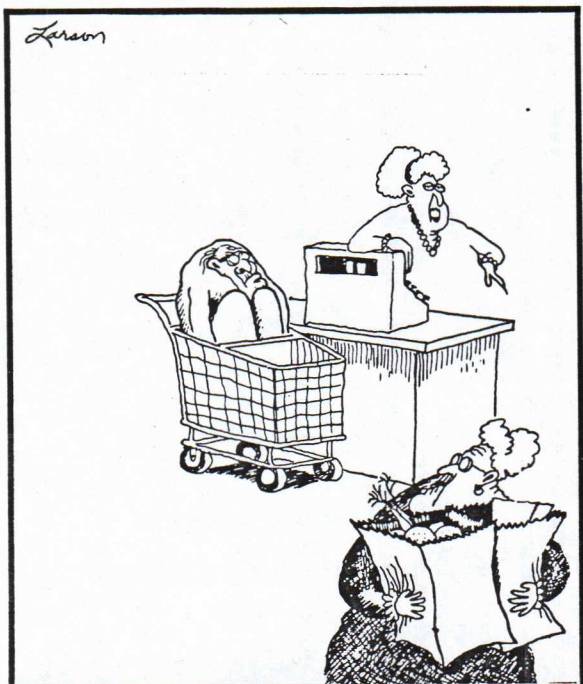


Stefi 1-16-87

Dear GAWT, (George, Alan, Wil + Tim)

In an attempt to get organized I have entered every ^{RADIO} observation we have taken for (or under the guise of) the "Equatorial Survey" into a REFLEX data base.

I enclose a fairly self explanatory printout from that data base. This listing includes all the observations made, and does not attempt to distinguish between the "complete at 8.5 Jy survey", the "complete at 11 Jy" survey or miscellaneous odd sources that have crept in and don't really belong in any "complete sample". It's merely a listing of what data we took.



"Oh, Mrs. Oswald ... you've forgotten something again."

Claus,
Stefi

P.S. Listing should be fairly accurate, though I'm sure there are ^(some) omissions +/or extras. Shouldn't be too many though...

Alan

Typically,
20+6 cm obs are between
5+15 minutes in duration, and
2cm obs are between 30+50
minutes long.

Stefi Baum

January 16, 1987

5:35:22 pm

EQSURVEY RADIO OBSERVATIONS what and when and how

(20cm really means
21+18cm)

source name	other name	VLAarrays			
0023-267		20cm: c	6cm: bc	2cm:	
0034-014	3C15	20cm: c	6cm:	2cm:	
0035-024	3C17	20cm: a	6cm: b	2cm: c	
0038+097	3C18	20cm: ab	6cm: bc	2cm: c	
0045-25	NGC253	20cm:	6cm: b	2cm: c	
0055-016	3C29	20cm: a	6cm: bc	2cm:	
0105-016	3C32	20cm: a	6cm: b	2cm: c	
0106+130	3C33	20cm: ab	6cm: bc	2cm: c	
0114-211		20cm:	6cm: c	2cm:	
0117-155	3C38	20cm: a	6cm: b	2cm: c	
0123-016	3C40	20cm:	6cm: b	2cm:	
0137+015		20cm:	6cm: c	2cm:	
0148-297		20cm:	6cm: b	2cm:	
0213-132	3C62	20cm: ab	6cm: bc	2cm: cd	
0218-021	3C63	20cm: a	6cm: b	2cm: c	
0235-197		20cm: ab	6cm: bc	2cm: c	
0240-002	3C71/N1068	20cm:	6cm: b	2cm: c	
0255+058	3C75	20cm:	6cm: b	2cm:	
0305+039	3C78/N1218	20cm: abc	6cm: bc	2cm: d	
0307+169	3C79	20cm: ab	6cm: bc	2cm: c	
0325+023	3C88	20cm: c	6cm: bc	2cm:	
0331-013	3C89	20cm: ac	6cm: b	2cm:	
0340+048		20cm:	6cm: c	2cm:	
0349-146	3C95	20cm: a	6cm: b	2cm:	
0349-278		20cm:	6cm: b	2cm:	
0350-073		20cm:	6cm:	2cm:	
0356+102	3C98	20cm: bc	6cm: bc	2cm:	
0404+035	3C105	20cm: abc	6cm: bcd	2cm: c	
0410+110	3C109	20cm: ab	6cm: bc	2cm: c	
0442-282		20cm: ab	6cm: bc	2cm: c	
0453-206		20cm:	6cm: c	2cm:	
0502-152		20cm: c	6cm: c	2cm:	
0518+16	3C138	20cm:	6cm:	2cm:	
0528+064		20cm: a	6cm: b	2cm:	
0532-054		20cm: c	6cm: c	2cm:	
0538-025		20cm: c	6cm: bd	2cm:	
0539-019	3C147.1	20cm: c	6cm: bc	2cm:	
0624-05		20cm:	6cm: c	2cm:	
0634-206		20cm: c	6cm: bc	2cm: d	
0745-191		20cm:	6cm: b	2cm: b	
0802+243	3C192	20cm:	6cm: d	2cm:	
0806-103	3C195	20cm: abc	6cm: bc	2cm: c	
0812-029	3C196.1	20cm:	6cm: bc	2cm:	
0825-202		20cm:	6cm: c	2cm:	
0834-196		20cm:	6cm: c	2cm:	
0850+140	3C208	20cm: a	6cm: b	2cm:	
0851+142	3C208.1	20cm: ba	6cm: b	2cm:	
0859-257		20cm: ab	6cm: bc	2cm: c	
0915-118	3C218	20cm: abc	6cm: bcd	2cm: c	
0936+361	3C223	20cm: b	6cm:	2cm:	
0939+140	3C255B	20cm: ac	6cm: bc	2cm:	
0945+076	3C227	20cm: abc	6cm: bcd	2cm:	

EQSURVEY RADIO OBSERVATIONS what and when and how

source name	other name	VLAarrays			
0947+145	3C299	20cm: a	6cm: b	2cm:	
0949+002	3C230	20cm: abc	6cm: ab	2cm:	
0950+002		20cm:	6cm: b	2cm:	
1005+077	3C237	20cm:	6cm: b	2cm: b	
1008+066	3C238	20cm: a	6cm: b	2cm: b	
1117+146		20cm: c	6cm: c	2cm:	
1136-135		20cm: a	6cm: b	2cm: c	
1142+198	3C264	20cm: ab	6cm: bc	2cm: cd	
1216+061	3C270	20cm: bcd	6cm: bcd	2cm:	
1222+131	3C272.1/M84	20cm:	6cm:	2cm:	
1226+023	3C273	20cm:	6cm:	2cm:	
1228+126	3C274/M87	20cm:	6cm:	2cm:	
1239-044	3C275	20cm: a	6cm: b	2cm:	
1241+166	3C275.1	20cm:	6cm: c	2cm:	
1245-197		20cm:	6cm: c	2cm:	
1252-122	3C278	20cm: b	6cm: bc	2cm: d	
1253-044	3C279	20cm:	6cm:	2cm:	
1309-220	3C283	20cm:	6cm: ab	2cm: abc	
1335-061		20cm:	6cm: c	2cm:	
1351-018		20cm:	6cm: c	2cm:	
1416+067	3C298	20cm:	6cm: ab	2cm: b	
1420+198	3C300	20cm: ac	6cm: b	2cm:	
1425-011	3C300.1	20cm: a	6cm: b	2cm: c	
1453-109		20cm:	6cm: c	2cm:	
1508+080	3c313	20cm: a	6cm: b	2cm:	
1514+072	3C317	20cm: ab	6cm: cd	2cm: c	
1559+021	3C327	20cm: abc	6cm: bcd	2cm: d	
1600+02		20cm: c	6cm: c	2cm:	
1602+014	3C327.1	20cm: a	6cm: ab	2cm: c	
1641+173	3C346	20cm: a	6cm: b	2cm:	
1648+050	3C348	20cm: ab	6cm: bc	2cm: c	
1709-281		20cm: a	6cm: a	2cm:	
1717-009	3C353	20cm: abcd	6cm: abcd	2cm:	
1755-162		20cm: a	6cm: c	2cm:	
1836+171	3C386	20cm: b	6cm: bcd	2cm:	
1859-23		20cm:	6cm: c	2cm:	
1938-155		20cm: a	6cm: ab	2cm: b	
1949+023	3C403	20cm: ab	6cm: bc	2cm:	
2019+098	3C411	20cm: c	6cm:	2cm:	
2045+098	3C424	20cm: a	6cm: b	2cm:	
2058-282		20cm: bcd	6cm: bcd	2cm:	
2104-256		20cm:	6cm: b	2cm:	
2113-211		20cm:	6cm: c	2cm:	
2135-209		20cm: c	6cm: c	2cm:	
2203-188		20cm:	6cm: c	2cm:	
2211-172	3C444	20cm: ab	6cm: bcd	2cm:	
2212+135	3C442	20cm: cd	6cm: bcd	2cm:	
2221-023	3C445	20cm:	6cm:	2cm: c	
2223-052	3C446	20cm:	6cm: c	2cm:	
2251+15	3C454.3	20cm:	6cm:	2cm:	
2314+038	3C459	20cm: a	6cm: bc	2cm: b	
2318-166		20cm:	6cm: c	2cm:	
2322-123		20cm: b	6cm: b	2cm:	

This stuff regards the survey work. The 1st two "handouts" are self-explanatory.

The third is an outline (table) in which I can fill in parameters from the ^{survey} radio maps as I make them. Do you have suggestions about other #s it might be useful for me to take off my maps.

~~Interoffice~~

National Radio Astronomy Observatory
Charlottesville, Virginia

1985 November 27

To: Tim/Wil/George/Alan
From: Stefi
Subject: The Progress of Science

Hello all. This is yet another report on the status of the Eq-survey.

As you probably already know, the final 'complete sample' includes all extragalactic sources in the declination range +20 to -30, from the Parkes and Monlonglo surveys having a flux $\geq 11Jy$ on the Baars et al. scale (from at least one of these surveys). This results in a list of 61 sources. However, from a point of view of the VLA radio work on this sample there are some further modifications to this list:

(1) Of these 61 sources, an additional 7 should probably be nixed from my list of sources because they have radio sizes less than 3 arcseconds; that is these sources are extremely core dominated. These overly small sources are 0023-26, 0518+165 (3c138), 0741-063, 2223-052 (3c446), 2251+158 (3c454.3), 1226+023 (3c273), 0624-05 (3c161).

(2) There are 3 sources in the list which have questionable status as to the legitimacy of their inclusion in the complete sample. These are: (a) 0939+140 which it appears may actually be two separate sources having roughly equal fluxes, (b) 2104-256 which is actually three sources in a single cluster, (c) 0538-02 which is almost assuredly two separate sources.

(3) There are 7 sources that have either been mapped in detail or are in the process of being mapped in detail, and for which I do not plan to take any additional VLA data. These are 3c40, M84, M87, 3c445, 3c75, 3c279, 0349-273. With regards to 3c279 I have not myself seen a map of this source- Wil, isn't this the source Imke is mapping and if yes could you send me maps?

(4) There are 2 source NGC1068 and 0045-25 which are nearby spirals and which (though I have been mapping them because of their great interest) are not 'typical' survey sources.

In summary, this leaves me with roughly 45 sources that I am in the process of gathering data for and mapping.

I have included a listing of the sources in the complete sample. This listing gives: (a) in column 1 the Parkes designation, (b) in column 2 an alternative name if I know of one, (c) in column 3 a redshift where I could find one in the literature, where a question mark following the listed z implies that the id corresponding to the redshift is not clearly that of the parent galaxy of the source, (d) in columns 4 through 9 the radio position in

1950 coordinates, (e) in column 10 the reference as to the positional information where *sb* designates that the position is off of a detected nucleus on my radio maps, *sb - g* designates that I have estimated the position as the geometric center of two lobes or hotspots, *sb - l* designates that the position is off of a low resolution map (≥ 3 arcseconds) and *pw* designates that I have taken the position from the compiled catalog of Peacock and Wall (1985), (f) column 11 gives the extent of the radio emission, (g) columns 12 through 18 indicate whether or not we have an observation of the source in a given array and at a given frequency, where A20 stands for a 20cm observation in the A array (etc.), (h) columns 19 and 20 give the 408MHz flux as determined by Parkes and Molonglo respectively (where the listed fluxes have been put on the Baars et al. scale), and finally (i) column 21 gives the comment that accompanied the Molonglo flux where *ext* stands for extended and *mc* stands for multiple component and *p?* means there was a question as to the accuracy of the Parkes listed flux.

As you can see by looking at this list, most of the data has been taken. We have applied for an addition 8.5 hours in the D array to get completed structural information on the larger sources and 5.5 hours in the A array and 13.5 hours in the B array to fill in gaps in the data base. This 'final' eqsurvey proposal received favorable reviews and it appears will be scheduled in near entirety. This final data should fill in (hopefully!) the remaining cracks in the survey and provide a final data base.

As for 3c277.3 all of the data is now in and I hope to make final maps for analysis in the near future so that I can work on the interpretation of this source as I continue to aips away on the survey stuff. One hope for the future is the predicted, imminent (January?) arrival of a Convex computer here in Cville which is purported to be 3 times as fast as the present Vax plus array processor and which allows 3 equivalent aips1 users at a given time. Needless to say, I *EAGERLY* await the arrival of this machine!!!!

As for the optical half of this project - I am of course looking forward to our upcoming Kitt Peak run. I gather there is a fair amount of optical data that has already been taken and is in need of processing? And lastly, there are still about 12 sources for which I have not been able to find redshifts in the literature. It will probably be important from the standpoint of the radio work to get redshifts for these objects.

In addition, we do of course have limited radio data on a much larger sample of radio sources (i.e. those brighter than 8.5Jy at 408MHz etc.). At some point, we will need to think about what to do with all of this data as well...

Well, I guess that is about all for now. I certainly am all talked out. Any suggestions, comments etc. would of course be appreciated.

P.S. I have included a copy of my 'Thesis Proposal' as it will be presented to U.Md..

EQ survey Complete Sample

11/25

Alan

NAME	Rdshft	RA			DEC		POS	Radio	VLA OBSERVATIONS					408MHz FLUXES						
		z	Hr	Min	Sec	Deg			min	sec	ref	Size	A20	B6	C20	C6	C2	D20	D6	Parkes
Parkes also																				
0023-26			0	23	13.91	-26	18	49.30	pw	1 "		y	y	y				14.2	17	
0035-014 3C15	0.2180		0	35	47.18	-2	24	9.50	sb	30 "	y	y		y				13	16.53	
0038+097 3C18	0.1880		0	38	14.78	9	46	59.55	sb	1 "	y	n		y	y			10.7	11.54	
0045-25 NGC253	0.0010		0	45	5.70	-25	33	39.10	sb	35 "		y			y			10.7	6.12	ext
0105-16 3C32			1	5	48.64	-16	20	22.80	sb-g	65 "	y	y			y			10.2	13.24	
0106+13 3C33	0.0600		1	6	14.56	13	4	16.20	sb	4 "	y	y		y	y			29.6	25.48	ext
0117-15 3C38	0.7940		1	17	59.54	-15	36	2.30	sb-g	30 "	y	y			y			10.5	13.52	
0123-01 3C40	0.0177		1	23	26.00	-1	36	20.00	pw-c	11 "		y						13.6	8.17	mc
0213-132 3C62	0.2000		2	13	12.25	-13	13	25.00	sb	85 "	y	y		y	y			9.9	11.73	
0218-021 3C63	0.1750		2	18	21.94	-2	10	32.50	sb	30 "	y	y			y			10.3	11.77	
0235-19			2	35	24.56	-19	45	32.50	sb-g	50 "	y	y		y	y			13	13.27	
0240-002 N1068/3C71	0.0041		2	40	7.09	0	-13	30.70	pw	15 "		y			y			10.1	12.36	
0255+058 3C75	0.0240		2	55	5.10	5	50	44.00	pw	4 "		y						14.3	8.04	ext
0305+039 N1218/3C78	0.0290		3	5	49.06	3	55	13.20	sb	2 "	y	y	y	y				13.2	13.6	
0307+169 3C79	0.2560		3	7	11.35	16	54	37.08	sb	80 "	y	y		y	y			12.6	14.72	
0349-278	0.0660		3	49	31.67	-27	53	30.40	sb	6 "		y						11.2	8.75	ext
0356+102 3C98	0.0310		3	56	10.17	10	17	32.80	sb	5 "		y	y	y				24.2	21.29	
0404+035 3C105	0.0889		4	4	39.07	3	34	27.43	sb	6 "	y	y	y	y	y			10.3	9.35	
0410+110 3C109	0.3060		4	10	54.84	11	4	41.65	sb	1.5 "	y	y		y	y			10.3	11.7	ext
0442-28			4	42	37.83	-28	15	22.50	sb	1.5 "	y	y		y	y			15.6	18.85	ext
0518+165 3C138	0.7590		5	18	16.53	16	35	26.90	pw	0.5 "								15.4	17.24	
0624-05 3C161			6	24	43.20	-5	51	11.40		1.5 "					y			43.2	44.72	
0634-206	0.0056		6	34	23.19	-20	32	18.10	sb	14 "		y	y	y				21	14	ext mc
0741-063										0.3 "								12.8	12.18	
0806-103 3C195			8	6	30.13	-10	19	3.40	sb-1	2.5 "			y	y	y			11.4	10.23	ext
0859-257			8	59	36.19	-25	43	25.40	sb-g	1 "					y	y		11.6	17.17	
0915-118 HydraA/3C218	0.0650		9	15	41.19	-11	53	5.13	sb	50 "	y	y	y	y	y			109.6	132	
0939+14 3C255B-stat?										6 "	y	y	y	y				11.4	9.13	pt
0945+076 3C227	0.0850		9	45	6.54	7	39	17.14	sb	3.5 "	y	y	y	y				19.4	15.53	ext
0949+002 3C230			9	49	25.03	0	12	40.18	sb	10 "		y	y					10.6	12.3	pt
1005+071 3C237			10	5	22.01	7	44	58.80	sb	8 "		y						14.4	15.35	
1008+066 3C238	1.4050		10	8	23.07	6	39	27.35	sb-g	12 "	y	y						10.8	9.32	
1136-13	0.0210		11	36	38.51	-13	34	5.90	sb-g	25 "	y	y				y		10.6	10.5	
1142+198 N3862/3C264	0.0220		11	42	29.57	19	53	2.30	sb	50 "	y	y		y	y			17	abs	
1216+061 3C270	0.0069		12	17	50.00	6	6	11.20	sb-1	9 "		y	y	y		y		36.5	25.49	mc
1222+131 M84	0.0028		12	22	31.58	13	9	50.70	pw	3 "								12.4	12.18	
1226+023 3C273	0.1580		12	26	33.25	2	19	43.30	pw									48.5	61.12	mc
1228+126 VirgoA/M87	0.0038		12	28	17.56	12	40	2.00	pw									510.4	519	
1252-122 3C278	0.0145		12	51	58.53	-12	17	53.90	sb	3'		y		y				14.6	14.7	
1253-055 3C279	0.5380		12	53	35.84	-5	31	8.00	pw									11.2	14.45	
1308-220 3C283			13	8	57.36	-22	0	46.20	sb	10 "		y						15.6	22.21	ext
1416+067 3C298	1.4390		14	16	38.77	6	42	20.80	sb	6 "		y						21.5	23.36	
1514+072 3C317	0.0350		15	14	17.00	7	12	10.80	sb	30 "	y	y		y	y			23.2	25.18	
1559+021 3C327	0.1039		15	59	55.70	2	6	12.60	sb	5 "		y	y	y				20.3	16.11	ext
1602+014 3C327.1	0.4630		16	2	13.02	1	25	58.20	sb	17 "	y	y		y				9	14.87	p?
1648+050 HerCA/3C348	0.1540		16	48	40.10	5	4	28.00	pw	2.5 "		y		y	y			141.7	169.5	
1709-281			17	9	48.57	-28	6	4.00	sb-1	20 "				y				abs	13.6	
1717-009 3C353	0.0310		17	17	53.30	0	-55	49.40	sb	5 "								114.5	61.28	ext
1755-162			17	55	48.20	-16	16	38.00	sb-g	40 "				y				abs	12.14	
1836+171 3C386	0.171?		18	36	8.20	17	9	27.60	sb-g	2.5 "		y		y				14	14.62	
1938-155			19	38	24.80	-15	31	34.00	pw	10 "	y	y			y			13.7	16	pt
1949+023 3C403	0.0590		19	49	44.54	2	22	37.80	sb	1.8 "	y	y		y	y			13.6	13.57	ext
2058-282	0.0380		20	58	38.64	-28	13	42.60	sb	10 "		y	y	y				11.3	6.87	ext
2104-256 stat? ABC	0.0370											y						22	13.25	ext

2211-172 3C444	0.1530	22	11	42.56	-17	16	36.00	sb-g	2'	y	y	y	y	26	28.66
2212+135 N7237/3C442	0.0263	22	12	18.00	13	36	9.00	sb-g	9'		y	y		11.5	7.02 mc
2221-023 3C445	0.0560	22	21	14.72	-2	21	29.80	sb	10'			y		14.5	7.15 ext
2223-052 3C446	1.4040	22	23	11.05	-5	12	17.40	pw	2"			y		8.5	11.89
2251+158 3c454.3/ovv	0.8600	22	51	29.52	15	52	54.30	pw	0.1"					13.9	11.62
2314+038 3C459	0.2199	23	18	24.80	-16	39	31.50	sb	15"	y	y	y	y	13	15.78

LIST OF FEATURES

SIDE A =	
SIDE B =	
TOTAL	

POSITIONAL INFO

XXXXXX	RA	DEC	DIRECT DIST. TO CORE	TRACED DIST. TO CORE
CORE (or midpt)				
HSA (or end A)				
HSB (or end B)				

SIZE INFO ON FEATURES (lobes jets hotspots knots)

XXXXXX							
FORM of width							
Length							
Volume							

$-20^\circ < \delta < +20^\circ$
PKS catalog 408 > 8.5 Jy.
b?

Completeness of Sample

- Are there more sources that meet the criteria?
- Plot PKS vs. Molonglo for small sources; then PKS vs. M87 for > 8.5 in either.
- Constructed sample complete in sky, not in catalog!
Total spectra of all sources.

C Array

Any "missing" sources from the real complete sample
 Any sources for which position was shifted $B \leftrightarrow C$

- is "B" array x.5 "wrong"?
- is "BC" array really necessary?

2cm 1" survey in C array to distinguish thermal }
 geometric }
 2cm C array v. ext. str.

Statistics of
 pol. distrib.
 power spec in (u,v) plane
 of lobes.

Identification
Survey
 propose.

Spectra
 fair objects to ID.
 opt. en. lines
 CPND 2-n.
 CCD precision
 spectra

Multi-freq.

emission line gets.		
New 2cm.	277.3	C
Band filling @ 6		B
Dop property.	305	A+B
		\updownarrow A or B

4029.30
 + new?

Einstein data base