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Radio spectra of complete sample of Galactic supernova remnants

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Abstract. We present radio continuum spectra for 200 Galactic supernova remnants (SNRs) from 220 known and included in Green's (1998) catalog. The spectra can be plotted only for 200 SNRs because about 20 remaining new and weak SNRs (Whiteoak and Green, 1996; Gray, 1994a) have only one–frequency flux density measurements. Spectrum plotting is an "on–line" procedure of the CATS database (Verkhodanov et al., 1997) created for some other multi-frequency catalogs. These spectra include most of the measurements available in literature, as well as multi-frequency measurements of nearly 120 SNRs with the RATAN-600 radio telescope in 1, 2 and 4 Galactic quadrants and from the Galactic plane survey at 960 and 3900 MHz (Trushkin, 1986, 1988, 1989, 1996, 1998). The measurements have been placed on the same absolute flux density scale of Baars (1977) as in the paper by Kassim (1989a), using the correcting factor from the compiled catalog (Kuhr et al., 1981). The presented compilation has given a possibility of plotting quite accurate spectra with the thermal plasma free–free absorption in fitting the spectra accounted for.

Key words: ISM: supernova remnants – radio lines: ISM – radio continuum: ISM

1. Introduction

The non-thermal radio spectrum is a key property distinguishing SNRs from extended Galactic plane radio sources. The current catalog of SNRs (Green, 1998, see also Green, 1984, 1988, 1991, 1996) contains 220 Galactic SNRs and some dozens of possible or probable ones, named SNR candidates here. While it contains information about the spectral index and flux densities at 1 GHz, there is no complete collection of the available data on flux density measurements, scattered over hundreds of publications and catalogs (for example: Kesteven, 1968; Shaver and Goss, 1970a,b; Green, 1974; Milne and Dickel, 1974, 1975; Green et al., 1975; Angerhofer et al., 1977; Slee, 1977; Dubner et al., 1993, 1996; Grey, 1994a,b). Reviews of radio spectra of a few dozen SNRs are given in the early papers by Shaver and Goss (1970a,b), Willis (1973), Dickel and DeNoyer (1975), the recent papers by Kassim (1989a,b), Kovalenko et al. (1994a, 1994b) and the papers on Galactic plane sources (Reich et al., 1986, 1988; Fürst et al., 1987, 1989) based on the 11 cm and 21 cm Effelsberg Galactic plane surveys (Reich et al., 1990a, 1990b).

The results of new all-sky surveys with a resolution of about 1′ are presently available, which comprise much more data on extended sources in the Galactic plane.

We used our measurements of the flux densities of nearly 120 SNRs (Trushkin, 1986; Trushkin et al., 1988; Trushkin, 1996a,b, 1997). Thus the flux densities of half of the SNRs were measured at several (up to six) frequencies, which corrected and complemented essentially the spectra of many SNRs.

Here we attempt to collect all these data in a single file and make them accessible in the CATS database (Verkhodanov et al., 1997). The spectrum plotting procedure of the SNRs with option of formula of approximation is designed to simplify the statistical investigation of radio properties of these SNRs by providing easy and public access to the available data.

While there are no significant correlations of global SNR parameters with the spectral indices (Caswell and Clark, 1975; Lerche, 1980), Weiler (1983) proposed an extremely important classification which divided the SNRs into groups: shells, plerions, and composite SNRs. Probably the SNRs are intimately related with the basic type classification of supernova: SNIa, SNIb and SNII. The SNIb and SNII are the birthplace of neutron stars and black holes and thus lead to production of plerions or, in dense ISM, composite SNRs with appearance of filled-center and shell structure in the X-rays and radio emission, respectively. On the other hand, the classical shells are created by SNIa, as is the case with the historical SN 1604 Tycho.

Besides the morphology differences in radio emission, these three classes of SNRs have different mean spectral indices ($S_\nu \propto \nu^\alpha$) (Weiler, 1983, 1985).

Accurate spectra are very important for the classification "shell/plerion", recognition of the mechanism of generation of relativistic particles, search for possible high- or low-frequency turnovers of spectra.

Based on the historical shell SNR data, Green (see Jones et al., 1997) pointed out that "there is an apparent trend in synchrotron spectral index with remnant age". However from the data presented it is evident that there are only 11 SNRs having an angular size less than 10′ from a total of 36 objects with a steep spectrum: $\alpha_4 < -0.65$. Thus it is unlikely that compact and young SNRs have steeper spectra than extended and "adult" ones.

It is worth noting that the alternative point of view of Glushak (1997) concerning the evolution of spectral index and existence of correlation between spectral index and surface brightness ("$\alpha-\Sigma$" plane). However, as long as the significance of such a collection remains unproved, it is untimely to draw conclusions concerning the physical evolution of SNRs on its basis.

2. Flux density measurement data

The catalog of the flux measurements is a file *SNR_spectra.dat* (nearly 2300 entries), which is a base for plotting the spectra of 200 SNRs and candidates. The "on-line" spectrum plotting is accessible from the homepage of the CATS database: `http://cats.sao.ru/` and its local mirror `http://www.ratan.sao.ru/~cats`. The catalog consists of columns: name (as in Green's catalog), frequency (MHz), flux density (Jy), flux error (Jy), correcting factor, radio telescope, SNR type (+indicator of compact object) and SIMBAD/NED bibcode (YYYYJJJJ.VVV.PPPPAuthor). A fragment of the spectral data catalog is shown in Table 1.

In the second column the symbol '*' is used to indicate that these data are not used for the spectrum fitting. Signs '<' and '>' are used for the upper or lower limits and are not used for the spectrum fitting either. If a flux point has no error, we adopt it to be equal to 10% of the total flux density in order to set the relevant weight factor for each point of measurements.

In the current version of the catalog the SNRs type indicator was added: F — filled-center or plerion, S — shell and C — composite type. There are indicators of active neutron stars (NS) for 16 known pairs SNR + NS from the paper by Frail (1998): PSR — pulsar; SGR — repeater gamma-burster; QNS — radio-quiet NS; XRB — X-ray binary system; SXP — slow X-ray pulsar. Also "PSR?" shows the possible pairs SNR+NS from Kaspi (1998). "XPSR" indicates slow X-ray pulsars in G27.4+0.0 and G29.7-0.3 according to Gotthelf (1998).

For Vela XYZ SNR complex (G327.7+14.6) we give two different spectra: for the whole SNR and for the Vela X.

Here we can not give a complete list of references (see CATS procedure of spectrum plotting or original SNR catalog by D. Green (1998)). In the References we give some most relevant references.

For every SNR spectrum in the CATS database procedure a file GLLL.L±B.B.fit will be created where the bibcodes of the references are presented.

We give the spectra of the original calibrators, SNR Cas A (G111.7+1.2) for the epoch 1965.0 and the Crab Nebula (G189.1+3.0), from the table data collected in the paper by Baars et al. (1977).

We used our measurements of the flux densities of about 120 SNRs (Trushkin, 1986, 1996a,b, 1997; Trushkin et al., 1988). We added to the list of SNRs four first detected SNRs: G3.2−5.2, G11.2−1.1, G16.0+2.7 and G356.2+4.4, and also the SNR candidates G4.7+1.3, G4.8+1.2, G4.8+6.2, G9.7−0.1 and G85.2−1.2 from Duncan et al. (1997) and Taylor et al. (1992).

The complete list of 350 RATAN-600 multifrequency measurements is shown in Table 2. There are new data of 1997–98 in the list.

3. Spectrum fitting

The thermal absorption of the foreground describes well the spectra of most SNRs: $S_\nu = [S_{408}(\nu/408)^\alpha] \exp[-\tau_{408}(\nu/408)^{-2.1}]$, (Kassim, 1989a). Kassim (1989b) used the low-frequency data to derive spectra for 32 SNRs, and their turnovers at low frequencies (< 100 MHz) to indicate the presence of extended ionized medium along the line of sight.

For fitting we used, as a rule, an approximation formula, $y = A + Bx + C\exp(Dx)$, or a simple linear case, $y = A + Bx$, where $x = \log\nu$, $y = \log S_\nu$, ν — frequency (MHz), S_ν — flux density (Jy), $D = \pm1$ or $D = -2.1$. Clearly the latter case is adequate to real thermal absorption at low frequencies and steady in fitting the spectra with a few points. The inverse squares of relative flux errors, $(\Delta S_\nu/S_\nu)^{-2}$, are used as formal weights of their flux points. Often we used the option "without errors" for the spectrum plotting, when the scattering of points on the spectrum is larger than the values of errors.

It is worth noting that a user can try any optional methods of approximation "on-line" in the procedure of the CATS database. The next version of this procedure will include the interactive removal of the discrepant flux points on the spectrum.

For fitting the curve we give two spectral indices at 0.4 and 4 GHz if these frequencies are within the fitting range. The first one is closer to $\tau = 1$ since the

Table 1: *Fragment of the spectral catalog of the Galactic SNRs*

Name	ν(MHz)	$S_\nu(Jy)$	$\Delta S_\nu(Jy)$	F_{cor}	Telescope	Type	Bibcode
G009.8+0.6	960.0	4.10			RATAN	S	1996BSAO...41...64Trushkin
G009.8+0.6	1465.0	3.50	0.40		VLA		1993AJ....105.2251Dubner+
G009.8+0.6	2695.0	1.00	0.40	0.99	GB 43m		1970A&AS....1..319Altenhoff+
G009.8+0.6	2700.0	1.80		1.03	Parkes		1970AuJPA..13....3Goss & Day
G009.8+0.6	3900.0	1.90			RATAN		1996BSAO...41...64Trushkin
G009.8+0.6	7700.0	1.20			RATAN		1996BSAO...41...64Trushkin
G010.0−0.3	57.5*	<3.00		1.00	CLRO	Fx	1988ApJS...68..715Kassim
G010.0−0.3	83.0	6.0	3.		BSA,DKR		1994AR.....38...95Kovalenko+

spectra have maxima near 80–200 MHz. The second one is the spectral index of an optically thin spectrum and is not influenced by propagation conditions, but there is a high-frequency turnover of spectra because of the properties of synchrotron radiation. Now the plot of curved spectra contains the frequency of flux maximum, ν_{max}.

4. The atlas of spectra of 200 SNRs

The spectra of 192 SNRs, included in Green's catalog, and the spectra of eight new SNRs or SNR candidates, G3.5−5.2, G4.7+1.3, G4.8+6.2, G9.7−0.1, G11.2−1.1, G16.0+2.7, G85.2−1.2 and G356.2+4.4, are presented at the end of the paper. The figures are ordered by Galactic longitude from SNR names in two columns on a page.

The labels under the name denote the type of approximation curve: "lin" — $a + b \cdot x$; "ther" — lin + $\exp(-2.1x)$; "exp±" — lin + $\exp(\pm x)$, where $x = \log(\nu)$.

These spectra include most flux density measurements from literature and our 350 measurements of flux densities of 120 SNRs with the RATAN-600 radio telescope in 1, 2 and 4 Galactic quadrants and from the Galactic plane survey at 0.96 and 3.9 GHz (Trushkin 1988, 1996a), which are collected in Table 2.

5. Analysis of spectra

The sample mean spectral indices at 0.4 and 4.0 GHz are $\alpha_{0.4} = -0.41 \pm 0.34$ and $\alpha_4 = -0.50 \pm 0.21$. The distributions of the low- and high-frequency spectral indices ($\alpha_{0.4}$ and α_4, respectively) for 192 SNRs are shown in Fig. 1. For comparison we present the best gaussian fit of the distribution with a dispersion $\sigma = 0.3$. Although the number of SNRs with the index in the interval $-0.8 < \alpha_4 < -0.6$ with respect to $\alpha_{0.4}$ is slightly in excess, we could not find significant difference in the distributions of both spectral indices.

As Lerche (1980) has shown, Bell's (1978a,b) mechanism (as a variant of the Fermi acceleration of the first order) of repowering is attractive because it provides a simple explanation of the observed spread of spectral indices: from acceleration whether on a strong adiabatic shock wave with a compression factor $\chi = 4$ or on a strong isothermal shock with $\chi = 2.4$. Thus the spectral index of relativistic electrons, $\gamma = \frac{2+\chi}{\chi-1}$, varies from 2 to 3.1. Therefore the spectral indices may vary from −0.5 to −1.1 if the equation of state in SNR is described by strong adiabatic or isothermal shocks.

We did not find considerable correlation between spectral index and Galactic coordinates l and b of SNRs. (Because the distance d estimates are very uncertain, we did not search for any correlation with d and distance from Galactic plane z).

An analysis of 190 spectra showed that 70 SNRs (37%) have clear low-frequency turnover caused, apparently, by absorption in the thermal foreground of the Milky Way. Fig. 2 shows the distribution of the maximum flux frequency ν_{max} for these SNRs.

These frequencies ν_{max} do not correlate with the Galactic coordinates. It should be noted that in the region $l = 67-70°$ all four SNRs have a relatively high $\nu_{max} = 500 - 700$ MHz, while most of the SNRs have $\nu_{max} = 50-150$ MHz. Only the SNRs in the direction of the Galactic center have $\nu_{max} > 250$ MHz.

It is worth noting that from 16 SNRs with active neutron stars (Frail, 1998), the spectra of 15 ones have no low-frequency turnover at $> 20 - 50$ MHz which is logically associated with the contribution of neutron stars (or pulsars) inside SNRs. Pulsars as a rule have steeper spectra than SNRs, thus their contribution will be higher at low frequencies.

The catalog of SNR spectra has ten cases of clear turn-up at low frequencies. It is interesting that five (50%!) such SNRs contain radio pulsars (Kaspi, 1998). Of course, it is probable that there is discrepancy of flux scales in low- and high-frequency measurements of flux densities. But in further observations we should pay special attention to the sample of SNRs without turnover or even with turn-up at low frequencies for search for pulsars or active stellar supernova remnants.

The Crab-like SNR G74.1−1.2 is a single radio source with a clear turnover at high frequencies. Only

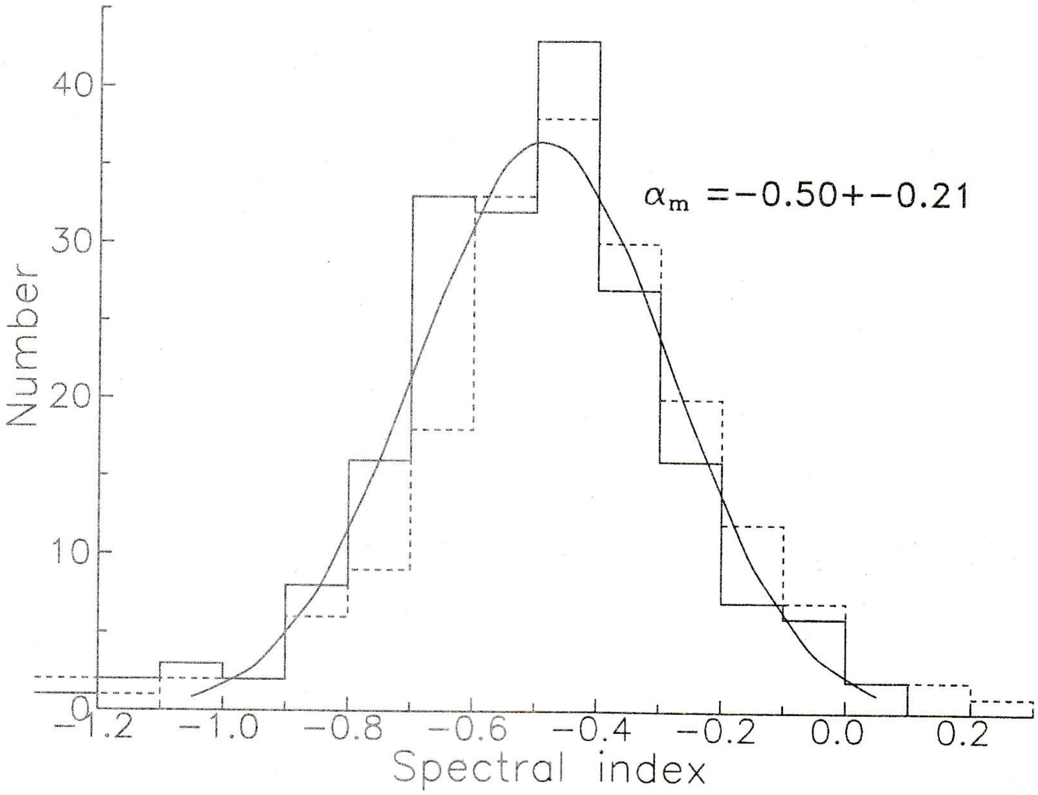

Figure 1: *Distribution of α_4 (solid line) and $\alpha_{0.4}$ (dashed line) for 192 SNRs*

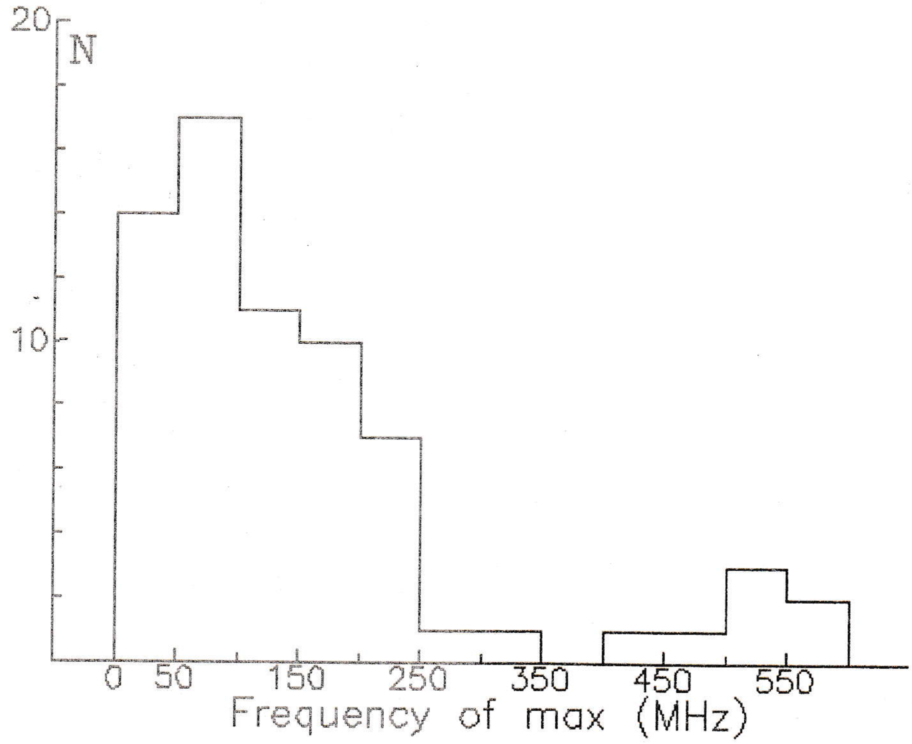

Figure 2: *Distribution of flux maximum frequency for 70 SNRs*

G41.1−0.3 and G180.0−1.7 showed similar turnovers.

There are few data for SNR with large angular size at frequencies higher than 10 GHz in our catalog. Only in these SNRs with big ages such turnovers are due to synchrotron losses.

6. Other resources on SNRs in the CATS database

In addition we note that besides the procedure of SNR spectrum plotting "on-line" from the WEB home-page of the CATS database: `http://cats.sao.ru/` or `http://www.ratan.sao.ru/~cats` the atlas of the RATAN drift scans of 80 SNRs from 1, 2 and 4 Galactic quadrants and the compiled catalog of X-ray and radio maps of more than 80 % Galactic SNRs are accessible.

The atlas gives the strip-distributions of radio brightness for SNRs in observations with a "knife" antenna beam of the RATAN-600 radio telescope, realized at low elevations. Compact sources can easily be detected on such drift scans. These sources are of special interest because they could be stellar SNRs. A comparison of such distributions of radio brightness at different frequencies can also be made.

The catalog of extended SNRs in different ranges allows us to have a detailed comparison with the observational data obtained at the RATAN-600. The catalog contains more than 900 maps of nearly 220 SNRs in the X-ray, optical, and radio ranges. The catalog can be useful in new observational programs, and also for solving statistical problems.

7. Conclusions

We present radio continuum spectra for 192 Galactic supernova remnants (SNRs) from 220 known and included in Green's (1998) catalog. We added eight SNR candidates detected in the Galactic survey carried out with the RATAN-600 radio telescope (Trushkin, 1996) and in the investigations of 1997–1998. The catalog contains about 2200 flux density measurements. The spectra can be plotted only for 200 SNRs because about 20 other new and weak SNRs (Whiteoak and Green, 1996; Gray, 1994a) have only one–frequency flux density measurements.

The procedure of spectrum plotting based on this catalog is "on-line" in the CATS data base (Verkhodanov et al., 1997) developed for six multi-frequency catalogs. The spectra are temporarily stored in GIF-files which are shown in the figures.

These spectra include most flux density measurements from literature and our measurements of flux densities of nearly 120 SNRs with the RATAN-600 radio telescope in 1, 2, and 4 Galactic quadrants and from the Galactic plane survey at 0.96 and 3.9 GHz (Trushkin 1988, 1996).

Where it was possible, the flux measurements were reduced to the common flux scale of Baars (1977), as it was done in the work of Kassim (1989a). The correcting coefficients from the compiled catalog of Kuhr et al. (1981) were used.

The presented compiled catalog of flux density measurements enables one to plot spectra of SNRs with allowance made for their turnover at low frequencies due to thermal absorption in the Galaxy.

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Table 2: *RATAN-600 measurements of the Galactic SNRs*

Name	ν(MHz)	S_ν(Jy)	$\Delta S(Jy)$	Ref	Name	ν(MHz)	S_ν(Jy)	ΔS(Jy)	Ref
1	2	3	4	5	1	2	3	4	5
G000.0+0.0	960	330.00	10.0	4	G010.0−0.3	3900	0.45	0.1	3
G000.0+0.0	2300	250.00	5.0	4	G010.0−0.3	11200	0.37	0.1	3
G000.0+0.0	3900	216.00	5.0	4	G011.2−0.3	960	17.00	2.0	3
G000.0+0.0	11200	115.00	10.0	4	G011.2−0.3	3650	11.0	1.0	3
G000.9+0.1	3900	9.30	0.9	3	G011.2−0.3	3900	9.5	0.9	3
G000.9+0.1	7700	6.30	0.5	3	G011.2−1.1	960	9.0	0.2	3
G001.4−0.1	3900	2.50	0.5	3	G011.2−1.1	2300	7.0	0.5	3
G001.9+0.3	3900	0.45	0.1	3	G011.2−1.1	3900	5.0	0.2	3
G001.9+0.3	11200	0.15	0.05	3	G011.2−1.1	7700	3.5	0.4	3
G003.2−5.2	960	4.00	1.0	3	G011.4−0.1	960	4.20	0.7	3
G003.2−5.2	3900	2.00	0.5	3	G011.4−0.1	3900	1.70	0.2	3
G003.7−0.2	960	2.40	0.2	4	G012.0−0.1	960	2.60	0.3	3
G003.7−0.2	3900	0.90	0.2	4	G012.0−0.1	3900	0.40	0.05	3
G004.2−3.5	960	4.70	0.3	3	G012.0−0.1	11200	0.15	0.03	3
G004.2−3.5	3900	2.45	0.15	3	G012.2−1.1	960	2.5	0.25	4
G004.5+6.8	960	21.00	0.5	3	G012.2−1.1	3900	1.6	0.15	4
G004.5+6.8	2300	12.30	0.3	3	G013.5+0.2	960	2.00	0.3	3
G004.5+6.8	3900	8.30	0.2	3	G013.5+0.2	2300	0.70	0.1	3
G004.7+1.3	960	2.50	0.3	4	G013.5+0.2	3900	0.46	0.05	3
G004.7+1.3	3900	1.75	0.15	4	G015.1−1.6	960	4.80	0.5	3
G004.8+6.2	960	3.75	0.3	4	G015.1−1.6	3900	3.90	0.3	3
G004.8+6.2	3900	3.1	0.5	4	G015.9+0.2	960	4.00	0.4	3
G005.2−2.6	960	1.80	0.2	4	G015.9+0.2	3900	1.90	0.2	3
G005.2−2.6	3900	2.15	0.15	4	G015.9+0.2	11200	1.05	0.05	3
G005.4−1.2	960	33.0	2.0	3	G016.0+2.7	960	1.85	0.15	4
G005.4−1.2	2300	23.0	1.5	3	G016.0+2.7	3900	1.10	0.1	4
G005.4−1.2	3900	21.0	1.5	3	G016.7+0.1	960	4.80	0.5	3
G005.9+3.1	960	4.0	0.4	3	G016.7+0.1	3900	2.10	0.2	3
G005.9+3.1	3900	1.3	0.2	3	G016.7+0.1	11200	1.05	0.1	3
G006.1+1.2	960	4.8	0.4	3	G016.8−1.1	960	15.00	1.5	3
G006.1+1.2	3900	1.45	0.20	3	G016.8−1.1	3900	7.00	0.5	3
G006.4+4.0	960	1.80	0.3	3	G016.8−1.1	11200	3.00	0.25	3
G006.4+4.0	3900	1.20	0.15	3	G017.4−2.3	960	5.40	0.5	3
G006.4−0.1	960	300.0	15.0	3	G017.4−2.3	3900	2.00	0.2	3
G006.4−0.1	3900	170.00	10.0	3	G017.8−2.6	960	2.20	0.25	3
G007.7−3.7	960	11.80	1.2	3	G017.8−2.6	3900	2.10	0.2	3
G007.7−3.7	3900	6.70	0.7	3	G018.8+0.3	960	28.00	0.3	3
G008.7−0.1	960	95.00	8.0	3	G018.8+0.3	3650	18.00	0.3	3
G008.7−0.1	3900	63.00	4.0	3	G018.8+0.3	3900	18.90	0.3	3
G008.7−5.0	960	8.90	0.8	3	G018.9−1.1	960	34.00	3.0	3
G008.7−5.0	3900	4.40	0.4	3	G018.9−1.1	3650	22.00	2.0	3
G009.7−0.1	960	5.70	0.6	3	G018.9−1.1	3900	18.90	1.8	3
G009.7−0.1	2300	2.40	0.25	3	G018.9−1.1	7700	17.00	1.5	3
G009.7−0.1	3900	1.70	0.15	3	G020.0−0.2	960	6.90	0.7	3
G009.8+0.6	960	4.10	0.4	3	G020.0−0.2	3900	7.10	0.7	3
G009.8+0.6	3900	1.90	0.2	3	G021.5−0.9	960	5.00	0.4	3
G009.8+0.6	7700	1.20	0.15	3	G021.5−0.9	2300	6.00	0.3	3
G010.0−0.3	960	0.94	0.2	3	G021.5−0.9	3900	6.40	0.3	3

Table 2: *RATAN–600 measurements of the Galactic SNRs (continued)*

1	2	3	4	5	1	2	3	4	5
G021.5−0.9	7700	6.50	0.3	3	G039.2−0.3	7700	9.40	0.9	3
G021.5−0.9	11200	6.25	0.3	3	G039.7−2.0	960	65.00	4.0	3
G021.8−0.6	960	63.00	6.0	3	G039.7−2.0	2300	44.00	4.0	3
G021.8−0.6	3650	30.00	3.0	3	G039.7−2.0	3900	32.00	3.0	3
G021.8−0.6	3900	28.00	3.0	3	G040.5−0.5	960	10.00	1.0	3
G023.6+0.3	960	7.20	0.7	3	G040.5−0.5	3900	8.60	0.8	3
G023.6+0.3	2300	4.60	0.4	3	G041.1−0.3	960	8.50	0.8	3
G023.6+0.3	3900	3.30	0.3	3	G041.1−0.3	3900	6.70	0.7	3
G023.6+0.3	7700	2.30	0.3	3	G041.1−0.3	11200	2.66	0.3	3
G024.7+0.6	960	6.50	0.7	3	G042.8+0.6	960	4.70	0.5	3
G024.7+0.6	2300	7.00	0.7	3	G042.8+0.6	3900	1.44	1.4	3
G024.7+0.6	3900	7.00	0.7	3	G043.3−0.2	960	37.0	3.5	3
G024.7−0.6	960	7.50	0.8	3	G043.3−0.2	3900	18.8	2.0	3
G024.7−0.6	3900	2.60	0.25	3	G043.3−0.2	11200	10.40	1.4	3
G027.4+0.0	960	4.00	0.4	3	G043.9+1.6	960	4.50	0.5	3
G027.4+0.0	3900	1.65	0.15	3	G043.9+1.6	3900	1.90	0.2	3
G027.8+0.6	960	32.60	3.3	3	G045.7−0.4	960	12.60	1.3	3
G027.8+0.6	2300	25.40	2.5	3	G045.7−0.4	3900	4.00	0.3	3
G027.8+0.6	3900	20.00	2.0	3	G045.7−0.4	11200	1.50	0.2	3
G029.7−0.3	960	9.80	0.9	3	G046.8−0.3	960	15.80	1.6	3
G029.7−0.3	2300	3.70	0.4	3	G046.8−0.3	3900	9.00	0.9	3
G029.7−0.3	3900	1.60	0.3	3	G046.8−0.3	11200	5.30	0.5	3
G030.7+1.0	960	5.80	0.6	3	G049.2−0.7	960	174.0	10.0	3
G030.7+1.0	3900	2.84	0.3	3	G049.2−0.7	3900	124.0	8.0	3
G030.7−2.0	960	1.50	0.2	3	G049.2−0.7	11200	33.0	3.0	3
G030.7−2.0	3900	0.45	0.15	3	G053.6−2.2	960	10.80	1.1	3
G031.9+0.0	960	26.00	2.5	3	G053.6−2.2	3900	4.10	0.4	3
G031.9+0.0	3900	11.30	1.1	3	G054.1+0.3	960	0.40	0.1	3
G031.9+0.0	11200	5.60	0.6	3	G054.1+0.3	3900	0.45	0.1	3
G032.8−0.1	960	5.60	0.6	3	G054.1+0.3	11200	0.43	0.1	3
G032.8−0.1	3900	5.50	0.5	3	G055.7+3.4	3900	0.75	0.15	3
G033.2−0.6	960	2.00	0.3	3	G057.2+0.8	960	1.80	0.2	3
G033.6+0.1	960	15.00	1.5	3	G057.2+0.8	2300	0.90	0.1	3
G033.6+0.1	2300	8.50	0.8	3	G057.2+0.8	3900	0.80	0.05	3
G033.6+0.1	3900	6.50	0.7	3	G059.5+0.1	960	2.70	0.3	3
G033.6−0.6	960	14.00	1.4	3	G059.5+0.1	2300	1.75	0.2	3
G033.6−0.6	2300	8.10	0.8	3	G059.5+0.1	3900	1.40	0.15	3
G033.6−0.6	3900	5.30	0.4	3	G059.8+1.2	960	1.50	0.2	3
G034.7−0.4	960	306.00	30.0	3	G059.8+1.2	3900	0.80	0.05	3
G034.7−0.4	2300	190.00	20.0	3	G063.7+1.1	960	2.15	0.25	3
G034.7−0.4	3900	136.00	13.0	3	G063.7+1.1	2300	1.40	0.15	3
G036.6+2.6	960	0.81	0.1	3	G063.7+1.1	3900	1.30	0.10	3
G036.6+2.6	2300	0.76	0.08	3	G063.7+1.1	11200	1.20	0.15	3
G036.6+2.6	3900	0.65	0.07	3	G065.7+1.2	960	5.70	0.5	3
G036.6−0.7	960	11.50	1.1	3	G065.7+1.2	3900	2.05	0.2	3
G036.6−0.7	3900	3.00	0.4	3	G067.7+1.8	960	2.20	0.25	3
G039.2−0.3	960	21.00	1.5	3	G067.7+1.8	2300	1.05	0.06	3
G039.2−0.3	2300	13.40	1.0	3	G067.7+1.8	3900	0.60	0.05	3
G039.2−0.3	3900	11.50	1.0	3	G068.6−1.2	960	0.70	0.15	3

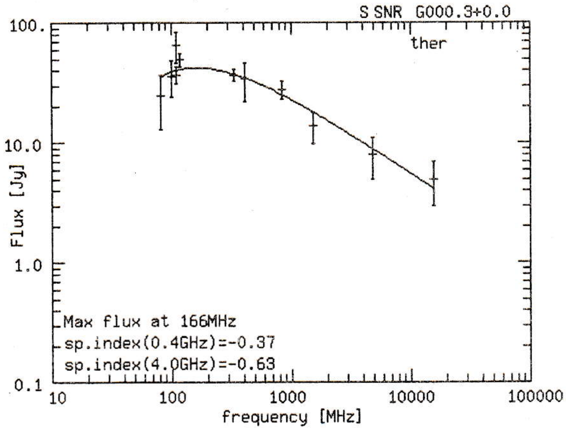
Table 2: *RATAN-600 measurements of the Galactic SNRs (continued)*

1	2	3	4	5	1	2	3	4	5
G068.6−1.2	3900	0.26	0.05	3	G109.1−1.0	7700	7.5	1.0	1
G069.7+1.0	960	3.00	0.3	3	G112.0+1.2	960	20.0	2.0	1
G069.7+1.0	3900	1.30	0.2	3	G112.0+1.2	2300	14.5	1.0	1
G073.9+0.9	960	8.90	0.9	3	G112.0+1.2	3650	9.0	1.0	1
G073.9+0.9	3900	5.20	0.5	3	G112.0+1.2	3900	7.0	1.0	1
G074.9+1.2	960	9.00	0.9	3	G114.3+0.3	960	25.0	1.0	1
G074.9+1.2	3650	7.20	0.7	3	G114.3+0.3	2300	20.0	2.0	1
G074.9+1.2	3900	6.60	0.5	3	G114.3+0.3	3650	15.0	2.0	1
G074.9+1.2	7700	5.70	0.4	3	G114.3+0.3	3900	13.0	2.0	1
G074.9+1.2	11200	2.60	0.3	3	G116.5+1.1	3900	4.8	0.2	1
G078.2+2.1	960	323.0	30.0	3	G116.9+0.2	960	10.1	0.4	1
G078.2+2.1	2300	186.0	18.0	3	G116.9+0.2	2300	5.5	0.4	1
G078.2+2.1	3900	150.0	15.0	3	G116.9+0.2	3900	3.8	0.2	1
G083.0−0.2	960	1.00	0.15	3	G117.4+5.0	960	55.0	5.0	1
G083.0−0.2	2300	1.25	0.15	3	G117.4+5.0	3900	35.0	3.0	1
G083.0−0.2	3900	0.95	0.10	3	G119.5+10.	960	36.0	3.0	1
G084.2−0.8	960	10.50	1.1	3	G119.5+10.	3650	26.0	3.0	1
G084.2−0.8	2300	5.50	0.5	3	G119.5+10.	3900	22.0	3.0	1
G084.2−0.8	3900	3.50	0.35	3	G120.1+1.4	960	54.8	0.8	1
G084.9+0.5	960	6.00	0.6	3	G120.1+1.4	2300	32.1	0.5	1
G084.9+0.5	2300	2.80	0.3	3	G120.1+1.4	3650	23.6	0.3	1
G084.9+0.5	3900	2.00	0.2	3	G120.1+1.4	3900	23.1	0.3	1
G084.9+0.5	11200	1.30	0.2	3	G120.1+1.4	7700	15.1	0.5	1
G085.2−1.2	960	2.30	0.1	3	G126.2+1.6	960	9.3	1.5	1
G085.2−1.2	2300	1.40	0.15	3	G126.2+1.6	3650	3.0	0.5	1
G085.2−1.2	3900	1.70	0.15	3	G126.2+1.6	3900	3.0	0.5	1
G089.0+4.7	960	190.0	20.0	1	G127.1+0.5	960	11.4	0.5	1
G089.0+4.7	2300	155.0	20.0	1	G127.1+0.5	2300	10.0	2.0	1
G089.0+4.7	3650	118.0	15.0	1	G127.1+0.5	3650	4.5	0.3	1
G089.0+4.7	3900	115.0	15.0	1	G127.1+0.5	3900	4.5	0.3	1
G089.0+4.7	7700	90.0	20.0	1	G130.7+3.1	960	33.3	1.5	1
G093.3+6.9	960	8.1	0.5	1	G130.7+3.1	2300	32.3	2.0	1
G093.3+6.9	3650	4.3	0.2	1	G130.7+3.1	3650	32.7	1.0	1
G093.3+6.9	3900	3.6	0.3	1	G130.7+3.1	3900	31.3	1.0	1
G093.7−0.2	960	45.0	2.0	1	G132.7+1.3	960	70.0	5.0	1
G093.7−0.2	3650	18.3	0.3	1	G132.7+1.3	3650	35.0	5.0	1
G093.7−0.2	3900	17.5	0.3	1	G132.7+1.3	3900	33.0	5.0	1
G094.0+1.0	960	14.0	1.4	1	G132.7+1.3W	2300	22.9	2.0	1
G094.0+1.0	960	14.00	1.1	4	G132.7+1.3W	3650	14.5	1.5	1
G094.0+1.0	3650	9.2	0.3	1	G132.7+1.3W	3900	12.5	1.5	1
G094.0+1.0	3650	9.20	0.9	4	G132.7+1.3W	7700	9.0	2.0	1
G094.0+1.0	3900	9.1	0.3	1	G160.9+2.6	960	109.0	5.0	1
G094.0+1.0	3900	9.10	0.9	3	G160.9+2.6	3900	46.0	5.0	1
G094.0+1.0	7700	6.7	0.5	1	G189.1+3.0	960	150.0	10.0	1
G094.0+1.0	7700	6.70	0.7	3	G189.1+3.0	3900	84.0	5.0	1
G109.1−1.0	960	22.8	0.6	1	G189.1+3.0	7700	51.0	5.0	1
G109.1−1.0	2300	13.8	0.5	1	G192.8−1.1	3650	25.0	2.5	2
G109.1−1.0	3650	12.5	0.5	1	G192.8−1.1	3900	30.0	2.5	2
G109.1−1.0	3900	12.3	0.5	1	G261.9+5.5	960	14.00	1.5	4

Table 2: *RATAN-600 measurements of the Galactic SNRs (continued)*

1	2	3	4	5
G261.9+5.5	2300	8.10	1.0	4
G261.9+5.5	3900	5.30	0.5	4
G327.6+14.	2300	13.00	1.3	3
G327.6+14.	3900	9.20	0.8	3
G327.6+14.	7700	6.00	0.5	3
G344.7−0.1	960	3.60	0.5	3
G344.7−0.1	2300	1.65	0.2	3
G344.7−0.1	3900	1.40	0.1	3
G344.7−0.1	11200	0.70	0.1	3
G345.7−0.2	3900	0.40	0.15	4
G346.6−0.2	960	11.40	1.1	3
G346.6−0.2	2300	8.80	0.9	3
G346.6−0.2	3900	6.30	0.6	3
G346.6−0.2	7700	4.90	0.5	3
G346.6−0.2	11200	2.90	0.3	3
G348.5−0.0	960	8.0	1.0	3
G348.5−0.0	3900	4.5	0.5	3
G348.5+0.1	960	118.0	12.0	3
G348.5+0.1	3900	41.0	3.0	3
G348.7+0.3	3900	21.0	2.5	3
G349.7+0.2	960	25.0	2.5	3
G349.7+0.2	2300	15.50	1.5	3
G349.7+0.2	3900	9.50	0.9	3
G349.7+0.2	7700	8.00	0.8	3
G349.7+0.2	11200	4.00	0.4	3
G350.0−2.0	960	29.0	0.3	4
G350.0−2.0	3900	14.70	2.0	4
G350.1−0.3	960	6.20	0.6	3
G350.1−0.3	2300	3.20	0.3	3
G350.1−0.3	3900	2.10	0.2	3
G350.1−0.3	7700	1.50	0.2	3
G351.2+0.1	960	3.30	0.4	3
G351.2+0.1	2300	3.90	0.4	3
G351.2+0.1	3900	2.60	0.2	3
G351.2+0.1	7700	2.30	0.3	3
G351.2+0.1	11200	2.70	0.3	3
G352.7−0.1	3900	2.60	0.2	3
G352.7−0.1	11200	1.40	0.2	3
G354.8−0.8	960	3.1	0.3	4
G354.8−0.8	3900	1.0	0.2	4
G355.4+0.7	960	6.0	0.6	4
G355.4+0.7	3900	2.4	0.2	4
G355.6−0.0	960	4.0	0.3	4
G355.6−0.0	3900	3.7	0.3	4
G355.9−2.5	960	7.60	0.7	3
G355.9−2.5	3900	4.00	0.3	3
G356.2+4.4	960	6.86	0.5	4
G356.2+4.4	3900	3.16	0.3	4
G356.3−0.3	960	0.9	0.2	4
G356.3−0.3	3900	0.8	0.2	4
G357.7+0.3	960	7.20	0.7	3
G357.7+0.3	3900	6.10	0.5	3
G357.7−0.1	960	43.0	2.0	3
G357.7−0.1	3650	22.0	1.0	3
G357.7−0.1	3900	22.0	1.0	3
G357.7−0.1	7700	13.0	1.5	3
G357.7−0.1	11200	8.60	1.0	3
G359.1−0.5	3900	15.50	1.5	3

Bibcode of the references in column 5:
1 – 1987AISAO..25...81T; 2 – 1989Thes........1T; 3 – 1996BSAO...41...64T; 4 – this paper.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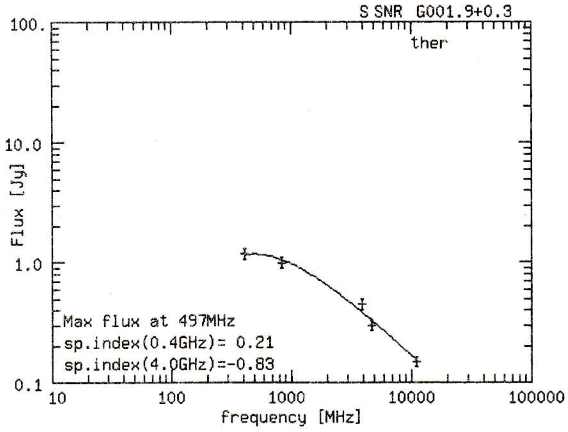
frequency [MHz]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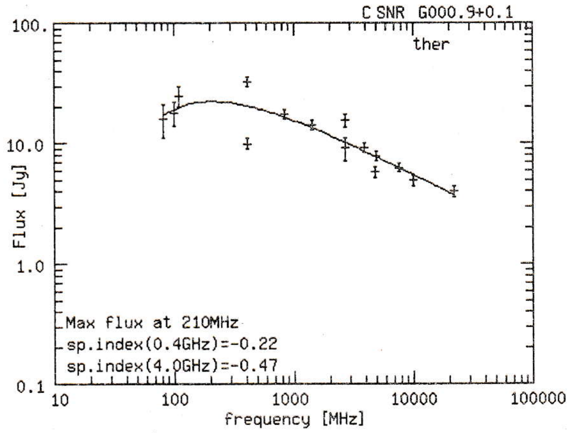
frequency [MHz]


C SNR G000.9+0.1
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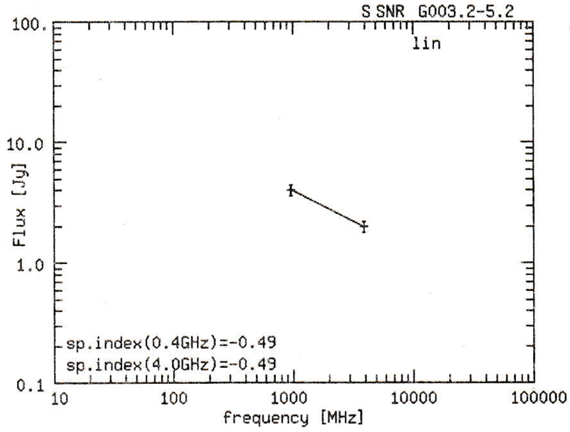
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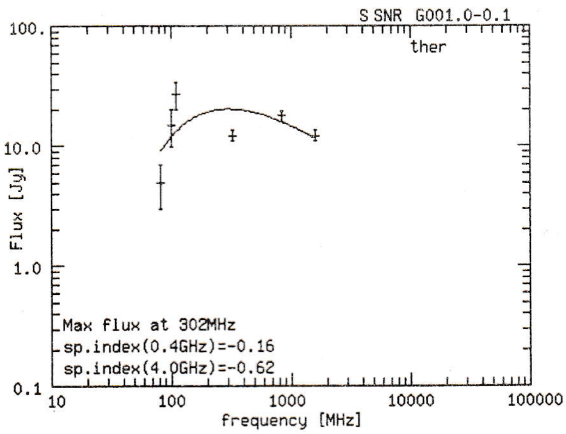
frequency [MHz]


S SNR G001.0-0.1
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Max flux at 302MHz
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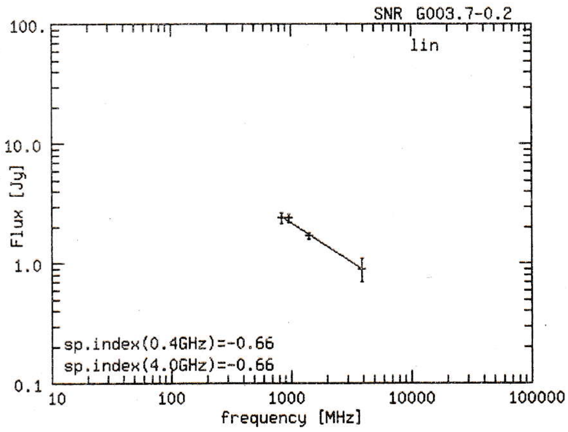
frequency [MHz]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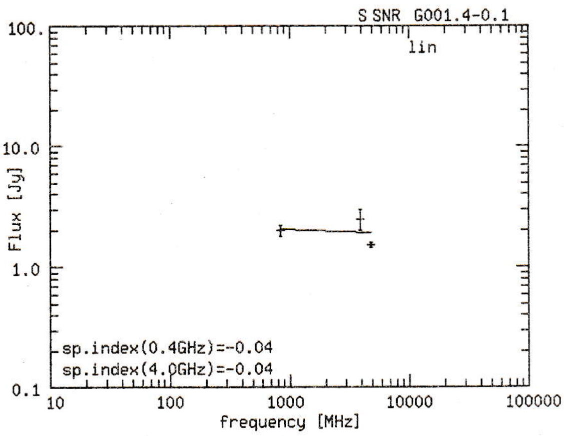
Flux [Jy]
frequency [MHz]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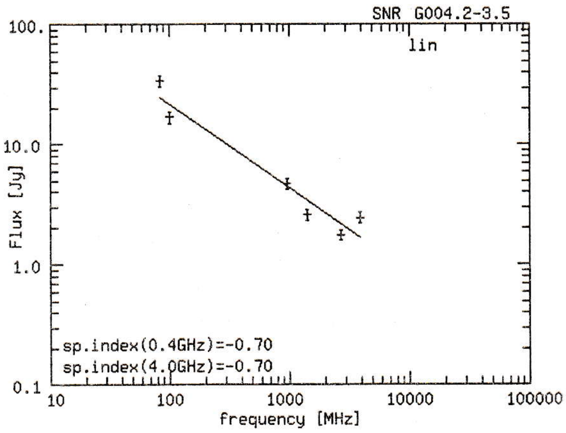
Flux [Jy]
frequency [MHz]


SNR G004.2-3.5
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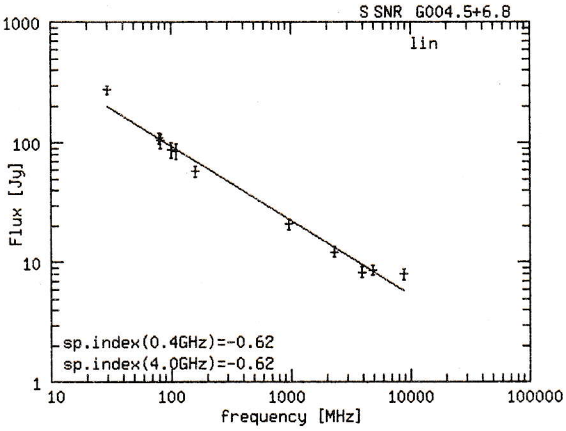
Flux [Jy]
frequency [MHz]


S SNR G004.5+6.8
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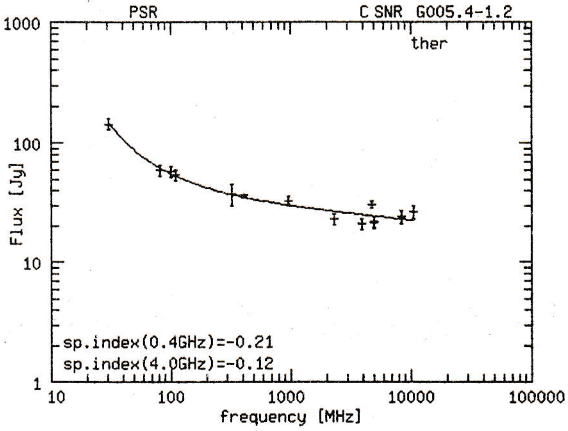
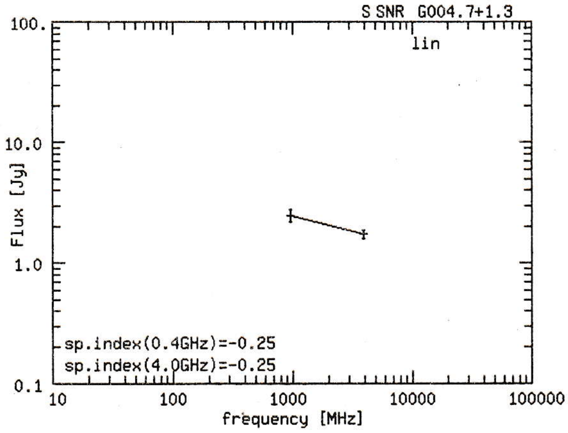
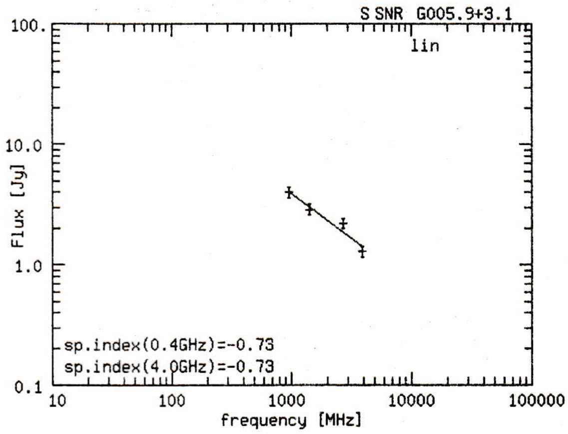
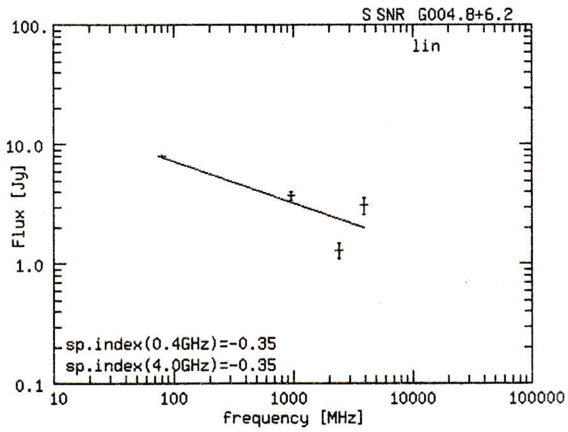
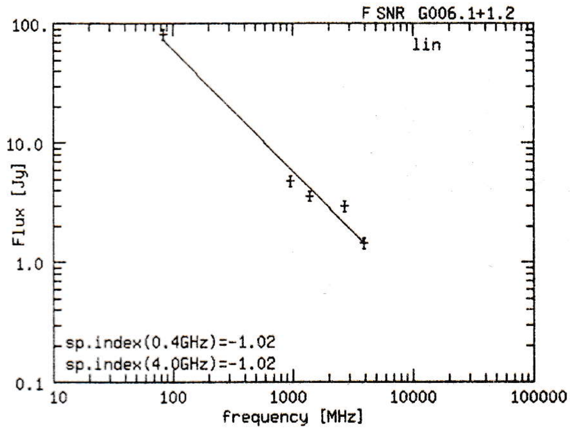
sp.index(4.0GHz)=-0.62
Flux [Jy]
frequency [MHz]

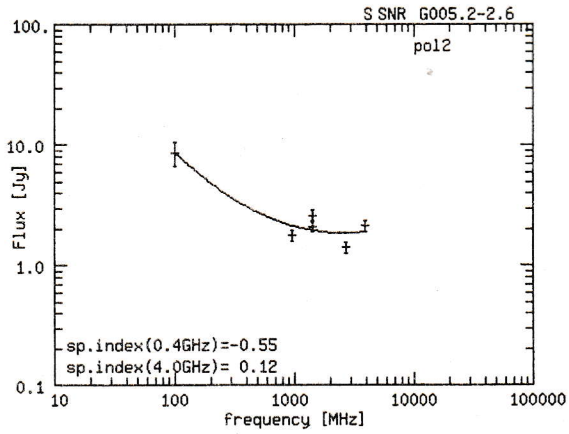

PSR
C SNR G005.4-1.2
ther
sp.index(0.4GHz)=-0.21
sp.index(4.0GHz)=-0.12
Flux [Jy]
frequency [MHz]

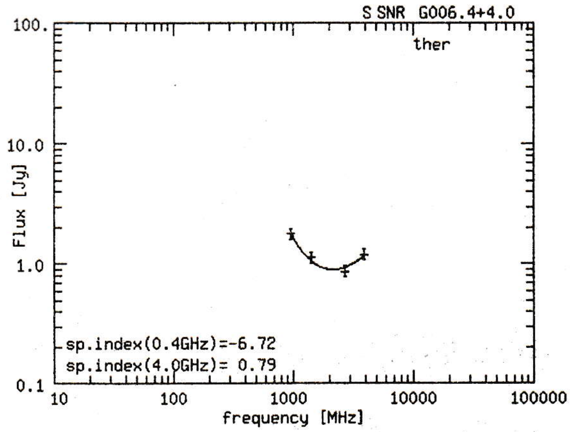

S SNR G004.7+1.3
lin
sp.index(0.4GHz)=-0.25
sp.index(4.0GHz)=-0.25
Flux [Jy]
frequency [MHz]

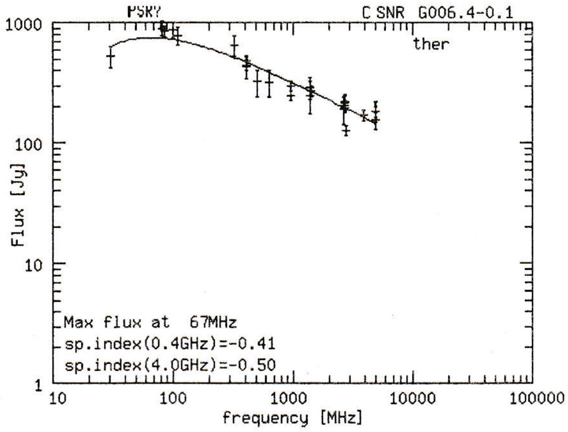

S SNR G005.9+3.1
lin
sp.index(0.4GHz)=-0.73
sp.index(4.0GHz)=-0.73
Flux [Jy]
frequency [MHz]

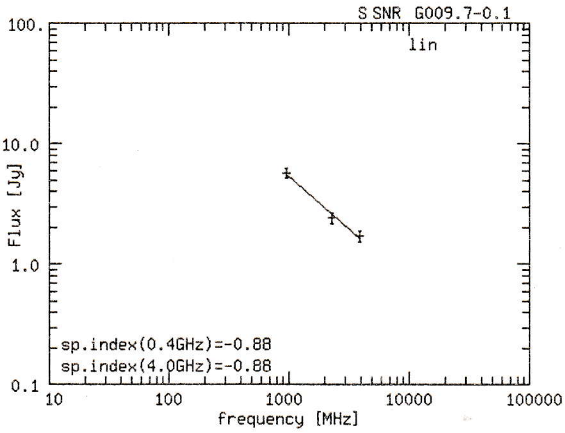

S SNR G004.8+6.2
lin
sp.index(0.4GHz)=-0.35
sp.index(4.0GHz)=-0.35
Flux [Jy]
frequency [MHz]

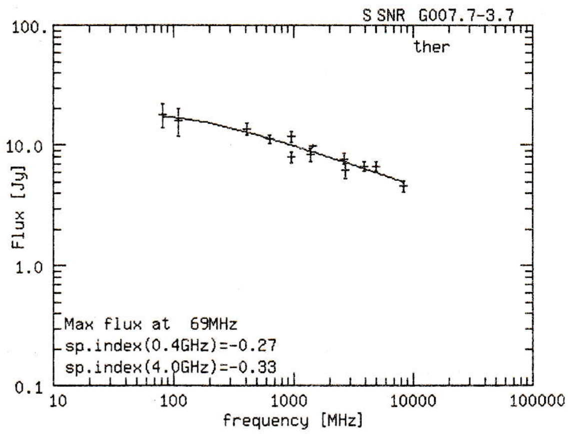

F SNR G006.1+1.2
lin
sp.index(0.4GHz)=-1.02
sp.index(4.0GHz)=-1.02
Flux [Jy]
frequency [MHz]

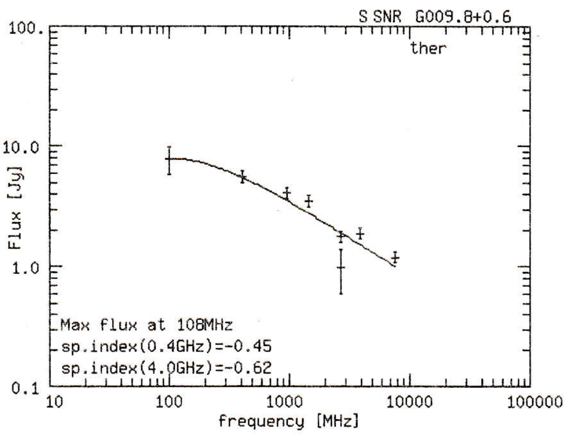

S SNR G005.2-2.6
pol2
sp.index(0.4GHz)=-0.55
sp.index(4.0GHz)= 0.12
Flux [Jy]
frequency [MHz]

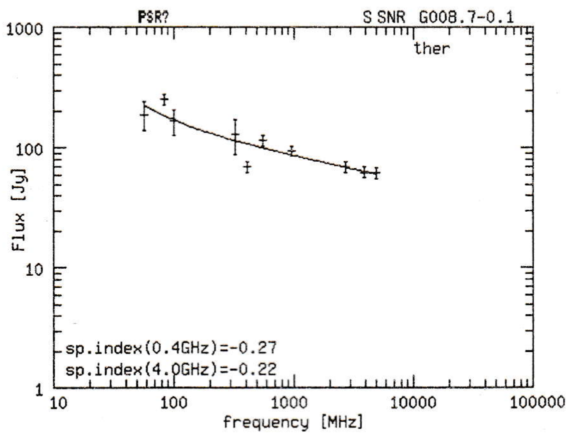

S SNR G006.4+4.0
ther
sp.index(0.4GHz)=-6.72
sp.index(4.0GHz)= 0.79
Flux [Jy]
frequency [MHz]

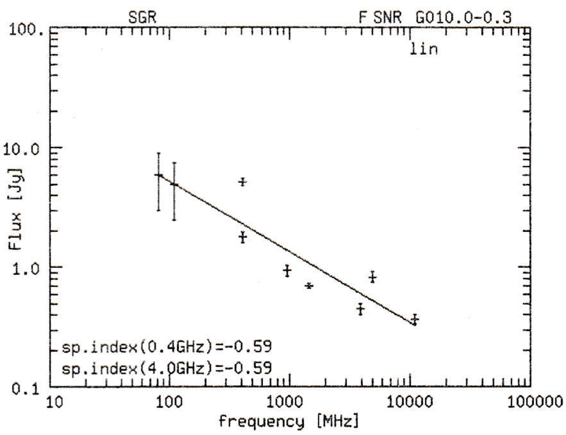

PSR?
C SNR G006.4-0.1
ther
Flux [Jy]
frequency [MHz]
Max flux at 67MHz
sp.index(0.4GHz)=-0.41
sp.index(4.0GHz)=-0.50

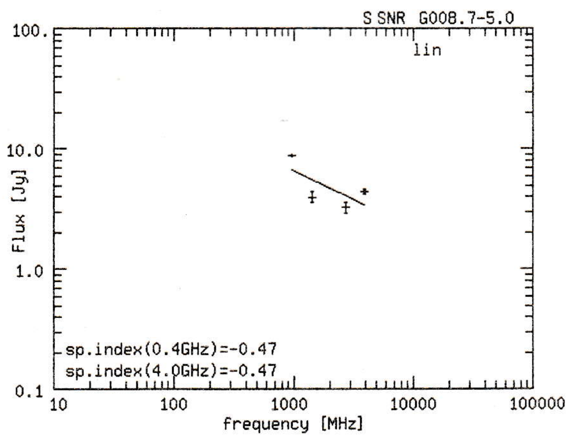

S SNR G009.7-0.1
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.88
sp.index(4.0GHz)=-0.88

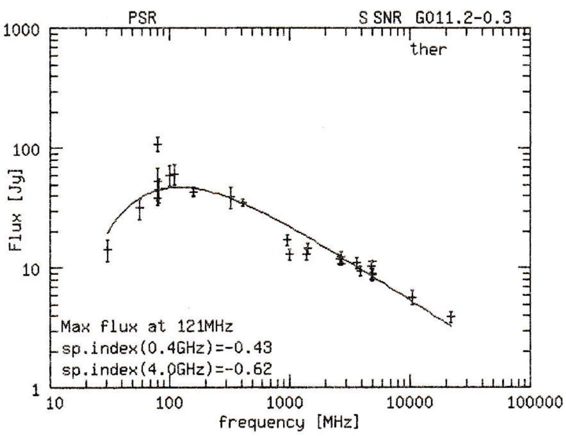

S SNR G007.7-3.7
ther
Flux [Jy]
frequency [MHz]
Max flux at 69MHz
sp.index(0.4GHz)=-0.27
sp.index(4.0GHz)=-0.33

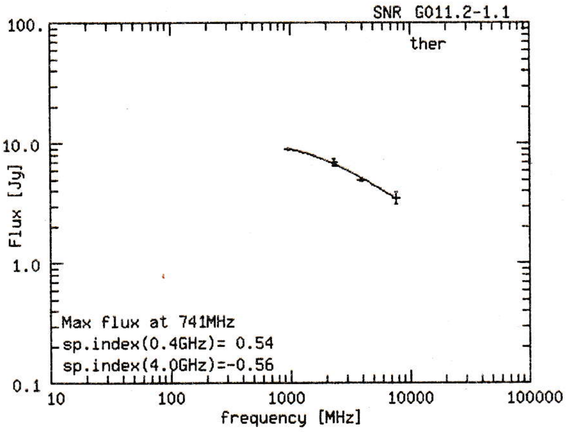

S SNR G009.8+0.6
ther
Flux [Jy]
frequency [MHz]
Max flux at 108MHz
sp.index(0.4GHz)=-0.45
sp.index(4.0GHz)=-0.62

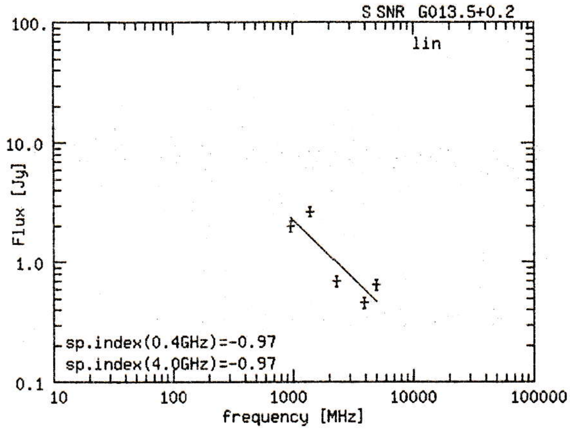

PSR?
S SNR G008.7-0.1
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.27
sp.index(4.0GHz)=-0.22

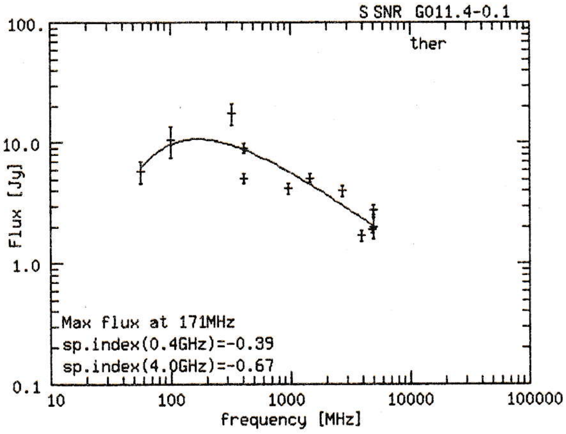

SGR
F SNR G010.0-0.3
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.59
sp.index(4.0GHz)=-0.59

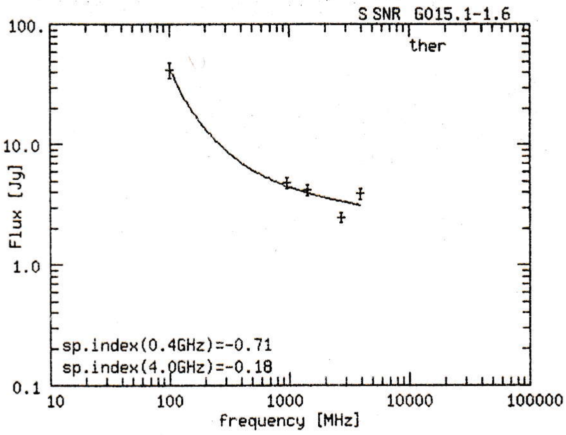

S SNR G008.7-5.0
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.47
sp.index(4.0GHz)=-0.47

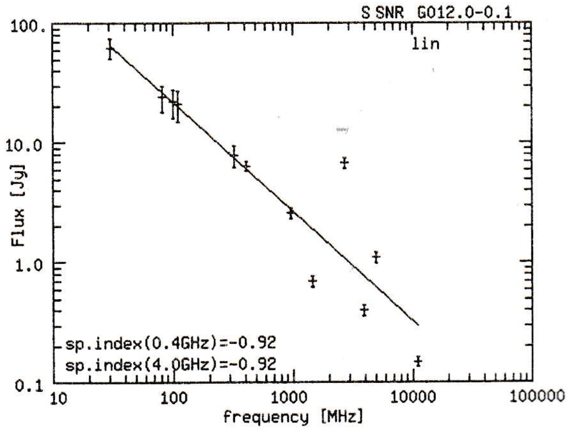

PSR
S SNR G011.2-0.3
ther
Flux [Jy]
frequency [MHz]
Max flux at 121MHz
sp.index(0.4GHz)=-0.43
sp.index(4.0GHz)=-0.62

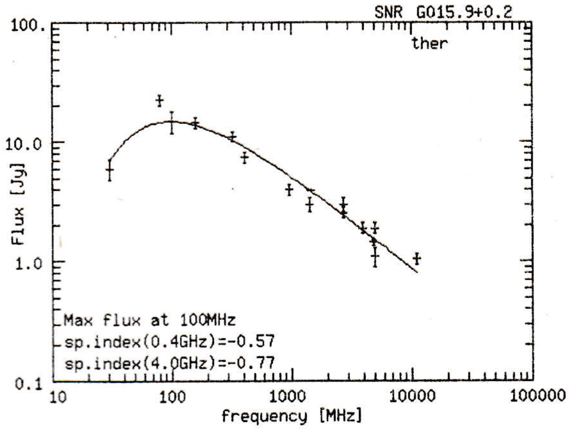

SNR G011.2-1.1
ther
Flux [Jy]
frequency [MHz]
Max flux at 741MHz
sp.index(0.4GHz)= 0.54
sp.index(4.0GHz)=-0.56

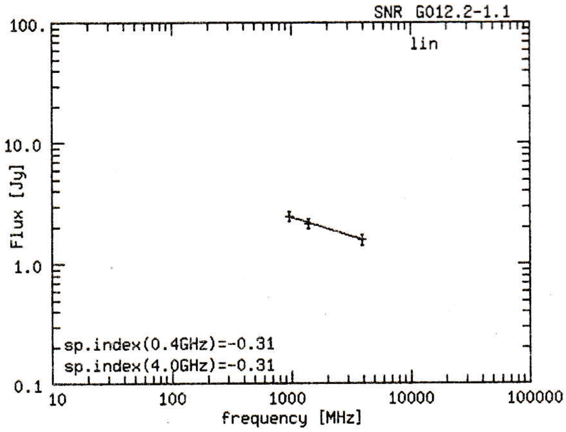

S SNR G013.5+0.2
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.97
sp.index(4.0GHz)=-0.97

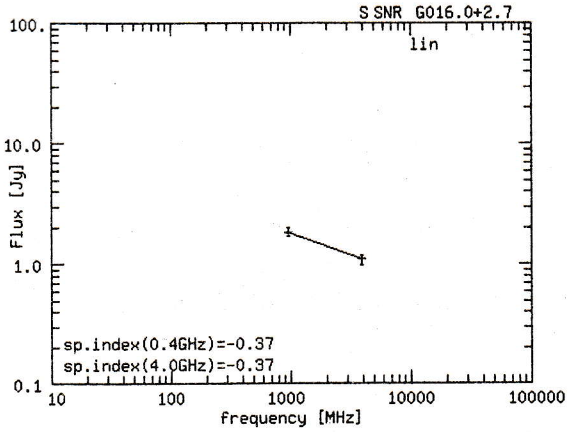

S SNR G011.4-0.1
ther
Flux [Jy]
frequency [MHz]
Max flux at 171MHz
sp.index(0.4GHz)=-0.39
sp.index(4.0GHz)=-0.67

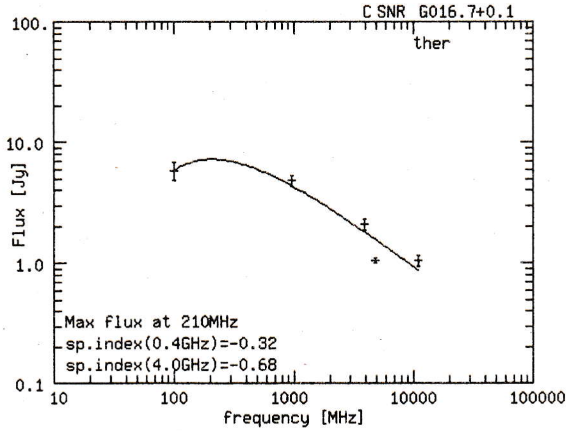

S SNR G015.1-1.6
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.71
sp.index(4.0GHz)=-0.18

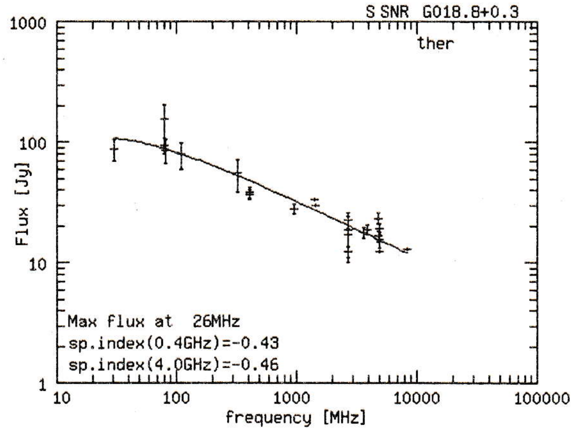

S SNR G012.0-0.1
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.92
sp.index(4.0GHz)=-0.92

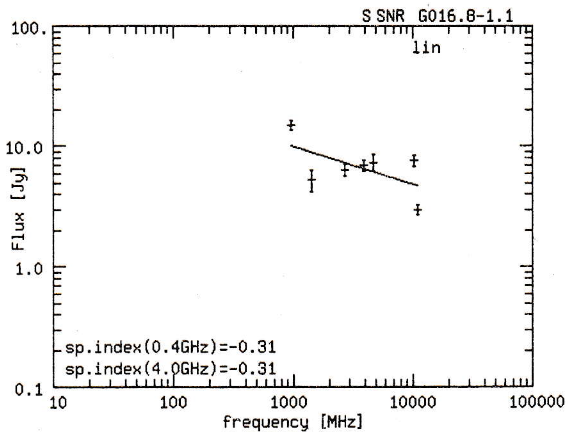

SNR G015.9+0.2
ther
Flux [Jy]
frequency [MHz]
Max flux at 100MHz
sp.index(0.4GHz)=-0.57
sp.index(4.0GHz)=-0.77

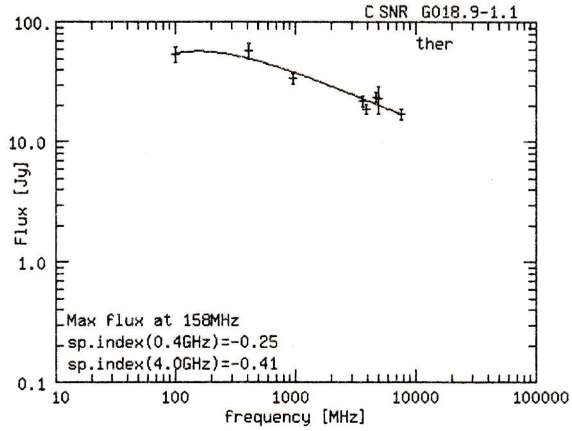

SNR G012.2-1.1
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.31
sp.index(4.0GHz)=-0.31

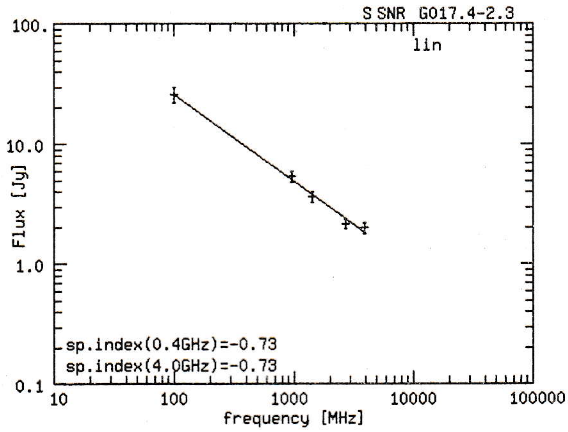

S SNR G016.0+2.7
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.37
sp.index(4.0GHz)=-0.37

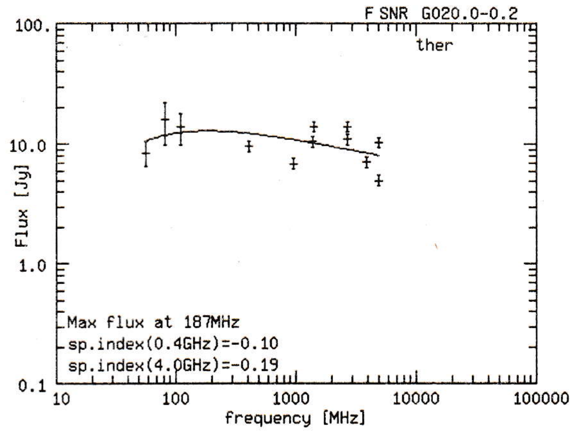

C SNR G016.7+0.1
ther
Flux [Jy]
frequency [MHz]
Max flux at 210MHz
sp.index(0.4GHz)=-0.32
sp.index(4.0GHz)=-0.68

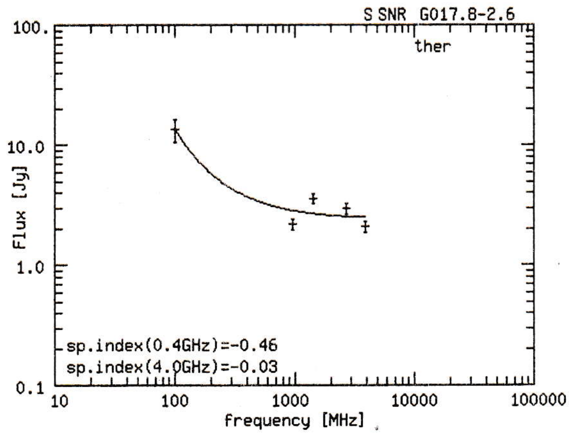

S SNR G018.8+0.3
ther
Flux [Jy]
frequency [MHz]
Max flux at 26MHz
sp.index(0.4GHz)=-0.43
sp.index(4.0GHz)=-0.46

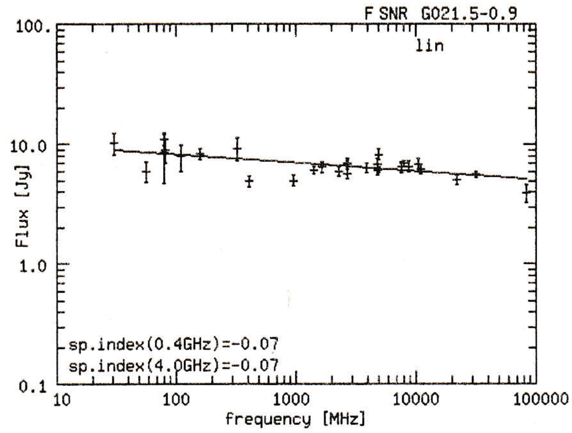

S SNR G016.8-1.1
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.31
sp.index(4.0GHz)=-0.31

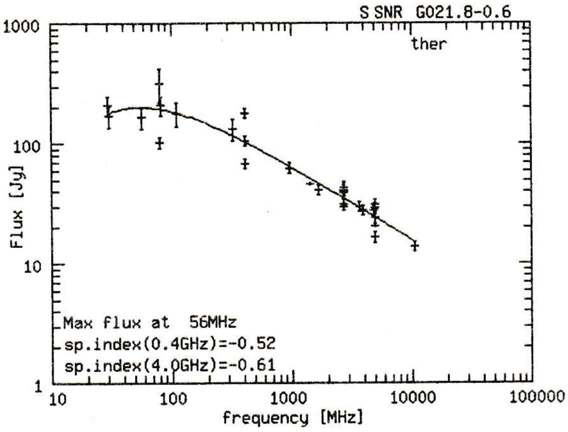

C SNR G018.9-1.1
ther
Flux [Jy]
frequency [MHz]
Max flux at 158MHz
sp.index(0.4GHz)=-0.25
sp.index(4.0GHz)=-0.41

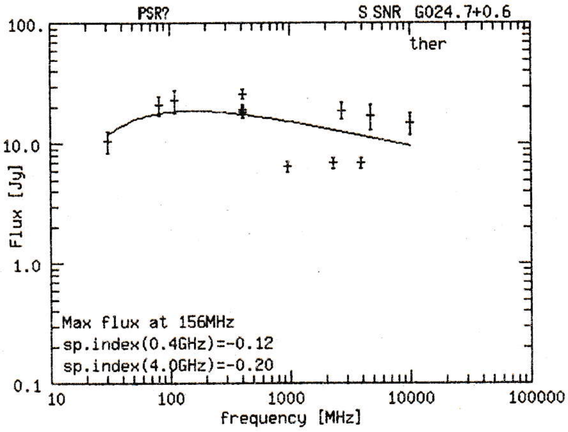

S SNR G017.4-2.3
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.73
sp.index(4.0GHz)=-0.73

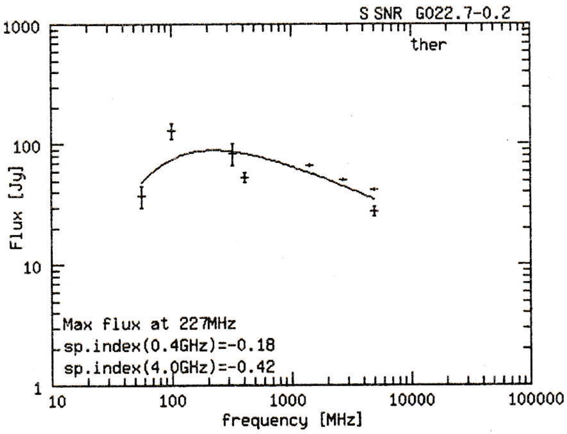

F SNR G020.0-0.2
ther
Flux [Jy]
frequency [MHz]
Max flux at 187MHz
sp.index(0.4GHz)=-0.10
sp.index(4.0GHz)=-0.19

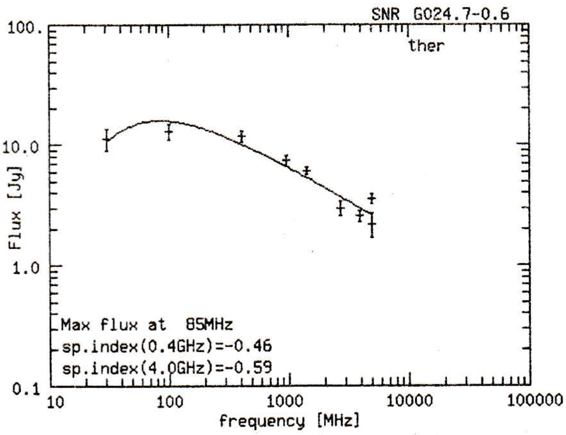

S SNR G017.8-2.6
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.46
sp.index(4.0GHz)=-0.03

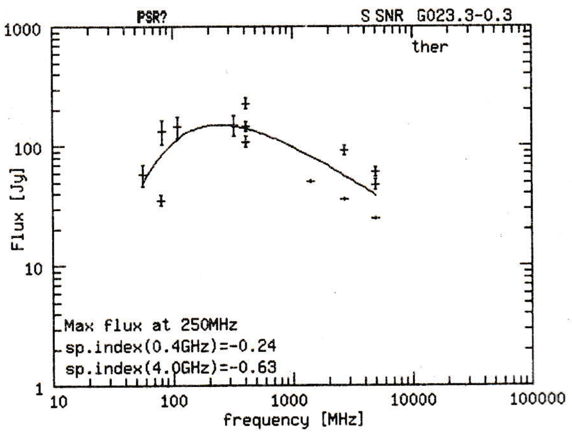

F SNR G021.5-0.9
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.07
sp.index(4.0GHz)=-0.07

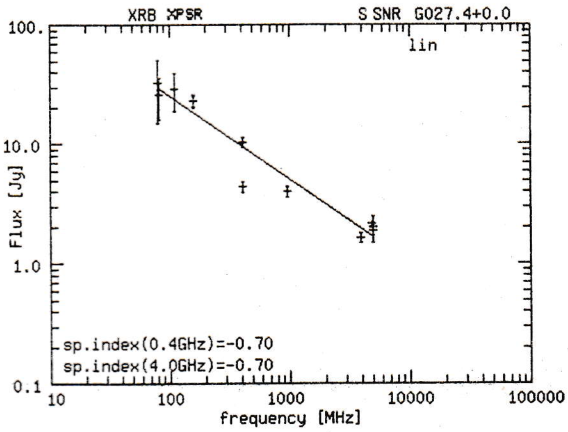

S SNR G021.8-0.6
ther
Flux [Jy]
frequency [MHz]
Max flux at 56MHz
sp.index(0.4GHz)=-0.52
sp.index(4.0GHz)=-0.61

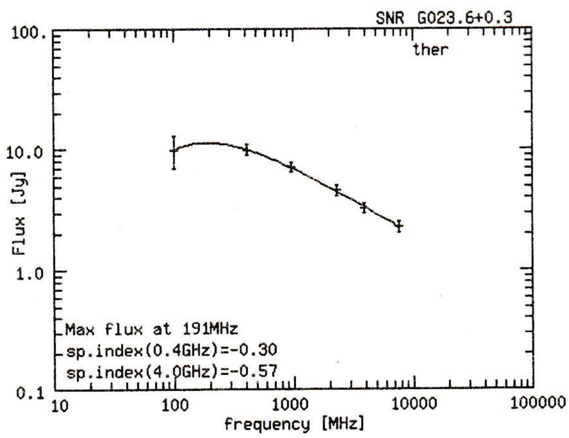

PSR?
S SNR G024.7+0.6
ther
Flux [Jy]
frequency [MHz]
Max flux at 156MHz
sp.index(0.4GHz)=-0.12
sp.index(4.0GHz)=-0.20

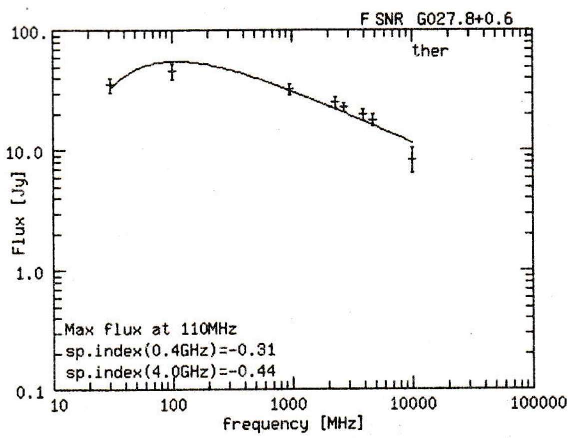

S SNR G022.7-0.2
ther
Flux [Jy]
frequency [MHz]
Max flux at 227MHz
sp.index(0.4GHz)=-0.18
sp.index(4.0GHz)=-0.42

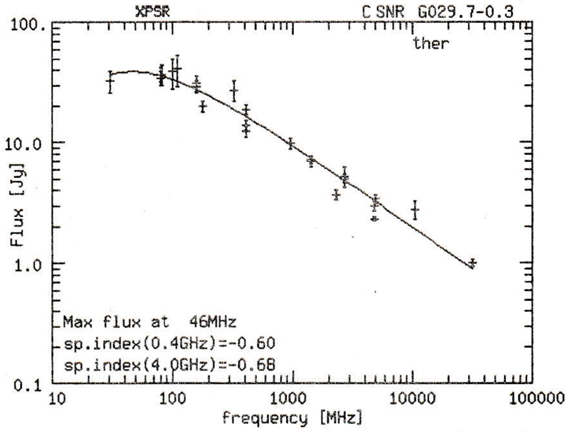

SNR G024.7-0.6
ther
Flux [Jy]
frequency [MHz]
Max flux at 85MHz
sp.index(0.4GHz)=-0.46
sp.index(4.0GHz)=-0.59

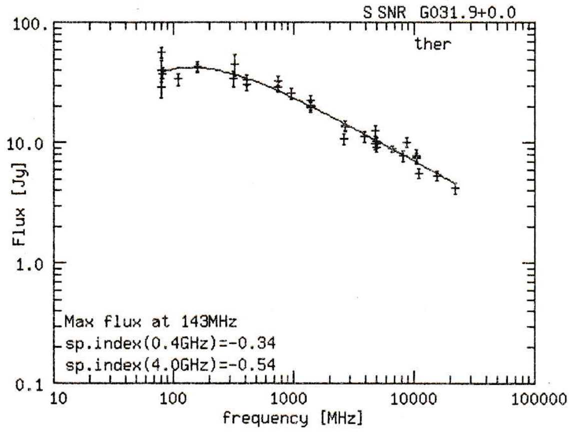

PSR?
S SNR G023.3-0.3
ther
Flux [Jy]
frequency [MHz]
Max flux at 250MHz
sp.index(0.4GHz)=-0.24
sp.index(4.0GHz)=-0.63

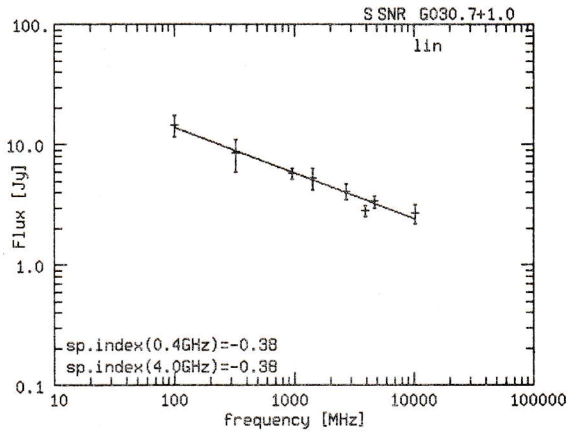

XRB XPSR
S SNR G027.4+0.0
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.70
sp.index(4.0GHz)=-0.70

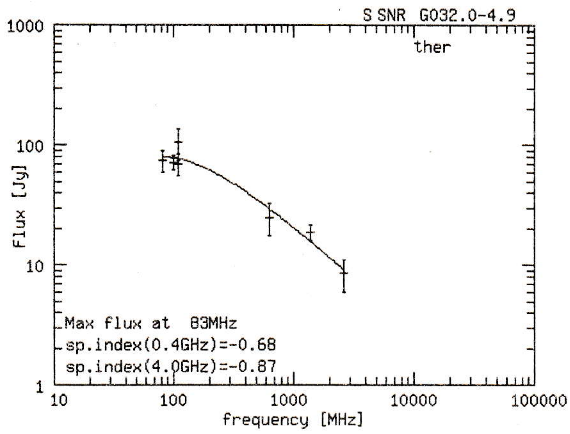

SNR G023.6+0.3
ther
Flux [Jy]
frequency [MHz]
Max flux at 191MHz
sp.index(0.4GHz)=-0.30
sp.index(4.0GHz)=-0.57

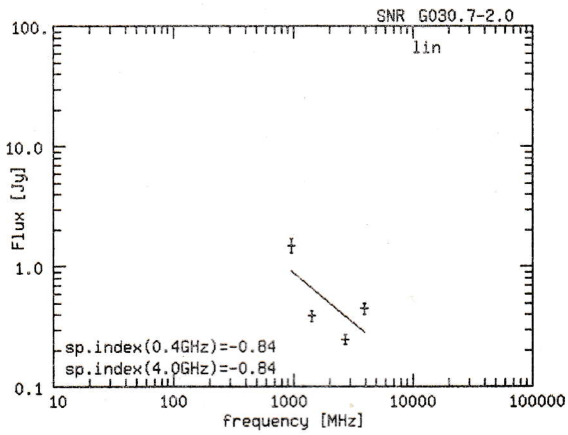

F SNR G027.8+0.6
ther
Flux [Jy]
frequency [MHz]
Max flux at 110MHz
sp.index(0.4GHz)=-0.31
sp.index(4.0GHz)=-0.44

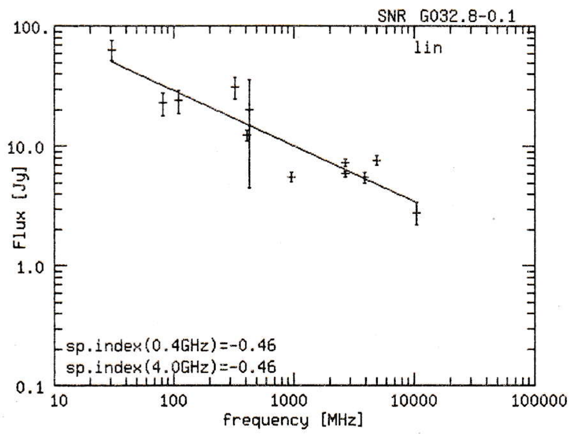

XPSR
C SNR G029.7-0.3
ther
Max flux at 46MHz
sp.index(0.4GHz)=-0.60
sp.index(4.0GHz)=-0.68
Flux [Jy]
frequency [MHz]

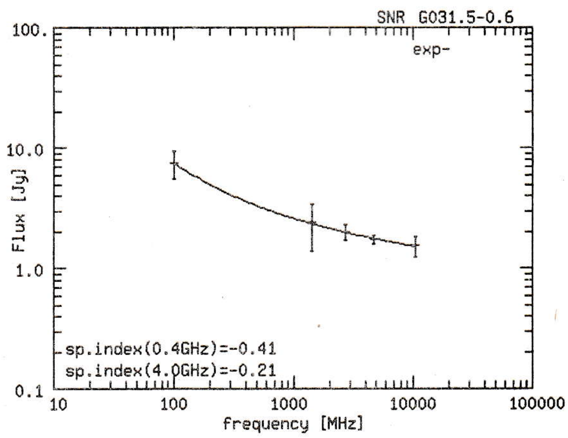

S SNR G031.9+0.0
ther
Max flux at 143MHz
sp.index(0.4GHz)=-0.34
sp.index(4.0GHz)=-0.54
Flux [Jy]
frequency [MHz]

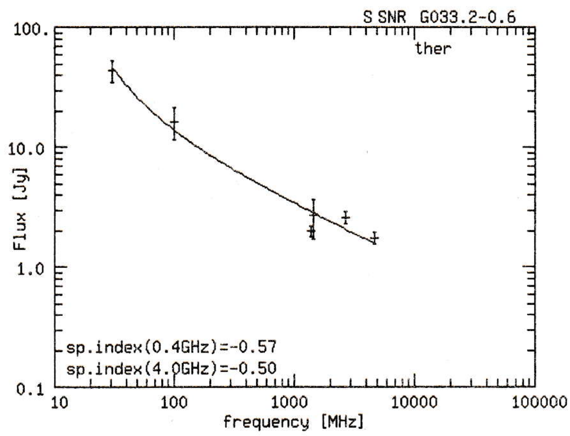

S SNR G030.7+1.0
lin
sp.index(0.4GHz)=-0.38
sp.index(4.0GHz)=-0.38
Flux [Jy]
frequency [MHz]

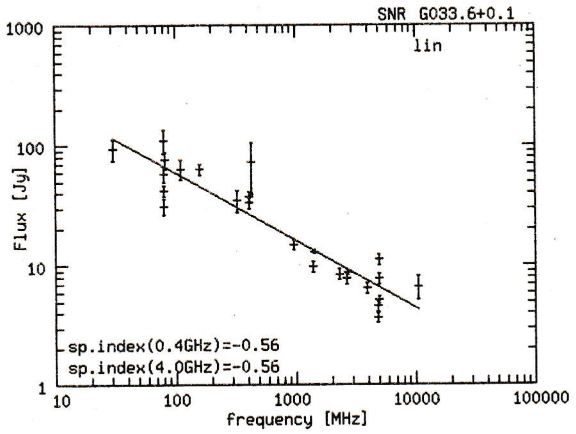

S SNR G032.0-4.9
ther
Max flux at 83MHz
sp.index(0.4GHz)=-0.68
sp.index(4.0GHz)=-0.87
Flux [Jy]
frequency [MHz]

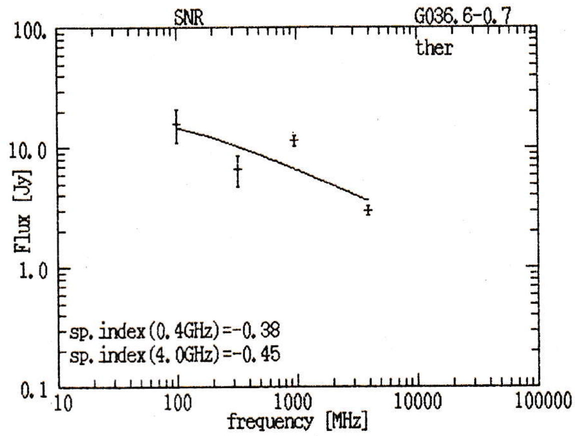

SNR G030.7-2.0
lin
sp.index(0.4GHz)=-0.84
sp.index(4.0GHz)=-0.84
Flux [Jy]
frequency [MHz]

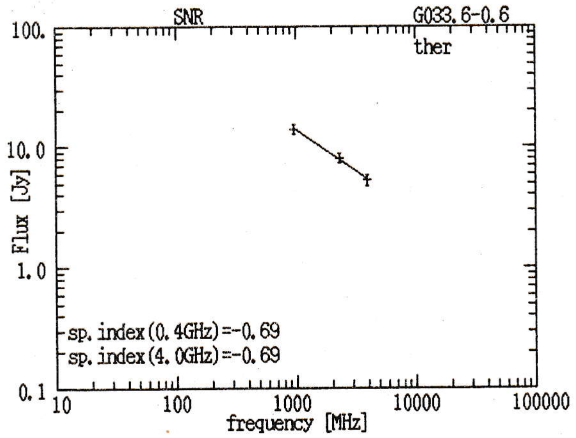

SNR G032.8-0.1
lin
sp.index(0.4GHz)=-0.46
sp.index(4.0GHz)=-0.46
Flux [Jy]
frequency [MHz]

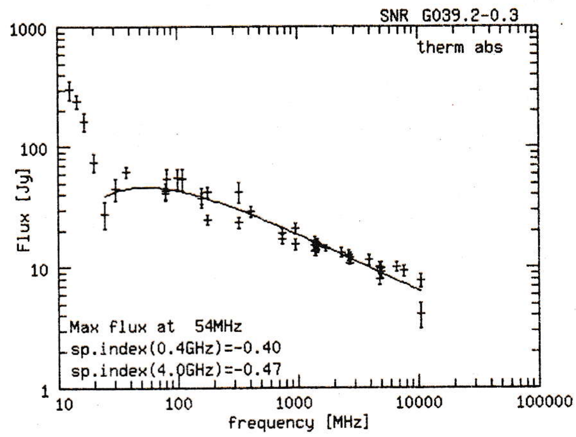

SNR G031.5-0.6
exp-
sp.index(0.4GHz)=-0.41
sp.index(4.0GHz)=-0.21
Flux [Jy]
frequency [MHz]

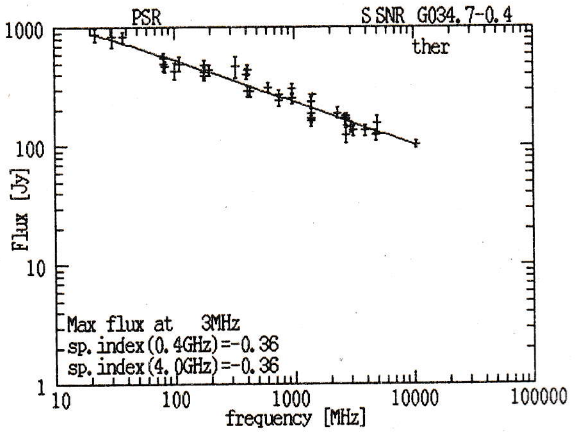

S SNR G033.2-0.6
ther
sp.index(0.4GHz)=-0.57
sp.index(4.0GHz)=-0.50
Flux [Jy]
frequency [MHz]

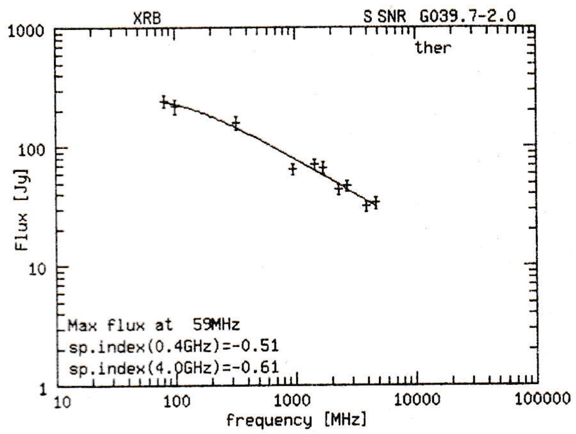

SNR G033.6+0.1
lin
Flux [Jy]
1000
100
10
1
sp.index(0.4GHz)=-0.56
sp.index(4.0GHz)=-0.56
10 100 1000 10000 100000
frequency [MHz]

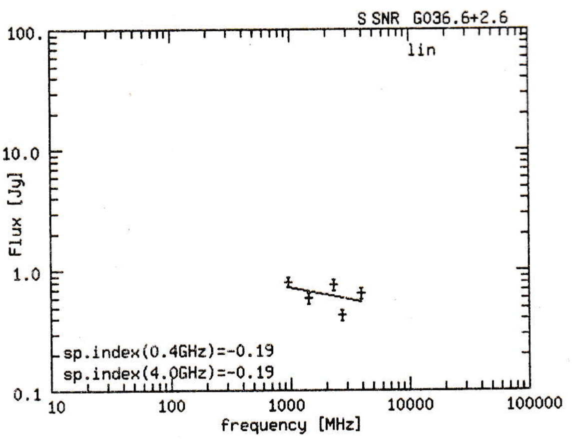

SNR G036.6-0.7
ther
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.38
sp.index(4.0GHz)=-0.45
10 100 1000 10000 100000
frequency [MHz]

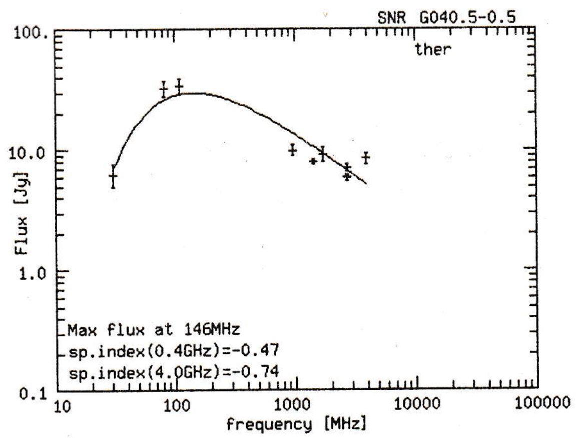

SNR G033.6-0.6
ther
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.69
sp.index(4.0GHz)=-0.69
10 100 1000 10000 100000
frequency [MHz]

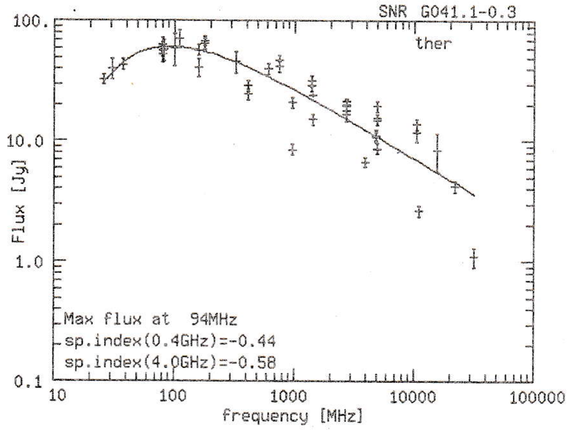

SNR G039.2-0.3
therm abs
Flux [Jy]
1000
100
10
1
Max flux at 54MHz
sp.index(0.4GHz)=-0.40
sp.index(4.0GHz)=-0.47
10 100 1000 10000 100000
frequency [MHz]

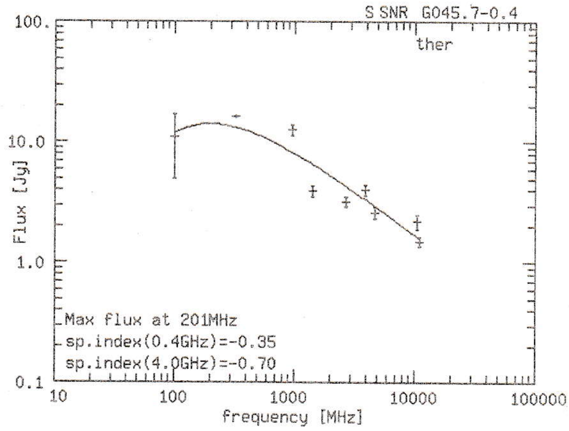

PSR
S SNR G034.7-0.4
ther
Flux [Jy]
1000
100
10
1
Max flux at 3MHz
sp.index(0.4GHz)=-0.36
sp.index(4.0GHz)=-0.36
10 100 1000 10000 100000
frequency [MHz]

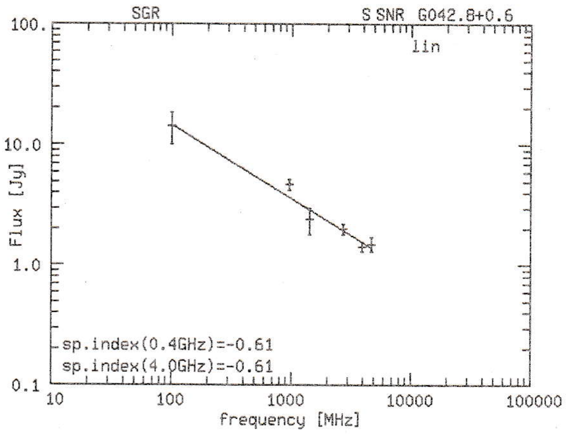

XRB
S SNR G039.7-2.0
ther
Flux [Jy]
1000
100
10
1
Max flux at 59MHz
sp.index(0.4GHz)=-0.51
sp.index(4.0GHz)=-0.61
10 100 1000 10000 100000
frequency [MHz]

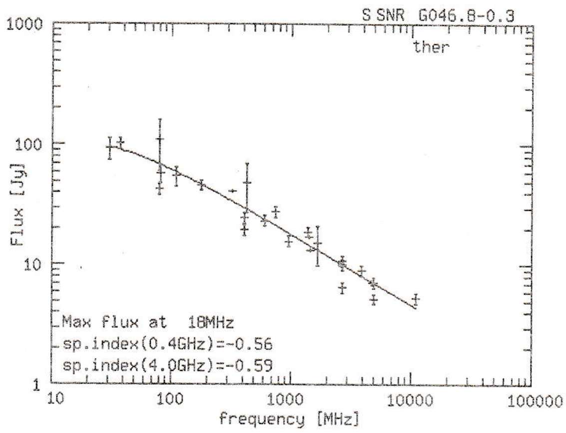

S SNR G036.6+2.6
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.19
sp.index(4.0GHz)=-0.19
10 100 1000 10000 100000
frequency [MHz]

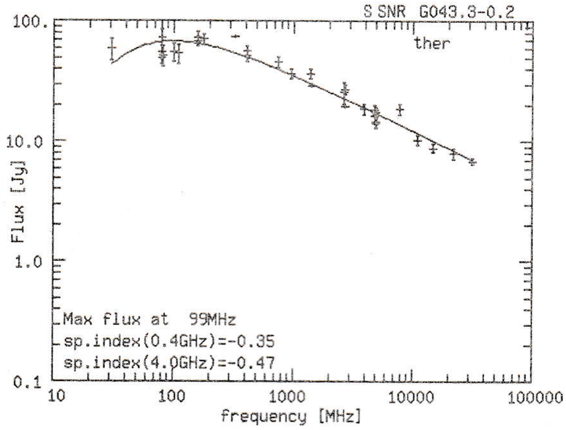

SNR G040.5-0.5
ther
Flux [Jy]
100.
10.0
1.0
0.1
Max flux at 146MHz
sp.index(0.4GHz)=-0.47
sp.index(4.0GHz)=-0.74
10 100 1000 10000 100000
frequency [MHz]

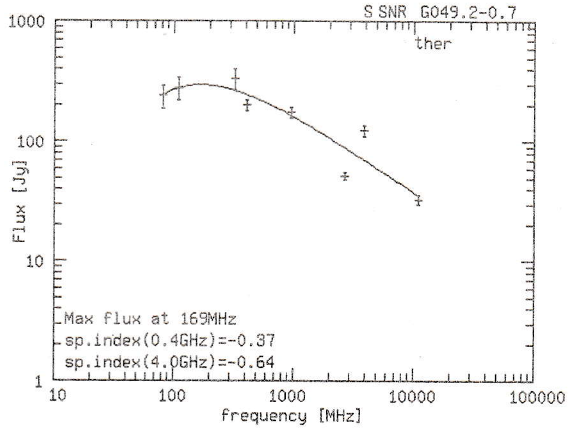

SNR G041.1-0.3
ther
Max flux at 94MHz
sp.index(0.4GHz)=-0.44
sp.index(4.0GHz)=-0.58
Flux [Jy]
frequency [MHz]

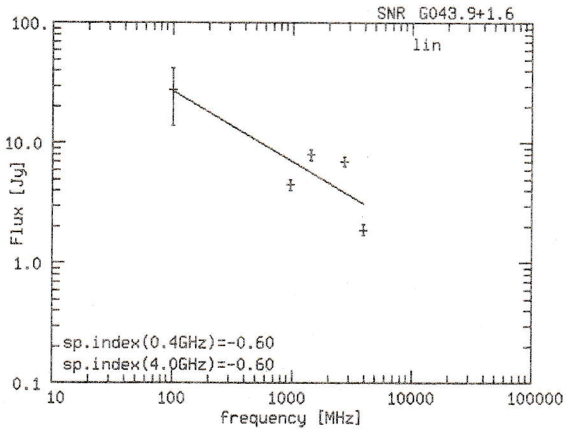

S SNR G045.7-0.4
ther
Max flux at 201MHz
sp.index(0.4GHz)=-0.35
sp.index(4.0GHz)=-0.70
Flux [Jy]
frequency [MHz]

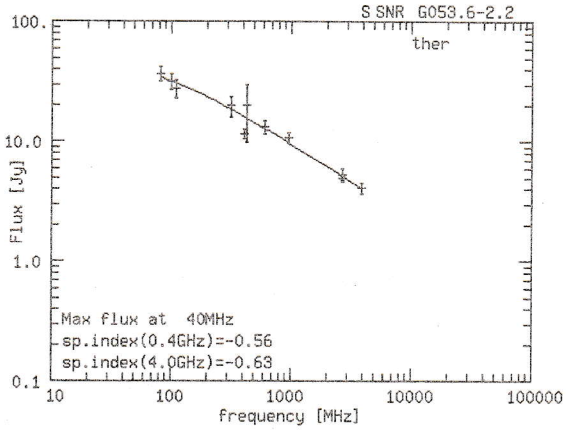

SGR
S SNR G042.8+0.6
lin
sp.index(0.4GHz)=-0.61
sp.index(4.0GHz)=-0.61
Flux [Jy]
frequency [MHz]

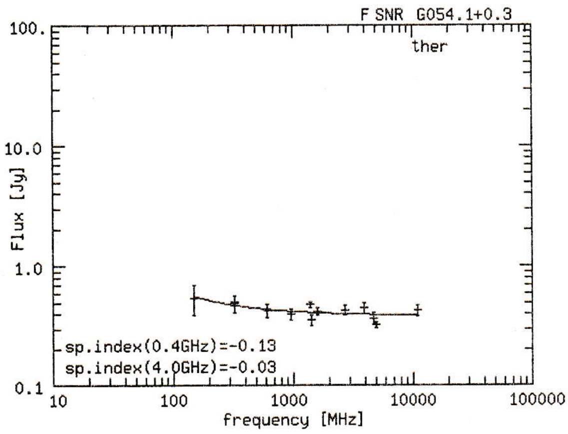

S SNR G046.8-0.3
ther
Max flux at 18MHz
sp.index(0.4GHz)=-0.56
sp.index(4.0GHz)=-0.59
Flux [Jy]
frequency [MHz]

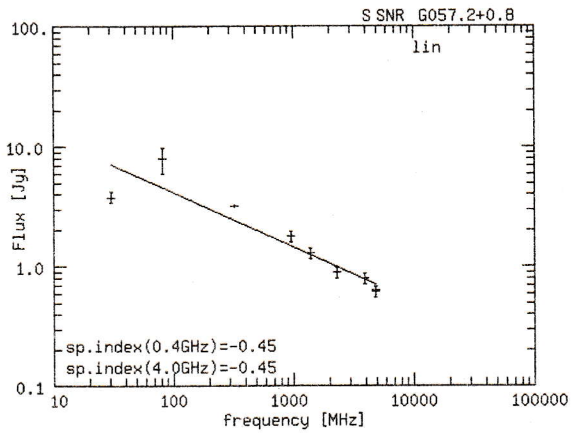

S SNR G043.3-0.2
ther
Max flux at 99MHz
sp.index(0.4GHz)=-0.35
sp.index(4.0GHz)=-0.47
Flux [Jy]
frequency [MHz]

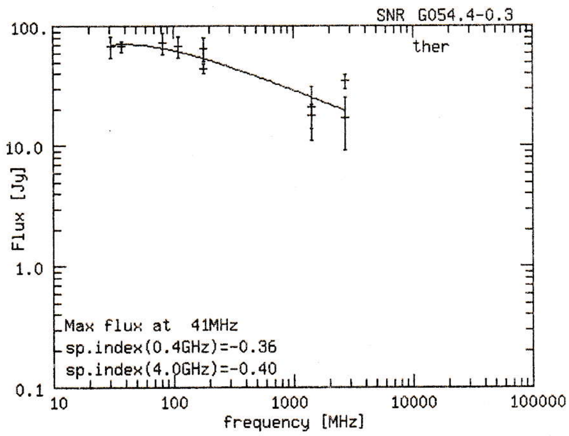

S SNR G049.2-0.7
ther
Max flux at 169MHz
sp.index(0.4GHz)=-0.37
sp.index(4.0GHz)=-0.64
Flux [Jy]
frequency [MHz]

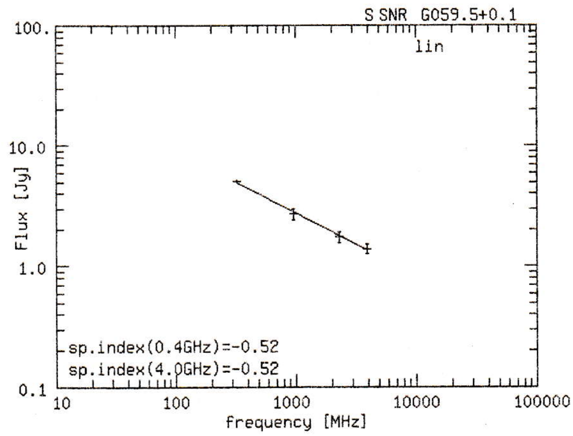

SNR G043.9+1.6
lin
sp.index(0.4GHz)=-0.60
sp.index(4.0GHz)=-0.60
Flux [Jy]
frequency [MHz]

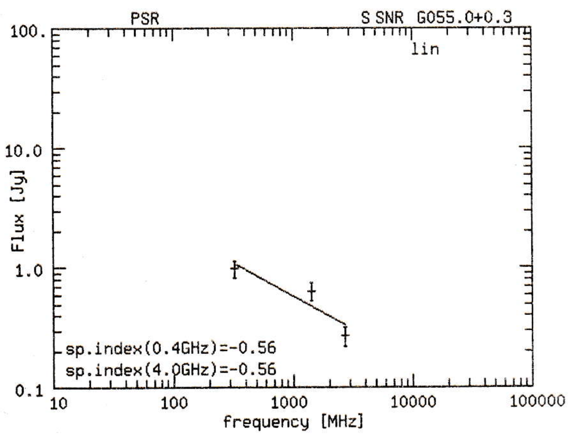

S SNR G053.6-2.2
ther
Max flux at 40MHz
sp.index(0.4GHz)=-0.56
sp.index(4.0GHz)=-0.63
Flux [Jy]
frequency [MHz]

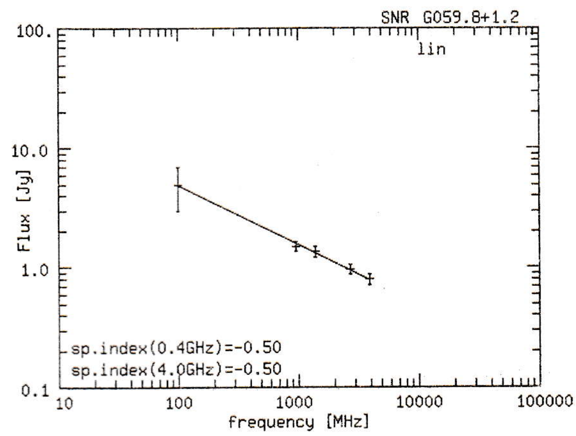

F SNR G054.1+0.3
ther
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.13
sp.index(4.0GHz)=-0.03
10 100 1000 10000 100000
frequency [MHz]

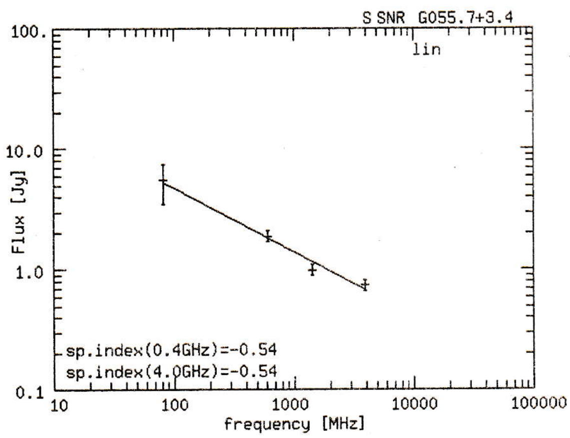

S SNR G057.2+0.8
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.45
sp.index(4.0GHz)=-0.45
10 100 1000 10000 100000
frequency [MHz]

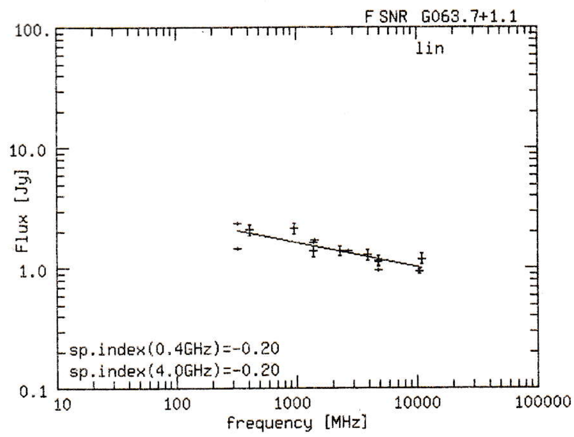

SNR G054.4-0.3
ther
100.
10.0
1.0
0.1
Flux [Jy]
Max flux at 41MHz
sp.index(0.4GHz)=-0.36
sp.index(4.0GHz)=-0.40
10 100 1000 10000 100000
frequency [MHz]

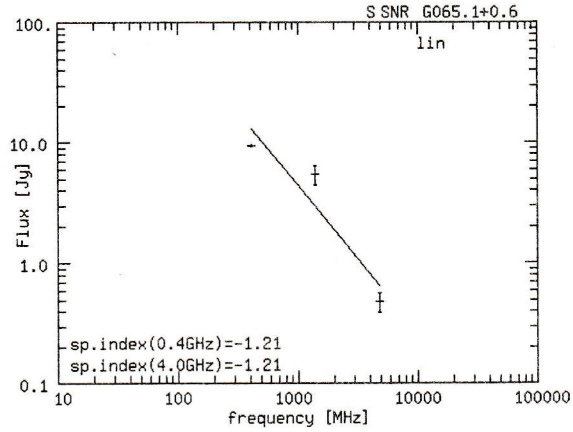

S SNR G059.5+0.1
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.52
sp.index(4.0GHz)=-0.52
10 100 1000 10000 100000
frequency [MHz]

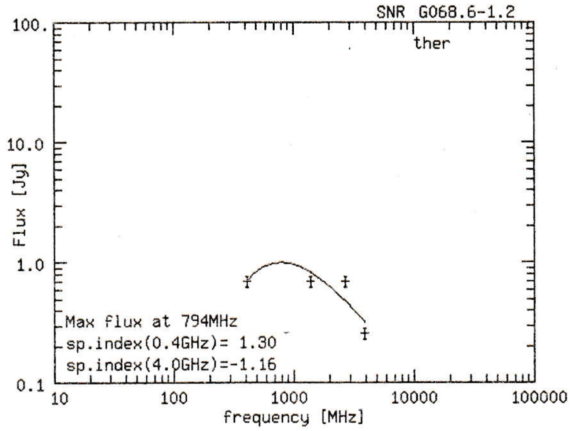

PSR
S SNR G055.0+0.3
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.56
sp.index(4.0GHz)=-0.56
10 100 1000 10000 100000
frequency [MHz]

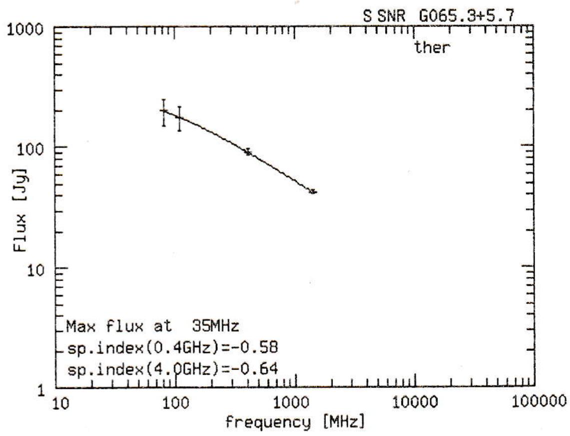

SNR G059.8+1.2
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.50
sp.index(4.0GHz)=-0.50
10 100 1000 10000 100000
frequency [MHz]

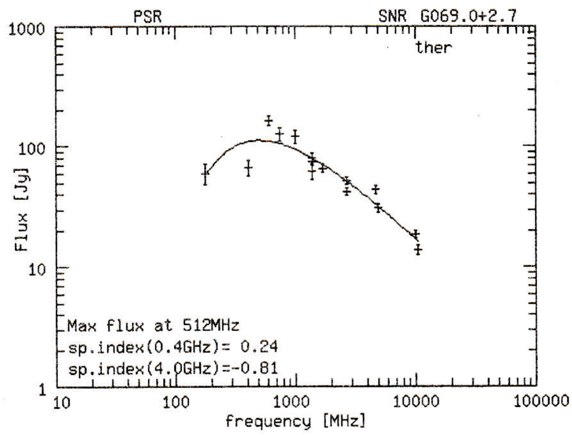

S SNR G055.7+3.4
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.54
sp.index(4.0GHz)=-0.54
10 100 1000 10000 100000
frequency [MHz]

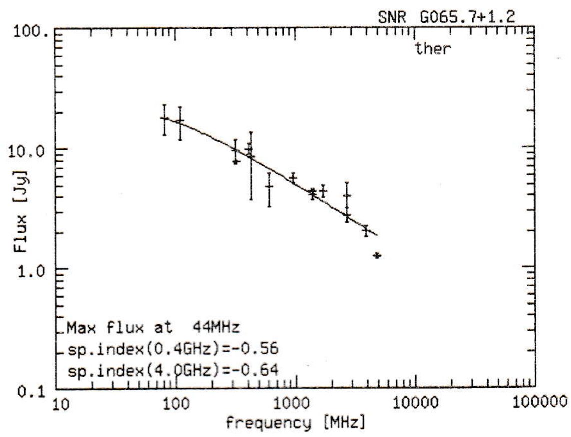

F SNR G063.7+1.1
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.20
sp.index(4.0GHz)=-0.20
10 100 1000 10000 100000
frequency [MHz]

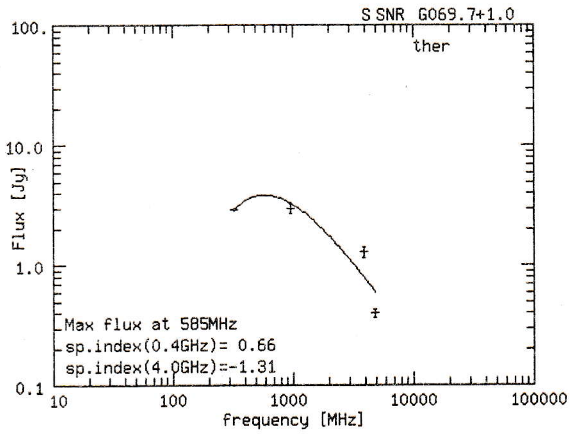

S SNR G065.1+0.6
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-1.21
sp.index(4.0GHz)=-1.21

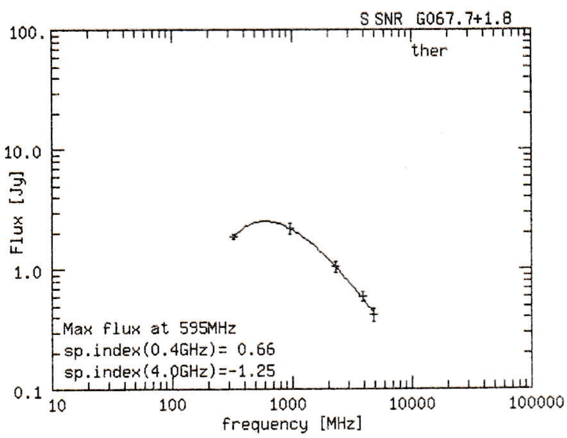

SNR G068.6-1.2
ther
Flux [Jy]
frequency [MHz]
Max flux at 794MHz
sp.index(0.4GHz)= 1.30
sp.index(4.0GHz)=-1.16

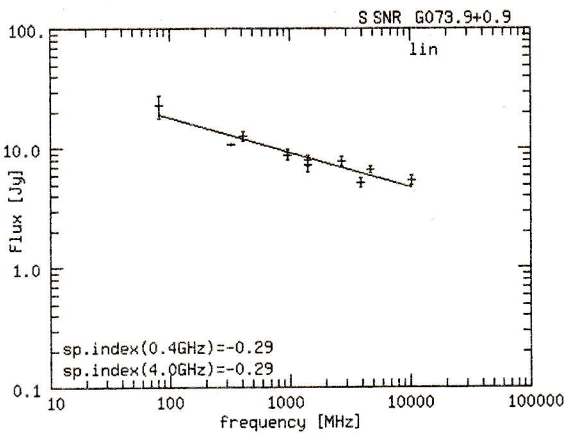

S SNR G065.3+5.7
ther
Flux [Jy]
frequency [MHz]
Max flux at 35MHz
sp.index(0.4GHz)=-0.58
sp.index(4.0GHz)=-0.64

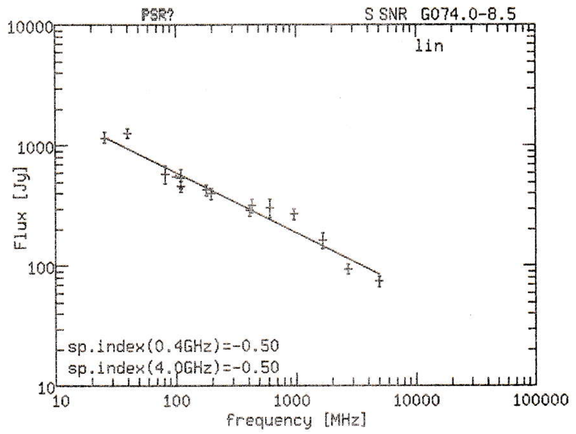

PSR
SNR G069.0+2.7
ther
Flux [Jy]
frequency [MHz]
Max flux at 512MHz
sp.index(0.4GHz)= 0.24
sp.index(4.0GHz)=-0.81

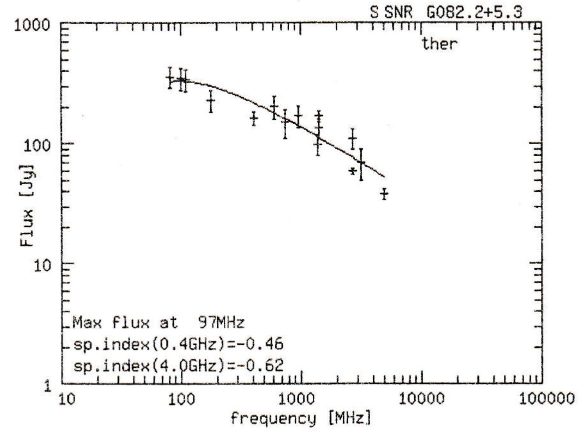

SNR G065.7+1.2
ther
Flux [Jy]
frequency [MHz]
Max flux at 44MHz
sp.index(0.4GHz)=-0.56
sp.index(4.0GHz)=-0.64

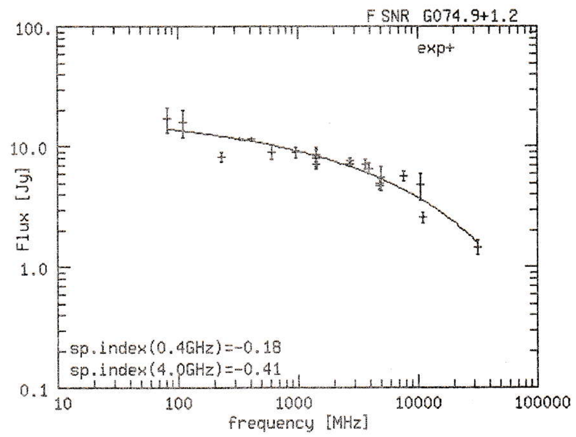

S SNR G069.7+1.0
ther
Flux [Jy]
frequency [MHz]
Max flux at 585MHz
sp.index(0.4GHz)= 0.66
sp.index(4.0GHz)=-1.31

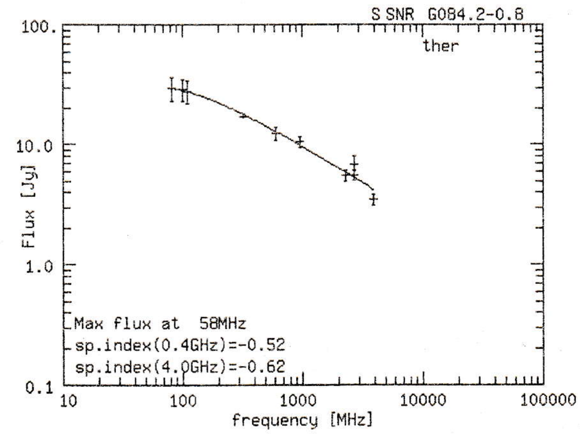

S SNR G067.7+1.8
ther
Flux [Jy]
frequency [MHz]
Max flux at 595MHz
sp.index(0.4GHz)= 0.66
sp.index(4.0GHz)=-1.25

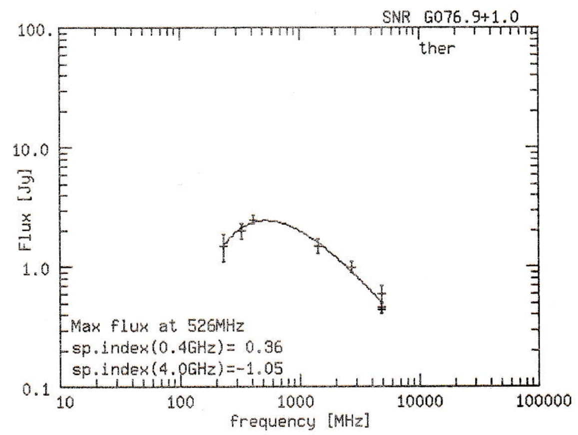

S SNR G073.9+0.9
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.29
sp.index(4.0GHz)=-0.29

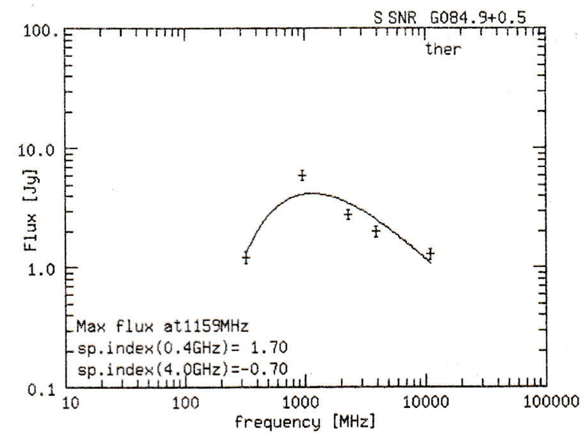

PSR?
S SNR G074.0-8.5
lin
Flux [Jy]
sp.index(0.4GHz)=-0.50
sp.index(4.0GHz)=-0.50
frequency [MHz]

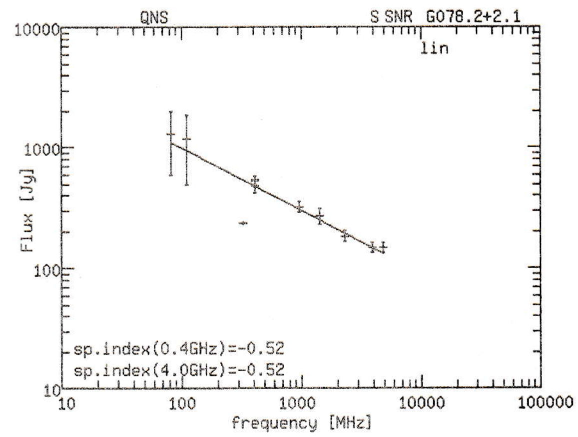

S SNR G082.2+5.3
ther
Flux [Jy]
Max flux at 97MHz
sp.index(0.4GHz)=-0.46
sp.index(4.0GHz)=-0.62
frequency [MHz]

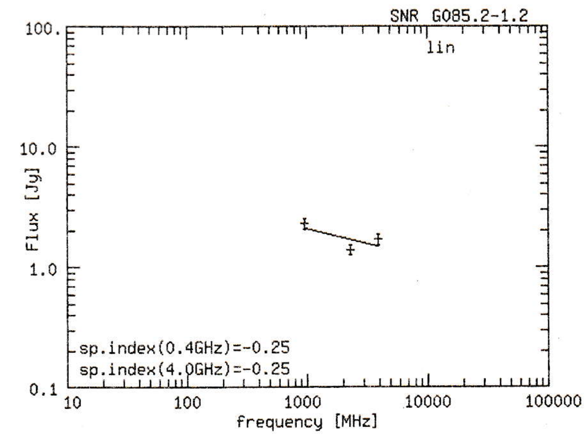

F SNR G074.9+1.2
exp+
Flux [Jy]
sp.index(0.4GHz)=-0.18
sp.index(4.0GHz)=-0.41
frequency [MHz]

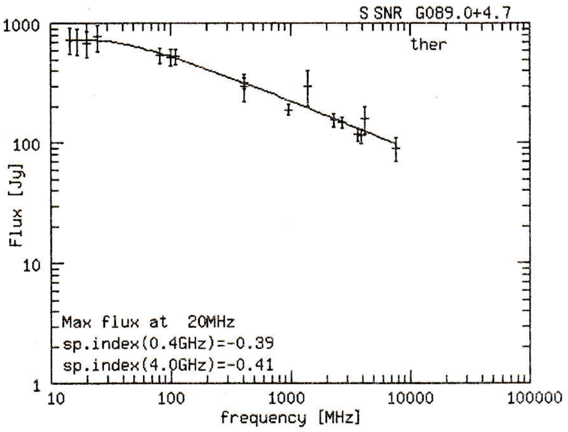

S SNR G084.2-0.8
ther
Flux [Jy]
Max flux at 58MHz
sp.index(0.4GHz)=-0.52
sp.index(4.0GHz)=-0.62
frequency [MHz]

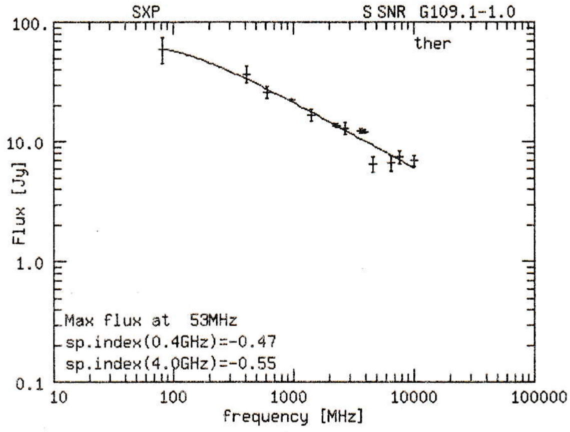

SNR G076.9+1.0
ther
Flux [Jy]
Max flux at 526MHz
sp.index(0.4GHz)= 0.36
sp.index(4.0GHz)=-1.05
frequency [MHz]

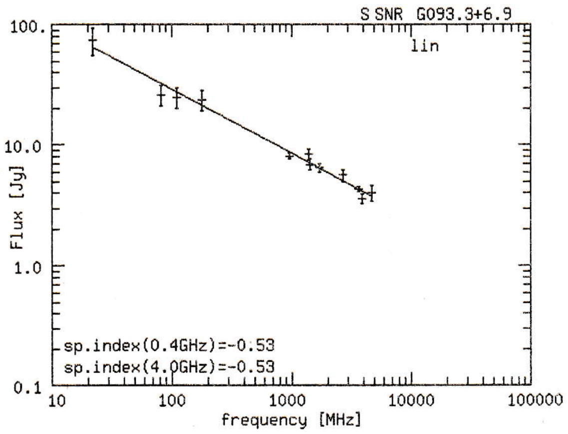

S SNR G084.9+0.5
ther
Flux [Jy]
Max flux at1159MHz
sp.index(0.4GHz)= 1.70
sp.index(4.0GHz)=-0.70
frequency [MHz]

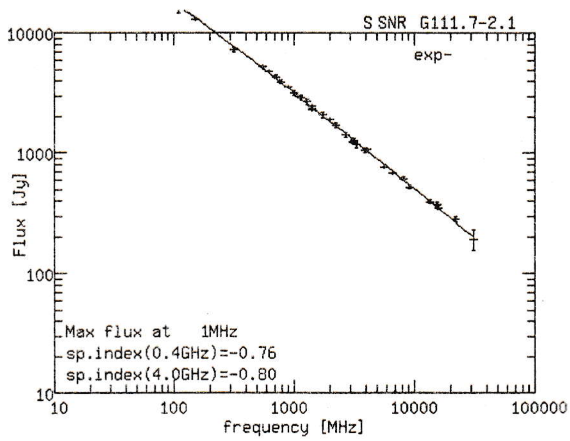

QNS
S SNR G078.2+2.1
lin
Flux [Jy]
sp.index(0.4GHz)=-0.52
sp.index(4.0GHz)=-0.52
frequency [MHz]

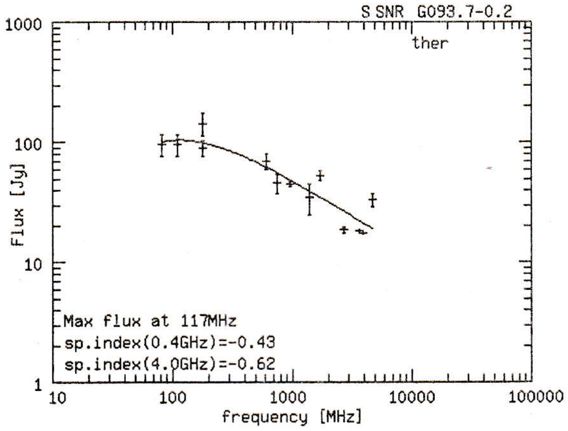

SNR G085.2-1.2
lin
Flux [Jy]
sp.index(0.4GHz)=-0.25
sp.index(4.0GHz)=-0.25
frequency [MHz]

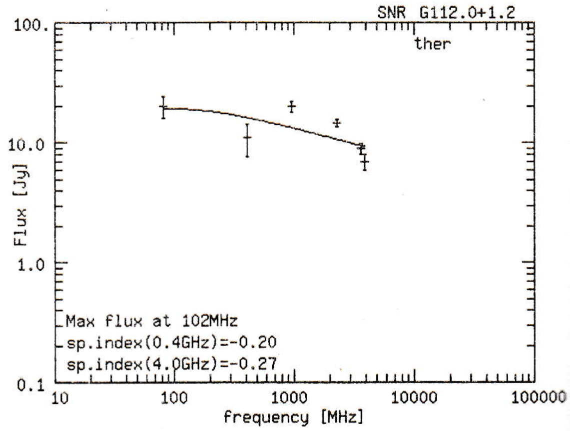

S SNR G089.0+4.7
ther
Flux [Jy]
frequency [MHz]
Max flux at 20MHz
sp.index(0.4GHz)=-0.39
sp.index(4.0GHz)=-0.41

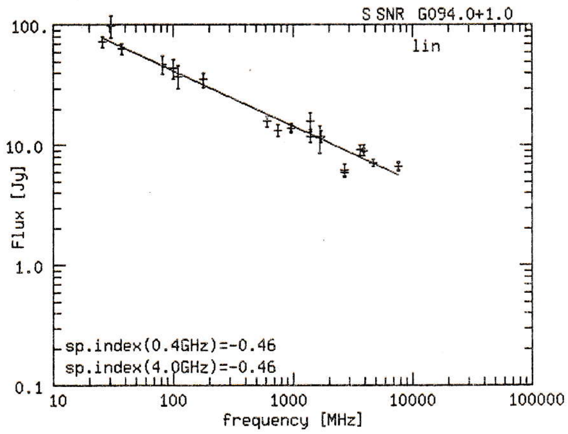

SXP
S SNR G109.1-1.0
ther
Flux [Jy]
frequency [MHz]
Max flux at 53MHz
sp.index(0.4GHz)=-0.47
sp.index(4.0GHz)=-0.55

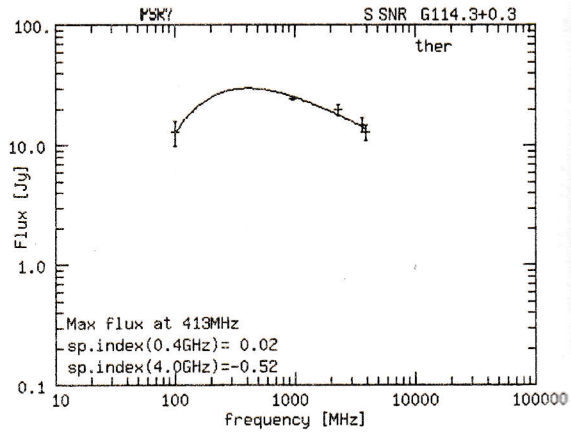

S SNR G093.3+6.9
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.53
sp.index(4.0GHz)=-0.53

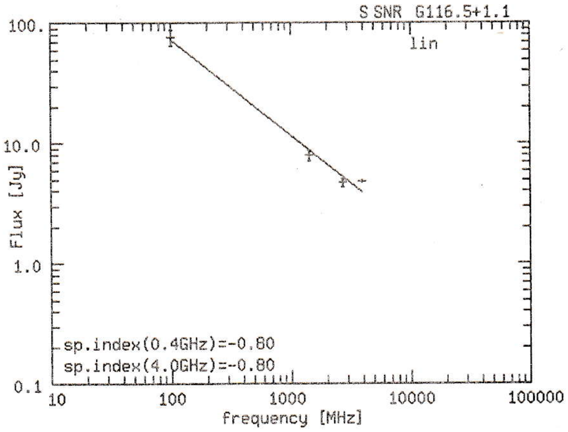

S SNR G111.7-2.1
exp-
Flux [Jy]
frequency [MHz]
Max flux at 1MHz
sp.index(0.4GHz)=-0.76
sp.index(4.0GHz)=-0.80

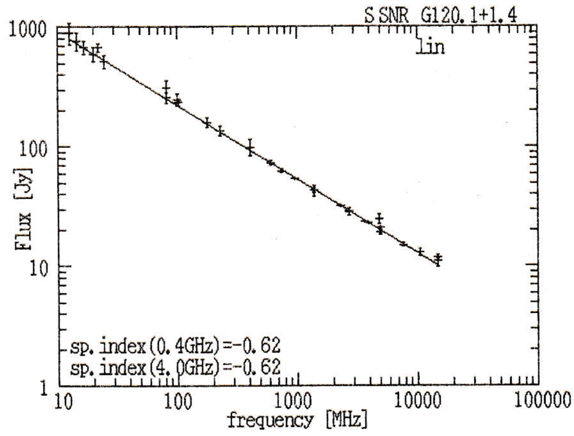

S SNR G093.7-0.2
ther
Flux [Jy]
frequency [MHz]
Max flux at 117MHz
sp.index(0.4GHz)=-0.43
sp.index(4.0GHz)=-0.62

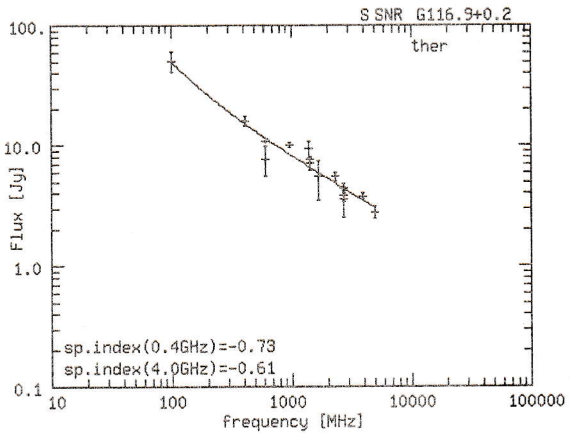

SNR G112.0+1.2
ther
Flux [Jy]
frequency [MHz]
Max flux at 102MHz
sp.index(0.4GHz)=-0.20
sp.index(4.0GHz)=-0.27

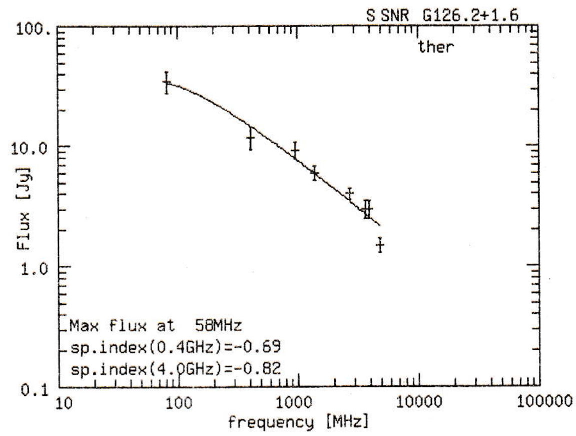

S SNR G094.0+1.0
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.46
sp.index(4.0GHz)=-0.46

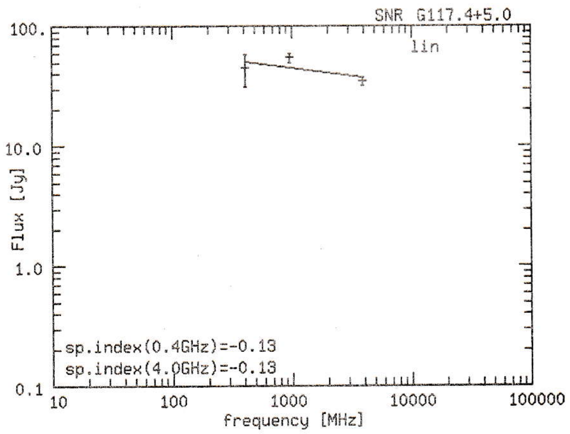

S SNR G114.3+0.3
ther
Flux [Jy]
frequency [MHz]
Max flux at 413MHz
sp.index(0.4GHz)= 0.02
sp.index(4.0GHz)=-0.52

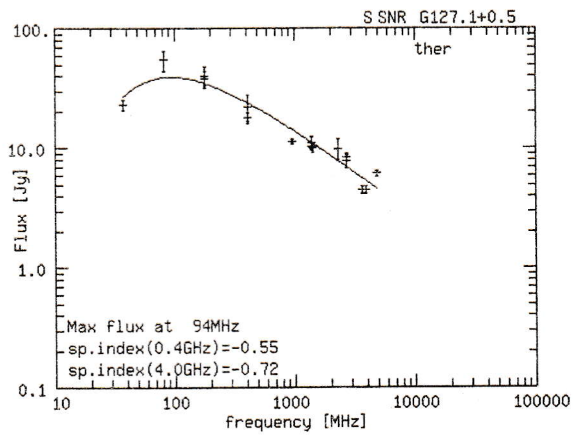

S SNR G116.5+1.1
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.80
sp.index(4.0GHz)=-0.80

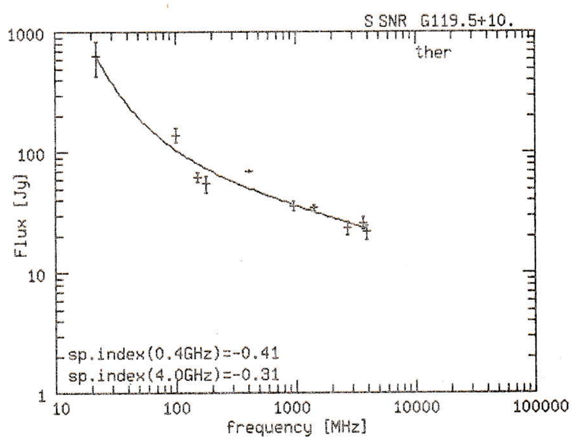

S SNR G120.1+1.4
lin
Flux [Jy]
frequency [MHz]
sp. index(0.4GHz)=-0.62
sp. index(4.0GHz)=-0.62

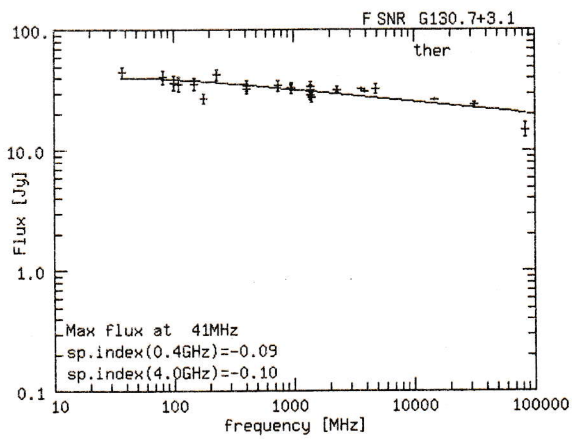

S SNR G116.9+0.2
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.73
sp.index(4.0GHz)=-0.61

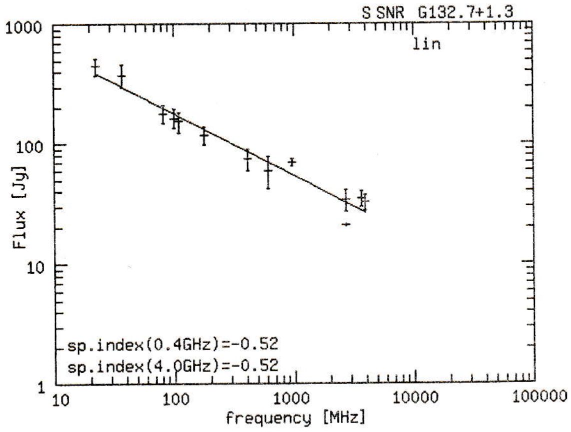

S SNR G126.2+1.6
ther
Flux [Jy]
frequency [MHz]
Max flux at 58MHz
sp.index(0.4GHz)=-0.69
sp.index(4.0GHz)=-0.82

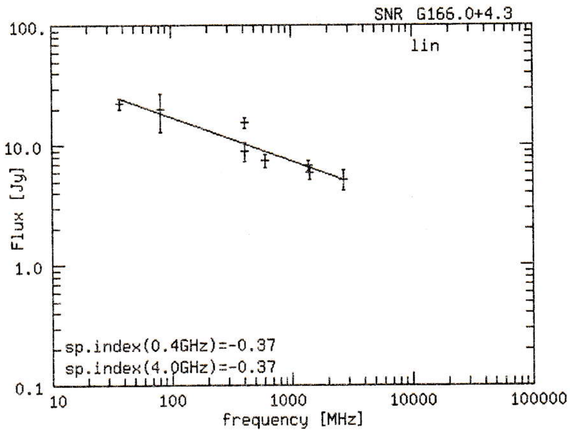

SNR G117.4+5.0
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.13
sp.index(4.0GHz)=-0.13

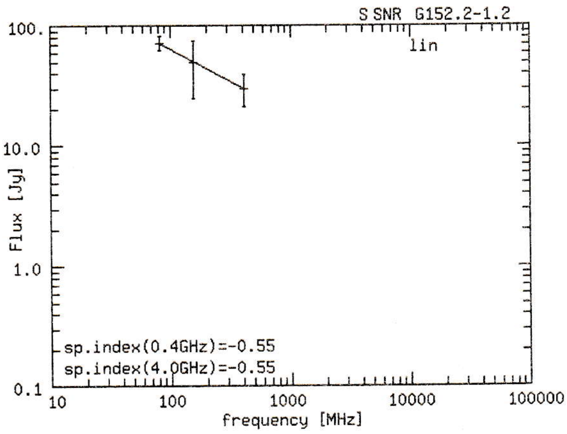

S SNR G127.1+0.5
ther
Flux [Jy]
frequency [MHz]
Max flux at 94MHz
sp.index(0.4GHz)=-0.55
sp.index(4.0GHz)=-0.72

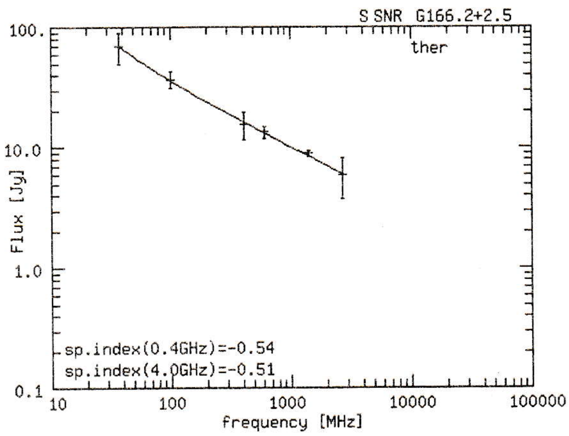

S SNR G119.5+10.
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.41
sp.index(4.0GHz)=-0.31

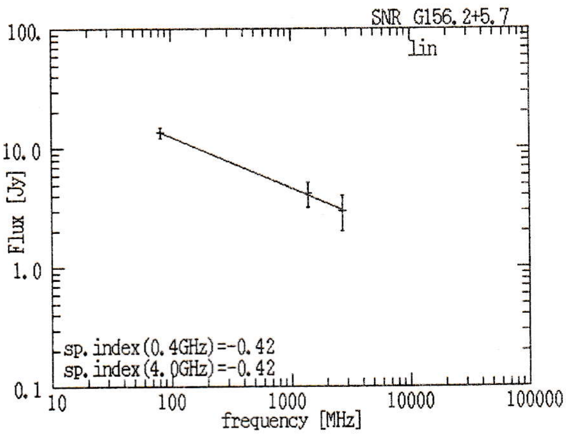

F SNR G130.7+3.1
ther
Flux [Jy]
frequency [MHz]
Max flux at 41MHz
sp.index(0.4GHz)=-0.09
sp.index(4.0GHz)=-0.10

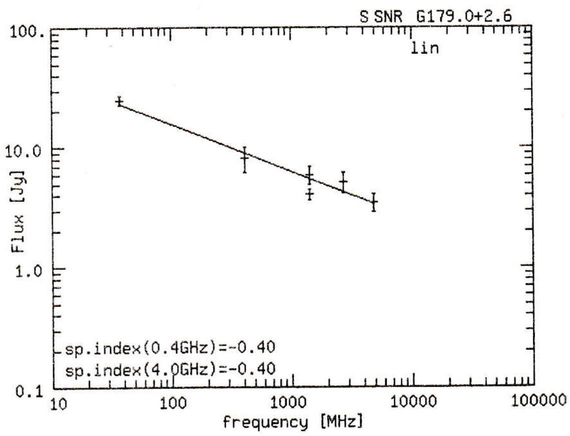

S SNR G132.7+1.3
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.52
sp.index(4.0GHz)=-0.52

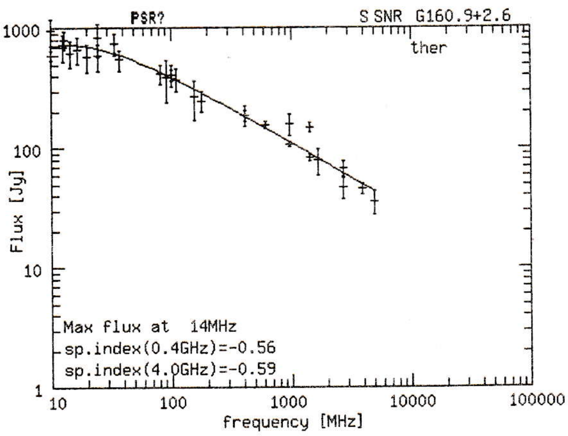

SNR G166.0+4.3
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.37
sp.index(4.0GHz)=-0.37

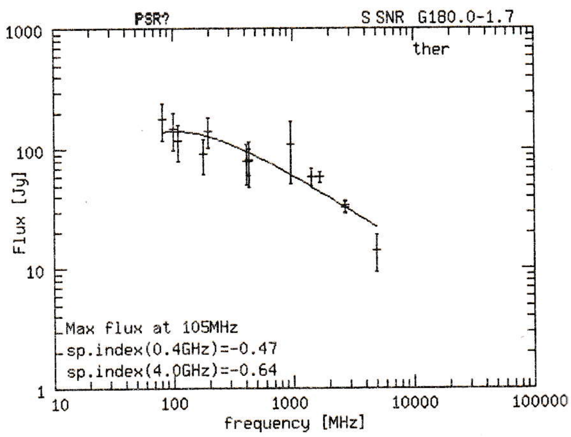

S SNR G152.2-1.2
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.55
sp.index(4.0GHz)=-0.55

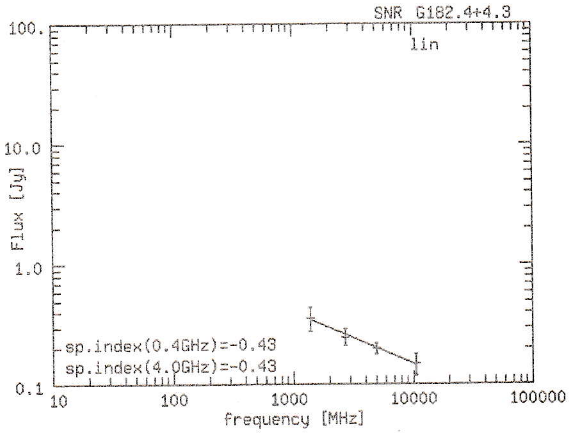

S SNR G166.2+2.5
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.54
sp.index(4.0GHz)=-0.51

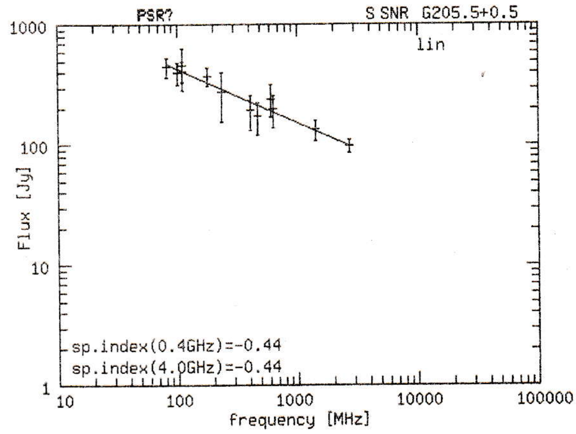

SNR G156.2+5.7
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.42
sp.index(4.0GHz)=-0.42

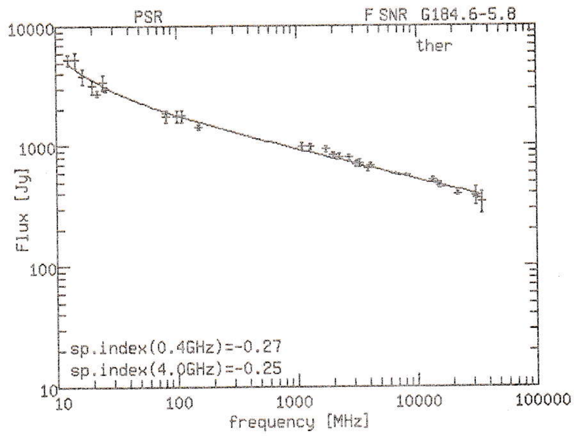

S SNR G179.0+2.6
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.40
sp.index(4.0GHz)=-0.40

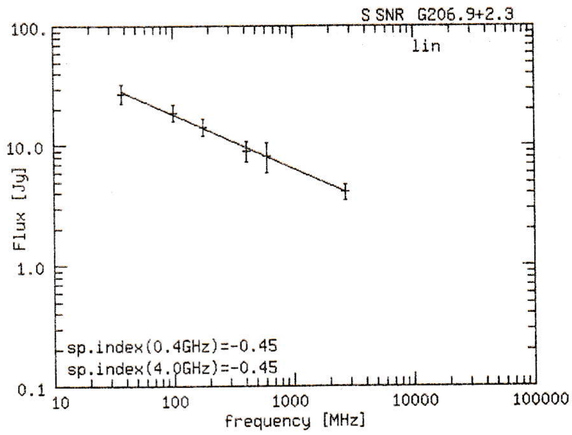

PSR?
S SNR G160.9+2.6
ther
Flux [Jy]
frequency [MHz]
Max flux at 14MHz
sp.index(0.4GHz)=-0.56
sp.index(4.0GHz)=-0.59

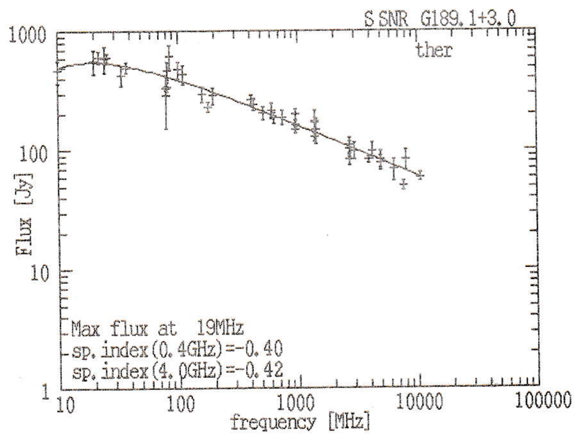

PSR?
S SNR G180.0-1.7
ther
Flux [Jy]
frequency [MHz]
Max flux at 105MHz
sp.index(0.4GHz)=-0.47
sp.index(4.0GHz)=-0.64

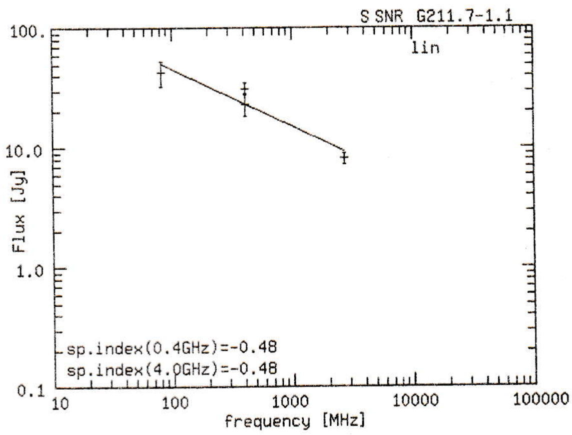

SNR G182.4+4.3
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.43
sp.index(4.0GHz)=-0.43
10
100
1000
10000
100000
frequency [MHz]

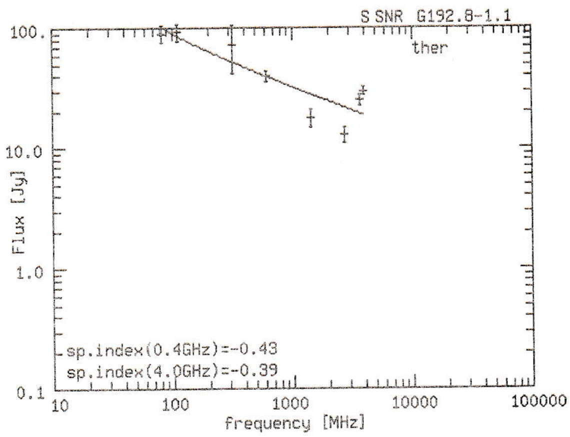

PSR?
S SNR G205.5+0.5
lin
Flux [Jy]
1000
100
10
1
sp.index(0.4GHz)=-0.44
sp.index(4.0GHz)=-0.44
10
100
1000
10000
100000
frequency [MHz]

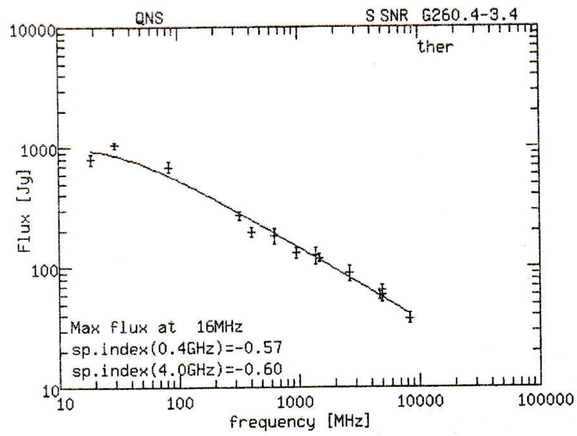

PSR
F SNR G184.6-5.8
ther
Flux [Jy]
10000
1000
100
10
sp.index(0.4GHz)=-0.27
sp.index(4.0GHz)=-0.25
10
100
1000
10000
100000
frequency [MHz]

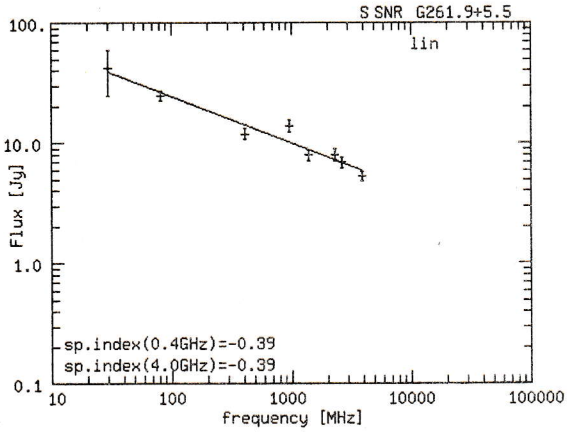

S SNR G206.9+2.3
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.45
sp.index(4.0GHz)=-0.45
10
100
1000
10000
100000
frequency [MHz]

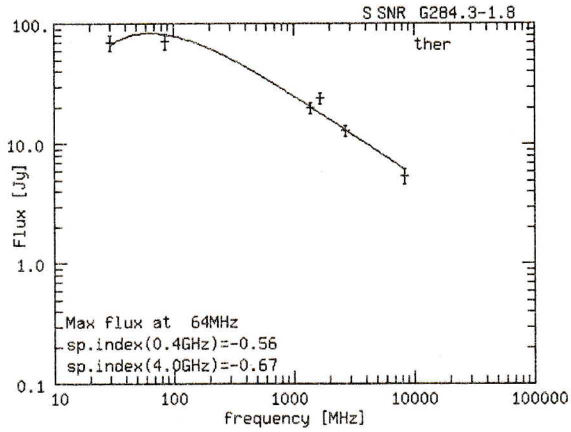

S SNR G189.1+3.0
ther
Flux [Jy]
1000
100
10
1
Max flux at 19MHz
sp.index(0.4GHz)=-0.40
sp.index(4.0GHz)=-0.42
10
100
1000
10000
100000
frequency [MHz]

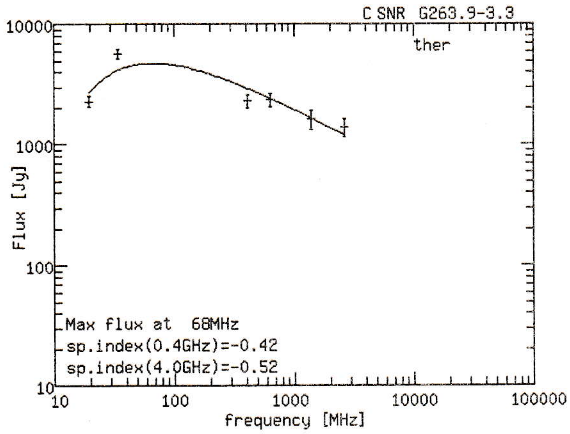

S SNR G211.7-1.1
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.48
sp.index(4.0GHz)=-0.48
10
100
1000
10000
100000
frequency [MHz]

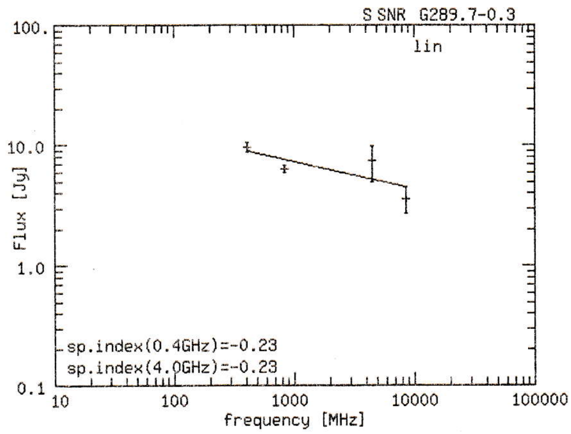

S SNR G192.8-1.1
ther
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.43
sp.index(4.0GHz)=-0.39
10
100
1000
10000
100000
frequency [MHz]

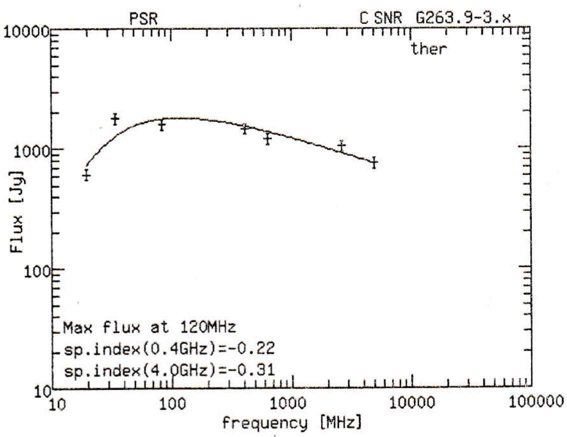

QNS
S SNR G260.4-3.4
ther
Flux [Jy]
10000
1000
100
10
Max flux at 16MHz
sp.index(0.4GHz)=-0.57
sp.index(4.0GHz)=-0.60
10
100
1000
10000
100000
frequency [MHz]

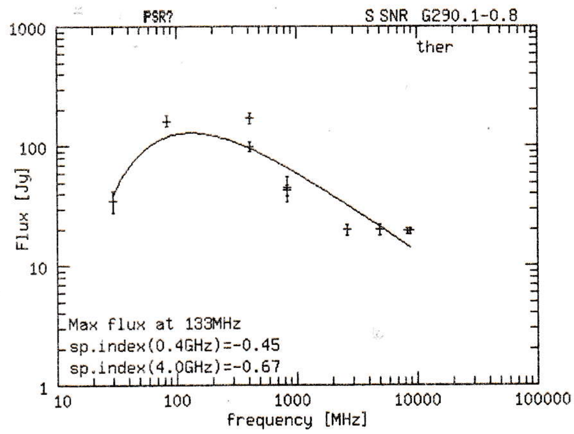

S SNR G261.9+5.5
lin
Flux [Jy]
sp.index(0.4GHz)=-0.39
sp.index(4.0GHz)=-0.39
frequency [MHz]

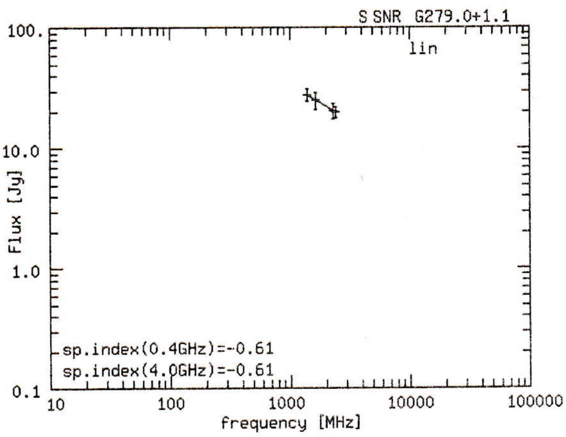

S SNR G284.3-1.8
ther
Flux [Jy]
Max flux at 64MHz
sp.index(0.4GHz)=-0.56
sp.index(4.0GHz)=-0.67
frequency [MHz]

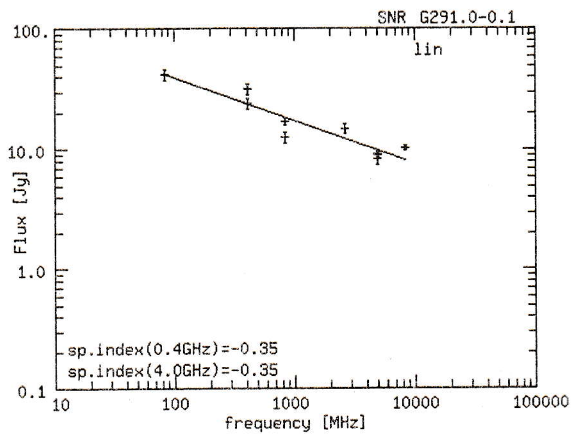

C SNR G263.9-3.3
ther
Flux [Jy]
Max flux at 68MHz
sp.index(0.4GHz)=-0.42
sp.index(4.0GHz)=-0.52
frequency [MHz]

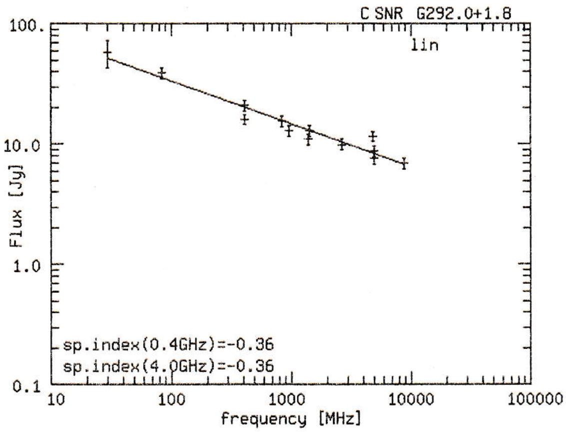

S SNR G289.7-0.3
lin
Flux [Jy]
sp.index(0.4GHz)=-0.23
sp.index(4.0GHz)=-0.23
frequency [MHz]

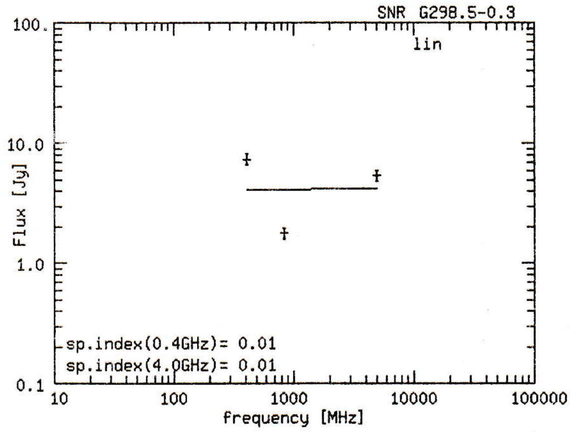

PSR
C SNR G263.9-3.x
ther
Flux [Jy]
Max flux at 120MHz
sp.index(0.4GHz)=-0.22
sp.index(4.0GHz)=-0.31
frequency [MHz]

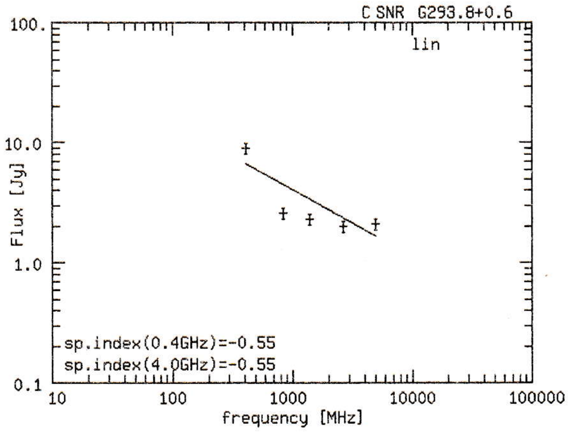

PSR?
S SNR G290.1-0.8
ther
Flux [Jy]
Max flux at 133MHz
sp.index(0.4GHz)=-0.45
sp.index(4.0GHz)=-0.67
frequency [MHz]

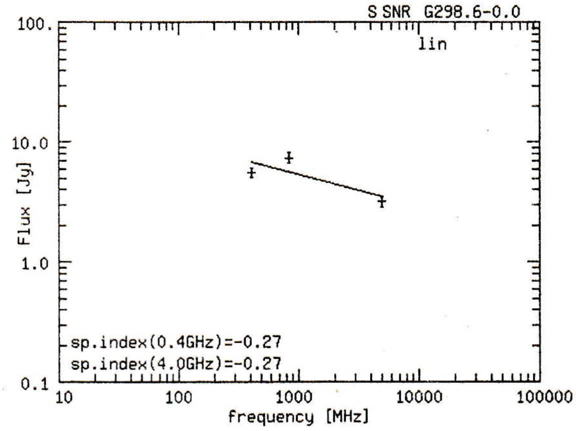

S SNR G279.0+1.1
lin
Flux [Jy]
sp.index(0.4GHz)=-0.61
sp.index(4.0GHz)=-0.61
frequency [MHz]

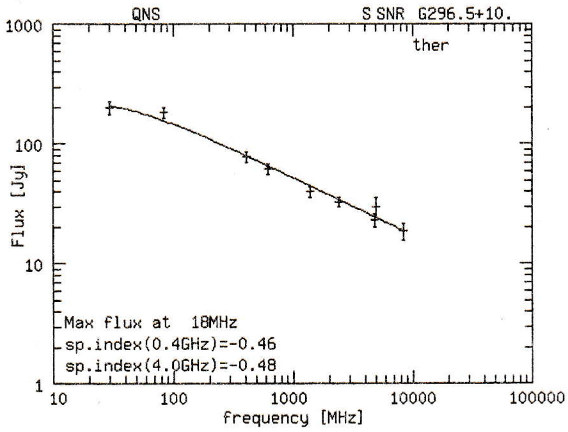

SNR G291.0-0.1
lin
Flux [Jy]
sp.index(0.4GHz)=-0.35
sp.index(4.0GHz)=-0.35
frequency [MHz]

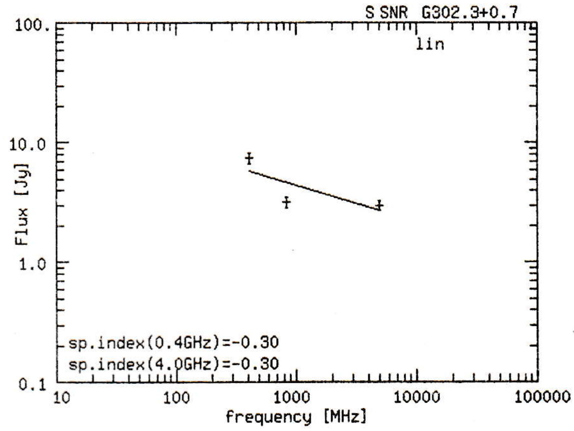

C SNR G292.0+1.8
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.36
sp.index(4.0GHz)=-0.36
10 100 1000 10000 100000
frequency [MHz]

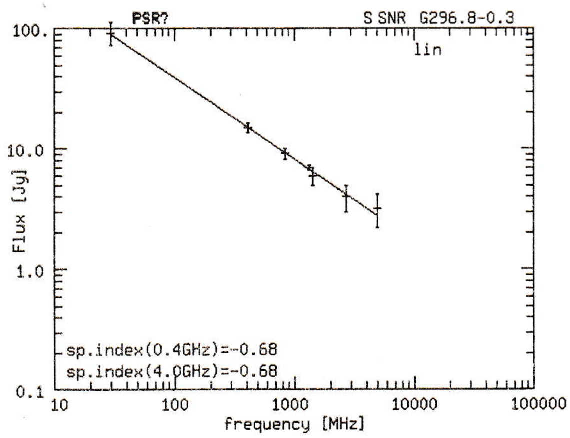

SNR G298.5-0.3
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)= 0.01
sp.index(4.0GHz)= 0.01
10 100 1000 10000 100000
frequency [MHz]

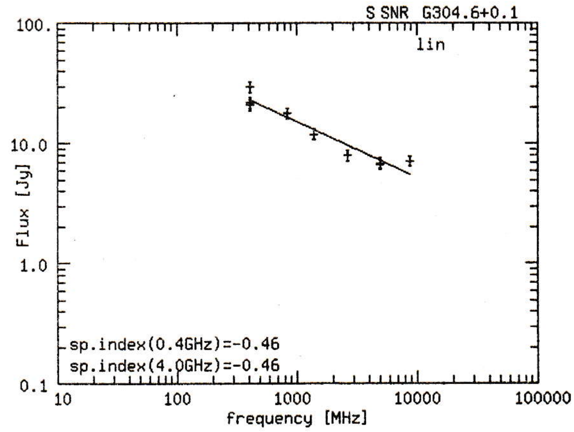

C SNR G293.8+0.6
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.55
sp.index(4.0GHz)=-0.55
10 100 1000 10000 100000
frequency [MHz]

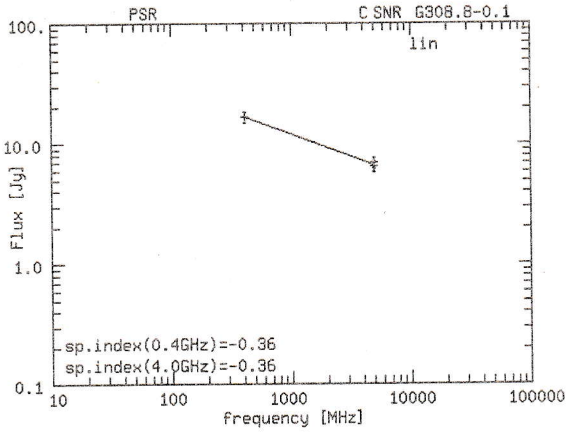

S SNR G298.6-0.0
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.27
sp.index(4.0GHz)=-0.27
10 100 1000 10000 100000
frequency [MHz]

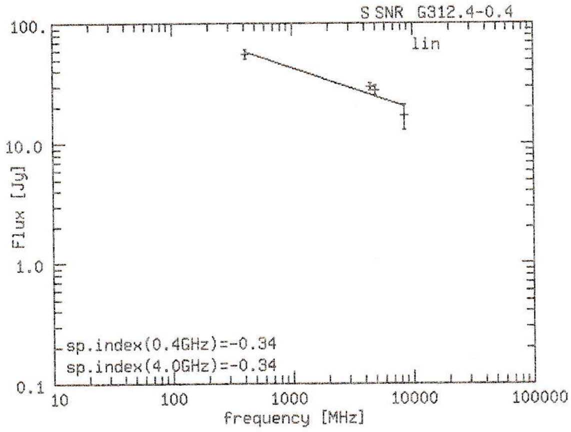

QNS
S SNR G296.5+10.
ther
Flux [Jy]
1000
100
10
1
Max flux at 18MHz
sp.index(0.4GHz)=-0.46
sp.index(4.0GHz)=-0.48
10 100 1000 10000 100000
frequency [MHz]

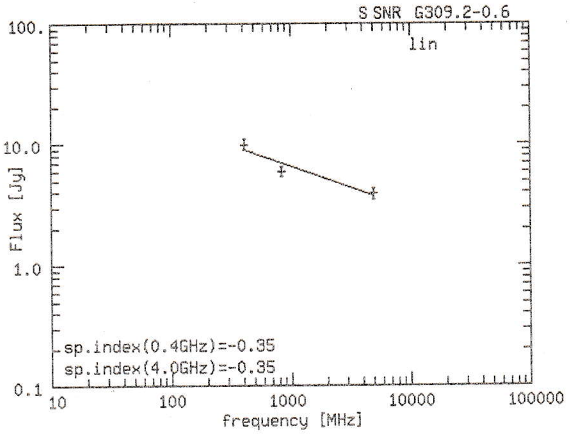

S SNR G302.3+0.7
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.30
sp.index(4.0GHz)=-0.30
10 100 1000 10000 100000
frequency [MHz]

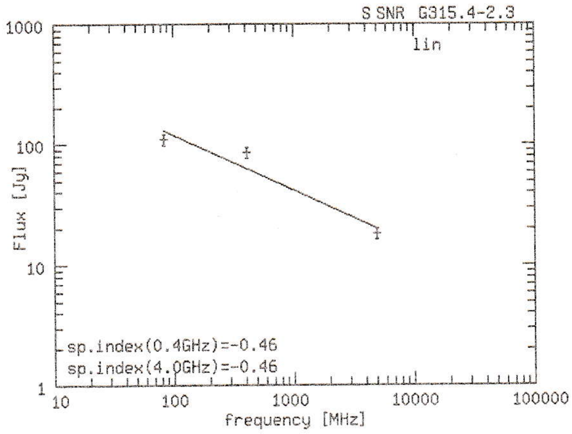

PSR?
S SNR G296.8-0.3
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.68
sp.index(4.0GHz)=-0.68
10 100 1000 10000 100000
frequency [MHz]

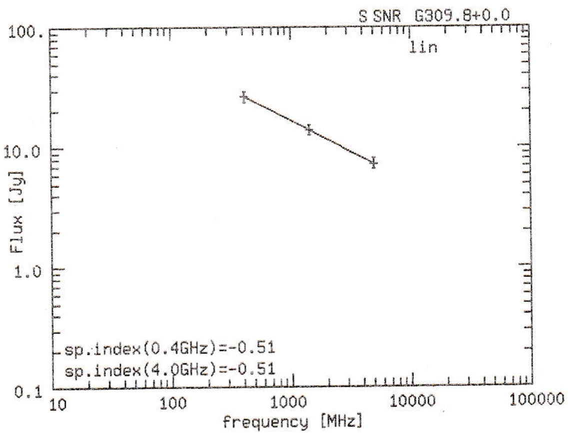

S SNR G304.6+0.1
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.46
sp.index(4.0GHz)=-0.46
10 100 1000 10000 100000
frequency [MHz]

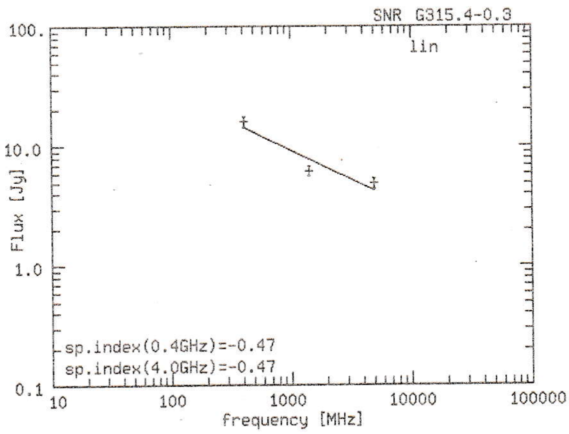

PSR
C SNR G308.8-0.1
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.36
sp.index(4.0GHz)=-0.36
10
100
1000
10000
100000
frequency [MHz]

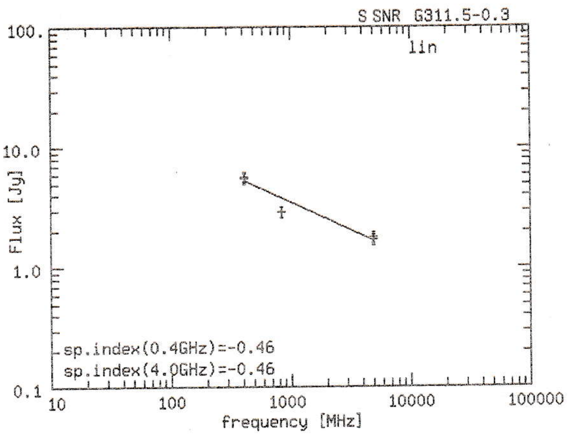

S SNR G312.4-0.4
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.34
sp.index(4.0GHz)=-0.34
10
100
1000
10000
100000
frequency [MHz]

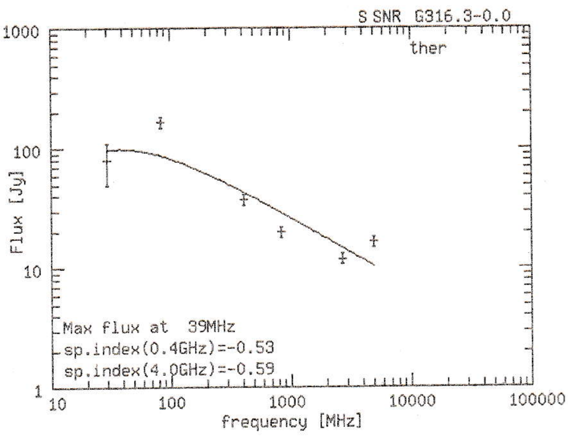

S SNR G309.2-0.6
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.35
sp.index(4.0GHz)=-0.35
10
100
1000
10000
100000
frequency [MHz]

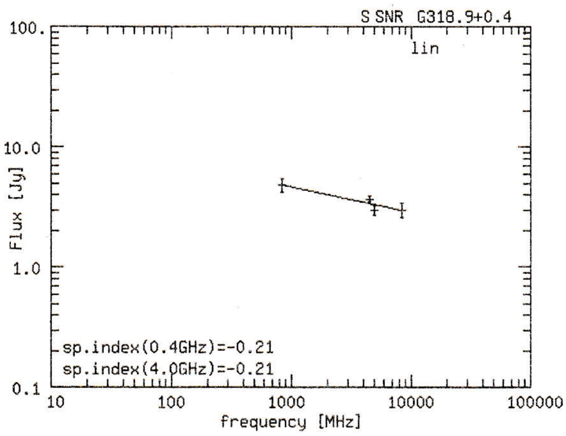

S SNR G315.4-2.3
lin
Flux [Jy]
1000
100
10
1
sp.index(0.4GHz)=-0.46
sp.index(4.0GHz)=-0.46
10
100
1000
10000
100000
frequency [MHz]

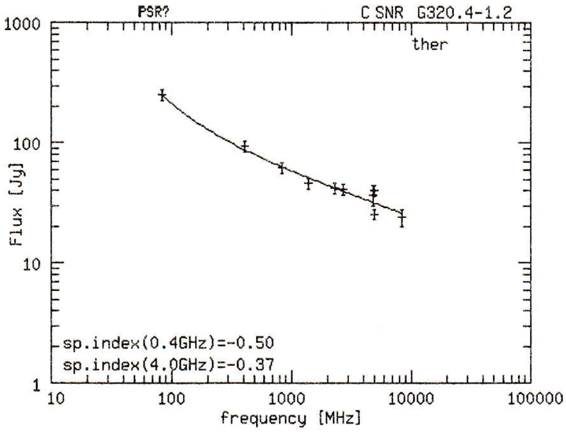

S SNR G309.8+0.0
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.51
sp.index(4.0GHz)=-0.51
10
100
1000
10000
100000
frequency [MHz]

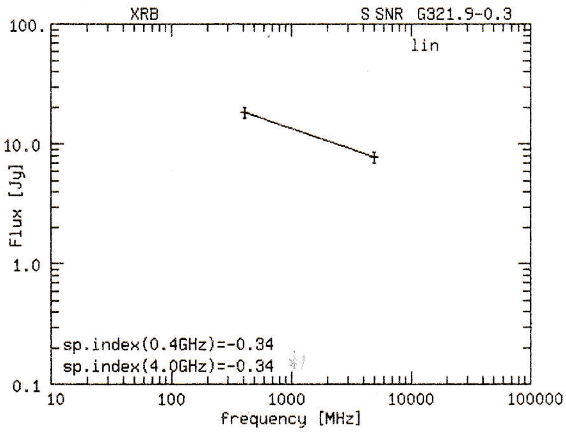

SNR G315.4-0.3
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.47
sp.index(4.0GHz)=-0.47
10
100
1000
10000
100000
frequency [MHz]

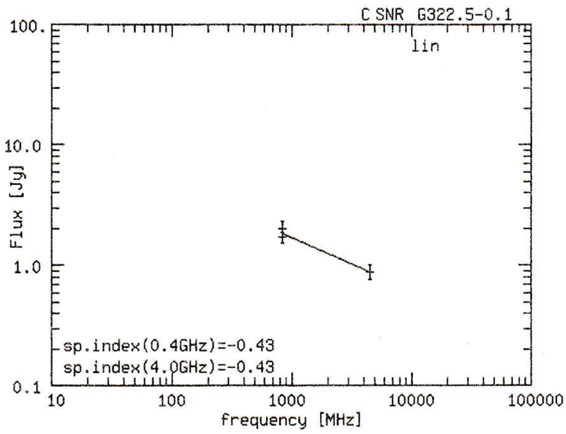

S SNR G311.5-0.3
lin
Flux [Jy]
100.
10.0
1.0
0.1
sp.index(0.4GHz)=-0.46
sp.index(4.0GHz)=-0.46
10
100
1000
10000
100000
frequency [MHz]

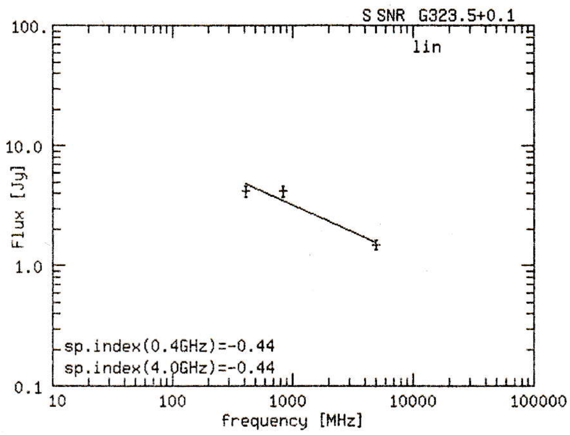

S SNR G316.3-0.0
ther
Flux [Jy]
1000
100
10
1
Max flux at 39MHz
sp.index(0.4GHz)=-0.53
sp.index(4.0GHz)=-0.59
10
100
1000
10000
100000
frequency [MHz]

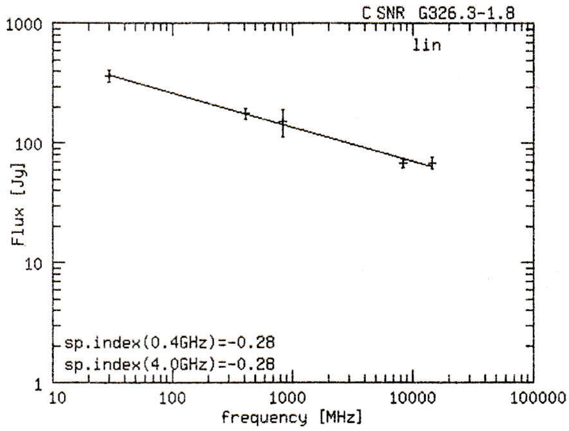

S SNR G318.9+0.4
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.21
sp.index(4.0GHz)=-0.21
10
100
1000
10000
100000
frequency [MHz]

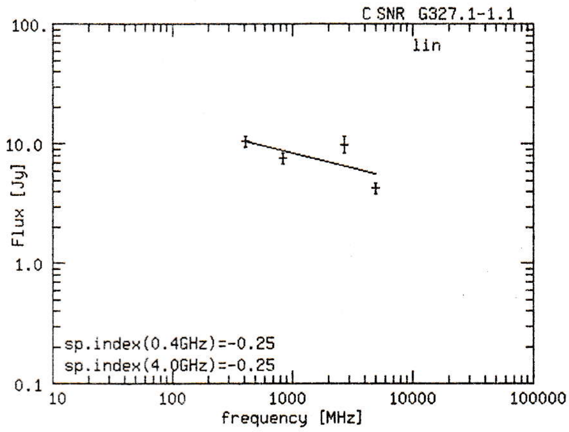

PSR?
C SNR G320.4-1.2
ther
1000
100
10
1
Flux [Jy]
sp.index(0.4GHz)=-0.50
sp.index(4.0GHz)=-0.37
10
100
1000
10000
100000
frequency [MHz]

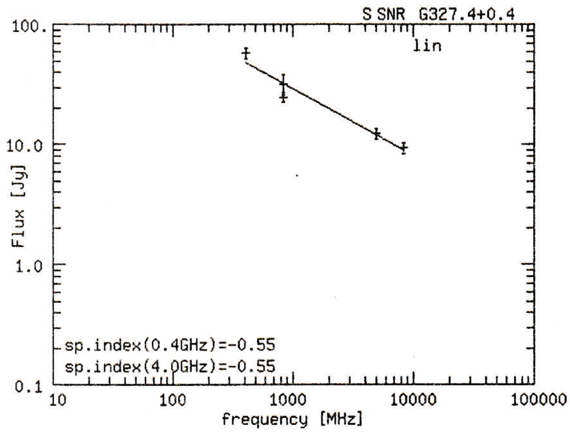

XRB
S SNR G321.9-0.3
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.34
sp.index(4.0GHz)=-0.34
10
100
1000
10000
100000
frequency [MHz]

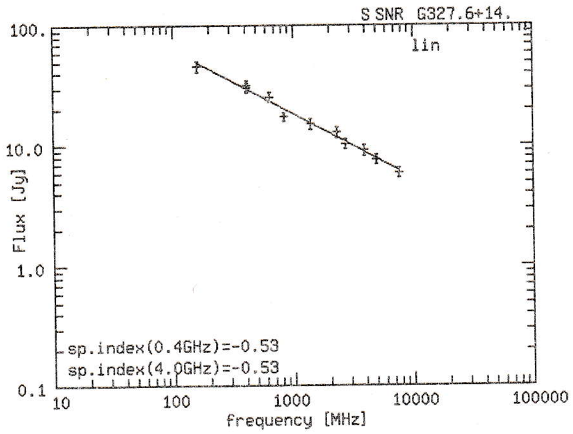

C SNR G322.5-0.1
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.43
sp.index(4.0GHz)=-0.43
10
100
1000
10000
100000
frequency [MHz]

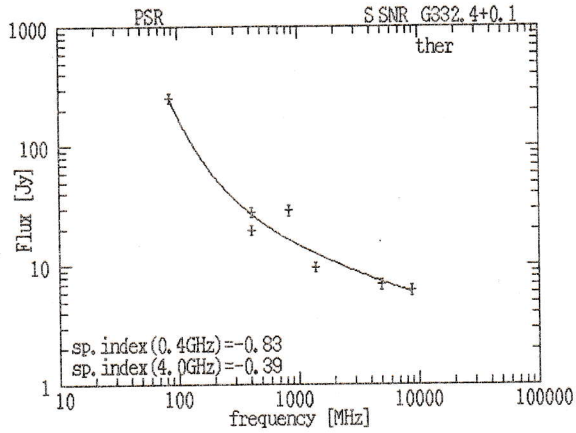

S SNR G323.5+0.1
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.44
sp.index(4.0GHz)=-0.44
10
100
1000
10000
100000
frequency [MHz]

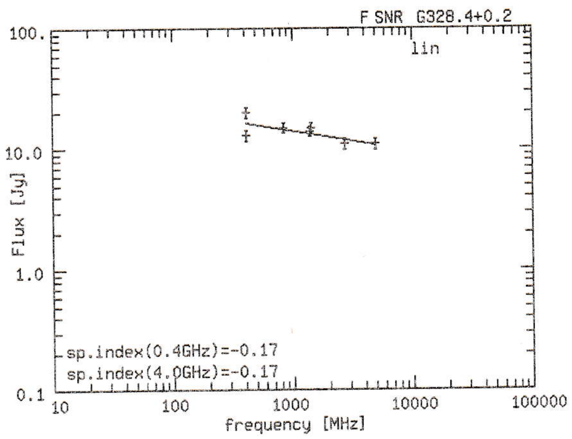

C SNR G326.3-1.8
lin
1000
100
10
1
Flux [Jy]
sp.index(0.4GHz)=-0.28
sp.index(4.0GHz)=-0.28
10
100
1000
10000
100000
frequency [MHz]

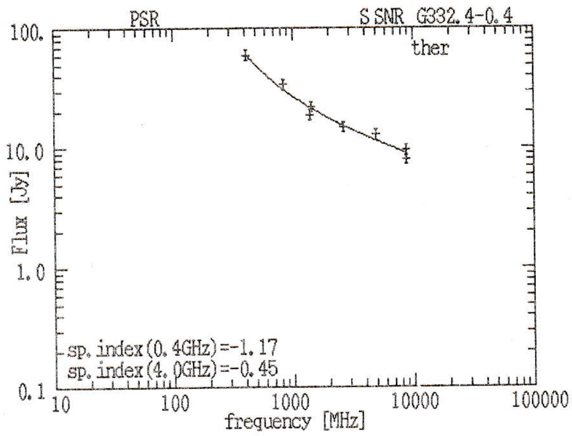

C SNR G327.1-1.1
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.25
sp.index(4.0GHz)=-0.25
10
100
1000
10000
100000
frequency [MHz]

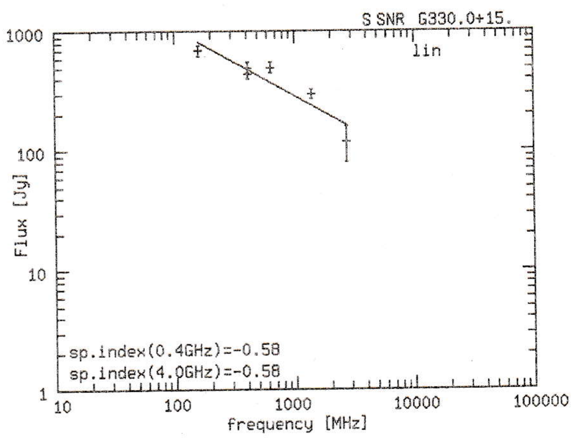

S SNR G327.4+0.4
lin
100.
10.0
1.0
0.1
Flux [Jy]
sp.index(0.4GHz)=-0.55
sp.index(4.0GHz)=-0.55
10
100
1000
10000
100000
frequency [MHz]

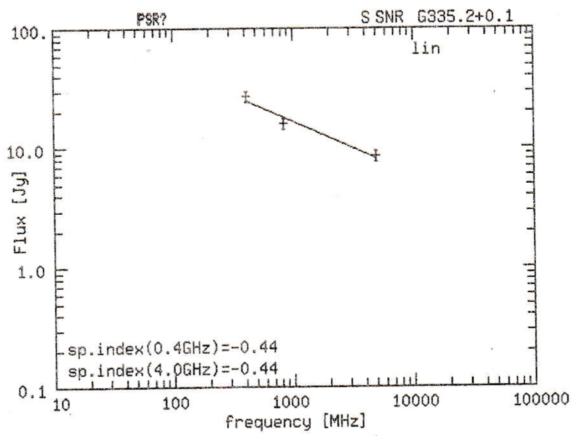

S SNR G327.6+14.
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.53
sp.index(4.0GHz)=-0.53

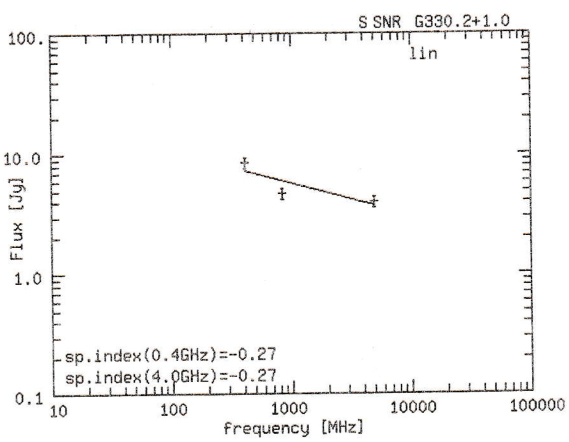

PSR
S SNR G332.4+0.1
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.83
sp.index(4.0GHz)=-0.39

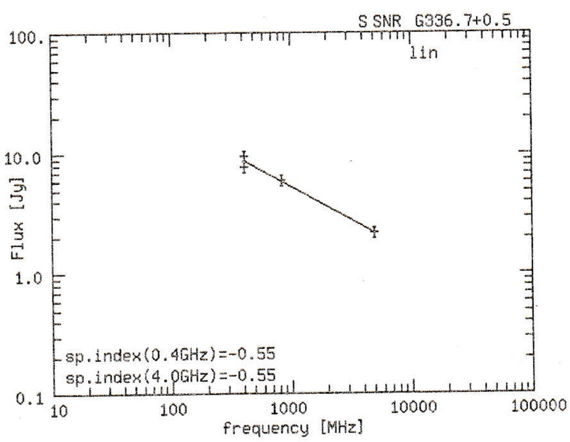

F SNR G328.4+0.2
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.17
sp.index(4.0GHz)=-0.17

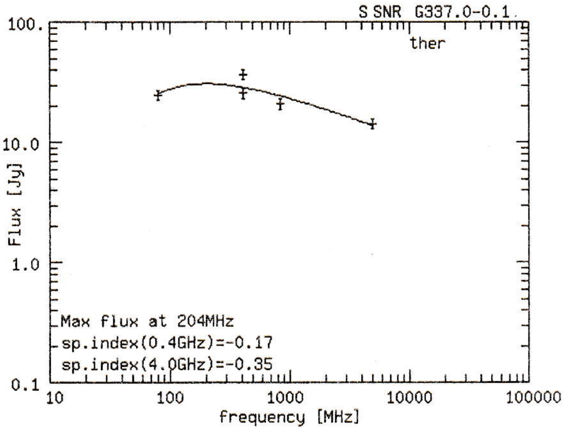

PSR
S SNR G332.4-0.4
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-1.17
sp.index(4.0GHz)=-0.45

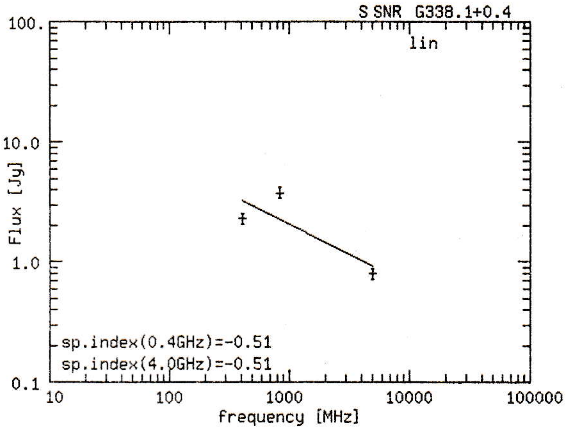

S SNR G330.0+15.
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.58
sp.index(4.0GHz)=-0.58

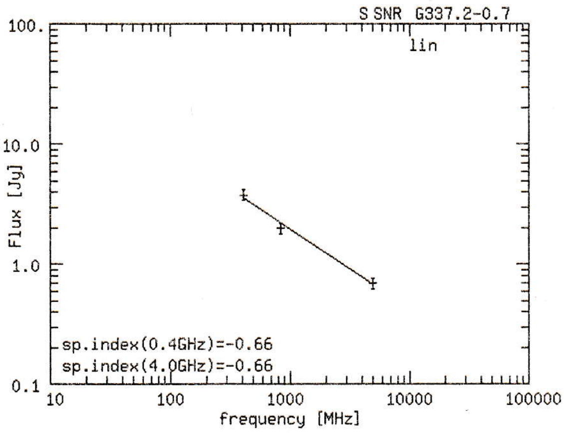

PSR?
S SNR G335.2+0.1
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.44
sp.index(4.0GHz)=-0.44

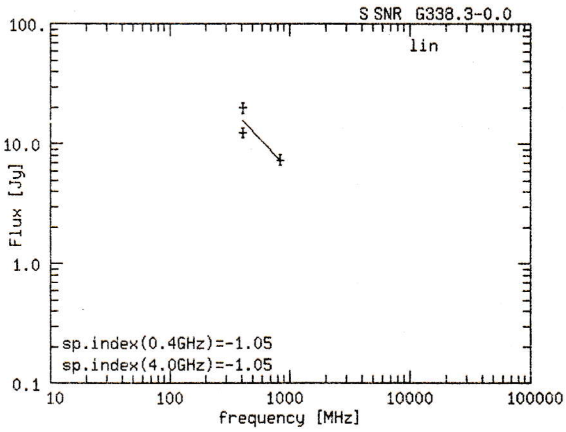

S SNR G330.2+1.0
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.27
sp.index(4.0GHz)=-0.27

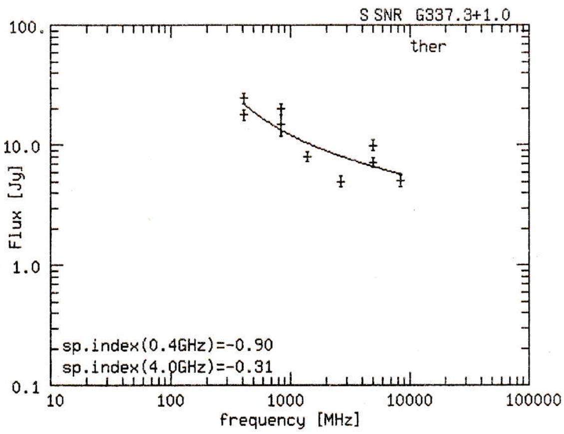

S SNR G336.7+0.5
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.55
sp.index(4.0GHz)=-0.55

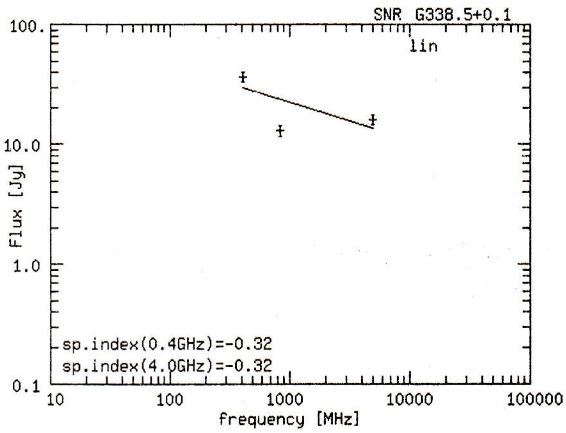

S SNR G337.0-0.1
ther
Flux [Jy]
frequency [MHz]
Max flux at 204MHz
sp.index(0.4GHz)=-0.17
sp.index(4.0GHz)=-0.35

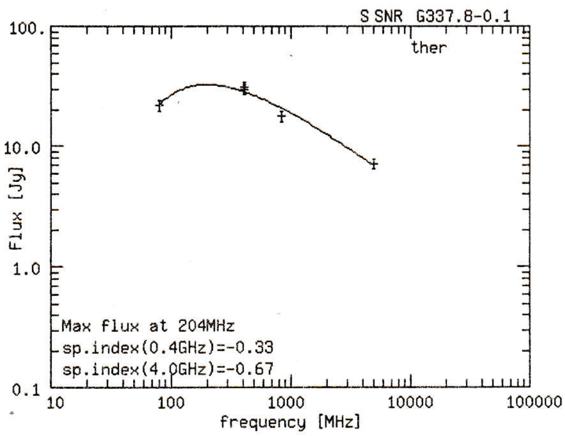

S SNR G338.1+0.4
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.51
sp.index(4.0GHz)=-0.51

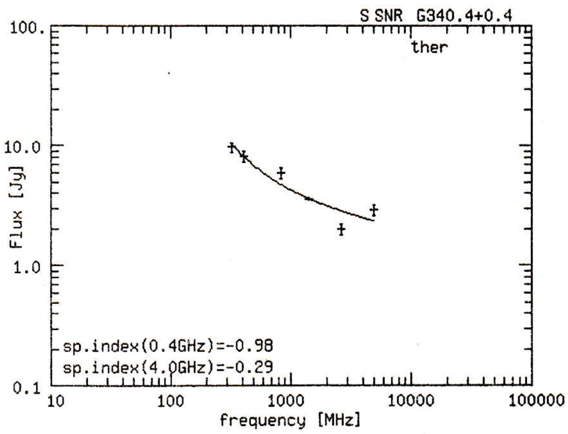

S SNR G337.2-0.7
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.66
sp.index(4.0GHz)=-0.66

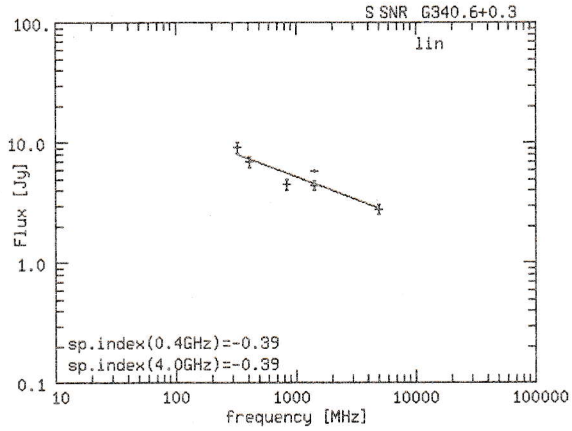

S SNR G338.3-0.0
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-1.05
sp.index(4.0GHz)=-1.05

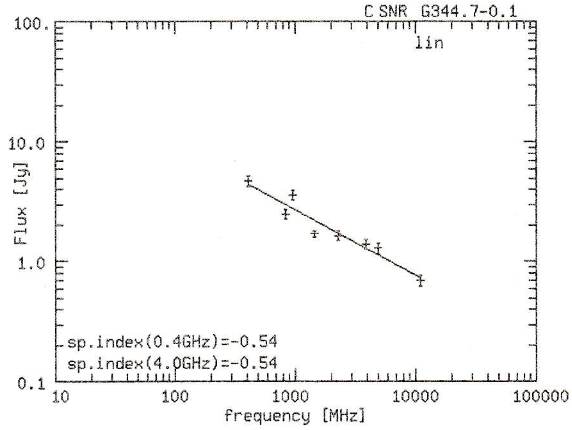

S SNR G337.3+1.0
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.90
sp.index(4.0GHz)=-0.31

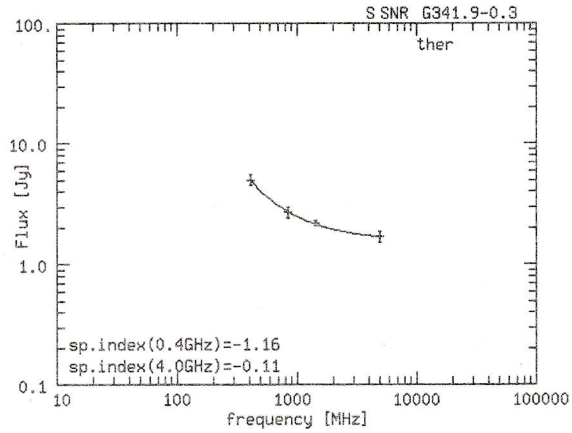

SNR G338.5+0.1
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.32
sp.index(4.0GHz)=-0.32

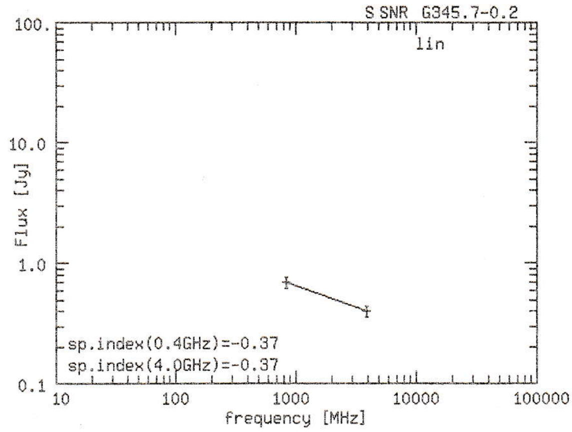

S SNR G337.8-0.1
ther
Flux [Jy]
frequency [MHz]
Max flux at 204MHz
sp.index(0.4GHz)=-0.33
sp.index(4.0GHz)=-0.67

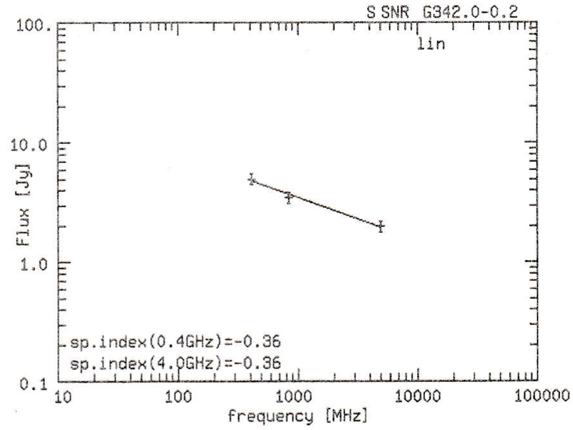

S SNR G340.4+0.4
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.98
sp.index(4.0GHz)=-0.29

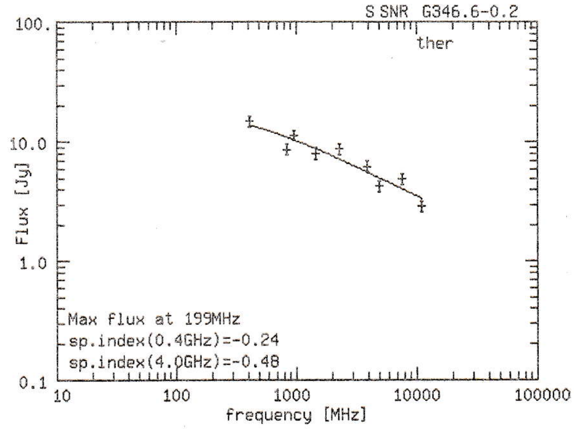

S SNR G340.6+0.3
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.39
sp.index(4.0GHz)=-0.39

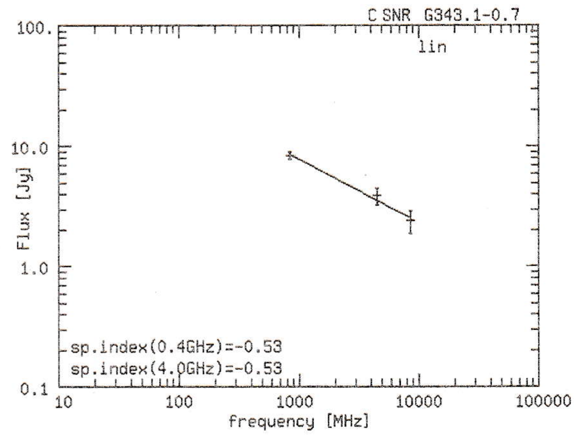

C SNR G344.7-0.1
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.54
sp.index(4.0GHz)=-0.54

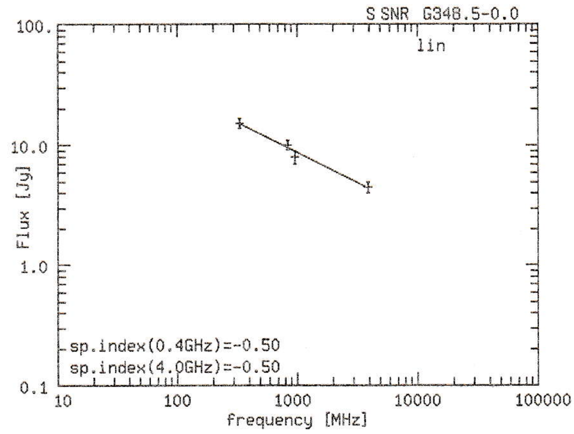

S SNR G341.9-0.3
ther
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-1.16
sp.index(4.0GHz)=-0.11

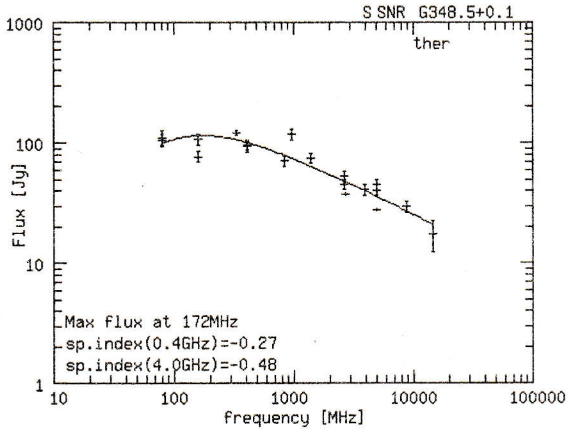

S SNR G345.7-0.2
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.37
sp.index(4.0GHz)=-0.37

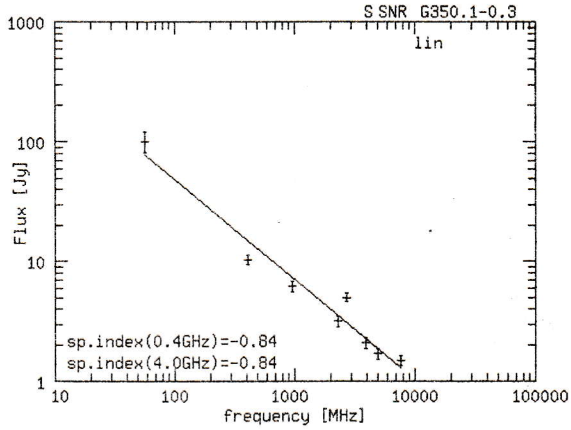

S SNR G342.0-0.2
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.36
sp.index(4.0GHz)=-0.36

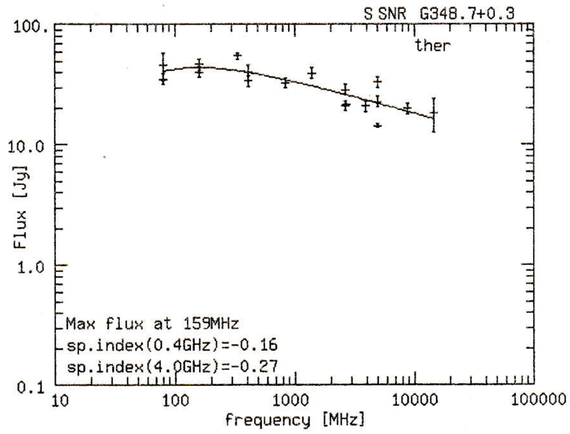

S SNR G346.6-0.2
ther
Flux [Jy]
frequency [MHz]
Max flux at 199MHz
sp.index(0.4GHz)=-0.24
sp.index(4.0GHz)=-0.48

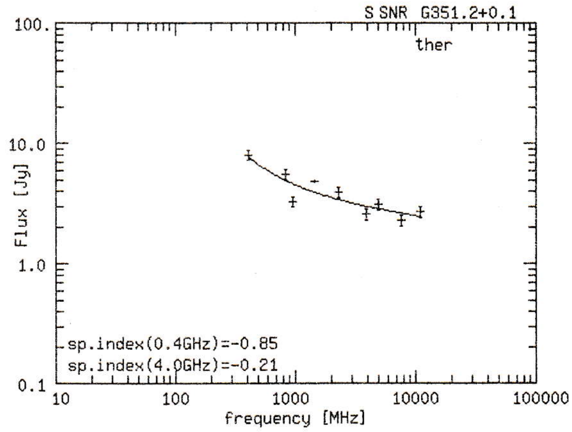

C SNR G343.1-0.7
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.53
sp.index(4.0GHz)=-0.53

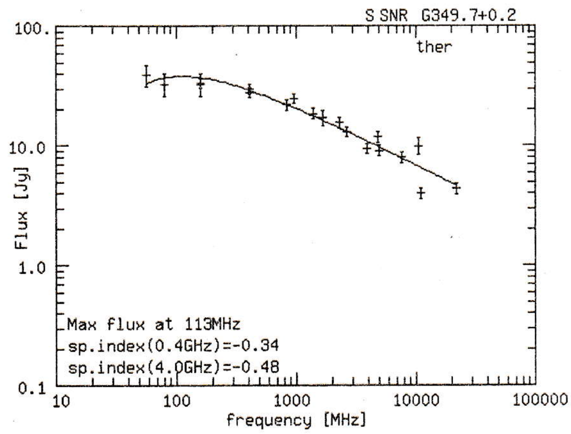

S SNR G348.5-0.0
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.50
sp.index(4.0GHz)=-0.50

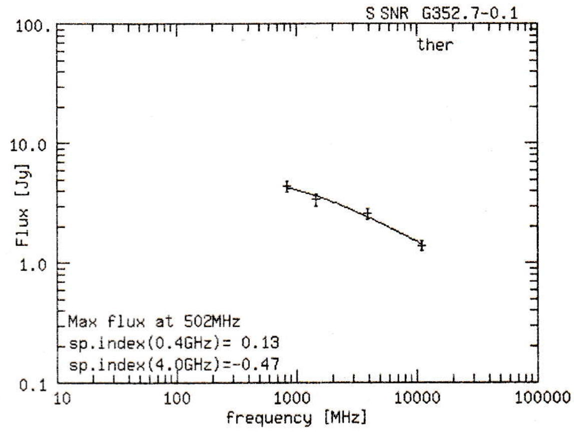

S SNR G348.5+0.1
ther
Max flux at 172MHz
sp.index(0.4GHz)=-0.27
sp.index(4.0GHz)=-0.48
Flux [Jy]
frequency [MHz]

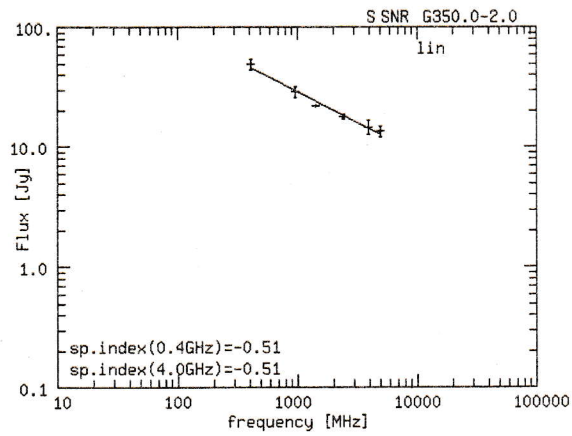

S SNR G350.1-0.3
lin
sp.index(0.4GHz)=-0.84
sp.index(4.0GHz)=-0.84
Flux [Jy]
frequency [MHz]

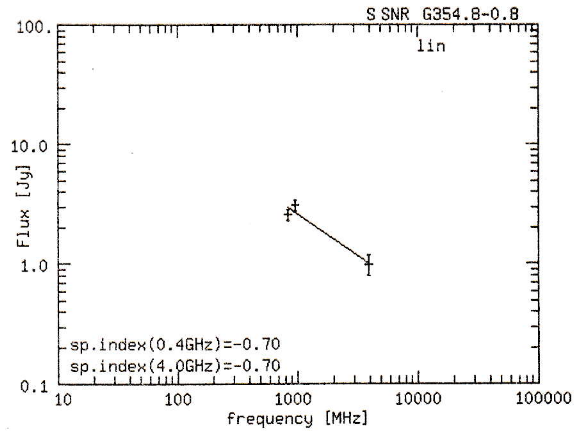

S SNR G348.7+0.3
ther
Max flux at 159MHz
sp.index(0.4GHz)=-0.16
sp.index(4.0GHz)=-0.27
Flux [Jy]
frequency [MHz]

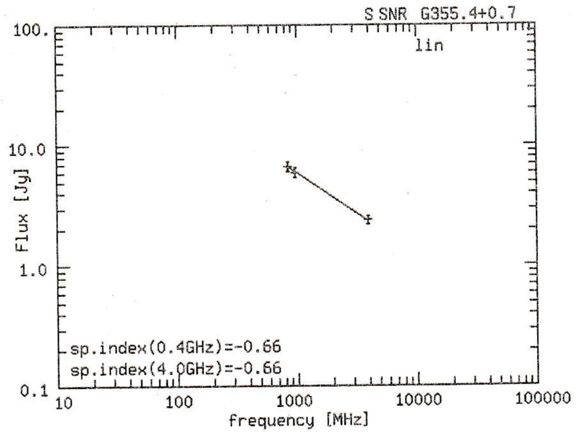

S SNR G351.2+0.1
ther
sp.index(0.4GHz)=-0.85
sp.index(4.0GHz)=-0.21
Flux [Jy]
frequency [MHz]

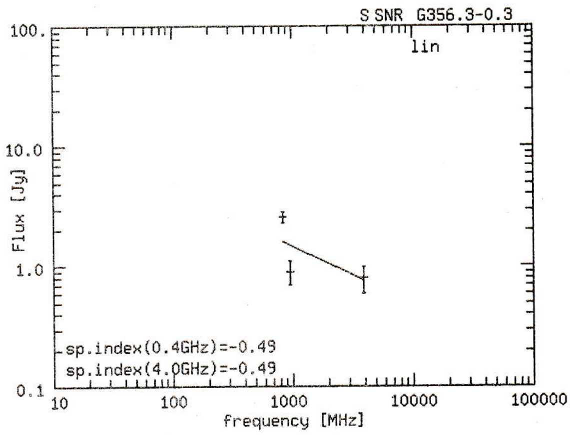

S SNR G349.7+0.2
ther
Max flux at 113MHz
sp.index(0.4GHz)=-0.34
sp.index(4.0GHz)=-0.48
Flux [Jy]
frequency [MHz]

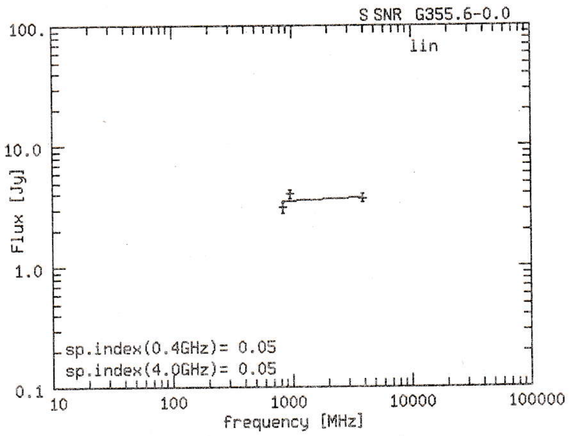

S SNR G352.7-0.1
ther
Max flux at 502MHz
sp.index(0.4GHz)= 0.13
sp.index(4.0GHz)=-0.47
Flux [Jy]
frequency [MHz]

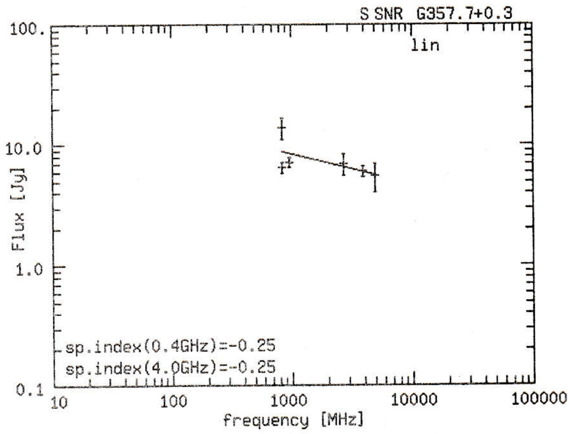

S SNR G350.0-2.0
lin
sp.index(0.4GHz)=-0.51
sp.index(4.0GHz)=-0.51
Flux [Jy]
frequency [MHz]

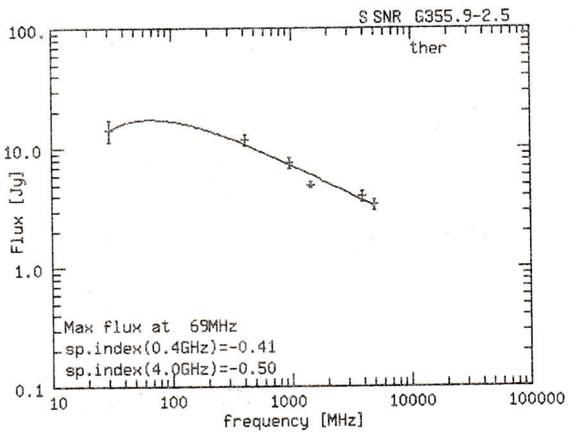

S SNR G354.8-0.8
lin
sp.index(0.4GHz)=-0.70
sp.index(4.0GHz)=-0.70
Flux [Jy]
frequency [MHz]

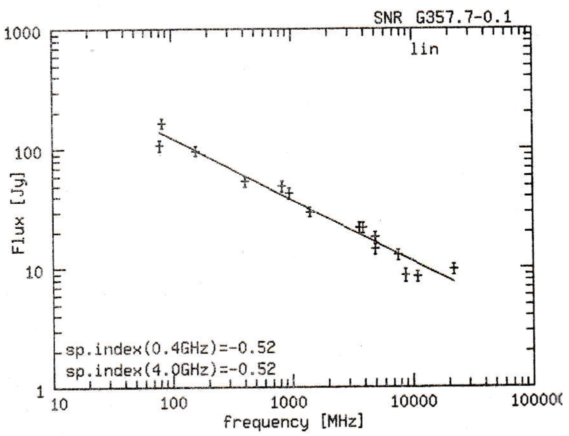

S SNR G355.4+0.7
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.66
sp.index(4.0GHz)=-0.66

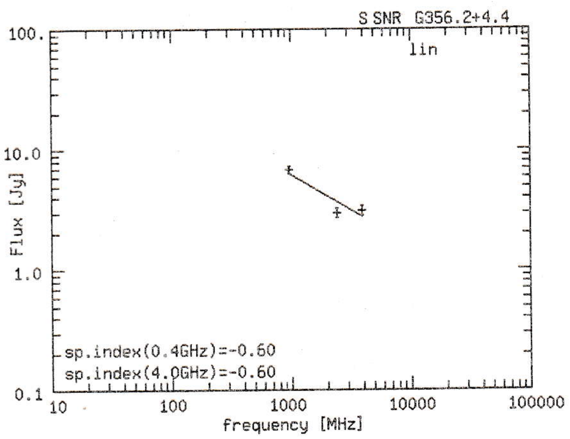

S SNR G356.3-0.3
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.49
sp.index(4.0GHz)=-0.49

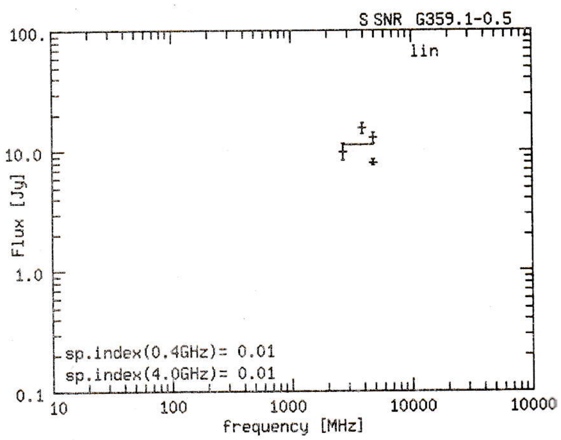

S SNR G355.6-0.0
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)= 0.05
sp.index(4.0GHz)= 0.05


S SNR G357.7+0.3
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.25
sp.index(4.0GHz)=-0.25


S SNR G355.9-2.5
ther
Flux [Jy]
frequency [MHz]
Max flux at 69MHz
sp.index(0.4GHz)=-0.41
sp.index(4.0GHz)=-0.50


SNR G357.7-0.1
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.52
sp.index(4.0GHz)=-0.52


S SNR G356.2+4.4
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)=-0.60
sp.index(4.0GHz)=-0.60


S SNR G359.1-0.5
lin
Flux [Jy]
frequency [MHz]
sp.index(0.4GHz)= 0.01
sp.index(4.0GHz)= 0.01