

COMPILATIONS  
OF  
SOLAR-GEOPHYSICAL DATA

Abstracted from CRPL-FB-267

Issued November 1966

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ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
INSTITUTE FOR TELECOMMUNICATION SCIENCES AND AERONOMY  
BOULDER, COLORADO 80302

ADDENDA TO DESCRIPTIVE TEXT OF JANUARY 1966

Included below are addenda which were issued with CRPL-FB reports in April, May, August, and September 1966. Whenever similar addenda are necessary in the future, they will appear with the appropriate monthly compilations.

From CRPL-FB-260, April 1966AFCRL Sagamore Hill Solar Radio Observatory

The Sagamore Hill Solar Radio Observatory of the Air Force Cambridge Research Laboratories (located at  $42^{\circ}37'54.36''N$   $70^{\circ}49'15.15''W$ ) is operating a solar patrol at 8800 Mc/s, 2700 Mc/s, 1415 Mc/s, and 606 Mc/s. The patrol will include 5000 Mc/s later in 1966. The project is funded in part by the Laboratory Director's Fund. The objectives are to provide high absolute accuracy flux measurements at 606 and 1415 Mc/s ( $\pm 3\%$ ), to provide coverage at other regions of the microwave spectrum with reduced absolute accuracy ( $\pm 10\%$ ), and to study centimeter burst spectrum from correlated measurements.

Solar coverage is provided at the two longer wavelengths from sunrise to sunset. A 28 foot diameter polar mounted parabola and a dual frequency feed is used. At 606 Mc/s, the half power beam width is about  $40^{\circ}$ , while at 1415 Mc/s the underilluminated parabola provides a  $3^{\circ}$  beam. The shorter wavelengths operate from a polar mounted 8 foot parabola with a multi-frequency feed. Coverage is from sunrise to sunset generally, except for a period when some afternoon data will be lost due to partial antenna blockage. The parabola is underilluminated at 8800 Mc/s. Corrections are employed to convert apparent fluxes to true fluxes where required. Daily flux calibrations are made at about meridian transit each day.

All receivers are essentially "Dicke" radiometers. Bandwidth (IF) of each is about 8 Mc/s. Band pass filters (RF) and single side band operation are employed at 606 and 1415 Mc/s. The other receivers operate double side band where the L.O. is designated the operating frequency.

All flux data variation resulting from the varying distance between the sun and the earth is corrected to 1 A.U. Corrections are also made for atmospheric attenuation based on the following average vertical attenuations:

8800 Mc/s	,	.070 db
5000 Mc/s	,	.055 db
2700 Mc/s	,	.051 db
1415 Mc/s	,	.05 db
606 Mc/s	,	.045 db

Outstanding occurrences are listed according to the IAU classification as described in the Pennsylvania State University section of the descriptive text.

From CRPL-FB-261, May 1966

Solar Radiation Monitoring Satellite

Outstanding X-ray Events observed by the Solar Radiation Satellite, 1965-16D and the Explorer XXX Satellite, 1965-93A, beginning with January 1966, are reported in Section III. These data have been collected under the direction of Ronald K. Oines at Northern State College, Aberdeen, South Dakota, with advice on data reduction from Robert W. Kreplin of the U. S. Naval Research Laboratory. The presentation is therefore similar to that of earlier data reported from the U. S. Naval Research Laboratory. The flux is given in  $\text{ergs cm}^{-2} \text{ sec}^{-1}$  assuming that the regions of the solar x-ray spectrum can be approximated, as described in the descriptive text issued January 1966 on pages 14-15 under Solar X-ray Radiation. The 0-3A spectral range is calculated using a  $10 \times 10^6 \text{ }^\circ\text{K}$  "gray" body assumption.

Solar Radio Emission

Beginning with this issue the Outstanding Occurrences observed at discrete frequencies are combined together and are presented in one table in Section IV. The discussions in the descriptive text published in January 1966, with addendum in CRPL-FB-260 published in April, still apply for each individual reporter.

The table which follows on page 3 gives the key for identifying type of event and indicates which frequencies have been or may be expected to report each type of event. The second column lists the URANA or URANE synoptic code that is used by the International Ursigram and World Days Service for daily telegraphic interchange of data. The name code used to identify each reporting station is included at the bottom the table.

East-West Solar Scans

East-West solar scans from the 43 cm solar radio array at Fleurs, Australia, are presented in Section IV. These records are obtained in a manner similar to that for the 21 cm observations. Changes are being made in the installation at both wave-lengths and will be more fully discussed in a later edition of "Solar-Geophysical Data".

NUMBER CODE FOR TYPE OF SOLAR RADIO EMISSION EVENT

Code	IUWDS URAN- Form	Mc/s										
		10700	8800	2800	2695	2690	1415	960	606	328	223	108/107
Simple 1	1	E1	x	x	x	x	x	x	x	x	x	
Simple 1F	2	E1			x							
Simple 2	3	E2	x	x	x	x	x	x	x	x	x	
Simple 2F	4	E2			x							
Simple Minor	5							x		x		
Minor	6	A4								x	x	x
Minor +	7									x	x	
Simple 3	20	E3	x	x	x	x	x	x	x	x	x	
Simple 3A	21	E3			x							
Simple 3F	22	E3			x							
Simple 3AF	23	E3			x							
Rise	24	A1	x		x		x		x	x	x	x
Rise A	25			x								
Fall	26			x								
Rise and Fall	27		x	x		x	x	x	x	x	x	
Precursor	28	E9		x	x							
Post Burst Increase	29	E4	x	x	x	x	x	x	x	x	x	
Post Burst Increase A	30	E4			x							
Post Burst Decrease	31	E5			x							
Fluctuations	40	E7	x	x	x	x	x	x	x	x	x	
Group of Bursts	41	A3, E8	x	x	x	x	x	x	x	x	x	x
Series of Bursts	42	A2			x		x		x	x	x	x
Onset of Noise Storm	43	A7	x	x		x	x	x	x	x	x	x
Noise Storm in Progress	44	A6			x		x		x	x	x	x
Complex	45	E6	x	x	x	x	x	x	x	x	x	
Complex F	46	E6	x	x	x	x	x	x	x	x	x	
Great Burst	47	E6	x	x	x	x	x	x	x	x	x	
Major	48	A8								x	x	
Major +	49	A9								x	x	

<u>Code</u>	<u>Station</u>	<u>Frequencies Reported, Mc/s</u>
BOES	Boeing - Seattle	223
BOUL	ESSA - Boulder	108
HALE	Haleakala - Hawaii	107
OTTA	ARO-Ottawa	2800
PENN	Pennsylvania State University	10700, 2690, 960, 328
PENT	DRAO-Penticton	2700
SGMR	AFCRL-Sagamore Hill	8800, 2695, 1415, 606
WASH	Washington State University	486

From CRPL-FB-264, August 1966 and CRPL-FB-265, September 1966

Mt. Wilson Magnetic Classification of Sunspots

Starting with the data for July 1966 the Mount Wilson magnetic sunspot classification lists include the Mount Wilson numbers for all spot groups observed at Mount Wilson. If a magnetic classification is based on magnetic measurements, that classification is enclosed in parentheses. A magnetic classification not enclosed in parentheses is determined from the appearance of the spot groups and the plage. An "X" in the classification column indicates sufficient information was not available to make an intelligent determination of the magnetic classification. Up to this time the only magnetic classifications included in these lists have been those for which there were magnetic measurements.

The largest magnetic field strength measured in each group is now given. Starting with the data for August, 1966, the number which appears on the right hand side of the column labelled "Type" is a coded representation of the largest magnetic field strength measured in the group. The field strength is only given to the nearest 500 gauss because it is felt that the uncertainties of measurement do not permit more than that accuracy. These measurements are made with the line  $\lambda 5250.216$  (Fe I). No correction is made for blending of the Zeeman components. The code is as follows:

Code	<u>Maximum field Strength in gauss</u>
1	100-500
2	600-1000
3	1100-1500
4	1600-2000
5	2100-2500
6	2600-3000
7	3100-3500
8	3600-4000
9	4100-4500
10	>4500

Cosmic Ray Indices

The chart of pressure corrected hourly totals from the neutron monitors now presents data from Alert as well as Deep River, beginning with data from July 1966.

Geomagnetic Activity Indices

As a footnote to the table of indices, beginning with July 1966 data, the provisional storm sudden commencements are listed as provided by IUGG: Association of Geomagnetism and Aeronomy, Commission 4, Permanent Service of Geomagnetic Indices.

### Solar X-Ray Radiation

The descriptive text of January 1966 described the instrumentation for the NRL Solar Radiation Satellite 1964-01D. Data from the NRL satellite, Explorer 30, 1965-93A for March and June 1966 are given in this issue. Descriptive text for 1965-93A is given below:

#### 1. Daily Average X-Ray Flux Indices

The average x-ray flux index for each day is calculated from individual records made during the intervals listed in the Table of Observing Times. Four x-ray bands are normally monitored but because of the great variability observed in the 0.5-3 Å band this data is not included in the table of daily averages.

##### a. 44-60 Å Index

The reduction of the 44-60 Å photometer signal to flux values involves the use of a "gray body" approximation (reference 1) in which a temperature of  $0.5 \times 10^6$  °K is used to define the wavelength distribution. Austin, Purcell, and Tousey (reference 2) have photographed a line spectrum in the region 44-60 Å. Until quantitative measurements of line intensities are made for this region the 44-60 Å flux levels must be used with some reservation. Comparisons of flux values at different times can however be made with an accuracy set by a standard deviation of about 2% in the flux value obtained from the record of an individual satellite pass during quiet solar conditions.

##### b. 8-20 Å Index

The 8-20 Å flux index is calculated on the assumption that this region of the solar spectrum may be approximated by a  $2 \times 10^6$  °K "gray body." Measurement of the solar spectrum between 13 and 26 Angstroms by Blake, Chubb, Friedman and Unzicker (reference 3) has revealed a number of emission lines, thus the same qualifications must be made in assigning an error to the absolute flux values as was made in the case of the 44-60 Å index. The standard deviation in the average flux is about 8% for this band.

##### c. 0-8 Å Index

The flux index in this spectral range is calculated using a  $2 \times 10^6$  °K "gray body" approximation. For purposes of comparison of the flux indices a standard deviation of about 15% in the average flux value computed for a single pass may be used.

## 2. Outstanding Events

In this Table are listed those intervals and flux indices when the flux in the 0-8 A and 0-3 A bands was significantly different from the average for the day or when a change in flux value with time was observed. In this Table the 44-60 A index is omitted because of the relatively small changes observed with solar activity in this band.

## 3. Times of Observation

These are the intervals of time (UT) when the satellite was in range of a telemetry station. Intervals have not been included when x-ray flux could not be reduced due to noise or other interference.

## References

1. Kreplin, R. W., Ann. Geophys., 17, 151-161 (1961).
2. Austin, W. E., J. D. Purcell and R. Tousey, Astron. J., 69, 133 (1964).
3. Blake, R. L., T. A. Chubb, H. Friedman and A. E. Unzicker, Astrophys. J., 142, 1-12 (1965).

From CRPL-FB-266, October 1966

## Revisions

The NRL solar radiation monitoring satellite data for July and August 1964, found in CRPL-FB-244, December 1964, have been replaced by revised data in this issue.

The descriptive text was republished in January 1966. Addenda have been given in the introduction to the CRPL-FB reports for April, May, August, September and October, 1966.

#### X-ray Radiation reports from France

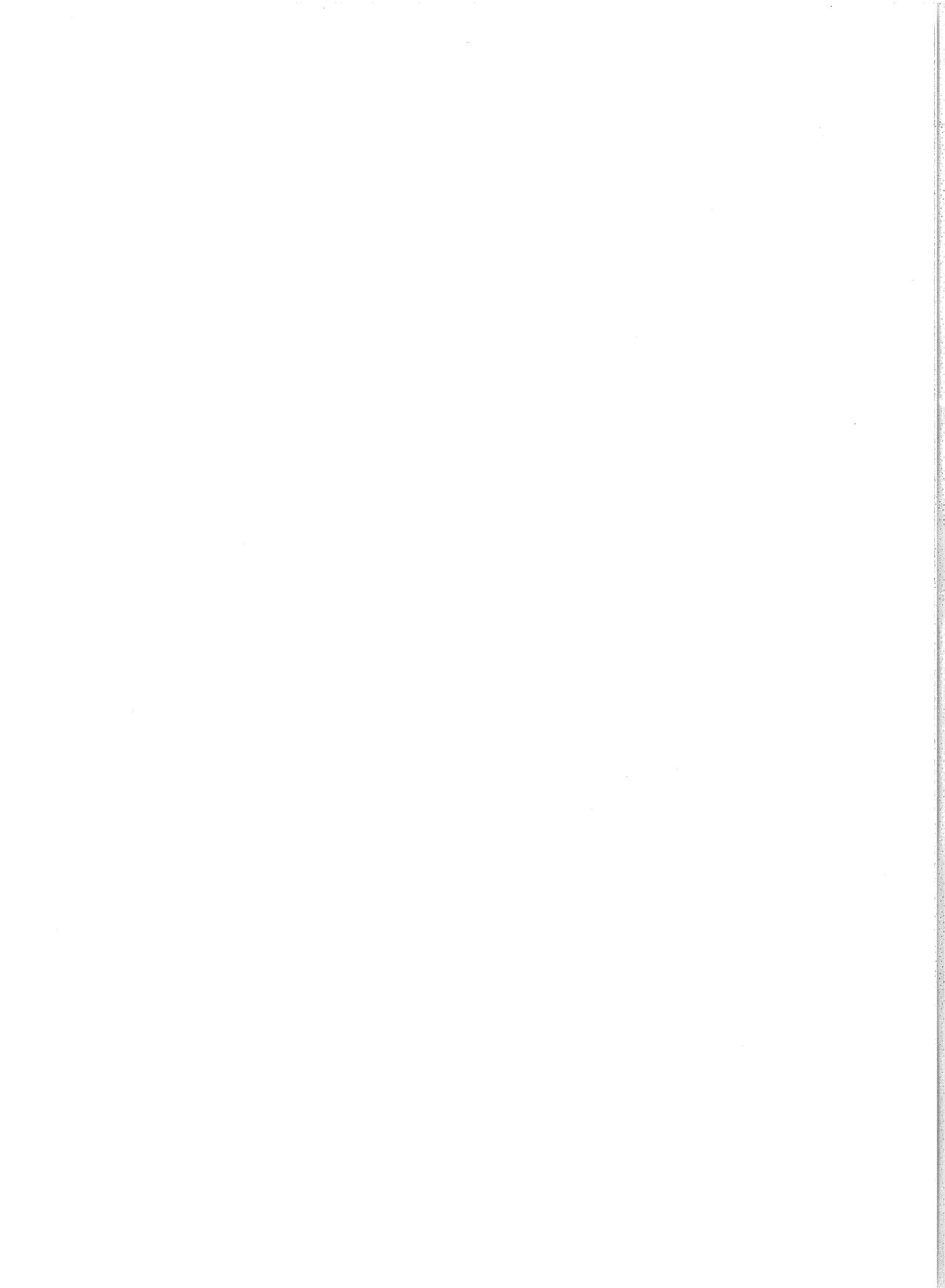
X-ray flux values observed by the Explorer 30 (1965-93A) satellite are reported in this issue of CRPL-FB by the Centre National d' Etudes Spatiales, France and the Observatoire de Paris-Meudon under the direction of R. Michard. The flux values given in ergs  $\text{cm}^{-2}$   $\text{sec}^{-1}$  were computed from ampere measurements by the I.T.S.A. Space Disturbances Laboratory. They are usually measured at the beginning of the observing period. When bursts occur pre-burst or post-burst values are given. In the remarks column V.A. signifies that some of the photometers detected particles from the terrestrial radiation belts during part of the transit. The telemetry stations receiving the data from the satellite are coded as follows:

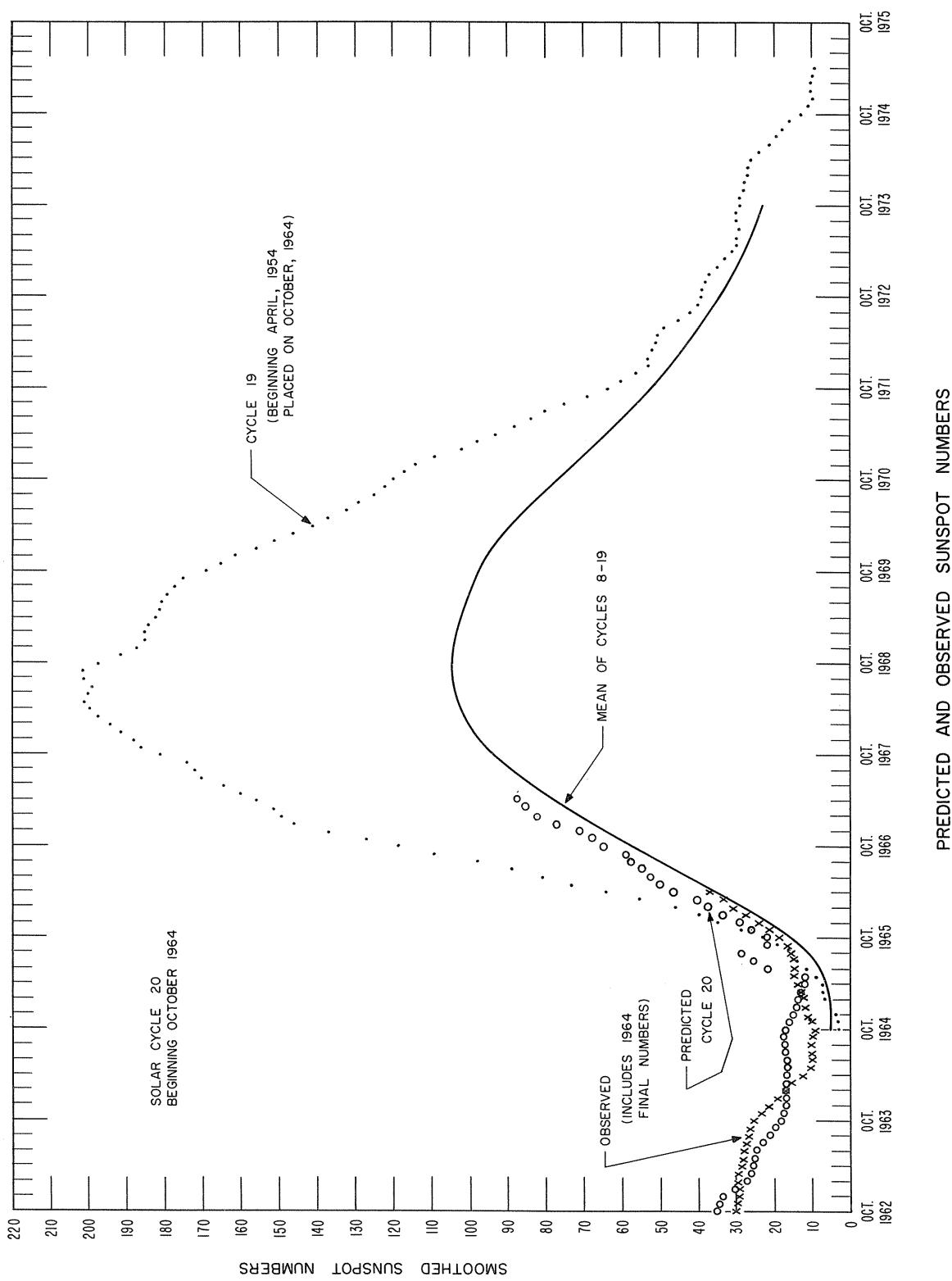
PTA	Pretoria, Rep. of South Africa
BZV (or BRZ)	Brazzaville, Rep. of Congo
ODG (or OGD)	Ouagadougou, Upper Volta
HMG	Hamaguir, Algeria
LBN	Lebanon (near Beirut)
BTY	Bretigny, France

#### Solar Flares

In the Solar Flare tables beginning with this issue a minus sign, -, is used in the importance column to indicate subflares instead of the S previously used. This permits easier visual selection of the more important flares.

Errata: The tables of Solar Radio Emmission Outstanding Occurrences in CRPL-FB-266, October 1966, on pp IV a-c, are for September 1966, not August 1966 as indicated.





## RELATIVE SUNSPOT NUMBERS

ZURICH, R<sub>Z</sub>

1965                    1966

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	
1	29	13	18	7	25	64	50	71	49	78	44	57	
2	28	8	17	9	11	58	48	74	49	62	44	55	
3	20	8	16	20	11	74	57	41	54	65	25	50	
4	13	8	15	17	18	74	61	60	53	51	18	36	
5	13	8	8	17	12	55	38	43	48	53	26	40	
6	29	8	7	17	14	59	23	43	46	50	30	44	
7	40	8	7	16	10	70	13	38	58	31	36	53	
8	46	15	13	13	9	65	16	35	68	13	38	48	
9	38	7	13	10	15	47	8	33	56	7	39	44	
10	41	7	7	11	13	37	0	25	58	0	37	65	
11	40	0	8	14	10	25	14	43	52	16	42	66	
12	26	0	0	8	0	27	14	34	62	36	38	49	
13	17	14	17	16	0	24	23	34	56	30	29	72	
14	16	0	30	12	0	29	52	31	37	37	35	64	
15	10	14	36	16	9	29	46	22	34	41	38	60	
16	9	22	57	13	26	35	47	40	48	36	57	70	
17	7	21	50	19	44	40	33	46	42	35	76	70	
18	0	20	64	24	53	40	27	39	49	35	83	70	
19	0	18	68	32	60	24	34	33	38	27	76	66	
20	0	15	63	39	54	37	57	42	65	24	78	81	
21	0	10	52	41	49	40	80	29	55	22	89	96	
22	7	11	44	50	52	56	66	34	66	38	86	81	
23	0	9	38	55	40	69	68	59	56	65	71	70	
24	7	8	41	42	31	58	68	63	70	71	62	61	
25	0	12	27	37	23	56	64	80	67	89	68	50	
26	7	23	19	36	18	54	70	78	74	95	54	44	
27	0	29	16	35	10	40	66	69	52	90	48	39	
28	8	64	14	31	12	40	60	52	61	84	35	28	
29	8	64	19	35	48	39	47	76	89	40	25		
30	15	44	28		42	52	58	55	63	76	38	24	
31		38	15		52		56		66	66		35	
MEAN		15.8	17.0	26.7	23.5	24.5	47.5	43.7	46.4	55.7	48.8	49.3	55.3

All Zürich Sunspot Numbers, R<sub>Z</sub>, for 1965 are Final. The numbers for 1966 are Provisional.AMERICAN, R<sub>A'</sub>

1965                    1966

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	
1	29	10	25	0	11	32	24	56	33	77	30	53	
2	27	10	21	12	12	37	37	48	37	70	28	44	
3	20	10	19	14	14	34	35	41	54	69	18	42	
4	11	9	13	16	16	49	19	50	51	64	16	39	
5	1	10	7	17	15	40	15	39	36	46	15	34	
6	29	12	1	15	14	47	17	26	30	40	20	44	
7	43	9	0	14	10	49	12	22	52	23	27	41	
8	34	2	1	13	10	55	11	26	45	8	36	39	
9	38	3	0	12	16	36	8	27	49	0	36	45	
10	43	0	0	14	15	26	0	24	44	1	48	44	
11	38	0	0	15	7	19	0	26	56	17	41	73	
12	24	0	0	11	0	22	5	32	47	24	32	55	
13	15	0	19	12	3	16	9	18	27	31	28	72	
14	16	0	30	14	1	22	22	21	19	28	31	65	
15	14	18	37	13	15	31	28	24	14	33	37	57	
16	12	21	31	16	21	28	24	33	33	42	47	59	
17	0	18	43	13	43	28	18	36	40	38	61	66	
18	0	19	43	25	46	29	14	31	40	33	58	65	
19	0	16	55	24	46	16	33	27	35	29	67	73	
20	0	0	55	33	41	42	56	28	46	15	63	82	
21	0	7	41	36	32	38	59	32	38	17	77	78	
22	0	8	34	43	29	42	51	42	43	43	63	77	
23	3	10	36	55	19	58	59	58	56	66	64	64	
24	4	6	31	47	17	51	59	61	59	83	57	60	
25	0	17	18	47	16	47	49	66	57	89	65	47	
26	0	20	14	47	10	34	61	62	65	96	39	41	
27	0	35	15	32	0	22	48	44	62	95	26	16	
28	6	44	14	28	12	22	41	35	75	86	26	3	
29	9	55	20		36	33	40	29	71	81	35	28	
30	10	47	21		41	33	37	33	75	51	36	29	
31		28	3		32		56		75	33		35	
MEAN		14.2	14.3	20.9	22.8	19.4	34.6	30.5	36.6	47.2	46.1	40.9	50.6

DAILY SOLAR FLUX AT 2800 Mcs  
OTTAWA ARO

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OBSERVED FLUX, S

1965

1966

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	78.8	75.4	82.0	79.9	81.2	106.9*	90.3	101.9	96.8	122.2	114.5	101.2
2	79.5	75.0	78.9	79.2*	78.0	106.4	92.5	101.0	95.0	116.1	104.4	101.9
3	81.1	74.9	78.5	79.8	77.1	102.1	92.4	99.7	96.0	114.8*	101.5	103.1
4	79.8	74.5	80.5	81.3	76.7	102.5	91.0	99.1	101.4	112.7*	100.2	100.6*
5	78.0	75.4	80.0	82.9	76.0	101.9	87.0	98.7	101.6	107.4	98.9	100.0
6	80.7	76.2	79.7	84.5	76.6	104.0	86.0	98.9	106.1	103.0	96.4	102.0*
7	85.2	75.3	80.9	85.1	77.4	102.6*	88.2	94.1	108.9	98.7	94.4*	103.2
8	80.4	76.7	80.6	84.6	77.5	107.0*	86.2	96.6	110.6	95.0	94.8*	99.6
9	82.0	75.0	80.1	85.2	79.6	100.0	85.9	95.9	104.3	93.8	94.0	103.8
10	84.1	75.3	79.8	86.0	79.6	94.4	84.9	93.9	104.6*	91.8	92.6	106.8
11	84.2	75.6	80.9	85.8*	79.0	93.5	86.6	93.2	105.4	90.1	95.4	110.3
12	80.8	75.9	84.0	85.4	79.3	94.4	90.7	93.0	99.4	90.4	99.5*	115.3
13	77.3	74.0	87.2	86.1	81.0	92.6	91.0	93.1	97.2	90.8	101.1	123.4*
14	76.0	74.7	93.2	86.1	82.3	90.5	95.1	93.9	96.6	90.5	106.0	120.9
15	76.5	76.8	101.9	85.4	88.1*	95.7	97.1	91.8	97.9	91.3	110.8	121.3
16	74.0	77.6	106.0	84.7	93.8*	92.6	97.9	94.9	99.5	92.8	123.3*	121.2*
17	74.3	76.4	101.7*	84.1	106.2*	94.5	96.7	96.4	98.0	94.4	127.8	121.4*
18	75.0	78.4	104.8*	84.1	110.6	92.1	96.4	95.1	98.1	95.1	141.3	119.5*
19	73.4	76.8	108.6*	83.0	115.5	88.2	104.6*	93.8	98.3	97.7	145.3	116.5*
20	72.7	74.5	102.3	84.7*	111.9	92.6	112.8*	91.3	98.6	99.2	144.9*	125.2
21	72.2	74.1	98.9	87.6	121.2	90.8	120.6	90.5	100.5	100.4	136.1	122.0*
22	71.8	72.3	94.7*	87.9	105.8	92.4	118.1	93.0	103.2	103.1	130.6*	121.0*
23	71.3	72.7	93.5	84.5*	96.8	97.8	111.1	96.0	111.3	112.2	126.6*	112.2
24	71.2	71.2	91.8	83.7	93.5	102.5	114.7	100.2	116.9	119.4*	125.3	107.3
25	70.6	72.1	88.1	80.9	91.6	102.6*	112.2	101.5*	122.1	123.6*	118.2*	102.0
26	71.8	76.9	85.4	84.8	85.0	100.0*	109.4	102.1*	123.7	127.5	108.9	98.9
27	74.1	83.7	82.4	84.8	83.4	95.6	105.6	97.5	120.1	130.7	102.5	93.2
28	77.0	83.8	80.5	85.7	87.9	93.6	98.1	120.5	130.0*	97.5	95.4	
29	73.9	84.7	80.7		96.4	93.1	103.2	96.5	128.9	127.3	98.3*	101.1
30	75.1	81.9	78.7		99.2	91.9	98.8	97.4	124.2	123.8	95.4	97.1
31		80.8	77.7		110.6		102.7		121.0	118.7		98.6
MEAN	76.8	76.5	87.9	84.2	90.3	97.2	98.3	96.3	106.7	106.5	110.9	108.6

FLUX ADJUSTED TO 1 A.U., S<sub>a</sub>

1965

1966

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	77.6	73.3	79.3	77.6	79.7	106.8*	91.7	104.8	100.1	125.9	116.6	101.4
2	78.2	72.9	76.3	76.9*	76.7	106.3	94.0	103.9	98.2	119.6	106.3	102.0
3	79.8	72.7	75.9	77.5	75.8	102.1	94.0	102.6	99.3	118.2*	103.2	103.2
4	78.4	72.3	77.8	79.0	75.5	102.6	92.5	102.0	104.8	116.0*	101.9	100.6*
5	76.7	73.2	77.4	80.6	74.8	102.0	88.6	101.7	105.0	110.5	100.5	100.0
6	79.2	74.0	77.1	82.1	75.5	104.2	87.5	101.9	109.7	106.0	97.9	101.9*
7	83.7	73.0	78.2	82.8	76.2	102.8*	89.9	96.9	112.6	101.5	95.8*	103.1
8	78.9	74.4	77.9	82.3	76.4	107.3*	87.8	99.5	114.4	97.7	96.2*	99.4
9	80.4	72.7	77.4	82.9	78.5	100.3	87.5	98.9	107.8	96.4	95.3	103.5
10	82.4	73.0	77.2	83.8	78.6	94.8	86.6	96.8	108.1*	94.3	93.9	106.5
11	82.5	73.2	78.2	83.6*	78.0	93.9	88.3	96.1	109.0	92.5	96.6	109.8
12	79.1	73.5	81.2	83.2	78.3	94.8	92.6	95.9	102.7	92.8	100.8*	114.8
13	75.7	71.7	84.3	83.9	80.0	93.1	92.9	96.1	100.4	93.2	102.4	122.8*
14	74.4	72.4	90.1	83.9	81.4	91.0	97.2	96.9	99.8	92.8	107.4	120.3
15	74.8	74.4	98.5	83.3	87.1*	96.3	99.2	94.7	101.1	93.7	112.0	120.6
16	72.4	75.1	102.6	82.7	92.9*	93.2	100.1	97.9	102.8	95.1	124.6*	120.3*
17	72.6	75.9	98.4*	82.1	105.1*	95.2	98.9	99.5	101.2	96.8	129.1	120.5*
18	73.3	75.9	101.4*	82.2	109.6	92.9	98.7	98.2	101.3	97.5	142.6	118.5*
19	71.6	74.3	105.1*	81.1	114.6	89.0	107.1*	96.9	101.5	100.0	146.6	115.6*
20	70.9	72.1	99.0	82.8*	111.0	93.5	115.5*	94.3	101.8	101.6	146.0*	124.1
21	70.5	71.7	95.7	85.7	120.3	91.7	123.6	93.5	103.7	102.7	137.2	120.9*
22	70.0	70.0	91.8*	86.0	105.1	93.4	121.0	96.1	106.5	105.5	131.5*	119.8*
23	69.5	70.3	90.6	82.7*	96.2	98.8	113.9	99.2	114.9	114.7	127.5*	111.1
24	69.3	68.8	88.9	81.9	92.9	103.7	117.7	103.5	120.6	122.0*	126.0	106.1
25	68.8	69.7	85.4	79.3	91.1	103.8*	115.1	104.8*	126.0	126.3*	118.8*	100.8
26	69.9	74.4	82.7	83.1	84.7	101.3*	112.3	105.6*	127.6	130.2	109.4	97.7
27	72.1	80.9	79.9	83.2	83.1	96.0	108.5	100.8	123.8	133.4	102.9	92.0
28	74.9	81.0	78.1	84.1	87.6	94.9	101.4		124.2	132.6*	97.9	94.1
29	71.9	81.9	78.3		96.1	94.5	106.8	99.8	132.9	129.8	98.6	99.7
30	73.0	79.2	76.3		99.0	93.3	101.6	100.7	128.0	126.1	95.7	95.7
31		78.1	75.4		110.4		105.6		124.6	120.9		97.1
MEAN	75.1	74.1	85.0	82.1	89.4	97.8	100.6	99.4	110.1	109.2	112.4	107.9

## CALCIUM PLAGUE AND SUNSPOT REGIONS

OCTOBER 1966

Oct. 1966	LAT.	MCMATH PLAGE NUMBER	RETURN OF REGION	CALCIUM PLAGUE DATA					SUNSPOT DATA			
				CMP VALUES		HISTORY	AGE (ROTA- TIONS)	DATE FIRST SEEN	DURA- TION (DAYS)	CMP VALUES		HISTORY
				AREA	INT.					AREA	COUNT	
2.4	N35	8533	New	(200)	(2.0)	b - d	1	10/4	2			
3.4	N18	8534	New	(200)	(1.5)	b - d	1	10/4	1	(10)	(1)	b - d
3.8	N33	8526	New	300	2.5	b - d	1	9/28	11			
4.1	S23	8527	8484	300	1.0	b ↗ d	2	9/28	11			
4.3	N28	8535	New	200	1.5	b - d	1	10/4	3			
5.7	S21	8528 (1)	New	1100	2.0	b ↗ b	1	9/28	15	10	2	b ↗ b
7.5	N17	8540	New	(200)	(2.0)	b - d	1	10/8	1			
10.0	N26	8530 (2)	8496	6400	3.5	b ↗ b	5	10/2	14	80	16	b ↗ d
11.9	N27	8537 (3)	8497	300	1.0	b ↘ d	5	10/5	11	20	10	b - d
13.1	N28	8536	New	300	2.0	b ↘ d	1	10/6	10			
14.0	N20	8539	8511	(800)	(2.0)	b - b	2	10/7	>11	(10)	(1)	b - d
14.9	N51	8552	New	(100)	(1.5)	b - d	1	10/17	1			
15.5	N26	8544	New	900	2.0	b - d	1	10/10	≥8	(10)	(4)	b - d
16.7	N27	8543	New	(400)	(1.5)	b - d	1	10/9	9			
16.7	N06	8545	8505	(2400)	(2.5)	b ↘ b	3	10/10	13	380	1	b ↗ b
17.3	S24	8557	New	(100)	(2.0)	b - b	1	10/21	2			
17.9	N20	8546 (4)	8506	5000	3.0	b ↗ b	2	10/11	14	350	44	b ↗ b
										10	2	b - d
										20	12	b ↗ b
										10	7	b - d
19.3	N16	8548 (5)	8509	(1100)	(2.0)	b ↗ b	2	10/12	13			
20.0	N27	8550	New	900	2.5	b ↗ b	1	≤10/14	>12	10	3	b - d
21.3	N23	8551	8514	700	2.0	b ↗ b	3	10/15	13			
22.1	N28	8558	New	300	2.5	b - b	1	10/22	8	10	4	b - d
23.7	S26	8561	New	(300)	(3.5)	b ↗ b	1	10/24	6	(30)	(3)	b - d
23.8	N22	8553	8516	2500	3.0	b ↗ b	2	10/17	14	(10)	(1)	b - d
24.5	S09	8564	New	(100)	(1.5)	b - d	1	10/27	1	(10)	(2)	b - d
24.8	N38	8559	New	100	1.5	b - d	1	10/22	5			
25.3	S19	8554	8522	1600	3.0	b ↗ b	2	<10/20	>12	10	3	b ↘ d
25.4	N13	8556	New	1700	3.5	b ↘ b	1	≤10/20	≥12	50	27	b ↗ d
25.8	N29	8555	New	1400	3.0	b ↘ b	1	≤10/20	≥13	10	1	b - d
27.6	S18	8562	8529	300	1.5	b ↗ d	2	10/21	11			
29.1	N21	8566	New	900	3.0	b - b	1	10/28	8	10	3	b - b
30.1	N32	8560	New	1000	3.5	b - b	1	10/23	≥13	(10)	(1)	b + d
31.0	N22	8567	New	700	3.5	b - b	1	10/28	>8	70	9	b ↗ d

- (1) Region 8528 is primarily a new region that has formed in the position of region 8485 of the previous rotation.
- (2) Region 8530 is primarily a return of regions 8496 and 8497, although it also contains some weak remnants of region 8491.
- (3) Region 8537 is a return of part of region 8497.
- (4) Region 8546 is a return of regions 8506 and 8509.
- (5) Region 8548 is a return of part of region 8509.

Regions 8532, 8538, 8541, 8542 and 8565 have been omitted from this list because of their ephemeral nature and low intensity.

Region 8531 has been merged with 8530, 8547 with 8545, and 8549 with 8546.

No calcium plague observations were secured at the McMath-Hulbert Observatory on October 13, 16, 18, and 19, 1966.

## MT. WILSON MAGNETIC CLASSIFICATIONS OF SUNSPOTS

IIb

OCTOBER 1966

Oct. 1966	TIME MEAS. UT	LAT.	MER. DIST.	TYPE	No.	Oct. 1966	TIME MEAS. UT	LAT.	MER. DIST.	TYPE	No.
1	1740	N23	W59	( $\beta\gamma$ ) 3	16138	11	2245	S24	W76	( $\beta f$ ) 2	16145
		S18	W45	( $\beta$ ) 2	16140			N21	W40	( $\alpha p$ ) 2	16143
		S18	W21	( $\beta p$ ) 4	16141			N25	W31	( $\beta p$ ) 2	16151
		N32	E28	( $\alpha f$ ) 2	16142			N23	W17	( $\beta p$ ) 2	16147
2	No Obs.						1640	N22	E43	( $\beta p$ ) 1	16148
								N18	E70	* ( $\beta f$ ) 3	16149
								N05	E63	( $\alpha p$ ) 5	16150
3	2240	N26	W84	$\beta$	16138	12	1640	N21	W50	( $\alpha p$ ) 2	16143
		S15	W81	$\alpha p$	16140			N25	W41	( $\beta p$ ) 2	16151
		S17	W51	( $\beta p$ ) 2	16141			N23	W26	( $\beta p$ ) 2	16147
		N21	E63	( $\beta p$ ) 3	16143			N22	E30	( $\alpha p$ ) 1	16148
4	1630	S16	W64	( $\alpha p$ ) 1	16141		1640	N18	E61	* ( $\beta f$ ) 3	16149
		N19	E55	( $\beta p$ ) 3	16143			N05	E54	( $\alpha p$ ) 6	16150
		N21	E65	( $\beta f$ ) 2	16144			N20	E67	( $\beta p$ ) 2	16152
								N23	E79	( $\alpha p$ ) 1	16153
5	1650	S17	W80	$\alpha p$	16141	13	1750	N22	W43	( $\alpha p$ ) 1	16147
		N20	E42	$\beta p$	16143			N16	E57	( $\alpha p$ ) 2	16149
		N22	E51	$\beta f$	16144			N05	E40	( $\alpha p$ ) 6	16150
		S25	E05	$\alpha f$	16145			N20	E53	( $\beta$ ) 3	16152
6	1800	N20	E28	( $\beta p$ ) 4	16143		1640	N23	E66	( $\alpha p$ ) 2	16153
		N21	E37	( $\beta\gamma$ ) 2	16144			N26	E73	( $\alpha p$ ) 1	16154
		S24	W09	( $\beta f$ ) 3	16145						
7	2340	N20	E12	( $\beta\gamma$ ) 5	16143	14	No Obs.	N05	E23	( $\alpha p$ ) 4	16150
		N22	E21	$\beta p$	16144			N20	E37	( $\beta$ ) 4	16152
		S24	W27	( $\beta$ ) 3	16145			N21	E49	( $\alpha p$ ) 1	16153
		N25	E28	( $\beta$ ) 1	16146			N25	E57	( $\alpha p$ ) 2	16154
8	2035	N21	E02	( $\beta p$ ) 4	16143	15	1615	N06	E14	( $\alpha p$ ) 7	16150
		N22	E13	( $\alpha f$ ) 2	16144			N21	E27	( $\gamma$ ) 4	16152
		S24	W38	( $\beta f$ ) 3	16145			N23	E40	( $\alpha p$ ) 1	16153
								N26	E49	( $\alpha p$ ) 2	16154
9	2300	N20	W12	( $\beta\gamma$ ) 3	16143	16	2135	N06	W02	$\alpha p$	16150
		N22	W01	( $\alpha f$ ) 1	16144			N21	E13	$\beta\gamma$	16152
		N22	E10	( $\beta p$ ) 2	16147			N23	E24	$\beta p$	16153
		S24	W52	( $\beta p$ ) 3	16145			N26	E33	$\alpha p$	16154
10	2125	N21	W26	$\beta p$	16143		2030	N06	W15	( $\alpha p$ ) 6	16150
		N23	W03	$\beta p$	16147			N21	W01	( $\beta p$ ) 4	16152
		S22	W65	$\beta f$	16145			N24	E12	( $\beta p$ ) 1	16153
		N23	E58	$\beta f$	16148			N14	E04	( $\beta f$ ) 1	16155
		N17	E88	$\alpha p$	16149						
		N05	E79	$\alpha p$	16150						

\*Reversed polarities.

## MT. WILSON MAGNETIC CLASSIFICATIONS OF SUNSPOTS

OCTOBER 1966

Oct. 1966	TIME MEAS. UT	LAT.	MER. DIST.	TYPE	No.	Oct. 1966	TIME MEAS. UT	LAT.	MER. DIST.	TYPE	No.
18	1555	N06 N21 N24 N14	W26 W11 E02 W07	(ap) 6 (βp) 5 (βp) 1 (βp) 2	16151 16152 16153 16155	25	2300	N13 S16 S27 N29	W06 W13 W30 W37	(βf) 4 (ap) 2 (β) 5 (af) 2	16156 16157 16158 16159
19	No Obs.					26	1630	N14	W15	(βf) 3	16156
20	No Obs.							S16 S25 N30	W22 W40 W48	(ap) 1 (βp) 4 (βf) 2	16157 16158 16159
21	2130	N07 N14 N22 N14 S16	W73 W56 W60 E48 E42	ap βp βf βp ap	16150 16155 16152 16156 16157	27	No Obs.				
22	2130	N07 N14 N22 N14 S16	W83 W67 W70 E36 E30	ap βf βf βp ap	16150 16155 16152 16156 16157	29	1505	N16 N23 N22	W57 W09 E18	(ap) 1 (βγ) 2 (βγ) 4	16156 16160 16161
23	1740	N15 N14 S16	W79 E23 E18	βf (βp) 4 (af) 3	16155 16156 16157	31	2050	N22 N20 N36 N11	W41 W08 W19 E71	(βp) 2 (af) 3 (βp) 2 (ap) 1	16160 16161 16162 16163
24	1615	N19 N13 N30 S17 S25	W89 E12 W18 E03 W17	af (βγ) 5 (af) 2 (ap) 4 (βp) 4	16155 16156 16159 16157 16158						

FINAL CORONAL LINE EMISSION INDICES

JULY 1966

CMP July 1966	North East Quadrant (observed 7 days earlier)			South East Quadrant (observed 7 days earlier)			South West Quadrant (observed 7 days later)			North West Quadrant (observed 7 days later)			
	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	
1	84	124	31	48	11	14	11	12	13	x	90	123	x
2	76	111	22	44	16	28	10	16	16	x	65	105	x
3	x	x	x	x	x	x	22	9	12	x	84	131	36
4	x	x	x	x	x	x	14	7	23	x	x	131	70
5	53	85	11	18	11	15	11	11	8	x	80	117	x
6	69	94	15	22	16	24	14	16	x	x	x	15	25
7	83	138	16	28	14	17	16	22	x	x	x	x	x
8	97	144	9	18	18	26	15	20	10	12	98	124	23
9	98	135	13	24	19	23	19	25	10	13	72	93	11
10	77	92	x	24	x	x	x	x	x	x	x	x	x
11	62	76	x	x	19	23	x	x	x	x	x	x	x
12	x	x	x	x	x	x	x	x	x	x	x	x	x
13	x	x	x	x	x	x	x	x	x	x	x	x	x
14	66	94	16	30	36	61	x	x	x	x	x	x	x
15	73	105	x	x	40	62	x	x	x	x	x	x	x
16	32	42	x	x	44	56	x	x	x	x	x	x	x
17	67	118	37	70	41	60	25	42	x	x	x	x	x
18	x	x	x	x	x	x	x	x	x	x	x	x	x
19	70	128	20	41	19	24	12	16	26	28	19	23	27
20	x	x	x	x	x	x	x	x	x	x	x	x	x
21	x	x	x	x	x	x	x	x	x	x	x	x	x
22	56	84	19	27	20	35	15	30	45	92	14	19	18
23	80	134	13	21	24	40	12	16	x	x	x	x	x
24	x	x	x	x	x	x	x	x	21	30	25	28	27
25	x	x	x	x	x	x	x	x	x	x	x	x	x
26	x	x	x	x	x	x	x	x	x	x	x	x	x
27	x	x	x	x	x	x	x	x	x	x	x	x	x
28	66	94	x	x	13	29	x	x	13	15	17	91	123
29	x	x	104	28	44	11	38	16	21	14	23	62	18
30	82	124	22	34	9	10	12	13	15	13	15	116	36
31	87	121	87	43	8	9	8	9	13	19	11	106	50

## FINAL CORONAL LINE EMISSION INDICES

AUGUST 1966

CMP August 1966	North East Quadrant (observed 7 days earlier)			South East Quadrant (observed 7 days earlier)			South West Quadrant (observed 7 days later)			North West Quadrant (observed 7 days later)			
	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	
1	.92	119	26	31	9	10	14	17	22	38	125	178	66
2	114	141	39	72	19	30	16	22	9	12	160	211	28
3	x	x	x	x	x	x	x	x	15	16	109	175	38
4	109	157	24	36	8	11	16	18	15	6	93	131	52
5	99	131	12	24	16	34	17	23	31	15	23	28	56
6	x	x	x	x	x	x	x	x	x	x	x	x	x
7	79	89	17	24	10	19	21	30	x	x	x	x	103
8	x	x	x	x	x	x	x	x	x	x	x	x	x
9	x	x	x	x	x	x	x	x	x	x	x	x	x
10	66	74	8	11	26	35	15	17	10	50	15	22	55
11	57	69	12	14	49	54	20	34	64	153	15	27	64
12	46	55	6	17	39	59	15	22	46	82	16	41	48
13	61	68	12	18	45	57	14	21	31	42	21	34	51
14	73	96	8	12	36	71	15	28	26	41	20	34	56
15	71	112	43	124	26	38	24	47	x	x	x	x	67
16	88	124	18	35	15	19	11	12	19	28	x	x	x
17	74	109	54	114	20	26	22	40	29	41	x	x	118
18	49	58	36	65	25	29	12	22	16	18	12	17	144
19	x	x	x	x	x	x	x	x	14	20	9	12	74
20	x	x	x	x	x	x	x	x	14	21	25	41	11
21	x	x	x	x	x	x	x	x	x	x	x	x	12
22	x	x	x	x	x	x	x	x	x	x	x	x	115
23	95	120	x	x	25	39	x	x	x	x	x	x	11
24	103	124	25	46	12	25	16	25	x	x	x	x	26
25	104	163	24	44	15	28	12	20	15	16	11	15	35
26	86	115	58	100	17	22	25	41	9	10	11	15	87
27	108	135	27	34	11	18	12	15	14	19	8	12	44
28	90	115	50	96	21	27	32	54	21	23	14	17	44
29	x	x	x	x	x	x	x	x	x	x	x	x	34
30	x	x	x	x	16	23	x	x	x	x	x	x	26
31	111	168	26	41	23	28	9	30	13	20	7	24	10

## FINAL CORONAL LINE EMISSION INDICES

SEPTEMBER 1966

CMP September 1966	North East Quadrant (observed 7 days earlier)			South East Quadrant (observed 7 days earlier)			South West Quadrant (observed 7 days later)			North West Quadrant (observed 7 days later)		
	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>
1	91	142	19	35	16	20	25	34	21	32	15	29
2	73	119	10	15	35	88	17	27	x	x	x	x
3	44	57	32	51	34	79	36	67	x	x	x	x
4	34	42	11	17	16	28	16	42	x	x	x	x
5	x	x	x	x	x	x	x	x	x	x	x	x
6	x	x	x	x	x	x	x	x	x	x	x	x
7	x	x	x	x	x	x	x	x	40	91	20	45
8	43	47	13	19	27	43	26	41	35	54	18	36
9	28	35	4	22	23	42	16	40	25	34	8	60
10	51	73	7	10	35	48	15	23	21	31	7	11
11	75	90	8	10	33	38	14	17	28	43	19	29
12	x	x	x	x	x	x	x	x	33	38	13	29
13	x	x	x	x	x	x	x	x	31	38	20	25
14	48	61	21	33	27	39	24	39	19	39	8	13
15	61	84	20	24	23	30	26	33	27	52	1	7
16	x	x	x	x	x	x	x	x	23	29	4	8
17	x	x	x	x	x	x	x	x	41	55	18	27
18	x	x	x	x	x	x	x	x	24	60	13	18
19	x	x	x	x	x	x	x	x	17	30	0	x
20	x	x	x	x	x	x	x	x	x	x	0	92
21	82	108	7	38	33	53	12	16	x	x	x	x
22	79	104	7	13	25	69	16	26	13	21	10	16
23	93	136	22	33	23	32	15	27	15	19	x	87
24	92	120	11	28	23	44	5	8	10	12	15	24
25	100	123	18	38	13	17	19	25	9	11	9	13
26	53	62	18	34	35	42	15	23	16	26	17	24
27	115	166	26	46	14	19	18	25	x	x	x	x
28	63	81	22	43	13	15	17	29	x	x	x	x
29	102	132	15	22	28	44	16	26	62	100	32	82
30	52	63	9	29	25	31	12	26	28	43	20	34













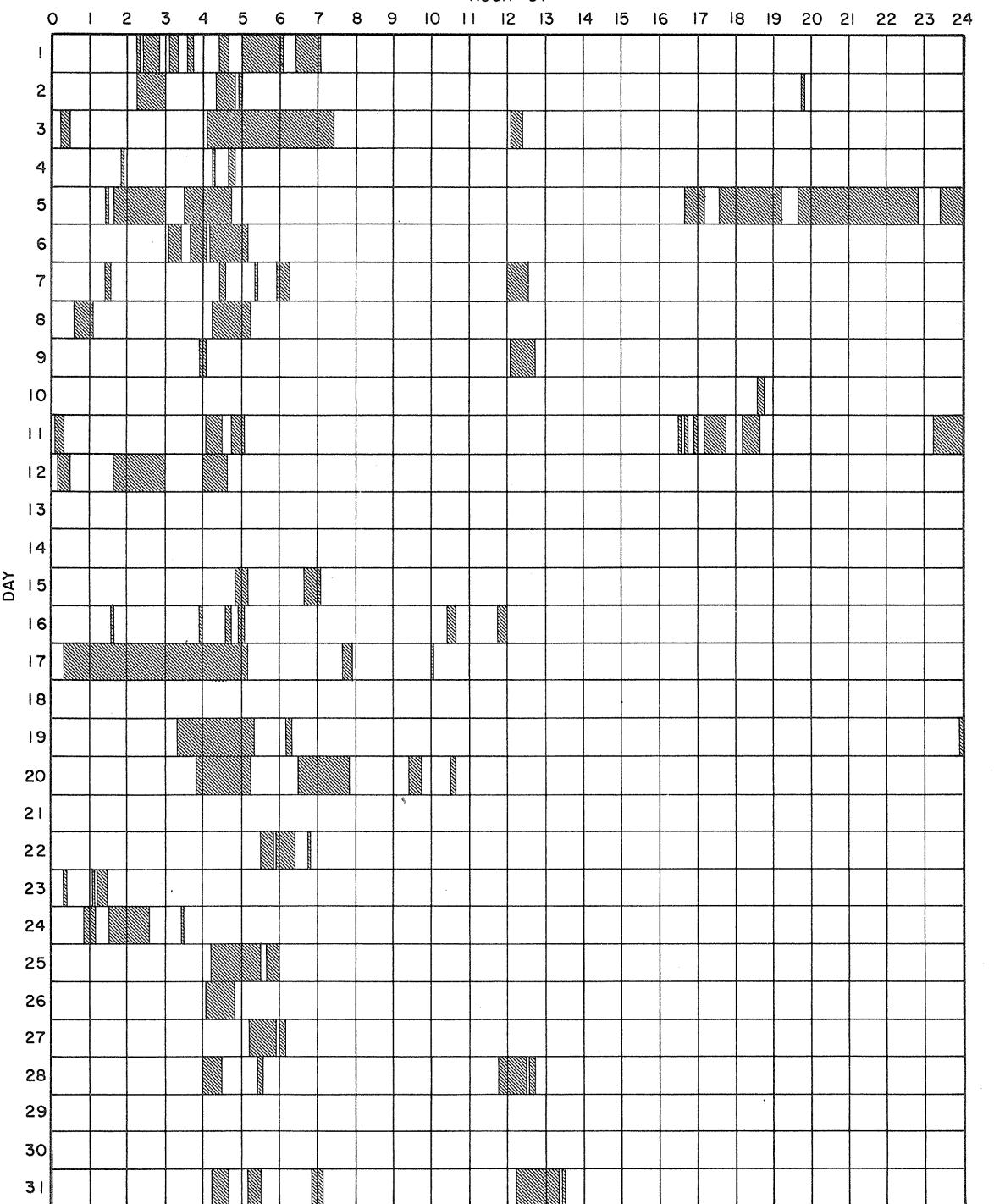




**INTERVALS OF NO FLARE PATROL OBSERVATIONS  
PROVISIONAL**

OCTOBER 1966

HOUR-UT



Observatories included:

Arcetri	Herstmonceux	Lockheed	Mitaka	Sacramento Peak	Tortosa
Athens	Istanbul	Manila	Monte Mario	Salonique	Wendelstein
Haleakala	Kandilli	McMath-Hulbert			



























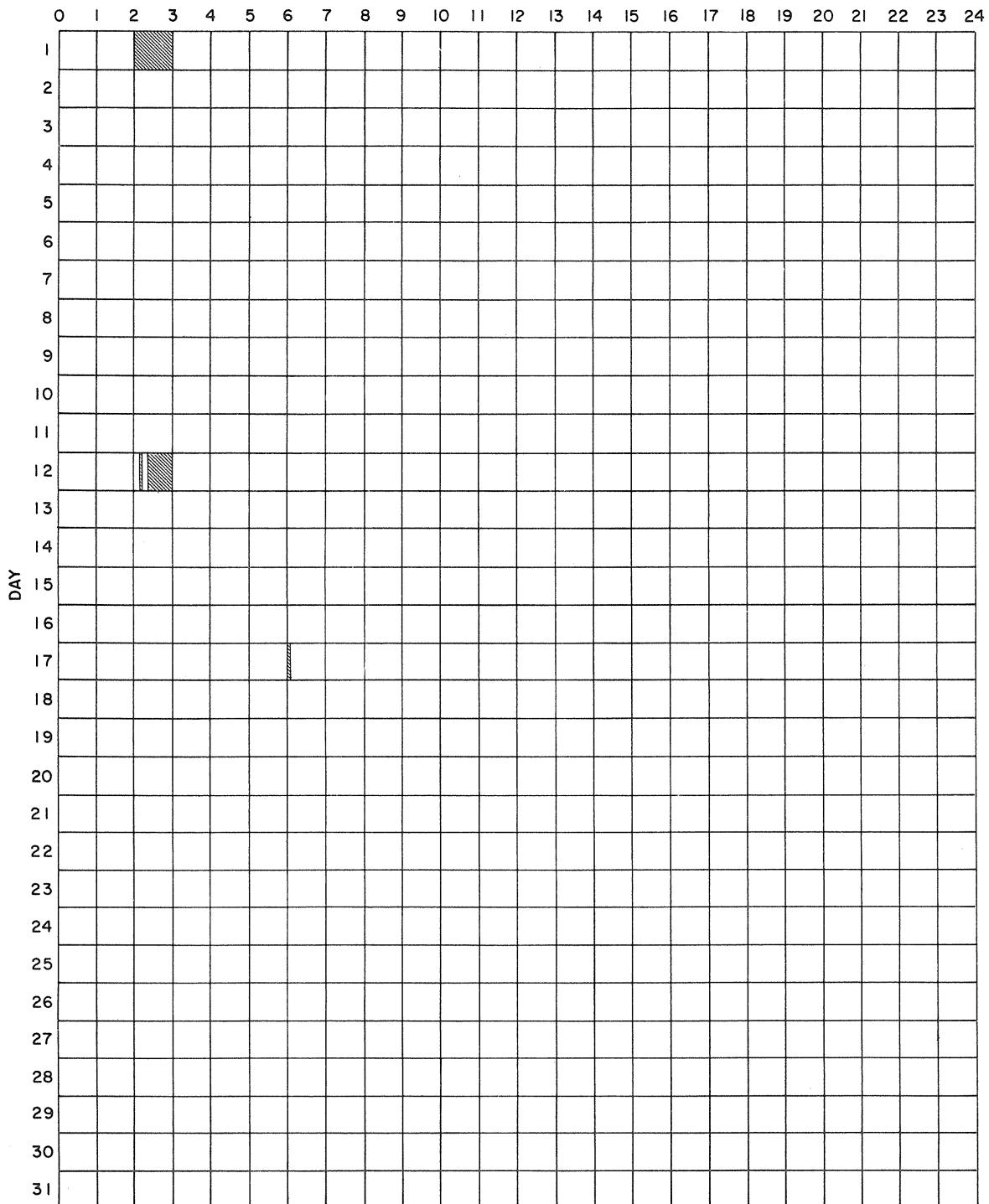


**INTERVALS OF NO FLARE PATROL OBSERVATIONS**  
**PROVISIONAL**

IIIx

JULY 1966

HOUR-UT



Observatories included:

Abastumani	Catania	Istanbul	Locarno	Mitaka	Tortosa
Arcetri	Culgoora	Kandilli	Lockheed	Ondrejov	Uccle
Arosa	Haleakala	Kanzelhöhe	Manila	Sacramento Peak	Vorochilov
Bakou	Herstmonceux	Kharkov	McMath-Hulbert	Siberie	Wendelstein
Bucharest	Huancayo	Kiev	Meudon	Tachkent	Zürich
Capri-S (Swedish)	Ikomasan	Kodaikanal			



**SOLAR RADIATION MONITORING SATELLITE**  
**X-RAY**

IIIz

SEPTEMBER 1966

NRL

OUTSTANDING EVENTS						DAILY AVERAGE VALUES			
Date	Time	8-20	0-8	0.5-3	Comments	Date	44-60	8-20	0-8
3	1014 1017	$>9.89 \times 10^{-3}$	$4.32 \times 10^{-3}$	$1.60 \times 10^{-4}$	Increasing	3	$1.35 \times 10^{-1}$	$6.97 \times 10^{-3}$	$2.30 \times 10^{-4}$
8	1623 1637	$6.30 \times 10^{-3}$	$5.23 \times 10^{-4}$	$6.6 \times 10^{-6}$		4	$1.67 \times 10^{-1}$	$1.10 \times 10^{-2}$	$5.09 \times 10^{-4}$
12	1052 1059	$>1.17 \times 10^{-2}$	$>1.22 \times 10^{-2}$	$1.65 \times 10^{-4}$		6	$1.65 \times 10^{-1}$	$1.00 \times 10^{-2}$	$1.18 \times 10^{-3}$
	1242 1248	$>4.48 \times 10^{-2}$	$5.13 \times 10^{-3}$	$4.96 \times 10^{-5}$		8	$1.07 \times 10^{-1}$	$3.48 \times 10^{-3}$	$1.78 \times 10^{-4}$
	1422 1436	$2.20 \times 10^{-2}$	$1.59 \times 10^{-3}$	$1.16 \times 10^{-5}$		11	$1.14 \times 10^{-1}$	$5.37 \times 10^{-3}$	$2.33 \times 10^{-4}$
13	1536 1550	$6.52 \times 10^{-3}$	$7.87 \times 10^{-4}$	$1.86 \times 10^{-5}$	Increasing	12	$1.55 \times 10^{-1}$	$1.07 \times 10^{-2}$	$5.64 \times 10^{-4}$
14	1138 1146	$1.33 \times 10^{-2}$	$9.86 \times 10^{-4}$	$1.35 \times 10^{-5}$	Increasing	13	$1.16 \times 10^{-1}$	$4.82 \times 10^{-3}$	$1.64 \times 10^{-4}$
	1322 1335	$7.45 \times 10^{-3}$	$4.98 \times 10^{-4}$	$9.4 \times 10^{-6}$		14	$1.27 \times 10^{-1}$	$5.42 \times 10^{-3}$	$2.54 \times 10^{-4}$
17	1007 1013	$1.18 \times 10^{-1}$	$2.59 \times 10^{-2}$	—	Increasing	15	$1.13 \times 10^{-1}$	$4.25 \times 10^{-3}$	$1.36 \times 10^{-4}$
18	1450 1503	$4.43 \times 10^{-1}$	$>1.0 \times 10^{-1}$	—	Inc. and Dec.	16	$1.51 \times 10^{-1}$	$9.75 \times 10^{-3}$	$4.10 \times 10^{-4}$
						17	$2.18 \times 10^{-1}$	$2.05 \times 10^{-2}$	$1.46 \times 10^{-3}$
						18	$2.49 \times 10^{-1}$	$2.69 \times 10^{-2}$	$1.24 \times 10^{-3}$
Observing Times									
1	0920 0932 1104 1117 1251 1300 1440 1445					12	0717 0731 1052 1059 1242 1248 1422 1436 1606 1621 1753 1801		
2	1409 1413 1555 1559 1738 1752 1923 1936					13	0648 0701 0833 0845 1021 1029		
3	0822 0831 1004 1017 1151 1200 1339 1345 1524 1534 1708 1722 1852 1907 2040 2045					14	0802 0815 0952 0959 1138 1146		
4	0752 0801 0934 0947 1120 1131 1308 1315 1454 1503 1638 1652 1823 1837 2009 2017					15	0920 0928 1108 1115 1252 1304 1436 1451 1621 1633		
5	0724 0729 0904 0917 1049 1101					16	0849 0858 1037 1044 1222 1233		
6	1207 1214 1355 1400 1539 1549 1723 1736 1908 1919					17	0817 0828 1007 1013 1152 1203		
7	0804 0817 0948 1001 1136 1145 1324 1329 1509 1520 1838 1849					18	0936 0943 1121 1131 1306 1319 1450 1503		
8	0734 0747 0918 0931 1106 1115 1254 1301 1439 1449 1623 1637 1807 1820 1709 1720					19	0905 0913 1052 1101 1235 1249 1419 1434 1607 1613		
11	0748 0758 0934 0945 1122 1131 1309 1317 1452 1506 1637 1650					20	1020 1030 1205 1219 1348 1404 1536 1544		
						21	0951 0959 1136 1148 1319 1333		

**SOLAR RADIATION MONITORING SATELLITE  
X-RAY**

APRIL MAY 1966

National Center for Space Studies, France  
and Observatory of Paris-Meudon

Date	Time	44-60A	8-20A	0-8A	0-3A	Station	Remarks
April 6	1019 1031 1744 1754	1.0 x 10 <sup>-1</sup> 1.2 x 10 <sup>-1</sup>	5.3 x 10 <sup>-3</sup>	2.9 x 10 <sup>-4</sup> 3.8 x 10 <sup>-4</sup>		ODG PTA	V.A., Sunset
7	0949 1008	1.3 x 10 <sup>-1</sup>	7.2 x 10 <sup>-3</sup>	3.9 x 10 <sup>-4</sup>		ODG, BRZ	
8	0920 0932	1.5 x 10 <sup>-1</sup>	1.1 x 10 <sup>-2</sup>	5.8 x 10 <sup>-4</sup>		ODG	Burst starts 0926
10	0822 0845	1.5 x 10 <sup>-1</sup>	8.7 x 10 <sup>-3</sup>	5.8 x 10 <sup>-4</sup>		ODG, PTA	
11	0751 0802	2.2 x 10 <sup>-1</sup>	1.6 x 10 <sup>-2</sup>	1.8 x 10 <sup>-3</sup>	1.2 x 10 <sup>-5</sup>	ODG	Possible burst
12	0721 0731		9.7 x 10 <sup>-3</sup>	6.0 x 10 <sup>-4</sup>		ODG, PTA	Burst 0727
13	0702 0712 0837 0847	1.4 x 10 <sup>-1</sup>	8.7 x 10 <sup>-3</sup> 1.0 x 10 <sup>-2</sup>	7.6 x 10 <sup>-4</sup> 6.4 x 10 <sup>-4</sup>		BRZ ODG	Burst 0707
14	0807 0817 1716 1726 1904 1908	1.2 x 10 <sup>-1</sup>	5.0 x 10 <sup>-3</sup> 9.1 x 10 <sup>-3</sup> 7.5 x 10 <sup>-3</sup>	1.7 x 10 <sup>-4</sup> 2.1 x 10 <sup>-4</sup>		ODG PTA BRZ	V.A., Sunset V.A., Sunset
15	0736 0757	1.0 x 10 <sup>-1</sup>	4.5 x 10 <sup>-3</sup>	1.1 x 10 <sup>-4</sup>		PTA	V.A.
16	0706 0720		4.3 x 10 <sup>-3</sup>	1.2 x 10 <sup>-4</sup>		ODG	V.A.
17	1546 1559 1730 1747 1920 1933		3.0 x 10 <sup>-3</sup> 3.5 x 10 <sup>-3</sup> 3.5 x 10 <sup>-3</sup>	1.3 x 10 <sup>-4</sup> 1.4 x 10 <sup>-4</sup> 1.5 x 10 <sup>-4</sup>		PTA BRZ ODG	V.A.
18	1517 1527 1706 1716 1851 1901		3.8 x 10 <sup>-3</sup> 4.0 x 10 <sup>-3</sup> 5.8 x 10 <sup>-3</sup>	1.7 x 10 <sup>-4</sup> 2.1 x 10 <sup>-4</sup> 2.8 x 10 <sup>-4</sup>		PTA BRZ ODG	V.A.
19	1448 1458 1636 1647 1822 1832	1.0 x 10 <sup>-1</sup>	3.3 x 10 <sup>-3</sup> 3.3 x 10 <sup>-3</sup> 3.1 x 10 <sup>-3</sup>	1.1 x 10 <sup>-4</sup> 1.7 x 10 <sup>-4</sup> 1.4 x 10 <sup>-4</sup>		PTA BRZ ODG	V.A. V.A. V.A.
20	1418 1428 1606 1616 1752 1802		5.3 x 10 <sup>-3</sup> 4.8 x 10 <sup>-3</sup> 4.8 x 10 <sup>-3</sup>	1.8 x 10 <sup>-4</sup> 1.8 x 10 <sup>-4</sup> 1.8 x 10 <sup>-4</sup>		PTA BRZ ODG	V.A. V.A.
21	1533 1543 1721 1732 1907 1917	1.3 x 10 <sup>-1</sup>	5.6 x 10 <sup>-3</sup> 5.3 x 10 <sup>-3</sup> 3.6 x 10 <sup>-3</sup>	2.9 x 10 <sup>-4</sup> 1.4 x 10 <sup>-4</sup> 1.1 x 10 <sup>-4</sup>		PTA BRZ ODG	V.A. V.A.
22	1503 1513 1651 1702 1837 1847	1.2 x 10 <sup>-1</sup>	5.0 x 10 <sup>-3</sup> 5.6 x 10 <sup>-3</sup> 4.9 x 10 <sup>-3</sup>	1.9 x 10 <sup>-4</sup> 2.2 x 10 <sup>-4</sup> 1.7 x 10 <sup>-4</sup>		PTA BRZ ODG	V.A. V.A.
23	1433 1445 1621 1632 1807 1817		6.4 x 10 <sup>-3</sup> 4.9 x 10 <sup>-3</sup> 6.4 x 10 <sup>-3</sup>	2.3 x 10 <sup>-4</sup> 2.3 x 10 <sup>-4</sup> 2.5 x 10 <sup>-4</sup>		PTA BRZ ODG	V.A. V.A.
24	1404 1414 1652 1702 1737 1747	1.3 x 10 <sup>-1</sup> 1.5 x 10 <sup>-1</sup> 1.4 x 10 <sup>-1</sup>	1.0 x 10 <sup>-2</sup> 8.0 x 10 <sup>-3</sup> 6.4 x 10 <sup>-3</sup>	4.1 x 10 <sup>-4</sup> 2.5 x 10 <sup>-4</sup> 3.0 x 10 <sup>-4</sup>		PTA BRZ ODG	Burst 1410, V.A. V.A. Burst 1742
25	1334 1344 1522 1533 1707 1719	1.5 x 10 <sup>-1</sup>	7.3 x 10 <sup>-3</sup> 7.6 x 10 <sup>-3</sup> 6.9 x 10 <sup>-3</sup>	4.1 x 10 <sup>-4</sup> 3.4 x 10 <sup>-4</sup> 3.4 x 10 <sup>-4</sup>		PTA BRZ ODG	V.A. Burst 1528, V.A.
26	0347 0421	1.4 x 10 <sup>-1</sup>	7.0 x 10 <sup>-3</sup>	2.1 x 10 <sup>-4</sup>		HMG, BRZ, PTA	V.A.
27	0329 0344	1.6 x 10 <sup>-1</sup>	6.8 x 10 <sup>-3</sup>	2.7 x 10 <sup>-4</sup>		BRZ	V.A., Sunrise
28	0309 0319 1538 1548 1728 1738	1.2 x 10 <sup>-1</sup>	6.3 x 10 <sup>-3</sup> 4.8 x 10 <sup>-4</sup> 8.0 x 10 <sup>-4</sup>	2.6 x 10 <sup>-4</sup> 2.3 x 10 <sup>-4</sup> 1.2 x 10 <sup>-4</sup>		PTA ODG HMG	V.A. Small burst 1732
29	0239 0249 1653 1708	1.1 x 10 <sup>-1</sup>	5.0 x 10 <sup>-3</sup> 4.1 x 10 <sup>-3</sup>	2.2 x 10 <sup>-4</sup> 1.3 x 10 <sup>-4</sup>		PTA ODG, HMG	V.A.
30	1438 1447 1623 1638		3.6 x 10 <sup>-3</sup> 3.4 x 10 <sup>-3</sup>	1.1 x 10 <sup>-4</sup> 1.5 x 10 <sup>-4</sup>		BRZ ODG, HMG	
May 1	1559 1609		2.1 x 10 <sup>-3</sup>	1.4 x 10 <sup>-4</sup>		HMG	
2	1150 1200 1311 1349 1524 1539		2.4 x 10 <sup>-3</sup> 2.1 x 10 <sup>-3</sup> 3.7 x 10 <sup>-3</sup>	1.5 x 10 <sup>-4</sup> 7.6 x 10 <sup>-5</sup> 1.3 x 10 <sup>-4</sup>		PTA BRZ ODG	V.A.
3	1121 1131 1308 1318		2.6 x 10 <sup>-3</sup> 3.1 x 10 <sup>-3</sup>	8.9 x 10 <sup>-5</sup> 1.1 x 10 <sup>-4</sup>		PTA BRZ	V.A.
4	1052 1102 1238 1248 1426 1436		3.7 x 10 <sup>-3</sup> 4.0 x 10 <sup>-3</sup> 3.8 x 10 <sup>-3</sup>	2.6 x 10 <sup>-4</sup> 1.9 x 10 <sup>-4</sup> 9.6 x 10 <sup>-5</sup>		PTA BRZ ODG	V.A.
5	1022 1032 1210 1219 1356 1406		3.7 x 10 <sup>-3</sup> 2.8 x 10 <sup>-3</sup> 3.5 x 10 <sup>-3</sup>	1.2 x 10 <sup>-4</sup> 1.0 x 10 <sup>-4</sup> 2.5 x 10 <sup>-4</sup>		PTA BRZ ODG	V.A.
6	1135 1148 1510 1520		3.4 x 10 <sup>-3</sup> 3.2 x 10 <sup>-3</sup>	6.6 x 10 <sup>-5</sup> 9.4 x 10 <sup>-5</sup>		PTA, BRZ ODG	V.A.

**SOLAR RADIATION MONITORING SATELLITE  
X-RAY**

IIIbb

MAY 1966

National Center for Space Studies, France  
and Observatory of Paris-Meudon

Date	Time	44-60A	8-20A	0-8A	0-3A	Station	Remarks
7	1104 1114 1255 1305		$3.3 \times 10^{-3}$ $2.7 \times 10^{-3}$	$1.3 \times 10^{-4}$ $2.1 \times 10^{-4}$		PTA BRZ	V.A.
8	1034 1045 1413 1423	$8.3 \times 10^{-2}$ $8.0 \times 10^{-2}$	$2.2 \times 10^{-3}$ $2.2 \times 10^{-3}$	$1.1 \times 10^{-4}$		PTA ODG	V.A.
9	1004 1014 1152 1202 1330 1348		$4.2 \times 10^{-3}$ $3.5 \times 10^{-3}$ $2.2 \times 10^{-3}$	$1.7 \times 10^{-4}$ $1.2 \times 10^{-4}$		PTA BRZ ODG	V.A. V.A.
10	0935 0947 1123 1133 1309 1319 1501 1511		$3.3 \times 10^{-3}$ $3.2 \times 10^{-3}$ $2.7 \times 10^{-3}$ $2.8 \times 10^{-3}$	$1.4 \times 10^{-4}$		PTA BRZ ODG HMG	V.A. V.A.
11	1054 1104 1239 1249 1431 1440		$3.9 \times 10^{-3}$ $2.9 \times 10^{-3}$ $3.3 \times 10^{-3}$	$2.0 \times 10^{-4}$ $2.5 \times 10^{-4}$		BRZ ODG HMG	
12	0835 0846 1023 1033 1209 1222 1357 1411		$3.5 \times 10^{-3}$ $3.0 \times 10^{-3}$ $2.1 \times 10^{-3}$ $3.3 \times 10^{-3}$	$1.5 \times 10^{-4}$ $1.0 \times 10^{-4}$		PTA BRZ ODG HMG	V.A. V.A.
13	0953 1003 1140 1150 2040 2048	$1.2 \times 10^{-1}$	$5.2 \times 10^{-3}$ $5.2 \times 10^{-3}$ $4.7 \times 10^{-3}$	$2.2 \times 10^{-4}$ $3.0 \times 10^{-4}$		BRZ ODG HMG	V.A. Sunset
14	0736 0747 0924 0934 1258 1311		$3.7 \times 10^{-3}$ $3.3 \times 10^{-3}$ $2.4 \times 10^{-3}$	$2.0 \times 10^{-4}$ $1.5 \times 10^{-4}$ $1.4 \times 10^{-4}$		PTA BRZ HMG	V.A. V.A.
15	1940 1950	$9.1 \times 10^{-2}$	$4.2 \times 10^{-3}$	$1.1 \times 10^{-4}$		(Not reported)	Sunset
16	0821 0835 1158 1208		$3.5 \times 10^{-3}$ $4.3 \times 10^{-3}$	$1.6 \times 10^{-4}$ $1.7 \times 10^{-4}$		PTA, BRZ ODG	
17	0943 0953 1126 1138		$2.6 \times 10^{-3}$ $2.7 \times 10^{-3}$	$1.4 \times 10^{-4}$ $8.4 \times 10^{-5}$		BRZ ODG, HMG	
18	0909 0920 1055 1112		$3.1 \times 10^{-3}$ $4.6 \times 10^{-3}$	$1.1 \times 10^{-4}$ $1.3 \times 10^{-4}$		BRZ ODG, HMG	V.A.
19	0651 0701 0839 0851 1027 1042		$6.4 \times 10^{-3}$ $6.9 \times 10^{-3}$ $7.9 \times 10^{-3}$	$1.5 \times 10^{-4}$ $3.9 \times 10^{-4}$ $3.4 \times 10^{-4}$		PTA BRZ ODG, HMG	V.A.
20	0808 0818		$9.6 \times 10^{-3}$	$4.0 \times 10^{-4}$		BRZ	
21	0926 0935		$1.9 \times 10^{-2}$	$>3.5 \times 10^{-4}$		ODG	
22	0522 0532 0710 0720 0855 0908		$1.3 \times 10^{-2}$ $9.5 \times 10^{-3}$ $9.9 \times 10^{-3}$	$5.8 \times 10^{-4}$ $5.4 \times 10^{-4}$ $5.8 \times 10^{-4}$		PTA BRZ ODG	V.A. V.A.
23	0826 0836 1010 1028		$1.1 \times 10^{-2}$ $9.9 \times 10^{-3}$	$5.5 \times 10^{-4}$ $3.8 \times 10^{-4}$		BRZ, ODG ODG, HMG	V.A.
24	0613 0622 0754 0806 0943 0958 2021 2034	$9.1 \times 10^{-2}$	$8.8 \times 10^{-3}$ $8.5 \times 10^{-3}$ $9.5 \times 10^{-3}$ $7.2 \times 10^{-3}$	$5.3 \times 10^{-4}$ $4.2 \times 10^{-4}$ $2.6 \times 10^{-4}$ $3.5 \times 10^{-4}$		PTA BRZ, ODG HMG HMG	
25	0537 0547 0724 0734 0915 0923		$8.0 \times 10^{-3}$ $9.1 \times 10^{-3}$ $8.6 \times 10^{-3}$	$4.9 \times 10^{-4}$ $8.3 \times 10^{-4}$ $>3.5 \times 10^{-4}$	$7.0 \times 10^{-5}$ $8.6 \times 10^{-5}$	PTA BRZ HMG	V.A. Burst 0729, V.A.
26	0507 0517 0654 0707 1922 1941	$1.4 \times 10^{-1}$	$8.2 \times 10^{-3}$ $7.3 \times 10^{-3}$ $7.4 \times 10^{-3}$	$2.8 \times 10^{-4}$ $3.0 \times 10^{-4}$ $3.6 \times 10^{-4}$		PTA BRZ HMG, ODG	V.A. V.A.
27	0436 0446 0624 0634 1858 1910		$8.0 \times 10^{-3}$ $8.8 \times 10^{-3}$ $6.3 \times 10^{-3}$	$2.1 \times 10^{-4}$ $3.6 \times 10^{-4}$ $1.9 \times 10^{-4}$		PTA BRZ ODG	V.A. V.A. Sunset
28	0407 0417		$5.3 \times 10^{-3}$	$2.6 \times 10^{-4}$		PTA	V.A.
29	1758 1811	$1.4 \times 10^{-1}$	$4.2 \times 10^{-3}$	$2.0 \times 10^{-4}$		ODG	
30	0307 0317 0456 0506 1723 1739	$1.1 \times 10^{-1}$	$5.8 \times 10^{-3}$ $4.9 \times 10^{-3}$ $3.6 \times 10^{-3}$	$2.5 \times 10^{-4}$ $2.4 \times 10^{-4}$ $2.1 \times 10^{-4}$		PTA BRZ HMG, ODG	V.A., Sunrise
31	1652 1709	$1.2 \times 10^{-1}$	$4.2 \times 10^{-3}$	$2.1 \times 10^{-4}$		ODG	

Station designations:

PTA	Pretoria, Rep. of South Africa	HMG	Hamaguir, Algeria
BZV (or BRZ)	Brazzaville, Rep. of Congo	LBN	Lebanon (Near Beirut)
ODG (or OGD)	Quagadougou, Upper Volta	BTY	Bretigny, France

## IONOSPHERIC EFFECTS OF SOLAR FLARES

SHORT WAVE RADIO FADEOUTS                    SUDDEN PHASE ANOMALIES  
 SUDDEN COSMIC NOISE ABSORPTION            SUDDEN ENHANCEMENTS OF SIGNAL  
 SUDDEN ENHANCEMENTS OF ATMOSPHERICS      SUDDEN FREQUENCY DEVIATIONS  
 SOLAR NOISE BURSTS AT 18 Mc/s

SEPTEMBER 1966

SEPT 1966	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE						STATIONS	KNOWN FLARE	
	START	END	MAX			ABS	SCNA	SEA	SPA	SES	SFD	BUR		
01	0159	0209	0204	1		06	1-						MA	0159
01	1401	1402		5									MC RO	
01	1402	1403		5									1 MC RO	
01	1403	1404		5									1 MC RO	
01	1414	1415		1									1 MC	
01	1437	1438		1									1 MC	
01	1440	1442		1									1 MC	
01	1509	1511		5									1 RO MC	
01	1511	1514		1									1 RO	
01	1514	1518		1									1 RO	
01	1957	1959		1									1 MC	
01	2058	2059		5									1 MC HA	
01	2106	2107		5									1 MC HA	
02	0007	0041	0013	1									MA(NPG18-25)	
02	0206	0226	0208	1	S 1								MA	0008
02	0207	0236	0212	1									MA(NPG18-28)	0206E
02	0354	0406	0356	1	S 1-								MA	0351U
02	0356	0415	0358	1									MA(NPG18-15)	
02	0535	0750	0543	5	SL 3								OK AN BN HK MA ND SO SW TO	0541E
02	0544	0813	0559	1									MA(NPG18-170)	
02	0547	0630	0600	1									ND	
02	0550	0725	0555	1									MA	
02	0551	0555	0555	5									A17 TA	
02	0551	0623	0558	1									1 RO	
02	0600	0602	0600	1									1 RO	
02	0602	0606	0606	1									1+ RO	
02	0606	0610	0610	1									2 RO	
02	0825	0828	0828	1									1+ RO	
02	0825	0900	0837	1									RO	
02	0825	0930	0835	1									ND	0541E
02	0828	0838	0838	1									A17	
02	0835	0915	0915	1									SO	
02	1353	1445	1400	1	G 2								ND	1359
02	1624	1630	1630	5									1 MC BO(SERIES OF BURSTS)	
02	1752	1754	1754	1									1 MC	
02	1834	1835	1835	1									1 MC	
02	1907	2110	2110	4									1 MC BO (NOISE STORM)	
02	2234	2236	2236	4									1 MC BO	
02	2237	2239	2239	4									1 MC BO	
03	0917	1000	0923	1									RO	
03	1329	1330	1330	1									1 MC	
03	1345	1346	1346	5									1 MC RO	
03	1444	1445	1445	1									1 MC	
03	1543	1645	1600	1									ND	
04	0045	0205	0046	1									HA(WWVL20-7)	
04	0116	0127	0121	1									MA(NPG18-8)	0042
04	0118	0126	0122	1	G 1+								MA	
04	0212	0225	0216	5	S 1-								MA AN	
04	0212	0228	0216	1									MA(NPG18-18)	
04	0225	0226	0226	1									MA	
04	0410	0556	0419	5									MA(NPG18-205)	
04	0411	0620	0412	5	S 3								AN(NPM26-39)	0410
04	0412	0413	0413	1									MA AN HK NZ OK	
04	0413	0416	0416	1									1 MA	
04	0413	0435	0419	1									1+ MA	
04	0416	0420	0420	1									ND	
04	0417	0500	0423	1									1+ MA	
04	0420	0421	0421	1									ND	
04	0420	0427	0422	5									1+ MA	
04	0421	0538	0422	1									MA ND	
04	2142	2233	2153	1									MA	
05	0223	0246	0226	1	S 1-								MA(NPG18-22,WWVL20-18)	2140
05	0223	0251	0234	1									MA	
05	0303	0329	0311	1									MA(NPG18-15)	
05	0308	0330	0320	1	G 1-								MA(NPG18-15)	
05	1246	1400	1324	1									MA	
05	1750	1757	1757	1									MC	
05	1800	1900U	1807	1									UM(NPM26-19)	
05	1923	1929	1925	1									UM	1747
05	2021	2028	2023	1									BO(WWI8-0-3)	1747
05	2023	2203	2035	1									BO(WWI8-0-4)	1923
05													HA(WWVB60-43,WWVL20-14)	2020
07	1436	1437		1									1 MC	
07	1453	1454		1									1 MC	
07	1455	1456		1									1 MC	
07	1500	1507		1									1 MC (SERIES OF BURSTS)	
07	1700	2130		1									1 MC (NOISE STORM)	
07	1702	1703		1									1 MC	
07	1809	1810		1									1 MC	
07	1813	1814		1									1 MC	
07	1906	1908		5									1 MC HA	

**IONOSPHERIC EFFECTS OF SOLAR FLARES**

SEPTEMBER 1966

IIIdd

SEPT 1966	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE						STATIONS	KNOWN FLARE	
	START	END	MAX			ABS	SCNA	SEA	SPA	SES	SFD	BUR		
07	1909	1910		1								1	MC	
07	1955	1956		5								1	HA MC	
07	2000	2015		1								1	HA (SERIES OF BURSTS)	
07	2116	2119	2118	1								04	BO(WWI9-0.4)	
07	2204	2215		1								1	HA (SERIES OF BURSTS)	2105
07	2319	2320		1								1	HA	
08	0020	0021		1								1	HA	
08	0024	0025		1								1	HA	
08	0050	0051		1								1	HA	
08	0052	0053		1								1	HA	
08	1313	1324		1								1	MC (SERIES OF BURSTS)	
08	1340	1411		1								1	MC (SERIES OF BURSTS)	
08	1352	1353		1								1	RO	
08	1459	1502		5								1	MC RO	
08	1542	1543		1								1	MC	
08	1548	1549		1								1	MC	
08	1705	1706		1								1	MC	
08	1715	1716		1								1	MC	
08	1730	1731		1								1	MC	
08	1731	1732		1								1	MC	
08	1733	1735		1								1	MC	
08	1735	1736		1								1	MC	
08	1802	1803		1								1	MC	
08	1858	1900		1								1	MC	
08	1907	1909	1908	1								05	BO(WWI8-0.5)	
08	2101	2102		1								1	HA	1807
08	2131	2133		5								1	MC HA	
08	2259	2300		1								1	HA	
08	2310	2311		1								1	HA	
08	2312	2313		1								1	HA	
08	2320	2321		1								1	HA	
09	0956	1051		5								1	RO MA (NOISE STORM)	
09	1142	1145		1								1	RO	
09	1333	1335		1								1	MC	
09	1528	1531		1								1+	MC	
09	1600	1601		1								1	MC	
09	1642	1644		1								1	MC	
09	1711	1713		5								1	MC BO	
09	1713	1714		5								1	MC BO	
09	1717	1719		1								1	MC	
09	1719	1722		5								1	MC BO HA	
09	1724	1726		5								1	MC BO	
09	1726	1729		5								1+	MC BO	
09	1801	1802		5								1	BO MC	
09	1852	1853		5								1	BO MC	
09	1853	1855		5								1	BO MC	
09	1856	1858		5								1	BO MC	
09	1919	1920		5								1	BO MC	
09	1932	1933		5								1	BO MC	
09	1935	1939		5								1+	MC BO HA	
09	2013	2015		5								1	BO MC HA	
09	2017	2022		5								1	BO MC HA	
09	2036	2039		5								1	BO MC HA	
09	2042	2044		5								1	BO MC HA	
09	2045	2046		5								1	BO MC HA	
09	2104	2106		5								1	BO MC HA	
09	2126	2127		5								1	BO MC HA	
09	2151	2152		5								1	MC BO HA	
09	2221	2233		1								1	HA	
10	0606	0624	0608	5	S	1-								0606E
10	1422	1423		5								1	MA OK	
10	1424	1425		1								1	MG RO	
10	1426	1427		5								1	MC	
10	1427	1428		1								1	MC RO	
10	1515	1516		5								1	MC	
10	1518	1521		5								1	MC RO	
10	1532	1533		1								1	MC BO RO	
10	1535	1536		1								1	MC	
10	1542	1544		4								1	MC BO	
10	1604	1608		4								1+	MC BO	
10	1614	1616		4								1	MC BO	
10	1622	1624		4								1	MC BO	
10	1624	1626		4								1	MC BO	
10	1626	1628		4								1	MC BO	
10	1637	1638		4								1	MC BO	
10	1639	1640		4								1	MC BO	
10	1720	1725	1722	1								04	BO(WWI8-0.4)	1718
10	1721	1726		5								2	MC BO HA	
10	1726	1728		4								1	MC BO	
10	1750	1752		4								1	MC BO	
10	1756	1757		4								1	MC BO	
10	1801	1805		4								1+	MC BO	
10	1805	1808		4								1	MC BO	
10	1819	1825	1824	1								05	BO(WWI8-0.5)	1813

## IONOSPHERIC EFFECTS OF SOLAR FLARES

SEPTEMBER 1966

SEPT 1966	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE						STATIONS	KNOWN FLARE	
	START	END	MAX			ABS	SCNA	SEA	SPA	SES	SFD	BUR		
10	1828	1852	1836	5	SL 1+								BO AN HU MC BO	1813
10	1844	1845		4									1	
10	1848	1849		4									1	
10	1857	1859		4									1	
10	1931	1933		4									1	
10	1934	1935		4									1	
10	1941	1945		5									1	
10	1954	1955		5									1	
10	2009	2010		5									1	
10	2019	2021		4									1	
10	2037	2038		5									1	
10	2039	2041		5									1	
10	2111	2114		5									1	
10	2125	2210	2140	5	G 1-								1	
10	2209	2212		5									1	
11	1352	2245		5									1	
11	1512	1515		4									1	
11	1515	1518		4									1	
11	1752	1753		4									1	
11	1803	1804		5									1	
11	1807	1808		5									1	
11	1811	1812		5									1	
11	1857	1858		5									1	
11	1903	1905		5									1	
11	1933	1936		4									1	
12	0320	0355	0345	1	G 1+								OK	
12	0930	1040	0950	1									ND	0322
12	0937	1030	0950	5									ND A17	0925
12	0950	1045	1035	3	G 2		1						SW SO	0930
12	1012	1111		1									RO	0955
12	1015	1017		1									RO	
12	1015	1055	1029	1		24	1						1	
12	1020	1028		1									2	
14	0048	0114	0051	1	S 1-								MA	
14	0053	0105	0055	1									MA(NPG18-12)	
14	0311	0326	0327	1									MA(NPG18-11)	
14	1008	1130	1020	5									SL(GBZ19-208)	0310
14	1010	1115	1020	5									UM(GBZ19-145)	1012
14	1012	1023	1012	1									UM ND	
14	1015	1045	1025	1									ND(++)	
14	1015	1045	1033	1		36	2	1					ND	
14	1015	1055	1025	1									ND	
14	1016	1059	1035U	5	S 1								TO BN ND SW	
14	2205	2305	2210	3		** 20							BI AN	
14	2208	2348	2250	1									AN(NSS21-36,WWVL20-36)	
14	2220	2330	2240	1	S 2								AN	
14	2348	0003	2351	1		6	1-	1-					MA	2338
14	2348	0008	2357	1									MA	
14	2348	0009	2400	1									MA(NPG18-18)	
15	0100	0200	0115	1		** 17							AN	
15	0100	0215	0115	1	S 1-								AN	0047
15	0105	0200	0122	1									AN(WWVL20-22)	
15	0253	0318	0304	1									MA(NPG18-11)	0203
15	0434	0445	0439	1									MA(NPG18-12)	0436E
15	0552	0608	0556	1									MA(NPG18-16)	
15	1819	1823	1821	1									BO(WWI8-0.4)	1802E
15	2030	2150	2055	1		** 19							AN	2015
15	2030	2200	2100	1	S 2								AN	
15	2030	2210	2100	1									AN(WWVL20-43)	
16	0121	0209	0136	1									MA(NPG18-36)	
16	0132	0158	0134	1	S 1								MA	0121
16	0953	1030	1002	1									SL(GBZ19-43)	0121
16	1414	2115D		4									MC BO (NOISE STORM)	0914
16	1426	1428		1									1 MC	
16	1618	1621		1									1 MC	
16	1623	1625		1									1 MC	
16	1625	1642	1630	1									SL(GBZ19-50)	1615
16	1718	1720		1									1 MC	
16	1755	1757		1									1 MC	
16	1757	1800		4									1 MC BO	
16	1800	2000	1830	1	G 1+								MC	
16	1805	2055	1835	1									HA(WWVL20-18)	
16	1823	1829	1827	1									BO(WWI8-0.7)	
16	2117	2118		5									1 HA MC	
16	2159	2201		1									1 HA	
16	2245	2246		1									1 HA	
16	2314	2316		1									1 HA	
17	0350	0419	0401	1									MA(NPG18-21)	
17	0950	1215	1014	1									SL(GBZ19-140)	
17	1237	2320		5									MC BO HA (NOISE STORM)	0945

## IONOSPHERIC EFFECTS OF SOLAR FLARES

SEPTEMBER 1966

IIIff

## IONOSPHERIC EFFECTS OF SOLAR FLARES

SEPTEMBER 1966

SEPT 1966	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE				
	START	END	MAX			SCNA	SEA	SPA	SES	SFD	BUR					
20	0257	0312	0302	5	G 1-							MA AN MA(NPG18-32)	0255E			
20	0258	0335	0303	1								MA				
20	0331	0341		1								MA(NPG18-22)	0332			
20	0335	0356	0341	1								MA				
20	0335	0359		1								MA AN ND				
20	0340	0422	0344	5	S 1-							MA(NPG18-25)				
20	0356	0430	0402	1								SL(GBZ19-115)				
20	0820	0850	0825	1								ND(++)				
20	0825	0845	0828	1								ND				
20	0825	0900	0830	1								MA ND				
20	0825	0905	0847	5	G 1-							SL(GBZ19-115)				
20	1020	1130	1042	1								UM				
20	1045	1150		1								UM(GBZ19-46)	1046			
20	1047	1200	1100	1								ND(++)				
20	1050	1100	1052	1								MC BO HA (NOISE STORM)				
20	1100E	2400D		5								SL(GBZ19-50)				
20	1219		1223	1								UM(GBZ19-50)				
20	1245	1315	1257	1								UM	1116			
20	1245	1330	1252	1								UM(GBZ19-46,NBA24-18)	1229			
20	1247		1253	1								A17				
20	1448	1451	1450	1								BO(WWI11-0.2)	1447			
20	1505	1509		1								MC				
20	1509	1510		1								MC				
20	1535	1536		1								MC				
20	1557	1559		4								MC BO				
20	1616	1710	1630	1								ND				
20	1650	1651		4								MC BO	1603			
20	1655	1656		4								MC BO				
20	1700	1800	1722	5								SL(GBZ19-230)	1738E			
20	1700	1845U	1735	1								UM(GBZ19-53)				
20	1710	1720	1712	1								HA(WWVL20-36)				
20	1710	1920	1715	5	SL 3							UM				
20	1712	1715		4								BO(WWI11-0.8)	1738E			
20	1715	1721		4								MC BA BE HU	1738E			
20	1904	1905		5								MC BO				
20	2040	2041		1								MC BO HA				
21	0025	0027		1								HA				
21	0925	1030	0937	5								UM ND				
21	0925	1100	0932	1								SL(GBZ19-237)	0930E			
21	0930	0950	0940E	5	G 2							UM(GBZ1-108)				
21	0930	1015	0940	5								BN BY SO SW TO				
21	0933	0955	0937	1								LO A17				
21	1413	2400D		5								ND				
21	1616	1618		4								MC BO HA (NOISE STORM)				
21	1733	1735		1								MC BO				
21	1823	1824		5								MC				
21	1851	1852		1								MC BO HA				
21	1852	1855		5								BO				
21	1924	1926		5								BO HA MC				
21	1929	1931		5								BO HA MC				
21	2005	2008	2007	1								BO HA MC				
21	2005	2030	2010	1	S 1-							BO(WWI8-0.7)				
21	2022	2024		5								MC				
21	2024	2026		5								BO HA MC				
21	2026	2028		5								MC BO HA				
21	2147	2150		1								HA				
21	2252	2256		1								HA				
22	0821	0910	0832	1								MA(NPG18-18)				
22	0826	0845	0831	1								MA				
22	1611	1612		1								MC				
22	1618	1621		1								MC				
22	1633	1634		1								HA				
22	1724	1725		5								BO MC HA				
22	1737	1738		5								BO HA MC				
22	1739	1741		5								BO MC HA				
22	1741	1743		5								BO MC HA				
22	1933	1935		5								HA BO				
22	2050	2051		5								HA BO				
22	2203	2204		5								HA BO				
22	2250	2252		5								HA BO				
23	1550	1700	1604	1								UM(GBZ19-39)				
23	1553	1556	1555	1								BO(WWI8-0.2)	1542			
23	1555	1617	1607	2	SL 1+							BE MC				
23	1555	1645	1603	1								UM				
23	1703	1704		4								BO MC				
23	2029	2030		1								HA				
23	2250	2251		1								HA				
24	0005	0002	0002	1								MA(NPG18-11)				
24	0210	0221	0213	1	S 1-							MA	2355			
24	0213	0231	0220	1								MA(NPG18-11)	0210			

# IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIhh

SEPTEMBER 1966

SEPT 1966	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE						STATIONS	KNOWN FLARE	
	START	END	MAX			SCNA	SEA	SPA	SES	SFD	BUR			
	ABS													
24	1453	1454		1								1	MC	
24	1715	1717		1								1	MC	
24	1730	1735	1733	1								03	BO(WWI11-0.3)	
24	1907	1911	1909	1								02	BO(WWI8-0.2)	
24	1930	1940		5								1	MC HA(SERIES OF BURSTS)	1908
25	1307	1311		5								1	MC RO	
25	1322	1324		5								1	MC RO	
25	2254	2256		1								1	HA	
26	0938	1045	0943	1									SL(GBZ19-133)	
26	0950	1015	1000	1									ND	0947E
26	0950	1025	0955	1									ND	
26	1519	1555	1525	5									SL(GBZ19-133)	
26	1524	1534	1528	1									UM(NSS21-46,NPM26-42)	1520
26	1525	1542	1530	5									UM	
26	2054	2055		1									MC AN BE HU	
26	2114	2115		1									HA	
27	0015	0030	0025	1	S 3								AN	
27	0015	0040	0025	1									AN(NSS21-36)	
27	0015	0040	0020	3		25	2						AN BI	
29	1242	1406		4								1	MC BO (NOISE STORM)	
29	2128	2130		1								1	HA	
29	2159	2201		1								1	HA	
29	2227	2228		1								1	HA	
29	2249	2250		1								1	HA	
30	0842	0848	0843	1									ND(++)	
30	1746	1748		4								1	BO MC	
30	1900	2300D		1								1	MC (NOISE STORM)	
30	2131	2133		5								1	MC BO HA	

\*\* in the ABS column indicates value given in SCNA importance column is in db.  
++ This detail of event not reported.

A17 = Durban, So. Africa      By = Bearley, England

## RIOMETER EVENTS

SEPTEMBER 1966

Great Whale River

30 Mc/s

SEPT. 1966	START UT	END UT	MAX UT	MAX. ABS. .1DB	NO. OF PKS	SEPT. 1966	START UT	END UT	MAX UT	MAX. ABS. .1DB	NO. OF PKS
01	*					19	2240		2343		
02						20		2302		40	7
06		2340	2332	120	47	21	0202	2010	1352	52	3
07	*	2234	1328	47	6	22	0346		0500		
08	0226		1105			23		2250		10	11
11		1120		39	46	24	0807	1820	1652	3	1
12	0710	0950	0823	10	2	25	0224	0823	0229	20	4
12		1652	2301			26	*		1707		
13		0704		5	3	27		2236		30	13
14	0300		1517			28	0240	0532	0325	15	3
16		0930		25	16	28	0752	2133	1725	20	5
16	2124					29	*	2348	0414	30	16
17		1334	0315	10	7	30	0427		0444		
18	1248	2324	1459	11	1	01		2103		35	17
19	0815	1828	1530	7	3						

\* TIME NOT KNOWN DUE TO EQUIPMENT FAILURE OR OTHER CAUSE.

THIS TABULATION SHOWS ALL EVENTS STARTING ON ANY DAY OF THIS MONTH.  
 SEE PREVIOUS MONTH TABLE FOR EVENTS WHICH MAY NOT HAVE ENDED BY  
 THE FIRST DAY OF THIS MONTH.

MAX IS THE TIME OF EVENT MAXIMUM.  
 ABS IS ABSORPTION.  
 PKS IS PEAKS.

NO DATA ZEROS FOR ALL VALUES OF A DAY.

**SOLAR RADIO EMISSION  
OUTSTANDING OCCURRENCES  
OCTOBER 1966**

DATE	FREQUENCY	STATION	TYPE	STARTING TIME		TIME OF MAXIMUM	DURATION	FLUX DENSITY		INT.	REMARKS
				UT	UT			UT	(c/s) <sup>-1</sup>		
1	2800 OTTA	21	1737	1730	5	1730	10	2.2	1.1		
		1	1737	1737	7	1737	.5	4.0	2.0		
		21	1915	1950			145	1.2	0.6		
		20	2030	2035			25	1.2	0.6		
2	2800 OTTA	21	1240	1410		1250	155	3.8	1.9		
		1	1251	1251	2	1251	.7	2.8	1.4		
3	2800 OTTA	1	1252	1253	8	1253	2	1.2	0.6		
	2800 OTTA	26	1313	1316			7	-1.6	-0.8		
	2800 OTTA	20	1420	1455			120	2.4	1.2		
4	2800 OTTA	20	1250	1505			300	4.2	2.1		
6	10700 PENN	20	1538	1603	9	1603	65	10.2	6.6		
		21	1525	1548			245	10.8	5.4		
		4	1537	1540	.3		10	8.8	4.4		
		20	1534	1542			166	10.9	3.7		
		20	1535	1540	.3		65	12.3	5.0		
		20	1535	1541	.8		20	8.3	3.0		
7	2800 OTTA	20	1455	1505			25	.8	0.4		
8	2800 OTTA	20	1258	1303			20	2.2	1.1		
9	2800 OTTA	20	1420	E	1530		85 D	1.8			
12	2800 OTTA	1	1906	1907			1	1.4	0.7		
		1	1907	1907	2		.7	6.4	1.5		
		41	1902	1907	.2		8.2	15.3	3.5		
		20	1930	2052			90	2.8	2.4		
13	2800 OTTA	21	1245	1715			330	8.2	4.1		
		1245	1450				230	6.2			
		1635	1715				75	8.2			
	10700 PENN	45	1335	1342	.8		14.6	106.9	33.0		
		45	1335	1340	.8		13	35.0	10.0		
		1335	1338				4.5	29.0			
		1340	1340	.8			5	35.0			
		1345	1345	.3			3.5	15.0			
	2800 OTTA	45	1334	1340	.6		15	45.8	9.0		
		40	1336	1340	.6		12.4	38.1	8.0		
	960 PENN	20	1336	1340	.5		13.8	5.3	1.2		
		41	1333	1336	.6		14.7	176.8	40.0		
	2800 OTTA	1	1600	1601			1.5	1.2	0.6		
	2800 OTTA	1	1652	1653	.2		1	2.2	1.1		
	2800 OTTA	1	1730	1731			.5	1.2	0.6		
	2800 OTTA	20	1740	1743			10	2.4	1.2		
	486 WASH	1	1745					65.0			
	10700 PENN	3	1817	1818	.3		2.3	62.8	21.6		
		21	1815	1832			35	3.2	1.6		
	2800 OTTA	4	1817	1818	.5		1.5	8.7	5.8		
		20	2000	2045			100	2.4	1.2		
14	486 WASH	45	2019				2	85.0			
		45	1152	1154	.9		1.6	63.8	18.2		
		40	1155	1156	.9		1.1	4.6	1.8		
		40	1150	1153	.6		7	30.6	7.9		
		22	1245	1308			100	13.0	6.5		
		3	1428	1429	.9		4.4	91.7	9.6		
		3	1428	1429	.7		4	71.0	24.0		
		3	1428	1429	.9		10.5	63.8	10.5		
		3	1428	1429	.6		4.4	30.7	13.7		
		3	1428	1429	.8		.8	9.3	4.7		
15	2800 OTTA	29	1433				7	6.6	3.3		
	1415 SGMR	29	1433	1433			4.4	3.3	1.7		
		21	1907	1924			64	14.4	7.2		
		21	1909	1926			28	9.2U	3.1U		
		1	1909	1910			1.3	4.6U	1.2U		
16	2800 OTTA	21	1909	1926			29	7.4U	3.3U		
		1	1909	1910			1.4	7.4U	2.5U		
		21	1907	1922			45	7.4	3.7		
		1	1909	1910			4	5.2	2.6		
		20	1909	1910	.2		45	9.1	3.2		
		21	1904	1922			35	9.4	4.0		
		1	1909	1910	.5		1.5	7.1	3.2		
		26	1952	2015			65	-3.2	-1.6		
16	486 WASH	20	1345	1423			70	4.6	2.3		
		3	1406					95.0			
		45	1550				3	150.0D			
		21	1605	1700			275	4.4	2.2		
		41	1700				2	150.0D			
		1	1818	1818	.5		1.6	7.5	3.0		
		3	1818	1818	.5		1.5	12.3U	4.6U		
		1	1818	1818	.6		1.5	5.8U	2.0U		
		1	1818	1818	.3		2	2.8	1.2		
		1	1818	1818	.9		1.4	2.4	.8		



SOLAR RADIO EMISSION  
OUTSTANDING OCCURRENCES

IVb

OCTOBER 1966

DATE	FREQUENCY	STATION	TYPE	STARTING	TIME OF	DURATION	FLUX DENSITY		INT.	REMARKS
				UT	MAXIMUM		PEAK	MEAN		
	1415 SGMR	1	1818	1818.8		1.4	6.7	2.2		
	606 SGMR	1	1818	1818.8		1.2	6.3	2.1		
	2800 OTTA	1	1902.3	1902.5		1	2.0	1.0		
	2695 SGMR	1	1902	1902.4		1	2.4	1.2		
	2800 OTTA	4	1906.4	1907.7		5.5	8.6	4.3		
	2700 PENN	3	1906.5	1907.8		6.9	8.3	2.1		
	2695 SGMR	1	1906	1907		3	7.2	2.5		
	1415 SGMR	1	1906	1907		3	6.7	2.2		
	606 SGMR	41	1906.1	1906.3		2.9	84.8	10.0		
	2695 SGMR	40	2003	2006		69 D	16.8	6.3		
	1415 SGMR	40	2003	2006.7		115 D	9.0	3.0		
	606 SGMR	40	2003	2006.7		115 D	3.1	1.0		
	10700 PENN	20	2047.9	2051.4		10.7	9.7	1.3		
	8800 SGMR	1	2051	2051.5		1.5	6.2U	1.5U		
	4995 SGMR	3	2051	2051.3		2.1	19.8U	6.6U		
	2800 OTTA	23	2048	2048.5		8	2.0	1.2		
	2800 OTTA	4	2050.7	2051.5		2.5	19.0	9.5		
	2700 PENN	45	2047.9	2051.4		10.3	20.7	2.3		
	2695 SGMR	4	2050.7	2051.5		2.3	14.4	7.2		
	1415 SGMR	3	2051	2051.5		3	13.4	4.5		
	606 SGMR	41	2048.4	2051.1		4.6	434.0	43.4		
	2700 PENT	1	2155	2155.3		1	2.4	1.2		
	2700 PENT	4	2200	2201.1		5	29.0	11.0		
	2700 PENT	1	2310	2310.2		1.2	4.4	2.2		
	2700 PENT	4	2312	2313		2	39.0	20.0		
	2800 OTTA	29	2314			4	4.4	2.2		
17	2800 OTTA	20	1410	1610		220	2.6	1.3		
	2800 OTTA	20	2030	2032		30	3.0	1.5		
	2700 PENN	1	2030.9	2032.2		25	4.3	1.5		
	2800 OTTA	1	2106	2107		2	1.8	0.9		
	2700 PENT	20	2257	2306		22	3.4	1.7		
18	2800 OTTA	20	1650		U	320	8.8	5.9		
	2695 SGMR	20	1704	1717		63	7.7	4.0		
19	2800 OTTA	20	1500	1730		350	3.4	1.7		
20	2800 OTTA	20	1250	1315		225	3.6	2.4		
	2800 OTTA	21	1714	1755		85	4.2	2.1		
	2800 OTTA	4	1714.5	1714.7		2	10.0	5.0		
	2800 OTTA	1	1903	1903.5		3	3.2	1.6		
	2695 SGMR	1	1903	1903.7		4	3.3	1.0		
	1415 SGMR	1	1903	1903.7		1.5	6.8	2.0		
	606 SGMR	3	1903	1903.6		1.5	11.3	3.0		
	10700 PENN	45	2035.3	2036.2		20	40.9	8.5		
	8800 SGMR	45	2035.1	2036.4		9.9	37.0U	9.3U		
	8800 SGMR	45	2035.1	2038		9.9	37.0U	9.3U		
	4995 SGMR	45	2035.1	2038		9.9	34.7U	5.8U		
	2800 OTTA	40	2035	2040.8		10	17.6	8.0		
	2700 PENN	45	2035.5	2040.8		9.1	17.5	7.9		
	2695 SGMR	45	2035.1	2040.7		9.9	18.6	4.0		
	1415 SGMR	45	2035	2042.2		10	58.5	2.0		
	960 PENN	20	2035.5	2035.8		10.9	2.4	1.2		
	606 SGMR	45	2035	2042.3		10	30.8	5.5		
	486 WASH	45	2040			4	25.0			
	2700 PENT	4	2154.5	2155		4	20.0	7.0		
	486 WASH	45	2155			2	75.0			
21	2695 SGMR	22	1227.5	1234.5		38.5	12.1	5.0		
	2800 OTTA	21	1340	1520		240	1.8	0.9		
	2800 OTTA	20	1614	1615		35	2.6	1.3		
	2700 PENN	20	1613.4	1619		56	5.0	2.5		
22	2800 OTTA	21	1300	1430		480	5.4	2.7		
	2700 PENN	45	2005.3	2006.1		6.4	13.0	1.8		
	2700 PENT	40	2005	2007		4	9.4	3.2		
	2695 SGMR	45	2000	2006		15	16.4	4.0		
	1415 SGMR	45	2005.3	2006		4.7	37.9	8.0		
	960 PENN	1	2006	2006.1		2.5	3.3	.7		
	606 SGMR	45	2005.2	2006.7		2.9	245.0	20.0		
	2800 OTTA	1	2217	2217.1		.4	6.2	3.1		
	2700 PENT	21	2215	2215.3		5	2.8	1.4		
23	2700 PENT	3	0001	0001.2		1.5	15.0	7.5		
	1415 SGMR	3	1151.6	1151.8		2.4	20.8	5.0		
	606 SGMR	3	1151.6	1151.9		1.4	44.6	12.0		
	2800 OTTA	20	1330	1346		45	4.4	2.2		
	2700 PENN	24	1335	1350		161	3.1	1.6		
	1415 SGMR	1	1345.5	1346.3		2	4.6	1.0		
	606 SGMR	3	1345.5	1346		2	22.0	5.0		
	10700 PENN	20	1420.8	1428.8		84	34.8	16.3		
	4995 SGMR	20	1422	1429		218	21.7	7.3		
	2800 OTTA	20	1429	1429		165	13.0	6.5		
	2700 PENN	20	1422.7	1429.3		84.3	9.0	3.6		
	2695 SGMR	20	1422	1429		111	9.8	3.3		
	1415 SGMR	20	1422	1442		105	4.6	1.6		
	10700 PENN	20	2055	2102		42 D			DUR. CAL.	
	2800 OTTA	20	2040	2102		85	11.0	3.4		
	2700 PENN	20	2058	2135		28 D			DUR. CAL.	
	2700 PENT	4	2355	2355.5		1	41.0	14.0		

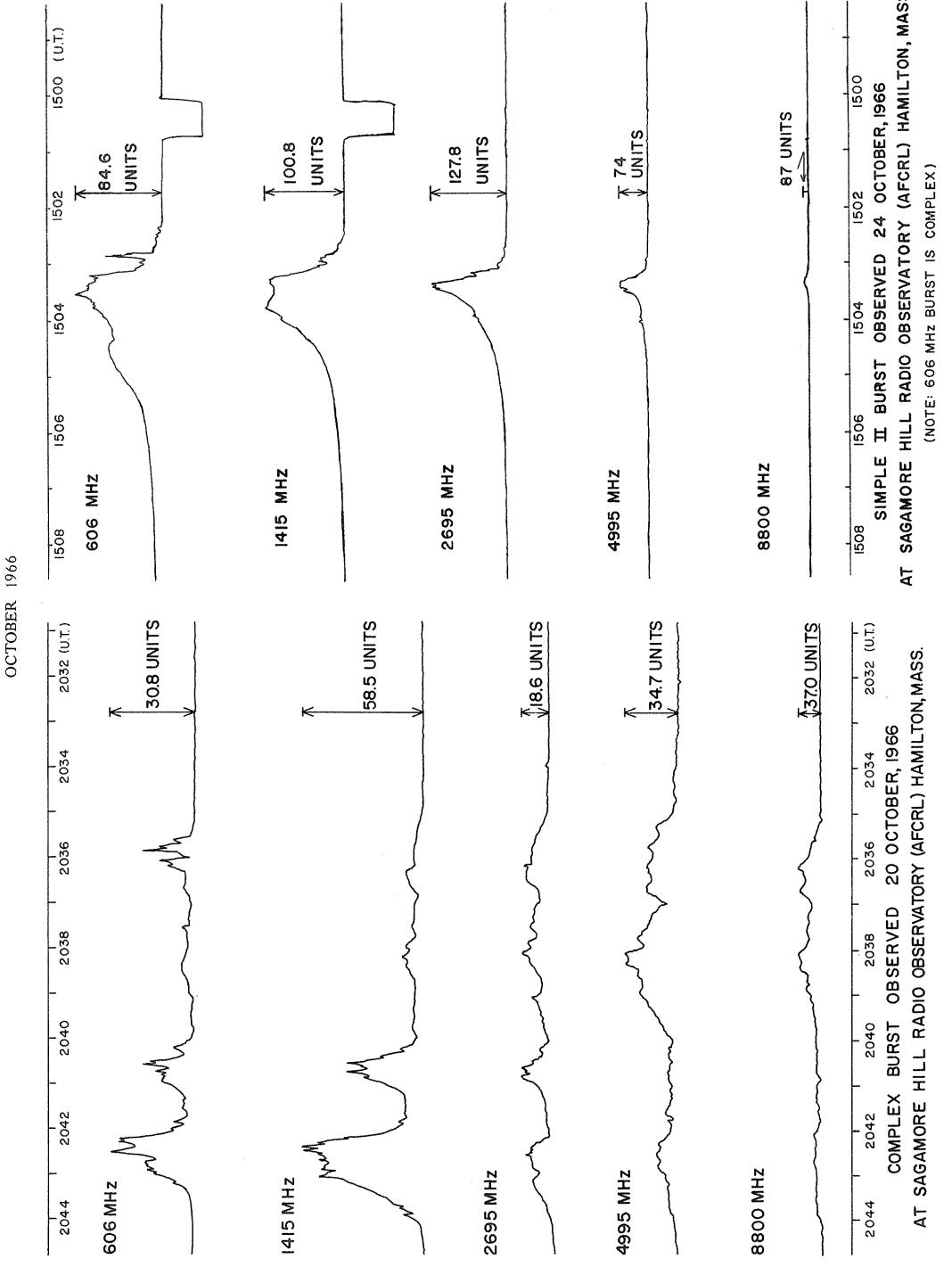
**SOLAR RADIO EMISSION  
OUTSTANDING OCCURRENCES**  
OCTOBER 1966

DATE	FREQUENCY	STATION	TYPE	STARTING	TIME OF	DURATION	FLUX DENSITY		INT.	REMARKS
				TIME	MAXIMUM		UT	MINUTES		
24	4995	SGMR	41	1133.8	1134.5	5.4	9.8	2.8		
	2695	SGMR	41	1133.8	1134.5		11.6	3.0		
	1415	SGMR	41	1133.8	1134.5		20.7	5.0		
	606	SGMR	41	1133.8	1133.9		23.1	6.0		
	2800	OTTA	1	1245	1245.2		.5	2.0		
	2700	PENN	1	1244.8	1244.9		.7	2.5	1.3	
	1415	SGMR	3	1244.9	1245.2		1.1	9.2	2.0	
	960	PENN	1	1244.9	1245		.7	1.7	0.9	
	606	SGMR	3	1244.9	1245.2		1.1	13.2	3.0	
	328	PENN	45	1244.6	1245		1.7	28.3	7.0	
	10700	PENN	45	1319.3	1319.9		1.8	39.1	8.4	
	4995	SGMR	3	1319.8	1320.3		2.2	19.6	5.6	
	2800	OTTA	4	1319.5	1320.4		1.5	12.6	5.8	
	2700	PENN	45	1319.2	1320		2.8	12.3	2.8	
	2695	SGMR	3	1319.8	1320.4		3.2	17.4	5.0	
	1415	SGMR	43	1318.4	1320.2		2.7	43.2	13.0	
	960	PENN	45	1318.2	1319.7		3	14.9	5.1	
	606	SGMR	43	1317.4	1320.2		4.2	676.0	200.0	
	328	PENN	45	1319.4	1320		2	482.8	68.2	
	1415	SGMR	29	1321.1	1321.1		3.9	4.0	2.0	
	606	SGMR	29	1321.6	1321.6		25.4	3.3	1.5	
	10700	PENN	3	1502.1	1502.9		3.2	108.3	12.5	
	8800	SGMR	3	1502.5	1503.4		2.5	87.0	8.7	
	4995	SGMR	3	1502.3	1503.4		3.7	74.2	12.6	
	2800	OTTA	3	1502.5	1503.1		6	110.0	20.0	
	2700	PENN	3	1502.1	1502.9		7	143.0	14.5	
	2695	SGMR	3	1502.3	1503.4		3.7	127.8	43.0	
	1415	SGMR	43	1502.3	1503.8		4.7	100.8	34.0	
	960	PENN	45	1502.1	1504.1		11.2	26.8	3.8	
	606	SGMR	43	1502.3	1503.6		4.7	84.6	28.0	
	328	PENN	45	1502.1	1503.1		3.4	720.1	75.3	
	2695	SGMR	29	1506	1506		8	5.8	2.9	
	1415	SGMR	29	1507	1507		23	6.9	3.5	
	606	SGMR	29	1507	1507		23	9.9	4.8	
	960	PENN	1	1709.4	1709.9		.8	1.4	0.7	
	328	PENN	45	1708.6	1709.9		2.6	16.5	4.5	
	2700	PENN	1	1815.4	1815.6		.6	1.7	0.9	
	960	PENN	1	1816.4	1817.1		1.1	1.5	0.7	
	328	PENN	5	1816.4	1817.2		1.1	32.9	16.5	
	960	PENN	1	2041.6	2042.6		1.5	13.5	2.6	
	328	PENN	5	2042.4	2042.7		.8	105.6	52.8	
25	960	PENN	1	1308	1310.3	4	1.0	0.5		
	328	PENN	5	1309.6	1310.2		.9	9.6	5.3	
	2800	OTTA	1	1617	1618		2	1.2	0.6	
	960	PENN	3	1648.9	1650		1.7	31.7	3.4	
	328	PENN	5	1648.8	1657		.7	560.0D	200.0D	DUR. CAL.
	328	PENN	5	1649.6	1651		.8	560.0D	150.0D	
	960	PENN	1	1657	1657.4		2	560.0D	200.0D	
	328	PENN	45	1700	1704.7		14.8	257.3	59.3	DUR. CAL.
	960	PENN	3	1737.5	1737.7		.5	34.6	17.3	
	328	PENN	1	1736.7	1738.3		1.8	23.3	5.8	
	960	PENN	41	1740.6	1746		6.1	32.6	3.4	
	328	PENN	41	1740.3	1742.3		6.7	673.3	92.9	DUR. CAL.
	960	PENN	1	1754.6	1754.7		.2	2.8	1.4	
	328	PENN	5	1754.5	1754.7		3.1	17.3	6.5	
	960	PENN	3	1825.5	1825.6		.3	17.9	8.9	
26	328	PENN	5	1825.7	1825.8	.7	47.0	23.5		
	960	PENN	41	2102.9	2103.9		15.7	14.9	1.3	
	328	PENN	5	2103.2	2104		1.2	65.2	21.5	
	328	PENN	5	1504.8	1504.8		.6	31.1	15.5	
	960	PENN	1	1509	1509.2		1.4	2.7	1.4	
	328	PENN	5	1508.6	1509.4		4	22.5	4.0	
	960	PENN	1	1656.1	1658.8		3.2	4.8	1.1	
	328	PENN	5	1657.5	1658.8		1.9	18.0	9.0	
	960	PENN	1	1715	1716		1.7	1.3	0.7	
	328	PENN	5	1715.1	1716.6		1.7	27.7	14.1	
27	960	PENN	1	1829.1	1829.2	.2	3.7	1.9		
	328	PENN	5	1828.9	1829.2		.6	24.5	12.3	
	960	PENN	1	1911	1911.3		.5	2.6	1.4	
	328	PENN	41	1908	1912		4.4	82.5	5.9	
	960	PENN	1	1915.6	1915.7		.2	5.6	2.8	
	328	PENN	5	1915.4	1915.7		.5	29.1	14.5	
	960	PENN	1	1948.8	1948.8		.2	4.1	2.0	
	328	PENN	5	1948.6	1948.9	.6	30.6	15.3		
	960	PENN	20	1952.8	1953		60.2	6.7	3.4	
	328	PENN	5	1951.8	1952.9		1.3	49.5	24.8	
	2800	OTTA	20	1420	1510	85	3.2	1.6		
	960	PENN	45	1922.9	1923	.6	13.3	4.4		

The Solar Radio Emission Outstanding Occurrences reported in CRPL-FB-266, October 1966, were those which occurred in September 1966, not August 1966.

PENT = DRAO-Penticton. Formerly these occurrences were reported as OTTA.

SELECTED SOLAR NOISE BURSTS  
AFCRRL SAGAMORE HILL



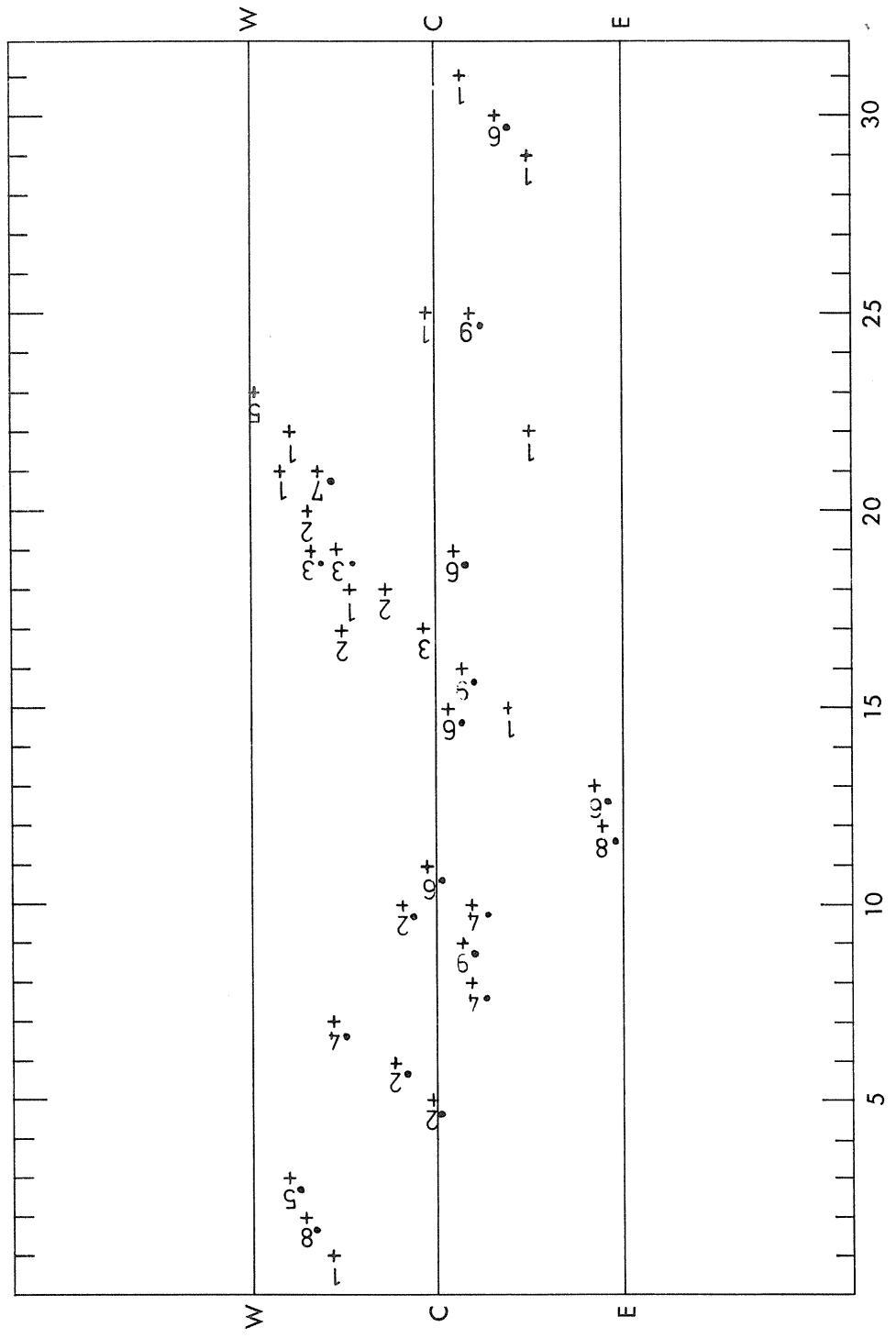
IVe

SOLAR RADIO EMISSION  
INTERFEROMETRIC OBSERVATION

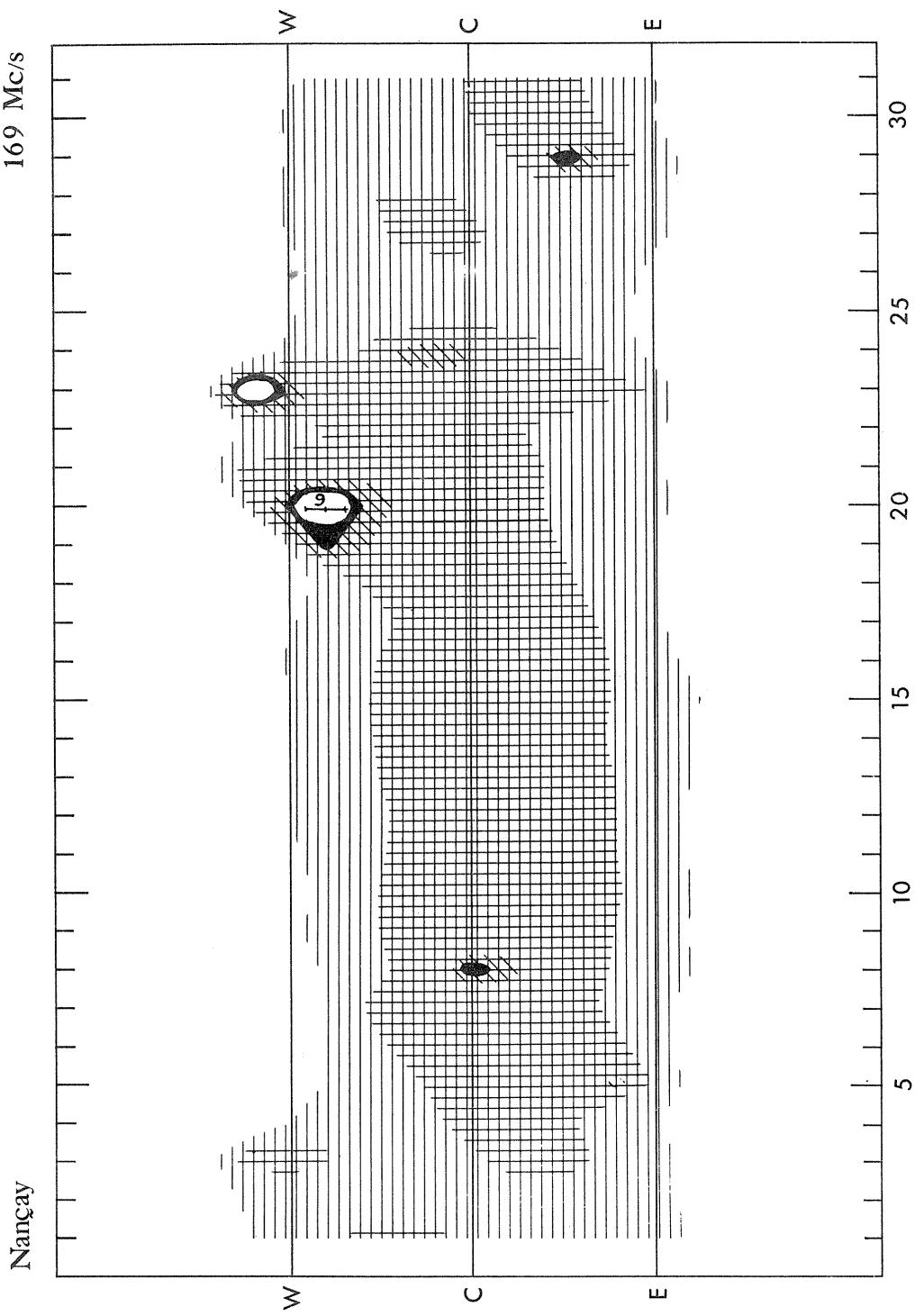
OCTOBER 1966

Nancay

408 Mc/s



SOLAR RADIO EMISSION  
INTERFEROMETRIC OBSERVATION  
OCTOBER 1966



IVf

# SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

JULY 1966

Fort Davis

25-320 Mc/s

1966	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC.	REMARKS
		TYPE	TIMES U.T.	INT.		
July 1-4	1220-2345	IIIG	1610	1	140-<25	
		IIIB	1644	1	130-<25	
		IIIG	1718-1719	2	200-<25	
		IIIG	1721-1722	2	180-<25	
		IIIG	1756	2	180-<25	
		IIIG	1810-1811	2	160-<25	
		IIIG	1832-1833	2	220-<25	
		IIIG	1854-1855	2	150-<25	
		IIIG	2046	2	150-<25	
						1230-1240: Weak I
5	1219-2345	IIIB	1806	1	50-<25	
		IIIG	2049-2053	3	240-<25	
		IIIG	2054-2056	2	180-<25	
		IIIS	2319	1	240-<50	
		IIIG	2330-2331	1	150-<25	
6	1220-2345	IIIG	1449	1	180-<25	
		IIIG	1724	2	150-<25	
		IIIG	1753-1754	1	240-<25	
		IIIG	1803	1	180-100	
		IIIB	1825	1	100-<25	
		IIIG	1836-1837	2	180-<25	
		IIIG	1848-1850	3	200-<25	
		IIIG	1852-1854	2	280-<25	
		IIIG	1856-1857	1	50-<25	
		IIIG	1919	1	150-<25	
		IIIG	1931	2	160-<25	
		IIIG	1938-1939	2	160-<25	
		IIIG	2020	2	175-<25	
		IIIB	2039	1	175-<25	
		IIIG	2042-2043	1	50-<25	
7	1219-2345	IIIG	2051-2052	2	50-<25	
		IIIG	2056-2057	2	240-<25	
		IIIG	2142-2146	3	>320-<25	
		IIIG	2149	1	100-<25	
						Occasional Weak I during day
9	1220-2005 2054-2117	IIIG	2020-2022	2	240-<25	
						Occasional Weak I throughout day
10	1510-2345	IIIG	1358	1	240-<180	
		IIIG	2013	2	150-<25	
		IIIG	2321	1	220-<100	
		IIIG	2323	1	240-<100	
11	1219-1400 1550-2345	IIIG	1314	1	200-<100	
		IIIG	1620-1621	2	230-<25	
		IIIB	1639	2	50-<25	
		IIIG	1659-1708	2	50-<25	
		IIIG	2006-2008	1	50-<25	
12	1219-2345	IIIG	1812	1	150-<100	
		IIIG	1820-1821	1	180-<100	
		IIIG	2321-2322	2	>320-<100	
13	1219-2345	IIIB	1559	1	100-<25	
		IIIG	1726-1727	2	240-<25	
		IIIG	1740-1742	2	115-<25	
		IIIG	2116	2	200-<25	
		IIIG	2119	1	140-<25	
		IIIG	2253-2254	2	>320-180	
14	1220-2345	IIIG	1243	2	180-<25	
		IIIG	1245	2	200-100	
		IIIG	2045	1	100-<25	
		IIIG	2056-2057	1	280-<100	
15	1219-2345	IIIG	1458	1	180-<100	
		IIIG	1550-1551	1	>320-<25	
		IIIG	1605	1	100-<25	
		IIIG	1848	1	180-<25	
		IIIG	1942	2	240-100	
		IIIG	1946	1	100-<25	
16	1220-2345	I	2247-2300	1	280-100	
		IIIG	1520-1544	2	280-100	
		IIIG	1657-1658	1	180-<25	
		IIIG	1712	2	180-<25	
		IIIG	1825-1826	2	180-<25	
		I	2001-2112	2	240-100	
17	1220-2345	IIIG	2125-2126	3	>320-<100	
		IIIG	2320	2	240-150	
						Weak I throughout day
						1825-2345: Sporadic Type III, 75-<25 Mc/s.
18	1219-2345					Occasional Weak I during day
19	1220-2345	IIIG	1852	2	175-50	
						Occasional Weak I throughout day
20	1219-2345					1733-2120: Sporadic Type III, 75-<25 Mc/s.
21	1219-2345	IIIB	1644	2	100-<25	
		IIIG	1650-1651	3	100-<25	
		IIIG	1749-1751	2	50-<25	
		IIIG	1811-1812	1	100-<25	
		IIIG	2019	1	100-<25	
		IIIG	2032	2	100-<25	
		IIIB	2236	2	>320-180	
						Occasional Weak I during day

# SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

JULY 1966

Fort Davis

25-320 Mc/s

1966	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC.	REMARKS
		TYPE	TIMES U.T.	INT.		
22	1220-2400	IIIb	1359	1	75-<50	Occasional Weak I throughout day 1425: U-burst 1437: U-burst  1721: U-burst
		IIIg	1425-1426	2	>320-100	
		IIIg	1459-1500	3	>320-<50	
		IIIb	1539	2	75-<25	
		IIIb	1541	1	100-<50	
		IIIg	1556	3	100-<25	
		IIIg	1713	1	180-100	
		IIIb	1858	2	75-<25	
		IIIg	1935	2	75-<25	
		IIIb	2035	2	200-<100	
		IIIg	2115	1	100-<25	
		IIIg	2153-2155	3	75-<25	
		IIIb	2304	1	50-<25	
		IIIg	2348-2349	3	75-<25	
23	0000-0145 1220-2400	IIIb	0041	1	180-<100	Occasional Weak I throughout day
		IIIg	1609	1	>320-180	
		IIIg	1751	1	>320-180	
		IIIg	1812	3	50-<25	
		IIIg	1938-1940	2	75-<25	
		IIIb	1953	2	75-<25	
		IIIg	2234-2235	2	190-<25	
24	0000-0145 1220-2400	IIIb	1330	2	280-200	
		IIIg	1550-1551	2	280-150	
25	0000-0145 1219-2400	IIIG	1249-1251	2	>320-125	1332: U-burst  1620-2004: Sporadic Type III, 75-<25 Mc/s.  2025: U-burst
		IIIb	1319	1	240-115	
		IIIg	1332	3	>320-<100	
		IIIg	1439	2	240-<100	
		IIIg	1509-1510	1	240-100	
		IIIG	1623-1625	2	150-<25	
		IIIg	1635-1636	1	240-<25	
		IIIG	1723-1725	2	180-<25	
		IIIG	2248-2249	3	>320-<25	
		IIIG	2302-2304	3	>320-<25	
		IIIg	2301-2002	1	>180-<25	
		IIIb	0128	1	200-100	
26	0000-0145 1220-2102 2126-2400	IIIg	1513	2	>320-180	Occasional Weak I throughout day 1547-2046: Sporadic Type III, 50-<25 Mc/s.
		IIIg	1928	2	150-<25	
		IIIg	2001-2002	1	>180-<25	
		IIIg	1258-1259	2	280-<100	
		I	1500-1520	1	280-115	
27	0000-0145 1219-2400	I	1652-1706	2	>320-100	Weak I throughout day  0123-0141: Weak I Weak I throughout day  1800-2308: Sporadic Type III, 100-<25 Mc/s.
		IIIG	1655-1656	2	290-<25	
		IIIg	1746-1747	2	>320-<25	
		IIIg	1803	2	180-<25	
		IIIg	1905	3	180-<25	
		IIIG	2249-2250	3	>320-<25	
		I	0000-0042	2	>320-125	
		IIIg	0018-0020	1	240-<50	
		IIIg	0132	1	240-<100	
		I	1247-1302	2	>320-160	
		I	1338-1414	2	>320-180	
		IIIG	1343-1347	2	>320-<100	
		IIIg	1659-1700	2	280-150	
		IIIg	1736-1737	2	>320-<100	
		IIIg	1820-1821	2	>320-<25	
		IIIg	1902	1	240-<25	
		IIIG	1923-1925	3	>320-<25	
		IIIg	1928-1929	1	>320-<25	
		IIIg	1930-1931	1	>320-<25	
		IIIg	1932-1933	1	240-<25	
		I	1935-2120	2	>320-160	
		IIIg	1946	2	150-<25	
		IIIg	2129	1	280-<100	
		IIIg	2142	2	>320-<25	
		I	2146-2227	2	>320-100	
		IIIg	2147-2148	2	>320-<25	
28	0000-0145 1219-2400	IIIg	2149-2151	3	>320-<25	2216-2219: Type V 2240-2400: Type I bursts have stray continuum background
		IIIg	2157-2158	2	>320-<25	
		IIIg	2215-2219	2	250-100	
		I	2240-2400	3	>320-100	
		I	0000-0140	2	300-180	
		IIIG	0048-0050	3	>320-<50	
		IIIG	0052-0055	3	>320-<50	
		IIIG	0056	2	>320-<100	
		IIIG	0127	2	240-<100	
		IIIG	1659-1702	2	280-150	
		IIIG	1718-1719	1	>320-<25	
		IIIG	1913-1915	1	>320-<25	
29	0000-0145 1220-2400	I	1918-2040	1	240-100	Weak I during day 1815-2043: Sporadic Type III, 75-<25 Mc/s.
		IIIg	2137	1	240-<25	
		IIIb	2149	1	180-<25	
		IIIg	2246-2247	3	>320-<25	
		IIIG	2252-2258	2	280-<100	
		I	2252-2313	3	280-<100	
		IIIg	2259-2300	3	>320-<25	
		I	2300-2400	2	300-180	
		IIIG	2401-2403	3	>320-<50	
		IIIG	2404-2406	3	>320-<50	
30	0000-0145 1219-2400	IIIb	1532	1	150-<50	Weak I throughout day  1840-2035: Sporadic Type III, 75-<25 Mc/s.
		I	1607-1722	2	>320-100	
		IIIG	1644-1648	2	>320-<25	
		IIIG	1717-1722	3	240-<25	
		IIIG	1802-1804	2	180-<25	
		IIIG	2102-2103	1	180-<25	
		IIIG	2106-2157	3	240-<25	
		IIIG	2159	1	240-125	
		IIIG	2210-2215	2	240-<25	

# SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

AUGUST 1966

Fort Davis

25-320 Mc/s

1966	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC.	REMARKS
		TYPE	TIMES U.T.	INT.		
August	0000-0150 1220-2400	IIIG	1350-1351	2	180-<50	Weak I throughout day
		IIIB	1412	3	>320-<25	
		IIIG	1433	2	180-<25	
		IIIG	1455	3	280-<25	
		IIIG	2118-2119	2	>320-<25	1708-2037: Sporadic Type III, 75-<25 Mc/s.
		IIIG	2330	1	280-<50	
1	0000-0145 1232-2400	IIIG	1316	3	240-<50	Occasional Weak I during day
		IIIG	1635	1	150-<25	
		IIIG	1653	1	75-50	
		IIIG	2035-2036	2	125-<25	2002-2240: Sporadic Type III, 100-<25 Mc/s.
		IIIG	2131-2132	3	125-<25	
2	0000-0145 1232-2400	IIIG	1258-1259	1	>320-<100	
		IIIB	1717	2	75-<25	
		IIIG	1806-1807	1	75-<25	
3	0000-0145 1233-2400					
4	0000-0145 1232-2345	IIIG	1923	1	>320-<25	Occasional Weak I during day
5	1233-2345					
6	1232-2345	IIIG	1905-1906	2	245-180	
7-8	1233-2345					
9	1558-2345					
10	1233-1818 1826-2355					
11	1233-2345	Uncl.	1911-1913	1	75-<25	1911-1913: Uncl. burst has some characteristics of Type II including harmonic and appropriate drift rate.
12	1233-2345	IIIB	1702	1	150-<25	
13	1233-2345					
14	1232-2345	IIIG	1823-1824	1	>320-<25	
		IIIG	1826-1827	1	75-<25	
15	1233-1500 1502-2345	IIIB	1507	1	150-<100	
16	1232-1603 1613-2345					
17	1233-2345					
18	1233-2345	IIIG	2010	3	290-<50	
19-21	1233-2345					
22	1233-2400					
23	1448-2345					
24	1232-2345	IIIB	1607	1	240-<50	
		IIIG	1620	2	240-<25	
		IIIG	1709-1713	3	240-<25	
		IIIG	1846-1847	1	200-<25	
		IIIB	2049	2	100-<25	
		IIIG	2226-2228	1	240-<50	
25	1248-2345	IIIG	1351-1352	2	180-<50	
		IIIG	1432	1	240-<50	
		IIIG	1503-1504	2	220-<50	1505-1510: Sporadic Type III, 110-50 Mc/s.
		IIIG	1740-1744	3	280-<25	
		IIIB	1802	1	110-<50	
		IIIB	1943	1	75-<50	
26	1248-2345	IIIG	1305-1306	1	180-<50	Occasional Weak I throughout day
		IIIG	1800-1804	2	100-<25	1414-2020: Sporadic Type III, 100-<50 Mc/s.
		IIIG	1811-1820	3	280-<25	
		IIIG	1856-1857	2	>320-<50	
		I	1910-2120	2	70-<50	
27	1249-2345	IIIG	1910	1	150-<50	Weak I throughout day
		IIIG	1934	2	240-<25	1726-2338: Sporadic Type III, 75-<50 Mc/s.
		I	2020-2210	3	>320-<50	2020->2210: Broad band Type I
28	1249-2345	I	1249-1820	3	>320-<50	Type I bursts have strong continuum background throughout day
		IIIG	1524-1527	3	>320-<25	
		IIIG	1527-1532	3+	>320-<50	
		IV	1527-1640	3	>320-<50	1527-1532: Type V, Intensity 3+, Range >320-<50
		II	1531-1548	3+	>150-<25	1527-1640: Type IV burst has structure similar to fast drift bursts. After 1640 merges with noise storm activity.
		IIIG	1534-1556	3	>320-125	
		IIIG	1601-1609	3	>320-100	
		I	1820-1900	2	>320-<50	
		I	1900-2345	3	>320-<25	

# SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

AUGUST, SEPTEMBER 1966

Fort Davis

25-320 Mc/s

1966	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC.	REMARKS
		TYPE	TIMES U.T.	INT.		
29	1249-2400	IIIG	1326-1332	3	150-<25	Weak I throughout day
		IIIG	1333-1337	3	150-<25	
		IIIG	1341-1352	3	>320-<25	
		IIIg	1400-1402	3	>320-150	
		IIIG	1417-1419	2	240-125	
		I	1420-1600	3	240-<50	
		IIIG	1436-1439	3	100-<25	
		I	1730-1840	2	230-<50	
		I	2025-2400	3	250-<50	
						1730-1820: Reverse drift pairs 1800-2100: Sporadic Type III, 100-25 Mc/s. Type I has background continuum
30	0000-0013 0020-0115 1249-2400	I	0000-0107	2	240-<50	Weak I throughout day
		IIIG	1447-1448	3	120-<25	
		IIIG	1505	3	150-<25	
		IIIG	1511	3	150-<25	
		I	1540-2400	2	240-<25	
		IIIG	2152	3	180-<25	
31	0000-0115 1248-2400	I	0000-0100	2	240-<50	Weak I throughout day
		IIIG	0024-0026	3	>320-<25	
		IIIG	1308	1	75-<25	
		IIIG	1313-1314	2	75-<25	
		IIIG	1324-1325	2	>320-<50	
		IIIG	1603-1604	2	>320-100	
		IIIG	1606-1611	3	180-<25	
		IIIG	2113-2114	2	125-<25	
		I	2130-2400	2	280-<50	
		IIIG	2145	1	180-<50	
		IIIG	2303-2304	2	100-<25	
Sept. 1	0000-0115 1318-2400	I	0000-0106	2	240-<50	Weak I throughout day
		IIIG	0038-0039	3	>320-<100	
		IIIG	1354	2	150-<50	
		IIIB	1415	3	240-<25	
		IIIG	1441-1442	3	240-<25	
		I	2039-2122	1	160-<50	
		IIIG	0003-0004	2	240-<50	
		IIIG	1545	2	240-<50	
		IIIB	1627	1	150-<50	
		IIIG	1753	3	>320-<25	
2	0000-0115 1318-2400	IIIG	1814	2	150-<25	
		IIIG	1826	1	75-50	
		IIIG	1909	3	100-<25	
		IIIG	2000	3	150-<25	
		IIIG	2229-2230	1	240-<25	
		IIIG	2232-2235	3	>320-<25	
		IIIG	2249	3	100-<50	
		IIIG	2334-2335	3	>320-<25	
		IIIG	2336-2337	3	>320-<25	
		IIIG	0009-0010	3	>320-<25	
3	0000-0110 1319-2400	IIIG	1329	2	110-<50	
		IIIG	1444-1445	3	180-<25	
		IIIB	1512	2	100-<50	
		IIIB	1608	2	80-<50	
		IIIB	2244	1	75-50	
		IIIB	2258	2	60-<25	
		IIIB	2303	1	50-<25	
4	0000-0115 1319-2400					
5	0000-0100 1319-2400					
6	0000-0105 1319-2345					
7	1319-2345	IIIG	1455	1	180-<50	1403-2216: Sporadic Type III, 100-<25 Mc/s.
		IIIG	1717	2	150-<50	
		IIIG	1814	3	180-<25	
		IIIG	1907	3	125-<25	
		IIIG	1957-1958	3	150-<25	
		IIIG	2110-2111	3	150-<25	
		IIIG	2112-2114	3	150-<25	
		IIIG	2128-2129	3	150-<25	
8	1319-2345	IIIG	1352-1355	2	180-<25	
		IIIB	1543	1	150-<50	
		IIIG	1716	1	75-<25	
		IIIG	1734-1735	2	150-<25	
		IIIG	1736	2	180-<25	
		IIIB	1802	2	35-<25	
		IIIG	1957	3	180-<25	
		IIIB	2321	1	100-<50	
9	1319-2345	IIIG	1334-1335	2	200-<50	
		IIIG	1504-1505	1	180-<50	
		IIIG	1507-1508	2	180-<50	
		IIIG	1528-1530	3	240-<25	
		IIIB	1600	2	150-<50	
		IIIG	1712-1713	1	180-<50	
		IIIG	1719-1722	3	280-<25	
		IIIG	1724-1727	3	300-<25	
		IIIG	1935-1938	3	230-<25	
		IIIG	2021	3	240-<25	
		IIIG	2105	2	150-<25	
		IIIG	2130	2	160-<25	
		IIIG	2151	2	160-<25	
		IIIS	2223-2224	2	180-<25	
		IIIS	2227-2228	3	190-<25	
		IIIS	2231	2	240-<25	

**SOLAR RADIO EMISSION  
SPECTRAL OBSERVATIONS**

SEPTEMBER 1966

Fort Davis

25-320 Mc/s

1966	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC.	REMARKS
		TYPE	TIMES U.T.	INT.		
10	1319-2345	IIIG	1328	1	150-<50	Occasional Weak I during day
		IIIG	1420-1421	2	240-<50	
		IIIG	1422-1424	3	240-<25	
		IIIG	1426-1427	3	290-<25	
		IIIG	1515-1516	3	200-<35	
		IIIG	1517-1520	3	280-<25	
		IIIG	1542-1543	2	150-<25	
		IIIG	1605-1608	3	180-<25	
		IIIG	1609-1610	3	>320-<25	
		IIIG	1611-1612	3	250-<25	
		IIIG	1615	2	150-<25	
		IIIG	1623	2	180-<25	
		IIIG	1625-1626	3	240-<25	
		IIIG	1721-1724	3	>320-<25	1627-2214: Sporadic Type III, 100-<25 Mc/s.
		IIIG	1726-1727	2	140-<25	1723: Type V
		IIIG	1801-1803	2	125-<25	
		IIIG	1805-1807	3	150-<25	
		IIIG	1942-1944	3	180-<25	
11	1319-2345	IIID	1924	1	150-60	
		IIIG	2040-2041	2	180-<25	2117: U-burst
		IIIG	2209-2212	3	180-<25	
12	1319-2345					
13	1319-2400					
14-15	0000-0035 1318-2400					
16	0000-0035 1319-2400	IIIG	1412-1413	1	240-<50	Weak I throughout day
		IIIG	1428-1429	1	>320-<50	1409-2400: Sporadic Type III, 100-<25 Mc/s.
		IIIG	1451-1452	3	>320-<50	
		IIID	1505	1	115-75	
		IIIG	1551-1552	3	250-<25	
		IIIG	1624-1625	3	250-<25	
		IIIG	1726-1727	2	240-<25	
		I	1734-2024	2	240-50	
		IIID	1829	3	240-<25	
17	0000-0035 1319-2400	IIIG	2048-2051	3	>320-<25	Occasional Weak I during day
		IIID	2158	1	280-180	1430-2241: Sporadic Type III, 100-<25 Mc/s.
		IIIG	2226	1	180-<50	
		IIIG	2249	1	>320-<240	
		IIIG	2357-2400	3	>320-<25	
18	0000-0035 1319-2400	IIIG	1456-1457	1	>320-180	Occasional Weak I during day
		II	1459.8-1513	3	230-75	
		IIIG	1503-1504	2	280-230	
		IIIG	1702-1703	2	>320-175	
		IIIG	1704	1	>320-180	
		IIIG	2031-2032	3	280-<25	
		I	2100-2253	2	>320-100	
		IIID	2213	2	125-<50	
		IIIG	2214-2215	3	180-<25	
		IIIG	2241-2242	2	150-<25	
		IIIG	2306	3	240-<25	
		IIIG	2321	2	250-<50	
		IIID	2326	1	150-100	
19	0000-0035 1319-2400	IIIG	0004-0005	2	280-<25	Weak I throughout day
		IIIG	0013	2	180-<25	
		I	1319-1600	2	>320-100	Occasional Weak I throughout day
		IIIG	1223-1324	3	180-<25	1400-2400: Sporadic Type III, 100-<25 Mc/s.
		IIIG	1411-1412	3	180-<25	
		IIIG	1415-1416	1	<320-180	
		I	1537-1543	2	100-50	
		IIIG	1548-1549	1	150-<25	
		IIIG	1558	3	>320-<25	
		IIIG	1806-1807	2	>320-250	
		IIIG	1812-1813	2	180-<25	
		IIIG	1851-1856	3	>320-<25	
		I	1920-1946	2	280-100	
		IIIG	1949-1950	3	280-<25	
		IIIG	1954	2	180-<50	
		IIIG	2014-2015	3	240-<50	
		IIIG	2110	3	180-<25	
		IIIG	2126-2127	3	250-<25	
		IIIG	2206-2207	2	250-<25	
		IIIG	2227	2	180-<50	
		IIIG	2250-2253	3	>320-<25	
		IIIG	2256-2257	3	>320-<25	
		IIIG	2259-2300	2	>320-<25	
		I	2300-2400	2	280-<50	
20	0000-0035 1319-2400	I	0000-0028	1	280-50	Weak I throughout day
		I	1340-1540	1	280-100	1320-2340: Sporadic Type III, 150-<25 Mc/s.
		IIIG	1413-1414	1	>320-280	
		IIIG	1607-1608	1	150-<50	
		I	1636-1740	2	280-100	
		IIIG	1713	2	>320-280	1714: Type I develops background continuum
		IIIG	1714-1715	3	>320-<25	1714-1715: Type V
		I	2112-2328	2	280-75	
		I	2353-2400	1	280-<100	

# SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

SEPTEMBER 1966

Fort Davis

25-320 Mc/s

1966	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC.	REMARKS
		TYPE	TIMES U.T.	INT.		
21	0000-0040 1319-2400	IIIG	1613-1614	1	180-<25	
		IIIG	1617-1619	3	240-<25	
		IIIG	1650-1651	3	>320-230	
		IIIG	1656	3	240-<25	
		IIIG	1925-1926	2	125-<25	
		IIIG	1930-1931	3	240-<25	
		IIIG	2022-2023	2	150-<50	
		IIIG	2203	1	135-100	1930: Type V
		IIIB	2312	1	180-100	
		IIIB	2320	1	180-100	
		IIIB	2322	1	135-100	
		IIIB	2324	1	125-100	
22	0000-0030 1319-2400	IIIG	1717-1719	2	300-<25	
		IIIG	1726	3	240-<25	
		IIIG	1742-1743	3	240-<25	1503-1936: Sporadic Type III, 150-<25 Mc/s.
		IIIG	1837-1838	2	240-<50	1726: U-burst
		IIIG	1839	1	280-<50	1737: U-burst
		IIIG	1919-1920	1	240-<25	
		IIIG	2052	2	240-<25	
		IIIB	2134	1	160-100	
23	0000-0030 1319-2345	IIIB	0002	1	150-100	
		IIIB	0009	1	180-100	
		IIIG	1452-1453	2	240-<50	
		IIIG	1703-1704	3	280-<25	
		IIIG	1856	1	75-<25	
		IIIG	1912-1913	1	180-<25	
		IIIG	1914-1919	2	150-<50	
		IIIG	2046-2047	3	300-60	
		IIIG	2049-2050	1	200-125	
24	1319-2345					Occasional Weak I during day
25	1319-2345	IIIG	1334	2	180-<50	
26	1319-2345	I	1935-2110	2	280-150	Occasional Weak I throughout day
		IIIB	2012	1	150-<50	
		IIIG	2113	3	180-<25	
27	1319-2345					1319-1340: Weak I
28	1319-2345					
29	1319-2158 2256-2345					
30	1319-2345	IIIB	1544	1	75-50	
		IIIG	1713-1714	2	>180-<50	Occasional Weak I throughout day
		IIIG	1746-1749	2	>180-<25	
		IIIB	1856	2	180-75	
		IIIB	2022	1	180-100	
		IIIG	2121-2122	1	180-50	
		IIIG	2130-2131	3	180-<25	
		IIIB	2244	3	100-<25	
		IIIG	2254-2255	3	>180-<50	
		IIIG	2308-2309	2	>180-<50	
		IIIB	2315	1	100-<50	
		IIIG	2339	1	125-<50	

**SOLAR RADIO EMISSION  
SPECTRAL OBSERVATION**

OCTOBER 1966

University of Colorado

7.6-41 Mc/s

Date Oct 1966	Bursts				Date Oct 1966	Bursts				
	Type	Time (U.T.)	Inten- sity	Frequency Range (Mc/s)		Type	Time (U. <sub>z</sub> T.)	Inten- sity	Frequency Range (Mc/s)	
1	continuum	1406:15-1406:15	1	31-41	11	III	2129:15-2129:45	1+	22-34	
		1527:45-1528:30	2	13-41		III	2154:2154:15	1+	23-41	
		1647:30-1648	2	12-41	12	III	2309:45-2310	1+	26-41	
		2135:30-2140	1-	13-41		III	1411:45-1412:30	3	26-41	
		2239:15-2239:30	1	16-41		III	1414:15-1414:45	2	24-41	
	III	2301:45-2302	1	26-39	III	1428:1429:30	3	22-41		
2	continuum	2352:45-2353:45	2-	18-41	III	1429:1430:15	3	24-41		
		0014:15-0015:15	2	15-41	III	1430:30-1431:15	3	23-41		
		1604:45-1606	2	22-41	III	1432:1432:30	3	23-41		
		1634:15-1634:30	1	23-38	III	1433:15-1434	3	23-41		
	III	1635:15-1635:15	1	25-37	III	1437:30-1438:15	3	22-40		
	III	1635:45-1636	1	21-37	III	1438:30-1439	3	24-41		
3	continuum	1746:15-1746:45	1+	23-37	III	1445:30-1446:30	3	24-41		
		1758:30-1759:	1+	23-41	III	1609:15-1609:30	1	19-41		
		1831:30-1831:45	1	18-32	III	1610:45-1611	1	29-38		
		2115:30-2116:15	1	25-41	III	1801:1801:30	1+	23-40		
		2117:45-2119:15	2	16-41	III	1901:30-1902:30	3	13-41		
		2129:45-2131:15	1+	21-41	III	1905:15-1905:45	3	23-41		
		2133:30-2133:45	1+	21-40	III	1907:30-1908:30	3	17-41		
		b1244-2028	1-	25-41	III	2103:2103:30	1	23-41		
	III	1759:45-1800:30	2	16-41	III	2114:45-2116	2	22-41		
4	continuum	2208:2208:15	1	25-38	III	2141:30-2142	1	28-41		
		2321:2321:15	1+	27-41	III	2203:45-2204:15	2	24-41		
		2321:30-2322:15	1+	23-41	III	2342:45-2343:15	2	27-39		
		2342:15-2342:30	1-	30-37	III	2344:15-2344:45	2	27-39		
		b1415-a0031	1	23-41	III	2345:15-2345:30	1+	26-36		
	III	1953:15-1953:30	1+	11-41	III	2345:45-2346	1+	26-41		
5	continuum	2018:45-2019	1	9-41	13	III	0008:30-0009	1+	28-34	
		b1252-a0039	1	23-41		III	1336:1338:15	3	23-41	
		1403:1403:30	2	16-41		III	1338:45-1339:45	3	24-31	
		1414:15-1414:30	2	15-41		III	1343-1344:15	3	24-40	
	III	1441:1441:45	3	15-41		III	1344:15-1344:30	3	24-40	
6	continuum	1620:1620	2	7-6-41	III	1344:30-1345:15	3	23-41		
		1628:15-1630	2	7-6-41	III	1347:30-1347:45	2	27-41		
		2042:45-2043	1+	13-41	III	1402-1402:30	2	28-40		
		1536:45-1553	1-	22-41	III	1404:30-1404:45	2	26-41		
		1544:30-1544:45	1	15-41	III	1649-1649:15	2	24-41		
	III	1914:30-1914:45	1	35-41	III	1746:30-1746:45	1	22-40		
8	no observ.	1914:45-1915	1	28-41	III	1838:15-1838:30	2	24-41		
		1918:45-1919	1	33-41	III	1937:45-1938	2	23-41		
		1919-0030			III	1941:15-1941:30	2	22-41		
		1338:30-1339:30	2	18-41	III	1941:45-1942:15	3	14-41		
		1859-2200			III	1942:30-1942:45	2	14-38		
9	continuum	b2200-a0035	1-	28-41	III	2010:15-2010:30	3	22-41		
		2304:2304:30	2	23-41	III	2012:15-2013:30	3	17-41		
		b1248-a0039	1	27-41	III	2013:45-2014:30	3	17-41		
		1427:30-1427:45	1+	18-41	III	2017:45-2019:30	3	17-41		
		b1500-1708:45	1-	27-41	III	2022:30-2022:45	3	17-41		
10	continuum	1521:15-1521:45	2	26-41	III	2022:45-2023	3	17-41		
		1644:45-1645	1+	26-39	III	2026:15-2026:30	2	21-41		
		1744:30-1744:45	1+	24-35	III	2031:15-2031:30	3	26-41		
		1802:45-2105	1-	24-41	III	2136:30-2136:45	2	20-41		
		1826:15-1826:30	1+	22-41	III	2348:30-2348:45	3	26-41		
11	continuum	2002:30-2003:15	2	26-36	14	III	1721:30-1721:45	1+	22-41	
		2118:2018:130	1+	24-32		III	1752:30-1752:45	1-	19-41	

**SOLAR RADIO EMISSION  
SPECTRAL OBSERVATION**

IVn

OCTOBER 1966

University of Colorado

7.6-41 Mc/s

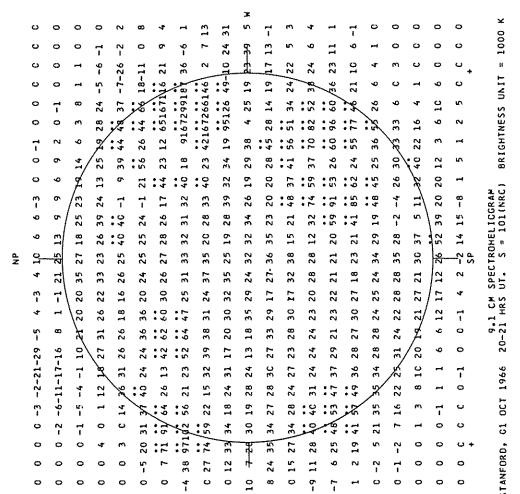
Date Oct 1966	Bursts				Date Oct 1966	Bursts			
	Type	Time (U. T.)	Intensity	Frequency Range (Mc/s)		Type	Time (U. T.)	Intensity	Frequency Range (Mc/s)
14	III	1812:45-1813	1	19-41	18	III	1738:30-1739	1+	28-41
	III	1815:30-1815:45	1	24-41		III	1742:30-1742:45	2	28-41
	continuum	1908-2000	1	26-41		III	1842:15-1842:45	2	7.6-41
	III	1933-1933:15	1+	25-41		III	1843-1843:15	1+	17-41
	III	2000:30-2001	2	17-41		III	1843:30-1844:15	2	17-41
	III	2132:15-2132:30	2	22-41	19	III	1939:15-1943	3	14-41
	III	2139:45-2140:30	2+	23-41		III	2120:45-2121:15	1+	23-41
	continuum	2212-2304	1-	23-41		III	2245:15-2245:30	1+	27-41
	III	2212:45-2213	1+	28-41		III	2302:15-2302:30	1+	27-38
	III	2221:30-2221:45	1+	22-41		no observ.	1520-0030		
15	continuum	b1247-a0033	1	26-41	23	III	1437:45-1438	1	28-41
	III	1610:30-1610:45	1+	26-41		III	1743:15-1743:30	1	25-41
	III	1702:30-1702:45	1+	22-41		III	1805:45-1806:15	2	16-41
	III	1838:30-1838:45	1+	22-41		III	1806:30-1806:45	1	24-39
	III	1938:30-1939	1+	19-41		III	2355:15-2356	1+	25-41
16	III	2036:15-2036:30	1+	28-41	24	no observ.	1700-0030		
	III	2057-2057:15	1	11-41	25	no observ.	1525-0030		
	III	2131:30-2131:45	3	23-41	26	no observ.	1930-0030		
	continuum	b1337-a2345	1	26-41	27	III	1352:30-1352:45	1	28-41
	III	1338:15-1338:30	2	27-41		III	1353-1953:315	1	28-41
	III	1350-1350:30	2	24-41		III	1353:30-1353:45	1	28-41
	III	1406-1406:30	1	20-37		III	1354:45-1355	1-	27-41
	III	1503-1503:15	2	16-41		no observ.	1440-0030		
	III	1533:15-1533:30	2	16-41	28	III	1354-1355	3	24-41
	III	1534:30-1534:45	1+	17-41		III	2308:15-2308:30	1+	32-40
17	III	1535-1535:15	1+	22-37	29	III	1707:15-1707:30	1	21-41
	III	1535:45-1536	2	17-41		III	1906:30-1906:45	1	16-41
	III	1536:15-1536:30	1+	22-41		III	1918:45-1919	1+	23-41
	III	1555-1555:45	3	20-41		III	2100:15-2100:45	1	24-39
	III	1555:45-1556	2	20-41		III	2320:45-2321	1	31-41
	III	1600:15-1600:30	1+	28-41	30	III	1917:15-1917:30	1-	24-37
	III	1614:30-1614:45	1+	21-40		III	2016:30-2016:45	1+	22-41
	III	1837:30-1837:45	1+	17-41		III	2017-2017:30	1	22-41
	III	1849:45-1850	1+	22-41		III	2018:15-2018:30	1	26-40
	III	1929-1929:15	1	16-41		III	2042:45-2043	2	22-41
18	III	2006-2006:15	1	17-41	31	III	2226:15-2226:30	1+	34-41
	III	2021-2021:15	2	17-41		III	2252:30-2252:45	1-	32-39
	III	2243:45-2144	1+	20-41					
	III	2232-2232:15	2	17-41					
	III	2241:30-2241:45	1+	22-41					
	III	2241:45-2242	1+	22-41					
	III	2247-2247:15	1+	27-41					
	III	2255:30-2256	1+	23-41					
	continuum	b1349-1800	1	26-41					
	III	1349:30-1349:45	1+	28-41					
19	III	1403:15-1403:30	1+	24-41					
	III	1541:30-1541:45	1+	25-41					
	III	1706-1706:15	1+	26-41					
	III	2024-2024:15	1+	20-41					
	III	2153:30-2153:45	1+	24-41					
20	III	2229-2229:30	1	28-36					
	III	1322-1322:30	2	27-38					
	III	1504-1504:30	2	27-38					
	III	1521:15-1521:30	1+	26-41					
	III	1527:45-1528	1+	26-38					

## SOLAR RADIO EMISSION SPECTROHELIOPHOTOGRAMS

OCTOBER 1966

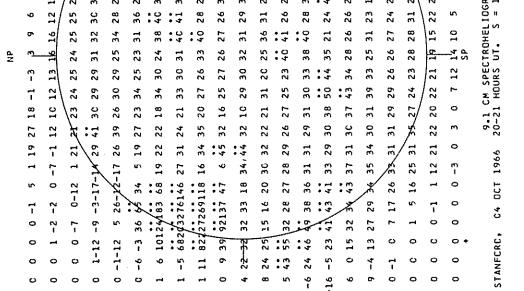
9.1 cm

STANFORD

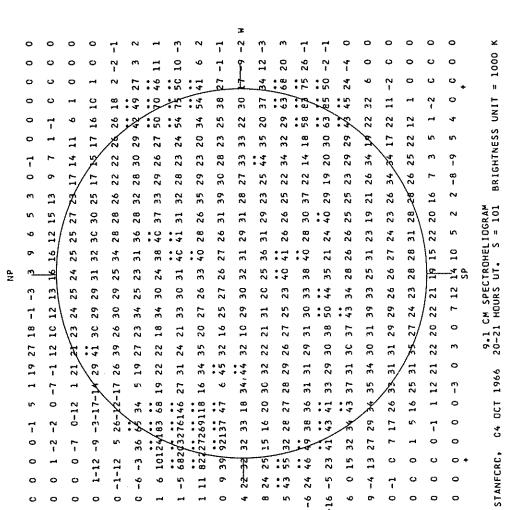


STANFORD, C1 OCT 1966 9.1 CM SPECTROHELIOPHOTOGRAM BRIGHTNESS UNIT = 100 K 20-21 HRS UT. S = 101(NPC) BRIGHTNESS UNIT = 1000 K

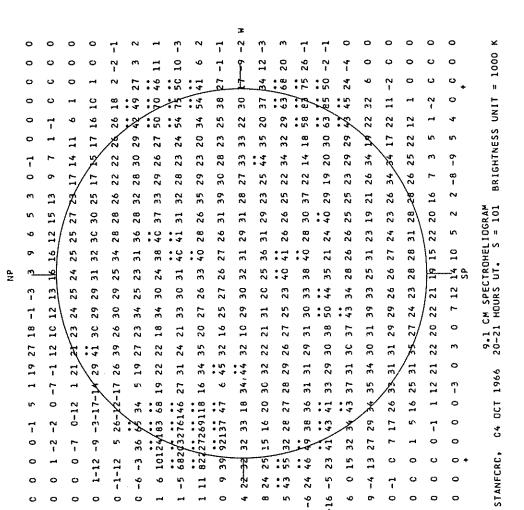
STANFORD, C1 OCT 1966 9.1 CM SPECTROHELIOPHOTOGRAM BRIGHTNESS UNIT = 100 K 20-21 HRS UT. S = 101(NPC) BRIGHTNESS UNIT = 1000 K



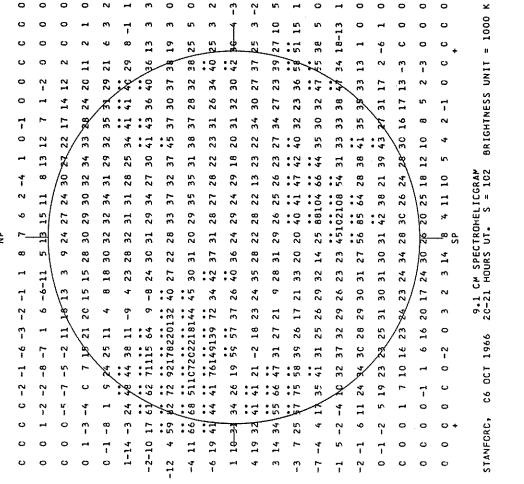
STANFORD, C1 OCT 1966 9.1 CM SPECTROHELIOPHOTOGRAM BRIGHTNESS UNIT = 1000 K



STANFORD, C1 OCT 1966 9.1 CM SPECTROHELIOPHOTOGRAM BRIGHTNESS UNIT = 100 K 20-21 HRS UT. S = 101(NPC) BRIGHTNESS UNIT = 1000 K



STANFORD, C1 OCT 1966 9.1 CM SPECTROHELIOPHOTOGRAM BRIGHTNESS UNIT = 100 K 20-21 HRS UT. S = 101(NPC) BRIGHTNESS UNIT = 1000 K



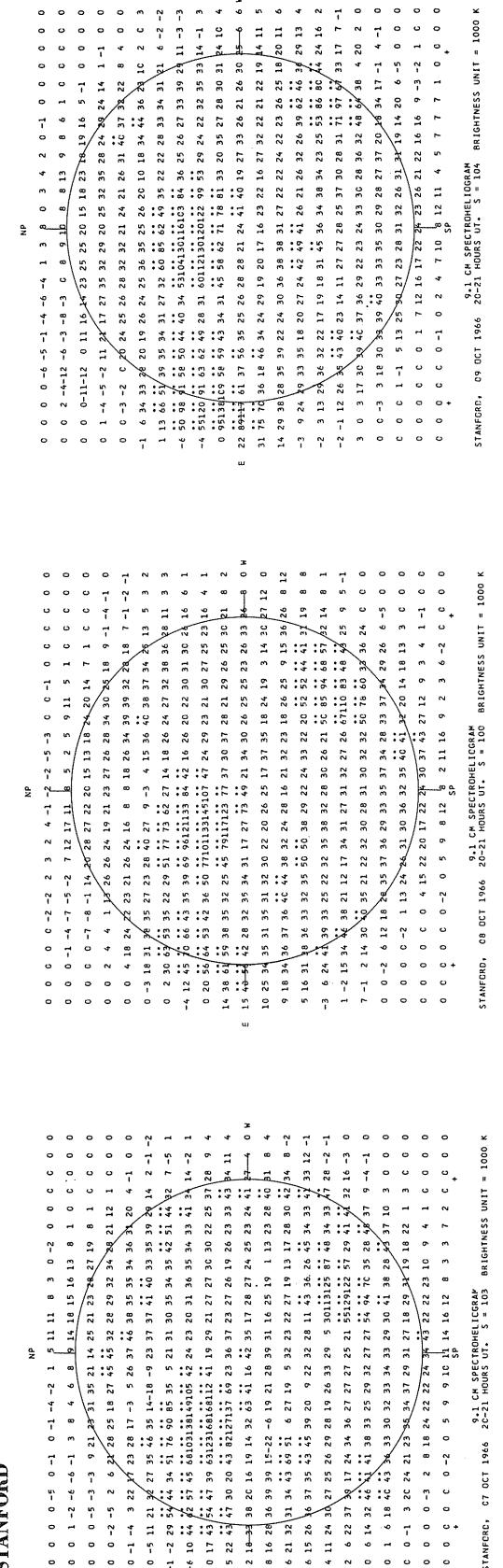
STANFORD, C1 OCT 1966 9.1 CM SPECTROHELIOPHOTOGRAM BRIGHTNESS UNIT = 1000 K

# SOLAR RADIO EMISSION SPECTROHELIograms

OCTOBER 1966

9.1 cm

STANFORD



IVP  
STANFORD, 09 OCT 1966 9.1 CM SPECTROHELICRAPH 20-21 HOURS UT. S = 115 BRIGHTNESS UNIT = 1000 K

STANFORD, 11 OCT 1966 9.1 CM SPECTROHELICRAPH 20-21 HOURS UT. S = 110 BRIGHTNESS UNIT = 1000 K

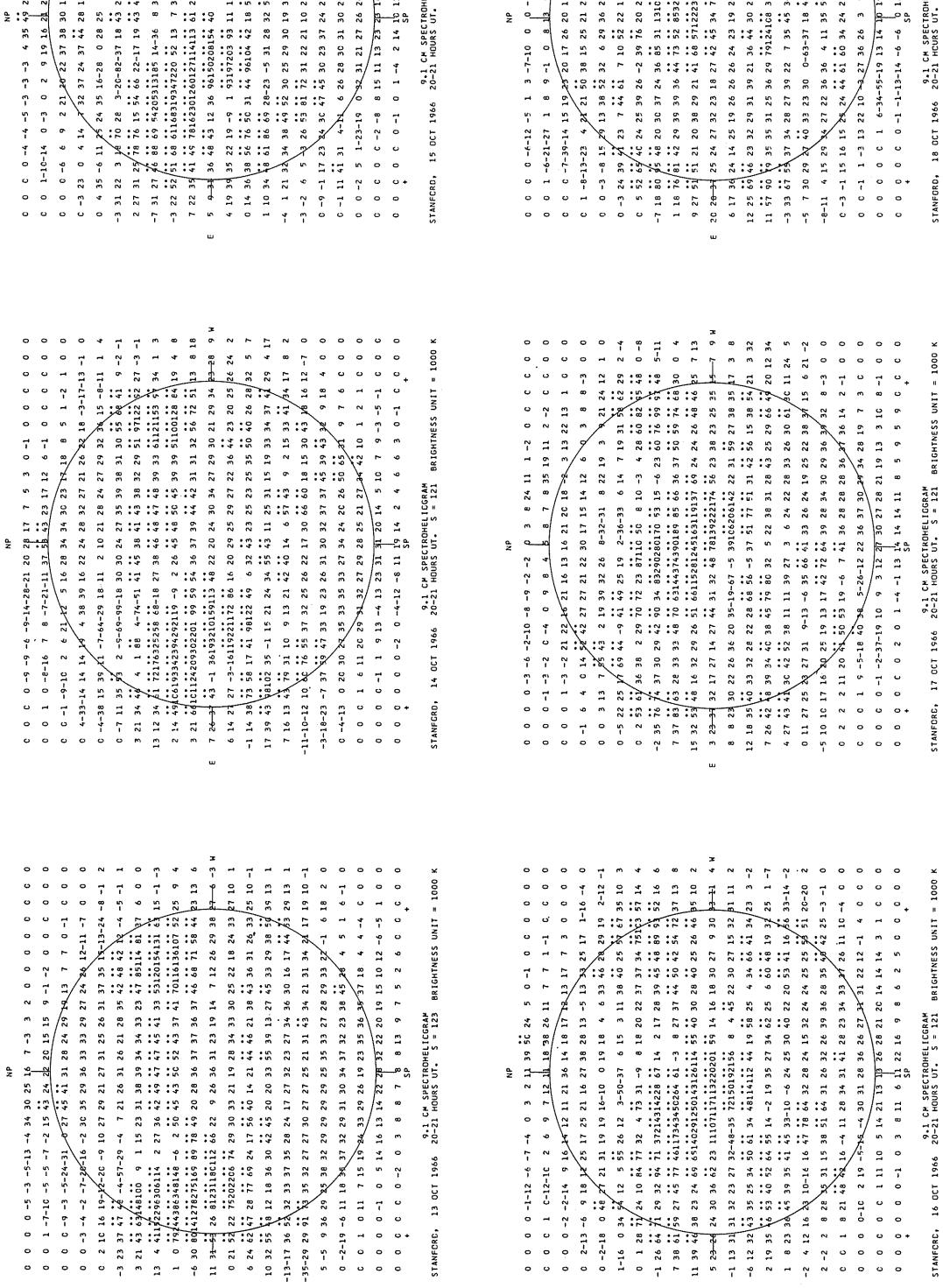
STANFORD, 10 OCT 1966 9.1 CM SPECTROHELICRAPH 20-21 HOURS UT. S = 107 BRIGHTNESS UNIT = 1000 K

# SOLAR RADIO EMISSION SPECTROHELIograms

STANFORD

OCTOBER 1966

9.1 cm



STANFORD, 13 OCT 1966 9.1 CM SPECTROHELIogram BRIGHTNESS UNIT = 1000 K S = 123 HOURS UT.

STANFORD, 14 OCT 1966 9.1 CM SPECTROHELIogram BRIGHTNESS UNIT = 1000 K S = 121 HOURS UT.

STANFORD, 15 OCT 1966 9.1 CM SPECTROHELIogram BRIGHTNESS UNIT = 1000 K S = 121 HOURS UT.

STANFORD, 16 OCT 1966 9.1 CM SPECTROHELIogram BRIGHTNESS UNIT = 1000 K S = 121 HOURS UT.

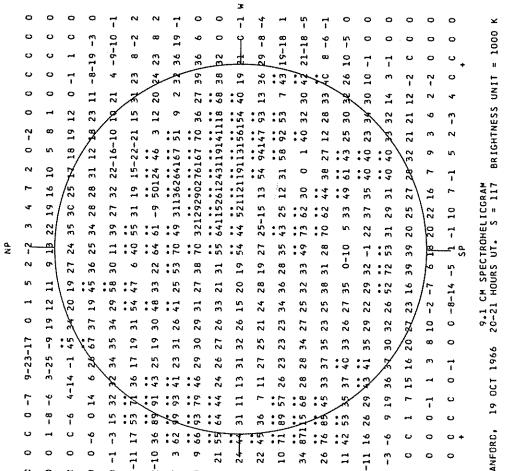
STANFORD, 18 OCT 1966 9.1 CM SPECTROHELIogram BRIGHTNESS UNIT = 1000 K S = 120 HOURS UT.

# SOLAR RADIO EMISSION SPECTROHELIograms

STANFORD

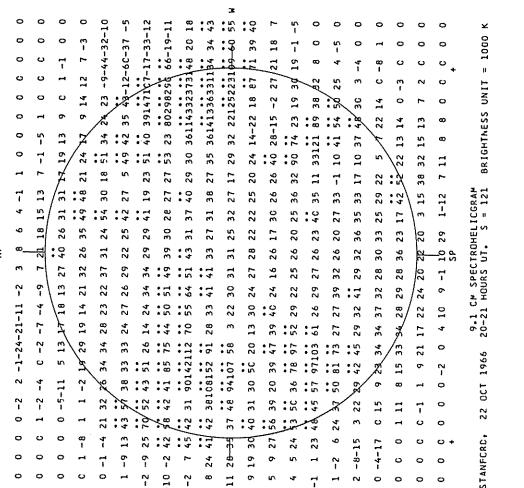
OCTOBER 1966

9.1 cm

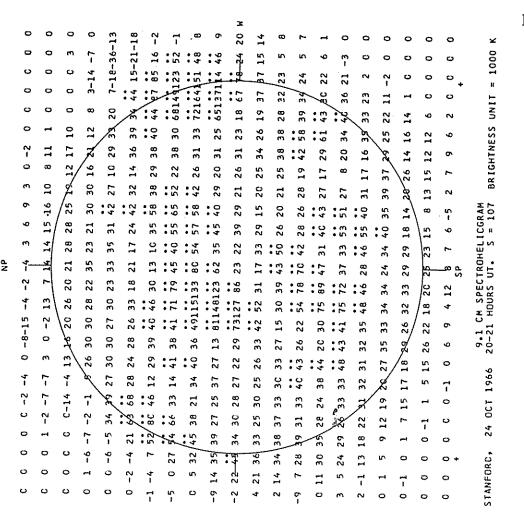


STANFORD, 19 OCT 1966 9.1 CM SPECTROHELIGRAM 20-21 HOURS UT.  $S = 117$  BRIGHTNESS UNIT = 1000 K

STANFORD, 21 OCT 1966 9.1 CM SPECTROHELIGRAM 20-21 HOURS UT.  $S = 125$  BRIGHTNESS UNIT = 1000 K



STANFORD, 21 OCT 1966 9.1 CM SPECTROHELIGRAM 20-21 HOURS UT.  $S = 125$  BRIGHTNESS UNIT = 1000 K



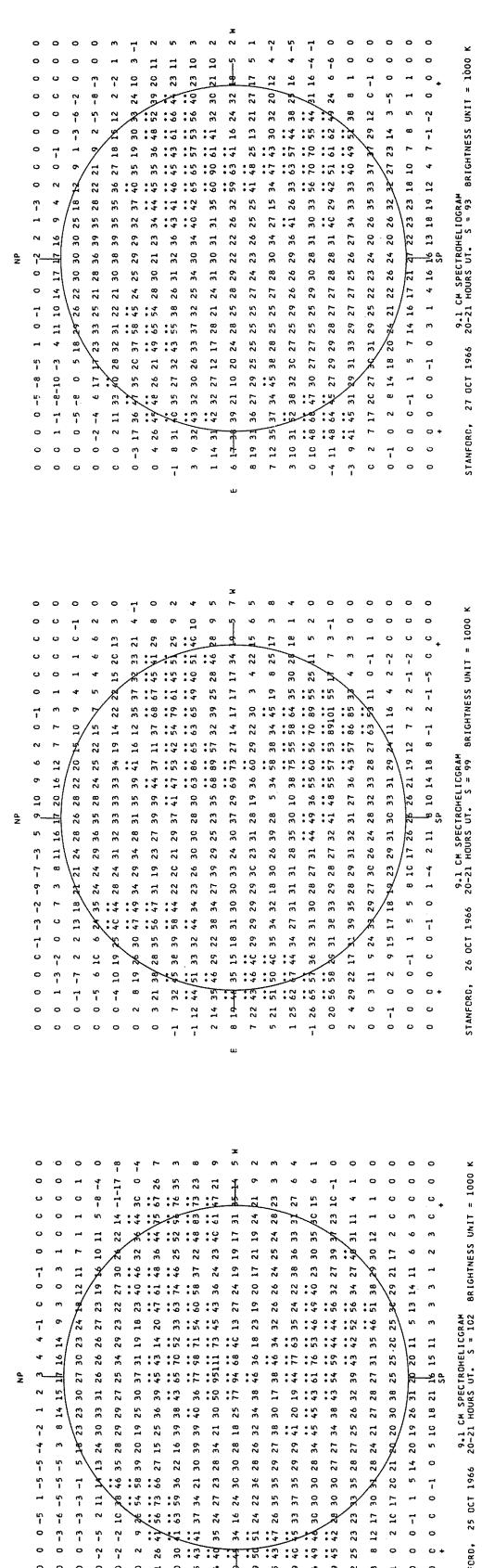
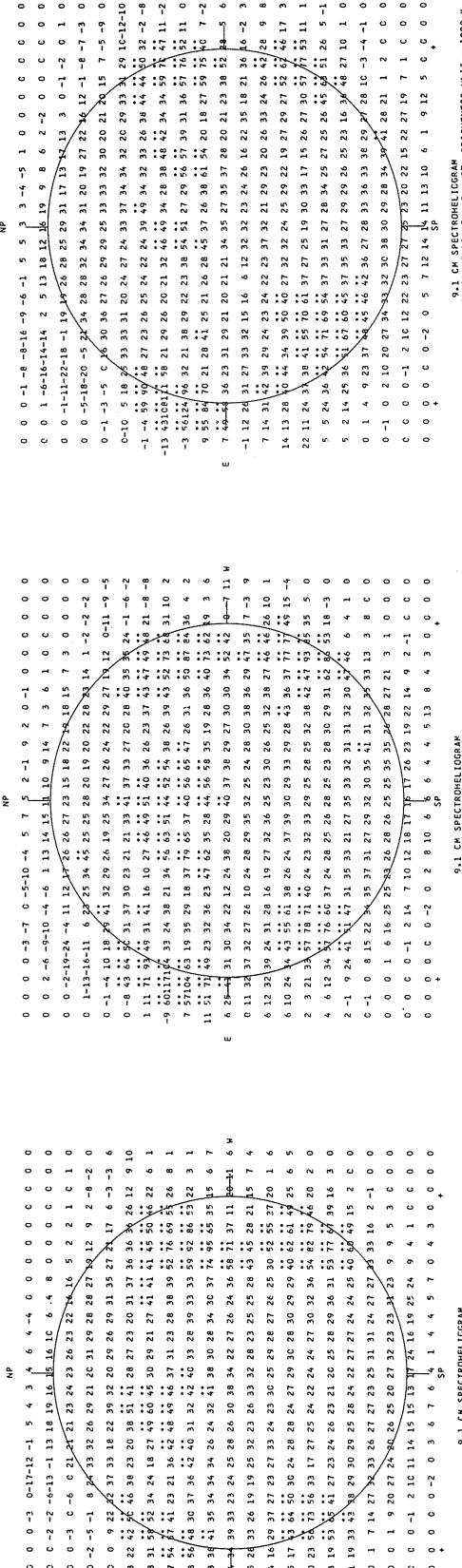
STANFORD, 21 OCT 1966 9.1 CM SPECTROHELIGRAM 20-21 HOURS UT.  $S = 117$  BRIGHTNESS UNIT = 1000 K

# SOLAR RADIO EMISSION SPECTROHELIograms

OCTOBER 1966

9.1 cm

STANFORD

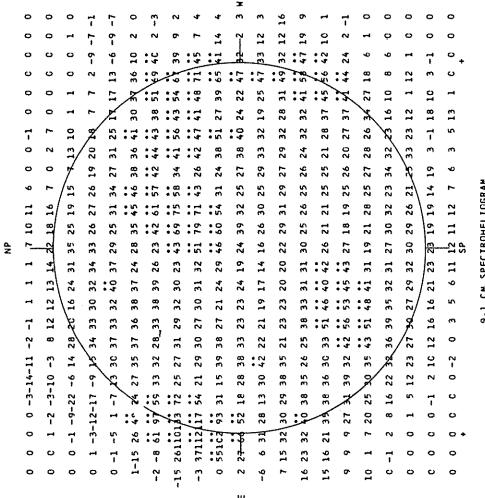
STANFORD, 26 OCT 1966 9.1 CM SPECTROHELIOGRAM BRIGHTNESS UNIT = 1000 K  
20-21 HOURS UT. S = 102 BRIGHTNESS UNIT = 1000 KSTANFORD, 27 OCT 1966 9.1 CM SPECTROHELIOGRAM BRIGHTNESS UNIT = 1000 K  
20-21 HOURS UT. S = 95 BRIGHTNESS UNIT = 1000 KSTANFORD, 27 OCT 1966 9.1 CM SPECTROHELIOGRAM BRIGHTNESS UNIT = 1000 K  
20-21 HOURS UT. S = 95 BRIGHTNESS UNIT = 1000 KSTANFORD, 28 OCT 1966 9.1 CM SPECTROHELIOGRAM BRIGHTNESS UNIT = 1000 K  
20-21 HOURS UT. S = 101 BRIGHTNESS UNIT = 1000 K

SOLAR RADIO EMISSION SPECTROHELIOPHOTOGRAMS

STANFORD

OCTOBER 1966

9.1 cm



STANFORD, 31 OCT 1966 9.1 CM SPECTROHELIOPHOTOGRAM  
22-21 HOURS UT. S = 99 BRIGHTNESS UNIT = 1000 K

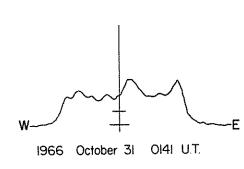
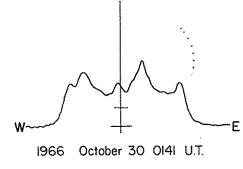
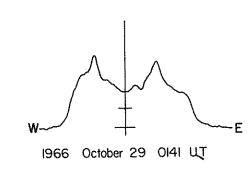
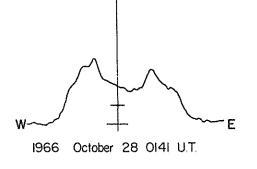
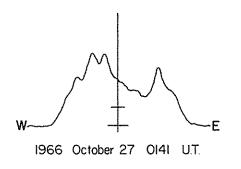
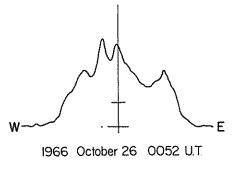
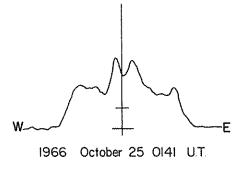
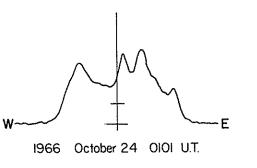
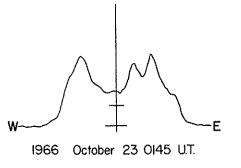
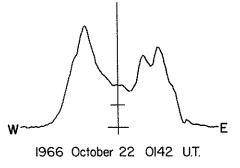
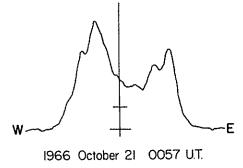
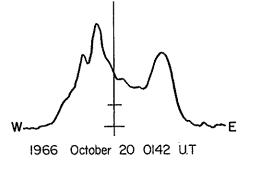
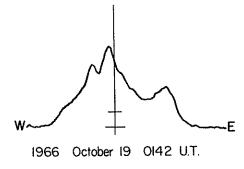
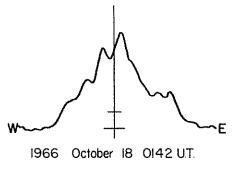
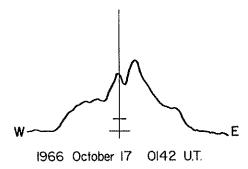
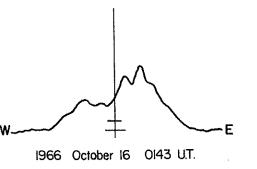
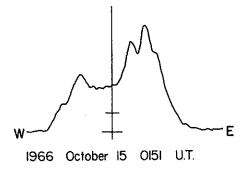
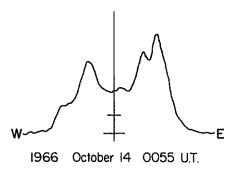
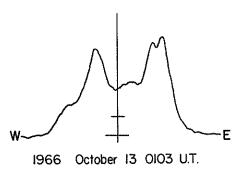
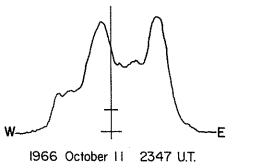
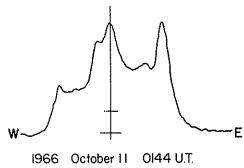
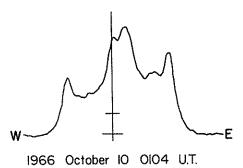
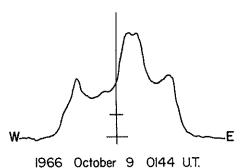
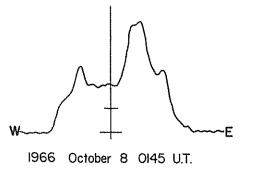
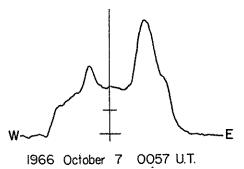
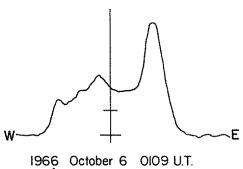
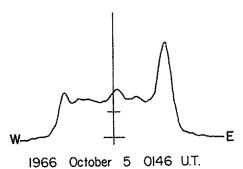
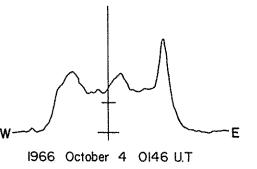
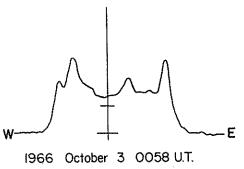
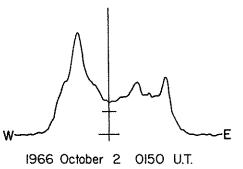
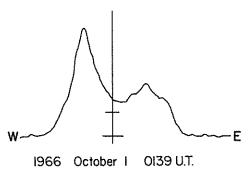
IVu

FLEURS, AUSTRALIA

## EAST - WEST SOLAR SCANS

October 1966

21 cm  
 Fan - Beam with 2 minutes of arc  
 E - W Resolution

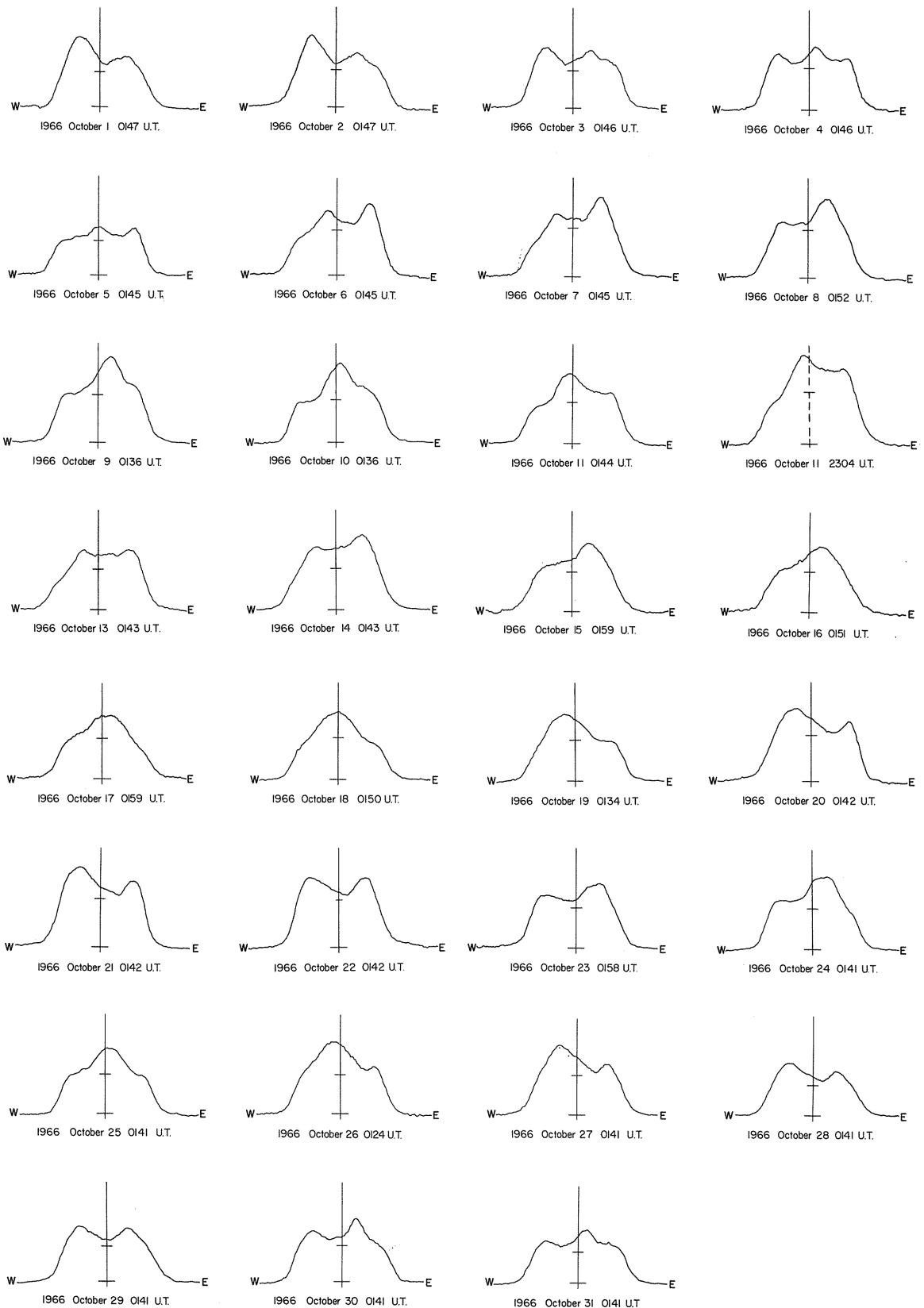


**EAST - WEST SOLAR SCANS**  
**October 1966**

FLEURS, AUSTRALIA

IVv

43 cm  
 Fan-Beam with 4 minutes of arc  
 E-W Resolution



# SOLAR RADIO EMISSION SPECTROHELIograms

FLEURS, AUSTRALIA

JULY 1966

Resolution: about 3 minutes of arc.

Unit of Brightness temperature: 1700°K

21 cm

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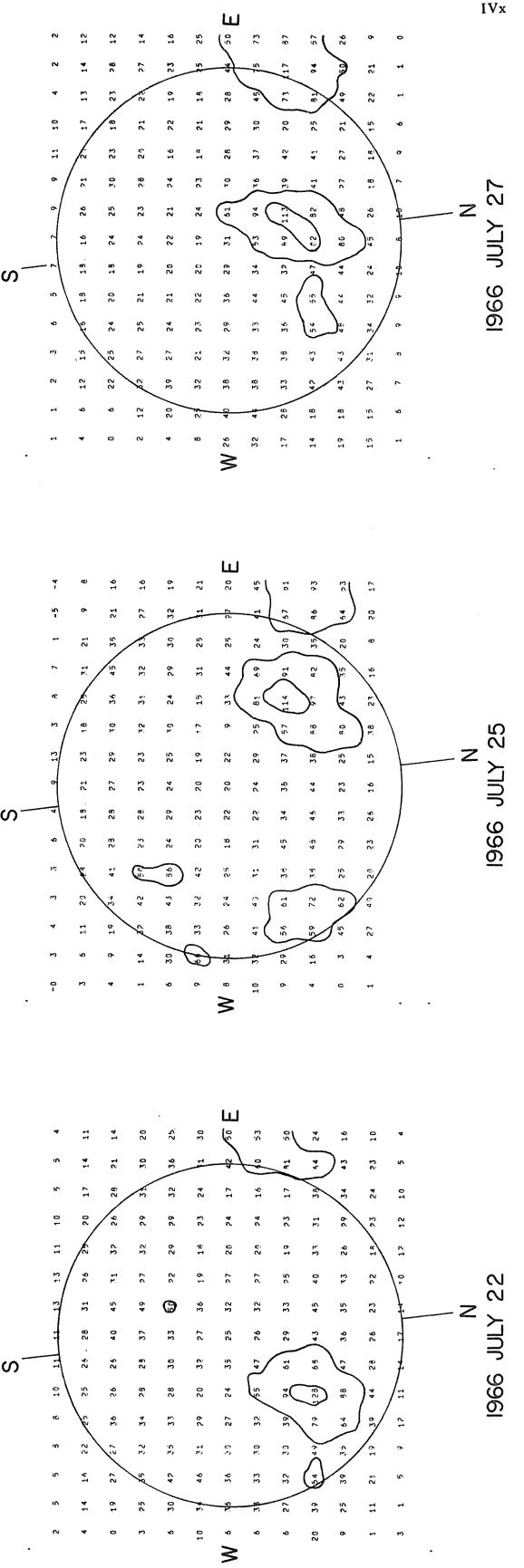
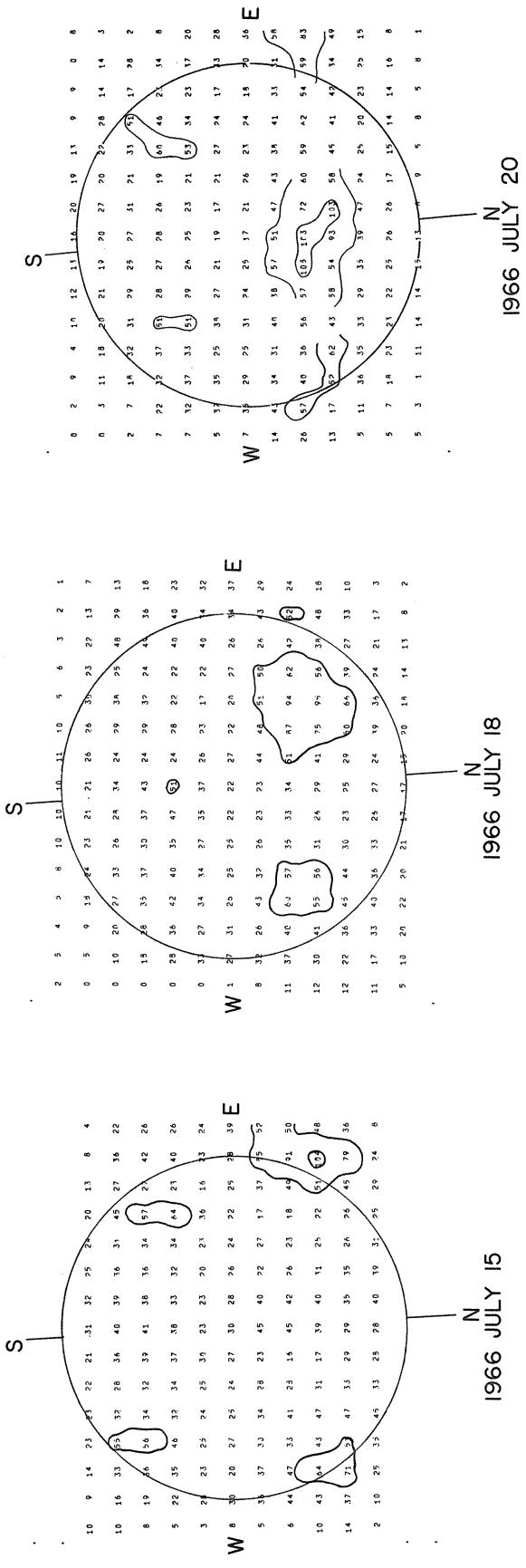
S

N

### FLEURS, AUSTRALIA

### SOLAR EMISSION SPECTROHELIograms

JULY 1966  
21 cm  
Resolution: about 3 minutes of arc.  
Unit of Brightness temperature: 1700°K



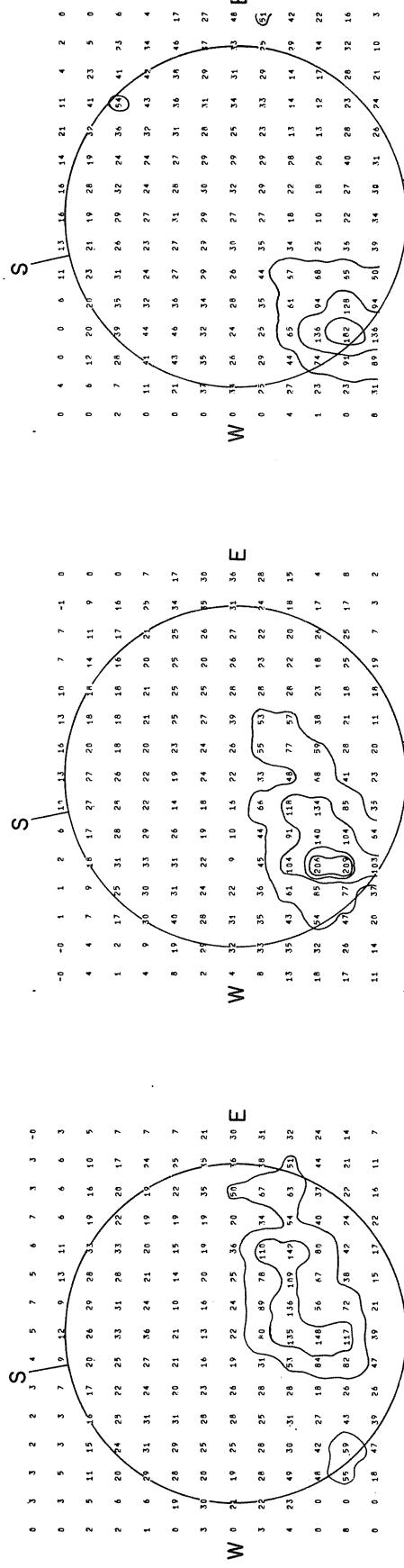
IV

# SOLAR RADIO EMISSION SPECTROHELIOPHOTOGRAMS

FLEURS, AUSTRALIA

AUGUST 1966

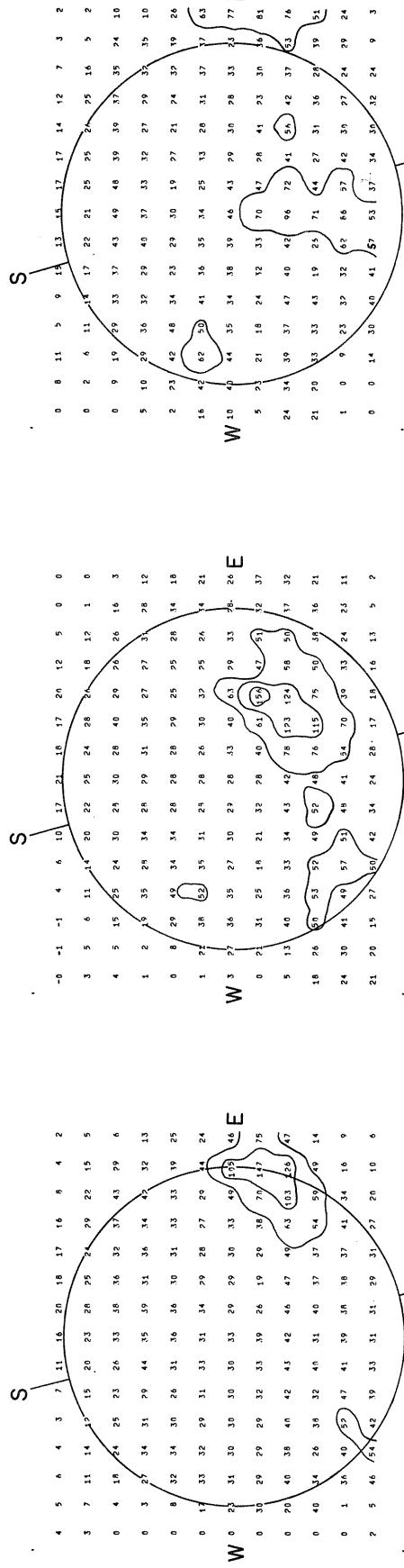
IVy  
Resolution: about 3 minutes of arc.  
Unit of Brightness temperature: 1700°K



1966 AUGUST 2 N

1966 AUGUST 5 N

1966 AUGUST 8 N

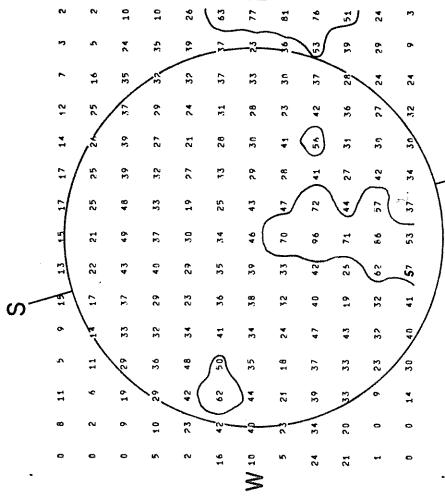


1966 AUGUST 12 N

1966 AUGUST 15 N

1966 AUGUST 17 N

21 cm  
Resolution: about 3 minutes of arc.  
Unit of Brightness temperature: 1700°K



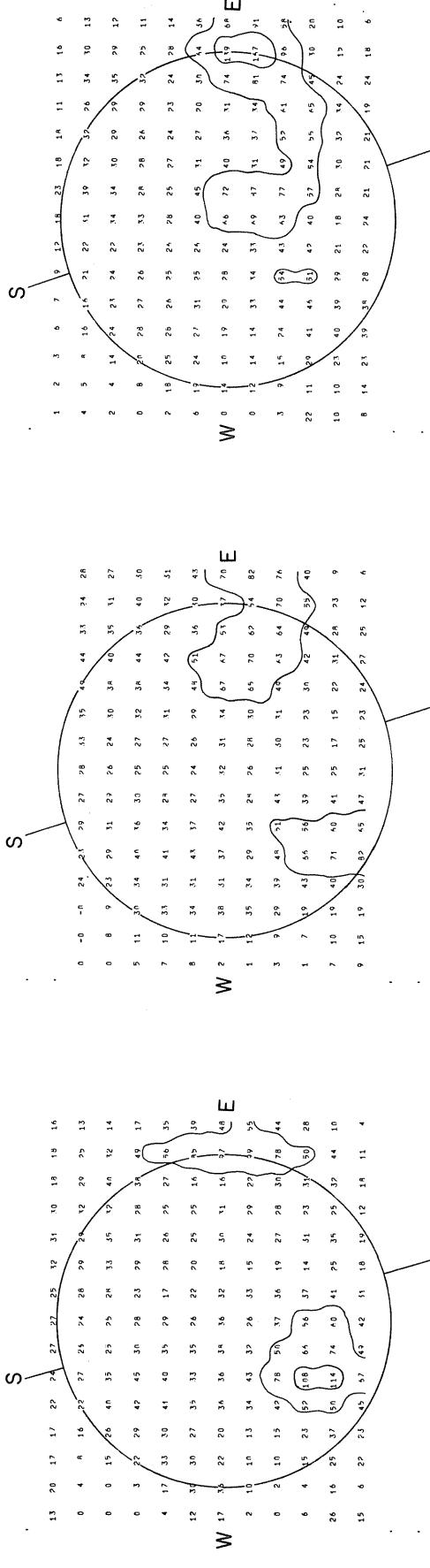
1966 AUGUST 17 N

# SOLAR RADIO EMISSION SPECTROHELIograms

FLEURS, AUSTRALIA

AUGUST SEPTEMBER 1966

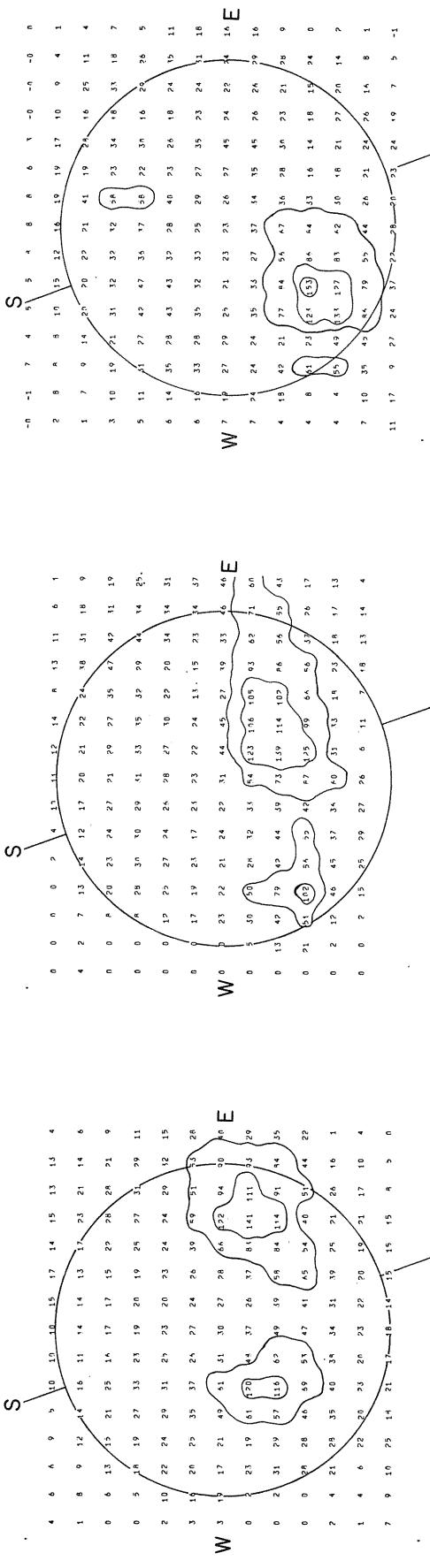
21 cm  
Resolution: about 3 minutes of arc.  
Unit of Brightness temperature: 1700°K



1966 AUGUST 19 N

1966 AUGUST 22 N

1966 AUGUST 24 N



1966 AUGUST 26 N

1966 AUGUST 29 N

1966 SEPTEMBER 1 N

IVz

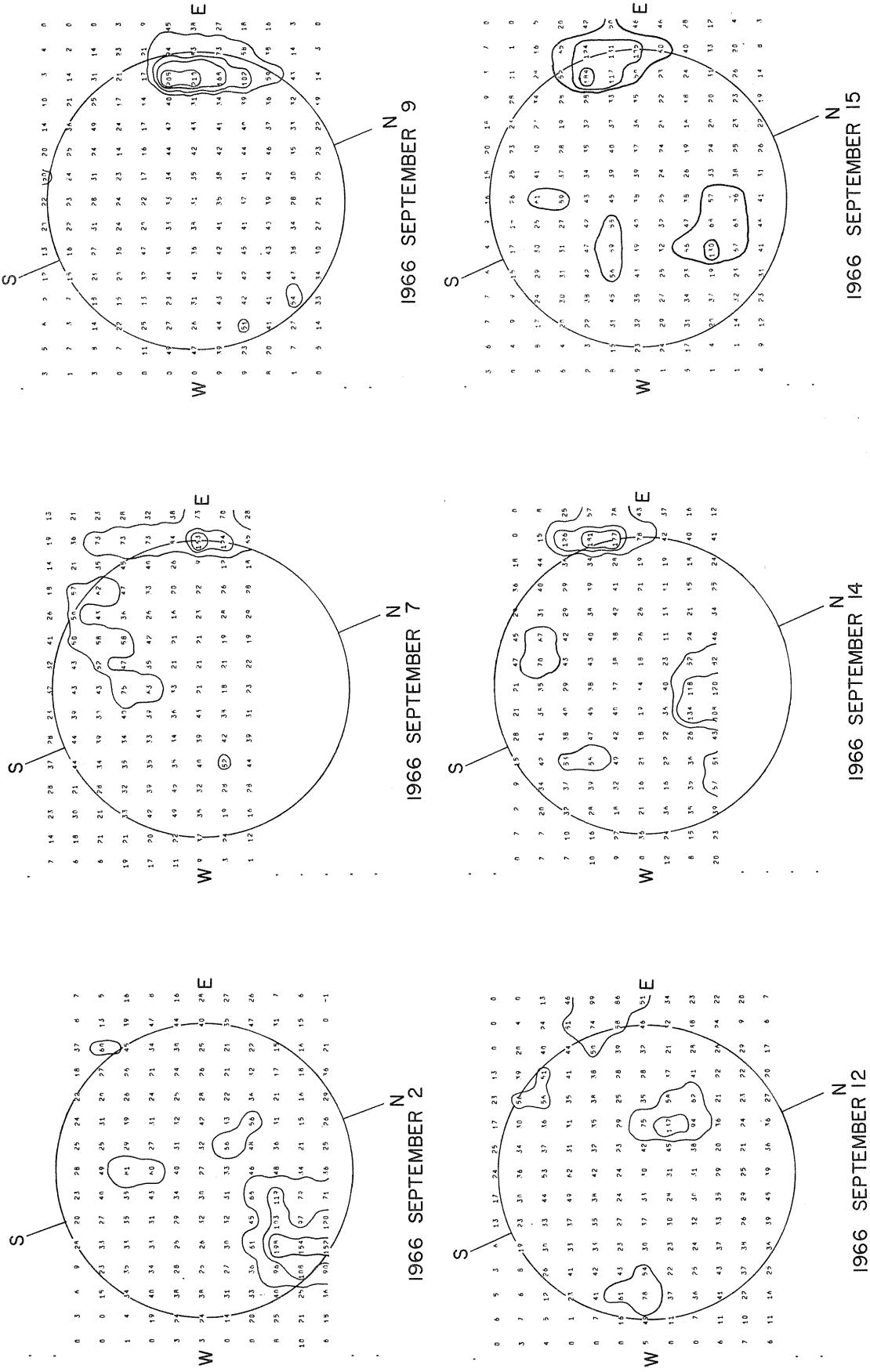
FLEURS, AUSTRALIA

SOLAR-RADIO EMISSION SPECTROHELIOPHOTOGRAMS

SEPTEMBER 1966

Resolution: about 3 minutes of arc.  
Unit of Brightness temperature: 1700°K

21 cm

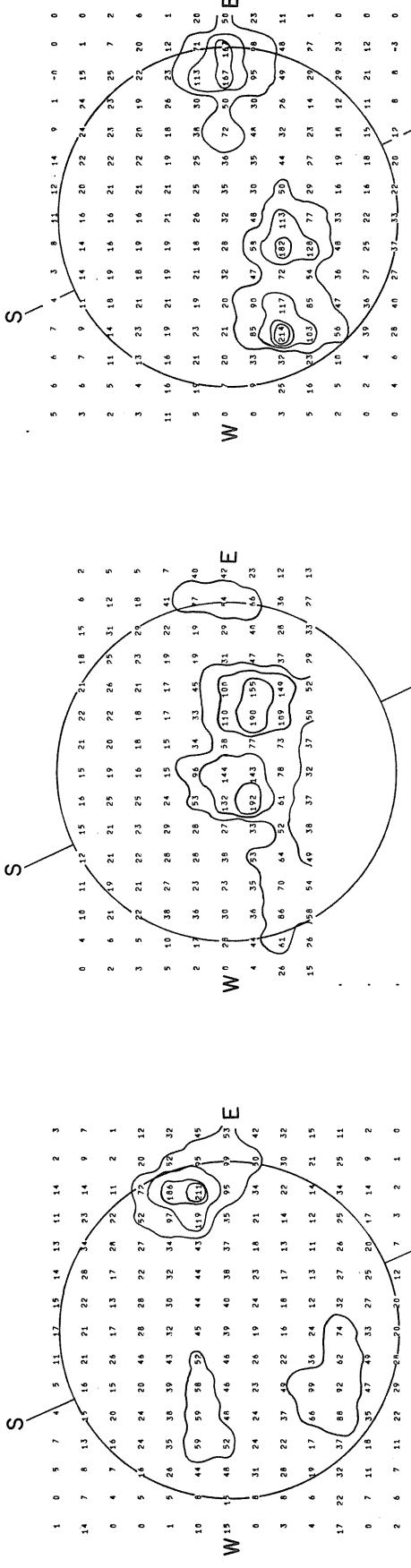


# SOLAR RADIO EMISSION SPECTROHELIograms

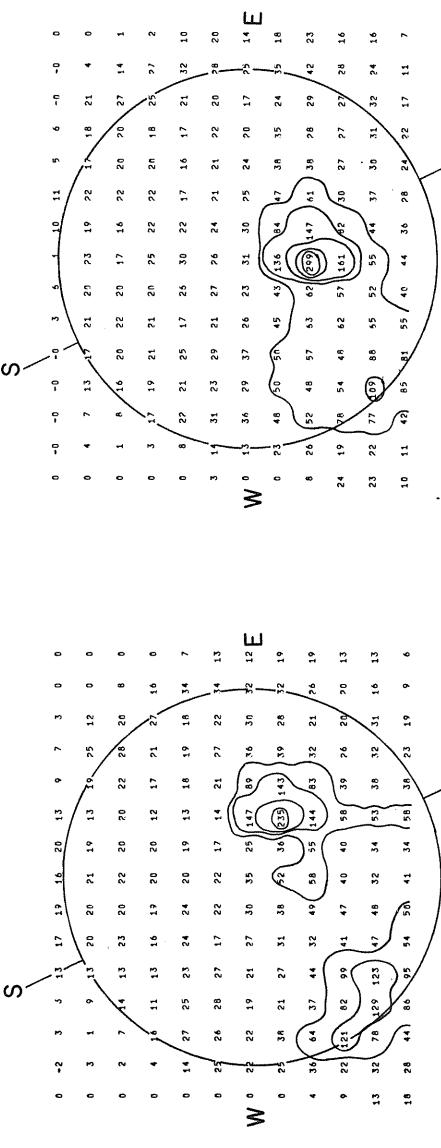
FLEURS, AUSTRALIA

SEPTEMBER 1966

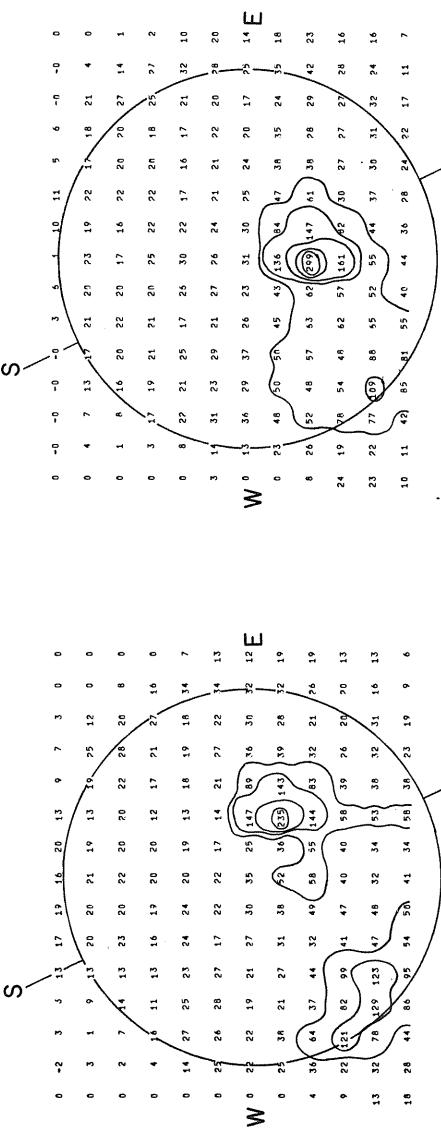
21 cm  
Resolution: about 3 minutes of arc.  
Unit of Brightness Temperature: 1700°K



1966 SEPTEMBER 20



1966 SEPTEMBER 23



1966 SEPTEMBER 26

1966 SEPTEMBER 28

IVbb

**COSMIC RAY INDICES**  
**(Neutron Monitors)**

SEPTEMBER 1966

SEPT. 1966	CHURCHILL	DEEP RIVER	CLIMAX	DALLAS
	DAILY AVERAGE COUNTS PER HOUR			
1	*	6517.9	3911.8	*
2		6553.9	3929.2	
3		6531.0	3922.8	
4		6383.2	3881.3	
5		6464.5	3882.9	
6		6507.9	3893.1	
7		6547.7	3900.7	
8		6655.0	4006.2	
9		6745.0	4067.8	
10		6795.9	4107.2	
11		6827.6	4104.7	
12		6825.2	4113.4	
13		6823.5	4116.2	
14		6784.4	4076.0	
15		6666.6	3974.3	
16		6610.5	3949.3	
17		6602.7	3945.8	
18		6612.9	3950.1	
19		6572.3	3920.3	
20		6605.1	3927.8	
21		6617.2	3947.4	
22		6644.0	3954.7	
23		6645.2	3942.3	
24		6404.7	3805.2	
25		6424.5	3811.3	
26		6497.5	3865.2	
27		6561.3	3921.2	
28		6594.2	3946.7	
29		6599.1	3943.7	
30		6629.1	3960.1	

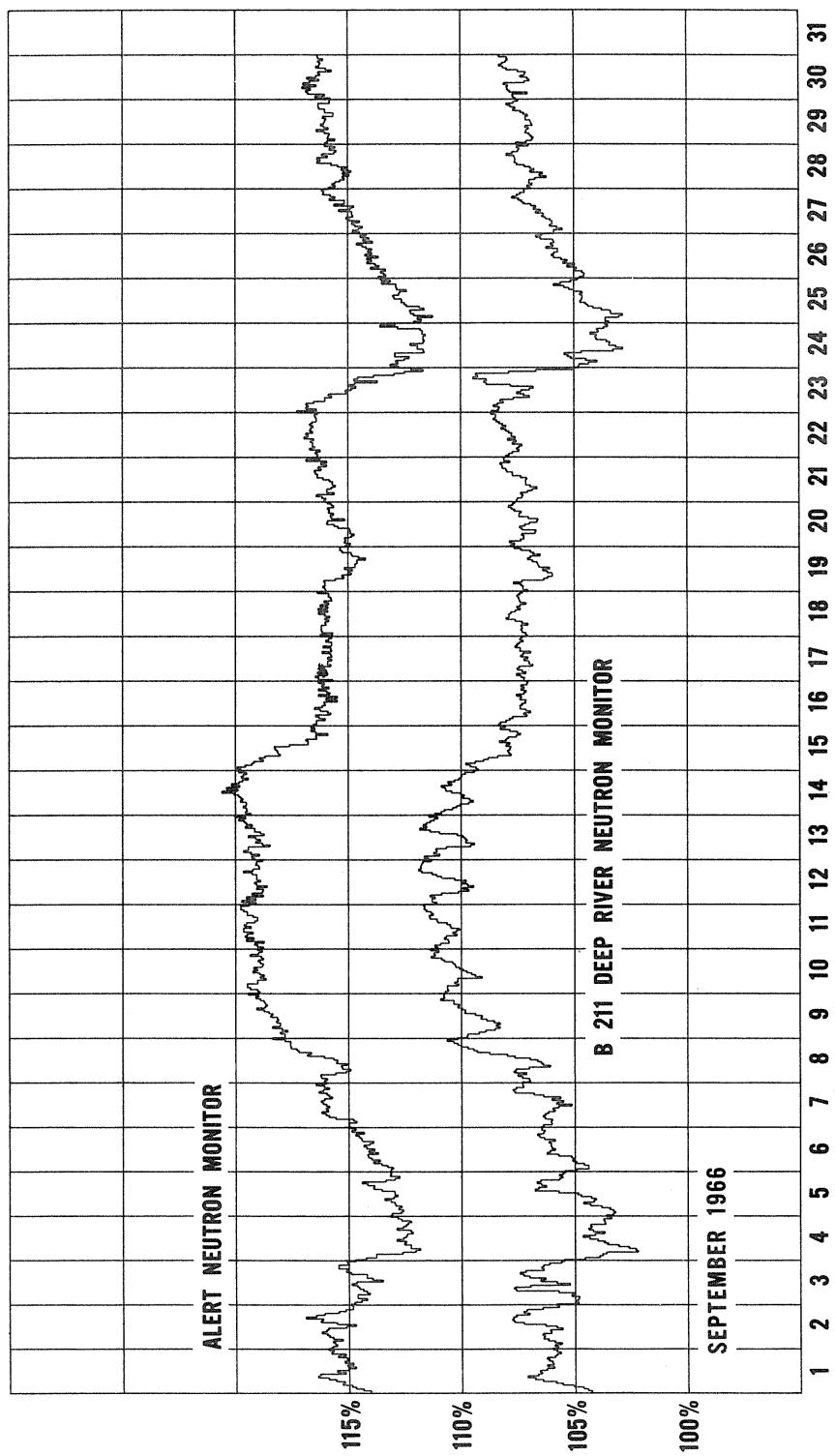
\* The data for September 1966 from Dallas and Churchill have not been processed.  
 It will be published when it becomes available.

Deep River Neutron Monitor, Scaling Factor 300.

Climax IGC Station B305, Scaling Factor 100.

COSMIC RAY INDICES  
(Pressure Corrected Hourly Totals)

SEPTEMBER 1966



## GEOMAGNETIC ACTIVITY INDICES

SEPTEMBER 1966

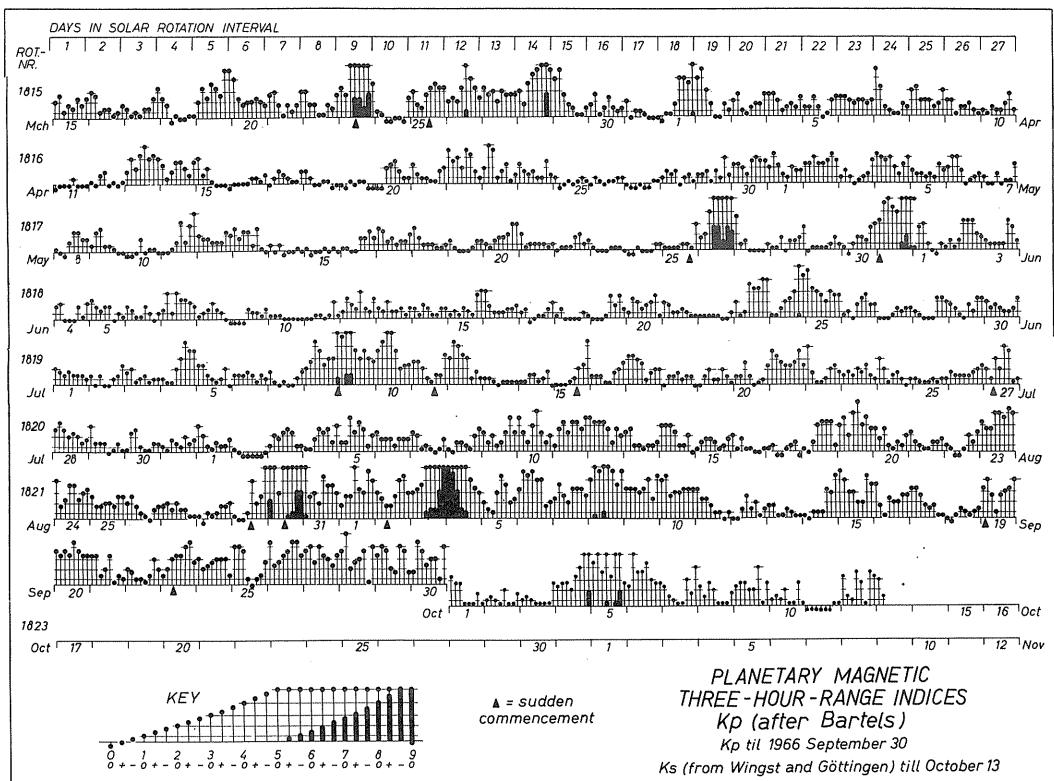
DAY		Kp THREE-HOUR RANGE INDICES								SUM	Ci	Cp	Ap
		1	2	3	4	5	6	7	8				
1	D	2-	3-	3-	5	3+	3	5-	4	27	1.3	1.1	22
2		3	2+	2-	2-	3-	4	4+	3	23-	1.1	0.9	15
3	D	3	3+	4-	6-	6	6	7+	9-	44-	1.8	1.9	92
4	D	9-	8+	7+	6	6-	4	3+	3	46+	1.9	1.9	112
5		2	1+	1	3	4+	4-	2	2+	20-	1.0	0.7	13
6	D	3+	5-	4+	5-	4	4	2-	2	29-	1.2	1.2	24
7		2+	4-	3-	2	3+	3+	3+	3-	23+	1.0	0.8	14
8	D	4	5+	5-	6-	5	5-	4-	5-	38-	1.4	1.5	42
9		3+	3+	3+	3	3+	4	2+	4+	27	1.1	1.0	19
10		4	4+	3-	3	3	3+	3+	3+	27	1.1	1.0	19
11	QQ	3+	2+	2+	2-	1	1	0+	1	13	0.2	0.4	7
12	QQ	0+	0+	1+	3-	1+	2	1-	1+	10	0.2	0.2	5
13	QQ	2-	2-	1-	1-	1+	1	1-	1-	8+	0.1	0.1	4
14	Q	1-	0+	1	1	1	3+	3	4+	15-	0.8	0.6	10
15		5-	4	3	3	2	2	4+	4-	27-	1.0	1.0	20
16	Q	4-	2-	1-	2+	2	2	3-	3-	18-	0.7	0.5	10
17	Q	3+	3+	3-	2-	1+	2-	1-	1-	15+	0.4	0.5	9
18	QQ	0+	0	1-	1+	1	1-	1	1+	6+	0.0	0.1	3
19		3+	4	3-	1	3-	3	3+	4	24	1.0	0.9	17
20		4-	3+	4-	3+	4+	4-	3+	3+	29-	1.1	1.1	21
21	Q	3+	3+	1+	2	3+	1-	1+	1	16+	0.6	0.5	10
22	QQ	2	2-	1	1	1-	1+	3	2	13-	0.4	0.3	6
23		1+	2	3	3+	3+	4	4+	3-	24	1.1	0.9	17
24	Q	3	2	2+	3-	3	3	3	1+	20+	0.8	0.7	12
25		4	4	4-	1	0+	1	1+	3-	18	0.7	0.7	13
26		4+	2+	3-	3+	4-	4+	4+	3+	28+	1.2	1.1	22
27		4-	4	3-	4	3+	3	2+	3+	26+	1.0	1.0	18
28		4-	5	2	3-	3	4-	1-	4	25-	1.1	1.0	22
29		3+	4	4-	2	2-	4	4-	2-	24	0.9	0.9	17
30		2-	4+	4-	2+	3	3	1	4	23	1.0	0.9	16
										MEAN	0.91	0.85	21

The Kp values given as integers represent the values normally given with a small zero following the number, i.e., 0=0o, 1=1o, etc., because the table is prepared by computer and lower case symbols are not available.

Preliminary storm sudden commencements (ssc) occurred September 02 at 0823UT, September 19 at 0251UT and September 23 at 0856UT.

## GEOMAGNETIC ACTIVITY INDICES

VIIb



## DAILY AVERAGE INDICES Ap

	1965		1966										
DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	
1	2 16 3 4 5	4 5 1 8 13	19 9 2 8 3	2 8 6 11 4	3 3 10 9 5	3 13 7 8 6	18 12 5 12 6	8 12 5 14 6	12 10 7 4 5	5 4 4 14 5	6 1 7 8 10	22 15 92 112 13	
2													
3													
4													
5													
6	2 6 8 9 10	17 9 4 5 0	3 3 4 5 10	2 7 8 8 7	4 2 3 4 10	7 10 10 5 5	7 4 5 5 2	7 4 4 36 2	5 4 22 36 25	6 5 5 9 12	24 14 42 19 19	14 14 5 9 19	
7													
8													
9													
10													
11	3 6 8 10 2	3 10 10 10 2	10 2 6 2 1	2 2 6 2 5	12 5 6 2 4	6 6 14 64 7	2 3 15 8 4	10 6 7 2 2	8 15 3 4 8	14 14 6 9 5	7 5 3 4 8	7 5 4 9 20	
12													
13													
14													
15													
16	2 2 6 4 2	1 4 6 10 17	1 2 12 7 4	0 2 5 3 15	5 4 3 14 17	7 6 4 20 10	3 4 3 2 5	5 7 5 2 8	6 4 3 6 7	6 11 4 5 6	4 2 10 20 7	10 9 3 17 21	
17													
18													
19													
20													
21	1 14 19 14 11	10 4 2 4 5	2 6 3 9 12	23 27 14 14 11	4 14 28 19 10	8 7 67 2 14	5 13 10 6 3	4 4 2 6 16	4 3 17 2 16	14 8 6 6 4	5 4 22 16 8	10 6 17 12 13	
22													
23													
24													
25													
26	7 6 15 5 8	4 4 2 3 12	19 10 16 8 6	14 3 7 6 2	3 4 2 12 6	20 13 42 12 10	8 1 4 6 10	78 5 5 4 6	6 4 5 6 6	6 11 10 5 6	6 5 22 4 82	22 18 22 13 16	
27													
28													
29													
30													
31	6		3		2		3		48		5		23
MEAN	7	6	7	7	8	13	7	9	6	12	11	21	

## RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC, NORTH PACIFIC

SEPTEMBER 1966

SEP. 1966	WHOLE DAY INDICES			ADVANCE FORECASTS (Jc- REPORTS) FOR WHOLE DAY	NORTH ATLANTIC								NORTH PACIFIC				GEOMAGNETIC INDICES								
					6-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF:				6-HOURLY QUALITY FIGURES				K <sub>FR</sub>		A <sub>FR</sub>		K <sub>SI</sub>		A <sub>SI</sub>		
	NORTH ATLANTIC	NORTH PACIFIC	AVERAGE HIGH LATITUDE		00 TO 06 06	06 TO 12 12	I2 TO 18 18	I8 TO 24	00 TO 06 06	06 TO 12 12	I2 TO 18 18	I8 TO 24	00 TO 06 06	06 TO 12 12	I2 TO 18 18	I8 TO 24	HALF (1)	DAY (2)	OB- SERVED	PRE- dicted	HALF (1)	DAY (2)	HALF (1)	DAY (2)	
01	6+	6	6	5	7-	5+	70	7-	5	6	6	7	6	5	6	6	3	3	15	15	(4)	3	23		
02	60	5	6	6	6+	40	7-	7-	6	5	6	6	5	5	5	5	2	3	13	11	2	3	12		
03	5+	5	5	4	6+	4+	6-	40	6	4	5	5	5	5	6	5	(4)	(5)	45	11	(5)	(7)	118		
04	(30)	5	(4)	3	2+	1+	4-	4+	3	2	3	4	5	5	5	5	(7)	3	79	7	(8)	(4)	179		
05	(40)	5	(4)	5	3-	2+	5+	60	3	2	5	4	5	5	5	5	2	3	12	7	2	3	17		
06	50	5	5	6	5+	30	6-	6+	5	3	5	6	5	6	5	5	(4)	3	23	11	(5)	3	41		
07	60	6	6	6	60	5+	60	6+	6	5	6	6	5	6	6	6	3	3	14	11	3	3	17		
08	5-	5	5	6	6+	4-	4+	50	6	6	6	5	6	5	5	5	(5)	(4)	35	8	(4)	(5)	83		
09	50	6	6	6	4+	2+	7-	7-	5	4	6	6	5	6	6	6	3	3	20	6	3	3	18		
10	6-	6	6	7	60	3+	6+	7-	6	5	7	7	6	6	6	6	3	3	15	4	3	2	14		
11	6+	6	6	7	6+	6-	7-	70	6	4	7	7	6	6	6	6	2	1	7	4	3	1	9		
12	60	6	6	7	7-	4+	7-	7-	6	6	7	7	6	7	6	6	1	1	3	4	1	1	2		
13	6+	6	6	7	6+	6-	70	70	7	6	7	7	6	6	5	6	1	0	1	6	1	0	2		
14	7-	6	6	7	7-	6-	70	70	7	6	7	7	6	7	6	5	1	2	7	8	0	2	4		
15	6+	6	6	6	7-	6-	7-	7-	6	5	7	7	6	6	6	6	(4)	2	19	8	3	2	13		
16	6+	6	6	7	7-	6-	7-	70	6	6	7	7	6	6	6	6	1	2	5	8	1	2	6		
17	6+	6	6	7	6+	6-	7-	70	7	6	7	7	6	6	6	6	2	1	7	5	2	1	5		
18	7-	6	6	7	7-	6-	7-	70	7	6	7	7	6	6	7	6	1	2	4	5	1	1	3		
19	6+	6	6	7	7-	6-	6+	7-	7	6	6	7	6	6	6	6	3	3	15	11	2	2	11		
20	6+	6	6	6	6+	6-	6+	6+	6	6	7	7	6	6	6	6	3	3	15	11	2	3	16		
21	6+	6	6	6	60	6+	7-	7-	6	5	7	7	6	6	6	6	2	2	9	8	2	1	5		
22	7-	6	6	6	6+	6+	7-	70	6	6	7	7	6	6	6	6	2	2	7	11	1	1	3		
23	7-	5	6	6	7-	7-	70	7-	6	6	7	7	6	6	5	5	2	3	14	11	1	3	11		
24	6+	5	6	6	60	6-	7-	70	6	6	7	7	5	5	5	5	3	3	11	11	2	2	9		
25	7-	5	6	6	7-	6-	70	70	6	6	7	7	5	5	6	6	3	1	11	8	2	1	9		
26	6+	5	6	6	6+	50	7-	7-	7	6	7	7	6	6	5	5	3	3	15	8	3	3	15		
27	6+	5	6	6	60	5+	7-	7-	6	5	7	7	5	5	5	5	(4)	3	16	6	3	2	13		
28	6-	5	5	6	6-	4+	7-	7-	6	6	7	7	5	6	5	6	3	2	16	6	3	3	18		
29	6+	6	6	6	6+	6-	7-	7+	6	5	7	7	5	6	6	6	3	3	15	11	3	2	11		
30	6+	6	6	6	6+	5+	7-	7-	6	6	7	7	6	6	5	6	3	2	12	15	3	3	15		
QUIET				P	14					18 11 20 24 8 8 8 3 1 0 0 0 0 1 0 1															
DISTURBED				P	0					1 3 0 1 2 2 1 1 0 2 0 0 0 3 1 0															

1) THE ADVANCE Jc-FORECASTS ARE SCORED AGAINST THE AVERAGE HIGH LATITUDE WHOLE-DAY INDICES.

2) THE PREDICTED A<sub>FR</sub> INDICES ARE ISSUED EACH WEDNESDAY FOR THE COMING SEVEN DAYS. THE VALUE FOR THE FIRST DAY OF EACH PREDICTION PERIOD IS UNDERSCORED.

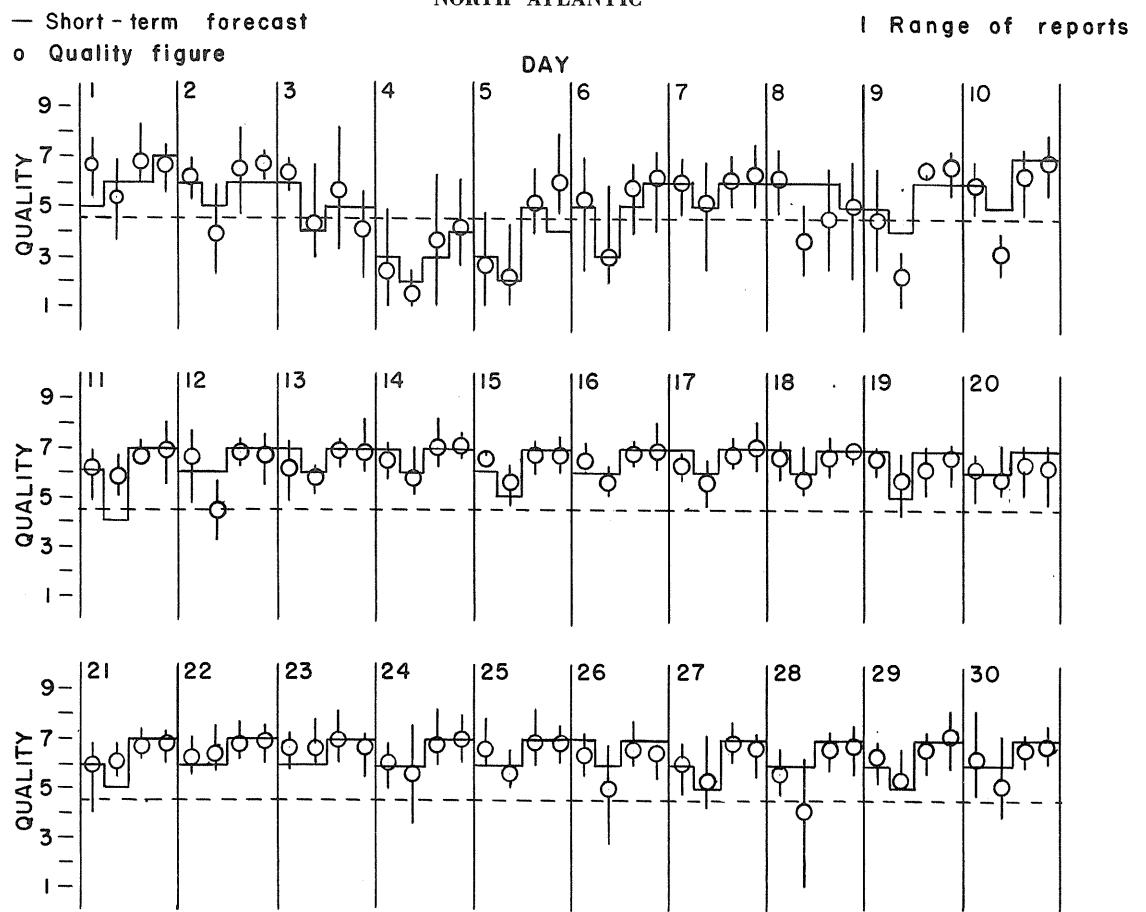
NOTE: A Special Disturbance Warning (SDW) issued September 2 for the period September 3-7 is included in the chart above. The quality figures originally forecast for those five days were 6, 7, 7 and 7.

# RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

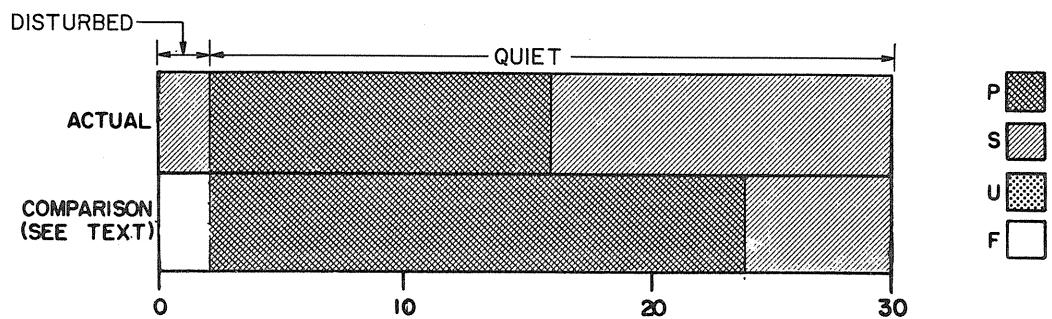
VIIb

SEPTEMBER 1966

## NORTH ATLANTIC

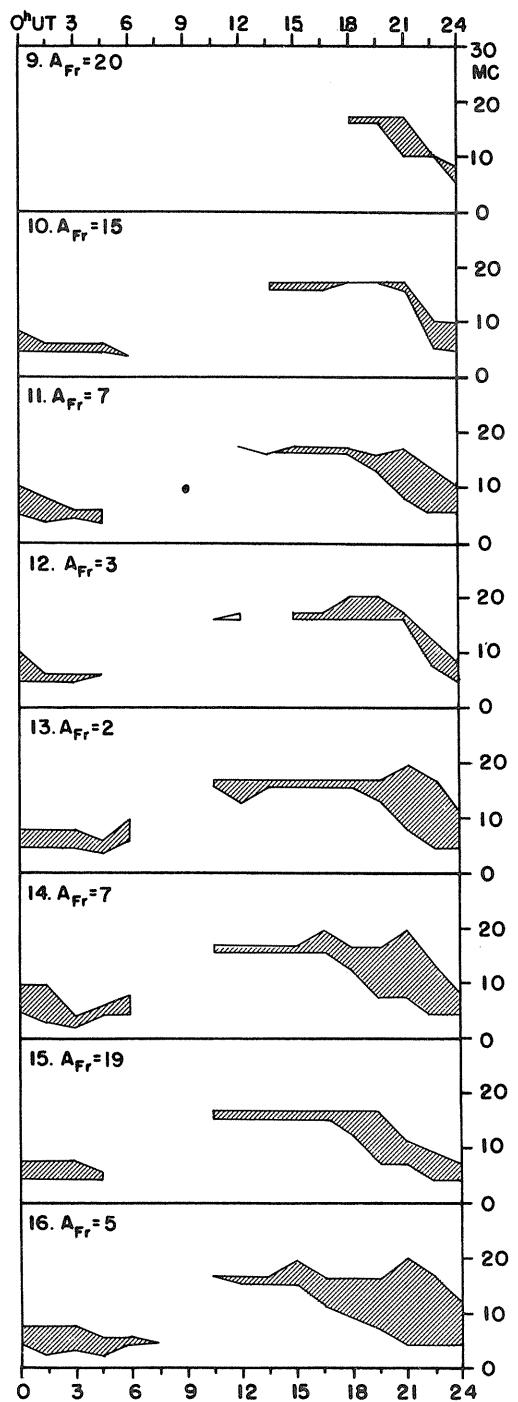
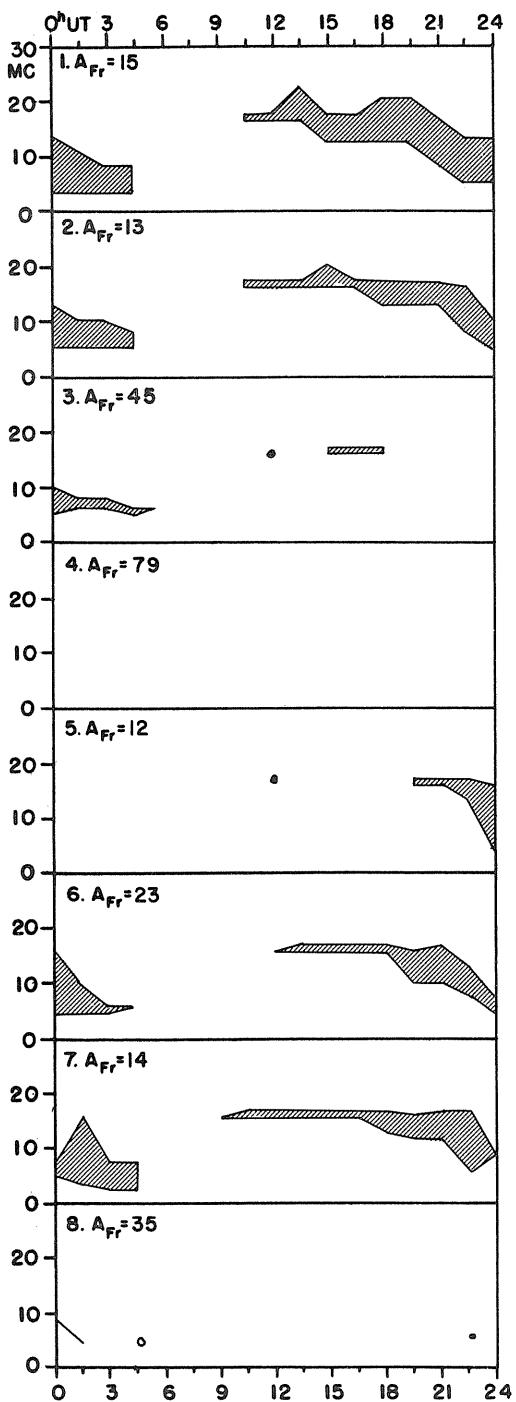


## HIGH LATITUDE



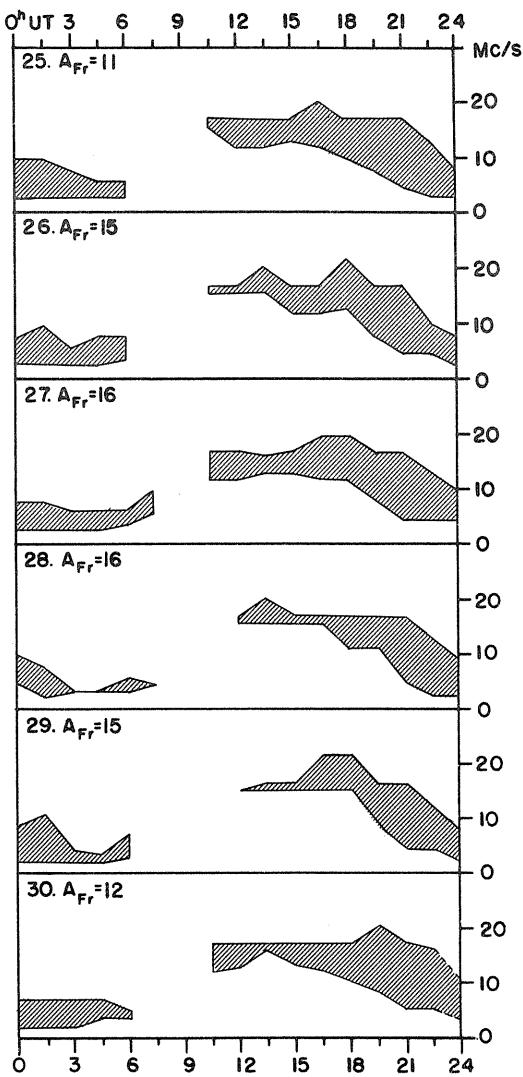
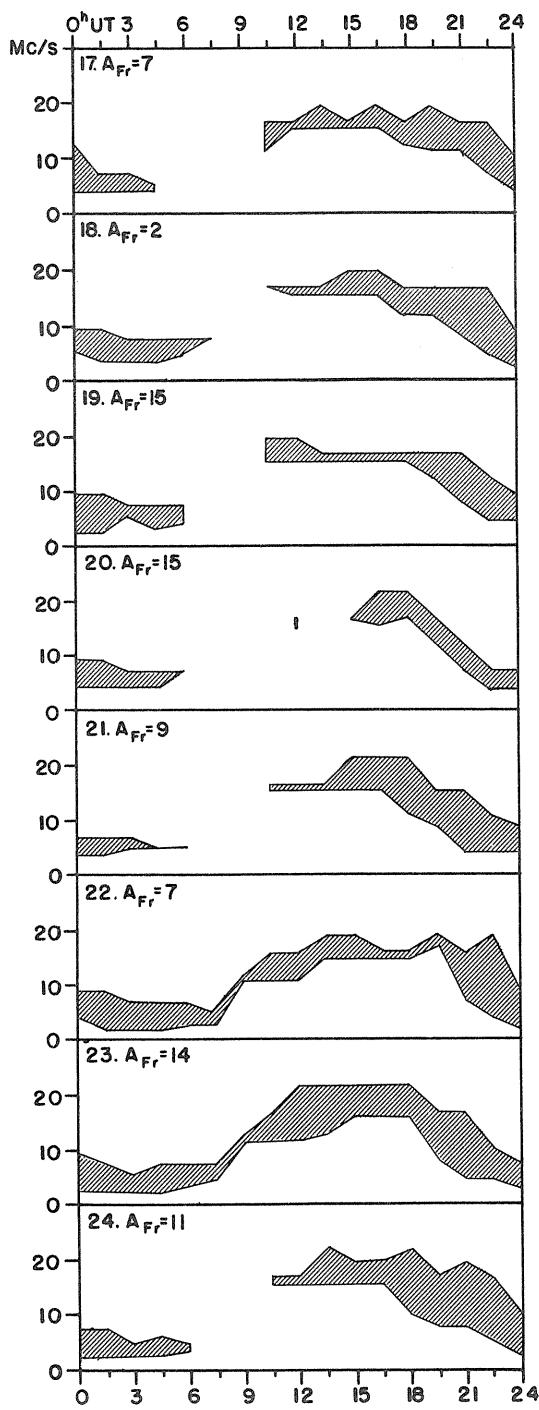
# VIIc USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1966



# USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH VIIId

SEPTEMBER 1966



Adapted from Observations by Deutsches Bundespost

## ALERT PERIODS

INTERNATIONAL URSIGRAM  
AND WORLD DAYS SERVICE

OCTOBER 1966

Oct. 1966	TIME OF ISSUE UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT			
			NO.	TYPE	TIMING	ELABORATION
9	1220	Athens, Solar Flare 09/1103Z				
14	0400 0629	ADALERTPRESTO TENFLARE Toyokawa 140529Z	413	Solar Activity	Exists	
15	0400		414	Solar Activity	Exists	
16	0400		415	Solar Activity	Exists	Delta configuration spot group
17	0400		416	Solar Activity	Exists	
18	0400		417	Solar Activity	Exists	
21	0400		418	Strat. Warming*	Begins	Antarctica region Roi Baudouin, movement unknown
22	0400		419	Strat. Warming	Exists	Antarctica Roi Baudouin-Mirny
23	0400		420	Strat. Warming	Exists	Antarctica region Lazarev-Mirny
24	0400		421	Strat. Warming	Exists	Antarctica region Lazarev-Mirny
25	0400		422	Strat. Warming	Exists	Antarctica Lazarev-Wilkes
26	0400		423	Strat. Warming	Exists	Antarctica Mawson-Wilkes-Vostok region, spreading
27	0400		424	Strat. Warming	Exists	Antarctica Mawson-Wilkes-Vostok region
28	0400		425	Strat. Warming	Exists	Antarctica Wilkes-Mirny region
29	0400		426	Strat. Warming	Exists	Antarctica Wilkes-Mirny region
30	0400		427	Strat. Warming	Exists	Antarctica Wilkes-Mirny region
31	0400 2050	Maui, Solar Flare 31/1905Z	428	Strat. Warming	Exists	Antarctica Wilkes-Mirny region

\* Strat. = Stratospheric