LINEAR POLARIZATION OBSERVATIONS OF GALACTIC RADIO EMISSION ON MAGNETIC TAPE.

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The complete results of linear polarization observations of galactic radio emission observed with the 25-metre radio telescope at Dwingeloo, The Netherlands, are now available on magnetic tape. The tape has been written at the computing centre of Leiden University on an IBM-370/158-III computer. The data will be distributed by the Centre de Données Stellaires at Strasbourg, France.

The tape consists of standard IBM-labelled tapes, 9 track/odd parity, EBCDIC code, density 1600 bpi. In general all the observations are packed together into datasets with the following details :

file 1 : Description of contents of the tape and reference :

Blocksize = 4096 , record length = 240, record format = U (undefined), dataset name = POLDATA.
This dataset consists of a short description of the contents of the tape, names of the authors, references, name of the institute which made the tape and which distributes the tape. This information is written in characters (1 byte) in strings 240 bytes long. Number of blocks = 11.

file 2 : Linear polarization observations of the galactic radio emission at 408, 465, 610, 820, and 1411 MHz (Brouw and Spoelstra, 1976) :

Blocksize = 4080, record length = 117, record format = F (fixed), dataset name = POLDATA.
The description of the contents of this label is given in Table 1. Number of blocks = 168.

file 3 : Linear polarization observations of the galactic spurs at 1415 MHz (Spoelstra, 1971, 1972) :

Blocksize = 3080, record length = 77, record format = F (fixed), dataset name = POLDATA.
The contents of this label are described in Table 2. Number of blocks = 164.

Table 1

Linear polarization observations at 408, 465, 610, 820, and 1411 MHz of the galactic radio emission : format of tape with final results.

Offset (bytes)	Length (bytes)	Description	Frequency (MHz)	Unit	Precision
0	4	galactic longitude, ℓ		degrees	0.1
4	4	galactic latitude, b		"	0.1
8	4	right ascension, α		"	0.1
12	4	declination, δ		"	0.1
16	3	polarized intensity, I**	408	Kelvin	0.01
19	4	galactic polarization angle, θ_g	408	degrees	0.1
23	4	equatorial polarization angle, θ_e	408	"	0.1
27	2	m.e. Stokes parameter Q, me(Q)	408	Kelvin	0.01
29	2	m.e. Stokes parameter U, me(U)	408	"	0.01
31	4	number of observations, N	408		1
35	1	day/night mark (1 or 0 respectively), DN*	408		
36	3	I	465	Kelvin	0.01
39	4	θ_g	465	degrees	0.1
43	4	θ_e	465	"	0.1
47	2	me(Q)	465	Kelvin	0.01
49	2	me(U)	465	"	0.01
51	4	N	465		1
55	1	DN	465		
56	3	I	610	Kelvin	0.01
59	4	θ_g	610	degrees	0.1
63	4	θ_e	610	"	0.1
67	2	me(Q)	610	Kelvin	0.01
69	2	me(U)	610	"	0.01
71	4	N	610		1
75	1	DN	610		
76	3	I	820	Kelvin	0.01
79	4	θ_g	820	degrees	0.1
83	4	θ_e	820	"	0.1
87	2	me(Q)	820	Kelvin	0.01
89	2	me(U)	820	"	0.01
91	4	N	820		1
95	1	DN	820		
96	3	I	1411	Kelvin	0.01
99	4	θ_g	1411	degrees	0.1
103	4	θ_e	1411	"	0.1
107	2	me(Q)	1411	Kelvin	0.01
109	2	me(U)	1411	"	0.01
111	4	N	1411		1
115	1	DN	1411		
116	1	mark if only one observation is available at a frequency.			

* If observations were done in daytime DN = 1 ; otherwise DN = 0.

** Given in polarization brightness temperature (Berkhuijsen, 1975). This also holds for me(Q) and me(U).

Table 2

Linear polarization in the galactic spurs at 1415 MHz : format of tape with final results

Offset (bytes)	Length * (bytes)	Description	Unit	Precision
0	6	galactic longitude, ℓ	degrees	0.01
6	6	galactic latitude, b	"	0.01
12	6	right ascension, α	"	0.01
18	6	declination, δ	"	0.01
24	6	Stokes parameter Q **	Kelvin	0.01
30	6	Stokes parameter U	"	0.01
36	6	m.e.Q	"	0.01
42	6	m.e.U	"	0.01
48	6	polarized intensity, I	"	0.01
54	6	m.e.I	"	0.01
60	6	polarization angle in the galactic coordinate system, Θ	degrees	0.01
66	6	m.e.Θ	"	0.01
72	5	number of observations, N	-	1

* Except for the last entry, the decimal point is always at position 4 of the value field : i.e. at offset 3 + 6k, where k = 0, 1, ..., 11.

** The values for I, Q, and U and their mean errors are given in polarization brightness temperature (Berkhuijsen, 1975).

References :

Berkhuijsen, E.M., 1975, Astron. Astrophys. 40, 311

Brouw, W.N. and Spoelstra, T.A.Th., 1976, Astron. Astrophys. Suppl. Series 26, 129

Spoelstra, T.A.Th., 1971, Astron. Astrophys. Suppl. Series 5, 205

Spoelstra, T.A.Th., 1972, Astron. Astrophys. Suppl. Series 7, 169