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IONOSPHERIC DATA IN JAPAN

FOR JUNE 1952

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PREPARED BY THE CENTRAL RADIO WAVE OBSERVATORY
THE RADIO REGULATORY COMMISSION

KOKUBUNJI, TOKYO, JAPAN

CRWO—F 42

THE CENTRAL RADIO WAVE OBSERVATORY
THE RADIO REGULATORY COMMISSION

KOKUBUNJI, TOKYO, JAPAN

IONOSPHERIC DATA IN JAPAN FOR JUNE 1952.

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PREFACE

The radio administration in Japan has hitherto been carried out by the Radio Regulatory Agency. With the reorganization of part of the government offices effective on June 1, 1950, the Radio Regulatory Commission was established and the work of researches on radio propagation has become to fall under the charge of the radio wave observatories, auxiliary organs of the Radio Regulatory Commission.

The radio wave observatories are composed of the Central Radio Wave Observatory located at Kokubunji, Tokyo, and five local radio wave observatories established at Wakkanai, Akita, Hiraiso, Inubo and Yamagawa respectively.

The Central Radio Wave Observatory has the following four sections:

Ionospheric Propagation Section which shall carry on researches on ionosphere and wave propagation;

Tropospheric Propagation Section which shall carry on researches on troposphere and wave propagation;

Data Coordination Section which shall conduct the collection and arrangement of observational results, supply of operational data relating to radio propagation, preparation of radio propagation forecasts and radio disturbance warnings, and physical basic studies of wave propagation in general; and

Administrative Section which shall conduct the general affairs of the observatory.

The ionospheric sounding is as heretofore being carried out by the four observatories at Wakkanai, Akita, Kokubunji (Tokyo) and Yamagawa.

This report provides the results of ionospheric sounding with symbols determined and in the form established on an international basis in the same way as followed by the Radio Regulatory Agency and it is hoped that it will make any contribution toward the progress in world-wide short wave communications.

This report is intended for distribution on request to the largest possible number of organizations concerned all over the world, and any and every information that the organizations concerned might forward to us in exchange therefor would be highly appreciated.

Uyeda Hiroyuki

Chief, Central Radio Wave Observatory.

Radio Regulatory Commission

July, 1952.

SITE OF THE IONOSPHERIC STATIONS

Ionospheric observation is carried out at four stations in Japan.

The stations are situated as follows:

	longitude	latitude	site
Wakkanai	141° 41.1' E	45° 23.6' N	Wakkanai-shi, Hokkaido
Akita	140° 08.2' E	39° 43.5' N	Tegata Nishishin-machi, Akita-shi, Akita-ken
Kokubunji	139° 29.3' E	35° 42.4' N	Koganei-machi, Kitatama-gun, Tokyo-to
Yamagawa	130° 37.7' E	31° 12.5' N	Yamagawa-machi, Ibusuki-gun, Kagoshima-ken

REMARKS ON SYMBOLS

All symbols in the table are used in accordance with "Production and Reduction of Ionospheric Information" of "RESOLUTION OF THE IX GENERAL ASSEMBLY OF URSI SEPTEMBER 1950" (CRWO-F25) except f_{\min} E and f_{\min} F for E and F regions respectively instead of f_{\min} , taken as f_{\min} s in the above Resolution, in order to avoid the interruption of preceding form of data.

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 46° 28.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

foF2

Jun. 1952

135° E Mean Time

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	5.3	5.0T	4.8P	4.6J	4.8	5.1	(5.4)A	5.7	(5.6)B	5.6	A	C	A	A	5.5	5.5	5.6	6.0	5.5	5.5	A	S	S	C	
2	C	C	C	C	C	C	C	C	6.2	(5.8)C	5.5	5.8	6.0	5.9	5.9	6.1	6.2	C	C	C	C	C	C	S	
3	S	(3.4)S	S	S	S	S	5.8	6.1P	(5.8)A	5.53P	5.3	A	A	A	(5.8)A	5.9	5.8	A	A	A	S	7.0	A	A	
4	A	5.5	(5.4)A	5.3F	4.7	5.7	A	A	A	A	A	A	A	5.6V	(5.8)A	6.0	6.4	6.3P	(6.0)A	(5.8)P	S	S	5.8	S	
5	S	5.0	5.0	4.8	(5.2)S	(5.7)P	5.2	5.3	5.9	6.1	5.5	6.1	5.7	6.3	(6.2)A	6.0	6.4	6.3P	(6.0)A	(5.8)P	S	S	C	S	
6	S	S	S	S	S	5.5	5.4	6.2	C	6.2	(6.2)A	6.1	5.8	6.0	6.0	6.0	(6.4)P	6.3	S	S	S	S	S	S	
7	S	S	5.0	C	C	C	C	C	C	C	C	A	5.8	5.4	A	A	A	5.7	5.5	A	A	A	A	A	
8	A	S	S	S	S	5.5	A	A	C	C	C	5.6	5.3	(5.7)S	5.7	5.5	5.8	5.6	6.1	A	S	S	S	S	
9	S	5.6	(4.3)S	3.0K	WK	WK	WK	WK	5.3K	AK	AK	BK	AK	SK	CK	4.8K	4.9K	[4.9]CK	4.9K	5.1JK	4.7JK	(4.2)K	3.7K	SK	
10	SK	SK	3.9K	(3.5)PK	SK	BK	BK	BK	BK	BK	5.5K	(5.8)CK	6.0K	6.1K	6.2K	6.2K	5.7K	5.8K	AK	AK	SK	(5.3)PK	SK	SK	
11	SK	SK	AK	SK	SK	4.6K	5.6K	(5.5)K	5.4K	AK	AK	BK	BK	BK	BK	CK	5.1K	5.4K	AK	AK	SK	SK	SK	SK	
12	SK	SK	(3.5)S	SK	SK	SK	AK	AK	AK	AK	AK	CK	SK	SK	AK	A	B	S	S	S	S	S	S	C	
13	S	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	S	S	S	S	S	S	S	S	S	S	S	S	S
15	S	S	5.1J	M	M	M	M	M	M	S	S	S	S	5.7	S	S	S	S	S	S	S	S	S	S	S
16	S	3.3	3.6	S	S	4.8	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
17	S	S	(3.6)P	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
18	S	A	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
19	6.0	A	S	5.2	S	S	A	S	S	S	S	S	S	S	5.6	A	C	C	C	C	C	C	C	C	
20	5.6	5.1	4.7J	4.0	4.0	4.0	A	C	A	C	6.0	C	C	C	C	5.6	5.2	A	A	A	5.5	A	A	S	
21	S	A	3.4	S	S	S	S	S	A	A	A	5.6J	5.5	(5.4)S	5.3	(5.4)A	5.4	A	5.1	S	SA	S	SA	SA	
22	SA	S	A	A	A	5.0	5.4J	S	S	C	A	A	S	C	S	C	C	5.8	6.0H	S	S	S	S	5.9	
23	5.9	5.8	(6.0)P	(5.2)S	4.3	5.8	5.8P	5.9	A	A	S	S	S	S	S	B	5.7	S	S	A	A	S	S	S	
24	S	S	5.7	S	S	S	S	6.4	A	A	S	S	S	S	S	S	6.0	A	A	A	A	S	S	S	
25	S	3.4	(3.8)S	4.1P	[4.6]S	5.2	B	B	A	C	C	C	5.8	B	B	B	5.7	5.4	5.5	5.2	S	S	S	S	
26	S	S	S	S	S	S	S	S	S	B	B	B	C	B	B	A	B	C	A	6.0	A	A	A	5.6	
27	5.7	4.8	4.5	4.7	C	C	C	C	C	A	A	A	A	A	5.8	A	A	6.2	SA	S	A	A	A	A	
28	A	4.3	4.3	4.2	3.9H	5.4J	S	C	A	A	A	B	B	S	S	S	S	S	S	S	S	S	S	S	
29	4.5P	5.1J	4.6	S	S	(4.1)S	S	S	S	S	S	M	M	M	M	M	M	M	M	M	M	M	M	M	
30	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B	S	S	S	S	A	
31																									
Mean Value	5.5	4.7	4.5	4.4	4.6	5.1	5.5	5.9	5.7	5.8	5.7	5.8	5.8	5.8	5.8	5.6	5.7	5.6	5.6	5.5	5.5	5.7	4.9	5.3	
Median Value	5.6	5.0	4.6	4.6	4.6	5.2	5.4	5.9	5.7	5.8	5.5	5.8	5.8	5.7	5.8	5.6	5.7	5.7	5.5	5.5	5.5	5.5	4.8	5.8	
Count	6	12	18	11	8	13	7	7	6	5	7	6	8	9	10	10	14	13	8	5	3	2	4	4	

W 1

Manual Automatic

Sheep 1.0 - Mc to 1.7.0 - Mc in ___ min

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

Jun. 1952

f_oF₂

135° E Mean Time

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	S	S	350 ^P	S	360	380	(400) ^H	420	B	U	A	A	C	A	U	U	400	380	360	A	S	S	S	C	
2	C	C	C	C	C	C	C	C	C	C	U	U	410	U	U	370	340	C	C	C	C	C	S	S	
3	S	(370) ^S	S	S	S	S	410	350 ^P	(320) ^M	(300) ^{JP}	A	A	A	C	A	A	A	A	A	S	290	A	A	S	
4	S	350	(380) ^H	410 ^F	A	300	A	A	A	A	A	A	A	B	A	390	A	A	A	A	S	330	A	A	
5	S	360	320	320	(340) ^S	(360) ^P	330	U	B	390	U	U	U	460	A	350	360 ^P	(340) ^M	(330) ^{JP}	S	S	S	S	S	
6	S	S	S	S	S	S	350	400	380	C	A	U	U	U	U	(380) ^P	360	S	S	S	S	S	S	S	
7	S	S	410	C	C	C	C	C	C	C	C	A	A	U	U	A	A	350	360	A	S	A	A	A	
8	A	S	S	S	S	A	A	A	C	C	A	A	U	S	S	470	400	410	A	A	S	S	S	S	
9	S	320	S	330 ^H	W ^H	W ^H	W ^H	W ^H	U ^K	A ^H	A ^H	B ^H	A ^H	S ^H	C ^K	S ^H	U ^H	C ^H	A ^H	(310) ^K	A ^H	S ^H	420 ^H	S ^H	
10	S ^H	S ^H	400 ^H	(380) ^H	S ^H	B ^H	B ^H	B ^H	B ^H	B ^H	A ^H	C ^H	400 ^H	A ^H	360 ^H	G ^K	390 ^H	A ^H	A ^H	A ^H	S ^H	S ^H	S ^H	S ^H	
11	S ^H	S ^H	A ^H	S ^H	S ^H	400 ^K	A ^H	A ^H	A ^H	A ^H	A ^H	B ^K	B ^K	B ^K	B ^K	C ^K	U ^K	280 ^K	A ^K	A ^K	S ^K	S ^K	S ^K	S ^K	
12	S ^K	S ^K	(350) ^S	S ^K	S ^K	S ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	S ^K	S ^K	A ^K	B	S	S	S	S	S	S	S	
13	S	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
15	S	S	(420) ^P	M	M	M	M	M	M	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
16	S	S	340	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
17	S	S	(370) ^P	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
18	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
19	320	A	S	410	S	S	A	C	U	C	U	C	C	C	C	C	C	C	C	C	C	C	C	C	
20	410	380	(300) ^J	350	320	390	A	C	S	S	S	S	450	SA	A	460	400	380	380	S	330	A	A	A	
21	S	A	320	S	S	S	S	S	A	A	A	C	C	C	C	U	U	A	A	A	A	A	A	A	
22	SA	S	A	A	380	330	(300) ^J	S	S	C	A	A	450	SA	A	460	400	380	380	S	SA	S	SA	SA	
23	420	430	(370) ^J	S	360	350	370 ^P	A	A	A	A	S	C	C	C	C	400	400 ^H	400 ^H	S	S	S	S	400	
24	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
25	S	480	(460) ^S	450 ^P	(390) ^S	380	B	B	A	A	C	C	400	B	B	370	A	A	A	A	A	A	A	A	
26	S	S	S	S	S	S	S	S	S	B	B	B	C	B	B	400	300	350	350	S	S	S	S	S	
27	410	430	420	420	C	C	C	C	C	C	A	A	A	A	A	A	B	A	420	A	A	A	A	420	
28	A	350	370	430	420 ^H	(360) ^J	S	C	C	A	A	A	A	A	360	A	390	5A	5A	S	A	A	A	A	
29	350 ^P	(310) ^J	360	S	S	(350) ^S	S	S	S	S	S	S	S	M	M	M	M	M	M	M	M	M	M	M	
30	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
31																									
Mean Value	380	390	370	390	370	360	370	380	320	350	—	—	420	460	400	400	390	370	370	370	310	—	—	370	490
Median Value	410	380	370	410	360	360	380	380	320	340	—	—	400	460	360	390	390	380	360	360	310	—	—	360	400
Count	5	10	16	9	7	11	6	4	1	2	—	—	4	1	3	5	10	11	7	5	2	—	—	4	3

f_oF₂

Swng. — 1.0 Mc to 17.0 Mc in 2 min

Manual

Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 45° 23.6' N
Long. 141° 41.1' E
Wakkanai

Jun. 1952

135° E Mean Time

f'F2

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	S	S	S	S	300	380	[400] ^A	420	[420] ^B	410	A	C	A	A	470	400	400	380	L	320	A	S	S	C
2	C	C	C	C	C	C	C	C	390	[400] ^C	410	400	410	400	420	370	330	C	C	C	C	C	S	S
3	S	330	300	300	[350] ^S	350 ^A	400 ^B	350 ^A	[320] ^A	300	A	A	A	A	A	A	380 ^A	A	A	A	280 ^A	A	A	A
4	A	A	A	400 ^F	[340] ^A	290	A	A	A	A	A	A	A	B	A	390	380 ^A	A	A	A	A	A	300	280
5	300	290	300	260	[270] ^A	280	330	480	350 ^B	390	370	410	430	460	A	380	380	350	[340] ^A	320	[300] ^A	300	300	A
6	A	S	S	340	[340] ^S	330	380 ^A	380	330	330 ^A	[340] ^A	360	410	410	400	380	380	350	350	300	300	300	300	A
7	S	S	300	C	C	C	C	C	C	C	C	A	360 ^A	450	A	A	A	350 ^A	340 ^A	A	A	A	A	A
8	A	A	A	280	300	A	A	A	C	C	[410] ^A	380 ^A	440	[460] ^S	470	470	390	400	400	A	A	A	A	A
9	280	250	260	300 ^K	W ^K	W ^K	W ^K	W ^K	600 ^K	A ^K	A ^K	B ^K	A ^K	A ^K	C ^K	S ^K	400 ^K	C ^K	A ^K	A ^K	A ^K	A ^K	A ^K	S ^K
10	300 ^K	A ^K	A ^K	300 ^K	300 ^K	B ^K	B ^K	B ^K	A ^K	B ^K	A ^K	C ^K	400 ^A	[380] ^K	360 ^A	G ^K	390 ^K	400 ^A	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K
11	300 ^K	A ^K	A ^K	A ^K	410	400 ^K	370 ^K	A ^K	A ^K	A ^K	A ^K	B ^K	B ^K	B ^K	B ^K	C ^K	420 ^K	280 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	S ^K
12	320 ^K	320 ^K	310 ^K	300 ^K	S ^K	S ^K	A ^K	A ^K	A ^K	A ^K	A ^K	S ^K	S ^K	S ^K	A ^K	A	B	S	C	C	C	C	C	C
13	300	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	290	[310] ^S	330	M	M	M	M	M	M	M	S	S	S	S	S	S	S	S	S	S	S	S	S	S
16	A	S	310	A	A	A	A	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
17	S	A	330	S	S	S	S	S	S	S	S	S	S	S	A	A	A	400 ^S	A	A	A	S	S	A
18	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
19	290	A	A	A	A	A	A	S	280	S	S	S	S	S	S	S	C	C	C	C	C	C	C	C
20	[390] ^A	310	300	310	300	400	A	C	A	C	400	C	C	C	350	C	340	C	C	A	A	300	A	S
21	A	A	300	S	A	S	A	A	A	A	A	A	450	[470] ^S	490 ^A	[480] ^A	460	400	370	A	A	A	A	AS
22	AS	A	A	A	310	300	300	S	S	C	A	A	S	C	S	C	C	400	300 ^H	A	A	A	A	400
23	350	410 ^B	300	300	300	340	370	400	A	A	S	S	S	S	S	(370) ^B	400	380	S	S	A	A	A	S
24	300	300	S	310	S	S	S	370	A	A	S	S	S	S	S	S	370	A	A	A	A	A	A	A
25	A	420	370	400	[390] ^S	380	B	B	A	C	C	C	400	B	B	B	400	300	320	350 ^A	S	A	A	A
26	330	350	390	360	A	S	S	S	S	B	B	B	C	B	B	A	B	C	A	400	A	A	A	400
27	400	400	400	400	C	C	C	C	C	A	A	A	A	A	A	350	A	380	(340) ^S	300	A	A	A	A
28	A	320	330	330 ^A	340 ^H	350	S	C	A	A	A	A	B	S	S	S	S	S	S	A	A	A	A	A
29	300	300	310	300	290	S	S	A	S	S	S	S	M	M	M	M	M	M	M	M	M	M	M	M
30	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B	S	350	A	A	A
31																								
Mean Value	320	330	320	320	320	350	360	400	380	370	380	400	410	430	410	400	390	370	350	330	290	300	320	360
Median Value	300	320	310	300	300	350	380	400	350	390	380	400	410	450	410	390	390	380	340	320	300	300	310	400
Count	14	13	16	16	15	12	8	7	7	5	5	4	8	7	8	9	14	13	8	7	3	1	6	5

W 3

Sweep 1.0 Mc to 1.7 Mc in 2.0 min
 Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitakama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

foF1

Jun. 1952

135° E Mean Time

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						B	A	A	A	4.5	A	C	A	A	A	B	4.3	B	L					
2						C	C	C	4.4	C	A	A	A	4.5	4.5	4.3	4.0	C	C					
3						S	B	A	A	B	A	A	A	C	A	A	A	A	A					
4						Q	A	A	A	A	A	A	A	B	A	A	A	A	A					
5						Q	B	A	B	A	A	A	4.7	A	A	A	B	A	A					
6						3.3	A	A	A	A	A	A	4.5	(4.4)A	4.4	A	A	A	A					
7						C	C	C	C	C	C	A	A	B	A	A	A	A	A					
8						A	A	A	C	C	A	A	A	S	4.4	4.1	4.1	3.8	A					
9						3.0	A	A	4.3	A	A	B	A	S	C	S	A	C	A					
10						B	3.9	4.3	A	B	A	C	A	A	B	4.5	4.0	A	A					
11						3.7P	A	A	A	A	B	B	B	C	B	C	B	A	A					
12						S	A	S	B	A	A	S	S	A	A	A	B	S	S					
13						C	C	C	C	C	C	C	C	C	C	C	C	C	C					
14						C	C	C	C	C	S	S	S	S	S	S	S	S	S					
15						M	M	M	M	S	S	S	S	S	S	S	S	S	S					
16						S	S	S	S	S	S	S	S	S	S	S	S	S	S					
17						S	S	S	S	S	S	S	S	S	A	A	A	S	A					
18						S	A	A	S	S	S	S	C	C	C	C	C	C	C					
19						S	S	S	S	S	S	S	S	S	S	A	A	C	C					
20						A	A	C	A	C	A	C	C	C	C	4.3	A	A	A					
21						S	S	A	A	A	A	A	3.9	SA	A	A	A	A	A					
22						Q	Q	S	S	C	A	A	S	C	S	C	C	4.0	Q					
23						A	A	A	A	A	S	S	S	S	S	B	A	S	S					
24						S	S	B	A	C	C	C	S	S	S	S	A	A	A					
25						3.3	B	B	A	C	C	B	B	B	B	B	4.0	A	A					
26						S	S	S	S	B	B	B	C	B	B	A	B	C	A					
27						C	C	C	C	A	A	A	A	A	Q	A	A	4.0	SA					
28						3.3	S	C	A	A	A	P	P	S	S	S	S	S	S					
29						S	S	A	S	S	S	S	M	M	M	M	M	M	M					
30						M	M	M	M	B	B	B	B	B	B	B	B	B	B					
31																								
Mean						3.3	3.9	4.3	4.4	4.5	—	—	4.3	4.5	4.4	4.3	4.1	3.9						
Median						3.3	3.9	4.3	4.4	4.5	—	—	4.3	4.5	4.4	4.4	4.0	4.0						
Value						5	1	1	2	1	—	—	2	2	3	5	5	3						
Count																								

foF1

Sweep L O Me to L O Mc in Z min

Manual

Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

31F1

Jun. 1952

135° E Mean Time

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						B	A	A	A	A	C	C	A	A	A	B	310B	B	290					
2						C	C	C	A	C	A	A	A	B	240	280B	S	C	C					
3						S	B	A	A	B	A	A	A	C	A	A	A	A	A					
4						Q	A	A	A	A	A	A	A	A	A	A	A	A	A					
5						Q	B	A	B	A	A	A	A	A	A	A	B	A	A					
6						300	A	A	A	A	A	A	A	A	A	A	A	A	A					
7						C	C	C	C	C	C	C	A	B	A	A	A	A	A					
8						A	A	A	C	C	A	A	A	A	A	230	250	280	A					
9						280	A	A	520	A	A	B	A	A	S	C	S	250A	C	A				
10						B	A	B	A	B	A	C	A	A	B	A	300A	A	A					
11						280	A	A	A	A	A	A	B	B	B	C	B	A	A					
12						S	A	S	B	A	A	S	S	S	A	A	A	S	A					
13						C	C	C	C	C	C	C	C	C	C	C	C	C	C					
14						C	C	C	C	C	S	S	S	S	S	S	S	S	S					
15						M	M	M	M	S	S	S	S	S	S	S	S	S	S					
16						S	S	S	S	S	S	S	S	S	S	S	S	S	S					
17						S	S	S	S	S	S	S	S	S	S	A	A	A	S					
18						S	S	A	A	S	S	S	C	C	C	C	C	C	A					
19						A	S	S	280	S	S	S	S	S	S	A	A	C	C					
20						A	A	C	A	C	A	C	C	C	C	230	A	A	A					
21						A	A	A	A	A	A	A	B	SA	A	A	A	A	A					
22						Q	Q	S	S	C	A	A	S	C	S	C	C	C	310	Q				
23						A	A	A	A	S	S	S	S	S	S	B	A	A	S					
24						S	S	B	A	A	S	S	S	S	S	A	A	A	A					
25						300	B	B	A	C	C	C	B	B	B	B	310A	A	A					
26						S	S	Q	Q	A	B	B	C	B	B	A	A	A	A					
27						C	C	C	C	A	A	A	A	A	Q	A	A	300A	SA					
28						A	A	C	A	A	A	B	A	A	S	S	S	S	S					
29						300	S	A	A	S	S	S	M	M	M	M	M	M	M					
30						M	M	M	M	B	B	B	*A	A	B	B	B	B	B					
31																								
Mean Value						290	-	-	-	-	-	-	-	-	240	250	280	300						
Minimum Value						1300	-	-	-	-	-	-	-	-	240	230	300	300						
Count						5	-	-	-	-	-	-	-	-	1	3	5	3						

W 5

Bweep 1.0 Mc to 17.0 Mc in 2 min Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 46° 28.6' N
Long. 141° 41.1' E

Wakkanai

foE

Jun. 1952

135° E Mean Time

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						B	2.9 ^B	3.0 ^B	3.2 ^B	B	B	C	B	B	B	A	B	2.5	B					
2						C	C	C	[3.1] ^C	3.2	3.3	3.3	3.3	[3.2] ^B	3.2	[3.0] ^B	2.8	C	C					
3						S	B	B	2.7	B	B	A	A	C	A	A	A	A	2.0					
4						2.0	2.5	3.0	A	A	A	A	A	A	B	A	2.8	A	A	2.0				
5						2.0	2.6	2.8	B	A	A	A	A	A	A	A	3.0	[2.4] ^A	1.8					
6						2.2	2.5	2.8	3.0	3.1	3.2 ^B	3.2	3.1	A	B	A	A	A	A					
7						C	C	C	C	C	C	B	B	B	3.0	[2.8] ^B	2.7	A	A					
8						2.0	3.5	3.0	C	C	3.3	3.3	3.3	(3.2) ^A	3.0	A	A	2.3	A					
9						1.8	2.4	2.7	3.0	3.0	3.2	3.0	B	A	C	S	A	C	2.0 ^F					
10						2.0	2.5	[2.8] ^B	3.1	A	A	C	A	A	A	B	A	A	2.4					
11						1.9	2.5	2.7	A	A	A	A	A	A	A	3.0	C	A	A					
12						1.8	2.7 ^B	B	B	A	A	S	S	S	S	A	A	2.4	2.0					
13						C	C	C	C	C	C	C	C	C	C	C	C	C	C					
14						C	C	C	C	C	S	S	S	S	S	S	S	2.5	S					
15						M	M	M	M	S	S	S	S	S	S	S	2.8	S	S					
16						A	S	S	S	S	S	S	S	S	S	S	S	S	S					
17						S	S	S	S	S	S	S	S	S	S	S	S	S	S					
18						S	S	A	A	S	S	S	S	S	S	A	A	2.3 ^T	A					
19						A	S	S	S	S	S	S	S	S	C	C	C	C	C					
20						A	2.6	C	B	C	A	C	C	C	S	B	C	C	C					
21						2.0	2.6	3.0	3.0	3.0	3.2	3.3	3.0	3.1	3.3	P	A	2.5	B					
22						2.0	2.6	S	S	C	A	A	A	C	S	C	C	2.7	A					
23						2.2	2.6	3.0	3.3	S	S	S	S	S	S	B	A	2.7	S					
24						S	2.8	B	A	A	S	S	S	S	S	A	2.2 ^B	A	A					
25						B	2.6	B	A	C	C	C	B	B	B	B	2.7	B	A					
26						2.3	2.6	S	B	A	B	B	C	B	B	3.3	3.0	[2.5] ^C	2.0					
27						C	C	C	C	3.0 ^P	3.1 ^P	3.1 ^P	3.1 ^P	3.1 ^P	2.7	A	A	A						
28						2.1	2.6	C	A	A	A	B	P	S	S	S	S	S	A					
29						B	S	A	S	S	S	S	M	M	M	M	M	M	M					
30						M	M	M	M	B	B	B	A	A	B	B	B	2.5	2.1					
31																								
Mean Value						2.0	2.6	2.9	3.0	3.1	3.2	3.2	3.2	3.2	3.0	2.9	2.8	2.5	2.0					
Median Value						2.0	2.6	2.9	3.0	3.0	3.2	3.2	3.1	3.2	3.0	2.8	2.8	2.5	2.0					
Count						13	17	10	8	6	6	6	5	4	6	5	7	12	9					

foE

Sweep 1.0 Mc to 17.0 Mc in 2 min

Manual

Automatic

W 6

The Central Radio Wave Observatory
Koganei-machi, Klatama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

f'F₂

Jun. 1952

135° E Mean Time

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						B	B	B	B	B	C	C	120	B	B	A	120	120	B					
2						C	C	120	[120] ^c	130	130	130	130	[130]B	130	B	120	C	C					
3						S	B	B	B	A	A	A	A	C	A	A	A	A	130					
4						120	130	120	A	A	A	A	A	B	A	130	A	A	A	130				
5						120	130	130	B	A	A	A	A	A	A	A	130	A	A	130				
6						140	140	130	120	120	120	120	120	[120]A	120	A	A	A	A					
7						C	C	C	C	C	110	110	110	110	110	110	100	A	A					
8						110	110	110	110	[120]C	120	110	120	[120]A	120	A	A	A	A					
9						120	120	120	120	120	120	120	120	A	C	A	A	C	120					
10						120	120	120	130	A	A	C	A	A	A	130	A	A	A	130				
11						120	120	120	A	A	A	A	A	A	A	120	C	A	A					
12						B	B	B	C	A	A	C	S	S	A	A	A	A	120	130				
13						C	C	C	C	C	C	C	C	C	C	C	C	C	C	C				
14						C	C	C	C	C	S	S	S	S	S	S	S	S	110	C				
15						M	M	M	M	S	S	S	S	S	S	S	S	S	S					
16						A	S	S	S	S	S	S	S	S	S	S	S	S	S					
17						S	S	S	S	S	S	S	S	S	S	S	S	S	S					
18						S	S	A	A	S	S	S	C	C	C	C	C	C	A					
19						A	150	S	S	S	S	S	S	S	S	S	B	C	C					
20						A	120	[120]C	120	C	A	C	C	C	C	100	100	120	120					
21						130	120	120	130	130	130	130	130	130	130	130	[130]A	130	130					
22						140	130	S	S	C	A	A	S	C	130	C	C	130	A					
23						130	120	120	130	130	S	S	S	S	S	120	A	140	S					
24						S	150	B	A	A	130	S	S	S	S	A	B	A	A					
25						150	140	140	A	C	C	C	B	B	B	B	120	120	A					
26						150 ^B	140	[140] ^S	130	A	B	B	C	B	B	120	120	[120]C	130					
27						C	C	C	C	130	130	130	130	130	140 ^B	A	A	A	A					
28						B	130	C	A	A	A	B	B	S	S	S	S	S	A					
29						B	S	A	S	S	S	S	M	M	M	M	M	M	M					
30						M	M	M	M	B	B	B	A	A	120	B	120	120	120					
31																								
Mean Value						130	130	120	120	120	130	120	120	130	130	120	120	120	130					
Median Value						120	120	120	120	120	130	120	120	130	120	120	120	120	120	130				
Count						12	16	12	10	7	7	7	8	6	10	7	9	12	10					

Sweep 1... Mc to 17.0... Mc in 2... min

Manual

Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

IONOSPHERIC DATA

Wakkanai

fEs

Jun. 1952

135° E Mean Time

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	S	S	S	S	2.5	4.3	5.7	5.7	5.0	5.3	6.1	C	6.0	7.0	5.5	3.3	♀	♀	2.5	3.0	6.0	3.0	S	C
2	C	C	C	C	C	C	C	C	5.0	C	5.1	5.2	5.9	B	♀	B	♀	C	C	C	C	C	2.5	2.7
3	2.7	E	E	E	E	S	B	6.0	6.2	B	6.0	6.0	6.0	C	8.0	6.0	8.0	6.0	5.0	5.5	6.0	6.0	6.0	
4	6.0	5.5	6.0	5.2	4.0	2.6	6.5	11.0	7.0	9.3	8.3	6.1	9.0	4.2	6.0	4.9	6.0	9.9	9.0	7.2	4.3	3.8	3.3	3.0
5	2.4	1.2	3.0	1.4	2.7	2.6	♀	4.0	B	5.0	6.0	5.0	3.6	6.0	6.1	6.0	♀	5.0	6.0	3.0	3.0	2.6	C	3.0
6	2.4	S	S	E	S	♀	4.6	5.3	5.5	6.0	6.4	5.0	5.8	3.9	♀	5.6	5.8	4.5	4.5	3.9	3.2	2.6	3.0	3.1
7	S	S	E	C	C	C	C	C	C	C	C	6.0	5.6	♀	8.5	6.0	6.0	6.0	6.0	9.0	7.5	6.0	9.0	6.0
8	6.0	3.0	3.0	3.0	2.0	6.0	6.0	6.0	C	C	6.1	6.0	5.8	4.0	5.0	3.8	3.5	♀	5.0Y	6.0	2.6	3.2	1.6	2.0
9	E	E	E	E	2.0	3.2	4.4	5.4	4.8	6.0	6.0	3.6	6.0Y	3.4	C	S	3.6	C	5.3	4.2	4.3	2.6	E	S
10	2.4	2.6	2.8	2.3	E	G	4.2	5.0	4.9	3.6	6.0	C	5.8	5.7	♀	3.8	3.8	6.0	6.0	5.4	3.4	3.0	2.6	2.6
11	2.6	4.0	5.0	4.0	2.4	3.6	6.0	6.0	6.0	6.0	6.0	4.0	3.6	3.6	3.6	C	3.0	5.0	9.0	8.0	5.0	4.0	3.0	2.1
12	E	E	E	E	S	3.0	5.0	6.0	6.0	8.7	9.0	S	S	S	S	6.2	4.0	♀	3.1	3.1	3.9	3.2	3.0	C
13	2.9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	S	S	S	S	S	S	3.3	S	S	S	S	S	S
15	E	S	E	M	M	M	M	M	M	S	S	S	S	S	S	G	S	S	S	S	S	S	S	3.6
16	3.1	2.4	3.2	1.6	3.0	2.9	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
17	S	3.8	3.0	S	S	S	S	S	S	S	S	S	S	6.0	6.0	6.0	6.0	♀	6.0	6.0	6.0	6.0	6.0	3.6
18	3.0	6.0	3.6	3.0	S	S	S	6.0	6.0Y	S	S	S	C	C	C	C	C	C	7.8	6.0	3.9	5.5	3.9	3.4
19	2.6	6.0	3.9	3.9	3.9	3.0	5.6Y	S	S	S	S	S	S	S	4.7	8.8	C	C	C	C	C	5.9	6.0	4.5
20	5.5	5.7	4.0	3.0	3.5	6.0	6.0	C	6.0	C	4.7Y	C	C	C	C	♀	5.3	6.0	6.0	6.0	6.0	5.5	3.0	S
21	2.6	3.8	2.6	S	3.6	3.0	3.7	5.1	6.0	7.4	6.0	9.0Y	5.6	6.0	6.0	8.6	6.0	5.1	2.8	4.4	7.5	3.1	6.0	8.4
22	6.0	2.9	6.0	6.0	2.6	4.4	6.0	S	S	C	8.3	6.0	S	C	♀	C	C	♀	3.0	3.8	3.8	S	3.8	3.6
23	3.2	3.5	3.3	2.6	♀	3.3	5.2	5.0	6.0	6.0	S	S	S	S	S	♀	6.0	♀	S	S	3.5	2.0	S	S
24	E	E	S	E	S	S	♀	B	6.0Y	6.0	♀	S	S	S	S	4.0	4.3	6.0Y	6.0	6.0	5.0	3.0	3.0	3.0
25	3.6	2.6	E	E	C	♀	G	♀	6.0	6.0	C	C	B	B	B	B	5.0	5.5	4.0	4.4	S	3.0	2.5	3.9
26	E	E	E	E	2.8	♀	♀	S	♀	4.0	B	B	C	B	B	6.0	3.8	C	6.0	4.8	6.0	6.0	3.2	3.8
27	6.0	5.2	3.0	4.2	C	C	C	C	C	6.0	6.0	6.3	8.7	7.5	6.0	7.5	6.2	5.5	5.9	5.0	5.0	6.0	7.5	6.0
28	6.4	3.0	2.6	2.6	2.6	3.0	4.0	C	7.4	8.3	6.0	B	4.0	S	S	S	S	S	2.8	3.0	4.4	2.4	3.8	S
29	E	E	3.0	3.3	2.6	2.4	S	4.0	4.0	S	S	S	M	M	M	M	M	M	M	M	M	M	M	M
30	M	M	M	M	M	M	M	M	M	B	B	B	3.8	3.9	♀	B	♀	♀	♀	1.6	2.6	3.0	S	6.0Y
31																								
Mean Value	3.9	3.8	3.6	3.3	2.9	3.6	5.1	5.8	5.8	6.3	6.4	5.7	5.7	5.1	6.0	5.8	5.1	5.7	5.5	4.9	4.6	3.9	4.0	4.0
Median Value	2.8	3.0	3.0	2.6	2.6	3.0	4.8	5.4	6.0	6.0	6.0	6.0	5.8	4.2	5.5	5.8	4.3	5.0	6.0	4.9	4.3	3.2	3.1	3.6
Count	24	22	23	21	17	19	18	15	18	14	17	12	15	13	1.7	1.8	2.1	2.0	2.2	2.2	2.1	2.2	2.0	2.0

fEs

Swamp L.D. Mc to 17.0 Mc in 2 min
 Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 46° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

(M3000)F2

Jun. 1952

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	2.7	(2.8) ^S	2.8 ^P	(2.8) ^J	2.8	2.8	(2.8)A	2.7	[2.7]B	2.7	A	C	3	A	2.6	2.7	2.7	2.8	2.8	2.8	A	S	S	C
2	C	C	C	C	C	C	C	C	2.8	[2.8] ^C	2.8	2.8	2.6	2.7	2.6	2.8	2.9	C	C	C	C	C	S	S
3	S	(2.7) ^S	S	S	S	S	2.6	2.9 ^P	[3.0]A	(2.2) ^F	A	A	A	A	A	A	A	A	A	A	3.1	A	A	A
4	A	2.8	(2.7) ^A	2.6 ^F	2.7	3.1	A	A	A	A	2.6 ^V	[2.6]A	2.7	2.6	[2.6]A	2.9	2.9	A	A	A	A	S	3.0	S
5	S	2.8	3.0	2.9	(2.8) ^S	2.7	3.0	2.5	2.9	2.8	2.9	2.7	2.6	2.6	[2.8]A	3.0	3.0	2.9 ^P	[2.9]A	(2.3) ^F	S	S	C	S
6	S	S	S	S	S	2.8	2.5	2.8	[3.0] ^C	3.1	[3.0]A	3.0	2.7	2.7	2.7	2.8	(2.8) ^P	2.9	S	S	S	S	S	S
7	S	S	2.7	C	C	C	C	C	C	C	C	A	2.9	2.6	A	A	A	2.8	2.8	A	A	A	A	A
8	A	S	S	S	S	2.5	A	A	A	C	C	2.7	2.6	[2.6]S	2.5	2.5	2.6	2.6	2.6	A	S	S	S	S
9	S	3.0	[3.0] ^S	2.9 ^H	W ^H	W ^H	W ^K	W ^H	2.3 ^H	A ^H	A ^H	B ^H	A ^K	S ^H	C ^H	2.6 ^H	2.8 ^H	[2.8] ^H	2.8 ^H	2.8 ^H	(2.8) ^K	(2.6) ^S	2.5 ^H	S ^H
10	S ^H	S ^H	2.6 ^H	(2.7) ^H	S ^H	B ^H	3.0 ^K	B ^K	B ^H	B ^H	(2.9) ^K	[2.8] ^H	2.7 ^H	2.8 ^H	2.8 ^H	G ^K	2.8 ^H	2.7 ^H	A ^H	A ^H	S ^H	(2.9) ^S	S ^H	
11	S ^H	S ^H	A ^K	S ^H	S ^H	2.7 ^K	3.0 ^K	(2.8)A	2.6 ^K	A ^K	A ^K	B ^K	B ^K	B ^K	B ^K	C ^K	2.7 ^K	3.3 ^K	A ^K	A ^K	S ^K	(2.9) ^S	S ^K	
12	S ^K	S ^K	(2.7) ^S	S ^K	S ^K	S ^K	A ^K	A ^K	A ^K	A ^K	A ^K	S ^K	S ^K	S ^K	A ^K	A	B	S	S	S	S	S	S	
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	S	S	S	S	S	S	S	S	S	S	S	S
15	S	S	(2.5) ^J	M	M	M	M	M	M	S	S	S	S	(3.3) ^S	S	S	S	S	S	S	S	S	S	S
16	S	3.1	2.8	S	S	2.4	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
17	S	S	(2.8) ^F	S	S	S	S	S	S	S	S	S	S	S	S	A	A	2.6	A	A	A	A	A	A
18	S	A	S	S	S	S	S	A	A	A	A	S	S	S	C	C	C	C	C	C	C	A	A	A
19	3.1	A	S	2.6	S	S	A	S	S	S	S	S	S	S	3.0	A	A	C	C	C	C	A	A	A
20	2.6	2.7	(3.0) ^J	2.8	3.0	2.7	A	C	A	C	2.7	C	C	C	C	3.0	2.9	A	A	A	3.0	A	A	A
21	S	A	3.0	S	S	S	S	S	A	A	A	(3.0) ^J	2.5	[2.4] ^S	[2.4]A	2.5	2.7	2.8	S	S	S	S	S	S
22	SA	A	A	A	2.7	2.9	(3.1) ^J	S	S	C	A	A	S	C	S	C	C	2.7	2.7 ^H	S	S	S	S	2.6
23	2.5	2.5	(2.7) ^F	[2.7] ^S	2.7	2.7	2.8 ^P	2.7	A	A	S	S	S	S	S	B	2.8	S	S	S	S	S	S	S
24	S	S	3.2	S	S	S	S	S	A	A	S	S	S	S	S	S	3.0	A	A	A	A	S	S	S
25	S	2.4	[2.4] ^S	2.5 ^P	[2.6] ^S	2.7	B	B	A	A	C	C	2.8	B	B	B	2.6	3.1	2.8	2.9	S	S	S	S
26	S	S	S	S	S	S	S	S	S	B	B	B	C	B	B	A	B	C	C	A	2.6	A	A	2.5
27	2.6	2.5	2.6	2.6	C	C	C	C	C	A	A	A	A	A	2.8	A	A	2.7	5A	S	A	A	A	A
28	A	2.8	2.8	2.5	2.6 ^H	(2.7) ^J	S	C	A	A	A	B	B	S	S	A	A	2.7	S	S	S	S	S	S
29	2.8 ^P	(2.6) ^J	2.8	(2.9) ^S	S	S	S	S	S	S	S	S	M	M	M	M	M	M	M	M	M	M	M	M
30	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B	B	S	S	S	A
31																								
Mean Value	2.7	2.7	2.8	2.7	2.8	2.7	2.9	2.8	2.9	2.9	2.9	2.8	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6
Median Value	2.6	2.8	2.8	2.7	2.7	2.7	2.9	2.8	2.8	2.8	2.8	2.8	2.6	2.6	2.6	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6
Count	6	12	18	11	8	13	8	7	7	5	7	6	8	9	10	10	14	13	8	5	3	2	4	4

The Central Radio Wave Observatory
Koganei-machi, Kitakama-gun, Tokyo, Japan

Lat. 45° 28.6' N
Long. 141° 41.1' E

IONOSPHERIC DATA

Wakkanai

fminF

Jun. 1952

135° E Mean Time

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	4.6 ^s	5.0 ^s	4.0 ^s	4.1 ^s	2.2	4.0 ^s	[4.4]A	4.7 ^s	[4.0]A	4.4 ^s	A	C	A	A	4.3 ^s A	4.4	3.6	4.0	2.2	2.8 ^s A	A	A	S	C	
2	C	C	C	C	C	C	C	C	4.0 ^s	[4.2]C	4.4 ^s	4.7 ^s	4.7 ^s	4.0	3.3	3.7	3.7 ^s	C	C	C	C	C	A	A	
3	A	2.0	2.0	2.0	2.0	[3.2]s	4.5	4.9 ^s	[4.7]A	4.5	5.0 ^s A	A	A	C	A	A	A	A	A	A	A	A	A	A	
4	A	4.0 ^s	[4.0]A	4.0 ^{HF}	4.0 ^s	2.2	A	A	A	A	A	A	A	5.0	[4.6]A	4.3 ^s	5.0 ^s A	A	A	A	A	A	A	2.9	
5	2.0	1.7	2.0	2.0	[2.2]A	2.3	4.0	4.0 ^s	5.0	4.5 ^s	4.6 ^s	4.6 ^s	3.9	4.5 ^s	[5.0]A	5.5 ^s A	4.2	4.5 ^s	[3.4]A	2.2	A	A	C	A	
6	A	S	S	1.8	[2.0]S	2.2	4.0 ^s	4.5 ^s	4.5 ^s	5.4 ^s	[5.0]A	4.6 ^s	4.4 ^s	4.0 ^s	4.6	4.1 ^s	4.7 ^s	4.2 ^s	3.7 ^s	2.9 ^s	[3.4]A	2.0 ^s A	2.3 ^s A	A	
7	S	S	E	C	C	C	C	C	C	C	C	A	5.0 ^s A	4.5 ^s	A	A	A	4.5 ^s	4.0 ^s	A	A	A	A	A	
8	A	A	A	2.0 ^s	2.0 ^s	4.9 ^s	A	A	C	C	5.0 ^s A	5.0 ^s	4.6 ^s	[4.3]A	4.0 ^s	3.2	3.2	3.0	4.0 ^s	A	A	A	A	A	
9	E	E	E	E	1.6	2.0	A	A	3.8 ^s A	A	A	A	A	S	4.5 ^s	2.7	[3.6]C	4.5 ^s	4.1 ^s	4.8 ^s	[3.4]A	2.0	S	S	
10	1.3	[2.2]A	3.2	E	1.4	[2.4]B	3.3	4.5	A	B	5.1 ^s	[5.0]C	5.0 ^s A	5.5 ^s	4.4	4.0	3.8	5.0 ^s A	A	A	A	5.0 ^s	A	A	
11	1.6	A	A	A	2.0 ^s	2.6	5.0 ^s	[5.0]A	5.0 ^s	A	A	A	B	B	B	C	4.6	3.6 ^s	A	A	A	A	A	S	
12	1.4	1.6	E	E	S	S	A	S	B	A	A	C	S	S	A	A	A	S	A	A	A	A	A	C	
13	1.2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	S	S	S	S	S	S	S	A	S	S	S	S	S	S	
15	1.4	S	E	M	M	M	M	M	M	S	S	S	S	5.2 ^s	S	S	S	S	S	S	S	S	S	S	
16	A	2.9 ^s	2.2 ^s	A	A	4.3 ^s	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
17	S	A	2.0 ^s	S	S	S	S	S	S	S	S	S	S	S	S	S	S	4.0 ^s	A	A	A	S	S	S	
18	A	A	A	A	A	S	S	S	A	S	S	S	S	S	S	S	C	C	A	A	A	A	A	A	
19	2.0 ^s	A	A	4.0 ^s	2.0 ^s	A	A	S	3.7	S	S	S	S	S	4.6	A	C	C	C	C	C	A	A	4.5 ^s	
20	3.8 ^s	2.0 ^s	3.4 ^s	2.0 ^s	2.5 ^s	3.3	A	C	A	C	4.5 ^s A	C	C	C	C	3.5	4.1 ^s	A	A	A	1.4	A	A	S	
21	A	A	2.3 ^s	S	A	A	A	A	A	A	A	5.5 ^s	3.6	[4.0]S	4.5 ^s	[4.4]A	4.3 ^s	4.0 ^s	3.0	A	5 ^s A	A	5 ^s A		
22	SA	A	A	A	2.1	2.5	2.6	S	S	C	A	A	S	C	S	C	C	3.0	2.8 ^s	A	A	S	A	4.4	
23	2.6 ^s	4.0	2.0 ^s	1.2	2.0	2.6	3.6 ^s	5.0 ^s	A	A	S	S	S	S	S	5.0	4.5 ^s	4.0	S	S	S	S	S	S	
24	1.6	E	E	E	S	S	S	4.0	A	A	S	S	S	S	S	A	4.4 ^s	A	A	A	A	A	1.4	A	
25	A	E	E	E	S	2.7	B	B	B	C	C	4.6	4.6	B	B	B	3.8 ^s	3.7 ^s	4.2 ^s	S	A	A	A		
26	2.2	2.2	2.1	2.0	A	S	S	S	S	A	B	B	C	B	B	A	C	A	3.8 ^s	A	A	A	3.7	3.8 ^s	
27	3.8 ^s	3.0 ^s	2.4 ^s	3.0 ^s	C	C	C	C	C	A	A	A	A	A	3.6	A	A	3.2	[3.5]S	3.8 ^s	A	A	A	A	
28	A	2.0 ^s	1.6	1.9	2.0 ^s	3.2 ^s	A	C	A	A	A	B	A	C	C	C	C	C	A	A	A	A	A	S	
29	2.0	2.0	1.8	2.8	1.8	2.4	S	A	A	S	S	M	M	M	M	M	M	M	M	M	M	M	M	M	
30	M	M	M	M	M	M	M	M	M	B	B	B	A	A	B	B	B	B	2.2	2.1	A	S	S	A	
31																									
Mean	2.2	2.7	2.7	2.5	2.1	2.9	4.1	4.6	4.4	4.6	4.8	4.9	4.5	4.6	4.3	4.2	4.0	3.9	3.4	3.2	3.3	3.5	2.4	3.7	
Median	2.0	2.0	2.0	2.0	2.0	2.6	4.0	4.6	4.6	4.5	5.0	4.8	4.6	4.5	4.4	4.3	4.2	4.0	3.5	3.4	3.6	3.4	2.2	3.8	
Count	15	16	20	18	14	16	8	8	8	5	7	6	8	9	10	11	14	14	11	8	4	3	6	5	

fminF

Sweep 1-0 Mc to 17.0 Mc in 2 min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

135° E Mean Time

Jun. 1952

f_{min}E

Wakkanai

Lat. 46° 23.8' N
Long. 141° 41.1' E

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	S	S	S	S	S	2.5	2.8	3.0	3.2	3.3	3.4	[3.0]C	2.7	3.2	3.2	2.2	2.0	2.2	2.2	2.2	2.2	2.2	2.2	C
2	C	C	C	C	C	C	C	C	1.6	[1.9]C	2.2	2.0	2.0	[2.0]B	1.9	1.6	1.6	C	C	C	C	C	1.6	2.0
3	E	E	E	E	E	E	B	3.8	1.6	[1.4]B	1.2	E	E	C	2.2	E	1.6	E	E	2.0	E	E	2.0	E
4	E	E	E	E	E	E	E	2.0	2.0	2.0	2.0	2.0	2.0	3.4	2.2	1.7	2.0	2.0	1.2	1.3	1.7	1.9	1.7	1.8
5	E	E	E	E	E	E	E	E	E	E	E	1.4	2.0	2.0	1.6	2.0	2.0	E	E	2.0	1.4	2.0	[2.0]C	2.0
6	S	S	S	S	S	E	1.2	E	1.6	1.5	2.4	2.0	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5
7	S	S	E	C	C	C	C	C	C	C	C	1.6	2.3	1.6	1.5	1.5	2.0	1.9	1.1	1.1	1.1	1.1	1.4	1.5
8	E	E	E	E	E	E	E	E	E	E	E	1.8	2.0	1.6	1.4	1.4	1.3	1.3	1.3	1.3	1.4	1.4	1.4	E
9	E	E	E	E	E	E	E	E	1.2	1.4	1.5	1.4	1.3	1.4	[1.4]C	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	S
10	E	E	E	E	E	1.1	1.4	1.4	2.0	1.4	1.4	[1.4]C	1.4	1.4	1.4	2.2	F	1.3	1.4	1.4	1.4	1.4	1.4	1.6
11	E	E	E	E	E	E	1.4	1.4	1.4	1.4	1.4	E	E	E	E	C	2.0	2.0	E	E	2.0	2.0	2.0	1.9
12	E	E	E	E	E	1.6	1.4	4.5	4.5	1.5	2.0	C	S	S	2.1	2.6	2.8	1.5	1.4	1.4	1.4	1.5	1.5	C
13	E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	S	S	S	S	S	S	S	1.6	S	S	S	S	S	S
15	E	S	E	M	M	M	M	M	M	S	S	S	S	S	S	2.6	S	S	S	S	S	S	S	S
16	1.2	1.2	E	E	E	1.4	S	S	S	S	S	S	S	S	S	S	S	1.6	S	S	S	S	S	S
17	S	1.1	1.2	S	S	S	S	S	S	S	S	S	S	3.5	1.6	1.6	1.6	1.4	E	E	E	E	E	E
18	E	E	E	E	E	S	S	S	2.4	S	S	S	S	C	C	C	C	C	1.9	1.4	1.4	1.4	1.4	1.4
19	E	E	E	E	E	E	1.5	S	S	S	S	S	S	S	S	3.2	C	C	C	C	C	C	E	E
20	E	1.2	1.2	E	E	E	E	C	1.2	C	1.6	C	C	C	C	1.4	1.8	1.4	1.2	1.2	E	E	E	S
21	E	E	E	S	E	E	E	E	E	1.4	E	1.2	1.2	1.2	2.0	2.0	E	1.2	1.3	1.4	1.4	1.4	E	1.4
22	E	E	E	E	E	E	E	S	S	C	2.0	1.6	S	C	2.3	C	C	1.4	1.5	1.6	E	S	1.7	1.2
23	E	E	E	E	E	E	E	1.6	1.6	1.6	S	S	S	S	S	1.6	1.4	S	S	S	1.4	E	S	S
24	E	E	S	E	E	S	1.6	[1.6]B	1.6	1.6	2.0	S	S	S	S	1.6	2.2	E	E	2.2	1.5	1.5	1.4	1.4
25	E	E	E	E	C	E	E	1.4	E	C	C	C	B	B	B	B	2.0	1.5	1.7	2.0	[2.0]S	2.0	1.9	2.0
26	E	E	E	E	1.5	2.0	2.0	[2.2]S	2.5	2.5	2.0	B	B	C	B	1.8	2.0	[1.8]C	1.6	1.8	1.8	2.0	1.8	1.8
27	1.8	1.8	1.8	1.8	C	C	C	C	C	2.2	2.0	1.6	2.2	1.9	2.4	2.3	1.9	1.9	1.8	1.8	1.7	1.8	1.8	1.9
28	E	E	2.1	1.6	1.6	2.0	2.2	[2.1]C	2.0	2.0	2.1	[2.8]B	3.6	S	S	S	S	2.0	2.0	2.0	1.8	2.0	2.0	S
29	E	E	1.8	1.8	1.8	2.0	[2.0]S	2.0	3.7	S	S	S	M	M	M	M	M	M	M	M	M	M	M	M
30	M	M	M	M	M	M	M	M	M	B	B	B	1.5	1.5	1.4	[1.4]B	1.3	1.4	1.3	1.2	1.2	1.3	1.3	E
31																								
Mean Value	1.7	1.3	1.6	1.7	1.8	1.8	1.8	2.2	2.2	1.8	1.9	1.8	1.9	2.2	2.0	1.9	1.9	1.5	1.5	1.6	1.6	1.7	1.7	1.5
Minimum Value	E	E	E	E	E	E	E	1.4	1.6	1.6	2.0	1.6	2.0	1.6	1.6	1.8	1.8	1.4	1.4	1.4	1.4	1.4	1.5	1.4
Count	24	22	23	21	17	20	19	18	19	16	17	15	15	14	18	21	21	21	22	22	22	22	21	20

Sweep 1.0 Mc to 17.0 Mc in 2 min

Manual Automatic

W 11

The Central Radio Wave Observatory
Koganei-machi, Kitakoma-gun, Tokyo, Japan

Lat. 39° 48.5' N
Long. 140° 08.3' E

Akita

IONOSPHERIC DATA

135° E Mean Time

Jun. 1952

foF2

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	5.3 ^S	5.0 ^S	5.7	5.6	5.3	5.3	5.7	A	A	A	5.5	5.4	5.9	5.9	6.8	7.0	6.2	(6.2) ^A	6.2 ^J	6.3	6.7	6.1 ^Z	(6.0) ^F	(5.9) ^F	
2	6.5 ^F	6.3 ^F	(5.7) ^F	5.5	4.7	4.7	5.8	6.1	7.0	7.3	5.7	6.6	(7.1) ^A	7.6	(7.6) ^A	7.5	6.6	6.6	A	A	A	A	6.3 ^F	5.3 ^H	5.5
3	A	4.7	4.9	4.4	4.2	4.5	4.6	A	7.6	A	A	A	A	A	A	A	8.4	8.2	8.4	8.7	6.0 ^J	(5.6) ^B	5.3 ^H	5.1	
4	4.7	4.9	4.4	4.2	4.5	4.6	A	A	7.6	A	A	A	A	A	A	A	A	A	A	A	7.0	6.4	5.8	5.8	
5	5.3	(5.2) ^V	5.7	A	FB	6.0 ^F	5.9	5.5	(5.6) ^A	5.8 ^H	A	A	A	A	6.9 ^H	6.6	6.1	6.0	5.8	7.8	7.2	6.9 ^H	6.6	6.7	
6	6.4 ^H	6.3 ^V	5.9	5.7 ^F	5.0	5.5	6.1	7.0	6.8	6.4 ^J	A	A	5.9	6.5	6.2	7.5 ^J	7.1	7.4	B	A	AS	6.3 ^S	6.3 ^S	(6.2) ^S	
7	6.0	5.4	5.3	5.2	5.0	6.2 ²	5.6	6.2 ^J	5.8	A	A	A	6.5	6.5	A	A	6.9	A	6.1	7.6	7.1	(6.6) ^A	(6.2) ^H	FA	
8	FA	(4.9) ^F	FA	FB	4.0	4.8 ^H	6.4	A	A	A	A	A	5.9	6.2	A	A	6.2	5.9	7.0	A	A	A	A	A	
9	A	5.8 ^S	5.1	4.8	5.1	4.6 ^K	4.7 ^K	4.7 ^K	A ^K	A ^K	A ^K	B ^K	B ^K	B ^K	B ^K	5.7 ^K	5.5 ^K	5.0 ^K	5.0 ^K	5.4 ^K	A ^K	A ^K	A ^K	(5.2) ^F	
10	5.3 ^K	(5.2) ^K	5.2 ^K	4.9 ^K	5.1 ^K	(5.2) ^K	5.2 ^K	5.2 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	7.1 ^K	(6.0) ^K	4.8 ^V	4.8 ^F	
11	4.7 ^K	(4.6) ^K	4.4 ^K	4.3 ^K	4.3 ^K	4.3 ^K	4.3 ^K	4.3 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	6.5 ^K	A ^K	A ^K	4.8 ^K	A ^K	
12	A ^K	4.4 ^K	4.9 ^K	(4.8) ^K	4.6 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	5.5 ^K	(5.2) ^K	5.0 ^K	5.6 ^K	5.8	A	A	A	5.9	6.0 ^J	5.4 ^J	A	A	A
13	5.0 ^F	4.6 ^F	4.3 ^F	(4.3) ^F	4.1 ^F	5.0	A	A	A	A	A	A	A	A	A	A	A	A	A	5.1	(5.8) ^A	6.5	6.0 ^F	(6.0) ^F	
14	(5.4) ^F	4.8	4.6 ^F	4.3	3.9	4.6	4.9	5.7	5.7	5.7	5.6	6.5	6.5	6.3	5.5	5.5	5.5	6.2	7.0	6.5	7.3	7.0	6.0 ^H	(5.4) ^A	
15	4.7	5.7 ^F	6.2 ^S	3.4 ^K	A ^K	B ^K	A ^K	A ^K	A ^K	A ^K	A ^K	C ^K	C ^K	A ^K	A ^K	A ^K	5.0 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	5.4 ^K	A ^K	
16	A ^K	5.3 ^K	(5.1) ^H	5.2 ^K	B ^K	A ^K	A ^K	A ^K	A ^K	A ^K	5.3 ^K	(5.2) ^K	5.2 ^K	4.8 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	5.5	5.3	5.2 ^H	4.7	A	
17	A	A	A	4.5 ^F	4.2	4.7	5.1	B	A	A	A	A	A	A	A	A	6.2	5.5	5.8	A	AS	A	A	5.6	
18	A	A	A	5.2	4.5	4.4	4.7 ^K	A ^K	A ^K	A ^K	5.3 ^K	A ^K	A ^K	5.6 ^K	A ^K	A ^K	5.7 ^K	5.8 ^K	5.7 ^K	(5.8) ^K	5.8 ^K	5.5 ^K	(5.6) ^K	5.7 ^F	
19	5.4 ^K	4.9 ^K	(4.9) ^K	4.3 ^K	3.8 ^K	4.5 ^K	6.2 ^K	A ^K	A ^K	6.2 ^K	(5.8) ^K	5.7 ^K	(5.6) ^K	5.6 ^K	6.4	A	A	A	A	A	6.5	6.0 ^H	5.5	5.8	(5.6) ^F
20	6.2 ^F	5.8 ^F	A	A	A	4.4	(5.8) ^A	7.1	A	A	A	A	5.7	5.8	5.8	5.9	5.8	5.7	A	A	A	(5.9) ^F	6.1	A	
21	A	(5.9) ^F	5.4 ^F	5.3 ^F	(5.3) ^F	5.0	5.5	6.4	7.2	A	A	A	A	6.7	7.2	7.4	6.3	6.1	6.1	6.8	7.2	6.0	6.2	A	
22	A	A	A	A	(5.0) ^F	5.9	6.0	7.6	7.3	A	A	A	A	A	A	6.3	6.2	6.2	A	BS	7.1 ^H	6.7	6.7	6.5	
23	(6.0) ^A	5.5 ^F	6.1 ^H	5.4 ^H	4.8	4.8	A	A	7.0	A	A	A	6.4 ^J	6.5	6.4	6.9	6.8	7.0	6.3	6.6	7.7	7.3	6.9	7.6	
24	8.2	8.0	6.7	5.8	5.2	5.6	7.0	7.2	C	C	C	C	C	C	C	C	C	C	(6.2) ^P	6.4 ^H	(7.1) ^F	7.4	7.4 ^F	7.7	
25	(7.4) ^S	6.4 ^F	6.2 ^F	6.4	6.1	6.0	6.1	5.3 ^K	5.1 ^K	A ^K	6.2 ^K	5.6 ^K	5.5 ^K	5.5 ^K	5.5 ^K	5.7 ^K	5.8 ^K	5.8 ^K	5.8 ^K	5.7 ^K	5.6 ^K	(5.8) ^B	5.9 ^K	F ^K	
26	5.3 ^K	5.7 ^K	5.2 ^K	5.7 ^K	(5.0) ^K	4.4 ^K	(4.9) ^K	5.4 ^K	6.0 ^K	A ^K	A ^K	A ^K	A ^K	5.7 ^K	5.6 ^K	5.4 ^K	5.1 ^K	A	A	A	A	7.1	A	A	
27	(5.0) ^S	(5.3) ^A	5.3 ^F	6.4 ^F	6.1 ^F	4.6	5.0	6.0 ^Z	(6.2) ^A	6.5	(6.4) ^A	6.2	A	A	A	6.8	A	A	A	7.2	(6.7) ^A	6.2	(6.1) ^A	6.0 ^J	
28	(5.8) ^S	(6.2) ^H	F	F	F	4.4 ^F	5.5	B	B	A	A	A	A	A	A	6.4	5.6	5.5	(5.8) ^B	6.0	6.4	6.9	6.0	A	
29	FS	FS	FS	FS	FS	4.9	5.5	5.9	6.9	7.4	6.3	6.1 ^J	5.8	(5.8) ^A	5.8	6.2	6.5	6.9	(7.6) ^A	8.2	8.9 ^J	8.2	8.9 ^J	5.4 ^F	
30	(5.2) ^F	F	A	4.7 ^F	4.0 ^F	4.7	5.4 ^F	5.5	5.7	6.0	A	A ^K	A ^K	A ^K	(8.6) ^K	9.6 ^K	10.0 ^{KJ}	10.2 ^{KJ}	11.1 ^{KJ}	8.1 ^K	6.6 ^K	6.8 ^K	6.8	7.2	
31																									
Mean Value	5.7	5.5	5.3	5.0	4.8	5.0	5.7	6.3	6.4	6.4	5.7	5.9	6.0	6.2	6.5	6.6	6.4	6.5	6.4	6.7	6.7	6.3	6.3	6.0	6.0
Median Value	5.4	5.4	5.3	5.0	4.8	4.8	5.6	6.0	6.3	6.3	5.6	6.2	5.9	6.1	6.0	6.4	6.2	6.2	6.1	6.5	6.7	6.3	6.0	5.8	
Count	20	24	21	24	25	27	22	17	15	8	8	10	13	16	14	18	21	18	20	19	20	23	23	20	

foF2

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

135° E Mean Time

Jun. 1952

h_pF₂

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	300 ^S	300 ^S	330	330	310	300	330	A	A	A	U	U	U	U	350	380	300	A	A	300	300	330 ^F	(350) ^F	23	
2	(300 ^F)	320	(290 ^F)	290	280	270	300	300	A	A	380	U	U	A	A	A	320	300	A	A	A	A	(330) ^F	330 ^F	
3	A	A	A	280 ^F	A	A	(330)	(320)	320	A	A	U	U	A	A	A	A	300	290	(250) ^J	250	(280) ^J	(320) ^H	350	
4	330	350	330	330	330	320	A	A	320	A	A	A	A	A	A	A	A	A	A	280	280	290	310	370	
5	330	(330)	360	A	FB	300 ^F	290	270	320	A	AH	A	A	A	380	370	340	380	340	310	280	300 ^H	330	330	
6	330 ^H	320	320 ^H	(320)	320	320	320	300	270	A	A	A	U	350	320	(310)	300	300	B	A	AS	330 ^S	310 ^S	300 ^S	
7	300	320	310	290	(330)	(290)	270	(280)	280	A	A	A	A	A	A	A	A	A	300	310	280	(300) ^A	(320) ^A	FA	
8	FA	(310) ^F	FA	FB	310	410 ^H	300 ^K	A	A	A	A	A	U	340	A	A	A	350 ^K	A	A	280	(300) ^A	A	A	
9	A	290 ^S	320	310 ^K	340	450 ^K	510 ^K	A	A	A	A	A	B	B	B	U	U	340 ^K	A	A	A	A	A	A	
10	300 ^K	(340)	370	330 ^F	(260)	(280)	A	U	A	A	A	A	A	A	A	A	A	290 ^K	A	A	290	(300) ^K	320 ^K	350 ^F	
11	310 ^F	(340)	AF	AF	(310)	AH	A	A	A	A	A	A	A	A	A	A	A	290 ^K	A	A	A	A	A	A	
12	A	A	(330)	(320)	(290)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	(270)	A	A	A	A	
13	(330)	310 ^F	340 ^F	(340)	(330)	310	A	A	A	A	A	A	A	A	A	A	A	A	300	(300) ^A	300	(300) ^F	(340) ^F	(390) ^F	
14	(340)	300	300 ^F	280	290	230	290	290	(300)	320	U	330	300	300	U	U	U	310	320	320	320	280	370 ^H	(340)	
15	320	(290)	280	310 ^K	A	B	A	A	A	A	A	A	C	A	A	A	A	A	A	A	A	A	A	A	
16	A	(270)	(260)	(280)	B	A	A	A	A	A	A	A	U	U	U	U	U	A	280	280	310 ^H	320	A	A	
17	A	A	A	300 ^F	A	310	310	B	A	A	A	A	A	A	A	A	A	330	300	300	AS	AS	A	A	
18	A	A	A	290	290	280	440 ^K	A	A	A	A	A	A	U	U	U	A	320 ^K	A	A	A	360	330	(340)	
19	(320)	(280)	(320)	(310)	340	350	270 ^K	A	A	A	270	A	A	A	U	U	A	A	A	290	280	320	300	340 ^F	
20	(330)	(330)	A	A	A	300	(300)	300	A	A	A	A	A	U	U	U	A	A	A	A	A	(320)	300	(360)	
21	A	(340)	(310)	(300)	(300)	290	300	320	290	A	A	A	U	U	U	320	360	340	A	A	A	(320)	310	A	
22	A	A	A	A	(320)	330	310	290	270	A	A	A	A	340	340	320	300	310	300	300	310	280	310	A	
23	(350)	(330)	310	330 ^H	290	300	A	A	270	A	A	A	A	A	A	370	310	320	A	A	BS	390 ^H	320	370	
24	350	330	300	320	320	370	350	320	C	C	C	C	C	U	U	330	310	310	300	350	330	360	330	340	
25	(390)	(390)	370	400	380	320	310	U	U	U	U	B	C	C	C	C	C	C	(280)	320 ^H	(350)	390	(360)	330	
26	310 ^F	350	380	350 ^K	(350)	A	A	A	(320)	A	A	A	U	U	U	U	U	U	A	A	A	300	A	A	
27	(330)	(360)	(380)	(380)	300 ^F	270	300	280 ^Z	A	A	A	A	A	A	A	400	370	350	240	(270)	300	(250)	BS	(330)	
28	(410)	(320)	F	F	340 ^F	270	B	B	A	A	A	A	U	A	390 ^K	(430)	(400)	(320)	(300)	290	320	420	380	A	
29	FS	FS	FS	FS	FS	250	290	320	300	300	320	A	U	A	400	370	350	240	(270)	300	(250)	BS	(330)	(350)	
30	(360)	F	A	(300)	(310)	330 ^F	270 ^F	300	400	400	A	A	A	A	390 ^K	(430)	(400)	(320)	(300)	290	320	420	380	A	
31																									
Mean Value	330	320	330	320	310	310	320	300	300	320	350	330	300	360	360	350	330	320	300	300	300	320	320	330	340
Median Value	330	320	320	310	310	300	300	300	300	310	350	330	300	350	360	350	320	310	300	300	300	300	320	330	340
Count	20	23	20	23	23	24	20	13	11	4	2	1	1	7	6	10	14	17	16	17	18	22	21	17	

Sweep 1.0 - Me to 1.0 - Mc in 1.5 min Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

Akita

Jun. 1952

R'F2

135° E Mean Time

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	290	280	250	260	250	290	300	290 ^A	A	A	420	410	370	390	350	380	300	300 ^A	280	250	290	320	310		
2	280	290	240	220	240	220	290	290	300 ^A	(340)	380	400	A	A	A	A	310	290	A	A	A	A	260	280	
3	A	A	A	240	A	A	310	(320)	320	A	A	350	A	A	A	A	A	290	240	240	280 ^A	270 ^H	300		
4	290	300	280	280	270	280	A	A	(320)	A	A	A	A	A	A	A	A	A	A	A	250	260	290 ^A	300 ^A	
5	300	290	320 ^A	(290)	260	290 ^A	290	270	A	AH	A	A	A	A	360 ^H	360	340	370	320	240	260	250 ^H	300	310 ^A	
6	260 ^H	250	230 ^H	260	260	280	310	290	270	A	A	340	420	350	320	300 ^A	300	280	290	A	A	230	250	(240)	
7	240	230	270	270	(270)	270	260	(260)	270 ^A	A	A	A	A	A	A	A	A	290	290 ^A	280	250	(280)	320 ^F	280 ^F	
8	270	300	300	280	290	260 ^H	300	A	A	A	A	A	400	340	A	A	320 ^A	340	310	A	A	A	A	A	
9	A	260	260	280	280	400 ^K	LK	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	B ^K	370 ^K	340 ^K	290 ^K	290 ^K	A ^K	A ^K	A ^K	A ^K	300 ^K	
10	260 ^K	A ^K	A ^K	A ^K	260 ^K	260 ^K	(320)	380 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	280 ^A	(280)	290 ^K	280 ^K	
11	A ^K	290 ^K	A ^K	A ^K	270 ^K	250 ^H	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	
12	A ^K	A ^K	A ^K	A ^K	280 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	370 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	260	A ^K	A ^K	
13	280	300 ^A	300 ^A	280	300 ^A	300 ^A	A	A	A	A	A	A	A	A	A	A	A	A	250	(280)	300	270	280	350 ^A	
14	280	260	240	210 ^A	250	230	290	290	(300)	320	400	330	300	320	350	350	390	300	280	260	270	260	AH	A	
15	290	240	240	250 ^K	(250)	250	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	C ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	
16	A ^K	230 ^K	220 ^H	270 ^K	280 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	400 ^K	620 ^K	A ^K	A ^K	A ^K	A ^K	250 ^A	250	270 ^H	340 ^A	A	A	
17	A	A	A	260	(280)	300	270	250	A	A	A	A	A	A	A	A	A	330	290	(300)	300 ^A	A ^K	A ^K	A	
18	A	A	A	250	250	240	440 ^K	A ^K	A ^K	A ^K	390	A ^K	A ^K	A ^K	450 ^K	A ^K	320 ^K	300 ^K	A ^K	A ^K	A ^K	310 ^A	290 ^K	290 ^K	
19	280 ^A	230 ^K	290 ^K	270 ^K	310 ^A	27 ^K	270 ^K	(280)	300 ^K	270 ^K	A ^K	A ^K	340 ^K	(370)	400 ^K	A	A	A	A	260	230 ^H	290	260	290	
20	290	300 ^A	A	A	A	A	A	290	A	A	A	A	420 ^A	390	330	320	350	330	A	A	A	270	300 ^A	320 ^A	
21	A	A	280	250	280	250	280	320	290	A	A	A	A	A	A	310	300	310	290	260	250	240	250	A	
22	A	A	A	A	A	300 ^A	300 ^A	280	260	A	A	A	A	A	A	370	310	320 ^A	A	A	260 ^A	230	260 ^A	300 ^A	
23	(300)	300 ^A	250 ^H	250 ^H	240	290	A	A	280	A	A	A	A	A	320	330	310	310	280	280	310	310	290	280	
24	270	240	220	260	300 ^A	270	340	310	C	C	C	C	C	C	C	C	C	C	240	260 ^H	310 ^A	310	300	280	
25	330 ^A	320 ^A	300	300	300	310	310	450 ^K	490 ^K	A ^K	A ^K	330 ^K	420 ^K	390 ^K	370 ^K	400 ^K	310 ^K	330 ^K	A ^K	A ^K	320 ^H	280	320 ^H	(300)	
26	280 ^K	290 ^K	280 ^K	310 ^A	300 ^A	A ^K	A ^K	400 ^K	320 ^K	A ^K	A ^K	A ^K	A ^K	400 ^K	390 ^K	400 ^K	460 ^K	A	A	A	300 ^A	A	A	A	
27	310 ^A	A	280 ^H	A	270	260	A	A	A	300 ^A	(340)	380	A	A	A	A	A	A	A	280	A	A	A	A	
28	A	290 ^H	310 ^A	290	270	260	230	230	A	A	A	A	A	A	A	300	300	330	(320)	310 ^A	230	240	A	A	
29	350 ^F	330 ^F	260	300 ^A	260	230	290	320	300	300	320	A	A	A	400	370	350	240	(260)	280	200 ^A	250 ^A	300	290	
30	AF	300 ^F	(290)	280	290	230	250	300	400	400	A	A ^K	A ^K	420 ^K	350 ^K	400 ^K	370 ^K	300 ^K	280 ^K	230 ^K	300 ^K	400 ^K	A	A	
31																									
Mean Value	290	280	270	270	270	270	300	310	320	320	380	360	380	400	360	350	330	310	280	270	270	280	280	290	290
Median Value	280	290	270	270	270	290	290	290	300	310	380	350	400	400	350	360	320	300	280	280	270	280	280	290	300
Count	19	23	21	25	27	25	20	19	14	6	7	6	9	14	13	14	17	19	18	18	19	23	19	19	

R'F2

Sweep 1.0... Mc to 17.0... Mc in 1.5... min

Manual Automatic

A 3

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

foF1

135° E Mean Time

Jun. 1952

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					L	L	A	A	A	A	4.6	4.6	4.6	4.6	4.4	4.7	4.4	A	A					
2					Q	3.6	4.1	A	A	A	4.6	5.4 ^J	A	A	A	A	4.7	Q	A					
3					A	3.8	[4.0] ^A	4.3 ^J	A	A	A	A	A	A	A	A	A	A	Q					
4					Q	A	A	A	A	A	A	A	A	A	A	A	A	A	A					
5					A	3.9	3.9 ^L	A	A	A	A	A	A	A	A	A	4.1	4.0	Q					
6					3.0	3.7	A	A	A	A	A	4.6	[4.6] ^A	[4.6] ^A	4.5	A	A	A	A					
7					A	Q	A	A	A	A	A	A	A	A	A	A	A	A	A					
8					A	4.0	A	A	A	A	A	4.7	4.6	4.6	A	A	A	4.0	3.4					
9					3.0	L	A	A	A	A	A	A	A	4.2 ^B	[4.1] ^J	4.0 ^J	3.6	L						
10					A	A	A	4.1	A	A	A	A	A	A	A	A	A	A	A					
11					Q	A	A	A	A	A	A	A	A	A	A	A	A	A	A					
12					A	A	4.2	A	A	A	A	A	4.4	A	A	A	A	A	A					
13					A	A	A	A	A	A	A	A	A	A	A	A	A	A	Q					
14					Q	3.8	A	A	4.2	4.3 ^J	4.5	4.5	4.5	4.4	4.4	4.4	4.5	A	A					
15					Q	A	A	A	A	A	A	A	C	A	A	A	A	A	A					
16					A	A	A	A	A	A	A	4.4	A	4.4	A	A	A	A	A					
17					3.0	Q	4.1 ^A	A	A	A	A	A	A	A	A	A	A	A	4.2 ^H	A				
18					Q	3.9	A	A	A	4.6	4.5	4.9 ^J	4.5	4.5	A	A	Q	3.8	A					
19					Q	A	A	A	4.5 ^A	A	A	4.6	[4.6] ^A	4.6	4.6	A	A	A	A					
20					A	A	A	4.2	A	A	A	A	A	4.7	4.5	4.3	A	A	A					
21					A	Q	4.2	A	A	A	A	A	A	4.6	4.6	[4.4] ^A	4.3	4.4	A					
22					A	A	A	A	A	4.7	A	A	A	A	A	A	A	A	A					
23					3.0	A	A	A	A	A	A	4.6	4.7	4.5	A	A	L	A	L					
24					Q	A	A	A	C	C	C	C	C	C	C	C	C	C	Q					
25					3.1	4.1	4.3 ^J	4.4	A	A	A	4.6	4.6	4.6	4.6	4.8	4.4	4.2	A					
26					2.9	A	A	A	A	A	4.6	A	A	A	4.6	4.6	4.6 ^L	A	A					
27					A	Q	A	A	A	A	A	A	A	A	A	A	A	A	A					
28					Q	Q	Q	A	A	A	A	A	A	A	A	A	A	4.3	A					
29					A	3.8 ^H	4.5	[4.6] ^A	4.7	4.8	[4.8] ^A	4.8	[4.7] ^A	4.6	4.5	4.5	A	A	A					
30					Q	3.7	4.3	4.5	4.8 ^L	A	A	A	A	4.7	[4.6] ^A	4.4	4.3	4.0	L					
31																								
Mean Value					3.0	3.8	4.2	4.5	4.6	4.6	4.7	4.6	4.6	4.6	4.5	4.5	4.4	4.1	3.4					
Median Value					3.0	3.8	4.2	4.4	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.4	4.0	3.4					
Count					6	10	11	4	4	4	7	10	14	12	9	9	9	9	1					

A 4

Manual Automatic

Sweep 1.0 Mc to 17.0 Mc in 1.5 min

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 38° 43.6' N
Long. 140° 08.9' E

A k i t a

Jun. 1952

f'F1

135° E Mean Time

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						260	250	A	A	A	200	220	200	260	250	[260] ^A	270	A	A					
2						Q	230	250	A	A	A	A	A	A	A	A	A	Q	A					
3						A	A	A	A	A	A	A	A	A	A	A	A	A	A	Q				
4						Q	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
5						A	220	220	A	A	A	A	A	A	A	A	A	A	A	Q				
6						240	240	A	A	A	A	A	A	A	A	A	A	A	A	A				
7						A	Q	A	A	A	A	A	A	A	A	A	A	A	A	A				
8						A	250	A	A	A	A	A	A	A	A	A	A	A	270	240				
9						290 ^A	A	A	A	A	A	A	A	A	A	A	A	A	250	270				
10						A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
11						Q	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
12						A	A	240	A	A	A	A	A	A	A	A	A	A	A	A				
13						A	A	A	A	A	A	A	A	A	A	A	A	A	A	Q				
14						Q	240	A	A	A	A	A	220 ^A	A	A	A	A	A	A	A				
15						Q	A	A	A	A	A	A	C	A	A	A	A	A	A	A				
16						A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
17						270	Q	A	A	A	A	A	A	A	A	A	A	A	220 ^H	A				
18						Q	240	A	A	A	A	200	[220] ^A	230 ^A	A	A	Q	230	A					
19						Q	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
20						A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
21						A	Q	250	A	A	A	A	A	A	A	A	A	200	220	A				
22						A	A	A	220	[220] ^A	220	A	A	A	A	A	A	A	A	A				
23						240	A	A	A	A	A	A	240 ^A	230	A	A	260	[250] ^A	240					
24						Q	A	A	A	C	C	C	C	C	C	C	C	C	Q	260				
25						250	A	A	A	A	A	240 ^A	240 ^A	A	250 ^A	A	A	A	A					
26						260	A	A	A	A	A	A	A	A	A	300	B	A	A					
27						A	Q	A	A	A	A	A	A	A	A	A	A	A	A					
28						Q	Q	Q	A	A	A	A	A	A	A	A	A	A	240	A				
29						A	210 ^H	230	A	A	A	A	210	[220] ^A	230	A	A	A	A	A				
30						Q	220	250	220	260 ^A	A	A	A	260	[240] ^A	230	220	240	270	210				
31																								
Mean Value						260	230	240	250	240	210	220	220	240	250	250	240	240	260					
Median Value						260	240	240	220	240	210	220	220	240	250	240	240	240	260					
Count						7	9	6	3	2	2	3	6	6	7	4	4	9	4					

f'F1

Sweep 1.0 Mc to 17.0 Mc in 1.5 min

Manual

Automatic

The Central Radio Wave Observatory
Koganei-machi, Kifukama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

135° E Mean Time

f_oE

Jun. 1952

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						2.2	2.6	2.9	3.1	[32] ^A	3.4	3.4	A	A	A	A	A	A	A					
2						1.9	2.5	2.9	3.0	2.9	3.0	3.0	A	A	A	A	A	A	3.0	A				
3						A	A	A	A	A	3.4	3.4	3.6	3.4	3.4	3.1	3.0	A	A	A				
4						A	A	2.8	3.1	3.2	3.2	3.2	A	A	A	A	3.0	A	A	A				
5						A	A	2.6	3.0	3.2	3.3	[33] ^B	[33] ^B	3.3	3.1	3.0	3.0	2.5 ^J	2.3 ^J					
6						1.8	2.4	2.8	3.0	3.2	3.3	3.3	3.3	A	A	A	A	2.6	2.0					
7						A	2.4	2.7	3.0	3.3	3.4	3.3	3.4	3.4	3.4	3.1	2.8	A	A					
8						A	2.5	2.8	3.0	3.3	3.4	3.4	3.4	A	A	A	A	A	A					
9						1.8	2.3	2.6	2.9	3.2	A	A	A	A	A	A	A	2.6	2.3					
10						A	2.5	2.8	3.2	A	A	A	A	A	A	A	A	2.7	2.3					
11						1.8	2.4	2.9	3.0	3.2	3.2	A	A	A	3.2	3.1	3.0	[2.9] ^A	2.1					
12						1.8	2.3	2.8	3.0	3.2 ^A	3.4	3.4	3.4	3.3	3.0	2.8	2.8	A	A					
13						A	2.2 ^A	2.9	3.0	3.2	3.3	3.3	3.2	3.0	A	A	A	A	A					
14						1.6	2.4	2.7	3.0	3.0	3.2	3.2	3.2	3.2	3.1	3.0	3.1	3.0	2.3 ^J					
15						1.6	2.4	2.8	3.0	3.2	3.2	3.2	C	A	A	A	A	2.6	A					
16						1.9 ^H	2.3	2.8	3.0	3.3	3.3	3.4	3.4	3.4	3.3	3.2	2.9	2.6	A					
17						A	2.6	2.8	3.1	3.3	[3.4] ^A	3.5	3.4	3.3	3.2 ^H	2.9	2.6	2.5	2.1					
18						B	2.4	2.6	3.0	3.2	3.1	3.3	A	A	A	A	2.8	2.7	2.1					
19						1.7 ^J	2.4	2.7	3.3	3.3	3.4	3.5	A	A	3.4	3.1	3.0	A	A					
20						1.8	2.5	2.8	3.1	3.2	[3.3] ^A	3.4	3.3	3.4	3.3	3.4	3.1	2.7	2.3					
21						A	2.5	A	A	3.2	3.4	A	A	3.4	3.5	3.4	3.0	A	A					
22						A	A	3.0	3.0	3.2	A	A	A	A	A	A	A	2.2						
23						2.1	2.5	2.9	3.2	3.3	3.4	3.4	[3.4] ^A	3.5	3.0	3.1	[3.0] ^A	2.9	[2.4] ^B	1.9				
24						1.5	2.7	3.0	C	C	C	C	C	C	C	C	C	C	2.2					
25						2.1	2.5	3.0	3.2	3.3	3.3	3.3	3.3	3.3	3.2 ^H	3.1	3.0	2.6	2.2					
26						A	2.4	2.8	3.2	3.3	3.4	3.4	A	A	A	3.0	3.4	2.7	2.2	1.8				
27						1.7	2.5	2.9	3.3	3.4	3.4	3.4	3.3	3.2	A	A	A	A	A					
28						1.9	2.6	2.9	3.1	3.2	3.3	3.1	3.0	3.1	3.2	3.1	[2.8] ^A	2.6	2.4					
29						A	2.5	2.8	3.1	3.4	B	A	3.4	[3.1] ^A	2.8	A	A	A	A					
30						A	A	3.0	3.3	3.3	3.2	A	A	3.0	3.0	2.9	2.9	2.6	2.2	1.6				
31																								
Mean Value						1.8	2.5	2.8	3.1	3.2	3.3	3.3	3.3	3.3	3.2	3.1	2.9	2.7	2.2	1.8				
Value						1.8	2.5	2.8	3.0	3.2	3.3	3.4	3.4	3.3	3.2	3.1	3.0	2.6	2.2	1.8				
Count						16	25	28	27	27	25	22	16	17	16	16	18	17	17	3				

Sweep 1.0 Mc to 17.0 Mc in 1.5 min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 09.2' E

IONOSPHERIC DATA

Akita

Jun. 1952

f_oF₂

135° E Mean Time

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						130	110	110	110	[110] ^A	110	110	A	A	A	A	A	A	A					
2						110	100	110	110	110	110	110	A	A	A	A	A	110	A					
3						A	A	A	A	A	110	110	110	110	110	110	110	110	A					
4						A	A	110	110	110	110	110	A	A	A	A	110	A	A					
5						A	A	110	110	110	110	110	110	110	110	110	110	110	110					
6						110	110	110	110	110	110	110	A	A	A	A	A	110	110					
7						A	110	110	110	110	110	110	110	110	110	110	110	A	A					
8						A	110	110	110	110	110	110	A	A	A	A	A	A	A					
9						130	110	120	110	100	A	A	A	A	A	A	A	110	110					
10						A	110	110	110	A	A	A	A	A	A	A	A	110	110					
11						120	110	110	110	110	110	A	A	110	110	110	110	[110] ^A	110					
12						110	110	110	110	110	110	110	110	110	110	110	110	110	A					
13						A	110	110	110	110	110	110	110	110	A	A	A	A	A					
14						110	110	110	100	110	110	110	110	110	110	110	110	110	110					
15						110	110	110	110	110	110	110	C	A	A	A	A	110	A					
16						130 ^H	110	110	110	110	110	110	110	110	110	110	110	110	110					
17						A	110	110	110	110	[110] ^A	110	110	110	110	110	110	110	110					
18						B	110	110	110	110	110	110	110	A	A	A	110	110	110					
19						110	110	110	110	110	110	110	110	A	A	110	110	110	A					
20						110	110	110	110	110	[110] ^A	110	110	110	110	110	110	110	110					
21						A	110	A	A	110	110	A	A	110	110	110	110	A	A					
22						A	A	110	110	A	A	A	A	A	A	A	A	A	A					
23						110	110	110	110	110	110	110	[110] ^A	110	110	110	110	[110] ^A	110					
24						110	110	110	110	C	C	C	C	C	C	C	C	C	C					
25						130	110	110	110	110	110	110	110	110	110 ^H	110	110	110	110					
26						A	110	110	100	110	110	110	A	A	A	110	110	110	110					
27						110	110	110	110	110	110	110	110	110	110	110	110	110	A					
28						110	110	110	110	110	110	110	110	110	110	110	110	[110] ^A	110					
29						A	110	110	110	110	B	A	110	[110] ^A	110	110	A	A	A					
30						A	A	100	110	110	110	A	A	110	110	110	110	110	110	B				
31																								
Mean Value						120	110	110	110	110	110	110	110	110	110	110	110	110	110					
Median Value						110	110	110	110	110	110	110	110	110	110	110	110	110	110					
Count						16	25	28	27	27	25	22	17	17	17	16	18	17	17					

f_oF₂

Sweep 1.0 Mc to 17.0 Mc in 1.5 min

Manual

Automatic

A 7

Lat. 39° 43.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

Akita

fEs

135° E Mean Time

Jun. 1952

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	34	29	22	E	E	G	4.0	6.4	7.8	6.6	G	4.4	4.3	4.9	4.3	5.2	3.4	8.4	7.8	3.2	3.4	3.4	4.2	3.4	
2	E	32	37	25 ^Y	3.8	G	G	4.8	6.8	7.2	3.0	5.4	8.2	7.0	10.2	7.9	5.4	5.0	6.8	9.2	14.2	9.8	6.6	6.8	
3	6.8	6.0	7.1	5.2	7.1	5.0	5.8	7.6	5.1	7.4	7.2	5.3	6.8	9.4	7.2	9.4	7.7	7.8	7.2	4.8	4.0	3.2	3.1	3.8	
4	3.6	4.0	3.8	3.8	4.0	4.4	6.4	7.2	7.6	9.2	11.0	7.8	10.2	7.3	10.3	10.9	9.4	6.4	7.4	10.4	6.6	4.8	5.0	5.4	
5	4.8	4.4	4.3	6.4	5.3	5.2 ^F	3.4	3.5	8.6	5.9	7.2	8.4	7.2	12.4	5.2	4.6	3.6	5.6	3.7	4.6	4.6	4.6	4.0	4.4	
6	3.0	2.0	E	E	E	G	3.6	6.6	6.4	6.8	8.4	7.4	4.0	5.2	4.0	6.5	4.7	5.8	7.0	6.6	4.6	5.0	3.6	4.6	
7	4.7	3.2	3.4	4.4	4.2	5.3	4.8	7.2	4.8	7.4	7.8	8.4	7.8	10.2	8.9	10.6	9.0	8.0	4.8	5.4	6.8	8.4	6.3	8.6	
8	8.6	8.2	6.2	4.2	3.4	2.8	4.8	9.6	12.7	9.3	14.5	9.2	6.4	6.5	7.0	9.0	6.6	4.3	4.6	10.2	9.4	9.0	9.2	7.4	
9	6.4	4.6	2.4	2.0	2.6	3.3	5.1	5.6	7.1	7.6	7.0	5.7	4.8	5.3	3.8	5.2	4.2	G	3.4	4.8	6.8	6.0	6.8	5.3	
10	9.2	7.2	6.8	4.0	6.4	7.2	6.6	3.8	8.0	8.4	8.2	9.2	12.0	15.4	P	11.8 ^F	8.2	8.5	7.2	7.5	5.5	7.2	4.1	E	
11	4.8	3.8	5.2 ^F	4.4	5.0	4.3	6.0	10.8	9.2	7.4	11.4	11.5	13.5	10.6	14.0	12.8	12.8	6.8	4.8	6.8	7.0	6.4	5.1	5.6	
12	5.4	4.0	4.8	5.4	3.8	4.8	6.5	6.1	6.5	8.2	8.1	6.2	8.0	5.0	5.1	7.2	12.2	5.4	5.6	7.2	4.9	8.0	9.2	8.8	
13	4.6	3.8	3.4	7.2	3.6	3.4	6.2	6.8	7.8	8.6	9.6	7.2	10.0	7.2	8.0	8.2	7.3	8.2	2.7	5.8	5.2	3.4	3.4	4.4	
14	2.4	2.2	3.7	3.4	3.6	G	3.8	5.2	6.2	5.2	5.2	4.2	G	5.2	4.2	4.4	4.0	4.4	4.4	3.0	3.2	6.0	6.4	5.6	
15	3.4	3.2	1.8	4.6	5.6	3.8	6.8	6.2	7.3	7.6	6.4	7.0	C	14.0	11.4	8.8	5.2	6.0	6.8	7.0	8.1	7.1	4.8	6.9	
16	6.8	3.0	3.2	3.6	3.8	7.6	10.2	6.8	8.3	9.4	6.2	6.4	6.3	6.3	12.6	6.7	9.0	6.6	4.2	3.0	2.6	2.6	5.6	6.2	
17	6.6	6.4	5.6	2.1	4.9	3.2	3.7	4.9	6.6	7.9	14.5	9.6	11.5	D	12.0	10.8	8.2	G	4.8	8.2	5.5	8.2	7.2	5.0	
18	8.0	6.4	6.1	3.8	2.4	4.1	3.6	8.6	9.6	8.6	4.7	5.7	6.4	7.1	10.2	12.8	4.6	G	7.2	7.2	5.6	4.2	3.9	3.6	
19	4.2	3.8	3.4	2.8	3.0	3.6	6.6	9.4	7.4	5.2	8.0	6.2	5.2 ^Y	7.2	5.2	6.6 ^Y	7.8	7.2	8.2	5.2	4.0	4.2	3.8	4.8	
20	2.6	3.8	8.4	7.1	8.0	3.5	6.5	4.9	9.4	10.3	9.5	6.4	5.4	5.0	4.6	G	6.2	5.2	7.4	9.8	7.4	6.2	5.8	8.2	
21	8.6	5.4	3.8	3.4	3.8 ^A	3.6	4.8	3.6	7.2	11.0	10.6	15.5	12.2	4.0	6.0	5.6	4.8	4.7	6.4	4.4	3.8	3.6	3.2	7.2	
22	8.2	6.2	6.4	6.0	4.6	5.0	4.6	5.2	8.0	11.8	8.0	12.2	8.6	9.4	6.8	5.2	6.0	5.2	10.7	7.2	4.8	5.1	3.2	3.2	
23	5.4	4.2	3.3	7.6	1.8	3.6	6.6	8.8	6.7	12.0 ^Y	13.5	7.2	4.4	4.8	4.0	4.4	3.4	2.9	G	G	2.6	2.6	2.6	3.2	
24	1.6	E	2.4	E	4.6	3.2	6.1	6.4	C	C	C	C	C	C	C	C	C	C	4.4	3.6	4.8	3.4	3.8	2.7	
25	5.1	5.1	3.2	1.3	1.6	G	5.0	5.3	5.2	8.0	13.2	5.0	7.0	6.2	5.0 ^Y	G	4.7 ^Y	G	5.1	5.2	5.6	4.6	4.2	6.2	
26	4.4	2.8	4.6	4.4	6.0 ^Y	4.7 ^Y	6.8	6.8	6.0	7.5	7.2	7.0	7.8	6.9	4.4	G	G	8.4	8.0	12.0	11.2	6.0	8.4	8.0	
27	3.8	6.2	4.6	5.0	4.6	4.2	4.0	5.8	7.8	7.4	12.0	8.2	13.2	8.4	9.3	9.1	9.2	12.4	8.2	6.4	7.4	5.7	7.2	5.2	
28	6.2	6.8	4.0	4.4	3.1	4.2	5.4	5.9	8.2	10.6	11.2	10.4	8.8	8.4	7.4	5.6	5.0	3.4	5.4	4.6	5.3	3.8	3.0	8.2	
29	5.0	4.2	4.8	4.7	2.8	4.0	3.0	4.2	7.2	7.2	9.6	8.8	6.6	7.8	3.8	5.0	5.3	5.6	8.2	5.2	6.2	4.8	5.6	4.0	
30	5.0	6.0	6.3	3.7	3.5	3.4	3.5	4.5	4.5	4.4	8.2	14.5	11.0	5.2	9.2	4.2	G	G	G	G	4.4	5.8	6.4	6.2	
31																									
Mean	5.3	4.6	4.4	3.9	4.2	4.3	5.3	6.3	7.4	8.1	9.0	7.9	8.1	7.6	7.3	7.6	6.4	6.1	6.2	6.4	5.9	5.4	5.2	5.6	
Median	4.9	4.1	3.9	3.8	3.8	3.7	5.0	6.2	7.3	7.6	8.2	7.2	7.5	7.1	7.0	6.6	5.4	5.6	6.0	5.6	5.4	5.0	4.9	5.4	
Count	30	30	30	30	30	30	30	30	29	29	29	29	28	29	29	29	29	29	29	30	30	30	30	30	

Sweep 1.0 - Mc to 11.0 - Mc in 1.5 min

Manual

Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 39° 48.5' N
Long. 140° 08.2' E

Akita

Jun. 1952

135° E Mean Time

(M3000)F2

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	3.2 ^S	3.2 ^S	2.9	2.9	3.1	3.2	2.9	A	A	A	2.7	2.8	2.9	2.8	2.9	3.0	3.1	(3.2)A	(3.3)J	3.1	3.1	2.9 ^Z	(2.8)F	(2.8)F	
2	(3.0) ^{JF}	2.9 ^{PF}	(3.1) ^{PF}	3.0	3.2	3.2	3.2	3.2	3.4	3.5	2.8	3.0	(3.0)A	3.0	A	A	3.0	3.1	A	A	A	A	(2.8) ^F	3.0	
3	A	A	3.2 ^P	(2.9) ^J	(3.0)A	2.9	(2.9) ^J	(3.0)A	3.1	A	A	3.0	A	A	A	A	3.0	3.2	3.2	3.5	(3.4)J	(3.2)B	3.0H	2.9	
4	3.0	2.8	2.8	2.9	2.9	3.0	A	A	3.1	A	A	A	A	A	A	A	A	A	A	A	3.2	3.2	3.1	2.7	
5	2.8	(3.0) ^{PF}	2.8	A	FB	3.2 ^F	3.2	3.4	(3.0)A	2.7H	A	A	A	A	2.7H	2.8	2.9	2.7	2.9	3.1	3.3	3.1 ^H	2.9	3.0	
6	2.9 ^{ZH}	3.0	3.0	3.1	3.0	3.0	3.0	3.1	3.3	(3.4)J	A	A	2.8	2.9	3.2	(3.2)J	3.3	3.3	B	A	AS	2.9 ^S	3.0 ^S	(3.0)S	
7	3.1	3.0	3.0	3.1	2.9	(3.2)F	3.4	(3.3)A	3.2	A	A	A	3.1	A	A	A	3.2	A	3.2	3.0	3.3	(3.2)A	(3.0)F	FA	
8	FA	(3.0)F	FA	FB	3.0	2.7H	3.2	A	A	A	A	A	2.8	3.1	A	A	3.2	2.9	2.9	A	A	A	A	A	
9	A	3.2 ^S	3.0	2.9	2.9	2.5 ^K	2.4 ^K	2.7 ^K	A	A	A	A	B	B	B	2.9 ^K	3.0 ^K	3.1 ^K	3.2 ^K	3.3 ^K	A	A	A	A	
10	3.2 ^K	(3.0)A	2.7 ^K	3.0 ^K	(3.3)F	(3.2)F	(3.0)A	2.9 ^K	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
11	3.1 ^K	(2.8)F	(2.8)A	(2.9)K	(3.1)K	3.1 ^K	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
12	A	(2.9) ^F	(2.9) ^K	(3.0)A	(3.1)F	A	A	A	A	A	A	A	A	2.8 ^K	2.9 ^K	3.0	A	A	3.0	(3.2)J	A	A	A	A	
13	(2.9) ^F	3.1 ^F	2.9 ^F	(2.9) ^{PF}	(2.9) ^{PF}	3.1	A	A	A	A	A	A	A	A	A	A	A	A	A	3.1	(3.2)A	3.2	(3.1) ^F	(2.9)F	
14	(2.9)F	3.1	3.1	3.1	3.1	3.6	3.2	3.3	3.3	2.9	2.9	3.0	3.2	3.0	3.0	3.0	2.8	3.0	3.1	3.0	3.0	3.3	2.7H	(2.8)A	
15	3.0	(3.2) ^F	3.2 ^S	3.1 ^K	A	B	A	A	A	A	A	A	C	A	A	A	A	A	A	A	A	A	A	A	
16	A	(3.2)F	(3.2)H	(3.3)K	B	K	A	A	A	A	(3.1)J	(3.0)A	2.8 ^K	2.3 ^K	A	A	A	A	A	A	3.2	3.2	3.1H	2.9	A
17	A	A	A	3.3 ^F	2.8	3.0	3.1	B	A	A	A	A	A	A	A	A	3.0	3.0	3.1	A	AS	A	A	A	
18	A	A	A	3.1	3.1	3.2	2.8 ^K	A	A	A	2.9 ^K	A	A	A	A	A	3.2 ^K	3.2 ^K	3.1 ^K	(3.0)A	2.8 ^K	3.0 ^K	(2.9)F	2.8 ^K	
19	(3.0) ^K	3.2 ^K	(2.9)F	(2.9)K	2.8 ^K	3.1 ^K	3.3 ^K	A	A	3.3 ^K	A	A	3.1 ^K	(3.0)A	2.9 ^K	3.0	A	A	A	3.2	3.3H	3.0	3.1	(2.8)F	
20	(2.9) ^{PF}	(2.9) ^F	A	A	A	3.0	(3.0)A	3.1	A	A	A	A	2.7	2.8	3.1	3.1	2.8	2.9	A	A	A	(3.3)F	3.1	A	
21	A	(2.8) ^{PF}	(3.0) ^{PF}	(3.0) ^{PF}	3.1	3.1	3.0	3.0	3.3	A	A	A	A	2.9	2.9	3.1	3.2	3.1	3.2	3.0	3.0	3.2	3.0	A	
22	A	A	A	A	(3.0) ^{PF}	2.9	3.0	3.2	3.4	A	A	A	A	A	A	2.8	3.0	3.0	A	BS	3.2H	3.0	2.8	A	
23	(2.8)A	(2.9) ^{PF}	3.0H	2.9H	3.1	3.1	A	A	3.3	A	A	(2.8)J	2.8	3.0	3.0	3.0	3.1	3.3	3.0	2.9	3.0	2.9	3.0	2.9	
24	2.8	3.0	3.0	2.8	2.8	2.8	2.8	3.0	C	C	C	C	C	C	C	C	C	C	C	(3.2)F	2.9H	(2.8)P	2.7	(2.8)F	
25	(2.6) ^{PF}	(2.6)JF	2.9F	2.6	2.7	3.0	3.1	(2.7)K	2.5 ^K	A	A	3.1 ^K	2.6 ^K	2.8 ^K	3.0 ^K	2.9 ^K	3.2 ^K	3.1 ^K	A	A	A	B	3.1 ^K	F	
26	3.1 ^F	2.8 ^K	2.6 ^F	(2.8)K	(2.8)K	2.6 ^K	(2.8)A	2.9 ^F	(3.1)K	A	A	A	2.9A	(2.9)A	2.9	3.0	3.0	3.6	(3.4)A	3.2	(3.4)J	(3.2)S	(2.9)F	(2.7)F	
27	(3.0) ^{PF}	(2.8)A	(2.6) ^F	(2.7) ^F	3.0F	3.1	3.0	3.2 ^Z	(3.3)A	3.4	(3.2)A	2.9	A	A	A	2.8 ^K	2.5 ^K	A	A	A	A	A	3.2	A	
28	(2.6) ^{PF}	(2.9)H	F	F	2.9 ^F	3.3	B	B	A	A	A	A	3.1	A	A	3.0	3.0	3.0	(3.0)B	2.9	3.2	3.0	3.0	A	
29	FS	FS	FS	FS	FS	3.3	3.0	3.0	2.9	3.3	3.1	A	2.9A	(2.9)A	2.9	3.0	3.0	3.6	(3.4)A	3.2	(3.4)J	(3.2)S	(2.9)F	(2.7)F	
30	(2.8) ^{PF}	F	A	(3.0) ^F	2.9F	3.5F	3.1	3.1	2.8	2.8	A	A	A	(2.5)K	2.8 ^K	(2.6)J	(2.7)J	(3.1)K	(3.1)K	3.2 ^K	3.0 ^K	2.6 ^K	2.8	2.8	
31																									
Mean Value	2.9	3.0	2.9	3.0	3.0	3.0	3.1	3.1	3.1	3.2	3.0	3.0	2.9	2.8	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.1	2.9	2.9	
Median Value	3.0	3.0	2.9	3.0	3.1	3.0	3.1	3.2	3.3	2.9	3.0	3.0	2.8	2.8	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.2	3.1	2.9	
Count	20	24	21	24	25	27	22	17	15	8	7	7	12	16	13	17	20	18	19	18	19	23	23	20	

(M3000)F2

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

Akita

135° E Mean Time

fminF

Jun. 1952

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	2.8 ^A	2.2 ^A	E	E	1.3	2.2	2.6	4.4 ^A	A	A	3.8	4.1	3.8	4.2	4.0	4.2	3.5	(4.6) ^A	5.4 ^A	1.8	2.8 ^A	2.2 ^A	3.4 ^A	2.2 ^A
2	1.5	1.4	1.8	E	1.9	2.4	2.8	3.1	6.3 ^A	6.8 ^A	4.3 ^A	5.4 ^A	(6.1) ^A	6.8 ^A	(7.0) ^A	7.2 ^A	4.6 ^A	3.5	A	A	A	A	3.0 ^A	2.3 ^A
3	A	A	A	2.9 ^A	(3.6) ^A	4.3 ^A	3.4 ^A	(4.0) ^A	4.7 ^A	A	A	5.3	A	A	A	A	7.6 ^A	4.8 ^A	3.6 ^A	3.8 ^A	3.6 ^A	2.3 ^A	1.8	2.6 ^A
4	1.8	2.6 ^A	1.2	1.2	1.4	1.4	A	A	A	A	A	A	A	A	A	A	A	A	A	A	1.8	2.0 ^A	4.3 ^A	4.4 ^A
5	1.4	E	3.7 ^A	(3.4) ^A	3.0 ^A	4.5 ^A	1.6	3.0	(4.3) ^A	5.6 ^A	A	A	A	A	5.0 ^A	4.3 ^A	3.8	3.6	3.2	3.2 ^A	3.8 ^A	2.0 ^A	3.4 ^A	4.2 ^A
6	E	E	E	1.1	1.2	2.0	2.5	4.6 ^A	5.4 ^A	6.4 ^A	(5.4) ^A	4.5 ^A	4.4	5.2 ^A	4.5 ^A	6.5 ^A	4.6 ^A	4.7 ^A	6.0 ^A	A	A	1.7	2.2 ^A	(1.8) ^A
7	1.4	2.0 ^A	2.0 ^A	2.6 ^A	4.2 ^A	4.4 ^A	2.4	6.6 ^A	4.4 ^A	A	A	A	6.0 ^A	A	A	A	6.3 ^A	4.4 ^A	4.5 ^A	4.2 ^A	4.2 ^A	(4.2) ^A	4.3 ^A	3.5 ^F
8	2.3 ^A	2.2 ^A	1.5	3.0 ^A	E	2.4	2.4	A	A	A	A	A	4.7 ^A	4.6 ^A	A	A	5.4 ^A	3.4	2.6	A	A	A	A	A
9	A	2.6 ^A	1.2	E	1.4	2.6	3.8 ^A	4.4 ^A	A	A	A	5.6 ^A	A	A	3.8 ^A	4.4 ^A	4.3	3.0	2.6	4.3 ^A	A	A	A	1.6
10	1.5	(2.8) ^A	4.2 ^A	3.8 ^A	4.2 ^A	3.4 ^A	(3.6) ^A	3.8 ^A	A	A	A	A	A	A	A	A	6.6 ^A	(6.0) ^A	6.6 ^A	5.5 ^A	A	A	1.9	1.5
11	(1.5) ^A	1.8	A	A	1.9	1.8	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	4.4 ^A	A
12	A	3.7 ^A	3.8 ^A	(3.4) ^A	2.9 ^A	A	A	3.0	A	A	A	5.2 ^A	(4.8) ^A	4.4 ^A	4.4 ^A	5.1 ^A	A	A	A	2.2 ^A	4.6 ^A	1.5	A	A
13	1.4	A	A	E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	2.2	(3.4) ^A	2.4 ^A	3.1 ^A	3.6 ^A
14	1.2	E	1.2	(1.4) ^A	1.5	2.1	2.8	4.4 ^A	5.0 ^A	4.2 ^A	4.2 ^A	4.4 ^A	4.2 ^A	4.2 ^A	4.2 ^A	4.2 ^A	5.0	4.4 ^A	4.2 ^A	2.0 ^A	1.7	5.0 ^A	A	A
15	1.7	E	E	1.4	2.1	A	A	A	A	A	A	A	C	A	A	A	5.2 ^A	A	A	A	A	A	4.2 ^A	A
16	A	1.7	E	1.8	2.7 ^A	A	A	A	A	A	5.4 ^A	(4.9) ^A	4.4 ^A	4.4 ^A	A	A	A	A	A	3.5 ^A	2.8 ^A	A	A	A
17	A	A	A	E	3.8 ^A	2.0	2.5	4.1 ^A	A	A	A	A	A	A	A	A	5.8 ^A	2.8	3.6 ^A	(3.5) ^A	3.4 ^A	A	A	4.3 ^A
18	A	A	A	E	1.8	1.4	2.7	A	A	A	4.4 ^A	4.0	5.2 ^A	4.0	A	A	3.4	2.8	A	A	4.3 ^F	(3.0) ^A	1.8	2.0 ^A
19	2.8 ^A	2.3 ^A	2.6 ^A	1.8	2.6 ^A	2.3	4.6 ^A	(4.8) ^A	5.0 ^A	4.5 ^A	(5.2) ^A	6.0 ^A	4.4 ^A	(4.3) ^A	4.2	5.4 ^A	A	A	A	4.0 ^A	2.4 ^A	1.9	2.1 ^A	2.0 ^A
20	2.2 ^A	3.0 ^A	A	A	A	3.0 ^A	(3.6) ^A	4.2 ^A	A	A	A	A	4.9 ^A	4.4 ^A	4.2	3.8	4.4 ^A	4.1 ^A	A	A	A	1.6	4.6 ^A	5.0 ^A
21	(3.6) ^A	2.2 ^A	2.3 ^A	2.2 ^A	3.8 ^A	2.8 ^A	3.0	3.2	5.2 ^A	A	A	A	A	4.2	4.4	5.2 ^A	3.4	4.1 ^A	3.8 ^A	2.3 ^A	2.8 ^A	2.8 ^A	2.6 ^A	A
22	A	A	A	A	A	4.5 ^A	A	4.5 ^A	3.4	(3.8) ^A	4.2	A	A	A	4.8 ^A	4.8 ^A	4.8 ^A	5.0 ^A	A	3.9 ^A	2.2 ^A	3.0 ^A	A	A
23	A	A	1.4	1.8	1.3	2.4	A	A	5.0 ^A	A	A	A	4.2	4.2	4.2	3.9	3.7	4.6 ^A	2.4	2.3	1.6	1.6	1.6	1.6
24	E	E	1.6	1.2	(1.8) ^A	2.4	4.4 ^A	5.4 ^A	C	C	C	C	C	C	C	C	C	C	2.5	2.0 ^A	4.4 ^A	2.4 ^A	2.6 ^A	1.6
25	3.9 ^A	3.3 ^A	E	E	E	1.9	4.0 ^A	4.5 ^A	4.0	A	A	4.4 ^A	4.3 ^A	4.5 ^A	4.2 ^A	3.9	3.8	3.2	5.5 ^A	5.3 ^A	4.6 ^A	1.6	(3.7) ^A	5.8 ^A
26	1.8	1.3	E	A	A	2.0	(3.4) ^A	4.8 ^A	4.3 ^A	(4.4) ^A	4.6 ^A	A	A	5.4 ^A	4.0	4.0	4.4	A	A	A	A	5.0 ^A	A	A
27	A	A	4.3 ^A	3.2 ^A	2.0 ^A	2.8 ^A	2.7	4.6 ^A	(5.2) ^A	5.8 ^A	(5.4) ^A	5.0 ^A	A	A	A	6.6 ^A	A	A	A	4.4 ^A	(4.5) ^A	4.6 ^A	(5.4) ^A	6.2 ^A
28	4.6 ^A	1.9	(1.9) ^A	1.9	1.6	2.2	2.6	2.9	A	A	A	A	A	A	A	5.0 ^A	4.2 ^A	3.3	(3.6) ^A	3.8 ^A	5.0 ^A	1.5	1.5	(2.8) ^A
29	4.2 ^A	3.7 ^A	2.6 ^A	(2.2) ^A	1.8	3.2 ^A	2.6	3.2	5.5 ^A	4.6 ^A	4.5 ^A	6.3 ^A	4.2	(4.0) ^A	3.8 ^A	4.4 ^A	4.6 ^A	5.2 ^A	(4.6) ^A	4.0 ^A	1.6	4.0 ^A	2.0	1.8
30	4.2 ^A	A	A	2.3 ^A	1.9	2.4	2.7	3.2	3.8	4.2	A	A	A	4.2 ^A	5.2 ^A	3.8	3.4	2.7	2.3	1.7	3.2 ^A	4.2 ^A	5.6 ^A	6.2 ^A
31																								
Mean Value	2.4	2.4	2.3	2.1	2.3	2.6	3.0	4.1	4.8	5.0	4.7	5.0	4.7	4.6	4.5	4.8	4.5	3.9	3.9	3.4	3.5	2.7	3.2	3.2
Median Value	1.8	2.1	1.6	1.8	1.9	2.4	2.8	4.3	5.0	4.6	4.5	5.0	4.4	4.4	4.2	4.4	4.4	4.1	3.6	3.4	3.7	2.2	3.0	2.6
Count	21	22	22	26	26	25	22	22	15	10	11	13	14	16	15	18	21	19	20	20	22	22	23	21

Sweep 1.0... Mc to 10.0... Mc in 1.5 min Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

Akita

Jun. 1952

f_{min}E

135° E Mean Time

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	1.4	1.4	1.7	E	E	1.6	1.6	1.6	1.7	1.7	1.7	1.9	2.3	1.9	1.9	2.0	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6
2	E	E	E	E	E	E	1.5	1.6	1.7	1.8	2.0	2.6	2.0	2.2	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.5	1.5	1.5
3	1.5	E	E	E	E	1.2	1.5	1.6	1.6	1.6	1.8	1.9	1.9	1.9	1.9	1.8	1.9	1.8	1.7	1.6	1.7	1.6	1.6	1.5
4	1.5	1.1	E	E	1.4	1.4	1.4	1.8	1.8	1.7	1.7	1.8	1.8	1.8	1.7	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
5	1.2	E	1.3	E	E	E	1.5	1.6	1.6	1.8	1.7	1.9	1.8	2.0	2.2	2.2	2.2	2.0	1.8	1.6	1.6	1.6	1.6	1.6
6	E	E	E	E	E	E	1.5	1.5	1.8	1.8	1.6	1.7	2.2	2.2	1.9	1.7	1.8	1.6	1.6	1.6	1.5	1.5	1.5	1.6
7	E	E	E	E	E	E	1.5	1.5	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
8	1.5	E	E	E	E	E	1.6	1.6	1.6	1.9	1.9	1.9	2.0	2.0	1.9	1.6	1.6	1.5	1.6	1.4	1.4	1.4	1.4	1.4
9	1.4	1.4	E	E	1.4	1.5	1.6	1.8	2.0	1.6	2.0	1.7	2.0	2.0	1.9	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
10	1.2	E	E	E	E	1.6	1.7	1.7	1.7	1.8	2.0	2.2	2.0	2.2	1.8	2.1	2.0	1.8	1.6	1.5	1.5	1.5	1.5	E
11	1.5	1.2	E	E	E	1.2	1.5	1.5	1.7	1.6	2.0	1.6	1.6	1.9	1.8	1.8	1.8	1.7	1.5	1.5	1.5	1.5	1.5	1.6
12	1.5	1.3	E	E	E	E	1.4	1.5	1.6	1.7	1.9	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.5	1.5	1.5	1.5	1.4	1.4
13	1.4	E	E	E	E	1.2	1.4	1.4	1.6	1.7	1.7	1.7	1.7	1.9	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
14	1.2	1.4	E	E	E	1.1	1.6	1.6	1.6	1.6	1.8	2.0	2.0	2.0	1.8	1.8	2.0	2.0	1.8	1.7	1.7	1.7	1.7	1.7
15	1.7	E	E	E	E	1.2	1.7	1.6	1.8	1.7	1.7	1.6	(16)C	1.6	2.0	1.9	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
16	1.3	E	E	E	E	E	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.8	1.7	2.0	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4
17	1.2	1.2	E	E	E	1.2	1.5	1.5	1.6	1.8	1.9	1.9	1.9	1.9	1.8	1.8	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
18	1.2	E	E	E	E	1.4	1.6	1.6	1.6	1.8	2.0	2.0	1.9	2.3	2.0	1.8	1.6	1.6	1.5	1.5	1.5	1.5	1.4	1.4
19	1.3	E	E	E	E	1.4	1.6	1.6	1.7	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.5
20	1.4	1.3	E	E	E	E	1.5	1.5	1.6	1.6	1.6	1.8	2.0	2.0	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.4
21	E	E	E	E	E	E	1.6	1.6	1.6	1.9	1.9	1.9	2.0	2.0	2.0	1.8	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5
22	1.2	E	E	E	E	1.2	1.4	1.4	1.4	1.7	2.0	2.0	2.0	2.0	1.8	1.9	1.8	1.6	1.6	1.5	1.5	1.6	1.6	1.6
23	1.4	E	E	E	E	1.2	1.5	1.7	1.9	1.6	1.9	1.9	2.0	1.9	2.0	2.0	1.8	1.6	1.7	1.6	1.6	1.6	1.6	1.6
24	E	E	E	E	E	E	1.4	1.5	C	C	C	C	C	C	C	C	C	C	1.5	1.5	1.5	1.5	1.5	1.5
25	1.2	E	E	E	E	1.4	1.6	1.6	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6
26	1.6	E	E	E	E	E	1.5	1.6	1.6	1.6	1.8	1.9	1.9	1.9	2.0	2.0	2.2	1.8	1.6	1.4	1.4	1.4	1.4	1.2
27	E	E	E	E	E	1.4	1.6	1.6	1.7	1.6	1.6	2.2	1.9	1.8	2.0	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.4
28	1.3	E	E	E	E	1.2	1.5	1.5	1.6	2.0	2.4	2.4	2.4	2.6	2.0	2.0	1.8	1.8	1.5	1.6	1.5	1.5	1.5	1.4
29	1.4	E	E	E	E	1.5	1.6	1.6	1.6	2.2	3.6	1.8	2.4	2.2	2.1	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6
30	1.2	E	E	E	E	E	1.5	1.6	1.6	1.6	1.6	1.6	1.8	2.0	1.6	1.6	1.6	1.6	1.5	1.6	1.7	1.7	1.7	1.7
31																								
Mean Value	1.4	1.3	1.4	—	1.3	1.3	1.5	1.6	1.7	1.7	1.9	1.9	1.9	2.0	1.9	1.8	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5
Mean Value	1.3	E	E	E	E	1.2	1.5	1.6	1.6	1.7	1.8	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5
Count	30	30	30	30	30	30	30	30	29	29	29	29	29	29	29	29	29	29	30	30	30	30	30	30

Swamp 1.0 Mc to 17.0 Mc in 15 min Manual Automatic

f_{min}E

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.8' E

IONOSPHERIC DATA

135° E Mean Time

Jun. 1952

f_oF2

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	6.7	6.4 ^J	5.9	6.1 ^{PF}	5.8 ^F	5.5	5.8	5.5	[5.6] ^A	5.8	A	A	6.1	6.1	6.7	7.5	7.3	C	C	C	C	C	5.9 ^{ZF}	5.5 ^F	
2	F	(6.9) ^{PF}	6.3 ^P	6.1	F	4.6	5.2	6.7	6.1	6.5	6.4	A	A	A	7.6	[7.4] ^A	7.1	7.5	7.7	7.8	6.5	5.6 ^Z	(5.9) ^F	5.5 ^F	
3	5.5	4.8 ^P	5.6 ^F	5.5 ^F	4.5 ^{PF}	A	A	A	6.5	6.0	A	A	A	6.6	B	A	9.2	9.5 ^P	9.0	A	(7.3) ^P	6.0	5.7	5.9	
4	5.5	5.2	5.0	(4.8) ^P	4.5	4.9	5.6	6.5	7.5	6.7	[6.4] ^A	6.0	5.9	6.8	7.4	8.0	6.9	6.3	A	A	(7.3) ^P	6.8 ^V	6.5 ^T	(6.7) ^{PF}	
5	(6.4) ^C	6.0 ^F	5.5	5.5 ^{VF}	5.1 ^Z	A	A	A	6.2	5.2	5.7	5.8	6.0	6.5	7.4	8.5	9.2	8.0	(7.6) ^A	(7.3) ^P	(7.1) ^P	6.6 ^J	6.3 ^{FP}		
6	(6.6) ^{PF}	6.5 ^{VF}	5.8 ^F	5.6	5.0	5.3	6.7	8.3	7.1	6.7	5.6	5.5	5.7	7.0	C	C	C	C	C	C	C	C	C	C	
7	F	F	5.3	5.0 ^F	(5.2) ^A	5.5	5.9	6.0	C	C	C	A	7.6	6.6	6.9	7.2	(8.6) ^P	8.3	7.6	8.3	(7.5) ^P	5.4	5.3	(5.2) ^P	
8	(5.4) ^{PF}	(5.0) ^A	4.5 ^F	3.9 ^F	3.8 ^F	4.4	6.6	8.4	A	A	A	A	A	A	A	A	A	6.7	7.6	8.1	8.1 ^J	A	A	7.6 ^P	
9	7.5 ^P	(7.7) ^F	6.1 ^F	6.6	5.9 ^{F2}	4.8	B ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	6.3 ^K	6.1 ^K	5.1 ^K	5.0 ^K	5.2 ^K	5.0 ^K	5.0 ^K	5.0 ^K	A ^K	
10	A ^K	A ^K	A ^K	A ^K	A ^K	4.1 ^{MF}	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	7.3 ^K	6.0 ^K	6.7 ^K	7.7 ^K	7.9 ^{KP}	6.0 ^{KP}	(4.8) ^{FP}	A ^K	A ^K	
11	B ^F	4.5 ^{F2}	4.4 ^K	4.1 ^Z	(4.6) ^A	5.0 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	5.1 ^K	[5.6] ^A	6.0	5.9	6.8	6.0	5.7 ^{VF}	A	F	A	
12	A	4.1	A	A	5.4 ^F	4.3	4.6	4.9	5.4	A	A	A	A	A	6.9	(7.2) ^A	7.6	7.1	A	A	5.6 ^{FP}	A	A	AF	
13	AF	AF	AF	(4.3) ^{PF}	4.2 ^{ZF}	4.3	4.9	A	A	C	A	A	A	5.4	5.8	(5.6) ^P	6.0	6.0	5.8	6.3	6.4	(4.9) ^P	F	A	
14	A	F	F	3.7 ^F	3.6 ^F	4.4	5.2 ^P	5.7	[5.5] ^A	5.3	6.2	6.1	6.1	6.2	5.9	6.0	6.0	6.8	(7.2) ^A	(7.5) ^P	7.2	(7.5) ^P	6.7	6.3	
15	6.2 ^F	7.4 ^{PF}	[5.4] ^A	3.5 ^F	3.5 ^F	(4.2) ^A	5.8 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	4.9 ^K	5.5 ^K	5.4 ^K	A ^K	A ^K	5.3 ^K	5.3 ^K	5.5 ^K	4.9 ^K	
16	5.7 ^K	5.5 ^{VF}	A ^K	A ^K	3.0 ^{PF}	A ^K	A ^K	A ^K	5.4 ^K	A ^K	A ^K	A ^K	A ^K	5.1 ^K	5.2 ^K	5.5 ^K	5.5 ^K	[5.0] ^A	6.2	6.8	5.1	5.3 ^{JF}	5.2 ^J	(5.2) ^{PF}	
17	5.0	5.4 ^F	5.3 ^F	4.1 ^{VF}	3.7 ^F	4.3	6.0	6.0	5.5	C	C	5.8	A	A	A	6.6	6.5	6.8	6.1	7.1	BS	A	A	A	
18	5.5 ^{PF}	5.0	AF	F	4.0	3.6	4.4 ^K	5.7 ^K	6.5 ^K	[5.9] ^A	5.3 ^K	[5.4] ^A	5.4 ^K	5.9 ^K	7.2 ^K	6.8 ^K	6.5 ^K	7.1 ^K	7.2 ^K	6.2 ^K	5.3 ^K	5.7 ^K	5.5 ^K	5.5 ^K	
19	5.7 ^K	5.5 ^F	4.3 ^{PF}	4.2 ^K	4.2 ^K	4.4 ^K	4.7 ^K	5.6 ^K	A ^K	A ^K	A ^K	5.1 ^K	6.0 ^K	6.0 ^K	A ^K	6.0 ^K	6.9	6.3	(5.0) ^A	6.3	6.0	6.2	6.1	5.6	
20	5.9 ^F	F	5.6 ^V	4.3 ^F	3.8	4.0	5.4	6.4	(6.4) ^A	6.3 ^J	6.4	A	A	A	6.1	6.0	5.7	6.0	7.3	7.6 ^P	7.3	F	(6.9) ^{PF}	F	
21	F	6.4 ^{PF}	6.1 ^{PF}	(5.2) ^A	4.4 ^F	4.5	5.5	6.5	6.9	5.8 ^P	6.0 ^H	(6.6) ^A	7.1	7.7	8.2	8.1	7.5	6.7	6.6	7.2	7.0	6.2	6.1	6.3	
22	(6.0) ^B	5.6 ^F	(5.5) ^{PF}	5.4 ^{PF}	5.4 ^F	5.5 ^{PF}	5.9	(8.0) ^P	7.3	5.9	5.4	5.8	5.8	A	A	6.8	7.1	6.9	(7.4) ^A	(7.9) ^P	(8.0) ^F	A	A	6.3 ^P	
23	6.4 ^{PF}	5.9	5.6 ^F	5.5	4.5 ^Z	4.2	5.8	7.7	6.1	(5.8) ^A	5.5	5.8	A	A	7.8	8.5	8.1	7.6	6.9	7.5 ^P	7.5 ^P	7.5 ^P	7.5 ^P	(8.4) ^P	
24	(7.9) ^P	8.6 ^F	8.5 ^{PF}	C	C	C	C	8.7	7.7 ^H	7.9 ^P	8.3	9.1	8.5	8.5	7.3 ^P	(9.3) ^P	(9.5) ^P	8.4 ^P	A	6.4 ^P	6.9	6.9	F	F	
25	7.5 ^F	F	F	7.0 ^F	6.6	6.7	(6.2) ^A	5.8 ^K	6.0 ^K	(6.2) ^K	6.4 ^K	5.9 ^K	5.9 ^K	M ^K	M ^K	C ^K	C ^K	5.8 ^K	6.0 ^K	5.5 ^K	(6.0) ^A	6.6 ^K	6.4 ^K		
26	6.0 ^K	5.9 ^K	(5.8) ^F	5.8 ^{ZF}	4.9 ^K	4.5 ^K	4.9 ^K	5.7 ^K	5.4 ^K	5.5 ^K	M ^K	M ^K	M ^K	M ^K	C ^K	C ^K	5.8 ^K	6.9	7.2	7.4	(7.6) ^P	6.3 ^F	6.4 ^K		
27	(7.5) ^{PF}	7.1 ^F	(7.2) ^F	7.4 ^F	7.0	6.5	(6.4) ^A	6.3	M	M	A	A	6.8	A	A	A	5.8	A	8.6	7.7	7.3	5.5 ^F	A	A	
28	A	A	A	A	A	(5.0) ^{PF}	(5.2) ^A	5.5	6.7	(6.6) ^A	6.4	(6.7) ^A	7.0	7.2	C	C	5.8	(5.8) ^A	5.9 ^J	6.5	7.8 ^Z	7.3	5.8 ^J	6.0	
29	6.5 ^{PF}	6.2 ^P	6.0	4.4	4.8	4.6	5.4 ^{PH}	6.7	7.3	(7.8) ^P	(7.5) ^P	7.1	6.1	6.2 ^P	6.0	6.5	7.0	8.0 ^P	8.7	(9.5) ^F	8.1 ^P	5.7	5.7	5.5 ^F	
30	6.0 ^{PF}	5.9 ^{PF}	5.5 ^{ZF}	F	5.0 ^F	5.2	5.5	(5.7) ^P	(6.2) ^A	6.8	7.0	8.3 ^K	8.4 ^K	9.0 ^K	(9.9) ^K	(10.1) ^K	B ^K	C	C	C	C	C	C	C	
31																									
Mean Value	6.3	6.0	5.7	5.1	4.7	4.8	5.6	6.2	6.4	6.2	6.2	6.4	6.7	6.9	7.1	6.9	6.8	7.0	7.2	7.0	7.2	6.7	6.1	6.1	6.1
Median Value	6.0	5.9	5.6	5.2	4.6	4.6	5.5	6.2	6.3	6.0	6.2	6.0	6.1	6.6	7.0	6.8	6.7	6.8	7.2	7.4	7.0	5.7	5.7	5.9	6.0
Count	21	23	22	23	26	27	23	23	21	18	16	15	17	15	18	23	26	26	23	24	26	26	21	17	17

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual

Automatic

K 1

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Jun. 1952

h_pF₂

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	360	(330) ^J	350	370 ^{FF}	320	310	310	350	A	A	A	A	U	380	360	350	380	C	C	C	C	C	460 ^{ZF}	460 ^{ZF}
2	F	(330) ^{FF}	340 ^P	340	F	330	390	280	290	350	350	A	A	A	330	[340] ^A	350	320	320	240	240	330 ^Z	330 ^Z	330 ^F
3	380	440 ^P	380 ^F	310 ^P	A	A	A	A	A	400	400	A	A	410	B	A	370	350 ^P	(310) ^P	270	330	370	350	360 ^P
4	370	C	370	(380) ^{VF}	350	310	350	310	290	290	290	A	U	380	340	310	330	300	A	(310) ^P	(310) ^P	370 ^V	360 ^V	360 ^P
5	[350] ^J	330 ^F	350	350	Z	270	A	A	290	350	U	U	U	420	420	(420) ^J	320	320	[320] ^A	(320) ^A	(310)	360	360	(370) ^{FP}
6	(400) ^{FP}	370 ^{VF}	390 ^P	320	350	310	310	310	320	290	A	A	A	350	C	C	C	C	C	C	C	C	C	420 ^{FP}
7	F	F	320	(300) ^J	[280] ^A	270	260	300	C	C	C	A	A	380	360	350	(340) ^P	310	320	330	(340) ^P	350	340 ^P	(340) ^P
8	(360) ^{FP}	[340] ^A	330 ^F	270 ^F	330	360	300	260	A	A	A	A	A	A	A	A	A	360	360	350	(310) ^J	A	A	370 ^P
9	360 ^P	(330) ^{FP}	350 ^F	330	400 ^{ZF}	400	B	A	A	A	A	A	A	A	A	A	340 ^K	320 ^K	290 ^K	310 ^K	360 ^K	410 ^K	A	A
10	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	340 ^K	340 ^K	320 ^K	280 ^K	300 ^K	360 ^K	A	A
11	B	F	360 ^K	410 ^K	430 ^K	300 ^K	A	A	A	A	A	A	A	A	A	A	340	350	320	290	310	F	A	A
12	A	340	A	A	280 ^F	290	A	U	A	A	A	A	A	A	360	[350] ^B	340	330	A	A	A	A	A	A
13	A	F	A	(350) ^{FF}	340 ^{ZF}	310	270	300	A	C	A	A	A	U	400	(370) ^P	340	340	330	300	(370) ^P	A	F	A
14	A	F	F	310 ^F	360 ^F	270	290 ^P	300	A	U	370	B	U	350	(350) ^B	350	360	360	[350] ^A	(340) ^P	380 ^P	(350) ^P	440	370
15	420 ^F	320 ^{FP}	[360] ^A	390 ^F	410 ^K	[370] ^A	330	A	A	A	A	A	A	A	A	A	U	A	A	A	A	A	A	A
16	340 ^K	KV	A	A	A	A	A	A	A	M	A	A	A	A	A	A	U	A	A	A	A	A	A	A
17	400	380	320	400 ^{FV}	380 ^F	360	300	300	340	C	C	U	A	A	A	A	350	350	310	330	300	BS	A	A
18	(310) ^F	350 ^K	AF	F	320	280	U	350 ^K	A	A	A	A	A	A	450 ^K	380 ^K	370 ^K	330 ^K	[310] ^K	330 ^K	290 ^K	A	KV	KPF
19	300 ^F	330 ^K	380 ^V	380 ^K	400 ^K	290 ^K	350 ^K	360 ^K	A	A	A	A	A	A	A	A	370	370	350	320 ^P	330 ^P	420	370	(400) ^{JF}
20	400 ^F	F	320 ^V	300 ^F	320	300	350	310	A	A	300	A	A	A	A	A	370	370	370	310 ^P	320 ^P	F	(350) ^F	F
21	F	(370) ^F	370 ^{FF}	[360] ^A	360 ^F	330	350	340	270	B	360 ^H	A	A	360	350	330	310 ^P	310	330	330	(300) ^P	A	A	(380) ^P
22	[350] ^B	360 ^F	(360) ^F	370 ^F	(350) ^F	320 ^F	330	300	260	A	U	A	U	A	A	A	380	350	350	370 ^P	370 ^P	400	420 ^P	(350) ^J
23	(370) ^F	380	370	310	330 ^Z	330	350	350	260	A	A	A	A	A	A	A	380	350	350	370 ^P	370 ^P	400	420 ^P	(350) ^J
24	(380) ^F	350 ^F	320 ^P	C	C	C	C	C	400 ^H	360 ^P	400	360	320	A	A	(370) ^P	(300) ^P	260 ^P	A	380 ^P	380 ^P	400 ^F	F	F
25	400 ^F	F	F	400 ^F	400 ^F	380	310	A	U	U	U	M	M	A	A	A	410 ^K	360	A	370	(320) ^P	410 ^F	A	A
26	370 ^K	400 ^F	FK	370 ^Z	400 ^F	380 ^K	430 ^K	360 ^K	A	U	U	M	M	A	A	A	410 ^K	360	A	370	(320) ^P	410 ^F	A	A
27	(410) ^F	420 ^F	(380) ^F	350 ^F	300 ^F	280	260	A	300	[340] ^A	370	[380] ^A	400	A	A	A	A	A	A	(300) ^J	380	390 ^Z	320	(390) ^J
28	A	A	A	A	(320) ^F	A	A	A	300	(300) ^F	A	U	U	U	U	410	380	390	380 ^P	(310) ^P	(270) ^F	390	380	400 ^F
29	440 ^F	420 ^F	390	340	300	340 ^H	320	320	350	(300) ^F	A	U	U	U	410	380	390	380 ^P	(310) ^P	(270) ^F	390	380	400 ^F	
30	430 ^F	(350) ^F	370 ^F	F	360 ^F	280	320	(300) ^F	[360] ^A	420	440	350 ^K	420 ^K	470 ^K	(440) ^P	480 ^P	B	C	C	C	C	C	C	C
31																								
Mean Value	370	360	360	350	350	310	330	320	310	340	370	360	370	400	370	360	370	330	330	320	330	330	390	380
Median Value	370	350	360	350	350	310	320	310	290	350	370	360	360	380	360	350	350	330	330	310	320	370	380	370
Count	21	23	21	23	25	27	20	19	11	9	6	3	4	10	14	21	23	23	21	23	24	20	16	17

h_pF₂

The Central Radio Wave Observatory
Koganei-machi, Kifetama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.8' E

Kokubunji Tokyo

IONOSPHERIC DATA

R'F2

Jun. 1952

135° E Mean Time

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	240	280	270 ^F	260 ^F	250 ^F	260	290	340	A	A	A	550	370	350	320	340	C	C	C	C	C	C	360	310
2	310 ^F	300 ^F	320 ^{AF}	300 ^{AF}	300 ^{AF}	280	280	280	280	320 ^A	A	A	A	A	330	330 ^A	330	300	290	250	270 ^A	270	320 ^A	290 ^A
3	300 ^A	310	320 ^A	270 ^F	310 ^F	A	A	A	270 ^A	400	A	A	410 ^A	340	340	A	A	310	AF	A	270	330	270	280
4	290	270	350	300	250	310	330	290	290	A	A	400	380	340	340	300	300	300	A	250 ^A	300 ^A	330	310	
5	310 ^A	320 ^{AF}	320 ^{AF}	290	300 ^A	260	A	A	290	B	410	440	430	410	390	350	310	290	290	290	270	260 ^F	330	360
6	330 ^A	290	260 ^F	260	280	350	290	A	310	290	C	A	520 ^A	440	350	C	C	C	C	C	C	C	C	C
7	260 ^F	270	250	250	250 ^F	250	250	290	C	C	A	A	310	370	360	350	310	290	300	270	230	250	280	270
8	270	280 ^A	280	220	280 ^F	350	280	250	A	A	A	A	A	A	A	A	A	A	A	A	280 ^A	A	A	300 ^A
9	290	270	280	250	300 ^A	340	B ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	
10	A ^K	A ^K	A ^K	270 ^K	260 ^K	230 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	
11	AF ^K	290 ^K	310 ^F	360 ^K	300 ^K	250 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	
12	A	330 ^A	A	A	230 ^F	290 ^F	A	380	A	A	A	A	A	A	470 ^K	[400] ^A	330	350	300	270 ^A	250	A	A	A
13	AF	AF	AF	270 ^F	270 ^F	250	260	A	A	C	A	A	A	A	360	[330] ^A	300	300	A	A	270 ^A	A	A	AF
14	A	260	220 ^{AF}	220 ^{AF}	250	240	290	290	[340] ^A	380	360	350	360	350	350	370	350	330	310	260	230 ^{AF}	A	310 ^F	A
15	330 ^{AF}	260 ^F	[270] ^A	280 ^K	370 ^K	[340] ^K	320 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	
16	300 ^K	250 ^K	AK	AK	AK	AK	AK	AK	AK	M ^K	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK
17	330	300	A	280	300	260	270	290	340	C	C	370	A	A	A	A	350	300	310	260	230	A	A	A
18	300 ^A	270	[270] ^{AF}	270 ^{AF}	270 ^{AF}	250	460 ^K	350 ^K	280 ^K	A ^K	A ^K	A ^K	480 ^K	440 ^K	350 ^K	310 ^K	360 ^K	310 ^K	[280] ^K	250 ^K	[280] ^A	300 ^K	350 ^K	
19	250 ^K	250 ^K	[280] ^A	320	300 ^K	250 ^K	[300] ^K	360 ^K	A ^K	A ^K	A ^K	460 ^K	370 ^K	A ^K	A ^K	A ^K	310	320	A	A	A	A	[330] ^A	
20	310 ^A	270	230	240	250	250	350	290	[310] ^A	330	300	A	A	A	A	A	370	370	300	260	250 ^A	300	270	
21	330 ^{AF}	310 ^{AF}	320	280	300 ^A	250	340	330	270	270	390	360 ^H	A	A	A	A	370	360	300	310	AF	260	270	
22	[300] ^{AF}	320	[300] ^A	270	280	260	260	270	260	280 ^A	370	390 ^A	440	A	A	A	350	330	310	310	AF	290	310 ^A	
23	320 ^A	320	290	260	260	260	340	310	260	[320] ^A	370	400 ^A	A	A	A	A	350	330	300	290	300	A	A	
24	330	270	250 ^A	C	C	C	C	C	310	310	M	A	A	A	A	A	A	A	A	A	A	A	A	
25	340 ^A	[340] ^{AF}	350 ^{AF}	340 ^{AF}	300 ^F	330	310 ^A	[380] ^A	460 ^K	370 ^K	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	
26	320 ^K	310 ^K	350 ^K	300 ^K	350 ^K	370 ^K	430 ^K	360 ^K	A ^K	470 ^K	M ^K	M ^K	M ^K	M ^K	M ^K	C ^K	410 ^K	340	A	A	A	A	A	
27	320 ^A	350 ^{AF}	320 ^{AF}	300	280	250	250	A	A	M	A	A	A	A	A	A	A	A	A	A	A	A	A	
28	A	A	A	A	A	250	[320] ^A	400	300	[340] ^A	370	[370] ^A	370	A	C	C	A	A	A	A	A	A	A	
29	320	310 ^A	280	[270] ^A	260	240	220 ^A	300	320	300	A	350	420	410	380	380	340	340	300	290	230 ^A	320 ^A	300	
30	290	290	310 ^A	A	A	250	310	260	[330] ^A	400	340	320 ^K	380 ^K	410 ^K	380 ^K	430 ^K	360 ^K	C	C	C	C	C	C	
31																								
Mean Value	310	290	290	280	280	280	310	320	310	340	380	390	400	390	370	350	340	320	300	270	270	300	310	310
Minimum Value	300	290	280	270	280	260	300	300	300	330	370	380	390	370	350	340	330	310	300	270	270	310	310	310
Count	24	27	25	25	27	27	22	22	17	15	10	10	14	12	17	22	24	23	18	21	24	19	17	19

The Central Radio Wave Observatory
Koganei-machi, Kitakama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 28.8' E

Kokubunji Tokyo

IONOSPHERIC DATA

f_oF1

Jun. 1952

135° E Mean Time

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						Q	3.6	A	A	A	A	5.3	4.5 ^A	4.5	4.5	4.9	4.2	C	C					
2						A	Q	Q	A	A	A	A	A	A	4.5	[4.4] ^A	4.2	4.0	3.4					
3						A	A	A	A	4.3	A	A	A	A	4.3	A	A	A	AF					
4						3.8	3.3	4.1	4.2	A	A	A	A	A	A	A	A	A	A					
5						A	A	A	A	4.4	4.5	4.6	[4.5] ^A	4.4	4.4	4.3	A	A	A					
6						3.5	A	A	A	A	A	4.7	A	A	C	C	C	C	C					
7						A	3.6	A	C	C	A	A	A	4.6	A	A	A	A	A					
8						L	3.6	3.8	A	A	A	A	A	A	A	A	A	A	A					
9						A	A	A	A	A	A	A	A	A	A	3.9	3.9	3.6	L					
10						Q	A	A	A	A	A	A	A	A	4.4	4.2	4.2	3.7	A					
11						Q	A	A	A	A	A	A	A	A	A	A	A	3.7	L					
12						A	A	A	A	A	A	A	A	A	A	A	3.9	3.7	A					
13						A	A	A	A	C	A	A	A	4.3	[4.3] ^A	4.3	4.0	3.8	A					
14						Q	A	A	A	4.4	[4.4] ^A	4.4	B	B	B	A	4.2	A	A					
15						A	A	A	A	A	A	A	A	A	A	A	4.1	A	A					
16						A	A	A	A	M	A	A	A	A	4.3	A	A	A	3.4					
17						Q	3.5	[4.0] ^A	4.2	C	C	4.5	A	A	A	4.3	4.3	3.8	L					
18						Q	3.7	3.9	A	A	A	A	4.4	4.5 ^H	A	A	L	A	A					
19						Q	L	A	A	A	A	4.5	4.6 ^H	A	A	A	4.2 ^A	A	A					
20						Q	3.9	4.1	A	A	A	4.5	A	A	A	4.5 ^H	4.3	4.0	A					
21						Q	3.8	4.2	[4.4] ^M	4.5	4.6	A	A	4.6	A	A	A	4.0 ^A	L					
22						Q	3.8	A	A	A	4.7	[4.6] ^A	4.6	A	A	A	4.3	A	A					
23						Q	A	A	A	A	A	A	A	A	4.6	4.5	4.5 ^H	4.1	A					
24						C	C	4.2	A	4.5	[4.7] ^A	4.9	A	A	A	4.5	4.1	3.8	L					
25						3.1	A	A	4.3 ^B	A	A	A	A	A	A	4.5	4.2 ^H	3.8	A					
26						3.0	3.5	A	A	A	4.5	M	M	M	C	C	4.2	A	A					
27						Q	A	A	A	M	A	A	A	A	A	A	A	A	A					
28						Q	A	A	A	4.3	A	A	A	A	C	C	A	A	A					
29						Q	Q	4.3	A	A	A	A	5.0	[4.8] ^A	4.5	4.5	[4.4] ^A	4.2	3.5					
30						Q	3.9	Q	A	4.7	4.6	A	A	A	4.4	4.4	4.2	C	C					
31																								
Mean Value						3.3	3.7	4.1	4.3	4.4	4.6	4.6	4.8	4.5	4.4	4.4	4.2	3.9	3.4					
Median Value						3.3	3.6	4.1	4.3	4.4	4.6	4.6	4.6	4.5	4.4	4.4	4.2	3.8	3.4					
Count						4	11	9	5	6	8	7	6	7	10	13	18	13	3					

f_oF1

Sweep 1.0 Mc to 17.2 Mc in 2 min
 Manual Automatic

K 4

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

f'F1

Jun. 1952

135° E Mean Time

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						Q	260	A	A	A	A	A	250 ^A	200	220	[220] ^A	220 ^A	C	C					
2						A	Q	Q	A	A	A	A	A	A	A	A	A	250	220	280				
3						A	A	A	A	A	A	A	A	A	A	A	A	A	A	AF				
4						230	240	A	A	A	A	A	A	A	A	A	A	A	A	A				
5						A	A	A	A	210	210	250	240	[240] ^A	230	210	A	A	A	A				
6						250	A	A	A	A	A	300	A	A	C	C	C	C	C	C				
7						A	240	A	C	C	C	A	A	A	A	A	A	A	A	A				
8						260	250	A	A	A	A	A	A	A	A	A	A	A	A	A				
9						A	A	A	A	A	A	A	A	A	A	A	260	260	240	270				
10						Q	A	A	A	A	A	A	A	A	A	240	230	260	260	A				
11						Q	A	A	A	A	A	A	A	A	A	A	A	A	220 ^A	250				
12						A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
13						A	A	A	A	C	A	A	A	A	A	A	260	240	230	A				
14						Q	A	A	A	250	[250] ^A	250	[230] ^B	210	230	A	A	270	A	A				
15						A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
16						A	A	A	A	M	A	A	A	A	A	A	A	A	A	270				
17						Q	270	A	A	C	C	210	A	A	A	310	A	A	A	A	270			
18						Q	250	250	A	A	A	A	210	210 ^H	A	A	A	A	A	250				
19						Q	240	A	A	A	A	200	190 ^H	A	A	A	A	A	A	A				
20						Q	240	240	A	A	250	A	A	A	A	A	220 ^H	230	260	A				
21						Q	250	250	[230] ^A	210	250 ^A	A	A	A	A	A	A	A	A	260				
22						Q	240	A	A	A	230	[220] ^A	220 ^A	A	A	A	A	240	A	A				
23						Q	A	A	A	A	A	A	A	A	A	A	260	240 ^H	260 ^A	A				
24						C	C	A	A	A	A	A	A	A	A	A	A	A	250 ^A	A				
25						280 ^A	A	A	220	A	A	A	A	A	A	A	230	230	240	A				
26						270	250	A	A	A	280 ^A	M	M	M	M	C	C	210 ^H	A	A				
27						Q	A	A	A	M	A	A	A	A	A	A	A	A	A	A				
28						Q	A	A	A	A	250	A	A	A	C	C	A	A	A	A				
29						Q	Q	270 ^A	A	A	A	A	A	A	A	240	240	[250] ^A	260	250				
30						Q	230	Q	A	A	230	A	A	A	A	230	240	250	C	C				
31																								
Mean Value						260	250	250	230	220	240	240	220	220	240	240	240	240	240	260				
Median Value						260	240	250	230	210	250	240	220	210	230	240	240	240	240	260				
Count						5	12	4	3	3	7	6	6	4	7	11	15	11	7					

Kokubunji Tokyo

IONOSPHERIC DATA

foE

JUN. 1952

135° E Mean Time

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						1.8	2.3F	2.6F	[3.0]F	3.3	3.3	3.3	3.4	3.0	A	A	2.8F	C	C					
2						A	2.2F	2.8	3.0	3.4	3.5	3.5	3.3	3.0	A	A	2.6	2.5	2.0					
3						A	A	A	A	3.2	3.2	3.3	3.4	3.4	3.3	3.2	2.9	2.4F	2.2F					
4						B	2.3F	2.8	3.0	3.2	3.3	3.4	3.3	3.2	3.2	3.2	2.9	2.5	A					
5						A	2.1	2.6	2.8	3.1	3.2	3.3	3.4	3.4	3.3	3.2	2.9	2.3	1.8					
6						1.5	2.3F	2.7	3.0	3.2	3.3	A	A	A	C	C	C	C	C					
7						A	2.1	2.5F	C	C	3.3	3.3	3.28	3.3B	3.0B	3.1	2.8	2.1F	A					
8						1.6	2.2F	2.7F	3.0F	3.1	3.1	3.2	A	A	A	A	A	A	A					
9						1.2	2.3	2.6	3.0	3.2	3.2	3.3	A	A	A	A	A	A	A					
10						A	2.3F	2.7F	3.1F	3.2	3.3	3.3	3.2	3.1	[3.1]A	3.1	2.9	2.5	1.9					
11						1.8	2.1	2.7	3.0	3.3	3.2	3.3	3.2	3.1	3.1	[2.9]A	2.7	[2.2]A	1.7					
12						A	2.0	2.8	3.0	3.2	3.3	3.3	3.3	3.2	3.0	3.1	2.9F	2.3AF	A					
13						1.7F	2.2F	2.6F	3.0	3.2	3.2	3.2	3.1	3.0	A	A	2.9F	[2.4]A	1.9					
14						A	2.3F	2.7F	3.0	[3.0]B	3.1	3.2	B	B	B	2.9	2.7	2.5	2.0					
15						1.3	2.0	2.5	2.9	3.1	3.2	3.2	3.2	3.0	3.0	(2.6)A	2.4	2.4	2.1					
16						1.5	2.1	2.5	3.0	[3.2]M	3.4	3.4	3.5	3.3	3.3	3.2	2.9	2.5	2.0					
17						1.5	2.3F	2.6	3.0	C	C	3.4	3.4	3.3	3.2	2.8	2.8	2.5	2.0					
18						1.5	2.1	2.6	3.0	3.2	3.2	3.2	3.4	3.3	3.2	3.1	3.0	2.5	1.8					
19						2.0	[2.4]B	2.8	3.0	3.1	3.2	3.2	3.2	3.3	3.3	3.2	2.9	2.5	2.1					
20						B	A	A	A	3.2	3.2	3.2	3.2	[3.2]A	3.2	3.2	2.9	2.5	2.0					
21						1.9	2.6	B	A	A	3.3	3.2	3.5	3.6	3.4	3.3	3.0	2.6	A					
22						1.7	[2.3]B	2.8	3.0F	3.2	3.2	A	A	A	A	A	A	A	2.0					
23						1.8	2.4	2.7	3.2	3.3	3.3	3.5	3.5	3.4	A	A	A	A	A					
24						C	C	2.9	3.1	3.3	3.4	3.4	3.5	A	A	A	A	2.7A	1.9A					
25						A	2.2B	2.8	3.2	3.3	3.3	3.5	3.2	3.1	A	A	3.0	2.7	1.9					
26						1.5B	2.3B	2.9	3.1	3.2	3.4	M	M	M	C	C	S	2.5	2.1					
27						B	2.1	2.8	3.2	M	M	B	B	B	A	A	A	A	A					
28						A	B	2.8	3.1	3.3	3.4	3.5	3.5	B	C	C	2.3	[2.2]A	2.1					
29						1.7	[2.2]A	2.8	3.1	3.5	3.5	3.5	3.5	A	A	A	A	A	A					
30						B	2.4B	2.9	3.3	3.3	3.5	3.5	3.4	3.3	3.2	3.2	2.6	C	C					
31																								
Mean Value						1.6	2.2	2.7	3.0	3.2	3.3	3.3	3.3	3.2	3.2	3.1	2.8	2.4	2.0					
Median Value						1.6	2.2	2.7	3.0	3.2	3.3	3.3	3.4	3.2	3.2	3.2	2.9	2.5	2.0					
Count						16	26	27	26	26	27	26	23	20	15	16	21	22	18					

foE

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual

Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E

Jun. 1952

135° E Mean Time

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						A	110	110	[110] ^A	110	110	110	110	110	A	A	110	C	C					
2						A	110	110	110	100	100	100	100	100	A	A	110	110	130					
3						A	A	A	A	110	110	110 ^B	110	110	110	110	110	110	110	110				
4						120	110	110	110	100	100	100	100	110	100	100	110	110	A					
5						A	110	110	110	110	110	110	110	110	110	110	110	110	120					
6						130 ^A	120	110	100	100	100	110	A	A	C	C	C	C	C					
7						A	110	110	C	C	110	110	110	110	A	A	110	110	A					
8						130	110	110	110	110	110	A	A	A	A	A	A	A	A					
9						110	110	110	110	110	110	110	A	A	A	A	A	110	A					
10						A	110	110 ^F	110	110	110	110	110	110	[110] ^A	110	110	110	120					
11						140 ^A	120	110	110	110	110	110	110	110	110	[110] ^A	110	[110] ^A	110					
12						A	120	110	110	110	110	110	110	110	A	A	110	[110] ^A	110					
13						100	120	110	110	110	110	110	110	110	110	110	120	110	120					
14						A	120	110	110	110	110	110	110	110	110	110	120	110	120					
15						140	120	110	110	110	110	110	110	110	110	110	110	110	110					
16						120	110	110	100	[100] ^M	100	100	100	100	100	100	110	110	120					
17						110	110	110	100	C	C	110	110	110	110	110	110	110	120					
18						110	110	110	110	110	110	110	110	110	110	110	110	110	110					
19						150	110	110	110	110	100	100	100	100	100	100	110	110	110					
20						100 ^F	110	A	A	100	110	100	100	[100] ^A	110	100	110	110	120					
21						110	110	110	A	A	110	110	110	110	110	110	110	110	110					
22						120	120	110	110	110	110	A	A	A	A	A	A	A	110					
23						110	110	110	110	110	110	100	100	100	A	A	A	A	110					
24						C	C	110	110	110	110	110	110	110	A	A	A	A	A					
25						A	110	110	110	110	110	110	110	110	A	A	A	A	110					
26						120	120	110	110	110	M	M	M	M	C	C	110	110	120					
27						110	110	110	110	M	M	110	110	110	B	A	A	A	A					
28						A	110	120	110	110	110	110	110	110	C	C	100	[100] ^A	100					
29						150 ^A	[130] ^A	110	100	110	110	100	100	100	A	A	A	A	A					
30						110	110	110	100	100	110	110	100	100	100	110	110	110	C					
31																								
Mean Value						120	110	110	110	110	110	110	110	110	110	110	110	110	110					
Median Value						120	110	110	110	110	110	110	110	110	110	110	110	110	110					
Count						19	28	28	26	26	27	28	25	22	16	16	22	21	17					

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Kokubunji Tokyo
Lat. 35° 42.4' N
Long. 139° 28.8' E

fEs

Jun. 1952

135° E Mean Time

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	3.1	5.0Y	3.3 ⁸	4.0Y	2.3Y	3.0	3.6	5.1	7.2	6.8	8.1	9.5	4.9	6.0	4.3	4.9	4.3	C	C	C	C	C	4.3	4.0	
2	5.4	7.3	9.0	8.5	6.5	5.9	4.8	5.1	5.5	6.5	7.7	7.7	9.3	9.2	5.7	10.0	4.3	3.5	3.9	3.2	7.5	3.2	4.2	4.6	
3	7.0	9.0	6.3	5.2	7.0	9.0	8.5	10.0F	6.8	5.5	10.5	10.0	11.0	8.0	6.6	9.0	9.8	9.5	10.0	3.8	4.2	5.5	E	2.2	
4	3.6Y	2.5	6.0	3.6F	2.9F	2.4F	3.7	4.6	4.8	6.5	6.9	9.0	5.5	5.7	5.6	5.8	5.7	4.9	10.0	9.5	8.5	5.7F	6.0	4.3	
5	4.2	5.3	6.0	4.8	4.5	3.2	6.5	7.4	5.3	4.2	4.6Y	3.9	G	5.7	4.5	5.7	8.5	6.5	8.7	7.3	5.1	4.7	4.8	4.1	
6	4.8	3.2	3.0	3.2	3.1	3.0	4.8	5.0	6.5	5.3	6.0	8.9	6.0	5.7	C	C	C	C	C	C	C	C	C	C	
7	5.7	6.8	3.2	6.5	6.8	5.7	3.4	5.7	C	C	C	8.5	7.2	5.8	6.0	8.5	8.7	7.3F	6.8F	7.2F	5.2F	3.7Y	E	3.0F	
8	3.8Y	6.0	3.8	3.2F	3.1F	2.4	4.0Y	4.9	7.2	10.1Y	9.0	10.0	10.5Y	8.1	10.0	9.4	8.6	6.5	5.9	6.7	7.2	7.1	8.9	6.5Y	
9	3.3	2.7Y	3.1	4.3	3.7	3.8	4.4	5.8	6.8	8.7	8.3	15.0	6.3	6.8	5.3	4.0	4.1	3.1	3.3	3.2	3.0	6.0Y	6.7	5.5	
10	9.5 ²	6.7F	9.0F	7.0F	6.0	2.6F	5.9	8.7	9.0	9.1	10.3	9.1	10.5	10.0	10.0	G	4.3	5.3	5.5	5.8	7.0	4.1	6.7Y	6.7	
11	3.9Y	3.6	4.9	7.0	6.0	2.9	5.8	6.8	6.5	9.0	9.1	8.5	10.0	10.0	5.2	8.6	5.7	4.5Y	2.5	4.7	8.5YF	7.8F	4.5F	7.1F	
12	7.4F	5.4F	6.5F	9.0F	2.9F	4.3	5.5	4.6	6.4	5.7	6.5	7.0	8.7	6.5	6.7	10.3	4.6	4.2	8.5	9.5F	3.7F	6.7F	6.0F	5.5	
13	6.9F	5.7F	4.7F	3.5F	3.0F	3.7	4.5	9.5	7.8	C	9.8	9.5	10.0	5.3	6.7	6.0	4.3	3.3	4.3	3.2	3.0	4.0F	4.0F	7.0F	
14	4.7	2.4	2.9	2.8	2.5F	2.6	4.9	4.9	6.6	4.0	6.0	4.3	4.0	3.7	G	5.2	4.9	7.4	7.3	7.0	7.0	3.5	2.5	6.0F	
15	3.8F	6.5F	6.7F	3.7F	3.3	4.5	4.3	9.5	6.7	9.7	9.0	7.5	8.5	5.7Y	7.1	6.0	4.7	5.7	6.8	9.7	5.8	4.8	5.6	6.5	
16	7.0	5.5	5.5	7.3	3.1	6.0	7.0	6.5	7.1	M	8.5	6.0	5.5	5.4	4.6	4.9	9.0	8.5	5.7	4.0	3.7	3.8	3.2	6.0F	
17	7.0F	4.3F	4.3F	3.7F	3.0F	3.2F	3.9	5.2	7.0	C	C	8.5	10.0	9.4	8.3	4.0	G	4.2	4.2	3.8	4.0	6.6	5.5	7.0	
18	4.9	4.9	6.5F	6.3F	6.5	3.7F	3.5	4.2	7.1	7.4	6.5	6.7	5.5	3.9	8.5	6.8	4.8	4.8	7.4	7.0Y	7.4	8.5	4.3	5.7	
19	4.9	4.7	7.0	4.0	3.1	3.7	G	5.8	8.6	9.0	9.5	8.7F	4.5	8.5	8.2	6.5	5.0	6.3	8.5	7.2	7.2	4.8	5.5	4.0	
20	4.0	2.4	4.0	3.0	2.1F	2.2	3.5	4.4	8.0	6.5	9.0	9.0	9.0	9.0	6.8	4.5	G	4.2	5.0	8.5	7.2	3.5	4.8	5.3	
21	6.8	6.5	6.4	7.3	4.5	G	4.0	4.9	6.5	5.5	4.5	8.7	6.9	5.7	6.7	7.2	5.8	4.5	7.0	7.2	4.5	4.9	4.7	4.3	
22	4.5	4.5	7.3	2.7	3.8	G	4.1	6.8	5.8	6.9	5.7	7.0	7.0	9.0	8.5	6.1	3.7	4.9	7.0	9.0	6.7	8.6	8.5	4.0 ⁸	
23	4.5	6.5Y	2.9Y	2.5	3.1	3.3	5.5	6.5	6.4	8.7	6.7	6.7	9.3	9.5	5.5	4.5	3.7	4.4	4.6	3.1	4.5F	4.5	4.2	6.7	
24	6.5	6.5	7.0F	C	C	C	C	4.4	5.1	5.8	7.9	6.8	6.4	8.2	8.9	4.7	3.9	7.3Y	9.0	4.7	5.7	4.3	3.1	4.3	
25	7.0	6.3Y	5.5Y	5.5F	4.0F	3.6	8.0	6.7	6.0	6.0	9.0	5.5	5.8	9.1	7.0	3.2	3.7	4.7	4.2	3.1	6.9	4.3	4.7	6.0	
26	3.7Y	3.9	3.8	6.5Y	3.8	3.1	4.0	5.8	6.5	4.9	4.9	M	M	M	C	C	G	5.5	7.2	5.8	7.0	7.2	6.9	7.5	
27	6.7	7.6	4.0 ^Y	3.3Y	1.3	2.1	4.5	7.0	5.6	M	M	13.5	7.2	8.0	10.8Y	12.4	12.1	9.2	9.3	4.5	6.7	6.0	9.0	7.2	
28	8.5	6.6	7.3	7.2	5.8	4.0	6.5	6.0	7.0	10.0	9.0	10.0	9.5	7.5	C	C	6.0	8.0	7.2	7.0	6.0	3.7	5.5	3.5	
29	5.5	6.7	4.0	4.9	2.2F	2.6	3.8	5.5	7.0	10.0	9.0	8.0	7.0	10.0	7.5	4.2	6.0	5.5	4.9	7.5	3.8	5.5	9.0	6.0	
30	4.0	6.0	5.5	4.7	5.5	2.9	3.6	4.5	7.0	7.0	7.2	7.2	9.0	8.0	4.9	8.0	5.8	C	C	C	C	C	C	C	
31																									
Mean Value	5.4	5.3	5.4	5.0	4.0	3.7	4.9	6.1	6.7	7.1	7.7	8.3	7.7	7.4	6.9	6.6	5.8	5.8	6.5	6.1	5.8	5.3	5.5	5.4	
Median Value	4.9	5.6	5.5	4.7	3.3	3.2	4.4	5.8	6.7	6.8	8.1	8.7	7.2	8.0	6.7	6.0	5.0	5.3	6.8	6.7	6.0	4.8	4.8	5.6	
Count	30	30	30	29	29	29	29	29	29	25	27	29	29	29	27	27	29	29	27	27	27	27	27	28	28

fEs

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual

Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

(M3000)F2

Jun. 1952

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	2.6	(2.8) ^J	3.0	2.7 ^{FP}	3.0 ^F	3.2	3.1	2.8	[2.9] ^A	3.0	A	A	2.3	2.8	2.9	2.9	2.9	C	C	C	C	C	2.4 ^{EF}	F	
2	F	(2.9) ^{FP}	2.6 ^P	2.8	F	2.9	2.9	3.2	3.2	3.2	A	A	A	3.0	[3.0] ^A	2.9	3.0	3.0	3.0	3.2	2.9 ^Z	(2.6) ^{FP}	2.9 ^F	2.9 ^F	
3	2.7	2.5 ^P	2.6 ^F	3.1 ^F	2.7 ^{FP}	A	A	A	3.3	2.7	A	A	A	2.6	B	A	2.7	2.8 ^P	(3.1) ^P	3.3	2.8	2.8	2.8	2.8	
4	2.9	2.8	2.8	(2.7) ^P	2.8	3.1	2.9	3.0	3.3	3.2	[3.0] ^A	2.8	2.7	2.8	2.9	3.1	2.9	3.1	A	A	(3.0) ^F	2.7 ^V	2.7 ^V	(2.7) ^{FP}	
5	(2.8) ^C	2.9	2.9	2.7 ^{VF}	2.9 ^Z	3.3	A	A	3.3	2.8	2.8	2.5 ^P	2.6	2.5	(2.8) ^J	3.0	3.0	(3.0) ^A	(3.0) ^P	3.0	(3.1) ^P	2.8	(2.6) ^J	2.6 ^{FP}	
6	(2.7)	2.8 ^{VF}	2.7 ^P	3.0	2.8	2.8	3.1	3.1	2.9	3.3	A	A	2.6	2.8	C	C	C	C	C	C	C	C	C	C	
7	F	F	2.9	(3.1) ^J	(3.2) ^A	3.2	3.4	3.3	C	C	C	A	3.1	2.8	2.9	2.9	(2.9) ^P	3.0	3.0	3.0	(3.2) ^P	2.8	2.8 ^P	(2.9) ^P	
8	2.7 ^{FP}	[2.9] ^A	3.1 ^F	3.1 ^F	3.0 ^F	2.8	3.2	3.5	A	A	A	A	A	A	A	A	A	3.0	2.8	2.9	(2.9) ^J	2.8	2.8 ^P	2.8 ^P	
9	2.8 ^P	(2.9) ^{FP}	2.8 ^F	3.0	2.7 ^{FE}	2.7	B ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	3.0 ^K	3.0 ^K	3.1 ^K	3.2 ^K	3.0 ^K	2.7 ^K	2.7 ^K	A ^K	A ^K	
10	A ^K	A ^K	A ^K	A ^K	F ^K	3.1 ^F	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	3.0 ^K	2.8 ^K	2.9 ^K	3.1 ^K	3.2 ^P	3.1 ^P	(2.9) ^K	A ^K	A ^K	
11	B ^F	2.7 ^{FE}	2.8 ^{FP}	2.5 ^Z	(2.8) ^A	3.2 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	2.5 ^P	[2.8] ^A	3.2	2.8	3.0	3.1	2.7 ^V	A	F	A	
12	A	3.0	A	A	3.1 ^F	3.2	3.2	2.9	3.1	A	A	A	A	A	A	[2.9] ^A	2.9	3.0	A	A	3.0 ^{FP}	A	A	A	
13	A ^F	A ^F	A ^F	(2.8) ^{FP}	2.9 ^{FP}	2.9	3.3	A	A	C	A	A	A	A	2.8	2.7	(2.8) ^P	3.0	2.9	2.9	3.0	(2.8) ^P	F	A	
14	A	F	F	3.1 ^F	3.0 ^F	3.3	3.1 ^P	3.2	[2.9] ^A	2.6	2.9	2.9	2.9	2.9	3.0 ^B	2.8	3.0	2.8	(3.0) ^A	(3.1) ^P	2.7 ^P	(2.8) ^P	2.9	2.7	
15	2.5 ^F	3.0 ^{FP}	[2.8] ^F	2.7 ^F	2.6 ^K	(2.8) ^F	3.0 ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	2.7 ^K	2.9 ^K	A ^K	A ^K	2.7 ^K	2.5 ^K	2.4 ^K	2.7 ^K	
16	2.8 ^K	2.9 ^{VE}	A ^K	A ^K	2.8 ^F	A ^K	A ^K	A ^K	A ^K	M ^K	A ^K	A ^K	2.6 ^K	[2.6] ^A	2.6 ^K	2.7 ^K	A ^K	A ^K	2.8	3.1	2.7	(2.6) ^{FP}	(2.7) ^J	(2.7) ^{FP}	
17	2.7	2.6 ^F	3.1 ^F	2.6 ^{FV}	2.8 ^F	3.0	3.1	3.2	2.9	C	C	2.9	2.9	A	A	2.8	2.8	3.0	2.9	3.1	2.7 ^V	A	F	A	
18	(3.0) ^{FP}	2.8	A ^F	F	3.0	3.2	2.5 ^K	2.9 ^K	3.3 ^K	A ^K	2.6 ^K	A ^K	2.5 ^K	2.7 ^K	2.7 ^K	2.9 ^K	2.8 ^K	2.9 ^K	2.9 ^K	3.1 ^K	2.7 ^K	2.7 ^K	2.7	2.8	
19	3.0 ^F	2.9 ^F	2.7 ^{FP}	2.7 ^F	2.6 ^F	3.2 ^K	2.8 ^K	2.9 ^K	A ^K	A ^K	A ^K	2.6 ^K	2.9 ^K	A ^K	A ^K	2.7 ^K	3.0	2.8	A	3.0	2.8 ^P	2.7	2.7	(2.5) ^{FP}	
20	2.6 ^F	F	2.9 ^V	3.2 ^F	2.9	3.0	3.1	3.0	[2.8] ^A	(2.7) ^J	3.1	A	A	A	2.7	2.8	2.7	2.7	3.0 ^P	3.1 ^P	3.0	F	(2.7) ^{FP}	F	
21	F	(2.8) ^{FP}	(2.8) ^{FP}	(2.8) ^A	2.7 ^F	2.8	2.9	2.9	3.3	2.7 ^P	2.7 ^H	[2.6] ^A	2.6	2.7	2.8	2.9	3.1 ^P	3.0	2.9	3.0	3.0	2.9	2.7	2.8	
22	[2.8] ^B	2.7 ^F	(2.7) ^{FP}	2.7 ^{FP}	(2.8) ^F	3.0 ^{FP}	3.0	3.1 ^P	3.4	3.3	2.9	2.9	2.6	A	A	2.8	3.0	2.9	(2.9) ^A	(2.9) ^P	(3.0) ^{FP}	A	A	2.7 ^P	
23	(2.8) ^{FP}	2.8	2.8	3.0	2.9 ^Z	2.8	3.0	2.9	3.4	(3.2) ^A	2.9	2.8	A	A	2.7	2.8	2.9	2.9	2.8	2.7 ^P	2.8 ^P	2.6	2.5 ^P	(2.8) ^{FP}	
24	(2.8) ^P	2.7 ^F	3.0 ^{FP}	C	C	C	C	C	2.7 ^H	2.8 ^P	2.7	2.8	3.0	A	2.7 ^P	(2.7) ^P	(3.1) ^P	3.2 ^P	A	2.6 ^P	2.7	2.6 ^F	F	F	
25	2.7 ^F	F	F	2.7 ^{FV}	2.7 ^{FV}	2.7	2.9	[2.7] ^A	2.5 ^K	2.9 ^K	(2.8) ^A	2.7 ^K	2.7 ^K	A ^K	A ^K	3.0 ^K	3.1 ^K	3.0 ^K	3.1 ^K	2.7 ^K	(2.8) ^A	2.8 ^K	2.6 ^K	2.7 ^K	
26	2.7 ^K	2.7 ^F	F ^K	2.7 ^{FP}	2.6 ^K	2.7 ^K	2.6 ^K	2.9 ^K	3.0 ^Z	2.5 ^K	M ^K	M ^K	M ^K	M ^K	C ^K	C ^K	2.7 ^K	2.8	2.7	2.8	(3.2) ^P	2.6 ^F	AF	AF	
27	(2.6) ^{FP}	2.5 ^F	(2.6) ^F	2.8 ^F	3.0 ^F	3.2	3.5	(3.4) ^A	3.2	M	M	A	3.1	A	A	A	A	A	A	2.9	3.1	2.9	2.9 ^F	A	
28	A	A	A	A	(3.0) ^{FP}	(2.9) ^A	2.8	3.1	[2.9] ^A	2.7	(2.7) ^A	2.7	2.8	C	C	2.8	(3.0) ^A	(3.1) ^J	2.7	2.7 ^Z	2.8	(2.7) ^J	2.6	2.6	
29	2.6 ^F	2.6 ^P	2.7	2.7	2.9	3.1	2.8 ^{PH}	3.1	2.9	(3.2) ^P	(2.9) ^P	3.1	2.9	2.6 ^P	2.7	2.6	2.7	2.6	2.8	(3.0) ^P	(3.2) ^P	2.7	2.7	2.5 ^F	
30	2.5 ^{FP}	(2.7) ^{FP}	2.7 ^{FP}	F	2.8 ^F	3.3	3.0	(3.0) ^P	[2.8] ^A	2.6	2.4	2.8 ^K	2.5 ^K	2.4	(2.5) ^K	2.4 ^P	B ^K	C	C	C	C	C	C	C	
31																									
Mean Value	2.7	2.8	2.8	2.8	2.8	3.0	3.0	3.0	3.1	2.9	2.8	2.8	2.7	2.7	2.7	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.7	2.6
Median Value	2.7	2.8	2.8	2.8	2.8	3.0	3.0	3.0	3.1	2.9	2.8	2.8	2.7	2.8	2.7	2.8	2.9	2.9	3.0	3.0	3.0	2.8	2.7	2.7	2.7
Count	21	23	21	23	26	27	23	23	21	17	14	13	17	14	18	23	25	22	24	26	24	26	21	17	17

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

f min F

Jun. 1952

135° E Mean Time

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	1.6	1.7	S	E	E	1.9	3.2	4.0	A	A	A	4.2	4.1	3.7	4.2	A	3.0	C	C	C	C	C	1.6	2.1	
2	3.4	2.0	A	A	A	3.3	2.3	4.0	4.5	5.7	6.0	A	A	4.2	4.2	[3.8]	3.5	2.7	2.9	2.3	4.9	2.0	2.8	2.3	
3	2.1	2.0	AF	A	A	A	A	A	5.5	4.1	A	A	A	5.5	4.1	[5.9]	7.6	6.4	[4.3]	2.2	2.2	2.0	1.6	1.5	
4	1.2	1.1	2.2	1.6	1.1	1.8	2.9	4.0	4.1	5.2	A	5.5	4.8	5.0	4.8	5.0	4.4	4.2	A	A	3.3	3.3	3.5	2.1	
5	3.0	A	A	2.0	3.4	2.7	A	A	4.5	3.5	4.0	4.0	4.0	5.3	3.7	3.4	6.4	5.7	[5.4]	5.0	4.2	1.9	3.0	3.3	
6	[2.6]	2.0	1.6	1.6	1.8	1.9	3.8	4.5	5.0	4.5	5.1	4.3	5.0	4.6	C	C	C	C	C	C	C	C	C	C	
7	1.8	1.8	E	3.4	[3.4]	3.5	2.3	4.4	C	C	C	A	5.2	4.5	A	5.4	4.3	5.2	3.4	4.3	4.0	2.0	1.6	1.6	
8	1.8	[1.8]	1.9	1.4	1.7	1.9	2.3	3.5	A	A	A	A	A	A	A	A	A	4.2	3.6	5.2	5.2	A	A	3.5	
9	1.5	1.1	1.6	2.2	2.6	2.9	A	A	A	A	A	A	A	A	A	3.3	3.3	2.5	2.2	2.0	1.8	1.9	A	A	
10	A	A	1.7	1.8	2.8	1.9	2.3	A	A	A	A	A	A	A	A	3.5	3.6	3.2	3.6	5.5	4.0	3.2	A	AF	
11	A	1.9	F	1.8	[1.8]	1.8	A	A	A	A	A	A	A	A	4.5	[4.3]	4.1	[3.2]	2.2	4.2	1.6	A	A	A	
12	A	A	A	A	1.1	3.5	4.1	3.7	5.0	A	A	A	A	A	4.7	[4.0]	3.3	3.3	A	A	2.7	AF	A	AF	
13	AF	A	A	2.1	AF	2.7	A	A	A	A	A	A	A	4.2	4.4	3.6	3.2	2.5	3.6	3.0	2.1	AF	AF	A	
14	A	1.2	E	A	1.3	1.9	3.8	4.1	A	A	A	4.0	4.8	3.7	3.7	4.5	3.6	5.0	[5.6]	6.1	4.5	2.7	1.3	A	
15	A	2.0	AF	[1.6]	1.3	2.2	[2.8]	3.5	A	A	A	A	A	A	A	3.7	3.8	4.9	A	A	4.5	4.4	5.1	4.2	
16	3.5	1.9	A	A	A	A	A	4.5	A	M	A	A	4.5	4.4	3.9	4.2	A	A	A	1.8	2.0	1.8	1.6	1.8	
17	1.7	2.0	A	1.9	1.7	2.0	2.3	4.0	4.0	C	C	3.9	A	A	A	3.4	3.0	2.7	2.8	1.6	1.8	1.8	1.7	1.8	
18	3.5	2.0	AF	2.4	AF	1.9	2.5	3.4	5.5	[5.5]	5.6	[4.8]	3.9	4.2	5.0	4.3	3.9	4.2	6.2	1.8	5.0	1.8	1.7	1.8	
19	1.1	1.1	3.4	[2.5]	1.6	2.0	2.8	4.2	A	A	A	3.5	4.2	A	A	5.5	4.2	4.2	[4.9]	5.3	5.0	[4.5]	4.0	2.9	
20	[2.3]	1.7	1.5	1.4	1.0	1.9	2.8	3.7	[4.6]	5.4	4.1	A	A	A	A	3.6	3.1	3.5	3.6	3.6	3.0	1.9	1.6	A	
21	A	3.5	AF	2.4	A	2.0	3.4	3.6	4.1	3.7	4.1	[4.8]	5.4	4.3	5.0	5.5	4.3	4.0	3.4	[3.2]	3.3	2.7	[2.8]	2.8	
22	[2.3]	1.8	[1.7]	1.6	F	E	2.9	5.5	4.0	5.2	3.5	5.2	4.0	A	A	5.0	3.2	4.2	[5.2]	6.2	AF	A	A	1.6	
23	[2.2]	2.8	1.7	E	1.7	2.5	4.0	5.2	5.0	[5.0]	5.0	5.0	A	A	4.5	4.8	3.0	3.5	3.4	[3.2]	2.5	2.9	2.8	A	
24	A	2.7	2.9	C	C	C	C	3.7	4.7	3.5	6.8	4.5	5.5	6.1	6.2	4.7	3.8	3.3	2.4	[3.2]	3.0	3.3	1.7	[2.6]	
25	3.4	AF	[3.4]	3.3	AF	1.9	2.6	[4.6]	3.6	4.9	[5.2]	5.4	5.2	[4.7]	4.2	3.6	3.4	3.3	3.5	2.0	[2.8]	3.5	1.6	[2.0]	
26	2.4	1.7	1.7	1.8	1.7	2.3	3.2	4.7	5.0	4.6	4.2	M	M	M	C	C	3.4	4.0	6.3	5.2	3.2	5.0	AF	AF	
27	3.5	AF	AF	1.8	1.7	1.9	3.6	[4.5]	5.4	M	M	A	6.0	A	A	A	A	A	6.0	3.6	5.6	5.0	A	A	
28	A	A	A	A	A	1.9	[3.3]	4.0	3.3	[4.1]	4.9	[5.0]	5.2	6.2	C	C	5.2	[4.7]	4.2	4.4	1.9	[2.4]	3.0	1.6	
29	1.9	[1.9]	1.9	[1.4]	1.0	1.8	[2.7]	3.6	5.1	6.2	6.4	6.5	4.5	4.9	4.0	3.5	4.7	3.5	2.7	6.5	[4.5]	2.5	1.9	1.7	
30	1.9	1.8	[2.3]	2.8	4.0	2.0	2.9	3.5	[4.1]	4.7	4.2	6.1	6.3	5.2	3.4	3.4	3.2	C	C	C	C	C	C	C	
31																									
Mean Value	2.3	2.0	2.1	2.1	2.0	2.3	3.1	4.2	4.6	4.7	5.0	4.8	4.9	4.8	4.4	4.2	3.9	4.0	4.0	3.8	3.4	2.9	2.4	2.3	
Median Value	2.2	1.9	1.9	1.8	1.8	2.0	2.9	4.0	4.6	4.8	5.0	4.8	4.8	4.6	4.3	4.1	3.6	4.0	3.6	3.6	3.2	2.7	1.8	2.1	
Count	21	24	23	25	26	26	23	23	21	18	16	15	17	16	20	24	26	25	24	24	26	22	18	17	

Automatic

Manual

Swamp 1.0 Mc to 17.2 Mc in 2 min

f min F

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Kokubunji Tokyo
Lat. 35° 42.4' N
Long. 139° 29.3' E

IONOSPHERIC DATA

135° E Mean Time

f_{min}E

Jun. 1952

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	1.2	E	E	E	E	E	E	1.3	1.6	1.3	1.7	1.7	1.7	1.6	1.6	1.6	1.6	C	C	C	C	1.1	1.1	1.5
2	1.4	E	E	E	E	E	E	1.3	1.1	1.7	1.7	1.8	1.8	1.6	1.8	1.8	1.4	1.2	1.2	1.2	1.6	1.3	1.4	1.2
3	1.3	E	E	E	E	E	E	1.2	1.7	1.7	1.7	1.9	1.7	1.7	1.6	1.6	1.6	1.3	1.3	1.3	1.2	1.6	E	1.7
4	1.1	E	E	E	E	E	E	1.2	1.7	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.3	1.0	1.6	1.7	1.2	1.7	1.7	1.0
5	1.0	E	E	E	E	E	E	1.3	1.1	1.7	1.8	1.7	1.8	1.8	1.7	1.7	1.3	1.3	1.2	1.1	1.2	1.2	1.5	1.4
6	1.3	E	E	E	E	E	E	1.2	1.2	1.3	1.7	1.8	1.8	1.7	C	C	C	C	C	C	C	C	C	C
7	E	E	E	E	E	E	E	1.2	1.3	C	C	1.8	1.8	1.8	1.8	1.7	1.6	1.3	1.1	1.3	1.2	1.5	E	1.6
8	E	E	E	E	E	E	E	1.6	1.2	1.3	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.3	1.3	1.5	1.6	1.5	1.4	1.5
9	1.5	E	E	E	E	E	E	1.6	1.3	1.7	1.6	1.8	1.6	1.7	1.6	1.6	1.6	1.3	1.2	1.2	1.6	1.6	1.5	1.4
10	1.2	E	E	E	E	E	E	1.3	1.3	1.6	1.3	1.6	1.7	1.7	1.6	1.8	1.6	1.3	1.6	1.2	1.6	1.6	1.5	1.4
11	1.1	E	E	E	E	E	E	1.2	1.6	1.4	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.2	1.2	1.6	1.6	1.6	1.6
12	1.1	E	E	E	E	E	E	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.9	1.7	1.6	1.6	1.2	1.2	1.1	1.5	1.6	1.6
13	1.3	E	E	E	E	E	E	1.3	1.3	1.6	1.6	1.7	1.7	1.7	1.6	1.3	1.6	1.3	1.3	1.2	1.2	1.2	[1.4]	1.6
14	1.3	E	E	E	E	E	E	1.3	1.3	1.7	1.7	1.9	1.9	2.1	1.8	1.7	1.8	1.3	1.1	1.2	1.5	1.3	1.7	1.3
15	1.1	E	E	E	E	E	E	1.1	1.3	1.3	1.7	1.8	1.7	1.8	1.9	1.8	1.8	1.3	1.6	1.6	1.4	1.1	1.4	1.2
16	1.4	E	E	E	E	E	E	1.3	1.8	[1.6]	1.3	1.7	1.6	1.7	1.7	1.3	1.3	1.3	1.2	1.2	1.2	1.6	1.6	1.5
17	1.3	E	E	E	E	E	E	1.6	1.3	1.8	C	C	1.7	1.9	1.8	1.8	1.3	1.3	1.3	1.3	1.6	1.6	1.6	1.4
18	1.5	E	E	E	E	E	E	1.6	1.6	1.7	1.6	1.8	1.8	1.7	2.7	1.7	1.3	1.3	1.1	1.5	1.7	1.6	1.6	1.1
19	1.1	E	E	E	E	E	E	1.0	1.0	1.8	1.8	1.7	1.8	1.8	1.7	1.6	1.6	1.7	1.6	1.0	1.5	1.4	1.4	1.5
20	1.4	E	E	E	E	E	E	1.6	1.6	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.1	1.6	1.4	1.6	1.3
21	1.2	E	E	E	E	E	E	1.6	1.6	1.7	1.8	1.8	1.9	2.0	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
22	1.6	E	E	E	E	E	E	1.6	1.7	1.4	1.7	1.7	1.9	1.7	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6
23	1.5	E	E	E	E	E	E	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.8	1.4	1.4	1.5	1.5	1.2	1.6
24	1.6	E	E	E	E	E	E	1.8	1.8	1.8	1.7	1.8	1.9	1.8	1.8	1.9	1.7	1.6	1.1	1.2	1.3	1.4	1.6	1.6
25	1.2	E	E	E	E	E	E	1.0	1.7	1.8	1.7	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6
26	1.2	E	E	E	E	E	E	1.7	1.7	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.7
27	1.2	E	E	E	E	E	E	1.1	1.7	1.8	1.8	2.0	3.4	1.4	1.4	2.0	1.9	1.6	1.6	1.9	1.6	1.6	1.3	1.7
28	1.6	E	E	E	E	E	E	1.6	1.7	1.8	1.7	1.8	1.9	1.7	C	C	1.7	1.6	1.4	1.2	1.0	1.2	1.5	1.6
29	1.0	E	E	E	E	E	E	1.7	1.7	1.8	1.9	1.9	1.9	1.9	1.8	1.8	1.6	1.1	1.2	1.6	1.5	1.6	1.2	1.6
30	1.2	E	E	E	E	E	E	1.0	1.7	1.8	1.7	1.8	1.8	1.7	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
31																								
Mean Value	1.2	E	E	E	E	1.0	1.0	1.5	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.6	1.4	1.4	1.4	1.4	1.5	1.5	1.5
Median Value	1.2	E	E	E	E	E	E	1.6	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.7	1.6	1.3	1.3	1.3	1.3	1.6	1.5	1.6
Count	30	30	30	29	29	29	29	29	29	27	27	28	29	29	27	27	29	27	27	27	27	27	28	28

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

K 11

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 28.3' E

Jun. 1952

YPF2

135° E Mean Time

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	100 (80) ^F	80 (100) ^F	80 (100) ^F	90 ^{FP}	90 ^F	130	100	80	A	A	A	A	U	70	90	100	100	C	C	C	C	C	100 ^{ZF}	23	
2	F	80 ^P	110 ^P	110	F	120	70	100	100	A	A	A	A	A	70	100 ^A	70	80	80	80	60	70 ^Z	100 ^{PF}	90 ^F	
3	80	80 ^P	90 ^F	50 ^F	A	A	A	A	90	90	A	A	A	90	B	A	110 ^P	110 ^P	110 ^P	80	110	80	80	110	
4	90	80	90	(100) ^F	100	100	100	100	70	80	A	A	U	50	80	80	90	90	A	A	(70) ^F	80	90	(80) ^{PF}	
5	(80) ^C	70 ^F	60 ^F	(100) ^{VF}	70	50	A	A	70	110	U	U	U	100	90	(80) ^J	80	130	(120) ^A	(100) ^P	(90) ^P	90	(100) ^J	80 ^{FP}	
6	(100) ^{FP}	80 ^{VF}	80 ^P	100	100	120	80	110	120	50	A	A	A	90	C	C	C	C	C	C	C	C	C	C	
7	F	F	70	(60) ^J	(80) ^A	100	80	50	C	C	C	A	70	90	100	70	(110) ^P	140	90	90	(120) ^P	80	90 ^P	(80) ^P	
8	(100) ^{FP}	(80) ^A	60 ^F	80 ^F	90 ^F	100	90	40	A	A	A	A	A	A	A	A	A	90	100	100 ^K	(100) ^K	A	A	160 ^P	
9	60 ^P	(70) ^{FP}	90 ^F	70	70 ^{FZ}	100	B	A	A	A	A	A	A	A	A	60 ^K	80 ^K	80 ^K	100 ^K	100 ^K	120 ^K	(90) ^K	A	A	
10	A	A	A	A	F	100 ^F	A	A	A	A	A	A	A	A	A	A	110	60	90	100	90 ^{VF}	A	F	A	
11	BFK	90 ^{FZ}	90 ^{FP}	110 ^Z	(90) ^A	70 ^K	A	A	A	A	A	A	A	A	T	(100) ^A	140	120	A	A	80 ^{FP}	A	A	AF	
12	A	60	A	(100) ^F	90	A	A	U	A	A	A	A	A	A	A	(90) ^P	80	90	120	110	130	(90) ^P	F	A	
13	AF	AF	AF	(150) ^{FP}	110 ^{ZF}	150	160	A	A	C	A	A	A	A	80	(50) ^B	100	120	90	(80) ^A	(60) ^P	(100) ^P	100	100	
14	A	F	F	90 ^F	120 ^F	90	70 ^P	90	A	U	80	B	U	100	(50) ^B	100	120	90	(80) ^A	(60) ^P	(100) ^P	100	100		
15	110 ^F	90 ^{FP}	(100) ^A	120 ^F	100 ^{FP}	(80) ^A	70 ^K	A	A	A	A	A	A	A	A	A	A	U	A	A	A	A	A	80 ^K	
16	110 ^K	90 ^{FP}	A	A	A	80 ^F	A	A	A	M	A	A	A	A	A	70 ^K	A	A	A	A	80	80	(80) ^F	(110) ^F	
17	70	90 ^F	60 ^F	90 ^{FP}	80 ^F	100	100	60	90	C	C	U	U	A	A	100	90	100	80	90	BS	A	A	A	
18	(90) ^F	120	AF	F	110	110	U	60 ^K	A	A	A	A	A	A	A	120 ^K	100 ^K	110 ^K	110 ^K	110 ^K	A	A	A	A	
19	110 ^K	100 ^K	80 ^K	90 ^F	110 ^K	80 ^K	120 ^K	70 ^K	A	A	A	A	U	60 ^K	120 ^K	100 ^K	110 ^K	80 ^K	(100) ^K	110 ^K	A	A	(100) ^K	100 ^K	
20	70 ^F	F	110 ^V	90 ^F	120	100	100	110	A	A	80	A	A	U	A	A	70	90	A	A	100 ^P	60	80	(100) ^F	
21	F	(80) ^{FP}	(100) ^F	A	110 ^F	120	70	80	60	B	140 ^H	A	A	120	130	120	110 ^P	80	90	80	110	90	100	80	
22	(100) ^B	110 ^F	(110) ^{AF}	110 ^{FP}	(100) ^F	80	80	(90) ^P	80	A	U	A	U	A	A	110	70	80	(100) ^A	(110) ^P	(80) ^P	A	A	70 ^P	
23	(60) ^F	70	70	80	80 ^Z	70	50	90	110	A	A	A	A	A	90	100	110	90	100	80 ^P	90 ^P	80	100 ^P	(130) ^{FP}	
24	(70) ^P	100 ^F	100 ^{FP}	C	C	C	C	C	100	80 ^H	80 ^P	150	130	A	A	(100) ^P	(90) ^P	100 ^P	A	100 ^P	80	100 ^F	F	F	
25	60 ^F	F	F	70 ^F	80 ^{FP}	90	80	A	U	A	A	A	A	A	A	70 ^K	90 ^K	60 ^K	90 ^K	120 ^K	100 ^K	80 ^K	70 ^K	90 ^K	
26	80 ^K	90 ^F	F	80 ^{FP}	60 ^F	90 ^K	120 ^K	100 ^K	A	A	M	M	M	A	A	C	50 ^K	80	A	100	(60) ^P	100 ^F	AF	AF	
27	(90) ^{FP}	80 ^F	F	(80) ^F	70 ^F	70	80	A	80	(80) ^A	80	A	70	A	A	C	A	A	A	90	80	A	A	A	
28	A	A	A	A	A	(100) ^{FP}	A	A	A	M	M	A	A	A	A	C	A	A	A	(90) ^J	100	110	(110) ^J	100 ^F	
29	110 ^{ZF}	110 ^P	120	110	110	100	110 ^{PH}	80	110	(60) ^P	A	U	U	U	80 ^{FP}	120	110	120 ^P	80	(110) ^P	(110) ^P	110	90	100 ^F	
30	80 ^{FP}	110 ^{ZF}	90 ^{ZF}	F	90 ^F	70	90	(110) ^P	(110) ^A	110	110	80 ^K	130 ^K	130 ^K	(100) ^K	90 ^K	B	C	C	C	C	C	C	C	
31																									
Mean Value	90	80	90	90	90	100	90	80	90	80	100	100	100	100	90	90	90	90	90	90	90	90	90	90	90
Median Value	90	90	90	90	90	100	90	90	80	80	80	80	100	90	80	90	90	90	90	90	90	90	90	90	90
Count	21	23	21	22	25	27	20	19	12	8	6	3	4	10	14	21	23	23	21	23	24	20	16	17	

YPF2

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

foF2

Jun. 1952

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	S	S	S	S	S	4.8	4.9	5.5	7.0	7.2	A	A	A	A	7.1 ^J	8.5	[8.5] ^M	8.5	M	A	6.9	A	M	M	
2	M	M	A	A	A	A	4.9	A	C	C	C	(6.4) ^P	7.5	[7.6] ^A	7.6	7.9	[9.6] ^C	11.2	[9.8] ^C	8.5	7.5	5.7	4.9	5.1	
3	5.3	5.5 ^P	5.4	5.2	5.9	6.0	C	C	C	5.4	[5.6] ^F	5.9	C	A	C	C	(8.5) ^P	10.1	8.5 ^S	A	C	C	C	C	
4	5.4 ^S	5.7	5.4	5.0	4.6	4.6 ^F	6.0	6.2	C	C	(6.0) ^P	5.9	5.8	[7.0] ^C	[7.0] ^C	(7.4) ^P	(7.8) ^P	[7.8] ^C	7.7	7.3	7.3	5.8	5.2 ^H	A	
5	C	C	C	C	C	C	C	C	6.2	A	A	C	A	7.8 ^P	[8.2] ^C	8.7 ^P	[9.4] ^A	(10.1) ^P	(7.9) ^P	(7.9) ^P	8.0 ^F	[7.6] ^A	7.3	A	
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
7	C	C	C	C	C	C	C	C	C	C	A	6.6 ^J	7.3	(7.7) ^P	A	A	9.4 ^P	A	A	S	A	S	S	S	
8	(5.0) ^F	[4.8] ^S	4.6 ^J	4.2	4.0 ^P	4.2	6.4 ^P	[5.7] ^C	5.0 ^P	5.3	A	C	C	A	C	7.8	7.9	7.5	7.2	7.5	7.3 ^J	A	A	A	
9	C	7.3	A	S	A	AF	A	A	A	A	C	C	C	C	6.4 ^P	C	A	6.0 ^P	4.9	4.9	5.0 ^P	4.9 ^H	5.0 ^H	4.4	
10	A	A	A	C	C	C	C	C	C	A	C	C	C	C	6.5 ^P	C	C	6.9	7.1	8.2 ^J	A	C	A	(4.2) ^J	
11	A	A	AS	4.8 ^P	S	S	4.7	[5.2] ^A	5.7	A	C	A	A	6.4 ^P	7.2	8.0	[7.6] ^S	7.3	8.0	(7.9) ^P	8.0 ^S	7.6	4.8	4.8 ^P	
12	4.7	4.9	[4.8] ^S	4.8	4.3	3.0 ^F	4.0	4.9	A	A	C	A	A	6.5 ^J	[8.2] ^A	9.8 ^J	9.8	10.3	8.0 ^P	7.6	5.3 ^P	4.4	4.3	4.0	
13	[3.8] ^S	3.7	3.9 ^P	3.7 ^F	3.4 ^F	3.4 ^F	4.7	4.9	A	A	A	A	A	A	A	A	A	C	6.4	7.0	5.9 ^P	C	A	4.0	
14	4.0	S	A	F	C	C	C	C	C	C	C	(5.7) ^P	C	C	6.7	7.5	7.7	9.2	[8.2] ^J	7.2	7.2	7.5	[7.5] ^F	(7.5) ^S	
15	C	A	(5.2) ^H	3.8 ^F	2.9 ^F	4.0 ^F	5.8 ^P	5.0 ^K	A ^K	C ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	C ^K	6.7 ^K	6.5 ^K	4.5 ^K	4.1 ^K	4.6 ^K	(4.5) ^P	[4.6] ^A	
16	4.6 ^K	5.1 ^K	S ^K	A ^K	A ^K	2.4 ^K	A ^K	A ^K	A ^K	A ^K	C ^K	A ^K	A ^K	5.6 ^X	5.5 ^K	[5.6] ^X	5.6 ^K	5.8 ^K	7.2	6.4 ^J	5.0	C	C	4.4 ^F	
17	FS	S	3.9 ^P	[3.6] ^A	3.4 ^F	3.3 ^F	(5.4) ^P	C	A	6.2 ^J	6.3 ^P	[6.6] ^C	7.0	(7.7) ^P	7.2	[7.4] ^C	7.7	8.5	7.5	7.5	[6.2] ^C	4.8	4.7 ^F	F	
18	F	5.2 ^J	5.4 ^S	(5.2) ^S	S	S	C	A	6.7	5.3	(5.2) ^P	A	C	6.4	7.9	8.6	8.0	A	A	6.8	7.1	5.0	[5.2] ^S	5.3	
19	[5.5] ^F	5.7	A	F	FS	4.7	5.7	6.1	5.0	C	A	A	7.0	[6.6] ^A	6.3	A	A	A	7.1	6.7	7.1	[6.9] ^C	6.7	(6.6) ^P	C
20	C	C	C	C	C	C	4.6	6.0 ^J	6.9	M	M	M	A	A	A	A	A	C	(8.0) ^P	8.2 ^J	6.9	5.0	FS	FS	
21	M	M	M	M	M	M	M	M	M	A	A	A	C	7.2	7.9 ^J	8.4	(8.1) ^P	8.4 ^J	8.5	8.4	[7.8] ^F	7.1	[6.2] ^S	5.3 ^J	
22	S	S	5.6	5.5	5.0	5.0	6.2 ^J	(6.4) ^P	6.1	[6.2] ^C	6.4 ^P	[6.4] ^P	6.4 ^J	7.0	7.2 ^J	8.0	8.5	[8.0] ^S	7.5	7.6	[6.9] ^S	6.2 ^J	AS	S	
23	A	FAS	S	SH	5.0	3.9	5.0	5.7 ^J	5.5 ^P	A	A	A	A	8.4	8.4 ^J	8.8	[8.4] ^C	7.9	8.0	(7.4) ^P	7.2	7.1	7.1	7.4	
24	6.9 ^J	7.5 ^P	7.5 ^P	7.1 ^P	4.5	4.1	(4.7) ^P	6.3 ^P	7.0	7.0	7.0	8.5	8.8	7.6	(6.4) ^P	8.8	10.5	7.0	6.2	6.0 ^J	6.8 ^J	7.0	7.1	F	
25	F	(6.8) ^P	6.6 ^J	6.7 ^J	6.2 ^J	5.2 ^J	4.7 ^J	5.2 ^K	C ^K	C ^K	C ^K	C ^K	C ^K	A ^K	A ^K	6.7 ^K	6.3 ^K	6.6 ^K	5.6 ^A	5.1 ^K	A ^K	A ^K	A ^K	S ^K	
26	S ^K	A ^K	AS ^K	S ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	6.5 ^K	6.7 ^K	6.5 ^K	6.5 ^K	7.0	6.5	6.4	7.1	6.7 ^J	5.2 ^S	5.2	
27	(5.8) ^S	[6.2] ^C	6.7 ^S	6.8	7.1	6.0	5.1	4.4	6.4	6.1	6.3	C	C	6.9	7.2	7.5	9.1	[9.2] ^C	9.2	7.3	6.6	5.5	4.8	[4.8] ^F	
28	4.9	4.7	[4.9] ^A	5.1	4.6 ^J	4.9	5.0	6.1	C	A	A	A	A	A	A	7.3	7.5	6.5	6.3 ^P	6.7	[6.9] ^F	7.1	A	S	
29	6.6 ^F	[5.2] ^M	3.8	C	C	C	4.8	6.6	8.1	C	A	A	A	C	C	7.0	8.0	8.8	9.6	[8.3] ^C	7.0	(6.7) ^P	S	S	
30	S	S	FS	C	C	C	C	C	5.1	6.6 ^J	7.1	A ^K	A ^K	7.5 ^P	10.5 ^K	A ^K	A ^K	(13.4) ^X	[11.9] ^X	10.4 ^K	8.1 ^K	7.0 ^K	F	S	
31																									
Mean Value	5.2	5.6	5.3	5.1	4.7	4.2	5.1	5.6	6.2	6.2	6.5	7.1	7.1	7.1	7.3	7.8	8.2	8.2	7.7	7.2	6.7	6.2	6.7	6.2	5.7
Median Value	5.2	5.4	5.3	5.0	4.6	4.2	5.0	5.7	6.2	6.2	6.3	6.4	7.1	7.0	7.2	7.8	8.0	7.9	7.8	7.4	6.9	6.2	6.2	5.2	4.8
Count	12	14	14	14	13	15	18	16	13	9	8	8	8	18	20	20	23	25	26	26	25	21	17	17	14

Sweep L. - Mc to 22.0. Mc in 2. min Manual Automatic

Y I

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

Jun. 1952

f_pF₂

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	S	S	S	S	S	250	270	330	340	290	A	A	A	A	(350) ^F	340	[320] ^F	300	M	A	A	A	M	M	
2	M	M	A	A	A	A	290	A	C	C	C	C	(340) ^F	[360] ^F	370	390	[370] ^F	350	[300] ^F	260	280	320	360	380	
3	380 ^S	350 ^P	280	270	290	C	C	C	C	290	C	U	C	A	C	C	(310) ^P	300	280 ^S	A	C	C	C	C	
4	350 ^S	330	300 ^F	310	330	300 ^F	250	270	C	C	(320) ^F	U	A	390 ^F	[340] ^F	[300] ^F	[300] ^F	[320] ^F	350	340	280	300	350 ^H	A	
5	C	C	C	C	C	C	C	C	A	A	A	C	A	400 ^P	[380] ^F	350 ^P	[340] ^F	[320] ^F	(300) ^F	(300) ^F	250 ^P	[280] ^A	(320) ^P	A	
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
7	C	C	C	C	C	C	C	C	C	C	C	C	(350) ^F	(350) ^P	A	A	300 ^P	A	A	S	A	S	S	S	
8	(300) ^F	[300] ^F	(300) ^F	350	300 ^P	250	250 ^P	[250] ^F	250 ^P	300	A	C	C	C	A	A	A	320	350	(350) ^F	(350) ^F	A	A	A	
9	C	300	A	S	A	AF	A	A	A	A	C	C	C	C	C	C	A	300 ^F	320	340	350 ^P	370 ^H	350 ^H	A	
10	A	A	A	C	C	C	C	C	C	C	C	C	C	(350) ^F	C	C	340	350	300	(260) ^F	A	C	A	A	
11	A	A	AS	350 ^P	S	S	A	A	250	A	C	A	A	360 ^F	370	330	[340] ^F	350	310	(260) ^F	300 ^S	290	350	300 ^S	
12	340	320	[310] ^F	300	310	250 ^F	290	270	A	A	C	A	A	(400) ^F	[380] ^F	(350) ^F	310	310	290 ^F	(270) ^F	260 ^P	320	350	370	
13	[360] ^F	360	340 ^P	300 ^F	270 ^F	290 ^F	250	250	A	A	A	A	A	A	A	A	A	C	300	290	300	300	300	300	
14	350	S	A	F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	300	290	300	300	300	300	
15	C	A	(260) ^H	300 ^{KF}	318 ^F	388 ^F	(310) ^F	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	270 ^K	250 ^K	350 ^K	400 ^K	(390) ^F	(400) ^F	
16	400 ^K	A	S	AK	AK	400 ^K	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	390 ^K	300	(300) ^F	300	C	C	
17	FS	S	230 ^F	[290] ^F	350 ^H	350 ^F	(260) ^F	C	A	(350) ^F	310 ^P	[330] ^F	350	(300) ^F	300	[320] ^F	350	300	300	300	300	320 ^F	350	400 ^F	
18	F	(300) ^F	340	A	F	FS	300	290	270	250	C	A	C	A	390	300	310	A	A	300	300	300	300	300	
19	[320] ^F	340	A	F	FS	300	290	270	250	C	A	A	C	A	400	A	A	A	340	300	A	C	320	B	
20	C	C	C	C	C	C	C	270	(290) ^F	A	M	M	A	A	A	A	C	C	(300) ^F	(300) ^F	A	C	310	FS	
21	M	M	M	M	M	M	M	M	M	A	A	A	C	400	(350) ^F	350	(320) ^F	310	270	(260) ^F	260	(300) ^F	310	FS	
22	S	S	310	350	310	300	(270) ^F	(260) ^F	260	[300] ^F	340 ^P	C	A	360	A	350	340	[320] ^F	310	320	S	A	AS	S	
23	A	FAS	S	SH	280	300	300	(270) ^F	300 ^F	A	A	A	A	350	(360) ^F	350	[350] ^F	350	310	(330) ^F	320	390	410	420	
24	(350) ^F	310 ^P	270 ^F	290 ^F	260	340	(300) ^F	300 ^F	300	350	A	A	A	320	A	370	260	300	340	(330) ^F	(360) ^F	(370) ^F	350	F	
25	F	(320) ^F	(360) ^F	(330) ^F	(350) ^F	(300) ^F	(300) ^F	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK
26	S	AK	AS	SK	SK	SK	SK	SK	SK	SK	SK	SK	SK	420	390	350	380 ^K	340	350	360	340	(300) ^F	(300) ^F	350	
27	(370) ^F	[360] ^F	360 ^S	350	300	250	250	250	300	270	340	C	C	350	360	390	360	[320] ^F	290	250	300	340	(300) ^F	(320) ^F	
28	310	350	[340] ^F	330	(330) ^F	350 ^F	300	310	C	A	A	A	A	A	A	350	300	300	300	B	340	[320] ^F	300	A	
29	(350) ^F	[320] ^F	300	C	C	C	C	310	290	280	C	A	A	C	C	390	350	340	300	[320] ^F	330	340	(340) ^F	S	
30	S	S	FS	C	C	C	C	C	300	(360) ^F	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK
31																									
Mean Value	350	330	310	320	310	310	280	280	280	310	320	360	350	370	370	340	330	330	310	310	310	320	330	350	350
Minimum Value	350	320	300	320	310	300	290	270	300	300	320	350	350	360	360	350	340	320	300	300	300	310	320	350	340
Count	12	13	14	14	13	15	17	13	11	9	5	3	6	15	16	18	23	24	24	25	22	19	16	12	

f_pF₂

Sweep J.L.P. Mc to 22.5 Mc in 2 min
 Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

1' F2

Jun. 1952

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	310 ^A	300 ^A	300 ^A	300 ^A	270 ^A	240	250	230	310	270	A	A	A	A	350	320	320	290	250	A	A	A	300 ^A	300 ^A	
2	300 ^A	270 ^A	270 ^A	A	C	C	250 ^A	A	C	C	C	390	350	[350]	350	350	340	290	240	210 ^A	A	A	220	210	300 ^A
3	320 ^B	280	250 ^A	270 ^A	C	C	C	C	C	290	400	400	C	A	C	C	300 ^A	290 ^A	240	A	C	C	C	C	C
4	300 ^A	260	260	260	300 ^A	260	230	240	C	C	320	400	450	390	300	300	300	[300]	300	250	220 ^A	210 ^A	250 ^H	A	
5	C	C	C	C	C	C	C	C	270 ^A	A	A	A	A	A	360	350 ^A	[320]	300 ^A	300	270	240	[240]	250 ^A	A	
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
7	C	C	C	C	C	C	C	C	C	C	A	350	350	350	A	A	300	A	A	A	A	A	A	A	
8	300 ^A	300 ^A	290 ^A	290 ^A	250	250	240	250	250	300	A	A	A	A	C	350 ^A	300	[320]	350 ^A	340	350 ^A	A	A	A	
9	A	290 ^A	[250]	210 ^A	[230]	250 ^F	A	A	A	A	A	A	C	C	350 ^A	C	300 ^A	320	260 ^A	240 ^A	300 ^H	300 ^H	300 ^H	400 ^A	
10	A	A	A	C	C	C	C	C	C	C	C	C	C	C	350	C	330	320	290	240	A	C	C	A	220 ^A
11	A	A	A	AS	300 ^A	260 ^A	[280]	300 ^A	[280]	250	[280]	320	A	A	400	[360]	310 ^A	290 ^A	260	240	250	250	250	240	300 ^A
12	320 ^A	300 ^A	270 ^A	270 ^A	250 ^A	220	290 ^A	270 ^A	A	A	A	A	A	A	360	360	330	300	300	240	240	280	280	280	280
13	[320]	300	270	270 ^F	250 ^F	270	240	250	A	A	A	A	C	A	A	A	A	A	300	250 ^A	240 ^A	A	A	A	300 ^A
14	310	330 ^A	[310]	290 ^F	C	C	C	C	C	C	A	A	A	A	[340]	350	320	340	280	260	250 ^A	240 ^A	A	A	300 ^A
15	A	A	200 ^A	290 ^F	260 ^A	350 ^K	300 ^A	320 ^K	A	C	A	A	A	A	A	A	A	A	280	260	230 ^A	230 ^A	400 ^A	350 ^A	[360]
16	360 ^B	300 ^A	200 ^A	A	A	400 ^A	A	A	A	A	A	A	A	A	410	[410]	410 ^K	390 ^B	290	240	[300]	300 ^A	C	C	340
17	330 ^A	260	210 ^A	[260]	310 ^H	300	250	300	[320]	340	310	330	350	300	300	300	310	290	260	240	[290]	340 ^F	340 ^F	300 ^A	
18	270 ^A	290	280	280	270	270	A	A	300	330	370	[380]	400	430 ^A	360	300	300	A	250	200 ^A	220 ^A	220 ^A	260	300 ^A	
19	300 ^F	270	[260]	240 ^F	290	250	260	250	250	390	A	A	A	A	400	A	A	340 ^A	290 ^A	350	[320]	300 ^A	C	C	
20	C	C	C	C	C	C	250	270 ^A	270 ^A	M	M	M	M	M	A	A	A	A	270 ^A	300 ^A	300	310 ^F	300 ^A		
21	M	M	M	M	M	M	M	M	M	A	A	A	A	A	390	350	330	300	260	240	230	250 ^A	270	300 ^A	
22	300 ^A	300	270	270	250 ^F	270 ^A	250	250	260	[300]	340	A	A	A	360	390	340	310	300	290	220 ^A	260 ^A	[280]	300 ^F	
23	[300]	300 ^F	250	200 ^H	230	250	260	260	290 ^A	A	A	A	A	A	350 ^A	320 ^A	300	310	290	330	290 ^A	300 ^A	400 ^A	300	
24	300 ^A	260	240	250 ^A	230	310	290	260	300	350	440 ^A	[380]	310	[400]	480 ^A	350 ^A	250	300	340 ^A	300 ^A	320 ^A	300 ^A	300 ^A	320 ^A	
25	320 ^A	[310]	300	270	280	260	300	380 ^B	C	C	360 ^K	A	A	A	340 ^K	310 ^K	340 ^K	300 ^A	270	230	250	280	260	[260]	
26	330 ^A	[320]	308 ^A	300 ^B	C	C	C	C	C	C	C	C	C	C	420 ^K	390 ^K	350 ^K	360 ^K	310	310	330	260	250 ^A	270 ^B	
27	350 ^A	[330]	310 ^A	270	250	200 ^A	220	250	280	270	340	C	A	A	350	360	370	340	[300]	260	220	230 ^A	300 ^A	300 ^A	
28	300 ^A	300 ^A	[280]	250	290	290	250	300	C	A	A	A	A	A	A	340	290	290	340	300 ^A	300 ^A	300	[300]	310	
29	290	[270]	250 ^A	C	C	C	250	270	260	290 ^A	A	A	A	A	A	390	340	300	270	230	250	280	260	[260]	
30	260 ^A	300 ^A	270 ^A	C	C	C	C	C	250	350	300	A	A	A	440 ^K	400 ^K	A	A	280 ^B	260 ^K	310 ^A	350 ^A	410 ^K	380	
31																									
Mean	310	290	250	270	260	270	260	270	280	310	340	370	350	370	360	340	320	310	280	260	270	280	290	300	
Maximum	300	300	260	270	260	250	260	270	300	330	380	350	360	360	340	340	310	300	290	260	290	280	300	300	
Count	21	22	22	20	18	18	18	17	14	13	10	8	10	18	20	21	23	25	28	26	25	21	23	23	

Y 3

Manual Automatic

Sweep 1.0 Mc to 2.2 Mc in 2 min

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 35° 12.6' N
Long. 139° 37.7' E

Yamagawa

foF1

Jun. 1952

135° E Mean Time

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							Q	Q	L	4.5	A	A	A	A	A	A	B	4.0	3.5						
2							A	A	C	C	C	A	A	A	A	A	4.2	4.0 ^H	L						
3							C	C	C	4.5	4.2	4.7	C	A	C	C	A	A	L						
4							Q	Q	C	C	4.5	4.7	A	4.7	4.3	4.9 ^H	4.3	L	L						
5							C	C	A	A	A	A	A	A	A	A	A	A	A						
6							C	C	C	C	C	C	C	C	C	C	C	C	C						
7							C	C	C	C	A	A	A	A	A	A	A	A	A						
8							Q	L	Q	A	A	A	A	A	A	A	A	A	A						
9							A	A	A	C	A	A	A	A	A	A	A	A	A						
10							C	C	C	C	C	C	C	B	C	C	4.2	3.9	A						
11							A	A	A	4.3	A	A	4.7	[4.5] ^A	[4.0] ^A	4.3	4.2	[4.0] ^A	3.7						
12							Q	Q	A	A	A	A	A	A	A	A	A	A	A						
13							Q	Q	A	A	A	A	A	A	A	A	A	A	A						
14							C	C	C	C	A	A	A	4.5	A	A	A	A	A						
15							A	A	A	A	A	A	A	A	A	A	A	A	A						
16							A	A	A	A	A	A	A	A	A	A	A	A	A						
17							Q	3.8	[4.0] ^A	4.3	4.5	4.5	A	A	A	A	A	4.0	3.5						
18							A	A	A	4.3	4.4	A	A	A	A	A	4.2	A	A						
19							L	3.8	L	A	A	A	A	A	A	A	A	A	A						
20							Q	A	A	M	M	M	M	A	A	A	A	A	A						
21							M	M	A	A	A	A	A	A	A	[4.4] ^A	4.2	4.0	3.7						
22							L	L	L	A	4.5	A	A	A	A	4.5	4.4	4.0	A						
23							L	L	A	A	A	A	A	A	A	A	4.5 ^H	4.2 ^H	4.5						
24							L	L	L	4.5	4.6	A	A	A	A	A	A	4.4	A						
25							L	A	C	C	C	A	A	A	4.7	4.5	A	A	A						
26							C	C	C	C	C	C	4.5	4.6	4.5	4.3	4.2 ^H	3.9							
27							Q	L	4.3	4.5	4.5	C	A	4.7	[4.6] ^A	4.4	4.5	C	L						
28							Q	L	C	A	A	A	A	A	A	4.7	4.5	4.4	A						
29							Q	4.0	A	A	A	A	A	A	A	A	4.4	4.1	3.7						
30							C	C	Q	A	A	A	A	A	A	A	A	A	A						
31																									
Mean																									
Maximum							3.9	4.3	4.5	4.4	4.6	4.6	4.6	4.5	4.5	4.5	4.3	4.1	3.7						
Minimum							3.8	4.3	4.5	4.5	4.7	4.7	4.6	4.5	4.3	4.3	4.0	3.6							
Value							3	3	6	7	3	5	6	9	6	9	12	13	10						
Count																									

foF1

Sweep L.O. Me to 22.0 Mc in 2 min

Manual

Automatic

Y 4

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

f'F1

Jun. 1952

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							Q	Q	220	A	A	A	A	A	A	A	B	250	250					
2							A	A	C	C	C	A	A	A	A	240	200	220 ^H	A					
3							C	C	C	250	220	250	C	A	C	C	A	A	200 ^A					
4							Q	Q	C	C	200	260	[250 ^A	240	[240 ^B	240 ^H	230	210	230					
5							C	C	A	A	A	A	A	A	A	A	A	A	A					
6							C	C	C	C	C	C	C	C	C	C	C	C	C					
7							C	C	C	C	A	A	A	A	A	A	A	A	A					
8							Q	240	Q	A	A	A	A	C	A	A	A	A	A					
9							A	A	A	C	A	A	A	A	A	C	A	A	A	230				
10							C	C	C	A	C	C	C	C	C	C	250	250	A					
11							A	A	A	A	A	A	A	A	A	A	240	200	[220 ^A	240				
12							Q	Q	A	A	A	A	A	A	A	A	A	A	A					
13							Q	Q	A	A	A	A	C	A	A	A	A	A	A					
14							C	C	C	C	A	A	A	A	220	A	A	A	A					
15							A	A	A	A	A	A	A	A	A	A	A	A	A	230 ^H				
16							A	A	A	A	A	A	A	A	A	A	A	A	A	270	250			
17							Q	230	[220 ^A	200	240	200	A	A	A	A	A	A	240 ^A	250				
18							A	A	A	210	200	A	A	A	A	A	260	A	A					
19							240	220	220	250 ^A	A	A	A	A	A	A	A	A	A					
20							Q	A	A	M	M	M	M	A	A	A	A	A	A					
21							M	M	M	A	A	A	A	A	B	240	[220 ^A	200	210	240				
22							240 ^A	210	240	A	A	A	A	A	A	A	250 ^A	260	210	A				
23							250	240	A	A	A	A	A	A	A	A	A	200	200	240				
24							250	240	240	A	A	A	A	A	A	A	A	A	A					
25							270	A	C	C	A	A	A	A	A	A	300	A	A					
26							C	C	C	C	C	C	C	C	260	270	240	230	220	220				
27							Q	220	210	250	200	C	A	A	240	230	210	[220 ^C	220					
28							Q	220	C	A	A	A	A	A	A	A	210	240	230	A				
29							Q	250	A	A	A	A	A	A	C	A	A	240	250	200 ^A				
30							C	C	Q	A	A	A	A	A	A	A	A	A	A					
31																								
Mean Value							250	230	220	230	210	240	250	240	250	230	230	230	230					
Median Value							250	230	220	250	200	250	250	240	240	240	230	220	230					
Count							5	9	6	5	5	3	1	4	5	8	12	14	13					

IONOSPHERIC DATA

135° E Mean Time

foE

Jun. 1952

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							A 2.4	2.8	C	C	3.3	3.3	3.2	3.3	3.1	A	A	A	A					
2							A 2.5	C	C	C	3.3	3.3	3.3	3.3	[3.2] ^A	3.2	3.0	2.8	A					
3							C	C	A	B.2	3.2	[3.2] ^C	3.3	3.3	C	C	3.0	2.7	A					
4							A 2.2	C	C	3.0	3.2	3.4	3.4	3.4	3.3 ^H	3.2	3.0	2.7	2.2					
5							C	C	2.8	3.0	3.2	3.2	3.3	3.3	3.3	3.1	3.0	2.7	2.1					
6							C	C	C	C	C	C	C	C	C	C	C	C	C					
7							C	C	C	3.2	3.5	3.5	3.2	3.1	3.1	3.1	2.8	2.5	1.8					
8							1.9 ^V	2.3	2.9	3.0	3.1	3.2	3.1	A	C	A	A	A	A					
9							A 2.4	2.8	[2.9] ^C	3.0	3.1	C	A	A	A	C	A	A	A					
10							C	C	C	3.0	[3.0] ^C	3.1	A	A	A	C	C	2.8	2.6	2.1				
11							A 2.4 ^F	2.8	3.1	3.3	3.4	3.2	3.2	3.2	3.4	3.0	A	A	A					
12							1.9	2.4	2.7	3.0	3.1	3.2	3.2	[3.2] ^A	3.3	[3.2] ^A	3.1	2.7	A					
13							1.9 ^F	2.3	2.7	3.0	3.1	3.3	[3.2] ^C	3.1	2.9	A	A	A	A					
14							C	C	C	3.2	3.3	3.2	3.2	3.3	3.1	3.1	2.9	2.4	A					
15							1.9 ^F	2.3	2.8	3.0	3.1	3.2	3.2	3.2	A	A	A	A	A					
16							1.6 ^V	2.3 ^F	[2.6] ^A	3.0	3.2	3.2	3.3	3.3	3.3	3.1	3.0	2.8	2.2					
17							1.9	2.4	2.8	3.0	3.3	3.5	3.4	3.4	3.2	A	A	A	2.4					
18							2.1	2.5	2.8	3.0	3.2	3.4	3.4	3.3	3.4	3.3	3.0	2.7	2.1					
19							2.1 ^F	2.4	2.7	3.1	3.1	3.4	3.4	3.4	3.3	3.1	2.9	A	A					
20							1.9 ^F	[2.3] ^A	2.6	M	M	M	M	A	A	A	A	A	A					
21							M	M	M	3.1	3.2	3.3	3.3	3.3	3.3	3.3	3.1	2.8	2.3 ^F					
22							A	2.5	2.7	3.0	3.1	3.4	3.3	3.3	3.2	A	A	A	2.1					
23							2.0	2.5 ^F	3.0	3.1	3.3	3.4	3.5	3.2	A	A	3.1	2.8	A					
24							A 2.4	3.0	3.2	3.2	3.4	3.4	A	A	A	A	A	A	A					
25							A	A	C	C	3.3	3.3	3.4	3.3	3.1	A	A	A	A					
26							C	C	C	C	C	C	C	3.5	3.3	3.2	3.0	2.8	2.4					
27							1.9	2.1	3.0 ^H	3.2	3.3	[3.3] ^C	3.3	3.3	[3.2] ^A	3.1	3.1	[2.7] ^C	2.3					
28							1.8 ^F	2.6	[2.9] ^C	3.2	3.2	[3.4] ^A	3.5	3.3	3.3	3.2	A	A	A					
29							M	2.6	3.0	3.3	3.3	3.1	C	A	A	A	3.2	2.8	AF					
30							C	C	2.8	3.3	3.4	3.3	3.4	3.4	3.4	3.0	2.7	2.6	A					
31																								
Mean Value							1.9	2.4	2.8	3.1	3.2	3.3	3.3	3.3	3.2	3.1	3.0	2.7	2.2					
Median Value							1.9	2.4	2.8	3.0	3.2	3.3	3.3	3.3	3.3	3.1	3.0	2.7	2.2					
Count							12	20	19	21	26	27	25	23	20	15	17	16	11					

foE

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

f_oF₂

Jun. 1952

135° E Mean Time

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							A 100	100	100	100	100	100	100	100	100	A	A	A	A					
2							A 100	C	C	C	110	100	100	[100] ^A	100	100	100	100	100					
3							C	C	C	A	100	100	[100] ^C	100	C	C	100	100	100					
4							A 100	C	C	C	100	100	100	100	100	100	100	100	100					
5							C	C	100	100	100	100	100	100	100	100	100	100	100					
6							C	C	C	C	C	C	C	C	C	C	C	C	C					
7							C	C	C	C	100	100	100	100	100	100	100	100	100					
8							120	110	100	100	100	100	100	A	C	A	A	A	A					
9							A 100	100	[100] ^C	100	100	C	A	A	A	C	A	A	A					
10							C	C	C	110	[100] ^C	100	A	A	C	C	C	100	100					
11							A 100 ^F	100	100	100	100	100	100	100	100	100	A	A	A					
12							140	100	100	100	100	100	100	[100] ^A	100	100	100	100	100					
13							100 ^F	110	100	100	100	100	[100] ^C	100	100	A	A	A	A					
14							C	C	C	C	100	100	100	100	100	100	100	100	100					
15							100 ^F	100	100	100	100	100	100	100	A	A	A	A	A					
16							B	100 ^F	[100] ^A	100	100	100	100	100	100	100	100	100	100					
17							140	110	100	100	100	100	100	100	100	A	A	A	A					
18							100	100	100	100	100	100	100	100	100	100	100	100	100					
19							100 ^F	100	100	100	100	100	100	100	100	100	100	100	100					
20							100 ^F	[100] ^A	100	M	M	M	M	A	A	A	A	A	100					
21							M	M	M	100	100	100	100	100	100	100	100	100	100					
22							A	100	100	100	100	100	100	100	100	A	A	A	100					
23							120	100 ^F	100	100	100	100	100	100	A	A	100	100	A					
24							A	100	100	100	100	100	100	A	A	A	A	A	A					
25							A	A	C	C	100	100	100	100	100	A	A	A	A					
26							C	C	C	C	C	C	C	100	100	100	100	100	100					
27							100	110	100	100	100	[100] ^C	100	100	[100] ^A	100	100	100	100					
28							100 ^F	100	[100] ^C	100	100	[100] ^A	100	100	100	100	A	A	A					
29							M	100	100	100	100	100	100	C	A	A	100	100	100					
30							C	C	100	100	100	100	100	100	100	100	100	100	100					
31																								
Mean Value							110	100	100	100	100	100	100	100	100	100	100	100	100					
Median Value							100	100	100	100	100	100	100	100	100	100	100	100	100					
Count							11	20	20	21	26	27	25	23	20	15	17	16	13					

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

Jun. 1952

fEs

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	08	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	5.1 ^F	3.0 ^F	4.5 ^F	4.5	4.5	3.7	3.7	G	3.9	7.2 ^Y	9.9 ^Y	8.5 ^Y	8.9 ^Y	7.5	6.8 ^Y	6.0 ^Y	3.8	5.0	4.5	7.5 ^Y	8.5	9.0 ^Y	3.5	3.5	
2	3.0	4.7	7.0 ^Y	7.2 ^Y	6.0	6.0 ^F	4.0	6.0	C	C	C	G	6.2 ^Y	13.1 ^Y	5.0	G	G	3.7	4.3	4.7	2.4	2.7	5.0	3.0	
3	4.0	7.1 ^Y	5.4	5.0	6.0 ^F	C	C	C	C	4.5	G	G	C	6.7 ^Y	C	C	6.6 ^Y	6.0	3.5	7.1 ^Y	C	C	C	C	
4	3.5	3.3	5.0	3.1	3.5	3.5	3.3	3.8	C	C	4.5	4.2	6.0	5.7	G	G	G	C	3.5	3.0	3.2	3.0	6.0 ^Y	5.9	
5	C	C	C	C	C	C	C	C	6.0	8.0 ^Y	7.5 ^Y	6.0	7.4 ^Y	6.0	6.0	7.4 ^Y	11.0 ^Y	8.0 ^Y	7.0 ^Y	6.0	5.5	7.0 ^Y	5.0	6.0	
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
7	C	C	C	C	C	C	C	C	C	C	7.5 ^Y	7.5 ^Y	5.5	6.0	7.5 ^Y	8.5 ^Y	7.5	11.0	8.5 ^Y	5.0	7.5 ^Y	4.5	4.9	4.7	
8	4.2	3.8	3.0	3.3	E	2.6	3.0	3.8	G	5.0	7.3 ^Y	5.0 ^Y	6.0 ^Y	9.0 ^Y	C	7.5	6.0 ^Y	6.0 ^Y	6.0	5.0	7.2	7.0 ^Y	8.7 ^Y	8.5	
9	6.0	5.2	7.2 ^Y	4.0	6.0 ^Y	4.9	6.5	7.7	>9.0	C	6.0 ^Y	6.8 ^Y	C	6.0 ^Y	5.8 ^Y	C	7.0 ^Y	5.0	3.1	3.0	3.2 ^Y	3.5	5.0	5.5	
10	4.6	7.1	8.5 ^Y	C	C	C	C	C	11.5 ^Y	C	3.8	C	C	4.5	C	C	G	4.9	4.6	4.7	5.0	C	4.5 ^F	4.5	
11	4.8	5.0	5.0	4.6	4.0	4.2	6.0 ^F	7.2	7.2	11.3 ^Y	5.4	7.6 ^Y	12.5 ^Y	6.0 ^Y	5.5	4.5	3.8	6.0 ^Y	3.5	4.6	7.5 ^Y	4.5	4.7	5.0	
12	4.3	4.3	3.7	3.5	3.5	2.5	3.9	4.3	7.1 ^Y	7.2 ^Y	5.0	7.2 ^Y	9.0 ^Y	6.0 ^Y	11.2 ^Y	7.2 ^Y	7.0 ^Y	5.0	4.5	2.7	3.5	3.5	2.0	3.4 ^F	
13	4.9	4.5 ^F	3.5 ^F	3.1 ^F	3.2	3.5	3.4	5.0	6.0 ^Y	7.3 ^Y	8.0 ^Y	10.5 ^Y	C	12.4 ^Y	11.7 ^Y	12.5 ^Y	7.2 ^Y	5.0	4.5 ^F	5.0	4.0	4.0	4.5	4.0	
14	3.0	4.3	4.5	5.0	C	C	C	C	C	7.3 ^Y	6.0 ^Y	5.0	4.4	4.5	5.0	5.0	5.0	7.0	7.5	5.0	4.8	4.7 ^F	4.7 ^F	4.5 ^F	
15	4.5	7.2 ^F	4.5 ^F	2.9 ^F	3.8	3.0	4.3	4.8	6.2	5.0	10.6 ^Y	13.0 ^Y	12.6 ^Y	11.3 ^Y	11.3 ^Y	11.2 ^Y	6.0 ^Y	4.8	4.7	3.7	4.0 ^F	4.1	4.7	5.0	
16	4.3	4.5	3.6 ^F	5.0 ^F	4.5 ^F	3.5	6.5	12.5	9.0	11.8 ^Y	5.0	8.7 ^Y	7.0 ^Y	4.8	4.4	6.2	5.0	4.0	G	4.5	4.7	C	C	2.7 ^F	
17	4.0	3.9	3.1	4.0	3.0	2.5	3.0	3.8	7.2 ^Y	G	4.0	G	4.8	6.0	8.5 ^Y	6.0 ^Y	7.0	4.5 ^Y	3.8	3.5	4.5	4.2	3.5	3.6	
18	5.0	7.0	7.0	7.0	7.0	2.2	5.0	6.6	4.8	G	G	7.0 ^Y	5.0	7.0 ^Y	5.0	5.0	4.5	8.5	>4.0	4.0	4.7 ^F	4.7	4.8 ^F	6.8 ^Y	
19	3.8	5.0 ^S	6.0 ^Y	2.8	3.5 ^F	2.3 ^F	3.0	4.4	4.7 ^S	5.0	>10.5 ^Y	8.5 ^Y	6.0 ^Y	13.0	6.0 ^Y	8.0	10.6	10.3 ^Y	11.0 ^Y	7.0 ^Y	C	4.7	4.7	C	
20	C	C	C	C	C	C	C	3.8	5.0	6.3	M	M	9.0	10.2 ^Y	10.2 ^Y	9.3	7.3	7.1 ^Y	5.0	7.1	4.5	3.0	3.0	4.7 ^F	
21	M	M	M	M	M	M	M	M	M	8.6	10.2	6.0	5.0	4.7	G	5.1	G	G	3.5 ^F	3.5 ^F	2.1 ^F	2.2	3.0 ^F	4.3	
22	3.5	4.8 ^F	5.0	2.9	2.5	3.4	3.5	G	4.5	5.0	5.0	6.0 ^Y	7.0 ^Y	5.1	6.0	4.7	4.7	4.0	5.3	4.0	4.5	5.4	6.0	5.5	
23	5.2 ^F	7.2	3.0 ^F	2.5 ^F	2.5	2.7	3.4	5.0	C	7.5	13.0 ^Y	>9.5	>12.7 ^Y	7.2 ^Y	7.0	7.2	G	3.7	3.2	6.0	4.8	4.3	6.0	3.7	
24	3.4	3.6	2.5	2.9	2.4	4.0	3.0 ^F	3.5	3.8	5.0	6.5	8.3	7.0	7.0	6.0	6.0	5.0	5.0	6.1	6.0	5.0	3.7	3.7	3.5	
25	3.8 ^F	4.5 ^F	2.8 ^F	2.1	2.9	3.4	3.6	4.8	C	C	5.0	5.8 ^Y	7.0 ^Y	7.2	4.0	4.3	5.0	6.7	7.1	7.5 ^F	5.5	7.1	3.0	3.5	
26	3.5	4.5	6.0	4.0	C	C	C	C	C	C	C	C	G	G	G	G	G	G	3.4	G	2.7	2.5	2.0	3.0	
27	5.0 ^Y	C	5.0	2.2	2.3	3.0	3.5	G	4.8	4.9	4.2	C	6.0	G	6.0	G	G	C	G	G	2.7	5.0 ^F	4.3 ^F	7.2	
28	4.3	4.5	5.4	5.0	3.9	E	3.2	4.4	C	12.7 ^Y	6.0	9.6 ^Y	11.5 ^Y	13.0 ^Y	7.2 ^Y	3.9	4.5	4.0	5.0	5.4	4.8	5.0	7.0	4.5	
29	3.6	M	3.1	C	C	C	G	4.5	5.0	6.8 ^Y	7.2 ^Y	9.0 ^Y	>10.0 ^Y	C	6.0 ^Y	6.0 ^Y	4.3	4.8	5.0 ^F	3.5	5.0	5.0	4.8 ^F	4.8 ^F	
30	4.3	4.5	3.8	C	C	C	C	C	4.7	4.9	5.0	9.5 ^Y	8.7 ^Y	4.9	11.2 ^Y	13.6 ^Y	13.5 ^Y	6.0 ^Y	8.0	8.8 ^Y	12.3 ^Y	6.0	5.0	4.8	
31																									
Mean Value	4.2	4.9	4.7	3.9	3.9	3.4	4.0	5.4	5.7	7.3	6.8	7.4	7.4	7.5	7.1	7.1	6.5	5.8	5.2	5.1	5.0	4.6	4.6	4.7	
Median Value	4.3	4.5	4.5	3.8	3.5	3.4	3.5	4.5	5.5	6.8	6.0	7.1	7.0	6.0	6.0	6.0	5.0	5.0	4.6	4.7	4.7	4.5	4.7	4.5	
Count	25	23	25	22	20	19	21	21	18	21	25	26	25	28	26	26	29	27	29	29	27	26	27	27	

fEs

Sweep 1.0. Mc to 2.2.0. Mc in 2. min

Manual Automatic

Y 8

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 12.5' N
Long. 139° 57.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

Jun. 1952

(M3000)F2

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	S	S	S	S	S	3.4	3.3	2.9	3.0	3.4	A	A	A	A	(30) ^M	2.9	[30] ^M	3.0	M	A	3.1	A	M	M
2	M	M	A	A	A	A	3.3	A	C	C	C	(2.8) ^P	2.8	[2.8] ^A	2.8	2.7	[2.8] ^C	3.0	[3.1] ^C	3.2	3.3	2.9	2.8	2.7
3	2.6	2.9 ^P	3.1	3.3	3.3	C	C	C	C	3.2	[3.0] ^C	2.8	C	A	C	C	(3.0) ^P	3.0	3.2 ^S	A	C	C	C	C
4	2.8 ^S	3.1	2.8	3.0	2.9	3.3 ^F	3.5	3.3	C	C	(3.0) ^P	2.7	2.7	2.8 ^P	[3.0] ^C	(3.2) ^P	[3.1] ^C	2.9	3.0	3.3	3.1	2.8 ^H	A	A
5	C	C	C	C	C	C	C	C	3.4	A	A	A	A	2.7 ^P	[2.8] ^C	2.9 ^P	[2.9] ^P	(3.1) ^P	3.6 ^P	[3.3] ^A	3.0	A	A	A
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	A	(2.9) ^P	2.8	(2.9) ^P	A	A	3.2 ^P	A	A	S	A	S	S	S
8	(3.1) ^F	[3.0] ^S	(3.0) ^P	2.9	3.1 ^P	3.3	3.5 ^P	[3.5] ^C	3.5 ^P	3.3	A	C	C	C	A	C	3.0	3.0	2.9	3.0	(3.0) ^P	A	A	A
9	C	3.1	A	S	A	AF	A	A	A	A	C	C	C	C	3.0 ^P	C	A	3.0 ^P	3.0	2.9	2.8 ^H	2.8	2.8	
10	A	A	A	A	C	C	C	C	C	A	C	C	C	3.0 ^P	C	C	3.0 ^P	3.1	(3.4) ^P	A	C	A	(2.9) ^P	
11	A	A	AS	2.8 ^P	S	S	3.3	[3.4] ^A	3.5	A	C	A	A	2.8 ^P	2.7	2.9	[2.8] ^S	2.7	3.1	(3.2) ^P	3.3	3.0	3.1 ^P	
12	3.0	3.0	[3.0] ^S	3.1	3.1	3.3 ^F	3.2	3.3	A	A	A	A	A	(2.7) ^P	[2.8] ^A	(3.0) ^P	3.0	3.1	3.2 ^P	3.3	3.0	2.9	2.7	
13	[2.7] ^S	2.7	2.9 ^P	2.6 ^F	3.2 ^F	3.1 ^F	3.4	3.5	A	A	A	A	A	A	A	A	A	C	3.1	3.2	3.3 ^P	3.0	2.9	
14	2.8	S	A	F	C	C	C	C	C	C	A	(3.0) ^P	C	C	2.9	3.0	2.8	2.9	[3.0] ^C	3.0	2.7	2.8	[2.9] ^C	(3.0) ^S
15	C	A	(3.2) ^P	3.1 ^F	2.8 ^F	2.6 ^F	(3.1) ^P	3.0 ^K	A ^K	C ^K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	C ^K	(3.1) ^K	3.3 ^K	3.4 ^K	2.8 ^K	2.8 ^K	(2.6) ^P	[2.6] ^A
16	2.6 ^K	3.0 ^K	S ^K	A ^K	A ^K	2.7 ^K	A ^K	A ^K	A ^K	A ^K	C ^K	A ^K	A ^K	(2.7) ^K	2.8 ^K	[2.8] ^A	2.7 ^K	2.7 ^K	3.1	(3.5) ^P	3.0	C	(2.8) ^F	
17	FS	S	3.5 ^P	[3.1] ^A	2.7 ^F	2.8 ^F	(3.3) ^P	C	A	(2.9) ^P	3.1 ^P	[3.0] ^C	2.8	(3.1) ^P	3.1	[3.0] ^C	2.8	3.1	3.2	3.0	[3.0] ^C	2.9	2.7 ^F	
18	F	(2.9) ^P	(2.9) ^S	(2.9) ^S	S	S	C	A	3.2	3.0	(2.8) ^P	A	C	2.6	2.7	3.1	3.1	A	3.2	3.0	[3.0] ^C	2.9	2.7 ^F	
19	[3.0] ^F	2.9	A	F	FS	3.1	3.2	3.4	3.5	C	A	A	A	[3.0] ^A	2.7	A	A	A	3.1	3.0	[3.0] ^C	3.3	[3.2] ^S	3.1
20	C	C	C	C	C	3.2	(3.3) ^P	3.4	M	M	A	A	A	A	A	A	A	C	(3.1) ^P	(3.2) ^P	3.1	3.0	FS	FS
21	M	M	M	M	M	M	M	M	M	A	A	C	2.7	(2.9) ^P	2.9	(3.0) ^P	(3.0) ^P	3.0	[3.2] ^C	3.3	[3.0] ^S	(2.8) ^P	(2.9) ^P	
22	S	2.9	2.9	3.0	3.1	(3.3) ^P	(3.5) ^P	3.4	[3.2] ^C	3.0 ^P	[2.8] ^C	(2.7) ^P	2.8	(2.8) ^P	2.9	3.0	[3.0] ^S	3.1	3.2	S	(2.9) ^P	AS	S	
23	A	FAS	S	SH	3.3	3.1	3.2	(3.3) ^P	3.2 ^P	A	A	A	A	2.9	(2.8) ^P	3.0	[3.0] ^S	3.0	3.0	(2.9) ^P	3.1	2.7	2.6	2.7
24	(2.9) ^P	3.1 ^P	3.3 ^P	3.2 ^P	3.3	3.0	(3.1) ^P	3.1 ^P	3.2	3.0	2.6	3.0	3.2	3.0	(2.5) ^P	2.8	3.4	3.1	2.9	(2.9) ^P	(2.7) ^P	2.7	2.6	2.7
25	F	(2.8) ^P	(3.0) ^P	(2.9) ^P	(2.9) ^P	(3.2) ^P	(3.2) ^P	2.9 ^K	C ^K	C ^K	3.0 ^K	C ^K	A ^K	A ^K	A ^K	3.1 ^K	3.0 ^K	3.2 ^K	[3.0] ^K	2.9 ^K	A ^K	S ^K	S ^K	
26	S ^K	A ^K	AS ^K	S ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	2.6 ^K	2.7 ^K	3.0 ^K	2.8 ^K	3.1	3.0	2.8	2.9	(3.1) ^P	(2.9) ^S	2.7
27	(2.7) ^S	[2.8] ^C	2.8 ^S	3.0	3.2	3.4	3.6	3.5	3.3	3.4	3.1	C	C	2.9	2.9	2.8	[2.9] ^C	3.0	3.6	3.2	3.0	2.9	[3.0] ^A	
28	3.0	3.0	[3.0] ^M	2.9	(3.0) ^P	2.8	3.1	3.1	A	A	A	A	A	A	A	A	3.0	3.2	3.3	3.0 ^P	[3.0] ^F	3.1	A	S
29	(3.0) ^F	[3.0] ^M	3.1	C	C	C	3.1	3.3	3.2	C	A	A	A	A	C	2.8	2.8	3.0	3.1	[3.1] ^C	3.1	2.8	(3.0) ^P	S
30	S	S	FS	C	C	C	C	C	3.1	(3.0) ^P	3.0	A ^K	A ^K	A ^K	2.5 ^K	A ^K	A ^K	A ^K	2.9 ^K	(2.8) ^P	2.6 ^K	F	S	
31																								
Mean Value	2.9	3.0	3.0	3.0	3.1	3.1	3.3	3.3	3.3	3.2	3.0	2.9	2.9	2.8	2.8	2.9	3.0	3.0	3.1	3.1	3.1	3.0	2.8	2.9
Median Value	2.8	3.0	3.0	3.0	3.1	3.1	3.2	3.3	3.3	3.2	3.0	2.8	2.8	2.8	2.8	3.0	3.0	3.0	3.1	3.1	3.1	3.0	2.8	2.8
Count	12	14	14	14	13	15	18	16	13	9	8	8	18	20	20	20	23	25	26	26	25	21	17	14

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Yamagawa

Lat. 31° 12.5' N
Long. 130° 37.7' E

fminF

Jun. 1952

135° E Mean Time

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	A	1.3	A	A	A	2.0 ^A	2.5	2.8	3.1	4.5 ^A	A	A	A	A	5.4 ^A	4.5 ^A	4.5	3.5	3.0	A	A	A	A	A
2	A	2.5 ^A	3.3 ^A	A	A	A	2.5 ^A	A	C	C	C	5.2	7.0	[6.2] ^A	5.5	3.5	3.0	3.0	A	A	1.7	1.5	2.0 ^A	1.6
3	[1.6] ^A	1.7	2.5 ^A	4.3 ^A	3.7 ^A	C	C	C	C	4.0 ^A	4.0	4.1	C	A	C	C	6.3 ^A	5.1 ^A	A	A	C	C	C	C
4	A	1.7	2.2 ^A	1.9	[1.9] ^A	1.9	2.2	2.5	C	C	3.9	4.2 ^A	5.3 ^A	4.0	4.3 ^A	3.5	3.3	3.0	2.3	2.3 ^A	A	A	1.8	A
5	C	C	C	C	C	C	C	C	C	5.5 ^A	A	A	A	A	6.5	6.5 ^A	7.0 ^A	7.5 ^A	6.5 ^A	5.2 ^A	4.8 ^A	[4.2] ^A	3.5 ^A	A
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	4.7	5.1 ^A	A	A	6.7 ^A	A	A	A	A	A	A	A
8	A	A	2.0 ^A	[1.8] ^A	1.5	1.5	1.9	2.5	3.6	4.2 ^A	A	A	A	A	5.6 ^A	7.0 ^A	4.2 ^A	6.5	5.8 ^A	5.6	6.5 ^A	A	A	A
9	A	3.1 ^A	[3.2] ^A	3.3 ^A	A	AF	A	A	A	C	A	A	A	A	5.6 ^A	C	A	4.5 ^A	2.4	2.4 ^A	2.7 ^A	2.7 ^A	1.6	3.9 ^A
10	A	A	A	C	C	C	C	C	C	A	C	C	C	5.5	C	C	3.5	2.8	3.6	A	A	A	A	A
11	A	A	A	A	3.0 ^A	[3.5] ^A	4.0 ^A	[4.2] ^A	4.3 ^A	[4.2] ^A	4.2 ^A	A	A	4.6 ^A	4.5 ^A	3.8	3.1	5.2 ^A	2.6	4.5 ^A	6.6 ^A	3.2 ^A	2.8 ^A	2.1 ^A
12	[2.4] ^A	2.8 ^A	2.1 ^A	2.1 ^A	2.0 ^A	1.5	2.0	3.7 ^A	A	A	A	A	A	5.6 ^A	[5.6] ^A	5.7 ^A	5.5 ^A	4.7 ^A	3.7 ^A	2.0 ^A	3.5 ^A	2.0 ^A	1.6	2.0 ^A
13	[1.8] ^A	1.6	1.8	1.2	2.2 ^A	1.9	2.5	2.5	A	A	A	A	C	A	A	A	A	4.2 ^A	4.2 ^A	4.5 ^A	3.2 ^A	2.0 ^A	A	2.0 ^A
14	1.6	A	A	1.6 ^F	C	C	C	C	C	C	A	A	4.5 ^A	4.2	4.5	5.2	4.9 ^A	6.0 ^A	[4.8] ^A	3.5 ^A	5.6	2.2 ^A	2.9 ^A	1.7
15	A	A	AF	1.7 ^F	1.3	1.8	3.1 ^A	4.2 ^A	A	A	A	A	A	A	A	A	A	3.8	2.4	3.0 ^A	2.9 ^A	3.8 ^A	2.1 ^A	[2.7] ^A
16	3.3 ^A	4.0 ^A	A	A	A	2.0 ^A	A	A	A	A	A	A	4.0	4.5 ^A	4.5 ^A	[4.4] ^A	4.4 ^A	3.3	2.5	[3.2] ^A	3.8 ^A	C	C	1.6 ^F
17	[1.6] ^A	1.7	[2.0] ^A	2.2 ^A	1.4	1.5	1.9	3.1	[3.2] ^A	3.3	4.0	4.0	4.7 ^A	5.8 ^A	5.6 ^A	A	A	3.1 ^A	2.4	A	A	A	1.6	2.5 ^A
18	2.3 ^A	1.6	1.7	1.7	1.6	1.6	A	A	4.3 ^A	3.5	3.6	[4.2] ^A	4.7 ^A	5.7 ^A	4.6 ^A	4.5 ^A	3.8	A	A	2.9 ^A	AF	A	1.6	3.8 ^A
19	1.7 ^F	1.7	[1.5] ^A	1.3	1.7	1.6	2.1	2.5	3.2	4.1 ^A	A	A	4.6 ^A	[4.8] ^A	4.9 ^A	A	A	5.5 ^A	4.1 ^A	A	C	A	A	C
20	C	C	C	C	C	C	1.9	4.2 ^A	5.8 ^A	M	M	M	M	A	A	A	A	A	4.5 ^A	6.5 ^A	6.0	2.5 ^A	1.7 ^F	A
21	M	M	M	M	M	M	M	M	M	M	A	A	4.7 ^A	6.5	3.7	4.9 ^A	3.3	2.9	2.7	1.7	1.6	2.0 ^A	1.6	3.0 ^A
22	[2.4] ^A	1.8	1.5	1.6	1.2 ^F	2.1 ^A	[2.4] ^A	2.7	3.2	[3.8] ^A	4.3 ^A	A	A	5.2	6.5	4.1 ^A	4.0 ^A	2.5	3.7 ^A	4.0 ^A	[3.8] ^A	3.5 ^A	[2.6] ^A	1.7 ^F
23	A	AF	1.6	1.1	1.6	E	2.0	2.6	4.0 ^A	A	A	A	A	6.5 ^A	6.7 ^A	3.2	2.8	2.6	6.0 ^A	6.0 ^A	3.5 ^A	2.5 ^A	5.7 ^A	1.6
24	A	2.0 ^A	1.6	2.3 ^A	1.6	1.8	2.2	2.6	3.1	4.6 ^A	6.0 ^A	8.0 ^A	6.5 ^A	7.3	5.7 ^A	6.0 ^A	4.5 ^A	4.1	5.1 ^A	[4.6] ^A	4.0 ^A	[3.2] ^A	2.5 ^A	A
25	A	A	1.6	1.6	1.6	1.9	2.7	2.8	C	C	5.7	A	A	A	4.3	4.3 ^A	5.6	A	A	2.7 ^A	A	A	1.6	1.6
26	A	A	2.1 ^A	E	C	C	C	C	C	C	C	C	C	4.1	4.2	3.6	3.3	2.9	2.6	2.0	1.5	[1.6] ^A	1.6	[2.4] ^A
27	3.2 ^A	C	A	1.5	1.6	[2.0] ^A	2.5	2.7	3.3	4.1	4.0	C	A	4.0	5.4 ^A	3.6	3.1	[2.8] ^F	2.5	2.1	[2.7] ^A	3.3 ^A	F	A
28	3.3 ^A	A	A	2.0 ^A	1.6	1.3	2.2	2.7	C	A	A	A	A	A	A	3.9	3.6	3.2	5.7	A	A	5.5	[3.6] ^A	1.6
29	1.9	[2.0] ^M	2.2 ^A	C	C	C	M	3.5	4.2	6.0 ^A	A	A	A	C	A	4.6 ^A	3.5	3.5	[2.6] ^A	1.7	1.9	1.9	1.6	[2.2] ^A
30	2.8 ^A	[2.8] ^A	2.7 ^A	C	C	C	C	C	2.8	4.5 ^A	5.6	A	A	A	5.5	5.6 ^A	A	5.6 ^A	6.0 ^A	7.3 ^A	6.5 ^A	6.4	1.7	[2.2] ^A
31																								
Mean Value	2.3	2.2	2.1	1.9	1.8	1.9	2.4	3.0	3.8	4.2	4.5	5.0	5.1	5.4	5.2	4.8	4.3	4.1	3.8	3.7	4.0	3.1	2.5	2.2
Median Value	2.4	1.8	2.0	1.7	1.6	1.8	2.2	2.7	3.4	4.2	4.1	4.2	4.7	5.5	5.4	4.5	3.9	3.5	3.6	3.5	3.8	3.2	1.8	2.1
Count	13	15	17	18	16	17	17	17	14	12	10	7	10	19	20	19	22	24	25	21	20	17	21	18

fminF

Sweep 1.0 Me to 2.2.0 Me in 2.0 min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

f_{minE}

Jun. 1952

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	1.5 ^F	1.4 ^F	1.4 ^F	1.4	E	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.6	1.7	1.7	1.6	1.8	1.5	1.4	1.5	1.5	E	1.5	1.5
2	1.6	1.1	1.6	1.6	1.4	1.5 ^F	1.5	1.6	C	C	C	2.6	1.7	1.7	C	C	C	C	C	C	1.8	1.5	1.5	1.6
3	1.5	1.5	1.5	1.4	1.5	C	C	C	C	1.7	1.6	1.8	[1.8] ^c	1.8	C	C	1.6	1.5	1.6	1.6	C	C	C	C
4	1.5	1.4	1.1	1.1	1.1	1.2	1.5	1.4	C	C	1.8	1.9	1.9	1.9	2.0	1.8	1.7	1.6	1.6	1.5	1.6	1.5	1.5	1.6
5	C	C	C	C	C	C	C	C	1.6	1.8	1.9	2.1	2.0	1.9	2.1	1.8	1.8	1.6	1.5	1.5	1.6	1.6	1.5	1.6
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	2.0	2.1	2.0	1.9	[1.9] ^c	1.9	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6
8	1.4	1.4	1.4	1.6	E	1.3	1.5	1.6	1.6	1.6	1.8	1.9	1.9	2.0	[1.8] ^c	1.7	1.6	1.5	1.3	1.4	1.4	1.6	1.6 ^F	1.5
9	1.6	1.3	1.4	1.3	1.3	1.0	1.4	1.4	1.5	[1.6] ^c	1.6	1.6	[1.6] ^c	1.7	1.7	[1.6] ^c	1.6	1.6	1.5	1.6	1.5	1.6	1.6	1.5
10	1.5	1.3	E	C	C	C	C	C	C	2.2	[2.0] ^c	1.7	[1.8] ^c	1.9	C	C	1.7	1.5	1.5	1.5	1.5	[1.6] ^c	1.6 ^F	1.6
11	1.6	1.5	1.0	E	E	E	1.5 ^F	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.8	1.6	1.6	1.4	1.5	1.6	1.6	1.5	1.5
12	1.6	1.3	1.7	1.1	E	1.6	1.5	1.6	1.6	1.6	2.0	1.8	1.8	1.8	1.6	1.7	1.7	1.6	1.5	1.5	E	1.5	1.5	1.5 ^F
13	1.5	1.2	E	1.6	E	1.1	1.5	1.5	1.6	1.6	1.7	1.8	[1.8] ^c	1.9	1.9	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
14	1.6	1.2	1.2	1.4	C	C	C	C	C	C	1.7	1.7	1.8	1.9	1.6	1.7	1.6	1.6	1.5	1.6	1.6	1.6 ^F	1.6 ^F	1.6 ^F
15	1.6	1.6 ^F	1.2	1.2	1.2	1.2	1.5	1.6	1.6	1.6	1.6	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.4	1.6	1.6 ^F	1.5	1.8	1.6
16	1.6	1.2	1.6 ^F	1.6 ^F	1.4 ^F	1.4	1.6	1.6 ^F	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	C	C	1.6
17	1.6	1.4	1.4	1.6	1.6	1.7	1.6	1.6	1.5	1.6	1.7	1.7	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.6	1.6	1.6
18	1.6	1.3	1.6	1.5 ^F	1.4	1.3	1.5	1.6	1.5	1.6	1.6	1.7	1.8	1.7	1.7	1.6	1.6	1.7	1.5	1.5	1.5	1.6 ^F	1.6 ^F	1.6 ^F
19	1.5	1.6	1.2	1.6	1.6 ^F	1.6 ^F	1.5 ^F	1.5	1.6	1.7	1.7	1.7	1.6	1.7	1.8	1.7	1.6	1.6	1.5	1.6	[1.6] ^c	1.6	1.6	C
20	C	C	C	C	C	C	1.6 ^F	1.6	1.6	M	M	M	M	M	1.8	1.9	1.6	1.6	1.5	1.4	1.6	1.5	1.6	1.6 ^F
21	M	M	M	M	M	M	M	M	M	1.6	1.6	1.8	1.7	1.8	1.8	1.7	1.6	1.5	1.6	1.5	1.6 ^F	1.5	1.6	1.5
22	1.5	1.6 ^F	1.6	1.4	1.8	1.2	1.5	1.5	1.6	1.8	1.8	1.8	1.7	2.0	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.6
23	1.6 ^F	1.4	1.2 ^F	1.6 ^F	1.6	1.2	1.5	1.5	1.6	1.6	1.8	1.8	2.0	1.8	1.8	1.8	1.7	1.6	1.5	1.4	1.5 ^F	1.6	1.6	1.6
24	1.5	1.4	1.2	1.1	1.6	1.2	1.6 ^F	1.5	1.6	1.6	1.6	1.6	1.7	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.6	1.4	1.6	1.6
25	1.5 ^F	1.6 ^F	1.6 ^F	1.5	1.2	1.3	1.6	1.5	C	C	C	1.7	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.5	1.5	1.5	1.5	1.6
26	1.5	1.6	1.6	1.6	C	C	C	C	C	C	C	C	C	1.9	1.9	1.6	1.9	1.6	1.5	1.5	1.6	1.5	1.6	1.5
27	1.5	[1.4] ^c	1.4	1.6	1.2	1.6	1.5	1.7	1.6	1.6	[1.8] ^c	1.9	1.6	1.7	1.7	1.7	[1.6] ^c	1.6	1.5	1.5	1.5	1.5	1.6	1.5
28	1.5	1.6	1.6	E	1.4	E	1.5	1.6	[1.6] ^c	1.7	[1.7] ^c	1.7	1.7	1.9	2.4	1.7	1.7	1.6	1.5	1.5	1.5	1.5	1.5	1.5
29	1.5	[1.4] ^M	1.3	C	C	C	M	1.6	1.6	2.5	2.5	2.5	1.9	[2.0] ^c	2.0	1.6	[1.6] ^c	1.6	1.5	1.7	1.7	1.5	1.6 ^F	1.5 ^F
30	1.6 ^F	1.6	1.3	C	C	C	C	C	1.5	1.6	1.6	1.8	1.7	1.7	1.8	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.7	1.6
31																								
Mean Value	1.6	1.4	1.4	1.4	1.4	1.3	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.5	1.5	1.6	1.5	1.6	1.6
Median Value	1.5	1.4	1.4	1.4	1.4	1.3	1.5	1.6	1.6	1.6	1.7	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.5	1.5	1.6	1.5	1.6	1.6
Count	25	25	25	22	20	19	20	21	20	22	25	27	27	29	26	26	28	28	28	28	28	28	27	27

Swamp J. O. M. to 7.2. Mc in 2 min

Manual

Automatic

Y 11

IONOSPHERIC DATA IN JAPAN FOR JUNE 1952

電波觀測報告 第4卷 第6号

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発行人

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