ABSORPTION MEASUREMENTS WITH RIOMETER

DATA SUMMARY N.o 10 FOR THE PERIOD
JULY 1966 THROUGH DECEMBER 1966

by
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and
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THE MEASUREMENTS REPORTED HEREIN WERE PERFORMED IN COOPERATION WITH THE U.S.A.F. UNDER GRANT AF-AFOSR 1019-66, MONITORED BY AFCRL.

Conselho Nacional de Pesquisas
Comissão Nacional de Atividades Espaciais
Laboratório de Física Espacial

São José dos Campos

São Paulo — Brasil

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RIOMETER MEASUREMENTS

DATA SUMMARY Nº 10

I - INTRODUCTION

This summary is a catalogue of reduced riometer data, for the period of observations from July through December 1966.

Figure 1 shows a "quiet-day" curve for São José dos Campos station which was obtained from the available data since the riometer was set in operation at this site, on March 15, 1963.

For each month, the values of the observations are tabulated for the first minute of each hour to the nearest 0.1 db, and the total number of readings for the month as well as the median and quartiles values are indicated in the same table. See for instance Tables V through XVI. Note that Figs. 2 and 3 also show the monthly medians mentioned above.

Table I shows a listing of important flares which occurred under sunlit periods for the station, whereas the Tables II and III contain all burst and SCNAs respectively under sunlight period as published by H.A.O. - Boulder (Colorado).

The absorption events measured at São José dos Campos are listed in the Table IV carrying time interval, maximum value of absorption, maximum variation about cosmic noise level, and eventual flare to which there is correlation.

The figures 4 through 13 show ten portions of riometer records registered at the São José dos Campos station during time intervals containing important solar flares and associated events.

II - DESCRIPTION OF THE EQUIPMENT

RIOMETER: The riometer (Relative Ionospheric Opacity Meter) is a device for measuring ionospheric absorption using the cosmic noise method.

A high gain and stable receiver is switched automatically between an antenna and a noise diode at a given switching frequency (340 Hz).

The antenna, which in our station is an east-west four elements Yagi, points vertically and receives the cosmic noise. If there is a difference between the antenna power and the noise diode power, a wave at the switching frequency appears at the detector of the receiver. The detector output is a DC voltage which has an amplitude that is proportional to the difference between the antenna and the diode signal. The voltage is used to adjust the current of a servo diode in order to reduce the above mentioned difference to zero. The diode noise is proportional to the antenna noise power. The diode currents is recorded in a common pen recorder

The riometer is calibrated daily by connecting a test noise diode in place of the antenna and passing different values of current for readings of the riometer.

The frequency used of 30 MHz is low enough to be sensitive to the non-deviative absorption effects to the lower ionosphere and yet it is sufficiently high so that a signal is detectable even under ionospheric disturbances.

III - MEASUREMENTS TECHNIQUE

In the noise method already mentioned, the absorption is measured by comparing the signal actually received with the signal that would be received in the same sidereal time under conditions of zero absorption. In order to measure the absorption it is necessary to establish the local "quiet-day" curve. This curve is obtained from the riometer recording in the hours before the sunrise, when absorption is low. The values of current observed are transferred to the corresponding sidereal time. The highest reliable readings are considered points of the "quiet-day", which is assumed, as pointed before, to represent values of zero absorption.

Using the "quiet-day" curve, one can obtain the absorption in db at any given time by the relation:

$$A\ (\ db\ ) = 10\ \log_{10}\ (\ Ir/Iq\ )$$

Ir = noise power acutally received at a given time
Iq = noise power from the "quiet-day" curve for the corresponding sidereal time.

IV - TYPE OF SCALING AND DATA REDUCTION

In reducing the riometer data, scaling TYPE I (URSI-AGI Committee 1958) has been used.

The absorption during the first minute of each hour of every day throughout a given period of absorption is recorded and then averaged. The results give a picture of the daily and seasonal variations of absorption.

The data reduction was performed in the following manner:

The "quiet-Day" curve, assumed to represent zero absorption is plotted and hourly values of Iq are obtained. The actual values of current for each hour are translated to the correct sidereal time and the ratio Iq/Ir is calculated. For the given ratio, the absorption in db is obtained from regular tables.

The following qualifying symbols have been used for values obtained indirectly from the record:

C = failure of equipment
S = interference
U = value uncertain
I = value interpolated

V - ABSORPTION EFFECTS ASSOCIATED WITH SOLAR FLARES

The Sun's ionizing radiation during solar flares is normally enhanced and reaches the lower level of the ionosphere increasing the absorption through the D-region producing the attenuation of the cosmic noise reaching the antenna. Sometimes prior to the observation of attenuation and depending on the relative position of the Sun and antenna beam an enhancement of noise current is observed as a result of the Sun's HF radio emissions, during solar bursts of intensity greater than 1.

Several flares occurred during the local sunlight hours, and eleven of them could be clearly related to the absorption effects observed in the riometer records showing a maximum variation ranging between 0.42 and 1.71 db.

These solar flares and other of a certain interest will be described in the following paragraphs.

A large number of events of noise enhancements of the frequency used in the Riometer is correlated to radio emissions from the sun on 30 MHz, during solar burst phenomena.

VI - SUBFLARE OF 26 JULY 1966 (FIG. 4)

Began at 1426 UT and terminated at 1439 UT, this solar phenomenon was the weakest flare that caused an evident SCNA at the local Riometer, from July to December 1966.

The absorption had not the typical shape of those correlated to the larger flares, with a fast increase and smooth decrease, but it shows a relatively long period (20 minutes almost) of slowly quasi-linear increasing value and a sudden recovery. The maximum value of absorption reached 2.01 db and the maximum variation was 0.71 db.

As it is observable by riometer record, the absorption occurred during a long storm of continuum burst, and its slow increase seems to be closely accompanied by a series of five Type I bursts decreasing in intensity.

The presence of those bursts, probably originated high up in the corona, would be consistentwith the fact that a weak flare reaches the greatest height above the chromosphere (8).

Since during solar flares the X-ray emission is responsible for the sudden ionospheric disturbances and since the mentioned subflare acted evidently on the SCNA mechanism, we point this circumstance as a complementary one to the past observations supported by spaceships and artificial earth satellites measurements reporting that no X-ray enhancement was observed during the occurrence of several small flares (10) (11) (12).

VII - FLARE OF 18 SEPTEMBER 1966 (FIG.5)

The H.A.O. of Boulder gives the following data about this flare and associated events:

importance 2b
begin 1452 UT, max phase 1500 UT, end 1526 UT
plage Nº 09
SCNA 1455-1522 UT, importance 2
SEA 1455-1550 UT, importance 2

On the background of a continuum burst a strong SCNA was observed in the Riometer of SJC. The sudden absorption is the typical type which follows the ionization caused by a large flare.

It begun at 1456 UT, i.e., three minutes after the flare start, the absorption reached its maximum at 1502 UT, 2 minutes after the maximum phase of the flare. The return to the cosmic noise standing level was relatively slow and occurred during a period of almost half hour.

Max value of absorption was of 2.67 db, being 1.67 db the maximum variation from the quiet level.

No ionospheric effect was registered in consequence of the previous 2 b flare which began at 1210 UT.

VIII - FLARES OF 19 SEPTEMBER 1966 (FIGS. 6,7)

Two flares occurred on 19 September causing detectable SCNA's at SJC .

The first one, begun at 1210 UT and terminated at 1300 UT, and was observed on plage 09. Importance: 2b

H.A.O. Boulder gives also:

SCNA 1210-1241 UT, importance 1-
SEA 1210-1232 UT, importance 2

At the Riometer of SJC the correlated SCNA shows a shape more enlarged than usually observed. It initiated at 1210 UT concomittantly with the flare optical emission and ended at 1241 UT, having reached a maximum at 1215 UT .

The maximum absorption value was of 1.76 db and the maximum variation of 1.12 db was observed.

A continuum radiation of synchrotron origin (9) was related closely to this solar-geophysical disturbance.

The second flare, lasting from 1459 UT to 1617 UT, observed on the same plage 09, was of importance 1 n.

Boulder registered also

a SCNA 1522-1543 UT, import. 2
a SEA 1520-1543 UT, import. 2

The riometer record at SJC shows a strong SCNA from 1528 UT to 1550 UT of 2.22 db of max absorption and 1.01 db of max variation.

A comparison of this last two values with the analogous of the precedent sudden absorption, shows a certain rough proportionality between the X-ray enhancement and the maximum variation of absorption, although attenuated by the unfavorable difference of the χ angle; on the other hand this last parameter justifies the observation of an absolute maximum value of absorp-

tion which appears in the second SCNA larger than in the first one, despite the importance of the flares.

The 2nd SCNA occurred over the customary continuum burst background and a SEA accompanied the process during the period of time between both SCNAs and beyond.

IX - FLARES OF 13 OCTOBER 1966 (FIG. 8)

The SCNA observed at 30 MHz Riometer of SJC from 1340 UT to 1402 UT of 13 October seems most closely related to the n subflare occurred between 1335 and 1353 UT. However it is possible that the ionization associated with that ionospheric sudden disturbance resulted from the superposition effects of the 3 following flares:

sn/1330-1340-1402, plage nº 45
ln/1330-1341-1409, plage nº 46
sn/1335- -- -1353, plage nº 46

It is noticeable that the mechanism of the solar phenomenon under consideration must have acted deeply on the ionosphere, greatly increasing the ionization of the D layer, since the maximum variation of the observed sudden absorption were of 2.86 and 1.7 db respectively.

Four solar bursts of intensity 3 were observed within the period of occurrence of the SCNA.

X - FLARE OF 14 OCTOBER 1966

As per H.A.O. of Boulder this 1b flare, observed on plage 46, began at 1305 UT and terminated at 1400 UT. A SCNA with importance 1- was associated with it, and lasted from 1310 to 1333 UT. The 30 MHz Riometer of SJC registered a cosmic noise decrease of very weak intensity which lasted from 1310 to 1328 UT and showed a symmetrical shape over an absorption value of 1.10 db.

When the maximum variation is smaller than the riometer reading accuracy we cannot classify such occurrence as a proper SCNA. Whenever this is the case the noise standing level shows two typical very small drifts (downwards and upwards) at the begin and at the end of ionospheric ionization respectively allowing one to detect its presence.

This weak phenomenon also was preceeded and followed by a known continuum burst emitted by a still active center of activity.

XI - FLARE OF 23 OCTOBER 1966 (FIG. 9)

This flare of importance 1b observed on plage nº 46 had duration from 1423 to 1450 UT. A SEA of importance 1- followed it lasting from 1424 to 1514 UT. A type III burst occurred between 1437:45 and 1438 UT on the frequency

range of 28-41 MHz.

Correlated with these observations made at Boulder (Colorado),a strong SCNA was registered at the Riometer of SJC, with begin at 1425 UT and end at 1530 UT. The maximum phase of absorption occurred at 1435 UT reaching 2.81 db with a maximum variation of 1.11 db.

The cosmic noise signal was relatively quiet with exception of the display of a weak peak of enhancement in correspondance with the mentioned type III burst.

XII - FLARE OF 19 NOVEMBER 1966

The ionization caused by this 1f flare was very weak and there is no reason to classify this absorption phenomenon as an SCNA.

The extremely small lowering of the cosmic noise level is perceivable between 0833 and 0845 UT, i.e. some minutes after the end of the above flare and almost simultaneous to the SCNA registered at Boulder.

XIII - FLARE OF 9 DECEMBER 1966 (FIG. 10)

The H.A.O. of Boulder gives the following data and associated events about this flare:

importance 2b
begin 1758 UT
maximum 1806 UT
end 1906 UT
plage nº 10
SEA 1756-1834 UT import. 1
SCNA 1758-1836 UT import. 2
type III burst 1807-1807:15/27-41

The 30 MHz riometer at SJC registerd a very strong SCNA of typical features, lasting from 1758 to 1822 UT, with a maximum absorption of 3.65 db at 1806 UT, i.e., one minute after the flare maximum, and a maximum variation of 1.37 db. This SCNA was the strongest among those observed at SJC Riometer station from July through December 1966.

XIV - SCNA OF 21 Dember 1966 (FIG. 11)

This SCNA occurred between 1457 UT and 1512 UT with a maximum absorption of 2.38 db and could be due to the effects of some unobserved flare. In fact it should have been preceeded by the long duration type III burst emitted between 1451 and 1456:45 UT on the frequency range of 28-41 MHz and followed by the type II burst which lasted from 1505:30 to 1510:15 UT on the same frequency range.

These bursts which may have been associated with the 1st and 2nd phase of the unknown flare respectively, where observed at the SJC 30 MHz Riometer also.

XV - FLARES OF 23 DECEMBER 1966 (FIGS. 12, 13)

As listed in Table IV and reproduced in Figs. 12 and 13 four SCNA'S were observed on 23 December 1966 between 1312 UT and 1734 UT. Only two of them are clearly related to the 1n flares which occurred in that day; for the other two it is reasonable to suppose the action of some X-ray ionizing source originated perhaps through some unobserved flare probably emerged from the same plage nº 25 (see table IV for SCNA's duration and intensity).

The present models of flare production mechanism may be apt to explain the focused solar events in terms of the active center charachteristics and through the successive generation and ejection of high speed charged particles. It is remarkable from the point of view of the SCNA's multiple occurrence, that such relatively uncommon phenomenon could appear in a series of sudden ionizations of a certain intensity within a period of 4 hours.

XVI - CONTINUUM BURSTS THROUGH SEPTEMBER-OCTOBER 1966

We report below some detail about the continuum radio noise storms.The storms under consideration are the ones which were observed at H.A.O. of Boulder (Colorado) during daytime at São José dos Campos. Thus, for the common sunlit periods from September and October 1966 (see also Table II) we have:

Date		Period (UT)	Frequency Range
September	16	1301-1855	20 - 41
		1855-0030	22 - 41
	17	1245-0031	22 - 41
	18	1235-0033	20 - 41
	19	1236-2110	18 - 41
		2110-2127:15	11 - 41
		2127:15-2206:30	18 - 41
		2206:30-2214	13 - 41
		2214-0030	20 - 41
	20	1303-1713	20 - 41
		1713-1731	10 - 41
		1731-0029	20 - 41
	21	1303-2355	20 - 41

Date		Period (UT)	Frequency Range
October	3	1655:15-2355	26 - 41
	4	1416-0031	24 - 41
	5	1301-0010	22 - 41
	9	1248 - 1839	28 - 41
		1949-0035	28 - 41
	10	1248-0039	27 - 41
	11	1500-1708:45	27 - 41
		1802:45-2105	24 - 41
		2205:15-0028:30	26 - 41
	12	1248-0028:30	26 - 41
	13	1248-0030	22 - 41
	14	1247-1415	26 - 41
		1908-0030	26 - 41
	15	1247-0033	26 - 41
	16	1248-0036	26 - 41
	17	1247-0032	26 - 41
	18	1246-0030	26 - 41
	19	1247-1625	28 - 41
		1625-0035	16 - 41

The above listed long-enduring noise storms accompanied large sunspots and surges about whose association we will give some mention.

The first emission which covered the days from 16 to 21 September seems to be related with the very strongly active region (DSD's) which appeared on 16 September at the sun's equator and lasted till 22 September when anADF and a DSD were observed also.

The second emission, which began at 3 October and lasted till 5 October, coincided with the growth of a strongly active region (BSD) observed on the east limb of the sun and which desappeared at 6 October 1966.

The third emission, lasting from 9 to 19 October, took place during the most part of the existence of the moderately active region, which appeared on east limb of the sun on 9 October and lasted till 24 October.During this third period of the continuum burst emission the active region, which produced a BSL at 10 October became very strongly active at 13 October. On this day many subflares and class 1 flares were observed at H.A.O. of Boulder.

The flares which occurred during the focused continuum and which were responsible for noticable $SCNA_S$ at the SJC Riometer, were the 2b flares, which began at 1452 UT and 1210 UT of 18 and 19 September repectively, besides the in flare which began at 1330 UT of 13 October.

XVII - PHASE RECORD AT VLF

There were two measurements of SPA's recorded at our VLF station that may be clearly related to solar flares and to SCNA's registered at 30 MHz Riometer of SJC.

Such flares were those occurred at 18 September and 23 October (see Table IV): the correspondent SPA's had the start, the maximum and the end respectively as below:

18 Sept.	1504 - 1530 - 1710	(UT)
23 Oct.	1420 - 1440 - 1540	(UT)

The maximum variation of the related absorption observed by the riometer was among the highest in the second semester of 1966, having reached 1.67 db and 1.11 db respectively.

TABLE I

LISTING OF IMPORTANT FLARES, WHICH OCCURRED UNDER SUNLIT PERIOD AT SÃO JOSÉ DOS CAMPOS (BRAZIL)

DATE 1966		FLARE IMPORTANCE	TIME INTERVAL (UT) START	MAX PHASE	END	OBSERVED BY
July	6	2	1747	1801	1814	H.A.O. - Boulder
	8	2	1236	1254	1330	" "
August	5	2n	1238	1320	1338	" "
	17	2n	0936	-	1051	" "
	23	2n	0954	-	-	" "
	26	2b	1808	-	1955	" "
	28	2n	1333	-	1400	Phase recorded at VLF
	28	3b	1531	1537	1944	H.A.O.-Boulder
	30	2n	1451	1512	1548	" "
	30	2b	1546	1548	1608	" "
	31	2b	1335	-	1445	" "
	31	2f	1835	-	2008	" "
September	1	2f	1522	1528	1552	" "
	10	2n	1813	1836	1934	" "
	12	2	0925	-	1030	" "
	17	2n	0945	-	1128	" "
	18	2b	1210	-	-	" "
	18	2b	1452	1500	1526	" "
	19	2b	1210	-	1300	" "
	20	3x	1735	-	1915	" "
	21	2n	0929	-	1010	" "
October	6	2n	1533	1603	1749	" "
	9	3n	1045	-	1150	" "
	15	2f	1852	1930	2100	" "
	31	2n	1905	-	1925	" "
November	1	2x	1053	-	1128	" "
	14	2b	1215	1227	1327	" "
December	9	2x	0926	-	0933	" "
	9	2b	1758	1806	1906	" "
	10	2b	1430	1440	1607	" "
	17	2b	0948	0957	1008	" "
	18	2n	1817	1854	1916	" "
	28	2b	1758	1800	1836	" "

TABLE II

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		B U R S T			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July	1	III	1753	1753:30	21 - 41
	3	III	1201:30	1201:45	23 - 33
	4	III	2023	2023:15	21 - 36
	5	III	1610:15	1610:30	11 - 41
	*	III	1644	1644:15	18 - 41
		III	1654:45	1655	22 - 41
	*	III	1758:15	1718:30	20 - 41
		III	1719:15	1719:30	7.6 - 41
	*	III	1720:45	1722:15	7.6 - 41
		III	1755:45	1757:30	7.6 - 41
	*	III	1809:45	1811	7.6 - 41
		III	1831:30	1832:45	7.6 - 41
	*	III	1854:45	1855:15	7.6 - 41
		III	1934:45	1935	7.6 - 41
		III	1936	1937	7.6 - 41
	6	III	1330	1330:15	20 - 41
		III	1505:15	1506	7.6 - 41
		III	1535:30	1535:45	22 - 41
		III	1648:30	1648:45	23 - 39
		III	1653:45	1655	22 - 41
	7	III	1806:15	1806:45	21 - 41
		III	1906:15	1906:45	21 - 41
		III	1933:45	1934:30	7.6 - 41
		III	1958:30	1959	22 - 41
	8	III	1409	1409:15	15 - 36
	*	III	1417:30	1417:45	23 - 41
	*	III	1429:15	1429:45	21 - 41
	*	III	1431	1431:30	21 - 41
		III	1449	1449:30	12 - 41
	*	III	1509	1509:30	9 - 41
	*	III	1642	1642:30	23 - 37
		III	1705:30	1705:45	26 - 36
	*	III	1724	1725	7.6 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July	8	III	1752:45	1754	19 - 41
		III	1825	1825:15	21 - 41
		III	1836:15	1837	7.6 - 41
		III	1847:45	1850:15	7.6 - 41
		III	1851:30	1852	7.6 - 41
		III	1852:30	1853:15	7.6 - 41
		III	1853:30	1854:15	7.6 - 41
		III	1856:15	1856:45	19 - 41
		III	1914:45	1915	20 - 41
		III	1918:30	1919	22 - 41
		III	1920	1920:15	21 - 41
		III	1930:45	1931:45	7.6 - 41
		III	1938:15	1939	13 - 41
		III	2013:30	2013:45	26 - 41
		III	2019:30	2020:15	7.6 - 41
	9	III	1216:15	1216:30	20 - 32
		III	1218	1218:15	26 - 36
	*	III	1554:15	1554:30	7.6 - 41
		III	1842:51	1842:45	21 - 41
		III	2024	2025:15	12 - 41
	10	III	1203:30	1203:45	16 - 41
	*	III	1350:15	1350:30	23 - 39
		III	1351:15	1351:30	23 - 39
	*	III	1435	1435:15	21 - 41
		III	1606	1606:15	21 - 34
	*	III	1632	1632:15	12 - 32
		III	1646:45	1647	11 - 41
		III	1655	1655:30	23 - 37
		III	1841:15	1842:30	10 - 41
		III	1907	1907:15	7.6 - 41
		III	1926	1926:15	16 - 37
		Cont.	2016	2023	18 - 41
	11 *	Cont.	1140	1255	25 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE		B U R S T		
1966	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July 11 *	III	1234:15	1239:45	16 - 41
	III	1321:45	1322	24 - 32
	III	1334:45	1335	29 - 37
*	III	1354:30	1401:45	19 - 41
*	III	1401:45	1402:15	13 - 41
	III	1503:45	1504:15	20 - 35
	III	1509:15	1509:30	21 - 33
	III	1718:15	1718:45	21 - 35
	III	1750:30	1751:15	22 - 36
	III	1803	1804:15	16 - 41
	III	2017:45	2018	23 - 31
	III	2020:30	2021	18 - 41
12	III	1146:30	1147	16 - 37
	III	1155:15	1155:30	20 - 40
	III	1215:30	1216:45	16 - 40
	III	1221:45	1223	16 - 41
	III	1223	1226	20 - 37
*	III	1239:30	1240:15	17 - 40
	III	1243	1243:30	21 - 39
*	III	1245:15	1245:30	20 - 39
*	III	1313:30	1314:30	13 - 41
*	III	1316:45	1317:30	14 - 41
*	III	1319:45	1320	19 - 41
*	III	1344:30	1345	20 - 36
	III	1400:15	1400:30	27 - 38
	III	1400:30	1400:45	23 - 39
	III	1610:30	1610:45	23 - 41
*	III	1619:30	1621	7.6 - 41
	III	1639	1640	8 - 41
*	Cont.	1659:15	1709:45	7.6 - 41
	III	1723:45	1724:15	22 - 34
	III	1854:30	1855	22 - 37
	III	2005:45	2006:15	21 - 39

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE		B U R S T			
1966		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July	13	III	1419:30	1420	26 - 41
	14	Cont.	1723:30	1732:30	21 - 41
		III	1740:30	1742:30	25 - 41
	15	III	1241:30	1242	25 - 41
	*	III	1242:45	1243:30	17 - 41
	*	III	1244:45	1245:15	21 - 41
	*	III	1246:15	1246:45	21 - 41
	*	III	1302:15	1302:30	22 - 41
		III	1324:45	1325	23 - 34
	*	III	1417	1417:45	22 - 37
	*	III	1425:30	1426	27 - 39
		III	1427	1427:15	22 - 34
		III	1428	1428:15	22 - 33
		III	1639	1639:15	27 - 41
		III	1645:15	1645:45	26 - 36
	*	III	1657:30	1658:30	23 - 41
		III	1737:30	1737:45	27 - 32
		III	1741	1741:15	20 - 38
		III	1834:45	1835:15	19 - 41
	16	III	1154:30	1154:45	16 - 41
		III	1240:30	1241	17 - 41
		III	1350	1350:15	23 - 41
		III	1352:45	1353	29 - 39
		III	1421:45	1422	24 - 38
	*	III	1457	1459:15	20 - 41
	*	III	1508	1508:30	13 - 41
	*	III	1550:30	1550:45	27 - 41
		III	1603:30	1603:45	30 - 38
	*	III	1604:30	1605	26 - 41
		III	1619	1619:15	30 - 35
		III	1634	1634:15	26 - 33
		III	1635:15	1636:15	28 - 41
		III	1748:45	1749:15	27 - 38
		III	1752:15	1752:30	23 - 32
		III	1753	1753:30	23 - 39
		III	1807:30	1807:45	16 - 41
		III	1848	1848:30	23 - 41
		III	1941:45	1942:15	29 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July	16	III	1945:30	1946	23 - 41
		III	1946:45	1947	23 - 39
		III	2018:15	2018:30	20 - 32
	17	III	1218:45	1219	22 - 41
		III	1237	1238	23 - 37
		III	1339:30	1340	21 - 38
		III	1344:45	1345:15	20 - 37
		III	1422:30	1423	21 - 41
	*	III	1427	1427:45	22 - 41
	*	III	1523:15	1523:30	24 - 33
		III	1548:30	1548:45	20 - 41
		III	1657:30	1658:15	7.6 - 41
	*	III	1708:15	1708:45	12 - 41
	*	III	1712	1712:30	7.6 - 41
		III	1715:30	1716	21 - 41
		III	1729	1729:30	22 - 34
	*	III	1732	1732:15	21 - 41
		III	1745:15	1745:30	21 - 41
		III	1745:45	1746	21 - 41
	*	III	1824:45	1826	7.6 - 41
		III	1839:15	1839:45	21 - 41
		III	1858	1859:30	7.6 - 41
		III	1932:30	1932:45	12 - 41
		III	2006:15	2006:30	16 - 34
	18	III	1228	1228:30	24 - 41
		III	1400:15	1400:30	24 - 38
	*	Cont.	1434	1840	22 - 41
	*	III	1553:45	1554:30	12 - 41
	19	III	1157:30	1158:45	24 - 37
		III	1215:45	1216	26 - 32
	*	Cont.	1225	1557:30	22 - 41
	*	Cont:	1557:30	1847:15	22 - 41
		II	1827:30	1837	22 - 41
		III	1928	1928:15	27 - 38
		III	2025:30	2026:30	19 - 40

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE		B U R S T		
1966	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July 20	III	1509:30	1509:45	25 - 35
	III	1546	1546:15	22 - 41
	III	1611:15	1611:30	21 - 41
	III	1617:45	1618:15	22 - 41
	III	1619:15	1619:30	23 - 38
	III	1620:45	1621:45	22 - 41
	III	1735:15	1735:30	20 - 41
21	III	1418:15	1418:30	23 - 41
*	III	1452:45	1453:15	21 - 41
*	III	1459	1459:30	24 - 41
*	III	1523:45	1524:15	25 - 41
*	III	1548:15	1548:45	22 - 30
	III	1606	1606:15	24 - 38
	III	1608	1608:15	28 - 41
	III	1631	1631:15	25 - 35
*	III	1644	1644:45	16 - 41
*	III	1649:30	1651:30	7.6 - 41
	III	1652:30	1652:45	24 - 36
	III	1723:30	1724	22 - 41
	III	1733:15	1733:45	25 - 41
	III	1749:15	1753	21 - 41
	III	1756:15	1756:30	27 - 38
*	Cont.	1805	2050	22 - 41
22	III	1307	1308:30	24 - 41
	III	1358	1358:15	22 - 41
*	III	1358:45	1359:30	22 - 41
*	III	1538:30	1539	20 - 41
*	III	1555:45	1557	7.6 - 41
	III	1629:15	1629:30	25 - 35
	III	1816:45	1817:15	24 - 39
	III	1825:45	1827:15	7.6 - 41
	III	1857:30	1858:30	7.6 - 41
	III	1901:45	1902:15	19 - 41
	III	1934:45	1936:30	7.6 - 41
	III	1940:45	1941:30	22 - 39

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July	22	III	2009	2009:30	21 - 34
	23 *	III	1811:45	1813	7.6 - 41
		III	1938:15	1939	11 - 41
		III	1939:30	1940:15	23 - 41
		III	1940:30	1941	23 - 41
		III	1952:30	1953:15	12 - 41
	24 *	III	1410	1410:30	22 - 32
	*	Cont.	1412:30	1425	20 - 42
	*	III	1428	1428:30	16 - 41
		III	1506:30	1506:45	25 - 41
		III	1728:45	1729:30	21 - 41
	25	III	1256:15	1256:30	23 - 41
		III	1257:15	1259:15	21 - 41
	*	III	1722:30	1725:30	7.6 - 41
		III	1757:15	1757:30	23 - 41
		III	1758:30	1759	23 - 41
	*	III	1826:15	1826:45	22 - 41
		Cont.	1929	1948	22 - 41
		III	1958:15	1958:45	27 - 41
	*	III	2002:15	2002:45	23 - 40
	26 *	III	1159:15	1200	22 - 41
		III	1204	1204:15	18 - 41
		III	1204:45	1206:45	18 - 41
	*	Cont.	1247	1425	20 - 41
		III	1927:30	1928	7.6 - 41
	27	III	1154:45	1155:15	22 - 41
	*	III	1155:30	1156	19 - 41
		III	1224:45	1225	21 - 41
		III	1257:45	1259:45	20 - 41
		III	1300	1300:45	20 - 41
		III	1305:45	1310	21 - 41
	*	III	1327	1327:30	26 - 41
		III	1328:15	1329:30	26 - 41
		III	1333:30	1334	21 - 41
		III	1340:30	1341:30	22 - 34
	*	III	1342:30	1343	24 - 32
	*	III	1353:15	1353:30	22 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July 27		III	1418:30	1419	24 - 36
		III	1421:15	1421:30	23 - 39
	*	III	1424:15	1424:30	28 - 41
	*	III	1427	1427:30	22 - 41
		III	1433	1433:30	23 - 36
	*	III	1445:45	1446	22 - 36
		III	1449:45	1450	24 - 39
		III	1454	1454:15	26 - 37
		III	1456	1457	21 - 41
		III	1502	1505	22 - 41
		III	1505:45	1506	22 - 41
	*	III	1514	1514:15	26 - 41
	*	III	1518	1518:15	23 - 41
	*	III	1525	1525:15	22 - 34
		III	1536:45	1537	22 - 39
	*	III	1624	1625	7.6 - 39
		III	1639:45	1640	24 - 36
	*	III	1646:15	1646:45	23 - 41
		III	1653	1653:15	23 - 35
	*	III	1655:15	1656:15	22 - 41
		III	1657	1657:15	22 - 37
		III	1731	1732:15	9 - 38
		III	1733:15	1733:45	21 - 34
		III	1745:45	1746	22 - 41
		III	1746	1746:45	21 - 41
		III	1803	1804	7.6 - 41
		III	1809:15	1810:15	7.6 - 41
		III	1813	1813:30	11 - 40
		III	1814:45	1815	22 - 40
		III	1816:15	1816:30	23 - 33
		III	1817	1817:45	23 - 41
		III	1832	1832:30	24 - 39
		III	1845	1845:15	23 - 41
		III	1901:30	1902	21 - 40
	*	III	1904:45	1906	7.6 - 41
		III	1906:30	1906:45	26 - 41
		III	1907:30	1908	16 - 41
		III	1937:30	1938:15	22 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July	27	III	1941:15	1941:30	24 - 31
		III	1942:45	1943	22 - 41
		III	1944:30	1944:45	20 - 41
		III	1948:30	1949	21 - 39
		III	1951	1951:30	21 - 40
		III	1952	1952:15	26 - 40
		III	2014:45	2015	21 - 36
		III	2019:30	2020	17 - 37
	28	III	1207:30	1210:30	16 - 41
		III	1211:45	1212:30	16 - 41
	*	III	1217:15	1217:45	16 - 41
		III	1221:45	1222:15	20 - 41
		III	1317:45	1318:30	17 - 41
		III	1323:45	1324:15	18 - 41
	*	Cont.	1338:15	1359:30	20 - 41
		III	1412:45	1413:15	23 - 40
		III	1429:15	1429:30	23 - 40
		III	1432	1432:30	23 - 37
	*	III	1502	1502:15	26 - 33
		III	1502:45	1503:15	20 - 41
		III	1504	1504:30	23 - 38
	*	III	1522	1522:30	24 - 37
	*	III	1526	1526:45	16 - 41
		III	1533:15	1533:45	26 - 34
	*	III	1537	1537:30	24 - 41
		III	1539	1539:15	26 - 33
		III	1539:30	1540:15	21 - 41
		III	1640	1640:30	20 - 38
		III	1725:30	1726	23 - 41
	*	III	1734:15	1734:30	24 - 35
		III	1735	1735:15	25 - 41
	*	III	1736:30	1737:45	7.6 - 41
	*	III	1738:45	1739:15	20 - 38
		III	1754:30	1754:45	23 - 41
		III	1758:45	1759	23 - 32
		III	1801:30	1802	21 - 41
	*	III	1802:15	1803:15	7.6 - 41
		III	1819	1820	21 - 41
	*	III	1820:45	1822	7.6 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July	28	III	1857:15	1857:30	26 - 36
		III	1904:45	1905:45	20 - 41
		III	1914:30	1915	10 - 41
		III	1921:15	1921:45	21 - 39
	*	Cont.	1922:30	1938	24 - 41
	*	III	1923:15	1926	7.6 - 41
		III	1945:45	1947	7.6 - 41
		III	2023:15	2023:30	22 - 36
	29	III	1301:30	1302	19 - 41
	*	III	1339:15	1339:45	20 - 41
	*	III	1403	1403:15	19 - 37
		III	1433:15	1434	22 - 41
		III	1457	1457:15	26 - 36
	*	III	1505:45	1506	21 - 36
	*	III	1516:30	1516:45	25 - 35
		III	1549:15	1549:30	27 - 32
	*	III	1610	1610:45	21 - 41
		III	1618	1618:15	27 - 35
		III	1628:45	1629:15	30 - 41
	*	III	1632:30	1633	12 - 41
		III	1633:15	1633:30	23 - 41
		III	1649	1649:15	30 - 37
		III	1658	1658:30	25 - 39
		III	1718	1720:30	16 - 41
		III	1725	1727	24 - 41
	*	III	1729	1730	19 - 41
		III	1737:15	1737:30	22 - 35
		III	1749:30	1749:45	30 - 36
		III	1805	1805:15	25 - 41
		III	1812:15	1812:30	20 - 37
		III	1815:15	1816	20 - 41
		III	1822:30	1822:45	21 - 36
		III	1823:30	1823:45	22 - 31
	*	III	1825:15	1825:45	21 - 41
		III	1829:15	1829:30	20 - 41
		III	1830:15	1830:30	19 - 32
		III	1838:45	1839:15	22 - 41
		III	1858:15	1858:45	16 - 41
	*	Cont.	1900	0100	20 - 41
	*	III	1910:45	1911:30	7.6 - 41
		III	1913:15	1914:30	7.6 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
July	30 *	III	1254	1255:15	18 - 41
	*	Cont.	1302	1725	19 - 41
	*	III	1717	1723	7.6 - 41
		III	1826:30	1826:45	22 - 41
		III	1839:30	1840	20 - 41
		III	1842:30	1842:45	23 - 39
		III	1851:30	1852	21 - 41
	*	Cont.	1904:30	2020	19 - 41
		III	2034:30	2035	24 - 41
	31	III	1251:15	1251:30	29 - 41
		III	1302:30	1302:45	27 - 41
		III	1325:45	1326	26 - 41
		III	1329:30	1329:45	26 - 38
		III	1333:15	1333:30	23 - 41
		III	1350:30	1351:30	21 - 41
		III	1354:45	1355	25 - 41
	*	Cont.	1401:30	1513	19 - 41
		III	1455:15	1456:30	13 - 41
	*	III	1619	1620	22 - 41
	*	III	1707:45	1708:15	22 - 41
		III	1710	1710:15	30 - 41
	*	III	1757:45	1759	21 - 41
		III	1821:45	1822	27 - 41
		III	1828:45	1829	27 - 41
	*	III	1837:45	1838:15	27 - 41
		III	1842:15	1842:30	21 - 41
		III	1845:45	1846	25 - 41
		III	1854:30	1854:45	24 - 41
		III	1855:30	1855:45	23 - 41
August	1 *	III	1247:45	1248:30	26 - 41
		III	1251:15	1251:45	30 - 41
	*	III	1316	1316:30	28 - 41
		III	1319:30	1319:45	16 - 41
	*	III	1320:15	1320:45	17 - 41
	*	III	1337:45	1338	21 - 41
		III	1354:30	1354:45	20 - 36
		III	1424	1424:15	21 - 41
		III	1653	1653:30	25 - 41
		III	1712:45	1713	22 - 36
		III	1804	1804:15	21 - 37

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL)

DATE	B U R S T			
1966	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
August 1	III	1827:15	1827:30	20 - 35
	III	1840:30	1840:45	20 - 41
	III	2001:45	2002	23 - 41
	III	2018	2018:15	19 - 41
	III	2030:30	2030:45	22 - 36
	III	2035:15	2037:30	7.6 - 41
2 *	III	1257:30	1258:15	22 - 41
	III	1637:15	1637:30	22 - 37
*	III	1640:30	1640:45	24 - 32
	III	1659	1659:15	25 - 33
	III	1715:30	1716:15	9 - 41
*	III	1717	1717:45	9 - 41
	III	1801	1801:15	24 - 31
*	III	1806:15	1807:30	11 - 41
	III	1849:15	1849:30	24 - 41
*	III	1851	1851:15	25 - 37
4 *	III	1317	1317:15	20 - 31
*	III	1513:15	1513:45	21 - 38
	III	1616:15	1616:30	24 - 41
	III	1811:30	1813	7.6 - 41
	III	1823:30	1824:15	7.6 - 41
	III	1923	1923:30	20 - 41
6	III	1816	1816:15	24 - 35
7	III	1512:15	1512:45	20 - 41
	III	1743	1743:30	17 - 41
10	III	1218:45	1219:45	15 - 41
13	III	1514:30	1514:45	23 - 39
	III	1603:30	1603:45	23 - 41
	III	1650	1650:15	26 - 39
	III	1719:15	1719:30	22 - 36
	III	1726	1726:45	24 - 34
	III	1727:45	1728	24 - 36
	III	1753	1753:15	23 - 31
	III	1820	1820:15	21 - 41
14 *	III	1738:30	1739:45	24 - 40
	III	1823:15	1827:15	7.6 - 41
	III	1850:45	1851:15	22 - 39
	III	1851:30	1851:45	23 - 30

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE		BURST			
1966		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
August 23		III	1617:30	1618	26 - 38
		III	1625:15	1627:15	11 - 41
		III	1817	1817:15	24 - 41
		III	1836:45	1837	21 - 41
	*	III	1949	1949:15	20 - 41
	24 *	Cont.	1443:15	2228	18 - 41
	*	II	1536:30	1540	20 - 41
		III	1544:30	1544:45	7.6 - 41
		III	1620	1620:45	7.6 - 41
		III	1707:45	1708:45	11 - 41
		III	1710:15	1713	7.6 - 41
		III	1846:15	1847:30	7.6 - 41
		III	1912:45	1913:30	7.6 - 41
		III	2032:30	2033	7.6 - 41
	25	III	1232:15	1232:30	16 - 41
		III	1235:30	1235:45	24 - 36
		III	1236:45	1237	29 - 37
		III	1259:45	1300	21 - 41
		III	1336:45	1337:15	20 - 41
		III	1345	1345:45	20 - 41
		III	1350	1353:30	16 - 41
		III	1403:30	1403:45	22 - 41
		III	1409:30	1410	20 - 41
		III	1421:30	1422	21 - 41
		III	1431:15	1432	14 - 41
		III	1441	1441:30	21 - 41
		III	1448:30	1449	16 - 41
		III	1458	1458:15	22 - 34
		III	1502:45	1510:15	20 - 41
		III	1517:45	1518	21 - 37
		III	1536:15	1536:30	21 - 35
		III	1545:15	1545:30	25 - 36
		III	1554:45	1555:15	12 - 41
		III	1603:45	1604:30	23 - 41
		III	1616	1616:15	23 - 38
		III	1630:15	1630:45	23 - 41
		III	1634:30	1634:45	30 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
August	25	III	1641:45	1642	22 - 41
		III	1646	1646:30	25 - 39
		III	1650:15	1650:30	25 - 41
		III	1728	1728:15	25 - 39
	*	III	1739:30	1745	7.6 - 41
		III	1800:45	1801	22 - 36
		III	1801:45	1802:45	22 - 41
		III	1943:15	1943:45	7.6 - 41
		III	2022:15	2022:30	24 - 37
	27	III	1633	1634:15	11 - 41
		Cont.	1820	2035	21 - 41
	28	Cont.	1216	1259	21 - 41
	*	IV	1259	1835	21 - 41
		III	1527	1532:15	11 - 41
		II	1534	1547	11 - 41
		Cont.	1835	0110	21 - 41
	29	Cont.	1219	1325:15	21 - 41
		II	1319:30	1324:30	20 - 41
	*	IV	1325:15	1340	21 - 41
	*	Cont.	1340	1656:15	22 - 41
		III	1435:45	1439:45	16 - 41
	*	Cont.	1656:15	2026:45	21 - 41
	*	IV	2026:45	2258	21 - 41
	30	IV	1224	1410	16 - 41
		IV	1440	1700	12 - 41
		IV	1800	2015	12 - 41
		IV	2015	0130	16 - 41
	31	Cont.	1430	0056	20 - 41
		III	1606	1607	7.6 - 41
		III	1608:15	1609:15	7.6 - 41
		III	1609:15	1610	7.6 - 41
September	1	Cont.	1225	1352	20 - 41
		III	1402	1403	16 - 41
		III	1403	1404	16 - 41
	*	III	1415	1415:30	16 - 41
	*	III	1441	1442	13 - 41
	*	Cont.	1352	1746	21 - 41
	*	Cont.	1746	2111	22 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966	B U R S T			
	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
September 2*	III	1300:30	1301	20 - 41
*	III	1303:45	1304:15	22 - 39
*	III	1307:15	1307:30	20 - 41
	III	1814	1814:15	27 - 41
	III	1815:30	1815:45	24 - 35
	III	1909:15	1909:30	20 - 41
	III	1931:15	1931:45	24 - 41
	III	1932:15	1932:30	7.6 - 41
	III	1934:45	1935:15	7.6 - 41
	III	1935:45	1936:15	7.6 - 41
	III	1937:15	1937:45	7.6 - 41
	III	1938:15	1938:30	7.6 - 41
3	III	1329	1330	15 - 41
*	III	1444:30	1445:30	23 - 41
*	III	1510	1510:15	25 - 41
	III	1511:30	1511:45	25 - 41
*	III	1528:45	1529	16 - 41
*	III	1607:45	1608	29 - 41
*	III	1641:45	1642	25 - 35
*	III	1717:30	1718	25 - 41
4 *	III	1243:30	1244:30	13 - 36
*	III	1245	1245:15	25 - 38
*	III	1247:15	1248:15	13 - 41
*	III	1248:45	1249:30	11 - 41
*	III	1250	1251	13 - 38
*	III	1253	1253:45	12 - 41
*	III	1254:45	1255	12 - 31
*	III	1301:30	1302	18 - 41
*	III	1302:30	1304:15	14 - 41
*	III	1557:30	1558	21 - 41
	III	1727:30	1727:45	20 - 33
	III	1749	1749:30	25 - 41
	III	1807:30	1807:45	17 - 31
	III	1810:15	1811	16 - 35
	III	1955:15	1955:30	16 - 38
	III	2042	2042:15	27 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE		B U R S T		
1966	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
September 6	III	1533:30	1534	7.6 - 41
	III	1537:15	1537:30	7.6 - 33
	III	1259	1259:15	26 - 33
*	III	1259:30	1300:30	20 - 35
	III	1431:30	1431:45	24 - 41
	III	1433:45	1434:15	22 - 38
*	III	1437	1438:30	20 - 41
	III	1453:45	1455	21 - 41
	III	1455:45	1456:45	23 - 41
	III	1502:45	1503	22 - 41
	III	1504:15	1505	16 - 41
	III	1505:30	1507:30	23 - 41
	III	1701:15	1701:30	26 - 41
	III	1702:45	1703	23 - 41
	III	1707:45	1708:15	25 - 41
	III	1712	1712:15	21 - 41
	III	1713:45	1714	21 - 41
	III	1716:45	1717:15	24 - 41
	III	1717:30	1717:45	25 - 41
	III	1718:15	1718:30	25 - 39
	III	1719	1719:15	22 - 41
	III	1719:45	1720	26 - 41
	III	1732	1732:15	20 - 41
	III	1736:15	1736:30	22 - 41
	III	1739:15	1739:30	27 - 41
	III	1745:30	1745:45	25 - 35
	III	1800	1800:15	24 - 34
	III	1800:30	1801	22 - 39
	III	1802:45	1803	22 - 41
	III	1809:15	1810	12 - 41
	III	1813:45	1814	9 - 41
	III	1844:15	1844:30	24 - 38
	III	1845:30	1845:45	25 - 38
	III	1852:15	1852:30	20 - 41
	III	1853:30	1854	22 - 36
	III	1856:30	1857	24 - 38
	III	1906:45	1907:15	7.6 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		B U R S T			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
September	6	III	1909:30	1910:15	23 - 41
		III	1911:15	1912	24 - 36
		III	1920:30	1920:45	27 - 41
		III	1922:15	1922:30	24 - 41
		III	1923:45	1924	24 - 41
		III	1954:30	1955	22 - 41
		III	1956	1956:15	23 - 36
		III	1957	1958:15	7.6 - 41
		III	2001:15	2001:45	7.6 - 41
		III	2003:30	2004	21 - 41
		III	2004:45	2005:30	22 - 41
		Cont.	2007	2018:30	21 - 41
		III	2052:45	2053:30	21 - 41
	8 *	III	1253:15	1253:45	13 - 37
	*	III	1304:15	1304:30	21 - 38
	*	III	1324:45	1325	18 - 39
	*	III	1337	1337:15	25 - 40
		III	1351:45	1352	22 - 39
	*	III	1352	1355:15	12 - 41
		III	1457:15	1457:30	23 - 30
		III	1518:30	1518:45	26 - 36
		III	1519:30	1519:45	22 - 30
	*	III	1543:15	1543:45	11 - 41
		III	1547:30	1547:45	7.6 - 41
	*	III	1548:30	1548:45	16 - 41
		III	1602	1602:15	23 - 38
		III	1608:30	1608:45	21 - 30
		III	1617	1617:15	22 - 39
	*	III	1617:30	1617:45	22 - 39
		III	1630:30	1630:45	26 - 39
		III	1639:45	1640	27 - 34
		III	1645:30	1645:45	28 - 40
		III	1705:15	1705:30	19 - 32
		III	1716	1716:15	16 - 41
		III	1730:15	1730:30	21 - 34
		III	1732	1732:15	21 - 38
	*	III	1734	1735	16 - 41
	*	III	1735:45	1736:15	16 - 41
		III	1745:45	1746	25 - 36

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL):

DATE	B U R S T			
1966	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
September 8	III	1749:15	1749:30	22 - 39
	III	1755:15	1755:30	23 - 36
	III	1756	1756:15	23 - 38
	III	1756:30	1756:45	19 - 41
	III	1757:15	1757:30	21 - 41
	III	1802	1802:30	7.6 - 41
	III	1814:30	1814:45	7.6 - 41
	III	1826	1826:15	7.6 - 41
	III	1841:30	1841:45	21 - 34
	III	1842:15	1842:30	21 - 34
	III	1843:30	1843:45	21 - 34
	III	1844	1844:15	21 - 34
	III	1845:15	1845:30	23 - 36
	III	1854	1854:15	14 - 38
	III	1906	1906:15	7.6 - 41
	III	1950:30	1950:45	22 - 36
	III	1954:30	1956:30	13 - 40
	III	1957	1957:15	12 - 41
	III	2021	2021:30	25 - 38
*	III	2023:15	2023:30	20 - 36
	III	2029	2029:30	16 - 41
	III	2033:15	2033:30	13 - 39
	III	2037	2037:15	24 - 39
9 *	III	1309	1309:45	15 - 41
*	III	1330:15	1331	17 - 41
*	III	1333:15	1334	13 - 41
*	III	1334:15	1336:15	12 - 41
	III	1338:30	1338:45	28 - 37
*	III	1528:30	1530:30	12 - 41
	III	1600	1600:30	20 - 41
	III	1719:45	1720:15	7.6 - 41
	III	1720:45	1721:15	7.6 - 39
	III	1721:45	1722	24 - 39
	III	1724:15	1724:30	7.6 - 41
	III	1854	1854:45	18 - 37
	III	1919	1919:30	11 - 41
	III	1932	1932:30	7.6 - 41
	III	1934:15	1934:45	22 - 37
	III	1935:15	1938:30	7.6 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL) .

DATE 1966		B U R S T		
	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
September 9	III	1953	1953:15	26 - 34
	III	2014	2014:45	7.6 - 41
	III	2016	2016:45	20 - 38
	III	2017:30	2019:45	13 - 41
	III	2020:30	2021	9 - 41
	III	2036	2036:15	23 - 38
	III	2036:30	2037:15	7.6 - 41
	III	2037:45	2038	26 - 38
	III	2042:15	2043:15	13 - 38
	III	2045:15	2054:45	7.6 - 41
10 *	III	1248	1248:30	17 - 32
	III	1327:45	1328:15	28 - 38
*	III	1345:45	1346:15	17 - 35
*	III	1420:30	1421	28 - 41
*	Cont.	1422:30	1429	24 - 41
*	III	1422:30	1424	11 - 41
*	III	1426:15	1427:30	11 - 41
*	III	1428	1428:15	19 - 41
	III	1429	1429:30	17 - 37
	III	1438	1438:15	24 - 32
	III	1442:30	1442:45	29 - 36
*	III	1454:45	1455:15	21 - 41
	III	1458	1458:15	16 - 37
	III	1514:45	1516:30	11 - 41
	III	1517	1518	28 - 41
	III	1518	1520:45	7.6 - 41
	III	1525:15	1526:15	21 - 37
	III	1532:45	1533:15	21 - 40
*	III	1542:15	1543:30	7.6 - 41
*	III	1605:15	1608:30	7.6 - 41
*	III	1609:30	1610:15	20 - 41
*	III	1611:30	1612:15	24 - 41
*	III	1614:15	1615:45	16 - 41
	III	1620:45	1621	26 - 41
	III	1622:45	1624	7.6 - 41
	III	1625:30	1628	7.6 - 41
*	III	1632	1633:15	24 - 41
*	III	1638	1638:15	20 - 41
	III	1639:15	1639:45	16 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE		B U R S T		
1966	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
September 10	III	1644:15	1644:30	24 - 38
	III	1701:30	1701:45	23 - 36
*	III	1702:15	1702:30	26 - 38
	III	1703:45	1704	29 - 37
*	III	1710:45	1711:15	22 - 41
	III	1714:15	1714:30	20 - 40
	III	1717	1717:15	21 - 39
	III	1719	1719:30	22 - 38
*	III	1721	1725:30	7.6 - 41
*	III	1725:45	1727:15	7.6 - 41
	III	1738:45	1739	24 - 38
*	III	1747:30	1748	23 - 41
	III	1750:15	1750:30	23 - 41
*	III	1751	1752	7.6 - 41
	III	1753:30	1754:15	25 - 41
	III	1755	1755:30	25 - 41
	III	1756:30	1757	21 - 41
*	III	1801:15	1803:45	7.6 - 41
*	III	1805:15	1806	7.6 - 41
	III	1816	1816:15	21 - 41
	III	1817	1817:15	23 - 39
	III	1829:45	1830	21 - 41
	III	1837:45	1838:15	7.6 - 41
*	III	1844	1845:15	7.6 - 41
	III	1848	1848:30	22 - 38
*	III	1857:30	1858	21 - 41
	III	1931:30	1932:15	23 - 41
	III	1934:15	1935	23 - 40
	III	1941:30	1945	7.6 - 41
	III	1946:30	1947:15	23 - 37
	III	1954:30	1955	9 - 41
	III	1957	1957:30	24 - 41
	III	2009:15	2010	16 - 41
	III	2020:15	2020:45	9 - 39
	III	2035:30	2035:45	24 - 41
	III	2038	2038:15	22 - 41
	III	2039:30	2040:45	7.6 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
September	11	III	1245	1245:15	26 - 39
	*	III	1324:45	1325	30 - 40
	*	III	1357	1357:15	26 - 39
		Cont.	1359:30	0032	22 - 31
	12	III	1449	1449:15	22 - 41
		III	1513	1513:15	21 - 31
		III	1744:30	1745	24 - 41
	13 *	III	1237:30	1237:45	24 - 38
	*	III	1324:15	1325	21 - 41
	*	III	1410:15	1410:30	27 - 41
	*	III	1525:15	1525:45	22 - 37
	*	III	1533:45	1534	23 - 31
		III	1543:45	1544:15	26 - 33
		III	1545:30	1545:45	28 - 35
	*	III	1556:30	1557	28 - 38
	*	III	1600	1600:20	25 - 41
	*	III	1621	1622:15	12 - 41
		III	1650:15	1650:30	19 - 33
		III	1723	1723:15	20 - 41
		III	1733	1733:15	21 - 41
		III	1748:45	1749	16 - 41
		III	1848:45	1849:30	21 - 37
		III	1937:15	1937:30	27 - 37
		III	2031:30	2032	9 - 41
		III	2032:45	2033	21 - 41
	14	III	1535	1535:15	29 - 41
		III	1537:15	1537:30	24 - 38
		III	1538:30	1539:15	25 - 34
		III	1755	1756:45	24 - 41
		III	1837:30	1838:15	25 - 41
	15	Cont.	1249	0030	20 - 41
	16 *	III	1257:30	1258:30	16 - 41
		Cont.	1301	1815	20 - 41
	*	III	1427:30	1428:30	12 - 41
		III	1619	1621:30	10 - 41
	*	III	1624	1625:15	13 - 41
	*	III	1714:15	1715:30	11 - 41
		III	1756:30	1759:15	7.6 - 41
		Cont.	1815	1855	20 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATA 1966		B U R S T			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
September	16	II	1815	1820	24 - 41
		II	1829:15	1836	21 - 41
		III	1833:30	1833:45	9 - 41
		Cont.	1855	0030	22 - 41
		III	2051	2051:30	12 - 41
	17 *	Cont.	1245	0031	22 - 41
		III	1842:45	1843:15	7.6 - 41
		III	2048	2050	7.6 - 41
	18 *	Cont.	1235	0033	20 - 41
		II	1421	1425:15	21 - 38
		II	1505:30	1513:30	24 - 41
	*	II	1526:15	1538:15	22 - 41
		II	1745:30	1748	26 - 41
		III	2031	2032:30	11 - 41
		III	2053:45	2054:30	12 - 41
	19 *	Cont.	1236	1340	18 - 41
		III	1322:15	1325:45	16 - 41
	*	Cont.	1340	1750	18 - 41
	*	III	1410:45	1413:30	16 - 41
		II	1524:15	1529:50	12 - 41
		II	1536:30	1543:30	20 - 41
		II	1546	1549:15	21 - 41
		II	1554	1559:15	11 - 41
		Cont.	1750	2110	18 - 41
		III	1850:30	1857:15	10 - 41
		III	2014	2015:30	12 - 41
	20	III	1231:15	1232:45	18 - 33
		III	1506	1510:45	12 - 41
		III	1558:45	1559:30	12 - 41
		III	1650:45	1652	12 - 41
		Cont.	1713	1731	10 - 41
		Cont.	1731	0029	20 - 41
		III	1904	1905:15	10 - 41
	21	III	1256	1257	19 - 41
	*	Cont.	1303	2355	20 - 41
	*	III	1617:15	1619:45	10 - 41
	*	III	1656:15	1657:15	11 - 41
		III	1823:30	1824:45	9 - 41
		III	1853:15	1854:30	9 - 41
		III	1924:45	1945:45	7.6 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966	B U R S T			
	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
September 21 *	III	1930:15	1932:15	7.6 - 41
	III	2023:15	2024	9 - 39
	III	2025:15	2026	9 - 41
	III	2027:15	2028:30	9 - 41
22	III	1502:45	1503:15	25 - 41
*	III	1516	1516:15	21 - 41
*	Cont.	1516:15	1633	20 - 41
	III	1611:15	1611:45	12 - 41
*	III	1618:30	1622	21 - 41
	III	1717	1717:45	16 - 41
	III	1718	1718:15	30 - 41
	III	1718:30	1718:45	16 - 41
	III	1725:30	1727	9 - 41
	III	1734	1734:15	27 - 41
	III	1737	1737:30	9 - 41
	III	1803	1803:15	20 - 41
	Cont.	1836:45	1842	25 - 41
	III	1919	1919:45	7.6 - 41
	Cont.	1919:45	1925:15	26 - 41
	III	1935:30	1936:15	10 - 41
	III	2051:45	2052:15	13 - 41
23 *	III	1703:30	1704:15	23 - 41
	III	1856	1856:15	16 - 41
	III	1856:45	1857	16 - 41
	Cont.	1905:30	1934:45	22 - 41
24	Cont.	1833	1843	26 - 41
25 *	III	1308:30	1312:45	14 - 41
*	Cont.	1312:45	1340	22 - 41
	II	1318:30	1325:30	16 - 41
*	II	1333	1335:45	21 - 39
*	III	1333:45	1334	16 - 41
*	III	1418	1418:15	22 - 41
	III	1919	1919:30	25 - 32
	III	1923	1923:30	21 - 39
	III	2033:30	2034	11 - 41
27 *	Cont.	1313:15	1341:45	20 - 41
*	IV	1341:45	1410:45	20 - 41
*	Cont.	1410:45	1443:15	22 - 41
	II	1421:30	1426	24 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE		B U R S T			
1966		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
September	28	III	1410:15	1410:45	25 - 41
		III	1518:30	1518:45	24 - 36
		III	1648:45	1649	22 - 40
		III	2008	2008:15	26 - 40
October	1 *	III	1527:45	1528:45	13 - 41
		III	1647:30	1648	12 - 41
	2	III	1600:45	1601	23 - 41
		III	1604:45	1606	21 - 41
		III	1746:15	1746:45	26 - 37
		III	1757:15	1758:15	30 - 40
		III	1831:30	1831:45	22 - 32
		III	1833:45	1834	23 - 31
	3 *	Cont.	1407:45	1451:30	25 - 41
	*	Cont.	1655:15	2355	26 - 41
		III	1800	1800:30	22 - 41
	5	Cont.	1301	0010	22 - 41
		III	1403	1403:45	16 - 41
		III	1414:30	1415	16 - 41
	*	III	1620:15	1621:15	7.6 - 41
	*	III	1628:30	1630:45	7.6 - 41
		III	1958:48	2000:15	7.6 - 41
		III	2042:45	2043:15	12 - 41
	6 *	Cont.	1541:30	1548:15	21 - 41
		III	1914:15	1915	28 - 41
	7	III	1855:30	1855:45	30 - 41
		III	1856:45	1857	8 - 41
		III	1905	1905:15	8 - 41
		III	1914:45	1915	8 - 41
		III	1921	1921:15	8 - 36
	8	III	1259:30	1259:45	23 - 38
		III	1322:15	1322:30	25 - 38
		III	1338:30	1339:15	18 - 41
		Cont.	1353	1402	29 - 41
		III	1400	1400:15	26 - 41
		III	1420:30	1420:45	28 - 40
		III	1434:30	1435:30	28 - 41
		Cont.	1455:15	1726	28 - 41
		III	1515:15	1515:30	28 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATA 1966		B U R S T			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
October	8	III	1522:15	1522:30	17 - 41
		III	1523:45	1524:15	18 - 41
		III	2017:15	2017:30	23 - 41
		III	2054:15	2054:30	23 - 41
		III	2057:15	2057:30	26 - 41
	9	Cont.	1248	1839	28 - 41
		Cont.	1949	0035	28 - 41
	10 *	Cont.	1248	0039	27 - 41
	*	III	1427:30	1427:45	18 - 41
		III	1528:45	1529	24 - 40
	*	III	1605:30	1605:45	22 - 41
	11 *	Cont.	1500	1708:45	27 - 41
		III	1521:15	1521:45	26 - 41
		III	1526:15	1526:30	22 - 41
		III	1644:45	1645:15	26 - 39
		III	1744:30	1744:45	24 - 35
		Cont.	1802:45	2105	24 - 41
	12 *	Cont,	1248	2028:30	26 - 41
		III	1411:45	1412:30	26 - 41
	*	III	1414:15	1414:45	24 - 41
		III	1428	1429:30	22 - 41
		III	1429	1430:15	24 - 41
		III	1430:30	1431:15	23 - 41
		III	1433:15	1434	23 - 41
		III	1437:30	1438:15	22 - 40
		III	1438	1439	24 - 41
		III	1901:30	1902:30	13 - 41
		III	1905:15	1905:45	23 - 41
		III	1907:30	1908:30	17 - 41
		III	2103	2103:30	23 - 41
	13 *	Cont.	1248	0030	22 - 41
	*	III	1336	1338:15	23 - 41
	*	III	1338:45	1339:45	24 - 31
		III	1343	1344:15	24 - 40
	*	III	1344:15	1344:30	24 - 40
	*	III	1344:30	1345:15	23 - 41
		III	1347:30	1347:45	27 - 41
		III	1402	1402:30	28 - 40
		III	1404:30	1404:45	26 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		B U R S T			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
October	13	III	1649	1649:15	24 - 41
	*	III	1746:30	1746:45	22 - 40
		III	1838:15	1838:30	24 - 41
		III	1937:45	1938	23 - 41
		III	1941:15	1941:30	22 - 41
	*	III	1941:45	1942:15	14 - 41
		III	1942:30	1942:45	14 - 38
		III	2010:15	2010:30	22 - 41
		III	2012:15	2013:30	17 - 41
		III	2013:45	2014:30	17 - 41
		III	2017:45	2019:30	17 - 41
		III	2022:45	2023	17 - 41
		III	2026:15	2026:30	21 - 41
		III	2031:15	2031:30	26 - 41
	14 *	Cont.	1247	1415	26 - 41
		III	1721:30	1721:45	22 - 41
		III	1752:30	1752:45	19 - 41
		III	1809:45	1810	22 - 41
		III	1812	1813	19 - 41
		III	1815:30	1815:45	24 - 41
		Cont.	1908	0030	26 - 41
		III	1933	1933:15	25 - 41
		III	2000:30	2001	17 - 41
	15	Cont.	1247	0033	26 - 41
		III	1610:30	1610:45	26 - 41
	*	III	1702:30	1702:45	22 - 41
		III	1838:30	1838:45	22 - 41
		III	1938:30	1939	19 - 41
		III	2036:15	2036:30	28 - 41
	16 *	Cont.	1248	0036	26 - 41
		III	1338:15	1338:30	27 - 41
	*	III	1350	1350:30	24 - 41
		III	1406	1406:30	20 - 37
		III	1503	1503:15	16 - 41
		III	1533:15	1533:30	16 - 41
		III	1534:30	1534:45	17 - 41
		III	1535	1535:15	22 - 37
		III	1535:45	1536	17 - 41
		III	1536:15	1536:30	22 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
October	16	III	1555	1555:45	20 - 41
	*	III	1555:45	1556	20 - 41
	*	III	1600:15	1600:30	28 - 41
		III	1614:30	1614:45	21 - 40
		III	1837:30	1837:45	17 - 41
		III	1849:45	1850	22 - 41
		III	1929	1929:15	16 - 41
		III	2006	2006:15	17 - 41
		III	2021	2021:15	17 - 41
	17	Cont.	1247	0032	26 - 41
		III	1349:30	1349:45	28 - 41
		III	1403:15	1403:30	24 - 41
		III	1541:30	1541:45	25 - 41
	*	III	1706	1706:15	26 - 41
		III	2024	2024:15	20 - 41
	18	Cont.	1246	0030	26 - 41
		III	1322	1322:30	27 - 38
		III	1504	1504:30	27 - 38
		III	1521:15	1521:30	26 - 41
		III	1738:30	1739	28 - 41
		III	1742:30	1742:45	28 - 41
		III	1842:15	1842:45	7.6 - 41
		III	1843	1843:15	17 - 41
		III	1843:30	1844:15	17 - 41
		III	1939:50	1943	14 - 41
	19 *	Cont.	1247	1625	28 - 41
	*	Cont.	1625	0035	16 - 41
	20	Cont.	1247	1520	26 - 41
	23 *	III	1437:45	1438	28 - 41
	*	III	1537:45	1538	30 - 41
		III	1743:15	1743:30	25 - 41
	*	III	1805:45	1806:15	16 - 41
		III	1806:30	1806:45	24 - 39
	27	III	1352:30	1352:45	28 - 41
		III	1353	1353:15	28 - 41
		III	1353:30	1353:45	28 - 41
		III	1354:45	1355	27 - 41
	28	III	1254	1255	24 - 61
	29	III	1707:15	1707:30	21 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE		B U R S T			
1966		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
October	29	III	1906:30	1906:45	16 - 41
		III	1918:45	1919	23 - 41
		III	2100:15	2100:45	24 - 39
	30	III	1917:15	1917:30	24 - 71
		III	2016:30	2016:45	22 - 41
		III	2017	2017:30	22 - 41
		III	2018:15	2018:30	26 - 40
November	1	Cont.	1500	1908	26 - 41
		III	1515:30	1515:45	28 - 40
		III	1816:45	1817	22 - 38
		III	1817:15	1817:45	20 - 41
		III	1836:15	1836:30	22 - 39
		III	2004:15	2004:30	24 - 37
		Cont.	2010	2030	24 - 41
		III	2011	2011:45	25 - 41
		III	2012	2012:15	22 - 41
	2 *	Cont.	1300	1534	22 - 41
		III	1402:45	1403	25 - 35
		III	1618:30	1618:45	26 - 41
		III	1707	1707:30	21 - 39
		III	1720:15	1720:45	24 - 40
		III	1721:30	1721:45	26 - 36
		III	1722:15	1723	16 - 41
		III	1723:15	1724:30	16 - 41
		III	1726:30	1726:45	26 - 34
		Cont.	1736	1933	25 - 41
		III	1743:30	1743:45	26 - 39
	4 *	III	1437:30	1437:45	24 - 40
	5 *	III	1606:45	1607	24 - 39
		III	1720:45	1721:15	26 - 41
		III	2008	2008:15	27 - 41
		III	2008:15	2008:45	24 - 41
		III	2036	2036:15	24 - 41
		III	2108:30	2108:45	30 - 36
	6 *	III	1543	1543:15	20 - 41
	*	III	1543:45	1544	25 - 41
	*	III	1544	1544:15	25 - 41
	*	III	1544:30	1544:45	25 - 41
		III	1547:15	1547:30	25 - 33

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVES (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
November	6	III	1609:45	1610	26 - 38
		III	1611	1611:15	28 - 36
	*	III	1614:15	1614:30	28 - 41
		III	1736:30	1736:45	22 - 40
		III	1832	1832:15	23 - 35
		III	1838	1838:15	22 - 41
		III	1932:45	1933:15	22 - 39
		III	1948:15	1948:30	23 - 41
		III	1948:30	1949	23 - 41
		III	1951	1951:45	20 - 41
		III	1956	1956:15	28 - 41
		III	2045	2045:15	30 - 39
		III	2053	2053:30	30 - 39
		III	2055	2055:15	28 - 38
		III	2055:45	2056:30	27 - 38
		III	2056:45	2057	22 - 40
		III	2104	2104:15	22 - 41
		III	2104:15	2104:30	23 - 41
		III	2104:30	2104:45	23 - 41
		III	2105:30	2105:45	23 - 41
		III	2107:30	2108	21 - 43
	7	III	1551	1551:15	30 - 38
		III	1701:30	1701:45	28 - 40
		III	1904	1904:30	22 - 38
	8	III	1533	1533:45	21 - 41
		III	2010	2010:45	22 - 38
		III	2049	2049:30	28 - 39
	9	III	1357	1357:15	28 - 39
		III	1856:45	1857:30	23 - 41
		III	1916	1916:30	22 - 41
		III	1916:30	1917	22 - 41
		III	1917:15	1917:30	28 - 40
	10	III	2046	2046:15	25 - 35
	11 *	III	1409	1409:15	25 - 41
		III	1633:45	1634	19 - 41
		III	1650	1650:15	20 - 41
		III	1734:15	1734:30	30 - 38
		III	1751:30	1751:45	28 - 40
		III	1959:30	1959:45	26 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE	B U R S T		
1966	TYPE	TIME INTERVAL (UT)	FREQ. RANGE (MHz)
November 11	III	2117:30 2117:45	28 - 39
12	III	1603:30 1603:45	30 - 37
	III	1627:45 1628	30 - 39
	III	1634:15 1634:30	29 - 41
	III	1721 1721:15	25 - 40
	III	1959:15 2000:15	22 - 41
	III	2000:15 2000:30	21 - 37
13	III	1509:45 1510	29 - 40
	III	1515:30 1515:45	28 - 41
	III	1619:45 1620	28 - 41
	III	1638:30 1638:45	29 - 38
	III	1639:15 1639:30	27 - 41
	III	1725:15 1725:30	28 - 41
14 *	III	1515:30 1515:45	28 - 39
	III	1515:45 1516	28 - 39
	III	1516 1516:15	30 - 40
	III	1900:30 1900:45	27 - 40
16	III	1753:30 1753:45	24 - 38
17	III	2035:45 2036:30	23 - 41
	III	2108 2108:15	26 - 41
18	III	1606:15 1606:30	27 - 38
22 *	II	1903:30 1920:30	19 - 40
24 *	III	1524:30 1524:45	29 - 41
25	III	2011:15 2011:30	24 - 41
	III	2011:30 2011:45	27 - 38
	Cont.	2013:15 2019	27 - 41
	III	2123:30 2123:45	22 - 38
26	III	2028:45 2039:15	24 - 36
27	III	1522 1523	27 - 39
	Cont.	1604:30 1652	28 - 41
	III	1604:30 1604:45	29 - 40
	III	1631:15 1631:30	29 - 37
	III	1632:30 1633	28 - 41
	III	1633:45 1634	30 - 41
	III	1636:30 1637	30 - 41
	III	1712:45 1713:30	22 - 39
	Cont.	1823 1831	22 - 41
	III	1824:30 1825	16 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVES (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		BURST			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
November	27	III	1825	1825:15	16 - 41
		III	1826:15	1826:30	22 - 30
		Cont.	2013:45	2044	26 - 41
		III	2033:15	2033:30	24 - 39
	28	III	1956	1956:15	26 - 39
	29	III	1542:45	1543	28 - 40
	*	III	1614:15	1614:30	28 - 40
	*	III	1708	1708:30	22 - 41
	*	III	1714:30	1715	22 - 41
	*	III	1715	1715:30	24 - 38
	*	III	2021:30	2021:45	26 - 35
	30 *	III	1630:15	1630:30	21 - 41
	*	III	1631	1631:15	22 - 39
	*	III	1631:30	1631:45	22 - 39
	*	III	1631:45	1632	22 - 38
December	1 *	Cont.	1747:15	1820	17 - 41
		III	1748	1748:15	17 - 41
		III	1748:15	1749:45	17 - 41
	2	III	1811:15	1811:30	29 - 41
		III	1811:45	1812	27 - 40
		III	1812:30	1812:45	25 - 35
	3 *	III	1535:15	1535:45	21 - 41
	*	III	1537:45	1538:15	20 - 41
		III	1810:15	1810:30	24 - 38
	4 *	III	1713:45	1714:30	24 - 39
	*	III	1755:30	1755:45	21 - 38
	5	III	1653:45	1654	24 - 39
		III	1848:15	1848:30	26 - 35
	6 *	III	1412	1412:15	27 - 40
		III	1414	1414:15	28 - 39
	*	III	1424:30	1424:45	27 - 38
		III	1844:15	1844:45	22 - 40
		III	1846:15	1846:30	22 - 41
		III	1846:30	1846:45	23 - 39
		III	2101:45	2102:15	22 - 41
	7	III	1707:30	1707:45	24 - 37
		III	1708	1708:15	24 - 37
		III	1710	1710:30	22 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY h.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE	B U R S T			
1966	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
December 7	III	1821:15	1821:30	24 - 40
	III	1831:45	1832:15	24 - 40
	III	1832:15	1832:30	24 - 40
	III	2028	2028:30	16 - 41
	III	2028:30	2029	16 - 41
	III	2029:30	2029:45	16 - 41
	III	2030:15	2030:30	23 - 38
	III	2030:30	2030:45	23 - 37
	III	2030:45	2031	23 - 37
	III	2031:30	2031:45	23 - 36
8 *	III	1543:30	1543:45	24 - 40
	III	2048:30	2049	26 - 37
9	III	1807	1807:15	27 - 41
	III	2000:30	2000:45	30 - 40
	III	2001	2001:30	30 - 40
	III	2001:45	2002:30	27 - 40
	III	2126:45	2127:15	22 - 41
10 *	III	1532:30	1532:45	28 - 41
	III	1548:45	1549	29 - 41
*	III	1551:15	1551:30	27 - 41
*	III	1551:45	1552	30 - 40
*	III	1558	1558:30	25 - 38
*	III	1605	1605:15	26 - 41
*	III	1606:30	1606:45	27 - 39
	III	1609:30	1609:45	27 - 39
	III	1609:45	1610	27 - 39
	III	1618:30	1618:45	26 - 39
	III	1623	1623:15	30 - 41
	III	1707	1707:15	22 - 41
	III	1748:15	1748:30	25 - 39
	III	1808	1808:30	28 - 39
	Cont.	1828	1855	28 - 41
	III	1828	1828:15	22 - 38
	Cont.	1855	2000	28 - 41
	III	1910:30	1911	22 - 41
	III	1931:30	1932:15	24 - 41
	III	1934:45	1935:15	22 - 41
	III	2048	2048:30	22 - 41
	Cont.	2105	2145	26 - 40

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		B U R S T		
	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
December 10	III	2115:30	2116:30	26 - 39
	III	2137:15	2137:30	27 - 37
	III	2138:15	2138:30	28 - 41
	III	2138:30	2139	28 - 41
	III	2140	2140:30	22 - 41
	III	2140:45	2141	27 - 38
11	Cont.	1455	1905	28 - 41
*	III	1456:15	1506:45	27 - 41
*	III	1457:15	1457:30	26 - 41
	III	1459:15	1459:30	26 - 41
	III	1459:30	1459:45	27 - 41
*	III	1500	1500:15	28 - 41
	III	1501:30	1501:45	27 - 38
	III	1522:45	1523	30 - 41
12	Cont.	1523	2120	26 - 41
	III	1524:30	1524:45	28 - 41
*	III	1542:30	1542:45	27 - 38
	III	1644:30	1644:45	27 - 40
	III	1656:15	1656:30	26 - 40
	III	1658:30	1658:45	26 - 38
	III	1736:15	1736:30	22 - 38
	III	1759:30	1759:45	28 - 41
	III	1836:45	1837	25 - 39
	III	2033:30	2033:45	26 - 40
	III	2108:45	2109	26 - 39
14	III	1718	1718:15	25 - 39
15	III	1539:15	1539:30	23 - 41
20	III	1452:45	1454:15	28 - 41
*	Cont.	1452:45	1516	24 - 41
	III	1454	1454:15	26 - 41
	III	1455:45	1456	29 - 37
	III	1507:15	1507:45	25 - 41
	III	1513	1513:15	28 - 41
*	Cont.	1516	1523	24 - 41
	III	1519	1519:15	26 - 41
	III	1602:15	1603:30	25 - 41
	III	1603:45	1604:15	26 - 39
	III	1608	1608:15	28 - 41
	III	1617	1617:30	29 - 37

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE	B U R S T		
1966	TYPE	TIME INTERVAL (UT)	FREQ. RANGE (MHz)
December 20	III	1633 1633:30	25 - 41
	III	1650:15 1650:30	21 - 41
	III	1650:30 1650:45	22 - 41
	III	1650:45 1651:15	27 - 41
	III	1706 1706:15	28 - 41
	III	1706:30 1706:45	28 - 41
	III	1709:45 1710	26 - 41
	III	1742:45 1743	27 - 41
	III	1743 1743:30	27 - 41
	III	1744:30 1745	23 - 41
	III	1745 1745:30	16 - 41
	III	1745:30 1747:15	19 - 41
	III	1752:45 1753:30	24 - 41
	III	1753:45 1754:30	24 - 39
	Cont.	1811:15 1811:30	25 - 41
	III	1812:30 1813:15	25 - 41
	III	1818:15 1819	21 - 41
	III	1825:30 1825:45	27 - 41
	III	1826:30 1827:30	22 - 41
	III	1827:30 1828:15	22 - 41
*	III	1832:30 1833	22 - 39
	III	1850:45 1851	23 - 37
	III	1851:30 1851:45	22 - 37
	III	1854:15 1854:30	28 - 40
	III	1915:30 1915:45	22 - 41
	III	2031 2032	21 - 41
	III	2035:45 2036	27 - 41
	III	2058:15 2058:30	30 - 41
	III	2113:30 2114	28 - 39
*	III	2114 2114:30	28 - 39
	III	2115:30 2116:30	28 - 39
	III	2116:30 2116:45	26 - 41
	III	2116:45 2117	28 - 40
21 *	III	1451 1456:45	28 - 41
	III	1454:15 1454:45	24 - 41
	II	1505:30 1510:15	28 - 41
	III	1513:15 1513:30	26 - 41
	III	1705:30 1707	24 - 41
	III	1718:45 1719:15	27 - 39

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966		B U R S T			
		TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
December 21		III	1719:15	1719:45	25 - 40
		III	1816:30	1817	23 - 40
	*	III	1817	1817:30	21 - 41
		III	1817:45	1818:15	25 - 40
		III	1818:15	1818:30	26 - 40
		III	1819	1820:30	26 - 40
		III	1822:30	1823	21 - 41
		III	1826:30	1826:45	21 - 39
		III	1828	1828:15	25 - 40
	*	III	1911:30	1912	6.5 - 41
		III	1912	1912:45	6.5 - 41
		III	2100	2100:15	21 - 41
	22	III	1931:30	1931:45	25 - 40
		III	1931:45	1932:15	25 - 40
		III	1932:15	1932:30	25 - 40
	23 *	III	1506	1506:15	24 - 41
	*	III	1506:15	1506:45	24 - 41
		III	1852:30	1852:45	20 - 41
	*	III	1852:45	1853	26 - 41
		III	1855:15	1855:30	27 - 41
		III	2023:15	2023:30	30 - 41
		III	2108	2108:15	22 - 41
		III	2108:15	2108:30	22 - 41
		III	2108:30	2109	22 - 41
		III	2140:30	2141:15	27 - 41
		III	2143	2143:30	22 - 41
		III	2143:30	2143:45	22 - 41
		III	2144:15	2144:30	21 - 41
		III	2144:30	2145	22 - 41
		III	2145:14	2145:45	30 - 41
	24 *	III	1440:30	1440:45	28 - 41
		III	1538:30	1538:45	29 - 41
	*	III	1622	1622:30	25 - 41
	*	III	1622:30	1623:15	26 - 41
		III	1624	1624:15	28 - 41
	*	III	1659:45	1700	27 - 37
	*	III	1700:15	1700:30	27 - 38
		III	1715:45	1716:15	26 - 41

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE	BURST			
1966	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
December 24	III	1717:15	1717:30	22 - 41
	III	1717:30	1717:45	22 - 41
	III	1717:45	1718:30	22 - 41
	III	1718:30	1719:30	22 - 41
	III	1831:30	1831:45	26 - 41
	III	2118:30	2119:45	22 - 41
26 *	III	1735:30	1735:45	26 - 40
	III	1936:30	1936:45	27 - 37
	III	2139	2139:15	22 - 41
	III	2139:15	2139:45	22 - 41
	III	2139:45	2141:15	22 - 41
	III	2142	2142:15	24 - 41
28 *	III	1532:45	1533	25 - 41
	III	1540:45	1541	30 - 36
29 *	III	1526:30	1527	25 - 40
*	II	1558	1600:30	26 - 41
	Cont.	1707:15	1805	28 - 41
*	III	1707:15	1707:30	22 - 41
*	III	1707:30	1708:15	22 - 41
*	III	1708:15	1709	22 - 41
*	III	1709:15	1709:45	26 - 41
*	III	1709:45	1710:15	27 - 41
*	III	1740	1740:30	24 - 40
	III	1740:45	1741	27 - 40
*	III	1814:45	1815:30	28 - 41
	III	1855:45	1856:15	23 - 37
	III	1921	1921:15	29 - 39
	III	1923:45	1924	28 - 38
	III	2045	2045:30	26 - 41
	III	2144:15	2144:45	29 - 41
	III	2145:15	2145:30	28 - 37
	III	2145:45	2146	27 - 32
30	III	1727:45	1728	25 - 39
	III	1841:30	1841:45	30 - 39
	III	2019:30	2019:45	20 - 41
	III	2056:15	2056:30	22 - 37
	III	2057:15	2057:30	31 - 39
	III	2058:15	2058:30	28 - 38
	III	2059:15	2059:30	28 - 37

TABLE II (Cont.)

LISTING OF BURSTS WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC AS PUBLISHED BY H.A.O. BOULDER (COLORADO) AND AS OBSERVED (*) ON THE RIOMETER OF SÃO JOSÉ DOS CAMPOS (BRAZIL).

DATE 1966	B U R S T			
	TYPE	TIME INTERVAL (UT)		FREQ. RANGE (MHz)
December 30	III	2106:30	2106:45	19 - 41
	III	2107:15	2107:45	19 - 41
	III	2108:30	2108:45	22 - 36
	III	2127	2127:45	22 - 41
	III	2128:45	2129	22 - 41
31	II	1609:15	1619:30	22 - 41
	II	1629:30	1644:30	25 - 41
*	III	1653	1658:30	17 - 41
	II	1658:30	1706:30	17 - 41
	IV	1709	1802	24 - 41
	Cont.	1837	1853	26 - 41
*	III	1841	1845	16 - 41
	III	1850:15	1850:30	26 - 41
	III	1850:45	1851:15	22 - 41
	III	1851:30	1851:45	22 - 41
	III	1915	1915:15	23 - 41
	III	2013:45	2014:15	23 - 41
	III	2014:15	2014:30	23 - 41
	III	2014:30	2015	23 - 41
	III	2015	2015:15	23 - 41
	III	2122:45	2124:15	21 - 41
	III	2137:15	2137:45	26 - 41
	III	2137:45	2138:15	26 - 41
	III	2138:45	2139:45	22 - 41

TABLE III

$SCNA_S$ WHICH OCCURRED UNDER SUNLIT PERIOD AT SJC
AS PUBLISHED BY H.A.O. BOULDER (COLORADO).

DATE 1966	IMPOR-TANCE	TIME INTERVAL (UT)		RELATED SCNA AT SJC RIOMETER	
		START	END	START	END
Jul. 4	1	1650	1700	-	-
8	2	1707	1754	1710	1736
10	2	1622	-	1632	1658
26	1-	1448	1508	1428	1451
Aug. 26	1	1756	1826		
28	3+	1525	1547	-	1548
30	1+	1453	1534	1457	1527
Sept. 4	1	1701	1720	1701	1730
5	-	1248	1400		
10	1-	1837	1850		
14	1+	1013	1058		
18	2	1455	1522	1455	1530
19	1-	1210	1241	1210	1241
19	2	1522	1543	1528	1550
20	1-	1710	1820		
21	2	0932	0950	0935	0940
23	1-	1557	1601		
Oct. 12	1+	1341	1400		
14	1-	1310	1333	1310	1328
15	1-	1915	1917		
23	2	2057	2142		
Nov. 19	1-	0831	0845	0833	0845
Dec. 8	-	1758	-		
9	2	1758	1836	1758	1822
14	2	1153	1255		
17	1-	0817	0826		
21	1	1938	2006		
23	1	0757	0831		

TABLE IV

SCNA$_S$ OBSERVED WITH THE RIOMETER AT SÃO JOSÉ DOS CAMPOS

DATE	ABSORPTION					RELATED FLARE			
	PERIOD (UT)			MAX VALUE	MAX VARIATION	IMPORTANCE	PERIOD (UT)		
1966	START	MAX PHASE	END	(db)	(db)		START	MAX PHASE	END
Jul. 8	1710	1723	1736	1.64	0.50	1	1710	1725	1738
10	1632	1640	1658	1.73	0.40				
26	1428	1448	1451	2.01	0.71	S	1426	-	1439
Aug. 30	1457	1513	1527	1.30	1.30	2n	1451	1512	1548
Sept. 4	1701	1705	1730	1.67	0.30				
18	1455	1502	1530	2.67	1.67	2b	1452	1500	1526
19	1210	1215	1241	1.76	1.12	2b	1210	-	1300
19	1528	1532	1550	2.22	1.01	1n	1459	1530	1617
21	0935	0938	0940	1.04	0.25	2n	0929	-	1010
Oct. 13	1340	1344	1402	2.86	1.71	1n	1330	1341	1409
14	1310	1320	1328	1.10	0.31	1b	1305	-	1400
23	1425	1435	1530	2.81	1.11	1b	1423	-	1450
Nov. 19	0833	0840	0845	0.57	0.00	1f	0820	-	0824
Dec. 9	1758	1805	1822	3.65	1.37	2b	1758	1806	1906
21	1457	1507	1512	2.38	0.62				
23	1312	1325	1341	2.04	0.49				
23	1406	1412	1447	1.90	0.26				
23	1508	1512	1520	2.69	0.96	1n	1506	1509	1549
23	1640	1700	1734	2.67	0.42	1n	1638	1706	1734

XII - "QUIET-DAY" CURVE

The "quiet-day" curve for this station has been obtained from all the available data from the operation of the riometer during a period of relatively low absorption.

However with this procedure it seems that some errors have been introduced in the "quiet-day" curve, which became apparent while reduction of riometer data was performed in terms of daily absorption. They occurred as a consequence of including values obtained from hours when the absorption was low but could not be disregarded or considered equal to ZERO.

The whole "quiet-day" curve is being revised continuously using data corresponding to local time between 0300 AM and 0600 AM, when the absorption is low.

Due to equipment failure which occurred during the regular operation of the riometer, care should be taken while using the "quiet-day" curve to reduce riometer data (See appendix I).

During the month of October and November, 1964 the riometer records presented a distortion on the daily curve with the I max/I min reduced of 15% to 25%. This was attributed to an equipment failure rather than to an external cause, solar or ionospheric. For the above reason the data of October was considered unreliable and was not reduced to absorption values.

The "quiet-day" curve "b" of Fig.9 corrected as shown in Fig. I was used in the data reduction in the period from January through June 1966.

The time scale in the "quiet-day" curve is the sidereal hour (referred to the first point of Aries). The sidereal time corresponding to 0000 GMT for the middle of each month is given in the table in Appendix II.

XIII - CONCLUSION

Except for very strong interference produced by thunder storms, typical of the summer period in this latitude, this station is placed in a very quiet location.

The riometer records are quite free from man made interferences.

Due to the reasons mentiones before, the results on the absorption deduced from the "quiet-day" curve as it stands now, should be considered qualitative rather than quantitative information.

More results with consistent operation of the riometer are needed and provide data for a detailed study of the seasonal variation of non-deviative absorption.

This station will continue its operation and will provide data on ionospheric absorption as during the cooperative program for the International Quiet Sun Year (1964 - 1965).

Data will be sent to the World Data Center, as established in the Guide to International Data Exchange, CIG - IQSY Committee. The recordings are reproduced in the AFCRL publication Geophysics and Space Data Bulletin.

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1) Little, C.G., and Leinbach, H. - "The Riometer" - A Device for the Continuous Measurements of Ionospheric Proceedings of IRE, Feb. 1959, Vol.47, pp. 315-320.

2) Little, C.G., and Leinbach, H. - "Some Measurements of High- latitude Ionospheric Absorption Using Extra-terrestrial Radio Waves"- Proceedings of IRE, Jan. 1958, Vol. 46, pp. 334-348.

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4) URSI - AGI Committee - letter in "Questionnaire on Ionospheric Absorption Measurements" - A2, Appendix A, Sept. 15, 1958.

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7) Goldman, S.C. and Horowitz, S. - "Global Riometer Measurements".

8) Goldberg, L. - The physics of the sun, its nature, structure and emission properties (from "Space Science" edited by Donald P. Le Galley).

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10) Kreplin, R.W. - Solar X-rays- Ann. Geophys. 17, 151 (1961).

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13) High Altitude Observatory, Boulder, Colorado - Reports from TR 749 through TR 801

APPENDIX I

"EXPLANATION ON THE USE OF THE "QUIET-DAY" CURVE TO REDUCE THE RIOMETER DATA FROM SÃO JOSÉ DOS CAMPOS"

During the regular operation of the riometer at this site which started in March 1963, some equipment failure occurred for short periods. After each time the equipment failed, it was recalibrated and reset, but the output did not repeat exactly the former characteristics, presenting a different level on the daily recorded current. In order to reduce the current to absorption, an adequate "quiet-day" curve, must be used for the different periods of operation of the riometer.

For the period April 1 to July 24, 1963, the "quiet-day" curve is shown in Fig. 9 curve a. It was obtained eith data acquired during the first few month of operation and should be considered as an approximation to the "quiet-day" curve.

Curve b in Fig. 14 was obtained as the basic "quiet-day" curve for our station (São José dos Campos).

Corrections should be introduced in this curve in order to compensate for the different levels of current which occurred after each time the equipment failed.

The adequate correction factor for the different periods of operation is indicated in the table below:

Period	Correction
Aug.1 - Dec. 31 1963	Add 0.25 MA to the values of the "quiet-day" curve, Fig. 14 curve b.
Jan.1 - May 4	Curve b of Fig. 14 is adequated for this period.
May 6 - Sept. 5	Divide the values of curve b in Fig. 14 by the factor 1.12 MA.
Sept.7 - Sept. 8	Divide the values of curve b in Fig. 14 by the factor 1.15 MA.

APPENDIX II

" NOTE ON THE TIME SCALE OF THE "QUIET-DAY" CURVE; PRESENTED IN THE ABSORPTION MEASUREMENTS WITH RIOMETER DATA SUMMARY : REPORT Nº LAFE 9, 12,16,17,22,28,38,42,45.

In order to reduce the time scale of the "quiet-day" curve to the true sidereal time (referred to the first point of Aries) one should add 17h 36m to the hours indicated in the figure showing the "quiet-day" curve. That is, the maximum value of the curve corresponds approximately to the sidereal hour 17h 36m or SHA = 96°.

The table below indicates the sidereal time corresponding to 00:00 GMT for the middle of each month starting on 1963.

GMT hour	Month	Sidereal Time							
		1963		1964		1965		1966	
h....m....		h....	m....	h....	m....	h....	m...	h...	m...
00:00	Jan. 15	04	33	04	33	04	36	04	36
"	Feb. 15	06	35	06	35	06	38	06	38
"	Mar. 15	08	26	08	29	08	28	08	28
"	Apr. 15	10	28	10	30	10	30	10	31
"	May 15	12	26	12	30	12	27	12	29
"	Jun. 15	14	28	14	30	14	29	14	31
"	Jul. 15	16	26	16	28	16	27	16	29
"	Aug. 15	18	31	18	34	18	33	18	32
"	Sept.15	20	33	20	36	20	35	20	34
"	Oct. 15	22	31	22	34	22	33	22	32
"	Nov. 15	24	33	24	36	24	35	24	34
"	Dec. 15	02	31	02	34	02	33	02	32

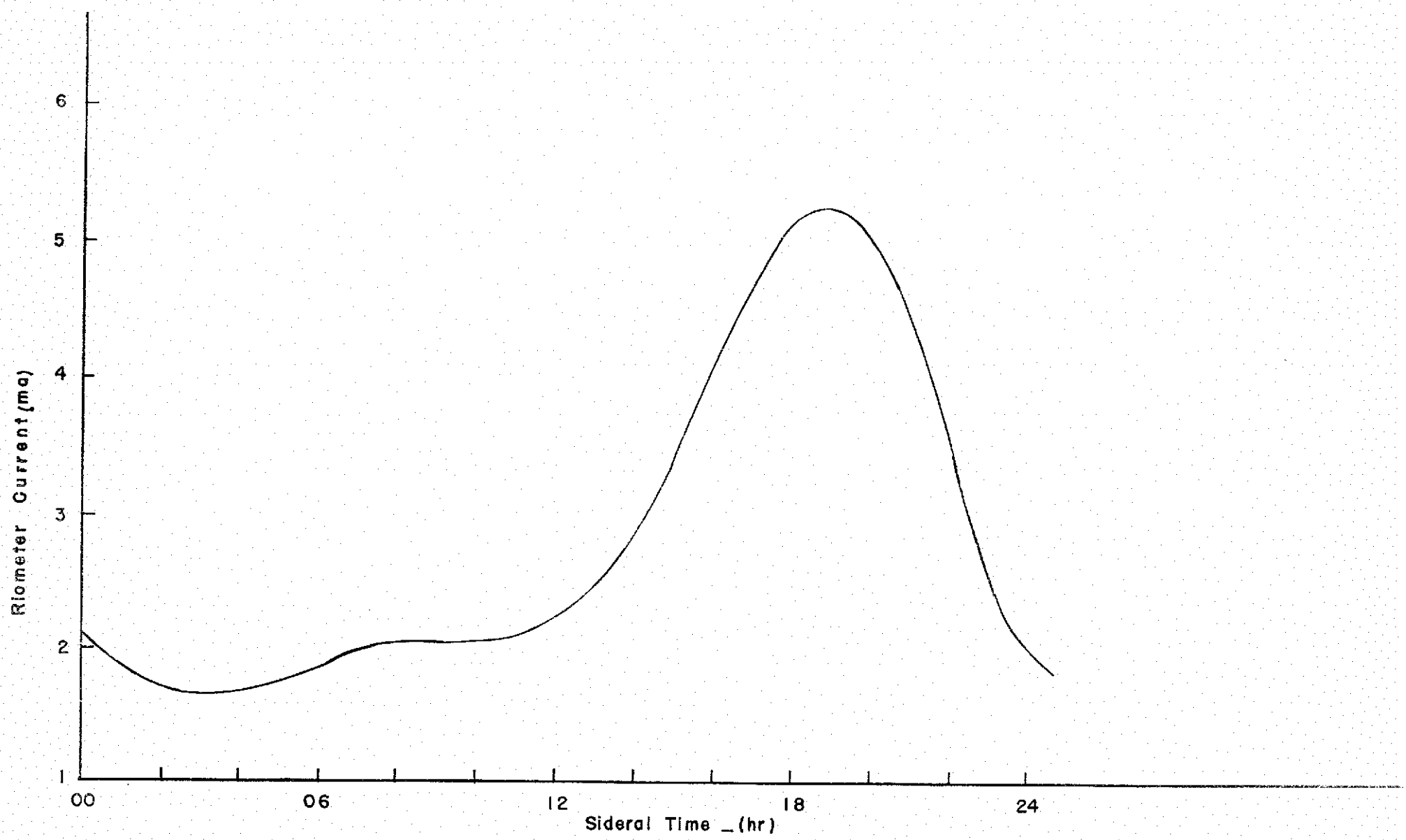

Fig. 1 QUIET-DAY CURVE

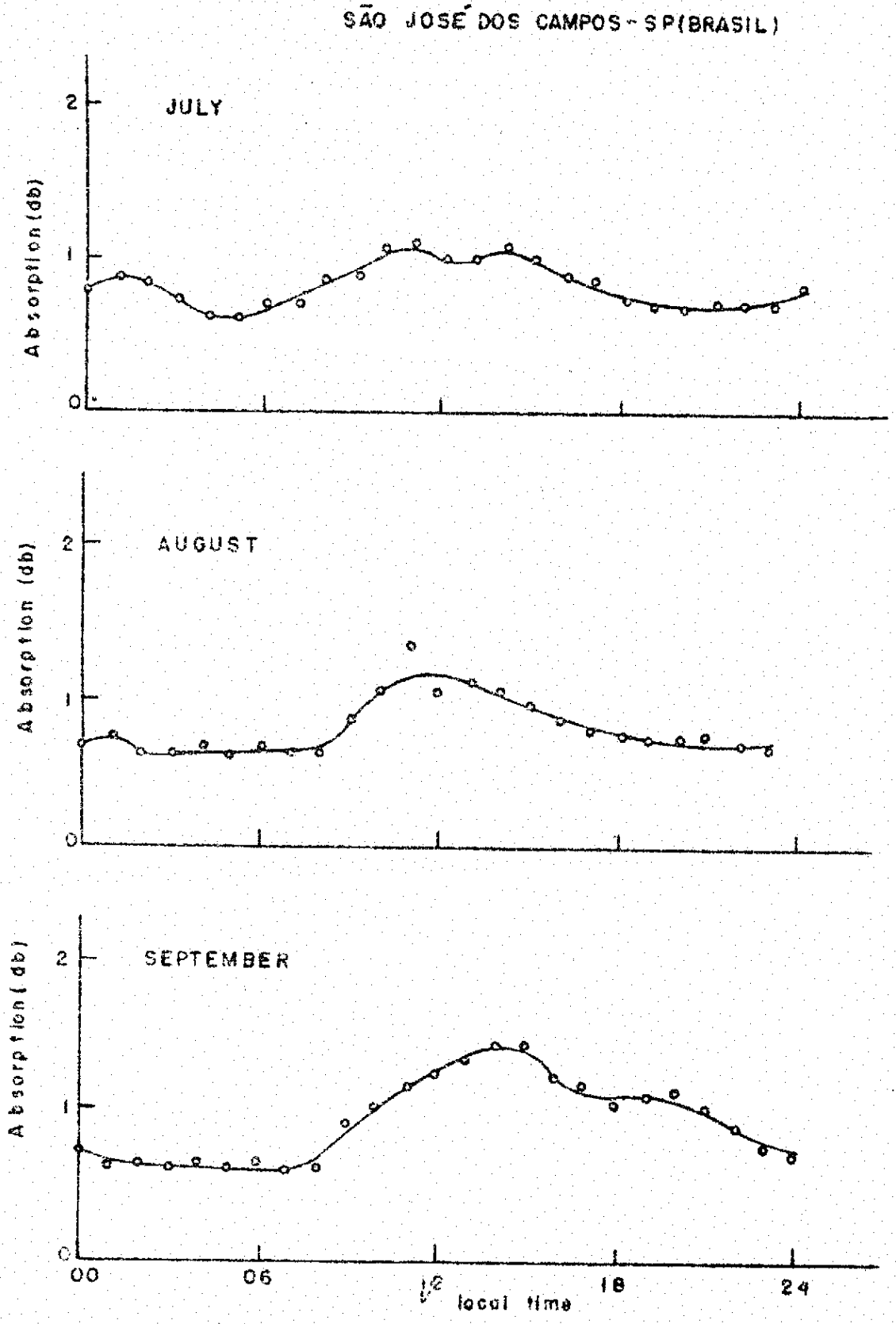

FIG 2 MEDIAN MONTHLY ABSORPTION CURVE (July - September 1966)

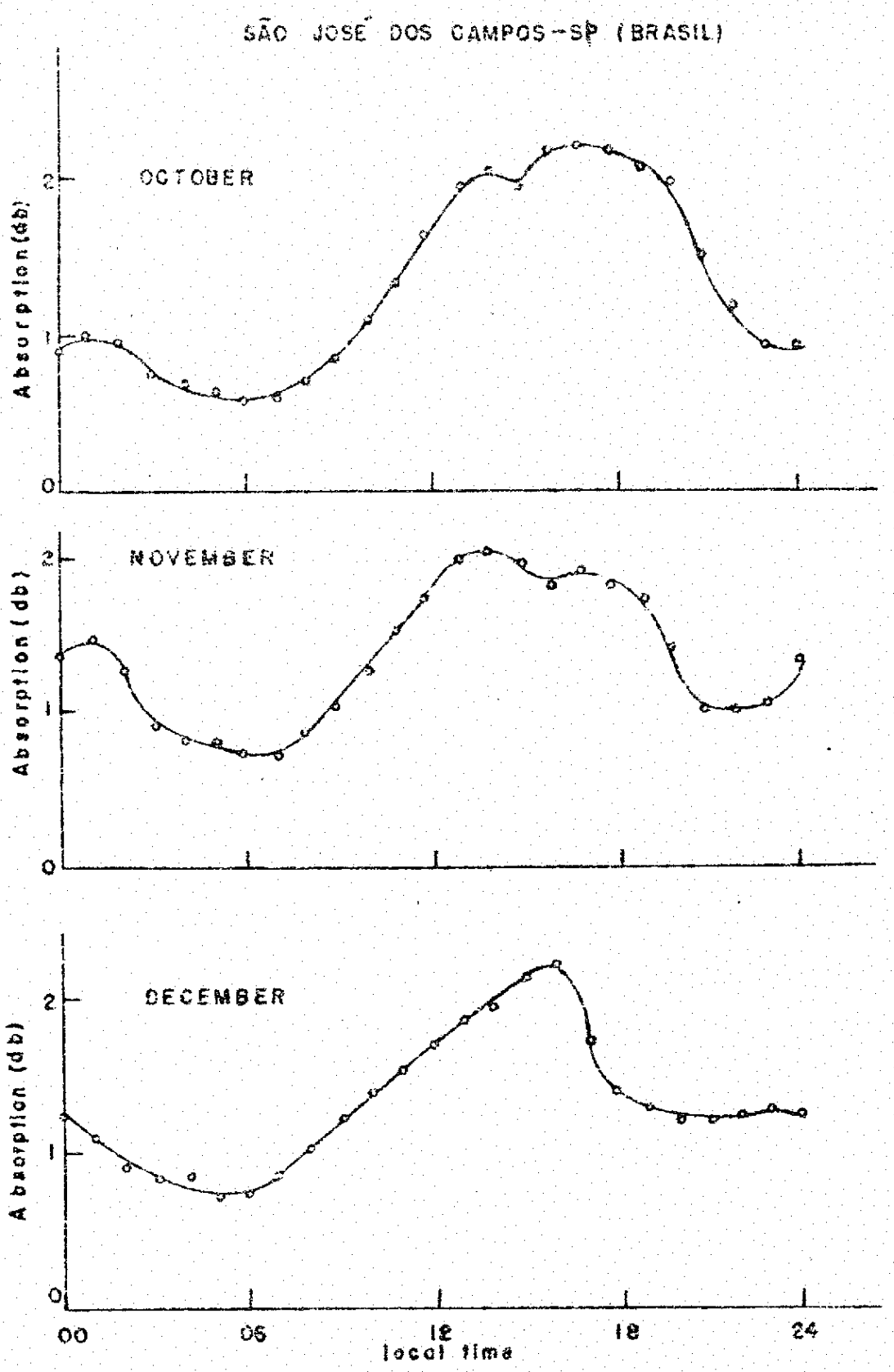

FIG. 3 MEDIAN MONTH ABSORPTION CURVES (October-December 1966)

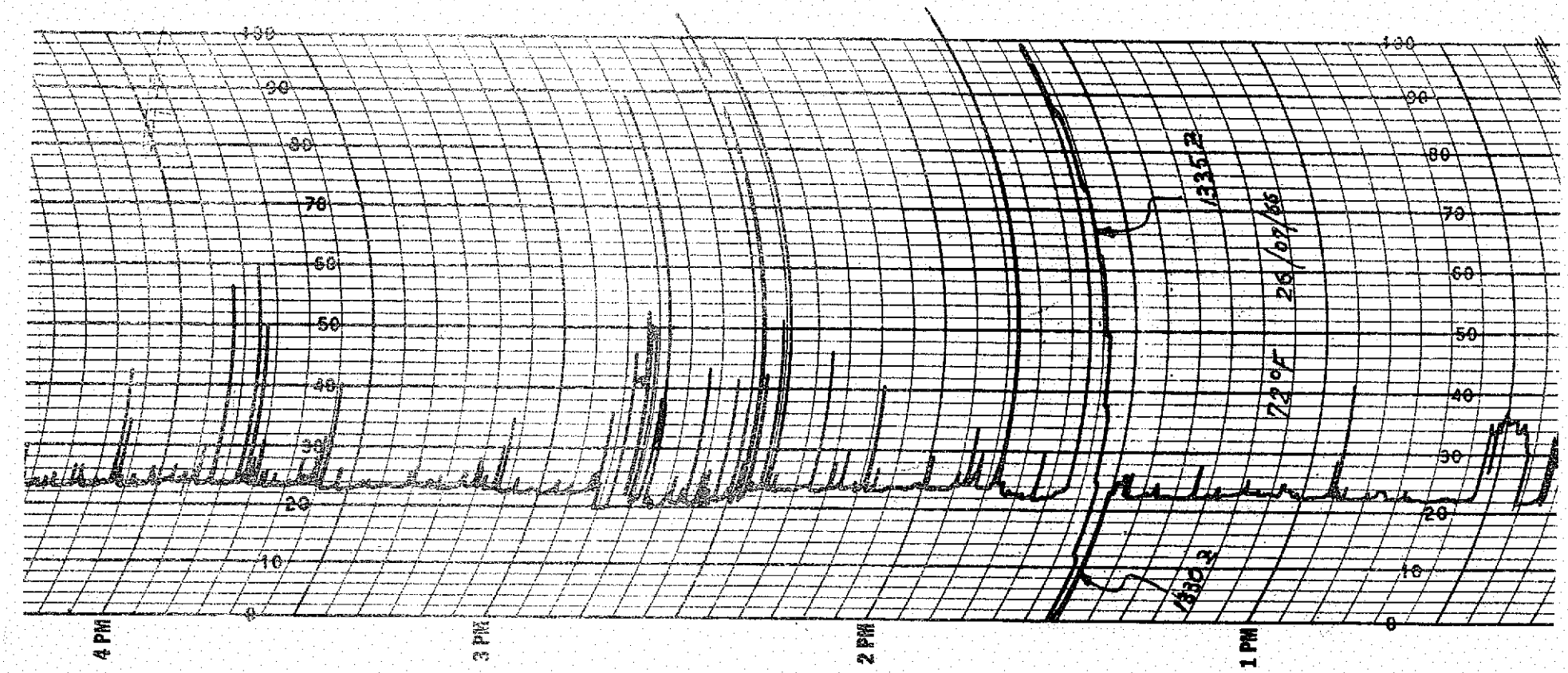

Fig. 4 - SCNA of 26 July 1966, observed with a 30 MHz riometer at São José dos Campos (Brazil), closely related to the solar subflare which began at 1426 UT and terminated at 1439 UT.
Delay of deionization on the flare end was of 12 minutes.

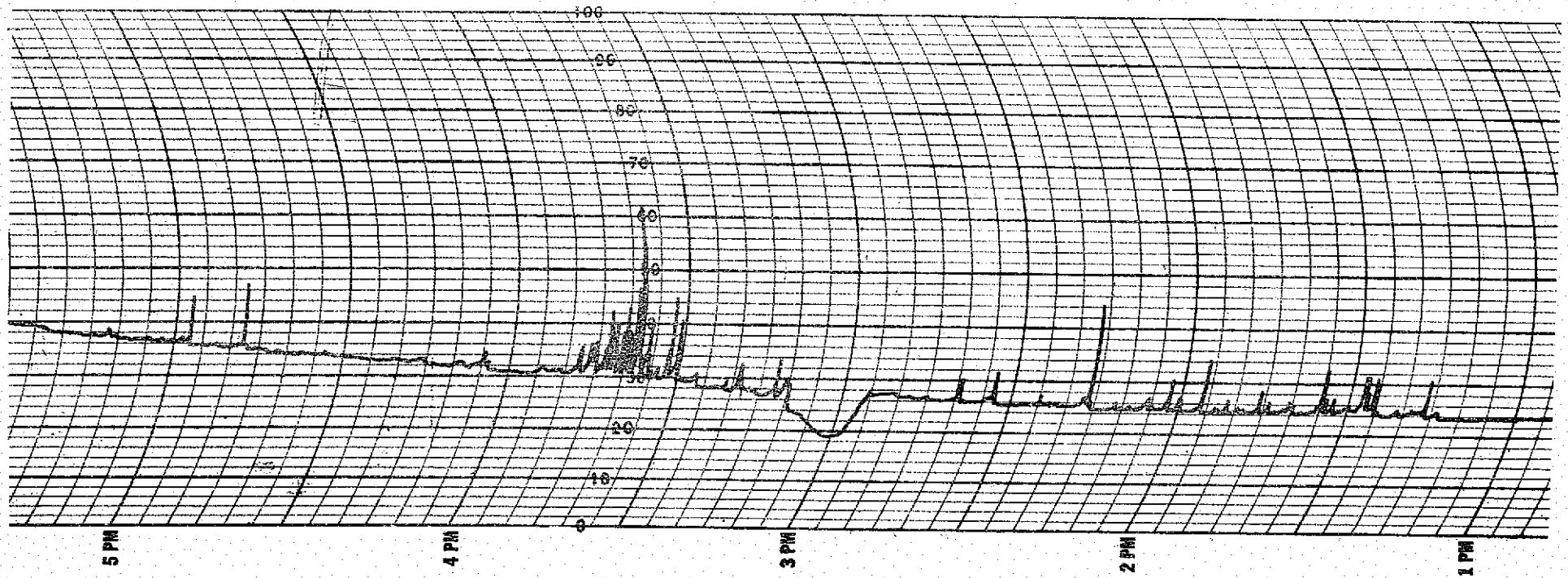

Fig. 5 - SCNA of 18 September 1966 observed with a 30 MHz riometer at São José dos Campos (Brazil). It was caused by the 2b flare which lasted from 1452 UT to 1526 UT with the maximum phase at 1500 UT. Delay of the absorption event is very small with respect to the solar phenomenon.

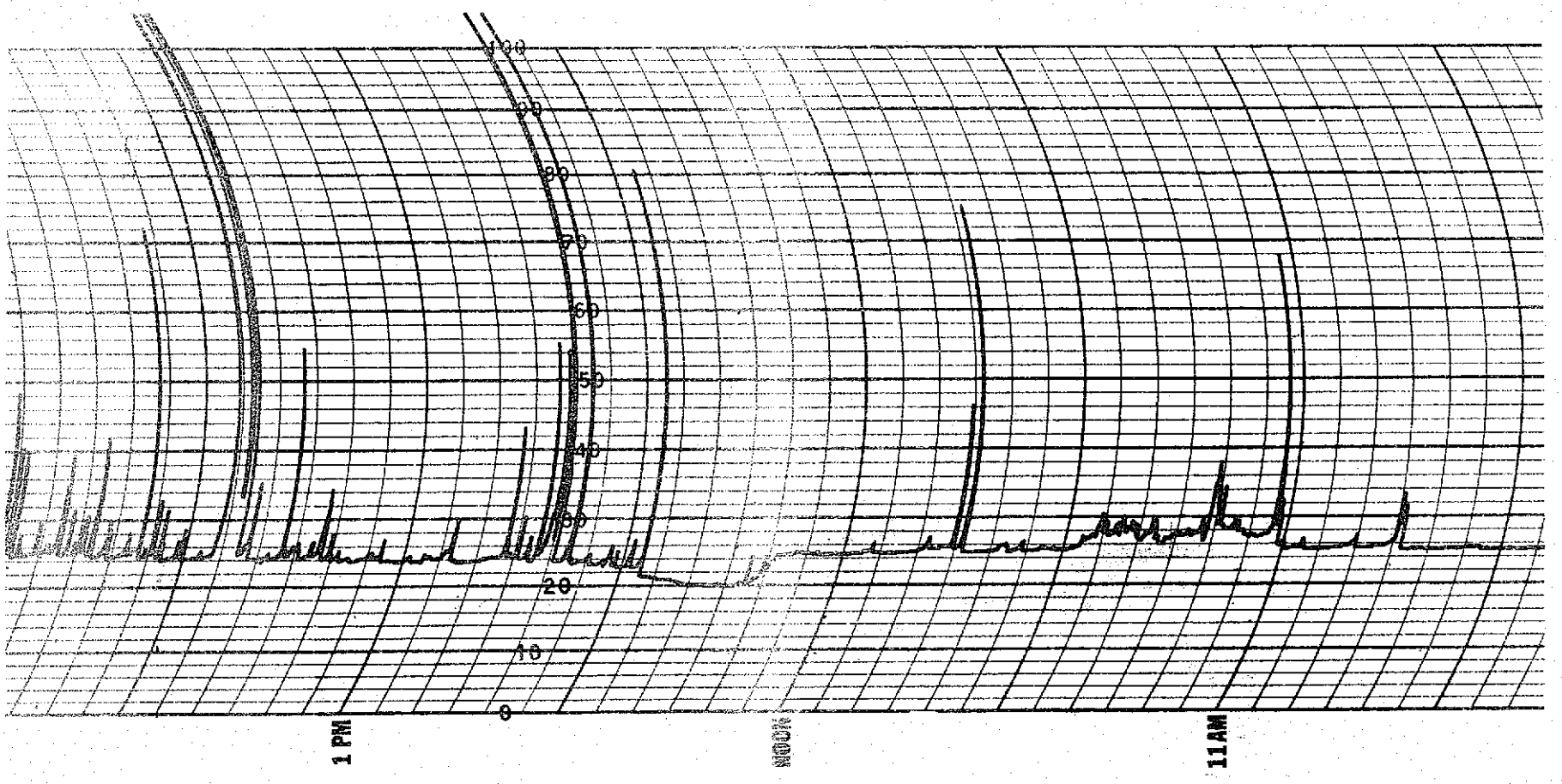

Fig. 6 - SCNA of 19 September 1966 observed with a 30 MHz riometer at São José dos Campos (Brazil) between 1210 UT and 1241 UT. It started at the same time of the beginning of the 2b flare optical emission and terminated 19 minutes before the flare ended.

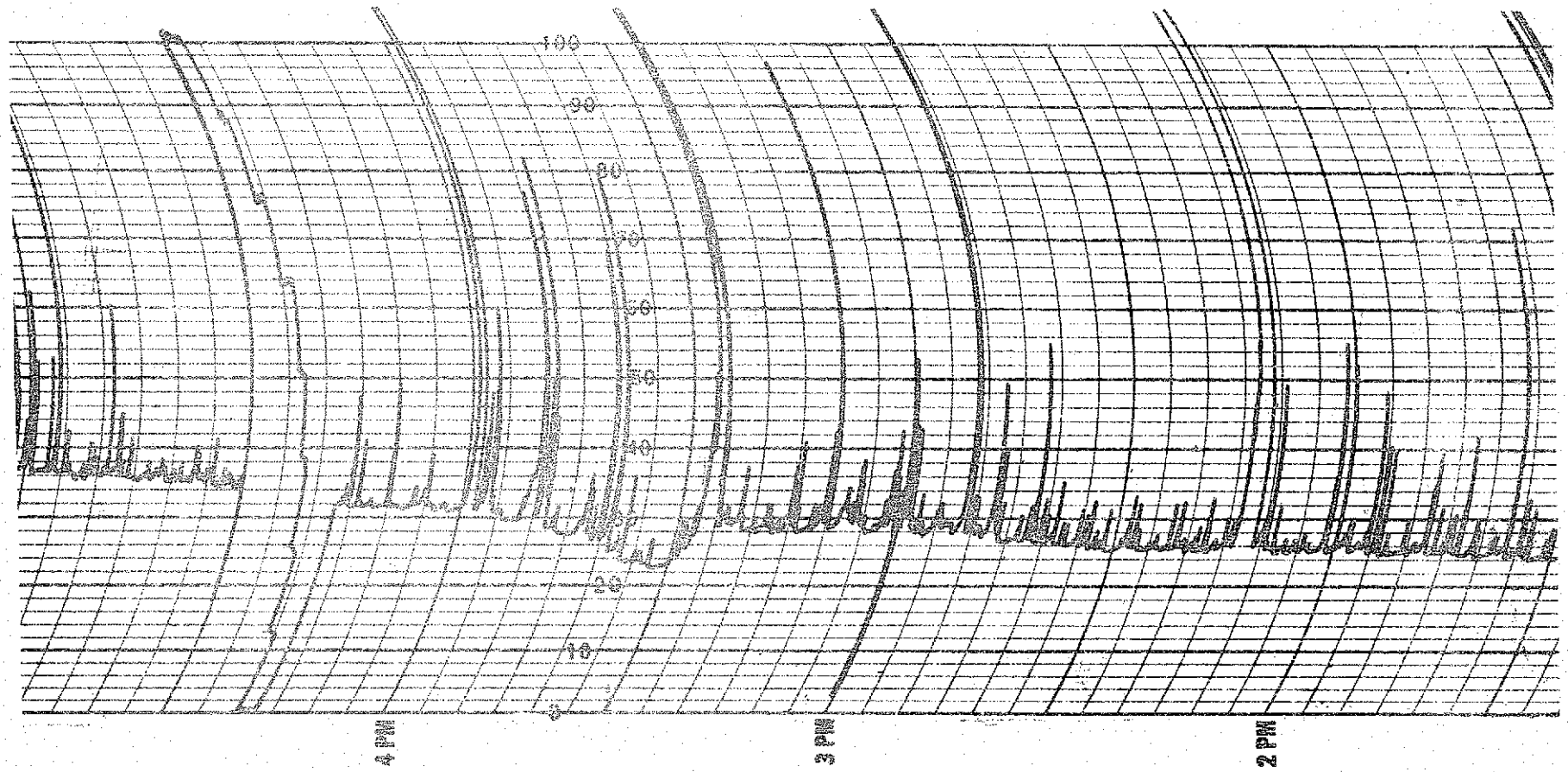

Fig. 7 - SCNA of 19 September 1966 observed with the riometer of São José dos Campos between 1528 UT and 1550 UT. It occurred within the time period of an 1n flare and was preceeded and followed by two type II bursts.

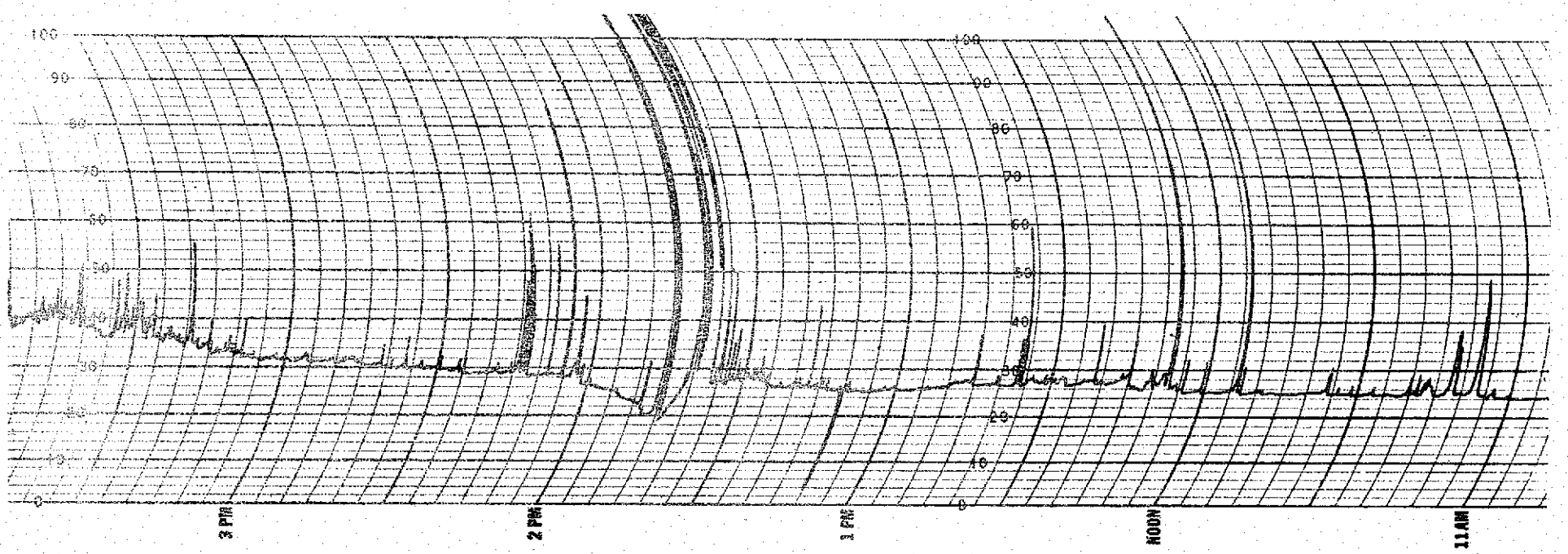

Fig. 8 - SCNA of 13 October 1966 observed with the riometer of São José dos Campos (Brazil), probably originated by the superposition effects of three small flares which occurred from 1330 UT to 1353 UT. Three of the four solar bursts of intensity 3 which occurred before and during the sudden absorption were registered also.

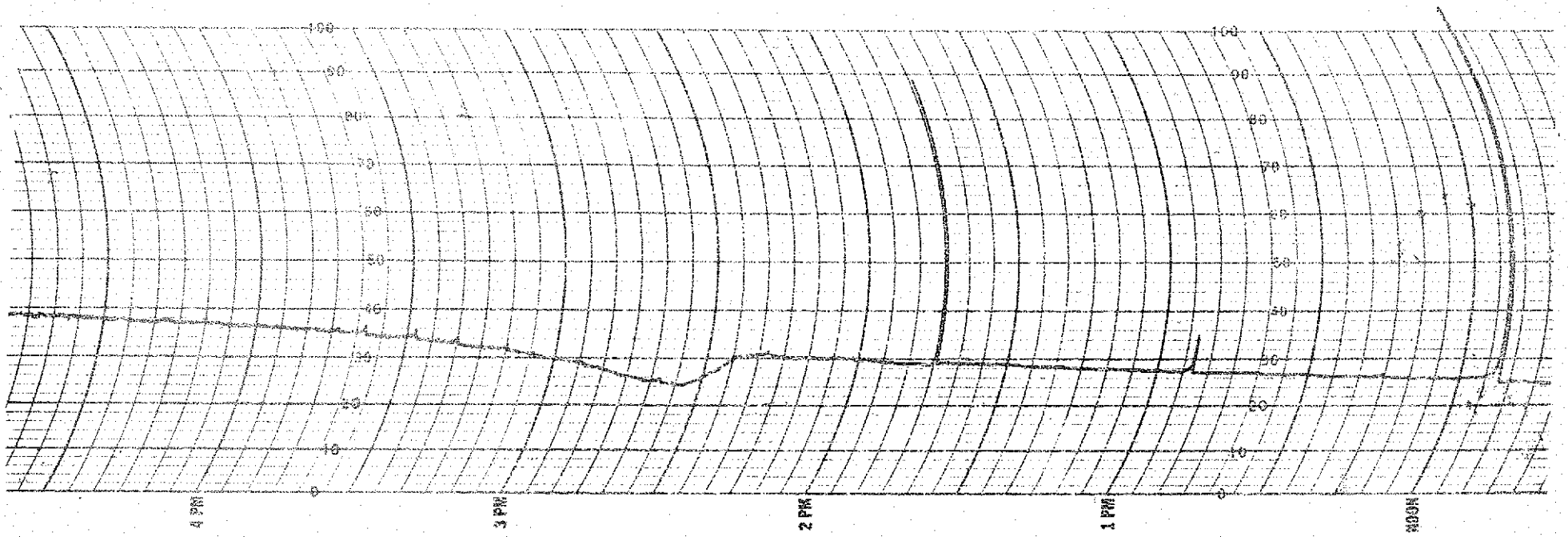

Fig. 9 - SCNA of 23 October 1966 observed with the 30 MHz riometer of São José dos Campos (Brazil) and related to the 1b solar flare which began at 1423 UT and terminated at 1450 UT. The weak enhancement of the signal near the peak of absorption shows a type III burst which occurred at the frequency of 30 MHz.

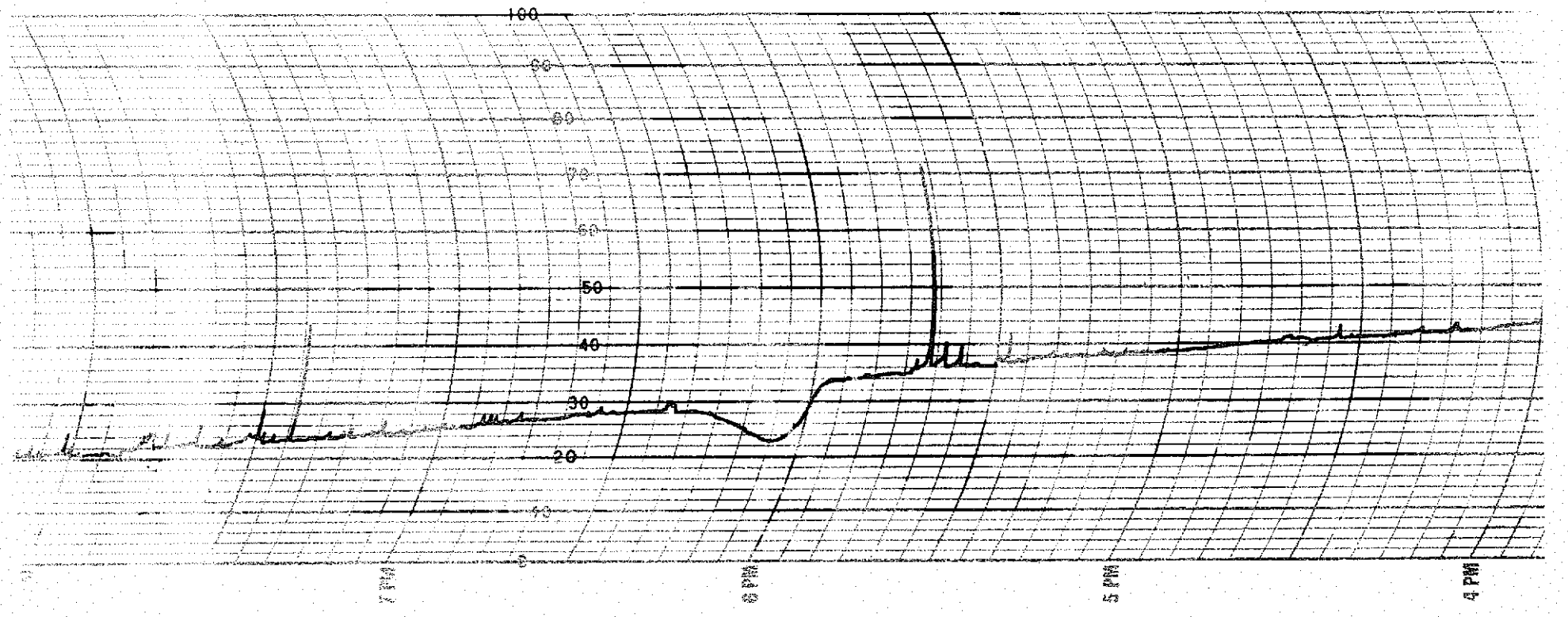

Fig. 10 - SCNA of 9 December 1966 observed with the 30 MHz riometer of São José dos Campos (Brazil). It began at the same time of the 2b flare and reached the maximum absorption value one minute before the flare maximum phase.

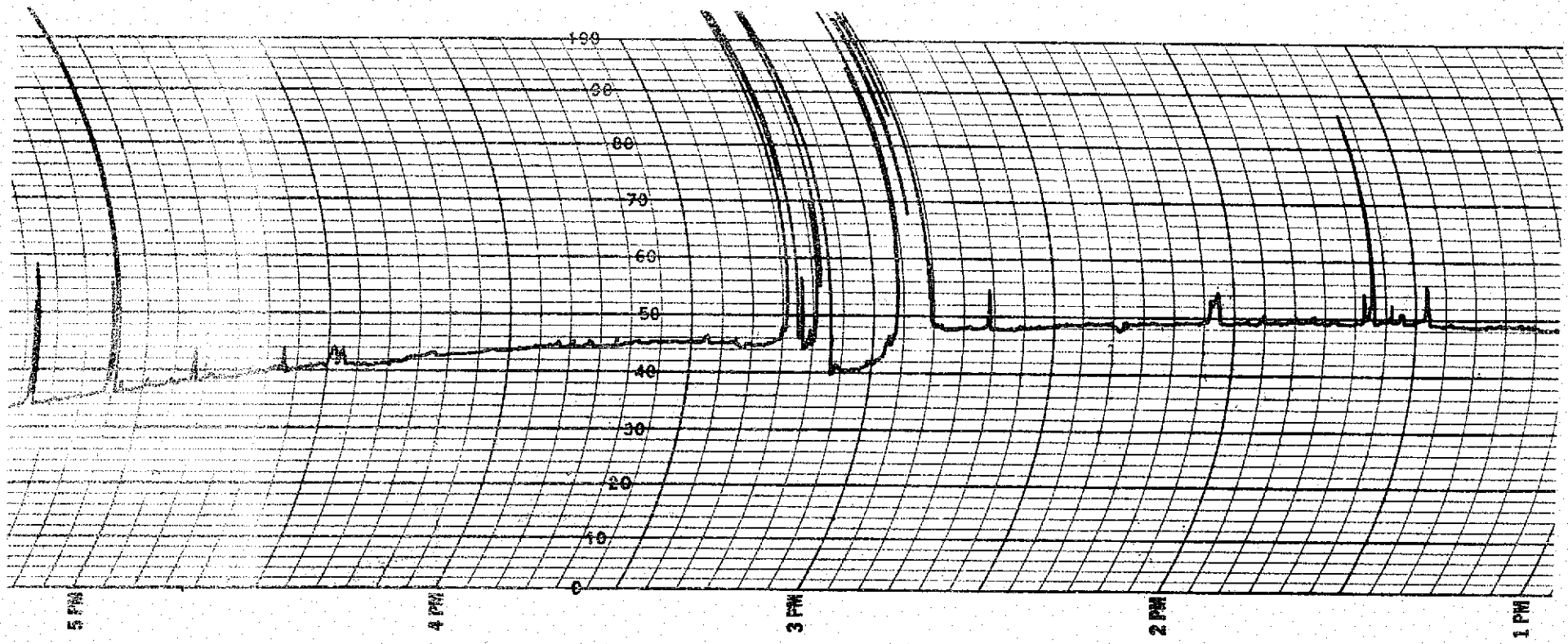

Fig. 11 - SCNA of 21 December 1966 observed with the riometer of São José dos Campos (Brazil). No flare was observed that might have caused the absorption phenomenon although the occurrence of a long duration type III burst and type II burst show a clear association of that emissions with the mechanism of the 1st and 2nd phase of some unobserved flare.

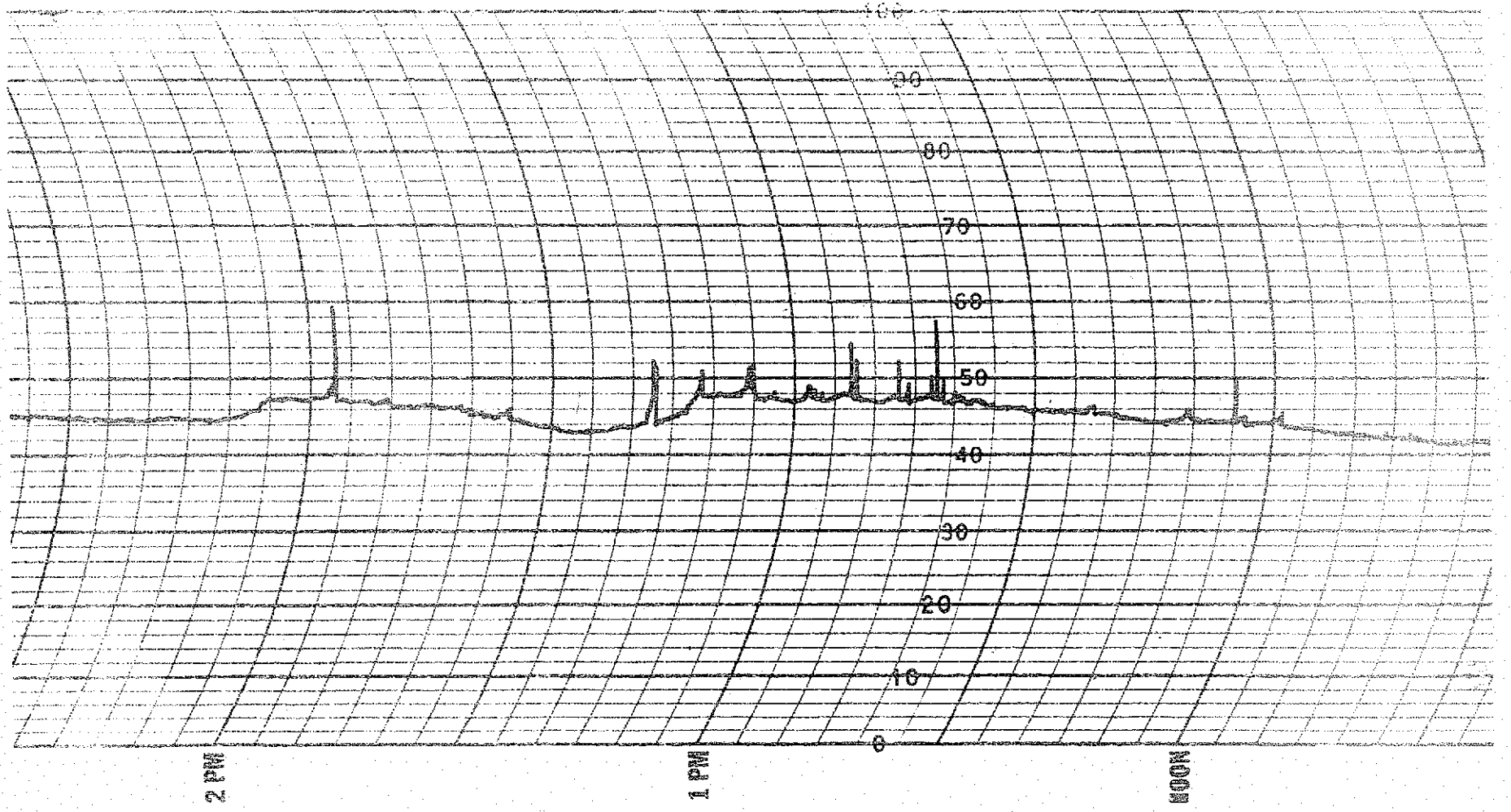

Fig. 12 - SCNA's of 23 December 1966 observed with the riometer of São José dos Campos (Brazil). No flare was registered between 1300 UT and 1500 UT in which period two SCNA$_s$ occurred. Although the observation of both SCNA$_s$ seem to have been preceeded by a type III solar bursts.

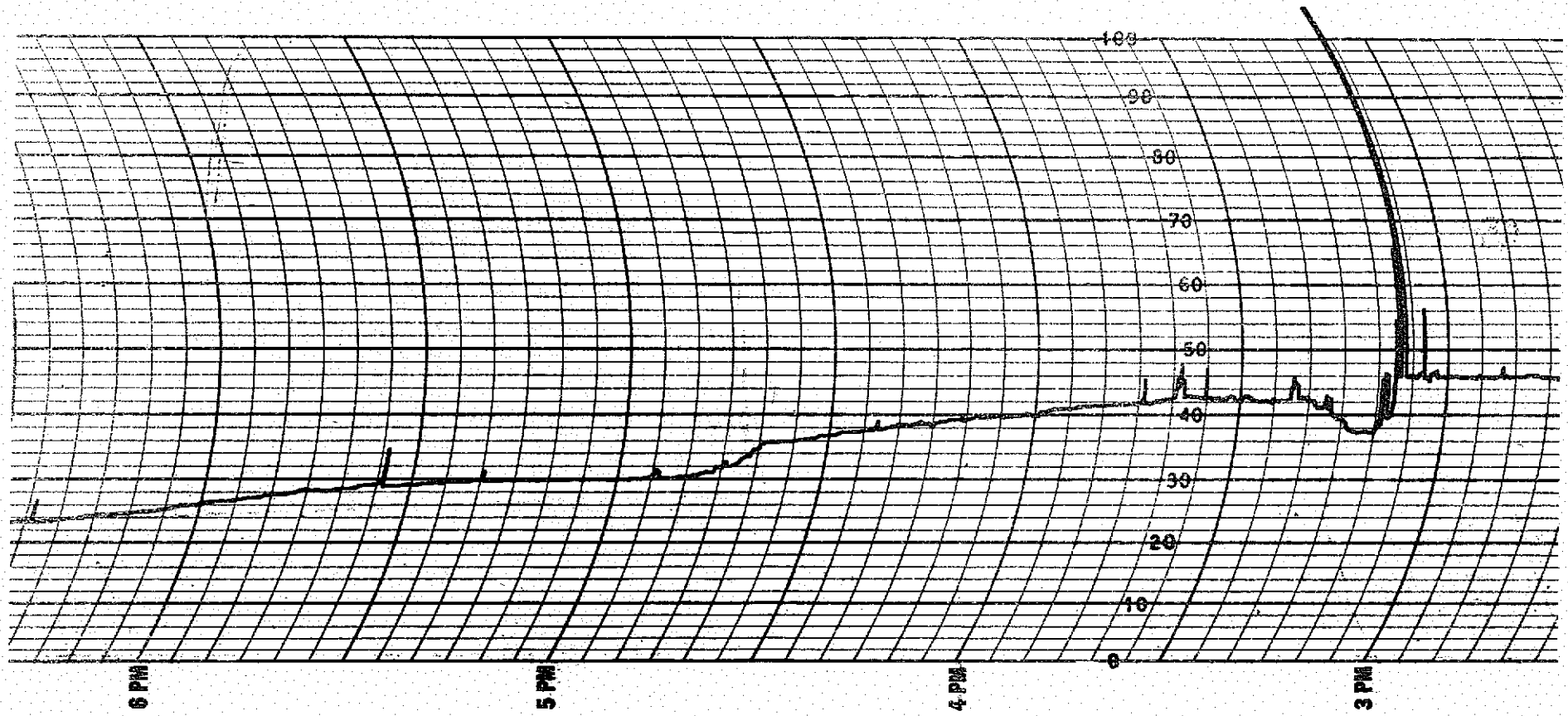

Fig. 13 - SCNA's of 23 December 1966 observed with the riometer of São José dos Campos (Brazil). They are related to the 1n flares which began at 1506 UT and 1638 UT respectively and are the third and the fourth of a series of four SCNA's which occurred in an interval of almost 4 hours.

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Comissão Nacional de Atividades Espaciais
São José dos Campos - SP

TABLE V

MEAN VALUE OF ABSORPTION DURING THE FIRST MINUTE OF EACH HOUR

Station	- SJ	Lat.	- 23°12'23"S	Freq.	- 30 MHz
Month	- July	Long.	- 45°51'35"W	Bandwith	- 30 KHz
Year	- 1966	DIP	- 22.5°S	Diode Load Resist	- 750 ohm
Riometer	- Mark II	Mag. Lat.	- 11.7°	Audio Threshold	- 3
		Alt.	- 623 m	Int. Time	- 4 sec
				ACG Time	- 4 sec

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0.72	0.76	0.64	0.61	0.68	0.76	0.93	0.68	0.68	0.41	0.49	0.76	0.57	1.07	1.37	1.52	1.58	1.30	1.04	0.68	0.68	0.53	0.61	0.61
2	0.68	0.72	0.64	0.61	0.61	0.79	0.79	0.68	0.37	0.41	0.49	0.76	0.86	0.93	0.86	1.04	1.07	0.93	0.83	0.72	0.53	0.41	0.45	0.49
3	0.53	0.49	0.45	0.49	0.61	0.76	0.90	0.64	0.61	0.41	0.49	0.76	0.86	0.86	1.14	1.27	1.30	0.97	1.07	0.93	1.04	0.37	0.33	0.53
4	0.57	0.53	0.57	0.57	0.64	0.79	0.83	0.61	0.57	0.37	0.49	0.76	0.90	1.14	0.90	1.04	1.07	1.58	1.67	1.43	0.86	0.79	0.76	0.76
5	0.93	0.90	0.90	0.97	0.97	1.07	1.00	0.90	0.68	0.86	0.76	0.90	1.00	1.17	1.43	1.30	1.30	1.33	1.21	1.10	1.10	0.68	0.72	0.79
6	0.79	0.79	0.72	0.93	0.93	1.00	0.93	0.86	0.64	0.86	0.76	0.90	0.90	1.17	1.17	1.30	1.07	1.07	1.10	1.37	1.24	0.90	0.79	0.79
7	0.72	0.68	0.64	0.72	0.86	1.00	0.93	0.86	0.64	0.83	0.76	0.90	0.93	1.21	1.21	1.07	1.07	0.97	0.86	0.83	0.97	0.61	0.57	0.72
8	0.76	0.72	0.64	0.79	0.83	∪	0.76	0.83	0.61	0.57	0.76	0.79	0.93	1.37	1.21	1.30	1.07	1.10	1.24	1.07	0.93	0.64	0.64	0.68
9	0.93	0.97	0.97	0.76	∪	1.00	0.79	0.79	0.57	0.57	0.76	0.79	0.93	1.27	1.21	1.30	1.30	1.33	1.14	0.86	0.93	0.72	0.68	0.72
10	0.72	0.72	0.79	0.72	0.90	0.93	0.72	1.00	0.79	0.79	0.86	0.93	1.10	1.27	1.21	1.07	1.07	1.33	1.27	1.21	1.58	1.17	0.86	0.97
11	0.97	0.86	0.83	0.86	0.83	1.07	0.83	0.79	0.53	0.79	0.76	0.93	0.97	1.30	1.24	1.07	1.07	1.14	1.17	0.97	0.83	0.79	0.79	0.79
12	0.86	0.90	0.93	0.93	0.93	1.00	0.79	0.97	0.76	0.79	0.76	0.97	1.14	1.33	1.24	1.30	1.07	1.14	1.17	0.93	0.86	0.79	0.72	0.68
13	0.79	0.76	0.76	0.79	0.90	1.07	0.83	0.97	0.49	0.76	0.76	0.97	1.00	1.33	1.24	1.07	1.07	1.14	1.17	1.00	0.90	0.90	0.79	0.76
14	0.79	0.86	0.76	0.93	0.90	1.04	0.76	0.93	0.72	0.76	0.76	0.83	1.04	1.33	1.52	1.58	1.58	1.64	1.82	1.55	1.43	1.07	0.86	0.90
15	0.90	0.86	0.86	0.93	0.93	1.17	0.72	0.79	0.68	0.49	0.76	0.83	0.79	1.10	1.27	1.07	1.07	1.14	0.90	0.76	0.72	0.76	0.86	0.79

TIME - UT

Month: July
Year: 1966

TABLE VI

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16	0.76	0.79	0.72	0.76	1.00	1.07	0.90	0.79	0.68	0.76	0.90	0.97	1.21	1.40	1.52	1.30	1.07	1.14	1.00	0.97	0.76	0.76	0.72	0.72
17	0.72	0.79	0.76	0.79	0.93	0.97	0.86	0.72	0.93	1.04	1.17	1.00	1.24	1.10	1.27	1.07	1.07	1.17	1.04	1.00	0.79	0.64	0.79	0.68
18	0.72	0.68	0.68	0.76	1.00	1.00	0.86	0.72	0.64	0.76	0.79	0.86	1.14	1.14	1.27	1.30	1.33	1.17	1.04	1.14	1.04	0.83	0.72	0.72
19	0.76	0.68	0.64	0.79	0.93	0.90	0.79	0.68	0.61	0.76	0.79	0.90	0.86	0.72	0.83	1.07	0.97	1.07	0.97	0.86	0.90	0.76	0.76	0.76
20	0.68	0.64	0.68	0.76	0.93	0.83	0.79	0.68	0.61	0.76	0.90	1.00	1.17	1.17	1.04	1.07	1.07	1.07	0.97	0.90	0.68	0.72	0.76	0.68
21	0.68	0.61	0.64	0.72	0.86	0.76	0.76	0.49	0.33	0.49	0.76	0.90	0.93	1.17	1.30	1.30	1.58	1.87	1.37	0.93	0.90	0.86	0.86	0.79
22	0.79	0.83	0.79	0.86	1.00	0.86	0.72	0.64	0.57	0.76	0.76	0.93	0.97	0.93	0.93	0.97	1.10	1.21	0.83	0.86	0.76	0.83	0.83	0.83
23	0.79	0.83	0.79	1.14	1.07	0.96	0.83	0.61	0.83	0.76	0.79	0.93	0.78	0.93	0.93	0.97	0.97	1.10	1.07	1.21	1.00	1.17	0.90	0.64
24	0.57	0.72	0.76	0.83	1.00	0.79	0.79	0.79	0.83	0.76	0.79	0.93	1.00	0.97	0.93	0.93	0.97	0.90	0.86	1.04	1.27	0.97	0.72	0.68
25	0.83	0.86	0.83	0.90	0.90	0.68	0.79	0.61	0.53	0.76	0.79	0.72	1.04	0.97	0.93	0.93	1.10	0.90	0.79	0.72	0.53	0.76	0.76	0.78
26	0.64	0.61	0.72	0.83	0.90	0.83	0.79	0.53	0.53	0.76	0.79	0.78	1.04	1.00	0.72	1.07	0.79	1.17	0.93	0.83	0.93	0.93	0.79	0.72
27	0.64	0.68	0.83	0.93	0.97	0.79	0.76	0.49	0.53	0.49	0.57	0.72	0.79	0.86	1.07	1.07	1.37	1.27	1.17	1.14	1.00	0.86	0.79	0.76
28	0.83	0.76	0.76	0.90	0.90	0.72	0.97	0.49	0.76	0.76	0.83	1.00	0.83	0.86	1.07	0.93	1.04	1.17	0.90	0.64	0.57	0.68	0.61	0.53
29	0.68	0.64	0.68	0.90	0.97	0.68	0.93	0.45	0.49	0.76	0.83	0.76	0.83	1.00	1.07	1.07	1.40	1.21	1.00	1.24	1.07	0.86	0.76	0.78
30	0.86	0.86	0.83	0.93	0.97	0.72	0.79	0.68	0.76	0.76	0.83	0.79	0.86	1.00	1.07	1.07	1.40	1.24	1.04	0.72	0.68	0.79	0.68	0.68
31	0.68	0.72	0.76	0.96	0.90	0.68	0.68	0.41	0.25	0.76	0.57	0.57	0.86	0.64	0.72	0.72	1.04	0.90	0.97	0.76	0.97	0.97	0.97	0.86
Count	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
UQ	0.83	0.86	0.84	0.90	0.97	1.00	0.86	0.83	0.76	0.76	0.79	0.93	1.04	1.27	1.27	1.30	1.30	1.27	1.17	1.14	1.04	0.90	0.79	0.79
Median	0.76	0.76	0.76	0.83	0.90	0.86	0.79	0.68	0.64	0.76	0.76	0.90	0.93	1.10	1.17	1.07	1.07	1.14	1.04	0.93	0.90	0.79	0.76	0.78
LQ	0.68	0.68	0.64	0.76	0.86	0.76	0.76	0.61	0.53	0.57	0.76	0.76	0.86	0.93	0.93	1.04	1.07	1.07	0.93	0.83	0.72	0.68	0.68	0.68

TIME - UT

P. R. - CNPq.
Comissão Nacional de Atividades Espaciais
São José dos Campos - SP

MEAN VALUE OF ABSORPTION DURING THE FIRST MINUTE OF EACH HOUR

Station ..... - SJ
Month ..... - August
Year ..... - 1966
Riometer ..... - Mark II

Lat. ..... - 23°12'43"S
Long. ..... - 45°51'35"W
DIP ..... - 22.5°S
Mag. Lat. ..... - 11.7°
Alt. ..... - 623 m

Freq. ..... - 30 MHz
Bandwith ..... - 30 KHz
Diode Load Resist ..... - 750 ohm
Audio Threshold ..... - 3
Int. Time ..... - 4 sec
ACG Time ..... - 4 sec

TABLE VII

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0.72	0.72	0.86	0.97	0.86	0.83	0.64	0.64	0.49	0.49	0.61	0.72	0.76	0.79	0.83	0.83	0.72	0.61	0.53	0.33	0.41	0.57	0.61	0.68
2	0.72	0.61	0.64	0.64	0.61	0.61	0.61	0.49	0.49	0.49	0.61	0.76	0.61	0.79	0.83	1.21	0.93	0.76	0.86	0.68	0.79	0.97	0.72	0.79
3	0.61	0.49	0.61	0.57	0.53	0.57	0.45	0.49	0.49	0.49	0.61	0.76	0.61	0.93	1.17	1.58	1.70	1.33	0.90	0.76	0.64	0.79	0.76	0.86
4	0.79	0.64	0.61	0.76	0.79	0.76	0.57	0.45	0.49	0.76	0.90	1.17	0.83	1.17	1.17	1.33	1.33	1.33	1.24	1.21	0.97	1.07	0.79	0.76
5	0.68	0.53	0.57	0.68	0.53	0.53	0.41	0.45	0.49	0.49	0.64	0.83	1.04	1.17	1.30	1.58	1.72	1.72	1.67	1.52	1.17	1.33	1.00	0.83
6	0.61	0.76	0.64	0.79	0.79	0.72	0.72	0.57	0.49	0.76	0.68	0.83	0.83	0.93	0.93	0.97	1.10	1.27	1.17	0.86	0.68	0.53	0.45	0.53
7	0.49	0.41	0.41	0.53	0.53	0.45	0.33	0.41	0.49	0.41	0.57	0.86	∪	∪	∪	∪	∪	∪	∪	∪	∪	∪	0.49	1.04
8	1.93	2.62	3.01	2.48	1.58	1.27	0.79	0.41	0.49	0.04	∪	∪	∪	0.83	0.93	0.97	1.14	1.10	1.07	0.64	0.68	0.61	0.49	0.53
9	0.53	0.53	0.53	0.64	0.68	0.90	0.64	0.53	0.49	0.53	0.72	0.90	0.86	0.93	0.93	1.00	1.04	0.79	0.64	0.61	0.64	0.79	0.79	0.68
10	0.64	0.61	0.61	0.57	0.61	0.86	0.61	0.79	0.76	0.83	0.97	0.90	0.86	0.83	0.93	0.90	0.61	0.57	0.41	0.45	0.53	0.68	0.68	0.68
11	0.72	0.76	0.57	0.72	0.76	0.86	0.61	0.49	0.76	0.83	0.76	0.68	0.76	0.83	0.93	0.90	0.83	0.68	0.72	0.72	0.61	0.61	0.57	0.68
12	0.61	0.57	0.49	0.64	0.49	0.61	0.33	0.37	0.49	0.57	0.64	0.72	0.53	0.83	0.93	1.00	1.10	1.21	0.93	0.83	0.79	0.90	0.97	0.72
13	0.79	0.72	0.72	0.86	0.76	0.61	0.72	0.49	0.76	0.83	0.79	0.97	0.90	0.93	1.17	1.00	1.10	1.04	0.97	0.61	0.45	0.49	0.61	0.68
14	0.57	0.49	0.61	0.61	0.61	0.57	0.57	0.37	0.49	0.57	0.68	0.76	0.90	0.93	1.17	1.27	1.14	0.97	0.83	0.93	0.93	0.64	0.72	0.72
15	0.68	0.64	0.72	0.68	0.57	0.57	0.53	0.37	0.49	0.61	0.68	0.76	0.79	0.83	0.83	1.04	1.14	1.10	1.04	0.76	1.07	0.90	0.57	0.61

TIME - UT

TABLE VIII

Month: August
Year: 1966

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16	0.53	0.45	0.53	0.61	0.53	0.53	0.53	0.37	0.49	0.61	0.49	0.64	0.57	0.61	0.83	0.49	0.41	0.37	0.33	0.29	0.41	0.57	0.57	0.61
17	0.53	0.49	0.57	0.53	0.49	0.25	0.25	0.37	0.37	0.49	0.41	0.68	0.79	0.83	0.86	1.30	1.17	0.76	0.79	0.45	0.53	0.64	0.61	0.61
18	0.49	0.49	0.72	0.68	0.79	0.57	0.49	0.49	0.49	0.61	0.76	0.68	0.79	0.83	0.86	0.97	0.79	0.90	1.00	0.90	0.72	0.45	0.41	0.45
19	0.72	0.41	0.41	0.45	0.53	0.45	0.49	0.37	0.37	0.53	0.45	0.49	0.57	0.83	1.21	1.46	1.33	1.10	1.04	c	1.30	1.10	0.97	0.79
20	0.68	0.68	0.76	0.72	0.72	0.76	0.57	0.76	0.76	0.64	0.83	0.83	0.93	0.93	1.21	1.33	1.37	1.46	1.24	1.04	2.04	0.83	0.64	0.68
21	0.76	0.68	0.83	0.79	0.72	0.72	0.57	0.76	0.76	0.68	0.83	0.83	0.93	0.93	0.97	1.10	1.27	1.27	1.49	1.10	1.00	0.86	0.90	0.86
22	0.76	0.79	0.83	0.72	0.90	0.72	0.57	0.76	0.79	0.68	0.86	0.83	0.83	0.83	0.97	1.00	1.07	1.33	1.33	0.93	0.90	0.76	0.68	0.68
23	0.68	0.76	0.86	0.76	0.90	0.68	0.57	0.76	0.79	0.68	0.86	0.86	0.93	0.93	0.97	1.14	1.33	1.27	1.67	1.61	1.61	1.43	1.37	1.00
24	0.79	0.83	0.79	0.86	1.00	0.76	0.79	0.76	0.79	0.97	1.00	0.86	0.83	0.93	1.00	1.14	1.33	1.10	0.68	0.64	0.79	1.14	1.04	0.90
25	0.93	0.86	0.93	0.83	1.00	0.76	0.79	0.76	0.83	0.72	0.93	0.76	0.61	0.83	0.90	1.04	0.86	0.86	0.64	0.61	0.86	0.64	0.68	0.64
26	0.76	0.68	0.72	0.53	0.86	0.61	0.49	0.76	0.83	0.76	0.68	0.76	0.83	0.83	0.90	0.64	0.68	0.72	0.72	0.83	0.72	0.83	c	c
27	c	0.61	0.57	0.49	0.83	0.57	0.37	0.49	0.41	0.64	0.72	0.86	0.83	0.83	0.90	4.07	c	c	c	c	c	0.57	0.72	0.79
28	0.68	0.57	0.57	0.45	0.68	0.33	0.13	0.37	0.21	0.41	0.37	0.33	0.83	c	c	c	c	0.53	0.83	0.76	0.79	0.72	0.72	0.93
29	0.97	0.97	0.86	0.72	0.68	0.57	0.49	0.49	0.57	0.68	0.76	0.57	0.61	0.61	0.68	0.68	0.68	0.68	0.86	1.14	1.00	0.72	0.72	1.27
30	1.37	0.79	0.68	0.90	0.68	0.53	0.49	0.76	0.61	0.68	0.64	0.79	0.61	0.61	0.68	0.93	0.79	0.86	1.14	1.52	1.82	1.52	1.37	1.10
31	1.00	0.97	0.61	0.53	0.53	0.53	0.49	0.49	0.61	0.72	0.76	0.57	0.83	0.93	0.93	0.93	1.04	0.76	0.83	0.86	0.76	0.76	0.72	0.72
Count	30	31	31	31	31	31	31	31	31	31	30	30	29	29	29	29	28	29	29	28	29	30	30	30
UQ	0.79	0.79	0.83	0.79	0.86	0.76	0.64	0.76	0.76	0.76	0.83	0.86	0.86	0.93	1.17	1.27	1.33	1.27	1.17	1.04	1.00	0.97	0.90	0.86
Median	0.72	0.68	0.64	0.68	0.72	0.61	0.57	0.49	0.49	0.64	0.72	0.76	0.83	0.83	0.93	1.04	1.10	1.04	0.93	0.83	0.79	0.76	0.72	0.72
LQ	0.61	0.49	0.57	0.53	0.53	0.53	0.45	0.37	0.49	0.49	0.61	0.68	0.61	0.83	0.86	0.93	0.79	0.72	0.72	0.61	0.64	0.61	0.57	0.64

TIME - UT

P. R. - CNPq.
Comissão Nacional de Atividades Espaciais
São José dos Campos - SP

MEAN VALUE OF ABSORPTION DURING THE FIRST MINUTE OF EACH HOUR

Station ..... - SJ
Month ..... - September
Year ..... - 1966
Riometer ..... - Mark II

Lat. ..... -23°12'43"S
Long. ..... -45°51'35"W
DIP ..... -22.5°S
Mag. Lat. ..... -11.7°
Alt. ..... -623 m

Freq. ..... - 30 MHz
Bandwith ..... - 30 KHz
Diode Load Resist ..... - 750 ohm
Audio Threshold ..... - 3
Int. Time ..... - 4 sec
ACG Time ..... - 4 sec

TABLE IX

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0.86	0.86	1.00	0.83	0.72	0.53	0.37	0.64	0.72	0.72	0.64	0.57	0.61	0.61	0.93	1.37	1.37	1.49	1.64	1.90	1.61	1.40	1.37	0.90
2	0.72	0.79	1.00	0.79	0.68	0.49	0.61	0.90	0.76	0.76	0.90	0.57	0.61	0.86	1.17	0.97	0.97	1.24	1.17	0.83	c	0.57	0.64	0.57
3	c	0.72	0.64	0.68	0.45	0.49	0.37	0.64	0.49	0.64	0.68	0.83	0.83	0.61	0.76	0.90	0.61	1.46	1.64	1.79	1.43	1.07	1.10	1.00
4	1.00	0.86	0.49	0.45	0.17	0.49	0.37	0.37	0.53	0.45	0.45	0.57	0.83	1.07	1.21	1.04	1.04	1.61	1.46	0.93	0.97	1.04	0.49	0.64
5	0.64	0.79	0.68	0.64	0.64	0.45	0.61	0.64	0.53	0.72	0.72	0.57	0.61	0.86	0.97	1.27	c	1.37	1.76	1.27	0.97	0.83	0.83	0.86
6	0.64	0.57	0.41	0.72	0.61	0.72	0.61	0.64	0.79	0.72	0.72	0.57	0.61	0.86	1.24	1.07	1.43	1.43	1.90	2.15	1.61	1.21	1.10	0.93
7	0.83	0.86	0.79	0.68	0.57	0.41	0.61	0.64	0.57	0.53	0.72	0.61	0.61	0.86	1.00	1.10	0.86	1.10	1.17	1.17	1.04	1.07	0.97	0.79
8	0.76	0.90	0.68	0.68	0.53	0.64	0.61	0.64	0.57	0.76	0.72	0.83	0.83	1.10	1.27	1.58	1.30	1.43	1.30	1.64	1.24	1.10	1.21	1.21
9	1.00	1.14	0.83	1.24	1.30	0.64	0.61	0.64	0.57	0.79	0.53	0.61	0.83	0.90	1.27	1.04	0.93	0.83	0.93	0.64	0.41	0.49	0.41	0.45
10	0.53	0.79	0.57	0.64	0.61	0.64	0.61	0.68	0.61	0.83	0.76	0.83	0.83	1.24	1.24	1.61	1.87	1.99	1.87	1.46	1.27	1.10	1.17	1.24
11	1.07	1.17	0.93	1.07	0.86	0.64	0.90	0.97	0.61	0.83	0.76	0.83	1.07	1.27	1.43	1.67	1.58	1.64	1.61	1.43	1.27	1.00	0.90	0.86
12	0.86	0.90	0.68	1.07	0.83	0.64	0.61	0.72	0.64	0.61	0.76	0.83	1.07	1.27	1.33	1.21	1.24	1.33	1.30	1.24	1.04	0.86	0.79	0.83
13	0.83	0.83	0.61	0.90	0.57	0.64	0.61	0.72	0.68	0.86	0.76	0.83	0.83	1.14	1.10	1.14	1.07	0.90	1.17	1.00	0.90	0.86	1.04	1.24
14	1.00	1.00	0.83	0.79	0.53	0.37	0.61	0.72	0.68	0.86	0.76	0.83	0.83	0.93	1.37	1.52	1.49	1.79	1.67	1.24	1.10	0.86	0.93	0.97
15	1.14	1.07	0.79	0.72	0.79	0.61	0.90	0.72	0.72	0.64	0.79	0.83	0.83	1.17	1.49	1.90	1.76	1.85	2.17	2.09	0.61	1.10	0.97	1.04

TIME - UT

Month: September
Year: 1966

TABLE X

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16	0.76	0.83	0.76	0.72	0.76	0.61	0.90	0.72	0.72	0.90	0.79	0.83	1.07	1.17	1.14	1.58	1.58	1.64	1.55	1.30	1.27	1.24	1.21	1.04
17	1.24	1.00	0.72	0.68	0.49	0.61	0.90	0.76	0.76	0.68	0.57	0.61	0.64	0.93	0.97	0.97	1.14	1.17	0.93	0.45	0.41	0.41	0.41	0.53
18	0.72	0.64	0.68	0.45	0.49	0.37	0.37	0.49	0.41	0.45	0.49	0.61	0.86	0.97	1.00	2.67	1.21	0.93	1.17	0.68	0.61	0.61	0.79	1.52
19	1.46	1.04	0.76	0.64	0.49	0.61	0.64	0.53	0.68	0.49	0.61	0.61	0.64	0.97	1.04	1.14	1.24	1.24	1.17	0.76	0.41	0.37	0.61	1.17
20	1.37	0.68	0.72	0.76	0.72	0.90	1.04	1.07	0.83	0.72	0.61	0.49	0.64	0.97	1.04	1.07	1.10	1.58	2.09	1.72	1.72	1.93	2.45	2.12
21	1.55	1.07	0.93	0.97	0.97	0.90	0.93	1.07	1.10	0.97	0.83	0.61	0.86	1.00	1.07	1.21	1.17	1.83	1.46	1.21	1.21	1.52	2.17	2.65
22	2.12	1.52	1.27	0.93	0.97	0.90	0.64	0.57	0.53	0.53	0.49	0.61	0.86	1.24	1.30	1.55	1.46	1.46	1.49	1.27	1.21	1.52	2.72	2.50
23	1.67	1.21	1.14	0.53	0.29	0.37	0.41	0.45	0.53	0.41	0.49	0.61	0.86	1.04	1.10	1.49	1.70	1.52	1.40	1.10	0.97	1.10	1.61	1.82
24	1.40	0.83	1.10	0.90	0.93	0.90	0.41	0.45	0.57	0.41	0.61	0.83	1.10	1.04	1.04	1.21	1.30	1.14	1.24	0.97	0.61	0.41	0.76	0.90
25	1.07	0.37	0.64	0.25	0.29	0.37	0.41	0.49	0.25	0.41	0.61	0.61	0.90	1.04	1.14	1.33	1.52	1.33	1.27	1.10	1.07	0.83	1.24	2.07
26	1.79	1.04	1.07	0.61	0.64	0.61	0.68	0.49	0.37	0.53	0.61	0.61	0.90	1.07	1.10	1.27	1.37	1.46	1.64	1.55	1.49	1.27	1.49	1.87
27	1.17	0.86	0.61	0.45	0.64	0.61	0.72	0.64	0.61	0.57	0.61	0.61	0.90	1.07	1.10	1.24	1.43	1.55	1.55	1.37	1.58	2.04	2.30	2.74
28	2.25	1.76	1.70	1.52	1.37	0.90	0.72	0.57	0.61	0.57	0.49	0.61	0.90	1.10	1.27	1.37	1.46	1.76	1.40	1.33	1.10	0.97	1.00	1.49
29	1.85	1.37	0.93	1.07	1.04	0.90	0.72	0.68	0.86	0.57	0.49	0.49	0.93	1.14	1.17	1.40	1.70	1.87	1.72	1.43	1.37	1.21	1.82	2.15
30	1.46	0.90	0.86	0.79	0.90	0.61	0.72	0.61	0.64	0.57	0.61	0.83	0.93	0.93	1.37	1.33	1.76	1.70	1.46	1.43	1.24	0.97	1.33	2.07
31																								
Count	29	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	30	30	30	29	30	30	30
UQ	1.46	1.07	1.00	0.93	0.90	0.72	0.72	0.72	0.72	0.79	0.76	0.83	0.90	1.14	1.27	1.55	1.57	1.64	1.67	1.55	1.37	1.24	1.49	2.07
Median	1.07	0.90	0.79	0.72	0.64	0.61	0.61	0.64	0.61	0.61	0.61	0.61	0.83	1.04	1.14	1.27	1.37	1.46	1.46	1.27	1.21	1.07	1.10	1.17
LQ	0.76	0.79	0.64	0.64	0.49	0.49	0.41	0.53	0.53	0.53	0.53	0.57	0.64	0.90	1.04	1.07	1.10	1.24	1.17	0.97	0.90	0.83	0.79	0.86

TIME - UT

P. R. - CNPq.
Comissão Nacional de Atividades Espaciais
São José dos Campos - SP

MEAN VALUE OF ABSORPTION DURING THE FIRST MINUTE OF EACH HOUR

Station ..... - SJ
Month ..... - October
Year ..... - 1966
Riometer ..... - Mark II

Lat. ..... - 23°12'43"S
Long. ..... - 45°51'35"W
DIP ..... - 22.5°S
Mag. Lat. ..... - 11.7°
Alt. ..... - 623 m

Freq. ..... - 30 MHz
Bandwith ..... - 30 KHz
Diode Load Resist ..... - 750 ohm
Audio Threshold ..... - 3
Int. Time ..... - 4 sec
ACG Time ..... - 4 sec

TABLE XI

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.72	0.86	0.90	1.04	1.04	0.90	0.72	0.72	0.64	0.57	0.61	0.83	0.93	1.17	1.55	1.76	2.15	1.87	1.90	1.82	1.37	1.07	1.14	1.40
2	1.07	0.79	0.83	0.76	0.61	0.90	0.76	0.76	0.68	0.57	0.61	0.83	1.07	1.17	1.37	1.49	1.49	1.55	1.33	1.07	0.79	0.72	0.83	1.07
3	0.97	0.79	0.57	0.76	0.90	0.90	0.76	0.53	0.68	0.57	0.61	0.83	1.07	1.00	1.40	1.64	1.96	2.04	1.79	1.73	1.99	1.76	1.82	1.73
4	1.58	0.76	0.79	0.72	0.90	1.04	1.04	0.79	0.68	0.57	0.61	0.64	0.76	1.00	1.10	1.40	1.67	2.01	2.15	2.22	2.22	1.96	1.85	1.64
5	1.72	1.99	1.27	0.97	1.04	1.04	0.76	0.83	0.83	0.67	0.61	0.86	0.97	1.04	1.37	1.64	1.49	1.87	2.23	2.83	2.28	2.28	1.93	2.04
6	1.61	1.07	1.00	0.97	1.04	0.90	0.79	0.61	0.72	0.61	0.61	0.64	0.79	1.07	1.49	1.99	2.12	1.70	1.73	2.01	2.50	2.25	2.09	2.55
7	1.90	1.27	0.97	0.93	1.33	0.64	0.57	0.64	0.49	0.49	0.49	0.64	0.79	1.07	1.14	1.27	1.61	1.76	1.04	1.85	1.87	1.64	1.30	1.43
8	1.14	0.57	0.33	0.17	0.37	0.41	0.33	0.29	0.41	0.29	0.21	0.64	0.68	0.79	0.97	1.04	1.24	1.27	1.21	1.33	1.58	1.87	2.25	2.72
9	1.76	1.24	1.17	1.07	0.90	0.93	0.83	0.64	0.72	0.61	0.61	0.90	0.79	1.00	1.49	1.61	2.12	2.28	2.28	2.53	2.55	2.38	1.96	1.99
10	1.70	1.49	1.14	0.93	0.90	0.90	0.97	0.61	0.68	0.76	c	c	c	0.86	1.37	1.64	2.17	2.48	2.55	1.96	1.70	1.85	1.79	1.64	1.93
11	1.27	0.86	0.86	0.90	1.33	1.40	0.90	0.68	0.76	0.61	0.61	0.68	1.07	1.21	1.37	1.73	1.85	1.46	1.40	1.33	1.55	1.64	1.82	2.12
12	1.68	1.46	0.83	1.04	1.04	0.97	0.90	0.72	0.76	0.83	0.83	1.04	1.21	1.43	1.93	2.04	2.30	2.15	1.76	1.73	1.97	1.93	1.90	1.46
13	0.64	0.79	0.83	0.90	1.33	0.97	0.41	0.61	0.45	0.61	0.61	0.68	0.90	1.14	1.46	1.37	1.33	1.40	1.17	1.10	0.93	1.10	1.67	2.07
14	1.49	1.17	1.24	1.04	1.04	0.72	0.68	0.76	0.76	0.61	0.61	0.68	0.90	1.17	1.40	1.79	2.15	2.07	2.09	c	2.15	1.93	2.01	1.40
15	0.83	1.17	1.21	1.04	1.33	1.14	0.93	0.76	0.79	0.83	0.93	1.04	1.14	1.21	1.43	1.64	1.96	2.09	1.96	2.09	2.62	2.38	2.48	2.25

TIME - UT

Month: October
Year: 1966

TABLE XII

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16	1.17	0.86	0.29	0.90	1.04	1.00	0.72	0.79	0.57	0.61	0.83	0.72	0.93	1.24	1.46	1.87	2.28	2.40	2.25	2.43	2.92	2.99	3.01	2.07
17	2.04	1.96	1.96	1.49	1.52	1.46	1.27	1.04	0.79	0.61	0.64	0.72	0.86	1.07	1.30	1.58	2.15	2.30	2.43	2.28	1.90	1.52	1.90	1.64
18	1.37	1.07	1.04	1.33	1.04	1.00	0.79	0.79	0.57	0.49	0.53	0.64	0.37	0.53	0.90	1.96	2.63	2.69	2.65	2.28	2.33	2.25	2.45	2.01
19	1.58	1.46	1.43	1.04	0.90	1.04	0.79	0.72	0.61	0.61	0.64	0.76	0.68	1.04	1.30	1.58	2.01	1.87	1.90	1.96	2.04	2.12	2.38	1.82
20	1.58	1.00	0.97	1.04	1.04	0.79	0.57	0.68	0.68	0.49	0.53	0.76	0.61	1.14	1.33	1.49	1.87	1.90	2.01	2.17	2.35	2.30	2.12	2.33
21	1.82	1.27	0.97	0.90	0.90	0.53	0.49	0.49	0.61	0.49	0.64	0.68	0.76	1.07	1.21	1.55	2.07	2.25	2.69	2.72	2.67	2.33	2.33	2.23
22	1.79	1.67	0.97	1.04	0.93	0.57	0.64	0.49	0.49	0.29	0.64	0.79	0.97	1.24	1.43	1.61	1.99	2.09	2.35	2.53	2.58	2.53	2.01	2.88
23	1.79	1.37	0.97	1.33	1.52	1.24	0.86	0.86	0.83	0.83	0.86	1.00	1.00	1.14	1.46	2.30	2.25	2.30	2.53	2.38	2.62	2.83	2.83	2.81
24	1.76	1.61	1.52	1.49	1.37	1.10	0.90	0.72	0.61	0.61	0.68	0.83	0.83	1.21	1.33	1.70	1.90	1.82	1.87	2.01	2.23	2.17	1.99	1.07
25	0.86	0.90	0.64	0.90	0.97	0.86	0.68	0.76	0.61	0.61	0.68	0.72	0.76	0.93	1.21	1.55	1.61	1.85	2.07	2.22	2.55	2.79	2.55	1.33
26	1.46	1.14	0.90	0.61	0.97	0.86	0.68	0.76	0.61	0.61	0.68	0.83	1.07	1.37	1.64	2.25	2.58	2.74	2.74	2.35	2.45	2.92	3.34	2.30
27	1.72	1.24	1.85	1.82	1.40	1.30	0.97	0.76	0.61	0.49	0.57	0.76	0.90	1.30	1.49	1.82	2.01	2.07	1.90	2.12	2.28	2.55	2.50	2.25
28	0.79	1.55	1.85	1.82	1.90	1.33	0.76	0.79	0.61	0.61	0.57	0.76	0.93	1.07	1.14	1.70	1.00	2.58	2.55	~	2.38	2.33	2.30	2.23
29	1.87	1.52	1.52	1.49	1.90	1.37	1.00	0.90	0.83	0.83	0.93	1.14	1.17	1.55	1.79	1.93	2.22	2.09	2.30	2.15	2.15	2.55	2.33	1.49
30	0.93	1.21	1.33	0.90	1.14	1.21	1.00	0.79	0.61	0.61	0.72	0.83	0.90	1.14	1.40	1.82	2.09	2.40	2.43	2.28	2.38	2.62	2.12	1.10
31	0.86	1.04	0.90	0.90	1.14	1.27	1.00	0.79	0.61	0.61	0.72	0.83	0.93	1.17	1.52	1.90	1.90	2.15	2.28	2.72	3.46	3.58	2.94	2.40
Count	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	29	31	31	31	31
UQ	1.76	1.49	1.33	1.07	1.33	1.24	0.93	0.79	0.76	0.61	0.72	0.83	1.07	1.24	1.49	1.93	2.22	2.30	2.43	2.43	2.55	2.55	2.48	2.30
Median	1.58	1.21	0.97	0.97	1.04	1.00	0.79	0.76	0.68	0.61	0.61	0.76	0.90	1.14	1.40	1.70	2.01	2.09	2.01	2.22	2.28	2.25	2.12	2.04
LQ	0.97	0.86	0.83	0.90	0.90	0.86	0.64	0.64	0.61	0.49	0.61	0.68	0.76	1.04	1.21	1.55	1.61	1.82	1.76	1.73	1.90	1.76	1.82	1.43

TIME - UT

P. R. - CNPq.
Comissão Nacional de Atividades Espaciais
São José dos Campos - SP

MEAN VALUE OF ABSORPTION DURING THE FIRST MINUTE OF EACH HOUR

Station ..... - SJ
Month ..... - November
Year ..... - 1966
Riometer ..... - Mark II

Lat. ..... - 23°12'43"S
Long. ..... - 45°51'35"W
DIP ..... - 22.5°S
Mag. Lat. ..... - 11.7°
Alt. ..... - 623 m

Freq. ..... - 30 MHz
Bandwith ..... - 30 KHz
Diode Load Resist ..... - 750 ohm
Audio Threshold ..... - 3
Int. Time ..... - 4 sec
ACG Time ..... - 4 sec

TABLE XIII

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.49	1.17	1.33	1.04	1.17	1.04	1.04	0.90	0.61	0.64	0.72	0.64	0.68	0.97	1.14	1.43	1.64	1.85	1.79	1.67	2.38	3.18	3.30	2.67
2	1.76	1.93	1.82	1.85	1.96	2.60	1.70	0.90	0.61	0.64	0.64	0.64	0.68	0.90	0.90	1.46	1.64	1.67	1.67	1.40	1.27	1.70	2.04	1.73
3	1.46	1.43	1.33	1.67	1.79	1.46	0.79	0.57	0.49	0.64	0.64	0.53	0.72	0.93	1.24	1.37	1.55	1.87	1.67	1.87	1.73	1.61	1.64	0.97
4	0.41	0.46	1.04	1.85	1.99	2.09	0.83	0.83	0.61	0.53	0.64	0.72	0.64	1.07	1.30	1.61	1.76	2.07	1.96	1.96	1.43	1.37	1.37	1.04
5	1.14	0.83	0.61	1.04	1.21	0.83	0.83	0.61	0.49	0.53	0.64	0.53	0.72	1.10	1.33	1.46	1.58	1.46	1.67	1.67	2.04	2.58	2.30	1.49
6	1.67	1.10	1.04	1.70	1.52	1.49	1.07	0.61	0.61	0.64	0.79	0.53	0.72	0.86	1.24	1.30	1.76	2.04	2.07	1.85	2.25	2.65	2.38	1.49
7	0.93	0.68	0.61	0.79	1.24	1.14	1.33	0.83	0.61	0.64	0.68	0.76	0.83	1.10	1.46	1.67	1.79	1.76	1.93	2.01	2.22	2.81	2.58	1.85
8	1.33	1.07	1.33	1.37	1.24	1.14	0.86	0.83	0.61	0.64	1.00	1.33	1.27	1.40	1.76	1.99	2.04	2.17	2.43	2.94	2.83	2.48	2.09	1.52
9	1.07	0.79	1.33	1.70	1.87	1.27	1.10	0.83	0.61	0.64	0.72	0.83	0.90	1.17	1.40	1.73	1.93	2.07	1.73	c	c	c	c	c
10	c	c	c	c	c	c	c	c	c	c	c	c	0.97	1.24	1.72	1.79	1.90	1.85	1.73	1.87	1.58	1.82	1.49	1.04
11	0.37	0.64	1.04	1.10	1.30	1.33	1.10	0.93	0.93	0.90	0.86	1.07	1.21	1.52	1.67	1.67	1.90	1.96	2.01	2.09	1.99	2.17	2.04	1.70
12	1.24	1.04	1.33	1.40	1.61	1.33	1.37	0.93	0.93	1.04	1.21	1.24	1.43	1.58	1.58	1.73	2.15	2.07	1.87	1.37	1.19	1.40	1.37	1.24
13	0.83	0.64	1.04	1.10	1.64	1.37	0.90	0.83	0.83	0.90	0.90	1.14	1.24	1.96	1.82	2.17	2.15	2.09	2.04	1.96	1.99	1.55	1.30	0.37
14	0.33	0.76	1.04	1.73	1.99	1.90	1.14	0.93	0.93	0.93	0.90	0.97	1.00	1.27	1.37	1.79	2.17	2.35	2.35	1.99	1.93	1.67	1.49	1.14
15	0.79	0.61	1.04	1.14	0.97	1.00	0.90	0.61	0.61	0.72	0.93	1.00	0.90	1.30	1.40	1.64	2.01	2.15	2.17	1.93	1.87	1.90	1.73	1.27

TIME - UT

Month: November
Year: 1966

TABLE XIV

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16	0.76	0.61	0.61	1.14	1.37	1.00	0.90	0.61	0.61	0.68	0.41	0.53	0.83	0.97	1.46	1.73	2.01	2.15	2.04	2.12	2.69	2.17	2.40	1.82
17	1.46	1.64	1.04	1.17	1.43	1.04	0.90	0.93	0.64	0.72	0.64	0.68	0.86	1.17	1.43	1.70	1.96	2.15	2.15	1.87	1.99	1.96	1.64	1.49
18	0.90	1.04	1.33	1.46	1.43	1.30	0.90	0.83	0.64	0.76	0.68	0.90	1.00	1.24	1.33	1.70	1.87	1.85	1.87	1.82	2.17	1.99	1.61	1.21
19	0.86	1.04	0.76	0.90	0.79	0.68	0.61	0.49	0.53	0.64	0.68	0.72	1.04	1.33	1.52	1.73	2.07	2.22	2.23	2.15	2.01	1.82	2.01	1.76
20	1.73	1.64	1.04	0.83	1.10	0.83	0.83	0.61	0.64	0.76	0.93	0.97	1.07	1.30	1.58	1.58	1.90	2.07	1.96	2.09	2.23	2.09	1.93	2.23
21	2.28	2.17	2.62	2.97	2.15	1.33	0.93	0.93	0.86	0.79	0.76	0.79	0.86	1.40	1.49	1.73	1.90	1.93	1.93	1.79	1.96	1.76	1.58	1.40
22	1.07	1.64	1.70	1.85	1.55	1.33	1.17	0.93	0.97	1.00	0.97	0.86	1.17	1.43	1.73	1.90	2.17	2.45	2.58	2.62	2.88	2.33	2.45	2.92
23	2.23	2.17	2.23	1.87	1.55	1.76	1.17	0.93	0.86	1.00	1.00	1.07	1.21	1.49	1.70	2.04	2.30	2.30	1.99	2.15	2.22	1.61	1.82	1.67
24	1.07	1.04	0.83	1.55	2.07	1.49	0.93	0.93	0.97	1.04	1.00	0.90	1.27	1.43	1.61	1.87	2.12	2.30	2.38	1.73	1.46	1.52	1.49	1.64
25	1.37	1.64	1.87	2.09	1.58	1.37	0.93	0.93	0.86	0.83	1.04	1.14	1.49	1.46	1.64	1.90	2.22	2.15	2.07	1.82	1.82	1.99	1.73	1.30
26	1.04	1.64	1.73	1.58	1.61	1.37	0.93	0.93	0.90	0.86	1.07	1.14	1.33	1.67	1.82	1.99	2.22	2.25	2.30	2.38	2.25	1.90	1.70	1.90
27	1.85	2.17	1.73	1.04	1.21	0.86	0.83	0.83	0.90	0.86	1.10	1.43	1.40	1.73	1.85	1.93	2.07	2.07	1.85	1.85	1.87	1.37	1.67	1.24
28	0.76	0.76	1.10	1.33	1.24	1.14	0.93	0.93	0.90	0.90	0.93	1.07	1.37	1.49	1.61	2.01	2.23	2.23	2.25	2.25	1.99	1.82	1.61	1.55
29	1.67	1.67	1.73	1.37	1.24	1.14	0.93	0.93	0.90	0.90	0.97	1.10	1.24	1.55	1.79	2.04	2.15	2.22	1.99	1.76	1.49	1.27	1.17	1.24
30	1.04	1.04	1.14	1.10	1.00	0.90	0.83	0.83	0.93	0.93	1.00	1.52	1.30	1.40	1.61	1.93	2.09	2.40	2.30	2.12	2.25	1.85	1.85	1.82
31																								
Count	29	29	29	29	29	29	29	29	29	29	29	29	30	30	30	30	30	30	30	29	29	29	29	29
UQ	1.67	1.64	1.73	1.73	1.79	1.40	1.10	0.93	0.90	0.90	1.00	1.14	1.27	1.49	1.73	1.93	2.15	2.23	2.25	2.15	2.25	2.17	2.09	1.82
Median	1.07	1.04	1.10	1.37	1.51	1.30	0.93	0.83	0.83	0.76	0.76	0.90	1.04	1.30	1.58	1.73	2.01	2.09	2.01	1.87	1.99	1.85	1.73	1.49
LQ	0.83	0.76	1.04	1.10	1.21	1.00	0.83	0.61	0.61	0.64	0.68	0.68	0.83	1.10	1.33	1.61	1.79	1.87	1.85	1.76	1.73	1.61	1.49	1.24

TIME - UT

P. R. - CNPq.
Comissão Nacional de Atividades Espaciais
São José dos Campos - SP

TABLE XV

MEAN VALUE OF ABSORPTION DURING THE FIRST MINUTE OF EACH HOUR

Station ..... - SJ
Month ..... - December
Year ..... - 1966
Riometer ..... - Mark II

Lat. ..... - 23°12'43"S
Long..... - 45°51'35"W
DIP ..... - 22.5°S
Mag. Lat. ..... - 11.7°
Alt. ..... - 623 m

Freq. ..... - 30 MHz
Bandwith ..... - 30 KHz
Diode Load Resist ..... - 750 ohm
Audio Threshold ..... - 3
Int. Time ..... - 4 sec
ACG Time ..... - 4 sec

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.33	1.33	1.30	1.40	1.14	1.14	0.93	0.93	1.07	0.93	0.90	1.07	1.40	1.87	2.17	2.55	2.76	2.97	3.01	2.74	2.22	1.82	1.52	1.33
2	1.99	2.01	2.12	2.04	1.86	1.27	1.17	0.93	1.07	0.97	1.04	1.10	1.46	1.64	1.79	2.15	2.28	2.23	2.23	2.55	2.12	1.14	1.00	0.90
3	1.04	1.07	0.90	0.90	1.04	0.90	0.83	0.83	0.72	0.86	0.97	1.07	1.27	1.76	1.58	1.79	2.01	2.33	2.22	2.12	1.90	1.49	1.49	1.17
4	1.33	1.21	1.17	1.17	0.83	0.83	0.61	0.64	0.64	0.61	0.64	0.86	1.10	1.46	1.61	1.70	1.90	2.17	2.38	2.50	2.22	1.43	1.46	1.30
5	1.17	1.07	0.93	0.97	0.83	0.83	0.61	0.64	0.64	0.72	1.04	1.17	1.24	1.30	1.24	1.33	1.40	1.76	2.17	2.33	1.87	1.40	1.58	1.43
6	1.33	1.37	1.21	0.97	0.83	0.93	0.83	0.86	0.76	0.72	0.72	0.93	1.21	1.33	1.43	1.73	1.87	1.79	1.90	2.07	1.79	1.37	1.14	1.27
7	1.04	1.07	1.52	1.85	1.21	0.93	0.83	0.86	0.79	0.79	0.64	0.83	1.27	1.58	1.70	1.85	1.87	1.58	2.35	c	c	c	c	0.17
8	1.17	1.07	0.97	1.27	0.86	0.93	0.83	0.86	0.79	0.97	0.97	1.04	1.33	1.49	1.58	1.87	1.87	1.87	1.79	1.93	1.99	1.96	1.99	2.04
9	1.64	2.07	1.55	1.73	1.49	1.17	0.93	0.86	0.86	0.83	1.00	1.07	1.40	1.62	1.61	1.99	2.04	2.17	2.72	2.33	1.79	1.49	1.33	1.21
10	1.04	1.24	1.58	1.73	1.79	0.93	0.83	0.86	0.72	0.72	1.04	1.10	1.46	1.55	1.76	2.25	2.15	1.79	2.12	2.04	1.37	1.07	1.30	1.21
11	1.17	1.27	1.58	1.76	1.79	1.17	0.93	0.90	0.83	0.86	0.90	1.17	1.49	1.55	1.79	2.01	2.01	1.96	1.99	1.67	1.33	1.17	1.00	1.07
12	2.38	0.83	1.30	1.93	1.24	0.83	0.83	0.90	0.86	0.90	0.83	0.97	1.21	1.27	1.55	1.90	2.01	1.73	1.99	1.87	1.61	1.40	1.43	1.04
13	1.17	1.10	1.07	1.37	1.27	0.83	0.83	0.90	0.76	0.79	0.86	1.10	1.27	1.61	1.87	2.22	2.09	1.70	1.49	1.70	1.33	1.07	1.24	1.21
14	1.04	1.27	1.33	1.40	1.27	0.93	0.93	0.90	0.90	0.97	1.00	1.14	1.52	1.64	1.85	2.01	2.15	2.15	2.30	2.60	1.62	1.58	1.52	1.64
15	1.67	1.43	1.62	1.10	1.27	0.93	0.83	0.93	0.79	0.86	0.93	1.39	1.52	1.49	1.87	2.01	1.96	1.96	2.15	0.29	1.73	1.27	1.49	1.33

TIME - UT

Month: December
Year: 1966

TABLE XVI

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16	1.04	1.46	0.83	1.14	1.27	0.93	0.83	0.72	0.61	0.72	0.86	0.93	1.14	1.52	1.64	1.90	2.07	2.15	2.09	2.09	2.12	1.85	1.49	1.33
17	1.33	0.90	0.86	1.17	1.14	0.93	0.83	0.72	0.64	0.76	0.93	1.04	1.33	1.43	1.55	1.61	1.85	2.12	2.22	2.12	1.52	1.52	1.30	1.17
18	1.07	0.90	1.43	1.17	0.90	0.93	0.83	0.72	0.64	0.79	c	c	c	c	c	c	1.87	2.04	2.50	2.40	2.04	1.82	1.46	1.04
19	1.07	0.90	0.93	1.04	0.93	0.83	0.86	0.76	0.68	0.79	1.00	1.10	1.24	1.37	1.70	1.79	1.99	2.15	2.43	1.99	1.99	1.79	1.43	1.64
20	2.04	1.49	1.79	1.73	1.55	0.93	0.97	0.97	0.90	0.83	0.90	1.00	1.33	1.40	1.65	1.61	1.55	1.76	1.99	1.90	1.67	1.43	1.27	1.33
21	1.21	1.37	1.49	1.73	1.30	0.93	0.97	0.97	0.72	0.90	0.93	1.04	1.14	1.24	1.46	1.64	1.73	1.90	1.07	2.43	2.22	1.73	1.73	1.99
22	2.04	1.85	1.52	1.46	1.17	0.83	0.86	0.79	0.76	0.72	0.97	1.10	1.24	1.27	1.33	1.58	1.70	1.79	2.01	2.09	1.87	1.40	1.24	1.17
23	1.21	1.40	1.55	1.49	1.30	0.93	0.97	1.00	0.97	0.93	1.00	1.17	1.61	1.90	1.99	1.76	2.07	2.67	2.23	2.01	1.99	1.64	1.40	1.64
24	1.40	1.24	1.55	1.21	0.93	0.83	0.86	0.86	0.68	0.72	0.64	0.68	0.69	1.10	1.37	1.58	1.70	1.99	1.85	1.58	1.52	1.33	1.07	1.17
25	1.10	1.68	1.58	1.79	1.85	0.93	0.64	0.72	0.53	0.64	0.72	0.83	0.97	1.14	1.33	1.49	1.82	1.93	2.28	1.87	1.76	1.46	1.37	1.33
26	1.27	1.43	1.07	0.86	0.93	0.93	1.00	0.83	0.76	0.79	0.90	1.14	1.10	1.37	1.40	1.55	1.79	2.07	2.30	1.82	1.73	1.43	1.21	1.33
27	1.43	1.30	1.07	0.86	0.83	0.83	0.90	0.86	0.79	0.83	0.72	0.76	0.97	1.00	1.24	1.30	1.33	1.55	1.79	1.64	1.67	1.58	1.33	1.64
28	1.27	1.33	1.10	0.90	0.83	0.83	0.90	0.76	0.61	0.79	0.79	0.79	1.00	1.30	1.49	1.93	2.04	1.96	1.73	1.70	1.64	1.66	1.33	1.33
29	0.83	1.07	1.10	0.90	0.93	0.93	0.90	0.79	0.64	0.79	0.83	0.97	1.21	1.43	1.61	2.04	2.15	2.30	2.38	2.22	1.61	1.37	1.21	1.17
30	1.14	1.10	1.40	1.27	0.93	0.93	0.93	0.79	0.53	0.68	0.64	0.83	0.86	1.07	1.33	1.52	1.70	2.15	2.17	2.15	1.65	0.93	0.76	0.49
31	1.14	1.10	1.14	1.14	0.93	0.93	0.72	0.83	0.72	0.72	0.72	0.90	0.90	1.10	1.33	1.52	1.67	2.09	2.09	2.12	1.52	0.90	0.76	0.49
Count	31	31	31	31	31	31	31	31	31	31	30	30	30	30	30	30	31	31	31	30	30	30	30	31
UQ	1.40	1.43	1.52	1.73	1.30	0.93	0.93	0.90	0.83	0.86	0.97	1.10	1.40	1.55	1.76	2.01	2.07	2.15	2.30	2.33	1.99	1.58	1.49	1.43
Median	1.21	1.27	1.30	1.27	1.14	0.93	0.86	0.86	0.76	0.79	0.90	1.04	1.24	1.43	1.58	1.79	1.90	1.99	2.17	2.07	1.76	1.43	1.33	1.26
LQ	1.07	1.07	1.07	1.04	0.93	0.83	0.83	0.76	0.64	0.72	0.72	0.90	1.10	1.27	1.40	1.58	1.70	1.73	1.90	1.87	1.55	1.33	1.21	1.17

TIME - UT