A Catalog of Radio Observations of Jupiter 1965-1967

J. Williams, J. D. Merritt,
D. P. Morrow, and C. H. Barrow

TABLE OF CONTENTS

EQUIPMENT AND REMARKS			1
DATA			
1965-66	Tallahassee	18 Mc/s	3
	Tallahassee	12.5 Mc/s	8
	Tallahassee	26 Mc/s	8
	Tallahassee	14 Mc/s	9
	Tallahassee	16 Mc/s	10
	Tallahassee	22 Mc/s	13
	Grahamstown	18 Mc/s	14
	Trondheim	18 Mc/s	16
	Valencia	18 Mc/s	17
	St. Osyth	18 Mc/s	17
	Ibadan	18 Mc/s	18
1966-67	Tallahassee	18 Mc/s	19
	Tallahassee	12.5 Mc/s	24
	Tallahassee	22 Mc/s	24
	Tallahassee	26 Mc/s	24
	Tallahassee	16 Mc/s	25
	Grahamstown	18 Mc/s	26
	Trondheim	18 Mc/s	27
	St. Osyth	18 Mc/s	28
	Valencia	18 Mc/s	28
	Ibadan	18 Mc/s	29
1965-66, 1966-67	Combined Overseas Activity		30
HISTOGRAMS			31

EQUIPMENT AND REMARKS

Jupiter was observed at Tallahassee during the 1965-66 apparition using two crossed arrays of eight half-wave dipoles at 18.0 Mc/s., a crossed four element array at 12.5 Mc/s, an east-west-aligned array of four whole-wave center-fed dipoles at 14 Mc/s, and four crossed five-element Yagis at 16, 18, 22 and 26 Mc/s. Two arrays each of four whole-wave dipoles separated by sixteen wavelengths fed a phase-switched interferometer system operating at 18 Mc/s.

The rectified audio outputs from Hallicrafters short-wave communications receivers were fed to Elliott pen recorders moving at 6 inches per hour. The recorder time constant was 0.25 seconds and the receiver bandwidth was about 5 kc/s. The detector outputs were recorded by various high-speed systems during periods of activity. Jupiter was observed daily for about five hours around transit from September 18, 1965 to March 26, 1966, at 16 and 18 Mc/s.

For observations of Jupiter during 1966-67 at Tallahassee the antenna-receiver-recorder systems were essentially the same except for the introduction of some new Drake receivers. Jupiter was observed daily for about eight hours around transit at 18 Mc/s, and about 5 hours around transit at 12.5, 16, 18, 22, and 26 Mc/s. Observations began at all

frequencies on October 17, 1966, and ended on April 15, 1967 except for 12.5, 22, and 26 Mc/s which ended December 23, 1966. Left- and right-hand components of polarization at the four higher frequencies were recorded on an eight-channel Brush recorder which was usually run at 10 mm/sec during an event. Left- and right-circular components were obtained from the orthogonal antennas by means of a hybrid ring system. Terrestrial interference seriously restricted the 12.5 Mc/s observations which were abandoned in December, 1966. Instrumental problems limited observations at 22 and 26 Mc/s.

A polarimeter was used at 18 Mc/s to measure correlation between left- and right-hand components of polarization. These measurements allowed both the degree of polarization and the axial ratio to be determined at this frequency.

For further details reference should be made to "A Catalog of Radio Observations of Jupiter 1961-66" by D. Morrow, C.H. Barrow, G.M. Resch (November 1965).

The research program is supported by the National Aeronautics and Space Administration, Grant Number NSG-224-61. This catalog is produced under NASA Contract NAS5-9835.

1965-1966 18.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
18	9	1030-1200				
19	9	1005-1150				
20	9	0945-1130				
21	9	0940-1110				
22	9	0945-1200				
23	9	0945-1200				
24	9	0930-1130				
25	9	0935-1140				
26	9	0910-1130	0956-1047	198-229	239.8-247.0	2
27	9	0905-1145				
28	9	0937-1145				
29	9	0900-1200				
30	9	0900-1200				
1	10	0855-1205				
2	10	0855-1150				
3	10	0855-1133				
4	10	0850-1135	1005-1023	328-339	68.5- 71.0	1
5	10	0840-1200				
6	10	0830-1100				
7	10	0830-1200				
8	10	0830-1200				
9	10	0820-1200				
10	10	0820-1200				
11	10	0615-1200				
12	10	0600-1200				
13	10	0550-1200	0740-0810	155-173	79.3- 83.5	1
13	10	0550-1200	1048-1100	269-276	105.8-107.5	3
14	10	0635-1200				
15	10	0540-1200				
16	10	0545-1200				
17	10	0540-1200				
19	10	0530-1200				
20	10	0530-1145				
21	10	0520-1200				
22	10	0520-1200				
23	10	0520-1200				
24	10	0510-1200				
25	10	0510-1200	0510-0617	72-112	339.9-349.4	1
26	10	0510-1200				
27	10	0500-1200				
28	10	0500-1200	0757-0803	265-268	254.1-254.9	1

1965-1966 18.0 Mc/s TALLAHASSEE

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
29 10	0500-1200				
30 10	0450-1200				
31 10	0648-1200				
1 11	0440-1200				
2 11	0435-1200				
3 11	0435-1200				
4 11	0430-1200				
5 11	0430-1200				
6 11	0425-1200				
7 11	0800-1200				
8 11	0410-1200				
9 11	0410-0850				
10 11	0405-1155				
11 11	0410-1200				
12 11	0355-1200				
13 11	0405-1200				
14 11	0345-1200				
15 11	0400-1145				
6 12	0230-0940	0444-0500	264-274	246.4-248.7	2
7 12	0325-0935				
8 12	0225-1020				
9 12	0235-1015				
10 12	0217-0855	0757-0845	263-292	8.2- 15.0	2
11 12	0305-1005	0340-0420	259-283	175.5-181.1	2
12 12	0205-0940				
13 12	0210-0900	0425-0535	227-270	229.0-238.9	3
14 12	0305-0925	0639-0740	99-136	91.6-100.2	3
15 12	0225-0900	0400-0420	153-166	272.8-275.6	1
15 12	0225-0900	0622-0627	239-242	292.9-293.6	1
15 12	0225-0900	0655-0705	259-265	297.5-298.9	1
16 12	0200-0840				
17 12	0253-0830				
18 12	0235-0810				
19 12	0325-0715				
20 12	0225-0900	0530-0630	241-277	223.6-232.1	3
20 12	0225-0900	0715-0820	305-344	238.4-247.6	3
21 12	0230-0815	0730-0815	104-132	84.2- 90.5	2
22 12	0245-0845	0647-0842	229-299	281.8-298.0	3
23 12	0000-0315				
24 12	0450-0830				
27 12	0415-0900	0630-0705	252-273	217.4-222.3	3

1965-1966 18.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
28	12	0050-0500	0135-0318	224-287	19.8- 34.4	3
28	12	0050-0500	0408-0445	317-339	41.4- 46.7	3
29	12	0340-0800	0515-0600	148-175	254.3-260.6	3
30	12	0000-0600	0000-0012	108-116	53.1- 54.8	3
30	12	0000-0600	0315-0520	226-302	80.6- 98.3	3
30	12	0000-0600	0537-0557	312-324	100.7-103.5	3
31	12	0510-0830				
2	1	0255-0700	0320-0355	321-342	332.4-337.3	3
4	1	0230-0630	0340-0410	275-293	22.2- 26.4	3
4	1	0230-0630	0425-0443	302-313	28.5- 31.1	3
5	1	0230-0630	0425-0555	92-147	232.5-245.2	3
6	1	0200-0633	0355-0413	225-236	71.6- 74.1	3
6	1	0200-0633	0423-0531	242-283	75.5- 85.2	3
6	1	0200-0633	0545-0610	291-306	87.1- 90.7	3
7	1	0000-0410	0000-0115	233-279	242.0-252.6	3
8	1	0140-0530	0407-0415	173-178	120.4-121.5	2
9	1	0100-0500	0130-0449	229-349	301.9-330.0	3
10	1	0255-0655				
11	1	0230-0645				
12	1	0230-0630				
13	1	0400-0800	0510-0718	245-322	67.3- 85.4	3
14	1	0000-0530				
15	1	0325-0530				
16	1	0130-0545	0435-0520	315-342	313.0-319.4	3
17	1	0145-0530				
18	1	0100-0500	0322-0442	212-261	349.8- 1.1	3
19	1	0100-0500	0235-0255	334-346	186.8-189.6	3
21	1	0030-0515	0238-0310	277-297	234.3-238.8	3
22	1	0240-0520	0335-0447	102-146	85.9- 96.0	3
23	1	0000-0540	0427-0500	284-304	296.8-301.5	3
24	1	0000-0105				
24	1	0147-0530				
25	1	0010-0645	0232-0248	156-166	327.6-329.8	3
25	1	0010-0645	0430-0441	227-234	344.2-345.8	3
25	1	0010-0645	0537-0620	268-294	353.7-359.8	2
26	1	0000-0545				
27	1	0050-0440				
28	1	0005-0625	0220-0400	240-301	216.6-230.7	3
28	1	0005-0625	0435-0446	322-329	235.6-237.2	3
28	1	0005-0625	0530-0600	355- 13	243.4-247.6	3
29	1	0055-0635	0450-0635	121-185	81.3- 96.1	3

1965-1966 18.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
30	1	0030-0425	0141-0332	158-225	258.1-273.7	3
31	1	0000-0045				
1	2	0025-0420				
2	2	0040-0520	0357-0445	331- 0	167.9-174.7	3
3	2	0010-0510	0320-0345	100-115	6.3- 9.8	3
4	2	0015-0500	0358-0403	273-276	215.1-215.8	3
5	2	0000-0400	0030-0130	298-334	29.2- 37.7	3
6	2	0050-0400				
7	2	0000-0500	0100-0150	257-287	80.4- 87.4	3
8	2	0000-0450				
9	2	0010-0445				
10	2	0015-0445	0421-0435	110-118	359.4- 1.3	3
11	2	0000-0430	0145-0215	166-184	180.8-185.1	3
12	2	0005-0430				
13	2	0005-0325				
14	2	0000-0420				
15	2	0000-0430				
16	2	0000-0415				
17	2	0000-0400				
18	2	0000-0410				
19	2	0000-0405				
20	2	0000-0355				
21	2	0000-0330				
22	2	0000-0350	0040-0055	342-351	249.6-251.8	3
23	2	0000-0350	0038-0210	131-187	92.9-105.9	3
24	2	0000-0345	0030-0050	277-289	295.1-298.0	3
25	2	0000-0340				
26	2	0000-0340				
27	2	0000-0340				
28	2	0000-0330				
1	3	0000-0330	0155-0217	0- 14	244.2-247.4	3
2	3	0000-0330	0105-0255	120-187	80.7- 96.2	3
4	3	0000-0315				
5	3	0000-0310				
6	3	0000-0305				
7	3	0000-0300				
8	3	0000-0300	0224-0228	351-353	232.3-232.9	3
9	3	0000-0255				
10	3	0000-0250				
11	3	0000-0245				
12	3	0000-0230				

1965-1966 18.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
13	3	0000-0235				
15	3	0000-0235				
16	3	0055-0455	0340-0430	160-190	70.2- 77.2	3
17	3	0000-0245	0140-0225	237-265	256.6-263.0	3
18	3	0000-0245				
19	3	0000-0220				
21	3	0000-0210				
22	3	0000-0300				
23	3	0000-0300				
24	3	0040-0300				
25	3	0000-0300				

1965-1966 12.5 Mc/s TALLAHASSEE

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
13 10	0817-1200	0817-0858	178-202	84.5- 90.3	2
13 10	0817-1200	1048-1058	269-275	105.8-107.2	2
19 10	0750-1200	0803-0823	353- 5	223.3-226.1	1
17 11	0535-1135	0543-0548	317-320	346.3-347.1	1
23 11	0318-1030	0817-0845	234-251	149.6-153.6	3
28 11	0412-1020	0505-0530	151-166	60.5- 64.0	1
29 11	0448-0915	0523-0531	313-317	266.6-267.8	1
1 12	0410-1050	0610-0635	282-298	320.5-324.0	1
14 12	0305-0925	0635-0725	96-127	91.0- 98.1	2
20 12	0225-0830	0745-0805	323-335	242.7-245.5	2
22 2	0000-0350	0040-0055	342-351	249.6-251.8	1
23 2	0000-0350	0125-0145	160-172	99.5-102.3	2
2 3	0000-0325	0200-0320	154-202	88.4- 99.7	3

1965-1966 26.0 Mc/s TALLAHASSEE

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
26 9	0910-1200	1035-1053	221-232	245.3-247.8	1
13 10	0817-1200	1048-1050	269-270	105.8-106.1	2
23 10	0730-1200	0843-0857	259-268	323.1-325.1	3
25 10	0720-1200	1010-1030	253-265	22.3- 25.1	2
12 11	0610-1200	1115-1123	124-129	95.3- 96.5	3
13 12	0210-0900	0350-0523	206-262	224.1-237.2	3
14 12	0305-0925	0700-0720	112-124	94.5- 97.3	3
22 12	0245-0845	0738-0741	260-262	289.0-289.4	1

1965-1966 14.0 Mc/s TALLAHASSEE

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
23 11	0318-1030	0802-0922	225-273	147.5-158.8	1
6 12	0230-0940	0434-0510	258-280	245.0-250.1	3
11 12	0200-1005	0535-0555	328-340	191.7-194.5	3
14 12	0305-0925	0635-0725	96-127	91.0- 98.1	3
14 12	0305-0925	0750-0805	142-151	101.6-103.7	1
15 12	0225-0900	0555-0610	223-232	289.0-291.2	2
20 12	0225-0830	0645-0830	287-350	234.2-249.0	3
30 12	0000-0600	0425-0515	269-299	90.5- 97.6	2
5 1	0230-0630	0445-0455	105-111	235.4-236.8	3
6 1	0200-0625	0350-0405	222-231	70.9- 73.0	3
6 1	0200-0625	0432-0520	247-276	76.8- 83.6	3
6 1	0200-0625	0558-0611	299-307	89.0- 90.8	3
9 1	0100-0500	0200-0500	247-356	306.1-331.6	3
16 1	0130-0545	0445-0515	321-339	314.5-318.7	3
18 1	0100-0500	0210-0230	169-181	339.7-342.5	3
18 1	0100-0500	0254-0415	195-244	345.9-357.3	3
21 1	0030-0530	0255-0428	288-344	236.7-249.9	3
22 1	0240-0530	0417-0447	128-146	91.8- 96.0	3
23 1	0100-0540	0415-0507	277-308	295.1-302.5	3
25 1	0010-0645	0230-0250	155-167	327.3-330.1	2
25 1	0010-0645	0306-0332	176-192	332.4-336.0	3
28 1	0005-0625	0320-0402	277-302	225.1-231.0	3
28 1	0005-0625	0432-0500	320-337	235.2-239.2	3
28 1	0005-0625	0540-0610	1- 19	244.8-249.1	2
29 1	0055-0635	0455-0635	124-185	82.0- 96.1	3
30 1	0030-0425	0238-0323	192-219	266.1-272.5	3
2 2	0040-0520	0317-0450	307- 4	162.2-175.4	3
5 2	0005-0400	0030-0135	298-337	29.2- 38.4	3
11 2	0000-0430	0140-0200	163-175	180.1-182.9	1
22 2	0000-0350	0040-0100	342-354	249.6-252.5	3
23 2	0000-0350	0038-0158	131-179	92.9-104.2	3
24 2	0000-0345	0040-0047	283-287	296.5-297.5	3
2 3	0000-0330	0200-0320	154-202	88.4- 99.7	3
8 3	0000-0300	0225-0230	351-354	232.5-233.2	3

1965-1966 16.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
19	9	1005-1150	1029-1035	244-248	260.5-261.4	2
19	9	1005-1150	1040-1050	251-257	262.1-263.5	1
26	9	0910-1130	1005-1027	203-217	241.1-244.2	1
4	10	0850-1135	1005-1023	328-339	68.5- 71.0	1
11	10	0755-1112	0846-0902	254-264	41.5- 43.8	2
13	10	0817-1200	0817-0902	178-205	84.5- 90.9	2
13	10	0817-1200	1048-1053	269-272	105.8-106.5	2
19	10	0750-1200	0803-0812	353-358	223.3-224.6	2
23	10	0000-1200	0852-0915	265-279	324.3-327.6	3
28	10	0715-1125	0757-0803	265-268	254.1-254.9	1
28	10	0715-1125	0948-0954	332-335	269.8-270.6	1
12	11	0610-1200	1100-1120	115-127	93.2- 96.0	2
21	11	0255-0745	0447-0525	165-188	72.7- 78.1	3
23	11	0308-1100	0758-0951	222-291	146.9-162.9	3
24	11	0300-1100	0439-0544	253-292	322.4-331.6	3
24	11	0300-1100	0603-0728	303-355	334.3-346.3	3
25	11	0255-1055	0943-1005	227-240	208.9-212.1	2
26	11	0250-1050	0531-0700	225-279	17.0- 29.5	3
26	11	0250-1050	0815-0851	325-346	40.1- 45.2	3
28	11	0347-1020	0503-0603	150-186	60.2- 68.7	2
29	11	0343-1100	0357-0419	261-274	254.5-257.6	3
29	11	0343-1100	0503-0545	301-326	263.8-269.7	1
30	11	0355-1050	0452-0642	85-151	105.8-121.4	3
30	11	0355-1050	0724-0726	176-178	127.3-127.6	1
1	12	0255-1050	0350-0410	198-210	300.7-303.5	1
1	12	0255-1050	0520-0635	252-298	313.4-324.0	1
4	12	0230-0900	0354-0420	292-308	192.2-195.8	3
4	12	0230-0900	0435-0525	317-347	197.9-205.0	1
6	12	0230-0940	0424-0503	252-275	243.6-249.1	3
10	12	0205-1000	0645-0845	220-292	358.0- 15.0	3
11	12	0217-1000	0340-0420	259-283	175.5-181.1	1
11	12	0217-1000	0535-0607	328-348	191.7-196.2	3
13	12	0210-0900	0503-0535	250-270	234.4-238.9	3
14	12	0305-0925	0635-0738	96-135	91.0- 99.9	3
15	12	0225-0900	0358-0415	152-163	272.5-274.9	1
15	12	0225-0900	0603-0625	228-241	290.2-293.3	3
15	12	0225-0900	0658-0708	261-267	297.9-299.4	1
18	12	0235-0810	0340-0520	233-294	160.9-175.0	3
20	12	0225-0830	0443-0648	213-288	217.0-234.6	3
20	12	0225-0830	0735-0825	317-347	241.3-248.3	3
22	12	0245-0845	0650-0838	231-296	282.2-297.5	3

1965-1966 16.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
27	12	0415-0900	0640-0650	258-264	218.8-220.2	1
28	12	0050-0500	0145-0333	231-296	21.2- 36.5	3
28	12	0050-0500	0414-0455	321-345	42.3- 48.1	2
29	12	0340-0800	0504-0611	141-182	252.7-262.2	3
30	12	0000-0600	0311-0527	224-306	80.1- 99.3	3
30	12	0000-0600	0545-0600	317-326	101.8-103.9	3
2	1	0255-0700	0325-0349	324-339	333.1-336.4	3
4	1	0230-0630	0340-0415	275-296	22.2- 27.1	3
4	1	0230-0630	0430-0445	305-314	29.2- 31.4	3
5	1	0230-0630	0430-0443	95-103	233.2-235.1	3
6	1	0200-0625	0354-0409	224-233	71.5- 73.6	3
6	1	0200-0625	0427-0542	244-290	76.1- 86.7	3
6	1	0200-0625	0548-0617	293-311	87.6- 91.7	3
7	1	0000-0410	0010-0121	240-282	243.4-253.4	3
8	1	0140-0530	0407-0413	173-177	120.4-121.2	1
9	1	0100-0500	0133-0455	231-353	302.3-330.9	3
13	1	0400-0800	0505-0618	241-286	66.6- 76.9	3
16	1	0130-0545	0440-0525	318-345	313.7-320.1	3
18	1	0100-0500	0207-0227	167-179	339.2-342.1	3
18	1	0100-0500	0322-0421	212-248	349.8-358.2	3
19	1	0100-0500	0125-0140	292-301	176.9-179.0	3
19	1	0100-0500	0235-0255	334-346	186.8- 89.6	2
20	1	0130-0530	0227-0317	120-150	29.3- 36.3	3
20	1	0130-0530	0324-0340	155-164	37.3- 39.6	3
20	1	0130-0530	0355-0407	173-181	41.7- 43.4	3
21	1	0030-0530	0316-0424	300-341	239.7-249.3	3
22	1	0240-0520	0325-0448	96-146	84.5- 96.2	3
23	1	0100-0540	0410-0500	274-304	294.4-301.5	3
25	1	0010-0645	0235-0255	158-170	328.0-330.8	3
25	1	0010-0645	0430-0450	227-239	344.2-347.1	3
28	1	0005-0635	0223-0400	242-301	217.0-230.7	3
28	1	0005-0625	0430-0500	319-337	234.9-239.2	3
28	1	0005-0625	0540-0605	1- 16	244.8-248.4	3
29	1	0055-0635	0455-0635	124-185	82.0- 96.1	3
30	1	0030-0425	0141-0213	158-177	258.1-262.6	3
30	1	0030-0425	0241-0332	194-225	266.5-273.7	3
2	2	0040-0520	0230-0450	279- 4	155.6-175.4	3
3	2	0010-0510	0325-0340	103-112	7.0- 9.1	3
4	2	0015-0445	0358-0404	273-277	215.1-216.0	3
5	2	0005-0400	0030-0140	298-340	29.2- 39.1	3
7	2	0000-0500	0055-0155	254-290	79.7- 88.1	3

1965-1966 16.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
10	2	0015-0445	0421-0435	110-118	359.4- 1.3	1
11	2	0000-0430	0132-0215	158-184	179.0-185.1	1
22	2	0000-0350	0035-0100	339-354	248.9-252.5	2
23	2	0000-0350	0038-0205	131-184	92.9-105.2	3
24	2	0000-0345	0030-0040	277-283	295.1-296.5	3
1	3	0000-0330	0158-0225	2- 18	244.7-248.5	3
2	3	0000-0330	0105-0320	120-202	80.7- 99.7	3
8	3	0000-0300	0220-0230	348-354	231.8-233.2	3
15	3	0000-0235	0010-0025	242-251	197.1-199.2	2
17	3	0000-0245	0150-0207	243-254	258.0-260.4	3

1965-1966 22.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
26	9	0910-1200	0958-1143	199-263	240.1-254.9	3
11	10	0755-1200	0917-0925	273-278	45.9- 47.0	1
13	10	0817-1200	0829-0835	185-189	86.2- 87.0	2
14	10	0750-1200	1115-1123	76- 81	313.0-314.2	2
19	10	0750-1200	0805-0812	354-358	223.6-224.6	2
23	10	0730-1200	0847-0905	262-273	323.6-326.2	3
7	11	0800-1200	0822-0842	346-358	133.1-135.9	3
12	11	0610-1200	1114-1122	123-128	95.2- 96.3	3
23	11	0325-1030	0807-0845	228-251	148.2-153.6	3
24	11	0420-1030	0434-0448	250-258	321.7-323.7	2
24	11	0420-1030	0506-0523	269-279	326.2-328.6	3
26	11	0415-1010	0740-0810	303-322	35.2- 39.4	3
30	11	0355-0955	0721-0729	175-179	126.9-128.0	1
4	12	0350-0900	0409-0435	301-317	194.3-197.9	1
6	12	0230-0940	0414-0453	246-269	242.2-247.7	3
8	12	0320-0820	0325-0330	157-160	282.5-283.2	1
10	12	0310-0855	0743-0800	255-265	6.2- 8.6	3
13	12	0210-0900	0410-0530	218-267	226.9-238.2	3
14	12	0305-0925	0648-0740	104-136	92.8-100.2	3
18	12	0320-0810	0418-0430	256-264	166.2-167.9	2
20	12	0225-0900	0537-0617	245-270	224.6-230.3	3
20	12	0225-0900	0707-0750	300-326	237.3-243.4	3
21	12	0230-0815	0730-0815	104-132	84.2- 90.5	2
22	12	0245-0845	0715-0812	246-281	285.7-293.8	3
27	12	0415-0900	0640-0700	258-270	218.8-221.6	1
28	12	0050-0500	0200-0310	240-282	23.3- 33.2	3
30	12	0000-0600	0328-0415	234-263	82.5- 89.1	3
30	12	0000-0600	0510-0528	296-307	96.9- 99.4	3
6	1	0200-0625	0427-0455	244-261	76.1- 80.1	3
6	1	0200-0625	0536-0540	286-288	85.9- 86.4	3
7	1	0000-0410	0025-0102	249-271	245.5-250.8	3
8	1	0140-0530	0406-0408	173-174	120.2-120.5	1
9	1	0100-0500	0205-0250	250-277	306.9-313.2	3
9	1	0100-0500	0345-0355	311-317	321.0-322.4	3
13	1	0400-0800	0505-0605	241-278	66.6- 75.1	2
17	1	0145-0530	0452-0520	116-133	158.9-162.9	2
18	1	0100-0500	0347-0420	227-247	353.4-358.0	3
22	1	0240-0520	0336-0447	103-146	86.0- 96.0	3
23	1	0100-0540	0400-0505	268-307	293.0-302.2	2
28	1	0005-0625	0235-0318	249-275	218.7-224.8	2
30	1	0030-0425	0141-0222	158-183	258.1-263.9	3
2	2	0040-0520	0320-0339	309-321	162.6-165.3	3
3	2	0010-0510	0335-0340	109-112	8.4- 9.1	2
10	2	0049-0445	0421-0435	110-118	359.4- 1.3	1
22	2	0000-0350	0040-0055	342-351	249.6-251.8	2

1965-1966 18.0 Mc/s GRAHAMSTOWN

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
1	9	0230-0700	0544-0605	243-255	159.3-162.3	2
2	9	0230-0635	0401-0406	331-334	348.1-348.8	2
3	9	0230-0635	0425-0432	136-140	194.9-195.9	2
6	9	0235-0620	0506-0507	252-253	90.8- 91.0	1
7	9	0230-0630	0549-0613	69- 83	300.3-303.7	2
11	9	0200-0555	0434-0531	265-300	23.2- 31.3	2
14	9	0200-0515	0436-0507	358- 17	273.7-278.1	1
15	9	0145-0730	0700-0715	236-245	137.4-139.5	1
18	9	0233-0700	0449-0600	248-291	9.0- 19.0	3
18	9	0233-0700	0615-0618	300-302	21.2- 21.6	2
25	9	0115-0615	0519-0601	240-265	357.2- 3.1	3
30	9	0100-0700	0540-0556	285-295	297.3-299.6	2
30	9	0100-0700	0627-0645	314-325	304.0-306.5	2
1	10	0100-0630	0430-0559	34- 87	130.8-143.4	1
2	10	0445-0650	0526-0546	218-230	342.1-345.0	2
4	10	0100-0700	0420-0500	119-143	19.7- 25.4	1
15	10	0000-0645	0418-0522	334- 13	97.6-106.7	1
18	10	0000-0645	0415-0545	64-119	347.7- .4	3
19	10	0006-0630	0410-0500	212-242	190.4-197.5	2
21	10	0000-0640	0350-0535	141-204	234.6-249.4	2
24	10	0000-0500	0333-0336	223-224	122.8-123.2	1
29	10	2300-2400	2324-2325	256-256	228.5-228.7	1
29	10	2300-2400	2338-2400	264-277	230.5-233.6	3
30	10	0000-0410	0000-0008	277-282	233.6-234.9	3
30	10	0000-0410	0057-0132	312-333	241.9-246.8	3
5	11	2240-2400	2328-2400	233-252	214.0-218.5	1
6	11	0000-0350	0000-0020	252-264	218.5-221.5	1
6	11	0000-0350	0048-0110	281-294	225.5-228.6	3
7	11	0000-0530	0310-0330	158-170	89.0- 91.9	3
10	11	0000-0428	0400-0402	280-281	346.7-347.0	1
22	11	0000-0412	0347-0357	280-286	268.0-269.4	2
30	11	2100-2400	2359-2400	58- 59	267.9-268.0	1
1	12	2030-2400	2140-2152	125-132	91.8- 93.5	2
1	12	2030-2400	2200-2202	137-138	94.6- 94.9	1
1	12	2030-2400	2224-2226	151-153	98.0- 98.3	1
1	12	2030-2400	2330-2337	191-195	107.4-108.4	1
4	12	0000-0330	0237-0242	246-249	181.3-182.0	2
4	12	0000-0330	0247-0252	252-255	182.7-183.4	1
7	12	2025-2400	2235-2238	342-344	241.3-241.7	2
7	12	2025-2400	2320-2325	9- 12	247.6-248.4	3
8	12	2030-2400	2326-2350	164-178	92.1- 95.5	3

1965-1966 18.0 Mc/s GRAHAMSTOWN

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
9	12	0000-0320	0001-0020	185-196	97.2- 99.9	2
10	12	2015-2400	2244-2247	79- 81	133.5-133.9	1
10	12	2015-2400	2259-2316	89- 99	135.6-138.0	2
12	12	2010-2400	2017-2023	292-296	159.9-160.7	2
15	12	0000-0230	0034-0037	29- 31	243.7-244.1	2
16	12	0000-0230	0003-0008	161-164	83.0- 83.7	2
16	12	0000-0230	0016-0018	169-170	84.9- 85.1	2
21	12	0000-0205	0055-0100	226-229	28.4- 29.1	1
22	12	0000-0205	0130-0140	37- 44	237.0-238.4	3
28	12	1900-2400	2223-2240	259-269	196.1-198.5	2
30	12	1810-2400	1840-1935	65- 99	211.3-219.1	3
30	12	1810-2400	2001-2003	114-116	222.7-223.0	3
31	12	0000-0115	0051-0105	290-298	264.1-266.1	3
31	12	1813-2400	1907-2200	232-337	58.9- 83.3	3
31	12	1813-2400	2200-2400	337- 50	83.3-100.3	2
1	1	0000-0115	0000-0023	50- 64	100.3-103.4	2
1	1	2015-2400	2015-2039	64- 79	271.8-275.2	1
1	1	2015-2400	2305-2350	167-194	295.8-302.2	1
5	1	1755-2400	1835-2003	246-299	352.6- 5.0	1
5	1	1755-2400	2015-2022	307-311	6.7- 7.7	3
6	1	0000-0055	0016-0040	92-107	40.7- 44.0	2
6	1	1755-2400	2241-2246	186-189	230.6-231.3	2
6	1	1755-2400	2250-2253	191-193	231.9-232.3	2
12	1	1739-2400	2108-2109	313-314	359.0-359.1	1
14	1	0000-0040	0001-0007	208-212	227.2-228.1	1
19	1	1755-2400	1900-1930	210-228	325.9-330.2	1
26	1	1753-2352	2241-2252	317-324	341.9-343.5	3
27	1	1754-2352	2225-2350	98-150	183.4-195.4	3
2	2	1800-2320	2006-2009	197-199	304.7-305.2	1
7	2	1754-2310	1938-1943	213-216	238.3-239.0	1
8	2	1750-2300	2039-2044	40- 43	90.5- 91.2	1
8	2	1750-2300	2054-2059	49- 52	92.6- 93.3	2
24	2	1800-2153	2122-2128	314-317	112.0-112.8	2

1965-1966 18.0 Mc/s TRONDHEIM

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
6 10	0000-0038	0000-0035	263-284	30.0- 34.9	1
15 10	0145-0630	0145-0300	242-287	76.0- 86.6	2
19 10	0145-0655	0417-0437	216-228	191.4-194.2	2
22 10	0125-0505	0245-0320	252-274	69.0- 73.9	3
30 10	0045-0555	0106-0110	317-320	243.1-243.7	1
1 11	1945-2130	2007-2038	229-247	91.3- 95.7	3
4 11	0045-0555	0303-0304	61- 62	197.3-197.5	1
18 11	0000-0445	0000-0010	260-266	141.5-142.9	1
21 11	2315-2400	2349-2354	136-139	234.0-234.8	2
21 12	2045-2400	2058-2109	233-240	198.3-199.8	2
30 12	2025-2400	2203-2212	188-194	240.0-241.2	3
30 12	2025-2400	2229-2235	204-208	243.6-244.5	2
7 1	0000-0200	0027-0110	250-276	245.8-251.9	1
14 1	0000-0200	0027-0034	224-228	230.9-231.9	3
15 1	0000-0010	2052-2[illegible]8	35- 45	247.5-249.8	1
23 1	2210-2400	2257-[illegible]5	235-264	93.6-100.4	2
24 1	0000-0110	0018-0[illegible]6	284-289	105.1-106.3	3
24 1	0000-0110	0034-0040	294-298	107.4-108.2	3
13 2	1725-2225	2202-2204	123-124	39.5- 39.8	2

1965-1966 18.0 Mc/s VALENCIA

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
21	9	0315-0700	0508-0510	351-352	262.0-262.3	1
26	9	0300-0700	0546-0550	47- 49	204.5-205.0	1
28	9	0300-0700	0457-0510	318-326	244.5-246.3	1
24	10	0125-0605	0503-0511	277-282	135.5-136.6	2
29	11	0000-0405	0310-0316	232-236	247.8-248.7	1
8	12	2134-2400	2244-2306	138-151	86.2- 89.3	3
15	12	2110-2400	2125-2139	65- 74	60.4- 62.4	2
15	12	2110-2400	2236-2241	108-111	70.4- 71.1	3
15	12	2110-2400	2302-2313	124-130	74.1- 75.7	1
16	12	0000-0230	0030-0034	177-180	86.8- 87.4	1
16	12	2110-2400	2242-2256	262-271	275.0-277.0	2
18	12	2110-2400	2241-2247	203-207	322.0-322.9	2
18	12	2110-2400	2307-2315	219-224	325.7-326.8	3
18	12	2110-2400	2342-2350	240-245	330.7-331.8	1
27	12	2025-2400	2125-2133	73- 78	343.8-344.9	2

1965-1966 18.0 Mc/s ST. OSYTH

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
8	9	0400-0630	0440-0450	177-183	133.8-135.3	3
18	9	0320-0600	0450-0454	249-251	9.2- 9.7	3
26	9	0240-0600	0245-0250	297-300	178.9-179.6	3
28	9	0253-0700	0456-0500	318-320	244.3-244.9	3
5	10	0220-0630	0540-0542	318-319	234.5-234.8	3
10	10	0145-0700	0318-0323	265-268	151.8-152.5	3
14	10	0150-0615	0525-0527	224-225	263.6-263.9	3
19	10	0145-0615	0413-0418	214-217	190.8-191.5	3
25	10	0000-0600	0051-0059	275-280	303.3-304.4	3

1965-1966 18.0 Mc/s IBADAN

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
1	9	0425-0700	0437-0700	202-289	149.8-170.0	3
3	9	0425-0700	0500-0710	157-236	199.9-218.2	3
6	9	0410-0700	0457-0603	247-287	89.6- 98.9	3
8	9	0410-0700	0418-0514	164-198	130.7-138.7	2
10	9	0350-0700	0512-0637	138-189	185.2-197.2	3
11	9	0358-0702	0408-0702	250-355	19.5- 44.1	3
12	9	0350-0700	0355-0515	32- 81	221.0-232.3	3
13	9	0350-0700	0356-0545	183-249	64.5- 79.9	3
15	9	0335-0700	0345-0545	118-190	109.9-126.8	3
16	9	0335-0700	0440-0603	302-352	321.0-332.8	3
17	9	0335-0700	0344-0532	58-123	156.4-171.7	3
18	9	0335-0700	0400-0405	218-221	2.1- 2.8	3
22	9	0315-0700	0327-0525	81-152	91.1-107.8	3
23	9	0315-0700	0359-0503	250-289	299.1-308.1	3
2	10	0245-0700	0257-0501	128-203	321.1-338.6	3
6	10	0220-0700	0221-0230	348-354	49.9- 51.2	1
19	10	0145-0655	0459-0503	242-244	197.3-197.9	2
29	10	0120-0615	0237-0310	222-242	52.4- 57.0	2
10	11	0000-0510	0027-0510	151-322	316.6-356.6	3
28	11	2255-2400	2348-2400	110-117	219.1-220.8	3
29	11	0000-0405	0000-0025	117-132	220.8-224.5	3
30	11	2230-2400	2311-2400	29- 59	261.1-268.0	3
1	12	0000-0340	0000-0330	59-186	268.0-297.9	3
2	12	0000-0340	0050-0110	240-252	118.9-121.7	1
2	12	0000-0340	0200-0208	282-287	128.7-129.9	2
2	12	0000-0340	0245-0305	309-321	135.1-137.9	2
14	12	2200-2400	2200-2205	296-299	221.6-222.4	3
15	12	0000-0255	0000-0255	8-114	238.9-263.6	3
16	12	0000-0230	0136-0139	217-219	96.2- 96.6	3
16	12	0000-0230	0212-0230	239-250	101.2-103.8	3
21	12	2045-2400	2212-2400	278-343	208.7-224.0	3
22	12	0000-0225	0000-0222	343- 69	224.0-244.4	3
22	12	2045-2400	2125-2129	40- 42	45.8- 46.4	3
24	12	0000-0205	0116-0149	330-350	282.2-286.9	3
25	12	2025-2400	2210-2400	159-226	303.0-318.5	3

1966-1967 18.0 Mc/s TALLAHASSEE

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
17 10	0800-1125	1033-1034	336-337	279.4-279.6	2
18 10	0805-1145				
19 10	0800-1155				
20 10	0755-1150				
21 10	0800-1200				
22 10	0815-1150				
23 10	0810-1200				
24 10	0745-1145				
25 10	0755-1100				
27 10	0745-1010				
28 10	0745-1137				
29 10	0750-1150				
30 10	0725-1157				
31 10	0730-1150	0940-0955	252-261	239.7-241.8	1
1 11	0735-1125				
3 11	0730-1120				
4 11	0742-1141	0957-1020	144-158	335.9-339.2	2
5 11	0720-1100	1040-1055	321-330	185.4-187.5	3
6 11	0725-1125				
7 11	0655-1155	0950-1010	232-244	225.2-228.1	3
7 11	0655-1155	1017-1119	248-286	229.1-237.8	3
8 11	0735-1125				
9 11	0700-1120				
10 11	0700-1125				
11 11	0715-1125				
12 11	0645-1120				
13 11	0645-1120				
14 11	0745-1135	1030-1100	230-248	215.2-219.4	3
15 11	0645-1120				
16 11	0700-1125				
17 11	0705-1115				
18 11	0630-1115				
19 11	0620-1115	0928-1046	226-273	143.8-154.8	3
20 11	0610-1110				
21 11	0600-1125				
22 11	0615-1125				
23 11	0550-1125				
24 11	0610-1125	0850-1000	236-278	76.0- 85.8	1
25 11	0545-1130				
26 11	0600-1125				
28 11	0551-1125				

1966-1967 18.0 Mc/s TALLAHASSEE

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
29 11	0545-1125				
30 11	0550-0900				
1 12	0545-1125	0736-0745	165-171	50.3- 51.6	1
2 12	0500-1120				
3 12	0530-1120	0743-0911	111-164	98.3-110.7	3
4 12	0525-1115	0950-0955	338-341	319.7-320.4	3
5 12	0516-0830				
6 12	0505-1125				
7 12	0515-0855				
8 12	0500-1130				
9 12	0500-1125	0700-0925	269-356	233.4-253.9	3
10 12	0505-1035	0753-0930	91-150	84.5- 98.2	3
11 12	0500-1045				
12 12	0825-1125				
13 12	0515-1125				
14 12	0505-0820				
15 12	0556-1115				
16 12	0730-1125	0915-1100	325- 28	237.5-252.3	3
17 12	0730-1130	0840-0920	94-119	76.1- 81.8	3
17 12	0730-1130	0945-1105	134-182	85.3- 96.6	3
18 12	0455-0815				
19 12	0430-0725				
23 12	0840-1045	0940-1040	315-351	226.1-234.6	3
24 12	0920-1105	0932-1000	101-117	68.6- 72.5	2
26 12	0400-0820				
28 12	0500-1000	0834-0934	308-344	154.8-163.3	3
30 12	0730-1015	0742-0830	218-247	194.7-201.4	3
4 1	0335-0620	0455-0513	151-161	109.1-111.6	2
5 1	0310-1055				
6 1	0325-1055	0856-0915	238-249	190.4-193.1	1
7 1	0310-1050				
8 1	0300-1005	0330-0405	342- 3	191.6-196.5	1
9 1	0245-1030	0625-0703	238-261	59.9- 65.2	3
9 1	0245-1030	0728-0733	276-279	68.8- 69.5	2
10 1	0230-1100				
11 1	0240-1020	0540-0607	153-169	100.7-104.5	2
12 1	0235-0930	0315-0328	216-223	283.9-285.8	2
12 1	0235-0930	0358-0431	242-261	290.0-294.7	3
12 1	0235-0930	0540-0558	303-314	304.4-307.0	3
13 1	0235-1010				
14 1	0300-0955	0600-0630	257-275	354.4-358.7	3

1966-1967 18.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
15	1	0215-1015				
16	1	0315-1005	0655-0715	231-243	49.4- 52.2	3
16	1	0315-1005	0745-0800	262-271	56.5- 58.6	3
17	1	0240-1010	0457-0700	311- 25	236.4-253.7	3
18	1	0220-0950	0432-0436	86- 89	76.4- 77.0	3
18	1	0220-0950	0515-0737	112-198	82.5-102.6	3
19	1	0230-0855				
20	1	0210-0935				
21	1	0147-0935				
22	1	0203-0935	0345-0515	301-355	164.3-177.0	2
23	1	0155-0930	0302-0303	65- 66	1.8- 1.9	3
23	1	0155-0930	0536-0600	158-173	23.6- 26.9	3
23	1	0155-0930	0622-0627	186-189	30.1- 30.8	2
23	1	0155-0930	0752-0828	241-262	42.8- 47.9	3
24	1	0240-0930	0305-0740	218- 24	205.8-244.7	3
25	1	0245-0925	0400-0420	42- 54	57.2- 60.0	1
25	1	0245-0925	0635-0750	135-181	79.1- 89.7	3
26	1	0130-0545				
27	1	0132-0750				
28	1	0130-0905	0537-0605	192-209	321.8-325.8	1
28	1	0130-0905	0632-0745	226-270	329.6-339.9	3
30	1	0130-0915				
31	1	0100-0845				
1	2	0120-0855				
2	2	0100-0900	0535-0615	224-248	259.5-265.2	1
2	2	0100-0900	0648-0705	268-279	269.8-272.2	1
3	2	0310-0655				
4	2	0045-0500				
6	2	0155-0815				
7	2	0030-0155				
8	2	0055-0820				
9	2	0037-0820	0540-0630	202-232	245.5-252.6	3
10	2	0025-0801	0413-0433	300-312	76.8- 79.7	3
11	2	0035-0800				
12	2	0000-0800	0118-0150	135-155	99.2-103.7	2
12	2	0000-0800	0400-0525	233-285	122.1-134.1	3
13	2	0000-0745				
14	2	0000-0755	0616-0637	257-269	188.4-191.4	1
15	2	0010-0750				
16	2	0010-0805	0630-0650	206-218	237.6-240.4	2
17	2	0200-0550	0322-0422	243-279	54.6- 63.1	2

1966-1967 18.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
18	2	0028-0725	0135-0153	329-340	243.1-245.7	2
19	2	0030-0745	0145-0345	126-198	88.0-105.0	3
19	2	0030-0745	0449-0550	237-274	114.0-122.6	3
20	2	0010-0715				
21	2	0010-0715				
22	2	0145-0730				
23	2	0115-0715				
24	2	0000-0715				
25	2	0005-0715				
26	2	0000-0715				
27	2	0100-0320	0120-0153	235-255	272.9-277.6	1
27	2	0100-0320	0217-0240	270-284	281.0-284.2	3
28	2	0005-0650				
1	3	0010-0650				
2	3	0000-0650				
3	3	0015-0655				
4	3	0010-0630	0110-0148	262-285	209.2-214.6	2
4	3	0010-0630	0332-0342	348-354	229.2-230.7	1
4	3	0010-0630	0509-0510	46- 47	242.9-243.1	3
5	3	0030-0635	0330-0445	137-182	72.5- 83.1	1
6	3	0020-0410				
7	3	0055-0620				
8	3	0000-0620				
9	3	0000-0620				
10	3	0030-0620				
12	3	0005-0615				
13	3	0005-0605				
14	3	0010-0545				
15	3	0010-0610				
16	3	0000-0610				
17	3	0010-0600				
18	3	0015-0550				
19	3	0100-0445				
20	3	0005-0550				
21	3	0000-0530				
22	3	0010-0535				
23	3	0011-0530				
24	3	0010-0510				
25	3	0015-0520				
26	3	0220-0530				
27	3	0245-0520				

1966-1967 18.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
28	3	0230-0500	0420-0455	28- 49	79.7- 84.7	3
29	3	0000-0430				
30	3	0000-0425				
31	3	0030-0420				
1	4	0115-0430				
2	4	0030-0425				
3	4	0000-0430				
4	4	0015-0415				
5	4	0000-0415	0243-0255	93-100	253.4-255.1	1
6	4	0000-0425				
7	4	0000-0430				
8	4	0000-0415				
9	4	0010-0239				
11	4	0015-0415				
13	4	0020-0445				
14	4	0005-0355				
15	4	0010-0300				

1966-1967 12.5 Mc/s TALLAHASSEE

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
7 11	0830-1155	0940-1010	226-244	223.8-228.1	3
7 11	0830-1155	1024-1120	252-286	230.0-237.9	3
19 11	0810-1115	0912-1050	216-275	141.6-155.4	2
3 12	0736-0915	0800-0817	121-131	100.7-103.1	1

1966-1967 22.0 Mc/s TALLAHASSEE

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
31 10	0905-1150	0900-[illegible]05	228-267	234.1-243.3	2
7 11	0830-1155	0945-[illegible]5	229-277	224.5-235.8	3
19 11	0810-1115	0950-[illegible]7	239-273	146.9-155.0	3
24 11	0720-1120	0937-[illegible]1	264-273	82.6- 84.6	1
4 12	0630-1115	1010-[illegible]18	350-355	322.6-323.7	1
10 12	0620-1035	0747-0956	88-166	83.7-101.9	3
16 12	0730-1125	0930-1050	334- 22	239.6-250.9	3
17 12	0750-1130	0850-1100	100-179	77.6- 95.9	3

1966-1967 26.0 Mc/s TALLAHASSEE

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
31 10	0845-1150	0937-0955	250-261	239.3-241.8	2
7 11	0830-1155	0940-1100	226-274	223.8-235.1	3
10 12	0620-1035	0747-1000	88-168	83.7-102.4	3
16 12	0730-1125	0922-1100	329- 28	238.5-252.3	3
17 12	0730-1130	0936-1032	128-162	84.1- 92.0	3

1966-1967 16.0 Mc/s TALLAHASSEE

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
7	11	0830-1155	0857-0908	200-207	217.8-219.3	1
7	11	0830-1155	0942-1007	227-242	224.1-227.6	3
7	11	0830-1155	1025-1125	253-289	230.2-238.7	3
19	11	0810-1115	0932-1038	228-268	144.4-153.7	3
21	11	0820-1125	0848-0902	143-151	185.2-187.2	2
22	11	0705-1125	0935-1030	322-355	35.4- 43.2	1
3	12	0645-0915	0720-0850	97-151	95.1-107.8	3
9	12	0645-1125	0730-0921	287-354	237.7-253.3	3
10	12	0620-1035	0803-0932	97-151	85.9- 98.5	3
11	12	0620-1100	0742-0759	235-246	286.6-289.0	1
16	12	0730-1125	0925-1100	331- 28	238.9-252.3	3
17	12	0750-1130	0940-1130	131-197	84.6-100.2	3
23	12	0840-1045	0950-1040	321-351	227.5-234.6	3
30	12	0735-0828	0735-0810	214-235	193.7-198.6	3
9	1	0410-0900	0600-0702	223-261	56.3- 65.1	3
9	1	0410-0900	0720-0810	272-302	67.7- 74.7	2
9	1	0410-0900	0842-0928	321-349	79.2- 85.7	1
11	1	0348-1020	0445-0530	119-146	93.0- 99.3	3
12	1	0405-0855	0405-0438	246-266	291.0-295.7	2
12	1	0405-0855	0550-0555	309-312	305.8-306.5	3
13	1	0400-1010	0630-0739	124-166	155.1-164.8	2
14	1	0345-0935	0600-0630	257-275	354.4-358.7	3
16	1	0320-0852	0650-0725	228-249	48.7- 53.7	3
16	1	0320-0852	0805-0820	274-283	59.3- 61.4	3
17	1	0340-0835	0500-0700	312- 25	236.8-253.7	3
18	1	0330-0830	0518-0718	114-187	82.9- 99.9	3
22	1	0205-0910	0435-0538	331- 9	171.3-180.2	3
23	1	0305-0810	0619-0624	184-187	29.6- 30.3	2
24	1	0301-0820	0331-0738	233- 23	209.5-244.4	3
25	1	0255-0850	0645-0745	141-178	80.5- 89.0	3
27	1	0245-0750	0343-0415	333-352	102.2-106.7	2
27	1	0245-0750	0432-0436	2- 5	109.1-109.7	1
29	1	0240-0755	0318-0322	259-261	145.8-146.3	1
31	1	0100-0810	0410-0422	232-239	200.3-202.0	1
2	2	0220-0721	0535-0615	224-248	259.5-265.2	1
2	2	0220-0721	0648-0705	268-279	269.8-272.2	1
3	2	0310-0645	0610-0622	36- 43	108.2-109.9	3
9	2	0210-0650	0334-0356	126-139	227.7-230.8	3
9	2	0210-0650	0507-0637	182-236	240.9-253.6	3
10	2	0141-0655	0425-0442	307-317	78.5- 80.9	2
18	2	0115-0725	0155-0209	341-350	245.9-247.9	3
19	2	0106-0606	0145-0255	126-168	88.0- 97.9	3
26	2	0040-0515	0333-0412	165-189	88.2- 93.7	3

1966-1967 18.0 Mc/s GRAHAMSTOWN

DATE		OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
8	10	0330-0600	0423-0434	198-205	196.6-198.2	1
13	10	0100-0230	0104-0108	110-113	105.5-106.1	1
20	10	0100-0345	0157-0206	116-121	96.7- 98.0	2
7	11	0000-0336	0127-0136	288-293	154.2-155.5	2
26	11	2200-2400	2206-2215	298-304	235.5-236.8	3
26	11	2200-2400	2232-2250	314-325	239.2-241.7	3
26	11	2200-2400	2312-2400	338- 7	244.8-251.6	3
27	11	0000-0400	0000-0007	7- 11	251.6-252.6	3
27	11	2245-2400	2338-2343	144-147	91.9- 92.6	2
27	11	2245-2400	2347-2400	150-158	93.2- 95.0	3
28	11	0000-0400	0000-0016	158-167	95.0- 97.5	3
5	12	0000-0345	0101-0325	169-256	88.5-108.9	3
7	12	0000-0400	0314-0345	191-210	154.5-158.9	1
13	12	0020-0330	0023-0041	271-282	271.6-274.2	3
19	12	2130-2400	2259-2301	195-196	244.7-245.0	3
19	12	2130-2400	2342-2347	221-224	250.8-251.5	3
26	12	0000-0345	0309-0327	170-181	61.6- 64.1	3
26	12	2157-2400	2152-2252	129-166	220.2-228.7	2
26	12	2157-2400	2351-2400	201-207	237.0-238.3	3
27	12	0000-0322	0000-0154	207-276	238.3-254.6	3
27	12	2325-2355	2333-2344	341-348	78.1- 79.6	3
21	1	2030-2400	2305-2348	131-157	124.5-130.6	3
27	1	1940-2400	2214-2236	284-298	259.1-262.2	1
31	1	2040-2400	2246-2305	186-198	357.9- .6	3
2	2	0000-0105	0010-0100	28- 58	213.6-220.7	3
5	2	2200-2400	2346-2400	256-264	304.5-306.5	2
6	2	0000-0045	0000-0045	264-292	306.5-313.1	2
7	2	2036-2355	2036-2110	82-103	324.8-329.6	1
11	2	1900-2400	1900-2045	267-330	45.7- 60.6	3
14	2	1840-2400	1840-2013	346- 43	293.5-306.6	3
15	2	2050-2340	2050-2122	216-235	155.5-160.0	1
17	2	1810-2400	2249-2400	229-272	219.5-229.5	3
18	2	0000-0102	0000-0102	272-309	229.5-238.5	3
18	2	1840-2340	1840-2014	229-286	27.9- 41.2	3
18	2	1840-2340	2232-2302	9- 27	60.7- 64.9	2
22	2	1740-2310	1839-1853	110-119	122.0-123.9	2
23	2	1815-2315	1903-1915	275-283	328.9-330.6	1
24	2	1840-2340	1850-1859	58- 64	170.6-171.9	1
25	2	1820-2320	1840-1940	203-239	12.8- 21.3	1

1966-1967 18.0 Mc/s TRONDHEIM

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
24 10	0328-0745	0621-0623	158-159	227.7-228.0	3
24 10	0328-0745	0625-0632	160-164	228.3-229.3	1
27 10	0305-0745	0305-0317	131-138	90.2- 91.9	2
29 10	0418-0723	0545-0549	169-171	159.6-160.2	1
1 11	0315-0700	0623-0641	283-294	55.4- 57.9	1
2 11	0326-0700	0326-0530	327- 42	233.8-251.3	2
12 11	0145-0528	0450-0453	83- 85	120.3-120.7	2
18 11	0220-0552	0350-0359	231-236	252.6-253.9	1
18 11	0220-0552	0417-0427	247-253	256.4-257.8	3
21 11	0130-0517	0342-0346	318-320	142.0-142.5	2
23 11	0120-0520	0259-0301	233-234	183.0-183.3	1
1 12	0020-0450	0050-0[illegible]7	280-284	353.0-354.0	2
3 12	0046-0451	0227-[illegible]	280-299	53.7- 58.0	2
15 12	0000-0400	01[illegible]	270-275	332.2-333.3	1
19 12	0000-0400	01[illegible]5	141-145	63.7- 64.7	2
19 12	0000-0400	01[illegible]52	146-149	65.0- 65.7	1
19 12	0000-0400	02[illegible]17	163-164	69.0- 69.3	1
19 12	2245-2400	232[illegible]24	209-210	247.9-248.2	2
19 12	2245-2400	233[illegible]37	214-218	249.2-250.1	2
19 12	2245-2400	234[illegible]45	222-223	250.9-251.2	2
19 12	2245-2400	2352[illegible]4	227-228	252.2-252.5	2
20 12	0000-0300	0050[illegible]6	262-266	260.5-261.3	2
20 12	0000-0300	0107[illegible]7	273-279	262.9-264.3	2
21 12	0000-0400	0103-[illegible]	61- 80	105.9-110.4	2
21 12	0000-0400	0214[illegible]4	104-110	115.9-117.3	1
21 12	0000-0400	0256-[illegible]6	129-135	121.9-123.3	2
21 12	0000-0400	0317-[illegible]26	142-147	124.8-126.1	2
19 1	2117-2400	2230-2310	169-193	72.3- 77.9	2
21 1	2133-2400	2240-2301	116-129	121.0-124.0	2
8 2	2015-2335	2154-2156	280-281	179.4-179.7	3
19 2	1925-2240	2210-2211	146-147	261.1-261.2	1

1966-1967 18.0 Mc/s ST. OSYTH

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
27 10	0330-0830	0410-0450	170-194	99.4-105.1	1
3 11	0330-0830	0520-0635	186-232	93.4-104.0	2
4 11	0330-0750	0418-0510	300-331	288.0-295.4	2
5 12	0000-0645	0000-0120	132-181	79.9- 91.2	3
5 12	0000-0645	0135-0145	190-196	93.3- 94.7	3
5 12	0000-0645	0205-0215	208-214	97.6- 99.0	3

1966-1967 18.0 Mc/s VALENCIA

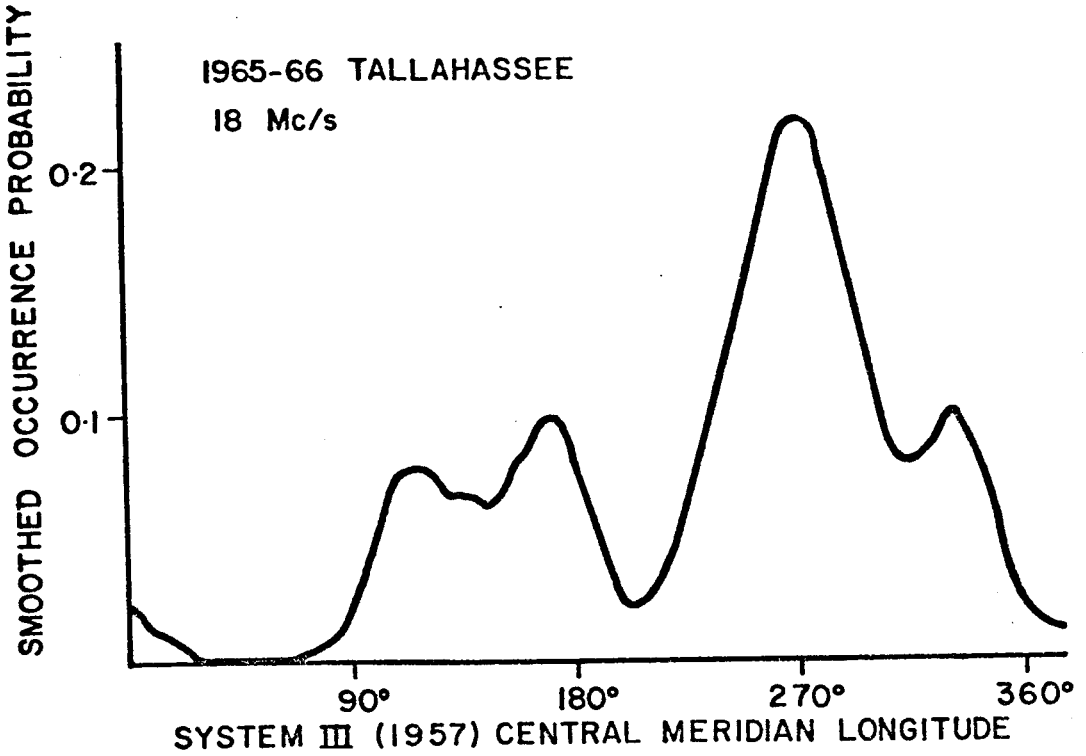
DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
26 10	0300-0630	0340-0350	2- 8	251.8-253.2	2
27 10	0302-0700	0602-0618	238-248	115.2-117.5	2
3 11	0252-0700	0411-0413	145-146	83.7- 83.9	1
9 11	0230-0700	0510-0513	4- 6	232.7-233.1	1
17 11	0130-0655	0448-0500	115-122	57.4- 59.1	2
17 11	0130-0655	0628-0645	176-186	71.5- 73.9	1
18 11	0155-0700	0416-0426	246-252	256.3-257.7	1
25 11	0100-0635	0408-0409	216-216	239.7-239.9	1
27 12	0000-0445	0124-0127	258-259	250.4-250.8	1
27 12	0000-0445	0142-0145	268-270	252.9-253.3	1
19 1	2130-2400	215[illegible]-2209	149-156	67.8- 69.3	2
19 1	2130-2400	221[illegible]-2232	159-170	70.0- 72.6	3
19 1	2130-2400	223[illegible]-2245	173-178	73.4- 74.4	2
27 1	2113-2400	213[illegible]-2252	261-271	253.6-256.0	1
17 2	2200-2400	224[illegible]-2302	228-236	219.3-221.3	3
17 2	2200-2400	234[illegible]-2343	261-261	227.0-227.1	2
19 2	0000-0145	0010-0104	68-101	74.6- 82.2	3
19 2	0000-0145	0109-0119	104-110	82.9- 84.4	3
19 2	0000-0145	0122-0139	112-122	84.8- 87.2	3

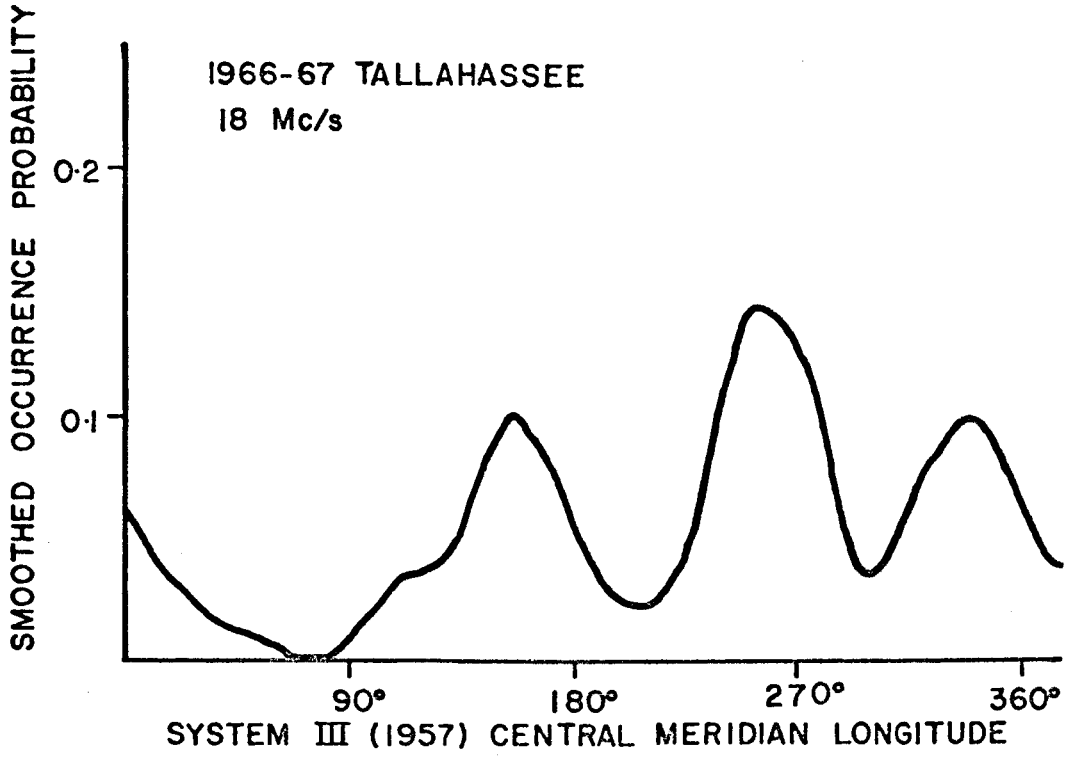
1966-1967 18.0 Mc/s IBADAN

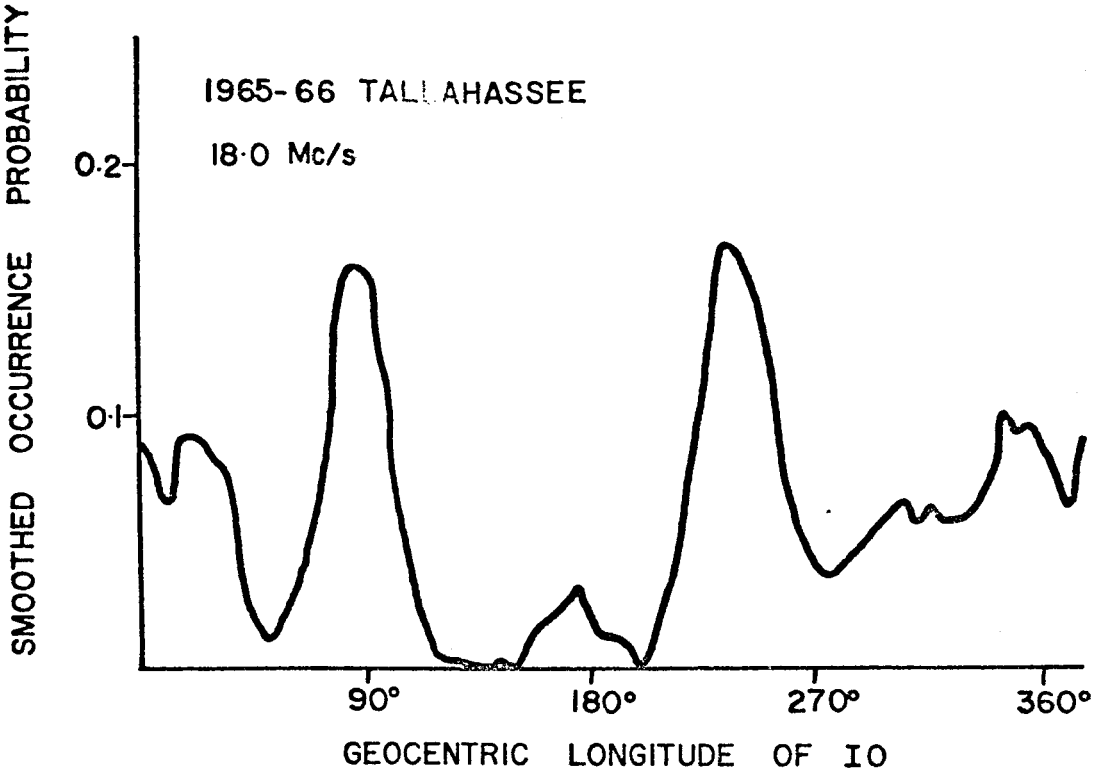
DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
19 10	0000-0500	0000-0500	255- 76	236.8-279.2	2
26 10	0000-0503	0011-0501	235- 51	222.3-263.2	3
27 10	0020-0603	0304-0508	130-205	90.1-107.6	3
2 11	0130-0430	0212-0408	282-352	223.3-239.7	3
3 11	0230-0530	0259-0503	101-176	73.5- 91.0	3
9 11	0300-0537	0307-0527	289- 14	215.3-235.1	2
10 11	0400-0605	0401-0603	113-186	66.4- 83.7	2
11 11	0200-0330	0258-0330	225-245	260.9-265.5	3
28 11	0000-0205	0058-0205	193-233	103.4-112.9	3
2 12	0400-0600	0400-0600	185-258	223.3-240.2	3
18 1	2100-2400	2201-2209	0- 5	224.6-225.7	2
18 1	2100-2400	2257-2320	34- 48	232.5-235.7	3
19 1	0000-0220	0008-0020	77- 85	242.7-244.4	3
19 1	0000-0220	0048-0103	101-111	248.4-250.5	3
19 1	0000-0220	0112-0116	116-118	251.8-252.3	2
19 1	0000-0220	0158-0209	144-150	258.3-259.8	3
3 2	2030-2400	2156-2200	248-250	241.8-242.3	2
4 2	0000-0130	0031-0101	342-360	263.9-268.1	2
4 2	0000-0130	0110-0120	5- 11	269.4-270.8	2
5 2	0000-0130	0000-0002	114-115	103.1-103.4	2
5 2	0000-0130	0058-0103	149-152	111.3-112.0	3

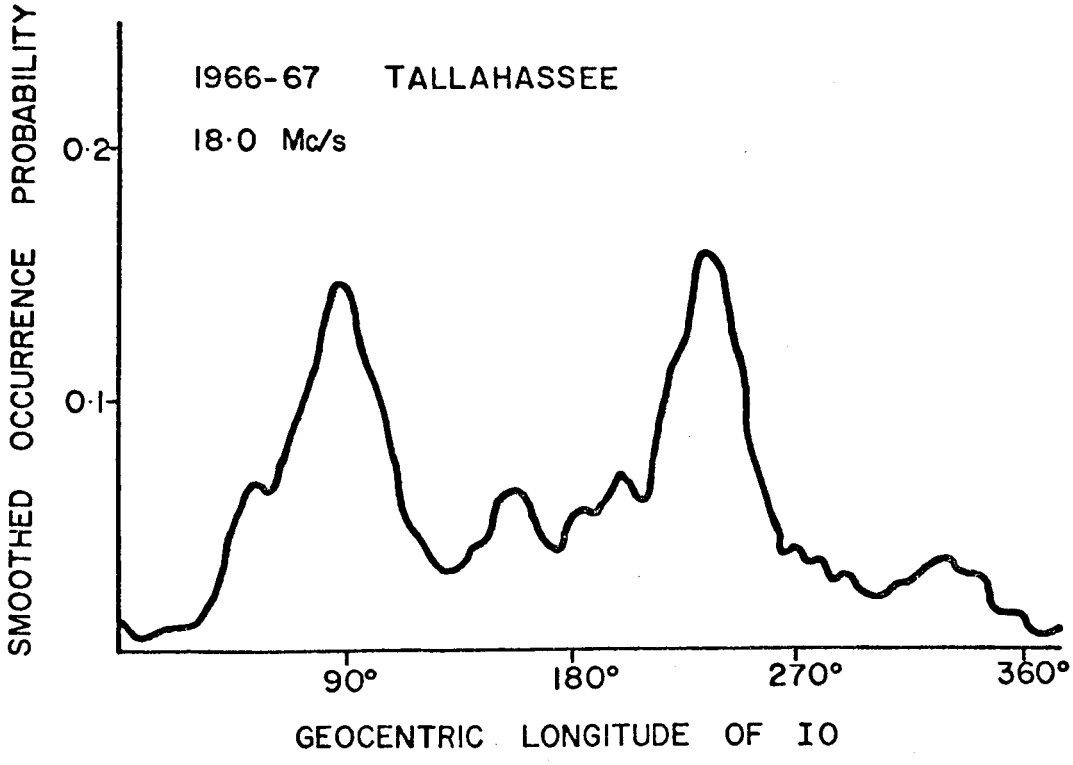
1965-1966, 1966-1967 18.0 Mc/s COMBINED OVERSEAS ACTIVITY

DATE	OBSERVATION PERIOD	ACTIVITY PERIOD	SYSTEM III LONGITUDE	IO POSITION	ID NO
18 9	0320-0700	0449-0600	248-291	9.0- 19.0	3
28 9	0253-0700	0456-0510	318-326	244.3-246.3	1
19 10	0145-0655	0410-0503	212-244	190.4-197.9	3
30 10	0030-0555	0057-0132	312-333	241.9-246.8	3
5 11	2240-2400	2328-2400	233-252	214.0-218.5	1
6 11	0000-0530	0000-0129	252-306	218.5-231.3	2
10 11	0000-0510	0400-0402	280-281	346.7-347.0	1
29 11	0000-0405	0310-0320	232-238	247.8-249.2	2
8 12	2134-2400	2244-2306	138-151	86.2- 89.3	3
8 12	2134-2400	2321-2350	160-178	91.4- 95.5	3
16 12	0000-0230	0003-0037	161-181	83.0- 87.8	2
13 2	1800-2225	2155-2204	119-124	38.5- 39.8	2
26 10	0300-0630	0340-0350	2- 8	251.8-253.2	2
27 10	0302-0745	0304-0508	130-205	90.1-107.6	2
2 11	0245-0700	0212-0530	282- 42	223.3-251.3	2
3 11	0252-0800	0259-0503	101-176	73.5- 91.0	2
9 11	0230-0700	0307-0527	289- 14	215.3-235.1	2
11 11	0250-0705	0258-0330	225-245	260.9-265.5	2
17 11	0130-0700	0628-0645	176-186	71.5- 73.9	2
17 11	0130-0700	0448-0500	115-122	57.4- 59.1	2
18 11	0155-0700	0350-0359	231-236	252.6-253.9	2
18 11	0155-0700	0416-0427	246-253	256.3-257.8	2
25 11	0028-0635	0408-0409	216-216	239.7-239.9	1
5 12	0000-0617	0000-0325	132-256	79.9-108.9	1
19 12	2245-2400	2342-2347	221-224	250.8-251.5	3
20 12	0000-0330	0050-0117	262-279	260.5-264.3	3
26 12	2130-2400	2152-2252	129-166	220.2-228.7	3
26 12	2130-2400	2351-2400	201-207	237.0-238.3	3
27 12	0000-0322	0000-0154	207-276	238.3-254.6	3
19 1	2117-2400	2158-2310	149-193	67.8- 77.9	2
21 1	2133-2400	2240-2348	116-157	121.0-130.6	3
27 1	2113-2400	2135-2236	261-298	253.6-262.2	3
17 2	1943-2400	2248-2400	228-272	219.3-229.5	3
18 2	0000-0102	0000-0102	272-309	229.5-238.5	3


1965-66 TALLAHASSEE
18 Mc/s
SMOOTHED OCCURRENCE PROBABILITY
0·2
0·1
90°
180°
270°
360°
SYSTEM III (1957) CENTRAL MERIDIAN LONGITUDE


1966-67 TALLAHASSEE
18 Mc/s
SMOOTHED OCCURRENCE PROBABILITY
0·2
0·1
90°
180°
270°
360°
SYSTEM III (1957) CENTRAL MERIDIAN LONGITUDE


1965-66 TALLAHASSEE
18·0 Mc/s
SMOOTHED OCCURRENCE PROBABILITY
0·2
0·1
90°
180°
270°
360°
GEOCENTRIC LONGITUDE OF IO


1966-67 TALLAHASSEE
18·0 Mc/s
SMOOTHED OCCURRENCE PROBABILITY
0·2
0·1
90°
180°
270°
360°
GEOCENTRIC LONGITUDE OF IO