5		88	−75		
0·9±0·1	7·1±1·0	III	93	−74	(8)	00−*17*
1·1±0·1	3·4±1·0	III	97	−72		00−*18*
1·2±0·3	2·9±1·9	S_{159} high	103	−66	7	00−*03*
0·9±0·4	2·2±0·6	III NRAO 20	100	−70		
0·7±0·2	2·6±0·8	II E4 17M	80	−79		00−*19*
0·9±0·3	2·9±0·7	III	106	−63		
C		III	107	−62		
1·1±0·1	3·5±0·8	III	103	−70		00−*06*
1·1±0·2	4·9±1·1	III	99	−74		
1·0±0·3	3·5±0·8	III	82	−81		
1·0±0·2	3·2±1·0	III	104	−74		00−*112*
1·2±0·3	3·5±0·9		112	−63		
0·8±0·3	2·9±0·6	II D 18·5M	110	−70		
1·2±0·2	2·2±0·9		99	−80		00−*115*
0·9±0·4	2·1±0·6	III	103	−79		
0·7±0·1	9·8±1·1	II E 18M	115	−64	(15)	
0·7±0·1	15·1±1·5	II E 19M	115	−65	(17)	00−*09*
0·8±0·4	1·9±0·6	III	117	−69		
1·1±0·3	3·4±0·8		114	−79		
—			120	−68		
1·1±0·3	2·2±1·0		121	−69		(00−*013*)
0·9±0·1	4·0±0·7	III (QSO) 18M	122	−66		00−*014*
—		III (QSO) 20M	122	−73		
1·0±0·1	3·7±1·0	II E 18·5M	122	−75		00−*121*
−0·3±0·4	0·8±0·2	II blue gal. 18M	122	−72		
0·8±0·1	5·7±0·8	II E 19M	125	−66	26	00−*015*
—			127	−76		
1·2±0·1	9·6±1·2	III ext. NRAO 49	126	−64		
0·6±0·1	10·7±1·1	I E 15·6M	126	−64	29	00−*017*
0·3±0·2	3·4±0·5	III QSO 18M	127	−63		
1·0±0·1	5·5±0·9	III (QSO) 17·2M	133	−80		00−*126*
1·2±0·2	2·3±0·9		132	−78		00−*125*
1·0±0·5	1·9±0·7		131	−76		
0·9±0·2	3·7±0·8	II D 18M	136	−80		
0·7±0·1	4·6±0·7	III	135	−75		01−*11*
—		III	133	−70		
—			137	−75		
—			138	−74		
0·9±0·0	11·4±1·2	III P1	143	−78	32	01−*12*

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
0108−14·2	01	08	37	−14	13·9	2·97	19·2			(2·6)	1·2	0·7
0108−14·7	01	08	52	−14	40·0	2·97	19·1	16			0·5	
0110−10	01	10	51	−10	30·0	3·00	19·1				(0·5)	
0115−01	01	15	41	−01	36·4	3·06	19·0			5·2	0·9	0·7
0116−19	01	16	07	−19	05·3	2·92	18·9	14		2·6	1·2	0·7
0117−15	01	17	59	−15	36·0	2·95	18·9	45	22·0	12·7	4·7	2·7
0118−00	01	18	28	−00	10·3	3·07	18·9			2·5	0·8	
0119−04	01	19	56	−04	37·3	3·04	18·8			2·2	1·3	1·0
0122−00	01	22	55	−00	21·4	3·07	18·7			1·5	1·5	1·4
0123−01	01	23	28	−01	38·5	3·06	18·7	88	26·0	16·4	4·5	(1·9)
0125−14	01	25	03	−14	18·7	2·95	18·7	30		8·9	2·4	1·5
0126−02	01	26	07	−02	38·7	3·05	18·6				0·4	
0127−08	01	27	55	−08	49·6	3·00	18·6			2·4	0·4	
0128−13	01	28	33	−13	16·4	2·95	18·6			2·2	0·5	
0129−07	01	29	35	−07	10·8	3·01	18·5	19		(4·7)	1·2	0·7
0130−17	01	30	16	−17	10·4	2·91	18·5			(1·1)	0·9	1·2
0131−00	01	31	38	−00	12·1	3·07	18·5	10		3·3	1·2	0·7
0137−10	01	37	44	−10	12·3	2·97	18·2			(2·0)	1·2	0·6
0139−09	01	39	01	−09	42·3	2·98	18·2			(1·3)	1·0	
0139−02	01	39	05	−02	52·6	3·04	18·2			3·2	0·4	
0139−14	01	39	17	−14	59·6	2·92	18·2			2·2	0·4	0·3
0140−16	01	40	07	−16	43·7	2·90	18·2	28		5·0	1·1	0·4
0140−07	01	40	11	−07	58·5	2·99	18·2			2·1	0·6	
0140−01	01	40	42	−01	34·5	3·06	18·1			2·4	0·8	
0144−05	01	44	12	−05	54·5	3·01	18·0			4·6	1·1	
0144−02	01	44	14	−02	14·0	3·05	18·0	12		4·7	0·7	
0147−11	01	47	12	−11	09·1	2·95	17·9	10		2·0	0·4	0·3
0148−09	01	48	18	−09	16·2	2·97	17·8	9		3·7	1·0	
0150−14	01	50	02	−14	27·5	2·91	17·8				0·5	
0150−03	01	50	50	−03	48·6	3·03	17·7		(10·5)	3·0	0·8	0·4
0151−15	01	51	41	−15	13·6	2·90	17·7			(3·6)	0·6	
0153−05	01	53	30	−05	17·9	3·01	17·6			2·1	0·7	0·4
0155−10	01	55	15	−10	58·5	2·95	17·6	16		6·5	2·0	1·3
0156−14	01	56	16	−14	28·0	2·91	17·5			2·9	1·5	0·9
0159−11	01	59	30	−11	47·4	2·93	17·4	14	(10·5)	6·5	2·9	2·0
0202−17	02	02	34	−17	15·8	2·86	17·2			(1·1)	1·2	1·3
0202−11	02	02	47	−11	49·6	2·93	17·2				0·4	
0202−18	02	02	53	−18	16·7	2·85	17·2	17		3·6	0·7	
0203−05	02	03	31	−05	20·9	3·01	17·2			2·7	0·6	
0207−11	02	07	39	−11	11·9	2·93	17·0	(19)		4·7	1·5	0·8
0208−06	02	08	29	−06	54·1	2·99	17·0			2·5	0·8	
0213−13·2	02	13	12	−13	13·4	2·90	16·8	(42)	(13·0)	11·9	5·0	2·7
0213−13·5	02	13	21	−13	27·6	2·90	16·7	(42)	(13·0)	3·4	1·0	0·5
0215−18	02	15	10	−18	09·5	2·83	16·7	9		2·2	0·5	
0215−16	02	15	35	−16	45·4	2·85	16·6			2·5	0·9	

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
0·8±0·4	3·4±0·8	I E 15·8M S_{408} incl. 0108−14·7	143	−76		
1·2±0·1	2·3±0·6		144	−76		01−*14*
—		ext. at 1410	141	−72		
1·0±0·2	4·3±1·0	II N 18M	138	−63		
0·8±0·1	3·2±0·7	II E 18·5M	161	−80		01−*18*
0·8±0·0	11·9±1·2	III P1	154	−76	38	01−*19*
0·8±0·4	2·3±0·6	II SP 17M	139	−62		
0·4±0·3	2·2±0·5	III (QSO) 17·6M	142	−66		
0·1±0·3	1·7±0·3	III QSO 17M	141	−62		
1·0±0·1	15·2±1·6	I db. 13·2M NGC 545/7 ext.	142	−63	40	01−*05*
0·8±0·1	7·4±0·9	III (QSO) 20M	158	−74		01−*111*
—			144	−64		
1·3±0·4	2·2±0·9		151	−69		
1·1±0·4	2·0±0·7		158	−73		
0·9±0·1	4·0±0·8		150	−68		01−*06*
−0·4±0·4	0·6±0·1	III (QSO) 19M	168	−76		
0·7±0·1	3·0±0·6	II E 17·8M	145	−61		01−*07*
0·9±0·4	3·5±0·9	II N 18M S_{408} incl. 0139−09	159	−69		
—		III (QSO) 19·5M	159	−69		
1·5±0·4	3·0±1·0		151	−63		
1·0±0·3	1·9±0·8		169	−73		
1·2±0·1	4·2±0·9	II N 18M	174	−74		01−*115*
0·9±0·4	1·9±0·6		157	−67		
0·8±0·4	2·2±0·6	III	151	−61		
1·1±0·2	4·3±0·9	III	157	−65		
1·0±0·3	3·1±1·6	III	153	−62		01−*010*
1·0±0·1	1·8±0·6		166	−69		01−*117*
0·8±0·2	2·8±0·9	III	163	−67		01−*012*
—			174	−71		
1·1±0·2	3·2±0·9	III	158	−62	(53)	
—			176	−71		
0·8±0·3	2·1±0·7	III	161	−63		
0·7±0·1	5·1±0·8	III (QSO) 18M	170	−67		01−*120*
0·6±0·2	3·2±0·6	III	177	−70		
0·5±0·1	5·8±0·7	III (QSO) 17·5M	173	−67	(57)	01−*121*
−0·1±0·4	1·2±0·2	III (QSO) 18·5M	186	−70		
—			175	−67		
1·1±0·2	2·9±0·9	III	189	−71		02−*12*
1·1±0·4	2·5±0·8		165	−62		
0·9±0·1	4·5±0·8	III	176	−65		02−*13*
0·8±0·4	2·3±0·6	III	169	−62		
0·7±0·1	11·5±1·2	II E 18·5M P5	181	−66	(62)	(02−*15*)
1·2±0·1	4·6±1·0	III P13	182	−66	(62)	(02−*15*)
1·0±0·2	1·9±0·8		193	−68		02−*16*
0·8±0·4	2·3±0·6	III	190	−67		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
	h	m	s	°	′	s	″					
0216−03	02	16	43	−03	05·6	3·03	16·6				0·4	
0218−02	02	18	21	−02	10·5	3·04	16·5	74	26·0	12·4	3·9	1·7
0221−14	02	21	33	−14	24·9	2·87	16·3			2·4	0·4	
0222−00	02	22	33	−00	49·0	3·06	16·3			2·2	1·2	0·7
0224−17	02	24	41	−17	27·0	2·82	16·2			4·7	1·2	0·5
0230−11	02	30	14	−11	44·7	2·90	15·9			2·5	0·4	
0230−06	02	30	26	−06	59·2	2·97	15·9	15		4·3	1·4	0·8
0230−03	02	30	50	−03	33·7	3·02	15·9				0·5	
0230−10	02	30	56	−10	16·0	2·92	15·9	17		2·2	0·4	
0232−04	02	32	36	−04	15·5	3·01	15·8			3·2	1·5	0·8
0232−02	02	32	56	−02	32·7	3·04	15·7			2·3	0·9	
0233−16	02	33	21	−16	23·7	2·83	15·7			2·3	0·6	
0233−13	02	33	51	−13	22·5	2·88	15·7			2·0	0·6	
0235−19	02	35	25	−19	45·6	2·77	15·6	44		15·7	4·4	2·4
0237−11	02	37	00	−11	41·2	2·90	15·5			2·3	0·5	
0239−07	02	39	09	−07	01·3	2·97	15·4				0·8	
0240−00	02	40	07	−00	13·6	3·07	15·3	35	11·0	12·2	5·1	2·9
0241−05	02	41	59	−05	39·1	2·99	15·2			2·4	0·6	
0246−13	02	46	15	−13	35·3	2·86	15·0	15		2·1	0·8	0·6
0247−08	02	47	11	−08	11·2	2·94	14·9			2·2	0·5	0·3
0254−16	02	54	31	−16	45·7	2·80	14·5			2·5	0·4	<0·2
0257−05	02	57	32	−05	44·3	2·98	14·3			2·9	0·4	0·3
0300−00	03	00	40	−00	25·9	3·07	14·1			2·0	1·1	
0301−12	03	01	29	−12	15·9	2·87	14·1				0·7	
0302−16	03	02	55	−16	20·3	2·79	14·0			2·1	0·9	
0304−12	03	04	34	−12	17·6	2·86	13·9			5·5	1·5	0·8
0306−10	03	06	54	−10	49·8	2·89	13·7			2·8	0·9	
0309−13	03	09	24	−13	23·5	2·84	13·6			4·1	0·9	
0310−15	03	10	26	−15	01·4	2·81	13·5			6·7	2·0	1·2
0312−03	03	12	54	−03	27·2	3·01	13·4	20		4·0	1·2	0·8
0315−14	03	15	07	−14	42·9	2·81	13·2	10		2·6	0·7	
0317−02	03	17	38	−02	20·7	3·03	13·0				0·5	
0317−17	03	17	59	−17	13·3	2·76	13·0			2·5	0·9	
0321−10	03	21	34	−10	59·3	2·87	12·8				0·5	
0322−03	03	22	10	−03	35·1	3·01	12·7			3·9	0·9	0·6
0324−12	03	24	53	−12	41·7	2·84	12·6				0·8	
0327−16	03	27	43	−16	48·7	2·75	12·4	16		3·5	1·0	
0329−18	03	29	14	−18	43·4	2·71	12·3				0·5	
0329−11	03	29	19	−11	02·9	2·87	12·2				0·5	
0329−07	03	29	25	−07	22·5	2·94	12·2				0·6	
0331−01	03	31	42	−01	21·2	3·05	12·1	64	19·5	11·9	2·5	1·5
0332−05	03	32	09	−05	44·8	2·97	12·1			3·3	1·6	1·0
0332−18	03	32	47	−18	42·3	2·71	12·0				0·7	
0332−07	03	32	57	−07	08·0	2·94	12·0				0·6	
0336−01	03	36	59	−01	56·2	3·04	11·7			3·5	1·5	2·2

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
—			168	−58		
1·0±0·0	12·6±1·3	II E 19·5M	167	−57	63	02−07
1·3±0·4	2·2±0·9		187	−65		
0·7±0·3	2·7±0·6	II S 16·8M	167	−55		
1·1±0·2	4·6±1·1	III (QSO) 19M	194	−66		
1·3±0·4	2·3±0·9		185	−62		
0·8±0·1	3·9±0·7	III	177	−58		02−011
—		NRAO 107	173	−56		
1·2±0·2	2·2±0·9		182	−61		02−19
0·7±0·2	3·6±0·7	III (QSO) 17·7M	174	−56		
0·7±0·4	2·1±0·5	III	172	−55		
1·0±0·4	2·1±0·7		194	−63		
0·9±0·5	1·9±0·6		188	−62		
0·8±0·0	12·5±1·3	III P4	201	−65		02−110
1·1±0·4	2·1±0·7		187	−60		
—		III (QSO) 18·5M NRAO 110	180	−57		
0·6±0·0	10·8±1·1	I S 9·8M NGC 1068	172	−52	71	02−014
1·0±0·4	2·2±0·7		179	−55		
0·9±0·1	2·9±0·7	II E 19·5M	192	−59		02−114
1·0±0·3	2·0±0·8		184	−56		
1·3±0·4	2·3±0·9		199	−59		
1·2±0·3	2·5±1·0		184	−53		
0·4±0·4	1·8±0·4	II E 18·2M	178	−48		
—		III	194	−56		
0·6±0·4	1·9±0·5	III (QSO)	200	−57		
1·0±0·2	5·2±1·0	I S 15·8M	194	−55		
0·8±0·3	2·6±0·6	III	193	−54		
1·2±0·3	3·8±0·9	III	197	−54		
0·9±0·1	6·1±1·0	III	200	−55		
0·9±0·1	4·0±0·7	III	185	−48		03−01
0·9±0·2	2·3±0·9	III	200	−54		03−14
—			184	−47		
0·8±0·4	2·3±0·6	II E 18M	204	−54		
—			196	−51		
0·9±0·2	3·4±0·8	III	187	−46		
—			199	−51		
0·9±0·1	3·2±0·9	III (QSO) 17M	205	−52		03−15
—			208	−52		
—			197	−49		
—			193	−47		
1·1±0·0	10·3±1·2	II D 18·5M	186	−43	89	03−03
0·6±0·2	3·4±0·6	III	191	−46		
—		III	209	−52		
—			193	−46		
C		III (QSO) 17·5M CTA 26	188	−42		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
0339−04	03	39	40	−04	45·0	2·98	11·5	9		2·6	0·5	
0342−10	03	42	59	−10	58·4	2·86	11·3				0·4	
0344−11	03	44	43	−11	15·8	2·85	11·2	34		(4·4)	1·0	0·6
0346−04	03	46	16	−04	21·1	2·99	11·0	16		2·9	0·4	
0349−14	03	49	10	−14	38·3	2·78	10·8	44	(8·5)	11·6	2·9	(1·4)
0349−09	03	49	16	−09	12·8	2·89	10·8				0·6	0·5
0350−07	03	50	05	−07	20·2	2·93	10·8	25	15·5	9·9	3·1	1·5
0357−16	03	57	59	−16	18·8	2·74	10·2	18		5·4	1·8	1·0
0400−03	04	00	44	−03	08·4	3·01	10·0			3·1	0·8	0·4
0400−08	04	00	45	−08	56·4	2·89	10·0	(19)	(8·5)		0·4	
0401−08	04	01	03	−08	39·0	2·90	9·9	(19)		(4·6)	0·6	0·4
0403−13	04	03	14	−13	16·5	2·80	9·8			8·7	3·3	3·0
0405−05	04	05	01	−05	59·8	2·95	9·6				0·4	
0405−12	04	05	27	−12	19·5	2·82	9·6	31		9·3	2·8	2·5
0406−16	04	06	50	−16	46·3	2·72	9·5				0·6	
0406−18	04	06	52	−18	05·1	2·69	9·5			4·0	1·9	1·3
0409−01	04	09	49	−01	07·3	3·05	9·3	35	11·5	5·6	1·3	0·7
0410−02	04	10	16	−02	30·0	3·02	9·2				0·5	
0413−11	04	13	10	−11	20·9	2·83	9·0				0·5	
0414−06	04	14	40	−06	01·1	2·95	8·9		8·5	3·0	0·8	
0416−03	04	16	08	−03	05·9	3·01	8·8			3·9	0·9	
0418−05	04	18	22	−05	44·6	2·95	8·6			3·8	0·8	0·6
0420−01	04	20	43	−01	27·5	3·04	8·4			1·5	1·7	2·0
0420−08	04	20	48	−08	37·9	2·89	8·4			2·6	0·7	
0423−17	04	23	25	−17	06·9	2·70	8·2	14		2·1	0·6	
0423−12	04	23	56	−12	04·8	2·81	8·2	16		3·2	0·5	
0424−13	04	24	53	−13	09·6	2·79	8·1			(1·8)	1·0	
0429−17	04	29	42	−17	11·8	2·69	7·7				0·7	
0430−09	04	30	57	−09	04·6	2·88	7·6		12·0	2·9	0·4	
0431−02	04	31	24	−02	36·0	3·02	7·6			2·8	1·3	1·1
0431−13·5	04	31	49	−13	29·0	2·78	7·5	(38)				0·4
0431−13·3	04	31	55	−13	17·0	2·78	7·5	(38)		(7·7)	1·4	0·8
0436−07	04	36	00	−07	20·6	2·91	7·2				0·6	
0440−00	04	40	05	−00	23·3	3·06	6·8			2·9	3·2	4·4
0440−10	04	40	05	−10	14·6	2·85	6·8				0·5	
0442−00	04	42	57	−00	24·1	3·06	6·6				0·4	
0446−04	04	46	44	−04	33·7	2·97	6·3	(23)			0·4	
0446−17	04	46	52	−17	34·5	2·67	6·3				0·5	
0447−10	04	47	11	−10	03·2	2·85	6·3			3·5	0·6	
0448−04	04	48	30	−04	36·4	2·97	6·2	(23)		(5·0)	0·7	0·5
0449−17	04	49	08	−17	35·2	2·67	6·1			(4·6)	0·8	0·5
0453−00	04	53	14	−00	14·6	3·07	5·8	(12)		4·4	1·2	0·6
0454−11	04	54	00	−11	50·8	2·80	5·7	17		3·8	0·8	0·5
0456−04	04	56	29	−04	22·3	2·97	5·5				0·7	0·4
0457−15	04	57	53	−15	39·8	2·71	5·4				0·5	

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
1·0±0·2	2·0±0·9		192	−44		03−*04*
—			200	−46		
1·1±0·1	4·8±1·0	II 19·5M S_{408} incl. 0342−10	200	−46		03−*17*
1·2±0·2	2·3±0·9		192	−42		03−*05*
0·9±0·1	9·6±1·3	III QSO 16·2M P1 possibly ext.	206	−46	(95)	03−*19*
0·3±0·5	1·0±0·2		199	−44		
0·8±0·1	8·0±1·0	III QSO 17·5M	197	−43	94	03−*06*
0·8±0·1	4·8±0·8	III	209	−45		03−*111*
1·0±0·3	3·0±0·9		194	−38		
—			200	−41	(100)	(04−*02*)
1·1±0·1	3·1±0·9	III S_{408} incl. 0400−08	200	−41		(04−*02*)
0·5±0·1	7·1±0·9	III QSO 18M	206	−43		
—			198	−39		
C		III QSO 16M	205	−42		04−*12*
—			211	−43		
0·6±0·2	3·8±0·6	III	212	−44		
1·1±0·1	5·3±0·9	III–IV	193	−35	107	04−*06*
—			195	−36		
—			205	−40		
1·1±0·2	3·2±1·1	III	199	−37	110	
1·1±0·3	3·6±0·8	III NRAO 172	196	−35		
0·9±0·2	3·2±0·8	III	199	−36		
−0·2±0·3	1·3±0·2	III (QSO) 18M	195	−33		
1·0±0·4	2·4±0·7	III	203	−37		
1·0±0·2	2·3±0·9		213	−40		04−*18*
1·1±0·2	2·5±0·9		207	−38		04−*19*
—		III (QSO) 17·5M NRAO 178	209	−38		
—		III	214	−38		
1·5±0·3	3·0±1·2		205	−35	121	
0·4±0·2	2·4±0·5	III	198	−31		
—		I E 16·3M	210	−36		(04−*112*)
1·1±0·1	6·1±1·1	II E 18·8M S_{408} incl. 0431−13·5	210	−36		(04−*112*)
—			204	−33		
−0·4±0·2	2·1±0·3	III (QSO) 18·5M NRAO 190	197	−28		
—			207	−33		
—			198	−28		
—			202	−29		(04−*017*)
—			216	−35		
1·3±0·3	3·3±0·9		208	−32		
1·1±0·1	3·6±1·0	III S_{408} incl. 0446−04	203	−29		(04−*017*)
1·1±0·3	3·5±1·0	I E 14·6M S_{408} incl. 0446−17	216	−34		
0·9±0·1	3·9±0·8	III	199	−26		04−*020*
1·0±0·1	3·2±0·7	III	211	−31		04−*119*
0·9±0·5	2·3±0·5	II N 18M	203	−27		
—			215	−32		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
0458−02	04	58	41	−02	03·8	3·03	5·3			3·7	2·2	1·9
0459−17	04	59	17	−17	11·6	2·67	5·2				0·6	
0459−12	04	59	29	−12	10·1	2·79	5·2	14		3·0	0·8	0·5
0502−10	05	02	30	−10	19·5	2·84	5·0	20		4·8	1·4	0·8
0508−18	05	08	22	−18	42·9	2·63	4·5	41		4·9	0·4	
0508−07	05	08	37	−07	38·1	2·90	4·5			3·1	1·0	0·6
0510−04	05	10	18	−04	01·8	2·98	4·3			3·1	0·6	0·5
0513−13	05	13	04	−13	41·8	2·75	4·1	16		4·0	1·2	0·9
0514−16	05	14	13	−16	07·6	2·69	4·0				0·6	
0515−09	05	15	43	−09	40·2	2·85	3·8			2·8	0·6	
0519−06	05	19	19	−06	15·5	2·93	3·5			3·4	1·1	0·5
0522−03	05	22	06	−03	01·0	3·00	3·3	16			0·4	<0·2
0524−09	05	24	29	−09	22·8	2·85	3·1	12		3·6	0·6	
0524−10	05	24	47	−10	56·4	2·82	3·1				0·5	
0524−04	05	24	53	−04	37·2	2·97	3·1				0·5	0·2
0525−11	05	25	30	−11	11·4	2·81	3·0			(4·8)	0·7	0·5
0532−05	05	32	51	−05	25·0	2·95	2·4	(69)	45·0	(213)	(289)	(49·0)
0533−12	05	33	13	−12	04·5	2·79	2·3	15		4·9	1·5	0·9
0534−03	05	34	26	−03	10·6	3·00	2·2		9·5	4·6	1·0	0·4
0536−13	05	36	13	−13	16·2	2·76	2·1			3·8	1·3	0·7
0538−02	05	38	34	−02	36·1	3·01	1·9	(24)		(14·0)	1·9	(0·5)
0539−01	05	39	11	−01	55·7	3·03	1·8			45·0	52·5	53·2
0539−12	05	39	22	−12	12·1	2·79	1·8				0·8	0·4
0542−01	05	42	20	−01	12·1	3·05	1·5				0·4	
0544−17	05	44	13	−17	27·7	2·65	1·4	17		3·8	0·8	
0549−10	05	49	10	−10	23·7	2·83	0·9	17		3·0	1·2	0·6
0551−17	05	51	36	−17	11·6	2·66	0·7	9		2·3	1·0	
0557−16	05	57	30	−16	51·8	2·67	0·2	13		2·3	0·5	
0600−13	06	00	47	−13	09·5	2·76	−0·1			3·7	1·2	0·7
0601−17	06	01	42	−17	15·5	2·66	−0·1				0·4	
0603−17	06	03	46	−17	53·7	2·64	−0·3	15		2·7	0·5	
0605−06	06	05	19	−06	22·7	2·92	−0·5			3·0	4·5	5·6
0605−07	06	05	35	−07	27·5	2·90	−0·5	23		(4·5)	0·8	0·3
0605−08	06	05	36	−08	34·7	2·87	−0·5			3·5	2·5	2·7
0606−14	06	06	45	−14	27·9	2·73	−0·6	14			0·4	
0607−15	06	07	26	−15	42·3	2·70	−0·6			2·5	2·4	1·6
0607−07	06	07	34	−07	24·0	2·90	−0·7				0·6	
0612−03	06	12	30	−03	30·5	2·99	−1·1				0·7	
0614−14	06	14	22	−14	19·3	2·73	−1·3				0·8	
0615−11	06	15	54	−11	05·3	2·81	−1·4				0·6	
0618−16	06	18	56	−16	16·1	2·68	−1·7	(21)		(3·3)	0·4	
0621−13	06	21	01	−13	21·1	2·76	−1·8	10		2·1	0·4	
0630−18	06	30	54	−18	00·0	2·64	−2·7				0·5	
0636−16	06	36	20	−16	47·3	2·67	−3·2	18		3·8	1·0	
0736−01	07	36	02	−01	57·3	3·03	−8·2	19		4·1	1·1	0·7

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
0·3±0·2	3·3±0·5	III (QSO) 20M	201	−25		
—			217	−32		
0·9±0·1	2·8±0·7	III	212	−30		04−*120*
0·9±0·1	4·4±0·8	I db. 15·4M	210	−28		05−*11*
1·5±0·1	3·8±1·0		220	−30		05−*13*
0·8±0·2	2·9±0·7	II D 19M	208	−26		
0·9±0·3	2·5±0·8	III	205	−24		
0·8±0·1	3·8±0·7	III	215	−27		05−*15*
—			217	−28		
1·1±0·4	2·6±0·8		211	−25		
1·0±0·2	3·5±0·9	III–IV	208	−23		
1·3±0·2	1·8±0·6		205	−21		05−*07*
1·0±0·2	2·6±0·9		212	−23		05−*09*
—			213	−24		
1·6±0·7	3·8±1·2		207	−21		
1·1±0·3	3·4±1·0	III–IV S_{408} incl. 0524−10	214	−24		
—		HII Orion nebula	209	−19	145	05−*011*
0·8±0·1	4·1±0·7	II N 17·8M	215	−22		05−*114*
1·2±0·1	4·1±0·9	III–IV	207	−18	146	
0·9±0·2	3·8±0·8	III	217	−22		
—		S_{408} incl. 0539−01 ext.	207	−17		05−*012*
−0·2±0·1	41·7±3·2	HII	207	−16	147·1	
1·1±0·5	3·2±0·7	II E 18·5M	216	−21		
—			206	−15		
1·0±0·1	3·1±0·9	III	222	−22		05−*120*
0·9±0·1	3·5±0·7	III–IV	216	−18		05−*122*
0·7±0·2	2·4±0·8	III	222	−20		05−*123*
1·1±0·2	2·1±0·9		223	−19		05−*126*
0·8±0·2	3·6±0·8	II db. 18M	220	−17		
—			224	−18		
1·1±0·2	2·3±0·9		224	−18		06−*12*
−0·4±0·2	2·8±0·3	HII	214	−13		
1·2±0·1	3·3±0·8	III–IV S_{408} incl. 0607−07	215	−13		06−*02*
0·0±0·2	2·7±0·4	III–IV	216	−14		
1·2±0·2	1·9±0·6		221	−16		06−*13*
0·4±0·2	3·7±0·6	III	223	−16		
—			215	−13		
—		III–IV	212	−10		
—		III–IV	222	−14		
—			219	−12		
—			224	−14		06−*15*
1·0±0·2	1·8±0·9		222	−12		06−*16*
—			227	−12		
1·0±0·1	3·4±1·0	III–IV	227	−10		06−*110*
0·9±0·1	3·8±0·7	III–IV	220	10		07−*08*

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
0738−00	07	38	30	−00	58·8	3·05	−8·4	15		2·7	0·6	
0747−00	07	47	02	−00	02·7	3·07	−9·0				0·7	
0749−06	07	49	09	−06	52·4	2·93	−9·2	7		2·5	0·4	
0752−02·7	07	52	15	−02	39·9	3·02	−9·4				0·5	
0752−02·3	07	52	27	−02	15·8	3·03	−9·4			(4·0)	0·6	
0800−09	08	00	15	−09	49·8	2·87	−10·0			6·1	1·7	(1·1)
0801−12	08	01	55	−12	34·0	2·82	−10·2			3·1	0·4	
0803−00	08	03	05	−00	49·7	3·06	−10·3	15	(10·0)	5·8	1·2	0·7
0804−05	08	04	38	−05	32·9	2·96	−10·4			3·6	0·6	
0805−07	08	05	50	−07	42·0	2·92	−10·5			3·4	1·2	1·2
0806−10	08	06	31	−10	19·1	2·87	−10·5	40	21·0	13·7	3·4	2·3
0809−05·2	08	09	33	−05	10·9	2·97	−10·7				0·6	
0809−05·7	08	09	35	−05	40·8	2·96	−10·7	22		4·8	1·3	0·8
0811−11	08	11	24	−11	21·8	2·85	−10·9			2·9	0·7	
0812−16	08	12	44	−16	04·2	2·75	−11·0				0·6	
0812−02	08	12	56	−02	59·3	3·01	−11·0	35		(9·4)	1·6	0·9
0815−02	08	15	59	−02	00·1	3·03	−11·2				0·4	
0817−11	08	17	20	−11	09·2	2·86	−11·3	9		2·0	0·3	
0820−04	08	20	01	−04	47·3	2·98	−11·5				0·6	
0821−15	08	21	31	−15	20·2	2·77	−11·6				0·5	
0822−09	08	22	08	−09	41·1	2·89	−11·6	(20)		3·2	0·5	
0826−18	08	26	49	−18	20·6	2·72	−12·0				0·5	
0827−18	08	27	11	−18	00·6	2·72	−12·0				0·4	
0828−03	08	28	13	−03	30·2	3·01	−12·1			2·7	0·8	
0830−05	08	30	13	−05	22·9	2·97	−12·2				0·7	
0832−07	08	32	36	−07	36·0	2·93	−12·4	13		3·5	0·4	
0832−05	08	32	40	−05	17·2	2·98	−12·4	13			0·5	
0833−01	08	33	03	−01	41·3	3·04	−12·4			2·2	1·1	
0833−13	08	33	47	−13	26·7	2·82	−12·5				0·7	
0834−20	08	34	25	−20	06·6	2·69	−12·5				3·5	3·0
0834−19	08	34	56	−19	41·7	2·70	−12·5			(12·0)	4·6	2·5
0836−00	08	36	26	−00	29·7	3·06	−12·6				0·6	
0837−12	08	37	27	−12	04·1	2·85	−12·7			5·7	1·8	1·0
0845−17	08	45	22	−17	44·2	2·75	−13·2	9		2·1	0·7	
0850−03	08	50	56	−03	29·3	3·01	−13·6			4·3	1·2	0·8
0851−14	08	51	28	−14	16·7	2·82	−13·6	24		6·1	1·6	0·9
0852−07	08	52	39	−07	03·1	2·95	−13·7		8·5	3·2	1·2	0·7
0854−03	08	54	42	−03	29·0	3·01	−13·8			3·0	0·9	
0855−19	08	55	48	−19	39·3	2·73	−13·9	17		3·5	1·3	1·0
0859−14	08	59	55	−14	04·0	2·84	−14·2	12		5·4	3·1	2·6
0859−05	08	59	58	−05	04·4	2·99	−14·2	18		5·0	1·0	0·6
0902−13	09	02	13	−13	20·7	2·85	−14·3			3·0	0·5	
0902−12	09	02	17	−12	19·0	2·87	−14·3				0·4	
0902−19	09	02	26	−19	45·3	2·74	−14·3			2·2	0·6	0·3
0905−12	09	05	22	−12	31·0	2·87	−14·5				0·4	

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
1·1±0·2	2·5±0·9		220	11		07—*09*
—		II db. 19M	220	13		
1·0±0·3	1·7±0·9		226	10		07—*011*
—			223	13		
—		S_{408} incl. 0752—02·7	222	13		
1·0±0·2	5·7±0·8	II E 18·5M ext.	230	11		
1·5±0·4	2·9±1·0		233	10		
0·9±0·1	4·1±0·8	I E 15·9M	223	16	(193)	08—*02*
1·3±0·3	3·4±0·9		227	14		
0·4±0·2	2·4±0·5	III–IV	229	13		
0·8±0·0	10·7±1·1	II E 18·8M P1	231	12	195	08—*14*
—			227	15		
0·9±0·1	4·5±0·8	III (QSO) 18M	228	15		08—*04*
1·1±0·3	2·7±0·7	III	233	12		
—			237	10		
1·0±0·1	6·3±1·0	II D 18·5M S_{408} incl. uncat. source	226	17	196·1	08—*05*
—			225	18		
1·2±0·3	1·4±0·8		234	14		08—*17*
—			228	18		
—			238	12		
1·2±0·2	2·7±1·2		233	16		08—*06*
—			241	12		
—			241	12		
0·9±0·4	2·5±0·7		228	20		
—			230	20		
1·1±0·2	2·4±0·9		233	19		08—*010*
1·1±0·2	2·1±0·6		230	20		08—*09*
0·5±0·4	2·0±0·5	I E 14·2M	227	22		
—		II 18·3M	238	16		
0·2±0·2	4·7±0·4	III (QSO) 19M	244	12		
0·8±0·2	12·8±1·6	III S_{408} incl. 0834—20	243	13		
—			227	23		
0·9±0·2	5·4±0·9	III (QSO) 17·8M NRAO 299	237	17		
0·8±0·2	2·1±0·8	III	243	16		08—*113*
0·8±0·2	3·7±0·8	III	231	25		
0·9±0·1	5·2±0·8	III	241	19		08—*116*
0·9±0·1	3·7±0·7	III	235	23	209	
0·9±0·3	2·8±0·7	III (QSO) 18·5M	232	26		
0·8±0·1	3·9±0·7	III (QSO) 19·5M	246	17		08—*119*
0·4±0·1	5·2±0·6	III QSO 17·8M	242	21		09—*11*
1·0±0·1	3·8±0·8	III	234	26		08—*015*
1·3±0·4	2·8±0·9		242	22		
—			241	22		
1·0±0·3	2·2±0·8		247	18		
—			242	23		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
0912−13	09	12	15	−13	18·0	2·86	−14·9				0·6	
0912−16	09	12	53	−16	18·9	2·81	−14·9			2·7	0·8	0·4
0915−11	09	15	41	−11	53·1	2·89	−15·1	690	210	132	37·4	23·5
0919−14	09	19	49	−14	16·2	2·85	−15·3			4·8	2·0	1·1
0920−07	09	20	19	−07	02·1	2·97	−15·4			3·7	1·0	0·4
0925−08	09	25	13	−08	50·2	2·94	−15·6				0·4	
0928−17	09	28	24	−17	56·4	2·81	−15·8				0·5	
0929−18	09	29	05	−18	17·3	2·80	−15·9				0·6	
0938−16	09	38	51	−16	15·2	2·85	−16·4	10		3·1	0·4	
0938−01	09	38	56	−01	28·7	3·05	−16·4	12		2·0	0·7	
0939−11	09	39	30	−11	33·7	2·92	−16·4	(25)	14·5	3·8	0·6	
0941−08	09	41	09	−08	05·7	2·96	−16·5			6·6	2·4	1·8
0942−19	09	42	53	−19	39·5	2·80	−16·6	12		2·8	0·8	
0944−13	09	44	58	−13	32·5	2·89	−16·7			3·2	0·6	
0946−18	09	46	25	−18	15·5	2·83	−16·7	12		3·5	0·7	
0951−19	09	51	26	−19	33·4	2·82	−17·0				0·8	0·4
0954−13	09	54	30	−13	30·5	2·91	−17·1	14		2·7	1·0	0·4
0955−01	09	55	56	−01	25·9	3·06	−17·2			2·3	1·2	0·7
1005−09	10	05	29	−09	44·3	2·96	−17·6	17		3·5	0·4	
1006−11	10	06	46	−11	54·9	2·94	−17·6	(16)		2·6	0·6	
1007−07	10	07	38	−07	14·6	2·99	−17·7	17		2·9	0·4	
1007−03	10	07	41	−03	48·4	3·03	−17·7	10		(1·6)	0·4	
1008−01	10	08	23	−01	46·5	3·05	−17·7			2·7	1·0	
1017−02	10	17	26	−02	35·7	3·05	−18·1			2·2	0·4	
1021−00	10	21	56	−00	36·8	3·07	−18·2			(1·2)	0·9	
1022−02	10	22	59	−02	02·5	3·05	−18·3				0·4	
1025−07	10	25	00	−07	03·3	3·01	−18·3	10		2·4	0·5	
1026−05	10	26	55	−05	39·2	3·02	−18·4	17		2·8	0·5	
1027−14	10	27	07	−14	53·2	2·93	−18·4				0·6	
1028−09	10	28	20	−09	10·7	2·99	−18·5			3·9	0·8	
1029−15	10	29	09	−15	06·3	2·93	−18·5				0·5	
1031−11	10	31	08	−11	55·1	2·97	−18·6			3·3	1·8	1·2
1032−19	10	32	36	−19	56·1	2·89	−18·6			0·6		
1036−15	10	36	38	−15	27·8	2·94	−18·7			0·6		
1044−00	10	44	48	−00	48·4	3·07	−19·0	14		(1·8)	0·6	
1045−19	10	45	34	−19	17·2	2·92	−19·0				0·6	
1045−18	10	45	36	−18	54·2	2·93	−19·0			(5·6)	1·1	
1046−02	10	46	53	−02	38·8	3·05	−19·0	20		3·2	0·9	
1049−09	10	49	00	−09	02·4	3·01	−19·1	9	(8·5)	5·8	1·7	1·2
1049−18	10	49	54	−18	30·2	2·94	−19·1				0·5	
1059−01	10	59	31	−01	00·1	3·07	−19·3	23	14·5	8·1	2·8	1·4
1110−01	11	10	59	−01	56·8	3·06	−19·6	18	8·0	4·6	1·4	0·9
1112−10	11	12	38	−10	09·7	3·02	−19·6				0·5	
1115−07	11	15	43	−07	27·0	3·04	−19·7			2·6	0·7	
1115−12	11	15	43	−12	15·9	3·02	−19·7				0·8	

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
—		III	244	24		
1·0±0·3	2·7±0·8	III	246	22		
0·9±0·0	123·5±7·9	I D 14·8M Hydra A	243	25	218	09−14
0·8±0·2	4·8±0·8	III	246	24		
1·1±0·2	3·8±1·0	III (QSO) 20M	239	29		
—			242	29		
—			250	24		
—			251	23		
1·0±0·2	2·1±0·9		251	27		09−18
0·9±0·2	2·3±0·9		237	36		09−07
1·4±0·1	3·7±1·1		247	30	224	09−19
0·6±0·1	5·7±0·8	II D 19M	244	32		
0·9±0·2	2·6±0·9	III	254	25		09−110
1·2±0·3	3·0±0·9		250	29		
1·0±0·2	2·6±0·9	III	254	26		09−112
1·1±0·5	3·2±0·7	III (QSO) 19M	256	26		
0·9±0·1	2·9±0·7	III	251	31		09−114
0·6±0·3	2·5±0·6	III	241	39		
1·2±0·2	2·5±0·9		250	36		10−01
1·1±0·3	2·5±1·1		253	34		10−12
1·2±0·2	2·3±0·9		249	38		10−03
1·0±0·2	1·7±0·9		245	40		10−02
0·7±0·3	2·5±0·6	II	243	42		
1·2±0·5	2·1±0·8		246	43		
—		III (QSO) 18·5M	245	45		
—			247	44		
1·0±0·2	2·0±0·9		252	41		10−010
1·2±0·2	2·4±0·9		252	42		10−011
—			259	35		
1·2±0·3	3·6±0·9	III	255	40		
—			260	36		
0·5±0·2	3·4±0·6	III	258	38		
—			264	32		
—			262	36		
1·0±0·2	2·4±1·0		251	49		10−017
—			267	35		
—		III S_{408} incl. 1045−19, 1049−18	267	35		
1·0±0·1	3·3±1·0	III	254	48		10−018
0·7±0·1	4·3±0·7	III (QSO) 17·5M	260	43	(246)	10−019
—			268	36		
0·8±0·1	7·0±0·9	III	256	51	249	10−021
0·8±0·1	4·2±0·7	III	260	52	253	11−05
—			268	46		
1·0±0·4	2·4±0·7	III	267	48		
—		III	270	44		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
1116−02	11	16	51	−02	46·7	3·06	−19·7	31	15·0	10·2	1·6	0·6
1118−05	11	18	55	−05	39·6	3·05	−19·7			(0·9)	1·0	0·6
1123−04	11	23	07	−04	23·4	3·06	−19·8				0·4	
1127−14	11	27	36	−14	32·9	3·02	−19·8			5·0	6·2	6·5
1131−19	11	31	08	−19	37·9	3·01	−19·9	32		4·6	1·2	0·5
1131−17	11	31	51	−17	12·1	3·02	−19·9	(19)		4·7	1·5	0·9
1133−17	11	33	28	−17	17·0	3·02	−19·9	(19)		(1·4)	1·0	
1135−12	11	35	15	−12	47·9	3·04	−19·9			4·5	0·8	
1136−13	11	36	38	−13	34·1	3·04	−19·9	44		12·8	4·1	2·8
1138−07	11	38	58	−07	52·5	3·06	−20·0				0·6	
1140−11	11	40	03	−11	26·1	3·05	−20·0	14		5·8	1·3	0·6
1142−00	11	42	23	−00	15·1	3·07	−20·0	24		2·9	0·9	
1146−11	11	46	36	−11	48·1	3·06	−20·0	17		4·2	1·4	0·7
1148−00	11	48	10	−00	07·2	3·07	−20·0			3·5	2·9	2·6
1150−10	11	50	15	−10	11·6	3·06	−20·0	8		2·9	0·5	
1150−04	11	50	45	−04	26·6	3·07	−20·0				0·6	
1158−05	11	58	57	−05	59·3	3·07	−20·0				0·8	
1159−10	11	59	39	−10	24·1	3·07	−20·0	16		4·7	1·6	0·9
1159−02	11	59	55	−02	23·2	3·07	−20·0				0·7	
1201−04·5	12	01	28	−04	28·5	3·07	−20·0	12		2·8	0·6	
1201−04·1	12	01	29	−04	06·2	3·07	−20·0			3·5	2·0	1·3
1203−06	12	03	55	−06	58·3	3·08	−20·0			(3·4)	0·7	
1204−12	12	04	05	−12	37·8	3·08	−20·0	(20)			0·8	
1205−16	12	05	07	−16	46·2	3·08	−20·0				0·7	
1209−19	12	09	13	−19	15·2	3·09	−20·0	11		(3·0)	0·7	
1212−00	12	12	14	−00	43·2	3·07	−20·0	15		3·1	1·0	
1213−17	12	13	12	−17	15·1	3·10	−20·0			3·2	1·5	1·4
1216−10	12	16	01	−10	02·9	3·09	−20·0	23		7·7	2·4	1·5
1216−04	12	16	25	−04	40·9	3·08	−20·0	16		(3·0)	0·5	
1216−06	12	16	27	−06	58·3	3·08	−20·0	9		3·4	1·1	
1218−02	12	18	49	−02	28·2	3·08	−20·0				0·8	
1221−10	12	21	18	−10	56·9	3·10	−20·0				0·4	
1224−04	12	24	13	−04	13·6	3·08	−19·9			3·8	0·4	
1225−02	12	25	14	−02	21·1	3·08	−19·9				0·5	
1229−02	12	29	27	−02	07·6	3·08	−19·9			4·6	1·7	1·5
1229−01	12	29	29	−01	19·7	3·08	−19·9			3·1	0·7	
1230−10	12	30	38	−10	09·3	3·10	−19·9				0·6	
1235−16	12	35	12	−16	41·9	3·13	−19·8				0·6	
1237−10	12	37	06	−10	07·2	3·11	−19·8			(1·6)	1·8	1·2
1237−17	12	37	45	−17	01·2	3·14	−19·8				0·8	
1239−04	12	39	45	−04	29·6	3·09	−19·7	25	18·0	11·5	3·4	1·9
1239−08	12	39	57	−08	40·9	3·11	−19·7			2·9	0·5	
1242−04	12	42	16	−04	27·4	3·09	−19·7				0·4	
1244−11	12	44	26	−11	14·0	3·12	−19·7			4·2	0·9	
1245−19	12	45	45	−19	43·0	3·17	−19·6			7·9	5·1	3·5

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
C		III scint.	263	53	255	11—*08*
0·7±0·5	2·4±0·6	III	266	50		
—			267	52		
−0·2±0·1	5·1±0·6	III (QSO) 18M	275	44		
1·1±0·1	4·6±0·9	III	279	39		11—*16*
0·8±0·1	4·4±0·8	III	278	42		(11—*17*)
—		III (QSO) 19·5M	279	42		(11—*17*)
1·3±0·3	4·2±1·0	III	277	46		
0·8±0·0	11·4±1·2	III QSO 17·8M	278	45		11—*18*
—			275	51		
0·9±0·1	4·1±0·8	III	277	48		11—*111*
1·1±0·1	3·5±1·0	III	270	58		11—*016*
0·9±0·1	4·0±0·7	II E 18·3M	280	48		11—*113*
0·1±0·2	3·5±0·5	III (QSO) 17·7M	273	59		
0·9±0·2	2·0±0·9		280	50		11—*114*
—			277	55		
—		II E 17·9M	281	54		
0·8±0·1	4·2±0·7	II E 18·5M	284	50		11—*119*
—		II E 18·2M	279	58		
1·0±0·2	2·3±0·9		281	56		12—*01*
0·5±0·2	3·8±0·6	II db. 18M	281	56		
—		III S_{408} incl. uncat. source	284	54		
—		III	286	49		12—*13*
—		III	288	45		
0·9±0·2	2·3±0·9	III S_{408} incl. uncat. source	290	42		12—*15*
0·9±0·1	3·1±0·9	III	284	61		12—*07*
0·3±0·2	2·5±0·5	III–IV	291	45		
0·8±0·1	6·5±0·9	III	290	52		12—*09*
1·1±0·2	2·4±1·0		288	57		12—*08*
0·7±0·2	2·8±0·8	III	289	55		12—*010*
—		III	288	59		
—			292	51		
1·7±0·4	3·6±1·1		291	58		
—			291	60		
0·5±0·2	3·7±0·6	III (QSO) 18M	293	60		
1·1±0·3	2·9±0·8	III	293	61		
—			296	52		
—			298	46		
0·6±0·3	3·5±0·7	III QSO 18·2M	298	52		
—		II E 17·5M	299	45		
0·8±0·0	8·9±1·0	III	299	58	275	12—*013*
1·3±0·4	2·7±0·9		299	54		
—			300	58		
1·2±0·3	3·9±0·9	II 19M	301	51		
0·4±0·1	8·0±0·9	III P1	302	43		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
1246−05	12	46	43	−05	54·6	3·10	−19·6	17		2·9	0·4	
1247−19	12	47	41	−19	29·7	3·17	−19·6			4·3	1·2	0·7
1250−10	12	50	15	−10	12·3	3·13	−19·6			4·7	0·9	
1251−18	12	51	26	−18	29·3	3·17	−19·5			4·2	0·9	
1252−12	12	52	00	−12	17·1	3·14	−19·5	53	42·0	17·6	6·8	4·5
1253−05	12	53	35	−05	31·2	3·10	−19·5	37	20·5	13·5	10·4	11·2
1254−08	12	54	47	−08	22·2	3·12	−19·5			3·0	0·9	
1256−17	12	56	17	−17	34·1	3·18	−19·4	(14)			0·8	
1306−09	13	06	01	−09	34·5	3·14	−19·2	19		10·0	4·4	2·8
1307−00·1	13	07	14	−00	03·7	3·07	−19·2	(25)		2·7	1·5	0·7
1307−00·7	13	07	51	−00	43·4	3·08	−19·2	(25)			0·7	
1308−16	13	08	55	−16	15·9	3·19	−19·1				0·5	
1311−12	13	11	06	−12	15·0	3·16	−19·1	9			0·4	
1312−18	13	12	24	−18	42·6	3·21	−19·1	22		(6·4)	1·2	0·6
1313−12	13	13	46	−12	11·0	3·16	−19·0			(4·1)	1·2	0·6
1314−18	13	14	04	−18	43·2	3·22	−19·0				0·6	
1317−00	13	17	04	−00	34·2	3·08	−18·9	13		5·4	1·8	(1·0)
1320−11	13	20	40	−11	52·0	3·17	−18·8			3·2	0·6	
1325−01	13	25	03	−01	47·2	3·09	−18·7			3·4	1·1	
1328−05	13	28	49	−05	29·8	3·12	−18·6				0·7	0·4
1330−14	13	30	37	−14	20·8	3·20	−18·5	13		4·1	0·8	
1331−09	13	31	14	−09	52·5	3·16	−18·5	18		(6·7)	(1·6)	0·6
1334−17	13	34	56	−17	56·7	3·25	−18·3	11		3·9	1·7	0·9
1335−06	13	35	31	−06	11·9	3·13	−18·3	35		10·1	3·2	1·9
1339−12	13	39	27	−12	09·0	3·19	−18·2			3·1	0·9	
1340−17	13	40	49	−17	34·3	3·25	−18·1			1·9	1·0	
1342−00	13	42	59	−00	42·1	3·08	−18·1			3·3	0·9	
1344−07	13	44	23	−07	48·5	3·15	−18·0			7·1	2·0	1·1
1344−11	13	44	39	−11	21·1	3·19	−18·0			4·3	0·4	
1348−12	13	48	09	−12	57·4	3·21	−17·9			4·2	1·3	0·6
1349−05	13	49	01	−05	33·4	3·13	−17·8	12		4·4	1·1	
1349−01	13	49	54	−01	40·0	3·09	−17·8				0·6	
1354−13	13	54	19	−13	51·6	3·23	−17·6			2·6	1·2	0·7
1354−17	13	54	23	−17	29·6	3·27	−17·6	(18)		4·2	1·5	(1·4)
1358−11	13	58	58	−11	22·0	3·21	−17·4	13		5·0	2·0	1·0
1359−14	13	59	22	−14	55·8	3·25	−17·4	(15)		(1·4)	0·8	
1401−05	14	01	16	−05	11·6	3·13	−17·3			3·4	0·6	0·3
1401−04	14	01	25	−04	23·4	3·12	−17·3			2·8	1·1	
1403−02	14	03	34	−02	28·3	3·10	−17·2	(12)		1·8	1·0	
1404−01	14	04	15	−01	40·1	3·09	−17·2			3·2	1·2	0·6
1410−06	14	10	58	−06	58·2	3·16	−16·9			2·3	1·1	
1411−05	14	11	11	−05	45·5	3·15	−16·8			3·7	1·3	0·6
1412−10	14	12	31	−10	43·8	3·21	−16·8			3·0	0·6	
1412−14	14	12	44	−14	50·2	3·27	−16·8			2·7	0·9	
1413−06	14	13	15	−06	52·8	3·16	−16·7				0·4	

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
1·2±0·2	2·3±0·9		302	57		12—*06*
0·9±0·2	3·9±0·9	II D 19M	303	43		
1·3±0·3	4·4±0·9	III	304	52		
1·2±0·3	3·9±0·9	III	304	44		
0·7±0·0	16·8±1·5	I db. 13·2M NGC 4782/3 P5	304	50	278	12—*118*
C		III QSO 17·8M	305	57	279	12—*020*
0·9±0·3	2·8±0·7	II D 18·5M	305	54		
—		III (QSO) 18·5M	305	45		12—*119*
0·6±0·1	8·5±0·9	II D 18·5M P1	310	53		13—*02*
0·9±0·1	4·4±0·8	I E 15·6M	313	62		(13—*03*)
—		I E 16·5M	313	62		(13—*03*)
—			310	46		
1·0±0·2	1·6±0·6		311	50		13—*13*
1·0±0·1	4·3±0·9	III S_{408} incl. 1314—18, uncat. sources	311	44		13—*14*
1·0±0·3	4·1±1·0	III S_{408} incl. 1311—12	312	50		
—			311	43		
0·7±0·1	4·4±0·8	III ext.	318	61		13—*08*
1·2±0·3	3·0±0·9		315	50		
0·9±0·3	3·1±0·7	II D 18·3M	321	60		
0·9±0·5	2·3±0·5	II D 18·5M	321	56		
1·0±0·2	3·0±0·9	III	318	47		13—*15*
0·9±0·1	4·1±1·0	III S_{408}, S_{1410} incl. uncat. source	320	51		13—*16*
0·7±0·1	3·7±0·6	II 19·5M scint.	318	43		13—*18*
0·8±0·1	8·9±1·0	III QSO 17·7M	323	55		13—*011*
0·9±0·3	2·9±0·7	III	322	49		
0·5±0·4	1·7±0·4	III	320	43		
1·0±0·3	3·1±0·7	III (QSO) 17·7M	330	59		
0·9±0·1	6·6±1·1	III	326	52		
1·9±0·4	4·1±1·3		324	49		
1·0±0·2	4·3±0·9	III	324	47		
0·8±0·2	3·3±0·9	III	329	54		13—*015*
—			332	57		
0·7±0·3	2·9±0·7	III	326	46		
0·8±0·2	4·1±1·0	III ext.	324	42		13—*115*
0·7±0·1	4·4±0·7	I E 15·0M	329	48		13—*117*
—		III	327	44		13—*118*
1·3±0·3	3·2±1·1	III	334	53		
0·7±0·3	2·6±0·6	III	335	54		
0·8±0·3	2·5±0·9	III	337	55		(14—*01*)
0·9±0·2	3·3±0·8	III QSO 19·5M	338	56		
0·5±0·4	2·1±0·5	III	336	50		
0·9±0·2	4·0±0·9	III	337	51		
1·2±0·4	2·8±0·8		334	47		
0·8±0·3	2·5±0·6	III	331	43		
—			337	50		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
1414−04	14	14	33	−04	14·6	3·13	−16·7			3·6	0·6	
1414−03	14	14	47	−03	47·1	3·12	−16·7	(24)	14·5	5·0	1·7	1·0
1416−15	14	16	14	−15	41·9	3·28	−16·6	(22)		(5·1)	1·7	1·2
1417−19	14	17	02	−19	15·0	3·34	−16·6	11		5·1	1·8	1·1
1417−14	14	17	09	−14	09·1	3·26	−16·6				0·6	
1418−19	14	18	34	−19	18·2	3·34	−16·5				0·5	
1420−08	14	20	24	−08	59·1	3·19	−16·4			(4·5)	1·0	
1420−18	14	20	53	−18	04·0	3·32	−16·4	9		2·5	1·2	0·6
1424−11	14	24	55	−11	50·9	3·24	−16·2	22		4·4	1·4	0·6
1425−01	14	25	56	−01	10·6	3·09	−16·1	25		(10·5)	3·0	1·7
1427−00	14	27	16	−00	59·0	3·09	−16·0				0·5	
1428−03	14	28	15	−03	22·6	3·12	−16·0	16		3·6	0·9	
1433−04	14	33	03	−04	00·5	3·13	−15·7				0·8	
1433−05	14	33	11	−05	03·6	3·15	−15·7				0·6	
1436−07	14	36	07	−07	00·9	3·18	−15·6			4·4	1·0	
1436−16	14	36	42	−16	46·2	3·33	−15·5	11		5·4	1·9	1·0
1440−01	14	40	34	−01	05·7	3·09	−15·3				0·5	
1445−16	14	45	30	−16	08·0	3·33	−15·0			3·0	1·2	1·2
1449−13	14	49	54	−13	00·4	3·28	−14·8	19		(8·4)	1·3	0·8
1451−19	14	51	35	−19	12·4	3·39	−14·7			4·3	0·9	
1452−04	14	52	26	−04	08·8	3·14	−14·6	22		5·0	1·8	1·0
1452−05	14	52	32	−05	26·4	3·16	−14·6			2·4	1·0	
1453−10	14	53	12	−10	56·8	3·25	−14·6	(41)		10·2	3·7	2·5
1454−06	14	54	04	−06	05·5	3·17	−14·5	16			1·2	0·9
1455−06	14	55	19	−06	01·3	3·17	−14·5				0·8	
1457−17	14	57	06	−17	59·3	3·38	−14·4				0·4	
1500−14	15	00	51	−14	47·0	3·32	−14·1	13		4·0	0·7	
1504−16·4	15	04	06	−16	24·8	3·36	−13·9	10		(0·7)	0·7	
1504−16·7	15	04	17	−16	41·0	3·36	−13·9			4·3	2·7	2·3
1506−07	15	06	38	−07	20·1	3·20	−13·8			(3·5)	0·4	
1508−07	15	08	10	−07	23·2	3·20	−13·7			(3·2)	0·5	
1508−05	15	08	13	−05	31·8	3·17	−13·7	8		8·9	3·9	2·5
1509−12	15	09	42	−12	15·2	3·29	−13·6			2·6	0·7	
1510−08	15	10	09	−08	54·9	3·23	−13·5			3·0	3·0	3·0
1514−16	15	14	37	−16	30·8	3·37	−13·2			3·2	1·6	(0·7)
1520−04	15	20	05	−04	53·5	3·16	−12·9	14		4·6	1·1	0·7
1522−18	15	22	25	−18	51·7	3·43	−12·7			3·3	0·9	
1523−01	15	23	50	−01	43·4	3·10	−12·6				0·5	
1524−13	15	24	12	−13	40·7	3·33	−12·6			6·0	2·4	1·7
1527−20	15	27	28	−20	02·7	3·46	−12·4				0·6	
1534−12	15	34	36	−12	49·5	3·32	−11·9			3·4	0·9	
1537−14	15	37	46	−14	43·6	3·36	−11·7			(5·3)	0·5	
1537−05	15	37	48	−05	04·1	3·17	−11·7			3·0	1·0	
1539−09	15	39	26	−09	18·3	3·25	−11·5			2·4	1·2	1·0
1553−06	15	53	33	−06	14·1	3·20	−10·5			3·3	1·1	

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
1·3±0·3	3·4±0·9		339	52		
0·9±0·1	5·5±0·9	III	340	53	297	14—07
0·8±0·1	4·8±0·8	II 20M	332	42		14—14
0·7±0·1	4·1±0·7	II N 17·5M	330	39		14—15
—			333	43		
—			330	38		
—		III S_{408} incl. uncat. source	338	47		
0·7±0·1	2·7±0·6	III	332	39		14—18
1·0±0·1	4·3±0·8	III	337	44		14—110
0·7±0·1	7·5±1·0	III (QSO) 18M S_{408} incl. 1427—00	346	53	300·1	14—011
—			347	53		
1·0±0·1	3·1±0·9	III	345	51		14—03
—		III	346	50		
—			345	49		
1·1±0·3	4·1±0·9	III	344	47		
0·7±0·1	4·3±0·7	II D 19M	337	39		14—114
—			351	51		
0·4±0·2	2·3±0·4	III	339	38		
0·9±0·1	4·6±0·8	III	343	40		14—119
1·2±0·3	4·0±0·9		339	35		
0·8±0·1	5·0±0·8	19·5M	351	47	306·1	14—017
0·6±0·4	2·2±0·5	II E 17M	350	46		
0·7±0·1	9·7±1·1	III QSO 17·5M scint. P1	345	41		14—121
0·8±0·1	3·8±0·8	III (QSO) 18·5M	350	45		14—018
—		III	350	45		
—			341	35		
1·0±0·2	2·8±0·9	III	344	37		15—11
0·9±0·2	2·2±0·9	III	344	35		15—13
0·3±0·2	3·9±0·6	II 18·5M	344	35		
—		S_{408} incl. 1508—07	352	42		
—		S_{408} incl. 1506—07	352	42		
C		III P3	354	43		15—05
1·0±0·4	2·4±0·7	III	348	38		
—0·0±0·2	3·0±0·4	III QSO 17·8M	351	40		
0·5±0·3	2·9±0·5	III ext.	346	34		
0·9±0·1	3·5±0·7	III	357	41		15—07
1·0±0·3	3·1±0·7	III	346	31		
—			1	43		
0·6±0·1	5·4±0·8	III (QSO) 20·5M	350	34		
—			346	29		
1·0±0·3	3·2±0·7	III	353	33		
—		S_{408} incl. uncat. source	352	31		
0·8±0·3	2·8±0·6	III	1	38		
0·4±0·3	2·1±0·4	III	357	35		
0·8±0·3	3·1±0·7	III	3	34		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
1554−14	15	54	16	−14	05·2	3 36	−10·5			(5·1)	0·5	
1557−00	15	57	28	−00	29·0	3·08	−10·2			(4·5)	1·2	0·5
1601−00	16	01	20	−00	20·9	3·08	−9·9				0·5	0·3
1602−00·2	16	02	10	−00	10·4	3·08	−9·9				1·0	
1602−17	16	02	10	−17	25·7	3·44	−9·9			4·7	1·7	0·7
1602−00·3	16	02	34	−00	19·2	3·08	−9·8				0·4	
1602−09	16	02	43	−09	19·2	3·26	−9·8	20		8·6	3·6	(1·9)
1607−09	16	07	16	−09	11·1	3·26	−9·5			3·7	1·2	0·7
1609−15	16	09	15	−15	59·8	3·41	−9·3				0·4	<0·2
1609−14	16	09	17	−14	12·0	3·37	−9·3			2·3	1·2	(0·4)
1611−06	16	11	40	−06	02·7	3·20	−9·1				(0·6)	
1611−12	16	11	58	−12	03·6	3·33	−9·1				0·4	
1612−15	16	12	54	−15	29·3	3·40	−9·0				0·6	
1614−09	16	14	40	−09	55·9	3·28	−8·9			5·2	1·2	0·6
1617−04	16	17	24	−04	11·7	3·16	−8·7			4·8	1·3	0·4
1620−15	16	20	34	−15	35·4	3·41	−8·4			2·7	0·5	
1621−11	16	21	13	−11	34·0	3·32	−8·4	20		8·6	2·2	1·3
1626−02	16	26	55	−02	41·3	3·13	−7·9				0·4	
1635−14	16	35	55	−14	10·0	3·39	−7·2			(4·3)	1·2	1·0
1636−03	16	36	21	−03	08·1	3·14	−7·2			4·7	0·9	
1640−15	16	40	59	−15	20·2	3·42	−6·8	30		5·7	1·2	0·5
1642−18	16	42	31	−18	29·2	3·49	−6·6	18		2·9	1·2	0·5
1643−09	16	43	22	−09	51·1	3·29	−6·6			3·7	0·6	
1644−07	16	44	16	−07	10·3	3·23	−6·5			5·8	1·4	0·6
1644−10	16	44	43	−10	39·0	3·31	−6·5			6·9	2·2	1·4
1648−06	16	48	59	−06	13·3	3·21	−6·1			4·2	1·9	1·2
1650−11	16	50	30	−11	30·9	3·33	−6·0				0·5	0·3
1652−14	16	52	09	−14	38·7	3·41	−5·8			(3·8)	0·4	<0·2
1653−10	16	53	15	−10	48·8	3·32	−5·8				0·4	
1653−09	16	53	58	−09	00·3	3·28	−5·7	11		4·4	0·9	
1655−17	16	55	40	−17	25·0	3·48	−5·6				0·5	
1700−11	17	00	40	−11	11·9	3·33	−5·1				0·6	0·5
1701−01	17	01	08	−01	26·5	3·11	−5·1				0·6	<0·2
1705−10	17	05	09	−10	17·0	3·31	−4·8	15		2·5	0·5	0·3
1706−02	17	06	13	−02	51·0	3·14	−4·7				0·6	0·2
1712−03	17	12	25	−03	17·7	3·15	−4·1	21		8·3	1·5	0·5
1712−12	17	12	51	−12	03·0	3·35	−4·1			3·1	1·0	0·6
1717−14	17	17	12	−14	23·2	3·41	−3·7			2·5	1·6	0·8
1717−06	17	17	29	−06	58·7	3·23	−3·7			3·4	1·6	0·8
1717−00	17	17	56	−00	55·9	3·09	−3·7	475	180	138	50·2	27·5
1722−02	17	22	00	−02	39·1	3·13	−3·3			4·2	2·6	1·5
1725−06	17	25	06	−06	55·8	3·23	−3·0				0·6	
1726−06	17	26	44	−06	56·2	3·23	−2·9				0·8	
1730−13	17	30	12	−13	02·9	3·38	−2·6			6·3	5·3	4·7
1732−09	17	32	21	−09	14·9	3·29	−2·4			5·0	2·1	1·5

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
—		S_{408} incl. uncat. source	356	29		
1·2±0·3	4·9±1·3	III	9	37		
0·9±0·6	1·7±0·5		10	36		
—		II D 19·5M	11	36		
1·0±0·2	5·1±1·0	III–IV	355	25		
—			10	36		
0·6±0·1	7·5±1·0	III possibly ext. P14	2	30		16—01
0·8±0·2	3·6±0·8	III	3	30		
—			357	25		
0·4±0·4	2·1±0·4	III ext.	359	26		
—		ext. at 1410	6	31		
—			1	27		
—			358	25		
1·1±0·2	5·0±1·1	III	3	28		
1·2±0·2	5·3±1·2	II E 19M	9	31		
1·2±0·4	2·5±0·8		360	23		
0·8±0·1	6·4±0·9	III	3	25		16—18
—			12	30		
0·6±0·3	2·9±0·6	III–IV S_{408} incl. uncat. source	3	21		
1·3±0·3	4·4±0·9	II db. 17·6M	13	27		
1·1±0·1	4·8±0·9	III–IV	3	19		16—117
1·0±0·1	3·5±0·7	III–IV	1	17		16—118
1·4±0·3	3·5±1·0		8	22		
1·2±0·2	5·7±1·2	III	11	23		
0·8±0·1	6·3±1·0	III–IV	8	21		
0·6±0·2	4·1±0·7	III	12	23		
0·9±0·6	1·7±0·5		8	20		
—		ext. in δ at 1410	5	18		
—			9	20		
0·9±0·2	3·1±0·9	II E 18M	11	20		16—015
—			4	15		
0·3±0·5	1·0±0·2		10	18		
—			18	23		
1·1±0·1	2·3±0·7		11	17		17—11
1·8±0·7	6·0±1·8		18	21		
C		III–IV	18	20		17—04
0·8±0·2	2·9±0·7	I D 17·5M	11	15		
0·7±0·3	3·6±0·7	III–IV	9	13		
0·8±0·2	3·9±0·8	III–IV	16	17		
0·8±0·0	124·2±7·9	I D 16·8M P3	21	20	353	17—06
0·6±0·2	4·9±0·7	III	20	18		
—			17	15		
—		III–IV	17	15		
0·1±0·1	6·0±0·7	III–IV NRAO 530	12	11		
0·6±0·2	4·6±0·7	III–IV	16	12		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
	h	m	s	°	′	s	″					
1732−08	17	32	45	−08	00·9	3·26	−2·4			(4·3)	1·1	
1738−05	17	38	57	−05	23·9	3·20	−1·8				0·8	
1741−03	17	41	28	−03	48·6	3·16	−1·6			4·8	1·0	
1800−02	18	00	14	−02	07·6	3·12	0·0			4·6	2·0	(0·9)
1915−12	19	15	12	−12	10·0	3·35	6·5	25		(9·6)	1·3	0·8
1923−18	19	23	07	−18	42·7	3·50	7·1			2·4	1·3	(0·6)
1929−19	19	29	11	−19	38·0	3·51	7·6	22		6·0	1·3	0·7
1930−08	19	30	08	−08	24·2	3·26	7·7			5·2	1·7	1·1
1932−16	19	32	51	−16	34·7	3·44	7·9				0·5	0·2
1933−17	19	33	23	−17	18·0	3·46	7·9			(3·6)	1·0	0·3
1933−10	19	33	29	−10	57·3	3·31	8·0	(34)		7·6	(0·4)	
1936−15	19	36	37	−15	32·6	3·41	8·2	(39)			0·6	
1937−03	19	37	45	−03	34·1	3·15	8·3			4·6	0·8	0·5
1938−15	19	38	25	−15	31·7	3·41	8·3	(39)		(16·5)	6·9	3·8
1941−07	19	41	29	−07	30·6	3·23	8·6	(24)		(6·4)	0·7	
1941−09	19	41	36	−09	24·2	3·27	8·6				0·4	0·3
1944−02	19	44	13	−02	54·0	3·13	8·8	22			0·5	0·2
1945−09	19	45	19	−09	27·9	3·27	8·9			4·5	1·3	0·6
1948−10	19	48	49	−10	02·9	3·28	9·2				0·7	0·4
1949−01	19	49	53	−01	25·3	3·10	9·2			4·4	1·5	0·7
1953−07	19	53	28	−07	45·2	3·23	9·5		(14·0)	(6·0)	1·8	0·9
1954−16	19	54	08	−16	41·4	3·43	9·6	9		2·0	0·4	
2005−10	20	05	13	−10	26·0	3·28	10·4			3·4	1·2	0·8
2005−04	20	05	48	−04	27·0	3·16	10·5	19	11·5	4·7	1·0	
2023−07	20	23	09	−07	45·3	3·22	11·7			2·1	1·3	1·0
2025−15	20	25	19	−15	31·5	3·37	11·9	20		5·0	1·3	0·7
2027−17	20	27	40	−17	12·5	3·40	12·0				0·6	0·4
2028−07	20	28	22	−07	51·6	3·22	12·1		(9·5)	3·6	1·4	0·7
2037−08	20	37	22	−08	36·2	3·23	12·7			3·4	0·8	
2037−03	20	37	34	−03	00·4	3·13	12·7				0·5	
2038−01	20	38	32	−01	21·6	3·10	12·8				0·5	<0·2
2043−09	20	43	24	−09	56·2	3·25	13·1				0·4	
2044−18	20	44	26	−18	32·0	3·41	13·2	15		2·0	0·5	0·5
2044−02	20	44	34	−02	47·5	3·12	13·2		9·5	7·2	2·3	1·5
2046−07	20	46	18	−07	12·1	3·20	13·3				0·7	
2048−14	20	48	22	−14	46·3	3·33	13·4	13		3·0	1·5	1·1
2050−16	20	50	11	−16	31·3	3·37	13·6	17		2·8	0·4	<0·2
2050−18	20	50	23	−18	49·5	3·41	13·6				0·6	0·4
2054−12	20	54	14	−12	48·1	3·29	13·8				0·5	
2057−17	20	57	30	−17	57·6	3·38	14·0	(24)			0·6	0·3
2058−17	20	58	53	−17	59·5	3·38	14·1	(24)		(5·7)	1·1	0·6
2058−13	20	58	57	−13	30·6	3·30	14·1	14		3·7	1·3	0·6
2059−12	20	59	27	−12	46·2	3·29	14·1				0·4	
2059−09	20	59	38	−09	33·3	3·23	14·1				0·4	0·3
2104−15	21	04	57	−15	58·1	3·34	14·5				0·4	0·2

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
—		III NRAO 532	17	13		
—		III–IV	20	13		
1·2±0·2	4·5±0·9	III–IV	22	13		
0·6±0·2	4·2±0·6	III–IV ext.	25	10		
1·0±0·1	4·7±0·9	III–IV	25	−11		19−15
0·4±0·4	2·2±0·4	III–IV ext.	20	−16		
1·0±0·1	4·7±0·8	III	19	−17		19−18
0·8±0·2	4·7±0·8	III–IV	30	−13		
1·6±0·7	3·8±1·2		23	−17		
1·4±0·4	5·2±1·6	S_{408} incl. 1932−16	22	−17		
—			28	−15		(19−110)
—			24	−17		(19−111)
1·1±0·2	4·0±1·1	III–IV	35	−12		
0·7±0·1	15·3±1·6	III–IV scint. S_{408} incl. 1936−15	24	−18		(19−111)
—		III–IV	32	−15		19−011
0·6±0·7	1·0±0·3		31	−16		
1·3±0·1	2·6±0·9		37	−14		19−013
1·0±0·2	4·6±1·0	III–IV	31	−17		
0·9±0·5	2·3±0·5	III–IV	31	−18		
0·9±0·2	4·6±0·9	II E 17·5M	39	−14	403·1	
1·0±0·2	6·1±1·1	III–IV	33	−18	(404)	
1·0±0·2	1·7±0·8		25	−22		19−117
0·7±0·2	3·2±0·7	III–IV	32	−22		
1·0±0·1	3·9±0·9	III	38	−19	407	20−01
0·4±0·3	2·2±0·4	III	37	−24		
0·9±0·1	4·3±0·8	III	29	−28		20−16
0·7±0·5	1·5±0·4		28	−29		
0·9±0·2	4·0±0·8	III	37	−26	(413)	
1·1±0·3	3·2±0·8	III	38	−28		
—			43	−25		
—			45	−25		
—			37	−30		
0·9±0·1	2·6±0·7		28	−34		20−111
0·7±0·1	6·1±0·9	III	45	−27	422	
—		III	40	−29		
0·6±0·1	3·6±0·6	II D 19·5M	33	−33		20−112
1·3±0·2	2·1±0·9		31	−34		20−114
0·7±0·5	1·5±0·4		28	−35		
—			35	−33		
1·2±0·2	3·0±1·1		30	−36		(20−118)
1·1±0·1	4·3±1·0	III–IV S_{408} incl. 2057−17	30	−37		(20−118)
0·9±0·1	3·5±0·7	I E 15·2M	35	−35		20−119
—			36	−35		
0·6±0·7	1·0±0·3		40	−33		
1·3±0·8	2·2±0·8		33	−37		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.								
	h	m	s	°	′	Δα s	Δδ ″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
2105−06	21	05	40	−06	31·1	3·18	14·5				0·4	<0·2
2110−16	21	10	35	−16	01·6	3·33	14·8			(1·6)	1·0	0·6
2117−11	21	17	02	−11	47·9	3·26	15·2	7		2·6	1·2	0·7
2119−16	21	19	18	−16	54·6	3·34	15·3	(30)			0·6	0·3
2119−05	21	19	35	−05	41·0	3·16	15·3				0·5	
2120−10	21	20	14	−10	16·0	3·23	15·4			2·4	1·0	0·4
2120−16	21	20	14	−16	40·8	3·33	15·4	(30)		(9·0)	1·3	0·6
2121−01	21	21	04	−01	25·8	3·09	15·4				1·0	0·6
2124−12	21	24	42	−12	03·8	3·25	15·6			5·1	0·4	0·2
2125−06	21	25	44	−06	33·3	3·17	15·7	10		2·1	0·6	
2126−15	21	26	54	−15	48·5	3·31	15·7				0·5	
2128−12	21	28	52	−12	20·1	3·25	15·8			1·5	1·8	2·0
2132−17	21	32	28	−17	48·7	3·33	16·0			2·8	0·9	
2135−14	21	35	01	−14	46·5	3·28	16·2	33		10·0	3·0	2·0
2135−18	21	35	18	−18	56·9	3·34	16·2	23		5·1	1·4	0·8
2137−06	21	37	35	−06	59·3	3·17	16·3	12		3·9	0·5	
2139−12	21	39	31	−12	01·9	3·24	16·4				0·4	<0·2
2144−17	21	44	17	−17	54·1	3·31	16·6			(1·9)	1·4	0·6
2145−17	21	45	51	−17	37·8	3·31	16·7			(1·3)	1·5	0·7
2146−01	21	46	12	−01	35·8	3·09	16·7				0·4	
2146−13	21	46	46	−13	18·7	3·25	16·8	(13)		5·6	1·5	0·9
2149−20	21	49	04	−20	00·4	3·34	16·9	18		6·5	2·1	1·4
2154−11	21	54	03	−11	41·2	3·22	17·1	28		6·5	1·1	0·5
2154−18	21	54	12	−18	28·3	3·31	17·1	25		8·8	3·6	0·9
2154−01	21	54	15	−01	39·6	3·09	17·1	16		4·8	1·3	0·8
2156−04	21	56	44	−04	20·4	3·12	17·2				0·6	
2158−17	21	58	54	−17	47·9	3·29	17·3				0·6	
2203−18	22	03	26	−18	50·3	3·30	17·5	16		7·8	6·2	4·9
2204−20	22	04	27	−20	17·7	3·31	17·5				0·7	
2209−11	22	09	22	−11	44·8	3·20	17·8	16		2·7	0·4	
2211−17	22	11	41	−17	16·6	3·26	17·8	127	49·0	31·3	7·9	4·2
2216−03	22	16	16	−03	50·6	3·11	18·0	(18)		2·8	0·9	1·0
2219−15	22	19	49	−15	01·5	3·22	18·2				0·4	0·3
2220−15	22	20	00	−15	26·2	3·23	18·2			(3·3)	0·6	0·3
2221−02	22	21	16	−02	21·9	3·10	18·2	60	(20·5)	17·5	5·3	(2·3)
2222−16·3	22	22	07	−16	17·7	3·23	18·2				0·4	
2222−16·6	22	22	31	−16	34·7	3·24	18·3	15		(3·7)	0·5	
2223−05	22	23	11	−05	12·4	3·12	18·3	30	(33·0)	10·3	6·0	4·4
2227−08	22	27	04	−08	48·6	3·15	18·4			2·3	1·1	
2229−08	22	29	06	−08	40·5	3·15	18·5				0·6	
2229−17	22	29	39	−17	13·7	3·23	18·5				0·4	0·5
2234−17	22	34	56	−17	28·2	3·23	18·7			4·8	1·0	0·8
2235−12	22	35	16	−12	01·7	3·18	18·7	16		3·8	1·2	0·4
2235−14	22	35	37	−14	21·0	3·20	18·7			(4·3)	0·7	0·4
2236−17	22	36	28	−17	36·7	3·22	18·7			4·8	1·5	1·1

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
—			44	−33		
0·7±0·4	2·4±0·6	III	34	−38		
0·6±0·1	2·5±0·5	II E 19M	40	−38		21−16
1·3±0·2	3·4±1·2		34	−41		(21−19)
—			47	−36		
1·0±0·3	2·9±0·8	III	42	−38		
1·2±0·1	5·9±1·2	III S_{408} incl. 2119−16	34	−41		(21−19)
0·8±0·4	2·6±0·5	III (QSO) 19M	51	−34		
1·8±0·3	4·7±1·7		40	−40		
0·9±0·2	2·0±0·9		47	−38		21−08
—			36	−42		
−0·2±0·3	1·4±0·2	III (QSO) 19M	41	−41		
0·8±0·3	2·6±0·6	III	34	−44		
0·8±0·1	8·6±1·0	III (QSO) 16·8M	38	−43		21−115
0·9±0·1	4·7±0·8	II D 19·5M	33	−45		21−116
1·0±0·2	2·6±0·9		48	−40		21−013
—			42	−43		
1·2±0·4	5·9±1·3	III (QSO) 19·5M	36	−47		
1·1±0·4	5·9±1·3	III	36	−47		
—			56	−39		
0·9±0·1	4·7±0·8	III QSO 20M	42	−45		21−119
0·7±0·1	5·5±0·8	III (QSO) scint.	33	−48		21−121
1·1±0·1	4·7±0·9	III	45	−46		21−114
C		III (QSO) 16·5M	36	−49		21−123
0·8±0·1	4·0±0·7	III	57	−41		21−018
—			54	−43		
—			38	−50		
0·3±0·1	8·3±0·8	III (QSO) 19·5M	37	−51		22−11
—		III	35	−52		
1·3±0·2	2·1±0·9		48	−50		22−16
0·9±0·0	26·4±2·1	II D 19M P1	40	−52	444	22−17
C		III QSO 17·5M scint.	59	−47		22−06
0·6±0·7	1·0±0·3		45	−53		
1·2±0·4	3·0±1·1	S_{408} incl. 2219−15	44	−53		
0·8±0·1	15·0±1·6	III ext. P5	62	−47	445	22−09
—			43	−54		
1·1±0·2	2·4±1·0	S_{408} incl. 2222−16·3	43	−55		22−110
0·5±0·1	10·8±1·1	III QSO 18·4M scint. S_{159} high	59	−49	446	22−010
0·5±0·4	2·1±0·5	III (QSO) 18M	55	−52		
—			56	−52		
−0·2±0·6	0·4±0·1		43	−56		
0·9±0·2	3·9±0·9	III	44	−58		
1·0±0·1	3·5±0·7	III	52	−55		22−114
1·2±0·3	3·5±1·1	III S_{408} incl. uncat. source	49	−56		
0·7±0·2	4·1±0·8	III (QSO) 18·5M	44	−58		

TABLE 1

Source Number	Position (1950·0)					Annual Precession		Flux Density (10^{-26} W m^{-2} (c/s)$^{-1}$)				
	R.A.			Dec.		$\Delta\alpha$	$\Delta\delta$					
	h	m	s	°	′	s	″	$S_{85.5}$	S_{159}	S_{408}	S_{1410}	S_{2650}
2237−04	22	37	02	−04	44·9	3·11	18·7			3·0	0·4	0·3
2239−10	22	39	19	−10	32·0	3·16	18·8			2·4	0·9	
2241−16	22	41	10	−16	22·0	3·21	18·9	8		2·0	0·7	0·4
2243−19	22	43	07	−19	10·9	3·23	18·9	8		2·5	0·8	
2243−03	22	43	40	−03	17·3	3·10	18·9			3·2	1·1	
2257−10	22	57	48	−10	28·7	3·14	19·3	8			0·7	
2300−18	23	00	23	−18	57·8	3·19	19·4			2·4	1·5	0·9
2308−10	23	08	40	−10	55·6	3·13	19·5	(8)		3·4	1·2	0·6
2313−18	23	13	09	−18	17·1	3·16	19·6			4·7	1·3	0·9
2313−14	23	13	55	−14	25·3	3·14	19·6	10		4·1	0·9	
2313−16	23	13	55	−16	42·6	3·15	19·6			4·3	1·0	
2317−07	23	17	30	−07	13·5	3·10	19·7			3·2	0·5	
2318−16	23	18	24	−16	39·4	3·15	19·7	23		9·9	2·3	1·0
2322−12	23	22	43	−12	24·1	3·12	19·8	30		7·9	2·0	0·8
2322−05	23	22	44	−05	14·2	3·09	19·8			4·3	1·5	0·8
2324−02	23	24	20	−02	18·6	3·08	19·8	19		6·9	2·3	1·6
2325−05	23	25	37	−05	12·9	3·09	19·8			3·5	0·8	
2325−15	23	25	55	−15	11·2	3·13	19·8	14		6·1	2·0	1·3
2328−18	23	28	32	−18	55·5	3·14	19·9				0·4	
2329−16	23	29	00	−16	14·2	3·13	19·9			4·4	1·4	1·1
2329−10	23	29	50	−10	14·6	3·10	19·9	10		3·7	1·4	0·7
2331−09	23	31	11	−09	20·9	3·10	19·9			6·0	1·2	0·5
2335−14	23	35	14	−14	54·0	3·11	19·9	16		3·0	0·5	
2335−18	23	35	19	−18	09·2	3·12	19·9			2·9	1·1	
2335−12	23	35	27	−12	34·2	3·10	19·9				0·5	
2336−04	23	36	24	−04	30·7	3·08	19·9			4·0	1·3	0·7
2337−06	23	37	13	−06	21·0	3·09	19·9			3·4	1·3	0·8
2338−16	23	38	37	−16	37·8	3·11	20·0			4·2	1·4	0·8
2342−15	23	42	15	−15	18·9	3·10	20·0	13		3·6	0·8	
2344−07	23	44	08	−07	45·2	3·09	20·0			1·8	1·0	
2345−16	23	45	27	−16	48·2	3·10	20·0			2·5	1·2	1·3
2347−02	23	47	51	−02	41·7	3·08	20·0			3·7	1·6	0·9
2348−04	23	48	43	−04	20·8	3·08	20·0	13			0·4	
2348−16	23	48	57	−16	24·2	3·09	20·0	13		2·8	0·8	
2349−01	23	49	23	−01	26·1	3·07	20·0	18		2·7	1·4	0·9
2352−04	23	52	25	−04	22·7	3·08	20·0				0·4	
2354−02	23	54	33	−02	44·6	3·07	20·0				0·7	
2354−18	23	54	33	−18	33·6	3·08	20·0			4·8	0·8	
2354−11	23	54	56	−11	42·6	3·08	20·0			2·9	1·8	1·7
2355−08	23	55	41	−08	44·7	3·08	20·0			(3·1)	0·7	
2356−08	23	56	21	−08	41·9	3·08	20·0				0·4	
2358−13	23	58	55	−13	44·0	3·07	20·0				0·5	
2359−14	23	59	46	−14	23·1	3·07	20·0				0·9	0·4

(*Continued*)

Spectrum		Remarks	Galactic Coordinates		Other Catalogue Numbers	
Index	S_{400}		l^{II} °	b^{II} °	3C	MSH
1·2±0·3	2·6±1·0		63	−51		
0·7±0·4	2·2±0·6	III	56	−55		
0·8±0·1	2·0±0·6	III	47	−58		22−1*18*
0·8±0·2	2·2±0·8	III	42	−60		22−1*19*
0·8±0·3	3·0±0·6	II 19M	66	−52		
0·8±0·2	2·0±0·6	III	60	−59		22−1*23*
0·6±0·3	3·0±0·6	II N 18·3M	46	−64		
0·8±0·2	3·1±0·7	III	63	−61		(23−1*3*)
0·8±0·2	4·1±0·8	II 19·3M	50	−66		
0·9±0·2	2·9±0·9	III	59	−64		23−1*5*
1·1±0·3	4·0±0·8	II	54	−66		
1·4±0·4	3·0±0·9		72	−60		
C		III	55	−66		23−1*8*
1·0±0·1	6·4±0·9	II E 17·2M	65	−65		23−1*12*
0·9±0·2	4·3±0·8	II N 18·5M	76	−60		
0·7±0·1	5·8±0·8	II E 18·3M	80	−58		23−0*11*
1·1±0·3	3·3±0·8	III	77	−60		
0·7±0·1	4·9±0·7	III	61	−67		23−1*13*
—			53	−70		
0·7±0·2	3·7±0·7	III	60	−68		
0·7±0·1	3·3±0·6	III	72	−65		23−1*18*
1·3±0·2	5·7±1·3	III	74	−64		
1·1±0·2	2·4±0·9		65	−69		23−1*19*
0·7±0·3	2·7±0·6	QSO 17·5M	58	−71		
—			70	−67		
0·9±0·2	4·0±0·8	III	83	−61		
0·7±0·2	3·3±0·7	III	81	−63		
0·8±0·2	4·1±0·8	III	63	−70		
0·9±0·2	2·8±0·9	III	68	−70		23−1*22*
0·4±0·5	1·7±0·4	III	82	−65		
0·2±0·2	1·8±0·4	III (QSO) 18·5M	65	−72		
0·7±0·2	3·9±0·7	III	90	−61		
1·1±0·2	1·9±0·6		88	−63		23−0*18*
0·9±0·2	2·6±0·9	III	68	−72		23−1*23*
0·8±0·1	4·0±0·7	II N 17·5M	92	−60		23−0*20*
—			90	−63		
—		III	93	−62		
1·4±0·3	4·5±1·0	III (QSO)	65	−75		
0·2±0·2	2·4±0·4	III (QSO) 19M	81	−70		
—		II N 18·5M S_{408} incl. 2356−08	86	−67		
—			87	−68		
—			80	−72		
1·3±0·5	4·4±0·9	III	79	−73		

(1958).* Parentheses around a catalogue number indicate that the source has been resolved at higher frequencies, or, if a 3C source, that a lobe shift was necessary to fit this catalogue position, or that some doubt exists whether this source and the Parkes Catalogue source are identical.

V. Determination of Flux Densities

The errors in the flux density measurements and the determination of the flux scales based on the Conway, Kellermann, and Long (1963)† observations have been discussed in BGM. Table 2 gives estimates of the average errors that apply to this part of the survey due to variation in calibrator signal, source extension, noise fluctuation, and confusion effects. Where a flux density error is thought to be significantly greater than this the flux density in Table 1 has been placed in parentheses.

Table 2

ERRORS IN FLUX DENSITY MEASUREMENTS

Source of Error	R.M.S. Error at Given Frequency				
	2650	1410	408	159	85·5 Mc/s
Variation in calibration signal	8%	5%	5%		
Angular extent of source	2%	1%			
Noise fluctuation	0·05	0·1	0·5 f.u.		
Confusion effects	0·03	0·1	1·0 f.u.		
Estimated total r.m.s. error	±8%±0·06	±5%±0·14	±5%±1·1	±5%±2·2	±10%±2·5 f.u.

Flux densities at 85·5 Mc/s are from the MSH catalogue, and at 159 Mc/s from the 3C catalogue.

At 408 Mc/s the beamwidth is 48′ and confusion is the main source of absolute flux density error. The r.m.s. confusion error for a single scan, $\sigma = 1{\cdot}06$ f.u., has been estimated from the amplitude of background variations. The average of the flux density determined from a right ascension scan and a declination scan has been catalogued. A statistical analysis shows that the r.m.s. error in the average of two orthogonal scans is $(5/6)^{\frac{1}{2}}\sigma = 0{\cdot}97$ f.u. Because of the confusion error present, measurements of flux density at 408 Mc/s have been completed only down to 3 f.u. A comparison of sources in common with the list compiled by CKL indicates that the mean of the catalogued flux densities at 408 Mc/s is 11% higher than the mean from CKL.

At 1410 Mc/s, observations of selected sources from CKL were made to calibrate the flux density scale for each observing session.

* Hereafter referred to as MSH.

† Hereafter referred to as CKL.

For sources measured at 2650 Mc/s as part of the SCE accurate position program, i.e. sources with flux densities $\geqslant 1{\cdot}8$ f.u. at 1410 Mc/s or 1 f.u. at 2650 Mc/s, the mean of the flux density measured at two orthogonal positional angles of the electric vector was used, thus eliminating errors due to polarization. These fluxes were calibrated assuming a flux density of $23{\cdot}5$ f.u. for Hydra A. The remainder of the flux densities at 2650 Mc/s were also measured relative to Hydra A by using calibration sources from the SCE program.

VI. Extended Sources

Sources larger than 3′ broaden the beam significantly at 2650 Mc/s. Eleven such sources have been listed as extended in column 13 of Table 1. For these sources, and for the three sources extended at 1410 Mc/s, no attempt has been made to calculate the integrated flux density. The value corresponding to the peak amplitude is given in parentheses.

Table 3

DISTRIBUTION OF SPECTRAL INDICES

Frequencies (Mc/s)	Mean	Variance	Number
85·5–408	0·87	0·06	162
159–408	0·69	0·19	30
408–1410	0·97	0·13	393
1410–2650	0·80	0·19	279
Best fit (CKL scale)	0·88	0·10	457

VII. Spectra

The spectral index α is defined by the expression

$$S = kf^{-\alpha},$$

where S is the flux density measured at frequency f. The spectral indices between flux densities at adjacent frequencies have been calculated for each source. The mean and variance of the spectral indices in each range are given in Table 3. The difference in the mean spectral indices for the different ranges occurs because of the slightly different flux scale at each frequency.

For each source with two or more fluxes without parentheses, a best fit of the catalogued fluxes was used to determine the straight line

$$\log(m\,.\,S) = -\alpha \log f + \text{constant},$$

where m is a multiplying factor applied in order to place all fluxes on the CKL scale. The multiplying factors used were $0{\cdot}84$ for MSH, $1{\cdot}08$ for 3C (Howard *et al.* 1965), and $0{\cdot}91$ for 408 Mc/s (Section V). Each flux was weighted as the inverse square of its r.m.s. error as given in Table 2. In general, the fluxes in parentheses were considered as if they had double these errors.

The spectral index and flux density at 400 Mc/s are tabulated in columns 11 and 12 of Table 1 with the r.m.s. error expected from the quoted r.m.s. flux errors. The r.m.s. error corresponding to the goodness of fit was calculated for each source. For sources for which this was significantly greater than the error expected from the flux errors, any previously published flux densities for other frequencies were also considered. For two sources where this additional information suggested an actual power-law spectrum, the errors derived from the goodness of fit have been given in columns 11 and 12. Probable departure from a power-law spectrum is indicated by a C in column 11 and detailed spectra of these sources are shown in Figure 2.

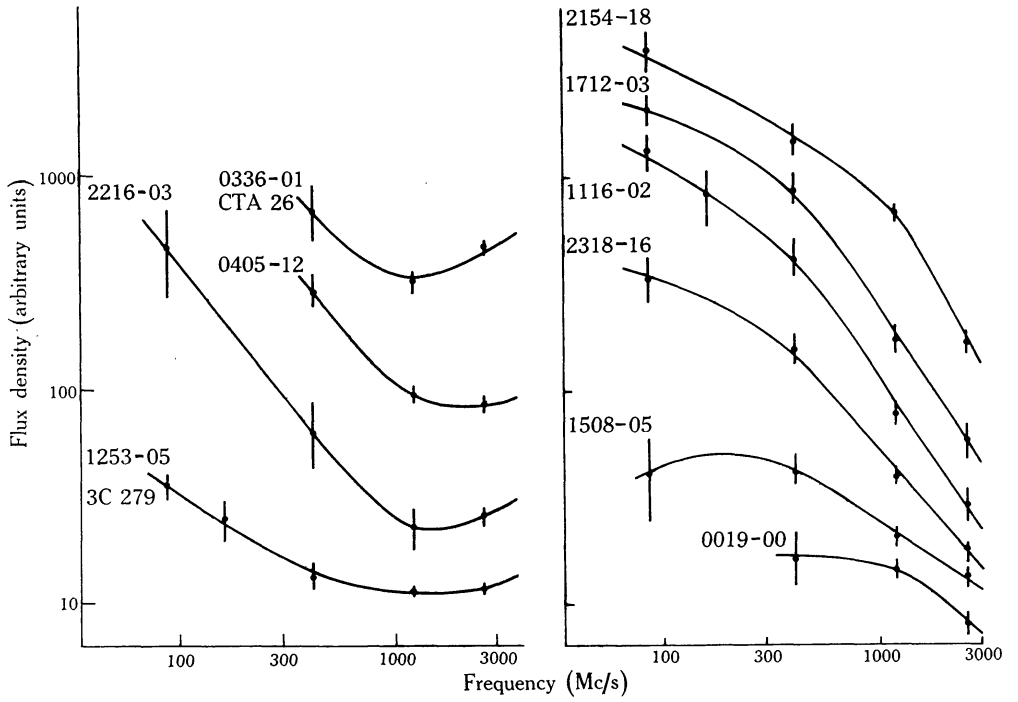

Fig. 2.—Sources with curved spectra.

VIII. Identification

The positions of all sources with flux densities $> 0{\cdot}8$ f.u. at 1410 Mc/s have been examined on the 48 in. Palomar Sky Survey prints and the results are being published by J. G. Bolton and Jennifer Ekers (Division of Radiophysics, CSIRO). The details of the identifications as given in column 13, Table 1, have been taken from their papers (Bolton and J. Ekers 1966*a*, 1966*b*, 1967).

The optical field classifications given in column 13 refer to the field within a rectangle $\pm 1'{\cdot}0$ from the position of the source as follows: Class I, the error rectangle includes one or more galaxies brighter than $m_{pg} = 17$; Class II, the error rectangle includes one or more galaxies brighter than $m_{pg} = 19{\cdot}5$ and fainter than $m_{pg} = 17$; Class III, the error rectangle includes no galaxies above this plate limit; Class IV, the field is heavily obscured.

IX. Source Counts

The present survey gives the flux densities of 628 sources in an area of 1·87 steradians. Figure 3 shows the plot of $\log N$ against $\log S$ for the 313 catalogued sources with flux densities $\geqslant$ 3 f.u. at 408 Mc/s, the frequency of the finding survey. A least squares fit gives a slope $1 \cdot 89 \pm 0 \cdot 10$.

X. Comparison with Other Catalogues

(a) *Comparison with 3C and Revised 3C Catalogues*

Of the 68 sources in the 3C catalogue within the declination zone 0 to −20°, 46 are listed in this catalogue. Of these, 9 sources, (3C) 3, 8, 57, 95, 100, 193, 224, 246, and 404, had to be lobe shifted to agree closely in position with sources in this catalogue. Ten sources, (3C) 161, 168, 174, 178, 180, 376, 385, 387, 389, and 391, are

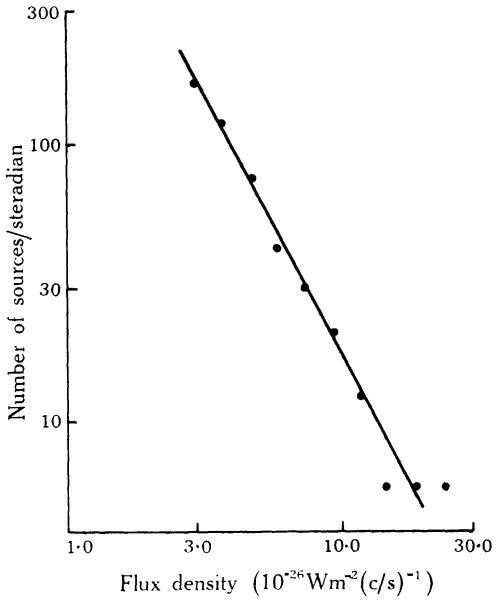

Fig. 3.—Relationship at 408 Mc/s between flux density and the number of sources above a given level of flux density.

within ±10° of the galactic plane and are not listed here. Twelve sources, (3C) 37, 68, 70, 80, 102, 112, 124, 185, 203, 206, 262, and 360, do not correspond to sources in this catalogue.

Twenty of the 26 sources in the Revised 3C Catalogue between 0° and −20° are common to this catalogue, the remaining 6 are within ±10° of the galactic plane and are not included (Revised 3C 180, 372·1, 389, 390·2, 391, and 396·1). The differences between the positions of the Revised 3C sources in this catalogue and their positions given in the Revised 3C catalogue were calculated and are shown in Figure 4. In general the agreement between the positions in right ascension is within ±2′. In declination there is a much larger scatter, up to ±25′.

A comparison between the positions of the 10 sources measured by Adgie and Gent (1966) that are in the region covered by this survey, (3C) 2, 63, 71, 89, 107, 249, 255, 275, 279, and 446, and the positions of these sources in this catalogue show agreement in right ascension to 2^s and declination to within $0'\cdot3$.

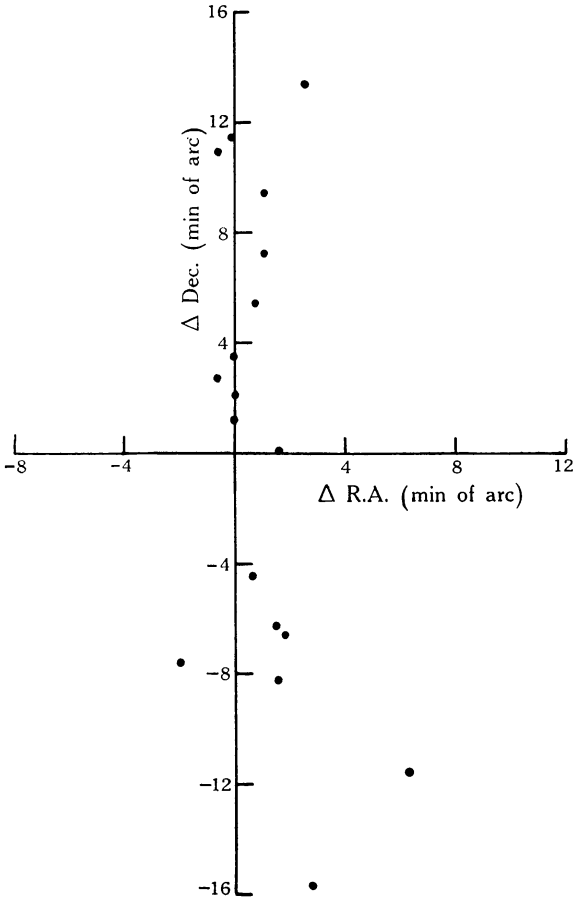

Fig. 4.—Differences between the Catalogue positions of sources and those given in the Revised 3C Catalogue.

(*b*) *Comparison with MSH Catalogue*

A comparison has been made between the positions of sources in this and the MSH catalogues. Two-hundred and twenty sources in this catalogue can be identified with MSH sources if the latter are allowed position errors of up to three times the probable error given by MSH. The differences between the positions of these sources as given by MSH and this survey are shown in Figure 5. The differences appear to be distributed equally between both right ascension and declination. In nine cases the MSH source has been resolved into more than one object.

An investigation was carried out on the 37 MSH sources with flux densities greater than 20 f.u. at $85\cdot5$ Mc/s and for which no source is listed here. Of these,

18 are probably associated with sources in this catalogue but the position differences are in excess of three times the probable errors quoted in MSH. The positions of the remaining 19 did not appear to be discrete sources at 1410 Mc/s, though some of them appear to be associated with ridge-like background irregularities on the initial 408 Mc/s finding survey records.

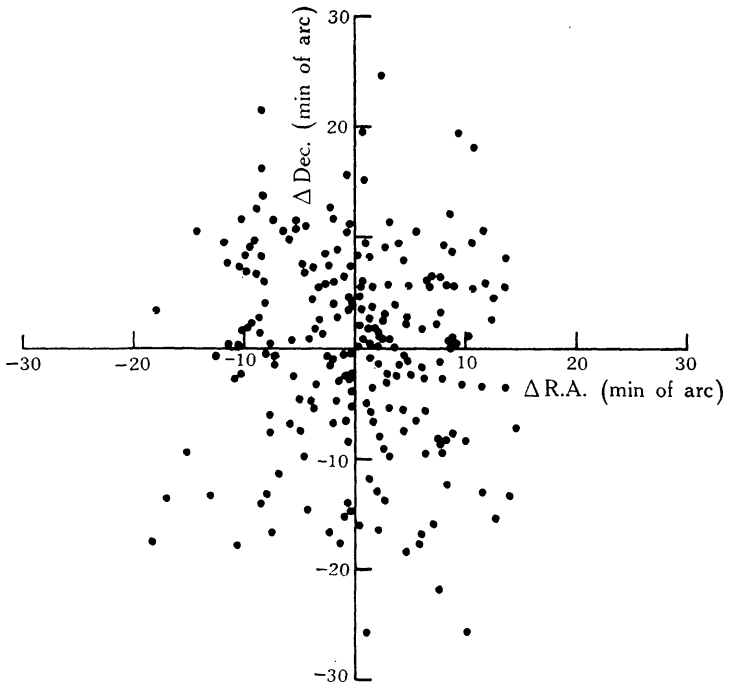

Fig. 5.—Differences between the Catalogue positions of sources and those given in the MSH Catalogue.

XI. Acknowledgments

Thanks are again due to the maintenance staff at the Australian National Radio Astronomy Observatory, Parkes, N.S.W., who operated and maintained the 210 ft radio telescope and receivers during the observations required for the survey.

Table 1 was produced on the CDC 3600 computer at the CSIRO Computing Research Section, Canberra. The program for the computer was compiled by Mrs. Jennifer Ekers, who was also responsible for much of the detailed analysis of the records.

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