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IONOSPHERIC DATA IN JAPAN

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CONTENTS

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INTRODUCTION

This Series contains data on ionosphere (I) and solar radio emission (S) obtained at the following stations under the National Institute of Information and Communications Technology, Independent Administrative Institution in Japan.

Station	Geographic		Geomagnetic (IGRF2000)		Technical Method	
	Latitude	Longitude	Latitude	Longitude		
Wakkanai	45°23.6'N	141°41.1'E	36.4°N	208.6°	Vertical Sounding	(I)
Kokubunji	35°42.4'N	139°29.3'E	26.6°N	207.9°	Vertical Sounding	(I)
Yamagawa	31°12.1'N	130°37.1'E	21.4°N	199.8°	Vertical Sounding	(I)
Okinawa	26°40.5'N	128°09.2'E	16.8°N	198.4°	Vertical Sounding	(I)
Hiraiso	36°22.0'N	140°37.5'E	27.4°N	209.2°	Solar Radio Emission	(S)

A. IONOSPHERE

Ionospheric observations are carried out at the above four stations in Japan by means of vertical sounding using ionosondes. The ionosonde produces ionograms, which are recorded digitally on computer storage medium. The digitally-recorded ionograms are collected from each station by the central computer and reduced to numerical values and Summary Plots by the automatic processing system. The ionograms obtained at Kokubunji are manually scaled as well by experienced specialists to supplement automatically-scaled parameters.

A1. Automatic Scaling

Digital ionograms are automatically scaled by the pattern recognition method. The following five factors of ionospheric characteristics are published for the present. The reliability of these factors has been ascertained by comparison of the automatically-scaled parameters with the manually-scaled values of large amounts of test ionograms.

The published data consist of tabulations of hourly values of three factors (*foF2*, *fEs*, *fmin*) and monthly medians of two factors (*h'Es* ,*h'F*), daily Summary Plots and monthly medians plot of *foF2*.

a. Characteristics of Ionosphere

foF2	Ordinary wave critical frequency for the ***F2*** layer
fEs	Highest frequency of the ***Es*** layer whether it may be ordinary or extraordinary
fmin	Lowest frequency which shows vertical ionospheric reflections
h'Es ***h'F***	Minimum virtual height on the ordinary wave for the ***Es*** and ***F*** layers, respectively

b. Descriptive Letters

The following descriptive letters are used in the tables.

A Impossible measurement because of the presence of a lower thin layer, for example *Es* (for *foF2*).

C Impossible measurement because of any failure in observation.

G Impossible automatic scaling because of too small ionization density of the layer (for *fEs*).

N Impossible automatic scaling because of complex echoes.

Blank No digital record because of trouble in the automatic data processing system, but existence of film record.

c. Definitions of the CNT, MED, UQ and LQ

Median count (**CNT**) is the number of numerical values from which the median has been computed. In addition to numerical values, the count may include a descriptive letter G.

Median (**MED**) is defined as the middle value when the numerical values are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (**UQ**) is the median value of the upper half of the values when they are ranked according to magnitude; the ***lower quartile*** (**LQ**) is the median value of the lower half.

If CNT is less than 10, there are blank spaces left.

d. Reliability of Automatic Scaling

The results of the comparison between automatically-scaled values and manually-scaled ones showed that hourly values of *foF2* , *fEs* and *fmin* were scaled within a difference of 1 MHz from about 90, 90 and 99%, respectively of the test ionograms.

e. Summary Plot

Daily Summary Plots which are made from quarter-hourly digital ionograms are published to present general ionosphere conditions. The upper and middle parts of a Summary Plot show the diurnal variation of the frequency range of the echoes reflected from the *F* and *E* regions, respectively. The two solid arcing lines indicate the predicted values of *fxE* and *foE* calculated by the method described in the CCIR report 340. The lower part shows the diurnal variation of the virtual height where the echo traces become horizontal.

A2. Manual Scaling

The published data consist of tabulations of hourly values of the ionospheric characteristics and figures of daily *f*-plot.

All symbols and terminology in the tables or figures of ionospheric data are used in accordance with the "URSI Hand-book of Ionogram Interpretation and Reduction (Second Edition) 1972 " and its revision of chapters I-4, published in July 1978.

a. Characteristics of Ionosphere

fxI	Top frequency of spred ***F*** trace
foF2 ***foF1*** ***foE*** ***foEs***	Ordinary wave critical frequency for the ***F2***, ***F1***, ***E*** and ***Es*** including particle ***E*** layers, respectively
fbEs	Blanketing frequency of the ***Es*** layer, e.g. the lowest ordinary wave frequency visible through ***Es***
fmin	Lowest frequency which shows vertical ionospheric reflections
M(3000)F2 ***M(3000)F1***	Maximum usable frequency factor for a path of 3000 km for transmission by ***F2*** and ***F1*** layers, respectively
h'F2 ***h'F*** ***h'E*** ***h'Es***	Minimum virtual height on the ordinary wave for the ***F2***, whole ***F***, ***E*** and ***Es*** layers, respectively
Types of ***Es***	See below b. (iii)

b. Symbols

(i) Descriptive Letters

The following letters are entered after, or used to replaced a numerical value on the monthly tabulation sheets, if necessary.

A Measurement influenced by, or impossible because of, the presence of a lower thin layer, for example *Es*.

B Measurement influenced by, or impossible because of, absorption in the vicinity of *fmin*.

C Measurement influenced by, or impossible because of, any non-ionospheric reason.

D Measurement influenced by, or impossible because of, the upper limit of the normal frequency range in use.

E Measurement influenced by, or impossible because of, the lower limit of the normal frequency range in use.

F Measurement influenced by, or impossible because of, the presence of spread echoes.

G Measurement influenced by, or impossible because the ionization density of the layer is too small to enable it to be made accurately.

H Measurement influenced by, or impossible because of, the presence of a stratification.

K Presence of particle *E* layer.

L Measurement influenced or impossible because the trace has no sufficiently definite cusp between layers.

M Interpretation of measurement questionable because the ordinary and extraordinary components are not distinguishable.

N Conditions are such that the measurement cannot be interpreted.

O Measurement refers to the ordinary component.

P Man-made perturbations of the observed parameter; or spur type spread *F* present.

Q Range spread present.

R Measurement influenced by, or impossible because of, attenuation in the vicinity of a critical frequency.

S Measurement influenced by, or impossible because of, interference or atmospherics.

T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.

V Forked trace which may influence the measurement.

W Measurement influenced or impossible because the echo lies outside the height range recorded.

X Measurement refers to the extraordinary component.

Y Lacuna phenomena, severe layer tilt.

Z Third magneto-electronic component present.

(ii) Qualifying Letters

The following letters are entered in the first column before a numerical value on the monthly tabulation sheets, if necessary.

A Less than. Used only when *fbEs* is deduced from *foEs* because total blanketing of higher layer is present.

D Greater than.

E Less than.

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

O Extraordinary component characteristic deduced from the ordinary component. (Used for x-characteristics only.)

T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.

U Uncertain or doubtful numerical value.

X Measurement deduced from the third magneto-electronic component.

(iii) Description of Types of *Es*

When more than one type of *Es* trace are present on the ionogram, the type for the trace used to determine *foEs* must be written first. The number of multiple trace is indicated after the type letter.

The types are:

f An *Es* trace which shows no appreciable increase of height with frequency.

l A flat *Es* trace at or below the normal *E* layer minimum virtual height or below the part *E* layer minimum virtual height.

c An *Es* trace showing a relatively symmetrical cusp at or below *foE*. (Usually a daytime type.)

h An *Es* trace showing a discontinuity in height with the normal *E* layer trace at or above *foE*. The cusp is not symmetrical, the low frequency end of the *Es* trace lying clearly above the high frequency end of the normal *E* trace. (Usually a daytime type.)

q An *Es* trace which is diffuse and non-blanketing over a wide frequency range.

r An *Es* trace showing an increase in virtual height at the high frequency end similar to group retardation.

a An *Es* trace having a well-defined flat or gradually rising lower edge with stratified and diffuse traces present above it.

s A diffuse *Es* trace which rises steadily with frequency and usually emerges from another type *Es* trace.

d A weak diffuse trace at heights below 95 km associated with high absorption and large *fmin*.

n The designation 'n' is used to denote an *Es* trace which cannot be classified into one of the standard types.

k The designation 'k' is used to show the presence of particle *E*. When *foEs* > *foE* (particle *E*) the *Es* type precedes k.

c. Definitions of the CNT, MED, UQ and LQ

Median count (**CNT**) is the number of values from which the median has been computed. In addition to numerical values, the count may include certain descriptive letters.

Median (**MED**) is the middle value when the numerical values are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (**UQ**) is the median value of the upper half of the values when they are ranked according to magnitude; the ***lower quartile*** (**LQ**) is the median value of the lower half.

B. SOLAR RADIO EMISSION

Solar radio observations at 200, 500 and 2800 MHz are carried out at Hiraiso. The observation equipment consists of three parabolic antennas, one with 10-meter diameter for 200 MHz Measurement, one with 6-meter diameter for 500 MHz measurements and one with 2-meter diameter for 2800 MHz measurements, each being equipped with a pair of crossed doublet antennas as a primary radiator, and three appropriate receivers. Each pair of the crossed doublet antennas is used as a polarimeter. Observations are continuously carried out almost from sunrise to sunset.

B1. Daily Data at Hiraiso

The three-hourly mean and daily mean values of the solar radio emission intensities are tabulated for 500 MHz measurements. The intensities are expressed by the flux density in 10^{-22} Wm^{-2} Hz^{-1} unit.

The following symbols are used in the tables, when interference or radio bursts prevented measuring the base-level flux densities or determining the variability indices:

* Measurement impossible because of interference.

B Measurement impossible because of bursts.

Daily data within parentheses mean that the observation time does not exceed one third of the period.

B2. Outstanding Occurrences at Hiraiso

The table is a list of outstanding occurrences of solar radio emission bursts observed at 200, 500 and 2800 MHz during a month.

Listed in the table are the date, frequencies, the type of event, the start time and the time of maximum, both in U.T.

expressed in hours, minutes and tenths of a minute, the duration in minutes, the peak and mean flux densities in 10^{-22} Wm^{-2} Hz^{-1} unit, and the polarization.

The type of event is expressed by a combination of a numerical code and a letter symbol in accordance with the "Descriptive Text of Solar Geophysical Data, NOAA" as defined by H. Tanaka in the "Instruction Manual for Monthly Report of Solar Radio Emission, WDC-C2" in January 1975:

SGD Code	Letter Symbol	Morphological Classification
1	S	Simple 1
2	S/F	Simple 1F
3	S	Simple 2
4	S/F	Simple 2F
5	S	Simple
6	S	Minor
7	C	Minor+
8	S	Spike
20	GRF	Simple 3
21	GRF	Simple 3A
22	GRF	Simple 3F
23	GRF	Simple 3AF
24	R	Rise
25	R	Rise A
26	FAL	Fall
27	RF	Rise and Fall
28	PRE	Precursor
29	PBI	Post Burst Increase
30	PBI	Post Burst Increase A
31	ABS	Post Burst Decrease
32	ABS	Absorption
40	F	Fluctuations
41	F	Group of Bursts
42	SER	Series of Bursts
43	NS	Onset of Noise Storm
44	NS	Noise Storm in progress
45	C	Complex
46	C	Complex F
47	GB	Great Burst
48	C	Major
49	GB	Major+

The polarization is expressed by the polarization degree and sense as follows:

R or L	right or left-handed polarization,
W, M or S	weak, moderate or strong polarization,
0	almost zero or unable to detect polarization due to small increase of flux,
00	polarization degree of less than 1

One of the following symbols may be attached after numerical values, if necessary.

D	greater than, or later than,
E	less than or earlier than,
U	approximate, or uncertain.

B3. Summary Plots of F10.7 at Hiraiso

The 10.7 cm solar radio flux at Hiraiso is plotted over a one month period. The 10.7 cm flux ($F_{10.7}$) is determined by adjusting the 10.7 cm radio flux measured at Hiraiso to the Pentincton 10.7 cm radio flux. The figure on the right-hand side shows the $F_{10.7}$ index estimated at Hiraiso.

The following symbols are used in the $F_{10.7}$ index:

*	Measurement made not at 3h U.T..
B	Measurement affected by bursts.

HOURLY VALUES OF foF2 AT Wakkanai

MAR. 2008

LAT. 45°23.5'N LON. 141°41.2'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	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	54	54	52	43	44	41	18	44	49	46	45	68	66	67	55	52	61	46	45	44	41	40	40	41
2	40	40	40	38	37	36	36	51	51	51	55	55	62	56	58	71	60	48	41	43	40	37	37	37
3	37	34	34	40	34	34	34	44	60	57	63	64	71	56	60	58	60	51	41	38	38	40	42	41
4	42	44	43	44	38	37	38	44	54	54	62		57	65	65	56	C	C	C	C			34	34
5	36	37	37	38	31	34	36	47	51		C	C	C	C	C	C	C	52	44	40		38	37	37
6		31	38	34	34	30	34	A	43	44	53	56	44	60	61	58	51	46	43	41	29	30	37	36
7	34	36	32	35	34	32	36	44	45	50	58	59	57	59	57	57	47	47	42	38	34	32		32
8	38	38	34	32	34	34	42	46	52	56	54	A	62	63	61	60	58	52	44	28	32	40	40	37
9	34	34	34	32	28	30	34	42	52	62	59	70	74	57	64	57	69	62	45	34	29	30	A	34
10	37	31	32	34		26	40	39	54	66	68	67	70	60	63	66	54	59	45	37	35	34	36	36
11	35	37	40	26	34	30	35	45	49	33	64	58	67	71	58	55	57	49	45	40	34	37	A	A
12	34	34	34	34	28	29	36	45	50	58	57	53	66	77	62	60	57	52	45	44	36	31	34	32
13	32	34	31	34	28	34	36	34	53	58	58		61	62	68	68	63	54	40	36	37	34	29	34
14	19	34	34	30	29	26	38	46	57	63	C	60	66	60	61	59	60	60		43	A	36	38	36
15	34	34	34	24	32		34	34	48	66	57	52	53	55	66	59	56	60	56	46	43			34
16	37	32	28	30			36	46	50	53	58	55	57	54	53	55	52	51	50	42	36	40	38	37
17	36	36	36	32	34	30	40	45	51	52	66	67	61	57	57	42	57	55	46	43	38	40	40	40
18	36	36	41	37	30	34	39	22	60	50	58	49	60	57	62	56	60	56	49	45	44	43	42	45
19	38	42	43	45	42	34	38	43	47	56	49		51	56	52	53	54	53	48	47	44	44	41	38
20	36	38	32	38	36	30	37	47	54	56	56	57	56	45	57	57	52	46	40	45	45	43	41	40
21	40	38	36	34	29	28	41	46	46	57	58	62	59	56	59	60	53	56	48	50	47	44	38	42
22	41	39	40	41	40	36	40	44	48	60	63	64	58	60	54	56	52	51	48	38	40	41	37	40
23	32	34	32	36	41	36	39	41	46	57	59	66	63	60	67	62	56	48	46	47	46	38	40	37
24		41	40	41	43	45	40	50	56	53	66	65	57	70	62	58	51	54	50	40		40	41	42
25	42	41	34	41	41	41	39	55	55	60	58	64	56	61	60	57	58	55	54	44	43	43	43	38
26	42	32	41	41	41	41	37	48	57	54	58	61	60	62	61	60	61	58	58	61	44	46	43	44
27	34	42	36	40	35	40	32	44	46	58	54	54	72	70	63	65	60	61	54	53	48	38	40	42
28	32	26	42	34	28	34	41	45	49	56		58	60	67	76	75	65	59	61	62	54	60	40	42
29	44	44	43	41	37	37	38	41	47	58	66	72	62	58	72	67	57	56	54	54	53	44	40	
30	A		41	37	38	41	40	40	57	62	66	67	65	61	58	57	57	60	65	62	50	A	32	36
31	34	34	31	34	37	38	58	60	57	66	A	54	72	71	62	62	61	64	66	63	54	53	25	41
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	30	31	31	29	29	31	30	31	30	27	26	30	30	30	30	29	30	29	30	27	28	27	29
MED	36	36	36	36	34	34	38	44	51	56	58	60	61	60	61	58	57	54	46	44	41	40	40	37
U Q	40	40	41	41	39	37	40	46	55	60	63	66	66	65	63	62	60	59	54	47	46	43	41	41
L Q	34	34	34	34	30	30	36	42	48	53	56	55	57	57	58	56	53	51	44	40	36	36	37	36

HOURLY VALUES OF fEs AT Wakkanai

MAR. 2008

LAT. 45°23.5'N LON. 141°41.2'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	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	G	G	G	G	G	G	G	29	32	G	G	G	G	G	G	34	G	G	G	G	G	33	G	G
2	G	G	G	G	G	26	G	G	G	G	47	G	G	43	52	40	37	33	G	37	G	G	G	G
3	G	G	G	G	G	G	G	29	39	G	G	G	G	G	G		G	G	G	G	G	G	G	G
4	G	G	G	G	24	G	G	G	G	G	G		G	G	N	G	C	C	C	C		39	30	G
5	G	30	23	26	G	G	G	G	G		C	C	C	C	C	C	C	G	G	34	37	G	G	26
6	39	G	26	26	G	G	G	37	40	G	G	N	G	G	G		G	G	G	28	27	26	G	G
7	G	G	G	G	G	G	G	G	G	39	G	G	G	G	G		G	30	G	28	24	30	33	31
8	29	G	G	G	G	G	G	G		40	46	60	37	G	G	G	G	G	G	24	G	G	G	G
9	G	G	G	G	G	G	G	29	35	39	42	G	G	G	G	G	G	G	11	G	G	G	39	G
10	G	G	G	G	G	27	25	G	34	40	G	G	G	G	N	G	G	G	G	G	G	G	G	G
11	G	G	G	G	G	G	G	G	36	46	40	44	42	37	G	G	G	29	G	26	25	G	40	40
12	38	G	G	G	G	G	G	34	34	37	G	38	G	G	G	G	G	G	G	G	G	G	G	G
13	G	G	G	25	G	G	G	G	35	36	G	41	G	G	43	G	39	34	34	28	G	G	32	24
14	26	24	25	G	G	G	G	34	40	G	C	G	G	G	G	G		G		27	58	29	33	G
15	G	G	G	G	G	G	G	32	34	37	G	39	G	G	G	G		G	G	29	25	33	32	32
16	32	26	G	G		G	G	G	G	G	G	G	G	G	G	G	32	G	G	G		G	28	29
17	G	G	G	G	G	G	26	G	35	38	G	G	G	G	G	G	G	G	G	G	G	G	G	G
18	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
19	G	G	G	G	G	G	G	G	G	40	G	G	G	G	38	G	G	G	G	G	G	G	G	G
20	G	G	G	G	G	G	28	G	G	G	G	G	G	G	G	G	35	29	G	G	G	G	G	G
21	G	G	G	G	G	G		33	36	38	37	G	G	G	G	N	G	30	G	G	G	G	G	G
22	G	G	G	G	G	G	28	39	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
23	G	G	G	G	G	24		33	G	G	38	G	G	G	G	G	G	28	G	G	G	G	G	G
24	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
25	G	G	G	G	G	G	G	30	G	G		G	G	G	G	G	G	30	G	G	G	G	G	G
26	G	G	G	G	G	G		G	G	37	38	38	G	G	G	G	G	G	G	G	G	G	G	G
27	G	G	G	G	28	32	G	35	G	40	44	40	42	G	N	G	G	G	G	G	G	G	G	G
28	G	30	32	26	G	G		G	G	G	39	G	G	G	G	35	G	32	24	G	G	28	G	G
29	G	26	G	G	G	G	G	G	39	G	G	50	41	G	45	38	39	33	G	G	G	G	G	32
30	44	37	28	G	G	G	G	G	38	43	G	G	40	G	G	G	G	36	38	32	33	43	28	29
31	G	26	29	G	G	G	30	G	G	60	71	G	G	G	G	G	G	38	31	30	27	33	29	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	30	31	27	31	30	30	28	28	30	30	27	26	27	30	29	30	29	31	31	31
MED	G	G	G	G	G	G	G	G	G	18	G	G	G	G	G	G	G	G	G	G	G	G	G	G
U Q	G	G	G	G	G	G	G	32	35	39	38	38	G	G	G	G	G	30	G	28	24	28	29	24
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

MAR. 2008

LAT. 45°23.5'N LON. 141°41.2'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	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	16	15	14	15	15	15	14	15	16	24	17	18	17	20	15	14	15	18	15	15	17	18	17	16
2	17	15	15	14	18	15	15	20	16	15	15	35	18	20	18	14	17	14	15	15	15	18	17	18
3	16	16	18	15	15	15	14	14	14	14	14	15	18	21	20	18	22	17	15	15	15	15	17	15
4	16	15	15	14	14	14	14	20	24	14	17		16	18	15	15	C	C	C	C		15	17	17
5	17	15	15	15	15	15	15	22	14		C	C	C	C	C	C	C	17	15	15	15	16	17	17
6	15	17	16	14	15	18	20	14	14	14	17	17	17	14	17	17	20	17	15	15	17	15	15	17
7	16	17	21	15	16	15	15	20	15	14	18	15	15	18	17	14	22	14	17	17	18	15	15	15
8	15	17	16	17	15	15	15	14	16	14	15	17	18	17	17	17	24	18	14	14	15	18	17	15
9	18	17	15	17	16	14	15	14	15	16	17	21	21	18	15	15	15	18	15	15	15	18	16	15
10	15	17	16	15	17	17	15	14	17	17	17	18	20	15	16	18	18	18	15	15	15	15	16	15
11	16	16	15	15	15	15	15	15	14	16	18	16	18	15	15	16	14	15	14	15	15	15	15	15
12	15	16	18	14	16	17	15	14	15	18	17	15	16	16	18	17	22	20	14	15	15	15	17	21
13	17	15	18	16	17	15	15	15	15	15	16	14	17	16	15	15	14	14	15	16	15	18	15	18
14	15	14	18	15	18	16	14	14	14	15	C	20	20	18	18	14	17	20		16	17	17	15	15
15	18	20	17	15	16	14	16	17	17	16	14	17	14	15	14	14	15	18	14	15	17	15	15	15
16	15	20	18	16		18	18	15	14	15	15	18	17	20	17	17	15	20	15	18	14	16	16	14
17	15	20	18	15	14	18	20	22	15	17	18	18	40	21	20	18	21	15	16	15	18	15	16	16
18	15	17	15	15	16	17	17	22	16	18	18	21	22	21	21	20	16	18	15	14	15	18	17	15
19	18	16	16	15	14	15	20	18	28	18	18	21	18	20	18	15	15	20	15	16	18	15	20	16
20	20	15	16	15	14	15	20	15	18	14	18	15	20	18	18	15	15	15	15	14	15	17	17	16
21	16	16	17	15	15	15	14	14	14	16	20	18	20	18	20	18	14	14	14	17	17	16	18	17
22	18	16	18	15	15	17	15	17	14	16	18	18	21	22	18	20	22	20	15	15	16	17	15	16
23	16	17	15	15	14	14	18	15	16	18	20	21	20	18	17	16	15	18	20	15	15	16	15	15
24	20	20	18	15	17	14	18	18	14	17	14	18	18	18	16	15	17	20	15	14	15	17	15	14
25	14	15	15	17	14	15	20	14	15	18	18	18	17	20	21	20	17	14	15	16	15	15	15	17
26	17	18	17	14	14	14	21	15	15	15	18	20	20	18	20	17	14	20	15	15	15	15	15	15
27	17	17	18	14	15	15	20	14	14	14	17	20	18	20	21	16	14	22	15	15	14	16	15	15
28	16	15	15	17	14	15	17	14	16	16	18	17	18	18	32	16	14	17	15	15	15	15	18	15
29	15	15	20	15	15	14	14	15	15	17	16	20	20	18	18	15	14	17	16	16	15	17	15	18
30	16	15	16	15	17	20	20	15	16	14	16	20	20	18	18	20	14	17	14	15	14	16	15	17
31	21	16	18	17	15	18	14	15	14	15	15	20	18	15	16	14	14	15	15	15	18	15	14	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	30	31	31	31	31	30	29	29	30	30	30	30	29	30	29	30	30	31	31	31
MED	16	16	16	15	15	15	15	15	15	16	17	18	18	18	18	16	15	18	15	15	15	16	16	15
U Q	17	17	18	15	16	17	20	18	16	17	18	20	20	20	20	18	19	20	15	16	17	17	17	17
L Q	15	15	15	15	14	15	15	14	14	14	15	17	17	17	16	15	14	15	15	15	15	15	15	15

HOURLY VALUES OF foF2 AT Kokubunji

MAR. 2008

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	34	34	34	30	28	30	36	47	51	59	61	63	79	88	67	57	61	65	50	36	36	28	36	34
2	34	32		34	32		30	52	64	66	56	63	60	68	67	58	68	59	47	36	36	31	34	34
3	30	34	30	30	27	28	34	54	52	65	55	65	61	70	71	61	55	C	51	41		A	32	34
4	34	34	32	31	28	28	36	49	53	56	60	66	78	74	66	63	57	58	46		26	A		21
5			32	34	36	28	33	47	48	56	60	82	80	72	74	62	56	55	47	38	34	30	39	
6	36	A	38	36	A		31	48	72	67	64	80	78	67	57	61	65	52	46	36	36	32	34	26
7	32	30	28	27	26	26	34	50	58	59	54	65	73	78	66	58	59	33	A	A	27	30	32	
8	34	32	32	30	28	28	37	49	59		52	61	75	77	71	59	59	56	45	30	30	28	30	27
9	A		A	30			31	60	41	64	71	80	90	82	64	57	70	69	47		32	34		
10	30	34	39				30		83	77	77	86	84	64	60	65	62	60	62	37	28	32	32	32
11	34	34	34	38	26	28	34	50	41	60	61	68	82	88	66	58	55	55	55	46	34	28	32	30
12	32	31	30	31	28	25	36	53	64	67	73	65	61	68	77	69	58	59	51	45	42	28	34	23
13	34	32	32	34	31	28	38	49	48	52	61	65	59	75	82	81	76	61	45	32	27	32	34	32
14	30	32	34	32				54	62	62	66	59	82	72	68	58	56	64	71	54	43	A	A	32
15	A	32	32		32	31	41	61	54	59	67	67	62	67	67	66	65	67	64	52	43	39	37	38
16	36	37	35	31	30		37	50	63	76	56	62	62	67	58	58	58	66	61	45	42	38	34	34
17	34	34	32		27	26	42	59	59	57	56	61	73	65	64	52	56	59	62	51	37	32	34	32
18	32	32	32	30	27	27	37	48	54	56	59	65	58	73	65	62	59	65	63	45	36	30	34	34
19	37	32	36	26	30	27	38	47	55	59	62	64	66	56	56	51	52	55	61	54	46	44	45	38
20	36	34		34	26	30	43	49	56	55	72	58	55	58	55	56	58	64	64	45	30	32	32	28
21	32	32	30	32			42	53	56	52	58	62	73	74	59	51	51	52	55	51	43	42	39	38
22	38	34	36	32	30		39	49	59	53	60	59	77	65	66	54	55	59	40	43	31	32	32	34
23	34	31	30	32	27		42	47	55	52	59	62	72	66	66	70	66	55	49	50	39	39	32	32
24	39	34	32	32	32	34	45	50	57	55	65	66	77	65	64	67	65	59	57	48	42	37	38	34
25	38	38	38	38	32	30	46	54	55	57	64	67	74	68	66	61	57	64	64	52	38	38	38	36
26	38	32	37	38	34	34	49		54	58	65	68	64	72	67	67	62	65	61	54	54	39	41	41
27	44	41	40	41	37	37	49	47	54	61	81	92	71	65	76	82	76	72	73	51	48		39	A
28	A	A	41	42	28	30	42	64	56	77	81	63	80	75	81	81	73	66	66	64	65	42	41	43
29	44	45	45	42	41	42	45	54	59	54	58	75	80	77	74	76	68	69	66	54	48	45	44	
30		43	42		39	38	47		61	64	71	76	75	72	68	62	65	77	86	74	A	A	A	A
31	A	A	38	41	24	32	54	66	60	59	69	73	85	72	67	64	70	82	84	78	49		39	38
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	26	28	27	26	22	30	28	31	30	31	31	31	31	31	31	31	30	30	28	29	25	27	25
MED	34	34	34	32	29	29	38	50	56	59	61	65	74	72	66	61	59	60	59	47	37	32	34	34
U Q	37	34	38	38	32	32	43	54	60	64	69	73	80	75	71	67	66	66	64	53	43	39	39	37
L Q	32	32	32	30	27	28	34	48	54	56	58	62	62	66	64	58	56	56	47	39	31	30	32	31

HOURLY VALUES OF fEs AT Kokubunji

MAR. 2008

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	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	G	G	G	G	G	G	G	G	34	G	G	54	G	G	G	G	G	G	G	G	G	G	G	G
2	G	G	27	29	26	G	G	29	G	40	G	45	46	45	G	49	33	G	26	G	G	34	G	G
3	G	G	G	G	G	G	G		G	G	G	G	G	G	G	G	G	C	24	23	34	26	23	G
4	G	G	G	G	G	G	G	29	G	G	44	45	44	43	G	G	G	35	G	31	27	33		27
5	33	27	31	33	G	G	G		G	41	45	43	G	G	G	36	G	30	G	G	G	G	32	37
6	47	33	28	G	34	26	G		G	40	45	G	G	G	G	G	G	29	32	G	G	G	G	25
7	G	G	G	G	G	G	G	28	G	37	46	G	G	42	41	G	37	40	58	49	29	26	31	27
8	25	G	G	G	24	G	G	29	G		G	G	G	G	G	G	G	31	G	G	G	G	G	G
9	49	28	39	26	G		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	22	G
10	G	G	G		G		G		G	G	40	39	G	G	G	G	G	27	G	G	G	G	G	G
11	G	G	G	G	G	G	G	G	34	G	G	G	G	G	G	G	G	29	G	G	G	G	23	32
12	40	24	G	G	G	G	G	29	G	47	G	41	43	G	G	38	G	31	G	G	G	G	G	G
13	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	51	G	G	G	G	G	29	G
14	G	G	G	G	G	G		29	42	40	G	45	G	G	G	45	39	54	29	33	34	39	54	31
15	33	30	26	29	G	G	G	29	34	49	G	44	47	46	G	G		G	G	G	G	G	G	G
16	G	G	G	22	G	G	G	G	G	G		G	G	G	G	G	33	G	G	G	G	G	25	G
17	G	G	G	G	G	G	G		36	G	G	39	G	G	G	G	G	G	G	G	G	G	G	G
18	G	G	G	G	G	G	26	44	G	40	G	45	G	45	G	43	45	31	24	G	G	G	G	G
19	G	G	G	G	G	G	32	G	G	G	G	G	G	G	G	G	40	37	26	35	G	G	G	G
20	G	G		G	G	G	25	33	G	G	G	G	G		G	G	G	31	G	G	G	G	G	G
21	G	G	G	G	G	G	26	33	36	G	G	G	G	G	G	G	G	G	29	24	G	G	G	G
22	G	G	G	G	G	G	28	34	G	G	G	G	G	G	G	G	G	28	G	G	G	G	G	G
23	G	G	G	G	G	G	26	G	G	G	G	G	40	G	45	40	G	29	G	G	G	G	G	G
24	29	G	G	G	G	G	35	G	G	G	G	40	G	G	G	G	G	36	25	G	G	G	G	G
25	G	G	G	G	G	G	27	G	G	G	G	G	106	G	G	G	33	31	25	G	G	G	G	G
26	G	G	G	G	G	G	41		G	G	42	51	50	41	G	G	G	G	28	25	G	G	G	G
27	G	G	G	G	G	G		G	G	G	G	G	G		G	G	G	35		30	G	28	22	36
28	43	40	33	31	G	G	29	35	34	45	G	41	57	G	G	G	40	36	48	27	G	G	G	G
29	G	G	G	G	G	G	G	G	G	46	47	55	G	52	60	G	G	G	33	27	G	39	G	49
30	G	G	G	36	27	G	G	G	G	G	42	G	46	61	G	43	G	34	30	22	47	70	60	84
31	60	60	28	22	27	G	G	G	G	G	39	40	G	G	G	G	G	32	39	29	20	37	31	33
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	30	31	29	29	25	31	30	30	31	31	29	31	31	30	30	30	31	31	31	30	31
MED	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	30	12	G	G	G	G	G
U Q	29	G	G	22	G	G	26	29	G	40	40	44	43	41	G	G	33	34	29	27	G	26	23	27
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Kokubunji

MAR. 2008

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	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	22	14	13	13	13	13	13	15	13	13	13	14	14	21	17	13	13	17	13	14	13	13	13	14
2	13	14	13	14	13	15	13	15	13	13	13	14	20	17	13	13	13	14	14	14	14	13	14	13
3	14	14	13	13	13	14	13	13	13	13	13	13	17	13	14	13	14	C	13	13	20	13	13	13
4	13	14	13	13	13	13	13	13	13	13	13	14	15	14	15	20	14	14	13	13	13	13		13
5	14	13	13	13	13	13	13	13	13	13	13	13	13	14	18	13	13	13	13	13	14	17	13	13
6	13	13	14	13	13	14	14	13	14	13	14	13	14	14	13	14	13	14	13	13	13	13	14	13
7	13	14	13	14	13	13	13	13	13	13	13	17	13	15	13	13	13	13	14	13	14	13	13	13
8	13	14	15	14	13	14	13	14	13		13	15	14	15	14	17	13	13	13	13	14	14	13	14
9	13	13	13	13	17		14	13	13	13	14	13	14	22	14	14	13	13	13	13	13	13	13	14
10	13	14	13		15		13		13	13	18	14	13	13	13	13	13	13	13	13	14	14	14	14
11	13	14	13	13	14	13	14	14	13	13	13	13	18	13	18	14	13	13	13	13	14	13	13	13
12	13	13	13	13	14	15	13	13	13	13	13	14	15	14	13	13	13	14	14	13	13	13	13	14
13	13	14	14	13	14	14	14	14	13	14	17	42	39	21	13	13	13	13	13	13	14	13	14	14
14	14	14	13	14	13	14		13	13	14	13	22	43	14	13	30	13	13	13	13	13	13	13	13
15	13	13	13	13	13	13	13	13	13	13	14	18	13	13	13	14	13	13	13	13	13	13	14	13
16	13	13	14	13	13	13	14	13	13	13	13	13	13	13	13	13	13	13	14	14	13	13	13	14
17	13	13	13	13	13	13	14	13	13	13	14	13	14	15	13	20	13	14	13	13	13	13	13	13
18	13	13	14	13	13	13	14	13	13	13	14	13	13	13	13	13	13	13	14	14	14	13	14	13
19	14	14	13	13	13	13	15	13	13	13	25	20	13	13	13	13	13	13	13	13	13	14	14	17
20	13	14		13	13	14	17	13	13	13	14	17	18	13	13	14	13	15	13	13	13	13	14	13
21	14	13	13	13	13	14	14	13	13	13	14	18	17	18	13	13	13	13	13	13	13	13	13	13
22	14	13	13	13	14	13	14	13	13	13	13	14	15	13	13	14	13	13	14	13	13	13	14	13
23	13	13	13	13	13	13	14	13	13	13	14	14	14	18	14	14	14	13	14	13	14	13	13	13
24	13	13	13	13	13	13	17	13	13	13	15	18	14	18	17	13	13	13	14	13	14	13	13	14
25	13	13	13	14	13	14	13	13	13	13	15	13	17	20	39	13	14	13	13	14	14	13	13	13
26	13	14	13	15	13	13	13		13	14	20	21	14	21	14	13	13	13	13	13	14	13	13	13
27	13	13	13	13	13	14	15	13	13	15	17	17	18	20	14	13	13	13	15	13	14	14	14	13
28	13	14	13	13	13	14	13	13	14	14	17	13	13	15	13	13	13	13	13	14	13	14	14	14
29	13	14	13	13	14	13	18	13	39	40	42	40	42	38	39	13	29	26	13	13	13	13	13	13
30	13	13	14	13	13	13	17	13	13	14	18	20	20	21	17	13	13	13	13	13	13	13	13	13
31	13	13	13	13	13	13	18	13	17	20	22	24	42	14	38	15	13	13	13	13	13	13	14	13
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	30	31	29	30	29	31	30	31	31	31	31	31	31	31	30	31	31	31	31	30	31
MED	13	13	13	13	13	13	14	13	13	13	14	14	14	15	13	13	13	13	13	13	13	13	13	13
U Q	13	14	13	13	13	14	14	13	13	14	17	18	18	20	17	14	13	14	14	13	14	13	14	14
L Q	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13

HOURLY VALUES OF foF2 AT Yamagawa

MAR. 2008

LAT. 31°12.1'N LON. 130°37.1'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

DH	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	37	36	34	32	32	34	45	41	47	65	61	65	76	87	78	80	60	72	72	47	A	34	A	29
2	28	29	29	30	32			45	59	60	56	60	65	69	59	68	75	76	62	47	42	47	34	30
3	30	30	28	28	28	28		43	66	53	40	58	62	65	67	65	57		70	54	34		32	34
4	32	32	34	29	29	29	30	45	52	55	66	73	74	91	77	70	58	66	63	42	29	A		
5		30	29	31	34			38	46	52	67	76	80	91		62	62	64	55	38	C	C	32	32
6	A	34	34	32	34	29	26	43	63	64	66	80	101	90	75	68	65	62	54	41	32	34	35	28
7	A		26			26		42	50	57	64	64	75	77		75	64	61	58	47	A	32	29	
8	34	34	32	30	32	30	31	49	57	52	52	59	74	86	77	71	67	61	52	45	34	34	34	30
9	28	30	30	34				42	67	43	64	80	100	116	77	72	74	77	47	38	34	42	28	34
10		37	44					50		75	64	81	90	78	64	64	66	62	63	47	32	29	31	26
11	32	32	31	34	29	28	26	47	54	56	62	69	90	106	82	59	52	60	60	63	34	28	28	28
12	28	30		30	30			48	65	65	64	68	58	72	80	71	70	65		54			59	
13	34	34	30	32	29	28	29	41	50	56	57	58	62	82	90	82		60	55	42	40		34	34
14	34	34	34	32	29		26	52	64	49	62	57	87	95	86	67	57	64	75	66	54			A
15		A		31				52	52	42	68	67	74	78	92	72	67	72	62	54	45	44	42	42
16	36	32	32	34	30			48	62	65	62	61	50	74	75	60	59	61		51	47	37	37	36
17	34	34	32	31	30	26	28	51	56	68	52	60	66	92	80	66	56	58	64	54	49	32	34	34
18	34	34	31	30	28	29		46	53	58	58	71	80	89	84		64	62	61	60	42	37	37	38
19	37	38	34	31	30	29	28	47	52	62	66	61	70	74	61	52	59		65	66	54	42	43	38
20	40	34	34	32		26	29	48	46	60	64	65	77	68	61	64	65	65	65	47	32	32	36	36
21	36	34	37	31				47	51	58	60	63	70	76	70	55	54	56	58	54	47	34	34	34
22	36	37	34	34	30	28	28	47		45	46		75	90	76	63	58	60	58	50	36	28		31
23	32	31	30	29	30		26	45	48	44	58	62	80	78	72	81	77	66	56	54	51	43	38	32
24	38	36	34	34	36	29	31	44	55	65	65	66	75	86	88	77	66	66	70	66	54	36	34	36
25	32	37	34	34	29		27	50	56	61	56	67	74	72	75	70	59	62	61	54	51	32	32	32
26	37	37	37	37	34	34	37	46	55	68	62	66	72	84	92	77	65	60	63	62	66	34	34	34
27	36	34	36	37	40	36	37	45	47	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	96	86	73	70	74	72			32
29	34	34	37	32	38	41	38	50	58	61	66	77	86	90	90	90	78	78	72	64	54	45	45	45
30	44	48	40	41	30	36	47	51	67	64	67	73	77	78	75	75	68	73		80			36	37
31	37			40		28	37	54	69	61	64	72	88	86	85	87	80	88	86	81	66	34	34	37
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	27	27	28	23	19	19	30	28	29	29	28	29	29	27	29	29	28	27	30	25	22	25	26
MED	34	34	34	32	30	29	29	47	55	60	62	66	75	84	77	70	65	64	62	54	45	34	34	34
U Q	37	36	34	34	34	34	37	50	62	64	65	72	83	90	85	77	69	72	70	63	54	42	37	36
L Q	32	32	30	30	29	28	27	44	50	52	57	61	70	75	72	64	58	61	58	47	34	32	32	31

HOURLY VALUES OF fEs AT Yamagawa

MAR. 2008

LAT. 31°12.1'N LON. 130°37.1'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	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	G	G	G	G	G	G	G	G	G	43	43	G	G	44	G	G	37	38	G	30	59	32	49	G
2	G	G	G	G	G		G	G	G	G	44	49	59	55	48	45	39	38	G	G	24	33	29	G
3	G	G	G	G	G	G	G	G	G	G	G	39	G	G	G	G	G		G	27	27	29	23	G
4	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	40	39	40	G	28	G	44	26	
5	25	G	26	G	G	G	G	25		G	G	45	44	41		39	34	G	G	G	C	C	33	28
6	56	G	G	G	G	G	G	G	G	G	44	49	45	43	42	38	G	32	30	G	G	34	46	G
7	32		G		G	G	G	G	G	G	G	G	G	G		39	40	34	29	27	37	G	G	
8	G	G	G	G	G	G	G			40	41	43	G	G	G	G	40	47	44	29	28	27	G	G
9	G	G	G	G	G			G	34	40	G	39	G	G	G	G	G	G	G	G	G	G	G	G
10		G	G					28	G	40	G	G	40	G	G	G	G	G	38	G	G	G	G	G
11	G	G	G	G	G	G	G		G	40	N	G	G	G	G	43	37	32	G	11	G	G	G	23
12	24	G	G	G	G	G	G	G	G	G	G	G	41	46	G	39	G		62	44	57	G	G	30
13	30	G	G	G	G	G	G		G	36	G	G	G	G	G	64		49	33	32	27	33	G	G
14	24	G	24	G	G	G	G	28	43	40	45	44	45	G	41	48	42	36	28	28	27	40	34	70
15	49	46	43	G	28	33	26	26	40	48	58	49	61	52	G	G	G	G	29	G	G	G	G	G
16	G	G	G	G	G	G	G	G	33	G	57	G	G	G	G	42	43	38		G	23	G	G	G
17	G	G	G	G	G	G	G		G	G	G	44	G	G	G	G	35	32	G	G	G	G	G	G
18	G	G	G	G	G	G	G		G	42	43	44	44	G	G	G	39	34	G	G	G	31	G	G
19	G	G	G	G	G	G	G		44	G	44	G	G	G	G	41	40		G	G	G	G	G	G
20	G	G	G	G	G	G	G	30	G	G	G	G	G	40	54	44	55	40	36		G	G	G	G
21	G	G	G	G	G	G	G		38	41	47	44	G	G	G	44	G	G	G	G	G	G	G	G
22	G	G	G	G	G	G	G	29		G	G	46	G	46	G	G	G	38	32	G	G	G	G	G
23	G	G	G	G	G	G	G		G	G	G	G	G	G	45	38	G	35	27	25	G	G	G	G
24	G	G	G	G	G	G	G		G	G	G	G	G	42	59	G	G	G	G	23	G	G	G	G
25	G	G	G	G	G	G	G	40	G	G	G	47	G	40	G	G	42	40	29	G	11	G	G	G
26	G	G	G	G	G	G	G			G	G	41	48	G	G	G	G	32	30	26	24	G	G	G
27	G	G	G	G	G	G	G	G	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	38	G	G	39	32	44	34	40	23
29	G	G	G	G	G	G	G		G	G	46	G	48	47	46	65	69	51	45	28	32	41	36	28
30	33	28	30	24	G	G	G	G	G	41	41	51	47	42	41	G	G	65	85	69		30	32	34
31	33	44	49	36	48	40	29	31	34	38	39	42	44	G	41	46	G	G	42	44	24	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	30	28	29	27	28	19	26	29	28	29	29	29	27	30	29	27	29	29	28	29	30	28
MED	G	G	G	G	G	G	G	G	G	G	G	39	G	G	G	38	34	34	29	23	6	G	G	G
U Q	24	G	G	G	G	G	G	28	33	40	44	44	44	42	41	43	40	40	37	28	27	32	29	12
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Yamagawa

MAR. 2008

LAT. 31°12.1'N LON. 130°37.1'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	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	16	16	14	14	15	14	15	15	14	17	18	18	21	18	15	18	17	14	15	14	14	14	14	15
2	15	15	15	15	14		16	18	14	15	16	15	18	18	17	17	14	14	16	14	15	15	15	14
3	15	16	15	15	15	15	18	17	14	14	14	14	16	17	15	17	14		18	17	14	14	15	15
4	15	18	17	14	15	14	17	16	15	14	16	17	17	18	16	14	17	14	16	15	14	14	15	
5	15	15	15	17	14	17	15	17	14	14	16	18	17	20		20	15	14	17	14	C	C	15	14
6	14	14	15	17	16	17	15	18	14	15	17	17	20	20	18	17	14	14	15	17	15	15	14	16
7	14		15		14	15	15	15	15	14	16	17	21	18		20	14	14	14	14	15	15	15	
8	15	15	17	15	14	17	15	17	14	15	15	17	18	20	15	14	14	14	14	14	15	15	15	15
9	18	17	17	15	14			18	14	14	15	17	15	18	20	18	14	14	17	14	17	18	20	20
10		15	15					14	14	14	17	18	18	17	16	15	14	14	14	15	15	15	16	15
11	17	16	15	14	14	16	14	14	26	14	14	20	20	22	18	18	15	14	18	15	15	15	14	15
12	15	15	15	14	15	16	17	18	14	14	15	15	18	14	16	14	14	14	14	14	14	17	15	14
13	14	14	15	15	15	15	17	14	14	14	15	17	20	16	20	20		14	14	14	15	14	15	14
14	14	15	14	17	15	15	15	15	14	14	15	14	18	16	16	16	15	14	14	14	14	14	14	14
15	14	14	15	14	14	14	14	16	14	15	15	16	18	16	18	14	14	14	14	14	15	15	15	15
16	14	15	16	14	14	15	15	15	14	14	18	17	16	15	21	14	14	14		14	15	15	14	15
17	14	14	16	14	14	14	15	17	14	15	16	16	18	16	17	15	14	14	17	15	15	17	17	15
18	15	15	15	15	15	15	15	16	15	15	14	16	16	17	14	16	15	14	17	17	15	16	14	14
19	15	15	14	14	14	15	16	23	14	14	17	16	20	20	14	17	14		18	14	14	15	17	15
20	15	15	14	15	15	16	14	15	14	15	16	17	18	18	16	15	16	14	15	14	16	15	15	14
21	17	15	15	15	16	17	15	14	14	14	14	18	21	22	18	14	14	14	20	14	15	16	15	14
22	15	14	15	15	15	15	14	15		15	17	18	20	18	14	14	14	14	14	15	14	15	16	15
23	14	14	15	16	15	14	14	14	14	14	16	17	21	22	21	17	15	14	14	14	15	15	15	15
24	15	14	15	15	14	15	14	15	14	15	17	18	22	26	20	18	15	14	18	14	15	15	15	14
25	15	16	15	15	14	15	15	15	14	14	16	18	18	21	42	35	16	14	14	15	15	15	14	15
26	14	15	14	16	15	14	14	17	14	15	18	21	20	20	18	18	14	14	14	14	15	15	18	17
27	16	17	16	20	14	16	15	16	14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	17	14	14	15	14	14	14	14	15
29	16	15	15	15	15	15	15	17	15	17	20	20	20	18	20	20	15	14	14	14	14	14	14	14
30	14	15	14	15	14	14	14	17	14	15	16	23	21	27	18	18	18	16	15	15		15	14	14
31	14	14	15	14	14	14	14	14	14	15	17	23	21	24	18	20	16	14	14	14	14	14	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	30	28	29	27	28	30	29	29	29	29	29	29	27	30	29	28	29	30	28	29	30	28
MED	15	15	15	15	14	15	15	16	14	14	16	17	18	18	18	17	14	14	15	14	15	15	15	15
U Q	15	15	15	15	15	16	15	17	14	15	17	18	20	20	20	18	15	14	17	15	15	15	15	15
L Q	14	14	15	14	14	14	14	15	14	14	15	16	18	17	16	15	14	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Okinawa

MAR. 2008

LAT. 26°40.5'N LON. 128°09.2'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	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	30			30		30	30	40	46	58	80	67	80	95	105	C	C	C	127	96		65	61	54
2	33	33	32	32	34			46	65	C	C	61	A	75	67	72	77	91	96	76	54	38	44	
3	31	30	30	28		29	29	45	46	62	63	68	62	71	70	62	64	66	72	66	41	A		
4						26		42	54	62	68	87	86	89	97	94	71	71	82	54	25	32	28	
5	28			29	29			36	46	55	68	83	87	102	93	76	76	65	54	37	34	28	34	28
6		30			32			41	63	56	66	82	102	104	98	84	76	76	77		36	28	A	A
7	A	31				32		40	50		68	76	77	81	88	92	90	86	78	66	48	34	32	25
8	42	43		37		32	36	50	52	69	56	66	81	96	100	96	80	71	55		44	30	30	31
9	30	31		37				51	72	54	68	100	131	146	120	110	101	101	54		A	42		38
10	32	39	51	29				47	66	64	70	97	99	85	85	90	84	70	66	54	43	28	26	
11	30	31	30	31	31			47	50	55	70	80	96		102	75	67	72	70	70	34	30	31	30
12	29	34	32	34	30			48	65	60	68	72	66	80	98	97	99	90	72	50	41			29
13		29	26	29	26	29		37	56		56	52	60	94	102	88	80	77	67	64	39	30	30	31
14	31	31	31		28			44	63	63	69	76	88	118	113	90	82	80	88	87	54	34		28
15	26		31	30	29	30		46	58	56	75	84	77	90	101	98	88	86	66		49	43	42	34
16	37		32	31				46	66	68	71	68	70	85	88	86	61	66	66	77	65	42	34	37
17	30	34	32	30				47	70	54	66	74	82	98	107	95	78	61	63	64	53	30	32	30
18	32	32	30	31				41	50	56	70	86	88	107	98	84	70	67	63		54	36	38	
19	36	32	34	34	30	30		47	56	52	64	80	93		82	65	58	60	66	66	54	53	41	32
20	34	32	38	26	28		26	47	52	55	72	93	104	110	87	82	87	67	55	50	32	34	38	30
21	38	42	46	32				48	55	60	73	66	81	81	74	66	58	56	61	54	41	40	34	31
22	30	30	32	34				47	58	58	81	77	89	105	107	88	81	68	62	61	43	26	26	26
23	28	34	32	34				42	48	54	65	71	90	101	83	86	85	75	59	53	54	41	28	32
24	34	32	30	30	30			46	54	64	76	84	100	115	131	118	104	90	87	87	82	43	30	29
25				34				47	50	62		72	92	86	92	82	75	63	65	70	48	34		28
26	30	29	28	28	29				56	71	65	70	86	102	111	97	82	66	65	65	54	32	30	
27		32	32	32	37	29	26	42	46	57	86	96	86	100	104	104	108	92	86	61	51	49	32	
28		41	41		30	32	30	51	55	61	78	63	90	114	120	118	125	111	110	107	87	54	34	32
29		36	32	28	28	34		47	56	63	70	82	90	98	104	104	107	105	89	77	54	30	40	37
30		40	43			29	36	54	56		67	82	85	91	94	87	75	78	88	84	42	31	31	30
31	34	30	32	26				58	54	66	70	81	101	118	123	118	110	120	123	101	86	42	32	37
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	22	25	23	25	15	12	7	30	31	27	29	31	30	29	31	30	30	30	31	26	29	29	25	23
MED	31	32	32	31	30	30	30	46	55	60	69	77	88	98	98	89	80	74	67	66	48	34	32	31
U Q	34	35	34	34	31	32	36	47	63	63	72	84	93	106	107	97	90	90	87	77	54	42	38	34
L Q	30	30	30	29	28	29	26	42	50	55	66	68	81	85	88	82	75	66	63	54	41	30	30	29

HOURLY VALUES OF fEs AT Okinawa

MAR. 2008

LAT. 26°40.5'N LON. 128°09.2'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

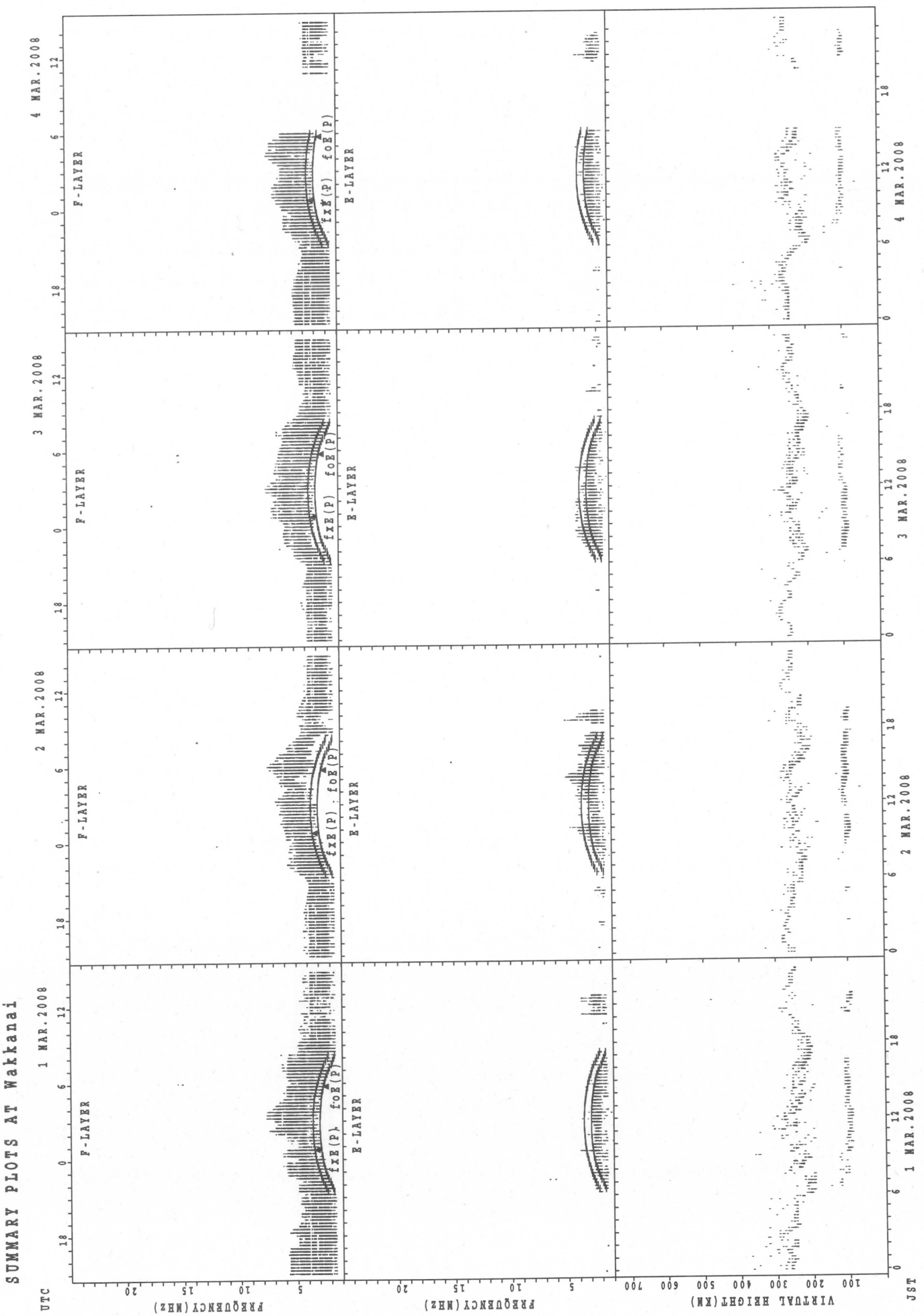
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G			G		G	G	G	G	G	G	G	G	G	G	C	C	C	52	48	33	G	32	29
2	G	G	G	G	G			G	G	C	C	57	78	66	62	58	46	37	G	G	23	G	G	
3	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	38	33	28	27	28	24	G	
4			G	G	G	G		G	G	G	N	G	G	G	G	G	43	36	32	27	33	G	G	
5	G		G	26	34	G		G	37	G	G	46	46	G	G	G	36	G	G	G	G	G	G	G
6		G	G	G	G	G			G	G	N	G	49	50	62	42	38	G	G		G	G	36	46
7	47	G	G	G		G		G	G		G	G	G	G	52	42	48	50	44	29	25	G	G	G
8	G	G	G	G	G	G	G	G	G	39	41	G	G	60	61	71	76	38	46	68	36	G	G	G
9	G	G	26	G				G	G	36	46	82	90	40	G	G	G	41	43	50	82	58		G
10	G	G	G	G					G	G	G	G	G	G	G	G	G	35	36	34	G	G	24	
11	G	G	G	G	G		G	G	G	40	39	47	50	69	63	62	40	35	G	G	26	G	G	G
12	G	G	G	G	G			G	G	G	G	G		48	57	54	52	46	49	28	33	G	G	G
13	23	28	G	G	G	G	G	26	35	44	48	48	60	72	74	73	74	47	51	22	G	G	29	32
14	30	G	G	G	G	G		G	36	40	42	44	41	42	44	51	56	49	30	36	36	G	28	G
15	G	27	G	G	G	G	35	39	36	48	46	47	54	47	40	G	42	40	30	G	28	28	G	G
16	G	G	G	G	G			G	G	G	G	47	41	G	49	G	50	48	33	G	G	G	G	G
17	G	G	G	G	G	G	G	G	G	G	G	G	G	46	G	G	G	34	28	G	G	G	G	G
18	G	G	G	G	G			G	G	G	G	G	50	68	55	G	39	35	G	G	G	G	G	
19	G	G	G	G	G	G	G	G	G	G	G	51	48		49	48	42	39	28	27	G	G	G	G
20	G	G	G	G	G	G	G		G	G	G	G	42	41	47	49	50	57	44	27	28	G	G	G
21	G	G	G	G				29	G	41	48	48	51	50	G	G	G	34	28	G	G	G	G	G
22	G	G	G	G	G	23	23	29	G	G	G	G	42	42	G	42	G	G	32	30	30	G	G	G
23	G	G	G	G		G			G	G	G	G	43	42	44	G	G	35	30	24	G	G	G	G
24	G	G	G	G	G		G	28	G	G	G	G	G	44	G	G	G	34	G	32	11	37	G	G
25	G	32	31	G		G	26		G	G	G	G	43	G	40	47	44	44	34	G	G	G		G
26	G	G	G	23	G	G			32	G	G	G	G	43	G	G	G	42	32	35	29	G	G	25
27		G	G	G	G	G	G		36	G	G	G	42	G	G	G	G	G	28	G	G	G	G	34
28	27	G	G	48	G	G	26		G	G	G	G	G	G	G	49	50	35	28	G	G	G	G	32
29	33	G	G	G	G	G	G		G	G	G	G	G	49	47	G	G	G	55	46	29	G	G	38
30	38	G	28	30	25	G	G	G	G		47	51	48	G	52		44	43	40	34	29	G	G	G
31	34	29	48	51	34	50	51	30	35	39	48	G	G	41	G	G	38	G	G	27	G	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	30	31	24	22	17	22	31	28	28	31	30	30	31	29	30	30	31	30	31	31	29	26
MED	G	G	G	G	G	G	G	G	G	G	G	G	42	42	40	G	40	36	30	27	23	G	G	G
U Q	12	G	G	G	G	G	24	26	G	37	41	47	49	49	52	49	48	43	43	34	29	G	G	25
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	34	28	G	G	G	G	G

HOURLY VALUES OF fmin AT Okinawa

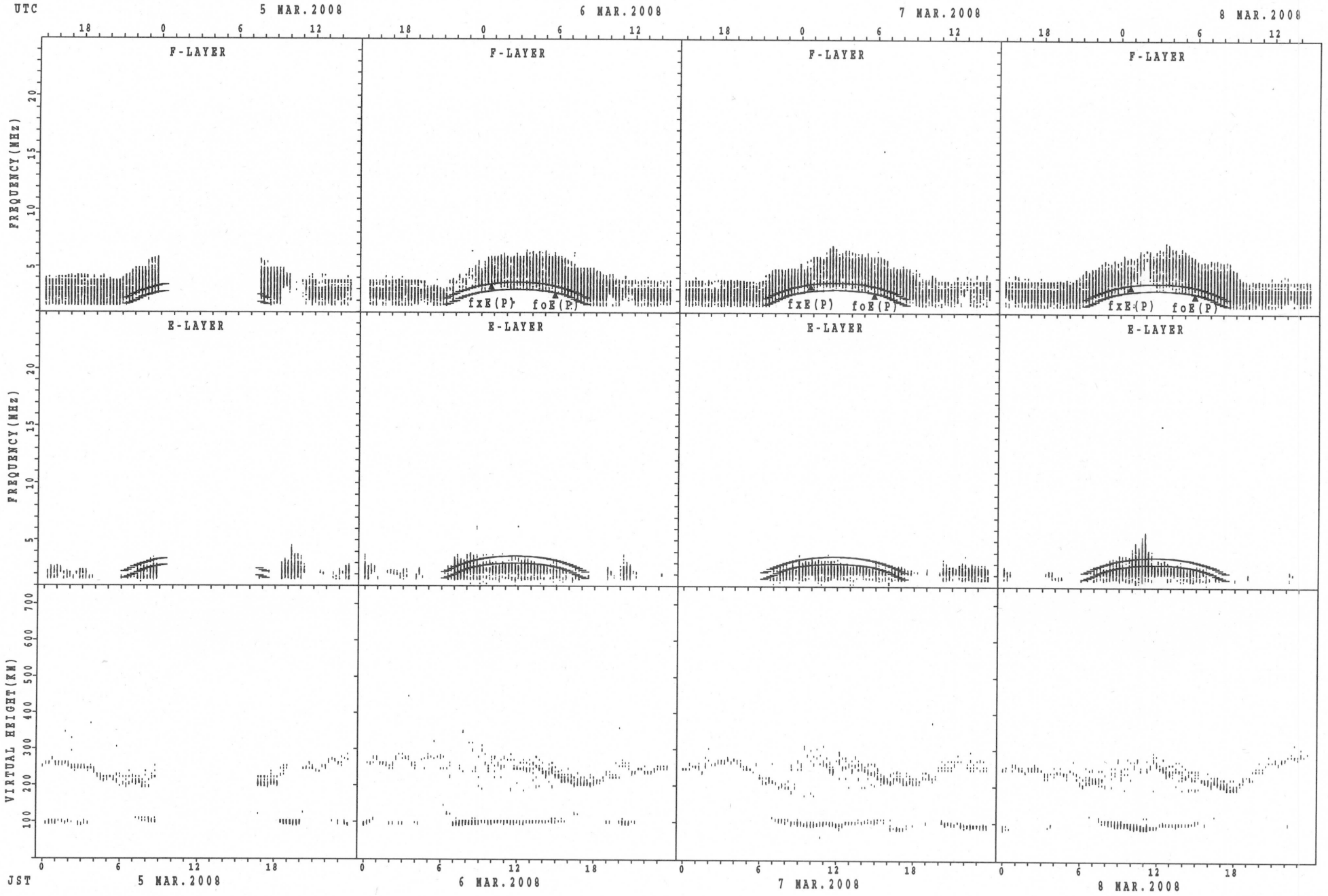
MAR. 2008

LAT. 26°40.5'N LON. 128°09.2'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

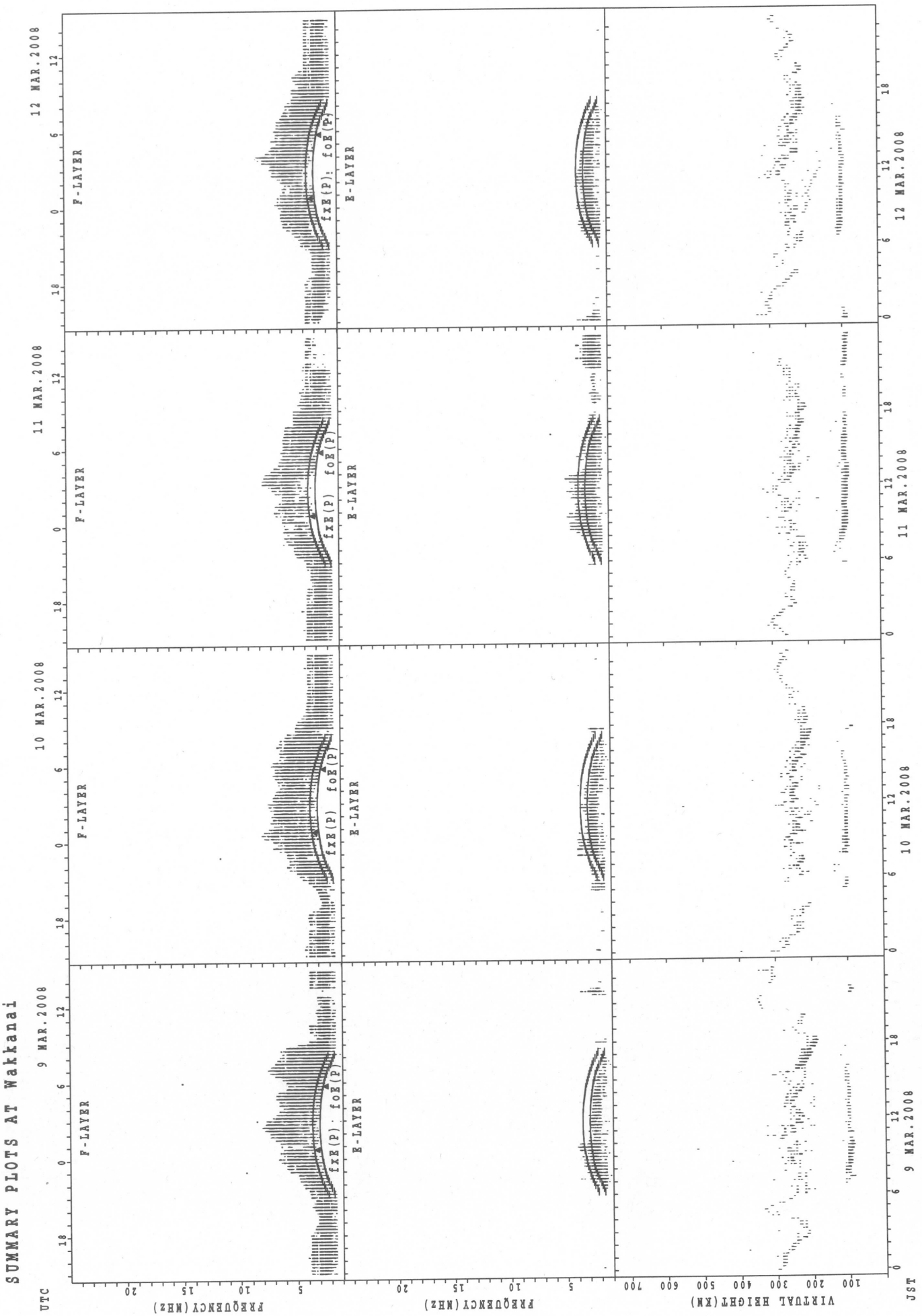
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	18			15		14	16	21	24	30 C	40 C	42	44	42	40	C	C	C	15	17	21	21	15	15
2	15	15	16	21	15			21	23			20	23	20	20	18	15	14	18	14	15	15	15	
3	15	15	15	15	15	15	15	15	15	15	15	15	18	21	17	22	14	15	14	14	14	15	15	
4			15	17	15	15		16	14	16	15	20	21	52	40	21	16	15	14	14	15	17	22	
5	16		22	14	14	18		17	26	15	16	21	32	32	22	26	14	14	17	14	15	14	14	15
6		14	18	17	15	16		16	16	14	14	21	33	22	21	20	15	14	20		14	16	15	14
7	15	18	15	18		16		17	14		14	35	47	20	21	20	15	15	14	15	15	15	18	17
8	16	15	15	15	15	14	15	15	14	16	22	27	22	23	33	18	14	14	14	15	14	17	14	15
9	15	15	14	15				17	14	14	20	15	17	15	14	39	36	24	14	14	15	14		15
10	20	15	15	16				16	14	14	17	20	22	42	22	17	32	14	15	14	15	16	15	
11	15	15	15	15	15		15	18	15	14	40	34	22	33	32	23	15	14	14	14	16	15	16	15
12	15	16	16	16	15			18	14	14	16	15	21	21	17	14	14	15	15	14	15	17	16	15
13	15	15	16	14	14	14	15	16	14	14	14	33	34	34	26	21	14	14	14	14	15	16	16	15
14	14	16	15	15	15	16		18	14	14	17	17	17	18	28	15	14	14	15	15	15	15	14	14
15	21	15	16	14	15	14	15	14	14	14	15	18	30	28	27	18	18	14	15	15	15	15	14	18
16	15	15	15	15	15			17	14	34	20	35	35	42	17	17	14	14	14	15	15	15	15	15
17	15	15	15	15	16	14	16	17	14	14	15	21	23	41	21	16	14	14	14	15	14	14	15	16
18	15	15	17	15	14			20	28	14	14	45	24	34	30	22	15	14	27	15	15	15	15	
19	17	16	15	17	15	15	16	22	14	36	34	34	34		17	21	16	14	14	14	15	15	14	15
20	15	15	15	18	15	15	14	14	14	14	15	23	23	46	20	18	15	14	14	15	14	15	15	15
21	14	16	14	15				14	14	14	17	22	23	23	23	16	17	14	15	15	15	15	15	15
22	14	14	16	15	14	15	15	14	14	14	15	22	21	21	16	18	14	15	14	14	14	14	15	15
23	15	14	20	14		16		15	14	14	21	23	22	23	21	21	14	14	14	15	15	14	20	14
24	15	15	16	14	15		15	15	14	15	18	24	27	24	24	21	15	14	18	14	14	15	15	15
25	15	14	14	15		17	15	15	14	14	42	46	23	43	47	34	16	14	14	14	14	15		16
26	14	15	15	15	15	15			14	15	21	24	46	35	47	40	15	14	14	14	14	15	15	15
27		15	15	15	14	16	14	23	14	17	23	26	27	27	44	22	15	14	14	15	18	16	15	15
28	15	15	15	15	15	15	15	16	14	15	22	22	23	22	22	20	14	14	14	15	15	15	15	14
29	14	15	20	14	14	17	14	16	16	16	22	22	43	26	34	21	20	14	14	14	14	15	14	14
30	15	15	15	15	14	16	15	21	14		21	24	22	30	23	27	16	15	14	14	14	15	15	21
31	14	15	15	15	14	15	15	14	14	17	20	23	28	26	28	23	17	15	16	15	14	15	17	16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	30	31	24	22	17	30	31	28	30	31	31	30	31	30	30	30	31	30	31	31	29	26
MED	15	15	15	15	15	15	15	16	14	14	18	23	23	26	23	21	15	14	14	14	15	15	15	15
U Q	15	15	16	16	15	16	15	18	15	16	22	33	33	35	32	22	16	15	15	15	15	16	15	15
L Q	15	15	15	15	14	15	15	15	14	14	15	20	22	22	20	18	14	14	14	14	14	15	15	15

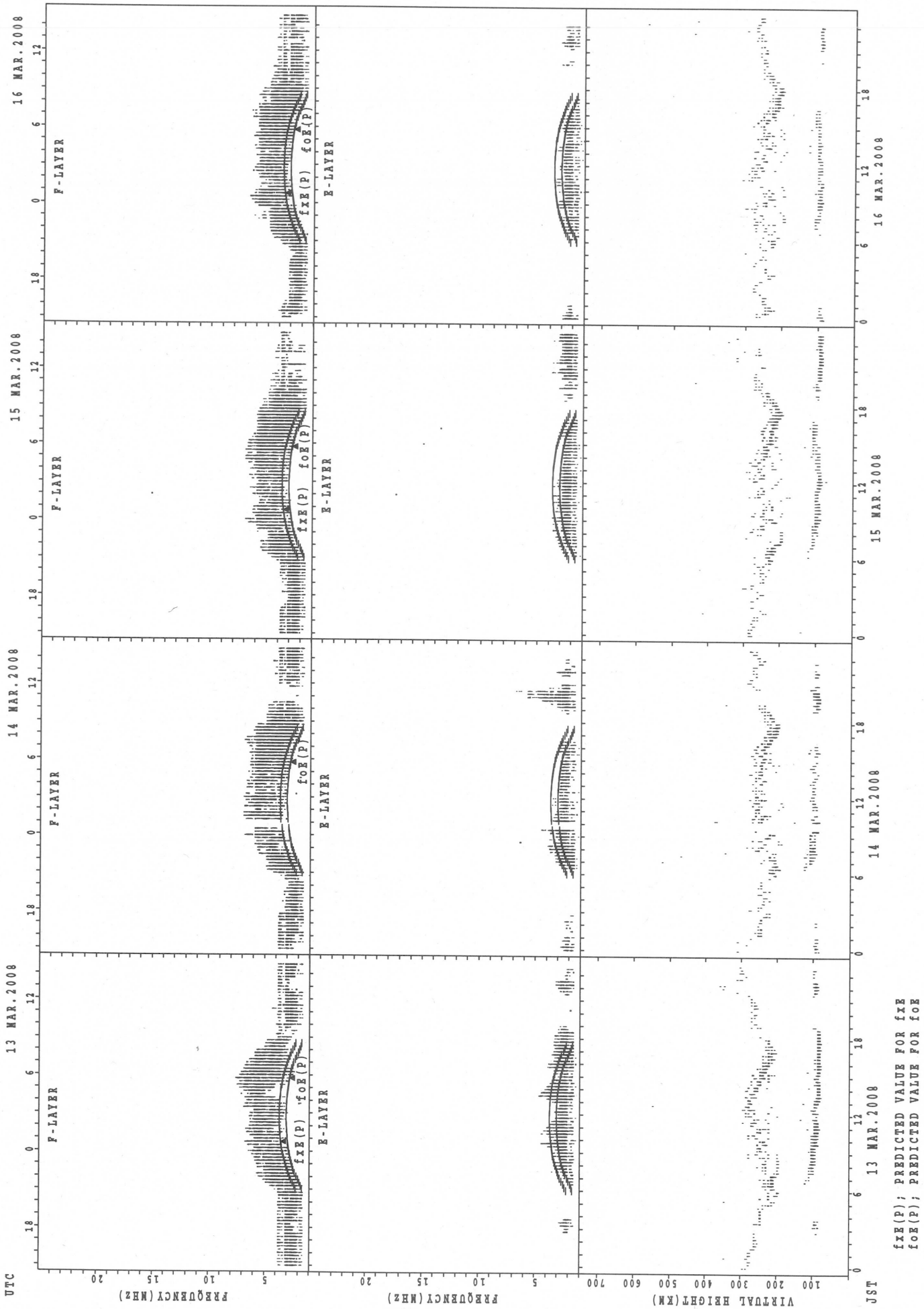

SUMMARY PLOTS AT Wakkanai
UTC
JST
1 MAR.2008
2 MAR.2008
3 MAR.2008
4 MAR.2008
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P)
foE(P)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai

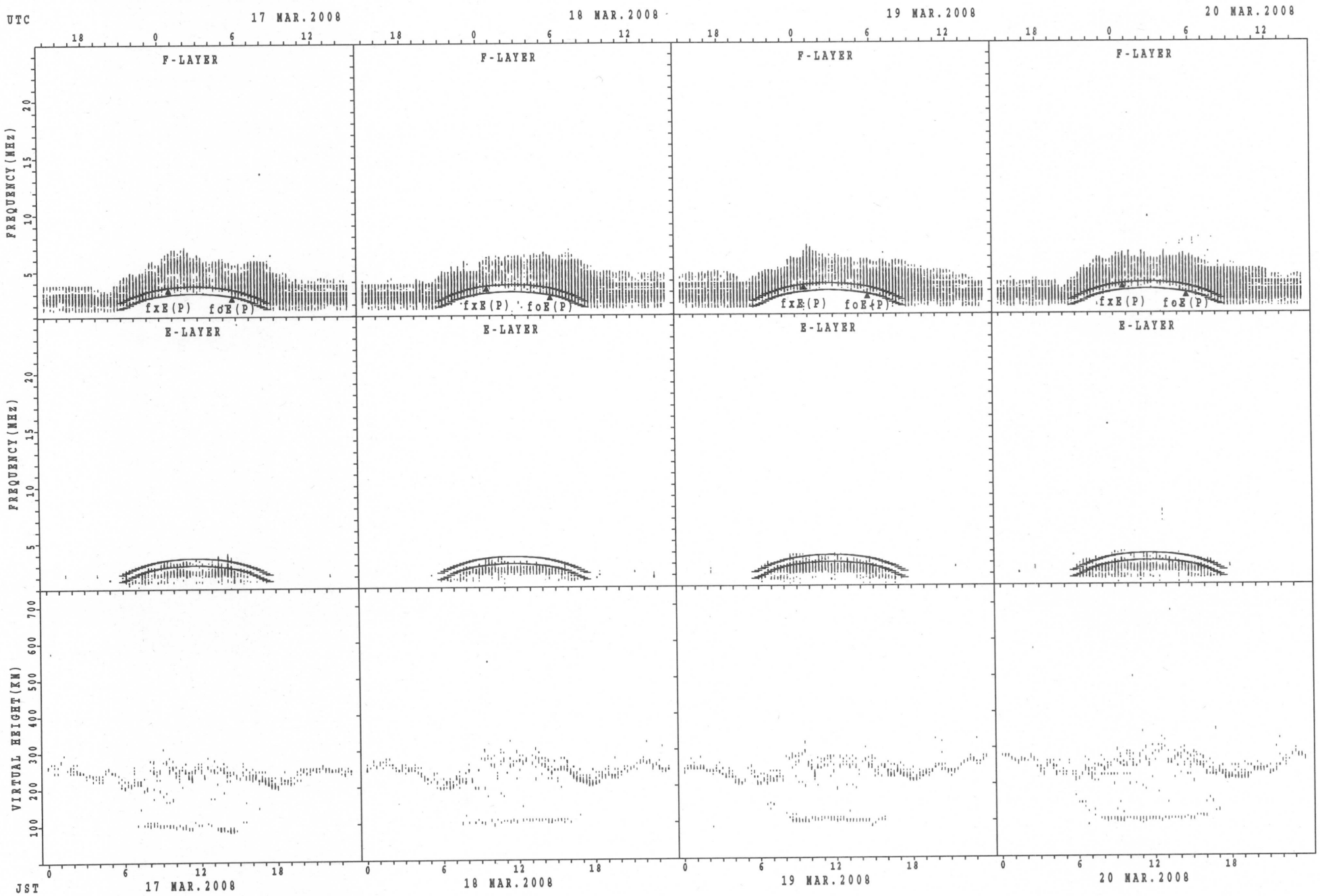


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


SUMMARY PLOTS AT Wakkanai
UTC
9 MAR.2008
10 MAR.2008
11 MAR.2008
12 MAR.2008
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

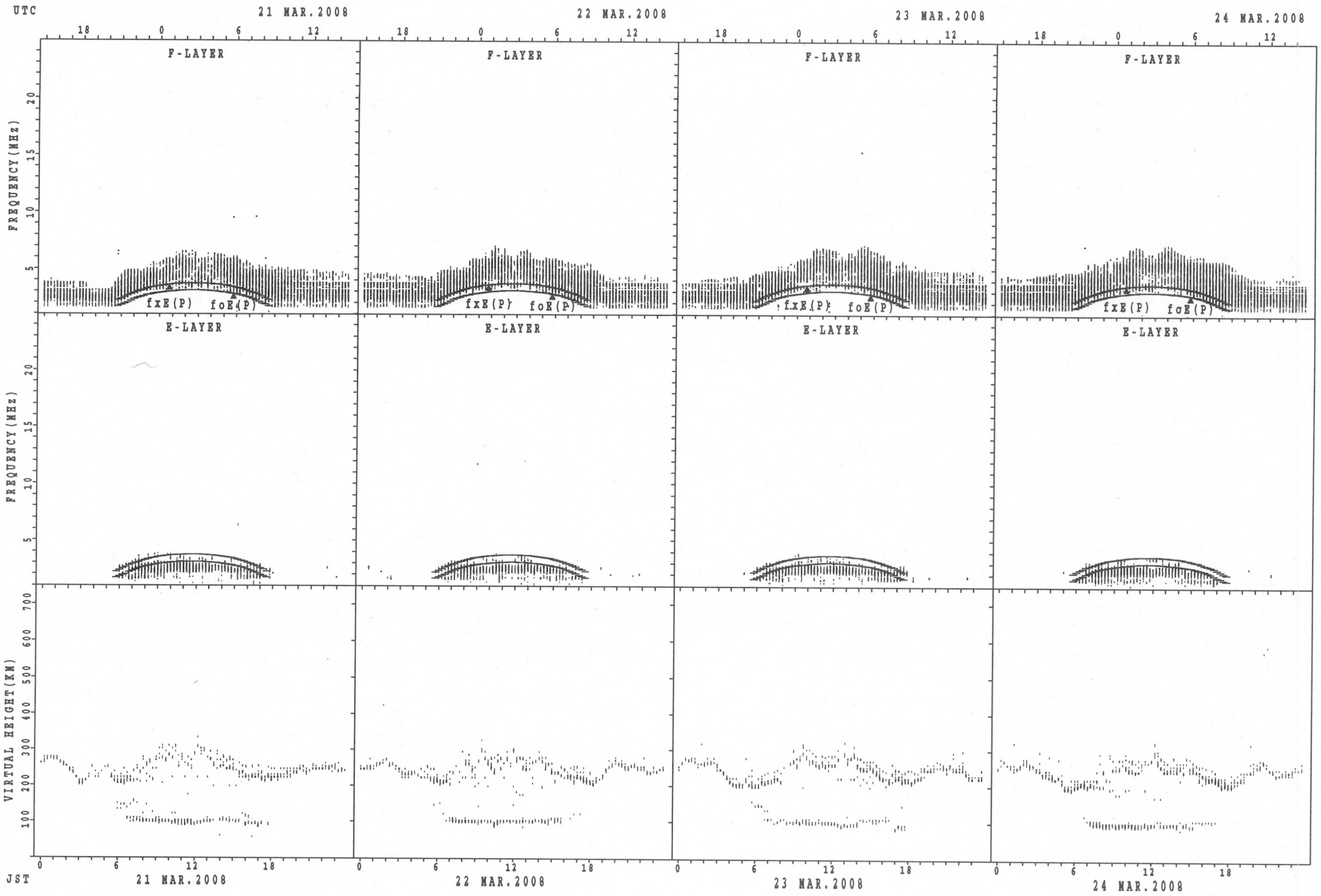

SUMMARY PLOTS AT Wakkanai
UTC
JST
13 MAR.2008
14 MAR.2008
15 MAR.2008
16 MAR.2008
F-LAYER
E-LAYER
FREQUENCY (MHz)
VIRTUAL HEIGHT (KM)
fxE(P)
foE(P)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai

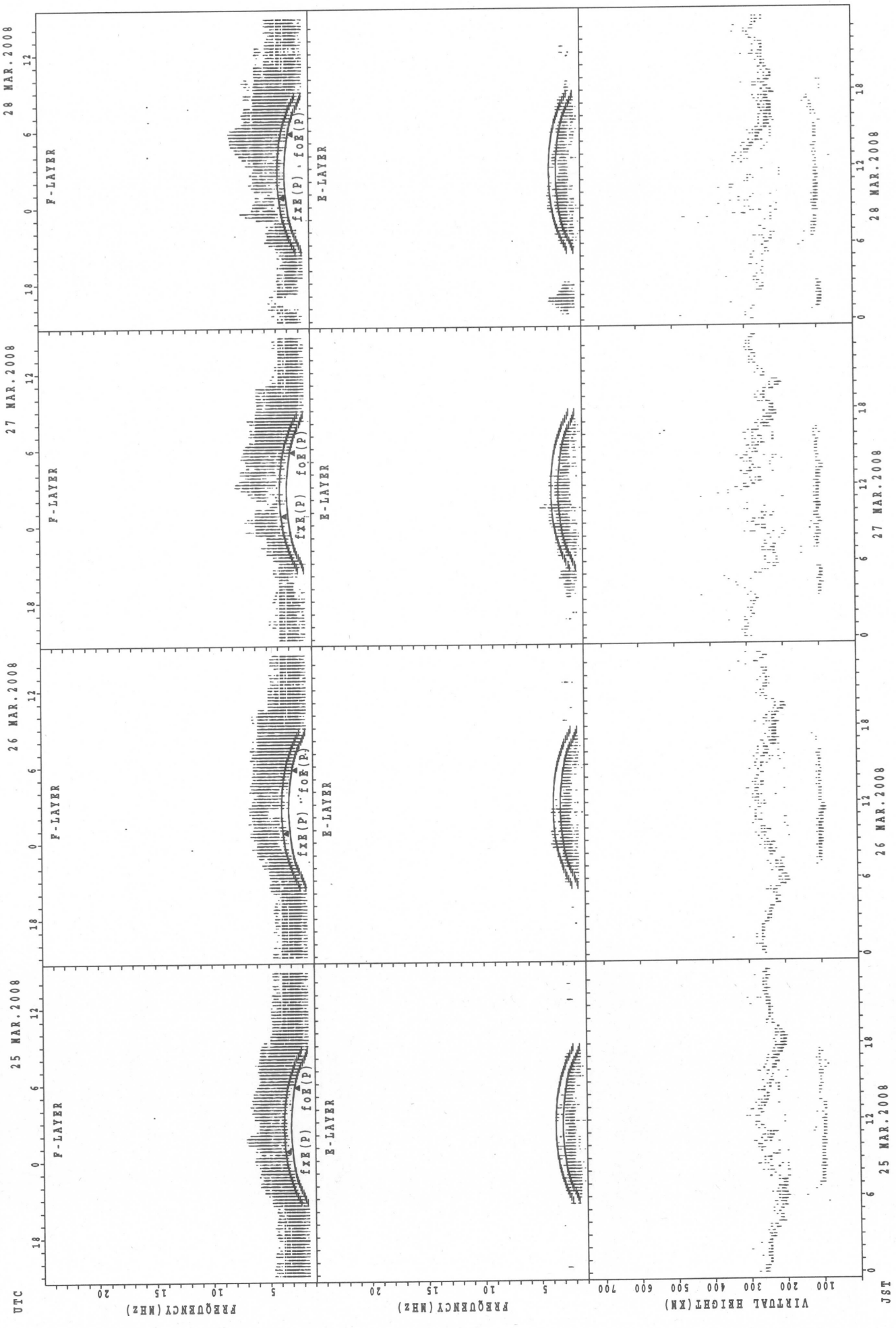


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

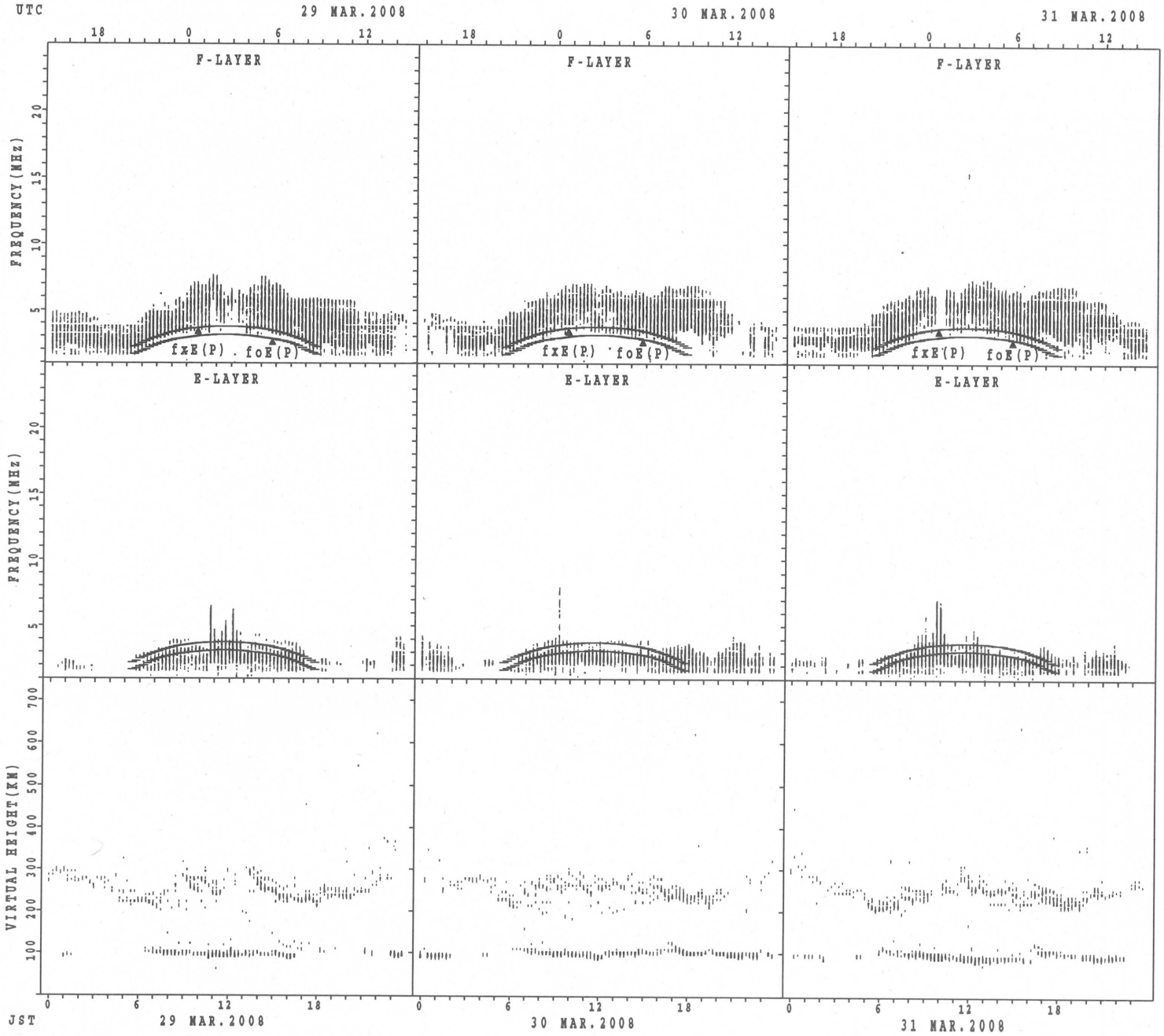
SUMMARY PLOTS AT Wakkanai



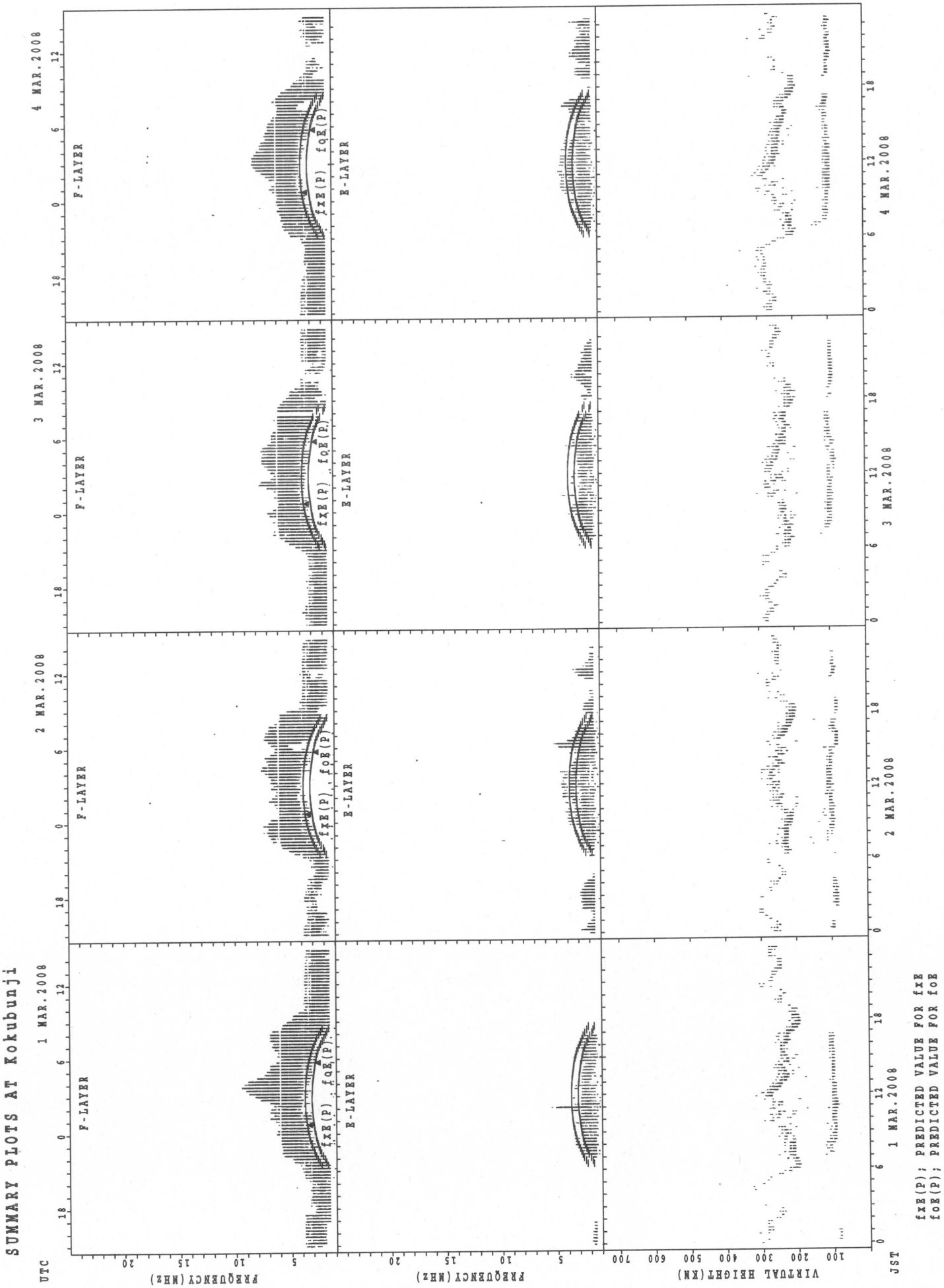
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


SUMMARY PLOTS AT Wakkanai
UTC
25 MAR.2008
26 MAR.2008
27 MAR.2008
28 MAR.2008
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

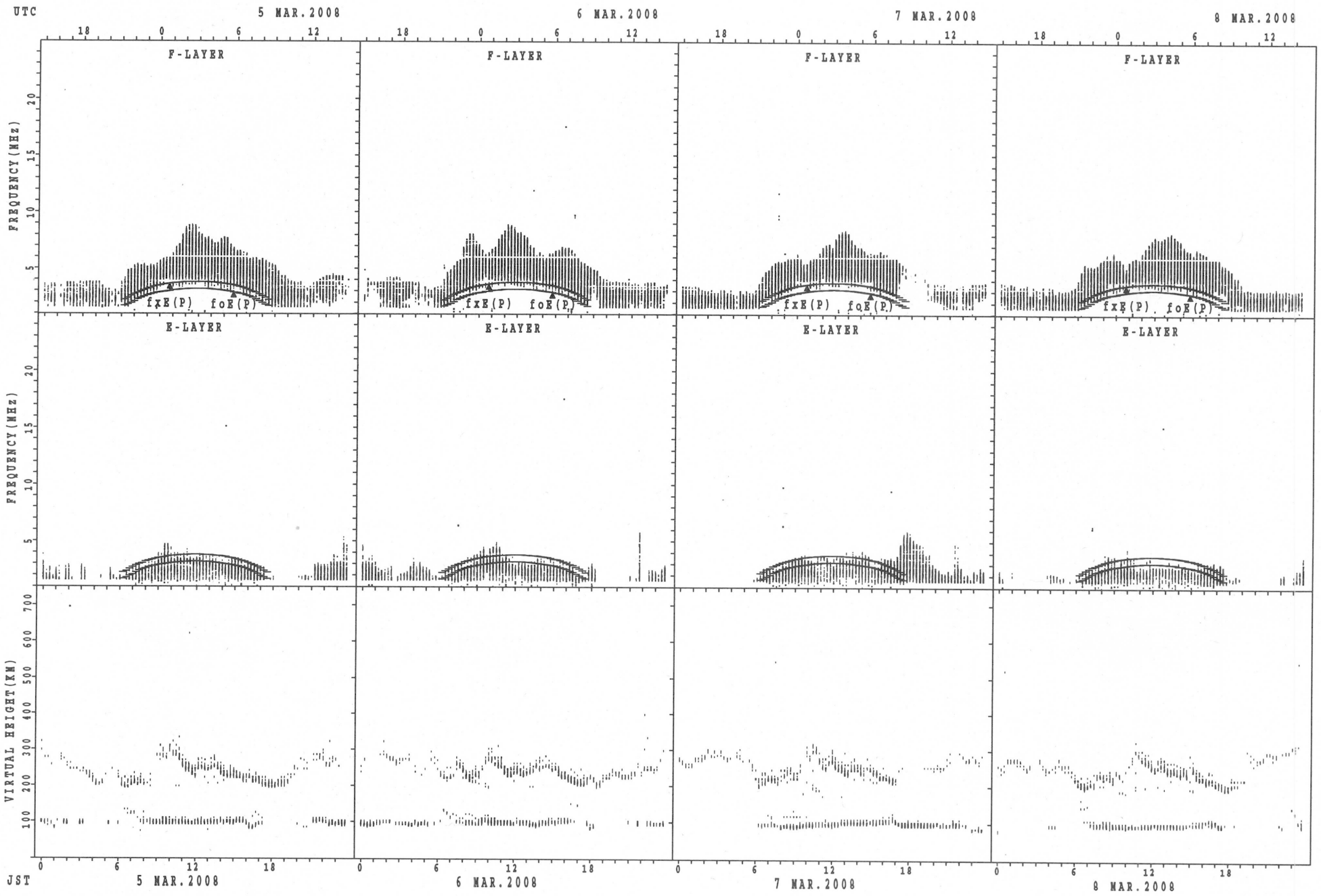
SUMMARY PLOTS AT Wakkanai



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

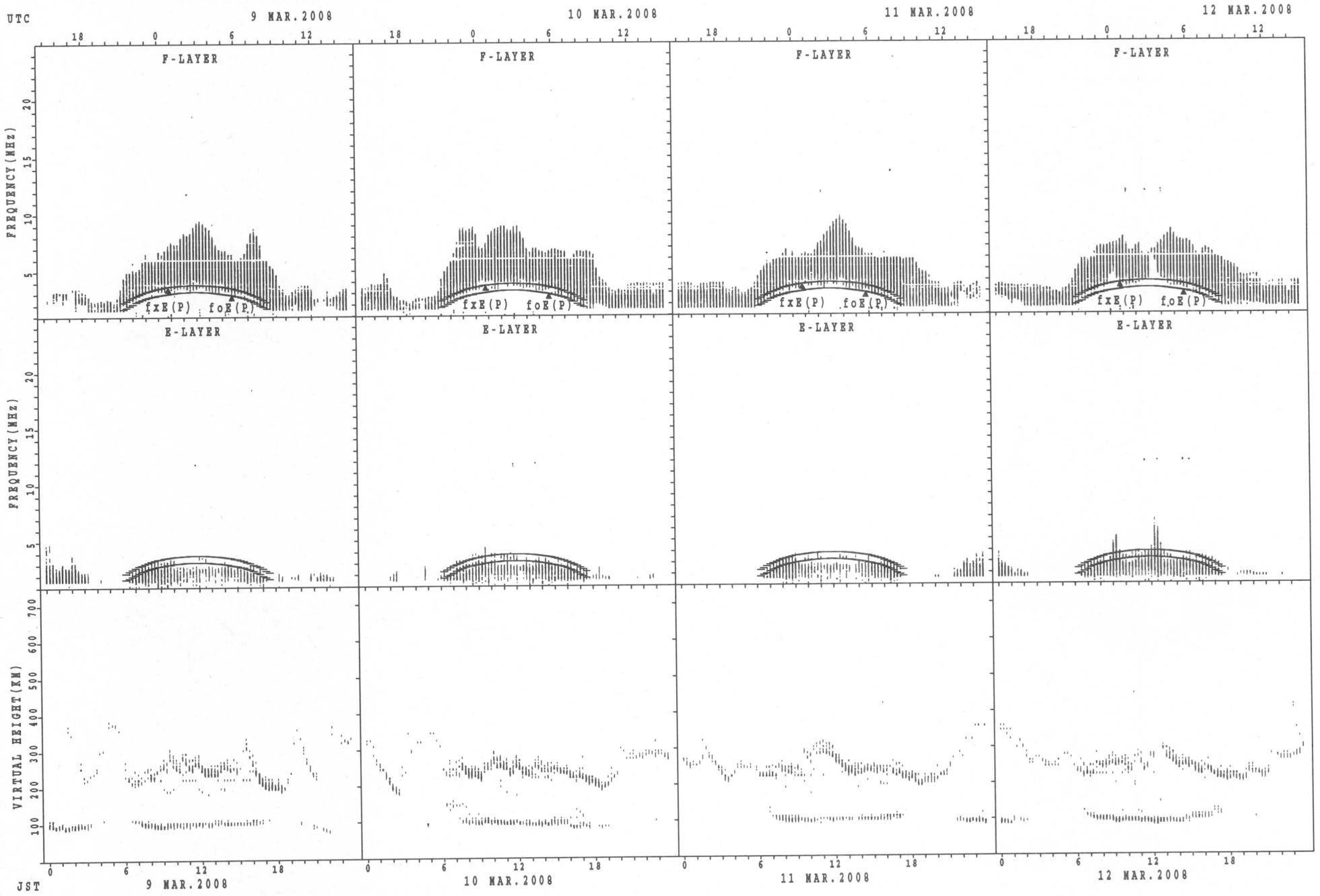

SUMMARY PLOTS AT Kokubunji
UTC
JST
1 MAR.2008
2 MAR.2008
3 MAR.2008
4 MAR.2008
F-LAYER
E-LAYER
FREQUENCY (MHz)
VIRTUAL HEIGHT (KM)
fxE(P)
foE(P)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



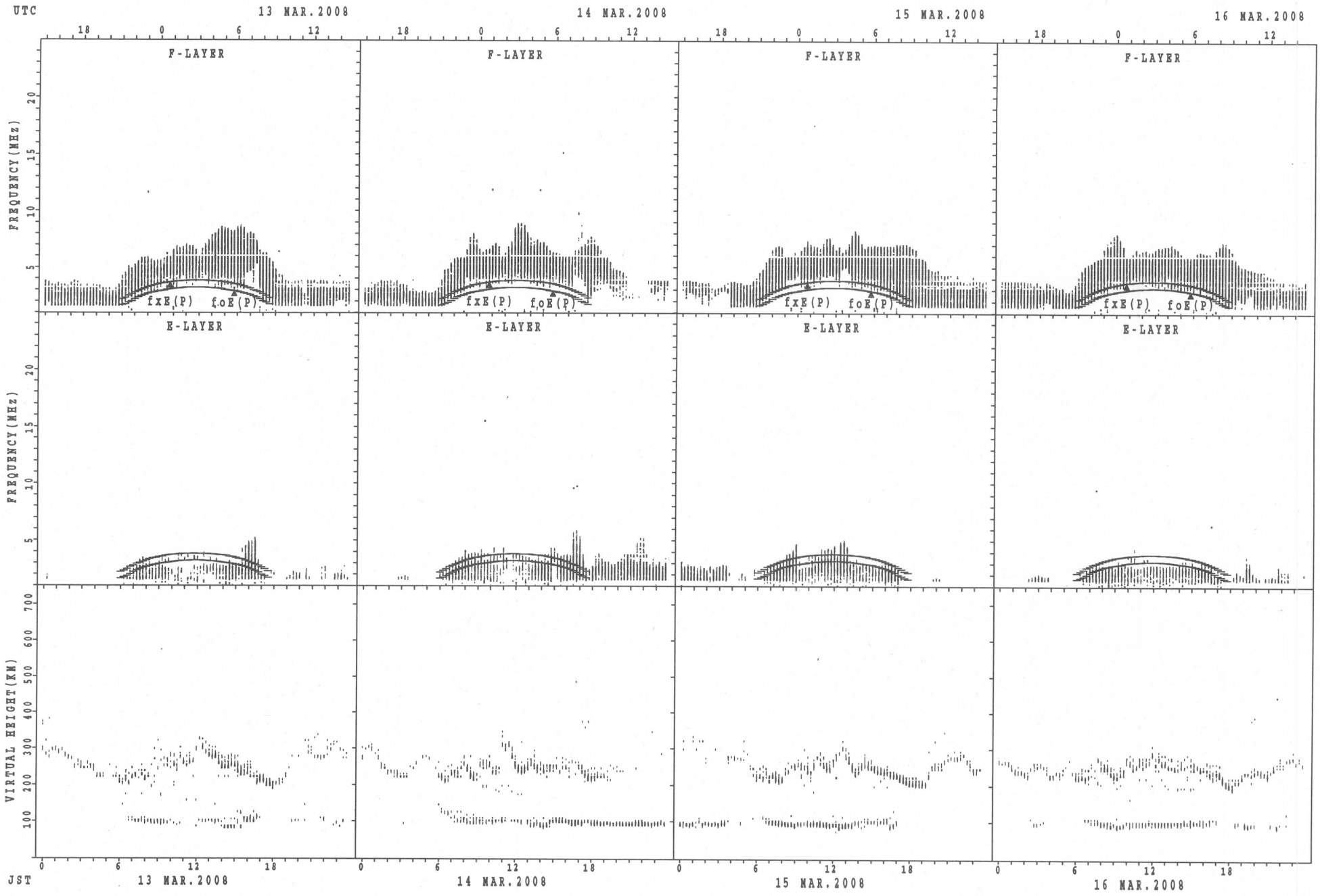
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



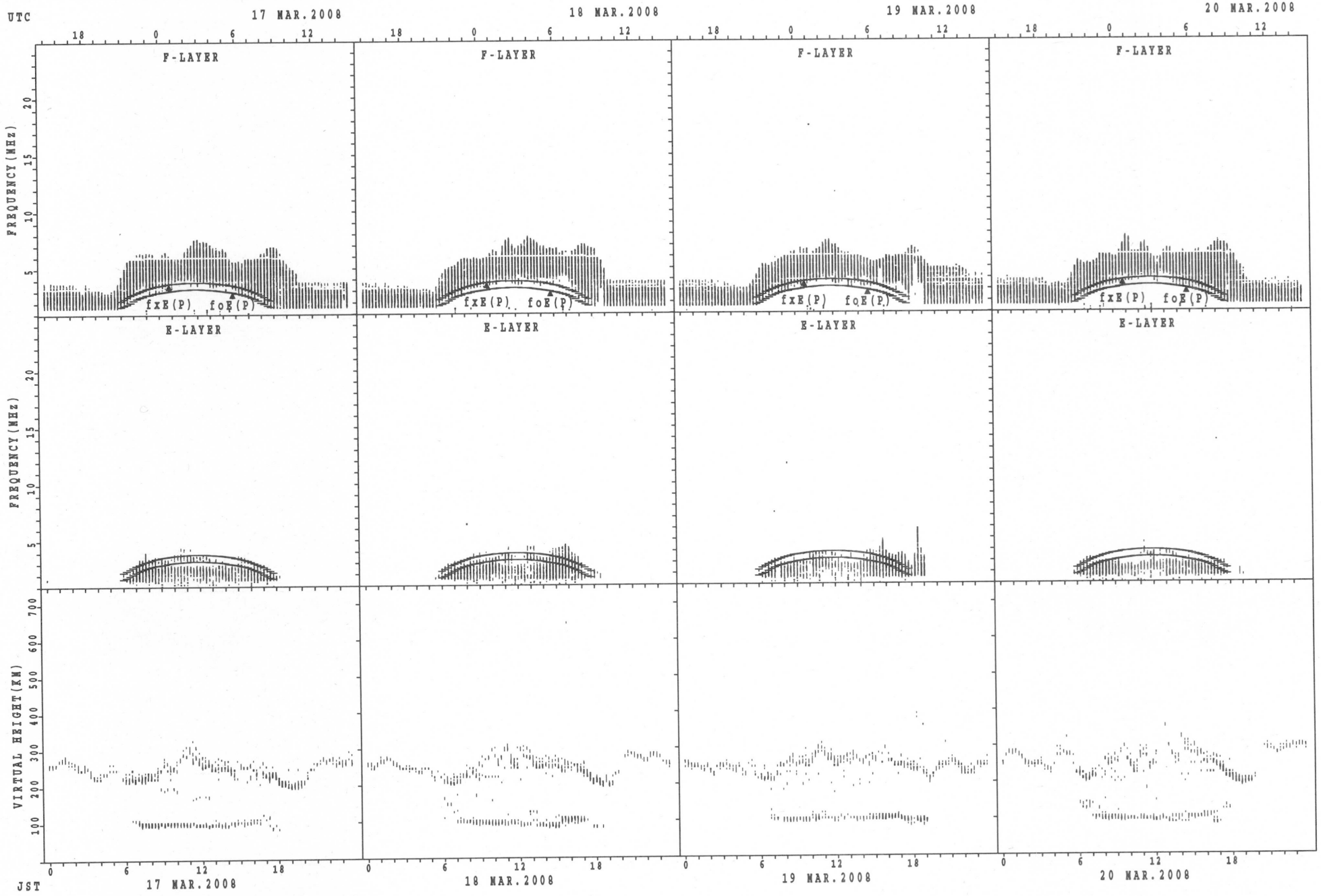
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

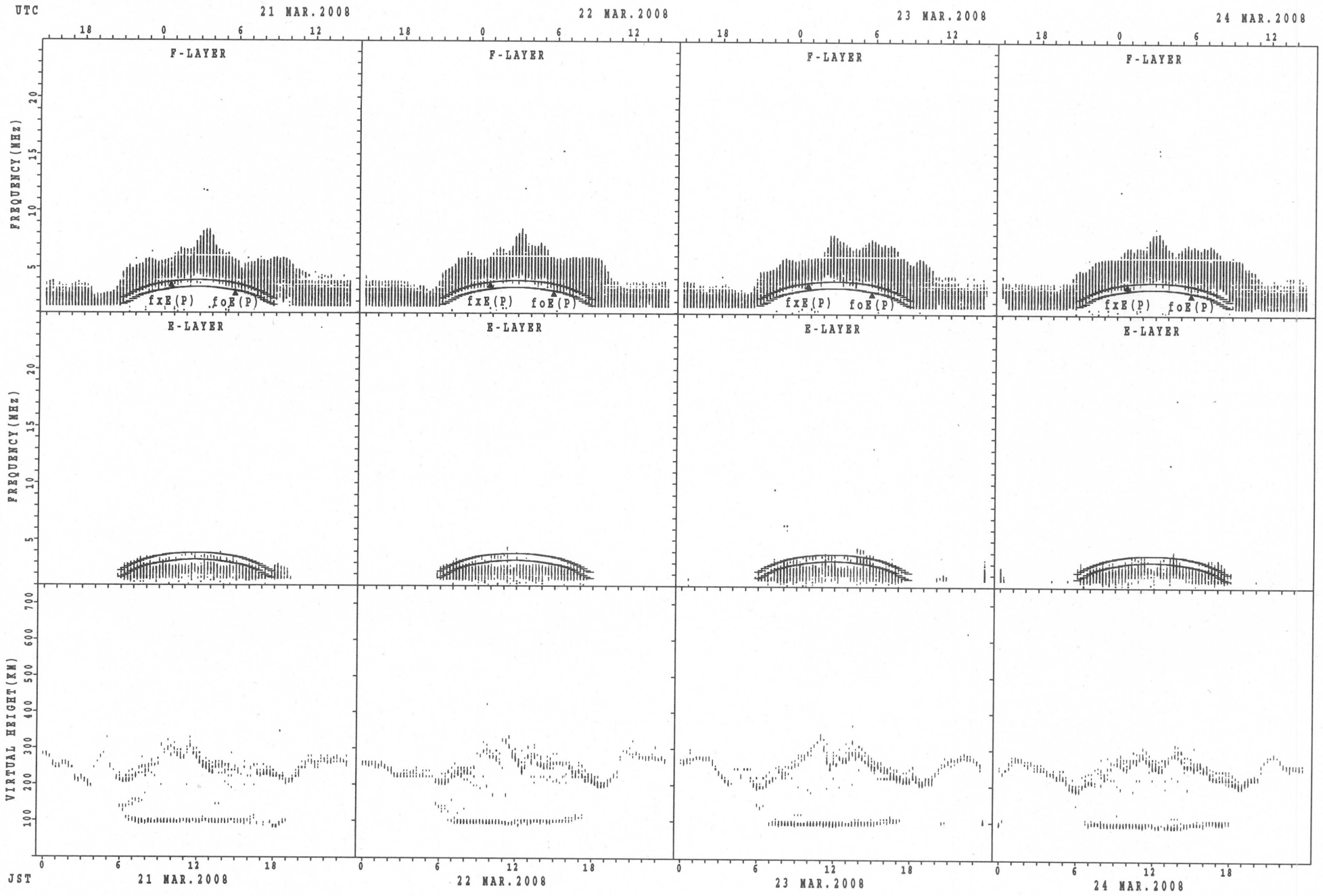


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

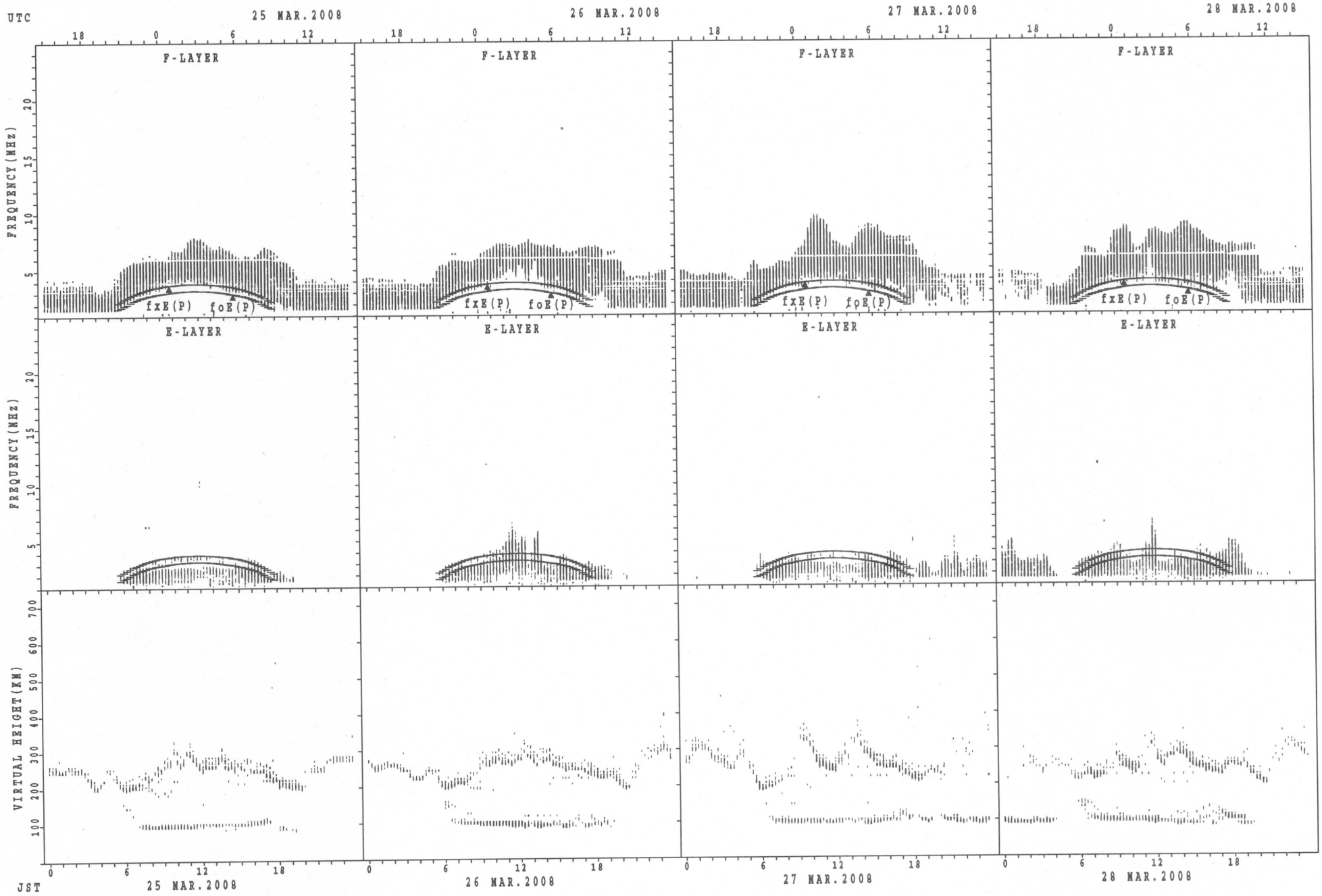


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

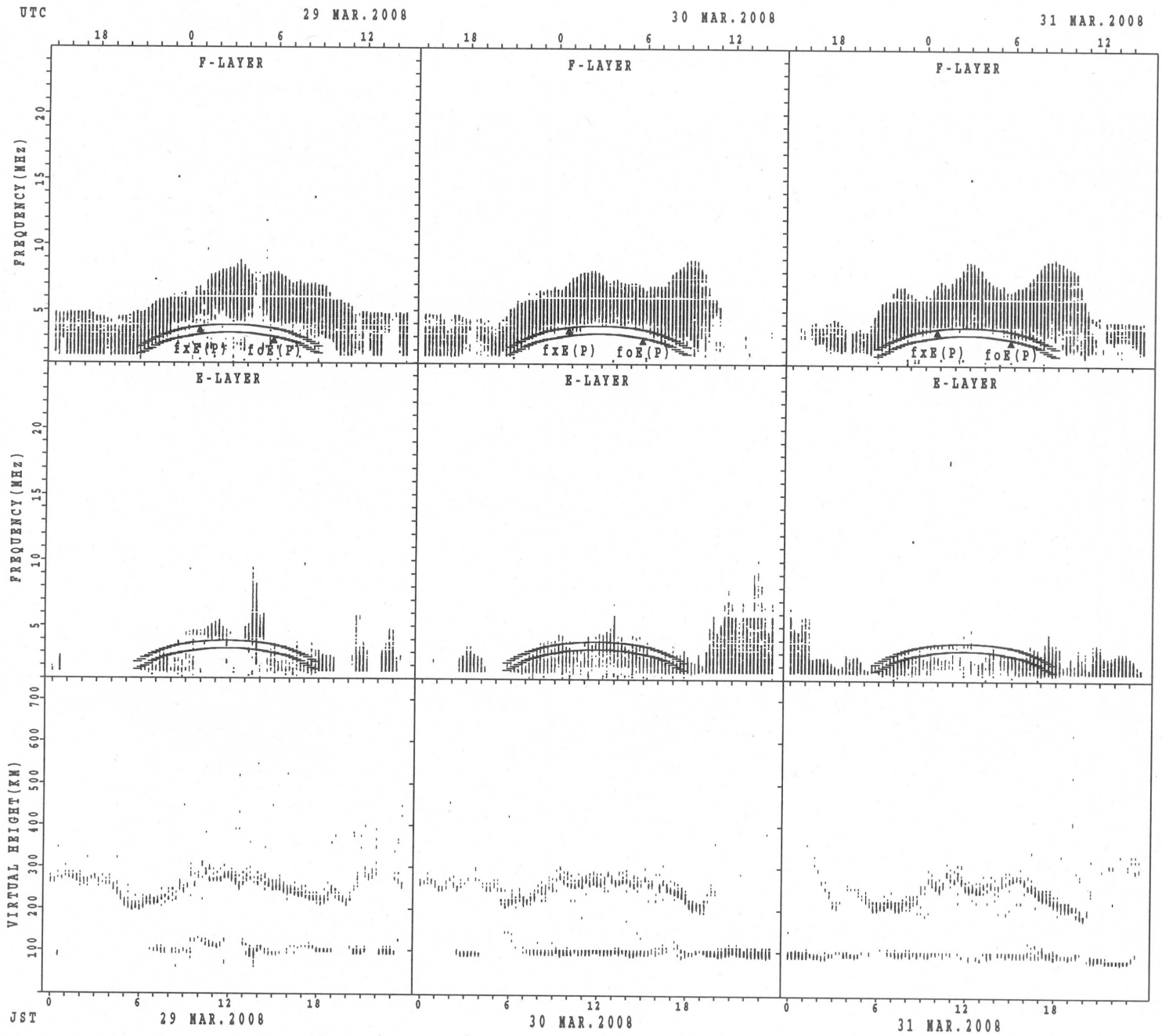


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

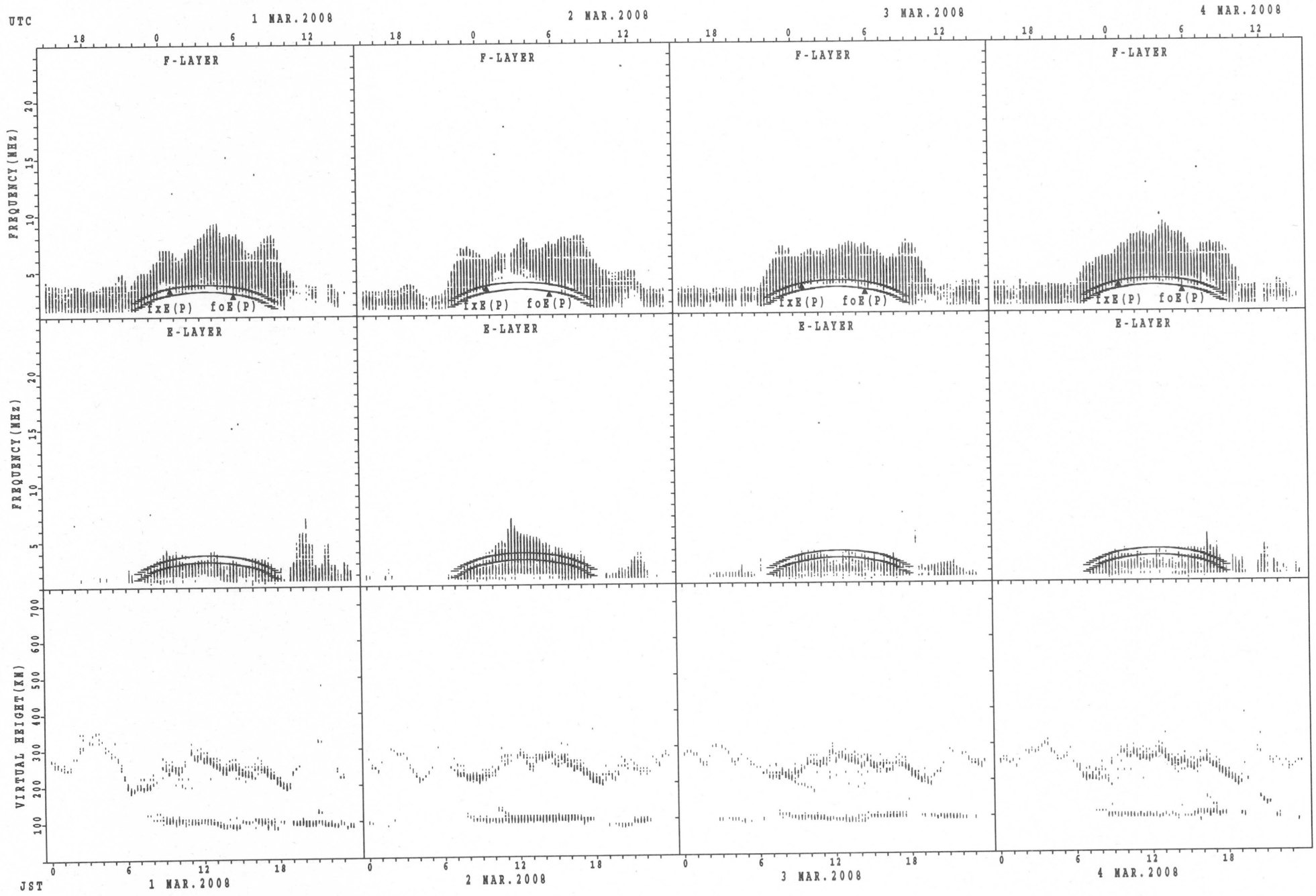


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE



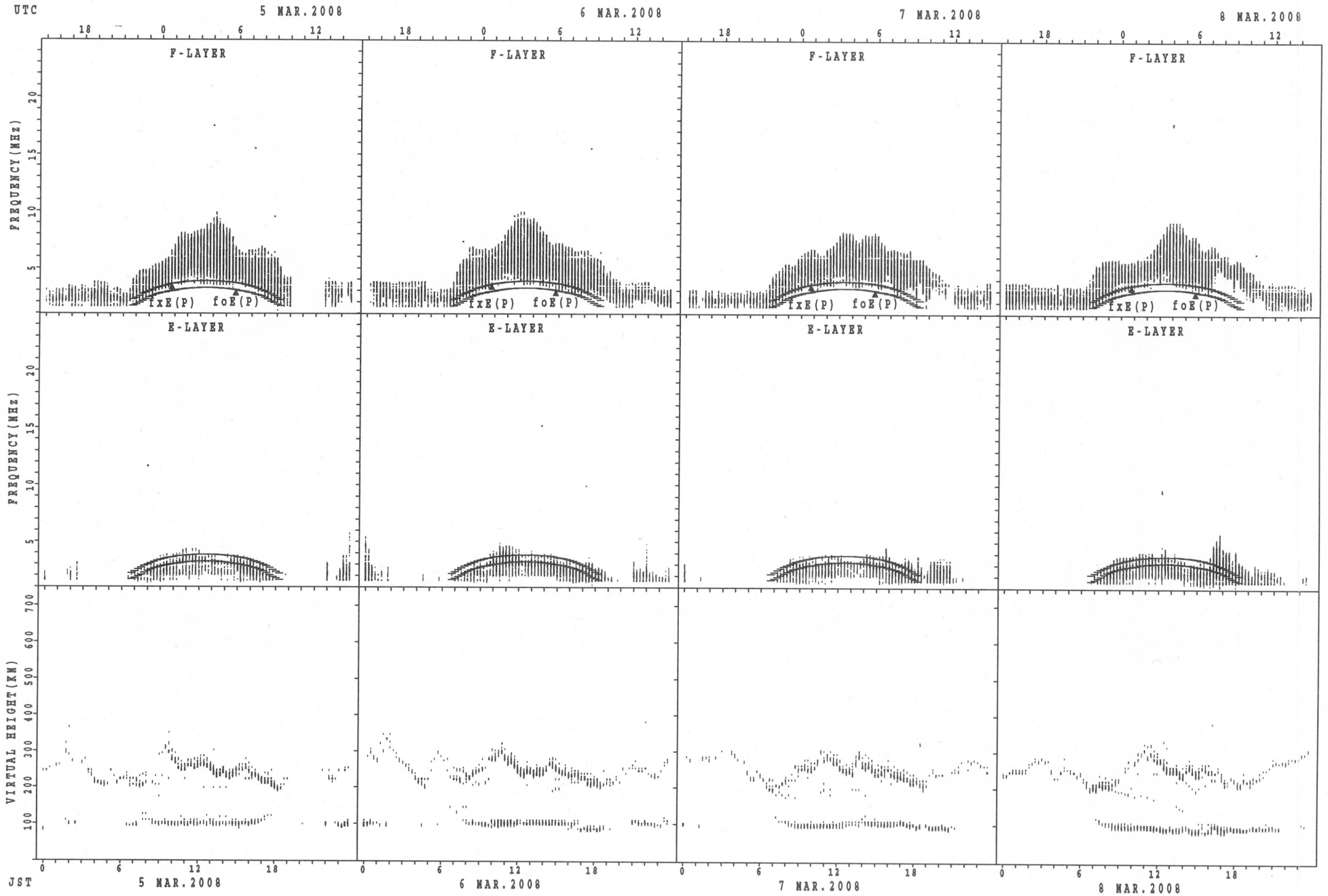
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



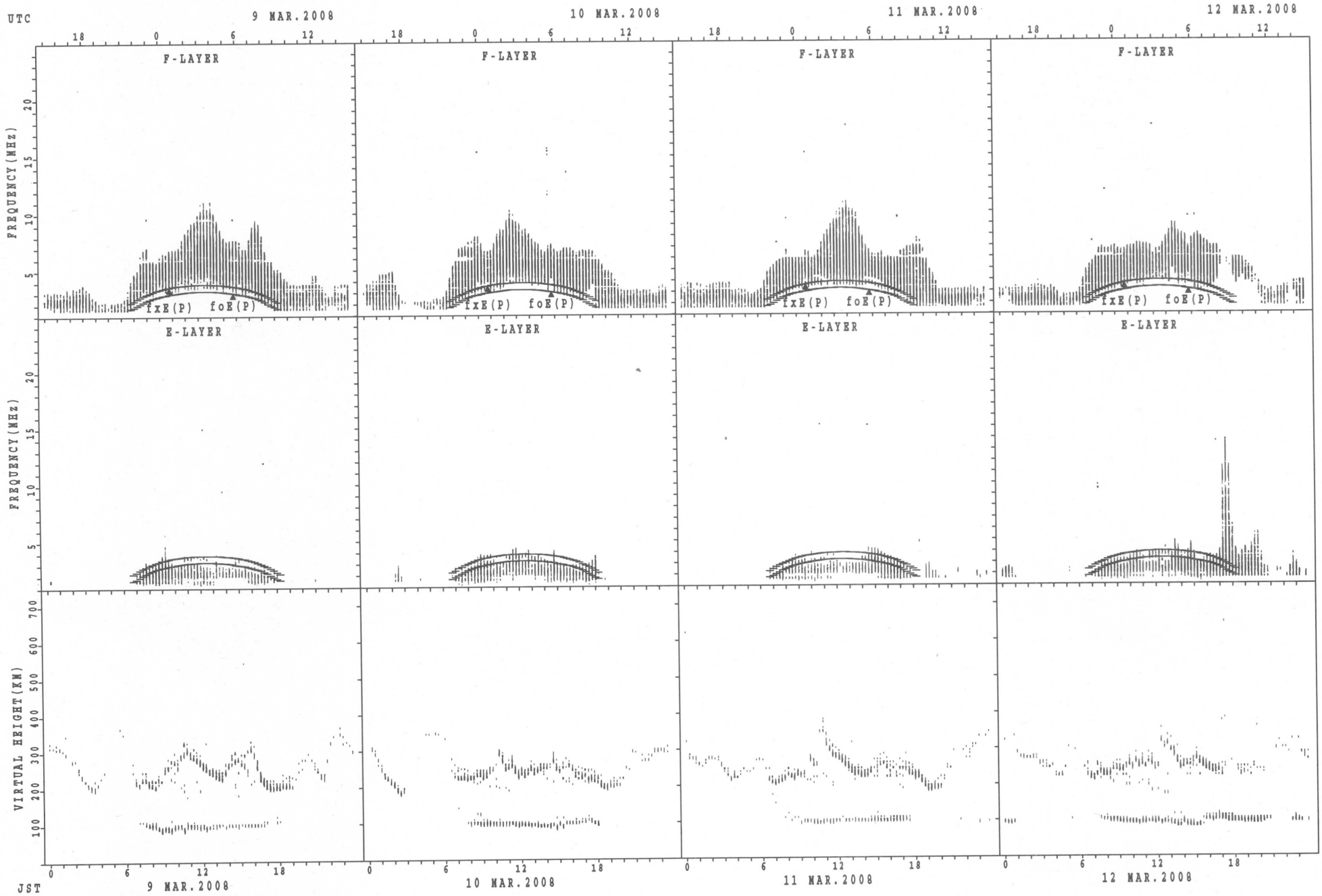
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa

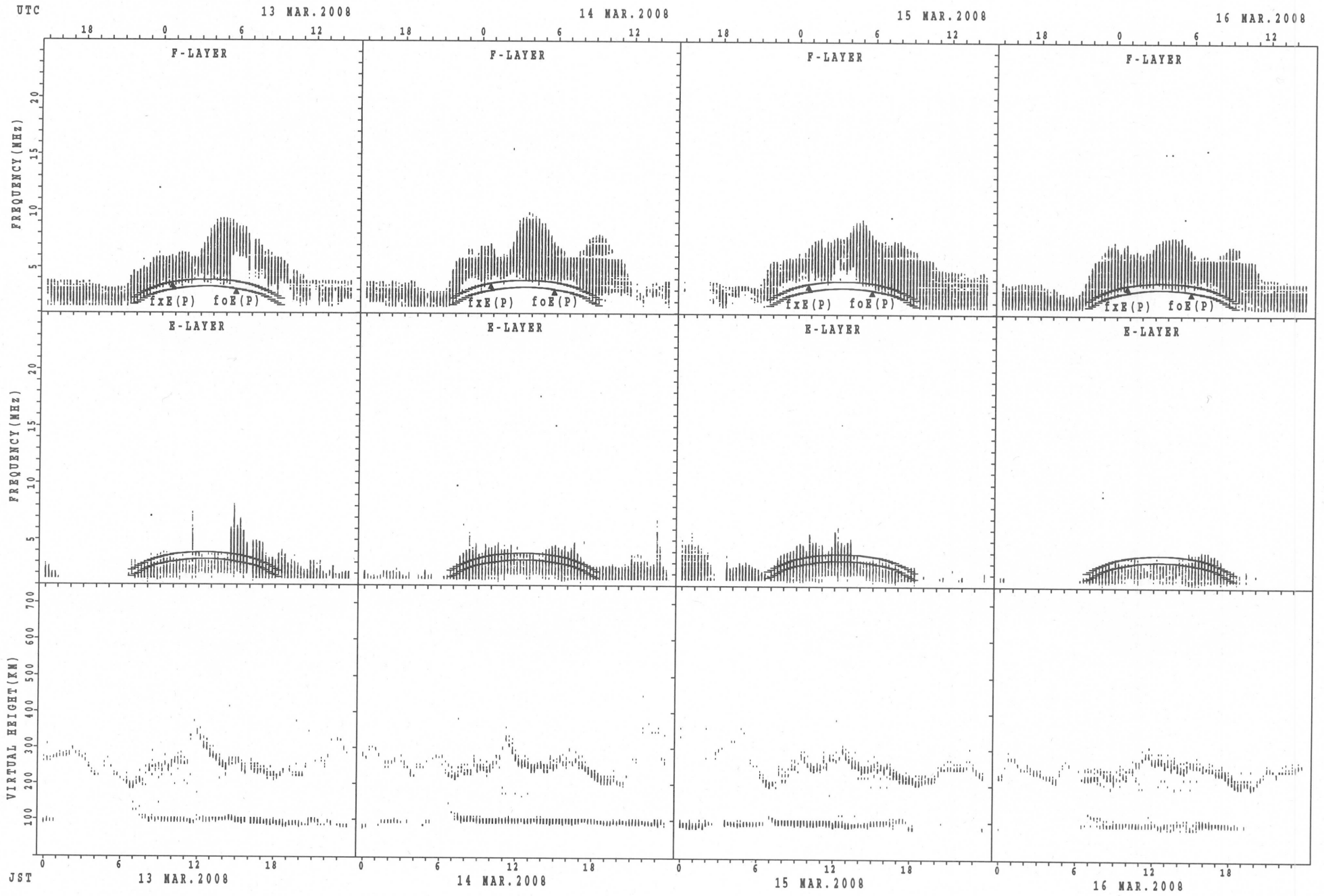


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

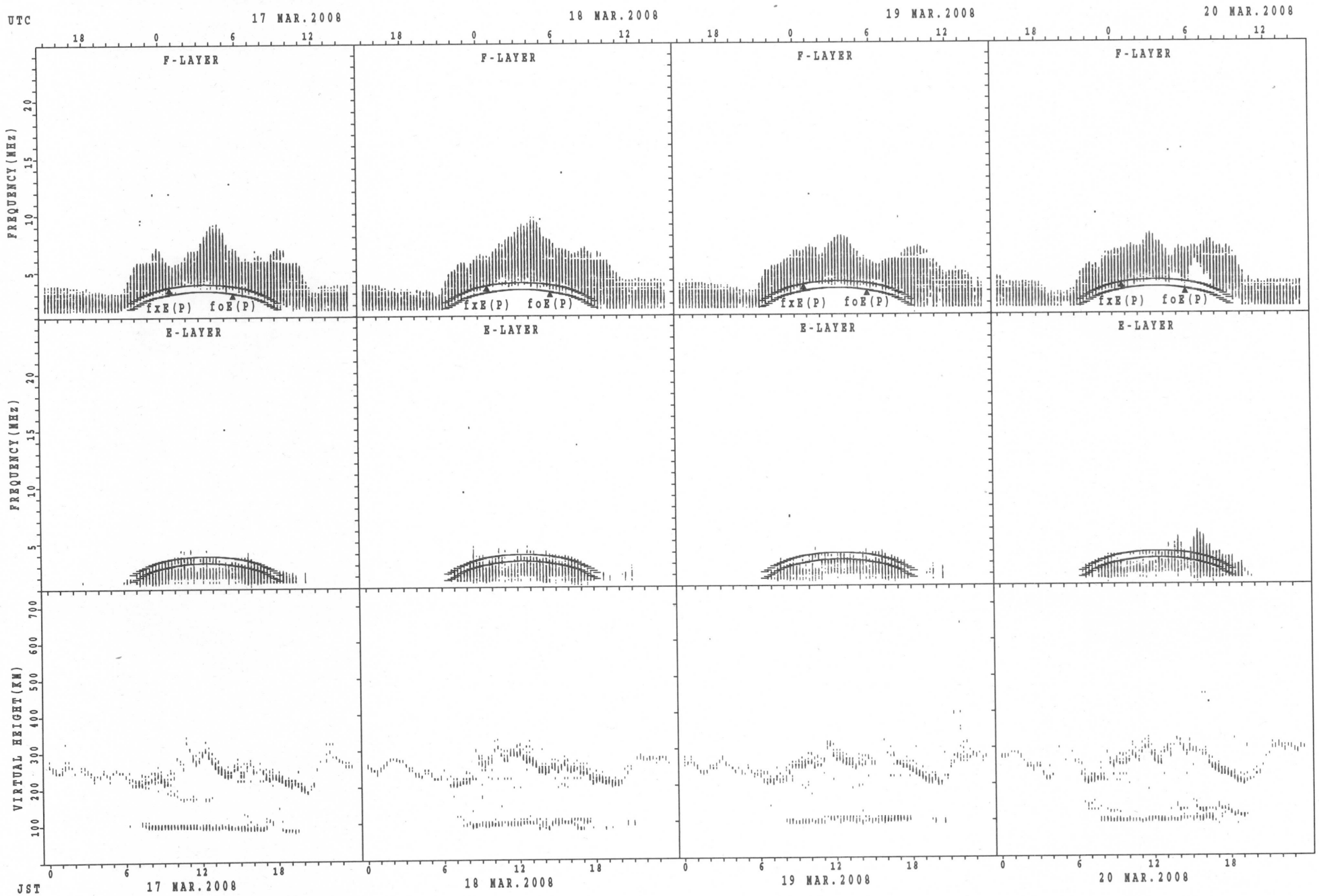
SUMMARY PLOTS AT Yamagawa



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

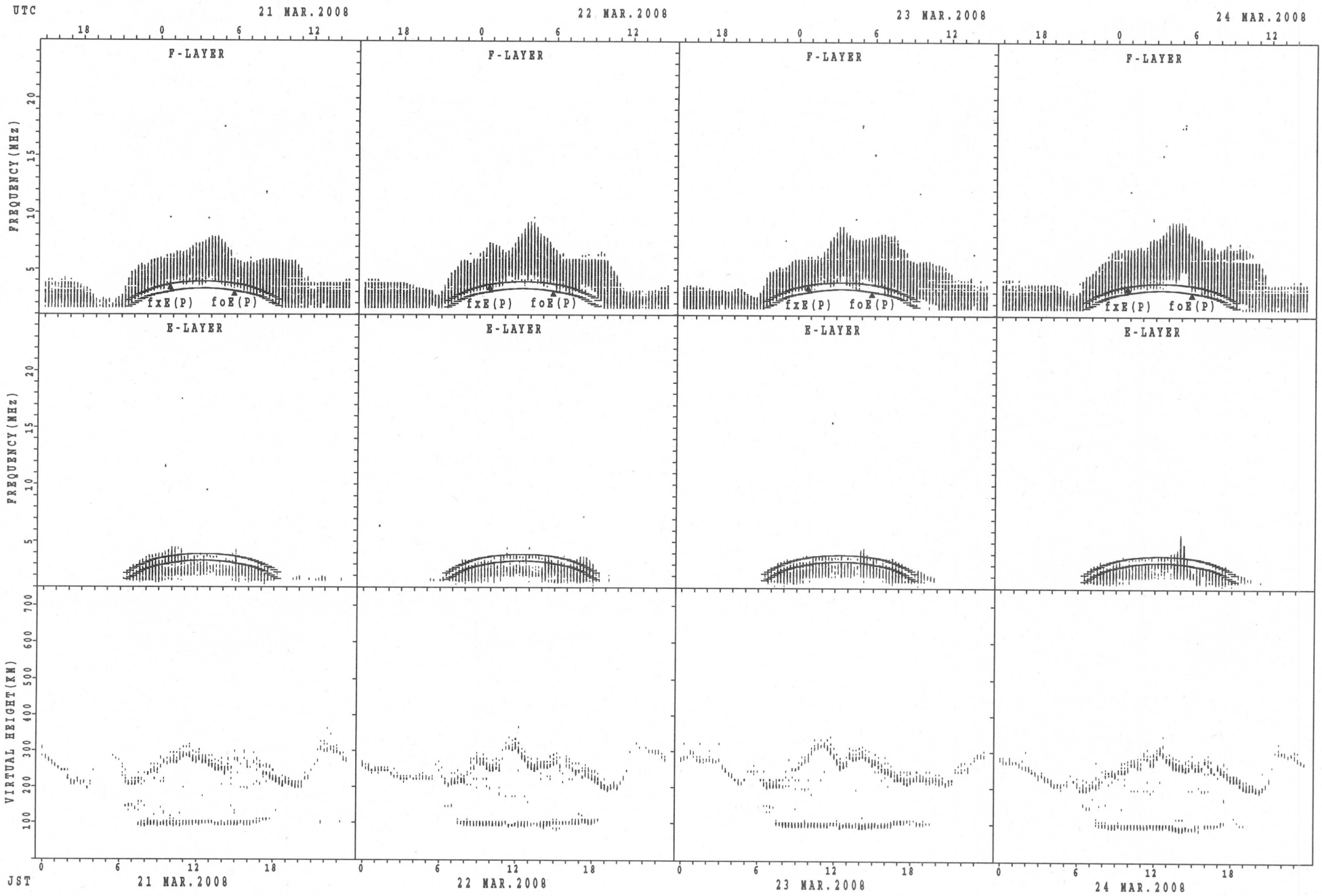

SUMMARY PLOTS AT Yamagawa
UTC
13 MAR.2008
14 MAR.2008
15 MAR.2008
16 MAR.2008
F-LAYER
fxE(P) foE(P)
FREQUENCY(MHz)
E-LAYER
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa

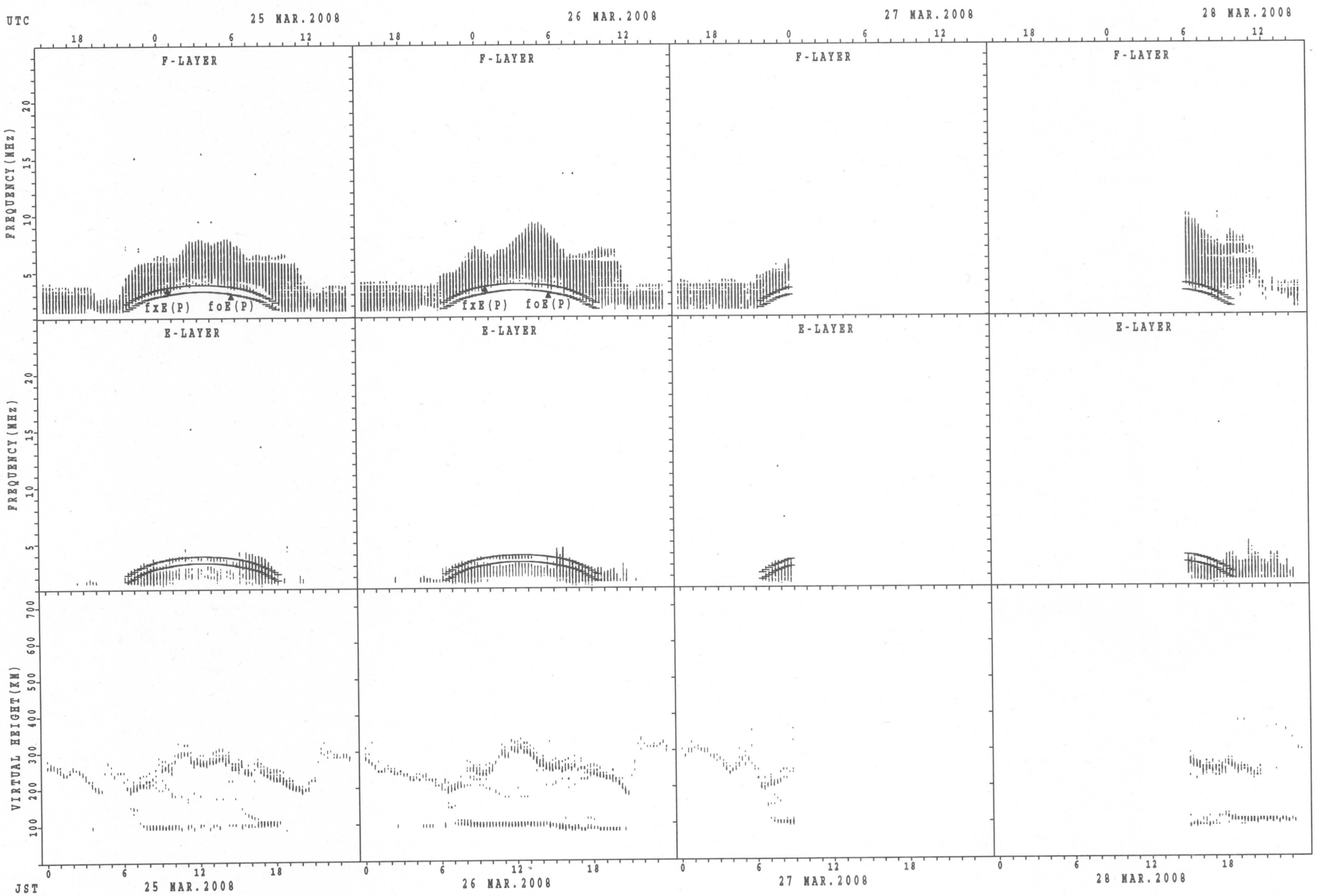


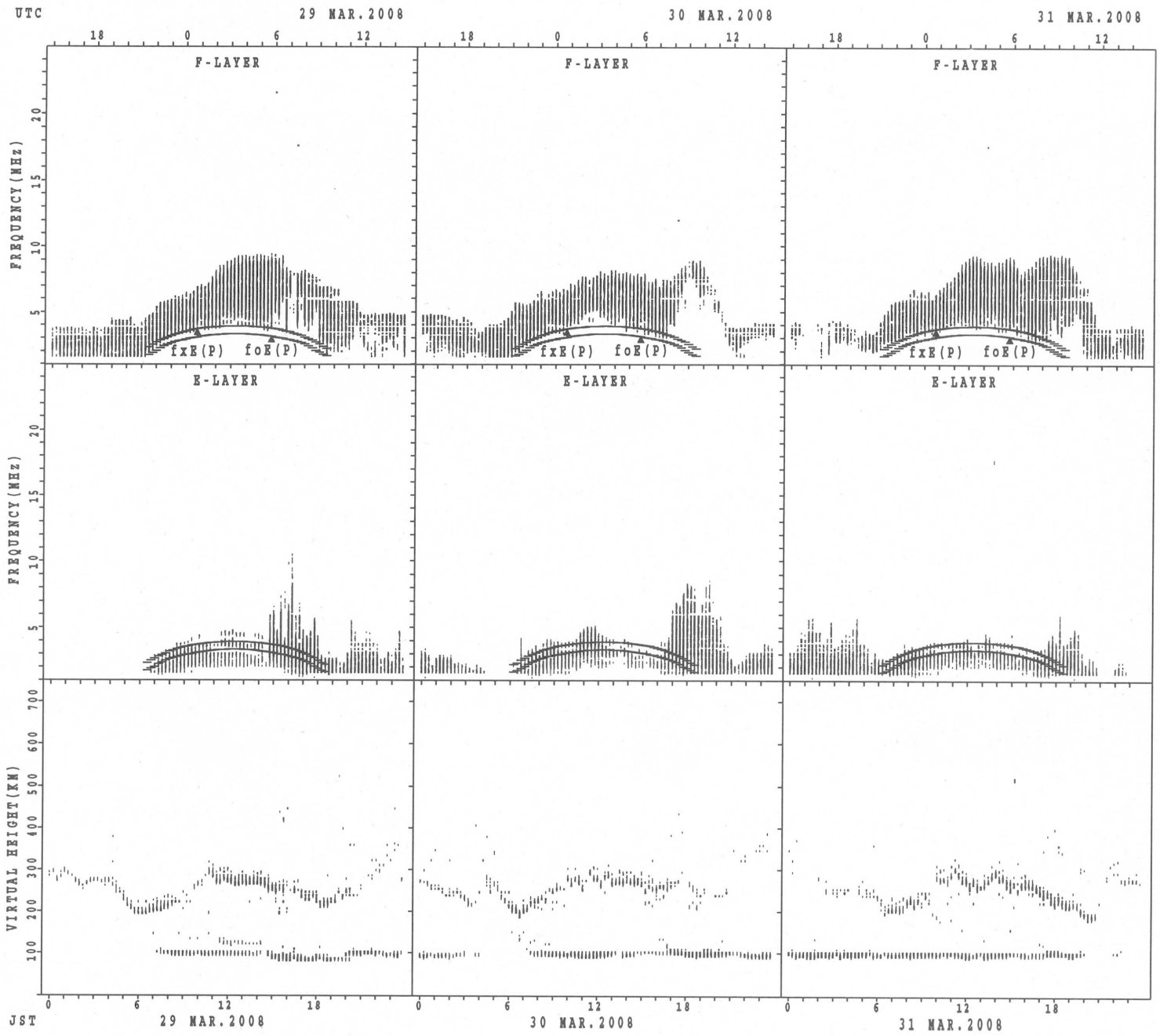
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa

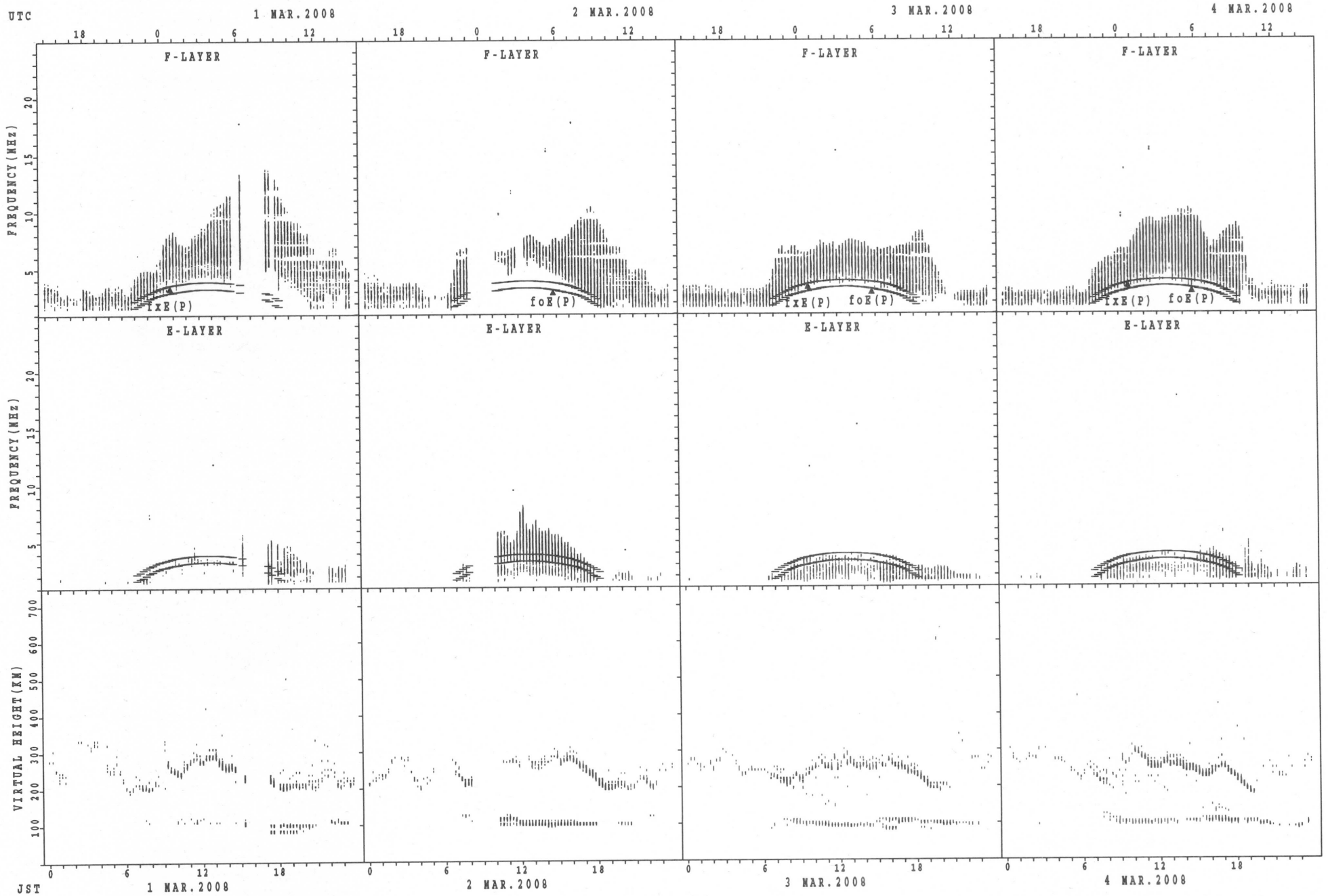


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


SUMMARY PLOTS AT Yamagawa
UTC
25 MAR.2008
26 MAR.2008
27 MAR.2008
28 MAR.2008
F-LAYER
fxE(P) foE(P)
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

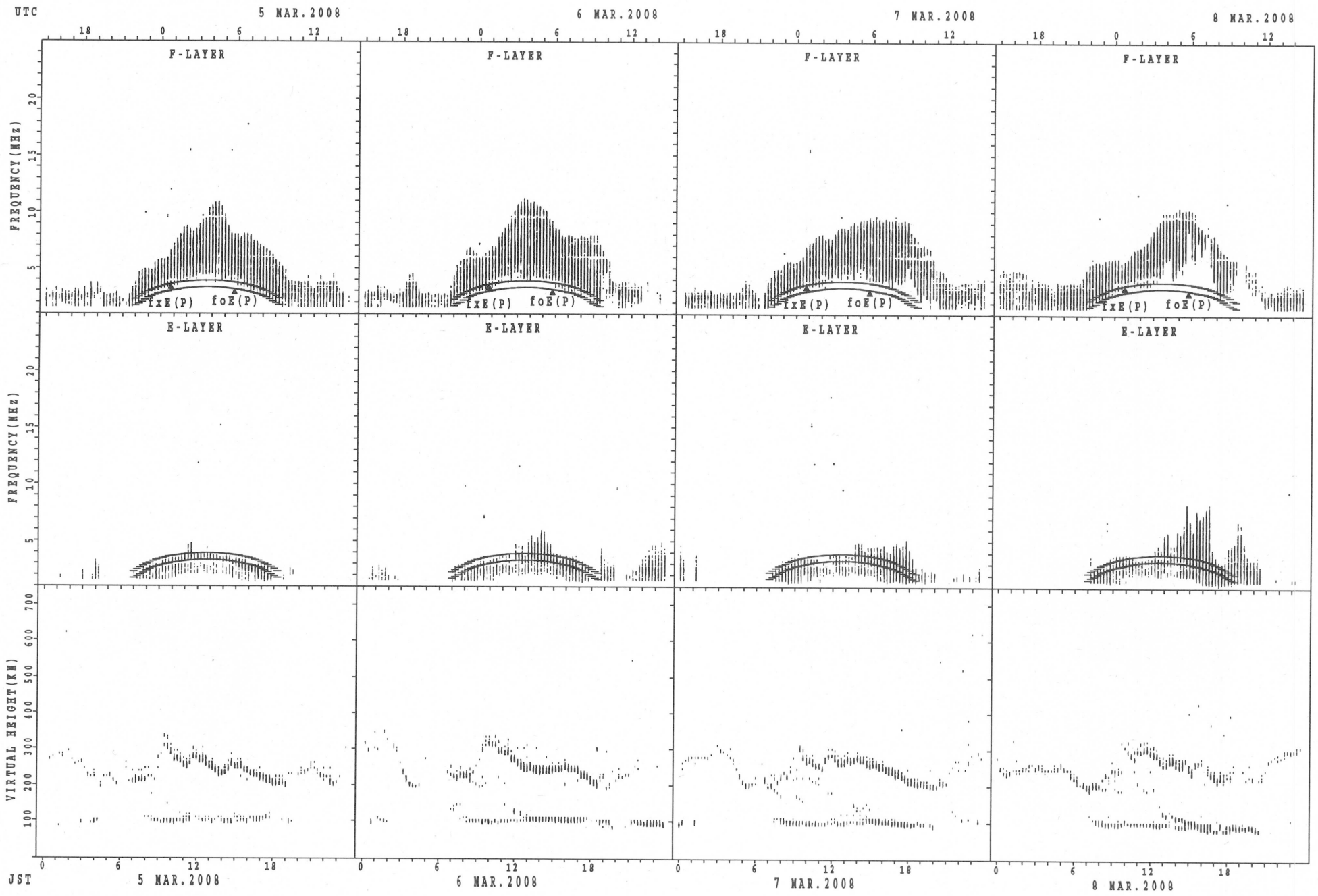

SUMMARY PLOTS AT Yamagawa
UTC
29 MAR.2008
30 MAR.2008
31 MAR.2008
F-LAYER
fxE(P) foE(P)
FREQUENCY(MHz)
E-LAYER
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



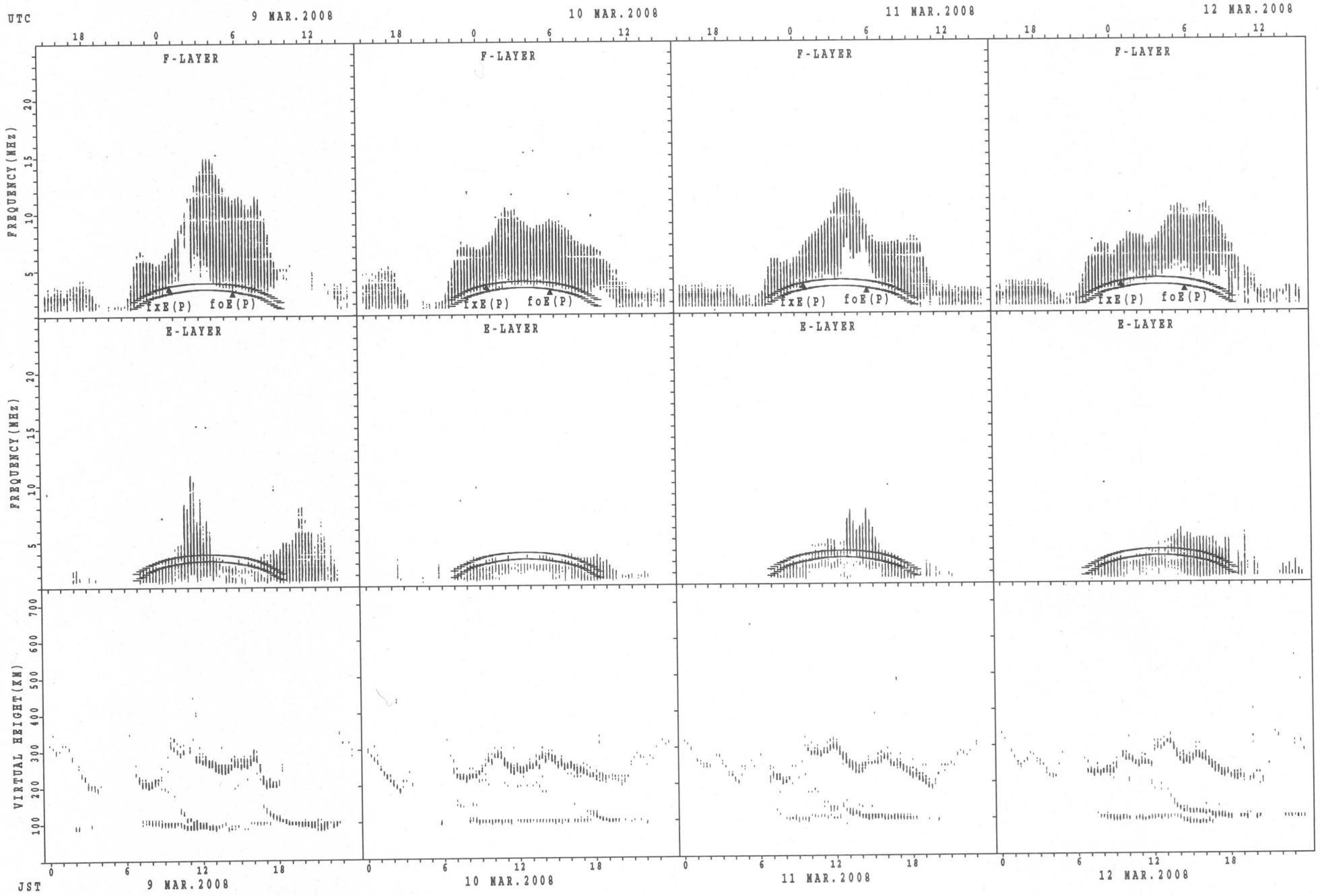
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



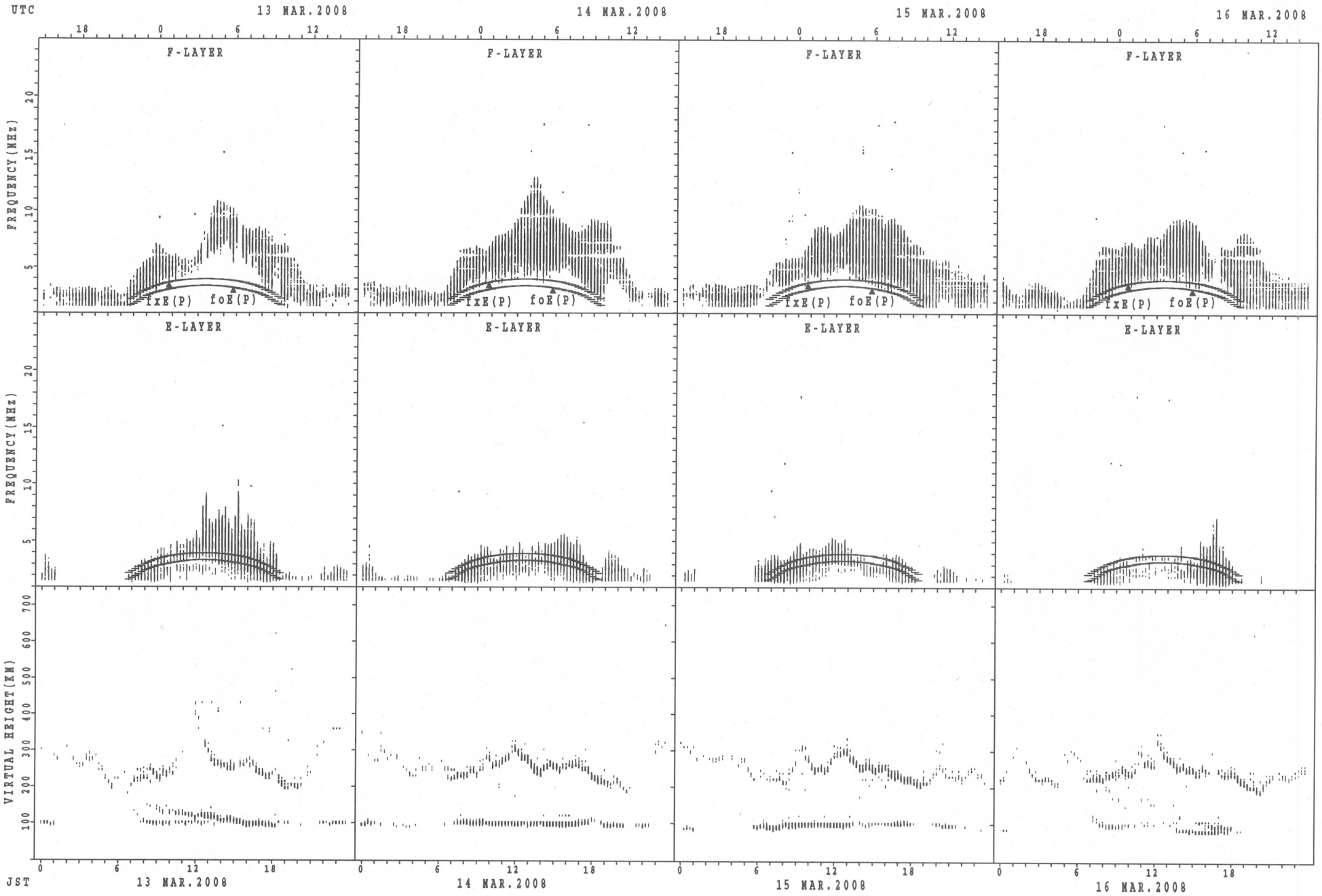
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



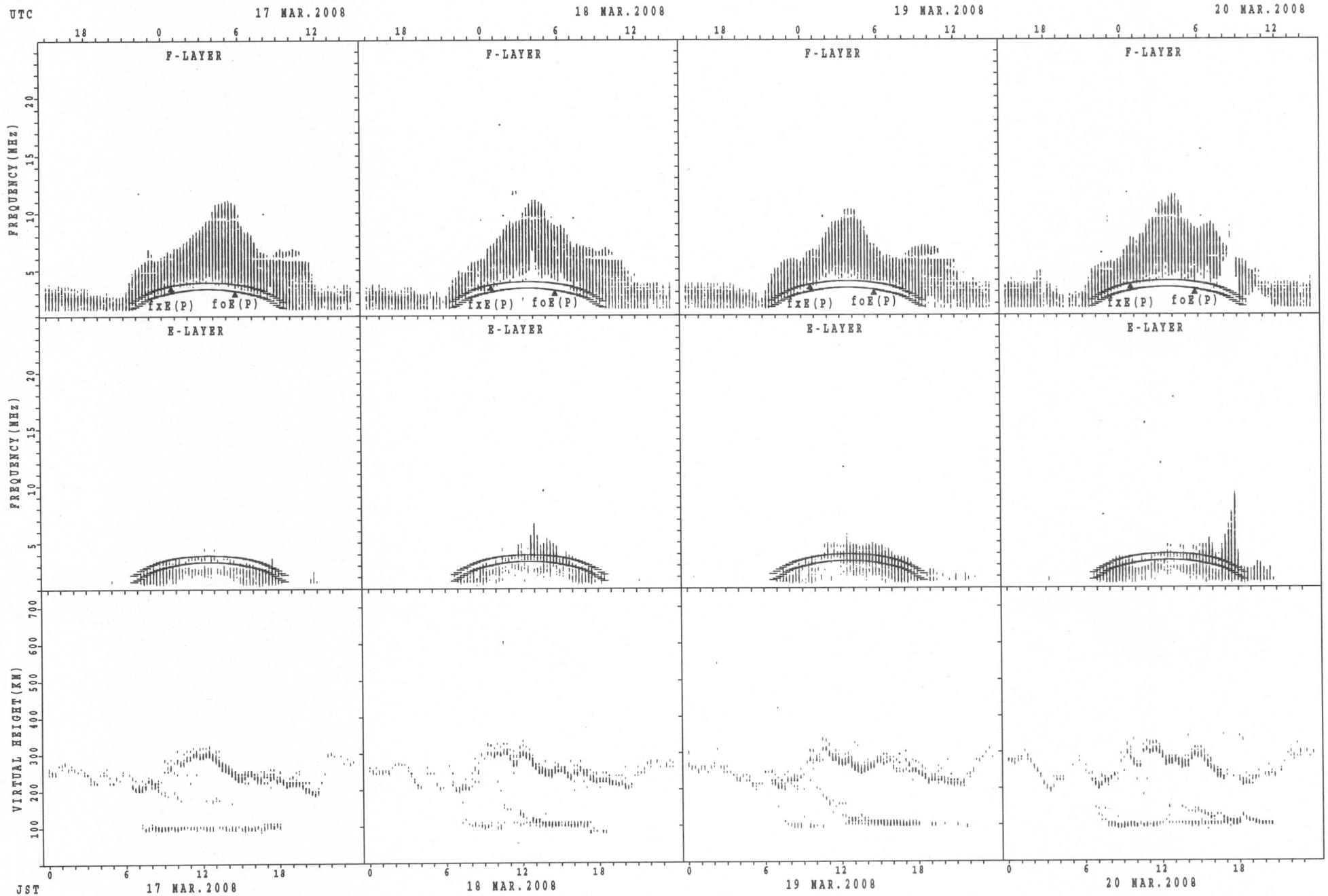
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



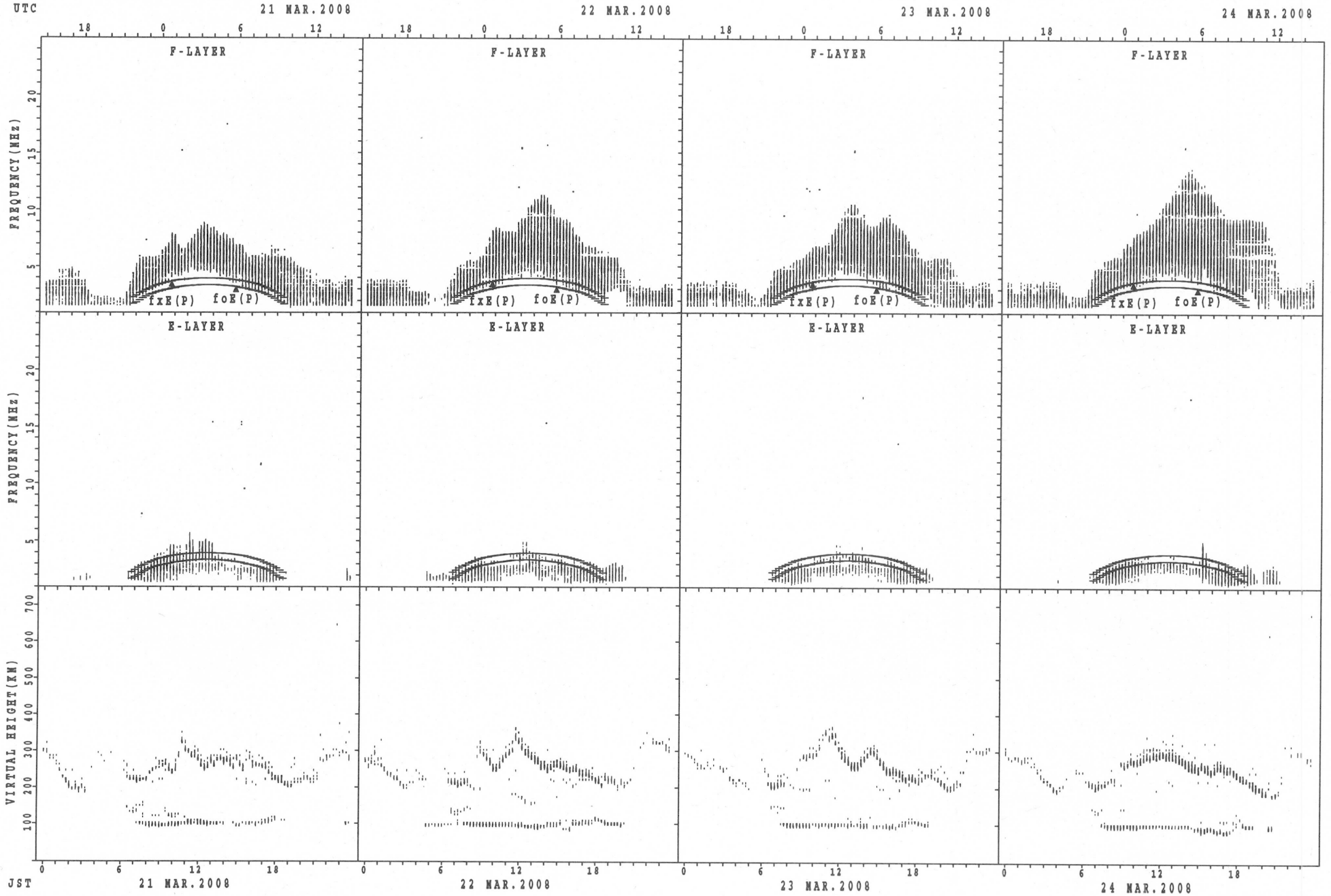
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



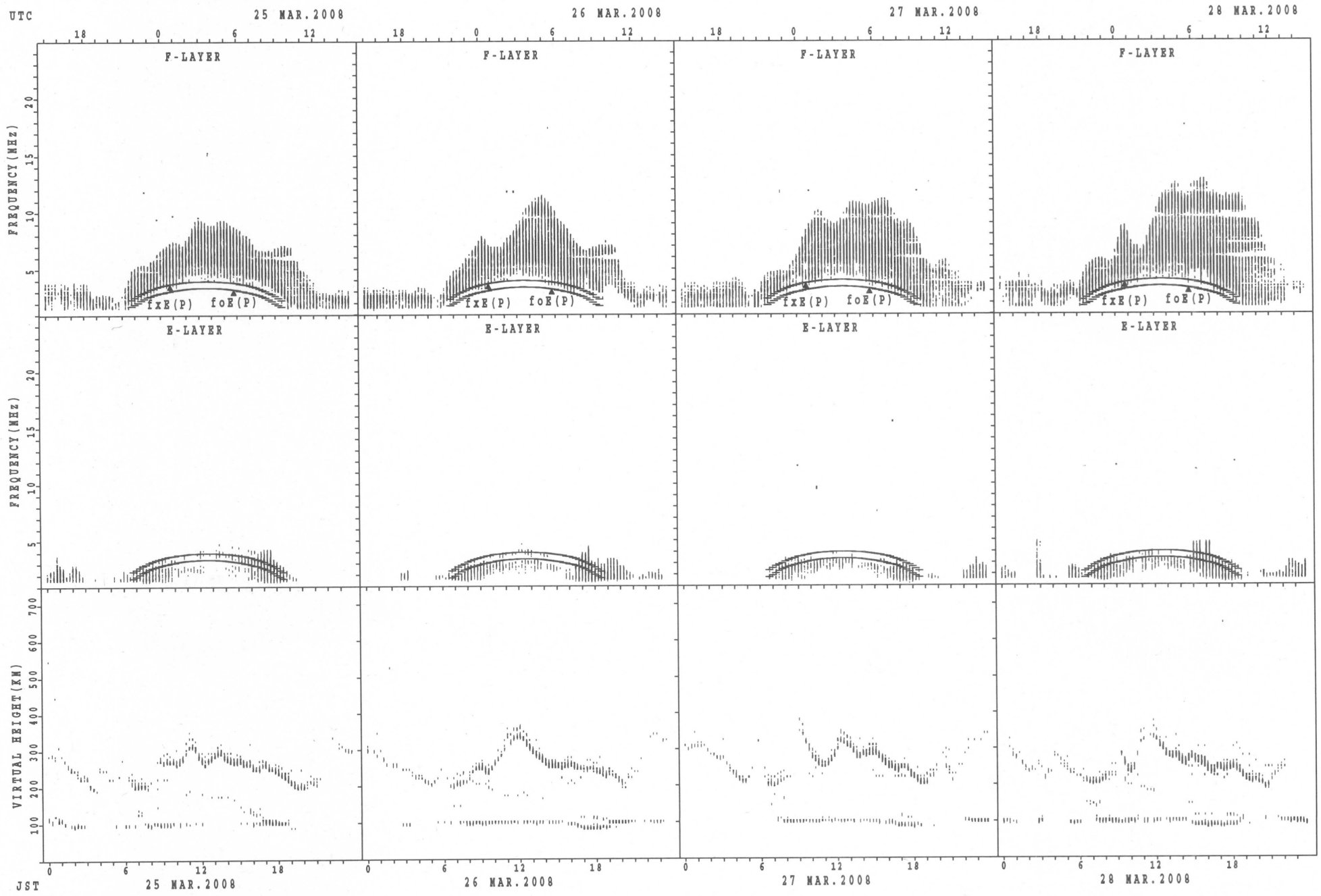
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



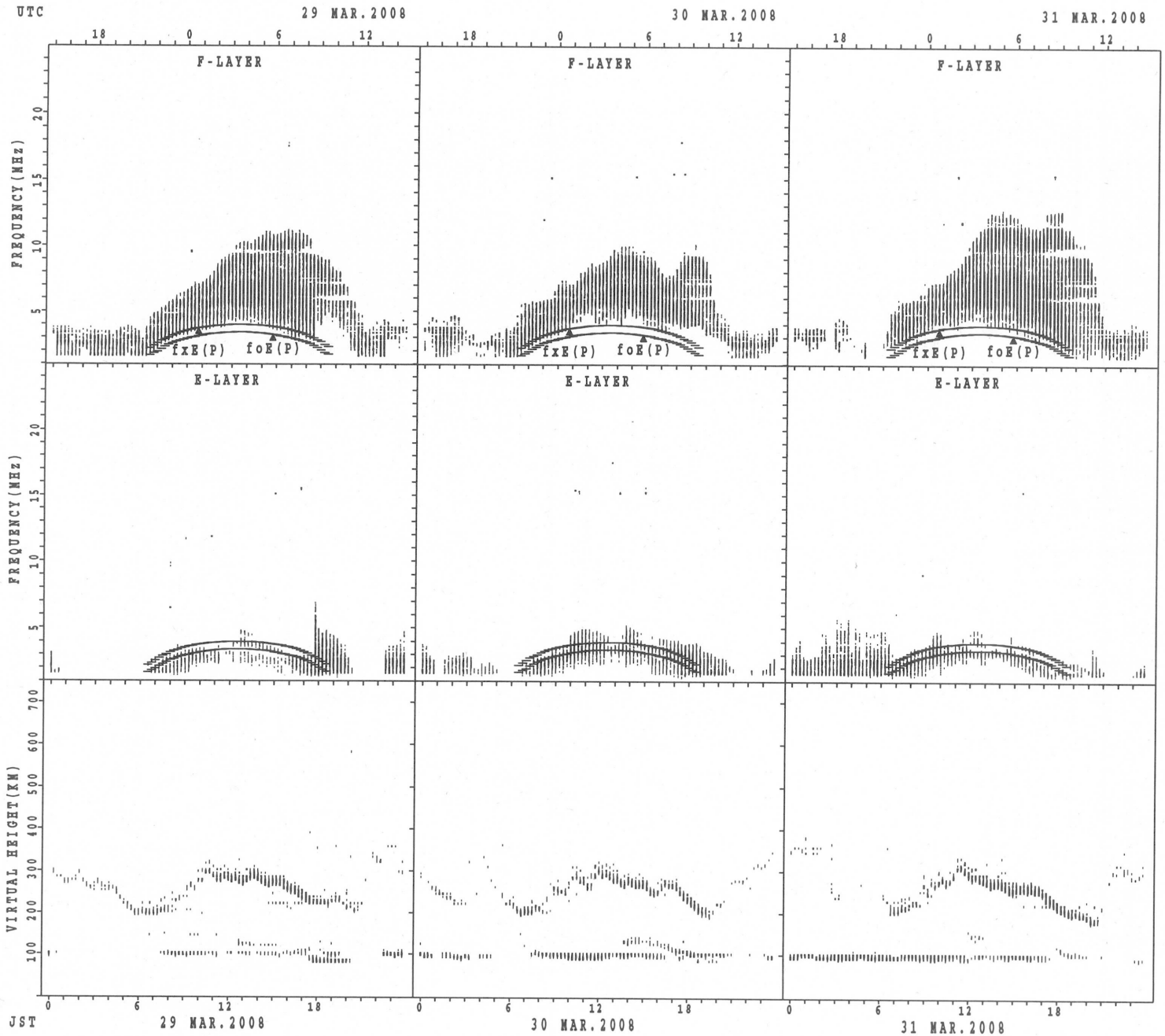
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

MONTHLY MEDIANS OF h'F AND h'Es

MAR. 2008 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

h'F STATION Wakkanai LAT. 45°23.5'N LON. 141°41.2'E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									4							7	8	4	2					
MED									258							256	253	261	253					
U Q									262							268	266	281	256					
L Q									251							250	249	248	250					

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	6	7	6	4	2	4	5	12	14	15	10	8	5	2	4	4	5	12	4	11	8	8	10	8
MED	92	95	95	97	100	97	137	116	106	101	99	100	95	101	130	103	107	103	97	99	103	97	94	97
U Q	95	97	99	99	103	103	156	140	113	107	103	142	141	111	166	127	133	116	103	103	105	102	101	99
L Q	91	93	91	95	97	93	109	105	103	97	95	93	92	91	93	101	94	89	88	97	101	96	93	94

h'F STATION Kokubunji LAT. 35°42.4'N LON. 139°29.3'E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								3	11	3						4	12	15	7	2				
MED								230	246	242						262	251	254	236	225				
U Q								232	260	252						267	272	256	240	228				
L Q								228	236	216						251	240	236	232	222				

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	9	7	7	8	5	1	10	12	7	10	9	15	9	8	3	7	9	20	15	12	6	9	11	10
MED	97	95	95	95	95	97	144	134	103	109	107	103	97	104	105	107	107	107	95	98	99	99	101	96
U Q	101	97	97	98	99	48	153	155	113	113	160	153	103	111	109	137	116	113	103	103	103	102	103	99
L Q	94	95	95	94	93	48	137	117	97	93	101	95	95	98	103	97	103	103	89	95	97	95	93	95

h'F STATION Yamagawa LAT. 31°12.1'N LON. 130°37.1'E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									8	13							15	16	9	4	1			
MED									239	250							266	244	236	232	224			
U Q									247	268							280	249	260	244	112			
L Q									225	228							246	235	226	229	112			

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	9	3	5	2	2	2	2	8	7	12	13	16	12	12	9	17	15	19	17	15	13	12	10	7
MED	95	95	97	99	97	98	97	128	103	107	107	109	105	103	101	103	105	101	103	99	97	99	97	99
U Q	103	99	102	99	99	101	99	145	137	143	153	173	144	140	113	110	107	107	106	105	99	105	99	101
L Q	91	89	94	99	95	95	95	108	101	101	98	101	97	102	96	96	101	95	96	89	89	98	97	97

MONTHLY MEDIANS OF h'F AND h'Es

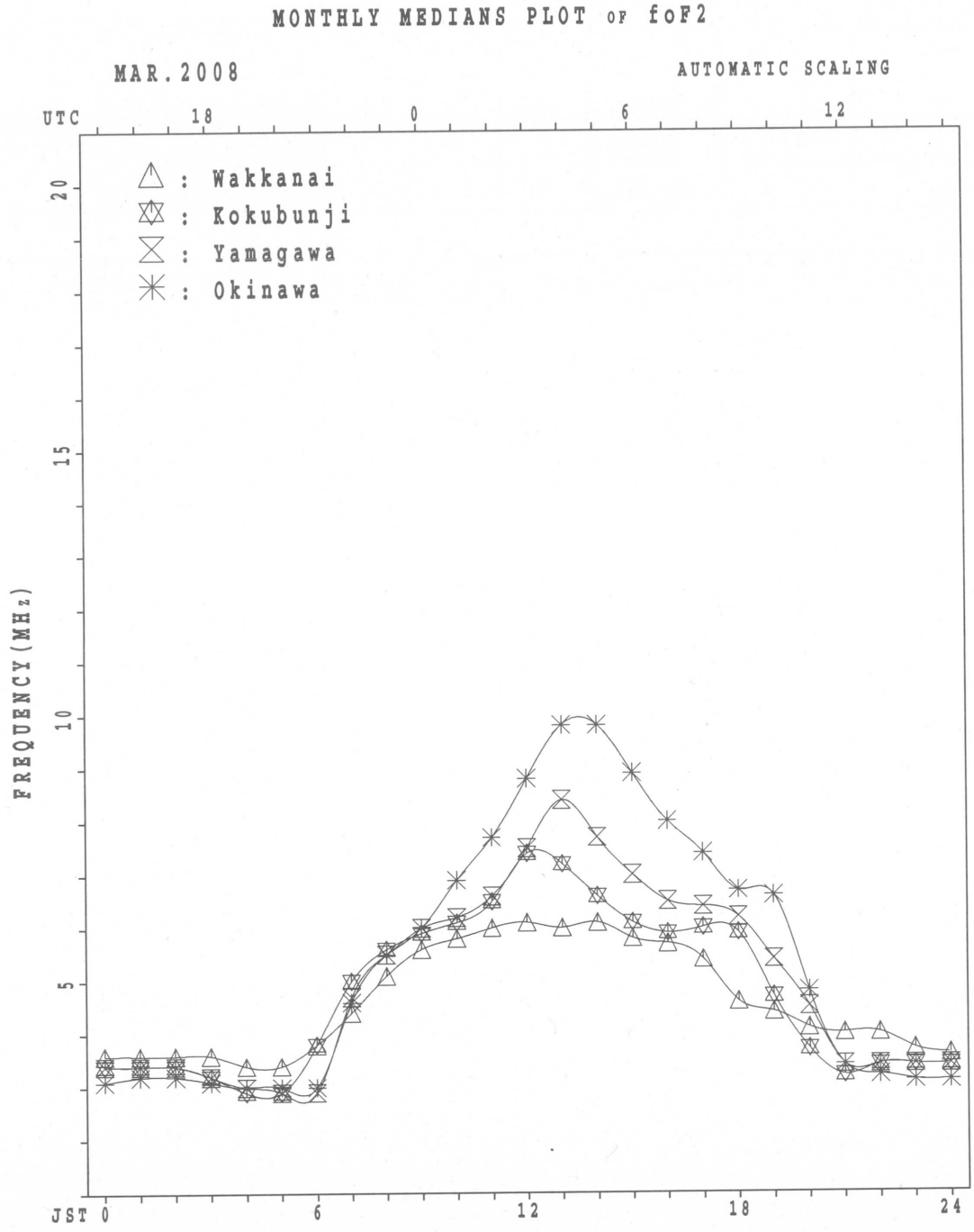
MAR.2008 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

h'F STATION Okinawa LAT. 26°40.5'N LON. 128°09.2'E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									7	12							18	27	22	14	4			
MED									238	262							251	248	233	227	219			
U Q									242	279							256	260	246	232	230			
L Q									232	245							242	238	222	218	208			

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	7	4	4	5	3	2	5	6	7	8	9	11	18	19	17	13	20	24	24	19	16	4	5	7
MED	101	103	96	99	99	99	97	134	105	106	107	113	129	119	113	109	104	104	104	103	100	102	99	103
U Q	103	106	98	105	101	103	99	137	169	139	143	139	159	161	131	135	115	107	108	105	103	145	109	105
L Q	97	95	93	98	99	95	94	97	99	99	101	101	103	103	107	105	99	100	96	95	94	100	95	101


MONTHLY MEDIANS PLOT OF foF2
MAR. 2008
AUTOMATIC SCALING
UTC
18
0
6
12
△ : Wakkanai
⛛ : Kokubunji
⧖ : Yamagawa
✳ : Okinawa
FREQUENCY(MHz)
20
15
10
5
JST 0
6
12
18
24

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	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	X 42	X 41	X 41	X 36	X 34	X 36	X 42												X 56	X 42	X 42	X 42	X 42	X 40
2	X 41	X 39	X 38	X 39	X 37	X 34	X 36												X 54	X 42	X 43	X 42	X 41	X 41
3	X 38	X 39	X 36	X 37	X 34	X 35	X 41											C	X 58	X 46	X 40	X 40	X 42	X 42
4	X 40	X 40	X 38	X 36	X 36	X 34	X 41												X 52	X 40	X 38	X 36	X 38	X 40
5	X 39	X 38	X 38	X 39	X 42	X 33	X 39												X 53	X 45	X 40	X 42	X 45	X 44
6	X 42	X 40	X 42	X 42	X 41	X 35	X 37												X 52	X 42	X 41	X 40	X 39	X 38
7	X 38	X 36	X 36	X 34	X 34	X 32	X 40												A	X 46	X 39	X 38	X 39	X 40
8	X 40	X 38	X 39	X 37	X 37	X 35	X 43												X 51	X 37	X 37	X 37	X 37	X 35
9	X 34	X 33	X 35	X 35	X 26	X 26	X 37												X 54	X 31	X 38	X 38	X 36	X 38
10	X 38	X 42	X 45	X 26	X 27	X 28	X 36												X 68	X 42	X 36	X 38	X 40	X 39
11	X 40	X 40	X 40	X 44	X 35	X 34	X 40												X 61	X 51	X 43	X 37	X 39	X 37
12	X 39	X 37	X 37	X 36	X 34	X 32	X 42												X 57	X 50	X 46	X 37	X 40	X 41
13	X 39	X 39	X 39	X 39	X 38	X 33	X 44												X 51	X 39	X 41	X 41	X 41	X 39
14	X 39	X 39	X 40	X 38	X 31	X 30	X 41											X 70	X 77	X 60	X 50	A	A	X 40
15	X 39	X 38	X 38	X 36	X 38	X 36	X 44												X 70	X 58	X 49	X 46	X 45	X 46
16	X 41	X 42	X 42	X 37	X 38	X 32	X 44												X 66	X 52	X 47	X 46	X 42	X 41
17	X 41	X 40	X 39	X 39	X 36	X 32	X 45												X 74	X 57	X 44	X 42	X 42	X 42
18	X 40	X 40	X 38	X 38	X 36	X 34													X 69	X 50	X 42	X 44	X 43	X 42
19	X 42	X 42	X 42	X 40	X 38	X 34													X 66	X 62	X 52	X 51	X 52	X 46
20	X 44	X 41	X 43	X 40	X 36	X 36													X 69	X 50	X 38	X 39	X 39	X 38
21	X 38	X 39	X 38	X 38	X 28	X 28													X 62	X 58	X 49	X 47	X 46	X 46
22	X 44	X 43	X 42	X 40	X 38	X 34													X 61	X 48	X 39	X 40	X 41	X 40
23	X 40	X 39	X 38	X 39	X 32	X 30													X 54	X 56	X 45	X 46	X 46	X 45
24	X 44	X 41	X 41	X 40	X 40	X 40													X 62	X 55	X 48	X 44	X 44	X 46
25	X 44	X 44	X 44	X 43	X 38	X 37													X 68	X 59	X 44	X 46	X 45	X 44
26	X 44	X 46	X 44	X 44	X 42	X 39													X 73	X 65	X 66	X 46	X 46	X 47
27	X 50	X 46	X 46	50	X 42	X 41													X 79	X 57	X 55	X 45	X 46	X 46
28	X 46	X 47	X 46	X 47	X 37	X 39													X 73	X 70	X 70	X 48	X 47	X 49
29	X 52	X 50	X 50	X 47	X 46	X 46													X 72	X 59	X 55	X 51	X 51	53
30	50	X 48	X 47	X 47	X 46	X 43													X 92	X 80	X 55	A	X 41	X 42
31	O X 40	X 41	X 43	X 46	X 38	X 38													X 90	X 84	X 56	X 46	X 46	X 44
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	17											1	30	31	31	29	30	31
MED	X 40	X 40	X 40	X 39	X 37	X 34	X 41											X 70	X 64	X 51	X 44	X 42	X 42	X 42
U Q	X 44	X 42	X 43	X 43	X 38	X 37	X 44												X 72	X 59	X 50	X 46	X 46	X 46
L Q	X 39	X 39	X 38	X 37	X 34	X 32	X 38												X 54	X 42	X 40	X 38	X 40	X 40

MAR. 2008 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	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	36	35	35	30	28	30	36	45	56	59	59	64	79	88	68	57	62	65	50	36	36	36	36	34
2	35	33	32	33	31	28	30	51	64	66	55	62	59	68	65	59	68	59	48	36	37	36	35	35
3	32	33	30	30	28	29	34	54	57	63	56	66	59	70	71	60	55	C	52	40	34	34	36	36
4	34	34	32	30	30	28	35	49	52	55	61	66	77	72	66	63	55	58	45	34	32	30	32	34
5	33	31	32	33	36	27	33	48	48	53	60	82	78	69	72	61	56	54	47	39	34	36	39	38
6	35	34	36	36	35	28	31	48	72	66	62	80	77	67	58	61	63	52	46	36	35	34	33	32
7	32	30	30	28	28	26	33	48	52	59	54	64	72	77	65	59	58	51	A	40	33	32	33	34
8	34	32	32	31	31	29	37	48	56	58	53	61	74	77	71	59	59	54	45	31	31	31	31	28
9	27	28	29	29	20	19	31	47	61	63	71	79	90	82	64	57	71	68	48	25	32	32	30	32
10	32	36	39	19	21	22	30	55	82	77	77	85	86	64	62	64	61	61	62	36	30	32	34	33
11	34	34	34	38	29	28	34	50	58	60	60	68	83	87	65	58	54	56	55	45	36	31	33	30
12	33	31	31	30	28	26	36	51	63	66	72	64	61	68	76	70	57	59	51	44	40	31	34	35
13	33	33	33	33	32	27	38	49	57	51	60	66	58	74	81	80	76	59	44	33	35	35	35	33
14	33	33	34	32	25	24	35	53	62	62	66	60	87	69	67	58	56	64	71	54	44	A	A	34
15	33	32	32	30	32	30	38	60	60	58	66	67	62	67	67	66	64	68	64	52	43	40	39	40
16	35	36	36	31	32	26	38	49	62	75	56	61	62	65	58	57	58	66	60	46	41	40	36	35
17	35	34	33	33	29	26	38	57	60	56	55	62	71	66	63	52	55	58	68	51	37	36	36	36
18	34	33	32	32	30	28	36	47	54	54	60	65	63	73	66	62	56	64	63	44	36	37	37	36
19	36	36	36	34	32	28	38	45	53	60	61	62	66	57	56	50	52	55	60	55	46	45	46	40
20	38	36	37	33	30	30	44	48	55	54	72	H 60	54	58	56	56	57	64	63	44	32	33	33	32
21	32	33	32	32	22	22	40	46	54	51	58	62	72	73	59	51	50	52	56	52	43	41	40	40
22	38	37	36	34	32	28	40	48	59	53	60	58	77	67	64	54	54	56	55	42	32	34	35	34
23	34	33	32	33	26	24	42	46	54	52	56	62	72	65	66	70	65	56	48	50	38	40	40	39
24	38	35	35	34	34	34	44	50	56	56	64	64	77	64	63	66	65	58	56	48	42	38	38	40
25	38	38	38	37	32	31	45	55	57	57	64	66	74	66	65	60	57	63	62	53	38	40	38	38
26	38	40	38	37	36	33	48	54	52	57	64	68	66	71	66	68	60	63	67	59	60	40	40	40
27	44	40	40	F	36	35	48	46	52	61	81	92	69	64	77	82	76	73	72	51	48	39	39	40
28	40	41	40	41	31	33	42	63	54	77	81	62	79	74	80	82	72	66	67	64	63	42	41	43
29	46	44	44	41	40	40	44	54	58	58	64	75	78	76	71	74	68	66	66	52	49	45	45	F
30	F	42	41	40	40	37	46	60	61	64	71	75	74	70	67	63	65	76	86	74	49	A	35	36
31	34	35	37	40	32	32	53	64	60	60	69	72	85	72	67	62	70	84	83	78	50	40	40	38
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	29	30	30
MED	34	34	34	33	31	28	38	49	57	59	61	65	74	69	66	61	59	60	58	45	37	36	36	36
U Q	38	36	37	36	32	31	44	54	61	63	69	72	78	74	71	66	65	66	66	52	44	40	39	39
L Q	33	33	32	30	28	26	34	48	54	55	58	62	63	66	63	57	56	56	48	36	34	32	34	34

MAR. 2008 foF2 (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										L	L	E A	432	L	U L 404	L								
2										L	L	L	L	U L 432	L									
3										L	L	U L 432	L	U L 428	U L 404	L		C						
4									L	U L 388	400	U L 436	U L 440	U L 428	L	L								
5										L	L 424	U L 428	U L 432	U L 428	U L 416	L								
6									L	L	U L 440	U L 428	U L 436	L	L	L	L							
7								L	L	L	U L 424	416	U L 432	U L 432	L	L								
8									L	L	U L 436	U L 432	424	424	U L 416	L								
9									L	404	L 420	U L 432	412	L	U L 416	L	L							
10										L	U L 436	U L 432	U L 436	L	L	L								
11									L	L	U L 416	U L 436	U L 432	U L 428	L	L	L							
12									L	U L 408	U L 420	428	U L 448	412	U L 412	L	L							
13									E A	L	U L 432	428	U L 436	L	U L 412	U L 404								
14									L	L	U L 420	U L 444	424	E A	U L 412	L	L							
15										E A	L	428	L	U L 432	L	L	L							
16									L	U L 404	U L 432	U L 440	U L 448	432	L	U L 400	L							
17									L	U L 420	U L 432	U L 440	U L 424	U L 420	L	L	L							
18									L	L	U L 428	436	U L 464	424	L	L	E A							
19									L	U L 408	U L 420	U L 432	428	U L 424	U L 400	U L 400	E A	E A						
20									L	L	412	U L 444	U L 432	U L 420	U L 460	U L 412	L							
21									L	U L 408	416	U L 432	U L 420	U L 416	L	L	L							
22									L	U L 420	U L 424	U L 476	432	L 440	U L 420	L	L	L						
23									L	L	U L 440	U L 436	U L 436	U L 416	U L 432	L	L							
24									L	L	U L 436	U L 440	U L 452	U L 444	U L 436	U L 400	L							
25									L	U L 416	432	U L 444	432	U L 444	L	L	L	L						
26									L	U L 428	U L 436	U L 444	U L 444	U L 448	U L 436	L	L	L						
27									L	U L 456	U L 440	U L 440	U L 452	L	U L 428	L	L							
28									L	L	U L 424	L	U L 464	U L 448	U L 448	L	E A							
29										E A	L	E A	U L 468	E A	L	L	L							
30									L	U L 420	L	U L 456	U L 456	E A	L		L	L						
31									L	L	U L 440	U L 468	U L 452	L	L	L	L	L						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										12	25	27	28	21	16	5								
MED										U L 412	U L 428	U L 436	U L 436	U L 428	U L 416	U L 400								
U Q										U L 420	U L 436	U L 444	U L 450	U L 436	U L 434	U L 408								
L Q										U L 406	L 420	432	432	U L 422	U L 412	U L 400								

MAR. 2008 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	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								196	A	A	A	A	324	R	A	R	R	184						
2								180	264	U A 280	A	A	A	A	A	A	A	176						
3								196	248	284	R	R	A	R	U R 304	U R 276	R	C						
4								B	252		A	A	A	A	A	272	U A 240	A						
5								208	272		A	A	A	A	A	A	244	A						
6								U R 220	R	A	A	A	R	R	U R 308	U R 276	248	176						
7								212	U R 268	A	A	U R 328	332	A	A	R	A	A						
8								208	A	A	U R 316	R	R	R	R	R	244	B						
9								216	U R 268	R	R	R	R	R	U R 300	R	U R 240	U R 192						
10								192	260	A	R	R	U R 324	R	R	U R 288	U R 244	B						
11								200	A	296	R	328	R	320	A	U R 292	U R 240	A						
12								A	U R 260	A	R	R	A	R	R	276	240	A						
13								208	256	R	R	R	328	312	R	U R 280	A	A						
14								A	A	A	A	A	A	328	308	A	A							
15								A	A	A	R	A	A	A	R	R	R	U R 200						
16								216	U R 268	R	R	R	R	R	R	U R 292	A	R						
17								224	A	R	R	R	R	R	R	A	U R 248	A						
18							B	220	U R 276	300	316	328	A	A	A	A	A	B						
19							B	220	284	R	A	U R 344	R	R	R	A	A	A						
20							B	200	260	R	R	R	324	R	R	R	248	188						
21							B	208	260	A	A	R	R	R	R	R	R	U R 204						
22							B	220	272	R	R	R	R	R	R	U R 296	256	A						
23							B	228	272	A	R	R	A	R	A	A	U R 260	A						
24							B	216	R	R	A	A	R	R	U R 328	308	A	A						
25							B	220	R	A	R	R	R	R	R	R	U A 264	A						
26							B	236	U A 288	A	A	A	A	A	R	R	U R 268	U A 192						
27							B	236	284	A	R	R	R	R	324	R	A	A						
28							B	228	R	A	A	A	A	R	R	R	260	U A 208						
29							B	232	276	320	A	C	C	C	A	A	R	A						
30							B	244	284	A	A	R	A	A	340	U A 296	U R 268	U A 216						
31							B	256	R	R	R	R	352	R	A	U R 308	260	A						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								27	20	5	2	4	6	3	7	12	17	10						
MED								216	268	296	316	328	326	320	U R 308	U R 290	U 248	U 192						
U Q								228	276	310		U R 336	332	328	328	U 296	U R 260	U A 204						
L Q								208	260	282		328	324	312	U R 304	276	U 242	184						

MAR. 2008 foE (0.01MHz)

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	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	20	21	21	E B 15	E B 15	E B 15	E B 15	G 18	29	31	35	J A 50	36	G 22	34	G 20	G 20	G	E B 15	E B 15	E B 15	E B 16	E B 16	E B 15
2	20	J A 19	J A 22	J A 28	J A 23	20	E B 15	23	G 20	34	34	38	39	J A 42	34	J A 43	J A 27	19	J A 22	20	E B 15	J A 28	21	19
3	20	E B 15	E B 15	E B 16	E B 14	E B 15	J A 17	23	G 22	32	G 23	G 25	35	G 24	G 27	G 20	G 24	C	J A 20	22	J A 30	J A 21	J A 20	E B 16
4	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	23	27	31	37	39	38	37	34	33	29	J A 30	E B 15	J A 30	J A 22	J A 26	J A 23	J A 24
5	J A 27	J A 24	J A 28	J A 29	E B 15	E B 15	20	G	G 21	34	J A 39	J A 39	36	J A 35	34	J A 35	27	22	21	E B 14	19	21	J A 27	J A 32
6	J A 44	J A 28	J A 30	21	J A 30	J A 22	20	G	G 22	36	J A 40	J A 37	G 29	G 28	G 26	G 22	28	22	J A 26	J A 21	E B 16	20	E B 14	J A 20
7	E B 15	E B 15	E B 16	E B 16	E B 15	E B	20	25	J G 24	J A 32	34	G 25	37	36	36	G 20	32	J A 35	J A 57	J A 44	J A 24	J A 21	J A 44	J A 23
8	J A 22	J A 19	E B 15	E B 15	J A 19	21	E B 15	24	29	32	G 26	G 26	G 29	G 29	G 28	G 23	29	23	21	19	E B 15	E B 15	J A 20	J A 22
9	J A 52	J A 22	J A 34	J A 23	E B 15	E B 15	E B 14	G	G 24	G 26	G 27	G 24	G 26	G 26	G 24	G 20	G 20	G	E B 15	20	19	J A 21	22	20
10	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	24	30	34	G 32	G 28	G 28	G 26	G 28	G 21	27	24	21	20	18	E B 15	E B 15	E B 15
11	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	25	29	33	G 23	36	G 25	36	33	G	G 20	J A 23	E B 15	E B 14	18	E B 14	22	J A 26
12	J A 36	J A 19	21	E B 14	E B 14	E B 15	E B 14	J A 23	G J A 24	42	G J G 27	36	J A 36	G 24	G 24	32	30	25	J A 17	19	19	17	E B 14	18
13	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	E B 15	24	30	G 24	G 25	G 22	38	35	G 21	G 22	J A 46	21	J A 16	E B 15	20	18	J A 27	J A 18
14	18	18	18	19	E B 14	E B 14	E B 15	24	J A 38	34	35	J A 40	35	37	33	J A 38	J A 32	J A 48	J A 23	J A 29	J A 29	J A 34	J A 52	J A 26
15	J A 30	J A 26	J A 20	J A 25	E B 15	20	E B 15	J A 22	J A 29	J A 43	G 26	J A 39	J A 41	J A 40	G 22	G 23	G	G	E B 15	E B 15	18	E B 15	E B 16	E B 15
16	E B 15	E B 15	E B 15	20	E B 15	E B 15	E B 15	G	G 21	G 22	G 22	G 22	G 24	G 22	G 22	G 20	28	G 18	E B 15	21	21	20	20	E B 15
17	19	E B 15	E B 14	E B 15	E B 15	E B 15	E B 16	G	30	G 27	G 23	G 27	G 28	G 25	G 24	34	G	25	21	E B 14	E B 15	E B 15	E B 14	E B 15
18	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	20	27	G 23	34	36	39	38	39	36	36	J A 39	J A 25	J A 18	E B 15	E B 14	E B 15	E B 16	E B 15
19	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	19	26	33	G 25	37	G 24	G 24	G 25	G 23	35	J A 34	J A 31	J A 22	J A 28	E B 15	E B 16	E B 14	E B 15
20	E B 15	E B 15	E B 15	E B 14	E B 14	E B 14	19	26	30	G 24	G 24	G 25	37	G 23	G 21	G 20	28	24	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15
21	E B 15	E B 15	E B 15	E B 14	E B 15	E B 16	J A 21	25	31	G 25	34	G 26	G 26	G 31	G 23	G 20	G 19	G	J A 24	J A 21	E B 15	E B 16	E B 15	E B 15
22	E B 15	E B 16	E B 15	E B 14	E B 13	E B 15	J A 22	28	31	G 26	G 27	G 25	G 24	G 21	G 22	G 24	27	22	E B 14	E B 16	E B 14	E B 15	E B 14	E B 15
23	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	19	26	30	32	G 29	G J A 30	J A 34	G 28	38	35	G 20	22	E B 14	E B 14	19	E B 15	E B 15	E B 14
24	J A 23	E B 15	E B 15	E B 14	19	E B 15	18	26	G 25	G 27	36	J A 35	G 28	G 26	G 28	G 22	28	J A 31	J A 20	E B 15	18	E B 15	E B 15	E B 15
25	E B 15	E B 15	E B 16	E B 15	E B 16	E B 15	20	26	G 24	34	G 22	G 24	G 23	G 23	G 24	G 24	30	24	J A 20	19	E B 15	E B 16	E B 15	E B 15
26	E B 16	E B 15	E B 15	E B 15	E B 15	E B 14	21	28	33	36	35	J A J 46	J A 46	J A 36	G 26	G 22	G 22	23	23	J A 21	E B 15	E B 15	E B 16	E B 15
27	E B 14	18	E B 15	E B E 14	E B 14	E B 13	E B 14	26	32	36	G 31	G 30	G 28	G 27	38	G 23	34	28	20	J A 24	21	J A 30	22	J A 32
28	J A 39	J A 34	J A 29	J A 24	20	E B 15	23	29	G J A 26	40	36	J A J 36	J A 51	G 24	G 28	G 23	34	28	J A 42	22	20	E B 14	E B 15	E B 16
29	18	E B 16	E B 15	E B 15	E B 14	E B 15	19	25	32	39	42	J A 48	J A E 42	C J A 46	J A 58	J A J 36	G 19	27	J A J 28	A E 22	B J 15	A E 33	B J 16	A 45
30	E B 16	E B 15	E B 16	J A 30	J A 21	E B 15	18	28	35	36	36	G 32	J A J 40	A 57	39	39	G 20	27	J A 23	21	J A 41	A J 76	A J 65	A J 101
31	J A 72	J A 54	J A 22	J A 18	J A 24	18	20	30	G 29	G 29	G 30	G 28	40	G 25	35	G 28	30	25	J A 34	J A 23	19	J A 36	A J 24	A J 25
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31
MED	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	18	25	29	32	G 32	G 30	35	G 28	G 28	G 23	28	24	J A 20	20	18	E B 16	E B 16	E B 16
U Q	J A 23	J A 19	J A 21	A J 20	A J 16	15	20	26	31	36	36	J A 39	38	J A 36	34	35	30	J A 27	J A 23	A J 22	A J 20	A J 21	A J 22	A J 24
L Q	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	G 23	G 24	G 27	G 26	G 25	G 28	G 24	G 24	G 21	G 22	G 22	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

MAR. 2008 foEs (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	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 B 16	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	G 17	26	29	31	41	35	G 21	33	G 20	G 19	G	E B 15	E B 15	E B 15	E B 16	E B 16	E B 15
2	E B 15	E B 15	E B 15	16	16	E B 15	E B 15	21	G 19	32	32	36	36	35	33	36	26	18	17	E B 15	E B 15	22	E B 16	E B 15
3	E B 15	E B 15	E B 15	E B 16	E B 14	E B 15	E B 15	22	G 20	31	G 22	G 23	34	G 20	G 27	G 20	G 23	C	E B 15	E B 16	23	16	E B 15	E B 16
4	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	21	26	30	36	36	36	35	31	30	26	26	E B 15	20	18	23	18	E B 15
5	E B 15	E B 15	16	E B 15	E B 15	E B 15	E B 16	G	G 21	32	34	33	34	32	32	30	26	21	E B 14	E B 14	E B 15	E B 15	22	22
6	27	17	E B 15	E B 15	19	E B 15	E B 15	G	G 20	32	34	34	G 27	G 27	G 26	G 22	27	21	18	E B 15	E B 16	E B 15	E B 14	15
7	E B 15	E B 15	E B 16	E B 16	E B 15	E B 15	E B 15	G 16	G 21	30	32	G 24	36	34	34	G 20	29	30	A A 57	31	18	E B 15	E B 15	17
8	17	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	22	27	30	G 24	G 24	G 28	G 29	G 28	G 18	27	21	16	E B 15	E B 15	E B 15	E B 15	E B 15
9	20	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	G	G 22	G 25	G 26	G 24	G 23	G 22	G 21	G 19	G 19	G	E B 15	E B 16	E B 15	E B 16	17	E B 16
10	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	22	29	32	G 32	G 28	G 28	G 24	G 27	G 20	26	20	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15
11	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	23	26	32	G 22	36	G 23	35	32	G	G 19	20	E B 15	E B 14	E B 15	E B 14	E B 15	16
12	16	E B 15	E B 15	E B 14	E B 14	E B 15	E B 14	20	G 22	35	G 26	G 29	33	G 23	G 21	31	26	22	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15
13	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	E B 15	23	28	G 24	G 20	G 22	37	34	G 20	G 20	39	20	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15
14	E B 15	E B 15	E B 14	E B 15	E B 14	E B 14	E B 15	24	34	32	33	37	33	36	32	36	28	38	20	24	21	A A 34	A A 52	16
15	18	E B 15	E B 15	17	E B 15	E B 14	E B 15	19	26	39	G 22	35	37	35	G 20	G 21	G	G	E B 15	E B 15	E B 15	E B 15	E B 16	E B 15
16	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	G	G 20	G 22	G 22	G 22	G 23	G 20	G 20	G 19	27	G 17	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15
17	E B 15	E B 15	E B 14	E B 15	E B 15	E B 15	E B 16	G	28	G 25	G 22	G 25	G 27	G 23	G 22	31	G	21	E B 15	E B 14	E B 15	E B 15	E B 14	E B 15
18	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	18	25	G 21	32	34	38	36	37	35	35	34	22	16	E B 15	E B 14	E B 15	E B 16	E B 15
19	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	17	25	32	G 24	35	G 23	G 23	G 23	G 22	32	33	28	18	26	E B 15	E B 16	E B 14	E B 15
20	E B 15	E B 15	E B 15	E B 14	E B 14	E B 14	17	25	28	G 22	G 22	G 24	37	G 22	G 20	G 20	27	22	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15
21	E B 15	E B 15	E B 15	E B 14	E B 15	E B 16	18	25	29	G 24	34	G 25	G 26	G 30	G 20	G 20	G 19	G	18	16	E B 15	E B 16	E B 15	E B 15
22	E B 15	E B 16	E B 15	E B 14	E B 13	E B 15	19	26	29	G 24	G 27	G 25	G 22	G 20	G 22	G 23	26	21	E B 14	E B 16	E B 14	E B 15	E B 14	E B 15
23	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	18	G 23	30	32	G 28	G 30	33	G 27	36	31	G 20	22	E B 14	E B 14	E B 15	E B 15	E B 15	E B 14
24	E B 16	E B 15	E B 15	E B 14	16	E B 15	18	24	G 24	G 26	33	33	G 27	G 26	G 27	G 22	27	28	15	E B 15	E B 15	E B 15	E B 15	E B 15
25	E B 15	E B 15	E B 16	E B 15	E B 16	E B 15	19	25	G 23	32	G 21	G 24	G 22	G 22	G 22	G 23	29	22	E B 15	E B 15	E B 15	E B 16	E B 15	E B 15
26	E B 16	E B 15	E B 15	E B 15	E B 15	E B 14	19	27	30	34	35	37	36	35	G 26	G 22	G 22	22	20	16	E B 15	E B 15	E B 16	E B 15
27	E B 14	E B 15	E B 15	E B 14	E B 14	E B 13	E B 14	24	30	34	G 30	G 30	G 28	G 27	37	G 21	30	26	E B 16	21	E B 16	20	E B 15	22
28	28	31	21	19	E B 15	E B 15	21	26	G 25	34	34	32	39	G 24	G 26	G 20	32	26	37	18	E B 16	E B 14	E B 15	E B 16
29	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	18	24	31	37	39	47	E C 42	43	38	32	G 18	24	24	18	E B 15	16	E B 16	17
30	E B 16	E B 15	E B 16	E B 15	17	E B 15	18	27	33	34	35	G 31	36	42	37	36	G 20	25	20	E B 16	41	A A 76	16	20
31	16	20	E B 15	E B 15	17	E B 15	19	28	G 28	G 28	G 29	G 28	38	G 25	33	G 26	30	24	20	20	16	20	21	E B 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31
MED	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	23	26	32	G 31	G 30	33	G 27	G 27	G 22	26	22	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15
U Q	16	E B 16	E B 15	E B 15	15	E B 15	18	25	29	32	34	36	36	35	33	31	29	25	18	18	16	16	16	16
L Q	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	22	G 22	G 25	G 22	G 24	G 27	G 23	G 22	G 20	G 22	G 20	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

MAR. 2008 fbEs (0.1MHz)

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IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	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	16	15	15	15	15	15	15	14	14	13	15	13	13	13	14	14	14	15	15	15	15	16	16	15
2	15	15	15	15	15	15	15	14	14	14	14	15	16	14	14	14	13	14	16	15	15	15	16	15
3	15	15	15	16	14	15	15	15	14	13	14	14	14	13	14	15	15	C	15	16	15	16	15	16
4	15	16	15	15	15	15	15	15	14	14	14	15	16	15	14	14	13	15	15	15	14	14	14	15
5	15	15	15	15	15	15	16	14	15	14	15	15	15	14	13	13	14	14	14	14	15	15	15	15
6	15	16	15	15	14	15	15	14	16	16	15	15	14	12	15	15	15	14	15	15	16	15	14	14
7	15	15	16	16	15	15	15	15	14	16	13	16	14	15	15	13	14	13	16	15	15	15	15	14
8	16	15	15	15	15	15	15	14	14	15	13	14	15	15	14	14	13	14	15	15	15	15	15	15
9	16	15	15	15	15	15	14	15	13	13	14	14	16	14	15	14	13	14	15	16	15	16	15	16
10	15	15	15	14	14	15	15	14	14	14	15	14	16	14	13	13	15	16	15	15	15	15	15	15
11	15	15	15	14	14	15	15	14	14	13	15	13	14	15	14	15	13	12	15	14	15	14	15	16
12	16	15	15	14	14	15	14	13	12	14	14	14	16	15	14	14	14	14	15	16	15	15	14	15
13	15	16	15	15	14	15	15	14	14	14	14	14	15	16	14	14	15	14	16	15	16	15	15	15
14	15	15	14	15	14	14	15	12	14	14	14	14	16	14	12	E C 32	14	15	14	16	15	16	15	15
15	15	15	15	15	15	14	15	14	14	14	13	15	14	14	14	14	12	15	15	15	15	15	16	15
16	15	15	15	15	15	15	15	14	14	12	12	14	13	13	14	14	14	14	15	16	15	15	15	15
17	15	15	14	15	15	15	16	14	14	14	15	14	15	15	15	14	14	14	15	14	15	15	14	15
18	15	15	15	14	14	15	15	14	14	13	14	15	14	14	13	16	14	14	15	15	14	15	16	15
19	15	15	15	14	14	15	15	14	13	13	14	14	15	14	14	15	14	15	14	15	15	16	14	15
20	15	15	15	14	14	14	15	13	14	14	15	14	13	14	15	14	14	13	15	16	15	15	15	15
21	15	15	15	14	15	16	14	13	14	13	14	15	14	15	14	14	12	13	13	15	15	16	15	15
22	15	16	15	14	13	15	14	14	14	14	14	14	16	14	13	15	15	13	14	16	14	15	14	15
23	15	16	15	15	14	15	14	14	14	14	14	14	16	15	15	15	14	14	14	14	15	15	15	14
24	16	15	15	14	14	15	14	12	13	13	13	12	15	18	16	13	12	14	14	15	14	15	15	15
25	15	15	16	15	16	15	14	14	14	14	14	14	15	15	16	13	14	15	15	15	15	16	15	15
26	16	15	15	15	15	14	14	13	14	15	20	18	14	16	15	14	14	14	15	14	15	15	16	15
27	14	15	15	14	14	13	14	13	14	13	15	13	14	14	14	13	14	14	16	16	16	15	15	15
28	15	14	15	14	15	15	16	13	14	15	16	14	14	16	14	13	13	14	13	15	16	14	15	16
29	15	16	15	15	14	15	15	15	15	14	15	E C 42	E C 42	E C 36	16	14	14	14	13	14	15	15	16	15
30	16	15	16	15	14	15	14	14	14	15	16	17	16	17	13	14	14	14	15	16	14	16	15	15
31	16	15	15	15	15	15	16	14	15	15	16	19	21	13	15	14	14	13	13	15	14	15	15	16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31
MED	15	15	15	15	14	15	15	14	14	14	14	14	15	14	14	14	14	14	15	15	15	15	15	15
U Q	16	15	15	15	15	15	15	14	14	14	15	15	16	15	15	15	14	14	15	16	15	16	15	15
L Q	15	15	15	14	14	15	14	13	14	13	14	14	14	14	14	14	13	14	14	15	15	15	15	15

MAR. 2008 fmin (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	310	312	334	307	299	314	372	392	373	367	347	360	333	359	364	366	363	370	357	311	337	307	332	313
2	326	309	302	326	331	342	335	371	373	388	360	365	357	356	354	344	362	383	385	321	315	321	319	325
3	314	319	312	332	321	321	357	374	381	389	351	336	341	359	365	377	365	C	360	376	332	309	325	333
4	328	329	324	318	310	306	370	392	366	359	369	341	352	366	362	366	376	382	387	352	336	313	324	334
5	314	345	320	341	368	336	364	386	380	334	332	345	364	360	373	375	346	376	378	349	320	326	314	326
6	324	319	304	318	333	311	330	346	366	369	343	354	365	363	357	354	370	375	362	340	349	343	335	327
7	321	323	306	306	317	333	368	383	377	390	342	349	338	363	364	360	376	380	A	346	337	311	312	313
8	327	318	323	325	338	328	364	384	377	384	321	330	355	355	363	346	374	381	365	345	311	306	312	307
9	303	314	309	357	329	299	348	380	375	364	348	342	350	363	350	344	330	387	372	375	307	329	274	294
10	288	326	401	387	309	309	331	335	371	378	340	349	347	365	360	356	379	366	370	350	307	312	305	314
11	320	316	313	347	334	321	367	364	371	371	350	323	333	365	369	370	361	361	352	357	336	323	317	306
12	307	303	312	323	323	317	349	364	357	358	369	357	339	339	356	355	348	375	346	352	341	328	324	313
13	307	301	314	326	340	323	376	372	381	332	352	360	319	325	339	345	366	364	377	327	305	300	316	300
14	312	307	345	350	331	333	357	359	341	385	358	324	349	354	373	353	349	347	359	356	339	A	A	307
15	317	303	314	309	302	324	362	379	362	361	371	348	347	343	349	360	361	365	347	359	320	307	297	322
16	324	329	343	337	348	325	360	357	355	374	349	349	335	359	364	350	356	352	362	332	337	334	325	327
17	326	307	324	328	348	338	372	372	372	356	372	327	353	372	369	356	356	363	370	349	395	323	315	328
18	327	313	319	323	342	352	368	388	358	362	341	329	324	354	362	357	361	358	366	379	307	311	307	319
19	322	332	341	317	327	335	369	381	364	355	337	335	362	362	365	351	334	349	344	355	324	314	343	321
20	318	314	329	330	315	320	371	384	343	362	371	H 302	354	336	323	335	353	351	369	369	307	304	302	313
21	313	327	321	360	337	325	383	376	378	369	347	336	342	365	353	378	345	348	351	362	324	323	314	312
22	328	327	337	336	344	338	384	367	379	356	346	318	338	340	359	350	337	359	363	370	329	305	314	328
23	322	307	312	345	358	337	400	382	382	364	336	301	328	357	337	346	349	372	349	359	334	312	298	318
24	348	316	322	326	336	355	403	370	366	344	357	330	339	328	333	357	354	366	353	347	336	299	312	309
25	323	330	321	351	341	342	387	383	359	343	346	327	353	346	357	354	355	358	366	354	320	315	310	305
26	312	317	322	342	341	330	388	387	384	344	346	342	327	341	337	347	351	351	336	327	355	318	298	294
27	306	286	299	F	301	336	410	391	362	313	319	348	338	311	317	332	340	344	346	331	326	299	310	304
28	298	308	320	361	318	330	358	382	352	340	365	309	341	321	324	350	349	353	337	320	357	297	282	284
29	316	301	308	313	312	355	390	378	373	359	335	322	329	334	344	350	351	351	351	333	333	302	291	F
30	F	321	315	320	310	314	354	382	338	358	343	345	346	342	349	330	334	338	351	365	366	A	294	307
31	271	304	306	354	319	347	375	374	392	351	358	334	332	347	332	327	329	347	351	365	374	312	302	308
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	29	30	30
MED	318	316	320	329	331	330	368	379	371	361	347	336	341	355	357	353	354	362	360	352	333	312	312	313
U Q	324	326	324	347	341	338	383	384	378	371	358	349	353	363	364	360	363	375	369	362	339	323	319	325
L Q	310	307	312	320	315	320	357	370	359	351	341	327	333	340	339	346	346	351	351	333	320	306	302	307

MAR. 2008 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										L	L	E A	400	L	U L 398	L								
2										L	L	L	L	U L 393	L									
3										L	L	U L 394	L	U L 393	U L 404	L		C						
4									L	U L 413	397	U L 381	U L 367	U L 381	L	L								
5										L	L 393	U L 393	U L 389	U L 386	U L 379	L								
6									L	L	U L 391	U L 398	U L 390	L	L	L	L							
7								L	L	L	U L 397	428	U L 401	U L 385	L	L								
8									L	L	U L 427	U L 405	395	386	U L 388	L								
9									L	398	L 389	U L 398	422	L	U L 376	L	L							
10										L	U L 388	U L 408	U L 386	L	L	L								
11									L	L	U L 396	U L 376	U L 396	U L 395	L	L	L							
12									L	U L 381	U L 388	402	U L 392	436	U L 382	L	L							
13									E A	L	U L 383	405	U L 387	L	U L 403	U L 389								
14									L	L	U L 410	U L 408	417	E A	U L 396	L	L							
15										E A	L	426	L	U L 383	L	L	L							
16									L	U L 383	U L 410	U L 387	U L 383	386	L	U L 396	L							
17									L	U L 397	U L 416	U L 405	U L 413	U L 393	L	L	L							
18									L	L	U L 391	383	U L 380	399	L	L	E A							
19									L	U L 395	U L 425	U L 412	414	U L 399	U L 411	U L 386	E A	E A						
20									L	L	401	U L 394	U L 408	U L 427	U L 359	U L 373	L							
21									L	U L 415	399	U L 396	U L 425	U L 408	L	L	L							
22									L	U L 402	U L 419	U L 366	400	L 373	U L 383	L	L	L						
23									L	L	U L 397	U L 416	U L 394	U L 423	U L 360	L	L							
24									L	L	U L 395	U L 404	U L 376	U L 386	U L 374	U L 395	L							
25									L	U L 422	419	U L 406	429	U L 394	L	L	L	L						
26									L	U L 407	U L 437	U L 409	U L 396	U L 385	U L 391	L	L	L						
27									L	U L 351	U L 383	U L 370	U L 384	L	U L 398	L	L							
28									L	L	U L 395	L	U L 383	U L 388	U L 364	L	E A							
29										E A	L	E A	U L 376	E A	L	L	L							
30									L	U L 400	L	U L 396	U L 405	E A	L		L	L						
31									L	L	U L 409	U L 394	U L 370	L	L	L	L	L						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										12	25	27	28	21	16	5								
MED										U L 399	U L 397	U L 398	U L 394	U L 393	U L 386	U L 389								
U Q										U L 410	U L 413	U L 408	406	U L 399	U L 398	U L 396								
L Q										U L 389	U L 391	U L 393	U L 384	U L 386	U L 375	U L 380								

MAR. 2008 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 h'F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										240	272	252	274	240	240	246								
2										220	246	246	258	270	256									
3										234	264	270	270	248	246	234		C						
4									238	250	250	280	252	244	244	234								
5										290	292	260	236	252	236	238								
6									248	240	278	254	248	234	258	252	244							
7								234	242	230	290	270	274	242	250	252								
8									242	222	252	294	258	256	242	268								
9									238	260	256	254	248	236	256	252	266							
10										234	268	254	252	238	244	254								
11									246	240	258	290	268	238	230	242	240							
12									246	252	234	252	272	276	248	248	254							
13									224	252	272	266	298	286	248	254								
14									264	228	254	310	254	244	244	248	256							
15										252	246	262	260	282	242	256	242							
16									258	232	272	262	288	272	258	270	252							
17									236	258	250	300	260	252	250	258	262							
18									238	260	284	300	296	258	258	256	242							
19									260	256	256	278	252	262	258	268	256	250						
20									266	258	242	276	266	294	316	278	256							
21									236	258	284	274	276	238	252	240	256							
22									234	260	274	314	270	274	256	258	264	246						
23									236	262	286	334	274	274	290	262	246							
24									240	270	254	278	260	266	290	262	254							
25									238	260	278	294	258	262	258	266	256	254						
26									236	274	272	266	282	266	272	260	258	250						
27									250	330	296	248	270	308	296	256	256							
28									254	262	242	292	270	276	288	250	242							
29										244	268	270	280	262	266	254	250							
30									254	256	268	260	268	276	272		272	278						
31									226	254	262	278	256	252	276	280	286	254						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	24	31	31	31	31	31	31	29	22	6						
MED								234	241	254	268	270	268	262	256	254	256	252						
U Q									252	260	278	292	274	274	272	262	258	254						
L Q									236	240	252	260	256	244	244	248	246	250						

MAR. 2008 h'F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 h'F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	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 B 266	E B 264	256	238	E B 296	E B 278	204	212	212	204	198	A	206	220	204	204	206	218	204	208	222	E B 272	240	E B 254
2	E B 252	E B 264	E B 278	E B E A 268	240	220	226	226	224	A	192	210	210	196	212	E A 240	222	214	198	222	E B 262	E A 276	242	234
3	E B 264	E B 250	E B 262	E B 248	226	E B 258	216	212	H 192	202	192	204	204	198	196	H 188	H 200	C	204	200	E A 270	248	E B 250	238
4	E B 250	242	E B 252	E B 268	E B 274	E B 276	204	204	194	H 180	E A 232	208	206	224	206	212	214	212	200	204	236	E A 306	E A 264	228
5	E B 264	E B 248	E A 254	228	212	212	212	H 186	208	200	198	188	182	192	198	212	206	210	200	196	228	232	E A 260	E A 262
6	E A 282	E A 256	E B 276	E B 256	E A 258	216	236	220	222	204	194	198	210	202	184	H 178	212	208	204	212	226	210	226	234
7	E B 260	E B 252	E B 272	E B 278	E B 262	E B 266	222	200	200	200	H 180	186	200	H 188	226	212	224	210	A	E A 250	224	E B 250	E B 274	E A 264
8	E A 246	E B 256	E B 258	E B 260	230	236	214	202	206	198	H 180	186	184	196	194	194	222	214	198	198	E B 264	E B 278	E B 286	E B 288
9	E A 330	E B 282	E B 288	200	E B 262	E B 358	226	210	210	198	174	202	196	196	H 194	202	216	200	202	210	E B 286	216	E A 346	E B 318
10	E B 306	244	194	206	E B 280	E B 304	238	220	232	208	214	182	170	180	H 180	210	224	220	202	192	E B 260	E B 260	E B 276	E B 276
11	E B 262	242	E B 270	232	218	226	222	218	182	200	H 174	210	192	216	192	198	194	222	216	198	200	230	E B 264	E A 306
12	E A 292	E B 292	E B 272	E B 246	222	E B 258	228	218	220	212	216	194	200	176	H 178	218	206	214	210	206	216	208	E B 246	E B 254
13	E B 284	E B 278	E B 270	238	228	206	204	206	A	194	H 192	184	212	236	202	214	226	210	198	200	E B 276	E B 280	E B 268	E B 292
14	E B 264	E B 276	230	214	228	E B 246	226	232	220	210	192	188	186	A	208	220	222	E A 240	212	212	220	A	A	E A 298
15	E A 284	E B 294	E B 264	E A 296	E B 262	E B 264	218	H 200	200	A	H 188	188	202	216	186	204	214	H 198	204	202	E B 242	E B 256	E B 276	236
16	E B 246	E B 246	224	238	226	226	224	210	200	206	188	218	208	208	202	200	200	224	204	206	226	222	E B 246	E B 260
17	E B 250	E B 256	E B 252	236	214	228	216	220	202	196	196	176	H 180	202	220	208	206	230	214	196	202	244	E B 256	E B 248
18	E B 248	E B 262	E B 254	234	E B 230	218	208	206	H 180	212	198	220	212	214	226	A	A	230	208	192	E B 254	E B 268	E B 254	E B 262
19	E B 248	236	230	232	226	222	210	204	226	204	192	184	H 184	200	192	186	A	A	232	210	232	E B 250	222	230
20	E B 248	E B 272	234	234	228	E B 260	218	212	210	200	200	H 178	204	H 186	214	210	226	228	206	196	234	E B 270	E B 266	E B 274
21	E B 282	242	240	208	202	E B 252	212	208	214	196	200	190	186	H 186	202	188	218	H 200	216	204	220	E B 254	E B 250	E B 254
22	E B 254	242	232	218	214	220	204	212	212	192	186	182	H 172	208	214	210	206	216	210	198	218	E B 274	E B 266	E B 262
23	E B 254	E B 260	E B 262	230	202	214	198	208	206	206	188	184	198	182	240	224	216	224	216	206	214	250	E B 262	E B 258
24	234	E B 254	E B 256	244	230	216	198	214	208	200	H 188	H 174	208	186	208	192	204	222	218	198	218	E B 260	E B 268	E B 246
25	E B 250	E B 232	240	230	200	226	202	204	200	190	190	176	H 172	194	212	200	206	220	208	202	200	240	E B 258	E B 266
26	E B 270	240	E B 254	240	222	222	206	212	198	196	H 184	186	182	196	210	196	206	214	226	220	202	216	E B 264	E B 286
27	E B 266	E B 292	E B 282	E B 256	E B 256	E B 248	192	202	212	212	184	200	220	216	210	214	214	230	216	222	214	E A 286	E B 274	E A 308
28	E A 328	E A 310	E A 260	222	E B 250	230	212	216	212	216	H 190	212	224	200	196	218	A	224	240	246	206	238	E B 264	E B 286
29	E B 258	E B 276	E B 258	E B 256	250	212	206	216	216	A	230	A	230	A	E A 248	214	222	230	222	236	212	E A 274	E B 290	E A 284
30	E B 248	E B 250	E B 256	240	E A 266	E B 246	214	212	204	204	194	194	190	A	E A 240	E A 244	222	224	226	200	228	A	E A 256	E A 294
31	E A 318	E A 304	E B 270	214	E A 244	214	208	218	202	190	190	H 176	230	238	200	204	H 220	216	216	204	188	E A 252	E A 288	E B 286
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	30	28	31	29	31	28	31	30	28	29	30	31	31	29	30	31
MED	E B 262	E B 256	E B 256	228	222	220	212	212	208	200	192	188	200	199	203	206	214	217	209	204	219	E 252	E B 264	E B 262
U Q	E A 282	E B 276	E B 270	E B 256	E B 258	E B 258	222	218	214	206	198	203	210	215	214	214	222	224	216	212	E B 242	E 273	E B 274	E B 286
L Q	E B 250	244	240	228	222	218	204	204	200	196	188	183	184	190	194	198	206	211	204	198	214	235	250	248

MAR. 2008 h'F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 h'E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	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								124	A	A	114	A	118	112	112	112	112	110						
2								110	118	118	118	118	A	A	A	A	A	120						
3								122	122	120	112	112	112	110	110	114	114	C						
4								B	122	116	114	A	A	A	A	120	124	A						
5								120	122	118	A	A	A	A	A	A	122	118						
6								116	124	114	A	A	116	118	114	112	124	110						
7								116	118	A	A	118	116	A	A	116	118	A						
8								114	118	A	118	114	120	122	114	110	118	B						
9								110	120	120	114	110	116	114	116	114	118	122						
10								116	120	120	122	118	114	112	112	118	114	B						
11								118	118	118	114	114	116	118	120	116	118	A						
12								A	118	A	114	114	A	112	114	114	114	112						
13								114	120	118	116	114	110	110	112	112	A	A						
14								112	120	114	A	A	116	120	112	A	A							
15								A	A	A	114	A	A	A	112	114	114	110						
16								114	114	114	112	116	116	120	114	114	118	118						
17								110	A	118	114	114	118	120	118	114	116	116						
18							B	124	122	116	114	112	114	116	114	114	A	B						
19							B	114	120	120	A	118	116	118	114	A	A	A						
20							B	114	118	118	118	110	114	114	110	112	114	114						
21							B	112	112	114	114	116	116	122	116	114	114	116						
22							B	118	118	118	114	114	112	110	114	118	116	122						
23							B	126	120	120	116	114	A	114	112	112	118	A						
24							B	124	126	122	A	A	118	114	114	118	112	A						
25							B	118	116	114	112	110	114	110	118	118	124	118						
26							B	116	120	116	A	A	A	A	114	110	116	118						
27							B	126	118	120	118	114	116	120	124	112	116	124						
28							B	112	116	116	116	A	A	114	112	110	116	116						
29							B	114	114	118	122	C	C	C	A	A	112	122						
30							B	120	122	120	A	118	A	A	118	118	118	116						
31							B	120	120	116	116	116	116	112	A	116	116	120						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								28	28	26	23	21	21	23	25	26	26	19						
MED								116	120	118	114	114	116	114	114	114	116	118						
U Q								120	121	120	118	117	116	120	116	116	118	120						
L Q								114	118	116	114	113	114	112	112	112	114	114						

MAR. 2008 h'E (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	100	84	92	B	B	B	B	108	106	108	118	98	160	100	124	100	102	G	B	B	B	B	B	B
2	106	102	90	90	92	98	B	150	102	120	120	116	102	104	108	88	86	146	88	92	B	96	96	98
3	104	B	B	B	B	B	102	168	106	162	100	98	126	94	104	98	104	C	104	96	96	96	94	B
4	B	B	B	B	B	B	B	126	132	122	112	106	104	104	108	172	126	106	B	110	102	98	98	104
5	100	94	100	96	B	B	100	G	100	118	104	106	104	104	106	96	150	120	86	B	94	90	108	96
6	98	94	102	94	94	92	96	G	98	120	106	106	98	96	94	100	158	144	90	90	B	96	B	102
7	B	B	B	B	B	B	102	100	94	92	98	104	156	106	106	108	120	106	102	102	102	102	100	94
8	90	94	B	B	96	96	B	148	110	102	98	96	98	98	100	98	138	110	104	104	B	B	104	134
9	98	96	98	98	B	B	B	G	102	98	98	98	100	102	106	108	104	G	B	108	104	96	82	84
10	B	B	B	B	B	B	B	138	150	120	106	100	98	98	96	98	146	122	92	88	96	B	B	B
11	B	B	B	B	B	B	B	166	118	158	102	158	100	130	128	G	104	106	B	B	104	B	102	96
12	96	94	94	B	B	B	B	108	100	96	96	94	92	92	94	150	136	116	110	98	104	104	B	96
13	B	B	B	B	B	B	B	156	156	102	102	96	154	162	100	84	102	110	114	B	104	108	108	98
14	96	96	96	96	B	B	B	120	112	112	102	106	112	164	154	100	102	100	102	100	100	94	92	92
15	96	94	94	96	B	102	B	102	100	96	96	98	94	96	96	96	G	G	B	B	102	B	B	B
16	B	B	B	98	B	B	B	G	100	98	100	98	102	98	98	100	116	106	B	100	98	94	100	B
17	102	B	B	B	B	B	B	G	100	98	94	98	102	100	94	122	G	120	94	B	B	B	B	B
18	B	B	B	B	B	B	146	152	102	158	154	142	128	118	118	116	102	106	90	B	B	B	B	B
19	B	B	B	B	B	B	160	160	174	100	106	108	102	104	102	104	104	104	100	96	B	B	B	B
20	B	B	B	B	B	B	132	136	148	100	102	100	146	94	98	98	174	152	B	B	B	B	B	B
21	B	B	B	B	B	B	140	144	160	96	136	98	98	108	104	104	100	G	94	96	B	B	B	B
22	B	B	B	B	B	B	138	144	152	100	100	100	96	98	100	100	130	120	B	B	B	B	B	B
23	B	B	B	B	B	B	134	158	152	120	98	98	100	98	114	116	102	104	B	B	106	B	B	B
24	102	B	B	B	102	B	144	136	106	102	102	96	98	92	98	102	134	106	106	B	106	B	B	B
25	B	B	B	B	B	B	134	136	102	122	98	96	96	98	102	102	124	116	92	92	B	B	B	B
26	B	B	B	B	B	B	132	144	134	112	102	102	100	98	94	94	96	130	98	104	B	B	B	B
27	B	98	B	B	B	B	B	170	150	130	108	102	104	108	154	98	128	122	120	102	108	102	96	94
28	100	98	94	94	96	B	138	134	120	118	106	96	98	98	92	94	132	118	106	106	86	B	B	B
29	112	B	B	B	B	B	150	158	150	138	126	118	C	120	108	98	100	122	110	104	B	102	B	102
30	B	B	B	98	94	B	144	148	128	120	102	100	104	102	156	128	102	132	108	104	98	102	102	100
31	102	98	96	92	100	104	152	162	106	102	98	104	138	94	106	104	144	116	106	94	96	88	88	88
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	15	12	10	10	7	5	17	26	31	31	31	31	30	31	31	30	29	26	22	20	18	15	14	15
MED	100	95	95	96	96	98	138	144	110	112	102	100	102	100	104	100	116	116	102	100	102	96	99	96
U Q	102	98	98	98	100	103	145	158	150	120	106	106	112	106	108	108	135	122	106	104	104	102	102	102
L Q	96	94	94	94	94	94	117	134	102	100	98	98	98	98	98	98	102	106	92	95	96	94	94	94

MAR. 2008 h'Es (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2008 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

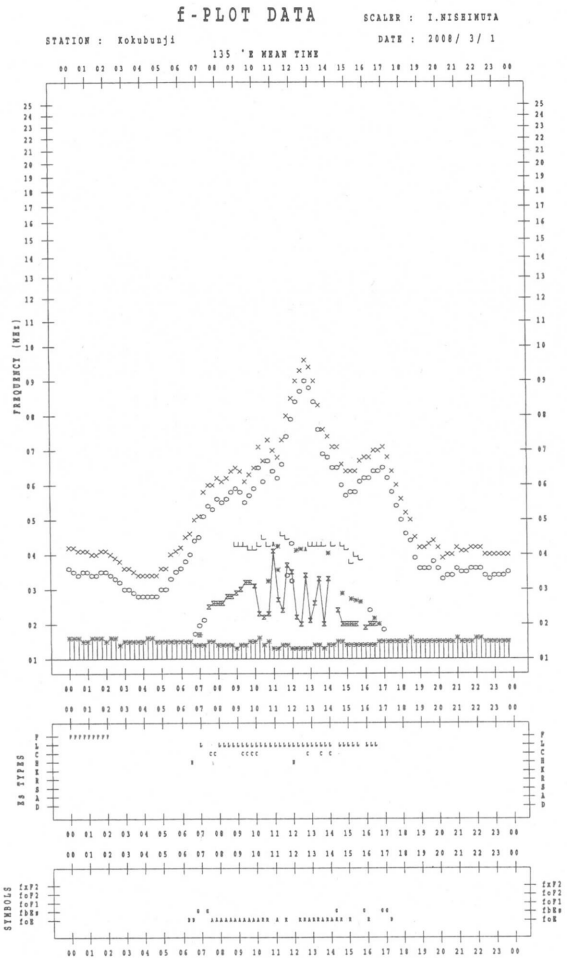
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F 1	F 1	F 2					L 2	L 3	L 2	CL 22	L 3	HL 11	L 2	CL 11	L 2	L 2							
2	F 2	F 1	F 2	F 3	F 2	F 1		H 2	L 2	CL 22	CL 22	CL 21	L 2	L 2	L 1	L 3	L 5	HL 22	F 3	F 1		F 6	F 3	F 2
3	F 1						F 1	H 2	L 2	HL 12	L 2	L 2	CL 12	L 3	L 2	L 2	L 2		F 2	F 1	F 3	F 3	F 4	
4								C 2	CL 12	CL 12	CL 22	L 2	L 2	L 2	L 1	HL 11	CL 21	L 4		F 4	F 4	F 5	F 3	F 3
5	F 2	F 2	F 2	F 2			F 2		L 2	CL 22	L 2	L 1	L 1	L 2	L 1	L 2	HL 22	CL 22	F 1		F 1	F 2	F 3	F 4
6	F 5	F 2	F 2	F 2	F 4	F 3	F 2		L 2	CL 12	L 2	L 1	L 2	L 1	L 1	L 2	HL 11	H 2	F 4	F 1		F 1		F 2
7							F 1	L 2	L 3	L 2	L 2	L 2	HL 11	L 2	L 2	L 1	C 2	L 3	F 6	F 5	F 4	F 3	F 3	F 2
8	F 3	F 1			F 3	F 1		H 2	CL 12	L 3	L 2	L 2	L 1	L 1	L 1	L 1	HL 21	C 3	F 2	F 1			F 2	F 2
9	F 3	F 2	F 2	F 2					L 2	L 2	L 2	L 1	L 2	L 2	L 2	L 2	L 2			F 1	F 1	F 1	F 2	F 1
10								H 2	HL 21	CL 11	L 2	L 2	L 1	L 2	L 2	L 2	HL 11	CL 22	F 2	F 1	F 1			
11								H 2	CL 12	HL 12	L 2	HL 21	L 2	HL 11	CL 11		L 1	L 2			F 1		F 2	F 3
12	F 3	F 1	F 1					L 2	L 2	L 3	L 2	L 2	L 3	L 2	L 2	HL 11	HL 11	C 3	F 1	F 1	F 1	F 1		F 2
13								H 3	HL 23	L 2	L 2	L 2	HL 12	HL 22	L 2	L 2	L 3	L 2	F 1		F 2	F 1	F 2	F 2
14	F 2	F 1	F 1	F 1				C 2	CL 22	CL 22	L 2	L 1	CL 12	HL 11	HL 12	L 2	L 2	L 4	F 3	F 5	F 8	F 6	F 4	F 5
15	F 5	F 3	F 2	F 3		F 1		L 3	L 3	L 3	L 2	L 2	L 2	L 2	L 2	L 2					F 2			
16				F 2					L 2	L 2	L 2	L 2	L 2	L 1	L 1	L 1	CL 21	L 1		F 1	F 2	F 2	F 2	
17	F 1								L 3	L 2	L 1	L 1	L 1	L 2	L 2	CL 11		C 3	F 1					
18							H 3	H 2	L 2	HL 12	HL 12	HL 12	CL 12	CL 11	CL 12	CL 22	L 3	L 2	F 2					
19							H 1	H 2	HL 22	L 3	L 2	L 1	L 1	L 2	L 2	L 2	L 2	L 3	F 2	F 5				
20							H 3	H 2	HL 12	L 2	L 2	L 2	HL 11	L 2	L 2	L 2	HL 11	HL 22						
21							H 3	H 3	HL 12	L 1	CL 11	L 2	L 1	L 1	L 2	L 2	L 2		F 3	F 3				
22							H 4	HL 22	HL 22	L 2	L 2	L 2	L 2	L 2	L 2	L 1	HL 12	C 2						
23							H 3	H 2	HL 12	CL 12	L 1	L 2	L 2	L 2	CL 21	CL 21	L 1	L 2			F 1			
24	F 2				F 1		H 1	H 2	L 2	L 2	L 1	L 2	L 1	L 1	L 2	L 1	CL 11	L 4	F 1		F 1			
25							H 2	HL 22	L 2	CL 12	L 1	L 1	L 1	L 2	L 2	L 1	CL 11	C 2	F 2	F 1				
26							H 3	HL 22	CL 12	CL 11	L 2	L 2	L 2	L 2	L 2	L 2	L 2	CL 22	F 3	F 3				
27		F 2						HL 12	HL 12	CL 11	L 2	L 1	L 1	L 2	HL 22	L 2	CL 22	CL 32	F 1	F 5	F 1	F 4	F 3	F 4
28	F 6	F 7	F 6	F 5	F 2		H 3	C 2	L 2	CL 22	CL 11	L 2	L 2	L 2	L 2	L 3	HL 22	HL 22	F 4	FF 22	F 1			
29	F 2						H 2	H 2	HL 12	HL 11	CL 21	C 2		C 2	L 2	L 2	L 2	CL 11	F 4	F 2		F 4		F 5
30				F 3	F 4		H 3	H 2	H 2	CL 11	L 1	L 1	L 1	L 2	HL 12	CL 12	L 2	C 2	F 3	F 1	F 4	F 4	F 3	F 4
31	F 4	F 3	F 3	F 2	F 3	F 1	H 1	H 2	L 2	L 2	L 2	L 1	HL 11	L 1	L 1	L 1	HL 11	CL 32	F 2	F 3	F 3	F 3	F 5	F 3
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

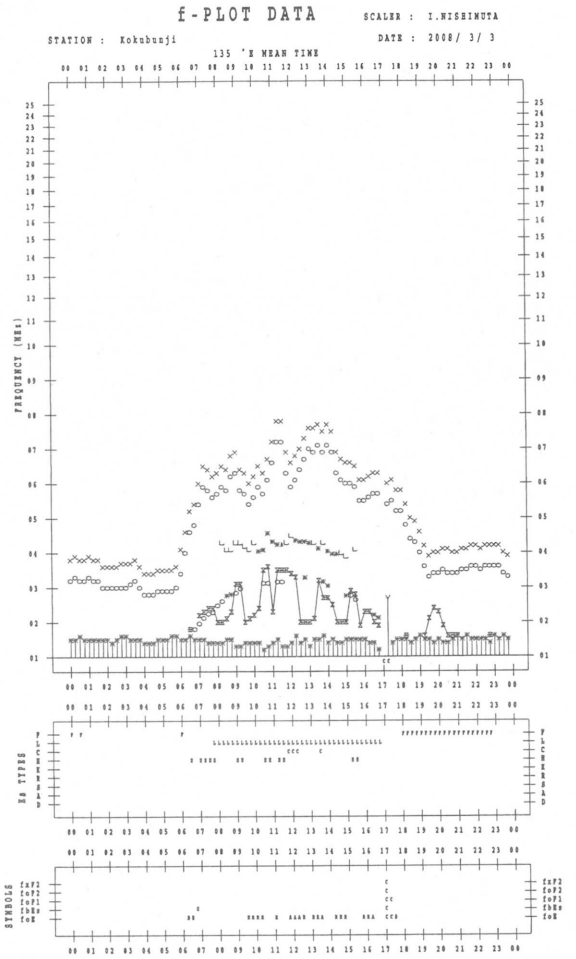
MAR. 2008 TYPES OF Es

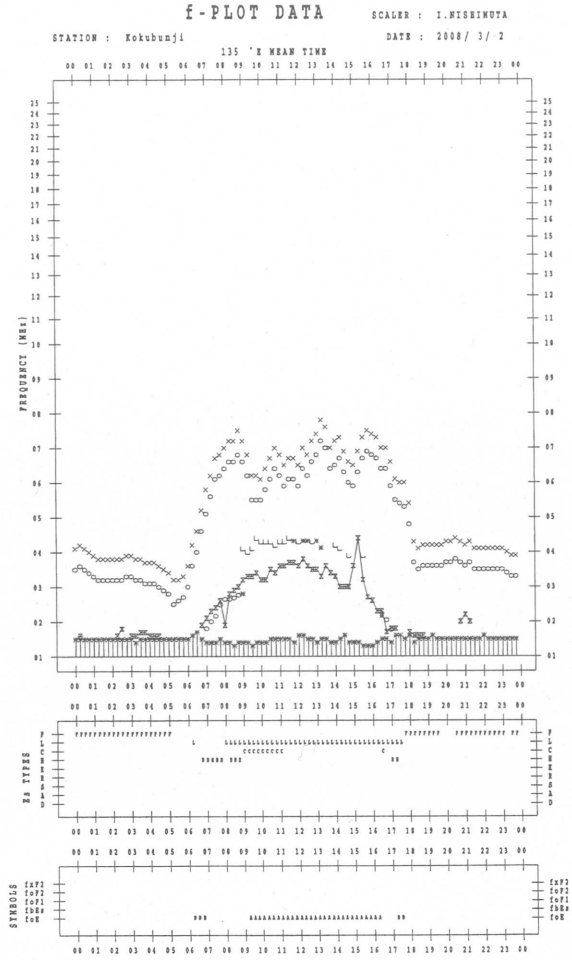
NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

f-PLOTS OF IONOSPHERIC DATA

KEY OF f-PLOT	
	SPREAD
	foF2, foF1, foE
	fxF2
	DOUBTFUL foF2, foF1, foE
	fbEs
	ESTIMATED foF1
	fmin
	GREATER THAN
	LESS THAN


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/ 1
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/ 3
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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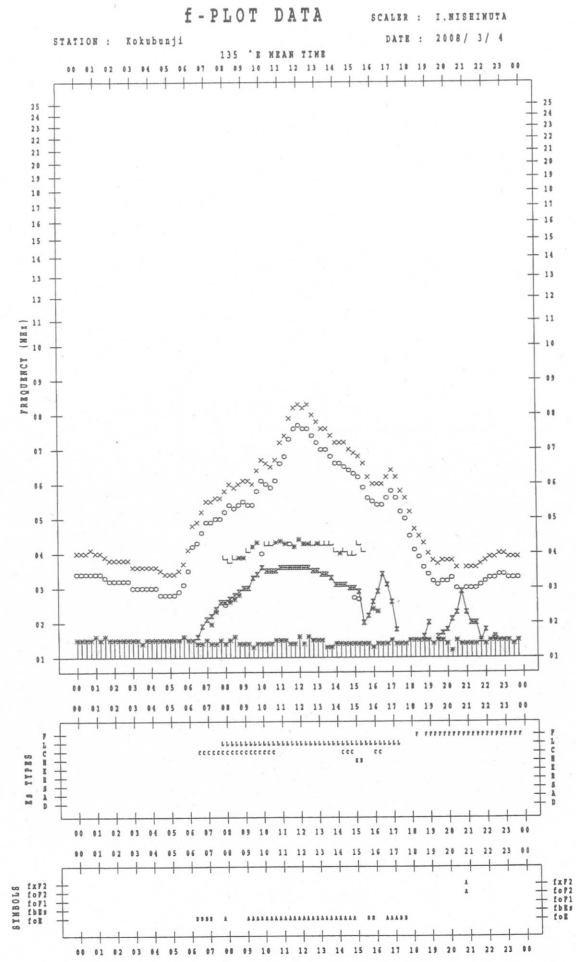
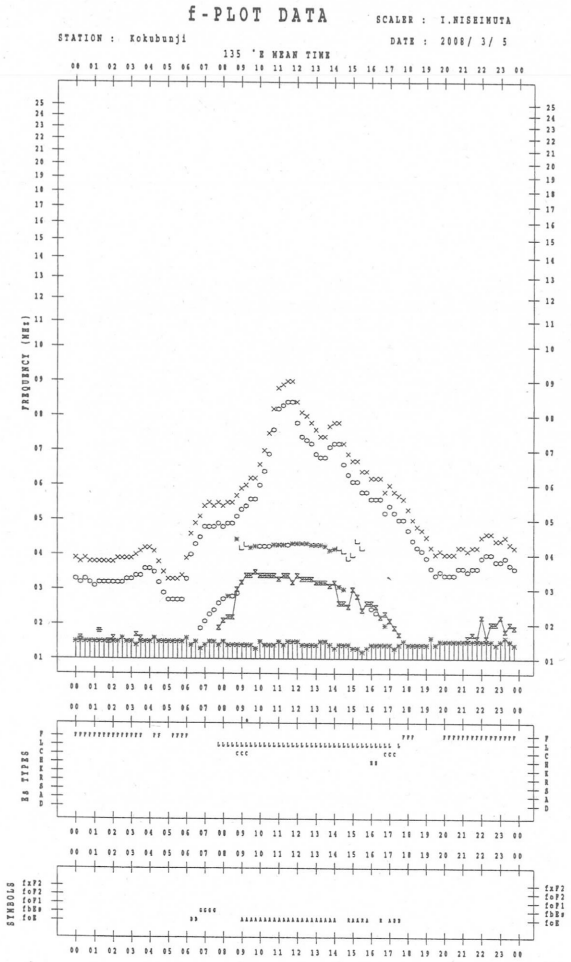
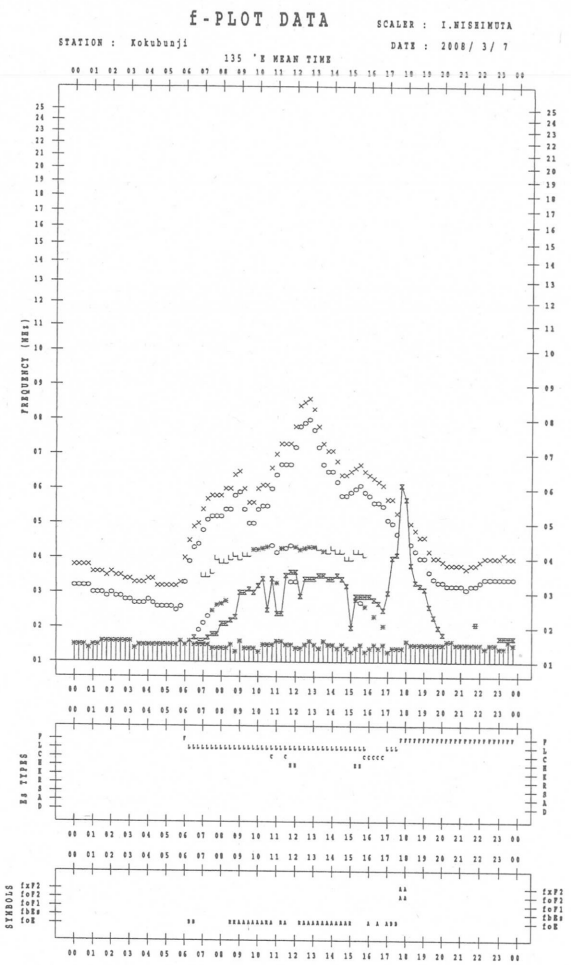
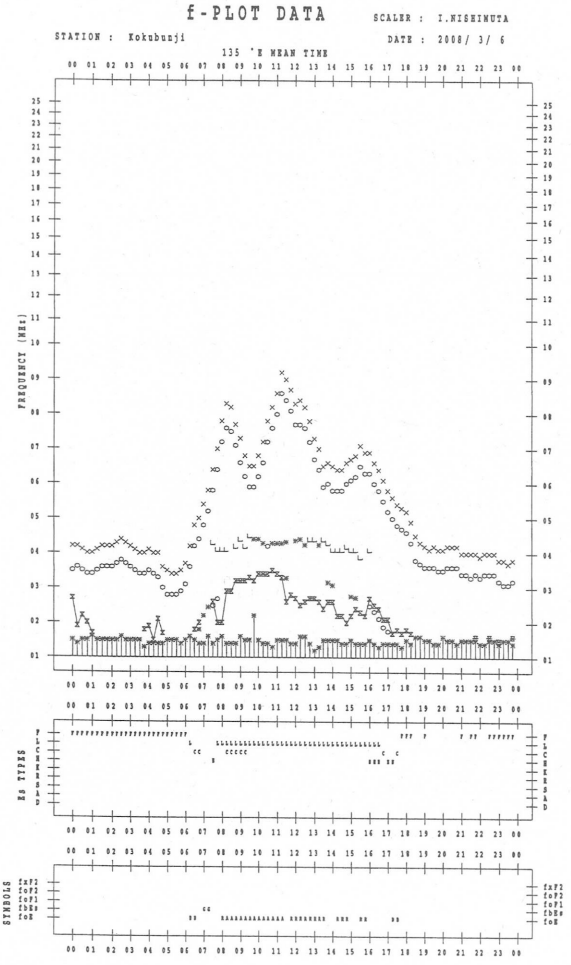
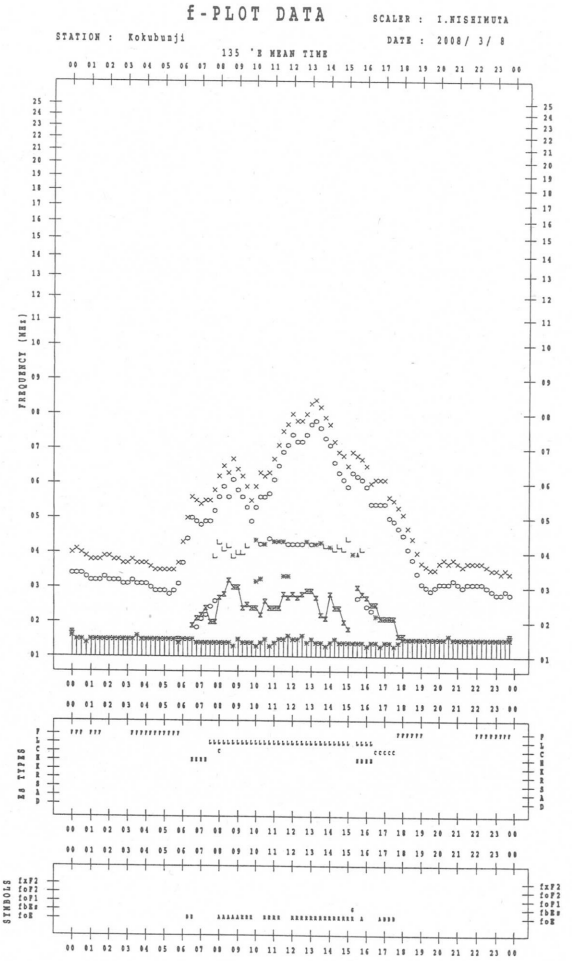
STATION : Kokubunji
DATE : 2008/ 3/ 2
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

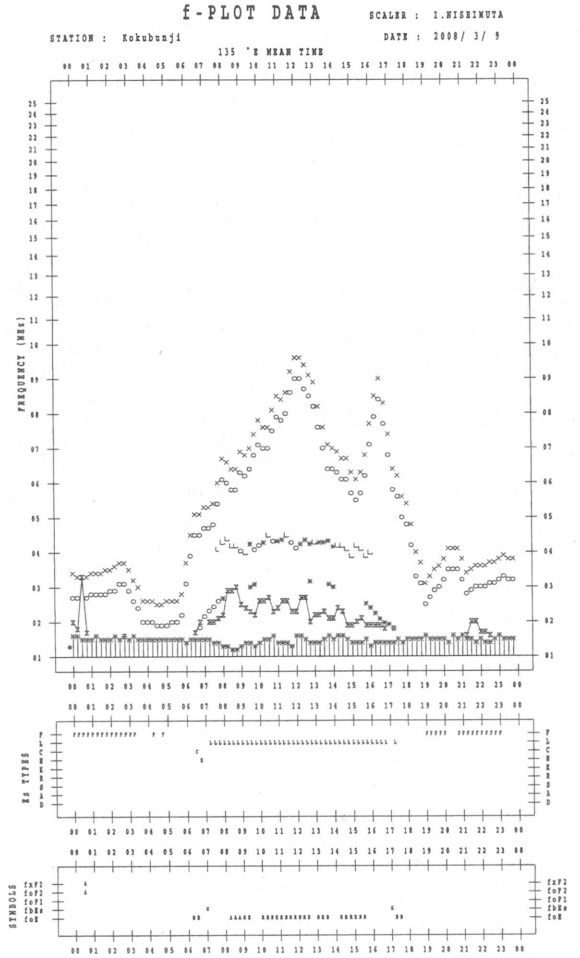

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/ 4
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

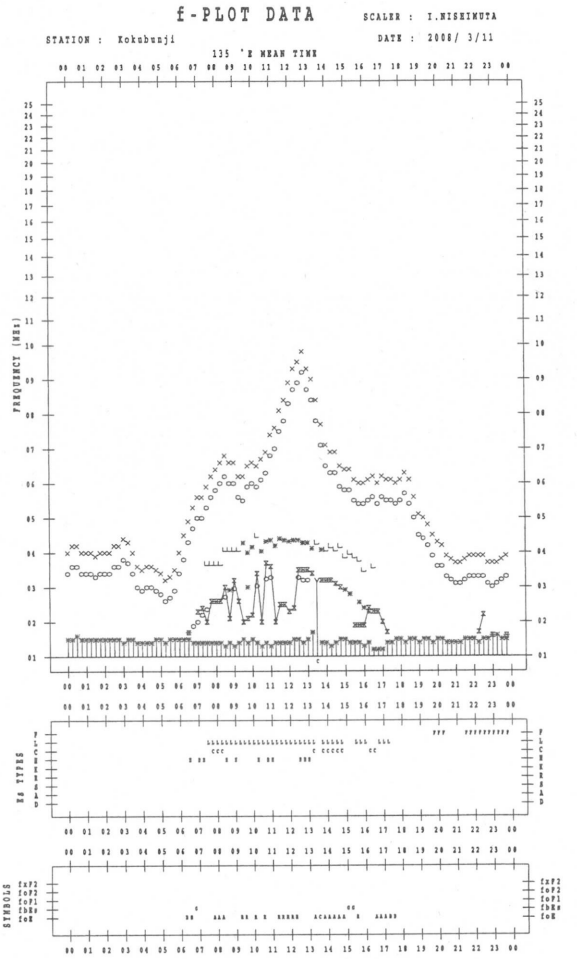

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/ 5
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

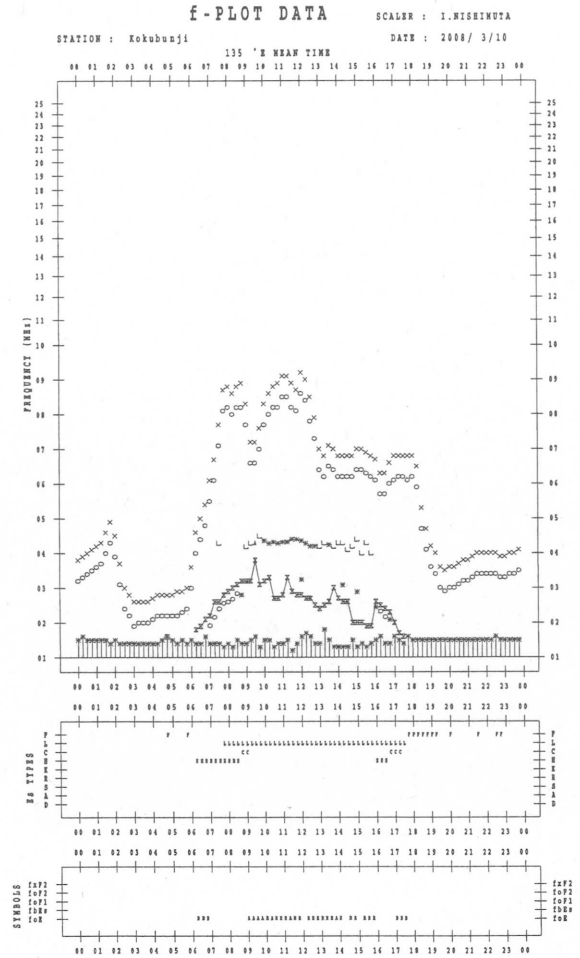

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/ 7
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

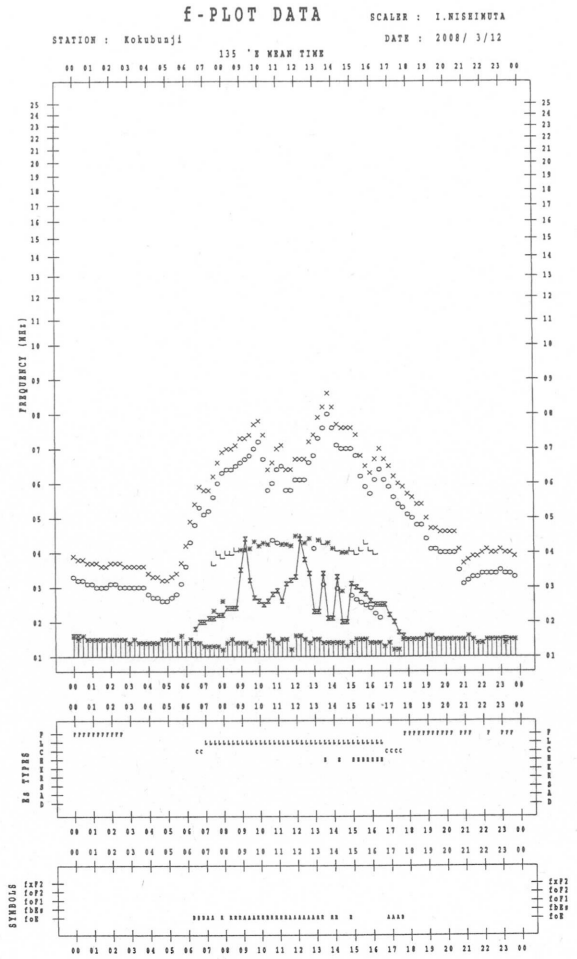

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/ 6
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

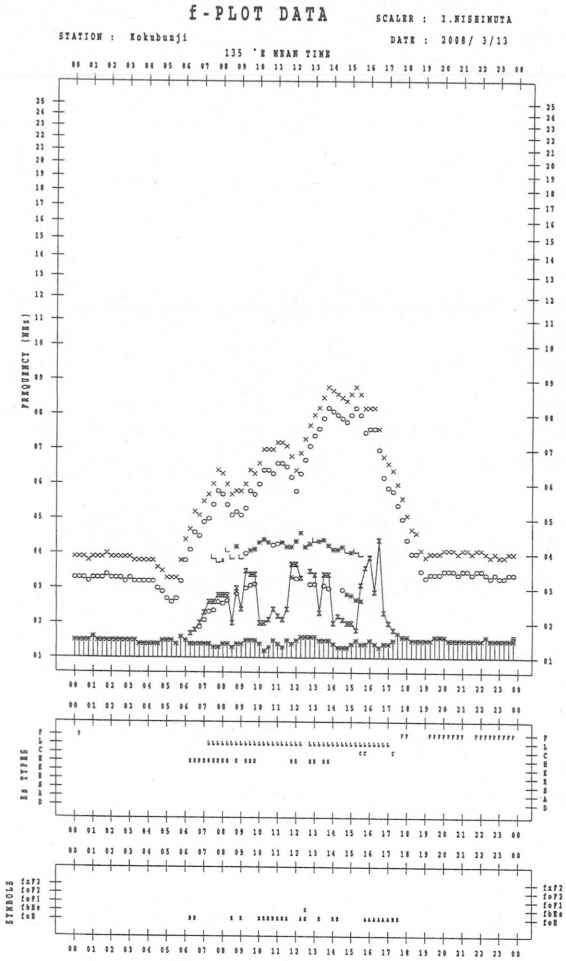

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/ 8
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

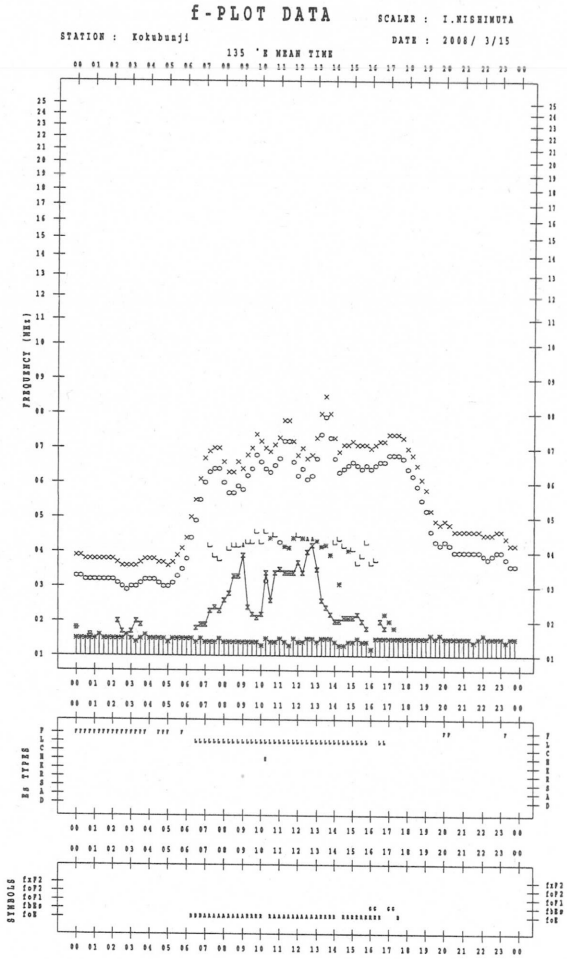

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/ 9
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

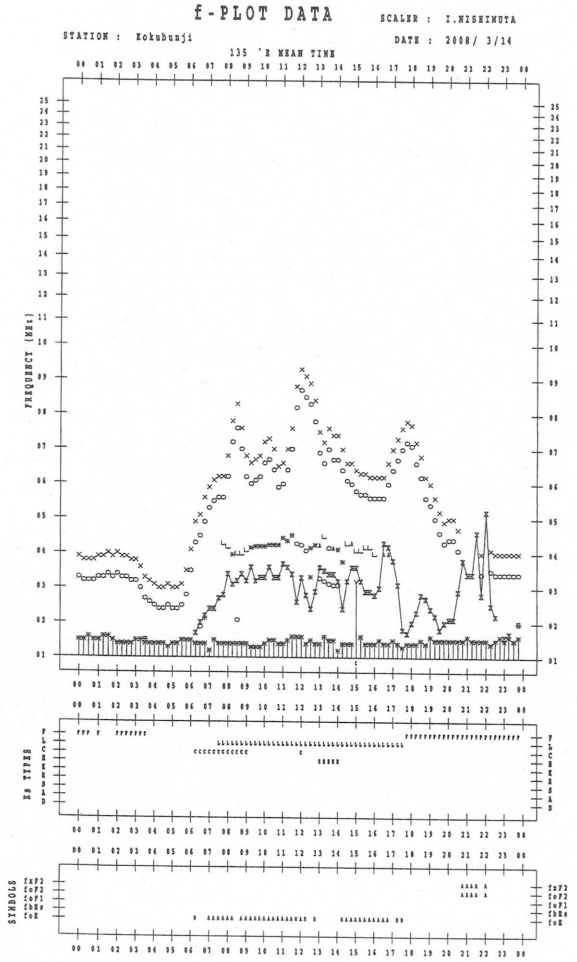

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/11
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/10
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/12
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/13
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/15
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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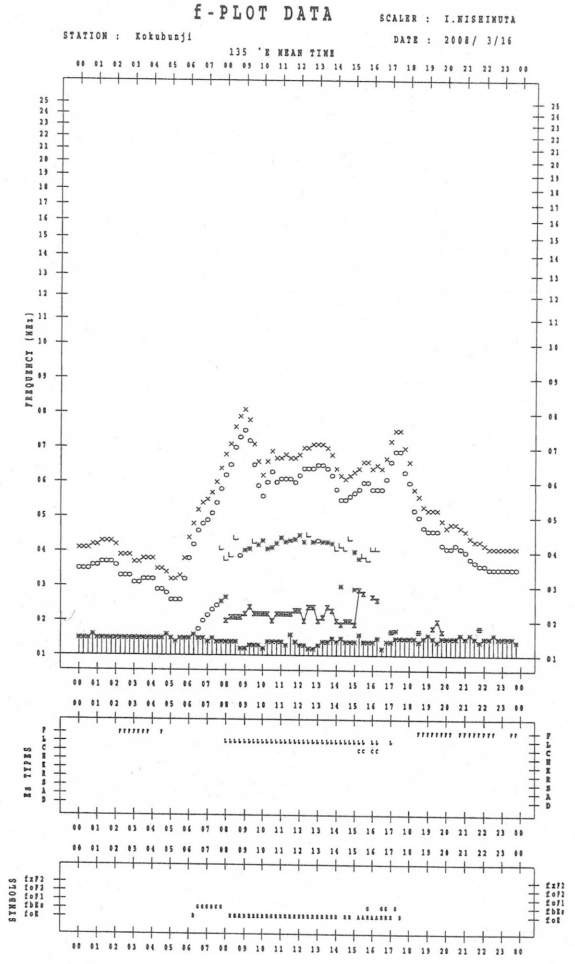
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/14
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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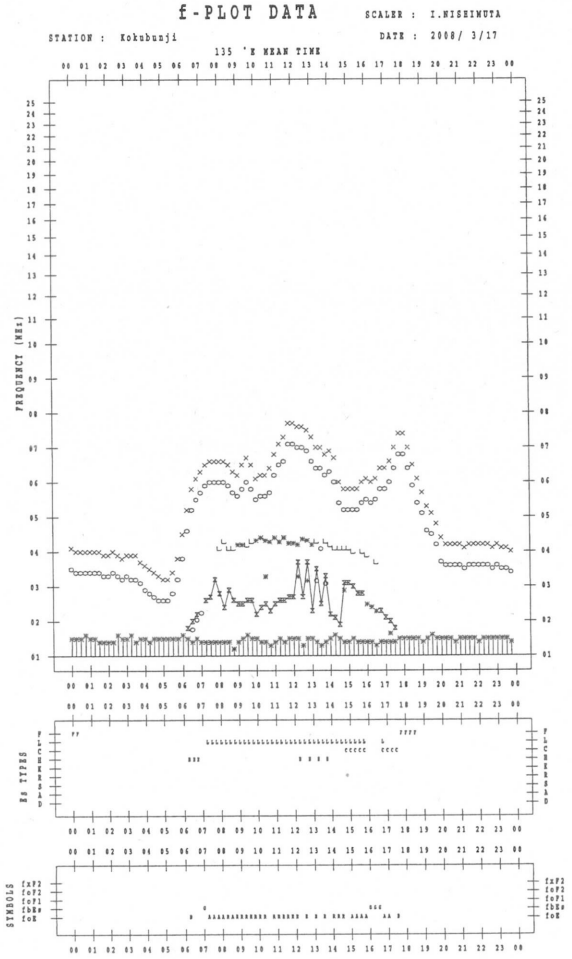
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/16
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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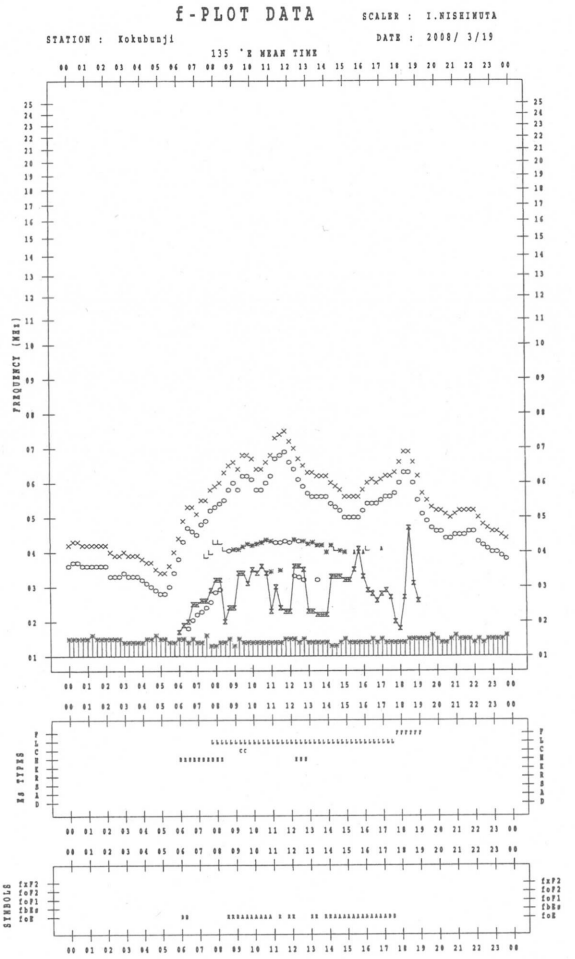
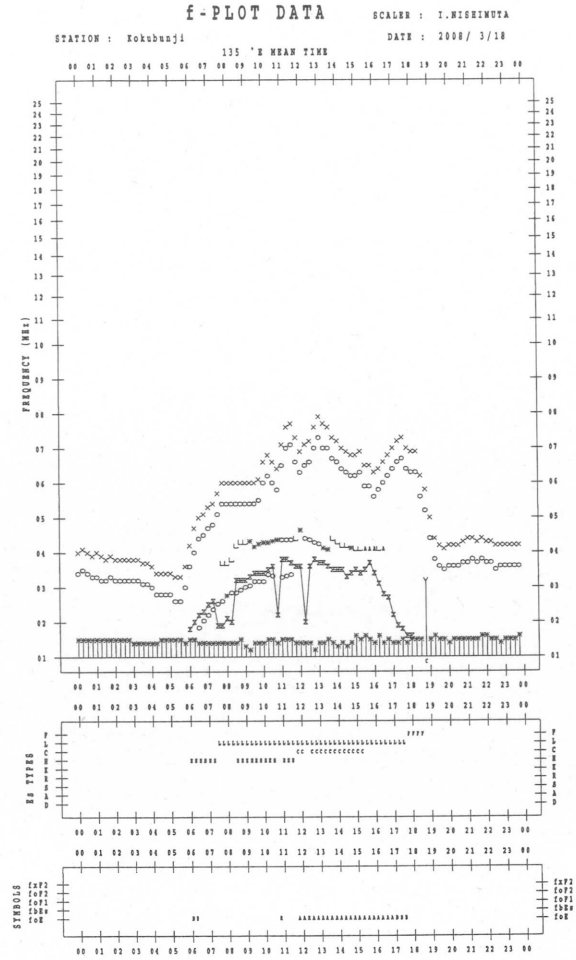
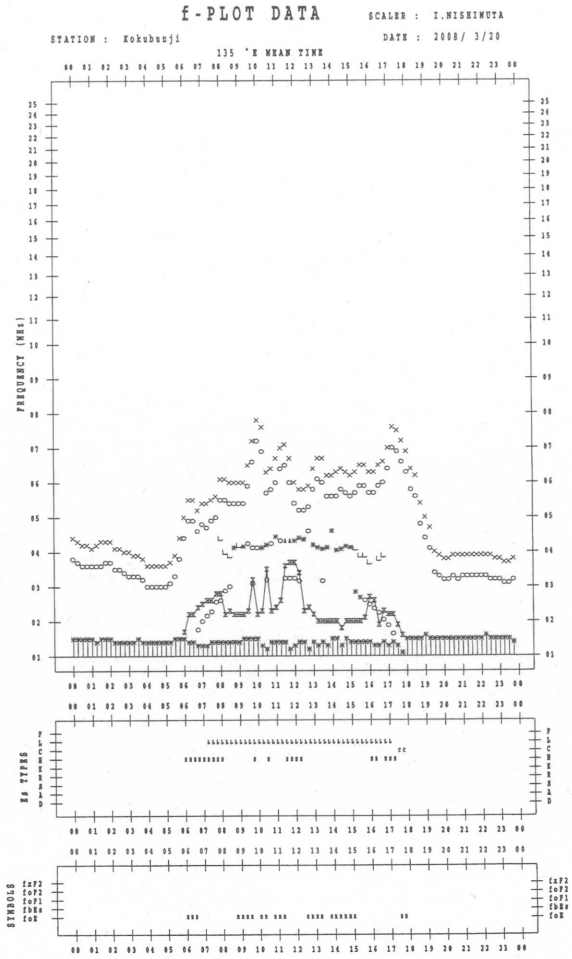
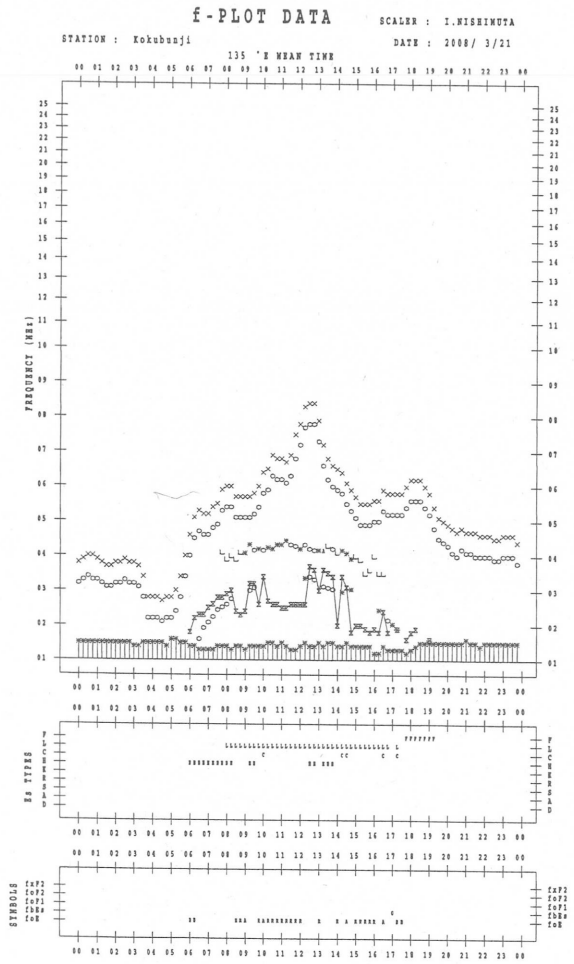
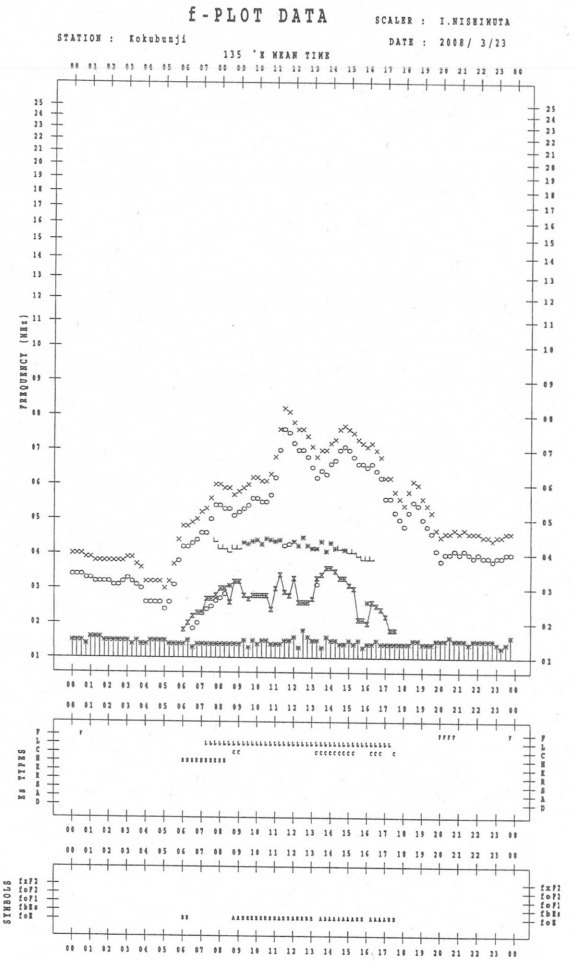
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/17
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/19
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/18
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/20
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/21
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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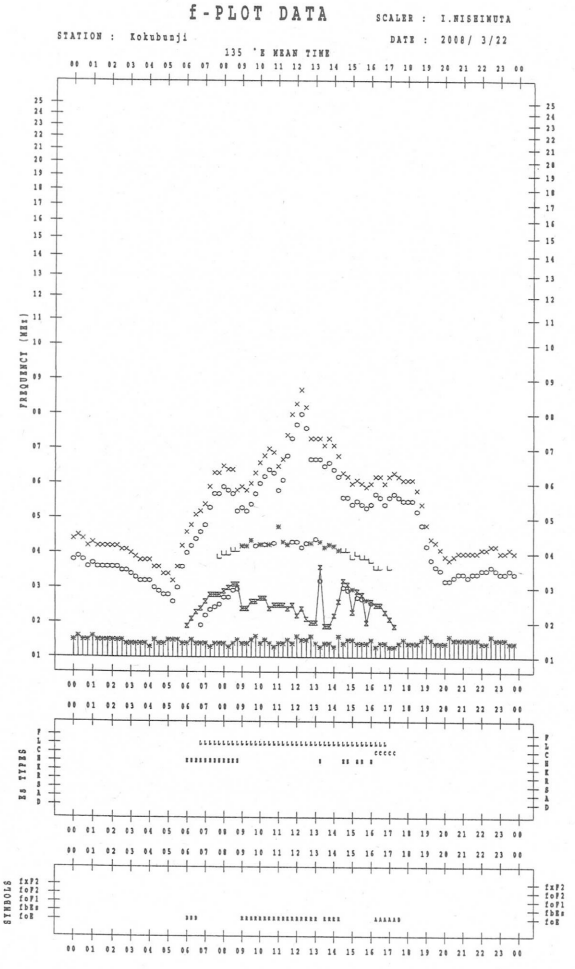
STATION : Kokubunji
DATE : 2008/ 3/23
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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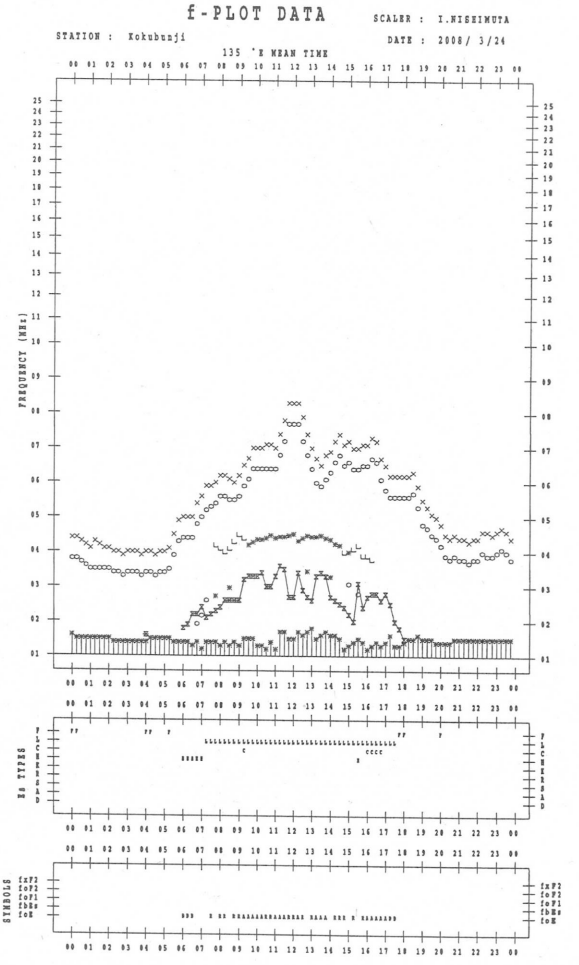
STATION : Kokubunji
DATE : 2008/ 3/22
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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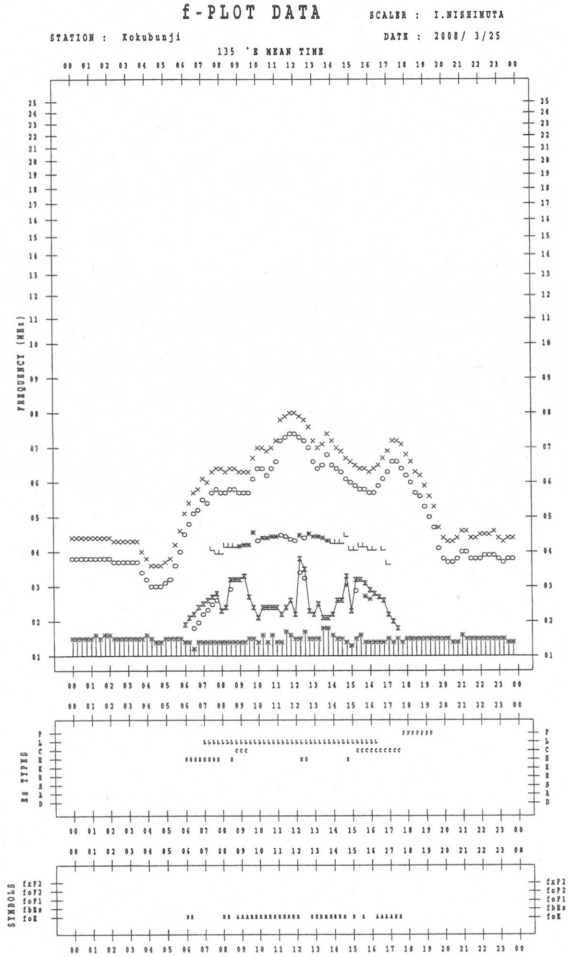
STATION : Kokubunji
DATE : 2008/ 3/24
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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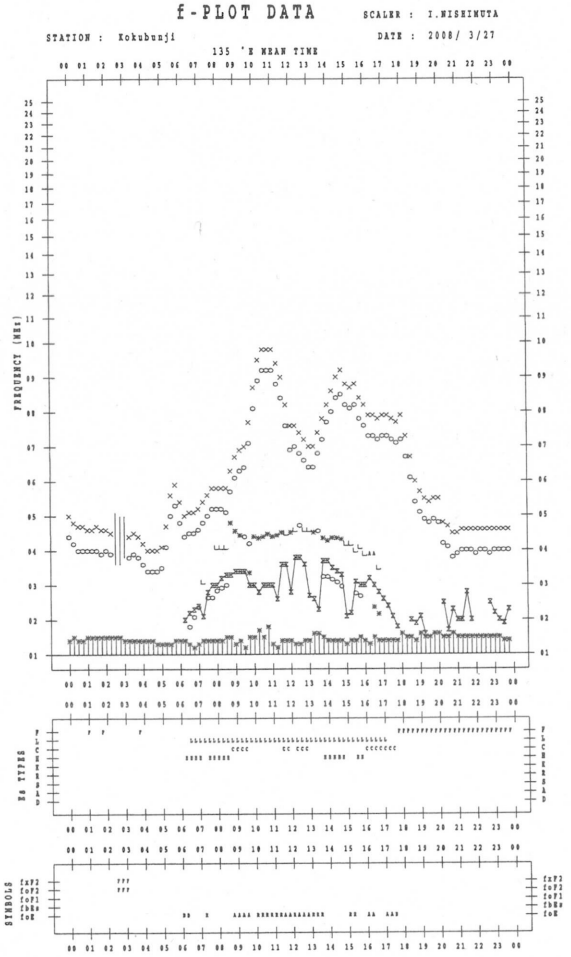
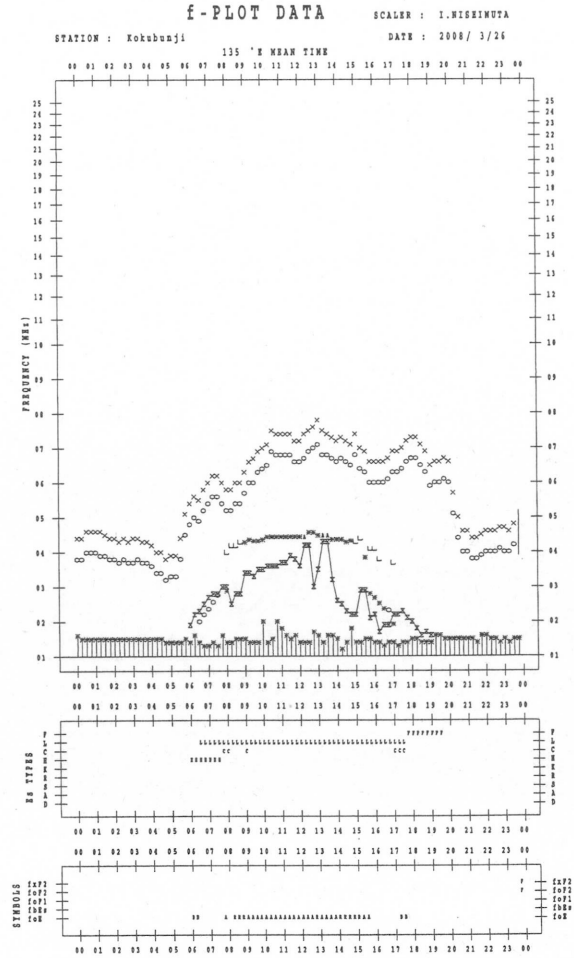
STATION : Kokubunji
DATE : 2008/ 3/25
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/27
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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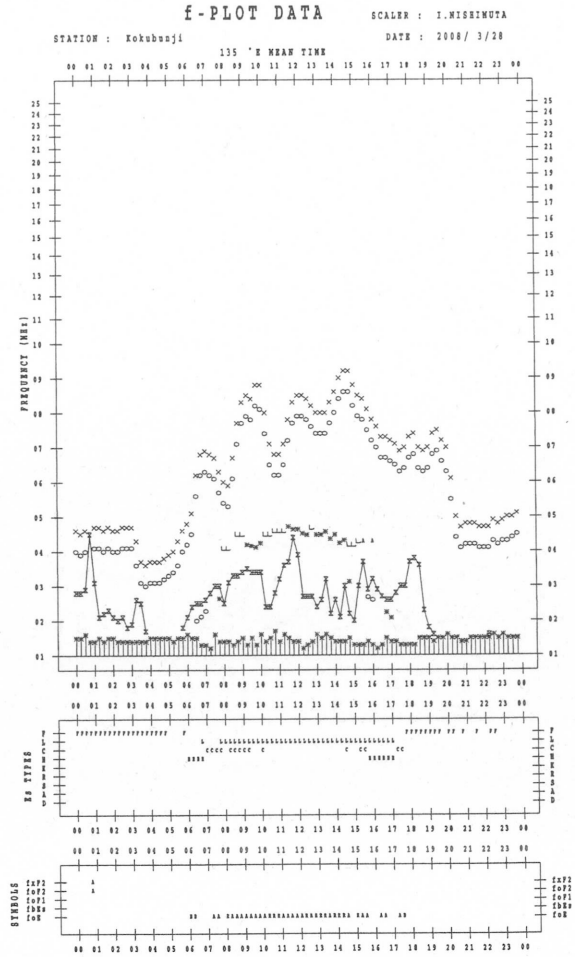
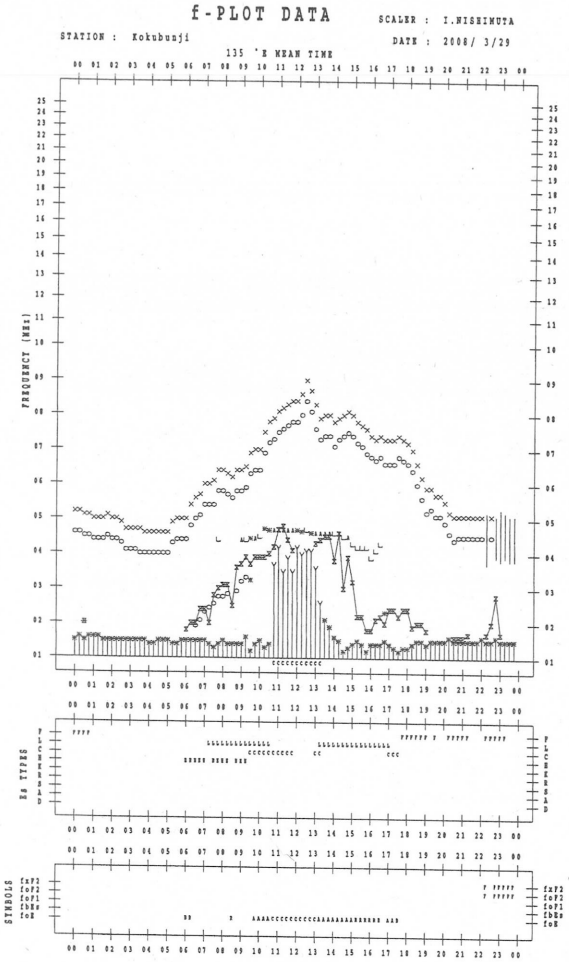
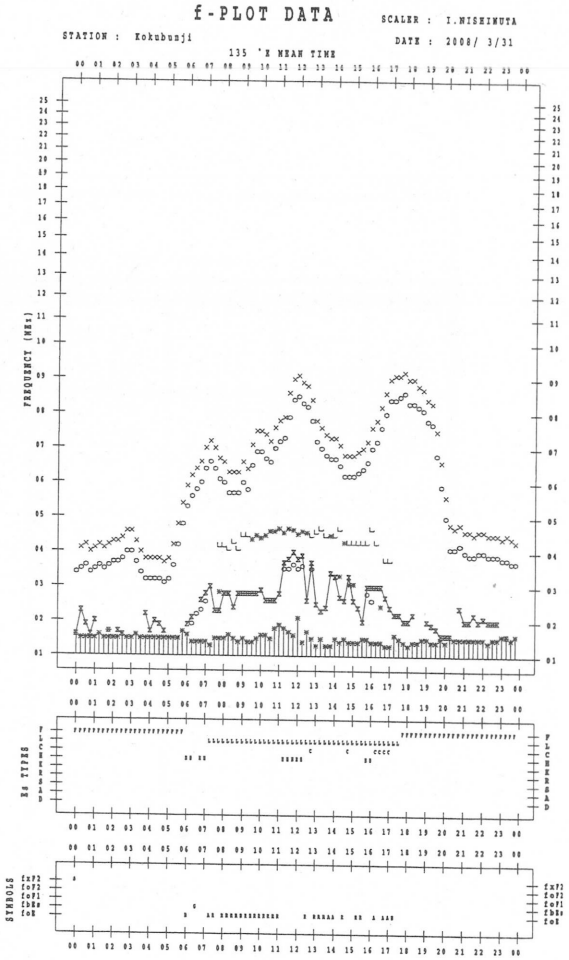
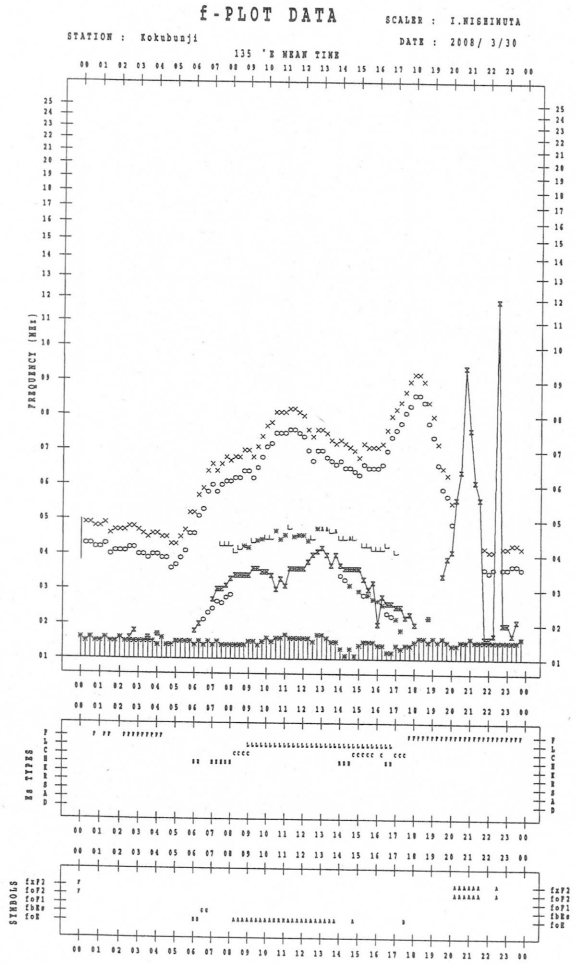
STATION : Kokubunji
DATE : 2008/ 3/26
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/28
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/29
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/31
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 3/30
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

B. Solar Radio Emission

B1. Outstanding Occurrences at Hiraiso

Hiraiso March 2008

Single-frequency observations

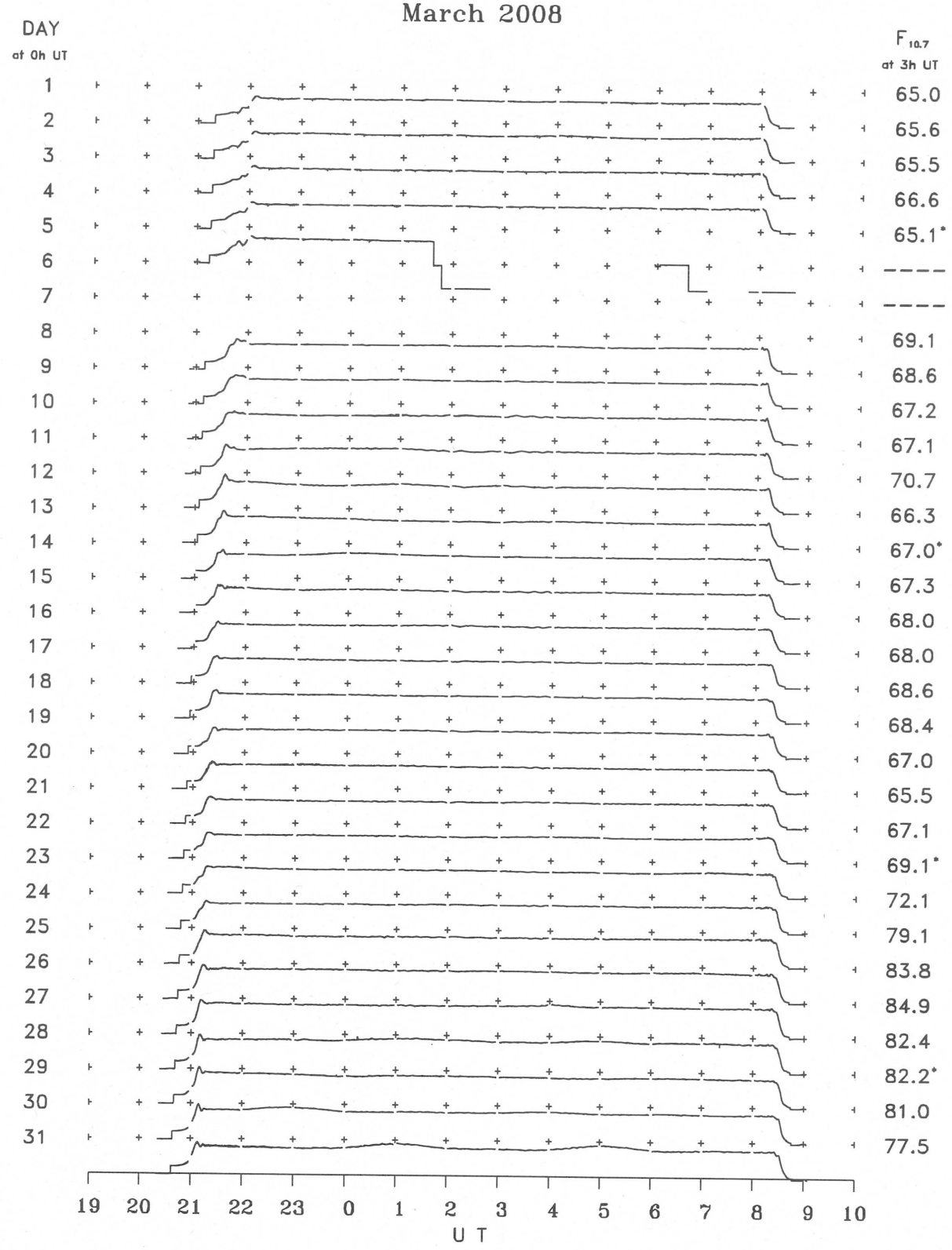
Normal observing period: 2040 – 0850 U.T. (sunrise to sunset)

MAR. 2008	FREQ. (MHz)	TYPE	START TIME (U.T.)	TIME OF MAXIMUM (U.T.)	DUR. (MIN.)	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) PEAK	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) MEAN	POLARIZATION REMARKS
25	2800	1 S	0451.0	0454.0	7.0	5	–	
28	2800	8 S	0015.0	0015.0	1.0	10	–	

B. Solar Radio Emission

B2. Summary Plots of $F_{10.7}$ at Hiraiso

March 2008



Note: A vertical grid space corresponds to a 100 sfu.
Elevation angle range ≧ 6°.

IONOSPHERIC DATA IN JAPAN FOR MARCH 2008
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