ISSN 0021-0382

F−712

IONOSPHERIC DATA IN JAPAN

FOR APRIL 2008

VOL.60 NO.4

CONTENTS

NATIONAL INSTITUTE OF INFORMATION
AND COMMUNICATIONS TECHNOLOGY
TOKYO, JAPAN

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

APR. 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	37	37	37	30	37	41	46	53		65	61	68	71	66	65	66	62	66	72	66	45	38	32	34
2	30	34	36		38	36	49	55	58	66	67	70	68	66	62	61	64	60	63	54	52	47	44	41
3	40	32	38	32	34	38		55	58	62	66	72	66	62	62	61	59	54	61	48	54	44	31	37
4	36	34	34	34	32	36	43	57	52	61	65	66		59	56	55	58	56	54	51	48	45	42	34
5	40	37	37	34	34	40	40	45	A	53	51	53	57	62	61	56	58	62	56	53	43	45	44	45
6	44	41	40	38	34	36	42	48	53	52	A	60	64	64	61	56	56	64	60	54	52	53	40	40
7	44	40	51	45	43	42	48	45	60	58	56	65	60	60	62	60	65	60	42	46	43	41	38	37
8	30	30		34	32	36	40	42	46				62	60	60	58	55	55	52	55	50	52	43	44
9	41	38	40	46	41	46	44	46	57	44		53	49	A	A	56	57	50	53	55	52	50	39	42
10	37	37	34	34		30	41	45	47			A			60	57	49	46	48	55	50	47		32
11	34	34	34	30		35	40	44	57	54	60	54	54	59	60	60	56	56	55	54	46	41	38	34
12	34	32	29	30	23	35	34	42	54	50	55	55	56	58	64	59	42	54	55	65	47	40	A	32
13	35	34	34	32	32	34	40	43	A	51		45		44		54	50	47	49	54	53	41	42	38
14	37	34	32	32	32	35	40	36	40		A			52	54	52	56	44	46	50	46	43	34	31
15	34	34	34	34	30	40		44		50	54	61	49	54	60	51	40	53	45	45	45	44	43	38
16	37	34	32	34	32	41	40	42	50		40	A	54	58	54	54	56	60	58	60	54	54	43	40
17	34	36	34	34	34	37			38						52	45	50	52	46	53	45	45	45	43
18	44	40	40	34	34	37	37	44	51	55	56	40	54	51	59	56	52	53	46	46	45	38	47	42
19	38	36	34	34	34	38	38	43	46		57	56	52		54	55	48	50	46	45	53	45	43	38
20	34	28	32	34	37	41	41	45	43	39	39			55		57	60	58		53	51	47	41	36
21	37	34	36	34	34	31	40	43			56				43	51	51	48	48	53	52	40	42	40
22	37	36	34	34	34	40	44	44	45	52	54				49	51	54	55	50	52	45	45	38	43
23	41	38	37	32	40	38	38	44	60	50	60			57	57	57	52	52	60	72	66	69	47	32
24	34	34			34	31	41	32			A						54	52	45	45	45	45	34	34
25	34	26	34	32	29	32	34	31	41	33				A		56	54	52		40	41	38	34	34
26	32	32	31	31	34	41	45	44	57		39				56	60	58	56	46	53	53	54	34	42
27	37	32	34	34	34	40	34		45							52	56	52	46	46	45	44	50	42
28	42	41	37	36	39	47	46	52	A	A	A	A			59	46	40	50	47	45	53	45	44	40
29	36	38	34	34	32	31	57	A	48	A	A	A				57	52		45	45	45	43	42	40
30	41	41	41	41		39	46	47	54	60		60	57	64	66	62	57	45	46	53	54	53	44	
31																								
	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	30	28	28	27	30	27	27	23	18	17	15	15	18	23	29	30	29	28	30	30	30	28	29
MED	37	34	34	34	34	38	41	44	51	52	56	60	57	59	60	56	56	53	48	53	49	45	42	38
U Q	40	38	37	34	37	40	45	47	57	60	60	66	64	62	62	59	58	57	55	54	53	47	44	42
L Q	34	34	34	32	32	35	40	43	45	50	52	53	54	55	54	53	51	50	46	46	45	41	38	34

HOURLY VALUES OF fEs AT Wakkanai

APR. 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	25	G	27	33	28			49	44	G	39	G	G	G	35	29	38	G	G	G	G	G
2	G	G	G	28	26	G			G	G	G	G	G	G	G	G	32	30	28	29	G	G	G	G
3	G	G	G	G	G	G		G	G	G		G	G	G	G	G	G		G	G	G	G	G	G
4	G	G	G	G	G	G	27	G	38	G	G	G	G	G	48	36	G	G	G	G	G	G	G	27
5	26	G	G	G	G	G	G	G		41	43	G	G	G	G	G	G	G	33	25	G	G	G	G
6	G	G	G	G	G	G	31	32	43	G	50	G	G	G	G	G	G	G	G	G	G	G	G	G
7	G	G	G	G	G	G	G	36	G	40	G	G	G	G	G	G	G	G	G	G	G	G	G	G
8	G	G	G	G	G	G		36	G	G	G		G	G	G	G	G	28	G	G	G	G	G	G
9	G	28	24	G	G	G	G	G	G	G	G	G	G	67	61	G		G	34	G	26	30	G	G
10	27	G	G	G		G	33	G	G	44	40	47			45	G	G	G	G	24	32	26	G	G
11	G	G	G	G		G	G	G	G	G	43	44	42	40	G	38	38	32	G	G	G	G	G	G
12	G	G	G	G	39	26	32	36	40	46	G	G	G	G	G	G	G	G	27	26	26	32	48	G
13	G	G	G	G	G	G	G	41	44	G	G	G	G	G		G	G	G	G	G	G	G	G	G
14	G	G	G	G	G	G		G	G	G	44	40	G	G	G	G	33	G	G	29	G	G	G	G
15	G	G	G	G	G	G	32	G		G	G	G	G	G	G	G	36	35	G	G	G	G	G	G
16	G	G	G	G	G	G	34	33	G	G	G	46	42	G	G	G	G	36	26	G	G	G	G	G
17	G	G	G	G	G		G	G	G	G	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	40	G	G	G	G	G	G	G	G	G	G	G	G
19	G	G	G	G	G	G	32	38	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
20	G	G	G	G	G	G	34	G	G	G	G	G	G	G	G	G	G	30	G	G	G	G	G	G
21	G	G	G	G	G		29	38	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
22	G	G	G	G	G	G	G	38	G	G	G		G	40	41	G	G	G	G	G	G	G	G	G
23	G	G	G	G	G	G	33	33	G	G	G	G	G	G	G	G	G	G	G		G	G	G	G
24	G	24	28		G	28	33	G	G	G	59	G	G	G	G	G	40	48	G	G	27	G	G	G
25	28	G	25	25	G	G	G	G	G	G		G	G	52	G	G	41	G		27	28	G	G	G
26	G	G	25	G	G	G	G	G	G	46	G	G	42	G	G	36	G	G	G	G	G	G	G	G
27	G	G	G	25	G	G	35	42	41	G	G	40	G	G	G	G	G	G	G	G	G	G	34	G
28	G	G	G	G	G	G	36	43	48	51	60	61	60	G	G	G	G	30	43	39	46	33	29	G
29	G	G	G	G	30	G	44	51	43	51	48	48	G	G	G	G	G		33	G	G	G	G	G
30	G	G	G	G	G	40	35	41	G	G	G	G	G	G	G	G	G	G	G	G	26	G	24	30
31																								
	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	30	30	29	28	28	26	28	27	30	28	28	29	29	29	30	29	28	29	29	30	30	30	30
MED	G	G	G	G	G	G	30	16	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
U Q	G	G	G	G	G	G	33	38	38	40	43	40	G	G	G	G	16	29	26	12	G	G	G	G
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

APR. 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	15	17	14	17	17	15	15	14		14	21	18	17	15	32	16	14	14	14	14	15	18	15	18
2	15	14	20	16	15	15	17	16	15	16	20	21	16	18	17	16	14	17	17	15	15	15	16	16
3	15	16	15	16	15	15		15	18	16	21	21	18	20	20	16	14	20	15	15	15	14	20	17
4	15	15	15	15	15	15	17	14	14	14	18	18	18	20	16	16	14	20	15	15	15	15	18	18
5	16	18	15	14	17	20	14	15	16	20	18	20	21	16	15	15	14	22	14	15	15	15	15	15
6	15	15	18	15	16	15	20	14	16	18	18	20	16	42	17	20	14	20	18	14	14	15	16	15
7	15	15	15	16	20	15	22	14	15	20	17	15	15	20	14	17	16	14	15	15	14	15	14	14
8	15	15	16	16	17	15	15	14	14	18	20		18	39	18	18	15	14	15	14	15	15	17	15
9	15	14	15	15	15	15	14	26	15	17	18	17	15	21	18	18	14	14	14	17	16	15	15	14
10	15	14	15	17		15	16	20	18	14	14	18			20	14	14	21	16	17	15	14	14	17
11	15	15	14	14		15	22	18	14	14	17	15	20	17	17	15	15	15	16	14	15	14	15	14
12	14	14	14	15	14	15	15	15	16	20	18	18	23	20	14	17	16	14	14	15	16	15	15	22
13	15	15	16	14	15	14	21	15	16	15	17	18	18	15		15	16	21	16	15	15	16	17	17
14	17	15	15	15	21	14	15	14	14	15	14	22	20	18	21	14	17	14	18	14	15	15	15	17
15	15	15	15	14	15	17	17	28		15	16	17	18	20	15	16	14	14	17	14	16	15	14	15
16	16	20	15	15	15	16	14	14	15	14	16	15	22	16	17	18	17	15	16	15	14	15	15	15
17	15	15	15	18	15	15	22	14	15	14	16	18	20	17	16	18	18	14	17	14	15	15	15	18
18	15	15	15	15	18	15	14	14	16	17	18	20	23	18	18	15	14	14	15	14	15	15	15	17
19	15	15	15	15	18	18	20	14	17	18	17	18	20	20	18	17	15	14	16	14	14	16	15	16
20	17	15	14	17	15	20	14	14	15	15	18	20	20	18	18	18	14	14	18	15	14	15	15	17
21	16	14	14	15	14	20	14	14	15	17	18	18	21	21	18	15	14	14	16	14	14	14	15	16
22	15	15	16	14	14	17	14	15	14	16	16	22	21	18	20	17	15	14	16	15	14	16	15	15
23	16	15	14	14	14	16	14	14	15	16	16	21	21	21	21	18	14	15	20	14	15	15	15	17
24	15	15	14		15	14	14	14	14	16	18	18	18	17	18	17	15	14	21	15	15	15	15	15
25	15	16	15	14	16	17	18	15	14	16	20	18	20	18	17	20	15	15		15	15	16	18	15
26	15	15	14	15	14	18	24	14	16	17	17	20	20	18	20	17	18	15	18	15	15	15	17	17
27	21	15	14	17	14	20	20	14	18	17	18	20	20	20	17	18	15	14	18	14	16	14	14	14
28	14	14	14	14	16	18	15	14	15	15	18	20	18	17	20	17	14	14	15	14	14	15	15	15
29	15	15	14	15	15	16	17	14	15	20	16	20	20	16	18	15	14		15	18	14	17	17	16
30	14	15	16	15	14	21	14	14	16	17	20	21	22	24	22	17	16	14	18	15	16	15	15	16
31																								
	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	30	30	29	28	30	29	30	28	30	30	29	29	29	29	30	30	29	29	30	30	30	30	30
MED	15	15	15	15	15	15	15	14	15	16	18	18	20	18	18	17	14	14	16	15	15	15	15	16
U Q	15	15	15	16	16	18	20	15	16	17	18	20	21	20	20	18	16	16	18	15	15	15	16	17
L Q	15	15	14	14	14	15	14	14	14	15	16	18	18	17	17	15	14	14	15	14	14	15	15	15

HOURLY VALUES OF foF2 AT Kokubunji

APR. 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	38	36	32	34	34	37	49		75	64	58	66	84	102	88	82	68	71	82	74	38	30	30	32
2	34	32	32	34	32	30	49	59	58	62	62	77	90	87	77	66	63	74	76	64		32	30	32
3	30	36	34	32	32	34	46	63	61	66	63	67	84	86	83	77	74	70	76	80	40		A	30
4	32	32	30	30	30	22	51		62	62	64	65	77	72	62	65	58	66	78	74	45	32	34	34
5	34	32	30	30	30	30	41	56	56		67	78	97	102	86	82	72	63	61	66	38	36	37	38
6	37	37	34	34	30	34	48	49	59	59	68	64	81	77	69	60	64	67	71	76	41	27	30	36
7	38	36	36	30	39	36	48	39	52	52	57	69	77	84	84	75	67	63	64	51	38	27	32	30
8	34	31	28	30	28	27	48	55	55	59	70	78	77	80	86	76	68	55	52	63	54	42	37	34
9	37	34	34	32	30	32	47	56	49	57	56	58	69	64	66	78	56	56	57	66	64	A	A	44
10	40	38	37	34	30	31	43	46	52	53	47	48	64	72	74	59	56	55	58	65	60	41		A
11	34	32	30	28			47	56	54	53	56	53		59	69	71	61	57	A	51	51	32	32	32
12	32	32	32			27	41	47	52	55	58	58	68	80	76	75	68	58	62	65	55	43	A	36
13	38	A	34	34	31	34	50		52	54	59	64	62	62	59	59	57	54	65	62	65	38		
14	31	30	27	27	27	30	46	46	54	54	56	58	68	67	66	74	67	62	62	65	64			28
15	30	30	27	30		27	44	47	51	53	54	61	62	65	72	74	54	48	52	54	61	51	42	41
16	34	34	34	30	30	31	42	49	54	61	55		59	63	65	58	62	71	76	77	78	41	27	32
17	32	32	28	27	28	34	52	47	50	59	A	51	56	65	66	62	55	55	56	54		39	38	37
18	39	37	34	31	28	34	44	46	56	59	58	57	58	66	68	74	66	56	56	61	53	45	41	42
19	37	36	36	34	28	32	42	47	54	57	59	55	58	59	62	66	65	54	55	62	54	45		41
20	38	31	28	32	23	34	47	51	55	54	56	56	54	60	66	64	64	62	67	64	66		42	32
21	32	30	30	27	28	34	A	47	56	61	52	47	48	62	66	63	47	54	55	48	54	41	36	37
22	36		34	34	27	30	41	49	51	54	59	62	66	62	55	59	51	54	51	46	48	44	44	43
23	39	37	34	30	26	30	45	46	54	56	54	59	62	59	60	58	50	54	66	80	87	51	44	41
24	34	37	32	34	30	34	44			52		47	47	58	61	60	57	54	55	52	52	49	50	39
25	42	32	39	38	A	A	41	45	51	48		55	57	61	59	68	64	54	51	48	43	46	38	39
26	35	34	32	36		32	46	51	52	56	48	50	56	59	65	67	64	56	59	63	51	47	43	
27	34	34	36	38	30	36	41	42	51	49	60	60	57	62	61	66	67	51	46	49	52	49	44	39
28	39	38	38	34	35	38	46	45		49	53	60	62	62	58	56	58	49	53	55	55	39	41	A
29	39	A	34	32	32	37	52	50	55	54	53	53	54	55	69	72	60	A	50	48	A	39	30	38
30	A	34	32	37		23	45	48	A	52	57	68	82	86	88	72	55	51	54	52	63	48	42	
31																								
	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	27	30	29	24	28	29	26	27	29	27	29	29	30	30	30	30	29	29	30	27	26	23	25
MED	35	34	33	32	30	32	46	48	54	55	57	59	62	64	66	66	62	56	58	62	54	41	38	37
U Q	38	36	34	34	31	34	48	51	56	59	60	65	77	80	76	74	67	63	66	66	63	46	42	40
L Q	33	32	30	30	28	30	42	46	52	53	54	54	57	61	62	60	56	54	53	52	45	36	32	32

HOURLY VALUES OF fEs AT Kokubunji

APR. 2008

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

HD	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	40	G	G	G	G	G	G	G	G	G	G	23	G	G	G
2	G	G	G	G	G	G	43	G	G	G	G	43	49	G	G	37	36	G	30	26		G	G	G
3	G	G	G	G	G	G		G	G	G	G	G	G	G	G	G	G	G	35	30			36	28
4	G	G	G	G	G	G	G		G	G	G	G		G	40	G	34	G	G	G	27	29	26	22
5	33	30	26	23	G	G	G	G	G		64	40	50	G	G	G	G	G	G	G	G	G	G	G
6	G	G	G	G	G	G	G	G	G	G	42	G	47	40	47	G	G	31	G	G	G	G	G	G
7	G	G	G	G	G	G	G	G	37	38	G	42	G	G	39	G	G	39	35	25	G	G	G	G
8	G	G	G	G	G	G	31	37	40	G	G	G	G	G	44	G	G	35	30	G	24	G	G	G
9	G	G	G	G	G	G	37	35	G	G	39	G	41	G	43	G	G	36	28	31	34	60	71	29
10	27	28	23	24	G	G	34	47	52	49	47	G	G	G	G	G	34	G	29	29	28	26	G	46
11	G	30	G	G	G	31	G	G	G	G	46	G		44	G	G	38	38	65	51	33	G	G	G
12	G	G	G		G	G	33	G	G	G	53	G	45	53	G	47	35	G	43	33	26	24	51	48
13	37	37	G	G	G	G	29		46	45	50	45	45	G	G	G	G	41	50	24	24	G		G
14	G	G	G	G	G	G	30	36	42	45	42	G	44	43	61	G	39	36	G	24	11	23		G
15	43	G	G	G	G	G	30	N	G	43	47	46	G	G	G	37	G	33	32	27	G	G	G	G
16	G	G	G	G	G	G	G	G	G	G	G		G	G	G	G	G	33	28	27	G	11	G	G
17	G	G	G	G	G	G	G	G	G	G	46	43	41	64	53	G	34	35	32	33	35	G	G	G
18	G	G	G	G	G	G	34	33	G	G	44	G	G	G	G	G	G	G	30	G	G	G	G	G
19	G	G	G	G	G	G	31	G	G	G	G	G	G	G	G	G	G	31	G	G	29	27	33	G
20	G	G	G	G	G	G	37	39	G	G	G	G	G	44	46	78	44	30	34	61	33	33	G	G
21	G	G	G	G	28	G	48	40	G	G	44	40	G	G	G	G	60	G	29	34	G	G	G	G
22	G		G	G	G	G	33	43	44	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
23	G	G	G	G	G	G		G	G	G	G	G	G	G	G	G	G	31	29	31	34	31	G	G
24	G	G	G	24	G	G	81	G		G		G	40	50	G	G	G	G	30	27	24	G	29	G
25	34	23	22	24	36	33	G	33	G	39	G	G	40	46	47	G	G	G	G	22	25	23	G	G
26	25	G	G	G		G	33	G	45	47	G	G	49	G	46	44	G	G	G	G	G	G	28	33
27	33	G	G	G	G	G	G	G	G	44	45	G	G	G	G	G	G	G	G	G	33	30	33	29
28	G	G	G	30	31	31	41	G	36	G	G	G	40	G	G	G	G	G	31	40	49	33	34	53
29	33	39	G	G	G	G	G	43	45	G	G	G	G	G	40	G	51	61	36	29	32	26	24	29
30	37	22	27	23	G	29	G	36	60	47	46	G	G	G	G	G	G	33	37	47	49	24	G	27
31																								
	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	29	30	29	29	30	28	26	29	29	29	29	28	30	30	30	30	30	30	30	28	29	28	30
MED	G	G	G	G	G	G	30	G	G	G	G	G	G	G	G	G	G	16	30	26	24	G	G	G
U Q	27	11	G	G	G	G	34	36	41	41	46	20	42	40	43	G	34	35	34	31	33	26	28	28
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

APR. 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	13	13	14	13	13	14	20		20	18	40	44	48	15	42	15	13	13	14	14	13	13	17	14
2	14	14	13	13	13	13	14	14	14	14	20	21	17	41	15	13	13	13	13	13		14	14	13
3	13	14	13	13	13	13	13	13	13	36	43	40	44	40	44	13	14	13	14	14	13		14	13
4	13	13	13	14	13	13	18		13	13	35	44	20	21	17	15	13	13	17	13	13	13	13	13
5	13	13	13	14	13	14	13	14	13		21	18	17	14	14	13	13	21	14	13	14	14	20	13
6	13	13	13	13	13	13	20	13	13	23	21	25	24	20	17	13	15	14	15	13	14	14	14	14
7	14	13	13	13	13	15	21	13	13	15	15	15	45	14	14	13	13	13	13	15	13	13	15	13
8	13	13	13	13	13	14	13	13	13	13	17	42	46	41	13	13	13	17	13	14	14	13	13	13
9	13	13	13	13	13	13	22	13	13	14	20	21	20	18	13	41	34	13	13	14	13	13	13	13
10	13	13	13	14	13	13	15	13	13	13	14	44	18	20	13	13	14	13	13	13	13	13	14	13
11	14	13	13	13	13	13	13	13	13	18	15	21		29	17	21	14	13	13	13	14	15	15	14
12	13	13	13		13	14	13	13	13	15	14	20	21	18	21	17	14	13	13	13	13	13	13	13
13	13	13	13	13	14	14	13		13	14	23	33	13	43	20	15	14	13	13	13	13	13		20
14	13	14	14	13	13	14	13	13	14	13	14	14	15	13	13	14	14	14	20	14	14	17		14
15	13	13	13	13	13	13	14	13	13	13	18	33	15	20	17	13	13	13	13	13	14	17	13	13
16	13	14	13	13	13	13	13	13	14	13	13		44	22	20	15	13	13	13	13	13	13	14	14
17	13	13	13	13	14	13	14	13	14	14	29	17	22	18	14	17	13	13	13	13	13	13	13	14
18	13	13	13	13	13	13	13	13	15	13	21	26	23	21	21	20	15	13	13	13	15	26	13	13
19	14	14	13	13	13	14	14	13	13	14	21	20	44	46	40	42	14	13	21	13	13	13	13	14
20	14	14	14	13	14	13	13	13	14	42	44	43	30	29	33	14	13	13	13	13	13	14	14	14
21	13	13	13	13	13	15	15	14	17	20	41	30	46	46	28	17	14	14	13	13	14	13	13	13
22	13		13	17	13	13	15	13	17	43	44	45	45	44	33	17	13	18	15	20	13	14	13	13
23	14	13	13	13	13	15	13	13	13	21	15	46	44	21	43	15	13	13	13	13	13	13	14	14
24	14	13	13	13	13	13	17	13		13			45	34	42	13	13	13	13	13	14	14	13	13
25	13	14	13	13	13	13	13	13	14	23	20	45	34	44	30	17	13	18	15	13	14	13	14	13
26	13	13	14	13		13	15	13	15	18	42	45	34	44	31	30	14	13	17	13	13	14	13	13
27	13	13	14	13	13	14	24	13	14	22	25	44	45	18	21	15	14	13	13	30	13	13	13	13
28	13	13	14	13	13	13	13	13	13	42	22	45	44	44	43	18	36	18	13	13	13	13	13	13
29	13	13	13	14	13	18	13	13	13	21	44	46	45	47	20	15	13	13	13	13	13	13	14	13
30	13	13	13	13	13	13	14	13	13	17	22	45	44	43	14	14	15	13	13	13	13	17	13	13
31																								
	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	29	30	29	29	30	30	27	29	29	29	28	29	30	30	30	30	30	30	30	29	29	28	30
MED	13	13	13	13	13	13	14	13	13	15	21	36	34	26	20	15	14	13	13	13	13	13	13	13
U Q	13	13	13	13	13	14	15	13	14	21	37	44	45	43	33	17	14	14	14	14	14	14	14	14
L Q	13	13	13	13	13	13	13	13	13	13	16	21	20	18	14	13	13	13	13	13	13	13	13	13

HOURLY VALUES OF foF2 AT Yamagawa

APR. 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	34	32	32	34	34	28		54	70	69	62	78	97	110	111	88	72	67	72	71	52	32	28	31
2	34	34	34	34	34		34	57	67	62	56	75	96	98	A	91	76	72	81	83	72	28		28
3		30	30	31	30		37	55	60	57	58	65	81	96	104	97	90	94	107	88	A	A	A	A
4	32	34	31	31	29		36	51	68	65	67	68	78	88	85	77	75	80	79	72	54			26
5	32	31	30	34			34	53	57	52	57	77	97	97	110	97	86	80	74	71	50	37	36	
6	36	34	34	26	31	32	44	52	56	58	66	72	88	90	92	78	67	67	71	72	54			34
7	34	32	30	32	34		36	55		52	60	71	78	95	97	87	76	72	66	69	44		28	29
8	32	30	30	26	28	26	37	55	57	54	62	75	87	90	95	98	80	65	62	76	72	30		36
9	32	34	34	31	30	32	44	56	57	54	56	61	78	80	78	87	78	71	61	72	77	42		30
10		30	31	30	28	26	38	51	53		54	59	72	80	80	78	81	76	67	70	63			32
11		29	32	30	26	26	38	51	54	55	59	56	59	66	81	83	66	58	56	61	54	42		
12	26	A	31	34			36	46	56	57	52	60	72	85	87	A		62	A	54	54	42	A	A
13	A	34	32	34	30	29	40	49	56	56	59	63	70	78	82	76	61	61	71	80	76	A	A	28
14	28	29	28	28	26	26	42	56	57	58	59	63	76	90	88	96	81	78	78	77	78	53	37	A
15	36	36	40	36	34		40	47	52	55	59	63	65	77	88	86	61	57	58	74	53	53	37	36
16	32	32	30	34	29		39	55	39	51	54	61	75	70	62	67	78	87	86	82	87	37		28
17	29	26	28	28			42	55	50	61	56	64	72	80	78	65			61	61	51	47	38	37
18	37	32	32	30	30	25	42	47	52	61	58	60	72	84	87	97	96	76	64	66	48	54	37	40
19	38	37	34	34	28	26	40	46	56	57	62	60	67	80	86	92	81	67	68	75	66	47	40	A
20	32	30	30		26	26	40	54	57	56	57	58	67	78	76	75	75	74	72	75	51		32	
21	30		28		26	26	40	48	54	58	39	A	75	85	81	83	64	55	60	59	48	38	A	42
22	42	42	44	44	37		40	50	A	52	58	65	80	75	71	67	73	70	51	48	48	47	42	42
23	41	34	34	34	32		41	47	53	54	56	57	64	68	58	62	61	67	77	88	82	40		38
24	36	40	37	37	37	29	44	45	55	51	55	61	58	72	81	68	57	56	60	63	54	53	50	48
25	42	45	42	43	37	A	35	51	54	51		61	75	80	75	74	75	66	56	51	47	45	41	
26	41	40	38	37	29		42	55	51	56	61	63	70	78	81	81	68	66	74	60	52	A	42	40
27	42	A	A		28	28	40	48	52	55	60	71	81	85	88	92	81	60	51	55	63	54	42	34
28	36	37	34	37			44	46	47	58	72	75	66	70	75	72	72	72	64	66	51	45	A	A
29	A				32	32	42	55	51	A	49	62	72	64	78	87	70	56	54	49	50	36	42	44
30	42	40	40	37	28		40	46	A	A	62	72	76	84	74	76	78	68	61	66	59	A	40	42
31																								
	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	26	26	15	29	30	27	27	29	29	30	30	29	29	28	29	29	30	29	21	16	21
MED	34	34	32	34	30	26	40	51	55	56	58	63	75	80	81	83	75	67	66	70	54	42	39	36
U Q	39	37	34	36	34	29	42	55	57	58	61	71	80	90	88	91	80	75	74	75	69	50	42	41
L Q	32	30	30	30	28	26	37	47	52	54	56	60	70	77	77	74	67	61	60	61	50	37	36	29

HOURLY VALUES OF fEs AT Yamagawa

APR. 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		32	36	39	44	52	48	53	G	38	44	34	33	26	G	G	G	G
2	G	G	G	G	G	G	G	G	34	39	41	G	G	51	94	43	41	35	40	G	24	G	G	G
3	G	G	G	G	G	G	G		G	G	51	41	G	56	47	39	40	45	46	69	60	44	59	46
4	43	G	G	28	G		G	32	33	42	G	G	44	42	G	42	46	51	44	41	33	26	31	28
5	24	G	G	27	29		G	29	G	41	G	46	50	46	49	44	48	42	40	29	24	G	G	G
6	G	G	G	G	G	G	G	G	34	38	40	42	47	43	G	G	41	39	36	37	28	G	G	G
7	G	G	G	G	G		G	G		38	G	41	52	50	G	40	G	G	35	26	22		G	G
8	G	G	G	G	G	G	G	32	34	G	G	48	58	42	G	G	G	G	38	40	31	33	G	G
9	G	G	G	23	G	G	G	G	G	G	41	41	G	57	50	48	43	38	39	34	28	27	32	G
10	24	G	G	G	G	G	G	45	43	58	48	56	51	G	G	42	41	40	G	29	44	58	47	39
11	32	40	24	44	G	G	28	38	40	G	42	G	44	54	51	48	39	60	40	41	50	33	30	
12	47	47	31	G		G		36	34	42	46	G		49	66	137	148	93	87	47	50	31	35	54
13	49	G	23	G	25	28	23	34	38	42	40	46	40	G	G	G	G	44	34	32	33	43	27	G
14	G	G	G	G	G	G	27	34	38	39	43	G	G	46	56	54	81	56	86	59	27	G	G	41
15	26	32	29	G	G	G		47	48	43	42	47	40	G	G	G	G	G	G	G	G	G	G	G
16	G	G	G	G	G	G	G	36	41	39	49	40	G	G	G	48	50	49	36	G	G			G
17	G	G	G	G	G		29	33	45	G	46	50	G	G	G	G	G		G	30	G	G	24	24
18	G	G	G	G	G	G	24	40	42	G	G	41	G	44	G	G	G	G	G		26	G	G	
19	G	G	G	G	G	G		34	G	41	43	45	42	G	G	G	39	35	30	G	25	G	G	31
20	27	G	G	G	G	G	G	35	G	G	43	44	47	47	44	46	44	39	40	29	40	33	G	
21	G		G	G	G	G		36	G	G	G	59	G	54	50	G	42	33	38	35	34	38	53	G
22	G	G	G	G	G		32	41	52	44	40	G	G	G	G	G	G		G	G	G	G	G	G
23	G	G	G	G	G	G	29	37	G	G	G	G	G	G	G	G	G	G	G	26	40	29	33	26
24	G	G	G	G	G	G	28	36	40	42	39	G	45	G	G	46	42	52	31	G	24	32	G	G
25	G	39	G	42	46	28	36	45	36	G		G	51	51	G	G	G	G	G	G	34	30	25	27
26	G	G	G	49	G	G	30	54	37	G	G	G	48	47	G	G	41	39	36	29	51	39	27	35
27	28	43	40	G	G	G	28	34	40	G	G	46	G	G	G	G	G	33	32	28	30	49	G	G
28	G	G	G	G		G	G	G	39	39	52	46	G	G	47	38	43	53	G	36	36	24	49	59
29	50	50	40	30	G	26	26	33	G	49	42	40	G	48	G	44	54	44	48	G	29	54	G	40
30	44	28	G	G	G	G	26	34	45	70	54	51	46	59	54	44	42	G	42	34	32	77	43	41
31																								
	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	29	30	30	28	25	25	29	29	30	29	30	29	30	30	30	30	28	30	29	30	28	29	27
MED	G	G	G	G	G	G	23	34	36	39	41	41	40	45	G	38	41	39	36	29	30	30	G	G
U Q	27	14	G	G	G	G	28	37	40	42	45	46	47	51	49	44	44	47	40	36	36	38	32	39
L Q	G	G	G	G	G	G	G	32	G	G	G	G	G	G	G	G	G	17	G	G	24	G	G	G

HOURLY VALUES OF fmin AT Yamagawa

APR. 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	15	20	16	14	15	15		14	15	16	17	20	18	24	44	18	15	14	14	14	15	15	15	15
2	15	17	15	15	14	15	14	18	14	15	18	20	24	21	20	17	14	14	14	14	15	15	17	14
3	14	15	15	14	16	17	15	20	14	16	18	24	18	39	23	33	16	14	15	14	14	15	14	14
4	14	14	16	15	14		14	14	15	15	18	46	26	47	21	18	16	14	14	15	14	14	14	14
5	14	15	14	14	14		15	14	14	17	18	21	20	20	18	17	17	14	14	14	15	15	17	16
6	15	15	18	15	16	16	15	14	15	17	18	20	18	20	14	17	14	14	14	15	14	14	14	16
7	15	15	17	15	14		15	14		18	18	21	24	27	18	16	14	14	14	14	14		15	16
8	15	15	17	14	14	15	15	15	14	16	17	20	29	20	23	20	16	14	16	14	14	15	21	14
9	14	15	15	15	14	14	15	14	14	14	14	21	23	20	30	20	16	15	15	14	14	15	18	16
10	15	15	14	15	15	16	15	14	17	15	17	30	33	32	42	17	14	14	18	15	14	15	14	17
11	15	15	15	15	17	15	15	14	14	16	17	17	20	20	18	17	16	14	14	14	14	15	14	
12	15	14	14	14		14	15	17	14	17	21	18	21	20	22	21	15	14	15	14	14	15	14	14
13	14	15	14	14	17	14	15	14	16	15	20	26	21	26	22	18	16	14	14	14	14	14	15	15
14	16	16	14	14	14	14	14	14	14	17	22	23	24	46	18	18	15	14	14	15	15	15	15	14
15	14	14	15	14	15	15	17	14	14	15	17	17	23	20	18	14	16	14	20	15	16	14	15	18
16	15	14	14	14	14	16	17	14	14	14	17	21	47	28	22	15	17	15	14	14	14	15		15
17	15	14	14	15	14		14	14	16	17	20	24	27	21	18	18	16		15	15	15	14	14	15
18	14	14	14	14	14	14	15	15	16	15	40	36	26	28	46	20	16	14	14	15	16	15	15	15
19	16	14	15	15	14	16	17	14	14	14	18	20	21	23	22	20	17	15	14	14	15	15	14	14
20	14	14	15	15	15	14	17	14	14	18	20	23	21	22	22	20	16	14	14	14	14	14	18	
21	16		18	18	14	17	14	14	16	17	20	26	47	23	34	26	18	23	20	14	14	15	14	14
22	14	15	14	14	15		14	14	14	16	20	20	20	47	34	22	20	17	21	16	15	14	15	15
23	15	15	15	15	15	17	15	14	17	23	17	46	27	22	22	17	17	14	14	14	15	14	14	14
24	16	15	15	15	14	15	14	14	14	17	21	46	27	47	22	20	17	15	14	15	15	14	15	15
25	15	14	14	15	15	15	14	14	16	18		24	34	33	21	20	17	14	20	14	15	14	15	14
26	15	14	14	20	15	16	14	14	14	18	20	20	23	20	22	18	18	14	14	14	15	14	15	14
27	14	14	15	14	17	14	14	14	16	17	22	23	18	21	21	20	17	14	14	14	14	14	15	14
28	15	22	15	20		17	20	14	16	17	21	20	46	27	20	18	17	14	22	14	14	14	14	14
29	15	14	14	15	14	16	14	14	18	18	20	24	27	20	23	20	14	16	14	16	14	14	14	14
30	15	14	15	14	14	15	15	14	16	16	26	22	28	21	27	20	16	14	15	14	14	14	14	14
31																								
	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	29	30	30	28	25	29	30	29	30	29	30	30	30	30	30	30	29	30	30	30	29	29	28
MED	15	15	15	15	14	15	15	14	14	16	18	22	24	22	22	18	16	14	14	14	14	14	15	14
U Q	15	15	15	15	15	16	15	14	16	17	20	24	27	28	23	20	17	14	15	15	15	15	15	15
L Q	14	14	14	14	14	14	14	14	14	15	17	20	21	20	20	17	15	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Okinawa

APR. 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	32	34		26	54	62	92	74	93	108	127	141	125	102	88	86	76	50	36	29	30
2	30	30	30	31	29			48	55	67	70	80	101	115	125	115	113	102	110	123	64	36	31	
3		28	30	37	28		28	48	56	61	64	77	93	110	133	150	142	145	167	120	54	65	72	65
4	54	47	51	55	A	A	28	51	55	68	75	84	97	112	126	127	130	127	106	88	66	37	40	
5	47	42	42		30	A	29	51	70	58		76	98	110	137	135	111	107	101	73	54	43	34	34
6	31		30		31		46	52	57	71	74	82	97	110	116	105	90	92	81	80	44	34	A	34
7	34	30	32	38	32		28	51	56	57	62	75	92	111	117	108	96	85	81	77	44			
8	28		28		25		31	47	48	58	71	73	91	106	111	115	98	92	88	92	98		A	A
9		26		26		29	32	54	54	55	57	68	81	88	96	99	100	81	80	87	88	A		
10			26	30			31	49	55	61	A	62	78	91	101	102	105	115	96	84	A	A		28
11		29	26		28		32	48	57	58	62	60	76	86	93	100	82	62	55	71	66	A	A	
12			29	26			A	48		55	60	74	87	100	108	104	110	88	71	60	65	A	A	34
13		32	31	31	A		32	53	60	64	61	62	78	95	107	88	86	88	92	98	88	25	A	A
14			26	30	30	31	40	52	58	62	61	76	90	110	123	124	128	126	122	125	110	73	53	50
15	42	42	44	46	41		32	48	59	58	61	58	67	85	101	80	74	78	85	84	81	53	32	32
16		29		23	26		31	60	52	55	55	68	84	80	71	82	96	96	97	102	105			
17	26	28	28				32	54	57	60	60	66	78	86	91	87	72	61	57	62	66	42	30	A
18	30	39	25	30			36	51	57	64	61	64	90	113	127	137	140	110	100	89	88	80		
19	42	42	34	41	26	30	36	46	56	58	67	67	78	92	97	110	102	100	97	87	66	36	32	31
20	34	31	29	29				60	71	57	62	63	84	100	101	100	97	88	87	78	51		32	
21	34	31	34				37	51	57	51	56	74	95	110	117	118	96	71	61	55	54	45	34	32
22	41	40	46	46	29		37	50	56	56	61	72	90	101	102	111	108	80	61	54	49	48	43	42
23		34	36	30			34	48	62	58	58	61	73	85	90	91	90	99	114	124	66	34	33	
24	A	32	32	40	30	26	41	57	56	52	62	67	71	91	101	72	65	60	64	72	61	53	51	50
25		43	46	46	A	A	40	56	50	54	56		86	101	92	90	87	77	67	55		23	34	32
26	42	42	42	42		A	37		52	55	57	67	80	90	95	97	87	86	94	55	53	44	34	41
27	41	42	32	34	34		37	44	57	61	58	76	100	108	118	131	106	84	76	66	73	54		A
28	30	32	34	36			35	46	53	69	87	83	87	90	102	107	104	101	87	84	52	40	32	37
29	34	32	32	A	30		37	56	48	A	57	71	89	85	84	87	81	61	54	52	52	42	42	42
30	42	41	38	42			37	46	52	A	76	78	82	86	97	101	106	107	88	90		A	A	A
31																								
	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	18	24	28	23	16	4	27	29	29	28	28	29	30	30	30	30	30	30	30	30	27	21	18	16
MED	34	32	32	34	30	30	34	51	56	58	61	72	87	100	102	104	99	88	87	82	65	42	34	34
U Q	42	42	37	42	31	30	37	54	57	63	68	76	93	110	118	118	108	102	97	90	81	53	42	42
L Q	30	30	29	30	28	27	31	48	53	55	58	65	78	88	96	91	87	80	71	66	52	36	32	32

HOURLY VALUES OF fEs AT Okinawa

APR. 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	28	G	G	G		G	30	35	G	G	G	43	45	51	48	G	G	41	40	20	G	G	G
2	G	G	G	G	G		G	G	34	39	43	42	41	49	49	51	70	53	37	36		28	G	
3	24	G	G	G	G		G		33	G	G	G	50	43	G	46	G	38	41	34	G	27	30	44
4	47	38	27	32	31	28	G	G	G		G	G	G	G	G	G	G	G	28	42	29	G	25	32
5	29	25	G	G	G	28	G	27	G	G	41	G	51	50	50	49	41	53	48	46	28	G	G	G
6	G	G	G		G	G	G	27	G	40	G	G	42	G	44	G	G	38	30	G	33	G	29	G
7	G	G	G	G	G		G	G	G	G	G	G	G	G	43	52	G	35	36	40	26	G	G	G
8	G	G	G	G	G		G	30	33	G	G	41	44	52	G	G	G	G	32	G	46	27	29	29
9		G	G	G	67	G	G	G	33	40	46	40	G	68	63	47	58	48	73	31	29	36		
10		G	G	G			G	33	41	48	70	46	70	57	91	79	51	56	39	60	94	91		G
11		29	29	28	37	28	27	31	G	G	G	G	G	50	70	52	G	42	47	49	40	49	33	
12			G	G	G		35	43		G	G	G	G	G	58	50	37	34	32	28	36	40	38	33
13	35	G	28	G	36	G	29	G	34	37	G	G	G	48	G	G	G	40	39	40	48	33	39	28
14	29		G	G	G	G	23	34	34	G	G	G	G	G	40	42	50	52	49		34		G	34
15	40	48	29	32	36	G	28	29	G	G	G	G	41	G	G	62	G	G	G	37	27	11	G	G
16		G	G	G	G		G	33	G	54	43	G	42	G	G	G	G	37	37	G	11	28		
17	G	G	G	G			G	34	G	G	G	G	G	G	G	G	44	43	33	28	25	G	G	28
18	23	G	G	G			24	35	34	37	G	42	G	60	57	52	G	42	38	28	28	23		
19	G	G	G	G	G	G	G	34	38	G	G	48	48	49	G	G	49	37	37	25	27	G	G	G
20	G	G	G	G		G	G	35	G	56	53	48	G	47	46	61	46	34	35	34	G	G	G	G
21	30	G	G				26	34	G	G	G	42	52	G	43	G	G	G	G	41	43	34	29	30
22	25	G	G	G	11		28	33	G	G	G	G	G	G	G	G	G	G	G	28	G	G	G	G
23	G	G	G	G			28	34	36	G	40	G	G	G	G	G	G	37	35	G	21	24	32	
24	37	G	G	G	G	G		35	G	37	47	48	G	G	G	49	G	39	36	29	G	G	25	G
25	26	G	G	G	40	26	G	G	50	43	42		G	51	G	39	G	G	G	G	G	30	24	28
26	G	G	G	29	25	26	25		38	37	40	G	G	G	G	G	G	G	G	28	G	G	G	G
27	37	G	G	G	G		G	40	42	46	G	49	56	G	G	G	G	34	G	35	33	30	39	48
28	G	G	G	G			33	31	G	37	40	G	G	G	G	G	G	G	38	57	G	G	26	G
29	59	35	29	50	G		27	38	G	38	G	G	G	43	52	49	49	50	50	29	29	G	25	36
30	32	G	G	G	G		26	32	47	66	62	60	74	52	50	73	G	G	33	31	42	29	34	48
31																								
	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	28	30	28	23	13	29	28	29	29	30	29	30	30	30	30	30	30	30	29	29	29	26	24
MED	25	G	G	G	G	G	G	32	33	37	G	G	G	22	20	44	G	37	36	31	28	23	25	14
U Q	33	G	G	G	31	27	27	34	35	40	42	42	44	50	50	51	44	42	39	40	35	30	30	32
L Q	G	G	G	G	G	G	G	27	G	G	G	G	G	G	G	G	G	G	30	28	6	G	G	G

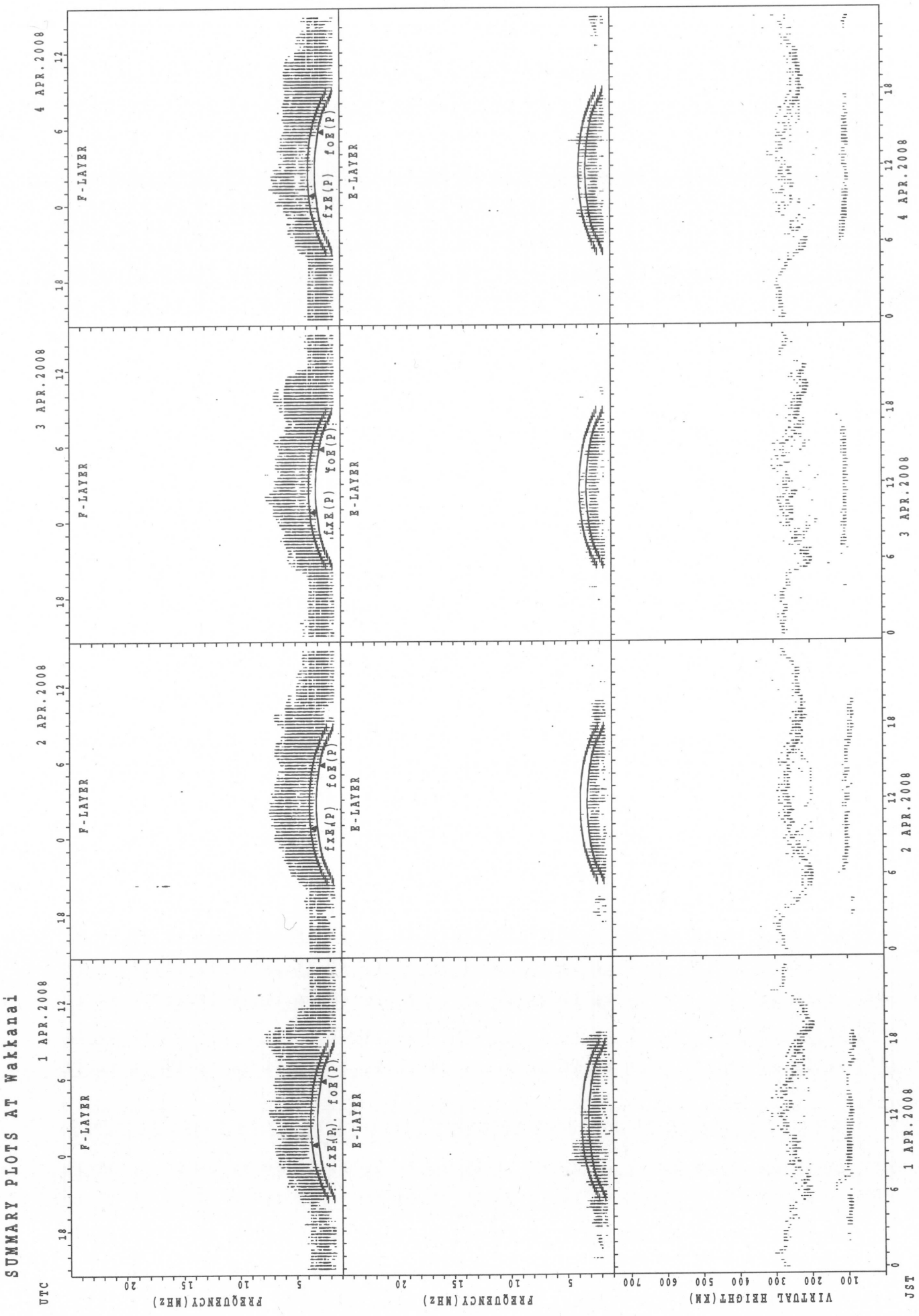
NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

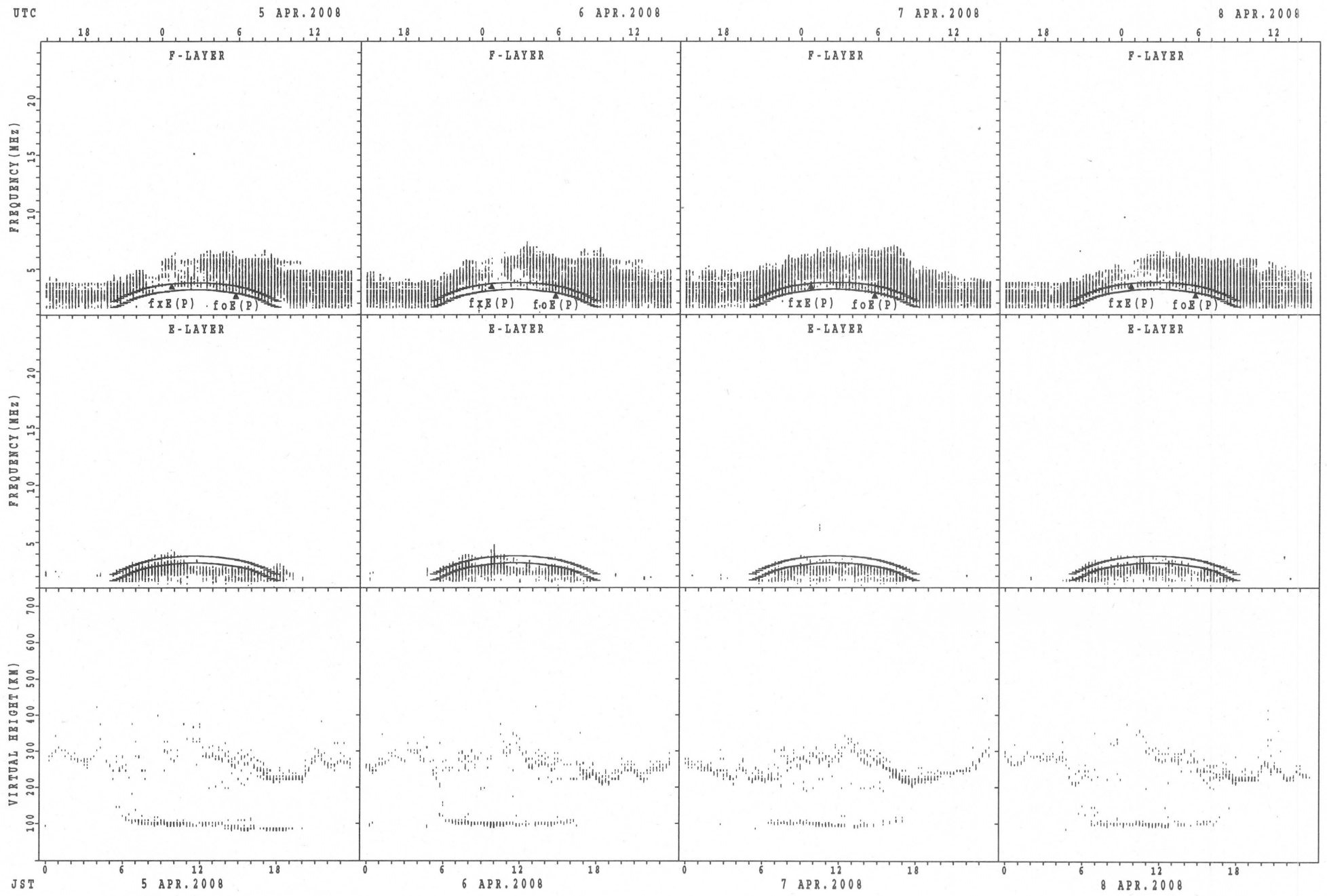
HOURLY VALUES OF fmin AT Okinawa

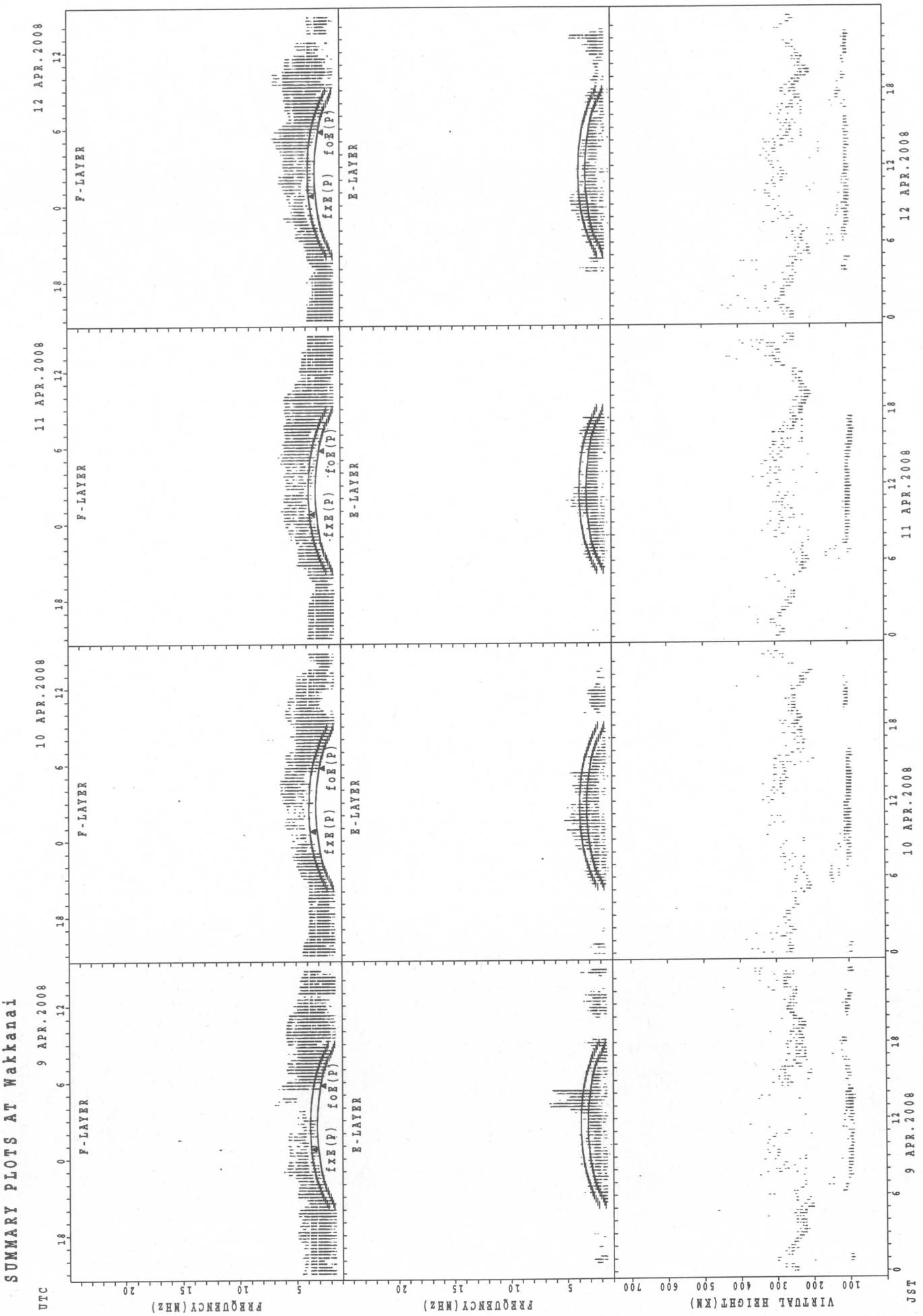
APR. 2008

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

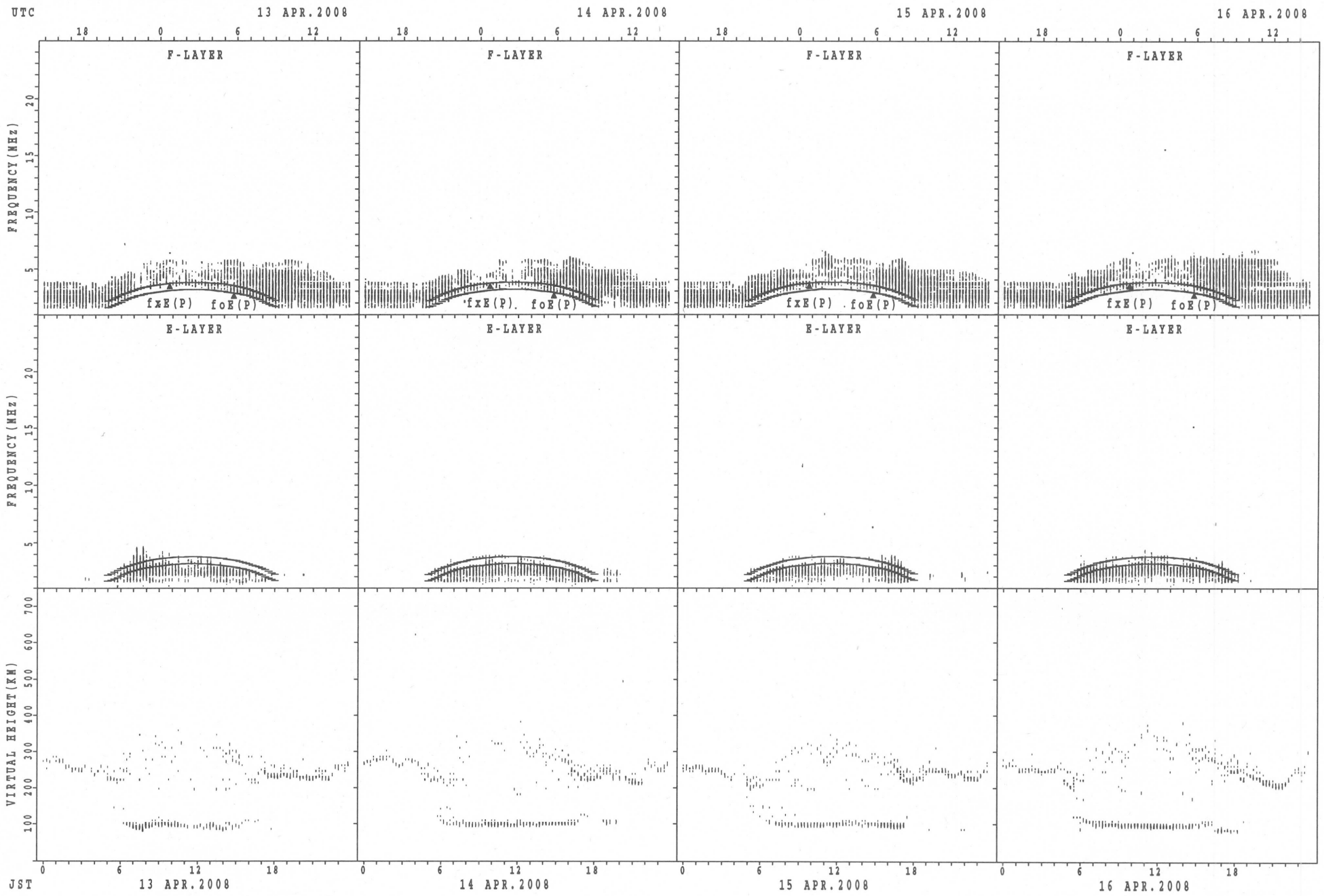
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	14	15	16	14		18	14	14	21	17	28	28	27	23	22	18	14	14	15	15	15	15	16
2	15	21	16	15	14		16	14	14	17	22	24	26	33	23	30	15	14	14	14	15	15	21	
3	15	21	15	15	15		14	16	16	15	21	24	24	27	23	36	15	16	14	14	15	15	15	14
4	14	14	15	15	14	15	15	14	15	18	20	27	27	22	51	22	16	14	14	14	15	15	15	15
5	14	15	15	15	15	16	15	22	14	14	22	28	24	26	22	18	17	15	14	14	14	16	15	15
6	21	18	15		14	20	20	15	14	14	22	42	26	28	23	22	15	14	15	14	14	15	15	16
7	14	14	15	15	14		15	16	14	15	22	42	47	43	24	22	18	14	14	14	14	15	21	16
8	17	20	15	17	14		15	14	14	16	22	22	27	24	44	18	26	15	14	16	15	15	15	15
9		16	16	16	14	14	15	21	14	14	21	26	45	33	26	29	17	16	14	14	14	15		
10		16	14	15			15	15	16	18	21	32	23	26	26	23	22	14	14	14	15	14		20
11		15	15	15	16	17	15	14	15	16	22	23	48	24	34	23	30	16	15	14	14	14	14	
12			15	15	14		15	23		17	44	24	52	28	26	22	16	14	14	14	14	15	15	15
13	15	18	15	14	14	15	14	15	14	16	21	48	50	22	27	45	17	16	14	14	14	14	14	14
14	14		15	15	15	14	15	14	14	16	22	24	27	46	32	24	14	14	14	14	14	15	15	15
15	15	15	14	14	16	20	14	14	14	14	18	44	23	50	48	23	40	16	14	15	14	14	15	16
16		15	17	15	14		15	14	14	16	24	22	47	28	18	23	43	15	15	17	14	14		
17	17	15	15	16			15	14	17	32	21	46	26	47	24	44	18	24	16	14	14	16	17	14
18	15	15	15	15			15	14	14	22	22	30	50	29	33	29	24	16	14	14	14	16		
19	16	16	16	14	14	15	15	14	15	18	24	28	30	28	29	27	23	18	15	17	15	14	17	16
20	15	17	14	14		14	15	14	15	16	22	24	48	29	29	22	18	15	14	14	17	15	15	15
21	15	20	15				16	18	14	21	44	28	26	50	50	45	39	15	26	14	14	15	14	14
22	15	15	15	15	14		14	17	15	33	22	23	50	49	47	48	39	14	14	14	18	15	15	21
23	22	15	15	14			15	14	16	15	20	26	48	27	48	46	43	18	14	14	14	20	14	
24	14	15	15	14	16	15	17	14	14	21	22	34	49	48	48	33	30	14	14	14	14	15	14	15
25	16	18	15	15	15	14	16	14	17	21	22		53	38	47	32	15	14	20	18	17	14	15	14
26	15	15	17	14	14	14	15		14	16	23	23	26	49	49	45	29	15	14	14	15	23	21	17
27	15	15	18	14	14		17	14	14	17	23	23	22	24	46	46	23	15	14	14	14	14	15	14
28	20	16	15	14			15	14	17	21	22	46	28	26	52	46	44	15	18	14	14	15	15	15
29	15	15	15	14	16		15	14	18	23	23	24	53	28	34	22	29	16	15	14	17	16	15	15
30	14	15	15	21	17		17	14	16	21	26	28	30	27	26	24	21	15	16	14	14	14	15	14
31																								
	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	28	30	28	23	13	30	29	29	30	30	29	30	30	30	30	30	30	30	30	30	30	26	24
MED	15	15	15	15	14	15	15	14	14	17	22	27	29	28	30	26	22	15	14	14	14	15	15	15
U Q	16	17	15	15	15	16	16	15	16	21	23	33	48	43	47	44	30	16	15	14	15	15	15	16
L Q	14	15	15	14	14	14	15	14	14	16	21	24	26	26	24	22	17	14	14	14	14	14	15	14


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

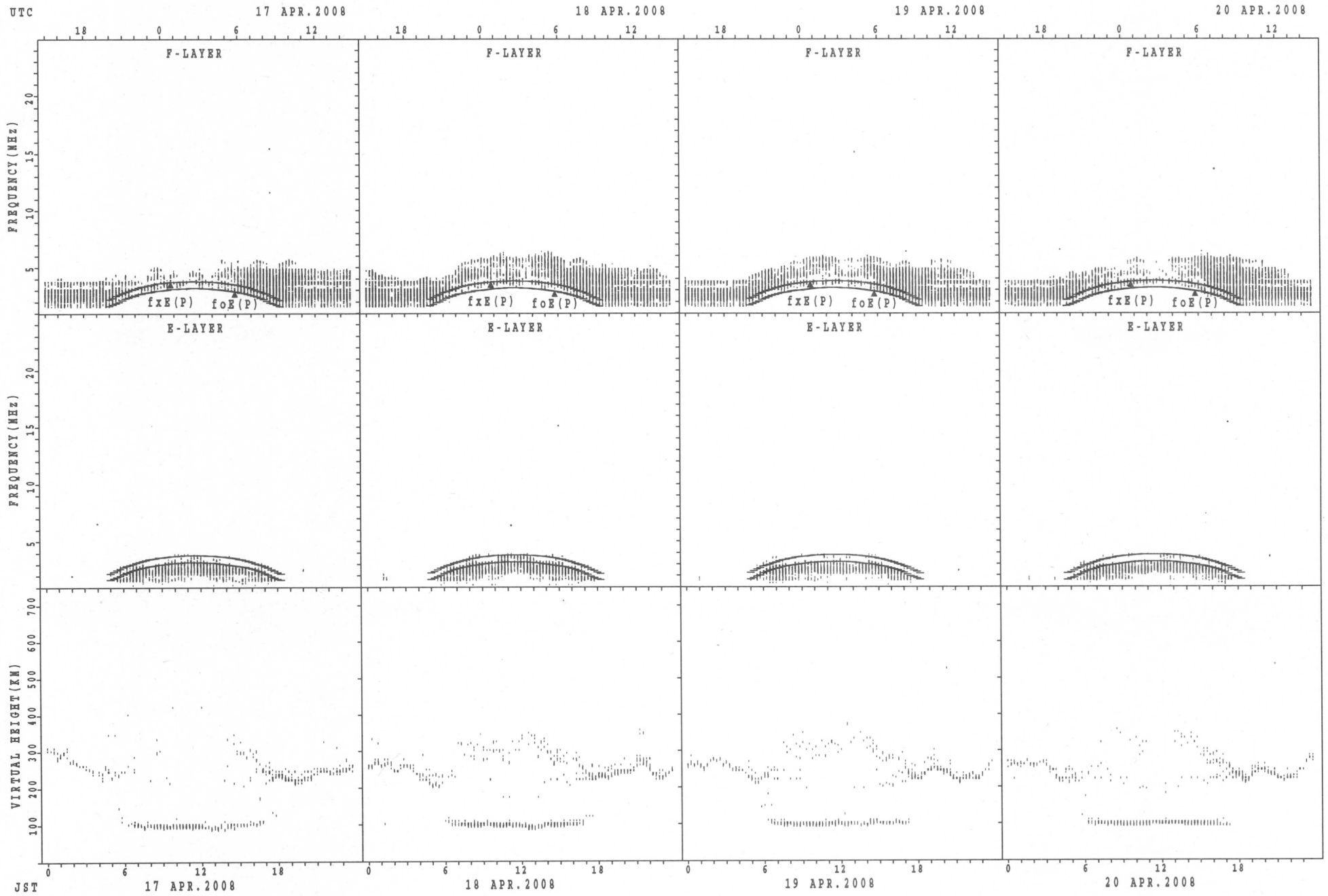

SUMMARY PLOTS AT Wakkanai
UTC
9 APR.2008
10 APR.2008
11 APR.2008
12 APR.2008
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



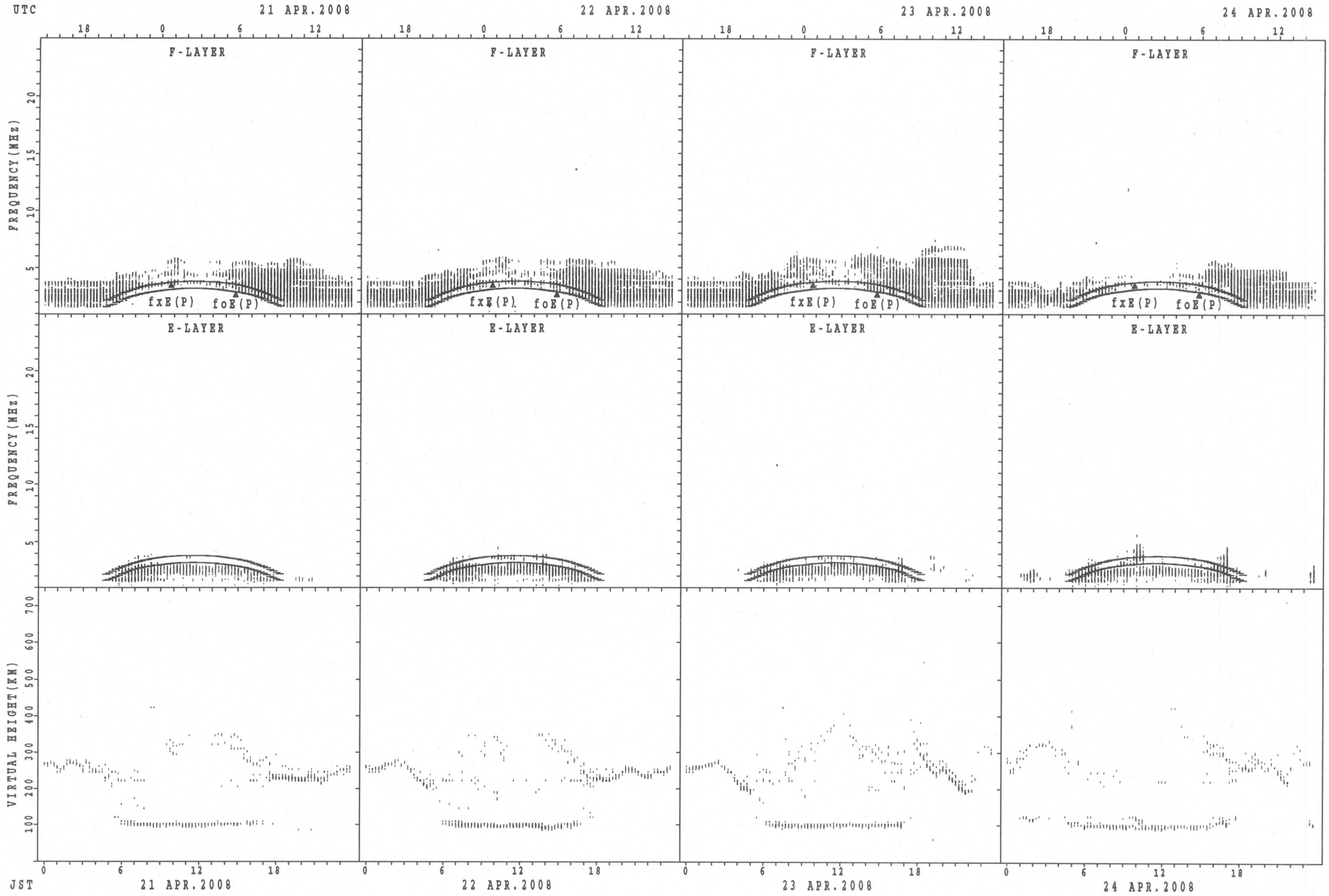
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



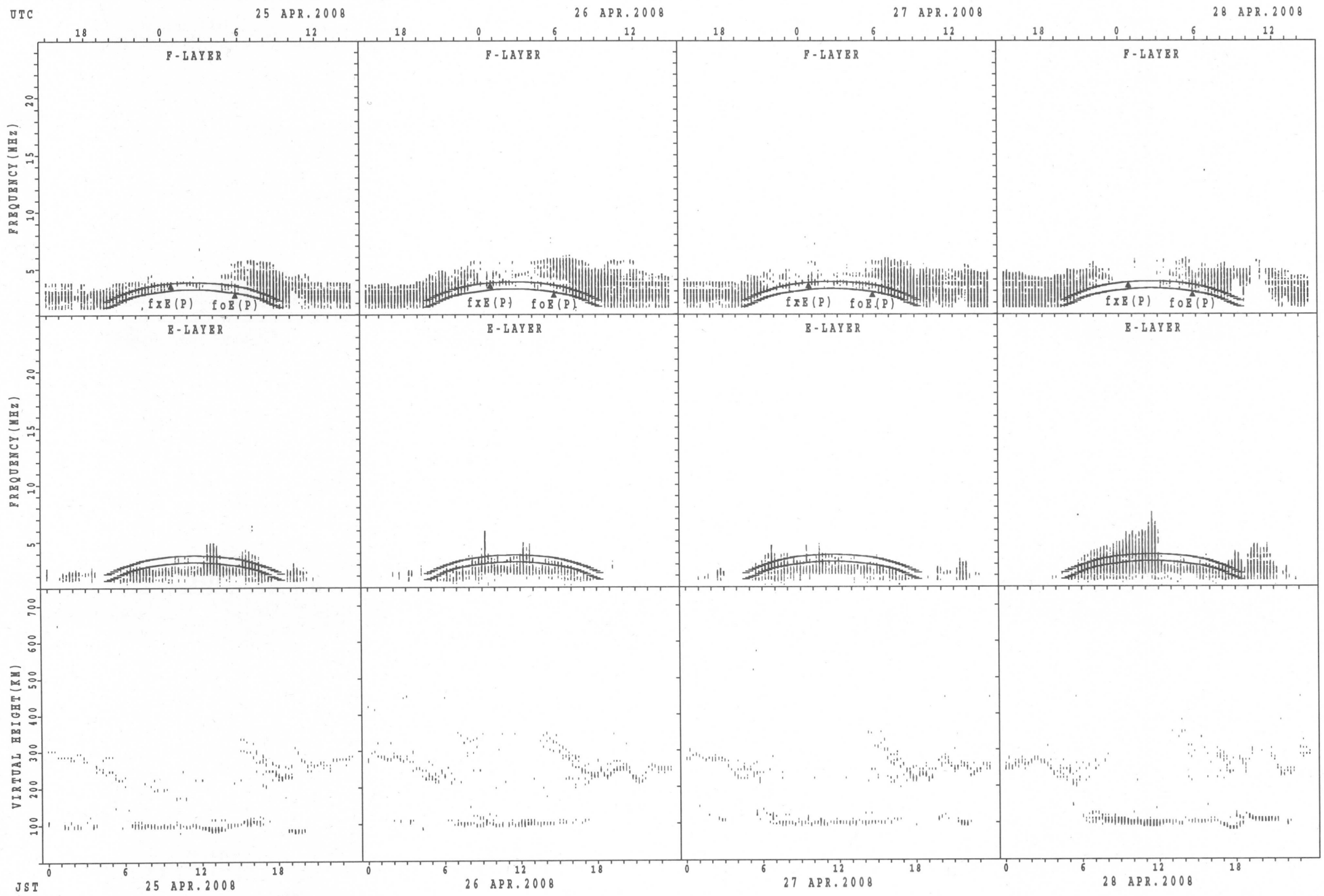
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



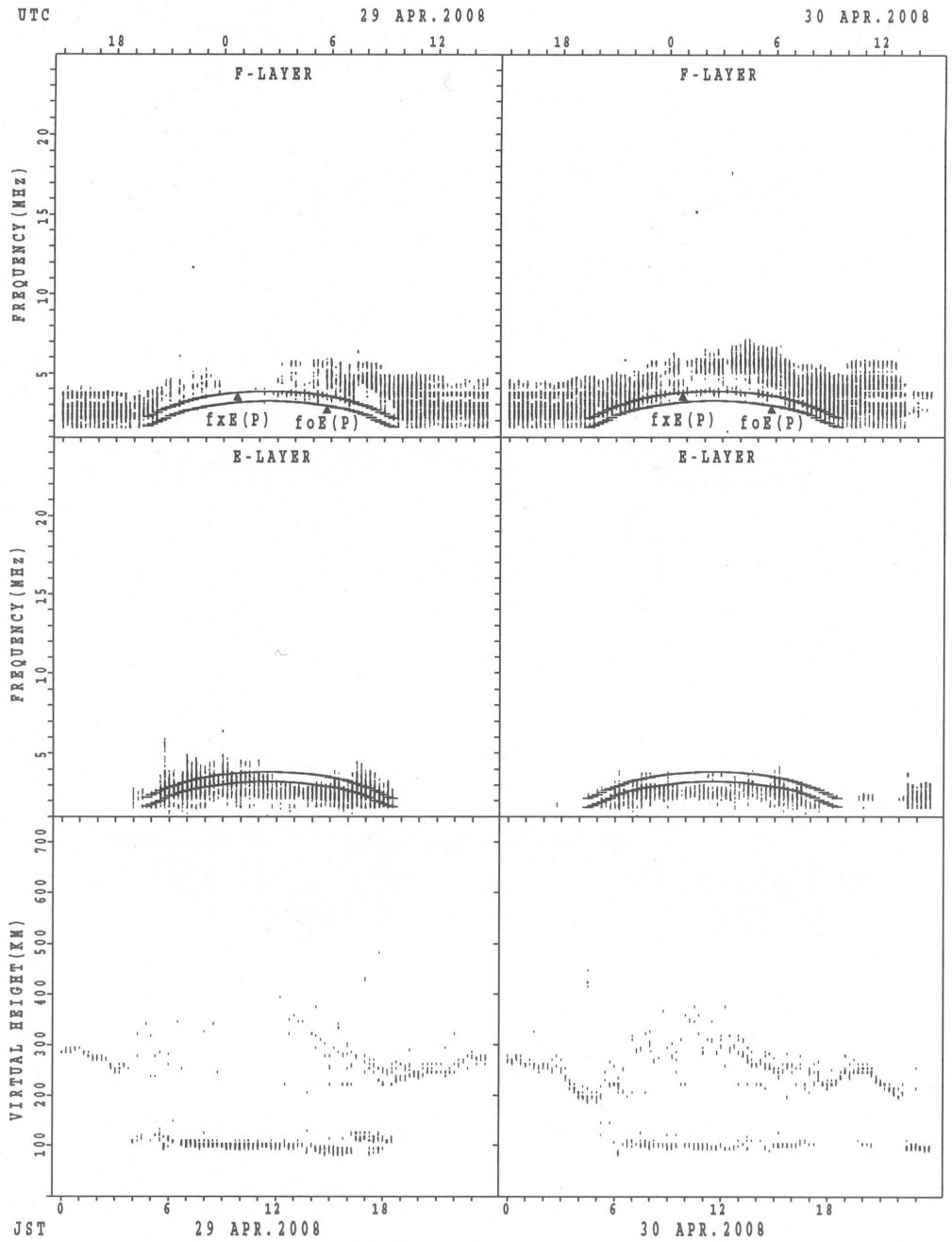
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



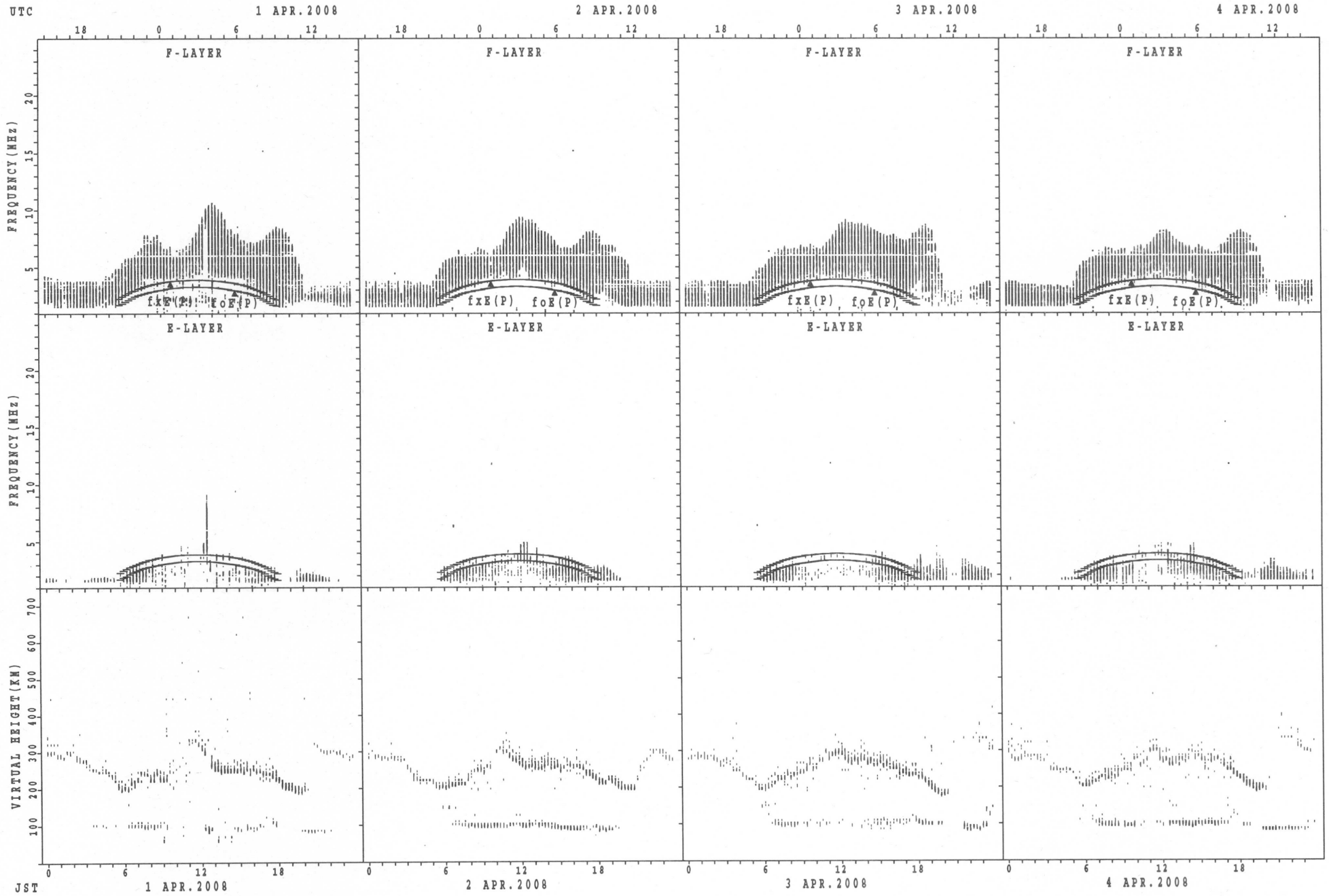
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



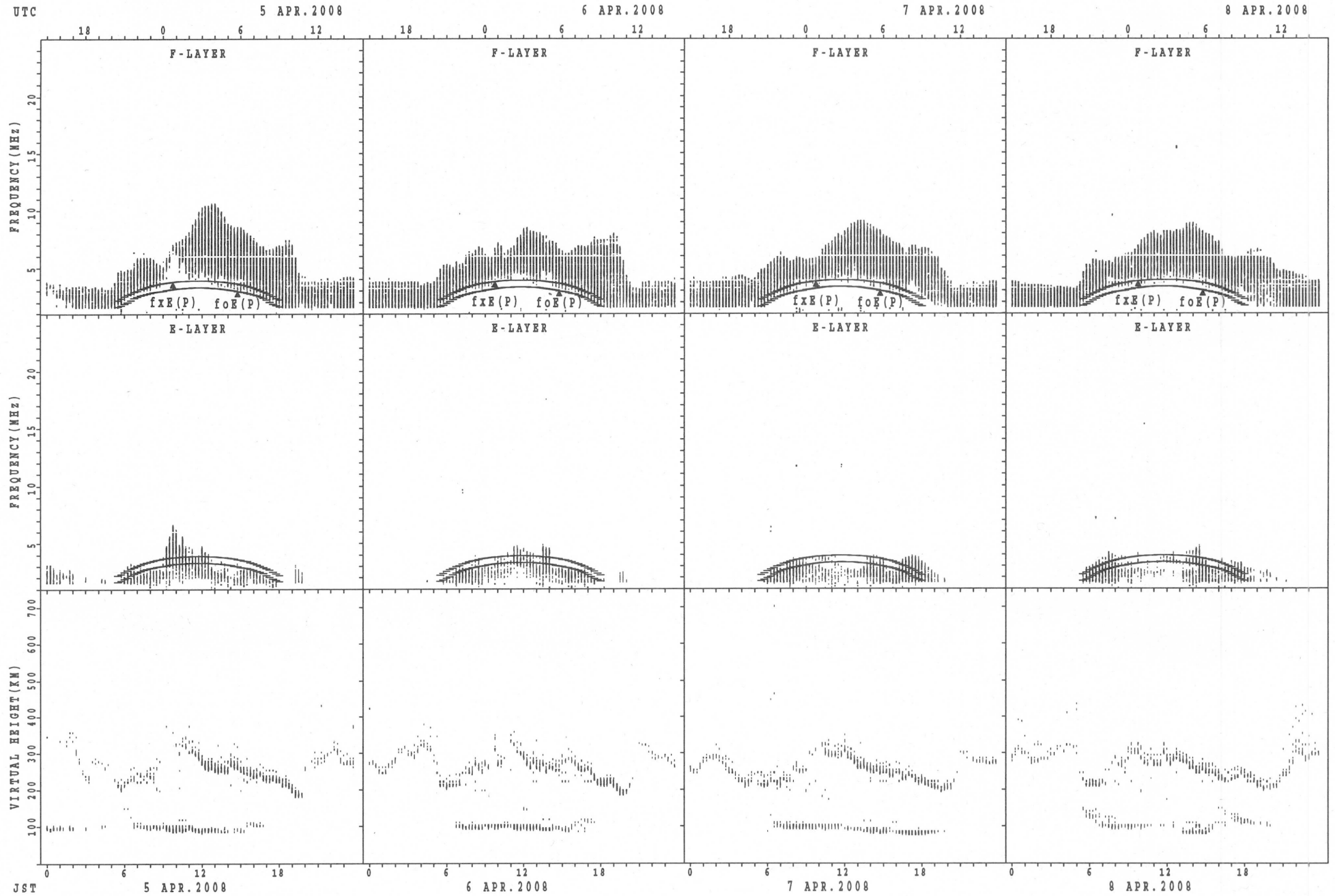
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



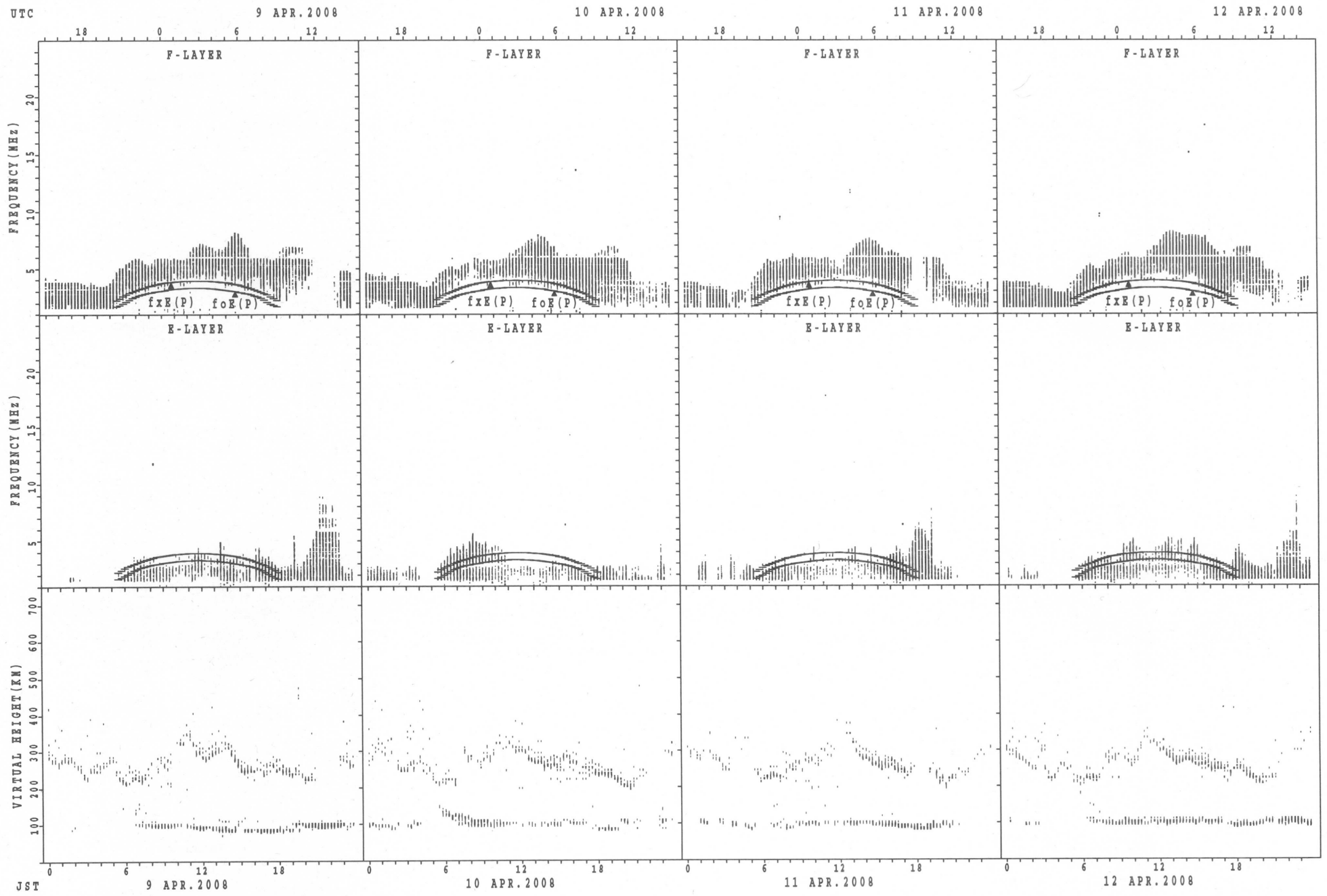
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



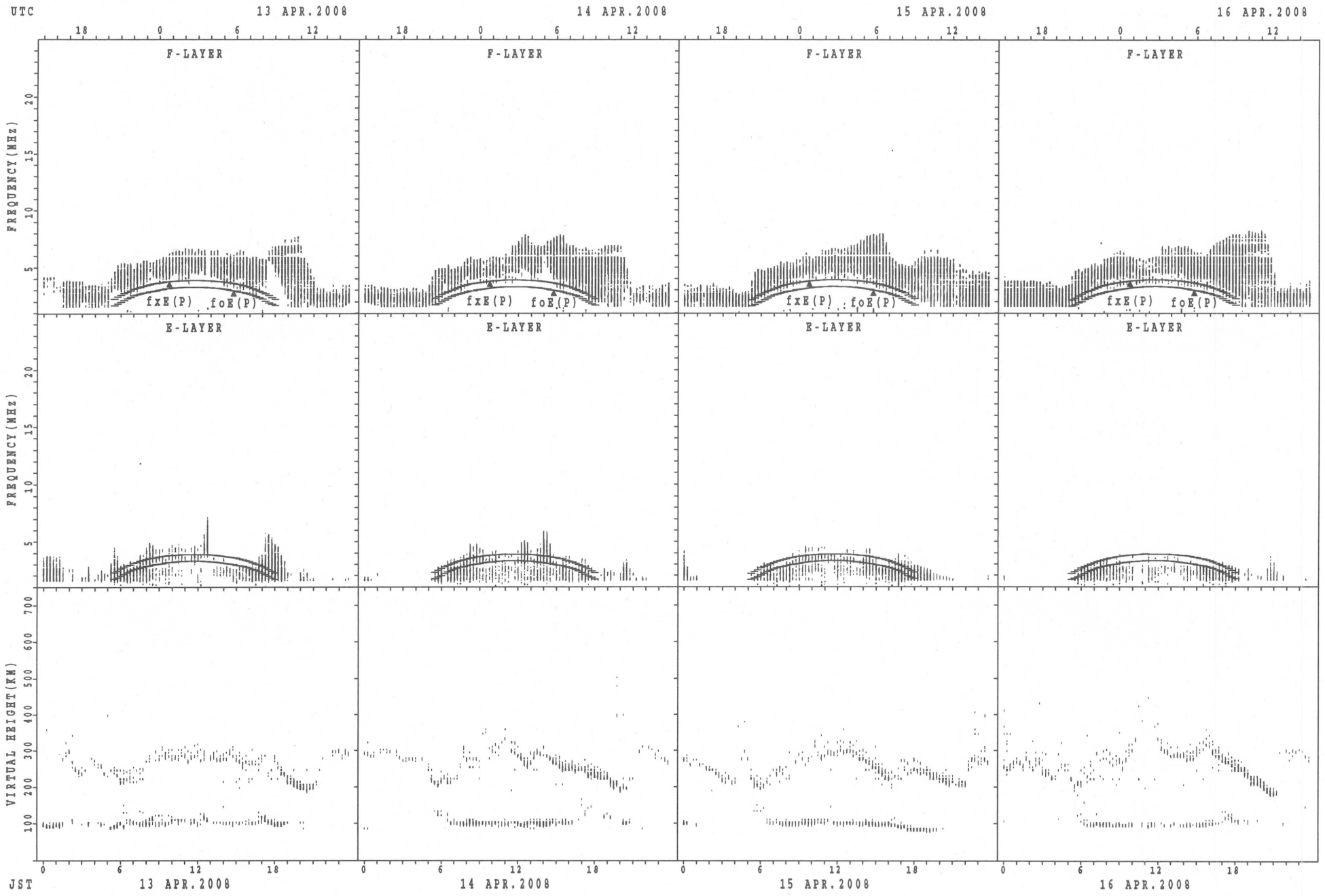
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



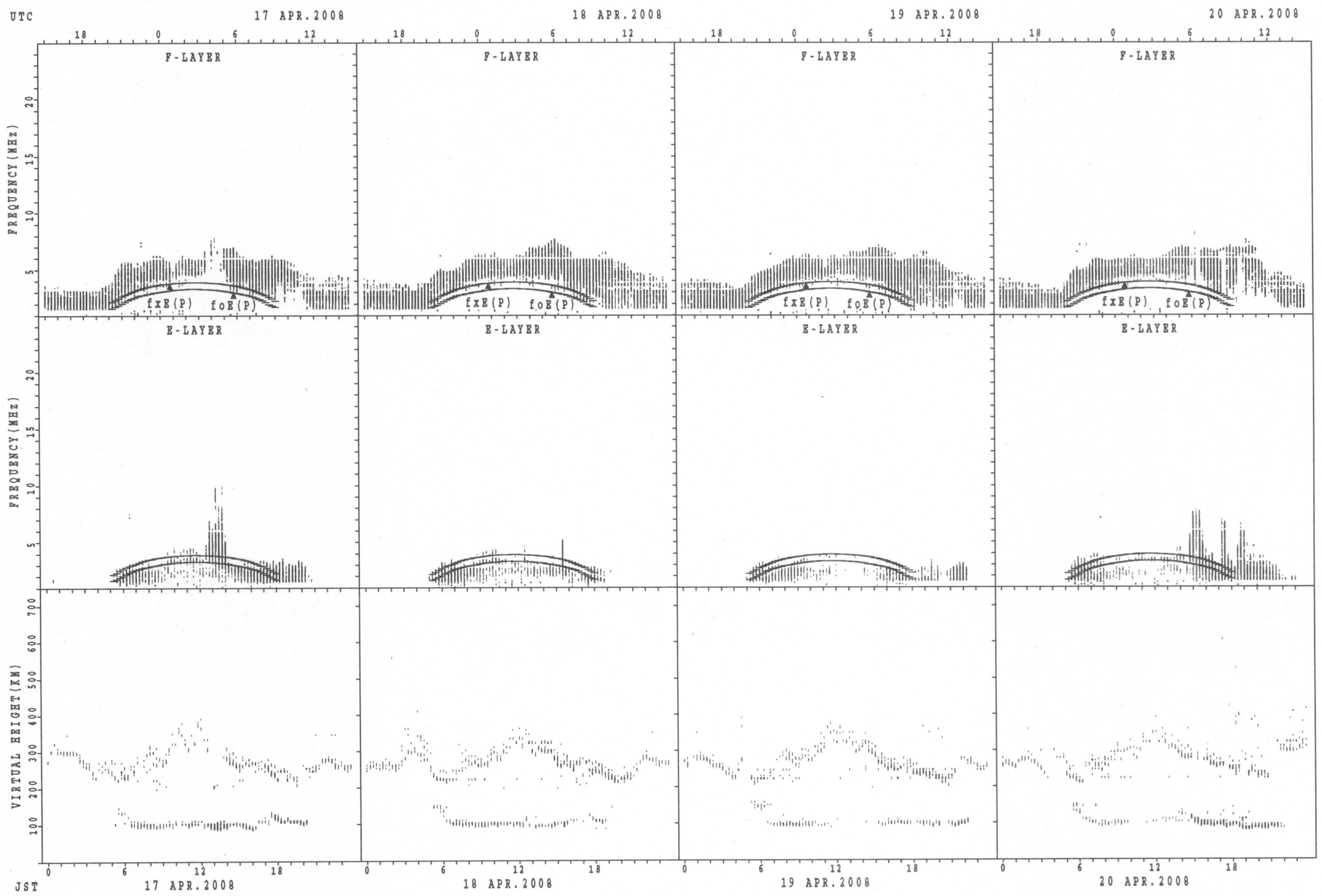
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



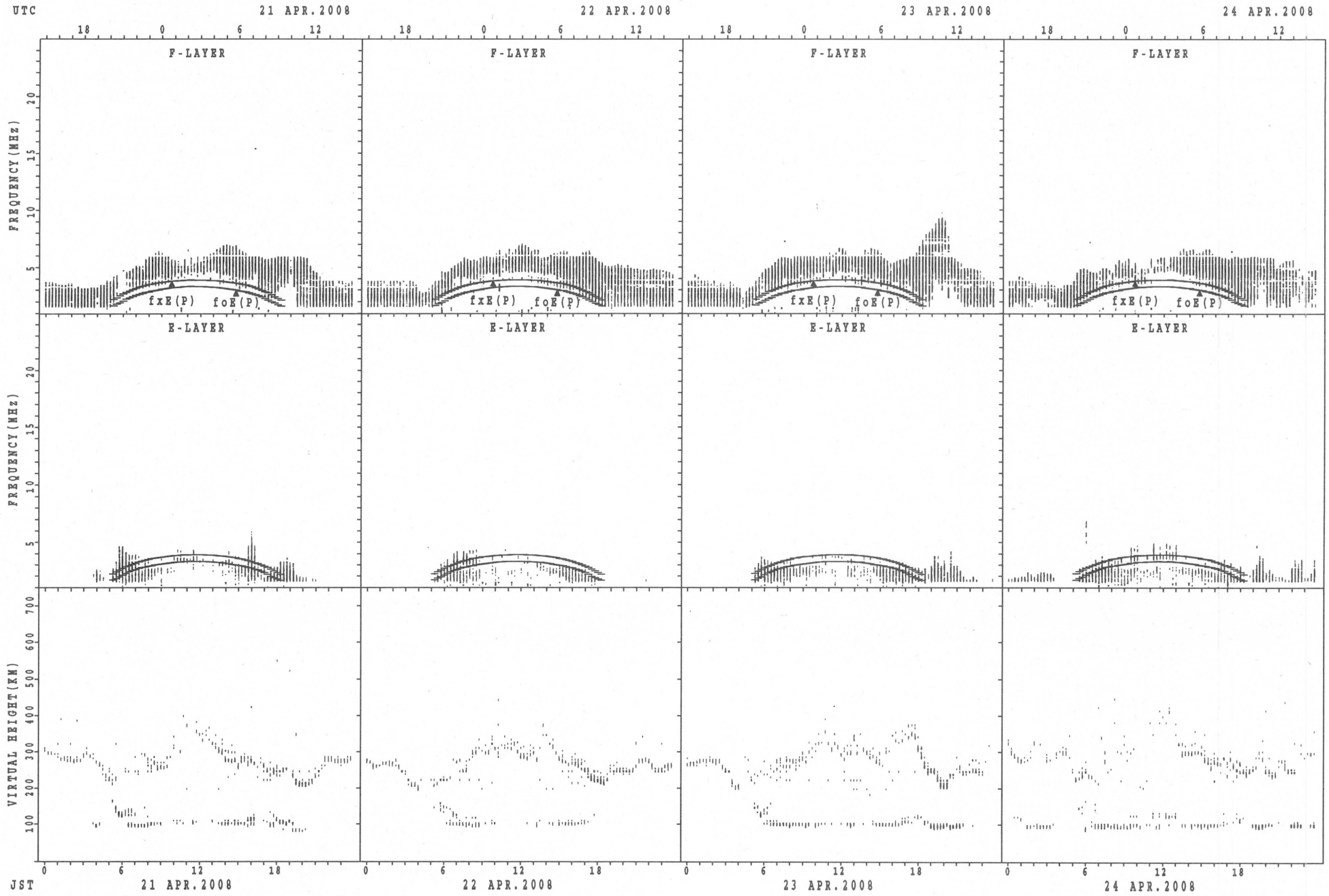
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



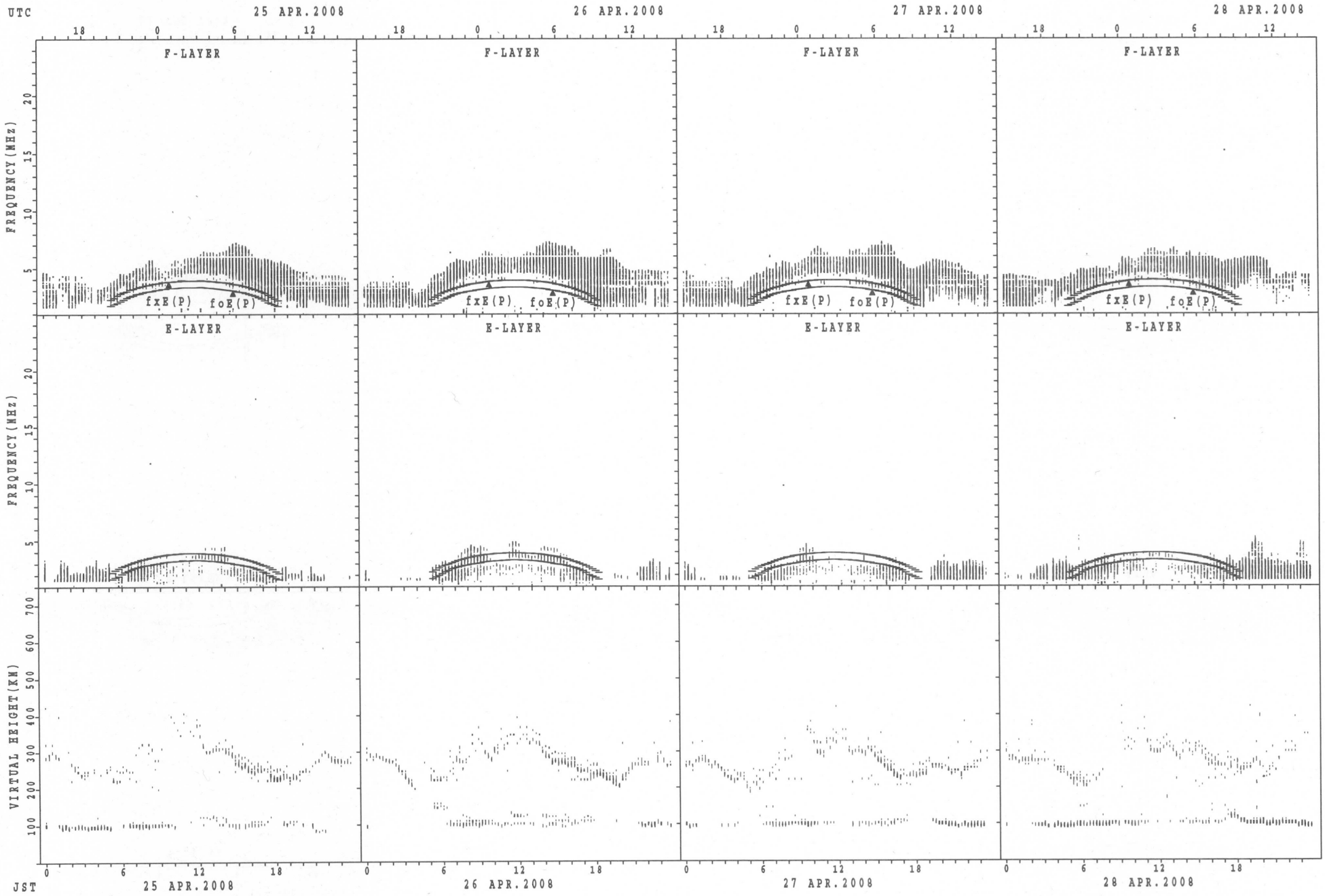
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



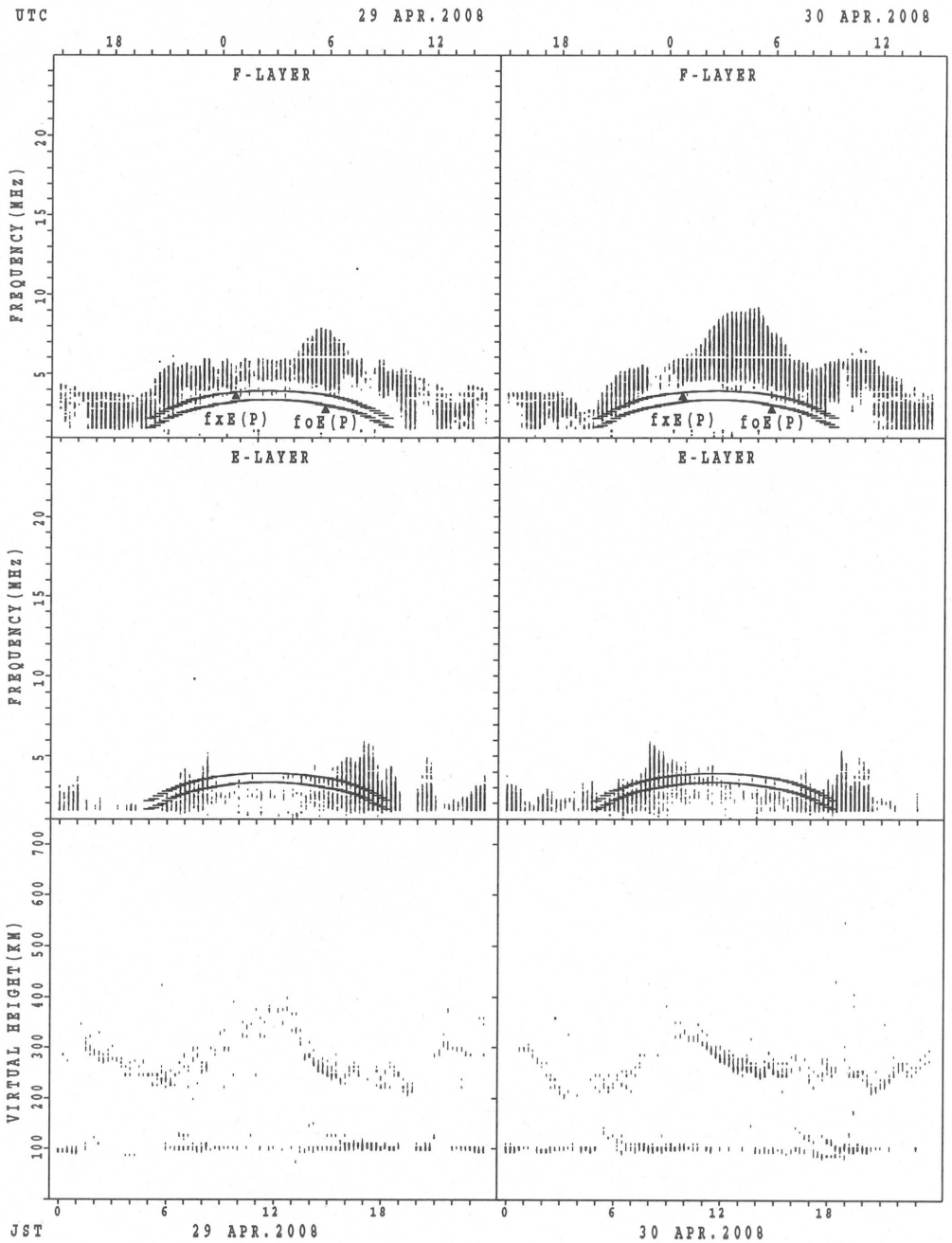
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



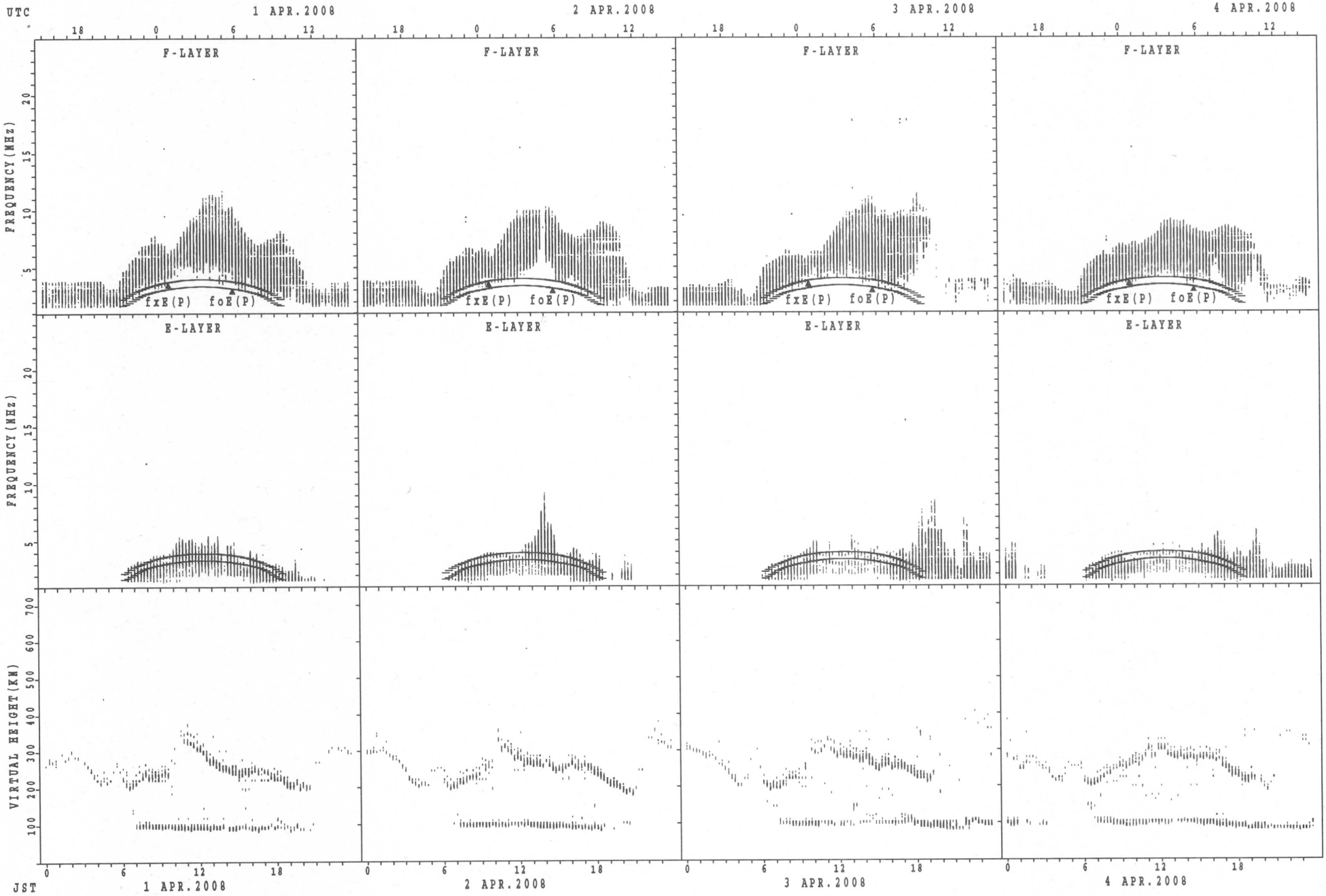
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

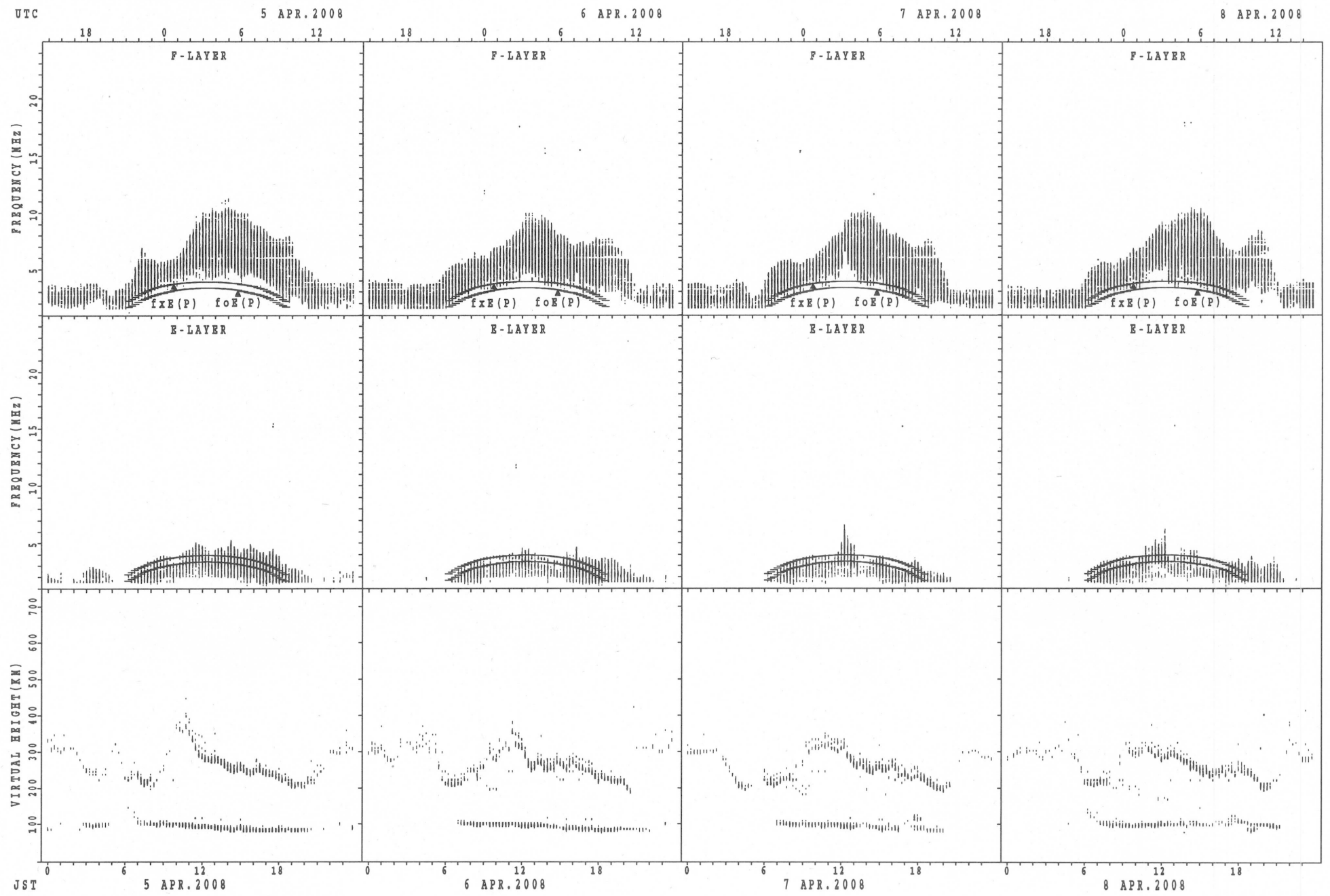


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

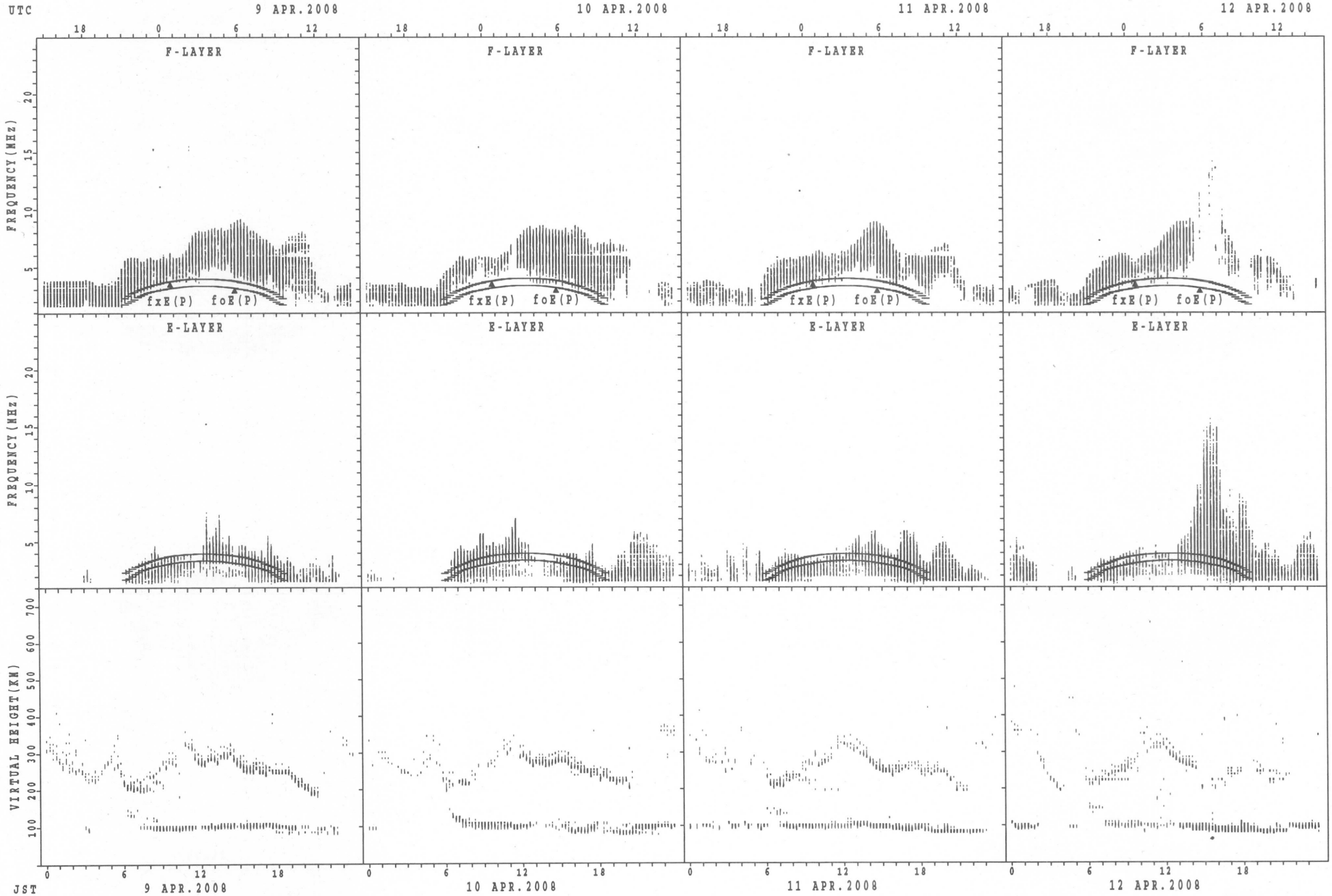
SUMMARY PLOTS AT Yamagawa



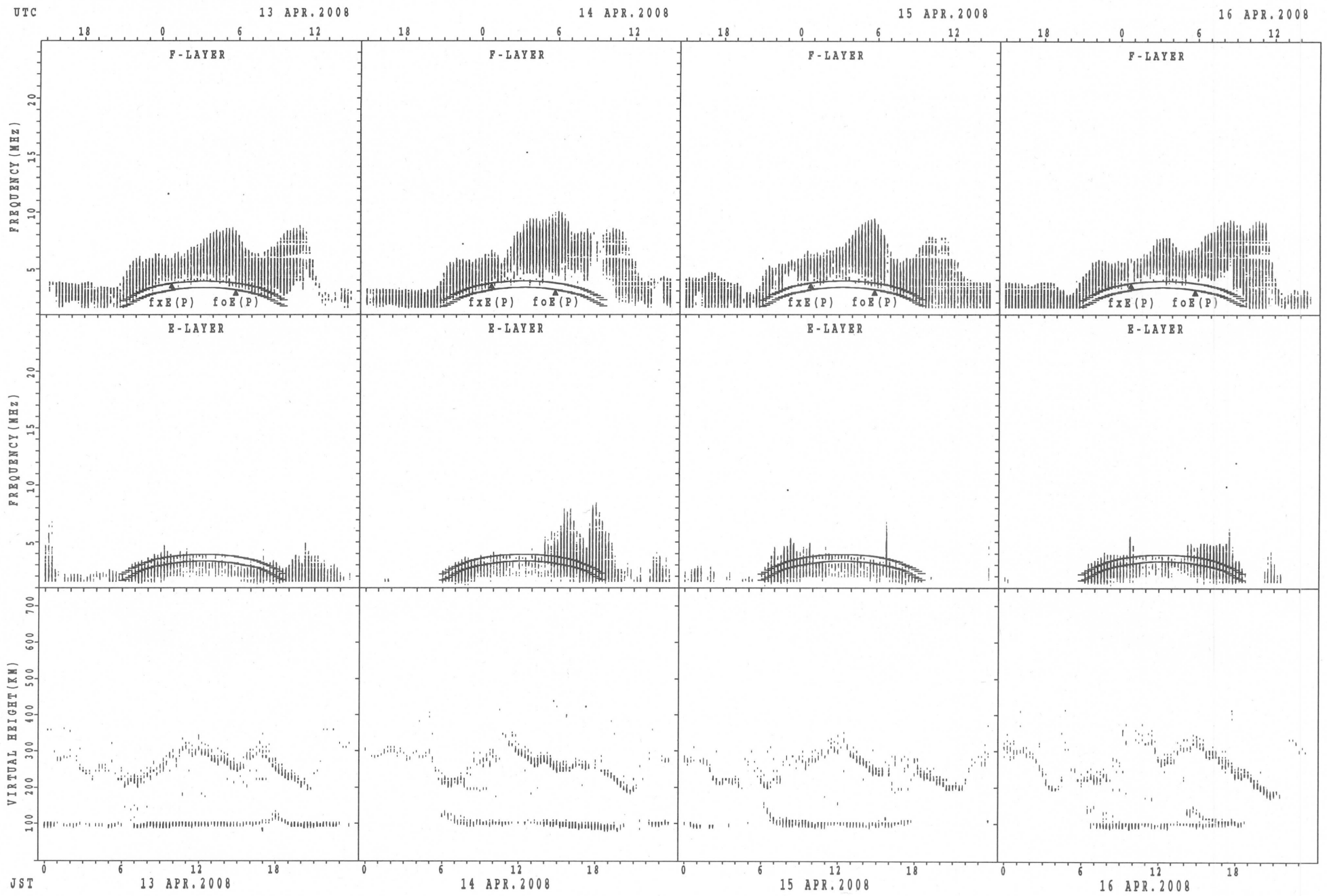
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

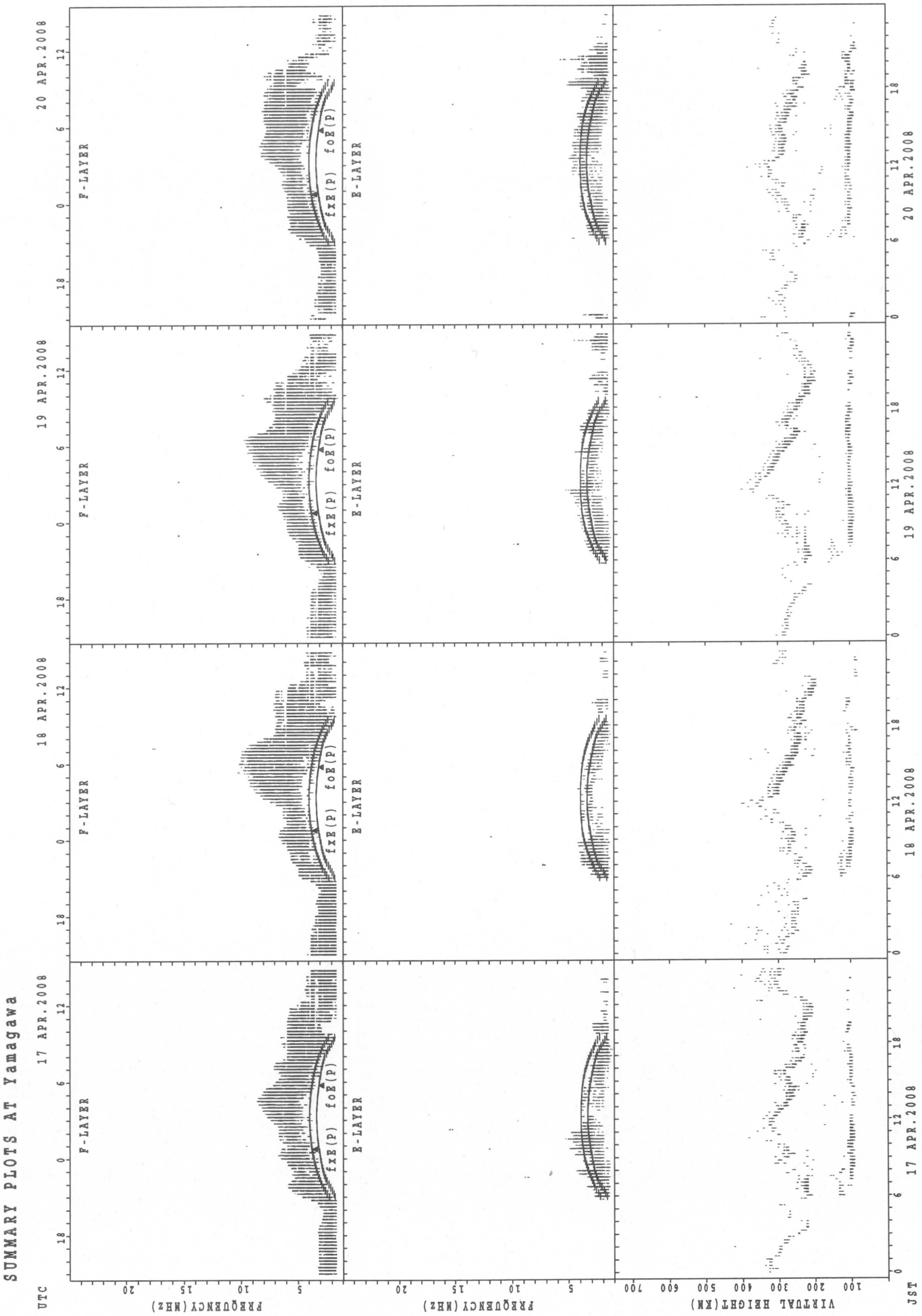

SUMMARY PLOTS AT Yamagawa
UTC
5 APR.2008
6 APR.2008
7 APR.2008
8 APR.2008
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P) foE(P)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

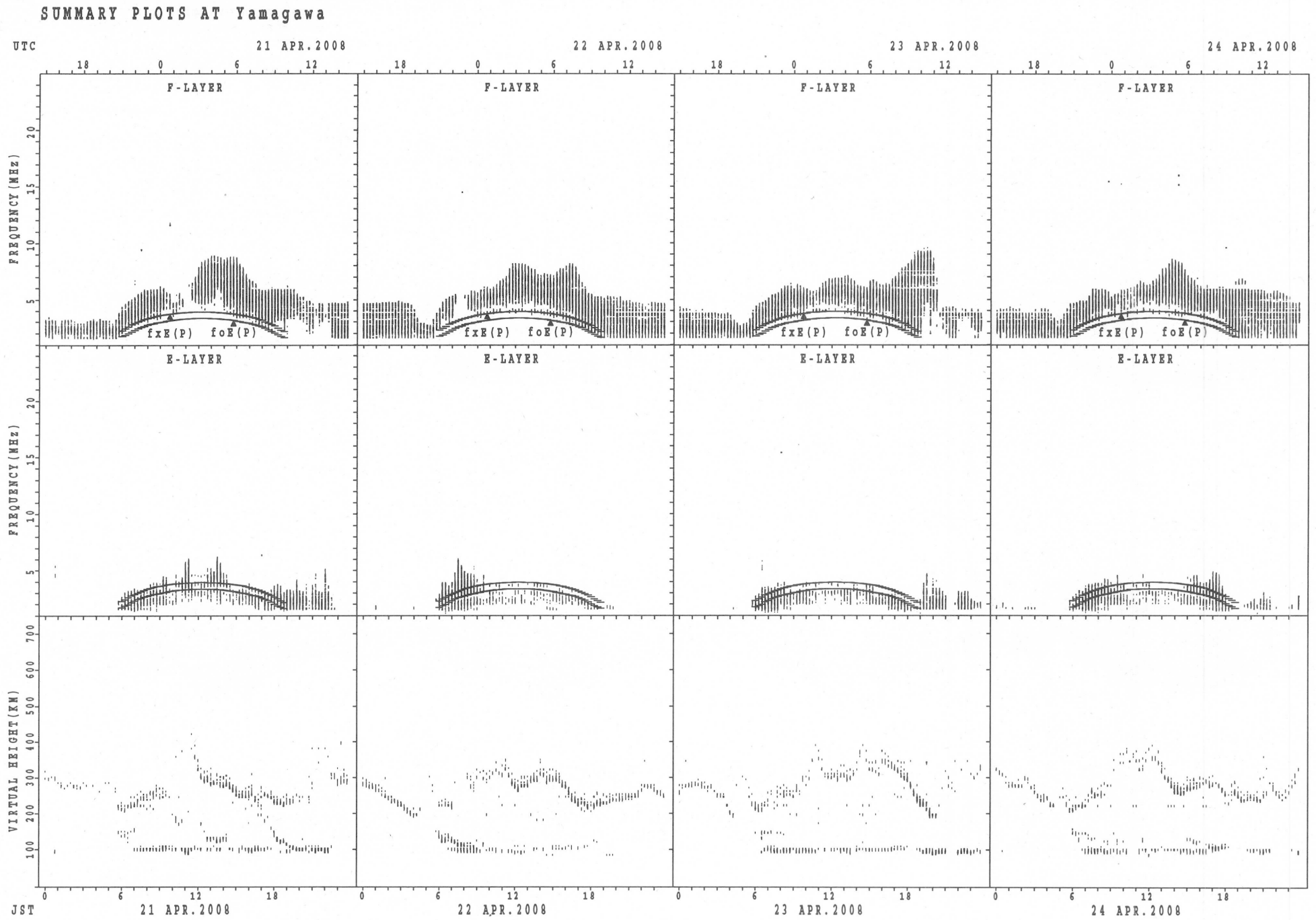
SUMMARY PLOTS AT Yamagawa



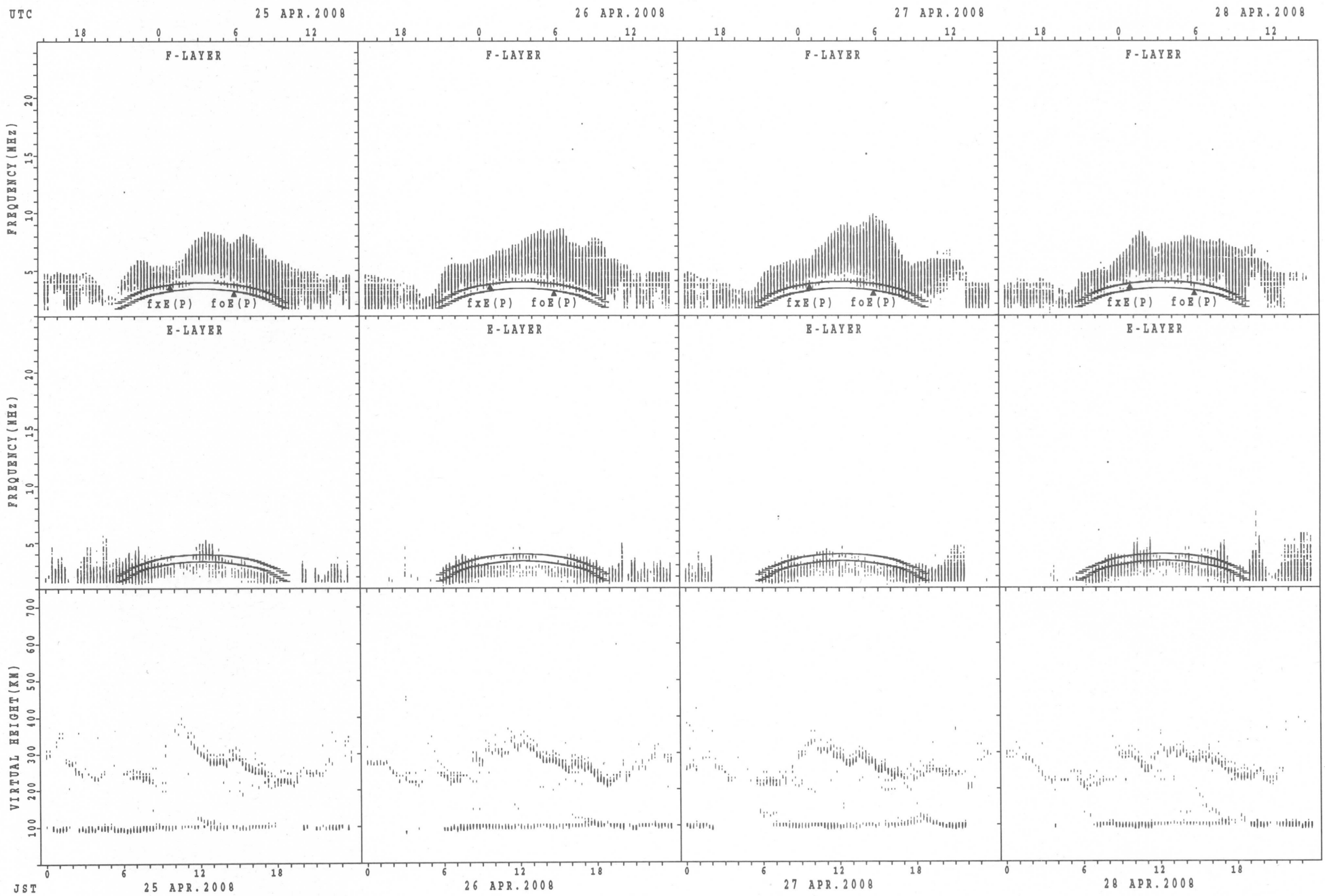
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


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

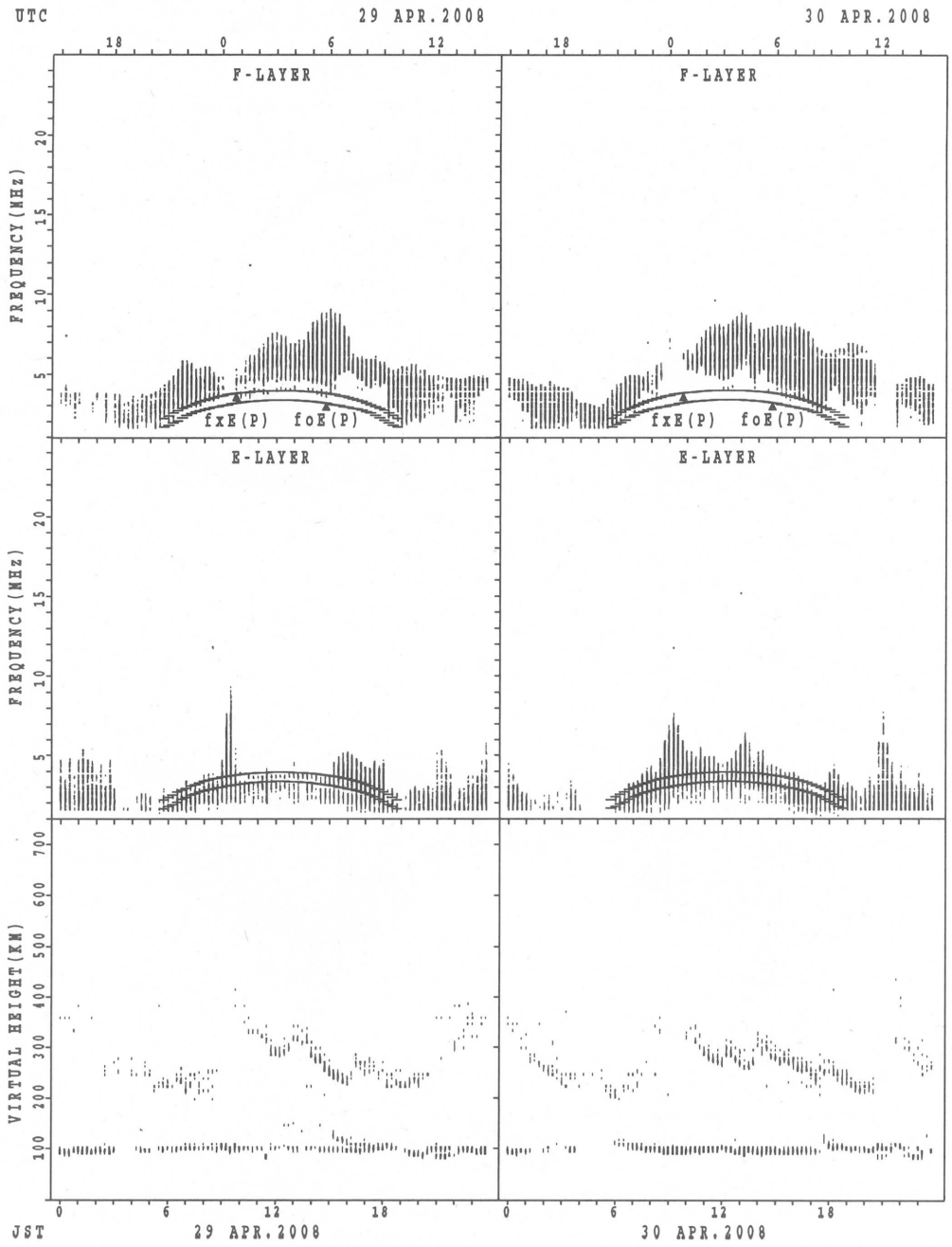

SUMMARY PLOTS AT Yamagawa
UTC
17 APR.2008
18 APR.2008
19 APR.2008
20 APR.2008
F-LAYER
E-LAYER
fxE(P) foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE



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

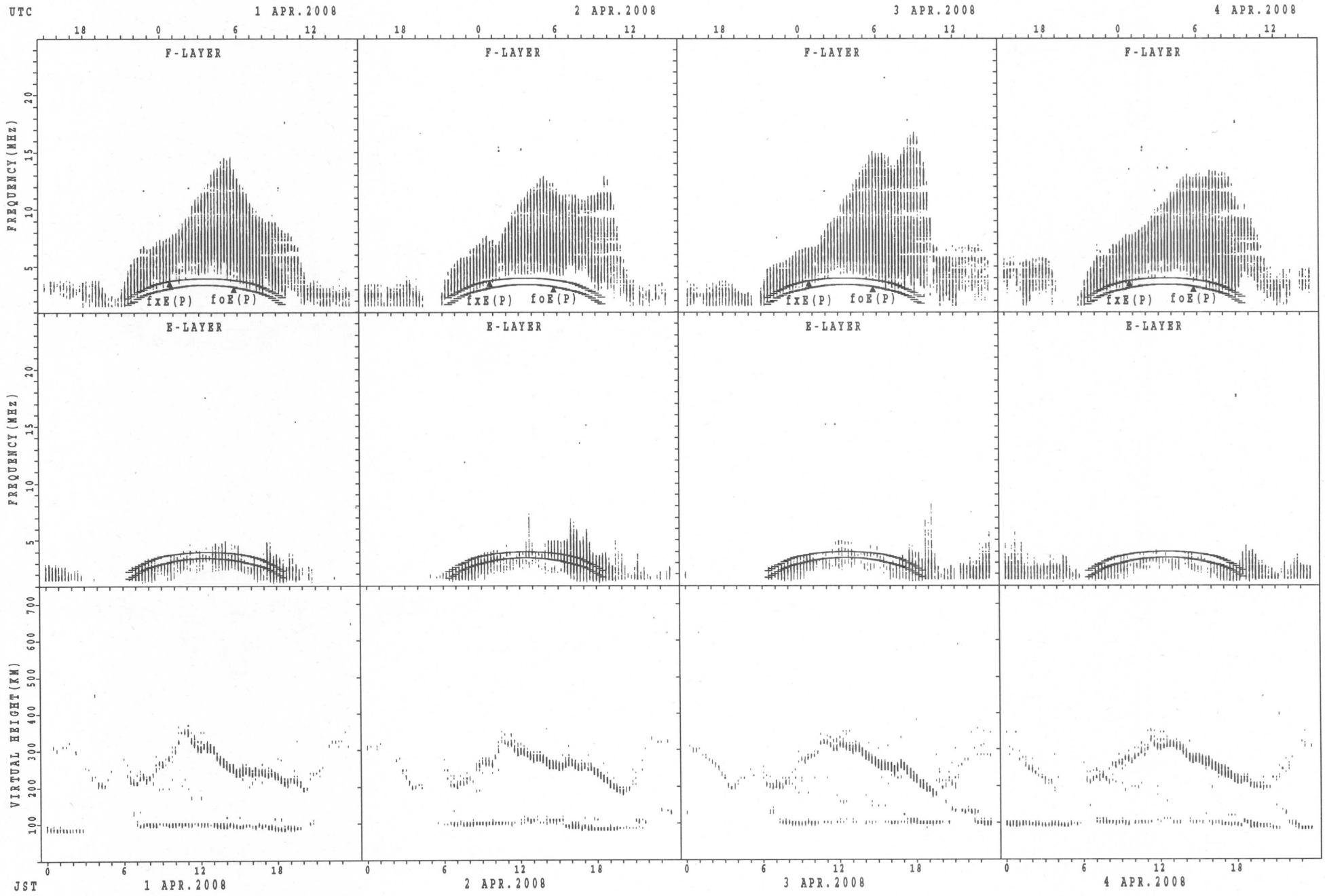

SUMMARY PLOTS AT Yamagawa
UTC
25 APR.2008
26 APR.2008
27 APR.2008
28 APR.2008
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P)
foE(P)
JST
25 APR.2008
26 APR.2008
27 APR.2008
28 APR.2008
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



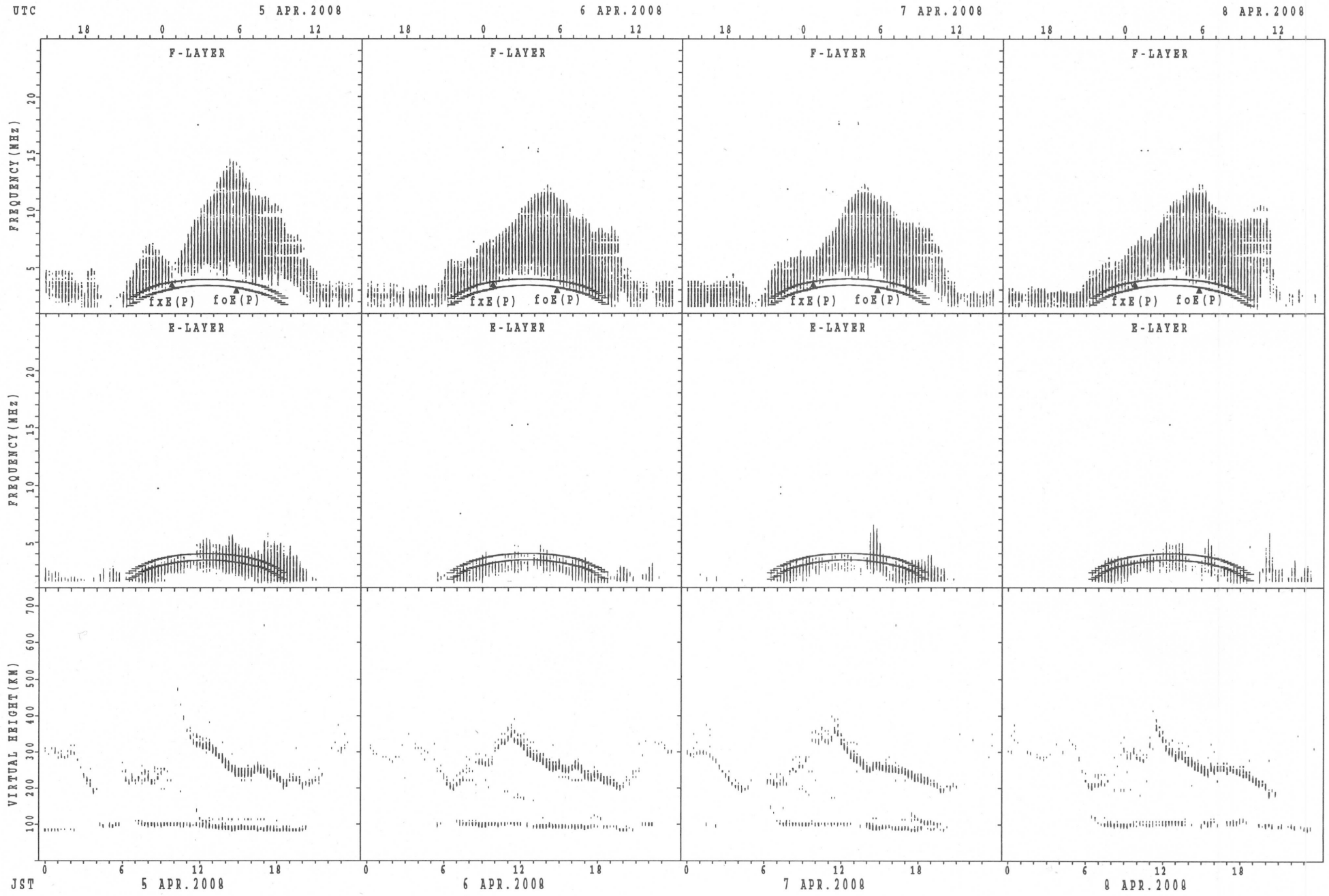
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa

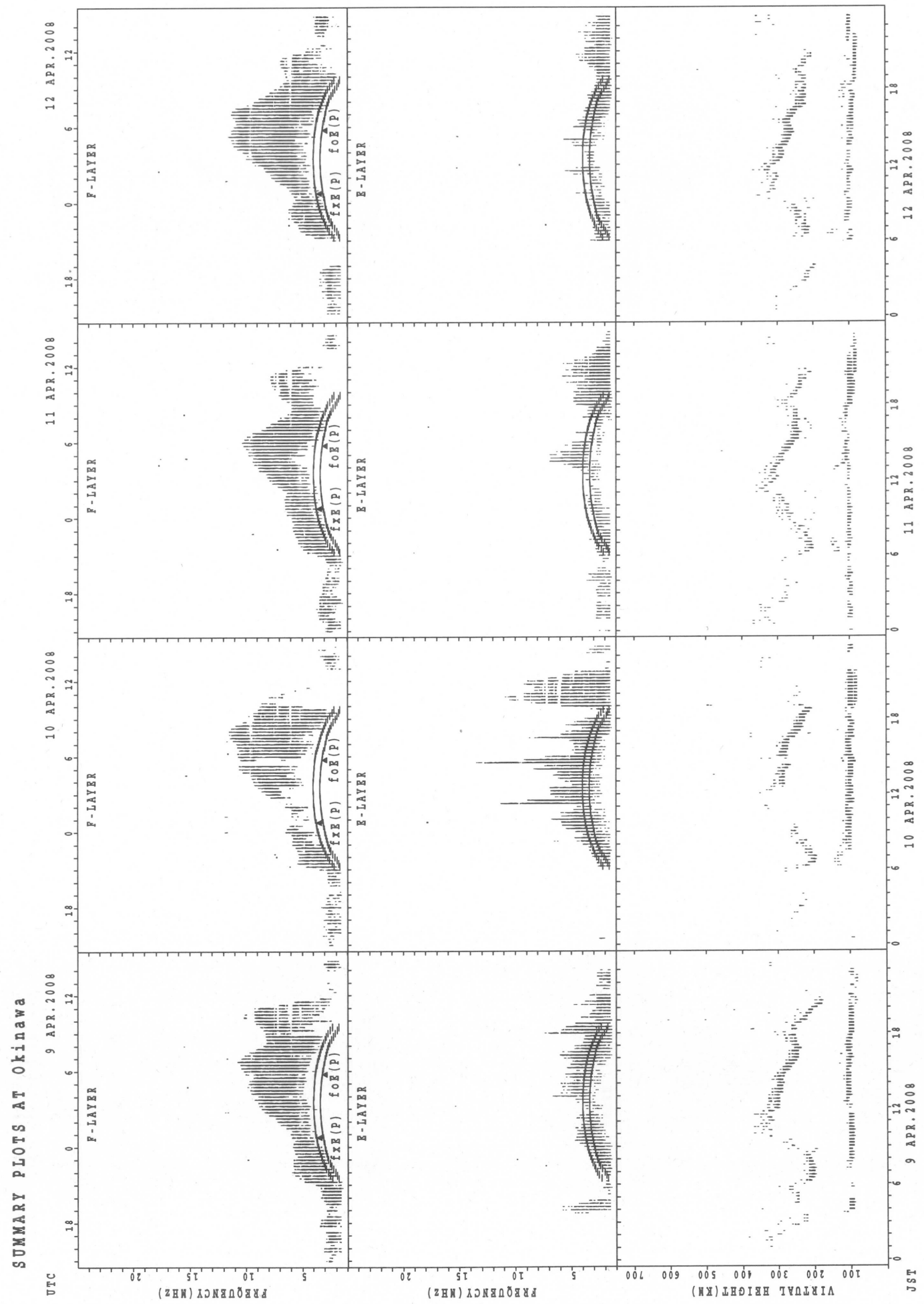


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

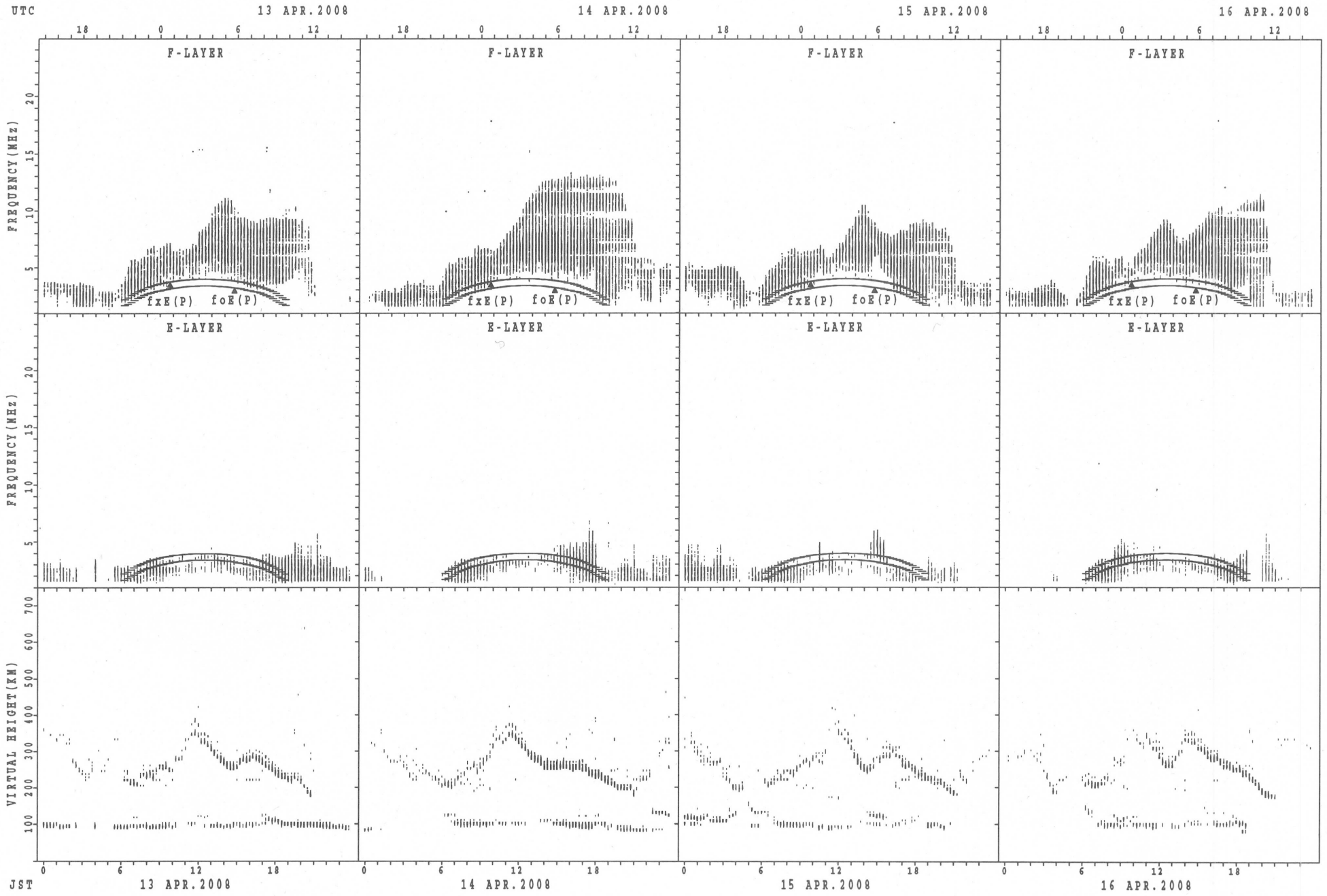
SUMMARY PLOTS AT Okinawa



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

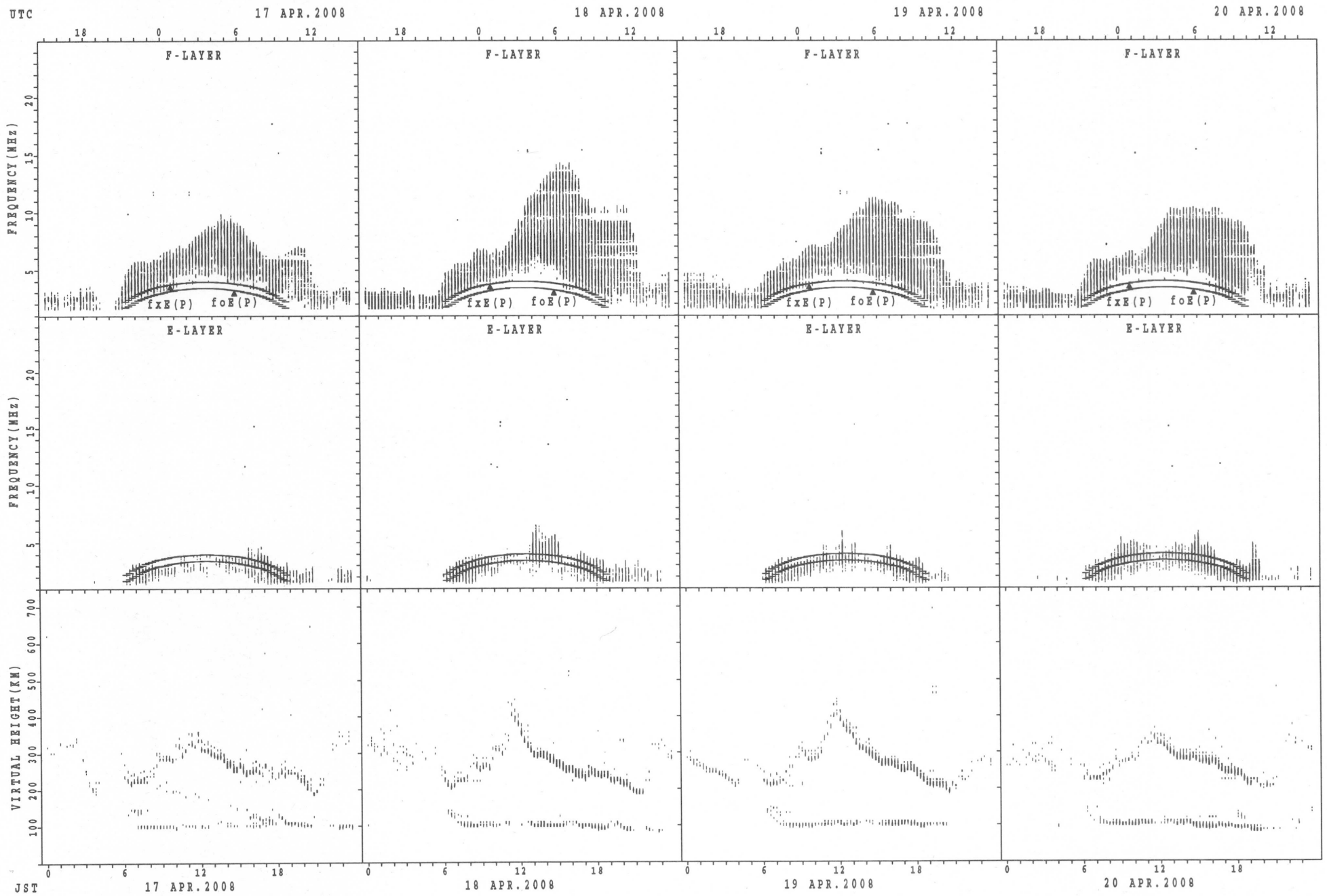

SUMMARY PLOTS AT Okinawa
UTC
JST
9 APR.2008
10 APR.2008
11 APR.2008
12 APR.2008
F-LAYER
E-LAYER
fxE(P) foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



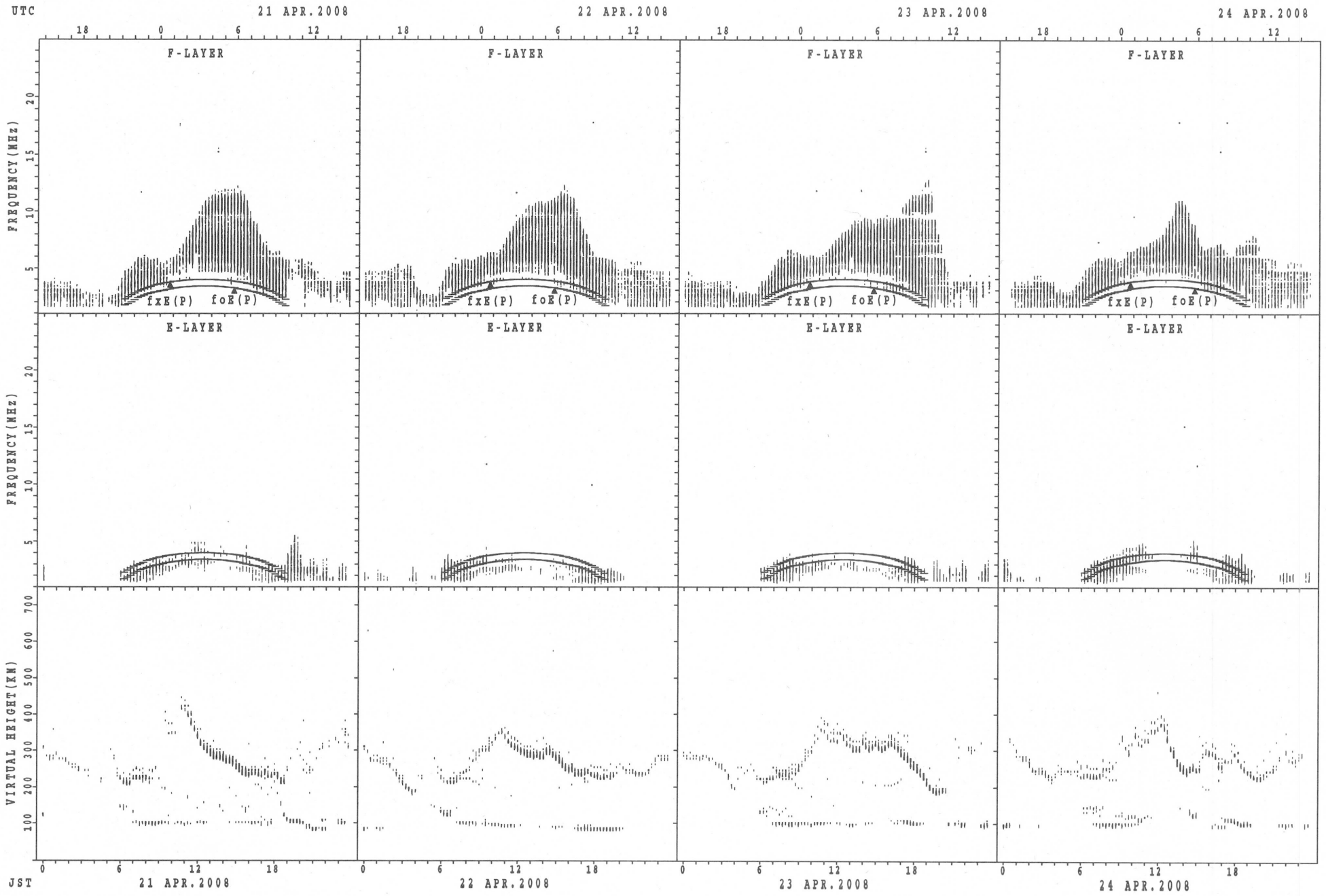
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa

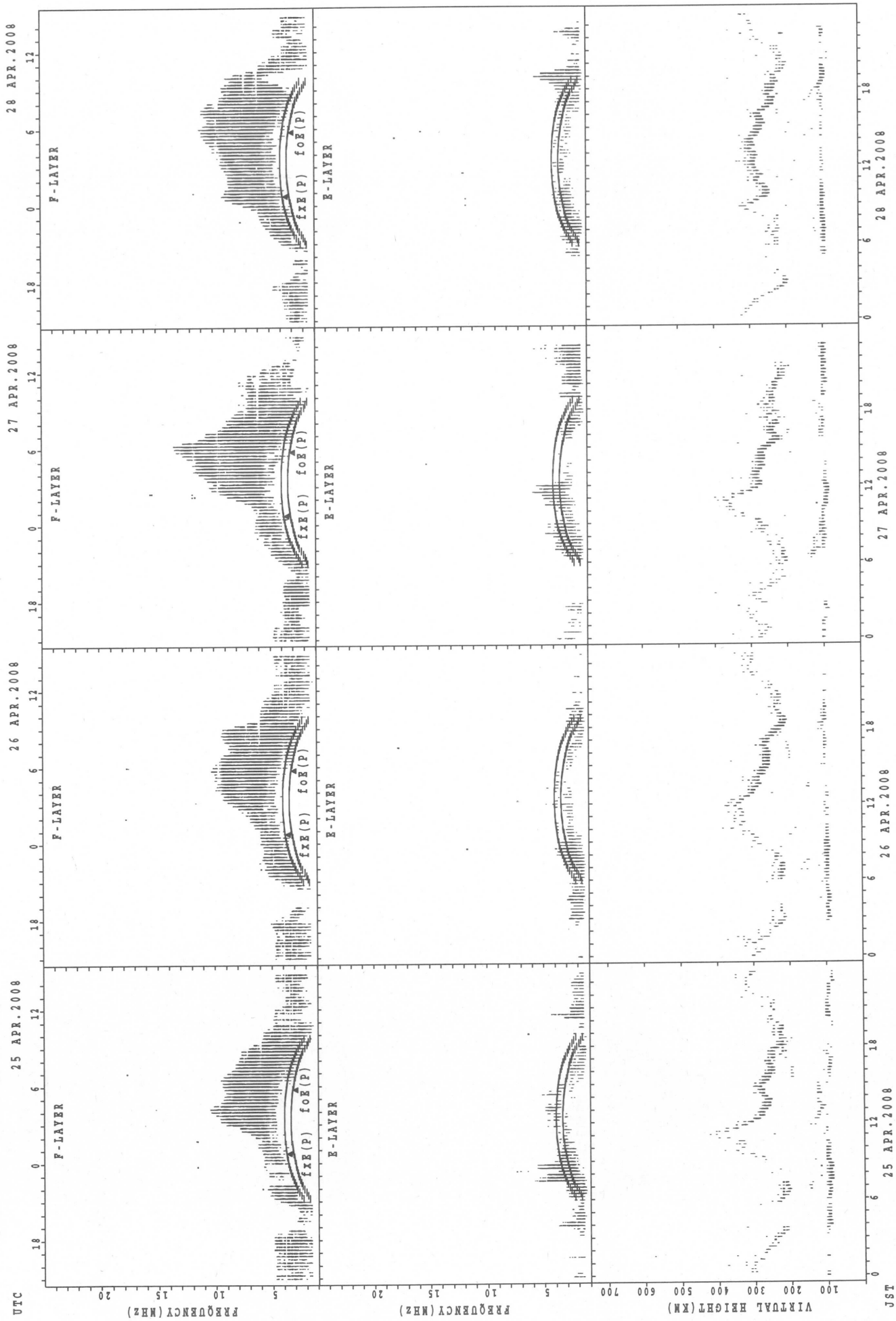


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

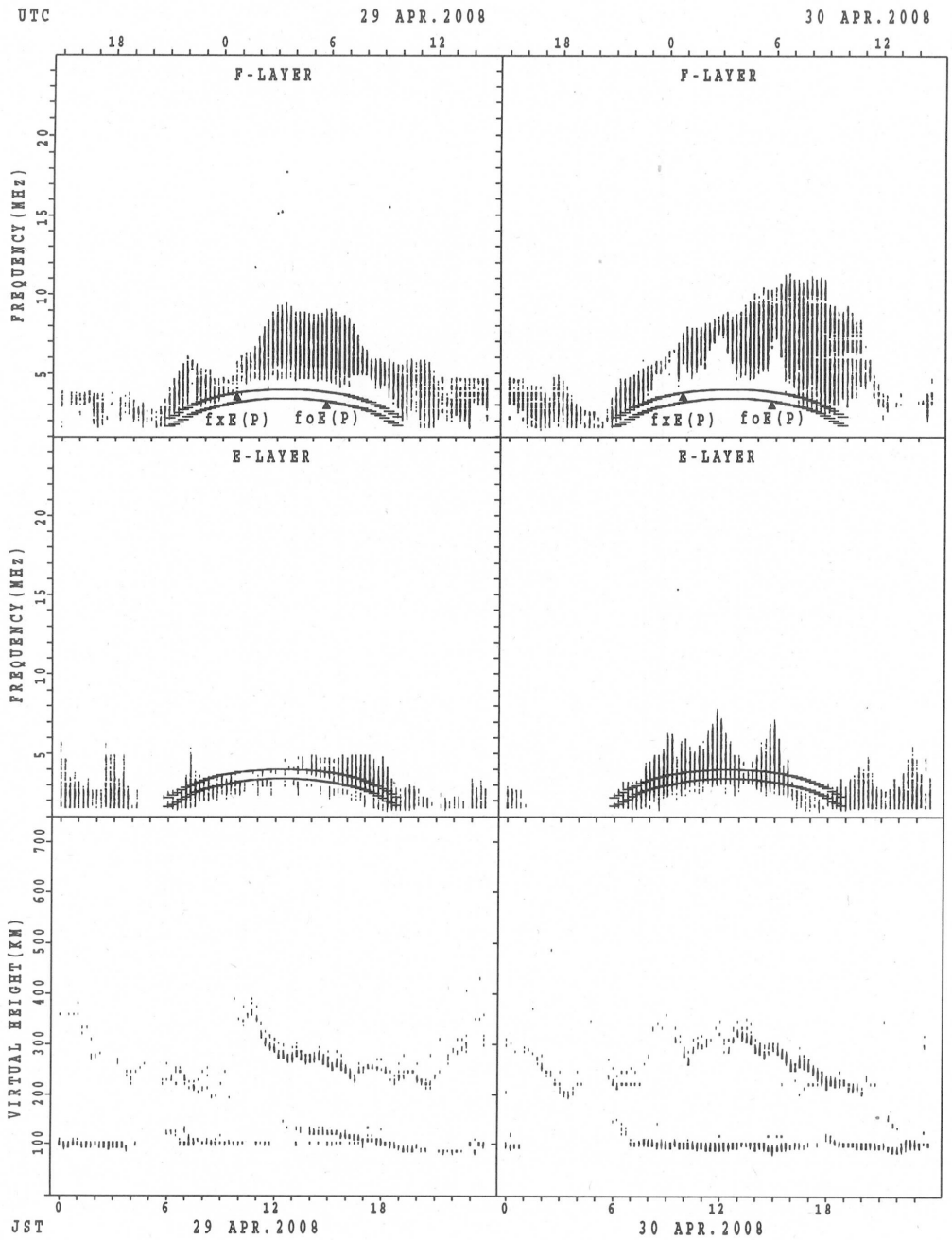
SUMMARY PLOTS AT Okinawa



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


SUMMARY PLOTS AT Okinawa
UTC
JST
25 APR.2008
26 APR.2008
27 APR.2008
28 APR.2008
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
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

APR. 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																	5	2	1	5	1	1		
MED																	270	255	266	254	276	258		
U Q																	291	262	133	276	138	129		
L Q																	267	248	133	240	138	129		

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	3	2	5	3	4	4	16	14	7	8	9	8	5	4	4	3	7	9	8	7	7	4	4	2
MED	95	111	103	113	103	106	137	125	107	105	99	101	99	99	95	95	101	95	102	107	107	110	102	100
U Q	107	127	116	115	110	138	153	149	119	111	104	103	112	101	100	167	111	101	114	113	111	111	113	101
L Q	91	95	100	87	93	101	122	103	97	104	97	100	95	93	94	91	91	91	88	89	107	106	98	99

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								2	5								14	6	9	7	3			
MED								229	246								265	264	248	232	240			
U Q								230	267								278	280	261	268	242			
L Q								228	234								256	256	240	216	214			

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	4	6	3	4	16	11	10	10	14	7	12	8	11	5	10	14	20	20	18	13	10	10
MED	99	101	97	98	97	96	138	119	111	105	106	111	108	105	97	105	103	107	107	103	101	99	103	103
U Q	103	107	99	101	99	99	149	133	113	109	111	111	132	117	121	111	115	119	114	107	105	104	103	105
L Q	97	95	94	97	97	92	130	113	103	103	103	105	102	99	95	96	95	91	89	89	91	92	97	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									4								3	20	14	17	8			
MED									245								250	255	247	238	217			
U Q									253								270	265	260	253	226			
L Q									242								248	248	238	231	214			

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	11	7	6	7	3	3	13	24	21	18	20	20	16	19	11	17	20	21	22	21	25	18	14	13
MED	99	99	96	97	99	99	123	131	103	103	102	101	103	103	105	103	106	107	103	93	97	97	99	97
U Q	103	103	103	105	103	101	144	143	113	109	106	105	112	139	119	138	127	111	113	103	102	99	101	103
L Q	95	95	95	93	97	95	100	116	100	101	97	97	96	95	95	95	95	93	97	89	89	89	95	95

MONTHLY MEDIANS OF h'F AND h'Es

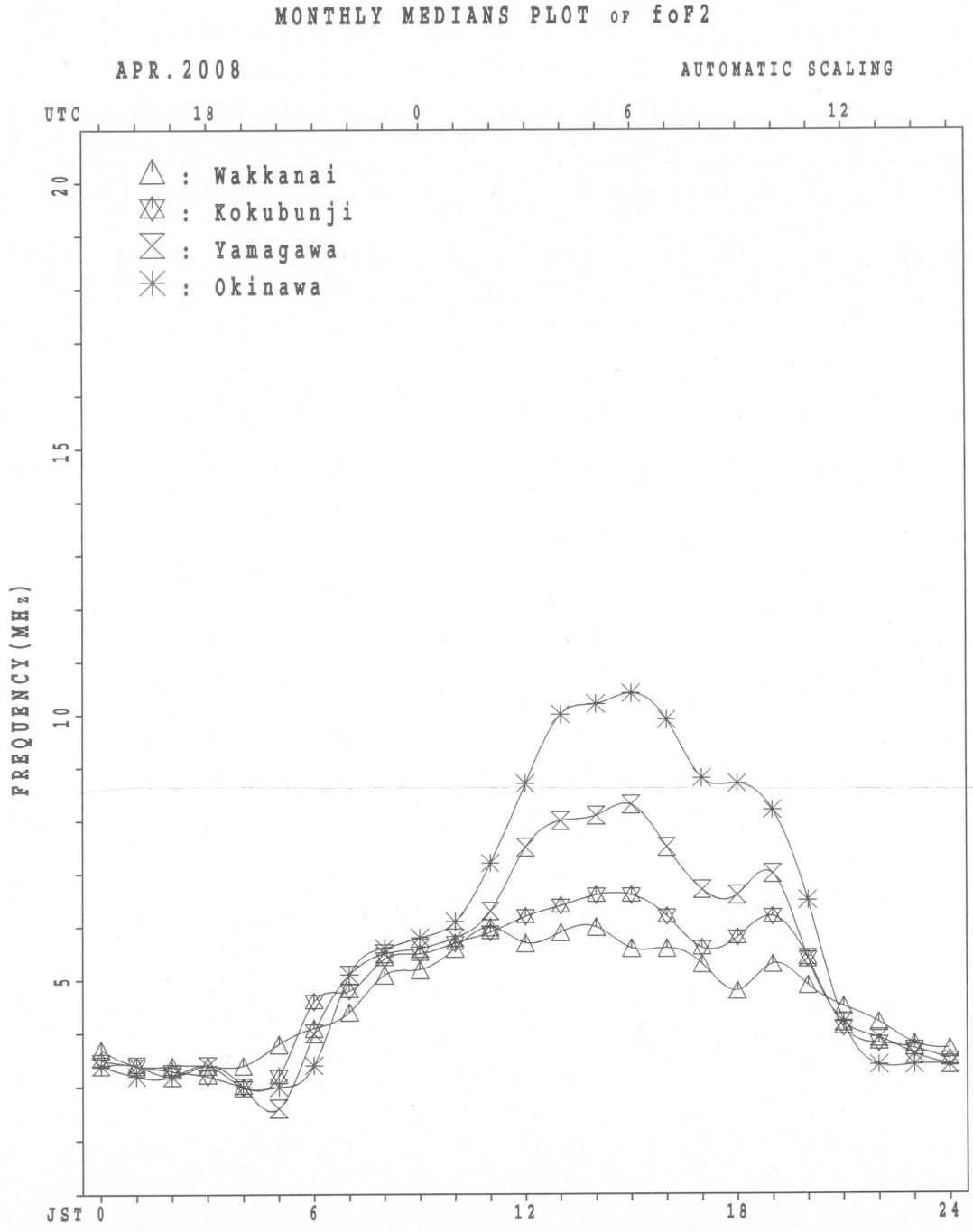
APR.2008 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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									5	1								27	21	21	13	2		
MED									246	262								248	238	232	222	203		
U Q									269	131								256	246	238	241	206		
L Q									234	131								238	228	223	206	200		

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	15	6	5	5	7	5	13	22	15	15	12	11	13	15	15	17	10	20	24	24	20	15	15	12
MED	101	99	103	97	97	99	131	131	105	103	105	109	107	105	101	109	100	104	103	101	97	99	97	102
U Q	105	103	108	105	105	101	137	143	113	111	147	155	168	119	113	122	107	113	113	103	102	103	101	105
L Q	89	87	96	94	95	96	99	119	97	99	102	101	99	101	95	95	95	95	100	90	90	95	91	94


MONTHLY MEDIANS PLOT OF foF2
APR. 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

APR. 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 43	X 42	X 42	X 41	X 41	X 42														X 79	X 46	X 38	X 39	X 40
2	X 41	X 41	X 40	X 40	X 40	X 37														X 72	X 62	X 41	X 41	X 43
3	X 41	X 41	X 41	X 38	X 37	X 38														X 87	X 46	X 32	X 34	X 36
4	X 37	X 37	X 36	X 35	X 34	X 36														X 79	X 53	X 40	X 38	X 40
5	X 39	X 36	X 35	X 37	X 34	X 35														X 74	X 43	X 42	X 42	X 43
6	X 42	X 43	X 41	X 40	X 39	X 38														X 81	X 47	X 41	X 41	X 42
7	X 45	X 42	X 42	45	X 44	X 41														X 63	X 44	X 38	X 40	X 41
8	X 40	X 37	X 38	X 35	X 34	X 33														X 69	X 59	X 46	52	50
9	46	42	X 39	43	42	41														X 72	X 70	A	A	X 47
10	49	51	47	43	40	X 35														X 69	X 67	X 46	X 40	X 39
11	X 39	X 37	X 34	X 35	X 31	X 32														X 63	X 63	X 42	X 40	X 40
12	X 38	41	39	36	33	X 33														X 70	X 60	X 50	45	X 43
13	X 43	X 42	X 39	X 40	X 36	X 40														X 75	X 73	X 43	X 37	X 37
14	X 38	X 36	X 34	X 34	X 33	X 36														X 74	X 72	X 38	X 36	X 36
15	X 37	X 36	X 38	X 37	X 29	X 34														X 66	X 66	X 59	X 46	49
16	44	X 40	X 38	40	X 35	X 36														X 83	X 84	X 46	X 39	X 38
17	X 39	X 37	X 36	X 35	X 35	X 38														X 61	X 50	X 46	X 46	X 47
18	X 46	X 42	X 41	X 37	X 35	X 39														X 67	X 60	X 51	X 47	X 46
19	X 44	X 41	X 41	X 40	37	X 38														X 67	X 62	X 50	X 47	X 46
20	X 44	X 41	X 40	X 38	X 33	X 40														X 78	X 72	X 48	51	46
21	41	X 36	44	37	X 35	X 41														60	X 62	X 46	X 42	X 43
22	X 42	X 43	X 41	X 40	X 34	X 38														X 52	X 55	X 50	X 51	X 48
23	X 46	X 43	X 42	X 38	X 34	X 37														X 86	X 93	X 57	X 52	X 46
24	X 42	X 44	X 40	X 40	X 38	X 38														X 64	X 64	X 56	X 59	X 47
25	X 48	X 46	X 46	X 44	A	X 37														X 56	X 49	X 47	X 46	X 46
26	X 43	X 42	X 42	X 42	X 31	X 40														X 68	X 57	X 52	X 51	X 50
27	X 50	X 45	X 43	X 44	X 37	X 41														X 56	X 60	X 56	X 48	X 46
28	X 45	X 45	X 43	X 41	X 40	X 43														X 62	X 62	X 44	X 46	X 46
29	X 45	X 42	X 41	X 38	X 37	X 43														X 55	X 49	X 45	X 43	X 44
30	X 42	X 39	X 40	X 43	X 29	X 38														X 65	X 68	X 55	X 47	X 44
31																								
	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	30	30	30	29	30														30	30	29	29	30
MED	X 42	X 42	X 40	X 40	X 35	X 38														X 68	X 61	X 46	X 45	X 44
U Q	X 45	X 43	X 42	X 41	X 38	X 40														X 75	X 67	X 50	X 48	X 46
L Q	X 40	X 37	X 38	X 37	X 34	X 36														X 63	X 50	X 42	X 40	X 40

APR. 2008 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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	37	36	36	35	35	35	50	57	74	69	60	64	84	102	87	75	68	71	82	73	40	32	33	34
2	35	35	34	32	34	30	50	59	57	62	61	78	89	87	77	65	62	73	74	66	56	35	35	37
3	35	35	35	32	31	32	46	58	61	65	64	68	82	86	83	76	72	70	76	81	40	26	28	30
4	31	31	30	28	28	30	50	57	61	63	64	65	74	71	62	64	58	66	77	74	47	34	32	34
5	33	30	29	31	28	29	43	55	55	53	69	79	99	102	86	82	70	62	66	68	37	36	36	37
6	36	37	35	34	33	32	48	49	60	58	67	63	80	78	70	60	63	65	71	75	40	35	35	36
7	39	36	36	F	38	35	48	59	51	53	58	70	77	86	82	74	66	63	63	57	38	32	34	35
8	34	31	32	28	28	27	49	52	54	59	70	78	77	79	86	74	68	54	58	63	53	40	F	F
9	F	F	33	F	F	F	44	52	50	56	54	58	68	64	66	77	58	55	56	66	64	A	A	41
10	F	F	F	F	F	29	42	44	50	52	51	56	63	71	72	59	56	54	58	63	60	40	34	33
11	32	31	28	29	25	26	46	52	53	54	56	55	52	59	69	69	60	57	57	57	57	36	34	34
12	32	F	F	F	F	27	40	48	52	55	57	58	68	78	73	74	67	56	62	64	54	43	F	37
13	37	36	33	34	30	34	50	46	51	53	59	63	61	60	58	59	55	53	65	69	66	37	31	31
14	32	30	28	28	27	30	45	45	54	52	55	58	69	66	65	72	65	61	62	68	66	32	30	30
15	31	30	32	31	23	28	43	45	50	53	54	60	62	64	68	73	59	47	52	60	60	53	39	F
16	F	34	32	F	29	30	42	50	52	60	54	51	59	64	64	58	61	70	76	77	78	40	33	32
17	33	31	30	29	28	33	52	48	54	59	51	57	56	63	64	63	54	54	56	55	43	40	39	41
18	39	36	35	31	29	33	45	45	55	60	59	57	58	64	66	72	63	54	56	61	54	45	41	40
19	38	35	35	33	F	32	41	46	53	57	60	55	58	59	61	65	63	53	55	61	56	44	41	40
20	38	35	34	32	27	34	48	50	54	54	55	55	55	60	66	62	64	62	66	72	65	42	F	F
21	F	30	F	F	29	35	A	47	56	58	54	53	57	60	65	62	58	53	55	S	56	40	36	37
22	36	37	35	34	28	32	40	48	52	54	59	61	66	61	54	59	56	58	50	46	48	43	44	42
23	40	37	35	32	28	31	44	52	53	55	54	58	60	57	60	58	49	53	65	79	87	51	45	40
24	36	38	34	34	32	32	42	41	44	52	46	54	54	58	61	59	56	54	54	57	58	50	53	41
25	42	40	40	38	A	31	40	43	49	48	50	54	57	60	61	68	62	54	51	50	43	41	40	40
26	37	36	36	36	25	34	41	50	52	56	60	56	56	59	67	67	64	57	56	62	51	46	44	43
27	44	39	37	38	31	35	40	47	50	50	60	61	57	61	60	65	67	51	45	50	54	50	42	39
28	39	39	37	35	34	36	46	45	46	50	52	61	60	62	57	55	58	50	52	56	56	38	40	40
29	38	36	35	32	31	36	50	52	55	54	53	54	54	58	69	71	60	48	49	49	43	39	37	38
30	36	33	34	37	23	31	44	47	52	52	58	68	82	86	88	71	54	50	52	59	61	49	41	38
31																								
	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	26	27	27	24	25	29	29	30	30	30	30	30	30	30	30	30	30	30	30	29	30	29	26	27
MED	36	35	34	32	29	32	45	48	53	54	58	58	62	64	66	66	62	54	58	63	55	40	36	37
U Q	38	37	35	34	32	34	48	52	55	59	60	64	77	78	73	73	65	62	66	70	60	44	41	40
L Q	33	31	32	31	28	30	42	46	51	53	54	55	57	60	61	60	58	53	54	57	43	36	34	34

IONOSPHERIC DATA STATION Kokubunji

APR. 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									U L 404	L	U L 448	C	448	U L 428	C	L	L							
2									L	L	U L 468	U L 464	U L 452	U L 456	L	L	L							
3									L	U L 440	L	U L 424	U L 468	U L 460	440	U L 420	L	L						
4								L	L	U L 428	U L 440	U L 468	U L 428	U L 448	U L 444	416	L							
5									U L 408	U L 436	E A	U L 444	U L 456	440	U L 428	L 412	L							
6									L	U L 420	432	U L 456	U L 440	436	E A	L	L	L						
7								L	L	L	U L 456	U L 428	452	U L 428	428	L	L	E A						
8									L	U L 428	428	444	448	E A	L	L	E A							
9									L	L	U L 440	U L 448	440	U L 436	424	U L 408	L	E A						
10									E A	E A	E A	432	436	416	U L 432	U L 412	L	L						
11								L	L	U L 404	U L 424	U L 420	U L 444	U L 428	416	U L 400	U L 380	L						
12									U L 404	U L 416	424	440	432	U L 428	U L 420	E A	L	L						
13									U L 408	424	U L 424	436	E A	428	U L 432	U L 408	U L 380							
14									U L 408	428	432	U L 440	440	436	E A	408	L							
15									L	416	U L 428	436	436	432	U L 432	412	L	L						
16									400	412	U L 436	U L 448	U L 436	420	416	U L 408	U L 392	L						
17								U L 376	416	U L 420	U L 424	U L 444	U L 436	A	U L 412	U L 416	L	L						
18									U L 400	416	428	436	432	420	U L 424	404	L							
19									400	420	428	U L 444	A	U L 444	U L 440	404	U L 384	L						
20								L	L	U L 436	448	U L 444	456	436	440	A	A	L						
21							A		404	432	U L 432	U L 452	U L 448	440	424	412	A	L						
22								A	U L 420	428	U L 436	444	U L 436	436	428	412	L	L						
23								U L 384	U L 412	U L 440	436	452	436	U L 452	428	U L 412	U L 396	U L 388	L					
24							L		U L 404	416	U L 432	420	U L 432	A	424	408	L	L						
25								U L 388	404	U L 408	U L 436	444	444	424	420	408	L	L						
26								L	U L 424	416	U L 440	444	A	444	416	416	U L 392	L						
27									L	U L 412	424	444	436	444	420	408	U L 388	L						
28										U L 424	432	U L 444	U L 432	436	U L 424	U L 416	L	L						
29								L	L	U L 400	436	U L 440	444	440	444	412	408	A						
30										448	440	432	428	440	420	U L 420	L							
31																								
	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	16	25	27	29	27	27	25	23	7	1						
MED								U L 384	U L 404	U L 424	U L 432	U L 444	440	436	424	412	U L 388	U L 388						
U Q								U L 388	U L 410	U L 434	U L 440	U L 446	U L 448	U L 444	U L 432	U L 416	U L 392							
L Q								U L 376	402	416	428	436	436	428	420	408	U L 380							

APR. 2008 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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							B	244	A	R	R	C	C	R	C	R	R	U A 204	B					
2							196	256	A	A	A	A	A	A	A	A	A	216	B					
3							B	248	U R 300	R	R	R	348	R	A	A	R	216	B					
4							176	252	A	A	R	R	R	360	A	R	R	212	B					
5							B	252	284	A	A	A	A	R	R	U R 304	U R 260	208	B					
6							180	A	A	R	A	A	336	340	A	U R 296	252	A	B					
7							176	236	R	R	R	A	R	R	A	A	R	A	B					
8							B	A	A	U A 296	A	A	A	A	A	A	280	A	B					
9							184	240	A	R	R	A	A	R	A	A	A	A	B					
10							196	U A 244	A	A	A	A	R	R	R	A	A	216	B					
11							188	264	A	A	A	R	A	A	A	R	A	A	B					
12							192	248	U A 276	A	A	A	A	A	A	A	A	208	B					
13							192	244	A	A	A	C	A	C	320	R	R	U A 212	B					
14							B	A	A	A	A	R	A	A	A	A	276	212	B					
15							188	256	A	A	A	A	A	A	304	U R 300	A	A	B					
16							196	U R 272	292	A	R	R	R	R	U R 324	292	U R 272	U A 212	B					
17							180	256	280	A	A	A	A	A	A	U R 308	U R 272	208	B					
18							204	U A 252	A	A	A	R	R	R	R	U R 308	R	R	B					
19							188	256	292	A	A	R	360	R	R	R	U R 276	A	B					
20							200	256	296	A	A	A	A	A	A	A	A	220	B					
21							200	A	A	A	A	A	A	A	A	A	A	224	B					
22							188	A	U A 292	A	R	R	A	A	R	R	R	R	B					
23							208	U A 252	R	R	R	R	U R 344	336	A	U R 320	R	A	B					
24							204	260	A	A	A	A	A	A	316	304	R	R	B					
25							B	R	U R 312	R	R	348	A	A	A	R	R	U A 224	B					
26							204	A	A	A	R	R	A	A	A	A	A	A	B					
27							216	252	A	A	A	R	R	336	A	R	R	U R 240	B					
28							212	272	A	C	R	R	R	336	A	R	284	232	B					
29							U R 216	A	A	336	A	340	R	U R 352	328	A	A	A	B					
30							220	A	A	A	A	C	R	336	324	R	R	A	B					
31																								
	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							24	21	9	2		2	4	7	6	8	8	16						
MED							196	252	292	316		344	346	336	322	U R 304	274	214						
U Q							204	256	U R 298				354	352	324	U R 308	278	222						
L Q							188	246	282				340	336	316	U R 298	U R 266	210						

APR. 2008 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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	E B 16	E B 15	18	19	18	21	27	33	G 28	G 28	E C 46	E C 42	G 28	E C 42	G 25	G 25	25	E B 16	21	22	J A 17	21	E B 15
2	E B 16	E B 15	E B E B 15	E B 15	E B 14	E B 15	23	G	33	36	40	36	J A 42	35	34	J A 34	34	25	J A 24	J A 20	E B 15	E B 16	E B 15	E B 15
3	E B 15	E B 15	E B E B 15	E B 15	E B 15	E B 15	22	28	G 24	G 28	G 27	G 23	41	G 25	37	35	G 24	24	J A 30	J A 28	E B 15	J A 22	J A 38	J A 23
4	23	18	E B E B 15	15	18	19	21	27	32	34	G 25	G	G 28	40	J A 34	G 29	G 27	27	17	20	J A 22	J A 29	J A 22	21
5	J A 26	J A 24	J A 20	J A 18	E B 15	E B 16	22	28	32	35	J A 58	J A 43	J A 43	G 26	G 22	G 23	G 20	23	E B 15	E B 15	E B 15	E B 16	E B 15	E B 14
6	E B 16	E B 16	E B E B 14	E B 15	E B 15	E B E B 15	21	26	30	G 28	36	36	40	G 32	J A 42	G 26	30	24	E B 15	E B 14	E B 15	E B 15	J A 18	E B 16
7	E B 16	E B 14	E B 16	E B 16	E B 16	E B 15	22	28	G 28	G 29	G J A 30	J A 37	G 26	G 27	G 38	35	G J A 19	J A 32	J A 29	J A 19	19	E B 14	E B E B 14	E B 15
8	E B 15	E B 16	E B 15	E B E B 15	E B E B 15	E B 15	24	32	35	36	37	36	36	41	J A 38	J A 36	32	28	J A 26	E B 15	J A 18	18	E B 15	E B 14
9	E B 16	E B 14	19	E B 15	20	E B 15	22	29	31	G 29	G 27	37	J A 39	G 27	36	34	J A 34	J A 31	J A 28	J A 31	J A 29	J A 62	J A 77	J A 31
10	J A 23	J A 23	J A 18	J A 23	20	E B 14	28	J A 40	J A 47	J A 42	J A 43	36	G 26	G 26	G 23	33	28	G 19	J A 22	J A 23	J A 28	J A 23	J A 20	J A 42
11	E B 15	J A 27	E B 14	E B 15	20	J A 28	24	30	J A 29	35	38	G 29	36	38	35	G 28	J A 33	J A 33	J A 63	J A 48	J A 28	22	20	E B 14
12	J A 23	J A 16	21	E B 14	E B E B 14	E B 14	24	31	34	36	J A 47	36	J A 40	J A 46	35	J A 42	29	25	J A 41	J A 27	J A 22	J A 22	J A 51	J A 51
13	J A 32	J A 31	J A 26	20	J A 18	J A 16	25	29	38	38	J A 44	39	38	E C 36	37	G 21	G 22	J A 36	J A 44	J A 19	J A 19	20	E B 15	E B 15
14	20	19	E B 15	E B E B 14	E B E B 15	E B 15	25	30	35	38	36	G 32	J A 38	J A 39	J A 55	35	33	29	22	J A 19	E B 15	J A 18	J A 19	E B 15
15	J A 45	21	E B 15	E B E B 15	E B E B 14	E B 15	24	28	33	37	J A 41	J A 41	37	39	35	J A 32	31	J A 30	J A 28	J A 22	22	19	20	E B 15
16	21	E B 15	E B 15	E B E B 14	E B E B 14	E B 14	24	G 24	32	35	G 28	G 25	G 28	G 27	G 27	34	G 24	27	20	J A 21	19	E B 14	E B 16	E B 15
17	18	E B 15	E B 15	E B E B 14	E B E B 15	E B 14	25	28	32	35	J A 42	J A 40	J A 38	J A 61	J A 56	G 21	J A 29	29	J A 26	J A 27	J A 31	18	E B 15	E B 15
18	E B 15	E B 15	E B E B 14	E B 16	21	28	28	33	35	J A 40	J A G 29		G 32	G 29	G 28	G 25	G 24	G	J A 24	J A 15	E B 14	E B 16	E B 14	E B 15
19	E B 15	E B 15	E B E B 15	E B E B 14	E B 15	E B 14	27	30	32	35	36	G 26	40	G 25	G 27	G 26	G 22	24	20	J A 23	J A 24	J A 22	J A 27	E B 15
20	E B 16	E B 16	E B 15	E B E B 15	E B E B 15	E B 16	31	32	34	34	36	38	37	38	41	J A 72	38	26	28	J A 56	J A 41	J A 29	J A 18	J A 20
21	E B 15	E B 15	J A E B 19	J A E B 14	J A E B 23	J A 14	42	34	34	36	38	38	38	38	35	32	J A 55	29	J A 25	J A 28	21	19	E B 15	E B 15
22	E B 15	E B 16	21	E B 14	E B E B 15	18	27	36	38	36	G 29	G 26	36	34	G 26	G 26	G 22	G	18	20	E B 15	20	E B 14	E B 16
23	E B 15	E B 15	E B E B 15	E B E B 14	E B 15	18	30	30	G 27	G 28	G 30	G 32	40	38	34	G 25	G 23	28	22	J A 26	36	J A 26	18	E B 15
24	19	20	21	J A 19	E B E B 14	15	26	30	33	36	39	38	42	44	38	35	G 23	G	24	J A 22	J A 21	20	J A 23	21
25	J A 35	J A 18	J A 16	J A 18	J A 33	J A 26	21	G 25	G 28	G 31	G 28	39	40	40	40	G 25	G 25	25	19	22	J A 19	J A 17	20	E B 14
26	J A 18	E B 15	E B E B 16	15	18	19	26	31	38	J A 40	G 30	G 29	43	38	39	38	31	27	E B 15	E B 15	20	20	J A 22	J A 28
27	J A 30	18	18	20	20	E B 15	24	31	33	38	J A 38	G 27	G 29	37	37	G 21	G 22	G 19	E B 16	E B 14	J A 27	J A 24	J A 30	J A 25
28	22	20	20	J A 24	J A 28	J A 28	26	31	34	39	G 31	G 32	G 28	38	36	G 25	32	27	24	J A 34	J A 43	J A 27	J A 40	J A 51
29	J A 28	J A 32	21	E B 15	E B J A 18	E B 15	G 19	36	J A 41	37	38	38	G 28	40	42	36	J A 44	J A 54	J A 31	J A 22	J A 28	J A 22	J A 20	J A 28
30	J A 34	21	J A 22	J A 20	J A 32	J A 22	28	33	J A 54	J A 42	J A 42	38	G 34	39	37	G 24	G 24	30	J A 31	J A 42	J A 46	24	E B 15	E B J A 22
31																								
	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	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MED	18	E B 16	E B 16	E B 15	E B 16	E B 15	24	30	33	36	36	36	38	38	36	30	28	27	24	J A 22	J A 22	20	20	E B 15
U Q	J A 23	J A 20	20	J A 18	20	18	27	31	35	37	J A 40	38	40	39	39	35	32	J A 29	J A 28	J A 27	J A 28	23	J A 22	J A 23
L Q	E B 15	E B 15	E B E B 15	E B 14	E B E B 15	E B 15	22	28	32	G 34	G 30	G 29	G 32	G 28	G 34	G 25	G 23	G 24	E B 19	E B 19	E B 18	E B 17	E B 15	E B 15

APR. 2008 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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 15	E B 16	E B 15	E B 15	E B 15	E B 16	18	26	31	G 27	G 27	E C 46	E C 42	G 27	E C 42	G 23	G 24	23	E B 16	E B 15	E B 16	16	E B 15	E B 15
2	E B 16	E B 15	E B 15	E B 15	E B 14	E B 15	22	G	31	34	37	36	40	34	33	30	33	24	18	17	E B 15	E B 16	E B 15	E B 15
3	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	21	26	G 24	G 27	G 26	G 22	39	G 25	35	33	G 18	23	24	20	E B 15	E B 16	18	E B 15
4	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	20	26	31	32	G 24	G	G 28	39	32	G 27	G 25	25	17	E B 15	E B 15	18	16	E B 15
5	17	16	16	E B 14	E B 15	E B 16	21	27	30	34	53	35	41	G 26	G 22	G 20	G 19	22	E B 15	E B 15	E B 15	E B 16	E B 15	E B 14
6	E B 16	E B 16	E B 14	E B 15	E B 15	E B 15	19	26	30	G 28	35	35	38	G 32	38	G 25	29	23	E B 15	E B 14	E B 15	E B 15	17	E B 16
7	E B 16	E B 14	E B 16	E B 16	E B 16	E B 15	21	26	G 26	G 28	G 28	35	G 26	G 25	34	32	G 19	30	24	17	E B 14	E B 14	E B 14	E B 15
8	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15	23	31	32	34	35	35	35	40	33	34	31	28	20	E B 15	E B 14	E B 15	E B 15	E B 14
9	E B 16	E B 14	E B 15	E B 15	E B 16	E B 15	21	27	30	G 29	G 27	35	37	G 26	35	34	31	28	23	20	22	A A 62	A A 77	E B 15
10	E B 15	E B 15	E B 15	16	E B 14	E B 14	27	37	40	38	39	35	G 25	G 25	G 22	32	27	G 19	18	19	20	17	18	20
11	E B 15	E B 15	E B 14	E B 15	E B 15	E B 17	23	30	28	33	35	G 26	34	35	34	G 26	29	24	33	24	19	E B 15	E B 14	E B 14
12	E B 15	E B 14	E B 15	E B 14	E B 14	E B 14	23	28	33	34	38	35	35	37	34	39	28	23	23	17	E B 16	16	26	16
13	18	20	15	E B 15	E B 15	E B 15	22	27	33	36	35	38	U A 38	E C 36	34	G 21	G 21	26	39	E B 15	16	16	E B 15	E B 15
14	E B 15	E B 15	E B 15	E B 14	E B 15	E B 15	24	28	34	36	35	G 32	36	36	44	34	32	28	20	16	E B 15	16	E B 15	E B 15
15	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	23	27	31	35	38	37	35	37	34	G 26	29	19	22	19	E B 15	E B 15	E B 14	E B 15
16	E B 15	E B 15	E B 14	E B 14	E B 14	E B 14	22	G 23	31	34	G 26	G 25	G 28	G 27	G 26	32	G 23	25	18	19	E B 14	E B 14	E B 16	E B 15
17	16	E B 15	E B 15	E B 14	E B 15	E B 14	23	27	31	34	38	38	34	41	34	G 20	G 21	26	23	26	26	E B 15	E B 15	E B 15
18	E B 15	E B 15	E B 15	E B 14	E B 16	E B 16	26	28	31	34	35	G 28	G 31	G 27	G 26	G 24	G 20	G	20	E B 15	E B 14	E B 16	E B 14	E B 15
19	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	24	28	32	34	35	G 25	40	G 24	G 26	G 25	G 22	23	19	17	E B 15	16	21	E B 15
20	E B 16	E B 16	E B 15	E B 15	E B 15	E B 16	29	30	32	32	35	36	35	36	39	52	36	23	25	51	24	18	E B 15	E B 15
21	E B 15	E B 15	E B 15	E B 14	E B 15	E B 14	A A 42	33	33	35	36	36	37	36	34	32	38	26	22	26	E B 15	E B 15	E B 15	E B 15
22	E B 15	E B 16	E B 15	E B 14	E B 15	E B 14	25	36	35	36	G 28	G 26	34	33	G 26	G 26	G 21	G	17	15	E B 15	E B 15	E B 14	E B 16
23	E B 15	E B 15	E B 15	E B 14	E B 15	16	27	30	G 26	G 28	G 30	G 32	39	36	33	G 24	G 23	27	20	21	34	22	E B 15	E B 15
24	E B 16	E B 14	E B 15	E B 15	E B 14	E B 15	23	28	32	34	38	36	39	42	37	33	G 21	G	19	17	E B 16	E B 16	18	E B 15
25	E B 15	E B 15	E B 15	E B 15	A A 33	22	19	G 24	G 26	G 31	G 28	G 39	38	38	37	G 21	G 24	24	19	18	16	16	E B 15	E B 14
26	16	E B 15	E B 16	E B 15	E B 15	E B 15	24	29	38	38	U Y 30	G 28	42	36	37	36	30	25	E B 15	E B 15	E B 15	E B 16	17	16
27	E B 15	E B 14	E B 15	E B 15	E B 15	E B 15	23	30	32	36	35	G 27	G 28	36	35	G 21	G 22	G 19	E B 16	E B 14	23	21	E B 15	17
28	E B 15	E B 16	E B 15	E B 16	16	19	25	29	32	35	G 31	G 32	G 26	37	34	G 25	31	26	21	31	30	20	E B 15	24
29	17	22	E B 15	E B 15	E B 15	E B 15	G 19	34	36	36	36	37	G 27	38	38	35	40	38	28	18	22	E B 16	E B 16	E B 15
30	16	16	17	E B 14	E B 15	18	24	30	41	37	35	37	G 33	37	35	G 22	G 24	28	27	34	23	20	E B 15	E B 15
31																								
	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	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MED	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	23	28	32	34	35	35	35	36	34	G 26	G 24	24	20	17	E B 16	E B 16	E B 15	E B 15
U Q	16	16	E B 15	E B 15	E B 15	16	24	30	33	36	36	36	39	37	37	33	31	26	23	20	22	17	17	15
L Q	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	21	26	30	G 32	G 28	G 28	G 31	G 27	G 33	G 24	G 21	G 23	E B 18	E B 15	E B 15	E B 15	E B 15	E B 15

APR. 2008 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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	15	16	15	15	15	16	14	14	14	16	18	E C 46	E C 42	20	E C 42	15	14	14	16	15	16	16	15	15
2	16	15	15	15	14	15	15	15	12	15	19	15	14	15	15	14	14	16	15	14	15	16	15	15
3	15	15	15	15	15	15	15	15	15	15	16	19	17	14	16	15	12	14	15	15	15	16	14	15
4	15	15	15	15	14	15	14	14	14	14	18	18	18	19	14	15	15	14	14	15	15	14	14	15
5	15	15	15	14	15	16	16	13	14	14	17	13	15	14	16	14	15	14	15	15	15	16	15	14
6	16	16	14	15	15	15	14	15	14	18	16	16	14	18	14	13	12	13	15	14	15	15	16	16
7	16	14	16	16	16	15	15	14	12	14	14	14	14	14	13	14	13	13	15	14	14	14	14	15
8	15	16	15	15	15	15	14	13	15	14	14	15	23	16	13	15	15	14	14	15	14	15	15	14
9	16	14	15	15	16	15	14	13	14	14	15	17	16	15	13	15	13	14	14	14	14	15	16	15
10	15	15	15	14	14	14	14	13	13	15	14	14	13	14	13	12	14	13	14	14	14	15	14	16
11	15	15	14	15	15	15	14	13	14	14	15	16	18	13	14	13	13	14	14	15	15	15	14	14
12	15	14	15	14	14	14	13	14	14	15	14	17	18	13	14	14	14	14	14	14	16	15	15	15
13	14	14	14	15	15	14	14	13	13	15	18	E C 34	16	E C 36	13	13	15	13	13	15	16	16	15	15
14	15	15	15	14	15	15	14	14	14	13	14	12	17	12	13	14	15	14	14	15	15	15	15	15
15	15	15	15	15	14	15	14	14	14	14	14	16	15	18	14	14	13	13	13	14	15	15	14	15
16	15	15	15	14	14	14	14	14	12	13	13	14	15	13	14	13	15	14	14	15	14	14	16	15
17	16	15	15	14	15	14	15	14	15	15	14	15	16	14	14	14	14	14	14	15	15	15	15	15
18	15	15	15	14	16	16	14	13	15	14	12	13	15	20	14	15	13	14	12	15	14	16	14	15
19	15	15	15	15	14	15	15	14	14	15	15	16	14	20	16	17	15	14	15	14	15	15	14	15
20	16	16	15	15	15	16	14	14	14	14	17	15	15	14	20	14	14	14	11	14	16	14	15	15
21	15	15	15	14	15	14	14	14	16	13	18	22	23	20	17	14	15	12	15	15	15	15	15	15
22	15	16	15	14	15	14	14	14	14	18	20	20	18	16	17	17	15	14	14	15	15	15	14	16
23	15	15	15	14	15	14	12	15	14	14	15	20	21	14	14	14	14	13	14	14	15	15	15	15
24	16	14	16	15	14	15	14	14	14	14	16	16	19	22	16	16	13	12	14	15	16	16	15	15
25	15	15	15	15	15	14	14	15	15	14	15	21	19	20	18	14	15	14	13	15	15	14	15	14
26	15	15	16	15	15	15	14	14	14	15	17	14	18	20	14	18	14	14	15	15	15	16	14	14
27	15	14	15	15	16	15	14	14	14	17	18	14	20	18	18	15	14	14	16	14	15	14	15	15
28	15	16	15	16	14	13	14	12	14	E C 32	17	19	21	21	18	13	19	14	14	14	14	15	15	15
29	15	15	15	15	15	15	14	14	11	12	17	19	18	15	14	13	14	14	13	13	13	15	16	15
30	15	14	15	14	15	15	15	13	13	14	16	E C 32	18	21	15	13	14	14	11	15	15	15	15	15
31																								
	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	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MED	15	15	15	15	15	15	14	14	14	14	16	16	18	16	14	14	14	14	14	15	15	15	15	15
U Q	15	15	15	15	15	15	14	14	14	15	17	19	19	20	16	15	15	14	15	15	15	16	15	15
L Q	15	15	15	14	14	14	14	13	14	14	14	14	15	14	14	13	13	13	14	14	14	15	14	15

APR. 2008 fmin (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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	304	302	299	311	325	350	380	371	370	373	339	310	309	337	337	344	346	341	343	366	382	296	308	309
2	302	306	308	324	362	369	379	396	362	362	326	326	336	343	342	356	341	347	363	351	357	320	302	288
3	317	308	310	325	326	338	394	371	369	364	341	321	315	324	329	327	347	354	352	381	408	296	301	295
4	302	318	305	328	329	343	383	378	369	360	348	326	323	339	345	341	333	343	339	375	375	289	298	305
5	305	301	295	342	316	334	361	332	376	311	321	299	325	340	327	340	352	349	354	380	305	307	296	312
6	316	327	302	306	275	297	381	382	353	349	350	299	329	343	340	337	335	330	347	360	357	280	309	315
7	318	302	302	F	361	349	367	387	366	335	303	313	314	337	344	351	347	352	358	367	366	295	306	317
8	318	288	311	299	293	292	376	381	340	340	324	329	326	327	324	343	366	359	351	344	356	334	F	F
9	F	F	323	F	F	F	377	366	355	344	334	314	331	325	315	353	343	336	323	343	359	A	A	298
10	F	F	F	F	F	336	387	391	359	348	342	324	329	340	346	352	338	345	339	342	369	356	320	315
11	305	294	311	335	322	312	376	375	358	378	357	337	310	320	340	354	348	354	342	339	368	330	329	303
12	292	F	F	F	F	345	384	393	355	342	364	307	318	333	328	339	359	344	333	342	355	336	F	287
13	306	320	302	342	316	346	379	365	366	348	341	344	336	350	342	345	343	326	322	348	386	378	301	308
14	311	320	310	328	317	339	380	377	351	375	345	317	331	344	332	344	349	344	342	353	369	283	303	322
15	316	320	335	359	346	328	400	374	368	349	339	333	338	332	333	350	378	347	333	332	352	360	320	F
16	F	317	325	F	334	338	379	358	350	352	336	286	309	337	332	333	312	317	322	339	365	414	304	316
17	315	305	306	319	342	324	378	336	334	345	319	326	302	322	346	352	339	342	357	350	328	311	305	312
18	317	326	327	296	326	321	377	359	361	357	341	341	314	327	326	345	341	346	338	336	344	329	299	310
19	313	314	314	318	F	330	379	333	351	363	349	331	324	318	317	335	349	342	340	335	346	338	316	325
20	309	325	310	316	324	352	385	353	366	342	339	335	312	330	339	335	332	337	332	342	336	316	F	F
21	F	308	F	F	305	364	A	348	362	363	323	300	312	323	344	354	353	350	348	S	356	335	311	309
22	317	318	316	333	384	353	384	356	351	342	328	324	334	329	311	340	343	357	362	321	323	319	306	322
23	315	316	317	321	391	357	350	363	363	350	330	325	343	318	329	338	310	292	290	317	368	306	305	307
24	285	311	279	311	301	317	365	322	R 263	329	310	307	296	307	332	333	342	322	327	309	317	288	319	301
25	300	298	307	350	A	360	369	337	340	348	300	296	315	328	331	345	360	350	347	333	317	303	296	309
26	302	308	313	351	323	345	361	345	330	325	331	323	317	311	327	340	334	349	338	344	322	302	308	308
27	314	300	323	341	356	366	377	347	356	315	318	313	296	337	337	343	360	354	343	319	319	327	325	310
28	291	305	309	313	330	370	394	368	344	300	330	316	328	334	323	329	347	336	344	333	342	328	289	295
29	306	293	303	305	327	348	364	356	374	326	308	314	302	314	333	366	383	370	365	340	325	290	300	311
30	306	305	320	373	359	371	357	359	324	304	309	318	329	342	353	353	355	354	344	321	352	342	322	313
31																								
	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	26	27	27	24	25	29	29	30	30	30	30	30	30	30	30	30	30	30	30	29	30	29	26	27
MED	308	308	310	324	326	345	379	364	357	348	332	320	320	331	332	344	346	346	342	342	356	319	306	309
U Q	316	318	317	342	351	355	384	377	366	360	341	326	329	339	342	352	353	352	351	352	368	336	316	315
L Q	302	302	303	312	316	329	368	348	350	335	321	310	312	323	327	338	339	337	333	333	328	296	301	303

APR. 2008 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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									UL 396	L	UL 412	C	370	UL 374	C	L	L							
2									L	L	UL 392	UL 394	UL 390	UL 369	L	L	L							
3									L	UL 407	L	UL 447	UL 367	UL 371	386	UL 379	L	L						
4								L	L	UL 394	UL 435	UL 407	UL 446	UL 391	UL 373	384	L							
5									UL 381	UL 386	E A	UL 412	UL 346	376	UL 372	L 368	L							
6									L	UL 394	391	UL 401	UL 377	379	E A	L	L	L						
7								L	L	L	UL 395	UL 400	382	UL 383	378	L	L	E A						
8									L	UL 390	411	402	404	E A	L	L	E A							
9									L	L	UL 418	UL 387	402	UL 393	388	UL 381	L	E A						
10									E A	E A	E A	389	393	421	UL 365	UL 385	L	L						
11								L	L	UL 415	UL 423	UL 434	UL 389	UL 401	371	UL 392	UL 373	L						
12									UL 387	UL 400	394	411	422	UL 396	UL 389	E A	L	L						
13									UL 397	399	UL 419	404	E A	414	UL 385	UL 377	UL 391							
14									UL 368	393	410	UL 435	389	385	E A	395	L							
15									L	412	UL 422	408	414	386	UL 376	385	L	L						
16									397	406	UL 381	UL 398	UL 396	408	393	UL 369	UL 356	L						
17								UL 383	369	UL 396	UL 391	UL 382	UL 389	A	UL 404	UL 374	L	L						
18									UL 391	403	405	402	400	415	UL 379	388	L							
19									382	392	401	UL 431	A	UL 380	UL 369	397	UL 390	L						
20								L	L	UL 397	407	UL 423	393	392	352	A	A	L						
21							A		379	378	UL 444	UL 422	UL 376	391	394	392	A	L						
22								A	UL 392	423	UL 426	412	UL 399	393	411	385	L	L						
23								UL 383	UL 387	UL 394	428	413	389	UL 405	407	UL 404	UL 376	UL 327	L					
24							L		UL 366	401	UL 411	421	UL 306	A	374	373	L	L						
25								UL 372	387	UL 408	UL 407	368	386	410	385	380	L	L						
26								L	UL 386	391	UL 388	384	A	376	394	376	UL 369	L						
27									L	UL 406	385	388	357	384	399	395	UL 370	L						
28										UL 400	401	UL 415	UL 423	382	UL 399	UL 389	L	L						
29								L	L	UL 393	380	UL 398	394	383	395	402	392	A						
30											386	397	404	413	384	423	UL 385	L						
31																								
	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	16	25	27	29	27	27	25	23	7	1						
MED								UL 383	UL 387	UL 397	UL 407	UL 404	389	391	386	385	UL 373	UL 327						
U Q								UL 383	UL 392	UL 406	UL 419	UL 418	402	401	399	392	UL 390							
L Q								UL 372	UL 380	392	UL 394	394	UL 377	UL 380	UL 374	L 377	UL 369							

APR. 2008 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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									236	230	264	332	308	258	252	254	256							
2									244	244	300	292	270	254	266	250	258							
3									236	246	256	284	294	278	272	270	262	252						
4								226	244	254	284	304	274	264	274	278	272							
5									240	296	294	308	276	258	256	258	248							
6									252	266	272	332	286	266	262	284	286	264						
7								226	256	262	340	294	308	264	254	250	252	246						
8									298	286	286	268	292	286	262	256	234							
9									272	268	322	338	288	300	314	248	248	242						
10									262	270	298	318	302	272	260	258	276	260						
11								244	266	244	260	292	322	326	284	258	262	254						
12									268	288	260	326	300	272	274	258	258	256						
13									262	276	280	286	290	280	276	278	270							
14									272	258	298	330	286	262	294	270	250							
15									254	286	284	284	290	296	276	250	230	272						
16									286	262	294	384	336	286	286	292	318	276						
17								280	298	270	310	302	360	294	286	250	270	270						
18									264	266	294	288	334	300	300	264	264							
19									280	256	272	304	320	330	316	284	254	258						
20								270	260	298	302	312	348	302	284	E 292 A	272	264						
21							A		260	256	314	374	348	320	276	258	258	260						
22								258	280	296	306	314	282	292	342	282	270	254						
23								252	256	278	298	324	294	334	300	266	344	340	308					
24							264		R 494	318	368	364	368	348	294	298	274	286						
25								304	296	304	382	376	340	308	300	270	252	254						
26								278	290	314	298	316	330	330	290	270	264	252						
27									270	350	322	322	350	294	292	276	248	246						
28										380	316	328	294	304	320	310	262	270						
29							248	276	254	324	356	354	360	334	282	250	228							
30										378	334	310	278	262	248	254	260							
31																								
	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							2	10	28	30	30	30	30	30	30	30	30	20	1					
MED							256	264	263	273	298	315	301	293	283	263	261	259	308					
U Q								278	280	298	316	332	336	308	294	278	270	270						
L Q								244	254	258	284	294	288	266	266	254	252	253						

APR. 2008 h'F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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 284	E B 280	E B 276	E B 264	238	224	202	212	208	194	194	C	E C 276	206	C	210	204	224	222	198	190	E A 284	E B 280	E B 282
2	E B 282	E B 280	E B 278	E B 250	216	212	206	212	198	198	194	190	216	216	204	204	224	238	214	210	202	208	E B 272	E B 286
3	E B 276	E B 274	E B 276	E B 262	236	212	196	216	190	204	226	192	234	204	200	202	226	222	226	200	182	E B 302	E A 330	E B 298
4	E B 278	E B 256	E B 266	E B 250	240	222	208	202	214	210	198	194	H 180	220	204	202	H 178	238	222	200	186	E A 318	E A 308	E B 280
5	E A 292	E A 302	E A 308	220	E B 258	E B 244	210	222	200	200	A	H 188	A	218	206	200	204	224	226	200	184	E B 262	E B 280	E B 266
6	E B 258	238	E B 262	E B 292	E B 302	E B 276	212	212	212	198	188	H 184	E A 262	210	A	216	226	222	214	214	192	E B 294	E A 292	E B 274
7	E B 246	E B 260	E B 272	236	216	220	210	198	202	198	190	H 180	204	202	220	214	206	A	220	202	192	E B 254	E B 270	E B 262
8	E B 274	E B 294	E B 268	E B 276	E B 300	E B 284	216	214	214	208	194	192	182	A	212	208	A	226	232	208	204	222	E B 294	E B 276
9	E B 282	E B 268	E B 258	214	E B 242	E B 258	218	222	208	196	186	194	180	214	214	214	212	A	E A 248	222	212	A	A	E B 264
10	E B 256	E B 282	E B 260	242	E B 244	E B 218	214	212	A	A	A	194	194	198	196	212	212	216	232	228	208	206	E A 254	E A 282
11	E B 282	E B 266	E B 272	230	E B 270	E B 280	A 218	220	206	198	196	188	202	206	186	208	218	222	E A 234	230	204	208	220	E B 268
12	E B 288	E B 276	244	244	232	222	202	216	202	206	E A 236	196	H 182	214	226	A	220	216	238	212	200	208	E A 316	E A 282
13	E A 286	E A 276	E A 284	226	E B 260	224	214	208	204	200	188	198	A	H 190	214	206	202	224	E A 268	212	196	190	E B 260	E B 276
14	E B 274	E B 270	E B 278	E B 262	E B 262	240	214	206	204	210	186	182	190	202	A	210	234	226	224	220	192	202	E B 278	E B 266
15	E B 258	E B 256	240	218	210	E B 248	198	202	202	192	198	192	186	220	214	216	204	192	236	236	216	210	202	E B 260
16	E B 250	E B 256	254	234	220	232	208	216	H 194	204	218	190	198	188	200	198	222	236	238	226	206	186	E B 270	E B 278
17	E B 252	E B 290	E B 286	E B 264	E B 236	236	226	220	216	212	E A 232	218	194	A	216	H 206	204	234	228	220	230	242	E B 260	E B 246
18	240	E B 252	E B 242	E B 274	E B 270	246	218	218	200	204	184	H 176	206	194	214	194	214	220	240	224	210	228	E B 274	E B 254
19	E B 258	E B 272	E B 266	E B 250	E B 218	230	218	218	220	216	202	H 180	A	192	188	198	208	204	234	E A 226	208	208	E A 264	244
20	E B 252	E B 250	E B 264	244	E B 266	228	214	220	218	206	194	190	174	210	E A 264	A	A	208	240	E A 248	222	214	E B 282	E B 284
21	E B 290	E B 272	E B 262	E B 280	E B 270	222	A	E A 236	224	204	198	178	234	232	200	204	A	210	238	236	206	218	E B 262	E B 262
22	E B 264	E B 260	E B 256	228	194	212	216	A	210	194	200	178	202	182	194	190	208	200	218	224	236	240	E B 262	238
23	E B 256	E B 262	E B 266	E B 242	200	220	228	220	210	200	182	H 172	E A 244	202	184	180	210	234	E A 248	238	206	E A 242	234	238
24	E B 298	E B 262	E B 298	E B 278	E B 284	E B 252	226	204	234	206	208	198	E A 294	A	E A 240	222	214	232	234	E A 252	244	E B 252	226	E B 272
25	E B 278	E B 276	E B 260	220	A	230	H 170	218	202	196	194	244	226	204	232	204	224	204	226	220	E A 236	E A 250	E B 278	E B 264
26	E A 272	E B 278	E B 268	224	200	224	220	214	234	E A 232	200	206	A	210	216	E A 230	210	216	228	220	210	E B 254	E A 258	E A 274
27	E B 252	E B 260	E B 256	228	212	188	H 194	218	208	206	212	208	220	212	208	204	H 184	204	H 206	230	238	234	218	E A 262
28	E B 280	E B 260	E B 266	E B 264	E A 242	204	208	218	216	204	186	200	174	222	204	202	220	214	236	244	234	222	E B 284	E A 324
29	E A 280	E A 310	E B 278	E B 264	238	232	220	236	232	228	196	200	192	218	220	212	A	224	226	232	224	E B 262	E B 288	E B 270
30	E A 278	E A 296	E A 260	210	E B 202	222	208	208	E A 272	204	198	206	194	228	194	H 178	202	H 198	E A 248	E A 262	222	216	E B 248	E B 246
31																								
	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	30	30	30	29	30	29	29	29	29	28	29	26	27	27	28	26	28	30	30	30	29	29	30
MED	E B 275	E B 271	E B 266	U 228	E B 238	224	214	216	208	204	195	192	196	210	206	204	211	222	229	222	206	U 217	E B 270	E B 269
U Q	E B 282	E B 280	E B 276	E B 264	E B 264	244	218	220	217	207	201	199	E 226	218	216	212	220	226	238	232	222	E B 254	E 283	E B 280
L Q	E B 256	E B 260	E 260	228	216	220	207	210	202	198	189	H 183	186	202	200	201	204	209	224	212	196	208	256	E 262

APR. 2008 h'F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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							B	120	122	112	116	C	C	114	C	116	116	120	B					
2							124	112	120	120	A	A	A	A	A	A	A	110	B					
3							B	120	122	122	118	110	114	112	116	A	120	118	B					
4							114	118	116	A	116	110	120	120	A	120	118	120	B					
5							B	118	118	A	A	A	A	114	110	112	114	110	B					
6							116	114	114	118	A	A	114	114	A	116	112	110	B					
7							118	118	122	122	120	A	116	110	A	A	112	A	B					
8							B	120	108	112	116	118	116	112	A	A	110	116	B					
9							E B 130	116	120	114	116	116	A	114	A	112	A	A	B					
10							116	120	114	A	A	A	118	116	112	A	A	124	B					
11							120	114	A	114	A	112	A	A	A	112	A	A	B					
12							122	114	114	120	A	A	A	A	A	A	A	124	B					
13							118	118	118	118	122	C	A	C	116	112	114	122	B					
14							B	116	114	A	A	114	A	A	A	A	118	114	B					
15							120	124	120	116	A	A	A	A	116	118	114	114	B					
16							120	124	124	116	116	118	114	114	116	112	122	130	B					
17							112	122	116	116	A	A	A	A	A	120	110	112	B					
18							118	114	116	A	A	116	116	116	116	114	120	114	B					
19							116	118	112	110	112	118	112	106	114	116	112	A	B					
20							118	110	114	114	116	116	A	A	116	A	A	116	B					
21							128	122	114	114	116	A	A	A	A	A	116	120	B					
22							120	116	116	116	116	116	114	A	116	116	114	110	B					
23							114	122	120	116	116	112	114	114	114	118	118	126	B					
24							118	118	116	116	116	118	118	118	118	114	114	112	B					
25							B	120	116	116	116	116	116	118	114	116	122	122	B					
26							128	120	120	A	120	114	114	114	114	114	114	120	B					
27							122	122	112	A	A	114	118	118	116	114	120	124	B					
28							118	116	112	C	112	110	118	108	116	116	118	118	B					
29							126	118	116	114	114	116	116	114	120	112	116	A	B					
30							114	116	A	A	A	C	118	112	114	114	118	120	B					
31																								
	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							24	30	28	21	18	18	18	20	18	21	24	25						
MED							118	118	116	116	116	116	116	114	116	114	116	118						
U Q							122	120	120	118	116	116	118	116	116	116	118	122						
L Q							116	116	114	114	116	112	114	112	114	112	114	113						

APR. 2008 h'E (KM)

IONOSPHERIC DATA STATION Kokubunji

APR. 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	94	B	B	98	102	102	134	156	116	104	98	C	C	96	C	96	92	120	B	94	94	92	92	B
2	B	B	B	B	B	B	146	G	134	126	104	102	102	100	104	96	94	142	90	96	B	B	B	B
3	B	B	B	B	B	B	142	148	106	104	102	102	148	94	118	100	100	148	110	104	B	98	90	94
4	142	90	B	B	98	102	152	138	114	102	98	G	102	160	102	102	104	144	124	104	92	90	90	88
5	96	96	98	98	B	B	146	148	140	102	96	98	92	96	94	96	102	148	B	B	B	B	B	B
6	B	B	B	B	B	B	154	118	118	102	100	102	146	96	96	94	132	122	B	B	B	B	104	B
7	B	B	B	B	B	B	144	152	106	104	102	98	102	98	94	94	94	86	86	86	92	B	B	B
8	B	B	B	B	B	B	130	122	118	116	116	116	110	110	102	92	138	124	114	B	112	112	B	B
9	B	B	92	B	92	B	154	134	130	98	94	110	94	92	112	116	90	88	88	106	100	102	102	102
10	100	108	92	96	104	B	132	118	116	104	106	104	98	96	94	102	106	108	90	90	106	102	102	112
11	B	112	B	B	102	96	152	144	96	120	104	104	102	102	102	100	96	94	90	92	92	94	92	B
12	124	102	96	B	B	B	154	140	120	112	104	104	106	104	106	102	104	160	96	96	96	102	100	102
13	98	98	108	106	106	104	138	138	118	116	114	112	104	C	138	100	104	124	100	100	104	92	B	B
14	92	92	B	B	B	B	132	122	116	100	102	98	104	104	100	102	156	148	134	122	B	110	94	B
15	102	100	B	B	B	B	140	150	122	114	102	104	104	102	146	102	116	98	94	88	82	90	88	B
16	104	B	B	B	B	B	158	102	142	114	98	102	100	98	98	156	108	124	110	110	110	B	B	B
17	126	B	B	B	B	B	142	156	138	120	106	100	108	98	114	106	96	136	122	114	112	112	B	B
18	B	B	B	B	B	144	130	128	112	104	102	100	102	100	104	100	104	G	110	110	B	B	B	B
19	B	B	B	B	B	B	140	142	138	124	110	104	172	100	96	106	102	104	104	102	98	98	104	B
20	B	B	B	B	B	B	132	140	146	116	108	112	106	106	128	104	126	148	118	114	116	94	94	94
21	B	B	94	B	100	B	126	126	132	112	116	104	102	110	102	102	118	150	120	110	90	90	B	B
22	B	B	102	B	B	84	138	120	118	118	102	98	108	106	102	98	102	G	130	94	B	106	B	B
23	B	B	B	B	B	152	130	134	102	100	102	100	148	136	112	104	102	142	118	100	100	100	100	B
24	122	118	98	98	B	B	140	144	124	122	120	116	126	126	164	164	104	G	120	106	102	106	106	104
25	108	104	100	100	96	98	106	100	100	100	100	136	124	120	110	104	104	132	118	106	102	90	90	B
26	100	B	B	B	100	108	136	130	114	106	104	96	120	126	118	112	110	120	B	B	110	108	100	104
27	98	100	98	100	102	B	160	138	116	102	100	102	102	156	120	100	106	112	B	B	108	98	96	94
28	94	98	98	98	98	98	140	150	122	108	96	102	106	150	112	100	142	148	116	106	106	102	106	98
29	96	98	116	B	88	B	106	120	120	124	118	136	100	164	148	126	114	106	104	108	106	120	106	102
30	100	104	102	98	108	102	128	116	104	104	104	104	106	138	146	96	104	122	118	106	104	102	B	100
31																								
	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	17	14	13	9	13	11	30	29	30	30	30	28	29	29	29	30	30	27	25	25	23	24	19	12
MED	100	100	98	98	100	102	140	138	118	107	102	103	104	104	106	102	104	124	110	104	102	101	100	101
U Q	115	104	102	100	103	108	146	146	130	116	106	107	115	126	119	104	114	148	119	109	108	106	104	103
L Q	96	98	95	98	97	98	132	121	114	102	100	100	102	98	101	98	102	108	95	95	94	93	92	94

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 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

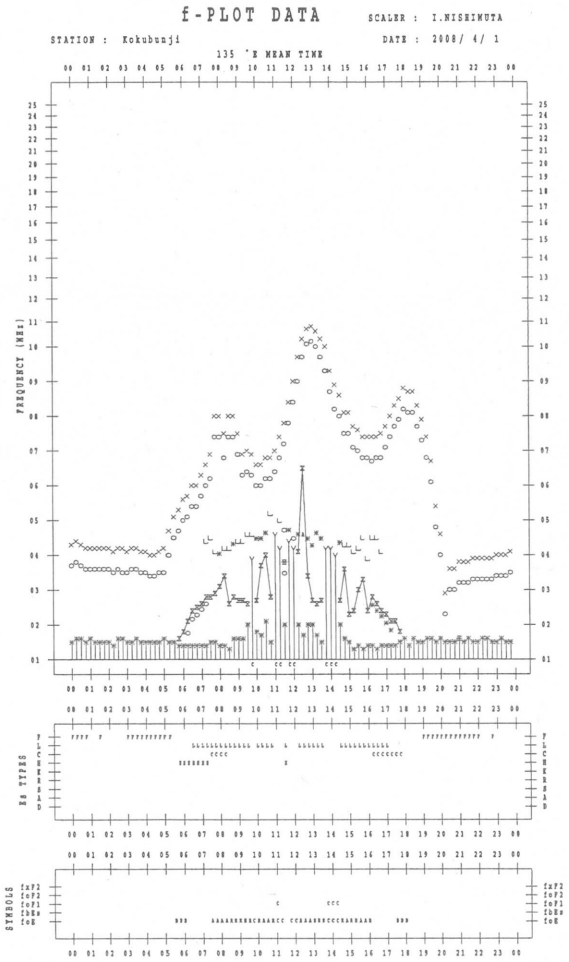
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F 2			F 2	F 2	F 1	H 2	HL 22	CL 22	L 2	L 2			L 2		L 2	L 2	CL 22		F 1	F 2	F 3	F 2	
2							H 2		CL 22	CL 22	L 2	L 2	L 2	L 2	L 2	L 2	L 3	HL 22	L 3	F 2				
3							H 3	HL 21	L 2	L 2	L 1	L 2	HL 11	L 2	CL 11	L 2	L 2	HL 12	C 2	F 3		F 2	F 2	F 2
4	F 1	F 1			F 1	F 1	H 2	HL 12	CL 22	L 2	L 1		L 2	HL 12	L 2	L 2	L 2	HL 22	C 3	F 3	F 3	F 2	F 2	F 2
5	F 2	F 4	F 2	F 2			H 3	HL 22	HL 22	L 2	L 2	L 2	L 2	L 2	L 2	L 2	L 2	HL 11						
6							H 2	C 2	C 2	L 2	L 2	L 2	HL 22	L 2	L 2	L 2	CL 11	C 1					F 1	
7							H 2	HL 22	L 3	L 2	L 2	L 2	L 2	L 2	L 2	L 2	L 2	L 3	L 4	F 3	F 1			
8							H 3	C 2	C 2	C 2	CL 22	CL 11	CL 11	CL 11	L 2	L 2	HL 21	C 2	C 3		F 3	F 1		
9			F 2		F 1		H 3	HL 22	CL 22	L 2	L 2	CL 12	L 2	L 2	CL 22	CL 11	L 3	L 3	L 3	FF 22	F 3	F 5	F 3	F 2
10	F 1	FF 12	F 2	F 2	F 1		H 4	CL 21	CL 22	L 2	L 2	L 2	L 2	L 1	L 1	L 1	L 1	L 2	L 4	F 3	FF 31	FF 21	F 2	FF 21
11		F 2			F 2	F 3	H 2	HL 23	L 3	CL 11	L 2	L 2	L 2	L 2	L 2	L 2	L 2	L 3	L 3	F 4	F 3	F 2	F 1	
12	F 1	F 1	F 2				H 2	H 2	CL 22	CL 11	L 2	L 2	L 2	L 2	L 2	L 2	L 2	HL 12	L 3	F 3	F 2	F 2	F 3	F 3
13	F 3	F 2	F 2	F 1	F 1	F 2	HL 22	HL 22	CL 12	CL 22	CL 11	C 1	L 2		HL 11	L 1	L 1	CL 21	L 5	F 3	F 2	F 1		
14	F 2	F 1					H 2	CL 21	CL 11	L 2	L 1	L 1	L 2	L 2	L 2	L 2	HL 12	H 3	C 3	F 3		F 2	F 1	
15	F 2	F 2					H 3	HL 12	CL 22	CL 22	L 2	L 2	L 2	L 2	HL 11	L 2	CL 12	LC 31	L 3	F 3	F 2	F 1	F 1	
16	F 2						H 2	L 2	HL 12	CL 12	L 2	L 2	L 2	L 1	L 2	HL 12	L 1	CL 21	C 4	F 3	F 1			
17	F 1						H 2	HL 22	HL 12	CL 11	L 1	L 2	L 2	L 2	LL 12	L 2	L 2	H 2	C 5	F 3	F 5	F 1		
18						F 1	H 4	C 1	CL 11	L 1	L 1	L 2	L 1	L 1	L 1	L 1	L 2		C 4	F 2				
19							H 3	HL 21	HL 12	CL 12	CL 11	L 2	HL 11	L 2	L 2	L 2	L 1	L 2	L 2	F 3	F 3	F 3	F 4	
20							H 3	HL 22	HL 12	CL 11	CL 11	CL 11	L 1	L 2	CL 11	L 2	CL 22	HL 23	CL 22	FF 45	FF 24	F 3	F 2	F 2
21			F 1		F 2		C 3	CL 22	CL 11	CL 11	CL 11	L 1	L 1	L 2	L 2	L 1	CL 21	HL 11	CL 52	FF 32	F 2	F 1		
22			F 1			F 1	H 2	CL 22	CL 12	CL 11	L 2	L 1	CL 11	L 2	L 1	L 2	L 2		H 2	F 1		F 1		
23						F 2	C 2	CL 21	L 2	L 1	L 2	L 1	HL 11	HL 11	CL 12	L 2	L 1	HL 12	C 3	F 5	F 5	F 5	F 1	
24	F 2	F 3	F 2	F 2			H 2	HL 22	CL 12	CL 11	CL 11	CL 11	CL 11	CL 11	HL 11	HL 11	L 1		C 2	F 3	F 3	F 2	F 3	F 2
25	F 4	F 3	F 4	F 2	F 5	F 4	L 3	L 2	L 2	L 2	L 2	HL 12	CL 11	CL 11	CL 21	L 2	L 2	CL 12	C 2	F 3	F 3	F 2	F 1	
26	F 4				F 1	F 1	HL 21	CL 21	CL 11	L 2	L 1	L 1	CL 11	CL 11	CL 11	CL 11	CL 11	CL 11			F 1	F 1	F 3	F 3
27	F 2	F 2	F 1	F 2	F 1		H 2	HL 12	CL 11	L 2	L 1	L 2	L 1	HL 11	CL 11	L 2	L 1	L 2			F 6	F 5	F 3	F 3
28	F 2	F 2	F 2	F 2	F 2	F 3	HL 22	HL 22	CL 12	L 1	L 2	L 2	L 1	H 1	CL 11	L 1	HL 11	H 2	C 3	F 6	F 4	F 5	F 2	F 3
29	F 4	F 4	F 2		F 2		L 2	CL 21	CL 11	CL 11	CL 11	HL 11	L 1	HL 11	HL 11	CL 11	CL 21	L 3	L 3	F 3	F 5	F 2	F 2	F 3
30	F 3	F 2	F 4	F 3	F 2	F 2	H 2	CL 11	L 2	L 2	L 2	L 1	L 2	HL 11	HL 11	L 2	L 2	CL 11	CL 23	F 4	F 3	F 2		F 2
31																								
	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																								

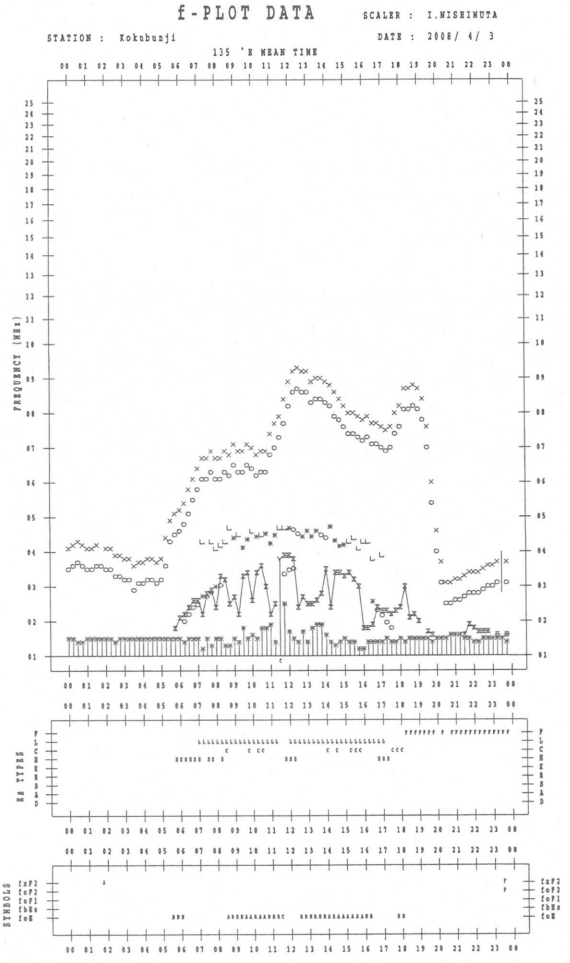
APR. 2008 TYPES OF Es

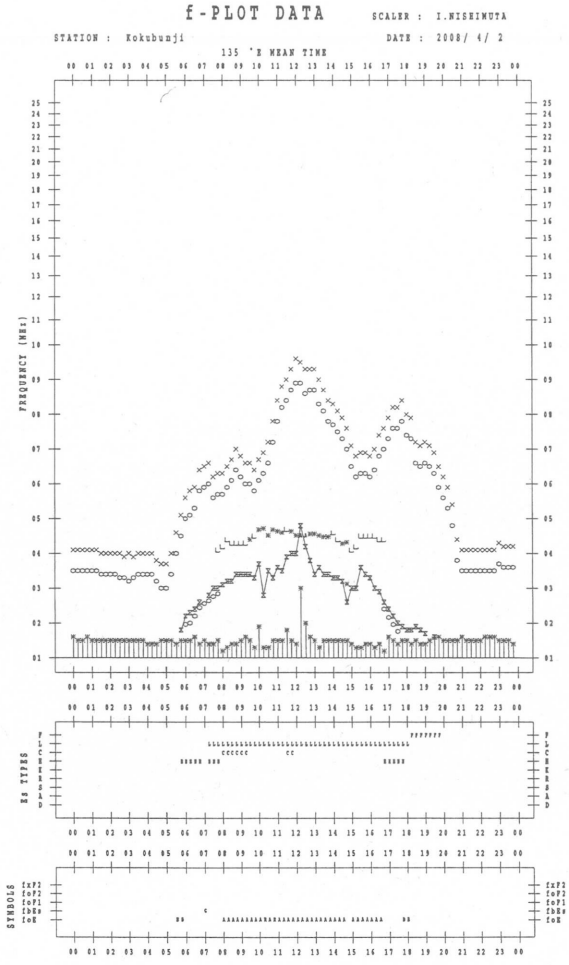
NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

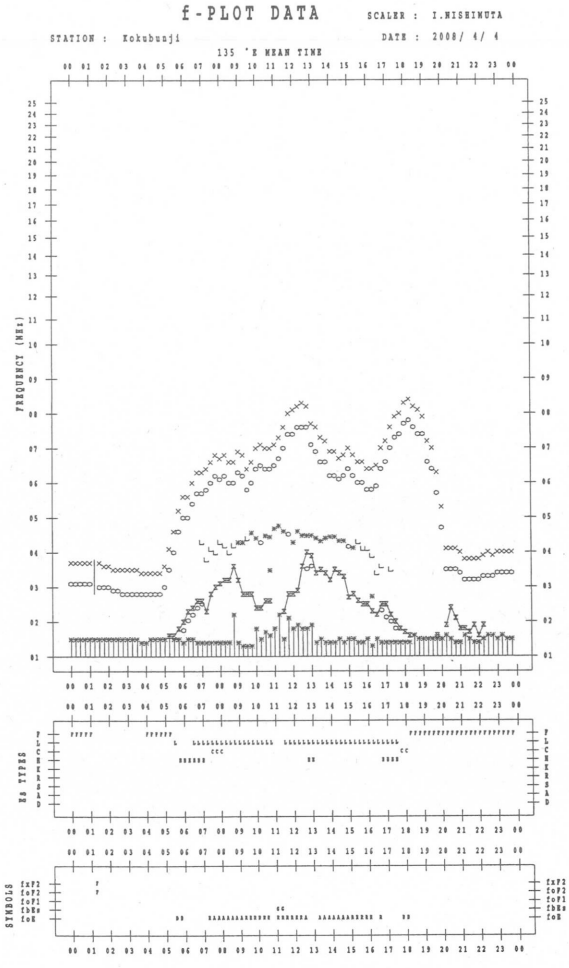
f-PLOTS OF IONOSPHERIC DATA

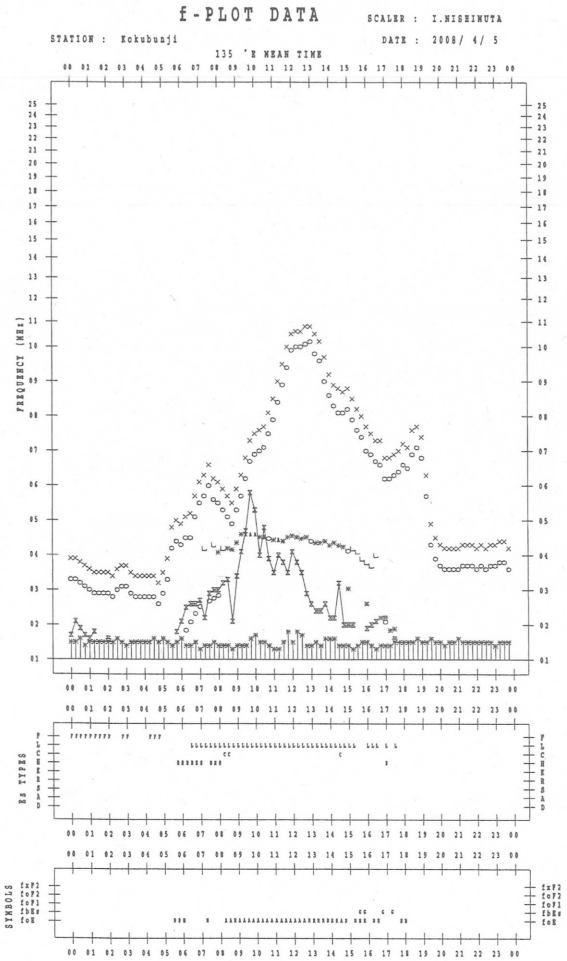
KEY OF f-PLOT	
	SPREAD
	foF2, foF1, foE
	fxF2
	DOUBTFUL foF2, foF1, foE
	fbEs
	ESTIMATED foF1
	fmin
	GREATER THAN
	LESS THAN

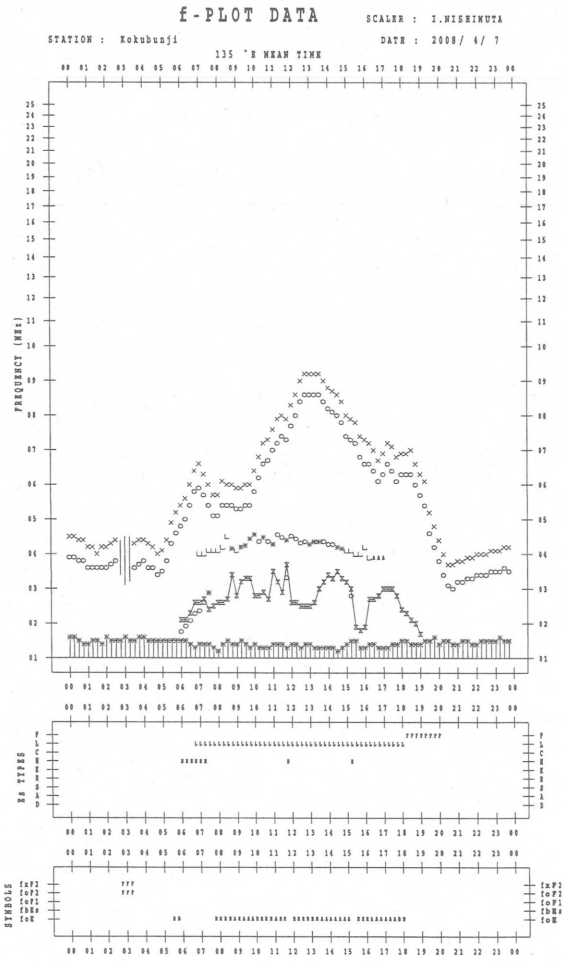

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/ 1
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

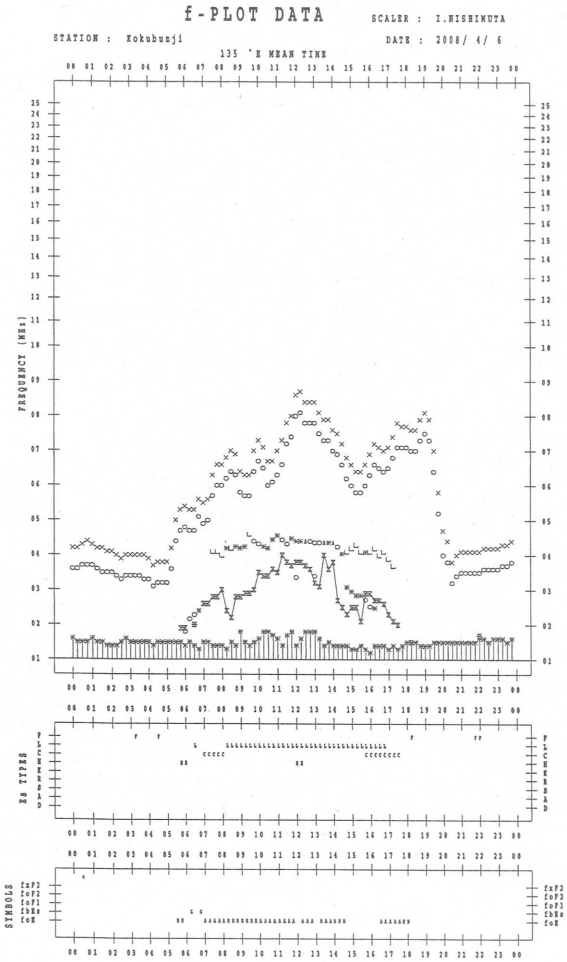

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/ 3
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

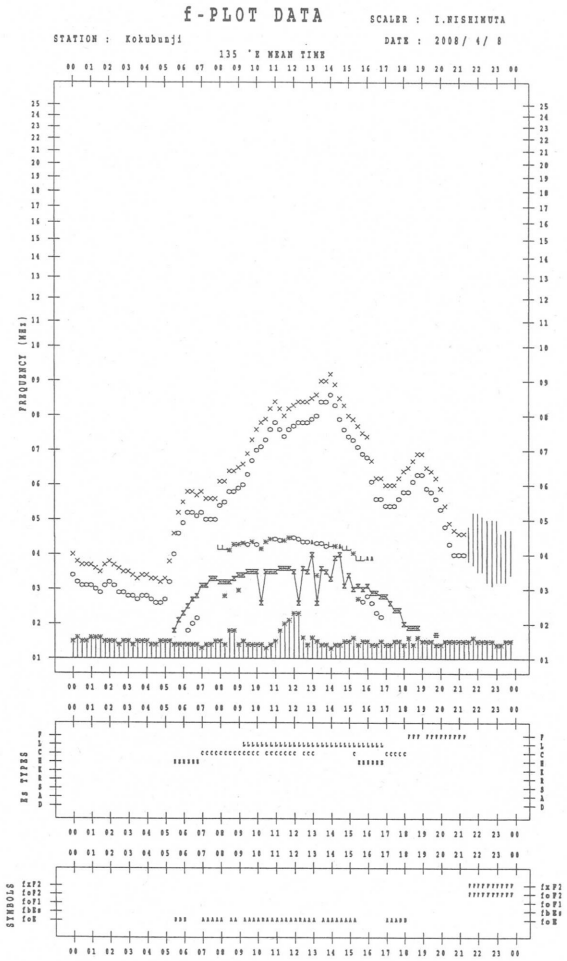

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/ 2
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

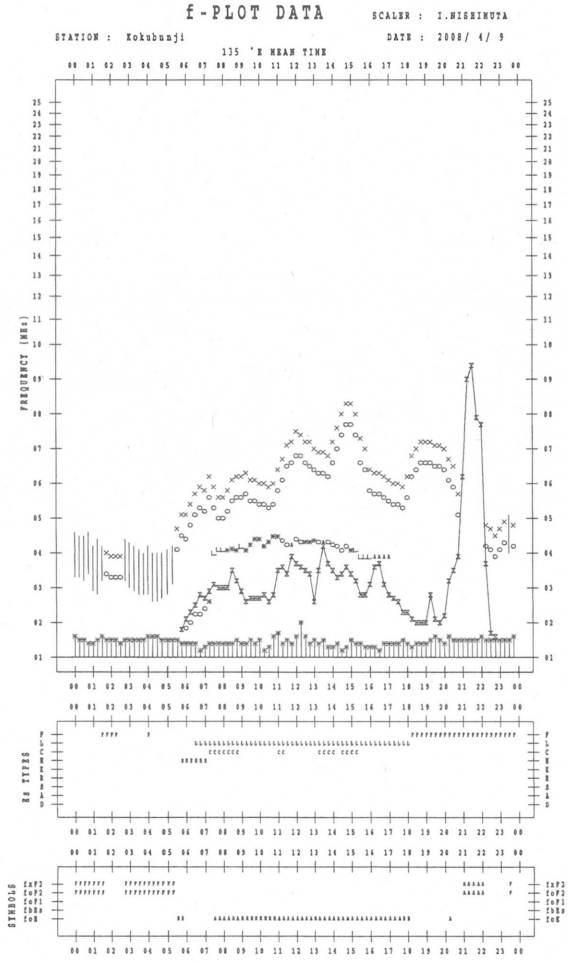

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/ 4
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

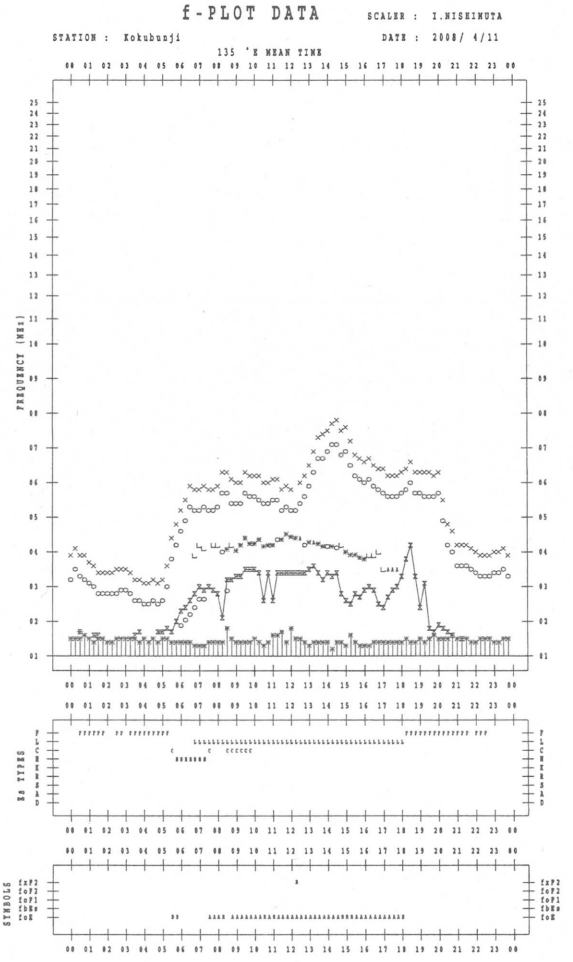

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/ 5
135 °E MEAN TIME
FREQUENCY (MHz)
Rs TYPES
SYMBOLS

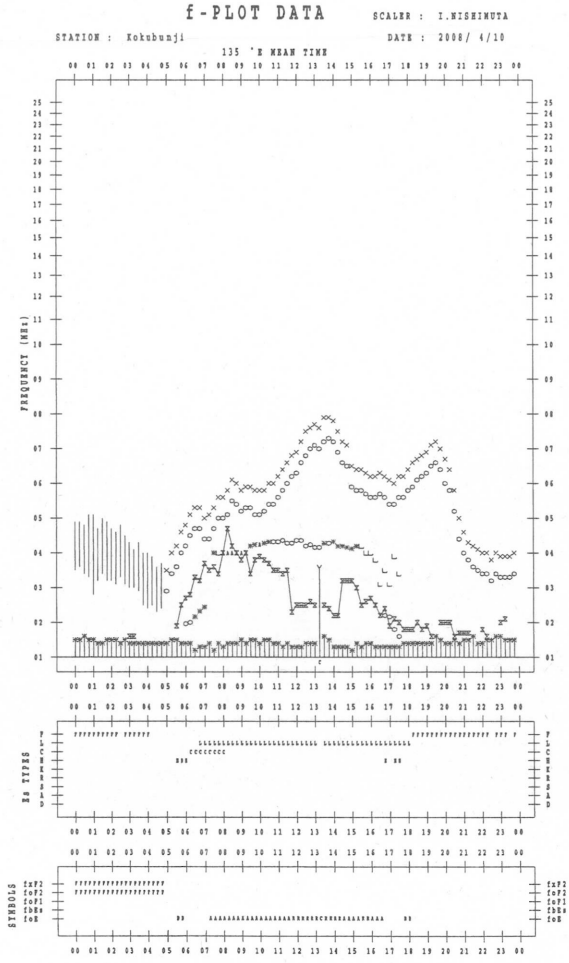

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/ 7
135 °E MEAN TIME
FREQUENCY (MHz)
Rs TYPES
SYMBOLS

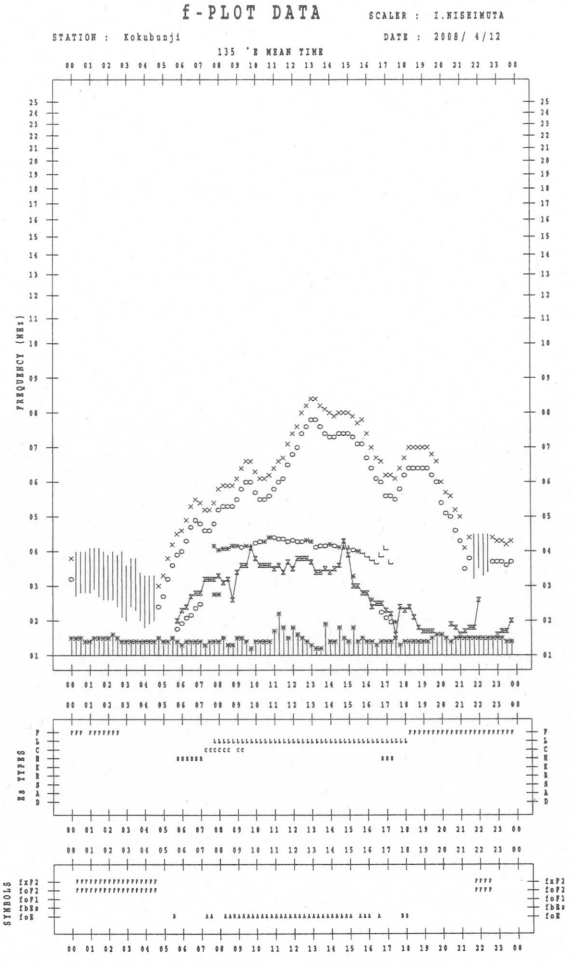

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/ 6
135 °E MEAN TIME
FREQUENCY (MHz)
Rs TYPES
SYMBOLS

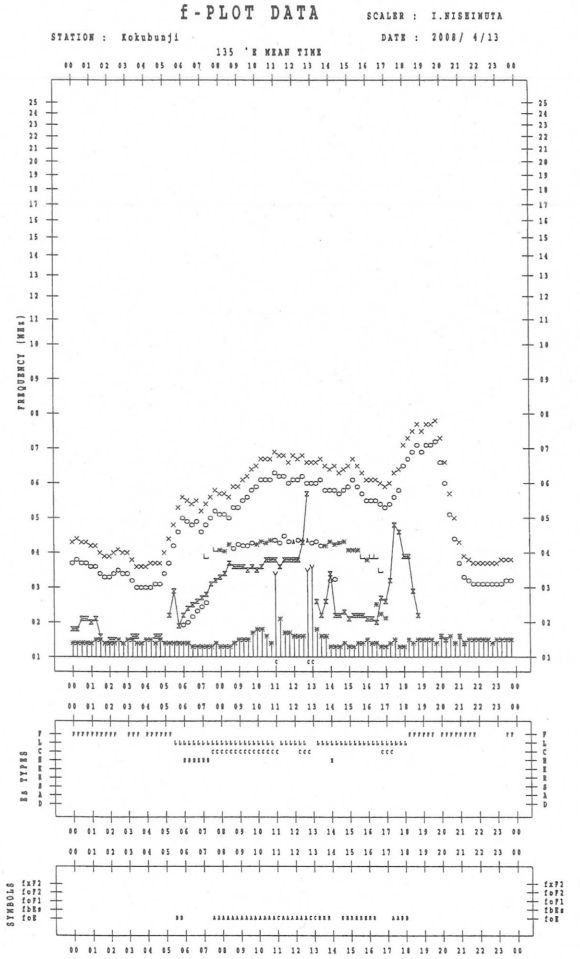

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/ 8
135 °E MEAN TIME
FREQUENCY (MHz)
Rs TYPES
SYMBOLS

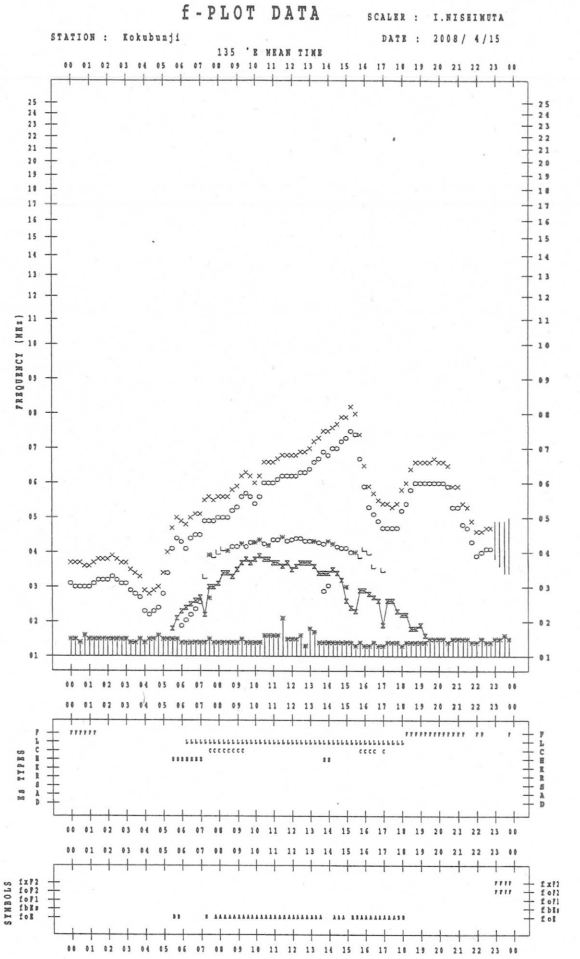

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/ 9
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

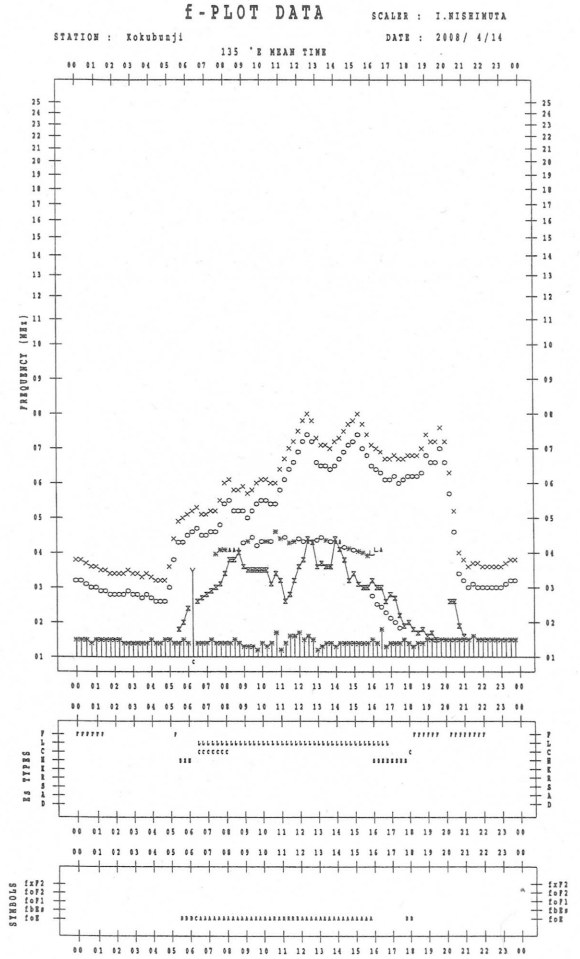

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/11
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

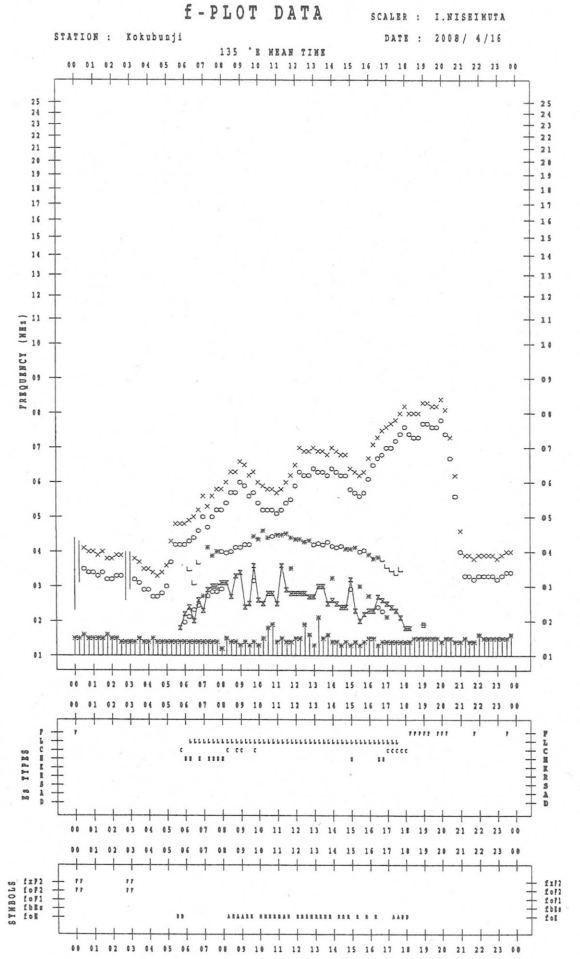

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/10
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

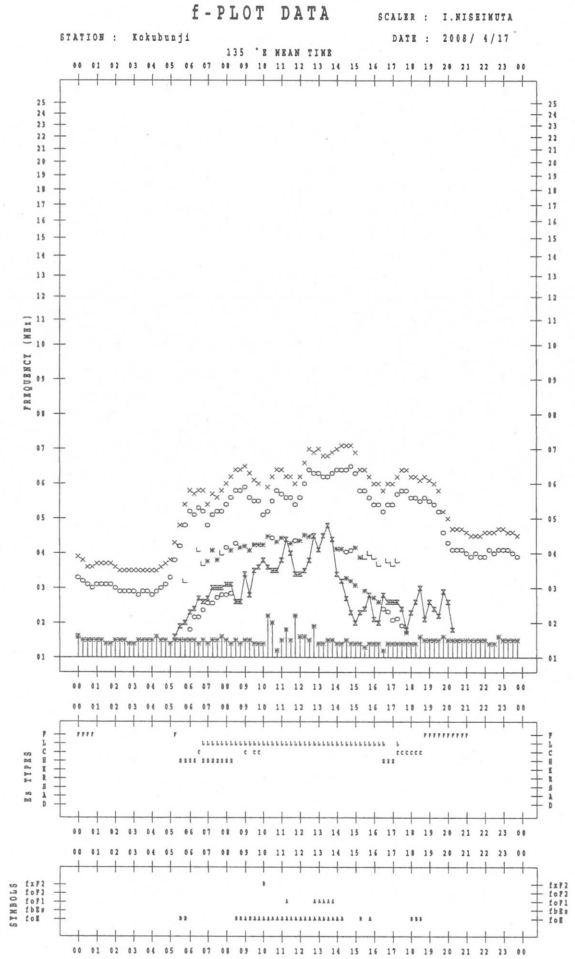

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/12
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

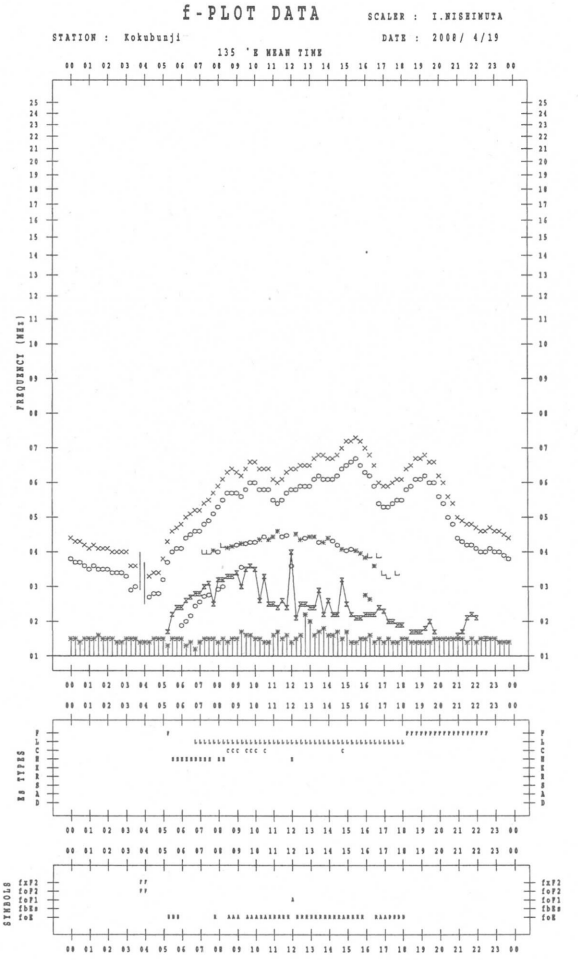

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/13
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

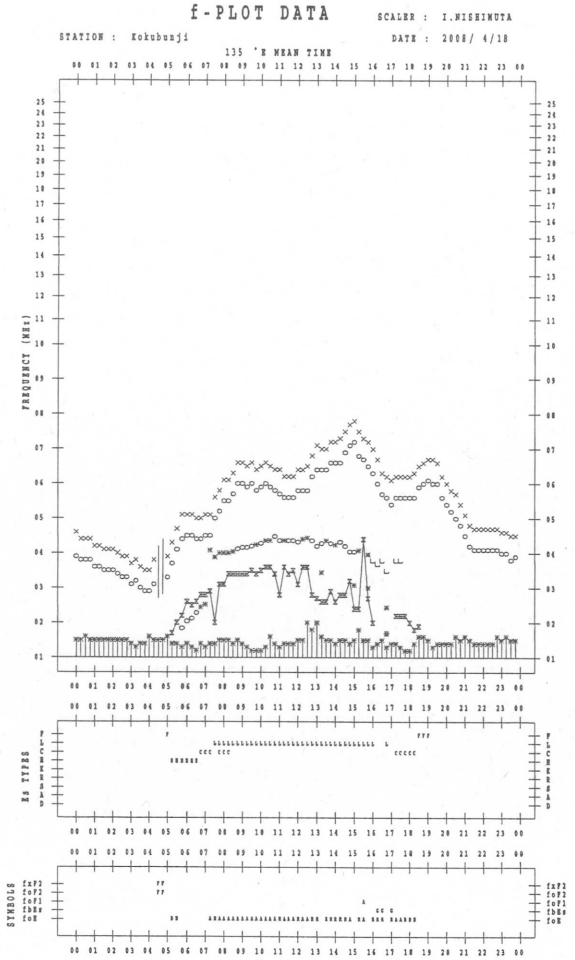

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/15
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

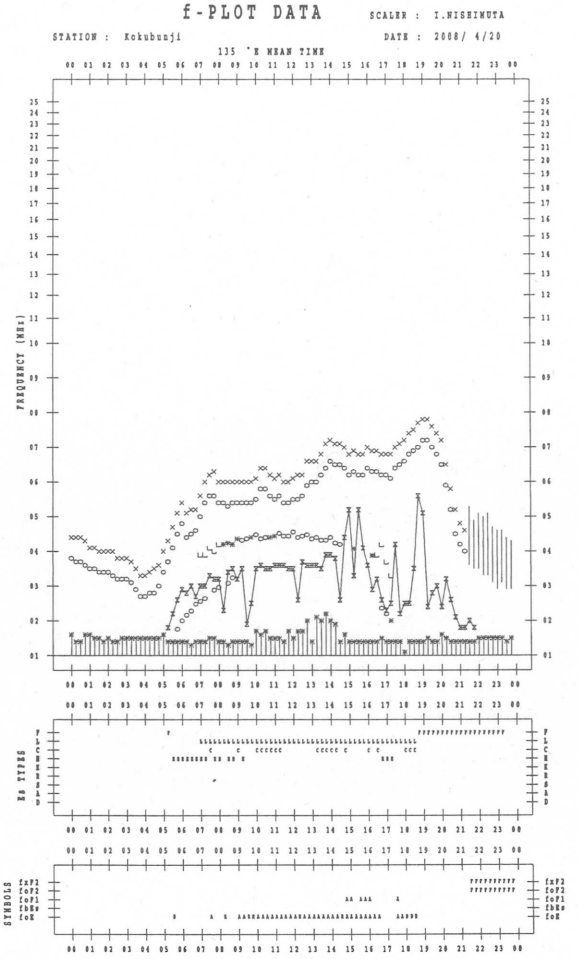

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/14
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

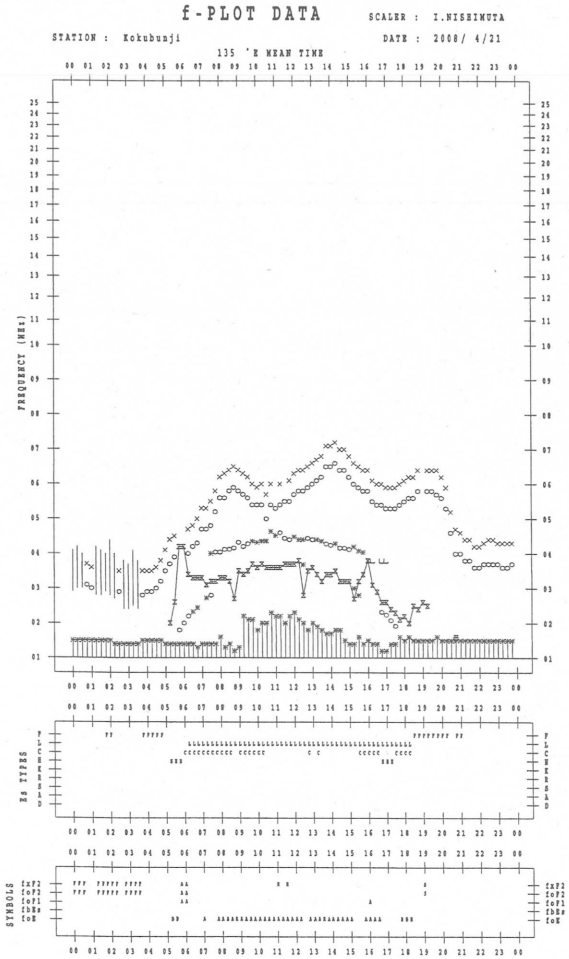

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/16
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

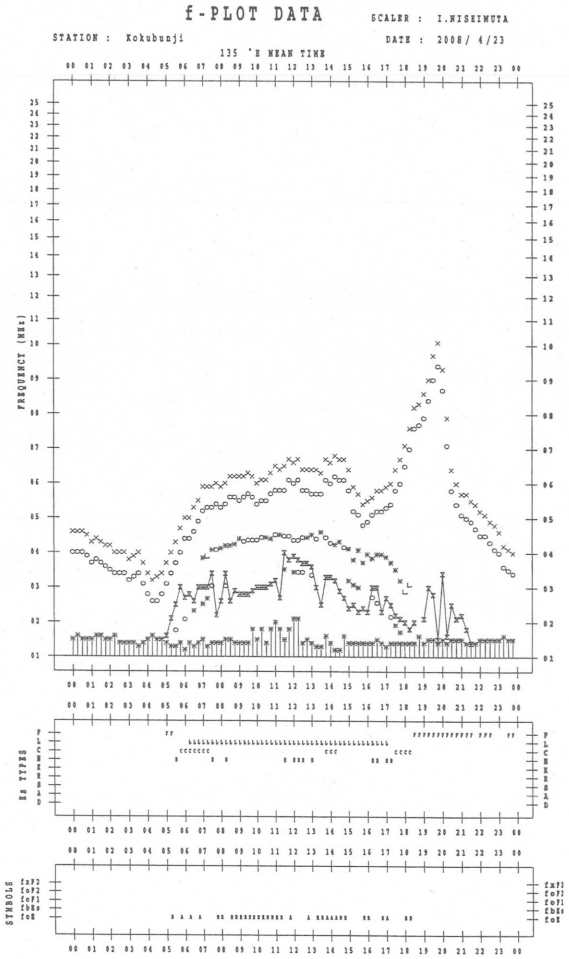

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/17
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

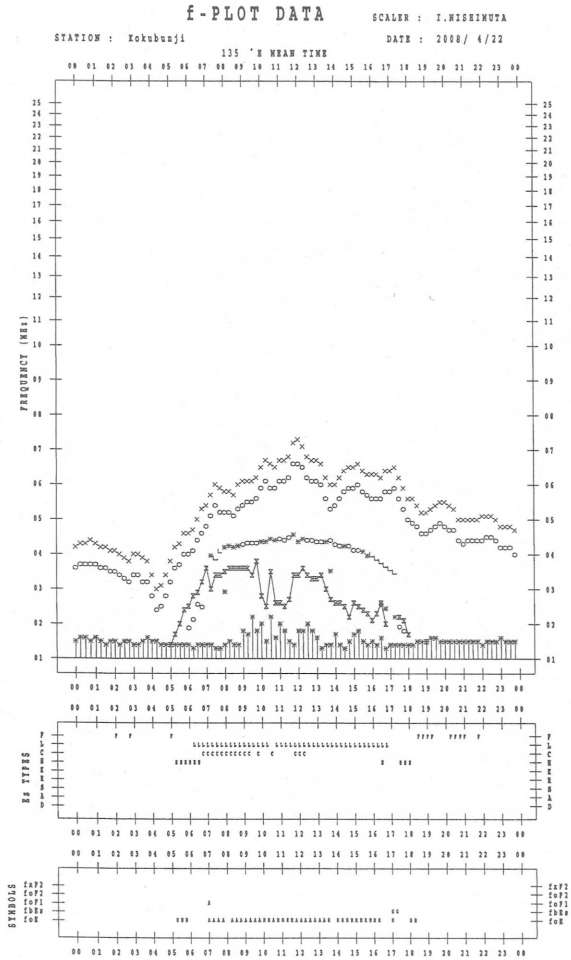

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/19
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

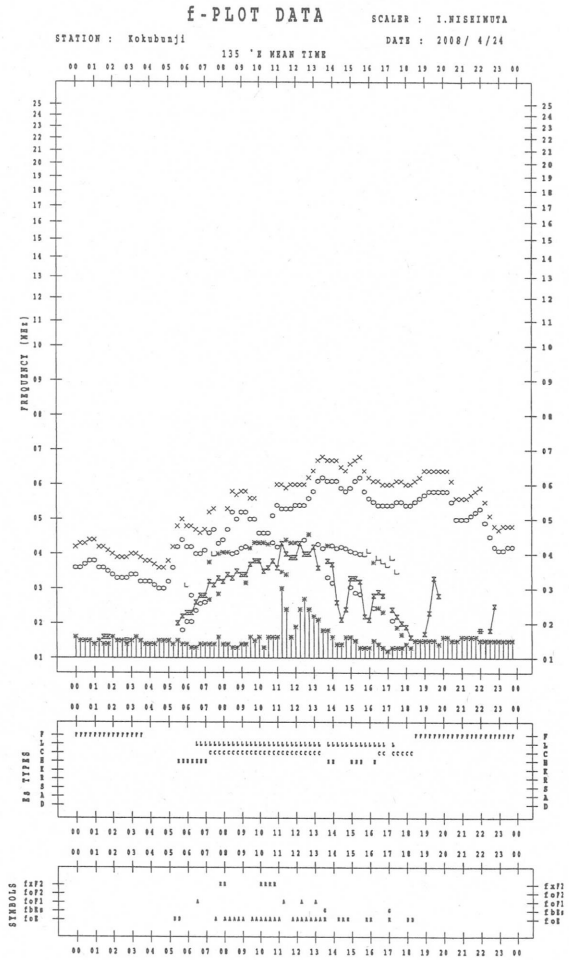

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/18
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

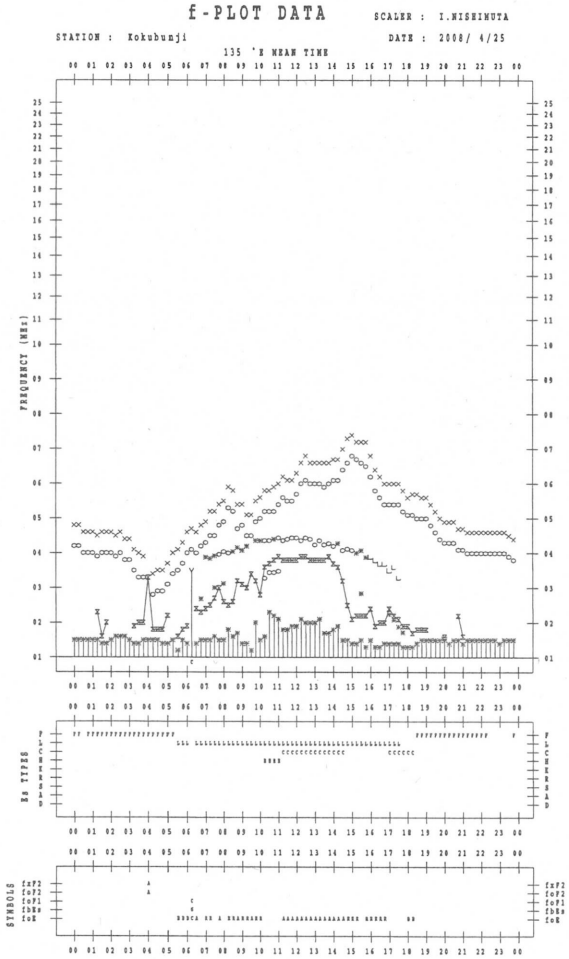

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/20
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

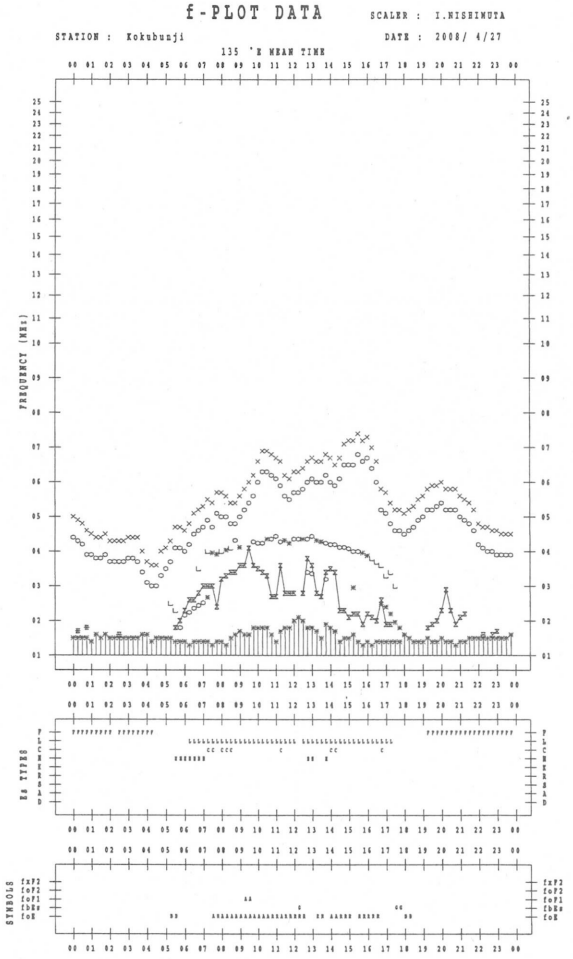

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/21
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

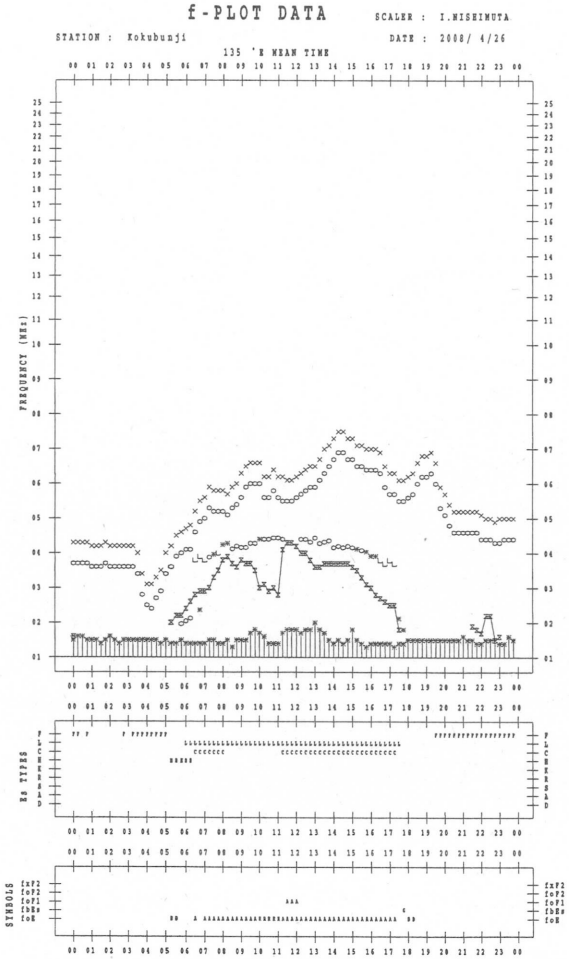

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/23
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

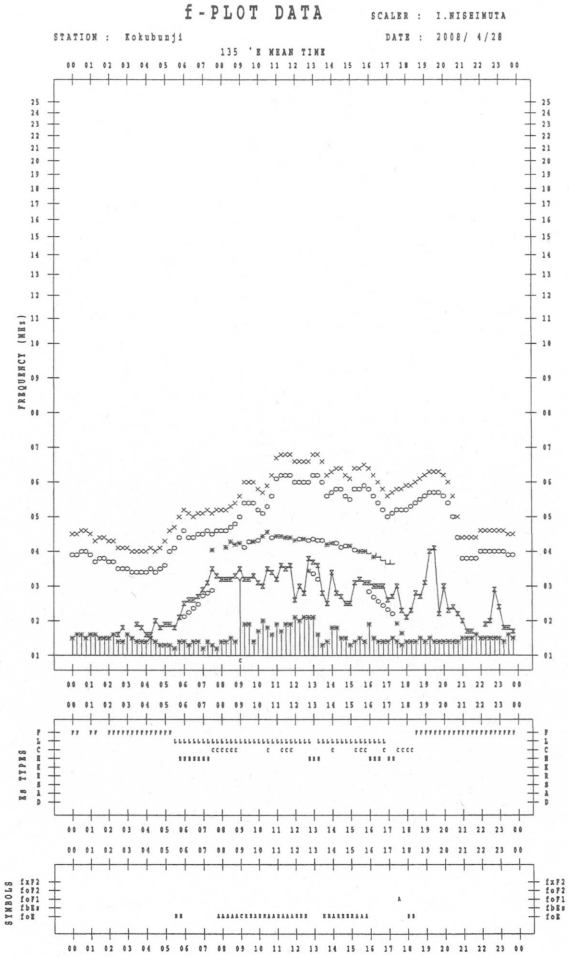

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/22
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

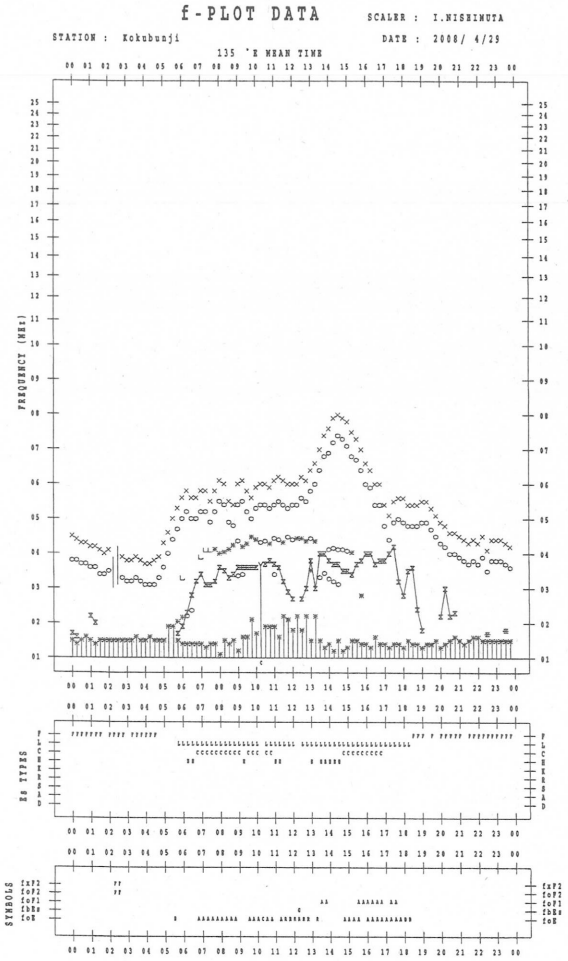

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/24
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

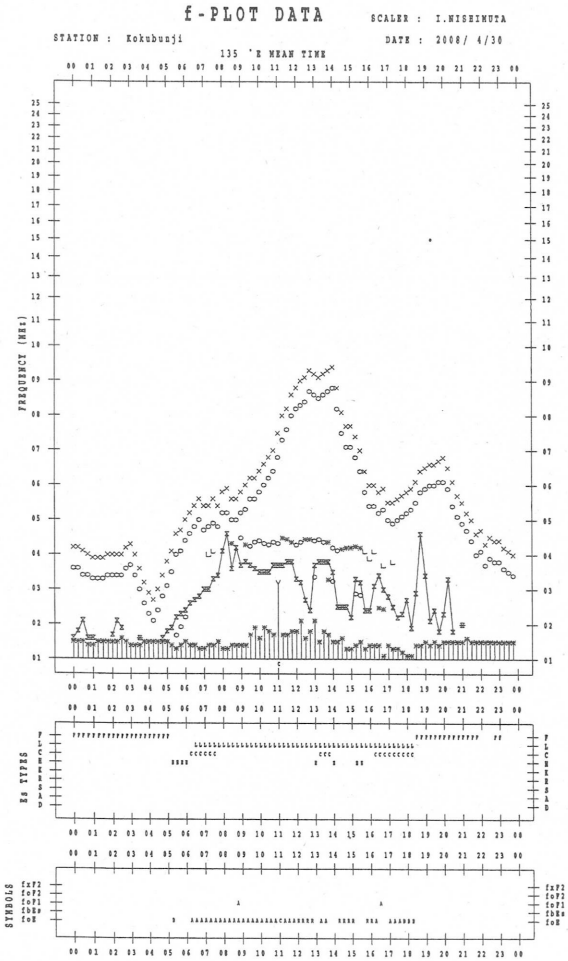

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/25
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/27
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/26
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/28
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/29
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2008/ 4/30
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

B. Solar Radio Emission

B1. Outstanding Occurrences at Hiraiso

Hiraiso April 2008

Single-frequency observations

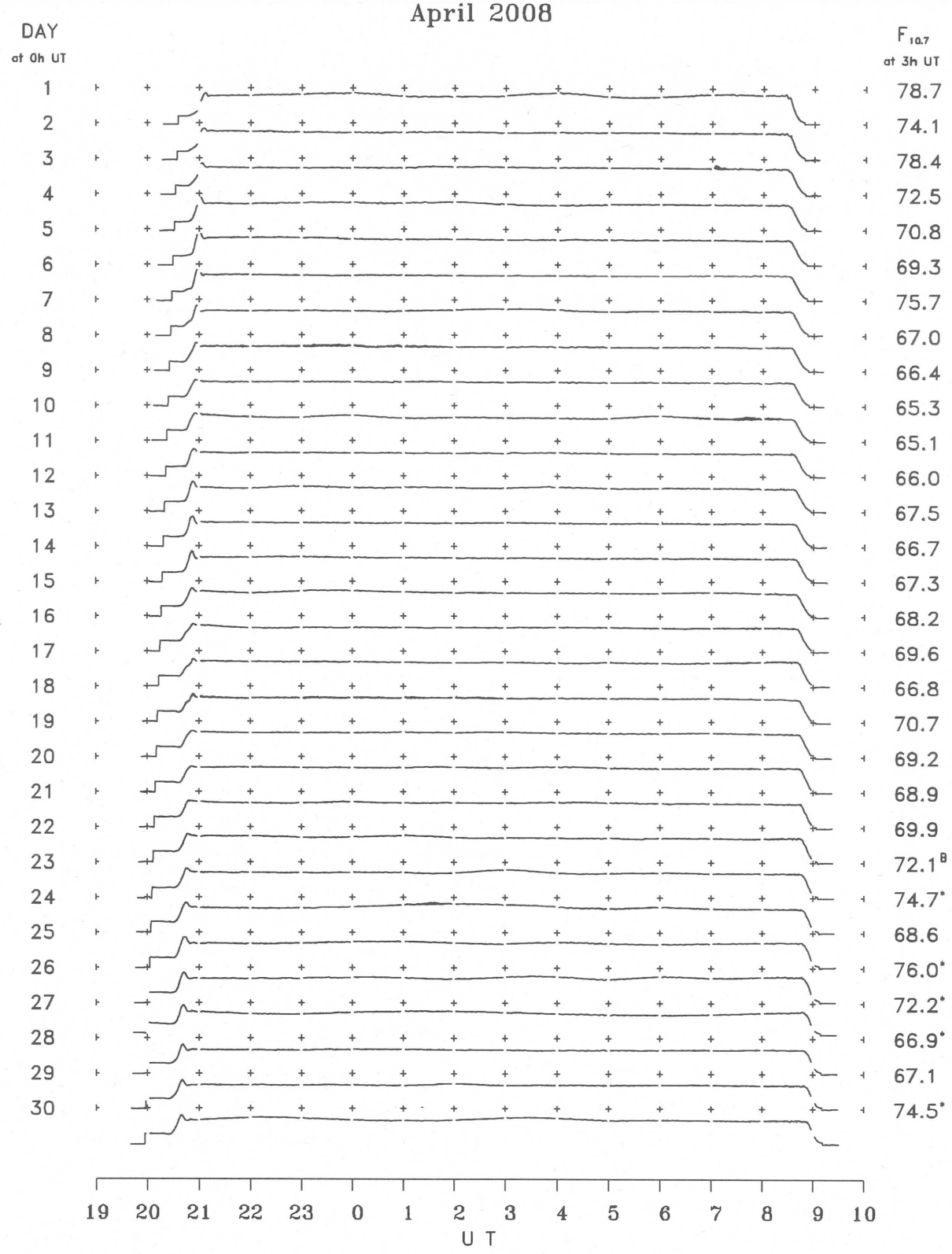
Normal observing period: 2000 – 0915 U.T. (sunrise to sunset)

APR. 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

B. Solar Radio Emission

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

April 2008



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

IONOSPHERIC DATA IN JAPAN FOR APRIL 2008
F−712 Vol.60 No.4 (Not for Sale)

電離層月報（2008年4月）
第60巻 第4号（非売品）
2008年5月23日印刷
2008年5月30日発行

編集兼 独立行政法人 情報通信研究機構
発行所 〒184-8795 東京都小金井市貫井北町4丁目2-1
☎(042)(327)7540(直通)

Queries about "Ionospheric Data in Japan" should be forwarded to:
National Institute of Information and Commnications Technology
2-1 Nukui-Kitamachi 4-chome, Koganei-shi, Tokyo 184-8795 JAPAN