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# IONOSPHERIC DATA IN JAPAN

FOR MARCH 1952

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PREPARED BY THE CENTRAL RADIO WAVE OBSERVATORY  
THE RADIO REGULATORY COMMISSION

KOKUBUNJI, TOKYO, JAPAN

CRWO—F 39

THE CENTRAL RADIO WAVE OBSERVATORY  
THE RADIO REGULATORY COMMISSION

KOKUBUNJI, TOKYO, JAPAN

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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

April, 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.

Lat. 49° 28.6' N  
Long. 141° 41.1' E

Wakanai

IONOSPHERIC DATA

135° E Mean Time

foF2

Mar. 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	3.5 <sup>F</sup>	C	C	C	C	C	C	C	7.9	8.4	8.2	7.8	8.1	6.5	6.0	6.1	5.6	6.4 <sup>P</sup>	C	C	C	C	2.8 <sup>H</sup>	2.9 <sup>S</sup>
2	C	C	C	C	C	C	C	C	8.6 <sup>F</sup>	7.4	7.5	7.5	7.5 <sup>J</sup>	7.4	6.7	6.9	6.0 <sup>J</sup>	5.3	5.0	S	S	3.9	3.5 <sup>S</sup>	[3.4] <sup>S</sup>
3	3.3 <sup>S</sup>	[3.2] <sup>S</sup>	3.2	3.3 <sup>P</sup>	3.0	[3.6] <sup>M</sup>	4.3 <sup>P</sup>	6.1	6.6 <sup>H</sup>	[7.0] <sup>C</sup>	7.3	7.5	7.4	[7.2] <sup>C</sup>	7.0	6.5	6.6	6.4	C	C	C	C	C	S
4	[3.3] <sup>S</sup>	[3.3] <sup>S</sup>	2.6 <sup>F</sup>	S	3.0	2.6	[3.9] <sup>S</sup>	5.3	C	C	C	C	8.4	C	C	8.0 <sup>S</sup>	8.0 <sup>S</sup>	7.9	6.7	5.0	4.6	4.4	4.0 <sup>J</sup>	4.1 <sup>J</sup>
5	4.5	4.3 <sup>J</sup>	S	S	S	3.5 <sup>J</sup>	3.9	6.2 <sup>F</sup>	6.7	A	8.1	9.0	8.0	8.3	8.0	7.0	8.0	7.5	6.0	5.3	5.3 <sup>H</sup>	[4.5] <sup>P</sup>	4.6 <sup>H</sup>	4.1
6	4.5 <sup>H</sup>	4.7 <sup>H</sup>	S <sup>H</sup>	3.7	3.3	2.7 <sup>H</sup>	2.7	3.8	5.3	5.8	W	5.6	5.9	16.0 <sup>C</sup>	6.1	6.1	6.9	6.9	4.6	C	S	S	3.9 <sup>J</sup>	3.8 <sup>J</sup>
7	3.7 <sup>J</sup>	3.7 <sup>J</sup>	3.3 <sup>J</sup>	2.3	2.7	2.1 <sup>P</sup>	4.0	5.0	C	C	C	C	C	C	C	C	C	C	5.8	5.7	5.2	4.7 <sup>J</sup>	4.8	[4.7] <sup>C</sup>
8	4.6	4.6	3.9	3.5 <sup>J</sup>	3.2	2.8	3.6	5.3	5.6	6.1	7.5	[8.0] <sup>B</sup>	8.5	8.2	6.4	6.9	7.1	8.0	6.4	6.1	5.7	5.8	4.6	4.1 <sup>J</sup>
9	3.8 <sup>J</sup>	4.0	3.9	3.7	3.8	3.5	4.2	3.6	4.5	5.3	6.0	5.6	5.4	7.0	7.1	6.1	6.3	5.4	4.6	4.4	4.5	4.1	4.0	4.0 <sup>J</sup>
10	4.7	3.5	3.1 <sup>F</sup>	S <sup>FH</sup>	2.6	2.9 <sup>J</sup>	A	5.2	6.3	[6.8] <sup>C</sup>	7.4	6.8	7.5	6.9	6.6	7.3	7.3	6.8	5.9	5.4	4.9	4.9 <sup>F</sup>	4.8	4.5 <sup>F</sup>
11	4.1	3.8	3.6 <sup>J</sup>	[3.9] <sup>F</sup>	3.8	3.8 <sup>J</sup>	4.8 <sup>P</sup>	6.4 <sup>-</sup>	C	C	C	C	C	C	C	C	6.1	6.0	5.3 <sup>P</sup>	5.6 <sup>J</sup>	[5.6] <sup>F</sup>	[5.0] <sup>S</sup>	4.5	4.4 <sup>P</sup>
12	[4.2] <sup>S</sup>	3.9 <sup>J</sup>	4.1 <sup>J</sup>	3.9 <sup>J</sup>	4.2 <sup>P</sup>	3.9	4.9	6.5	7.5	9.0	8.9	9.0	[8.8] <sup>B</sup>	8.5	8.3	8.3	7.2	[7.5] <sup>F</sup>	6.2	5.3	6.4	5.3	4.3 <sup>P</sup>	[3.3] <sup>S</sup>
13	[4.4] <sup>P</sup>	[4.4] <sup>S</sup>	4.4	4.9	4.3	[4.5] <sup>S</sup>	4.7	6.5	8.3	C	C	C	C	C	C	C	7.3	7.4	7.1	6.4	5.7	4.8	4.8	3.8
14	[3.5] <sup>P</sup>	3.0 <sup>P</sup>	3.3 <sup>P</sup>	4.3	[3.6] <sup>C</sup>	2.9	C	C	C	8.9	C	C	C	C	7.6	7.8	8.1	7.8	6.1	5.7	5.5	[4.9] <sup>P</sup>	4.8 <sup>J</sup>	4.9
15	4.7	4.8 <sup>J</sup>	4.5	4.0	4.2	4.2	5.0	B	7.1	8.1	8.7	[8.6] <sup>B</sup>	8.4 <sup>J</sup>	8.3	7.7	7.3	7.0	7.1	5.5	5.5	S	5.3 <sup>J</sup>	4.7 <sup>J</sup>	
16	[4.8] <sup>S</sup>	5.0 <sup>J</sup>	4.7	3.9	[4.2] <sup>S</sup>	4.6	4.6	6.0	7.4	8.0 <sup>M</sup>	9.2	9.1	8.7	8.8	7.3	7.4	8.8	8.5	6.5	6.0	6.1	5.0	4.8 <sup>J</sup>	4.8 <sup>J</sup>
17	5.0	5.3	4.9	4.8 <sup>J</sup>	[4.4] <sup>C</sup>	4.0	5.0	7.3	[8.0] <sup>M</sup>	8.7	9.3 <sup>J</sup>	9.1	9.5 <sup>J</sup>	9.0	8.9	8.2	7.8	7.5	7.0	5.1	5.1	4.3 <sup>J</sup>	[4.4] <sup>S</sup>	4.4
18	S	S	4.2	4.2	[4.2] <sup>S</sup>	4.1	[5.0] <sup>S</sup>	6.0	C	C	C	C	C	C	C	C	7.3	6.4	6.3	5.4	5.3	5.0	[4.6] <sup>S</sup>	4.3 <sup>J</sup>
19	4.4	[4.2] <sup>S</sup>	[3.2] <sup>S</sup>	3.1	4.7	3.8	4.0	5.0	6.1	7.2	8.2	8.3	7.2	7.3	7.3 <sup>J</sup>	7.4 <sup>J</sup>	7.0	C	C	4.9	4.6	4.5 <sup>J</sup>	[4.4] <sup>S</sup>	4.3 <sup>J</sup>
20	[4.3] <sup>S</sup>	4.3 <sup>J</sup>	4.3 <sup>J</sup>	2.8	4.0 <sup>J</sup>	4.1 <sup>J</sup>	4.3 <sup>J</sup>	5.0	5.8	6.4	7.8	8.2	8.0	7.6	7.4	7.1	7.3	7.2	7.0	6.4	6.1	5.1 <sup>J</sup>	[5.0] <sup>S</sup>	4.9
21	4.8	4.0	4.1	4.3 <sup>P</sup>	4.3 <sup>P</sup>	3.6	4.3	5.3	C	C	C	C	C	C	C	7.1	7.4	6.1	6.0	6.6	6.3	6.1	5.5	5.0
22	4.6	5.1	5.5	4.4	4.1	4.4	4.5	5.0	6.8	8.7	9.4 <sup>P</sup>	7.6	8.5	7.0	7.6	6.7	6.9	7.0	6.7	5.7	5.0	4.5 <sup>J</sup>	4.2	[4.4] <sup>S</sup>
23	4.5	4.0 <sup>J</sup>	[3.5] <sup>S</sup>	3.9	4.2	4.5	4.6	5.9	6.7	7.3	6.7	7.0	8.3	8.7	8.1	7.3	6.3	6.3	6.7	7.5	C	S	5.3 <sup>J</sup>	5.3
24	5.3	5.3	4.9	4.0	[3.5] <sup>S</sup>	3.0	4.2	5.7	[6.3] <sup>B</sup>	7.0	6.2	7.7	8.7	8.9	7.5	8.8	8.0	7.3	6.7	4.5	4.5	4.5 <sup>J</sup>	[4.4] <sup>S</sup>	4.2 <sup>S</sup>
25	S	S	[3.9] <sup>P</sup>	4.0	3.0	3.0	[3.8] <sup>S</sup>	4.6 <sup>J</sup>	4.8	5.4 <sup>V</sup>	6.2	5.8 <sup>Z</sup>	6.5	7.3	7.9	7.0	5.9	5.7	5.3	5.3	5.0	4.3	4.0	4.0
26	4.1 <sup>F</sup>	4.0 <sup>F</sup>	4.0 <sup>F</sup>	3.6 <sup>F</sup>	3.6 <sup>F</sup>	2.8	4.7	5.2	5.3	6.3	6.3	7.3	[7.4] <sup>C</sup>	7.6	7.7	7.2	5.6	5.6	5.5	[5.0] <sup>C</sup>	4.4	C	C	C
27	C	C	C	C	C	C	C	C	6.4	C	C	C	C	C	C	C	6.4	5.8	5.8	4.1 <sup>Z</sup>	S	S	S	S
28	3.7 <sup>J</sup>	2.8	2.7	3.0	2.6	2.6	5.0	5.6	5.6	6.5	7.2	8.1	8.1	7.2	7.0	6.6	6.4	6.2	5.1	4.4	4.5	4.6 <sup>J</sup>	4.2 <sup>J</sup>	4.3 <sup>S</sup>
29	4.3	S	S	4.3 <sup>F</sup>	4.4 <sup>F</sup>	4.3 <sup>F</sup>	5.3	5.0	[6.2] <sup>B</sup>	7.3	8.5	8.7	8.5	7.7	7.5	7.2	6.3	6.3	6.2	5.5	(4.8) <sup>P</sup>	S	C	C
30	4.3	4.4	4.3	4.3	(4.2) <sup>P</sup>	4.7	5.2	5.7	(6.6) <sup>P</sup>	8.0	8.3	8.0	7.9	8.5	8.5	6.9	6.1	6.0	6.3	5.6	5.0	S	S	4.8 <sup>J</sup>
31	S	S	S	4.2	4.9 <sup>J</sup>	4.4 <sup>J</sup>	4.3	6.1	6.5	6.3	6.4 <sup>F</sup>	8.5 <sup>J</sup>	[7.2] <sup>B</sup>	6.0	8.0 <sup>J</sup>	6.8	7.0	[6.2] <sup>S</sup>	5.5	6.4 <sup>J</sup>	[4.8] <sup>S</sup>	3.2	S	S
Mean Value	4.3	4.1	3.9	3.9	3.8	3.6	4.5	5.6	6.4	7.3	7.7	7.8	7.9	7.7	7.4	7.1	6.9	6.7	6.0	5.4	5.4	5.2	4.7	4.5
Median Value	4.4	4.1	4.0	3.9	4.0	3.8	4.6	5.4	6.4	7.3	7.6	8.0	8.0	7.6	7.5	7.1	7.0	6.7	6.0	5.4	5.4	5.0	4.7	4.5
Count	26	24	24	25	27	28	26	26	24	23	22	23	24	23	24	25	30	29	28	26	24	23	25	25

Sweep 1.0-5.5 Mc to 15.5 Mc in 2 min

Manual  Automatic

W 1

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

Lat. 45° 23.6' N  
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

fpF2

Mar. 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	(320)F	C	C	C	C	C	C	C	310	320	310	320	300	300	300	300	300	300F	C	C	C	C	C	350H 330S	
2	C	C	C	C	C	C	C	C	C	(300)F	300	300	(300)J	290	290	290	(290)J	300	290	S	S	(360)S	370S	(360)S	
3	(360)S	(360)S	360P	360P	350	(340)M	340P	300	280H	(290)C	300	300	310	(300)C	300	300	310	300	C	C	C	C	C	S	
4	(420)S	(430)S	410F	(380)S	320	430	(380)J	360	C	C	A	320	320	370	360	300	(330)S	320	310	350	(400)B	400H	(390)J	(430)J	
5	380	(350)J	S	S	S	(380)J	360	(290)F	C	C	C	C	C	(300)C	300	310	340	330	350	(400)B	400H	(390)S	S	410	
6	440H	420H	SH	(480)S	460	360H	400	360	470	320	W	380	330	(310)C	290	290	290	290	340	C	S	S	(390)J	S	
7	S	(400)J	(340)J	(370)S	400	380P	320	280	C	C	C	C	C	C	C	C	C	C	320	360	410	(370)S	400	(400)C	
8	400	400	410	(390)J	420	420	360	310	270	300	350	B	310	310	290	290	310	300	300	320	350	310	340	S	
9	S	380	380	390	400	400	400	290K	U	U	310	300	350	320	290	310	300	310	350	400	390	400	390	(360)J	
10	380	360	(410)F	STH	410	(400)J	A	330	310	(320)C	340	330	310	310	310	310	310	290	330	340	360	(380)F	350	380F	
11	420	420	(420)J	(360)F	360	(420)J	340P	300	C	C	C	C	C	C	C	C	300	290	340P	(360)J	(330)F	(350)S	370	340P	
12	S	(390)H	(410)J	(370)S	380P	360	300	280	280	300	300	310	(320)J	320	310	310	300	(300)P	300	340	370	320	330P	(360)S	
13	(470)F	(440)S	440	370	340	(340)S	340	290	310	C	C	C	C	C	C	C	320	320	330	320	330	370	380	380	
14	(350)P	380P	370P	350	(340)C	340	C	C	C	C	C	C	C	C	C	300	310	290	300	340	340	330	370	380	
15	370S	(410)S	340	(360)S	310	(340)S	310	B	300	300	(300)B	(300)J	300	300	300	300	300	310	320	350	(360)S	(360)J	(350)J	S	
16	S	(370)J	360	380	(350)S	320	(300)S	270	300	350H	310	310	320	310	310	320	320	310	290	310	320	310	380S	(390)J	S
17	S	(450)J	330	(340)J	(340)J	(340)J	(380)J	280	310	(320)M	320	(290)J	330	(330)F	330	310	300	300	310	320	(380)J	(420)S	450	S	
18	S	S	420	350	(370)S	350	(320)S	300	C	C	C	C	C	C	C	C	310	310	310	330	380	320	(360)S	(390)J	
19	430	S	(360)S	360	310	330	290	300	350	320	330	300	320	320	(300)J	(300)J	290	C	C	C	300	330	(310)J	(340)S	
20	S	S	(450)J	330	(340)J	(340)J	(380)J	280	310	(320)M	320	(290)J	330	(330)F	330	300	350	310	200	280	350	300	(300)J	(360)S	
21	390	380	360	370P	330P	300	310	300	C	C	C	C	C	C	C	300	320	310	400	330	340	340	290	410	
22	410	440	400	390	360	310	330	290	330	320	300P	340	310	310	320	300	310	310	220	350	360	360	410	420	
23	400	380F	(390)F	370	340	380	350	290	300	300	350	440	320	310	310	300	310	360	310	C	S	C	(390)J	340	
24	420	330	330	330	(370)S	330	330	310	(320)B	320	320	380	340	340	330	320	320	320	310	380	430S	(420)J	400	S	
25	S	S	(440)J	(410)F	420	360	(360)J	310	U	U	330	400Z	350	360	320	310	300	310	310	350	380	350	400	(450)S	
26	(430)F	(410)F	(420)F	(420)F	390F	340	C	C	310	330	340	330	(320)C	320	310	310	280	300	310	(320)C	320	C	C	C	
27	C	C	C	C	C	C	C	C	330	C	C	C	C	C	C	C	300	280	270	320Z	S	S	S	S	
28	(380)J	350	330	330	340	320	290	300	300	320	310	300	300	300	300	300	300	290	300	300	(340)S	(370)J	(370)J	350S	
29	370	S	S	350F	380F	280	310	(320)B	340	350	310	310	320	300	300	290	300	320	300	(330)F	340	S	C	C	
30	390	390	390	360	(360)P	(380)S	350	350	(330)P	310	320	320	330	330	320	290	300	310	320	350	(350)S	S	S	S	
31	S	S	S	S	(370)S	S	S	300	310	460	430P	(320)J	(310)B	380	(320)J	340	310	(320)S	320	(360)J	(380)J	410	S	S	
Mean Value	400	390	390	370	360	360	330	310	320	320	320	310	310	310	310	310	310	310	310	320	340	350	360	380	
Median Value	400	380	400	370	350	360	330	300	320	320	310	320	320	320	300	300	300	310	320	340	360	370	360	370	
Count	20	22	24	25	27	27	25	26	23	21	22	22	24	23	24	25	30	29	28	26	25	22	23	19	

Energy 1.0 Mc to 15.5 Mc in 2 min

fpF2

Manual  Automatic

W 2

Lat. 45° 23.6' N  
Long. 141° 41.1' E

**Wakkanai**

**IONOSPHERIC DATA**

Mar. 1952

f'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	290F	C	C	C	C	C	C	C	300	300	300	300	290	300	300	280	290	280	C	C	C	C	330H	300	
2	C	C	C	C	C	C	C	C	C	290	250	270	270	280	290	280	280	290	270	S	A	320	360	(340)S	
3	330	300	310	300	310	(300)M	300	300	250 <sup>H</sup>	(280) <sup>C</sup>	300	240	300	(280) <sup>C</sup>	270	280	290	270	C	C	C	C	C	S	
4	400	400	400F	260	300	430	(360)S	290	C	C	C	C	C	C	C	C	300	300	290	290	370	350	390	400	
5	320	300	320	410	400	320	310	290	300	A	270	280	290	300	290	300	300	290	280	330	360 <sup>H</sup>	290	320	380	
6	300H	300H	280H	470	400	300H	380	300	440	320	W	380	320	(306) <sup>C</sup>	290	290	280	270	290	(310) <sup>C</sup>	(350)S	370	S	S	
7	370S	320	320	S	290	340	280	260	C	C	C	C	C	C	C	C	C	C	C	250	290	330S	S	C	
8	310	320	380	300	390	340	310	280	260	290	320	300	300	300	280	290	300	280	270	300	300	290	300	S	
9	S	330	350S	370S	380	370	310	290	420	400	310	300	360	320	290	300	300	280	280	330	310	320	340	330F	
10	300	300	400F	350H	370	340	A	300	300	(300) <sup>C</sup>	310	300	300	300	300	300	280	280	280	300	320S	320	300	310	
11	350	360	310	310	290	290	290	260	C	C	C	C	C	C	C	C	280	250	280	310	280	A	320S	310	
12	320	320	330	S	300	310	260	250	250	260	270	300	290	290	290	290	280	280	270	300	300	280	290	330	
13	380	340	370	300	260	280	290	280	270	C	C	C	C	C	C	C	280	270	280	290	290	320	310	300	
14	320	340	310	C	C	300	C	C	C	270	C	C	C	C	290	290	280	280	280A	290	320	290	S	310	300
15	310	370	300	280	280	290	280	260	300	280	290	L	290	270	290	270	300	300	300	300S	320	S	S	S	
16	S	360S	S	330	(320)S	320	S	240	300	250 <sup>H</sup>	300	300	290	300	290	240	290	270	250	280	280	(300)S	330	(330)S	
17	330	330	300	320	(300)C	290	260	300	240	280	280	C	320	300	280	280	280	280	270	270	300	(350)S	400	(400)S	
18	390	380	380	300	(300)S	300	(290)S	280	C	C	C	C	C	C	C	C	280	270	260	270	300	270	310	330	
19	360	310	330	320	270	320	260	300	330	300	300	290	320	300	300	300	250	C	C	270	S	300	(320)S	330	
20	S	S	S	320	320	300	280	280	300	280	300	290	290	310	280	300	300	280	270	280	270	280	280S	310	
21	340	310	300	300	280	250	270	290	C	C	C	C	C	C	C	280	310	280	300	280	290	270	280	320	
22	320	330	310	320	300	250	240	270	300	310	300	320	310	300	C	280	300	300	300	280	300	300	320	350	
23	340	350	350	310	300	310	280	280	360	300	290	L	310	300	310	280	300	300	290	280	280	300	320	300	
24	320	300	290	300	S	300	300	300	250	290	290	360	320	310	310	290	290	290	260	300	300	(300)C	360	300	
25	350	320	380	S	400	310	(300)S	280	290	460	340	350	350	340	320	290	300	280	280	300	300	300	370	340	
26	390F	350F	320F	330F	310F	350	300	270	300	320	340	330	(320)C	320	310	300	280	270	280	(280)C	280	C	C	C	
27	C	C	C	C	C	C	C	C	320	C	C	C	C	C	C	C	280	270	260	270	310	(340)S	360	360	
28	350	350	300	300	300	320	270	270	280	310	310	300	300	290	300	300	280	270	270	290	S	300	310	310	
29	310	S	S	290	300	300	280	280	290	320	300	300	290	310	300	290	270	280	280	280	S	320	C	C	
30	330	320	320	310	290	300	310	270	280	310	310	310	310	310	310	280	300	280	280	S	320	S	S	S	
31	S	S	S	S	320S	S	S	280	300	450	L	310	(340)B	310	310	320	300	300	300	340S	320	S	S	S	
Mean Value	340	330	330	320	320	310	290	280	300	310	300	310	310	300	300	290	290	280	280	290	310	310	310	330	340
Median Value	330	320	320	310	300	300	290	280	300	300	300	300	300	300	300	290	290	280	280	290	300	300	300	320	330
Count	25	25	25	23	26	27	24	27	24	23	21	21	24	23	24	25	30	29	28	27	25	23	24	21	

Sweep 1.0 Mc to 15.5 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

Wakkanai

IONOSPHERIC DATA

foF1

Mar. 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							C	C	L	3.8L	4.0	4.0	4.1	4.0	L	Q	Q	Q						
2							C	C	C	L	Q	Q	Q	4.0	3.8	3.7	Q	Q						
3							Q	L	Q	C	4.0	4.1	4.0	C	Q	Q	Q	Q						
4							S	Q	C	C	C	C	L	C	C	C	L	Q						
5							Q	Q	L	A	4.0	4.0	Q	Q	4.0	3.3	L	Q						
6							Q	Q	3.5	3.8	B	4.0	4.0	C	4.1	3.8L	Q	Q						
7							Q	Q	Q	C	C	C	C	C	C	C	C	C						
8							Q	Q	Q	C	B	4.3	Q	B	3.6	B	Q	Q						
9							Q	Q	3.9	B	4.0	A	4.3	B	Q	Q	Q	Q						
10							A	Q	2.9	C	3.7J	4.2	4.4	4.1	4.0	L	Q	Q						
11							Q	Q	C	C	C	C	C	C	C	C	Q	Q						
12							Q	Q	Q	Q	4.1	4.6	4.5	L	4.0	L	Q	Q						
13							Q	Q	Q	C	C	C	C	C	C	C	Q	Q						
14							C	C	C	4.1	C	C	C	C	4.0	A	A	A						
15							Q	Q	L	3.6	L	L	L	Q	Q	Q	Q	Q						
16							S	Q	L	Q	L	4.5	4.2	4.5	4.4	Q	Q	Q						
17							Q	Q	Q	A	4.2	4.3	4.6	4.3	4.0	3.9	3.8	Q						
18							S	Q	C	C	C	C	C	C	C	C	Q	Q						
19							Q	Q	4.0	4.0	4.3	B	4.4	B	Q	Q	Q	C						
20							Q	Q	Q	3.8	4.3	4.1	4.2	4.2	Q	Q	L	Q						
21							Q	Q	C	C	C	C	C	C	C	4.1	3.5	Q						
22							Q	S	3.6	4.1	4.2	L	4.4	4.3	4.2	Q	Q	Q						
23							Q	Q	L	4.0	L	L	4.5	4.5	Q	Q	L	Q						
24							Q	Q	Q	L	4.1	4.6	4.5	4.3	4.0	4.0	Q	Q						
25							S	Q	Q	4.2	4.3	4.2	4.5	4.3	4.1	4.0	3.5	Q						
26							Q	Q	3.5	3.9	L	C	C	4.4	4.3	4.1	Q	Q						
27							C	C	4.0	C	C	C	C	C	C	C	Q	B						
28							Q	Q	Q	4.4	4.5	4.5	4.5	4.3	4.3	4.1	Q	Q						
29							Q	Q	Q	4.4	4.5	4.5	4.5	4.5	4.2	4.0	Q	Q						
30							Q	Q	Q	4.3	B	B	4.4	4.5	4.3	4.0	4.0	Q						
31							S	B	Q	4.7	L	4.5	B	Q	B	B	Q	Q						
Mean Value									3.6	4.1	4.1	4.3	4.4	4.3	4.1	3.9	3.7							
Median Value									3.6	4.0	4.2	4.3	4.4	4.3	4.1	4.0	3.6							
Count									7	14	16	13	17	15	16	11	4							

foF1

Sweep 1.0 Mc to 15.5 Mc in 2 min

Manual  Automatic



Lat. 46° 23.6' N  
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

Mar. 1952

R'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							C	C	240	280	280	280	250	290	280	Q	Q	Q						
2							C	C	C	B	Q	Q	Q	280	250	Q	Q	Q						
3							Q	270	Q	Q	240	280	230	C	Q	Q	Q	Q						
4							S	Q	C	C	C	C	280	C	C	C	280	Q						
5							Q	Q	290	A	220	B	Q	Q	290	260	280	Q						
6							Q	Q	300	280	330	B	260	C	280	270	Q	Q						
7							Q	Q	C	C	C	C	C	C	C	C	C	C						
8							Q	Q	Q	B	300B	Q	B	B	270B	B	Q	Q						
9							Q	Q	300	B	B	A	B	B	Q	Q	Q	Q						
10							A	Q	290	C	260	250	230	260	260	B	Q	Q						
11							Q	Q	C	C	C	C	C	C	C	C	Q	Q						
12							Q	Q	Q	Q	270	230	270	250	250	270	Q	Q						
13							Q	Q	Q	C	C	C	C	C	C	C	Q	Q						
14							C	C	C	250	C	C	C	C	270	A	A	A						
15							Q	Q	260	220	270	270	B	Q	Q	Q	Q	Q						
16							S	Q	B	Q	230	B	230	270	220	Q	Q	Q						
17							Q	Q	Q	A	A	270	250	270	270	280B	260	Q						
18							S	Q	C	C	C	C	C	C	C	C	Q	Q						
19							Q	Q	300	210	230	B	220	B	Q	Q	Q	C						
20							Q	Q	Q	220	280	220	200	260	Q	Q	300	Q						
21							Q	Q	C	C	C	C	C	C	C	230	320	Q						
22							Q	S	290	280	260	250	270A	A	290	Q	Q	Q						
23							Q	Q	280	240	260	270	310	300	Q	Q	280	Q						
24							Q	Q	Q	260	250	230	290	260	220	260	Q	Q						
25							S	Q	Q	A	300B	270	250	300	290B	280	290	Q						
26							Q	Q	280	280	270	C	C	C	250	280	270	Q						
27							C	C	280	C	C	C	C	C	C	C	Q	B						
28							Q	Q	Q	270	240	250	250	270	250	260	Q	Q						
29							Q	Q	Q	260	270	240	260	270	B	270	Q	Q						
30							Q	Q	Q	290B	B	290B	300B	280	280	290	290	Q						
31							S	B	Q	320	340	B	B	Q	B	B	Q	Q						
Mean Value							270	280	260	270	250	260	270	270	270	260	280							
Median Value							270	290	260	270	250	250	270	270	270	270	280							
Count							1	11	14	19	13	17	14	16	16	18	8							

Sweep 1.0 Mc to 15.5 Mc in 2 min  Manual  Automatic

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

Lat. 46° 28.6' N  
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

foE

Mar. 1952

136° 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							C	C	A	2.5	2.8	B	B	B	2.8 <sup>H</sup>	2.4	2.1	B						
2							C	C	C	B	B	B	A	3.0	B	B	B	A						
3							B	A	A	C	3.0	3.0	3.0	C	B	2.7	2.6	B						
4							S	A	C	C	C	C	B	C	C	C	B	B						
5							B	B	A	A	B	B	3.1	B	3.0	2.8	B	B						
6							B	B	2.8	2.6	2.7	B	B	C	B	B	B	B						
7							B	B	C	C	C	C	C	C	C	C	C	C						
8							B	B	B	B	B	B	B	B	B	B	B	B						
9							B	B	B	B	B	A	B	B	B	B	B	B						
10							A	B	B	C	B	B	B	B	3.0	B	B	B						
11							B	B	C	C	C	C	C	C	C	C	2.8	B						
12							B	B	A	A	A	B	B	B	B	3.0	2.4	B						
13							B	A	2.8	C	C	C	C	C	C	2.5	2.5	2.2						
14							C	C	C	B	C	C	C	C	A	A	A	A						
15							B	B	2.7	B	B	B	B	B	B	B	B	B						
16							S	B	2.8	A	B	B	B	B	B	A	1.8	B						
17							B	2.1	2.7	2.8	A	3.2	B	B	B	B	2.5	B						
18							S	B	C	C	C	C	C	C	C	C	B	B						
19							B	B	3.0	B	B	B	B	B	B	B	B	C						
20							B	2.2	2.8	2.9	3.0	2.9	B	3.0	B	B	B	B						
21							B	B	C	C	C	C	C	C	C	2.6	2.4	1.8 <sup>F</sup>						
22							B	1.4	B	B	A	A	A	A	B	B	B	B						
23							B	B	2.7	B	B	B	B	B	B	B	B	A						
24							B	B	B	B	B	B	B	B	B	B	B	B						
25							S	2.2 <sup>θ</sup>	2.5	B	B	B	B	B	B	B	B	B						
26							B	B	B	B	B	C	C	C	C	C	B	B						
27							C	C	B	C	C	C	C	C	C	C	B	B						
28							B	B	B	B	A	B	B	B	B	B	B	B						
29							1.7	2.4	B	B	B	B	B	B	B	B	B	A						
30							1.7	B	B	B	B	B	B	B	B	B	B	B						
31							S	B	B	B	B	B	B	B	B	B	B	B						
Mean Value							1.7	2.1	2.8	2.7	2.9	3.0	3.1	3.0	2.9	2.7	2.4	2.0						
Median Value							1.7	2.2	2.8	2.7	2.9	3.0	3.0	3.0	3.0	2.6	2.4	2.0						
Count							2	5	9	4	4	3	2	2	3	6	8	2						

foE

Swamp 1.0. Me to 1.2.5. Me in 2. min

Manual  Automatic

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

Lat. 46° 28.6' N  
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

4'E

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

Sweep 1.0 Mc to 15.5 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

**Mar. 1952**

**fEs**

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	E	C	C	C	C	C	C	C	2.9	G	4.1	G	G	G	G	G	B	C	C	C	C	C	E	E
2	C	C	C	C	C	C	C	C	C	G	G	G	3.7	G	G	G	B	3.0	2.4 <sup>S</sup>	2.9	C	E	E	S
3	E	E	E	E	E	M	B	3.0	3.4	C	G	G	G	C	B	G	B	C	C	C	C	C	C	S
4	E	E	E	E	E	E	S	4.0	C	C	C	C	G	C	C	C	B	B	E	E	E	2.7	2.8	2.5
5	E	E	E	E	E	E	B	2.4	5.0	9.8	G	G	G	B	G	G	B	2.7Y	E	S	E	E	E	E
6	E	E	E	E	E	E	B	9.0Y	G	G	G	B	B	C	G	G	B	E	C	E	E	S	E	2.2
7	2.7	E	E	E	E	E	B	B	C	C	C	C	C	C	C	C	C	E	E	E	S	S	S	C
8	E	E	E	E	2.8	E	2.4	B	B	B	B	B	B	B	B	B	B	B	3.3	3.0	2.7	S	E	S
9	S	E	S	S	S	E	B	B	B	G	B	4.0	G	G	G	G	B	2.6	E	E	E	E	E	S
10	E	E	E	E	E	E	B	B	3.0	C	G	G	G	G	G	G	B	B	S	S	S	E	E	E
11	E	E	E	E	E	E	B	2.6	C	C	C	C	C	C	C	C	G	B	E	E	E	2.6	S	2.6
12	E	E	E	E	E	E	B	B	G	3.8	4.2	B	B	B	B	G	G	B	E	E	E	E	E	C
13	E	E	E	E	E	E	B	2.7	G	C	C	C	C	C	C	C	G	E	E	E	E	E	E	E
14	E	2.2	E	C	C	E	C	C	C	C	C	C	C	C	4.1	4.9	4.7	6.3	3.1	4.2	1.6	2.7	2.2	E
15	E	E	E	E	E	E	B	B	G	G	G	B	B	B	B	B	G	B	S	S	S	S	S	S
16	S	S	S	S	S	E	S	B	G	5.0	G	G	G	G	G	4.8	2.6	4.6	3.6	S	S	S	S	S
17	E	E	E	E	C	E	B	G	G	4.8	5.0	G	G	B	B	B	G	E	E	E	E	S	S	S
18	S	E	E	E	S	E	S	B	C	C	C	C	C	C	C	C	2.8	E	E	E	E	E	2.8	E
19	E	E	E	E	E	E	B	B	G	B	B	B	B	B	B	B	B	C	C	S	S	S	S	E
20	S	S	E	E	E	E	B	G	G	C	G	G	B	B	B	B	B	E	E	E	E	E	S	E
21	E	E	E	E	E	E	B	B	C	C	C	C	C	C	C	C	G	E	E	E	E	E	E	E
22	E	E	E	E	E	E	B	G	G	G	4.5	4.7	4.0	5.2	B	G	G	E	E	E	E	E	E	E
23	E	E	E	E	E	E	B	B	G	B	B	B	B	B	B	B	B	3.0	E	E	E	E	E	E
24	E	E	E	E	S	E	B	B	B	B	B	B	B	B	B	B	B	B	E	E	E	E	E	S
25	S	E	1.6	1.6	1.6	E	S	G	G	4.5	G	G	B	G	B	G	B	E	E	E	E	E	E	E
26	E	E	E	E	E	E	B	B	B	B	5.0	C	C	C	B	B	B	E	E	C	E	E	E	C
27	C	C	C	C	C	C	C	C	B	B	C	C	C	C	C	C	G	E	E	E	E	E	E	E
28	E	E	E	E	E	E	B	G	B	B	3.8	3.4	B	B	B	B	B	E	E	E	S	E	E	E
29	E	S	S	E	E	E	G	G	G	G	G	G	G	G	G	G	G	3.8	2.8	2.4Y	S	S	C	C
30	E	E	E	E	E	S	G	G	G	G	B	B	B	B	B	B	G	E	S	S	S	S	S	S
31	S	S	S	S	S	S	G	G	G	B	B	B	B	B	B	B	B	E	S	S	E	S	S	S
Mean Value	2.7	2.2	1.6	1.6	2.3		3.6	4.0	4.7	5.6	4.4	4.0	3.9	5.2	4.1	4.9	3.4	3.9	3.0	3.1	2.4	2.7	2.6	2.4
Median Value	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
Count	23	24	24	22	21	25	4	14	18	15	16	13	12	9	11	15	17	15	26	21	20	16	20	17

**fEs**

Bresep 1.0 Mc to 15.5 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

# Wakkanai

## IONOSPHERIC DATA

135° E Mean Time

Mar. 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	(3.0)F	C	C	C	C	C	C	C	3.1	3.0	3.1	2.9	3.0	3.2	3.1	3.1	3.1	3.1PB	C	C	C	C	3.0H	3.0S
2	C	C	C	C	C	C	C	C	C	(3.2)F	3.2	3.1	(3.2)J	3.2	3.1	3.2	(3.3)J	3.2	3.3	S	S	2.9	2.9S	(2.9)S
3	(2.9)S	(2.9)S	2.9	3.0P	3.0	(3.0)M	3.0P	3.2	3.2H	(3.2)C	3.1	3.2	3.0	(3.0)C	3.0	3.1	3.0	3.1	C	C	C	C	C	S
4	(2.7)S	(2.5)S	2.7F	(2.4)S	3.1	2.5	(2.7)S	2.9	C	C	C	3.2	3.0	C	C	C	(3.0)S	2.9	3.0	2.8	2.6	2.5	(2.8)J	(2.5)J
5	2.7	(2.8)J	S	S	S	(2.7)J	2.8	(3.2)F	3.1	A	C	3.0	2.7	2.9	3.1	3.1	2.9	2.9	2.9	2.6	2.9H	(2.8)S	(2.7)H	2.6
6	2.4H	2.4H	SH	2.5	2.4	3.0H	2.7	2.7	3.4	3.1	W	2.9	2.9	(3.0)C	3.2	3.2	3.2	3.2	2.9	C	S	S	(2.6)J	S
7	S	(2.6)J	(3.0)J	2.5	2.7	2.8P	3.1	3.3	C	C	C	C	C	C	C	C	C	C	2.9	2.8	2.5	(2.8)S	2.6	(2.6)C
8	2.6	2.6	2.6	(2.7)J	2.5	2.5	2.8	3.2	3.2	3.1	2.8	(2.9)B	3.0	3.1	3.2	3.2	3.0	3.1	3.2	3.1	3.2	3.1	2.8	3.1
9	S	2.7	2.7	2.7	2.7	2.6	2.6	3.2	2.8	2.7	3.1	3.1	3.0	2.9	3.2	3.1	3.2	3.1	2.8	2.7	2.7	2.6	2.7	(2.7)J
10	2.7	2.8	(2.7)F	SFH	2.7	(2.7)J	A	2.9	3.2	C	2.9	2.9	3.0	3.1	3.0	3.1	3.0	3.2	2.9	2.8	2.8	2.8	(2.7)F	2.8
11	2.5	2.6	(2.5)J	(2.6)J	2.9	(2.6)J	2.9P	2.9	C	C	C	C	C	C	C	C	3.1	3.5	2.8P	(2.8)J	(2.9)J	(2.8)S	2.8	2.7F
12	(2.8)S	(2.6)J	(2.3)J	(2.6)J	2.9P	2.8	3.0	3.3	3.3	3.2	3.1	3.2	(3.2)B	3.1	3.1	3.1	3.2	(3.0)P	3.1	2.9	2.7	3.0	3.0P	(2.8)S
13	(2.4)F	(2.4)S	2.5	2.8	2.9	(2.9)S	2.9	3.3	3.1	C	C	C	C	C	C	C	3.0	3.0	2.9	3.0	3.0	2.7	2.6	2.6
14	(2.9)F	(2.7)P	2.8P	2.8	(2.8)C	2.9	C	C	C	3.2	C	C	C	C	3.1	2.9	3.1	3.2	3.1	2.9	3.0	(2.7)P	(2.8)J	2.7
15	2.7	(2.6)S	2.9	2.7	3.0	2.9	3.0	B	3.2	3.2	3.1	B	(3.3)J	3.0	3.1	3.2	3.1	3.0	3.0	2.8	S	(2.8)J	(2.8)J	S
16	S	(2.8)J	2.7	2.8	(2.9)B	3.0	3.0	3.2	3.3	2.9H	3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.0	3.1	2.8	(2.6)J	(2.6)S
17	(2.7)S	2.6	2.5	(2.8)J	(2.8)C	2.9	3.1	3.0	(3.0)M	2.9	(3.2)J	2.9	(3.0)F	2.9	3.0	3.1	3.1	3.1	3.0	3.0	3.0	2.7	(2.6)S	2.5
18	S	S	2.6	2.7	(2.8)S	2.8	(2.9)S	3.0	C	C	C	C	C	C	C	C	3.1	2.9	3.0	3.0	2.6	3.0	(2.8)J	(2.6)J
19	2.4	(2.6)S	(2.9)S	2.9	3.0	3.0	3.3	3.2	2.8	3.0	3.0	3.2	3.1	3.0	(3.2)J	(3.2)J	3.2	C	3.1	2.8	2.8	(3.0)J	(2.9)S	(2.8)J
20	S	S	(2.6)J	3.0	(2.8)J	(2.8)J	(2.9)J	3.4	3.1	3.3	3.3	3.0	3.1	2.9	3.2	2.8	3.1	3.0	3.2	2.9	3.1	3.1	(3.1)J	(2.8)S
21	2.7	2.7	2.8	2.7P	2.9P	3.3	3.0	3.2	C	C	C	C	C	C	C	3.0	3.0	3.0	2.5	2.9	2.9	3.1	2.6	2.5
22	2.6	2.4	2.7	2.7	2.7	3.1	2.9	3.2	2.9	3.1	3.2P	2.8	3.0	3.1	3.0	3.1	3.0	3.0	2.9	2.8	2.8	(2.9)J	2.7	(2.7)S
23	2.7	2.8Z	(3.0)S	2.8	2.9	2.7	3.1	3.2	3.2	3.1	3.1	2.5	3.0	3.2	3.1	3.1	3.1	2.7	2.9	C	S	C	(2.6)J	2.9
24	2.6	3.0	3.0	2.9	(2.8)S	2.8	3.0	3.1	(3.0)B	3.0	3.1	2.8	2.9	2.9	2.9	3.0	3.0	3.0	3.1	2.7	2.5	(2.5)J	S	2.6S
25	S	S	(2.5)P	2.7	2.8	2.7	(2.8)S	(2.8)J	3.2	2.8P	2.9	2.6	2.9	2.7	3.0	3.0	3.1	3.0	2.9	2.8	2.7	2.8	2.6	2.5
26	(2.5)F	(2.5)F	(2.5)F	(2.5)F	(2.6)F	2.7	2.8	3.0	(2.8)J	3.0	3.0	3.0	(3.0)C	3.0	3.1	3.0	3.2	3.1	3.1	(3.0)C	3.0	C	C	C
27	C	C	C	C	C	C	C	C	2.9	C	C	C	C	C	C	C	3.1	3.2	3.3	3.0Z	S	S	S	S
28	(2.7)J	3.0	3.0	3.0	2.9	3.0	3.1	3.2	3.1	3.2	3.0	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.0	(2.6)J	(2.7)J	2.9S
29	2.7	S	S	2.7F	2.7F	2.7F	3.3	3.1	(3.0)B	2.9	2.7	3.1	3.0	3.1	3.1	3.1	3.0	3.0	3.0	(2.9)P	2.9	S	C	C
30	2.6	2.7	2.7	2.8	(2.7)F	2.6	3.0	2.8	(2.9)P	3.1	3.0	2.9	2.9	2.9	2.9	3.2	3.1	3.0	3.0	2.7	(2.8)S	S	S	S
31	S	S	S	2.6	(2.7)J	(2.6)S	2.5S	2.1	3.1	2.5	2.6P	(3.1)J	(2.9)B	2.7	(3.1)J	3.0	3.0	(3.0)S	3.0	(2.8)J	(2.8)S	2.7	S	S
Mean Value	2.7	2.7	2.7	2.8	2.8	2.8	2.9	3.1	3.0	3.0	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.8	2.8	2.7	2.7
Median Value	2.7	2.6	2.7	2.8	2.8	2.8	3.0	3.2	3.1	3.0	3.1	3.0	3.0	3.1	3.1	3.1	3.1	3.0	3.0	2.9	2.8	2.8	2.8	2.7
Count	22	23	24	26	27	28	26	26	24	22	22	22	24	23	24	25	30	29	28	26	24	23	24	21

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

IONOSPHERIC DATA

Lat. 45° 23.6' N  
Long. 141° 41.1' E

Wakkanai

Mar. 1952

f min F

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	E	C	C	C	C	C	C	C	2.8	2.5	2.8	3.1	3.2	3.4	2.8	2.8	2.3	1.8	C	C	C	C	1.8	1.4	
2	C	C	C	C	C	C	C	C	C	3.4	3.0	4.0	3.2	3.3	3.0	2.5	3.0	2.0	2.2A	S	A	1.9	2.0	(2.0) <sup>S</sup>	
3	2.0	E	1.4	E	E	M	2.0	2.0	2.8	(2.9) <sup>C</sup>	3.0	3.7	3.1	(3.2) <sup>C</sup>	3.2	3.2	2.8	1.8	C	C	C	C	C	S	
4	1.8	1.8	2.0	1.4	1.8	1.8	(2.2) <sup>S</sup>	2.6	C	C	C	C	3.6	C	C	C	2.5	2.2	2.0A	1.8	1.9	2.2	2.8A	2.5A	
5	2.3	2.0	2.0	2.6 <sup>S</sup>	E	E	2.0	1.9	3.0	A	3.2	3.8	3.1	3.3	3.0	2.9	2.6	2.0	2.0	2.0	2.5 <sup>S</sup>	2.0	1.3	1.8	
6	1.6	1.5	1.8	2.5 <sup>S</sup>	1.2	E	2.0	2.0	2.8	3.0	3.6	4.0	3.0	(3.0) <sup>C</sup>	3.0	2.9	3.2	2.8	2.2	(2.2) <sup>C</sup>	2.2	(2.2) <sup>S</sup>	2.2	3.6 <sup>S</sup>	
7	3.6 <sup>S</sup>	E	2.2	2.0 <sup>S</sup>	E	E	2.0	2.2	C	C	C	C	C	C	C	C	C	C	2.0	1.8	3.0 <sup>S</sup>	2.8 <sup>S</sup>	4.0 <sup>S</sup>	(3.8) <sup>C</sup>	
8	1.6	2.1	2.0	E	1.8	E	2.2	2.2	3.0	4.0	3.8	3.5	5.0	3.3	3.3	5.0	3.3	2.5	2.4A	2.7	3.0	3.0 <sup>S</sup>	2.0	4.0 <sup>S</sup>	
9	3.8 <sup>S</sup>	E	2.5 <sup>S</sup>	2.5 <sup>S</sup>	2.0 <sup>T</sup>	2.0	2.5	2.5	3.3	4.0	3.8	4.0A	4.0	4.0	3.3	3.4	2.9	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6F
10	2.0	1.3	2.0 <sup>F</sup>	E	E	E	A	2.6	2.6	(2.9) <sup>C</sup>	3.2	3.2	3.3	3.5	3.3	3.2	2.4	2.2	2.4A	3.0 <sup>S</sup>	2.5 <sup>S</sup>	2.0	1.8	2.2	
11	1.4	1.4	1.4	E	E	E	E	2.2	2.2	C	C	C	C	C	C	C	3.0	2.6	2.0	2.0	1.8	A	2.6 <sup>S</sup>	2.0	
12	1.5	1.4	E	3.6 <sup>S</sup>	E	E	2.0	2.6	3.0	3.3	3.4	3.3	3.7	3.5	3.2	3.1	2.8	2.2	2.0	2.2	2.0	2.0	2.0	2.0	2.2
13	2.2	1.6	1.2	1.2	E	E	1.9	2.6	3.0	C	C	C	C	C	C	C	2.6	2.2	2.2	1.4	1.4	1.8	1.4	1.8	
14	1.4	1.4	1.4	C	C	C	1.8	C	C	3.1	C	C	C	C	3.2	4.0	4.7A	5.5A	4.2 <sup>S</sup>	4.0A	1.8	4.2 <sup>S</sup>	2.3	2.0	
15	2.0	1.4	2.0	1.3	E	1.4	2.0	2.6	3.0	3.2	3.4	4.0	3.8	4.0	4.0	4.0	3.0	2.5	3.6 <sup>S</sup>	3.6 <sup>S</sup>	2.6 <sup>S</sup>	4.0 <sup>S</sup>	4.0	5.0 <sup>S</sup>	
16	S	4.0 <sup>S</sup>	3.6 <sup>S</sup>	2.0	(2.0) <sup>S</sup>	2.0	4.0 <sup>S</sup>	2.6	3.5	3.8	3.4	4.0	3.6	3.6	3.0	3.0	3.2	2.2	1.4	2.3A	2.2 <sup>S</sup>	3.8 <sup>S</sup>	2.2	5.0 <sup>S</sup>	
17	1.3	2.2	1.3	2.2	(2.2) <sup>C</sup>	2.2	2.2	2.4	2.8	3.9A	3.7A	3.8	3.8	3.6	3.6	3.4	2.8	2.2	2.2	2.0	2.0	(2.1) <sup>S</sup>	2.2 <sup>S</sup>	(2.1) <sup>S</sup>	
18	2.0 <sup>S</sup>	E	2.2	E	S	E	S	2.6	C	C	C	C	C	C	C	C	3.0	2.8	1.8	1.5	2.0	2.0	2.6 <sup>S</sup>	2.0	
19	2.3	1.2	1.2	1.2	2.0	2.2	2.6	3.6	3.3	3.5	3.6	4.4	3.6	4.3	4.0	3.5	2.6	C	C	2.6 <sup>S</sup>	3.6 <sup>S</sup>	2.6 <sup>S</sup>	(2.3) <sup>S</sup>	2.0	
20	S	4.0 <sup>S</sup>	2.0	2.0	2.0	2.0	2.0	2.5	3.6	3.2	3.4	3.3	3.5	3.2	3.4	3.3	2.8	2.1	1.7	1.8	1.8	1.8	2.2 <sup>S</sup>	1.6	
21	2.0	1.3	1.3	E	1.4	1.5	1.9	2.3	C	C	C	C	C	C	C	3.0	2.8	2.4	1.8	1.4	1.4	1.6	1.4	2.2	
22	1.4	1.8	E	1.8	1.4	1.2	1.4	3.0	3.0	3.4	3.0	2.9	3.7	4.0	3.4	3.0	3.2	2.4	2.0	1.4	2.0	1.4	1.4	2.3	
23	1.4	1.9	2.0	1.2	E	E	2.0	2.8	2.9	3.0	3.4	3.6	4.0	3.8	3.8	3.0	3.0	2.5	2.2	(2.1) <sup>C</sup>	2.0	(2.3) <sup>C</sup>	2.6	2.2	
24	2.6	2.6	2.3	2.2	(2.2) <sup>S</sup>	2.2	1.8	2.4	3.3	3.3	3.4	3.4	3.5	3.4	3.3	3.2	3.2	2.2	1.4	1.4	2.0	2.2	2.2	3.6 <sup>S</sup>	
25	2.2	2.0	2.2	3.6 <sup>S</sup>	2.2	1.3	(1.8) <sup>S</sup>	2.4	3.2	3.6	3.8	3.6	3.6	3.6	3.6	3.0	2.8	2.4	2.0	1.6	1.6	1.2	1.2	1.8	
26	1.3	1.3	1.3	1.3 <sup>F</sup>	1.2 <sup>F</sup>	1.2	1.6	2.4	2.8	3.3	3.5	C	C	3.5	3.4	3.6	3.0	3.0	2.6	(2.4) <sup>C</sup>	2.3	C	C	C	
27	C	C	C	C	C	C	C	C	2.8	C	C	C	C	C	C	2.0	2.0	3.6	1.5	2.0	2.0	(2.1) <sup>S</sup>	2.2	1.5	
28	E	2.0	E	2.0	1.4	2.0	2.2	2.8	2.9	3.5	3.3	3.6	3.5	3.5	3.5	3.2	2.8	2.2	1.4	2.0	4.0 <sup>S</sup>	1.8	1.6	1.7	
29	1.8	S	S	1.5	2.2A	1.6	2.2	2.8	3.4	3.2	3.3	3.2	3.6	3.6	3.8	3.4	3.0	2.2A	2.2A	2.2	3.0 <sup>S</sup>	2.2	C	C	
30	1.3	1.4	1.8	2.0	2.2	2.2	2.3	3.2	3.4	3.7	4.3	4.6	4.0	4.0	3.5	3.5	3.4	3.0	1.4	4.0 <sup>S</sup>	3.0 <sup>S</sup>	S	S	4.5 <sup>S</sup>	
31	S	S	S	3.6 <sup>S</sup>	3.0 <sup>S</sup>	4.6 <sup>S</sup>	3.7 <sup>S</sup>	4.0	3.9	3.8	4.0	4.2	(3.6) <sup>B</sup>	3.0	4.0	4.0	3.3	2.8	4.0 <sup>S</sup>	3.6 <sup>S</sup>	2.0	2.6 <sup>S</sup>	S	S	
Mean Value	2.0	1.9	1.9	2.1	1.9	2.0	2.2	2.6	3.1	3.4	3.4	3.7	3.6	3.5	3.4	3.3	2.9	2.5	2.2	2.2	2.3	2.3	2.2	2.2	
Median Value	1.8	1.4	1.9	1.8	1.4	1.4	2.0	2.5	3.0	3.3	3.4	3.6	3.6	3.5	3.4	3.2	3.0	2.4	2.0	2.0	2.0	2.1	2.2	2.2	
Count	26	26	26	27	26	27	25	27	24	23	23	22	23	23	24	25	30	29	28	28	28	26	26	27	

f min F

Sweep J.L.O. Mc to J.E.S. Mc in 2 min

Manual  Automatic

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

Lat. 40° 28.6' N  
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

Mar. 1952

fminF

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	E	C	C	C	C	C	C	C	1.4	1.2	1.5	1.4	1.7	1.6	1.4	1.5	1.5	B	O	C	C	C	E	E	
2	C	C	C	C	C	C	C	C	C	1.3	1.4	1.4	1.4	2.0	2.0	1.4	B	1.4	1.9	1.4	1.4	E	E	S	
3	E	E	E	E	E	M	B	1.4	1.4	(1.8) <sup>C</sup>	2.2	2.4	2.0	C	B	1.8	1.8	B	C	C	C	C	C	S	
4	E	E	E	E	E	E	S	1.4	C	C	C	C	2.0	C	C	C	B	1.8	E	E	E	2.2	2.3	2.2	
5	E	E	E	S	E	E	B	2.0	2.0	1.2	1.4	1.2	2.0	B	2.3	2.3	B	2.0	E	S	E	E	E	E	
6	E	E	E	S	E	E	B	3.5	E	2.2	2.0	B	B	C	2.2	2.2	B	1.9	E	C	E	S	E	E	
7	E	E	E	S	E	E	B	B	C	C	C	C	C	C	C	C	C	C	E	E	S	S	S	C	
8	E	E	E	E	E	E	E	2.1	B	B	B	B	B	B	B	B	B	B	2.0	2.5	2.0	S	E	S	
9	S	E	S	S	S	E	B	B	B	2.6	B	2.2	2.8	2.6	2.2	2.4	B	2.0	E	E	E	E	E	S	
10	E	E	E	E	E	E	B	1.6	B	(2.4) <sup>C</sup>	2.5	2.5	2.2	2.4	2.4	2.3	B	2.2	S	S	E	E	E	E	
11	E	E	E	E	E	E	B	1.8	C	C	C	C	C	C	C	C	C	2.6	B	E	E	E	1.7	S	2.0
12	E	E	E	S	E	E	B	B	2.6	2.2	2.2	B	B	B	B	2.2	2.2	1.4	E	E	E	E	E	C	
13	E	E	E	E	E	E	B	2.2	2.2	C	C	C	C	C	C	C	C	2.0	1.4	E	E	E	E	C	
14	E	E	E	E	E	C	C	C	C	1.4	C	C	C	C	C	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.8	E
15	E	E	E	E	E	E	B	B	2.3	2.7	2.6	B	B	B	B	B	B	2.6	B	S	S	S	S	S	
16	S	S	S	E	S	E	S	B	2.5	2.2	1.4	1.4	1.5	1.4	1.4	2.0	1.4	1.4	1.4	2.2	S	S	E	S	
17	E	E	E	E	C	E	B	1.9	1.4	1.4	1.4	1.8	2.0	B	B	B	2.1	1.4	E	E	E	S	S	S	
18	S	E	E	E	S	E	S	B	C	C	C	C	C	C	C	C	1.2	2.0	E	E	E	E	2.6	S	
19	E	E	E	E	E	E	B	B	1.6	B	B	B	B	B	B	B	B	B	C	S	S	S	S	E	
20	S	S	E	E	E	E	B	E	2.5	1.2	1.2	2.2	B	B	B	B	B	B	E	E	E	E	S	E	
21	E	E	E	E	E	E	B	B	C	C	C	C	C	C	C	1.4	1.4	1.3	E	E	E	E	E	E	
22	E	E	E	E	E	E	B	1.4	1.4	1.4	1.3	2.3	2.2	2.2	B	2.5	1.4	1.4	1.4	E	E	E	E	E	
23	E	E	E	E	E	E	B	B	1.4	2.2	B	B	B	B	B	B	B	1.4	E	C	E	E	E	E	
24	E	E	E	E	S	E	B	B	B	B	B	B	2.3	B	B	B	B	B	E	E	E	E	E	S	
25	S	E	1.4	1.3	E	E	S	2.2	1.4	2.9	2.8	2.4	B	B	B	2.2	B	B	E	E	E	E	E	E	
26	E	E	E	E	E	E	B	B	B	B	3.3	C	C	B	B	B	2.0	B	E	C	E	C	C	C	
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	1.4	1.4	E	E	E	E	E	E	
28	E	E	E	E	E	E	B	1.4	B	B	2.8	3.2	B	B	2.2	B	1.5	1.4	E	E	S	E	E	E	
29	E	S	S	S	E	E	E	1.5	1.6	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	2.0	1.2	S	S	C	C	
30	E	E	E	E	E	S	1.4	1.4	1.4	1.4	B	B	B	B	1.4	1.4	1.4	1.4	E	S	S	S	S	S	
31	S	S	S	S	S	S	S	1.4	1.4	B	B	B	B	B	B	B	B	1.2	S	S	E	S	S	S	
Mean Value			1.4	1.3			1.7	1.8	1.8	1.8	2.0	2.0	2.0	2.0	1.9	1.9	1.7	1.5	1.8	1.7	1.6	1.8	2.2	2.1	
Median Value	E	E	E	E	E	E	1.6	1.5	1.5	1.6	1.8	2.2	2.0	2.2	2.0	2.0	1.5	1.4	E	E	E	E	E	E	
Count	2.3	2.4	2.4	2.3	2.1	2.5	4	1.4	1.8	1.8	1.6	1.3	1.2	9	1.1	1.5	1.7	1.5	2.6	2.1	2.0	1.6	2.0	1.7	

Sweep 1.0 Mc to 15.5 Mc in 2 min  Manual  Automatic

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

Lat. 39° 43.5' N  
Long. 140° 08.2' E

# Akita

## IONOSPHERIC DATA

Mar. 1952

foF2

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	3.5 <sup>FF</sup>	3.1 <sup>FF</sup>	3.3 <sup>F</sup>	3.2 <sup>F</sup>	2.7	2.8	3.1	5.1	7.0	7.9	7.9	8.5 <sup>J</sup>	7.7	7.3	6.1	6.1	5.9	6.2	4.7	4.0	3.4	3.3	3.4	3.4	
2	3.4	3.1	3.2 <sup>H</sup>	3.3 <sup>M</sup>	3.3	3.0	3.6 <sup>F</sup>	5.4	6.9	7.9	8.7	8.0	8.3	8.2	7.4	7.2	6.3	5.8	4.6	3.4	3.5	3.1	3.1	3.1	
3	3.2	3.3	3.2	3.0	3.2	3.5	3.4	5.3	5.9	7.1	7.2	7.4	7.6	7.5	BS	B	6.5	6.7	A	4.3	A	4.3 <sup>F</sup>	A	A	
4	3.1 <sup>FF</sup>	3.3 <sup>F</sup>	3.2 <sup>FF</sup>	4.4 <sup>FF</sup>	2.3 <sup>F</sup>	2.2 <sup>F</sup>	3.2	4.6	7.3 <sup>S</sup>	6.6	S	8.4	8.8	8.8	7.9	7.2	7.2	9.0 <sup>S</sup>	7.2	AS	7.3	2.8	S	FS	
5	FS	4.4 <sup>FF</sup>	2.7 <sup>FF</sup>	2.6	2.8	3.5	3.9	3.9	6.4	(7.2) <sup>P</sup>	7.2	7.2	7.8	8.5	8.2	6.5 <sup>S</sup>	6.5	7.0 <sup>J</sup>	A	A	4.9	5.1	4.8	4.3	
6	4.6	3.6	3.7 <sup>F</sup>	3.1	3.0 <sup>F</sup>	3.1 <sup>F</sup>	3.3	5.7	6.4	7.2	6.6 <sup>P</sup>	8.0	6.9	8.0	7.4	7.8	7.1 <sup>M</sup>	6.6	5.7	4.6 <sup>S</sup>	A	5.1 <sup>F</sup>	4.8	5.1 <sup>F</sup>	
7	4.6	4.1 <sup>FF</sup>	4.7 <sup>F</sup>	4.6 <sup>FF</sup>	3.3 <sup>FF</sup>	3.1 <sup>FF</sup>	5.3	6.1	6.7	6.5	7.6	9.6	9.0	9.8	7.1	8.5	8.6	9.3	7.7	5.1	4.9	4.7	4.4	(4.8) <sup>F</sup>	
8	4.4	4.0	3.7 <sup>F</sup>	3.4 <sup>F</sup>	3.2 <sup>F</sup>	3.0 <sup>F</sup>	3.8 <sup>M</sup>	5.7	5.8	6.6	8.5	11.2	10.4	8.5	7.2	6.2	7.5	7.2	7.7	5.8	A	A	AS	4.2	
9	4.0	4.3	3.9	3.7	3.8	3.7 <sup>F</sup>	4.8	5.5	5.7	6.8 <sup>M</sup>	7.1	7.4	7.4	7.6	8.9	7.2	6.4	6.4	5.7	5.0	5.1	4.7	4.7 <sup>M</sup>	4.6	
10	4.4	3.3	3.4 <sup>H</sup>	3.5	3.2	3.3	4.7	5.5	7.5	7.0	6.8	7.8 <sup>M</sup>	8.0	7.5	6.9	7.0	7.7	6.9	6.3	(5.6) <sup>F</sup>	4.8	5.1 <sup>M</sup>	4.7	4.6	
11	4.5	4.5	3.9	4.6 <sup>F</sup>	3.8 <sup>M</sup>	3.9 <sup>M</sup>	5.2	6.7	8.7	9.2	7.0	9.2	9.0	9.1	9.4	8.1	7.9	7.0	6.1	5.6	5.4	5.0	4.3	3.9	
12	4.5 <sup>H</sup>	4.3	4.4 <sup>H</sup>	4.1 <sup>H</sup>	4.2	3.7	5.6	7.3	7.7 <sup>J</sup>	8.0	8.3	8.2	10.3	10.0	7.8	7.7	7.5	7.1	7.3	(6.4) <sup>S</sup>	5.6 <sup>S</sup>	5.6 <sup>S</sup>	5.0 <sup>S</sup>	3.9	
13	4.1	4.1 <sup>P</sup>	4.0	4.1	3.8	3.1	4.5	(6.8) <sup>S</sup>	9.0	9.4	9.2	9.1	9.3	9.7	(8.4) <sup>S</sup>	7.0	7.1	8.0	7.6	7.4	6.5	4.9	4.5	4.6 <sup>H</sup>	
14	4.3 <sup>H</sup>	(4.3) <sup>S</sup>	2.9	4.6	3.1	2.5	4.6	6.8	C	C	C	C	C	C	C	C	C	B	B	4.9	4.9	4.0 <sup>H</sup>	4.3	(4.6) <sup>C</sup>	
15	4.9 <sup>H</sup>	(4.4) <sup>S</sup>	4.0 <sup>F</sup>	(3.8) <sup>C</sup>	3.6	3.9	5.6	7.0	6.9	(8.3) <sup>C</sup>	9.7 <sup>J</sup>	8.8	10.2	10.7 <sup>J</sup>	8.1	6.9	6.8	7.0	S	5.2	5.3	(5.7) <sup>C</sup>	(4.7) <sup>S</sup>	4.7	
16	(4.7) <sup>S</sup>	4.7 <sup>S</sup>	4.5	4.3	4.6	4.9	4.8	6.4	7.8	8.4	10.0	9.2	8.6	9.3	9.2	8.2	8.6	9.6	C	C	5.1	4.7	C	C	
17	C	C	C	C	C	3.7	5.0	6.6	7.3	(9.6) <sup>F</sup>	11.3 <sup>M</sup>	10.7	9.9	10.0	10.1	9.2	8.7	8.0	7.1	4.7	3.1	3.4 <sup>H</sup>	3.5	3.8	
18	3.8	3.8	3.9	3.8	3.9	3.4	4.6 <sup>S</sup>	6.9	7.3	C	C	C	9.0	8.0	9.5	9.0	7.5	7.2	7.2	5.2	4.8	4.9	4.5	4.0	
19	3.7	4.1	3.7	4.0	3.8	3.8	5.1	6.5	6.3	8.2	9.6	9.5	9.4	8.9	7.8	7.8	6.8	6.8	6.4 <sup>MS</sup>	4.7	3.9	4.4	3.8	4.0	
20	4.0	4.0	3.9	3.9	3.7	3.6	5.0	5.4	5.8	7.3	(8.2) <sup>B</sup>	9.0	9.2 <sup>M</sup>	8.0	8.4	7.0	7.0	7.0	7.2	6.3	5.4	3.9	3.6	4.0	
21	4.0	4.0	3.8	4.2	3.8	3.4	5.1	6.2	6.9	8.0	8.4	9.3	8.3	7.6	7.5	7.3	8.4	7.2	5.8	6.8 <sup>P</sup>	6.5	5.9	4.5	4.7	
22	4.7	4.8	4.6	4.3	4.3 <sup>F</sup>	3.9	5.1	6.3	6.5	8.3 <sup>H</sup>	10.1	8.8	8.6	8.7	7.2	6.8	7.2	7.6 <sup>J</sup>	7.0	6.6	4.5	4.3 <sup>H</sup>	3.8	3.8	
23	3.8	4.0	3.6	3.6	3.5	3.3	(4.7) <sup>S</sup>	6.1	6.4 <sup>J</sup>	7.2	7.9	6.4	9.5	10.2	8.5	7.4	6.9 <sup>S</sup>	6.4	7.5	6.9	6.1	5.4	4.9	5.5	
24	5.5	6.2	5.2 <sup>M</sup>	3.9	2.7	3.2	5.1	6.7	6.4	6.6	7.5	6.9	8.6	10.8	(8.6) <sup>F</sup>	8.2	8.3	8.7	B	4.6	3.6 <sup>S</sup>	S	4.0 <sup>S</sup>	4.3 <sup>S</sup>	
25	4.3 <sup>S</sup>	4.5 <sup>S</sup>	4.2	3.8	3.4	4.4	5.5	6.6	7.0	(7.7) <sup>C</sup>	8.4	8.8	8.8	9.3	9.4	9.0	7.1	6.4	5.6	5.4	5.3	5.1	4.2	4.4	
26	4.3	4.2	4.4	4.1	3.9	3.5	4.9	5.8	5.8	7.5	7.6	8.7	8.1	7.9	10.2	8.5	8.5	6.7	6.2	6.1	5.0	4.7 <sup>S</sup>	F	3.9 <sup>F</sup>	
27	3.9	3.6	3.5	3.6	3.6	3.0	4.4	5.3	6.4	7.4	7.8	8.1	C	C	8.3	7.8	7.0	6.4	6.0	4.9 <sup>H</sup>	3.8	3.8	3.7	3.6	
28	3.4	3.5	3.7	3.4	3.5	3.3	5.2	6.7	7.7	7.3	7.9	B	8.2	7.9	7.6	7.3	6.8	6.7	6.0	4.8	4.6	4.6	4.3	4.2	
29	4.6	4.4	(4.2) <sup>FF</sup>	4.1 <sup>F</sup>	3.2	3.1	4.6	5.8	6.6	7.8	8.3	9.9	9.3	9.2	8.3 <sup>H</sup>	7.9	7.1 <sup>M</sup>	6.2	5.9	4.3	4.0	3.6	3.5	3.9	
30	4.0	3.7	3.8	3.8	3.4	3.2	5.1	5.4	6.5	8.0	8.1 <sup>M</sup>	9.3	9.3	9.0	9.2	7.5	6.5	6.5	6.5	5.6	4.8	3.0 <sup>S</sup>	4.4	4.3	
31	4.3	4.3	3.9	3.8	3.5	4.1	5.4	(5.8) <sup>F</sup>	7.3 <sup>P</sup>	7.6	8.9	11.2	10.1	10.3	10.0	8.9	7.6	7.0	6.5	5.8	S	4.1 <sup>MS</sup>	S	S	
Mean Value	4.2	4.1	3.8	3.8	3.5	3.4	4.7	6.0	6.9	7.7	8.3	8.7	8.9	8.8	8.3	7.6	7.2	7.1	6.5	5.3	4.8	4.5	4.2	4.2	
Median Value	4.3	4.1	3.8	3.8	3.5	3.4	4.8	6.1	6.8	7.6	8.1	8.8	8.8	8.8	8.3	7.5	7.1	7.0	6.4	5.2	4.8	4.6	4.3	4.2	
Count	29	30	30	30	30	31	31	31	30	29	28	28	29	29	29	29	30	30	30	25	28	27	28	25	27

foF2

Sweep 1.0 - Me to 17.0 - Me in 1.5 min

Manual  Automatic

A 1



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

Lat. 35° 43.5' N  
Long. 140° 08.9' E

**A k i t a**

**IONOSPHERIC DATA**

135° E Mean Time

**f<sub>p</sub>F<sub>2</sub>**

**Mar. 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	(270) <sup>F</sup>	(320) <sup>F</sup>	320 <sup>F</sup>	310 <sup>Z</sup>	330	360	290	270	290	270	280	(260) <sup>J</sup>	260	260	250	230	250	220	220	280	270	210	310	320	
2	290	320	320 <sup>H</sup>	350 <sup>H</sup>	280	290	290 <sup>F</sup>	240	230	260	260	270	260	270	270	250	240	250	260	290	280	280	310	340	
3	310	290	300	340	340	290	300	230	240	240	240	270	260	260	BS	B	250	230	A	270	A	280 <sup>F</sup>	A	A	
4	(310) <sup>F</sup>	320 <sup>F</sup>	(340) <sup>F</sup>	(230) <sup>F</sup>	250 <sup>F</sup>	340 <sup>F</sup>	300	210	(240) <sup>S</sup>	230	S	290	280	280	260	270	300	260 <sup>S</sup>	220	AS	340	330	S	FS	
5	FS	(280) <sup>F</sup>	(380) <sup>F</sup>	380	360	340	290	A	250	(270) <sup>F</sup>	260	280	270	270	260	250 <sup>S</sup>	A	(260) <sup>J</sup>	A	A	360	260	340	340	
6	340	350	320 <sup>F</sup>	440	410 <sup>F</sup>	360 <sup>F</sup>	300	290	260	300	330 <sup>P</sup>	(290) <sup>S</sup>	260	260	280	270	250 <sup>H</sup>	240	260	320 <sup>Z</sup>	A	AF	350	320 <sup>F</sup>	
7	270 <sup>F</sup>	(360) <sup>F</sup>	(350) <sup>F</sup>	320 <sup>F</sup>	(260) <sup>F</sup>	(400) <sup>F</sup>	270	260	240	280	300	310	290	290	270	270	260	260	250	300	330	360	320	(320) <sup>S</sup>	
8	310	310	400 <sup>F</sup>	340 <sup>F</sup>	380 <sup>F</sup>	350 <sup>F</sup>	290 <sup>F</sup>	250	240	260	300	270	250	250	270	250	280	260	240	290	A	A	AS	320	
9	360	360	320	350	370	(310) <sup>F</sup>	270	250	280	270 <sup>H</sup>	260	290	270	290	270	240	250	250	260	320	300	270	320	280	
10	300	310	390 <sup>H</sup>	360	350	360	270	260	280	280	270	280 <sup>H</sup>	260	280	260	260	260	260	250	270	(270) <sup>F</sup>	270	320 <sup>S</sup>	290	350
11	360	320	280	320 <sup>F</sup>	330 <sup>H</sup>	330 <sup>H</sup>	260	260	240	260	240	280	280	280	280	270	270	250	280	320	310	270	290	310	
12	330 <sup>H</sup>	310	350 <sup>H</sup>	340 <sup>H</sup>	330	310	260	230	(230) <sup>S</sup>	240	260	260	280	280	260	250	250	250	250	(280) <sup>S</sup>	300 <sup>S</sup>	310 <sup>S</sup>	290	350	
13	360	350 <sup>F</sup>	340	320	240	330	300	(280) <sup>F</sup>	250	250	280	290	270	250	(260) <sup>P</sup>	260	280	270	270	260	260	290	220	400 <sup>H</sup>	
14	360 <sup>H</sup>	(330) <sup>S</sup>	310	250	250	310	250	240	C	C	C	C	C	C	C	C	C	B	B	260	290	380 <sup>H</sup>	320	(320) <sup>S</sup>	
15	310 <sup>H</sup>	(300) <sup>S</sup>	(280) <sup>S</sup>	(280) <sup>F</sup>	290	280	250	220	240	(260) <sup>F</sup>	(280) <sup>F</sup>	270	300	(290) <sup>F</sup>	260	260	260	260	S	270	320	(310) <sup>F</sup>	(300) <sup>S</sup>	290	
16	(300) <sup>S</sup>	300 <sup>S</sup>	300	310	290	300	280	250	270	260	280	280	260	300	260	290	280	260	C	C	320	300	C	C	
17	C	C	C	C	C	310	240	270	290	(300) <sup>C</sup>	300 <sup>H</sup>	270	290	280	280	290	270	260	230	230	290	350 <sup>H</sup>	330	330	
18	350	360	350	320	280	260	270 <sup>S</sup>	230	220	C	C	C	290	270	280	260	260	270	250	270	300	300	310	330	
19	310	340	330	320	280	280	240	250	270	260	260	290	270	270	270	250	240	250	250	270	310	370	320	310	
20	340	340	330	310	310	240	220	220	230	270	B	260	280 <sup>H</sup>	270	260	260	280	240	250	280	260	330	330	340	
21	330	370	320	290	240	280	240	250	250	250	250	280	270	260	260	270	270	250	270	300 <sup>P</sup>	360	300	300	320	
22	360	340	350	310	270 <sup>H</sup>	250	250	240	260	300 <sup>H</sup>	280	300	270	270	290	290	290	(250) <sup>S</sup>	260	260	310	300 <sup>H</sup>	320	310	
23	340	330	310	300	310	320	(280) <sup>F</sup>	230	(230) <sup>F</sup>	260	270	290	310	300	260	260	(260) <sup>S</sup>	280	280	300	300	300	320	350	
24	330	330	270 <sup>H</sup>	280	350	370	260	240	240	280	280	270	320	270	(290) <sup>F</sup>	290	280	270	B	260	360 <sup>S</sup>	S	330	370 <sup>S</sup>	
25	330 <sup>S</sup>	320 <sup>S</sup>	330	350	380	320	240	260	280	(290) <sup>F</sup>	300	260	280	300	280	270	270	270	260	270	300	280	320	330	
26	360	330	320	320	350	320	250	240	270	270	270	270	280	300	280	250	260	260	250	240	320 <sup>Z</sup>	F	F	330 <sup>F</sup>	
27	330 <sup>F</sup>	320	330	310	300	260	240	230	280	290	280	290	C	C	270	250	260	240	250	280 <sup>H</sup>	320	310	340	360	
28	350	330	310	270	320	330	240	270	270	290	290	B	280	270	280	280	280	250	270	290	310	320	340	360	
29	350	340	(310) <sup>F</sup>	290 <sup>F</sup>	240	320	240	250	260	280	280	280	260	280	290 <sup>H</sup>	260	260 <sup>H</sup>	230	240	260	320	330	340	360	
30	350	340	300	270	300	330	250	240	290	270	270	310 <sup>H</sup>	290	300	280	260	260	260	250	260	300	290 <sup>S</sup>	350	320	
31	340	380	390	340	310	290	230	(260) <sup>S</sup>	290 <sup>F</sup>	270	320	340	290	300	290	280	270	270	270	330	S	340 <sup>S</sup>	S	S	
Mean Value	330	330	330	320	310	260	250	260	270	280	280	280	280	280	270	260	260	250	250	280	280	310	310	320	340
Median Value	330	330	320	320	310	260	250	260	270	280	280	280	280	280	270	260	260	250	250	280	280	310	310	320	330
Count	29	30	30	30	30	31	31	30	30	29	27	28	29	29	29	29	29	30	25	28	27	27	25	27	

Sweep  $\frac{1}{2}$  sec. Mc to 15.0 Mc in  $\frac{1}{15}$  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**

Mar. 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	250 <sup>F</sup>	280	250	250	270	270	250	240	270	270	270	260	250	250	250	240	220	220	220 <sup>A</sup>	220	240	270	270	280	
2	250	260	270 <sup>H</sup>	280 <sup>H</sup>	230	230	230	220	220	250	250	250	250	250	260	240	230	230 <sup>A</sup>	240 <sup>A</sup>	230	230	240	270	300	
3	270	250	250	270	270	260	250	220	220	240	230	220	250	(240) <sup>B</sup>	230	230	220	220	A	240 <sup>A</sup>	A	230	A	A	
4	300	290	300 <sup>F</sup>	200 <sup>F</sup>	220 <sup>F</sup>	300	270	210	240 <sup>A</sup>	220	250	240	260	250	250	270	250	220 <sup>A</sup>	220 <sup>A</sup>	A	340 <sup>A</sup>	320	300	370	
5	260	230	310	330	300	270	250	A	230 <sup>A</sup>	230 <sup>A</sup>	240 <sup>A</sup>	250 <sup>A</sup>	260	270	260	240	A	220	A	A	330	250	260	270	
6	250	280	270	350	330	280	280	240	250	280	270	290	250	260	270	250	230 <sup>H</sup>	230	210	240	A	AF	290	250	
7	260	310 <sup>A</sup>	300 <sup>A</sup>	300 <sup>A</sup>	240	370	230	220	210	230 <sup>A</sup>	260	270	270	260	250	250	250	250	210 <sup>A</sup>	240 <sup>A</sup>	260	290	300	260	
8	250	250	300	270	300	250	240	200	220	240	270	260	240	230	220	220	250	240	210 <sup>A</sup>	290 <sup>A</sup>	A	A	A	280	
9	310	300	260	290	300	290	250	230	260	260 <sup>H</sup>	260	270	260	260	250	230	220	220	220	260	260	250	250 <sup>H</sup>	250	
10	250	230	280 <sup>H</sup>	300	300	290	240	240	280	280	250	250 <sup>H</sup>	250	250	250	240	230	220	220	1230 <sup>F</sup>	240	270 <sup>H</sup>	240	300	
11	300	270	240	250	230 <sup>H</sup>	270 <sup>H</sup>	230	230	230	240	230	260	250	270	250	240	240	230	220	220	250	250	240	250	
12	280 <sup>H</sup>	270	270 <sup>H</sup>	270 <sup>H</sup>	260	260	240	220	220	230	260	240	260	260	230	240	240	230	220	220	220	250	230	220	280
13	300	290	290	270	210	280	270	230	220	220	240	250	240	230	(240) <sup>F</sup>	250	250	220	240 <sup>A</sup>	230	240	230	220	200 <sup>A</sup>	260 <sup>H</sup>
14	280 <sup>H</sup>	270	280	220	230	250	230	220	C	C	C	C	C	C	C	C	C	220	240 <sup>A</sup>	230	240	300 <sup>H</sup>	300	260	
15	240 <sup>H</sup>	240	240	(220) <sup>F</sup>	200	230	230	220	210	(240) <sup>F</sup>	270	260	280	270	250	230	250	220	220	220	230	250	250	230	260
16	230	270	260	260	260	250	240	230	240	(240) <sup>F</sup>	260	240	260	260	250	250	L	240	230	C	C	270	270	C	C
17	C	C	C	C	C	250	210	220	210	(230) <sup>F</sup>	250 <sup>H</sup>	260	270	270	250	240	230	230	210	210	250	310 <sup>H</sup>	280	300	
18	290	300	260	270	230	220	200	210	220	C	C	C	280	260	260	250	240	220	220	220	250	250	270	290	
19	280	270	280	270	230	220	220	230	220	260	260	270	270	270	250	230	240	230	210 <sup>HA</sup>	220	250	290	290	280	
20	280	280	280	260	220	220	210	210	220	250	250	260	260	260	260	240	280	240	240	220	220	220	260	280	
21	290	280	280	250	220	240	220	240	250	250	220	250	240	250	240	250	240	230	230	230	290	220	210	270	
22	290	300	280	260	240	220	220	220	260	250 <sup>H</sup>	250	250	220	250	260	260	270	240	230	220	230	240 <sup>H</sup>	270	280	
23	290	300	270	270	280	280	(250) <sup>F</sup>	220	230	250	250	280	300	270	250	250	220	250	240	240	220	230	270	290	
24	260	250	220 <sup>H</sup>	210	280	300	220	210	220	260	250	270	310	260	270	290	260	240	230 <sup>A</sup>	220	290	290	300	310	
25	290	270	300	300	270	210	220	210	220	(260) <sup>F</sup>	300	240	270	280	280	260	240	220	220	240	250	240	260	310	
26	300	270	260	240	280	220	230	230	260	260	260	260	280	280	260	260	240	220	210	220	230	270 <sup>F</sup>	310 <sup>F</sup>	300	
27	290	300	280	280	240	220	230	230	260	280	270	280	C	C	260	250	250	230	220	200 <sup>H</sup>	260	270	280	300	
28	300	290	260	230	240	270	220	230	250	280	270	270	270	270	260	260	240	240	230	240	240	250	290	290	
29	290	270	250	230	220	250	220	230	260	280	280	280	260	270	280 <sup>H</sup>	260	230 <sup>H</sup>	230	220	230	240	290	300	300	
30	300	280	250	240	230	290	230	220	270	250	260	270 <sup>H</sup>	270	280	270	250	250	230	230	210	230	230	290	290	
31	290	300	300	300	240	230	230	240	280	260	300	290	290	290	260	250	250	240	240	250	310	220 <sup>H</sup>	260	240	
Mean Value	280	280	270	260	250	260	230	220	240	250	260	260	260	260	260	260	250	240	220	230	260	260	270	280	
Median Value	280	280	270	270	240	260	230	220	230	250	260	260	260	260	260	250	240	230	220	230	250	250	270	280	
Count	30	30	30	30	30	31	31	30	30	29	29	29	29	29	30	29	29	31	28	28	28	29	28	29	29

R'F2

Sweep: L to Mc to 17.0 Mc in 17.5 min

Manual  Automatic

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

Lat. 39° 48.5' N  
Long. 140° 08.2' E

# Akita

## IONOSPHERIC DATA

Mar. 1952

f<sub>o</sub>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						Q	Q	Q	L	4.1	3.8	4.0	3.9	3.9	3.9	3.6	Q	Q						
2						Q	Q	Q	L	L	L	4.1	4.1	4.0	4.0 <sup>L</sup>	L	L	Q	Q					
3						Q	Q	Q	L	L	4.1	4.0	4.3	4.0	(4.2) <sup>B</sup>	4.3	3.3	Q	Q					
4						Q	Q	Q	A	Q	L	L	L	L	4.0	3.6	L	Q	Q					
5						Q	Q	Q	A	A	A	A	Q	4.1	Q	A	A	Q	Q					
6						Q	Q	Q	Q	4.2	4.1	4.2	4.0	3.9 <sup>J</sup>	3.4	Q	Q	Q	Q					
7						Q	Q	Q	Q	A	4.3	L	L	L	4.0	Q	Q	Q	Q					
8						Q	Q	Q	Q	3.8	4.2	4.2	4.5	4.2	L	Q	Q	Q	Q					
9						Q	Q	Q	3.6	3.6	3.7	4.1	L	L	4.1	3.7	Q	Q	Q					
10						Q	Q	Q	L	L	4.5	4.4	4.3	L	4.0	3.5	Q	Q	Q					
11						Q	Q	Q	A	L	4.1	4.4	4.5	4.5	L	L	3.6 <sup>L</sup>	Q	Q					
12						Q	Q	Q	Q	L	L	L	4.3	L	4.1	3.8	Q	Q	Q					
13						Q	Q	Q	Q	Q	L	L	L	Q	C	3.8	L	Q	Q					
14						Q	Q	Q	C	C	C	C	C	C	C	C	C	Q	Q					
15						Q	Q	L	Q	C	4.5	B	4.6	4.7	Q	Q	L	Q	Q					
16						Q	Q	Q	Q	Q	4.3	Q	4.8	4.9	4.2	L	3.2	Q	Q					
17						Q	Q	Q	Q	C	L	4.2	4.4	4.3	L	L	Q	Q	Q					
18						Q	Q	Q	Q	C	C	C	4.9	4.1	L	L	3.8	Q	Q					
19						Q	Q	Q	Q	L	A	L	4.2	4.1	L	L	L	L	Q					
20						Q	Q	Q	Q	4.2	4.2	4.2	3.8	4.0	3.8	3.7	Q	Q	Q					
21						Q	Q	Q	L	3.9 <sup>Q</sup>	4.2	Q	Q	Q	3.7	L	L	Q	Q					
22						Q	Q	Q	Q	Q	Q	4.3	4.4 <sup>L</sup>	L	3.6 <sup>L</sup>	L	L	Q	Q					
23						C	Q	Q	3.9	L	4.3	4.4	L	4.2	3.7	3.4	Q	Q	Q					
24						Q	Q	Q	Q	4.0 <sup>T</sup>	4.4	4.4	4.3	4.1	4.4	4.0	Q	Q	Q					
25						Q	Q	Q	Q	C	4.6	4.6	4.7	4.4	L	L	Q	Q	Q					
26						Q	Q	Q	L	4.2	4.4	4.4	4.5	4.5 <sup>F</sup>	4.0	3.4	Q	Q	Q					
27						Q	Q	Q	L	4.2	4.4	4.5	C	C	4.5	4.0	L	Q	Q					
28						Q	Q	Q	3.9	4.4	4.4	4.3	4.4	4.4	4.4	4.4	L	Q	Q					
29						Q	Q	Q	4.0	L	L	4.6	4.6	4.5	4.2	4.0	Q	Q	Q					
30						Q	Q	Q	L	4.2	4.4	4.2	4.2	4.4	4.4	4.0	L	Q	Q					
31						Q	Q	Q	L	L	L	4.5 <sup>B</sup>	5.0	L	4.2	4.0	Q	Q	Q					
Mean Value									3.9	4.1	4.3	4.3	4.4	4.2	4.1	3.8	3.4							
Median Value									3.9	4.2	4.3	4.3	4.4	4.2	4.1	3.8	3.4							
Count									4	11	19	19	21	21	21	18	14							

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

Lat. 35° 43.5' N  
Long. 140° 08.2' E

IONOSPHERIC DATA

A k i t a

Mar. 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							Q	Q	220	200	200	230	210	210	220	220	Q	Q						
2							Q	Q	220	210	210	210	220	210	220	210	230	Q						
3							Q	Q	Q	210	210	220	200	220	(220) <sup>B</sup>	230	210	Q						
4							Q	Q	A	Q	240 <sup>A</sup>	220	230	230	220	220	230	Q						
5							Q	A	A	A	A	Q	Q	220	Q	Q	A	Q						
6							Q	Q	Q	250	250	B	230	230	220	220	Q	Q						
7							Q	Q	Q	A	200	260	250	260	230	Q	Q	Q						
8							Q	Q	Q	200	210 <sup>A</sup>	210	230	200	220	Q	Q	Q						
9							Q	Q	220	220	210	220 <sup>A</sup>	200	220	220	200	Q	Q						
10							Q	Q	260 <sup>A</sup>	230	230 <sup>A</sup>	210	200 <sup>A</sup>	200	220	230	Q	Q						
11							Q	Q	A	220 <sup>A</sup>	220	220	220	220	220	230	220	Q						
12							Q	Q	Q	210	220	220	210	220	220	220	220	Q						
13							Q	Q	Q	210	210	A	Q	(220) <sup>S</sup>	230	240	Q	Q						
14							Q	Q	C	C	C	C	C	C	C	C	C	Q						
15							Q	200	Q	C	B	B	260 <sup>B</sup>	Q	Q	Q	220	Q						
16							Q	Q	Q	220	Q	Q	220	220	220	220	220	Q						
17							Q	Q	Q	C	210	200	220	230	220	230	Q	Q						
18							Q	Q	Q	C	C	C	210	200	200	220	210	Q						
19							Q	Q	Q	250 <sup>A</sup>	A	250 <sup>A</sup>	250	A	220	240 <sup>A</sup>	210	Q						
20							Q	Q	Q	210	200	200	200	230	230	230	240	230						
21							Q	Q	220	240	210	Q	210	200	200	210	Q	Q						
22							Q	Q	Q	Q	Q	Q	Q	220	200	220	250	Q						
23							C	Q	210	220	220	200	290	220	210	210	Q	Q						
24							Q	Q	Q	220	210	220	210	200	230	220	Q	Q						
25							Q	Q	Q	C	220	240	220 <sup>A</sup>	220 <sup>A</sup>	270	240	Q	Q						
26							Q	Q	230 <sup>*</sup>	220	200	200	200	210 <sup>H</sup>	240 <sup>B</sup>	200	Q	Q						
27							Q	Q	220	230	230	220	C	C	230	210	220	Q						
28							Q	Q	220	230	220	210	220	210	220	230	240	Q						
29							Q	Q	230	230	210	210	220	210	220	230	Q	Q						
30							Q	Q	240	220	210	200	200	200	200	230	230	Q						
31							Q	Q	240	220	220	230	260	280	220	230	Q	Q						
Mean Value								200	230	220	220	220	220	220	220	220	230	230						
Median Value								200	220	220	210	220	220	220	220	220	220	230						
Count								1	12	20	25	23	25	27	28	26	14	1						

f'F1

Sweep 1.0 Mc to 3.0 Mc in 1.5 min

Manual  Automatic

A 5

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

Lat. 38° 43.5' N  
Long. 140° 08.2' E

20

Akita

IONOSPHERIC DATA

135° E Mean Time

f<sub>o</sub>E

Mar. 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	A	2.4	2.5	B	B	2.9	B	2.9	2.9	B	2.4	1.7						
2						B	1.7	A	2.4	A	3.1	3.2	3.1	2.9	2.9	2.8	2.4	A						
3						B	A	A	A	A	A	A	B	3.1	(2.9) <sup>B</sup>	2.7	A	A						
4						A	A	A	A	A	A	A	A	A	3.0	2.6	2.4	A						
5						A	A	A	A	A	A	A	B	3.0	2.9	2.8	A	A						
6						B	2.1	2.3	2.6	2.9	B	3.0	3.0	A	A	A	2.5	2.3						
7						A	2.0	2.2	A	A	A	A	A	3.0	B	A	2.6	A						
8						B	A	2.1	2.6	A	A	3.0	3.0	A	A	A	A	A						
9						B	2.0	2.5	2.6	A	A	3.1	2.9	3.0	2.8	2.4	A	A						
10						B	A	2.3	2.6	A	A	A	A	3.0	A	2.8	2.4	1.9						
11						B	1.8 <sup>F</sup>	A	A	A	A	A	3.0	3.0	3.0	2.6	2.4	1.8						
12						B	2.0	[2.5] <sup>F</sup>	3.0	3.2	3.1	A	A	A	A	(2.7) <sup>B</sup>	2.4	1.9						
13						B	1.9 <sup>J</sup>	2.6	A	A	C	C	C	C	C	2.8	2.6	2.2						
14						1.7 <sup>J</sup>	2.4	C	C	C	C	C	C	C	C	C	C	A						
15						1.6	2.3	A	C	A	3.2	3.3	A	A	A	A	A	B						
16						B	A	A	A	3.3	A	3.2	3.3	A	A	A	A	A						
17						B	A	2.5	C	A	A	3.3	3.1	A	A	A	A	2.2						
18						B	A	2.2 <sup>J</sup>	C	C	C	A	3.1	3.0	2.9	2.6	2.0							
19						B	2.1	A	A	A	A	A	A	A	A	2.9	2.6	A						
20						B	2.3 <sup>F</sup>	2.6	2.9	A	2.8	3.3	3.1 <sup>J</sup>	3.2	2.8	2.5	A							
21						B	1.9	2.6	3.1	3.0	B	3.2	3.1	2.8	2.6	A								
22						B	2.2	2.8	2.8	A	A	3.0	B	3.1 <sup>M</sup>	2.9	2.6	A							
23						C	2.6	2.4 <sup>J</sup>	2.7	A	A	3.1	3.1	3.0	2.8	2.5	2.3							
24						B	2.4	2.4	2.7 <sup>J</sup>	3.0	3.3	3.2	3.2	3.0	2.7	2.6	2.3							
25						A	B	A	C	3.0	A	A	A	A	A	3.0	2.5	2.0						
26						1.7	2.3	2.6	2.8	2.9	3.1	A	3.2	3.0	A	A	A							
27						1.8	2.3	2.6	2.9	3.2	3.2	C	C	3.1	2.8	2.6	2.1							
28						A	2.2	2.7	2.9	3.0	A	A	A	A	A	2.9	B	A						
29						1.9	2.4	2.7	A	3.1	A	A	A	A	3.1	2.8	A	2.0 <sup>A</sup>						
30						B	2.3	2.8	3.0	3.1	A	3.0	A	A	A	2.9	2.6	2.1						
31						1.8	2.1	2.6	2.9	2.9 <sup>J</sup>	3.1	A	A	A	3.1	2.9	2.7	2.3						
Mean Value						1.8	2.2	2.5	2.8	3.1	3.1		3.1	3.1	3.0	2.8	2.5	2.1						
Median Value						1.8	2.2	2.5	2.8	3.0	3.1		3.1	3.1	3.0	2.8	2.6	2.1						
Count						6	21	21	17	12	8	13	18	17	22	21	15							

Sweep 4.0 Mc to 17.0 Mc in 1.5 min

Manual  Automatic

A6

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

Lat. 36° 48.5' N  
Long. 140° 08.2' E

**Akita**

**IONOSPHERIC DATA**

135° E Mean Time

Mar. 1952

R'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						A	A	110	110	110	110	110	110	110	110	B	110	120 <sup>B</sup>						
2						B	120	A	110	A	110	110	110	110	110	110	110	110	A					
3						B	A	A	A	A	A	A	100	110	110	110	A	A						
4						A	A	A	A	A	A	A	A	A	110	110	110	A	A					
5						A	A	A	A	A	A	110	110	110	110	110	A	A						
6						B	120	120	110	110	110	110	110	110	A	A	110	110						
7						A	140 <sup>B</sup>	110	A	A	A	A	110	110	110	A	110	A						
8						B	A	120	A	A	A	110	110	110	A	A	A	A						
9						B	130	110	110	A	A	110	110	110	110	110	120	A						
10						B	A	110	110	A	A	A	A	110	A	110	120	120						
11						B	110	A	A	A	A	110	110	110	110	110	110	120 <sup>B</sup>						
12						B	B	C	110	A	A	A	A	A	A	100	110	110						
13						B	110	110	C	C	C	C	C	C	C	110	110	130						
14						110	110	C	C	C	C	C	C	C	C	C	C	A						
15						B	110	A	C	A	110	110	110	110	A	A	A	B						
16						B	A	A	A	110	A	110	110	110	A	A	A	A						
17						B	A	110	C	A	A	A	110	110	A	A	A	110						
18						B	A	110	C	C	C	A	A	110	110	110	110	110						
19						B	110	A	A	A	A	A	A	A	A	100	110	A						
20						B	110	110	110	A	110	110	110	110	110	110	110	A						
21						B	120	110	110	110	100	100	100	100	110	110	110	A						
22						B	110	110	110	A	A	A	A	110	110 <sup>H</sup>	110	120	A						
23						C	110	110	110	A	A	110	110	110	110	110	110	A						
24						B	B	110	110	110	110	110	110	110	110	110	120	120						
25						A	110	A	C	110	A	A	A	A	A	110	100	B						
26						B	110	110	110	110	110	110	110	110	110	110	A	A						
27						B	120	120	110	110	110	110	C	C	110	110	110	120						
28						A	110	110	110	110	110	110	A	A	A	110	110	A						
29						B	110	110	A	110	A	A	A	A	110	110	A	A						
30						B	120	120	110	110	A	100	A	100	110	100	100	110						
31						110	110	110	A	110	100	A	A	A	110	110	110	B						
Mean						110	110	110	110	110	110	110	110	110	110	110	110	120						
Max						110	110	110	110	110	110	110	110	110	110	110	110	120						
Min						2	20	20	15	13	12	12	16	19	19	23	22	11						
Count																								

R'E

SwEEP 1.0 Mc to 17.0 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

**Akita**

**IONOSPHERIC DATA**

fEs

Mar. 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	E	1.8	E	E	E	2.0	2.0	3.0	3.4 <sup>Y</sup>	3.2	G	G	G	G	G	B	G	2.7	3.2	2.2	2.1	2.0	2.5	2.1	
2	2.1	E	E	E	E	E	B	G	3.7	3.2	3.4	G	G	G	G	G	3.4	3.2	2.2	E	2.2	2.2	2.2	E	
3	2.5	E	E	E	E	E	B	2.0	3.0	3.6	3.4	3.3	G	G	G	G	3.4	4.0	3.6	4.9	4.7	7.0	4.5	4.5	
4	3.4	1.8	2.0	E	E	E	2.2	3.2	5.1	3.6	4.0	3.2	3.4	3.6	G	3.2	3.4	5.0	5.6	7.2	4.2	3.4	3.5	2.4	
5	2.6	2.2	2.2	1.8	1.6	E	3.0	3.3	4.4	4.7	4.9	7.4	G	G	G	G	7.0	3.2	9.2	5.5	3.2	3.6	3.2	3.0	
6	E	E	E	1.7	E	E	B	G	3.6	G	3.5	G	G	G	G	3.0	3.2	G	3.0	E	2.8	4.8	5.0	2.6	2.3
7	5.0	3.0	4.2	4.6	3.0	1.8	2.6	G	3.0	5.2	3.8	3.6	3.2	G	G	2.8	3.2	3.6	2.9	3.0	2.4	5.0	E	E	
8	E	E	E	E	E	E	E	2.0	3.6	3.4	4.8	4.0	G	G	2.4	2.2	2.4	3.2	2.6	5.7	8.2	7.1	4.6	2.1	
9	3.2	1.5	2.0 <sup>Y</sup>	2.2	2.4	2.8	B	G	G	4.3	3.2	4.7	G	G	G	G	3.0	3.0	2.4	2.2	3.2	E	3.0	4.2	
10	2.6	2.2	2.4	2.0	2.6	1.8	B	3.0	6.4	3.6	6.0	4.6	4.8	3.6	4.0	3.3	G	G	2.4	C	2.3	3.0	3.3	3.3	
11	3.0	2.5	3.0	2.0	1.7	E	B	G	5.0	3.7	4.0	3.3	G	G	G	G	G	2.8	E	E	E	2.2	2.0	2.4	
12	2.2	2.0	2.0	2.2	2.4	2.2	2.2	G	C	3.8	3.8	G	3.6	4.2	4.5	G	G	G	G	E	3.8	E	3.6	E	
13	E	E	E	E	E	E	B	G	3.9	3.2	2.8	4.0	3.4	3.0	C	3.4	G	4.0	3.6	3.4	E	E	E	E	
14	2.4	2.0	E	E	2.4	2.2	G	G	C	C	C	C	C	C	C	C	C	4.5	4.6	2.2	2.4	2.8	3.0	2.4	
15	2.4	2.4	E	E	E	E	G	2.4	3.6	C	3.2	G	G	3.3	3.4	3.2	3.0	B	E	E	E	E	E	E	
16	E	E	E	E	E	E	B	2.6	2.4	3.4	G	3.6	G	G	3.5	4.1	2.7	2.5	C	C	3.8	2.4	C	C	
17	C	C	C	C	C	E	B	2.7	G	C	3.5	3.6	G	G	3.4	3.8	3.0	G	2.0	E	2.4	E	E	E	
18	E	E	E	E	E	E	E	2.2	2.9	C	C	C	3.4	G	G	G	G	G	2.4	E	E	E	E	E	
19	E	1.4	2.4	2.4	2.2	2.2	B	2.7	3.2	4.4	5.6	4.6	4.2	6.8	5.2	4.2	3.6	3.2	3.6	2.0	E	E	E	E	
20	E	E	E	E	E	E	B	G	3.2	G	3.4	G	G	G	G	G	3.4	3.0	3.0	2.7	E	E	E	E	
21	E	E	E	E	E	E	B	2.5	G	G	G	G	G	G	G	3.7	G	2.5	E	E	E	E	E	E	
22	E	E	E	2.4	1.8	E	B	G	G	3.4	4.6	3.6	2.8	G	G	G	G	2.0	E	E	E	E	E	E	
23	1.8	1.6	E	E	E	E	C	G	G	3.4	3.7	3.6	3.7	G	G	G	G	2.6	E	E	E	E	E	E	
24	E	E	E	E	E	E	G	2.3	G	G	G	G	G	G	G	G	G	G	3.9	2.6	E	2.2	E	E	
25	E	E	E	E	E	1.8	2.2	G	3.8	C	4.0	4.4	4.2	4.0	4.6	G	G	G	G	2.2	E	E	E	2.6	
26	2.4	2.4 <sup>Y</sup>	2.3	1.4	1.7	E	G	G	3.1	4.0	4.1	3.5	3.8	G	G	3.4	3.2	2.2	2.2	3.6	2.8	2.9	2.0	2.9	
27	2.4	3.2	1.8	2.6	2.4	1.4	G	G	G	3.8	G	3.8	C	C	G	G	G	G	2.4	E	E	E	2.0	2.0	
28	2.2	2.0	1.8	2.8	1.8	2.0	2.8	G	G	4.4	3.6	3.8	3.6	3.8	3.6	G	G	2.6	2.2	2.2	2.2	E	E	E	
29	E	E	E	E	E	E	G	G	G	3.8	G	4.8	4.2	3.6	G	G	3.3	2.4	2.6	2.4	2.0	E	E	E	
30	E	E	E	E	E	E	G	G	3.4	G	G	4.0	3.6	3.2	3.3	G	G	G	E	E	E	E	E	E	
31	E	E	E	E	E	E	G	G	G	2.9	G	4.0	3.7	3.7	3.4	G	G	G	E	2.4	3.4	E	E	E	
Mean Value	2.7	2.1	2.4	2.3	2.2	2.0	2.4	2.7	3.7	3.8	4.0	4.1	3.7	3.9	3.7	3.4	3.4	3.1	3.6	3.2	3.4	3.3	3.2	2.8	
Median Value	E	E	E	E	E	E	G	G	3.1	3.5	3.5	3.6	2.8	G	G	G	G	2.6	2.4	2.2	2.2	2.2	E	E	
Count	30	30	30	29	30	31	16	31	29	26	29	29	29	29	29	29	30	30	30	29	31	31	30	30	

Sweep 1.0 - Mc to 1.2.0. Me 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

**Akita**

**IONOSPHERIC DATA**

Mar. 1952

(M3000)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	(3.1) <sup>F</sup>	(2.9) <sup>F</sup>	2.9 <sup>F</sup>	3.0 <sup>x</sup>	2.9	2.7	3.2	3.3	3.2	3.4	3.2	(3.5) <sup>F</sup>	3.3	3.5	3.6	3.4	3.6	3.3	3.8	3.2	3.3	3.0	3.1	3.0	
2	3.2	3.0	3.0 <sup>H</sup>	2.9 <sup>W</sup>	3.3	3.1	3.1 <sup>F</sup>	3.4	3.5	3.3	3.3	3.3	3.3	3.2	3.3	3.5	3.6	3.4	3.3	3.2	3.3	3.2	3.1	2.9	
3	3.1	3.1	3.0	2.9	2.9	3.1	3.0	3.5	3.5	3.5	3.5	3.3	3.4	3.4	3.8 <sup>S</sup>	B	3.5	3.7	A	3.3	A	3.3 <sup>F</sup>	A	A	
4	(3.1) <sup>F</sup>	2.8 <sup>F</sup>	(2.8) <sup>F</sup>	(3.5) <sup>F</sup>	3.5 <sup>F</sup>	2.9 <sup>F</sup>	3.1	3.7	(3.5) <sup>S</sup>	3.6 <sup>S</sup>	S	3.1	3.2	3.3	3.5	3.4	3.1	3.5 <sup>S</sup>	3.7	AS	3.0	2.9	S	FS	
5	FS	(3.1) <sup>F</sup>	(2.7) <sup>F</sup>	2.7	2.8	2.9	3.1	3.4	3.4	(3.3) <sup>F</sup>	3.3	3.4	3.4	3.4	3.4	3.6 <sup>S</sup>	A	(3.4) <sup>F</sup>	A	A	2.8	3.3	2.9	2.8	
6	2.8	2.8	3.1 <sup>F</sup>	2.5	2.6 <sup>F</sup>	2.8 <sup>F</sup>	3.2	3.2	3.3	3.2	3.0 <sup>F</sup>	(3.1) <sup>F</sup>	3.5	3.4	3.3	3.3	3.5 <sup>H</sup>	3.4	3.3	3.0 <sup>x</sup>	A	2.8 <sup>F</sup>	2.9	3.0 <sup>F</sup>	
7	3.3 <sup>F</sup>	(2.8) <sup>F</sup>	2.9 <sup>F</sup>	3.0 <sup>F</sup>	(3.3) <sup>F</sup>	(2.8) <sup>F</sup>	3.3	3.2	3.5	3.2	3.2	3.0	3.1	3.2	3.3	3.3	3.3	3.4	3.4	3.1	3.0	2.8	3.0	(2.6) <sup>F</sup>	
8	3.0	3.0	2.6 <sup>F</sup>	2.9 <sup>F</sup>	2.6 <sup>F</sup>	2.7 <sup>F</sup>	3.0 <sup>F</sup>	3.7	3.4	3.3	3.2	3.3	3.5	3.2	3.4	3.4	3.3	3.3	3.5	3.2	A	A	AS	(3.1)	
9	2.8	2.8	3.0	2.9	2.7	(3.1) <sup>F</sup>	3.3	3.4	3.2	3.3 <sup>H</sup>	3.5	3.2	3.3	3.1	3.2	3.7	3.4	3.4	3.4	3.0	3.1	3.2	3.1 <sup>H</sup>	3.2	
10	3.0	3.0	2.7 <sup>H</sup>	2.8	2.8	2.7	3.2	3.4	3.2	2.4	3.3	2.8 <sup>H</sup>	3.5	3.4	3.4	3.3	3.3	3.4	3.2	(3.3) <sup>F</sup>	3.4	3.1 <sup>H</sup>	3.2	2.9	
11	2.8	3.1	3.3	3.0 <sup>F</sup>	2.9 <sup>H</sup>	2.8 <sup>H</sup>	3.3	3.3	3.5	3.3	3.5	3.3	3.2	3.2	3.1	3.3	3.3	3.5	3.3	3.0	3.1	3.3	3.0	3.0	
12	2.9 <sup>H</sup>	3.0	2.9 <sup>H</sup>	2.9 <sup>H</sup>	3.1	3.1	3.5	3.7	(3.7) <sup>F</sup>	3.5	3.4	3.4	3.3	3.3	3.2	3.4	3.6	3.6	3.5	(3.4) <sup>S</sup>	3.2 <sup>S</sup>	3.0 <sup>S</sup>	3.2 <sup>S</sup>	2.8	
13	2.8	2.8 <sup>F</sup>	2.9	3.1	3.4	2.9	3.1	(3.2) <sup>F</sup>	3.4	C	C	C	3.3	3.4	(3.4) <sup>F</sup>	3.5	3.3	3.3	3.3	3.3	3.3	3.1	3.7	2.9 <sup>H</sup>	
14	2.8 <sup>H</sup>	(2.9) <sup>F</sup>	3.1	3.4	3.5	3.0	3.4	3.4	C	C	C	C	C	C	C	C	C	B	B	3.2	3.0	2.8 <sup>H</sup>	3.1	(3.1) <sup>F</sup>	
15	3.1 <sup>H</sup>	(3.1) <sup>S</sup>	(3.1) <sup>F</sup>	(3.2) <sup>F</sup>	3.2	3.2	3.4	3.7	3.5	(3.4) <sup>F</sup>	(3.4) <sup>F</sup>	3.3	3.2	(3.3) <sup>F</sup>	3.5	3.3	3.4	3.4	S	3.2	3.0	(3.0) <sup>F</sup>	(3.1) <sup>F</sup>	3.2	
16	(3.1) <sup>S</sup>	3.1 <sup>S</sup>	3.1	3.0	3.2	3.0	3.3	3.4	3.2	3.3	3.2	3.1	3.3	3.1	3.4	3.2	3.4	3.3	C	C	C	2.9	2.9	C	
17	C	C	C	C	C	3.1	3.5	3.4	3.2	(3.2) <sup>F</sup>	3.1 <sup>H</sup>	3.4	3.3	3.2	3.3	3.4	3.2	3.3	3.6	3.7	3.2	2.9 <sup>H</sup>	3.0	2.9	
18	2.8	2.7	2.8	2.9	3.3	3.3	3.3 <sup>S</sup>	3.6	3.7	C	C	C	3.2	3.2	3.3	3.3	3.4	3.3	3.4	3.4	3.1	3.1	3.0	2.9	
19	3.0	2.9	2.9	3.0	3.2	3.2	3.5	3.5	3.2	3.4	3.5	3.2	3.5	3.4	3.4	3.7	3.6	3.5	3.5 <sup>H</sup>	3.3	3.0	2.7	3.0	3.0	
20	2.9	2.9	2.9	3.1	3.0	3.5	3.6	3.7	3.6	3.3	B	3.4	3.2 <sup>H</sup>	3.3	3.3	3.4	3.3	3.5	3.5	3.2	2.8	3.1	3.1	2.9	
21	2.8	2.7	3.0	3.0	3.4	3.2	3.5	3.5	3.6	3.4	3.4	3.2	3.4	3.4	3.4	3.4	3.3	3.5	3.2	3.2 <sup>F</sup>	2.8	3.1	3.1	3.0	
22	2.8	2.9	2.8	3.0	3.3 <sup>F</sup>	3.4	3.4	3.6	3.4	3.1 <sup>H</sup>	3.3	3.0	3.2	3.2	3.3	3.2	3.2	(3.5) <sup>F</sup>	3.4	3.3	3.1	3.0 <sup>H</sup>	3.0	3.0	
23	2.9	2.9	3.0	3.1	3.1	3.0	(3.2) <sup>F</sup>	3.5	(3.7) <sup>F</sup>	3.4	3.3	3.2	3.0	3.3	3.4	3.5	(3.4) <sup>F</sup>	3.4	3.4	3.1	3.0	3.1	2.9	2.8	
24	2.9	2.9	3.3 <sup>H</sup>	3.2	2.8	2.7	3.3	3.5	3.5	3.2	3.2	3.3	3.1	3.4	(3.3) <sup>F</sup>	3.1	3.3	3.3	B	3.4	2.7 <sup>S</sup>	S	3.0 <sup>S</sup>	2.8 <sup>S</sup>	
25	3.0 <sup>S</sup>	3.0 <sup>S</sup>	2.9	2.8	2.7	3.1	3.4	3.4	3.2	(3.2) <sup>F</sup>	3.1	3.3	3.2	3.0	3.3	3.4	3.3	3.4	3.2	3.1	3.2	3.2	2.9	2.9	
26	2.7	3.0	3.0	3.2	2.8	3.0	3.4	3.5	3.3	3.3	3.3	3.4	3.3	3.1	3.3	3.5	3.4	3.3	3.5	3.5	3.1 <sup>2</sup>	F	F	2.9 <sup>F</sup>	
27	2.9 <sup>F</sup>	3.1	3.0	3.1	3.2	3.0	3.5	3.7	3.3	3.3	3.3	C	C	C	3.4	3.4	3.4	3.5	3.5	3.3 <sup>H</sup>	3.0	3.1	2.9	2.8	
28	2.9	2.9	3.1	3.2	3.0	2.9	3.5	3.2	3.3	3.3	B	3.4	3.4	3.4	3.3	3.2	3.2	3.5	3.3	3.2	3.0	2.9	2.8	2.8	
29	2.9	2.9	(3.1) <sup>F</sup>	3.2 <sup>F</sup>	3.5	3.0	3.5	3.5	3.4	3.3	3.3	3.4	3.4	3.2 <sup>H</sup>	3.4	3.3 <sup>H</sup>	3.4	3.3 <sup>H</sup>	3.6	3.5	3.3	2.9	3.0	2.9	2.8
30	2.7	2.8	3.2	3.3	3.1	3.0	3.5	3.6	3.3	3.3	3.3	3.2 <sup>H</sup>	3.1	3.1	3.2	3.4	3.3	3.4	3.5	3.3	3.1	3.2 <sup>S</sup>	2.7	3.0	
31	2.9	2.7	2.7	3.0	3.0	3.2	3.5	(3.4) <sup>F</sup>	3.3 <sup>F</sup>	3.3	3.1	2.9	3.1	3.1	3.2	3.2	3.3	3.3	3.3	3.0	S	2.9 <sup>H</sup>	S	S	
Mean Value	3.0	2.9	3.0	3.0	3.1	3.0	3.3	3.5	3.4	3.3	3.3	3.2	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.2	3.1	3.0	3.0	2.9	
Median Value	2.9	2.9	3.0	3.0	3.1	3.0	3.3	3.5	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.3	3.4	3.4	3.2	3.1	3.0	3.0	2.9	
Count	29	30	30	30	30	31	31	31	30	29	27	28	29	29	29	29	29	30	30	25	28	27	28	25	27

(M3000)F2

Sweep 1.0 Mc to 17.0 Mc in 1.5 min

Manual  Automatic



Lat. 39° 43.5' N  
Long. 140° 08.2' E

**Akita**

**IONOSPHERIC DATA**

Mar. 1952

fminF

136° 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 <sup>F</sup>	E	E	E	E	E	E	2.0	2.5	3.0	3.0	3.2	3.2	3.0	2.9	2.8	2.6	1.8	A	1.5	1.5	1.5	1.5	1.5
2	1.4	1.2	E	E	E	E	1.5	1.9	2.7	2.8	3.2	3.1	3.4	3.2	2.9	2.8	2.6	A	3.0 <sup>A</sup>	1.6	1.6	1.6	1.6	1.6
3	1.6	1.2	1.2	1.2	1.2	1.4	1.4	1.6	2.2	2.9	3.2	3.3	3.2	3.2	[3.2] <sup>B</sup>	3.2	2.7	2.2	A	2.9 <sup>A</sup>	A	1.9	A	A
4	1.4	1.2	E	E	E	E	1.4	2.7	5.2 <sup>A</sup>	3.6	3.8 <sup>A</sup>	3.2	3.8	3.6	3.0	3.0	2.8	A	A	A	3.0 <sup>A</sup>	1.5	1.8	1.4
5	1.4	1.7	1.1	E	E	E	1.4	1.4	3.0 <sup>A</sup>	4.0 <sup>A</sup>	4.0 <sup>A</sup>	4.0 <sup>A</sup>	4.0	3.1	3.3	2.9	6.2 <sup>A</sup>	2.2	A	A	2.8 <sup>A</sup>	3.0 <sup>A</sup>	2.0 <sup>A</sup>	1.6
6	E	E	E	E	E	E	1.6	2.1	3.3 <sup>A</sup>	3.6	3.5	4.0	3.4	3.1	3.3	2.8	2.5	2.3	1.8	1.7	A	AF	1.9	1.4
7	3.0 <sup>A</sup>	AF	A	A	1.2	1.8	2.0	2.4	2.4	4.2 <sup>A</sup>	3.3	4.4	4.0	4.0	3.5	3.4	3.1	1.7	A	2.6 <sup>A</sup>	1.8	1.8	1.8	1.6
8	1.2	1.1	1.1	1.1	1.1	E	1.5	1.9	2.4	2.8	A	3.0	3.3	3.1	2.4	2.2	2.6	2.4	A	4.4 <sup>A</sup>	A	A	A	1.5
9	2.0 <sup>A</sup>	1.2	E	E	1.2	1.1	1.4	2.3	2.7	2.9	3.0	3.6	3.3	3.3	3.1	2.8	2.4	2.5	1.8	1.8	2.3 <sup>A</sup>	1.8	1.8	2.0 <sup>A</sup>
10	1.6	1.4	E	E	E	E	1.6	2.8	4.0 <sup>A</sup>	3.0	3.7	3.5	A	3.4	3.0	2.8	2.4	2.2	1.5	[1.7]	1.9	1.8	2.1 <sup>A</sup>	1.9
11	1.8	1.9	E	1.2	1.2	1.1	1.4	2.1	3.7 <sup>A</sup>	3.7 <sup>A</sup>	3.2	3.3	3.2	3.4	3.2	2.8	2.5	2.2	1.7	1.6	1.4	1.4	1.4	1.4
12	1.4	1.4	1.2	1.3	1.4	1.1	1.9	2.3	[2.6]	3.0	3.2	3.1	3.3	3.3	3.4	3.2	2.6	2.1	1.5	1.4	2.2 <sup>A</sup>	1.4	1.5	1.5
13	1.2	1.1	E	1.1	1.1	1.1	1.6	2.3	2.8	3.2	2.8	3.2	A	A	[2.8]	3.0	2.8	2.3	1.6	2.4 <sup>A</sup>	1.4	1.4	A	1.4
14	1.3	E	E	E	1.2	E	2.0	2.4	C	C	C	C	C	C	C	C	C	3.2 <sup>A</sup>	4.6 <sup>A</sup>	1.6	1.6	2.2 <sup>A</sup>	1.6	1.6
15	2.0 <sup>A</sup>	1.2	1.2	C	E	E	1.6	2.3	2.4	[3.3]	4.2	5.6	4.2	4.4	4.4	3.2	3.0	2.2	1.8	1.5	1.5	1.5	1.5	1.5
16	E	E	E	E	1.2	1.2	1.2	1.4	A	3.0	3.3	3.6	3.4	3.6	3.4	3.6	2.6	2.3	C	C	2.4 <sup>A</sup>	1.6	C	C
17	C	C	C	C	C	1.6	1.6	2.4	2.7	[3.1] <sup>A</sup>	3.5	3.4	3.4	3.4	3.0	3.0	2.5	2.4	1.8	1.6	1.6	1.6	1.6	1.6
18	1.2	E	E	E	E	E	1.5	2.4	2.5	C	C	C	3.4	3.3	3.1	3.1	2.8	2.4	1.5	1.6	1.6	1.6	1.6	1.6
19	1.4	1.4	E	E	E	E	1.6	2.4	2.6	3.7	4.8 <sup>A</sup>	4.4 <sup>A</sup>	3.8	4.6 <sup>A</sup>	3.6	3.0	2.6	2.4	A	1.8	1.5	1.4	1.4	1.5
20	1.2	1.2	E	E	E	E	1.6	2.3	2.8	3.0	3.0	3.4	3.7	3.7	3.6	3.6	2.6	2.2	2.4 <sup>A</sup>	2.2 <sup>A</sup>	1.6	1.6	1.4	1.4
21	1.4	1.2	1.3	E	E	1.1	1.9	2.5	2.8	3.2	3.7	4.2	3.3	3.4	3.4	2.9	2.8	2.2	1.6	1.5	1.5	1.5	1.5	1.5
22	1.5	E	E	1.8	E	E	1.7	2.3	3.1	2.8	3.8	3.6	3.2	3.4	3.2	2.9	2.7	2.2	1.6	1.6	1.5	1.5	1.5	1.5
23	1.4	1.4	E	E	E	1.2	[1.9]	2.6	3.0	3.1	3.3	3.4	3.7	3.4	3.0	2.8	2.5	2.3	1.6	1.5	1.5	1.5	1.5	1.5
24	E	E	E	E	E	1.2	1.8	2.4	2.9	3.3	3.1	3.3	3.4	3.3	3.2	2.9	2.7	2.2	1.6	1.9	1.5	1.6	1.6	1.6
25	1.5	E	E	E	E	1.2	2.4	2.4	A	C	3.0	4.0	A	A	3.3	3.0	2.7	2.2	1.6	1.6	1.8	1.7	1.5	1.6
26	1.6	E	1.4	E	E	1.9	1.9	2.4	3.5	2.9	3.3	3.3	3.5	3.3	3.6	3.0	2.2	2.4	1.6	2.2 <sup>A</sup>	1.7	2.0 <sup>F</sup>	1.5 <sup>F</sup>	1.5
27	1.2	1.4	1.2	1.5	1.4	1.7	1.8	2.3	2.9	3.4	3.6	3.4	C	C	3.2	2.9	2.6	2.2	1.9	1.6	1.4	1.4	1.4	1.2
28	1.2	1.2	E	E	E	E	2.1	2.4	2.7	3.4	3.6	3.6	3.4	3.5	3.4	3.6	2.8	2.4	1.8	1.5	1.5	1.4	1.4	1.4
29	1.2	E	E	E	E	E	2.0	2.6	2.9	3.2	3.6	3.6	3.2	3.7	3.2	2.8	A	2.4	1.9	2.2 <sup>A</sup>	1.4	1.4	1.4	1.4
30	1.2	1.2	E	E	E	E	2.4	2.8	3.3	3.5	3.2	3.5	3.6	3.2	3.2	3.1	2.8	2.4	1.7	1.6	1.5	1.5	1.5	1.5
31	1.1	E	E	E	E	E	2.0	2.6	3.3	3.0	3.2	3.6	4.4	4.2	3.3	3.1	3.0	2.5	1.9	1.6	2.4 <sup>A</sup>	1.7	S	S
Mean Value	1.5	1.3	1.2	1.3	1.2	1.3	1.7	2.3	3.0	3.2	3.4	3.6	3.5	3.5	3.2	3.0	2.8	2.3	1.9	1.9	1.8	1.6	1.6	1.5
Median Value	1.4	1.2	E	E	E	E	1.6	2.4	2.8	3.2	3.3	3.5	3.4	3.4	3.2	3.0	2.6	2.3	1.8	1.6	1.6	1.6	1.5	1.5
Count	30	29	29	28	30	31	31	31	28	28	28	29	26	27	30	30	29	29	22	28	28	29	26	28

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

# IONOSPHERIC DATA

Lat. 39° 43.5' N  
Long. 140° 08.2' E

## Akita

Mar. 1952

f<sub>min</sub>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	E	E	E	E	E	1.5	1.4	1.6	1.7	1.8	2.0	2.0	2.1	2.0	1.8	B	1.6	1.5	1.6	1.9	1.5	1.5	1.5	1.9
2	1.7	E	E	E	E	E	B	1.5	1.6	1.8	1.7	1.6	1.7	1.7	1.6	1.6	1.7	1.6	1.7	1.4	E	1.7	1.6	E
3	1.6	E	E	E	E	E	B	1.4	1.6	1.6	1.7	1.9	2.0	2.1	2.0	1.8	1.7	1.7	1.6	1.6	1.4	1.4	1.5	1.6
4	E	E	E	E	E	E	1.4	1.6	1.6	2.0	2.0	2.0	1.8	1.8	1.9	1.7	1.6	1.7	1.7	1.5	1.4	1.5	1.4	1.6
5	E	E	E	E	E	E	1.4	1.8	1.7	1.6	1.7	1.6	1.8	1.9	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
6	E	E	E	E	E	E	B	1.5	1.8	1.8	1.8	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.4	1.5	1.5	1.9
7	1.2	1.1	1.2	1.2	1.2	1.2	1.4	1.8	1.6	1.7	1.7	1.7	1.7	1.7	1.9	1.9	1.8	1.6	1.5	1.6	1.8	E	E	E
8	E	E	E	E	E	E	B	1.6	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.6	1.6	1.6	1.5	1.6
9	1.5	E	1.1	E	E	E	B	1.6	1.5	1.8	1.7	1.8	1.7	1.9	1.9	1.8	1.8	1.8	2.1	1.8	1.8	E	1.8	1.8
10	1.2	E	E	E	E	E	B	1.7	1.7	1.6	1.8	1.8	1.8	1.9	1.8	1.7	1.8	1.6	2.0	(1.9) <sup>C</sup>	1.8	1.5	1.5	1.5
11	1.4	1.1	E	E	E	E	B	1.5	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	E	E	E	1.4	1.4	1.4
12	1.2	1.2	1.1	1.4	E	1.8	1.9	1.8	(1.8) <sup>C</sup>	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.8	1.5	1.9	E	E	1.4	1.4	1.4
13	E	E	E	E	E	E	B	1.5	1.6	1.6	1.6	2.0	2.0	2.4	(2.4) <sup>C</sup>	1.8	1.6	1.6	1.5	1.9	E	E	E	E
14	1.2	1.6	E	E	E	E	E	1.7	1.8	C	C	C	C	C	C	1.8	1.8	1.7	1.8	1.6	1.4	1.5	E	E
15	1.2	E	E	E	E	E	E	1.5	1.6	1.5	(1.6) <sup>C</sup>	1.7	1.8	2.0	1.8	1.8	2.4	B	E	E	E	E	E	E
16	E	E	E	E	E	E	B	1.4	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	C	C	1.7	1.6	C	C
17	C	C	C	C	C	E	B	1.6	1.5	(1.6) <sup>C</sup>	1.6	1.8	1.6	1.7	2.0	1.8	1.8	1.6	1.6	E	1.6	E	E	E
18	E	E	E	E	E	E	E	1.9	1.5	1.5	C	C	2.1	1.9	1.6	1.6	1.5	1.5	1.5	E	E	E	E	E
19	E	1.2	E	E	E	E	B	1.8	1.6	1.6	1.6	1.8	1.6	1.7	1.6	1.6	1.6	1.5	1.5	1.5	E	E	E	E
20	E	E	E	E	E	E	B	1.5	1.5	1.9	2.0	2.0	2.2	1.7	1.8	1.8	1.7	1.7	1.7	1.7	E	E	E	E
21	E	E	E	E	E	E	B	1.5	1.5	1.8	1.8	1.9	2.0	1.7	1.7	1.6	1.5	1.5	E	E	E	E	E	E
22	E	E	E	E	E	E	B	1.6	1.6	1.8	2.0	2.2	1.8	1.6	1.6	1.6	1.6	1.6	E	E	E	E	E	E
23	1.4	1.4	E	E	E	E	C	1.8	1.8	1.5	1.6	1.7	1.9	1.7	1.6	1.6	1.6	1.6	E	E	E	E	E	E
24	E	E	E	E	E	E	E	2.3	1.6	1.8	1.8	1.8	1.9	1.8	1.6	1.6	1.6	1.6	1.5	1.5	E	1.6	E	E
25	E	E	E	E	E	E	1.2	1.4	1.4	(1.6) <sup>C</sup>	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.6	1.6	1.8	E	E	E	2.0
26	1.2	E	E	E	E	E	E	1.5	1.6	1.5	1.6	1.6	1.8	1.8	1.6	1.7	1.6	1.6	1.4	1.5	1.5	1.5	1.8	1.8
27	1.9	1.4	E	E	E	E	E	1.6	1.6	1.6	1.7	1.8	C	C	1.6	1.7	1.6	1.5	1.5	E	E	1.4	1.2	
28	1.2	1.2	E	E	E	E	E	1.6	1.7	1.8	1.6	2.0	1.8	1.8	2.0	1.8	2.0	1.8	1.6	1.5	1.5	E	E	E
29	E	E	E	E	E	E	E	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.4	1.4	E	E	E
30	E	E	E	E	E	E	E	1.6	1.6	1.8	1.9	2.0	1.7	1.7	1.6	1.6	1.5	1.5	E	E	E	E	E	E
31	E	E	E	E	E	E	E	1.5	1.6	1.6	1.8	1.8	1.8	2.0	1.9	1.8	1.7	1.9	E	E	1.7	1.5	E	E
Mean Value	1.4	1.3	1.1	1.3	1.2	1.4	1.6	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.7	1.6	1.6	1.5	1.5	1.6
Median Value	E	E	E	E	E	E	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.4	E	E	E
Count	30	30	30	29	30	31	1.6	3.1	3.0	2.9	2.9	2.9	2.9	2.9	3.0	2.9	3.0	3.0	3.0	3.0	3.1	3.1	3.0	3.0

Sweep 1.0 Mc to J.T.L. Mc in 1.5 min

Manual  Automatic

f<sub>min</sub>E

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

Mar. 1952

foF2

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	2.9F	3.0	2.6	2.8	3.0	4.0	5.5	5.6	7.4	8.4 <sup>T</sup>	8.7 <sup>T</sup>	9.5 <sup>T</sup>	9.3	7.9 <sup>P</sup>	7.0	(6.2) <sup>P</sup>	6.3	5.6	5.4	4.7	3.5	3.1	2.7	3.1
2	3.6	3.0	3.2	3.2	3.3	3.0	3.2	5.9	7.6	8.6	8.5	8.8	10.9	8.7	9.6	8.6 <sup>T</sup>	7.5	5.6	4.2	3.4	3.5	3.3	3.2	3.0
3	3.3	3.3	3.2	3.1 <sup>P</sup>	(3.2) <sup>P</sup>	3.0	3.2 <sup>T</sup>	6.3 <sup>T</sup>	7.2	8.1	7.6	7.7	9.2	8.6	7.5	7.5	6.7	7.0	(6.3) <sup>P</sup>	4.8	3.8	AF	AF	AF
4	A	4.0 <sup>F</sup>	(3.8) <sup>F</sup>	5.5 <sup>F</sup>	3.1 <sup>F</sup>	2.6 <sup>F</sup>	3.0	6.1	7.3	6.7	7.3	7.5	10.8	(9.9) <sup>P</sup>	9.5	8.7	7.8	11.3	7.2	3.6	3.6 <sup>F</sup>	A	A	A
5	3.6 <sup>F</sup>	3.6 <sup>F</sup>	A	2.3	2.5	2.8	3.0	6.4	8.5 <sup>P</sup>	7.9	8.1	7.3	8.4	9.1	9.2	7.1	7.0	7.3	6.4	5.8	4.2	A	(4.7) <sup>P</sup>	4.3
6	4.3	3.3	3.7	3.1	3.1 <sup>P</sup>	3.3 <sup>F</sup>	4.0	7.2	8.8	(7.9) <sup>P</sup>	8.1	7.3	8.4	8.7	8.3	9.1 <sup>P</sup>	7.6	7.3	5.7	4.9	4.7 <sup>P</sup>	A	5.0	A
7	A	A	3.8 <sup>F</sup>	3.9 <sup>F</sup>	(3.2) <sup>P</sup>	2.2	5.8	(7.0) <sup>P</sup>	C	C	C	C	C	C	C	C	C	(10.2)	9.0 <sup>T</sup>	4.8	4.8	4.5 <sup>F</sup>	F	4.7 <sup>F</sup>
8	4.2 <sup>F</sup>	3.8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	4.5	3.9	A	A
9	4.2 <sup>F</sup>	4.3 <sup>F</sup>	4.0	3.7 <sup>F</sup>	3.7	3.5 <sup>F</sup>	5.0	6.9	7.5	7.8	7.8	8.4 <sup>T</sup>	9.7	9.4 <sup>T</sup>	10.8 <sup>T</sup>	C	C	6.8	6.5	(4.9) <sup>P</sup>	(5.1) <sup>P</sup>	(4.9) <sup>P</sup>	4.8	4.6
10	4.0	3.8	3.7	3.4	3.6 <sup>F</sup>	3.5	4.4	6.5	7.5	8.7	(8.5) <sup>P</sup>	9.0	9.0	8.7	7.9	7.6	8.4	7.6	6.7	5.8 <sup>H</sup>	6.2	5.2	4.7 <sup>V</sup>	4.5
11	4.4	4.6	4.4	3.9	3.6	3.6	5.1	8.5	C	C	9.0	10.3	10.0	10.4	9.5	9.1	7.6	7.6	6.9	4.9	5.5	5.2	4.7	4.5
12	4.4	4.4	4.5	4.2	4.2	4.2	6.6	7.4	8.3	8.5	8.2	9.5	10.8	10.1	9.1	7.5	7.9 <sup>H</sup>	7.9	8.3	6.7	5.7	5.2	4.6	4.0
13	4.0	4.1	4.3	4.1	2.9	3.5	4.1	9.4	10.2	7.8	(10.0) <sup>C</sup>	11.6	10.7	9.3	7.5	7.3	7.4	7.1	6.0 <sup>F</sup>	6.4	5.4	4.1 <sup>F</sup>	4.5	4.5
14	4.2	3.0	(4.6) <sup>F</sup>	(4.9) <sup>F</sup>	2.9 <sup>F</sup>	2.8 <sup>F</sup>	4.7	(7.3) <sup>P</sup>	C	C	C	C	C	C	C	C	C	C	C	4.7	4.5	4.6	4.6	4.5
15	4.5	4.4	4.1	4.8	2.9 <sup>H</sup>	3.0	5.0	7.2	B	7.5	9.0	9.7	10.5	C	C	7.7	7.5	7.8	7.9 <sup>P</sup>	5.6	4.9	4.7	4.9	4.9
16	4.7	4.6	4.7	4.5	3.4	3.7	4.8	7.5	8.5	8.8	9.3	9.8	8.8	9.8	10.6	9.0	8.8	9.7 <sup>T</sup>	8.8	5.0	4.5	4.6	4.5	4.6
17	4.5	5.0	4.7	4.4	4.2	3.7	5.1	6.8	7.9	10.0	10.5	10.8 <sup>P</sup>	(11.4) <sup>T</sup>	11.2 <sup>T</sup>	10.4	9.6 <sup>T</sup>	9.5 <sup>T</sup>	7.1 <sup>J</sup>	(7.0) <sup>P</sup>	4.5 <sup>H</sup>	(3.3) <sup>P</sup>	3.6	3.8	3.7
18	3.8	3.8	3.7	3.4	3.7	3.5	5.8	8.3	8.5	7.3 <sup>H</sup>	9.0	(10.8) <sup>P</sup>	(10.0) <sup>P</sup>	9.1	9.1	9.1	7.8	8.2 <sup>T</sup>	7.3	5.0	4.5	4.5	4.4	4.2
19	4.1	4.2	3.9	4.0	4.0	3.2	6.0 <sup>P</sup>	8.2 <sup>P</sup>	7.3	8.2	9.6	10.3	10.3	T	9.4	7.9	7.7	C	C	C	C	C	C	C
20	3.7	C	C	C	C	C	C	C	6.4	7.4 <sup>H</sup>	7.2	7.3	10.1	9.8	8.0	8.6	8.2	9.0	8.1	5.6	4.0	3.5	3.8	3.7
21	3.7	3.6	3.9	3.9	3.1	3.0	5.7	6.8	8.2	8.4	8.9	9.0	8.8	8.2	7.3	7.7	8.6 <sup>T</sup>	(8.0) <sup>S</sup>	4.7	7.0 <sup>S</sup>	(6.1) <sup>P</sup>	6.3 <sup>P</sup>	5.7	4.6
22	4.4	4.3	3.5	4.3	3.8	3.5	5.4	7.4	7.3	8.1	(9.7) <sup>P</sup>	9.9	9.3	(9.3) <sup>P</sup>	6.8	7.2	7.8	BS	(8.2) <sup>P</sup>	5.5	4.0	3.8	3.7	4.0
23	3.9	3.8	3.5	3.6	3.3	3.3	5.2	6.8	6.3	7.1	8.4	8.0	10.2	11.0	9.7	8.2 <sup>S</sup>	7.9	7.4	8.1	6.9 <sup>P</sup>	6.9 <sup>P</sup>	5.4 <sup>H</sup>	5.0	5.1
24	5.3	6.0	5.2	3.5	2.9 <sup>T</sup>	2.8 <sup>T</sup>	5.6	7.4	6.7 <sup>P</sup>	6.5	7.7	8.8	10.1	11.8	9.8 <sup>P</sup>	(8.1) <sup>P</sup>	9.0	10.1 <sup>T</sup>	8.7	5.3	3.6	4.4	4.4	4.4
25	4.3	4.0	4.2	4.0	3.8	5.3	5.8	6.7	7.3	6.6	(7.6) <sup>P</sup>	(9.0) <sup>C</sup>	10.5	9.8	10.5	9.6	8.4 <sup>T</sup>	6.4	6.0	5.3	5.4	4.8	3.9	4.5
26	4.5	4.6	4.2	3.9	3.5	3.5	5.1	5.3	6.3 <sup>H</sup>	6.3	7.3 <sup>T</sup>	9.4	(9.5) <sup>P</sup>	(9.4) <sup>P</sup>	10.4	(9.6) <sup>P</sup>	7.4	6.3	6.1	5.0	3.9	3.6 <sup>V</sup>	3.7 <sup>F</sup>	3.7 <sup>F</sup>
27	(3.7) <sup>P</sup>	4.0 <sup>F</sup>	3.5	3.6 <sup>F</sup>	3.7 <sup>F</sup>	2.9 <sup>F</sup>	4.3	5.7	6.8	7.6	8.6	9.1	9.9 <sup>P</sup>	9.4	10.0	8.2	7.5	6.9 <sup>P</sup>	6.3	4.7	3.6	3.6	(3.5) <sup>P</sup>	(3.8) <sup>F</sup>
28	(3.6) <sup>F</sup>	3.7 <sup>T</sup>	3.5	3.4	3.1	3.3	5.0	6.8	7.5	7.8	9.0	10.3	9.3	9.2	8.0	7.5	7.0	7.3	6.8	5.3	4.8	4.3	4.1 <sup>F</sup>	(4.5) <sup>F</sup>
29	3.9 <sup>F</sup>	3.7 <sup>F</sup>	3.6	3.6	2.8	2.4 <sup>F</sup>	4.7	6.1	6.9	8.5	8.8	10.5	11.0	10.4	9.7	8.5	7.6	(7.0) <sup>P</sup>	6.2	4.1	3.6	3.6	3.7	3.7
30	3.7	3.9	3.9	3.8	3.8	2.9	4.9	6.6 <sup>F</sup>	6.6	7.3	7.9	7.9	9.7	9.8 <sup>P</sup>	9.0	8.6	7.0	6.9	6.5	6.2	4.6	4.0	4.1	4.1
31	4.1	3.7	3.7	3.6	3.7	(4.4) <sup>C</sup>	5.1	6.0	7.1	6.7	9.0	11.6	10.6	11.3	12.0	10.2	7.7	7.6	7.3	5.6 <sup>H</sup>	(5.2) <sup>F</sup>	6.1	5.7	5.5
Mean Value	4.1	4.0	3.9	3.8	3.4	3.3	4.9	6.9	7.5	7.9	8.6	9.3	10.1	9.7	9.2	8.3	7.8	7.7	7.0	5.2	4.6	4.5	4.3	4.3
Median Value	4.1	3.9	3.8	3.8	3.3	3.3	5.0	6.8	7.3	7.8	8.6	9.4	10.1	9.6	9.4	8.2	7.7	7.4	6.8	5.0	4.5	4.5	4.4	4.4
Count	29	29	28	29	29	29	29	29	26	27	28	28	29	26	27	27	27	27	28	29	30	26	26	26

K I

Automatic

Manual

Sweep 1.0 Me to 17.2 Me in 2 min

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**

**Mar. 1952**

**f<sub>o</sub>F<sub>2</sub>**

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	390 <sup>F</sup>	460	420	400	350	350	340	340	300	260	290	270	280	260 <sup>P</sup>	270	(260)	250	280	270	A	280	340	320	330
2	390	380	360	370	290	300	290	290	270	280	290	310	300	280	290	(280)	260	240	A	A	280	280	340	360
3	340	330	350	340 <sup>F</sup>	330	(320)	(260)	250	250	260	290	300	280	290	280	270	280	260	(240)	270	A	AF	AF	AF
4	A	400 <sup>F</sup>	(360)	(300)	340 <sup>F</sup>	(420)	330	240	260	270	280	280	(290)	270	270	270	280	310	300	(380)	A	A	A	A
5	(400)	(280)	A	390 <sup>A</sup>	390	260	280	300	260 <sup>F</sup>	250	260	250	320	290	260	250	250	270	250	260	370	A	(340)	300
6	400	350	370	440	400 <sup>F</sup>	A	290	300	300	310	(310)	320	300	280	310	280 <sup>P</sup>	280	280	280	320	310 <sup>P</sup>	A	350	A
7	A	A	340 <sup>F</sup>	(380)	(330)	340	270	(230)	C	C	C	C	C	C	C	C	C	(280)	(270)	260	(340)	F	360 <sup>F</sup>	
8	320 <sup>F</sup>	330	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	300	340	A	A
9	400 <sup>F</sup>	430 <sup>F</sup>	420	410 <sup>F</sup>	410	400 <sup>F</sup>	340	310	320	230	290	(310)	290	(290)	(280)	C	C	250	270 <sup>B</sup>	(270)	(300)	(300)	300	290
10	340	300	380	350	(350)	370	250	250	280	280	(270)	270	290	300	300	300	290	250	280	330 <sup>H</sup>	290	320	290 <sup>F</sup>	390
11	350	320	310	320	320	340	300	280	C	C	300	300	310	300	290	260	260	280	290	300	330	340	350	350
12	360	370	380	380	340	350	290	260	270	270	320	300	320	300	280	280	270 <sup>H</sup>	260	270	260	340	360	360	400
13	390	390	350	300	270	330	340	290	260	230	260	(270)	280	250	250	260	260	300	280	260 <sup>F</sup>	280	270	340 <sup>F</sup>	340
14	350	340	(430)	(310)	280 <sup>F</sup>	370 <sup>F</sup>	280	(250)	C	C	C	C	300	C	C	C	C	C	C	270	340	330	360	330
15	300	310	330	240	340 <sup>H</sup>	310	260	250	B	260	270	290	310	C	C	290	280	290	280 <sup>F</sup>	290	310	340	360	320
16	350	350	310	290	340	360	300	270	280	300	280	280	340	340	310	290	310	(290)	270	340	390	400	410	420
17	410	380	350	370	360	370	350	290	310	300	290	320 <sup>F</sup>	(300)	(300)	280	(280)	(290)	(250)	(240)	300 <sup>H</sup>	(320)	400	380	370
18	400	360 <sup>B</sup>	360	330	310	310	290	250	270	310 <sup>H</sup>	340	(300)	(300)	300	320	270	290	(270)	280	270	330	350	340	370
19	370	330	370	350	330	290	280 <sup>F</sup>	250 <sup>F</sup>	250	310	280	260	290	T	260	300	280	C	C	C	C	C	C	C
20	360	C	C	C	C	C	C	C	270	290 <sup>H</sup>	300	300	290	300	280	300	280	260	240	280	290	350	400	410
21	390	380	340	330	270	330	270	300	290	280	300	310	290	290	280	290	(290)	(260)	(260)	280	300 <sup>S</sup>	300 <sup>P</sup>	290	360
22	350	380	370	310	310	310	280	270	270	290	(310)	300	300	(270)	290	300	310	B <sup>S</sup>	(260)	280	280	360	380	400
23	370	320	250	300	330	290	250	250	240	300	310	300	350	280	280	280 <sup>S</sup>	270	300	290	320 <sup>F</sup>	280 <sup>P</sup>	350 <sup>H</sup>	400	410
24	360	310	320	300	(380)	(390)	270	260	270 <sup>P</sup>	270	320	320	360	300	300 <sup>F</sup>	(290)	300	(300)	(300)	250	290	440	410	440
25	370	440	430	400	360	230	250	280	300	290	(320)	(300)	280	290	(290)	270	(260)	250	270	320	320	340	340	380
26	370	340	330	310	320	320	250	270	290 <sup>H</sup>	300 <sup>P</sup>	290	280	(290)	(320)	300	(290)	260	250	260	240	240	300 <sup>V</sup>	290 <sup>F</sup>	360 <sup>F</sup>
27	340 <sup>F</sup>	300 <sup>F</sup>	320	350 <sup>F</sup>	280 <sup>F</sup>	230	300	300	310	280	290	(280)	280 <sup>S</sup>	290	290	270	280	260 <sup>F</sup>	230	260	340	A	(390)	(400)
28	(390)	(330)	330	350	340	390	280	290	300	300	310	270	300	280	280	270	290	260	(280)	250	280	430	390 <sup>F</sup>	(380)
29	340 <sup>F</sup>	300 <sup>F</sup>	300	270	270	330	270	260	280	290	290	310	290	280	280	270	260	260	(280)	280	270	370	410	390
30	380	350	320	270	350	400	310	280 <sup>F</sup>	280	300	300	310	300	300	300	300	260	260	280	270	280	390	370	370
31	380	380	380	390	330	(280)	230	270	290	360	400	360	300	340	300	290	310	290	280	400 <sup>H</sup>	(410)	430	400	380
Mean Value	370	350	350	340	340	290	270	280	280	280	300	300	290	290	280	280	280	270	270	290	330	350	360	370
Median Value	370	350	350	340	330	280	270	280	290	290	300	300	280	280	280	280	280	270	270	280	320	350	360	370
Count	29	29	28	29	28	29	29	29	26	27	28	28	29	26	27	27	27	27	27	27	29	25	26	26

**f<sub>o</sub>F<sub>2</sub>**

Sweep I. P. Mc in J.T.Z. Mc in \_\_\_ min

Manual  Automatic

**K 2**

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**

**R'F2**

**Mar. 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	300	350	350	300	290	330	260	260	300	260	270	270	270	260	250	250	240	220	250	(240)	250	290	280	260
2	290	300	290	300	260	230	250	230	240	270	280	290	290	270	270	280	260	230	A	A	260	260	270	300
3	290	260	280	290	280	290	270	220	230	250	250	270	290	280	260	270	280 <sup>A</sup>	(240) <sup>A</sup>	(240) <sup>A</sup>	230	230 <sup>A</sup>	230 <sup>A</sup>	A	AF
4	A	300 <sup>F</sup>	270 <sup>F</sup>	230 <sup>F</sup>	250	310	270	230	230	260 <sup>A</sup>	270	250	280	280	250	250	260	270	200	260	300	A	A	A
5	340 <sup>F</sup>	230	A	340	330	240	240	280	240	240	250	240	260	270	240	240	250	230	220 <sup>A</sup>	250 <sup>A</sup>	A	300 <sup>A</sup>	300 <sup>A</sup>	A
6	350	310	320	360	350	A	280 <sup>A</sup>	250	260	280	280	290	270	270	280	280	250	240	210	240	310 <sup>A</sup>	A	320 <sup>A</sup>	300
7	A	A	240 <sup>A</sup>	A	250	270	250	220	C	C	C	C	220	C	C	C	C	250	240	240	270	300	300 <sup>F</sup>	290 <sup>F</sup>
8	260	270	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	230	280	A	A
9	340	300	330	330	(400) <sup>AF</sup>	360 <sup>A</sup>	300	290	300	220	280	280	280	270	260	C	C	230	240	250	280	250	240	240
10	250	250	320	300	A	320	250	250	250 <sup>A</sup>	260 <sup>F</sup>	270	260	270	290	290	290	260	220	240	260 <sup>H</sup>	240	240	240	330
11	300	300	250	260	250	290	250	260	250	(270) <sup>C</sup>	290	280	280	280	270	250	240	240	230	230	260	250	270	290
12	290	290	300	280	280	290	240	220	250	250	260	280	270	270	260	270	260 <sup>H</sup>	260	220	220	240	250	270	280
13	310	310	290	290	220	240	270	260	250	220	250	(260) <sup>C</sup>	260	230	240	240	230	250	260	250	250	260 <sup>A</sup>	300	300 <sup>F</sup>
14	320	310	320	220	200	280	240	230	C	C	C	C	280	C	C	C	C	C	C	220	270	270	280	270
15	250	250	270	230	210 <sup>H</sup>	260	230	230	240	230	250	280	280	C	C	260	270	250	230	220	230	280	280	260
16	260	270	230	240	230	260	240	230	250	270	270	280	310	320	290	280	270	260	250	230	220	280	340 <sup>F</sup>	300
17	300	300	280	280	280	270	250	250	250	260	280	300	290	280	260	270	260	240	220	210 <sup>H</sup>	240	360	320	310
18	320	300	300	300	230	280	240	230	250	270 <sup>H</sup>	300	290	290	290	290	260	260	250	230	220	250	290	280	300
19	310	280	290	280	250	220	220	220	250	260	270	250	280	T	250	270	270	240	C	C	C	C	C	C
20	290	C	C	C	C	C	C	C	250	270 <sup>H</sup>	290	300	270	280	280	280	270	240	230	210	220	280	270	330 <sup>F</sup>
21	330	320	290	270	230	290	250	280	280	270	290	300	270	280	270	270	270	250	240	250	280	230	240	280
22	290	300	320	250	240	250	260	260	250	260	280	280	280	270	280	270	290	250	220	210	220	290	300	300
23	290	270	250	250	260	250	240	230	230	220	290	280	320	280	250	270	260	250	220	270	230	250 <sup>H</sup>	300	310
24	280	260	260	220	260	330	230	230	260	260	310	310	320	290	280	280	270	270	230	240	370	330	320	320
25	290	310	300	300	270	250	250	270	260	270	300	(280)	270	270	280	250	250	230	240	220	240	270	280	320
26	300	290	280	280	300	280	230	240	260 <sup>H</sup>	290	280	280	290	300	290	260	260	230	230	240	300 <sup>A</sup>	260	230	330
27	310	250	270	300	220	230	210	290	290	280	280	(280) <sup>C</sup>	280	280	280	260	260	220	220	220	240	260	230	310
28	310	280	280	290	270	300	250	290	290	280	280	290	260	280	280	260	260	250	240	230	300	300	290	310 <sup>F</sup>
29	300	270	260	240	220	290	250	250	280	270	280	300	280	270	260	250	260	250	240	220	250	310	320	310
30	320	290	260	230	250	290	280	270	270	280	290	300	300	290	290	280	250	260	220	220	220	270	300	300
31	300	300	300	310	260	(240) <sup>C</sup>	230	260	270	360	340	310	290	310	280	250	270	250	250 <sup>H</sup>	320	340	300	300	290
Mean Value	300	290	290	280	260	280	250	250	260	260	280	280	280	280	270	260	260	240	230	230	260	280	290	300
Median Value	300	290	280	280	260	280	250	250	260	260	280	280	280	280	270	270	260	240	230	240	250	280	290	300
Count	29	29	28	28	28	28	29	29	28	28	28	28	30	26	27	27	27	29	27	28	29	26	27	27

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. 36° 42.4' N  
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

foF1

Mar. 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	L	4.0	4.3	L	L	L	L	L	L	Q							
2								Q	L	L	4.5	L	4.5	L	4.3	L	L	Q							
3								Q	L	L	4.2	L	L	L	4.2	L	A	A							
4								Q	A	A	4.4	L	L	L	L	L	A	A							
5								A	Q	L	4.3	4.6	Q	4.5	4.5	3.9	A	Q							
6								Q	Q	A	L	L	4.2	L	L	L	Q	Q							
7								Q	C	C	C	C	4.5	C	C	C	C	Q							
8								C	C	C	C	C	C	C	C	C	C	C							
9								Q	Q	A	4.4	L	4.5	4.7	L	C	A								
10								Q	Q	L	L	L	4.3	L	L	L	3.8	Q							
11								L	L	C	L	4.6	L	L	4.4	L	Q	Q							
12								Q	L	L	4.4	L	L	4.4	L	L	L	L							
13								Q	L	L	4.5	C	L	L	4.0	3.8	L	A							
14								Q	C	C	C	C	4.4	C	C	C	C	C							
15								Q	Q	Q	L	4.0	L	C	C	L	L	Q							
16								Q	L	L	4.5	4.3	L	L	4.7	L	L	Q							
17								Q	Q	3.9	4.5	4.5	4.8	4.1	4.1	4.1	(3.8) <sup>L</sup>	Q							
18								Q	L	L	4.5	4.6	4.4	4.5	L	L	Q	Q							
19								Q	L	(4.2) <sup>L</sup>	4.6	L	4.8	4.3	(3.9) <sup>L</sup>	4.0	L	Q							
20								C	Q	4.2 <sup>J</sup>	(4.5) <sup>L</sup>	4.7	4.5	4.7	4.2 <sup>J</sup>	(4.4) <sup>L</sup>	4.4	L							
21								L	3.8	4.5	4.5 <sup>H</sup>	4.5	4.4	4.3	4.5	4.0	L	L							
22								Q	L	L	4.2	4.0	4.5	4.4	4.3	3.6	L	Q							
23								Q	Q	L	4.5	L	4.8	4.6	L	L	L	Q							
24								Q	L	4.2	4.7	4.7	4.7	4.5	4.2	L	Q	(3.3) <sup>L</sup>							
25								A	A	A	L	C	4.4	(4.6) <sup>L</sup>	4.2	4.0	4.0	Q							
26								Q	L	4.5	4.2	4.1	4.5	4.4	4.5	4.2	3.9	Q							
27								L	L	L	4.4	(4.5) <sup>C</sup>	4.6	4.5	L	4.1	L	Q							
28								L	L	4.2	4.6	4.5	4.4	4.7	4.4	L	3.4	Q							
29								Q	L	4.5	4.6	4.9	4.8	4.6	4.5	L	Q	Q							
30								4.3	L	4.4	4.6	4.9	4.6	4.6	4.2	4.0	L	Q							
31								Q	L	5.0	4.6	5.0	L	4.4	L	L	L	Q							
Mean								4.3	3.8	4.3	4.5	4.5	4.5	4.5	4.3	4.0	3.9	3.3							
Median								4.3	3.8	4.2	4.5	4.6	4.5	4.5	4.2	4.0	3.8	3.3							
Mode								1	1	1	2	3	1	2	1	1	6	1							
Count								1	1	1	2	3	1	2	1	1	6	1							

foF1

Sweep 1.0 Mc to 1.7.2 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

3'F1

Mar. 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	250	220	220	220	210	210	220	220	230	Q						
2								Q	230	220	230	230	240	240	250	260	240	Q						
3								Q	220 <sup>A</sup>	220	200	A	230	230	210	250	A	A						
4								Q	Q	A	250	210 <sup>A</sup>	220	260	240	230	220	A						
5								A	Q	240	250	240	Q	240	220	230	A	Q						
6								Q	Q	A	240 <sup>A</sup>	220	230	250	230	230	Q	Q						
7								Q	C	C	C	C	200	C	C	C	C	Q						
8								C	C	C	C	C	C	C	C	C	C	C						
9								Q	Q	A	220	200	240	220	210	C	C	A						
10								Q	Q	230	250	230	200	210	220	230	230	Q						
11								250	220	(240) <sup>C</sup>	250	B	240	220	230	230	Q	Q						
12								Q	230	250	220	230	240	240	230	240	240	220						
13								Q	240	200	200	(200) <sup>C</sup>	210	220	220	220	230	A						
14								Q	C	C	C	C	210	C	C	C	C	C						
15								Q	Q	Q	250 <sup>B</sup>	210	200	C	C	C	240	Q						
16								Q	230	210	200	220	230	250	240	240	240	Q						
17								Q	Q	210	210	200	220	220	220	220	240	Q						
18								Q	220	230	220	270	220	210	250	250	Q	Q						
19								Q	240	230	210	200	240	220	220	220	Q	Q						
20								C	Q	230	230	220	190	210	240	240	240	240						
21								260	260	230	220 <sup>H</sup>	240	240	190	220	200	250	250						
22								Q	240	220	190	200	230	230	210	220	190	Q						
23								Q	Q	Q	220	250	230	250	230	210	210	Q						
24								Q	220	220	220	220	260	220	210	230	Q	260						
25								Q	A	A	260 <sup>A</sup>	C	A	220	220	210	230	Q						
26								Q	250	220	210	220	220	220	270	250	250	Q						
27								250	220	220	250	(260) <sup>C</sup>	270 <sup>A</sup>	230	230	210	240	Q						
28								260	250	240	220	230	230	230	230	210	230	Q						
29								Q	240	230	220	A	220	230	230	A	Q	Q						
30								250	250	230	230	210	240	250	230	250	250	Q						
31								Q	240	280	A	240	280	220	270	240	240	Q						
Mean Value								250	240	230	230	220	230	230	230	230	240	230						
Median Value								250	240	230	220	220	230	220	230	230	240	240						
Count								5	18	22	27	24	28	27	27	26	20	4						

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

Lat. 35° 42.4' N  
Long. 139° 28.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

foE

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

foE

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual  Automatic

K 6



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**

Mar. 1952

f<sub>o</sub>F<sub>2</sub>

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

Speed 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° 28.8' E

**IONOSPHERIC DATA**

**Kokubunji Tokyo**

Mar. 1952

fEs

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	2.0	2.4	E	E	2.0	E	2.8	2.8	2.5	5.0	5.8	5.0	5.1	5.4	3.8	4.2	G	2.3	3.9	3.9	2.8	E	E	2.4	
2	2.3	E	1.8	1.6	2.1	1.6	E	G	G	3.5	4.1	4.0	4.0	4.1	4.3	6.5	4.0	4.4	4.1	5.0F	2.4	2.4	2.0	1.8	
3	2.1	E	1.6	E	E	E	E	3.0	3.7	4.4	4.2	4.4	G	3.9	G	3.6	5.6	5.0Y	14.2	13.4	11.6	14.0	6.5	5.5	
4	4.5	4.4	E	E	E	E	E	3.0	5.6	5.4	4.2	4.2	4.5	3.5	4.6	G	4.2	5.4	4.0	2.5F	3.7F	5.3	5.5	5.2	
5	5.2	2.8	2.4	2.2	2.0	E	2.4	4.1	4.0	4.8	4.8	5.1	6.2	4.7	4.0	4.3	6.6	4.4	2.8	5.8Y	3.7	6.9	2.9	5.6	
6	2.9	2.4	2.3	2.0	E	3.4	3.2F	2.8	3.4	4.8	5.2	3.6	3.9	4.4	4.0	3.5	3.1	2.9	3.0	2.0	4.4	5.8	4.0	5.6	
7	6.0	6.4	5.4F	3.4	2.4	2.1	2.0	2.4	C	C	C	C	C	C	C	C	C	2.5	4.6	3.5	3.4	3.2	2.3	2.1	
8	E	E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	2.6	E	5.2	7.6	
9	3.6	2.3	2.9	3.2	3.1	3.2F	3.0F	2.7	3.4	5.2	4.0	4.0	5.4	5.0	3.6	C	C	4.8	5.2	3.7	3.1	3.9	2.3	3.9	
10	2.0	2.4	3.0	2.5F	4.8	2.4	1.9	G	G	9.2Y	8.0Y	5.2	4.3	G	4.2	G	3.4	2.8	2.6	2.8	2.1	E	5.2	2.9	
11	3.6	3.6	2.6	3.2	2.4	2.4	2.4	2.9	3.8	C	G	G	4.0Y	4.4	5.2	4.2	G	2.4	3.0	E	E	2.1	2.0	2.0	
12	2.1	2.5	2.9	2.0	2.3	2.3	2.5	2.5	G	G	3.6	G	G	G	4.6	G	G	2.8	E	2.8	2.0	2.3	E	E	
13	E	2.0	E	2.2	E	E	E	G	3.6	4.1	4.0	C	6.3	7.6	4.0	G	C	3.5	3.3	4.5	4.1	5.0	2.6F	2.8	
14	3.2	2.2	2.2	2.0	2.0	2.0	2.4	G	C	C	C	C	4.0	C	C	C	G	C	C	3.5	3.0	2.2	2.4	2.4	
15	E	E	2.1	2.5	2.0	2.2	2.3Y	3.2	2.8	2.8	G	B	G	C	C	C	G	G	2.5	1.9	E	E	E	E	
16	E	E	E	E	E	E	E	2.7	3.6	5.3	4.0	4.6	4.2	4.4	4.3	3.9	3.9	G	E	E	2.4	3.5	2.6	2.0	
17	2.0	2.0	2.4	3.0	2.0	E	2.9	3.0	G	3.4	4.6	4.2	G	3.7	G	G	G	G	E	2.2	E	E	E	E	
18	E	E	E	E	1.9	E	E	G	G	G	G	G	G	G	G	3.0	4.8	2.8	2.6	2.1	2.0	E	E	E	
19	E	E	E	E	1.9	1.7	2.4	G	3.6	G	3.8	G	G	G	G	G	G	3.0	C	C	C	C	C	C	
20	E	C	C	C	C	C	C	C	G	G	G	G	G	G	G	G	G	G	3.6	2.1	E	E	E	E	
21	E	E	E	E	E	E	E	2.6	G	G	G	G	G	G	G	G	G	G	E	2.2	E	E	E	E	
22	1.7	1.9Y	1.8	2.0	E	E	E	2.7	3.4	3.6	G	3.5	G	G	G	G	G	G	E	E	E	E	E	E	
23	E	E	E	E	E	E	E	2.5	G	3.4	3.5	3.7	3.2	G	G	G	G	G	2.1	2.4	2.4	E	2.2	E	
24	E	E	E	E	E	E	E	2.0	G	3.0	G	G	G	G	G	G	G	G	2.1	2.0	2.0	E	E	E	
25	E	E	E	E	E	E	E	3.6	3.6	5.2	4.8	C	4.7	4.4	G	G	G	2.0	2.1	1.9	1.9	E	E	E	
26	E	E	E	E	E	E	E	2.5	G	G	G	4.1	4.2	G	G	G	3.3	2.1	4.1	3.8	5.2	2.3	2.1	2.8	
27	2.4	2.0	2.4	2.2	2.4	2.0	G	G	G	4.4	3.8	4.8	4.8	3.6	3.6	G	G	G	G	2.2	2.0	3.2Y	2.4	2.3	
28	4.2	3.6Y	2.8	3.5	2.1	2.5	2.3	3.5	3.7	G	4.2	4.4	G	G	G	G	G	G	E	1.8	E	E	E	E	
29	E	E	E	E	E	E	E	G	G	G	G	5.1	G	4.6	3.6	4.8	G	2.9	2.8	2.0	E	E	E	E	
30	E	E	E	E	E	E	E	5.7Y	5.2Y	G	7.0	G	3.7	G	G	G	G	3.8	B	2.0	1.6	E	E	E	
31	E	E	E	E	E	E	E	G	G	4.2	4.4	5.4	5.4	3.7	6.3	G	3.2	G	2.8	2.4	2.4	2.4	E	E	
Mean Value	3.1	2.9	2.5	2.5	2.4	2.3	2.4	3.1	3.7	4.7	4.7	4.3	4.6	4.5	4.3	4.2	4.2	3.3	3.8	3.2	3.2	4.3	3.3	3.6	
Median Value	1.7	E	1.8	2.0	1.9	E	2.0	2.6	3.2	3.4	4.0	4.0	3.8	3.6	3.6	G	G	2.5	2.8	2.2	2.2	E	2.0	1.9	
Count	31	30	29	29	29	28	29	29	28	27	28	25	30	27	26	26	27	24	24	27	29	30	30	30	30

Sweep 1.0 Mc to 1.7.2 Mc in 2 min

Manual  Automatic

fEs

K 8

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

Lat. 35° 42.4' N  
Long. 139° 28.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Mar. 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	2.6F	2.3	2.5	2.5	2.8	2.9	2.8	2.8	3.2	(3.3) <sup>T</sup>	(3.1) <sup>T</sup>	(3.3) <sup>T</sup>	3.3	3.5P	3.4	(3.3) <sup>P</sup>	3.5	3.2	3.3	3.5	3.3	3.3	2.9	3.0	3.1
2	2.7	2.9	2.8	2.8	3.1	3.1	3.1	3.2	3.3	3.2	3.1	3.0	3.2	3.3	3.2	(3.3) <sup>T</sup>	3.4	3.6	A	3.3	3.2	3.2	2.9	2.8	
3	2.9	3.0	2.8	2.9P	(2.8) <sup>P</sup>	3.0	(3.0) <sup>T</sup>	(3.4) <sup>T</sup>	3.5	3.5	3.5	3.2	3.1	3.2	3.3	3.4	3.4	3.4	(3.4) <sup>P</sup>	3.3	3.4	AF	AF	AF	
4	A	2.6F	(2.8)F	(3.0)F	2.8F	(2.5)F	2.9	3.5	3.3	3.4	3.3	3.2	3.3	(3.3) <sup>P</sup>	3.2	3.4	3.2	3.0	3.3	3.0	(2.7)F	A	A	A	
5	(2.7)F	(3.2)F	A	2.8	2.8	3.3	3.1	3.1	3.4P	3.5	3.5	3.6	3.1	3.3	3.4	3.5	3.5	3.3	3.4	3.2	2.7	A	(2.8)P	3.1	
6	2.5	2.8	3.2	2.6	2.6F	(2.6)F	3.1	3.2	3.0	(3.0)P	(3.0)P	3.0	3.2	3.3	3.1	3.3P	3.3	3.3	3.2	3.0	3.0P	A	2.8	AF	
7	A	A	3.0F	(2.8)F	(3.0)P	2.8	(3.5)P	3.3	C	C	C	C	C	C	C	C	C	(3.2)P	(3.3)P	3.3	2.9	2.7F	F	2.8E	
8	2.9F	2.8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	3.2	3.1	A	A
9	2.6F	2.6F	2.6	2.5F	2.7	2.6F	2.8	3.1	3.0	3.5	3.2	(3.1) <sup>T</sup>	3.2	(3.2) <sup>T</sup>	(3.2) <sup>T</sup>	C	C	3.4	3.2	(3.3)P	(3.1)P	(3.2)P	3.2	3.2	
10	2.8	3.1	2.7	2.9	(3.0)F	2.7	3.5	3.5	3.4	3.3	(3.3)P	3.2	3.3	3.3	3.2	3.1	3.2	3.3	3.2	2.9H	3.2	2.9	3.2V	2.8	
11	2.9	3.0	3.0	2.9	3.0	2.8	3.1	3.2	C	C	3.2	3.2	3.0	3.2	3.2	3.4	3.4	3.3	3.2	3.0	3.0	2.9	2.8	2.8	
12	2.8	2.7	2.7	2.8	2.8	2.8	2.9	3.3	3.3	3.4	3.0	3.2	3.0	3.2	3.2	3.3H	3.4	3.4	3.3	3.3	2.9	2.8	2.9	2.6	
13	2.6	2.6	3.0	3.1	3.2	2.9	3.3	3.2	3.4	3.6	3.3	(3.4)C	3.4	3.4	3.4	3.4	3.3	3.1	3.4	3.3F	3.2	3.3	2.9F	2.9	
14	2.8	2.9	(2.5)F	(3.0)F	3.2F	2.8F	3.1	(3.5)P	C	C	C	C	C	C	C	C	C	C	C	C	3.2	2.8	2.9	2.8	3.0
15	3.1	3.0	2.9	3.5	2.8H	3.0	3.5	3.5	B	3.3	3.3	3.2	3.1	C	C	3.2	3.3	3.4	3.3P	3.2	3.0	2.8	2.8	3.0	
16	2.8	2.8	2.9	3.1	2.8	2.7	3.1	3.3	3.2	3.1	3.3	3.3	2.9	3.0	3.1	3.2	3.1	(3.2) <sup>T</sup>	3.2	2.8	2.6	2.7	2.6	2.5	
17	2.6	2.8	2.8	2.7	2.8	2.7	2.8	3.1	3.0	3.1	3.2	3.0P	(3.1)P	(3.0) <sup>T</sup>	3.2	(3.2)P	(3.1) <sup>T</sup>	(3.6)P	(3.5)P	3.2H	(3.0)P	2.7	2.7	2.7	
18	2.7	2.7	2.8	2.9	3.0	3.0	3.2	3.6	3.4	3.0H	2.9	(3.2)P	(3.2)P	3.2	3.0	3.3	3.2	(3.4)P	3.2	3.2	3.0	2.8	3.0	2.7	
19	2.7	2.9	2.7	2.8	3.0	3.1	3.1P	3.4P	3.4	3.0	3.2	3.4	3.2	T	3.4	3.1	3.3	C	C	C	C	C	C	C	
20	2.8	C	C	C	C	C	C	C	3.4	3.4	3.1	3.1	3.2	3.2	3.2	3.1	3.3	3.3	3.5	3.2	3.1	2.8	2.6	2.7	
21	2.7	2.7	2.8	2.9	3.2	3.0	3.4	3.3	3.2	3.3	3.2	3.2	3.2	3.3	3.2	(3.2) <sup>T</sup>	(3.2) <sup>T</sup>	(3.5)P	3.3	3.1 <sup>S</sup>	(2.7)P	3.0P	3.2	2.8	
22	2.9	2.7	2.8	3.1	3.0	3.1	3.2	3.3	3.2	3.1	(3.3)P	3.1	3.1	(3.3)P	3.1	3.1	3.1	3.1	3.1	3.3	3.1	2.8	2.7	2.7	
23	2.7	3.0	3.0	2.9	2.9	3.1	3.5	3.5	3.5	3.0	2.9	3.1	2.8	3.4	3.4	3.3 <sup>S</sup>	3.3	3.1	3.2	3.0P	3.2P	2.8H	2.6	2.6	
24	2.8	3.0	3.1	3.1	(2.7)P	(2.7)P	3.2	3.3	3.3	3.3	3.1	3.0	2.8	3.1	3.2P	(3.1)P	3.1	(3.1) <sup>T</sup>	3.5	3.2	2.5	2.6	2.7	2.4	
25	2.7	2.5	2.4	2.5	2.7	3.1	3.4	3.2	3.1	3.1	(2.9)P	(3.0)C	3.2	3.2	(3.1)P	3.3	(3.2)P	3.4	3.3	2.9	3.0	2.9	2.9	2.7	
26	2.7	2.8	3.0	3.0	3.0	2.9	3.5	3.4	3.3H	(3.2)P	3.2	3.2	(3.2)P	(3.0)P	3.1	(3.2)P	3.3	3.4	3.4	3.5	3.0	3.1V	3.1	2.8F	
27	2.9F	3.0F	3.0	2.9F	3.2F	3.2F	3.6	3.2	3.0	3.2	3.2	(3.2)C	3.2P	3.3	3.3	3.4	3.3	3.3P	3.6	3.4	2.9	2.9	(2.7)P	(2.6)P	
28	(2.7)F	(3.0)P	2.9	2.8	2.9	2.6	3.2	3.3	3.2	3.2	3.1	3.1	3.3	3.2	3.2	3.3	3.2	3.4	3.5	3.2	2.5	2.6	2.7F	(2.7)P	
29	2.9F	3.1F	3.1	3.4	3.3	2.9F	3.3	3.3	3.3	3.2	3.2	3.1	3.3	3.3	3.3	3.4	(3.4)P	3.5	3.2	3.0	2.7	2.7	2.7	2.7	
30	2.7	2.8	3.1	3.3	2.8	2.6	3.1	3.1F	3.3	3.3	3.2	3.0	3.1	3.1P	3.2	3.1	3.5	3.4	3.3	3.2	3.2	2.7	2.8	2.8	
31	2.8	2.8	2.7	2.6	2.9	(3.3)C	3.7	3.5	3.2	2.8	2.6	2.7	3.2	2.9	3.1	3.1	3.1	3.3	3.3	2.6H	(2.5)P	2.6	2.6	2.7	
Mean Value	2.8	2.8	2.8	2.9	2.9	2.9	3.2	3.3	3.3	3.2	3.1	3.2	3.1	3.2	3.2	3.3	3.3	3.3	3.3	3.2	3.0	2.9	2.8	2.8	
Median Value	2.7	2.8	2.8	2.9	2.9	2.9	3.2	3.3	3.3	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.2	3.0	2.8	2.8	2.8	
Count	2.9	2.9	2.8	2.9	2.9	2.9	2.9	2.9	2.6	2.7	2.8	2.8	2.9	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.9	3.0	2.6	2.6	

Sweep 1.0 Me to 17.2 Me in 2 min

Manual  Automatic

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

Lat. 35° 42.4' N  
Long. 139° 28.3' E

IONOSPHERIC DATA

Kokubunji Tokyo

Mar. 1952

f min F

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	1.3	1.3	1.2	1.1	1.2	1.6	1.6	2.8	3.2	3.3	3.6	3.2	3.2	3.2	3.2	2.6	2.3	3.5A	A	2.2	1.5	1.4	1.4
2	1.4	1.3	1.2	1.2	1.2	1.2	1.2	2.3	2.6	3.2	3.0	3.5	3.4	3.4	3.4	3.6	2.6	2.0	4.0A	3.2A	2.0A	1.8	1.5	1.3
3	1.4	1.2	1.2	1.2	1.2	1.2	1.4	1.8	A	2.8	3.0	4.4A	3.4	3.3	3.2	3.1	5.2A	3.6	5.3A	2.3A	2.1A	2.0A	A	A
4	A	1.1	1.2	1.1	1.2	1.1	1.2	2.0	2.6	5.4A	3.5	A	3.4	3.8	4.0	3.3	3.0	3.4	1.6	2.0	2.5A	A	A	A
5	1.3	1.4	A	1.2	1.2	1.6	2.0A	3.7A	2.0	2.9	3.7	3.5	3.5	3.6	3.2	3.2	5.2A	2.7A	A	4.4A	3.4A	A	2.8A	3.5A
6	2.5A	1.9	2.3A	1.3	1.3	2.8F	3.2A	2.0	2.6	4.1A	3.5	3.2	3.3	3.3	2.9	3.0	2.5	2.1	1.5	1.2	3.6A	A	3.6A	3.3A
7	A	A	3.0A	3.2A	1.6	E	1.3	2.2	C	C	C	C	3.3	C	C	C	C	2.0	2.5A	2.6A	2.4A	2.4A	1.2F	1.2
8	1.2	1.1	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	1.6	1.4	A	A
9	1.7	1.5	1.5	1.6	A	A	1.7	2.0	2.8	4.4A	3.4	3.1	4.0	3.6	3.2	C	C	4.0A	4.1A	2.9A	2.2A	1.6	1.6	2.1A
10	1.6	1.2	1.8	1.5	3.0A	2.0A	2.0	2.6	A	2.8	4.1	3.9	3.4	3.3	3.2	3.3	2.6	2.3	2.0A	2.0A	1.2	1.3	1.9	2.0A
11	2.0A	2.0A	1.2	2.2A	1.4	1.1	1.5	2.3	2.8	(3.0)C	3.1	4.3	3.6	3.3	3.4	3.2	2.9	2.3	2.1A	1.6	E	1.4	1.7	1.7
12	1.4	1.2	1.1	1.1	1.1	1.1	1.5	2.2	2.7	2.9	3.4	3.5	3.6	3.5	3.4	3.5	2.0	2.0	1.6	1.6	1.5	1.6	1.6	1.2
13	1.3	1.1	1.2	1.3	1.3	1.4	1.6	2.3	2.9	3.4	3.3	(3.4)C	3.4	3.1	3.2	3.2	2.9	3.3A	3.3A	3.5A	4.0A	1.8	1.8	2.0A
14	2.2A	1.4	1.7	1.3	1.3	1.1	1.7	2.4	C	C	C	C	3.4	C	C	C	C	C	C	2.7A	1.8	1.2	1.5	1.3
15	1.3	1.1	1.1	1.4	1.4	1.2	1.3	2.1	2.4	3.7	4.0	3.6	3.7	C	C	3.2	2.9	2.2	1.5	1.5	1.4	1.5	1.3	1.1
16	1.1	1.2	1.1	1.1	1.1	1.2	1.8	2.4	2.8	3.3	3.3	3.6	3.9	3.7	3.5	3.3	3.2	2.3	1.3	1.5	1.8	3.0A	1.6	1.6
17	1.2	1.5	1.4	1.6	1.4	1.4	1.6	2.0	2.8	3.4	3.7	3.6	3.6	3.6	3.6	3.2	2.7	2.2	1.6	1.6	1.7	2.0	1.7	1.5
18	1.3	1.3	1.3	1.2	1.2	1.2	1.7	2.0	3.0	1.8	3.5	3.6	3.5	3.3	3.5	3.5	2.5	2.0	1.8	1.9	1.7	1.7	1.8	1.7
19	1.8	1.3	1.2	1.1	1.3	1.7	1.8	2.5	2.9	3.3	3.6	3.5	3.7	3.3	3.5	3.3	2.9	2.2	1.8	2.0	C	C	C	C
20	1.3	C	C	C	C	C	C	C	2.9	3.4	3.3	3.6	3.3	3.3	3.3	3.3	2.7	2.4	2.0A	2.0	1.7	1.7	1.6	2.0F
21	1.8	1.8	1.2	1.2	1.7	1.8	2.2	1.9	2.8	3.2	3.2	3.5	3.7	3.2	3.1	3.1	2.8	2.4	2.0	1.5	1.5	1.5	1.5	1.5
22	1.4	1.4	1.2	1.2	1.2	1.1	1.6	2.0	3.0	3.5	3.1	3.4	3.4	3.6	3.3	3.1	2.7	2.3	1.5	1.5	1.5	1.4	1.5	1.3
23	1.3	1.2	E	E	E	E	1.6	2.5	2.8	3.5	3.6	3.5	3.5	3.5	3.2	3.2	3.0	2.3	1.7	1.8	1.8	1.3	1.3	1.3
24	1.7	1.6	1.2	1.2	1.1	1.3	1.7	2.4	2.8	3.3	3.3	3.7	3.7	3.5	3.3	3.0	2.7	2.3	2.0A	2.0	1.9	1.4	1.4	1.4
25	1.4	1.2	1.4	1.2	1.6	1.6	1.8	3.4	3.6A	4.7A	4.0	(4.0)C	4.0	3.6	3.1	3.0	3.0	2.2	1.6	1.6	1.7	1.6	1.7	1.8
26	1.7	1.1	1.9	1.1	1.7	1.2	1.9	2.8	2.8	3.2	3.4	3.7	3.7	3.4	3.6	3.2	2.7	2.3	2.9A	3.6A	2.8A	1.3	1.3	1.3
27	1.2	1.2	1.4	1.4	1.6	1.2	2.0	2.5	3.0	3.5	3.8	(4.0)C	4.1	3.8	3.1	3.1	2.9	1.8S	1.8	1.6	1.6	3.2A	1.6	1.6
28	1.5	1.2	1.1	1.8	1.4	1.4	1.8	2.8	2.9	3.6	3.6	3.3	3.6	3.6	3.4	3.1	2.9	3.0	2.1	1.6	1.6	1.6	1.6	1.6
29	1.4	1.4	1.4	1.4	1.3	1.3	2.2	2.8	3.0	3.2	3.2	4.4A	3.5	3.4	3.3	3.4	3.2	3.4	2.6A	1.8	1.6	1.6	1.6	1.3
30	1.4	1.3	1.3	1.2	1.2	E	2.7	3.2	3.3	3.3	3.5	3.5	3.6	3.6	3.3	3.3	3.2	2.8	2.2	1.8	2.0	1.4	1.5	1.4
31	1.2	1.2	1.2	E	1.2	(1.6)C	2.1	3.2	3.6	3.5	4.2A	4.8A	2.7	3.5	4.0	3.2	3.2	2.5	2.0	1.5	2.2A	1.6	1.5	1.5
Mean	1.5	1.3	1.4	1.4	1.4	1.4	1.8	2.4	2.9	3.4	3.5	3.7	3.6	3.5	3.4	3.2	3.0	2.5	2.3	2.1	2.0	1.8	1.7	1.7
Median	1.4	1.3	1.2	1.2	1.3	1.2	1.7	2.4	2.8	3.3	3.4	3.6	3.6	3.5	3.3	3.2	2.9	2.3	2.0	1.8	1.8	1.6	1.6	1.5
Count	29	29	28	29	28	28	29	29	26	28	28	27	30	27	27	27	27	29	27	28	30	27	27	27

f min F

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual  Automatic

IONOSPHERIC DATA

Lat. 35° 42.4' N  
Long. 139° 29.8' E

Kokubunji Tokyo

Mar. 1952

fminE

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	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
2	1.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
3	1.2	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
6	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
9	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
10	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
11	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
12	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
13	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
14	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
15	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
16	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
17	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
18	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
19	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
20	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
21	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
22	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
23	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
24	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
25	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
26	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
27	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
28	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
29	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
30	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
31	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Mean Value	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Median Value	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Count	31	30	29	29	29	28	29	29	28	28	28	27	30	27	26	26	27	29	27	29	27	30	30	30

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual  Automatic

Lat. 35°42.4' N  
Long. 139°29.3' E

**Kokubunji Tokyo**

**IONOSPHERIC DATA**

135° E Mean Time

Mar. 1952

YPF2

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	110F	130	100	100	120	100	110	160	70	(70) <sup>T</sup>	(80) <sup>T</sup>	(70) <sup>T</sup>	60	70 <sup>P</sup>	60	(80) <sup>P</sup>	90	100	60	A	80	60	50	60	
2	100	90	70	80	110	100	90	80	90	70	80	70	60	70	70	(60) <sup>T</sup>	70	50	A	A	100	80	80	70	
3	150	70	90	70 <sup>P</sup>	(90) <sup>P</sup>	80	(90) <sup>T</sup>	(70) <sup>T</sup>	60	100	60	110	70	70	90	50	50	80	(130) <sup>P</sup>	100	A	AF	AF	AF	
4	A	100F	(80) <sup>F</sup>	(90) <sup>F</sup>	90F	(80) <sup>F</sup>	130	110	100	130	100	120	70	(50) <sup>P</sup>	90	60	110	80	110	(70) <sup>F</sup>	A	A	A	A	
5	(80) <sup>F</sup>	(70) <sup>F</sup>	A	60 <sup>A</sup>	60	90	100	120	100 <sup>P</sup>	80	60	70	50	50	50	80	80	120	110	100	120	A	(120) <sup>P</sup>	70	
6	110	100	100	90	80 <sup>V</sup>	80 <sup>V</sup>	110	80	110	(120) <sup>P</sup>	110	80	80	90	80	70 <sup>P</sup>	60	60	80	90	90 <sup>P</sup>	A	120	A	
7	A	A	60F	(70) <sup>T</sup>	(70) <sup>T</sup>	130	70	(90) <sup>P</sup>	C	C	C	C	C	C	C	C	C	(80) <sup>T</sup>	(80) <sup>T</sup>	70	80	(110) <sup>V</sup>	F	80 <sup>F</sup>	
8	110F	140	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	70	60	A	
9	120F	70F	80	110F	70	80F	160	70	110	100	100	(90) <sup>T</sup>	70	(70) <sup>T</sup>	(80) <sup>T</sup>	C	C	70	80 <sup>B</sup>	(60) <sup>P</sup>	(50) <sup>P</sup>	(60) <sup>P</sup>	60	70	
10	130	90	90	100	(80) <sup>F</sup>	130	120	160	70	80	(90) <sup>P</sup>	70	60	50	50	80	70	100	90	90 <sup>H</sup>	70	120	60 <sup>V</sup>	70	
11	90	110	100	160	100	100	90	90	C	C	60	70	90	60	60	70	60	70	80	140	70	80	100	80	
12	70	100	100	80	150	150	60	110	70	50	110	60	80	50	70	70	80 <sup>H</sup>	90	80	100	100	90	100	110	
13	100	110	80	100	90	100	120	50	70	50	(70) <sup>C</sup>	50	80	80	100	70	110	100	70	130 <sup>F</sup>	80	70	80 <sup>F</sup>	80	
14	100	90	(110) <sup>P</sup>	(100) <sup>P</sup>	80 <sup>P</sup>	60 <sup>P</sup>	130	(100) <sup>C</sup>	C	C	C	C	120	C	C	C	C	C	C	C	120	100	90	90	
15	80	100	100	90	100 <sup>H</sup>	90	60	50	B	100	80	70	90	C	C	80	80	50	80 <sup>P</sup>	70	80	130	90	100	
16	130	100	120	140	140	130	90	80	80	70	60	70	90	80	80	70	60	(60) <sup>T</sup>	80	110	90	90	110	100	
17	100	90	130	130	90	130	90	120	130	80	70	80 <sup>P</sup>	(100) <sup>T</sup>	(90) <sup>T</sup>	90	(80) <sup>P</sup>	(90) <sup>T</sup>	(40) <sup>T</sup>	(80) <sup>P</sup>	70 <sup>H</sup>	(120) <sup>P</sup>	70	110	90	
18	80	100 <sup>B</sup>	130	100	170	190	90	100	90	130 <sup>H</sup>	70	(70) <sup>P</sup>	(70) <sup>P</sup>	80	90	70	90	90	(40) <sup>T</sup>	80	100	80	60	100	
19	110	90	80	100	80	110	120 <sup>P</sup>	90 <sup>P</sup>	80	90	90	80	70	T	60	90	60	C	C	C	C	C	C	C	
20	90	C	C	C	C	C	C	C	40	100 <sup>H</sup>	90	90	80	50	70	70	60	90	90	100	150	130	90	80	
21	130	70	110	110	110	90	50	70	80	90	70	50	120	70	100	80	(80) <sup>T</sup>	(50) <sup>S</sup>	60	80 <sup>S</sup>	(70) <sup>P</sup>	100 <sup>P</sup>	80	100	
22	60	90	70	80	100	80	120	70	100	110	(70) <sup>P</sup>	80	70	(100) <sup>P</sup>	100	90	70	80	(70) <sup>P</sup>	70	100	120	70	70	
23	110	70	80	90	110	110	60	50	80	130	80	150	80	60	80	90 <sup>S</sup>	100	80	90	100 <sup>P</sup>	100 <sup>P</sup>	140 <sup>H</sup>	120	100	
24	110	120	120	80	(90) <sup>T</sup>	(60) <sup>T</sup>	110	100	70 <sup>P</sup>	100	70	90	110	90	60 <sup>P</sup>	(90) <sup>P</sup>	100	100	(80) <sup>T</sup>	60	100	70	90	70	130
25	130	90	140	160	130	150	100	90	80	100	(100) <sup>C</sup>	90	90	90	(70) <sup>T</sup>	80	(100) <sup>T</sup>	80	80	100	90	90	60	90	
26	80	100	80	70	120	180	110	80	60 <sup>H</sup>	(80) <sup>P</sup>	90	90	(90) <sup>P</sup>	(110) <sup>P</sup>	100	(110) <sup>T</sup>	130	110	60	90	100	100 <sup>V</sup>	120 <sup>F</sup>	80 <sup>F</sup>	
27	60 <sup>F</sup>	100 <sup>F</sup>	90	90 <sup>F</sup>	70 <sup>F</sup>	60 <sup>F</sup>	90	50	80	80	70	(80) <sup>C</sup>	100 <sup>P</sup>	60	60	70	80	80	80 <sup>P</sup>	80	70	100	A	(90) <sup>P</sup>	
28	(50) <sup>F</sup>	(70) <sup>T</sup>	80	110	110	130	100	90	60	130	60	70	80	60	80	100	60	80	80	60	90	110	130 <sup>F</sup>	(100) <sup>F</sup>	
29	90 <sup>F</sup>	60 <sup>F</sup>	60	80	80	90 <sup>F</sup>	110	50	80	60	80	100	80	70	70	70	60	(40) <sup>P</sup>	70	80	70	80	90	70	
30	100	90	50	80	70	90	100	110 <sup>F</sup>	60	70	70	100	100	130 <sup>P</sup>	90	90	90	90	60	80	70	90	90	60	
31	60	60	80	110	90	(60) <sup>C</sup>	40	30	130	100	80	100	70	100	110	100	70	70	70	100 <sup>H</sup>	(130) <sup>P</sup>	70	100	130	
Mean Value	100	90	90	100	100	110	100	90	80	90	80	80	80	80	80	80	80	70	80	90	90	90	90	90	
Median Value	100	90	90	90	90	100	100	90	80	90	80	80	80	80	80	80	80	80	80	80	80	80	80	80	
Count	29	29	29	28	29	28	29	29	26	27	28	28	29	26	27	27	27	27	27	27	29	25	26	26	

YPF2

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

Mar. 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	A	3.2	2.9	3.3	[3.0] <sup>C</sup>	2.8	2.7	4.7	6.7 <sup>P</sup>	7.3 <sup>P</sup>	[7.7] <sup>C</sup>	8.1 <sup>P</sup>	10.9 <sup>P</sup>	[8.0] <sup>P</sup>	(8.2) <sup>P</sup>	7.1	6.9 <sup>P</sup>	6.4 <sup>P</sup>	6.5 <sup>P</sup>	(5.4) <sup>P</sup>	3.5	2.9	3.0	3.2	
2	3.3	3.1	3.0	3.0	3.4	2.7	2.5	4.6	7.5	7.2	7.6	C	11.4 <sup>P</sup>	C	C	(11.2) <sup>P</sup>	C	6.1	5.3	4.8	A	4.0	3.8	3.5	
3	3.2	3.4	3.4	3.5	3.4	3.7	4.2	C	C	6.5 <sup>P</sup>	7.0	8.2	C	C	C	C	7.4	7.3	6.9 <sup>P</sup>	5.5 <sup>P</sup>	3.5	2.7	F	F	
4	A	F	3.1	4.0	A	2.2 <sup>F</sup>	F	A	5.1	5.8 <sup>P</sup>	7.6	(8.0) <sup>P</sup>	C	C	C	C	C	(7.1) <sup>P</sup>	[6.0] <sup>C</sup>	4.9	3.8	A	A	3.8 <sup>F</sup>	
5	4.0 <sup>F</sup>	3.8 <sup>F</sup>	3.0 <sup>F</sup>	3.0 <sup>F</sup>	2.9 <sup>F</sup>	F	F	4.7	7.2	[7.2] <sup>C</sup>	7.2	7.7	(7.4) <sup>P</sup>	C	C	C	C	7.4	7.4	6.9	4.2	A	A	A	
6	4.0	4.2	3.3 <sup>F</sup>	3.3 <sup>F</sup>	3.2 <sup>F</sup>	3.2 <sup>F</sup>	3.1 <sup>F</sup>	4.4	C	C	C	C	C	C	C	C	C	7.9	[6.6] <sup>C</sup>	(5.3) <sup>P</sup>	5.7	(6.8) <sup>P</sup>	C	C	
7	C	3.8	3.5	3.6 <sup>H</sup>	F	2.6 <sup>F</sup>	3.1 <sup>F</sup>	C	C	6.6 <sup>P</sup>	C	C	C	C	C	9.8	C	C	C	C	A	A	4.8	5.6	
8	3.9	3.2	3.0	3.3	3.7 <sup>F</sup>	3.4 <sup>F</sup>	3.2 <sup>F</sup>	(5.4) <sup>P</sup>	[5.8] <sup>C</sup>	6.3	(8.2) <sup>P</sup>	C	C	C	C	(8.0) <sup>P</sup>	C	C	8.9 <sup>P</sup>	(7.1) <sup>P</sup>	5.1	4.4	3.9	3.4	
9	3.7	3.5	3.6	A	3.5	F	F	C	(7.2) <sup>P</sup>	C	C	C	C	C	C	10.0 <sup>P</sup>	(8.3) <sup>P</sup>	C	C	C	5.7 <sup>P</sup>	4.7	4.7	4.7	
10	3.7	3.3	3.3	3.4	3.4	3.2	F	6.7 <sup>P</sup>	(7.1) <sup>P</sup>	7.5	C	C	C	C	C	C	C	7.9 <sup>P</sup>	[6.4] <sup>C</sup>	(4.8) <sup>P</sup>	4.8	4.8 <sup>P</sup>	+1	+1	
11	4.2	4.3	4.3	4.0	3.7	3.4	3.6 <sup>F</sup>	6.7 <sup>P</sup>	C	C	C	C	C	C	C	C	C	C	C	C	4.7	4.2	4.4	4.4	
12	4.1	4.1	4.0	4.1	4.0	3.9	3.8	6.2	7.2	C	C	C	C	C	C	C	C	8.4	C	C	C	C	4.4	4.4	
13	4.1	4.4	4.7 <sup>P</sup>	3.3	2.8	2.6	3.1	C	7.6 <sup>P</sup>	7.5	C	C	(12.1) <sup>P</sup>	C	C	C	C	C	C	C	C	4.6	4.6	4.5 <sup>F</sup>	
14	5.2	(4.7) <sup>P</sup>	4.8 <sup>P</sup>	C	3.5	3.4	2.8	C	6.8	6.7 <sup>P</sup>	C	C	12.5 <sup>P</sup>	(13.4) <sup>P</sup>	12.0 <sup>F</sup>	11.9	10.9 <sup>P</sup>	C	C	C	(5.2) <sup>P</sup>	(5.1) <sup>P</sup>	5.3	(5.1) <sup>P</sup>	
15	5.3	5.2	4.3	+5	+0	2.8	2.7	5.9 <sup>P</sup>	C	C	C	C	C	C	C	C	C	C	C	C	+8	4.4	+3	4.5	
16	+5	4.3	4.8	(+9) <sup>P</sup>	3.0	3.1	3.3	5.6 <sup>P</sup>	[7.0] <sup>C</sup>	8.5 <sup>P</sup>	C	C	C	C	C	C	C	C	C	C	4.6	4.7	4.7	4.7	
17	4.7	4.8	+9 <sup>P</sup>	4.2	3.9	2.8	2.8	5.2	C	C	C	C	C	C	C	C	C	C	C	C	4.5 <sup>P</sup>	3.5	+0	3.9	
18	4.0	4.1	3.8	3.9	4.0	3.6	3.8	C	7.7 <sup>P</sup>	C	C	C	C	C	C	C	C	C	C	C	C	3.4	[3.6] <sup>C</sup>	3.9 <sup>P</sup>	
19	[3.8] <sup>F</sup>	3.8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	(7.8) <sup>F</sup>	[5.9] <sup>C</sup>	4.0	3.3	3.7	3.7	
20	3.8	3.7	3.7	3.7	4.2	2.5	2.4	5.3	7.0	7.2	7.0	C	C	C	C	C	C	(8.5) <sup>P</sup>	9.1 <sup>P</sup>	6.4 <sup>P</sup>	A	3.5	3.8	3.8	
21	3.5	(3.5) <sup>P</sup>	3.9	(4.2) <sup>P</sup>	+0	2.3	2.9	5.3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	(4.0) <sup>P</sup>	4.9	3.6	C	C	C	C	C	C	6.2	C	C	9.2	(12.2) <sup>P</sup>	11.9	C	C	C	C	(7.5) <sup>P</sup>	3.6	3.8 <sup>P</sup>	3.8	3.8	
25	3.9 <sup>P</sup>	4.2 <sup>P</sup>	3.8	3.7	3.5	3.6	3.9	5.3	[6.8] <sup>C</sup>	8.2	C	C	12.1	C	C	C	C	7.4	[6.2] <sup>F</sup>	5.1	3.8	+4	3.7	3.7	
26	[4.2] <sup>F</sup>	4.6	[4.2] <sup>C</sup>	3.8	3.3	3.3	3.3	(5.8) <sup>P</sup>	C	C	C	C	C	(9.6) <sup>P</sup>	[10.6] <sup>P</sup>	11.5	C	(7.4) <sup>P</sup>	6.8	[6.1] <sup>C</sup>	5.4	3.4	3.5	3.3 <sup>F</sup>	
27	F	3.7	F	3.7	3.4	2.3 <sup>P</sup>	2.9	5.1	C	C	C	C	12.0	12.1	C	C	C	C	8.1 <sup>P</sup>	6.4 <sup>P</sup>	4.5	3.6	3.2	3.2 <sup>F</sup>	
28	F	3.7	3.4	3.6	2.9 <sup>F</sup>	F	3.4	5.5	C	C	C	C	C	C	C	C	(8.0) <sup>P</sup>	C	C	C	5.4	3.6	(3.7) <sup>P</sup>	3.8	
29	F	F	3.7 <sup>P</sup>	3.6	2.9 <sup>F</sup>	2.5 <sup>F</sup>	3.1	5.5	(6.7) <sup>P</sup>	C	C	C	(13.0) <sup>P</sup>	(12.8) <sup>P</sup>	C	(13.2) <sup>P</sup>	(4.2) <sup>P</sup>	(9.1) <sup>P</sup>	6.8	+5	3.8 <sup>P</sup>	A	3.7	3.7	
30	3.5	3.6	4.3 <sup>P</sup>	+1	2.5	2.5	3.0	5.5	6.8	7.2	7.3	8.2	10.2	10.6	9.2 <sup>P</sup>	9.2 <sup>P</sup>	(8.0) <sup>P</sup>	7.0	7.4	C	C	C	C	C	
31	(3.6) <sup>P</sup>	3.8	3.8	3.4	3.8 <sup>P</sup>	3.3	(3.9) <sup>P</sup>	5.2	6.3 <sup>P</sup>	[7.0] <sup>C</sup>	(7.7) <sup>P</sup>	10.6	11.6	10.2	12.2	10.8	8.5	9.7 <sup>P</sup>	(8.5) <sup>P</sup>	6.5	5.5	(5.4) <sup>P</sup>	3.8 <sup>P</sup>	+7	
Mean Value	+0	4.0	3.8	3.7	3.4	3.0	3.2	5.4	6.8	7.0	7.5	8.5	11.1	11.1	10.8	10.3	8.8	7.7	7.5	6.1	4.6	4.1	4.1	4.1	
Median Value	4.0	3.8	3.7	3.7	3.4	3.0	3.1	5.4	6.8	7.2	7.6	8.2	11.6	11.0	11.8	10.4	8.2	7.4	7.4	6.3	4.7	3.8	+0	3.8	
Count	24	27	27	25	2.5	2.4	2.3	2.0	1.5	1.7	1.0	6	1.1	1.0	7	1.0	8	1.1	1.6	1.6	2.1	2.3	2.2	2.4	

Sweep 1.0 - Mc to 2.2.0 - Mc in 2 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

Mar. 1952

$f_p F_2$

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	290	350	310	[300] <sup>C</sup>	290	300	250 <sup>P</sup>	250 <sup>P</sup>	300 <sup>P</sup>	[300] <sup>C</sup>	300 <sup>P</sup>	270 <sup>P</sup>	(250) <sup>P</sup>	(270) <sup>P</sup>	270	250 <sup>P</sup>	250 <sup>P</sup>	250 <sup>P</sup>	(270) <sup>P</sup>	250 <sup>P</sup>	310	320	310	
2	300	320	350	350	280	280	310	270	280	270	300	[300] <sup>C</sup>	290 <sup>P</sup>	C	C	C	C	240	250	250	A	290	290	300	
3	340	320	350	340	340	340	310	C	C	240 <sup>P</sup>	260	300	C	C	C	C	260	250	(250) <sup>P</sup>	230 <sup>P</sup>	250	310	F	F	
4	A	F	A	230	A	450 <sup>F</sup>	F	A	260	A	320	(300) <sup>P</sup>	C	C	C	C	C	(250) <sup>P</sup>	[260] <sup>C</sup>	280	320	A	A	320 <sup>F</sup>	
5	320 <sup>F</sup>	270 <sup>F</sup>	300 <sup>F</sup>	400 <sup>F</sup>	400 <sup>F</sup>	F	F	F	320	240	[250] <sup>C</sup>	260	270	(260) <sup>P</sup>	C	C	C	C	270	280	270	A	A	A	
6	340	260	(350) <sup>F</sup>	390 <sup>F</sup>	400 <sup>F</sup>	310 <sup>F</sup>	320	280	C	C	C	C	C	C	C	C	C	260	[260] <sup>C</sup>	(250) <sup>P</sup>	300	(330) <sup>P</sup>	C	C	
7	C	250	380	300 <sup>H</sup>	F	300 <sup>F</sup>	310 <sup>F</sup>	C	260 <sup>P</sup>	C	C	C	C	C	C	300	C	C	C	C	A	A	290	250	
8	300	350	390	370	380 <sup>F</sup>	340 <sup>F</sup>	350 <sup>F</sup>	(230) <sup>P</sup>	[240] <sup>C</sup>	250	(300) <sup>P</sup>	C	C	C	(290) <sup>P</sup>	C	C	C	(240) <sup>P</sup>	(250) <sup>P</sup>	280	340	280	380	
9	350	340	320	A	350	F	F	C	(250) <sup>P</sup>	C	C	C	C	C	C	C	(260) <sup>P</sup>	C	C	C	(250) <sup>P</sup>	330	340	280	
10	290	340	A	340	350	350	F	(240) <sup>P</sup>	[240] <sup>S</sup>	250	C	C	C	300	C	C	C	C	270 <sup>P</sup>	[260] <sup>C</sup>	(250) <sup>P</sup>	220	330 <sup>P</sup>	360	
11	350	340 <sup>F</sup>	320	300	300	350	330 <sup>F</sup>	(250) <sup>P</sup>	C	C	C	C	C	C	C	C	C	C	C	C	300	350	350	340	
12	330	350	340	320	290	290	300	240	250	C	C	C	C	C	C	C	C	270	C	C	C	C	350	360	
13	350	340	(300) <sup>T</sup>	250	270	350	350	C	250 <sup>P</sup>	270	C	C	(300) <sup>F</sup>	C	C	C	C	C	C	C	C	290	320	400 <sup>F</sup>	
14	330	(100) <sup>T</sup>	320 <sup>P</sup>	[280] <sup>C</sup>	250	270	320	C	230	270 <sup>P</sup>	C	C	260 <sup>P</sup>	(280) <sup>F</sup>	280 <sup>P</sup>	300	(280) <sup>T</sup>	C	C	C	C	(250) <sup>P</sup>	(330) <sup>P</sup>	300	(310) <sup>P</sup>
15	310	290	300	300	240	270	310	260 <sup>P</sup>	C	C	C	C	C	C	C	C	C	C	C	C	260	340	370	360	
16	390	330	290	(250) <sup>T</sup>	270	350	320	(250) <sup>T</sup>	[250] <sup>C</sup>	(250) <sup>T</sup>	C	C	C	C	C	C	C	C	C	C	C	350	350	390	
17	350	300	(270) <sup>T</sup>	300	300	250	390	280	C	C	C	C	C	C	C	C	C	C	C	C	C	280 <sup>P</sup>	400	370	380
18	390	350	350	330	310	300	300	C	C	300 <sup>P</sup>	C	C	C	C	C	C	C	C	C	C	C	C	280	[300] <sup>C</sup>	320 <sup>F</sup>
19	[300] <sup>C</sup>	(310) <sup>B</sup>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	(250) <sup>P</sup>	[240] <sup>C</sup>	240	370	380	340	
20	330	350	350	310	250	250	330	240	250	250	(270) <sup>F</sup>	C	C	C	C	C	C	(250) <sup>P</sup>	250 <sup>P</sup>	270 <sup>P</sup>	A	350	370	350	
21	300	(300) <sup>P</sup>	300	(300) <sup>P</sup>	250	300	320	250	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
24	(300) <sup>F</sup>	300	300	C	C	C	C	C	C	260	C	C	300	(280) <sup>P</sup>	290	C	C	C	C	C	C	350	440 <sup>P</sup>	410	310
25	350 <sup>P</sup>	300 <sup>F</sup>	350	390	370	320	300	250	[260] <sup>C</sup>	280	C	C	300	C	C	C	C	S	260	[260] <sup>C</sup>	250	310	340	350	
26	[320] <sup>C</sup>	300	[280] <sup>C</sup>	270	320	340	340	(250) <sup>F</sup>	C	C	C	C	C	(300) <sup>P</sup>	[280] <sup>C</sup>	(250) <sup>B</sup>	C	(250) <sup>P</sup>	250	[250] <sup>C</sup>	250	310	350	350 <sup>F</sup>	
27	F	300	F	250	250	(270) <sup>T</sup>	320	260	C	C	C	C	C	C	C	C	C	C	C	250 <sup>P</sup>	280	350	350	F	
28	390	F	270	300	F	F	300	260	C	C	C	C	C	C	C	C	(300) <sup>P</sup>	C	C	C	C	240	320	(310) <sup>P</sup>	330
29	F	F	(250) <sup>F</sup>	250	260	300 <sup>F</sup>	270	260	(260) <sup>F</sup>	C	C	C	(290) <sup>P</sup>	(280) <sup>C</sup>	[280] <sup>C</sup>	(280) <sup>P</sup>	(270) <sup>T</sup>	(270) <sup>T</sup>	(250) <sup>P</sup>	250	280	330 <sup>P</sup>	A	400	
30	390	330	290 <sup>P</sup>	220	310	350	340	250	260	250	300	320	300	290	300 <sup>P</sup>	(270) <sup>T</sup>	(250) <sup>F</sup>	280	250	C	C	C	C	C	
31	(340) <sup>T</sup>	370	390	260	340 <sup>P</sup>	300	(270) <sup>P</sup>	250	280 <sup>P</sup>	[320] <sup>F</sup>	(350) <sup>F</sup>	350	300	300	350	300	290	300	(280) <sup>T</sup>	(260) <sup>F</sup>	300	340	(310) <sup>T</sup>	420 <sup>P</sup>	370
Mean Value	340	320	320	310	310	310	310	260	250	270	290	310	290	290	290	280	270	260	250	260	250	280	330	340	340
Median Value	340	320	320	300	300	300	310	250	250	260	300	300	300	280	280	280	260	250	250	250	250	270	330	340	340
Count	24	26	25	26	24	24	23	20	15	16	10	7	10	9	7	9	8	11	14	16	21	23	22	23	

$f_p F_2$

Sweep 1.0... Mc to 2.0... Mc in 2... min

Manual  Automatic

Y 2



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

Lat. 31° 12.6' N  
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

31' F2

Mar. 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	250 <sup>A</sup>	270	260 <sup>C</sup>	260	250	240	230	230	250	260	280	250	250	250	250	230	220	220	200	210 <sup>A</sup>	250	280	270
2	250	250	290	290	240	240	220	220	220	250	280	280	260	260	260	250	230	220	220	210	A	220 <sup>A</sup>	240	250
3	280	250	290	270	260	270	250	210	200	230	250	290	270	270	270	250	250	220 <sup>A</sup>	220	200	210 <sup>A</sup>	280 <sup>A</sup>	330 <sup>F</sup>	320 <sup>F</sup>
4	A	350	300 <sup>A</sup>	220	A	350 <sup>F</sup>	350 <sup>F</sup>	A	200	220 <sup>A</sup>	280	290	260	270	270	270	210 <sup>A</sup>	210 <sup>A</sup>	200	210	230	A	A	280 <sup>F</sup>
5	220	200 <sup>F</sup>	250 <sup>A</sup>	220 <sup>F</sup>	370 <sup>F</sup>	280	240	250	230	240 <sup>C</sup>	250	250	260	280	270	250	A	240	200 <sup>A</sup>	220	230 <sup>A</sup>	A	A	A
6	300 <sup>A</sup>	240	300 <sup>A</sup>	350 <sup>F</sup>	360 <sup>F</sup>	270	200	240	230	240 <sup>C</sup>	250	290	270	240	290	250	240	240	230	200 <sup>A</sup>	250	250	280	290
7	270 <sup>A</sup>	250 <sup>A</sup>	290	220 <sup>H</sup>	270 <sup>F</sup>	240	290	200	200	220	270	270 <sup>A</sup>	290	250	260	270	A	A	210 <sup>A</sup>	C	A	A	290 <sup>A</sup>	200 <sup>A</sup>
8	250 <sup>A</sup>	290	300	300	290 <sup>F</sup>	270	290	220	220 <sup>C</sup>	230	270	C	250	250	250	250	270	250	220	210 <sup>A</sup>	210 <sup>A</sup>	250	250	300
9	350	290	270	A	350 <sup>A</sup>	300 <sup>A</sup>	300 <sup>A</sup>	250	230	230 <sup>A</sup>	C	C	300	280	250	240	250	250	230	230	200	250	270	230
10	230	280	400 <sup>A</sup>	270 <sup>A</sup>	330 <sup>A</sup>	250	300 <sup>F</sup>	210	220	220	250	250	250	260	260	270	250	240	210	220	230	200	290 <sup>A</sup>	300 <sup>F</sup>
11	270	300 <sup>F</sup>	260 <sup>A</sup>	270 <sup>A</sup>	250	250	270	230	240	250	C	C	C	C	C	C	C	C	230	200	220	300 <sup>A</sup>	280	280
12	270	270	270	250	220	230	250	210	220	220	250	270	290	250	270	250	250	250	240	220 <sup>A</sup>	210 <sup>A</sup>	A	290	290
13	300	280	250	200	250	290	300	240	220	230	220	240	280	260	260	350	230 <sup>A</sup>	240	240	210	200	230 <sup>A</sup>	280 <sup>A</sup>	330 <sup>A</sup>
14	280	260	260	220	200 <sup>A</sup>	240	240	210	210	210	280	300	290	270	250	270	250	240	230	210 <sup>A</sup>	210 <sup>A</sup>	260	290 <sup>A</sup>	270
15	250	220	240	250	200	230	250	230	230	230	250	300	280	270	260	270	250	240	240	210	200	250	280	300
16	270	260	240	210	210	290	250	230	240 <sup>C</sup>	240	250	280	300	270	260	250	240 <sup>C</sup>	240	230	200	250	270	280	300
17	290	250	230	240	240	200	290	240	260	250	260	300	290	260	270	250	250	250	220 <sup>C</sup>	200	200	300	300	310
18	300	280	280	250	250	250	250	210	220	250	290	260	280	250	270	270	250	240	220	210	220	220	300	290
19	300 <sup>A</sup>	280	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	220	210	200	320	300	300
20	270	290	280	260	200	200	300	210	220	250	290	290	270	270	270	260	250	240	220 <sup>A</sup>	220 <sup>A</sup>	A	300	310	300
21	240	250	250	200	200	250	270	220	240	250	C	C	C	C	C	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	300 <sup>F</sup>	300	300	C	C	C	C	C	C	210	330	310	300	270	250	260	250	250	230	200	220	370	350	280
25	300	260	280	320	310	270	240	220	230	260	310	270	260	260	260	250	250	250 <sup>A</sup>	240	220	200	250	260	310
26	300	250	250	240	250	270	290	240	240	250	250	270	260	280	290	250	250	240	210	200	200	240	300	330 <sup>F</sup>
27	340	270	250	250	210	250	270	230	240	260	260	290	280	260	250	260	250	250	240	210	200	270	300	350 <sup>F</sup>
28	350	290	250	250	300 <sup>A</sup>	280	250	240	240	250	250	260	270	280	260	250	250	260	250	200 <sup>A</sup>	200	250	280	280
29	300 <sup>F</sup>	240	250 <sup>F</sup>	240	220	300 <sup>F</sup>	250	240	240	250	270	290	260	250	250	250	250	250 <sup>A</sup>	220	200	220	280 <sup>A</sup>	A	320
30	320	290	240	200	230	300	280	230	230	250	280	300	300	270	270	250	250	240	250	C	C	C	C	C
31	300	310	320	300	270	240	240	220	240	270	330	300	260	330	270	240	250	250	240	220 <sup>A</sup>	230	220	330 <sup>A</sup>	320 <sup>A</sup>
Mean Value	290	270	270	260	260	270	270	230	230	240	270	280	270	260	260	260	250	240	230	210	210	260	290	290
Median Value	290	270	270	250	260	230	230	230	230	240	260	290	270	260	260	250	250	240	230	210	210	250	290	300
Count	27	29	28	26	26	27	27	26	27	28	25	24	26	26	26	26	24	25	27	26	24	23	24	26

Sweep 1.0 Mc to 2.2.0 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

foF1

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

Sweep 1.0 Mc to 22.0 Mc in 2 min

Manual  Automatic

foF1

Y 4

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

Lat.  $31^{\circ} 12.6' N$   
Long.  $139^{\circ} 37.7' E$

**Yamagawa**

**IONOSPHERIC DATA**

135° E Mean Time

Mar. 1952

R'F1

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

Sweep 1.0 Mc to 22.0 Mc in 2 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

Mar. 1952

foE

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

foE

Sweep 1.0 Mc to 2.2 Mc in 2 min  Manual  Automatic

Y 6

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

Lat. 31° 12.5' N  
Long. 130° 37.7 E

Yamagawa

IONOSPHERIC DATA

h' E

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

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

**Mar. 1952**

**fEs**

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	4.2	4.2	2.5	3.2	C	2.5	2.3	B	G	G	G	3.9	G	4.7	4.1	G	3.6	3.3	3.0	2.3	3.1	4.0	2.0	E
2	1.2	E	E	E	2.3	2.3	E	G	G	G	G	G	G	G	G	G	5.1	4.5	3.5	3.1	4.5	4.7	2.5	2.5
3	2.3	1.8	E	E	E	E	2.5	2.7	4.1	4.0	4.7	4.5	4.3	4.8	G	4.7	5.7	5.5	4.0	3.4	4.8	4.7	4.2	3.0
4	4.3	4.7	5.0	3.6	3.5	2.3	2.5	4.9	4.4	5.5	5.0	4.9	4.2	4.2	4.1	4.0	5.0	4.7	5.1	3.1	1.8	4.8	6.0	5.0
5	2.0	5.0	4.5	2.4	3.4	2.3	2.5	2.5	4.2	5.0	4.8	5.1	4.8	5.7	4.5	4.7	5.0	4.8	4.7	2.6	3.0	5.5	4.7	4.7
6	4.6	2.3	3.0	3.9	2.5	2.1	2.2	G	3.6	4.8	5.5	6.0	4.8	4.0	4.3	5.0	4.0	G	3.4	3.4	2.5	2.3	E	E
7	5.4	4.3	2.5	2.1	3.7	2.5	1.8	3.1	G	5.0	5.0	5.1	5.2	4.9	5.0	5.5	4.7	5.0	4.2	C	4.3	4.0	4.3	3.4
8	3.9	2.5	4.7	4.7	2.3	2.3	2.5	3.0	C	4.2	6.0	7.5	7.2	6.0	4.3	4.7	4.0	4.8	3.4	3.5	4.0	3.0	3.3	2.3
9	5.0	4.8	4.7	4.7	4.0	3.3	3.0	4.0	3.5	5.0	5.7	5.7	6.0	5.3	4.7	4.5	5.0	5.0	3.5	2.2	2.3	2.1	2.5	2.3
10	2.5	3.4	5.0	2.3	4.9	2.0	3.4	2.3	3.5	4.3	5.5	5.2	4.5	4.4	4.5	4.7	4.9	4.8	3.0	3.1	3.0	2.0	3.0	3.0
11	2.5	4.7	4.3	4.2	3.0	2.0	2.0	2.0	G	G	C	C	C	C	C	C	C	C	4.1	3.1	3.0	3.1	2.3	2.3
12	2.5	2.0	2.0	E	2.1	E	2.3	2.2	G	3.7	G	G	G	G	4.0	4.0	G	G	G	3.3	3.3	3.1	3.3	2.3
13	3.8	2.5	2.5	2.3	2.3	2.3	2.1	G	G	3.9	4.0	4.0	5.0	4.4	6.2	4.0	3.6	G	2.5	2.5	3.0	4.7	3.0	4.7
14	2.8	E	3.8	E	2.5	2.5	2.6	G	4.0	3.8	G	4.2	4.2	4.2	4.2	4.0	3.7	3.5	2.5	3.1	3.0	2.3	3.9	2.5
15	2.5	2.8	E	E	E	E	E	2.7	C	4.7	4.3	5.3	4.6	G	G	G	G	3.6	2.6	E	E	E	E	E
16	E	E	E	E	E	E	E	2.5	C	G	G	G	4.5	G	G	G	C	G	2.8	2.2	2.1	2.0	E	4.3
17	2.5	4.0	E	E	E	E	E	3.0	G	G	G	4.2	4.1	5.0	4.4	4.0	3.6	G	C	2.5	1.9	E	E	2.1
18	E	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	3.8	2.9	2.5	2.2	E	E	2.4
19	2.3	2.2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	2.3	E	E	1.8	E	E
20	E	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	5.2	4.2	4.2	4.0	3.3	E	E
21	E	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	E	E	E	E	E	E	E	E	C	C	C	C	C	C	C	C	C	3.4	G	E	2.1	3.1	3.4	E
25	E	E	E	E	E	E	E	E	G	3.9	4.9	5.5	3.6	G	3.8	G	G	3.7	3.3	2.7	2.5	E	E	E
26	E	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	3.6	G	2.7	2.5	E	E	3.0
27	2.9	3.1	2.3	E	2.1	2.5	E	E	G	G	G	G	G	3.7	G	G	G	G	G	1.9	E	E	E	2.5
28	3.0	E	3.4	2.7	3.2	2.5	E	E	G	G	G	G	3.5	4.7	G	G	G	3.5	2.8	3.1	2.1	2.0	2.7	2.3
29	2.3	E	1.8	E	E	E	E	E	G	G	G	G	G	5.4	G	G	4.3	5.2	3.1	3.0	3.4	3.3	3.9	2.0
30	2.3	1.8	E	2.0	E	E	E	2.3	G	G	G	G	G	4.3	4.1	5.7	G	G	G	C	C	C	C	2.0
31	E	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	4.4	4.9	3.0	2.5	C	3.0	2.8	2.1
Mesh Value	3.2	3.3	3.3	2.9	3.0	2.5	2.4	2.9	3.9	4.4	5.0	5.1	4.7	4.7	4.4	4.5	4.5	4.3	3.4	2.9	3.0	3.1	3.3	2.9
Median Value	2.5	2.0	1.9	E	2.1	2.0	1.8	G	G	G	G	4.0	4.2	4.2	3.9	3.9	3.7	3.6	3.0	2.7	3.0	3.0	2.5	2.3
Count	2.9	2.9	2.8	2.7	2.6	2.7	2.7	2.5	2.4	2.8	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.6	2.7	2.6	2.6	2.7	2.7	2.7

Sweep 1... Mc to 2.2.2. Mc in 3... min

Manual  Automatic

Y 8

**fEs**

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

(M3000)F2

Mar. 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	3.3	2.9	3.0	[3.1] <sup>c</sup>	3.2	3.3	3.3	3.4 <sup>p</sup>	3.2 <sup>p</sup>	[3.2] <sup>c</sup>	3.3 <sup>p</sup>	3.3 <sup>p</sup>	[3.5] <sup>p</sup>	(3.4) <sup>p</sup>	3.4	3.4 <sup>p</sup>	3.5 <sup>p</sup>	3.3 <sup>p</sup>	(3.6) <sup>p</sup>	3.5	3.0	3.1	3.1
2	3.1	3.0	2.9	3.0	3.3	3.4	3.0	3.3	3.4	3.4	3.2	c	3.3 <sup>p</sup>	c	c	(3.3) <sup>p</sup>	[3.5] <sup>p</sup>	3.7	-	3.7	A	3.2	3.3	3.1
3	3.0	3.0	3.0	3.0	3.2	3.2	3.2	3.2	C	3.5 <sup>p</sup>	3.6	3.2	C	C	C	C	3.1	3.5	(3.6) <sup>p</sup>	3.4	3.5	3.1	F	F
4	A	F	2.9	3.6	A	2.5 <sup>F</sup>	F	A	4.0	(3.4) <sup>p</sup>	3.1	(3.2) <sup>p</sup>	C	C	C	C	C	(3.7) <sup>p</sup>	3.3	3.3	2.9	A	A	2.7 <sup>F</sup>
5	2.9 <sup>F</sup>	3.2 <sup>F</sup>	3.1 <sup>F</sup>	2.6 <sup>F</sup>	2.6 <sup>F</sup>	F	F	2.9	3.6	(3.5) <sup>p</sup>	3.4	3.2	(3.5) <sup>p</sup>	C	C	C	C	C	3.3	3.3	3.3	A	A	2.7 <sup>F</sup>
6	2.9	3.2	(3.0) <sup>F</sup>	2.7 <sup>F</sup>	2.5 <sup>F</sup>	3.1 <sup>F</sup>	3.2	3.2	C	C	C	C	3.4	C	C	C	C	3.3	[3.4] <sup>c</sup>	(3.5) <sup>p</sup>	3.2	(2.7) <sup>p</sup>	C	C
7	C	3.4	2.7	3.1 <sup>H</sup>	F	3.0 <sup>F</sup>	3.1 <sup>F</sup>	C	C	3.3 <sup>p</sup>	C	C	C	C	C	3.2	C	C	C	C	A	A	3.1	3.5
8	3.2	2.8	2.7	2.7	2.7 <sup>F</sup>	2.9 <sup>F</sup>	2.9 <sup>F</sup>	(3.7) <sup>p</sup>	(3.6) <sup>c</sup>	3.4	(3.1) <sup>p</sup>	C	C	C	C	(3.2) <sup>p</sup>	C	C	(3.6) <sup>p</sup>	3.2	3.0	3.3	3.3	2.8
9	3.0	3.0	2.9	A	2.9	F	F	F	(3.6) <sup>p</sup>	C	C	C	C	C	C	3.3 <sup>p</sup>	(3.4) <sup>p</sup>	C	C	C	(3.5) <sup>p</sup>	2.9	2.9	3.3
10	3.1	2.9	2.7	3.0	2.9	2.9	F	(3.7) <sup>p</sup>	3.6	C	C	C	C	3.2	C	C	C	C	3.2 <sup>p</sup>	(3.4) <sup>p</sup>	3.1	2.9	2.9	2.8
11	2.9	3.0 <sup>F</sup>	3.1	3.1	3.1	2.9	3.0 <sup>F</sup>	(3.6) <sup>p</sup>	C	C	C	C	C	C	C	C	C	C	C	C	C	2.9	2.9	3.0
12	3.0	2.9	3.0	3.1	3.2	3.2	3.1	3.6	3.6	C	C	C	C	C	C	C	C	3.3	C	C	C	2.9	2.9	3.3
13	2.8	2.9	(3.1) <sup>p</sup>	3.5	(3.3)	2.9	2.9	C	C	3.5 <sup>p</sup>	3.2	[3.2] <sup>c</sup>	(3.3) <sup>p</sup>	C	C	C	C	C	C	C	C	3.2	2.7	2.8
14	3.0	(3.0) <sup>p</sup>	3.1 <sup>p</sup>	[3.1] <sup>c</sup>	3.1	3.3	3.0	[3.4] <sup>c</sup>	3.8	3.2 <sup>p</sup>	C	C	3.1 <sup>p</sup>	(3.3) <sup>p</sup>	3.4 <sup>p</sup>	3.1	(3.3) <sup>p</sup>	C	C	C	C	(2.9) <sup>p</sup>	3.1	(2.9) <sup>p</sup>
15	3.1	3.2	3.1	3.1 <sup>c</sup>	3.8	3.3	3.0	3.3 <sup>p</sup>	C	C	C	C	C	C	C	C	C	C	C	C	C	3.3	2.9	2.7
16	3.0	3.0	3.2	(3.4) <sup>p</sup>	3.1	2.9	3.0	(3.5) <sup>p</sup>	(3.5) <sup>p</sup>	C	C	C	C	C	C	C	C	C	C	C	C	3.2	2.7	2.8
17	2.8	3.2	(3.2) <sup>p</sup>	3.2	3.2	3.4	2.9	3.2	C	C	C	C	C	C	C	C	C	C	C	C	C	3.2 <sup>p</sup>	2.7	2.8
18	2.7	2.8	2.9	3.0	3.1	3.1	3.1	C	C	3.1 <sup>p</sup>	C	C	C	C	C	C	C	C	C	C	C	C	2.7	2.8
19	(3.0) <sup>c</sup>	3.1	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	3.2	[3.1] <sup>c</sup>	3.0 <sup>p</sup>
20	3.0	2.9	2.9	3.0	3.5	3.5	2.9	3.5	3.4	3.5	3.3	C	C	C	C	C	C	C	C	C	A	2.8	2.7	2.8
21	3.0	(3.1) <sup>p</sup>	3.1	(3.1) <sup>p</sup>	3.5	3.2	3.0	3.5	C	C	C	C	C	C	C	C	C	C	(3.6) <sup>p</sup>	3.6 <sup>p</sup>	3.7 <sup>p</sup>	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	(3.1) <sup>p</sup>	3.1	3.1	C	C	C	C	C	C	3.3	C	C	3.3	(3.2) <sup>p</sup>	3.3	C	C	C	C	C	C	C	C	C
25	2.9 <sup>p</sup>	3.1 <sup>p</sup>	3.2	2.7	2.8	3.0	3.1	3.4	[3.4] <sup>c</sup>	3.4	C	C	3.3	C	C	C	C	3.4	3.4	(3.5) <sup>p</sup>	2.7	2.6 <sup>p</sup>	2.6	3.0
26	[2.9] <sup>p</sup>	3.0	[3.2] <sup>p</sup>	3.4	3.0	3.0	3.0	(3.4) <sup>p</sup>	C	C	C	C	C	C	[3.4] <sup>c</sup>	3.4	C	(3.5) <sup>p</sup>	3.5	[3.5] <sup>c</sup>	3.5	3.0	2.9	2.8
27	F	3.1	F	3.5	3.5	(3.3) <sup>p</sup>	3.0	3.4	C	C	C	C	3.1	3.4	[3.4] <sup>c</sup>	C	C	C	C	3.6 <sup>p</sup>	3.5 <sup>p</sup>	3.2	2.9	2.8 <sup>F</sup>
28	2.8	3.0	3.3	3.0	3.1 <sup>F</sup>	F	3.2	3.3	C	C	C	C	C	C	C	C	(3.2) <sup>p</sup>	C	C	C	3.6	3.1	(3.1) <sup>p</sup>	3.0
29	F	(3.4) <sup>p</sup>	3.4	3.4	2.8	3.0 <sup>F</sup>	3.2	3.3	(3.5) <sup>p</sup>	C	C	C	(3.2) <sup>p</sup>	[3.3] <sup>c</sup>	[3.3] <sup>c</sup>	(3.3) <sup>p</sup>	(3.4) <sup>p</sup>	(3.4) <sup>p</sup>	(3.4) <sup>p</sup>	(3.3) <sup>p</sup>	3.4	3.3	3.0 <sup>p</sup>	A
30	2.8	3.0	3.1 <sup>p</sup>	3.6	2.9	2.8	2.9	3.4	3.5	3.6	3.2	3.0	3.1	3.2	3.1 <sup>p</sup>	(3.3) <sup>p</sup>	(3.5) <sup>p</sup>	3.3	3.4	C	C	C	C	C
31	(2.9) <sup>p</sup>	2.8	2.7	2.8	2.9 <sup>p</sup>	3.0	(3.3) <sup>p</sup>	3.5	3.2 <sup>p</sup>	[3.0] <sup>c</sup>	(2.8) <sup>p</sup>	3.0	3.3	2.9	3.1	3.3	3.1	(3.3) <sup>p</sup>	(3.3) <sup>p</sup>	3.0	2.8	(3.1) <sup>p</sup>	2.6 <sup>p</sup>	2.6
Mean Median Minimum Maximum Count	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.4	3.5	3.4	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.5	3.4	3.4	3.3	3.0	2.9	2.9
	3.0	3.0	3.0	3.1	3.1	3.0	3.0	3.4	3.5	3.4	3.2	3.2	3.3	3.3	3.3	3.3	3.4	3.5	3.4	3.5	3.3	3.0	2.9	2.9
	2.4	2.7	2.7	2.6	2.5	2.4	2.3	2.1	1.5	1.7	1.0	1.1	1.0	8	10	9	11	11	16	16	21	23	2.2	2.4

Y 9

Manual  Automatic

Sweep 1.0 Mc to 22.0 Mc in 2 min

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

Lat. 31° 12.5' N  
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

Mar. 1952

f min F

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	2.2 <sup>A</sup>	1.3	1.3	[1.4] <sup>C</sup>	1.4	1.6	1.6	2.5	2.7	3.0	3.3	3.3	3.2	3.2	3.0	2.6	2.5	2.0	1.5	A	1.6	1.4	1.5	
2	1.5	1.2	1.2	1.2	1.2	1.4	1.6	1.6	2.3	2.8	3.0	3.5	3.7	3.4	3.7	3.2	2.9	2.9	2.5	2.3	A	A	1.5	1.6	
3	1.4	1.2	1.2	1.2	1.3	1.5	1.8	1.8	2.2	3.2	A	3.2	3.2	3.3	3.2	3.1	4.5 <sup>A</sup>	A	1.8	1.7	A	1.9	1.6 <sup>F</sup>	1.5	
4	A	1.4	A	1.6	A	1.3	1.7 <sup>F</sup>	A	3.1	3.0	3.3	A	3.2	3.3	A	A	A	A	1.7	A	1.1	A	A	1.3 <sup>F</sup>	
5	1.4	AF	2.0 <sup>A</sup>	1.2 <sup>F</sup>	1.7 <sup>F</sup>	1.3	1.5	1.7	2.1	A	4.7 <sup>A</sup>	4.5 <sup>A</sup>	3.0	A	A	A	A	3.0 <sup>A</sup>	A	1.7	A	A	A	A	
6	2.6 <sup>A</sup>	1.3	AF	AF	1.4 <sup>F</sup>	1.3	1.6	1.6	2.2	2.5	A	4.7 <sup>A</sup>	3.0	3.3	A	A	A	2.4	1.8	A	2.7 <sup>A</sup>	1.9	1.8	1.7	
7	2.8 <sup>A</sup>	2.9 <sup>A</sup>	1.3	1.3	2.7 <sup>F</sup>	1.2	1.4	2.2	2.1	2.6	A	4.7 <sup>A</sup>	4.4	4.3	A	3.7 <sup>A</sup>	A	A	A	C	A	A	3.7 <sup>A</sup>	A	
8	2.0 <sup>A</sup>	1.6	1.8	A	1.3 <sup>F</sup>	1.2	1.6	2.0	1.25 <sup>C</sup>	3.0	3.8 <sup>A</sup>	A	6.5	6.5	A	A	A	A	2.6	A	A	1.8	2.6 <sup>A</sup>	1.5	
9	1.5	1.8	1.8	A	2.7 <sup>A</sup>	A	A	2.7 <sup>A</sup>	2.7	A	A	5.5 <sup>A</sup>	4.6	A	A	A	A	4.5 <sup>A</sup>	1.9	1.6	1.5	1.6	1.7	1.5	
10	1.5	1.5	2.9 <sup>A</sup>	1.2	2.6 <sup>A</sup>	1.4	2.5 <sup>F</sup>	1.9	2.5	2.8	A	3.0	3.4	3.4	3.3	3.3	A	3.0	1.9	1.6	1.7	1.4	2.5 <sup>A</sup>	AF	
11	1.5	1.3	2.0 <sup>A</sup>	2.1 <sup>A</sup>	1.5	1.3	1.5	1.9	2.7	3.0	C	C	C	C	C	C	C	1.8	2.0 <sup>A</sup>	1.6	1.6	2.3 <sup>A</sup>	1.5	1.5	
12	1.6	1.2	1.2	1.2	1.2	1.2	1.5	1.9	2.5	3.0	3.2	3.3	3.3	3.4	3.3	3.1	3.1	2.5	2.0	1.6	A	1.8	1.5	1.5	
13	1.6	1.8	1.4	1.3	1.5	1.4	1.6	1.9	2.6	3.0	3.2	3.3	3.6	3.6	A	2.8	A	1.8	1.8	A	1.6	2.7 <sup>A</sup>	1.5	A	
14	1.9	1.4	1.4	1.3	A	1.4	1.6	2.0	2.6	3.0	3.2	3.4	3.5	3.5	3.3	3.0	2.8	2.7	1.8	1.8	A	1.5	2.6 <sup>A</sup>	1.6	
15	1.4	1.3	1.2	1.2	1.2	1.4	1.6	2.0	[2.4] <sup>C</sup>	2.9	3.3	3.6	3.7	3.5	3.4	3.2	2.9	2.4	1.6	A	1.6	1.5	1.5	1.6	
16	1.6	1.3	1.2	1.2	1.2	1.3	1.6	2.0	[2.5] <sup>C</sup>	3.0	3.1	3.6	3.5	3.5	3.2	2.9	[2.7] <sup>C</sup>	2.5	1.6	1.3	1.5	1.6	1.6	1.4	
17	1.6	1.8	1.3	1.2	1.2	1.2	1.6	2.3	2.5	3.1	3.3	3.6	3.4	4.2	3.2	3.3	3.1	2.5	[2.1] <sup>C</sup>	1.7	1.5	1.7	1.6	1.7	
18	1.4	1.3	1.3	1.2	1.2	1.8	1.6	1.9	2.6	2.9	3.4	3.3	3.5	3.5	3.6	3.3	3.3	3.2	2.1	1.6	1.6	1.6	1.6	1.8	
19	1.6	1.9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	1.7	1.6	1.5	1.5	1.5	1.6	
20	1.5	1.3	1.3	1.2	1.2	1.2	1.6	2.1	2.7	3.0	3.1	3.2	3.8	3.6	3.2	3.4	3.4	2.8	A	A	1.9	1.6	1.5	1.5	
21	1.5	1.6	1.4	1.6	1.6	1.5	1.5	2.1	2.7	3.0	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
24	1.5	1.6	1.6	C	C	C	C	C	C	3.0	3.1	3.2	3.5	3.5	3.3	3.1	3.0	A	2.0	1.6	1.5	1.7	1.8	1.6	
25	1.6	1.6	1.3	1.5	1.6	1.4	1.6	2.0	2.8	2.8	4.2 <sup>A</sup>	3.2	4.5	3.4	4.1	3.2	2.9	3.5 <sup>A</sup>	2.0	1.6	1.6	1.6	1.6	1.5	
26	1.6	1.6	1.5	1.6	1.5	1.6	1.6	2.2	2.6	3.0	3.4	3.3	3.4	4.0	3.5	4.0	2.9	A	1.9	A	1.7	1.6	1.6	1.6	
27	1.6	1.6	1.5 <sup>F</sup>	1.6	1.6	1.8	1.6	2.2	2.8	3.0	3.2	4.2	4.2	4.5	3.6	3.2	3.0	2.6	2.1	1.6	1.6	1.6	1.6	1.6 <sup>F</sup>	
28	1.8	1.6	1.6	1.7	A	1.6	1.6	2.1	2.7	3.0	3.3	3.5	3.5	4.2	4.1	3.3	3.0	2.8	2.0	A	1.6	1.6	1.7	1.7	
29	1.7 <sup>F</sup>	1.6	1.6 <sup>H</sup>	1.6	1.6	1.6	1.6	2.2	2.8	3.3	3.3	4.1	3.8	4.5 <sup>A</sup>	4.0	3.3	A	5.0 <sup>A</sup>	2.3	1.7	1.6	2.2 <sup>A</sup>	A	1.6	
30	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.6	3.1	3.5	3.9	4.1	3.6	3.9	3.9	5.1 <sup>A</sup>	3.4	2.5	3.1 <sup>*</sup>	C	C	C	C	C	
31	1.6	1.7	1.7	1.6	1.7	1.7	1.6	2.3	3.2	4.0	3.9	4.5	4.2	3.8	4.2	3.3	3.1	2.5	2.0	A	1.8	4.4	A	A	
Mean Value	1.7	1.6	1.5	1.4	1.6	1.4	1.6	2.0	2.6	3.0	3.4	3.7	3.8	3.7	3.5	3.3	3.1	2.7	2.0	1.7	1.6	1.9	1.8	1.7	
Median Value	1.6	1.6	1.4	1.3	1.5	1.4	1.6	2.0	2.6	3.0	3.3	3.5	3.6	3.5	3.4	3.3	3.0	2.7	1.9	1.6	1.6	1.6	1.6	1.6	
Count	27	28	26	25	24	26	26	26	27	26	21	23	26	26	19	21	17	22	22	26	18	18	22	23	22

f min F

Sweep 1.0 Mc to 2.2 Mc in 2 min

Manual  Automatic



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

Lat. 31° 12.6' N  
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

f<sub>minE</sub>

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

IONOSPHERIC DATA IN JAPAN FOR MARCH 1952

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(不許複製非売品)

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發行 人

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東京都北多摩郡小金井町小金井新田一之久保573

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