ISSN 0021-0382

F−670

IONOSPHERIC DATA IN JAPAN

FOR OCTOBER 2004

VOL.56 NO.10

CONTENTS

NiCT

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 (**CND**) 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

OCT. 2004

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	51	51	52	53	53	45	58	62	68	75	81	71	70	68	67	70	68	70	A	49	50		42	38
2	48	45	41	52	53		57	61	66	81	72	70	67	77	73	68	68	63	64	61	58	51	52	51
3		51		51	46	47	58	65	62	A	82	71	79	82	67	69	67	64	63	68	54	42	44	44
4	40	A	A	A		35	44	57	73	68	79	77	82	75	65	67	74	70		51	54	52	44	46
5		44	44	45	40	42	54	72	76	84	82	81	83	82	71	71	78	67	54	45	45	43	43	42
6	42	41	41	40	41	31	47	67	70	83	85	83	84	79	72	72	76	71	51	48	43	43	34	
7	44	42	44	42	42	40	48	67	82		82	74	77	76	72	72	72	64	45	44	40	40	A	42
8	41	40	40	41	A	40	53	69	72	82	75	78	76	74	76	67	69	68	63	54	52	42	40	40
9	38	37	37	41		41		57	66	77	90	76	78	78	71	68	68	67	61	61	63	54	58	58
10	58	52	62	62	65	64	73	73	75	84	84	82	77	77	71	70	76	67	47	44	44	44	42	42
11	38	51	52	51	51	53	64	69	70	74		83	84	81	76	72	81	68	57	54	52	60	34	46
12	52	47	46	54	39	44	58	66	78	84	82	93	82	81	75	71	81	75	57	57	54	42	37	45
13	40	48	47	47	47	47	53	57	70	76	80	82	84	83	77	77	76	57	A	64	51	55	40	38
14	36	34	37	34	38		46	64	70	71	72	70	67	71	69	76	64	50	A	47	47	38	34	32
15	A	34	A	34	34	34	45		63	63	77	75	74	71	68	67	64	54	38	44	A	41	34	
16		38	37	24	28	28	44	61	60	75	75	70	82	82	70	66	67	53				34	34	36
17	37	33	34	32	32	32	44		71	75	77	71	80	82	67	65	64	51	40	42	40	36	26	37
18	37	37	38	30	34	34	46	61	66	71		76	72	75	75	67	64	52	42	42	41	42	40	41
19	34	40	42	41	41	41	40	57	68		71	80	82	64	71	77	75	64	45	46	46	42	45	45
20	47	45	45	47	48	44	52	61	62	72	83	71	73	73	60	68	77	71	61	57	55	54	54	54
21	42	42	50	52	51	32	41	67	83	81	81	94	79	82	74	82	75	72	66	58	44	44	45	43
22	50	51	48	47	43	40	54	70	84	81	82	84	77	80	78	74	76	66	46	47	47	40	43	43
23	44	48	41	32	46	44	55	65	84	84	85	84	84	82	76	80	82	63	53	52	36	36	38	A
24	41	40	44	43	43	36	47	72	81	82	82	99	84	82	83	83	84	66	61	52	45	42	43	37
25	41	45	47	44	43	43	62	71	84	83	91	90	92	83	84	90		73	52	66	A	54	62	64
26	63	62	54	55	58	55	61	84	85	87	99	104	79	81	83	82	84	71	54	57	38	52	54	52
27	52	52	54	54	53	49	50	62	81	85	81	87	82	82	84	84	77	61	46	48	53		45	38
28	44	47	54	52	54	52	53	66	83	83	90	83	90	90	82	74	76	55	40	44	43	38	38	A
29	42	42	44	45	42	40	48	71			84	82	83	79	82	77	82	62	45	44	41	40	34	38
30	41	44	34	A	47	44		79	82	79	81	90	93	90	92	94	84	63	52	54	52	42	51	52
31	51	53	A	46	47	40	55	78	70	90			89	81	101		77	66	54	45	A	43	A	38
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	30	27	29	28	29	29	29	30	27	28	30	31	31	31	30	30	31	26	30	27	29	29	27
MED	42	44	44	45	44	41	53	66	72	81	82	82	82	81	74	72	76	66	52	50	47	42	42	42
U Q	50	51	50	52	51	46	57	71	82	84	84	84	84	82	82	77	78	70	61	57	53	51	45	46
L Q	40	40	40	40	40	35	46	61	68	75	78	74	77	75	70	68	68	61	45	45	43	40	35	38

HOURLY VALUES OF fEs AT Wakkanai

OCT. 2004

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

DAY \ HOUR	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	26	G		G	37	40	42	42	G	G	G	36	46	76	44	40		60	35
2	38	28	G	25	27	G	34		35	48	58	51	G	42	39	G	35	G	39	38	28	30		72
3	58	49	46	34	28	27	33	39	75	91	60	54	51	66	39	59	44	33	40	33	34	28	G	G
4	29	59	33	47	33	27	G	G	G	51	44	47	46	40	39	35	G	30	30	G	G	G	30	32
5	38	G	G	G	24	G	G	G	38	G	45	G	G	G		G	32	33	26	G	G	28	G	G
6	G	G	G	G	G	G	28	G	40	G	G	G	G	G	G	36	G	25	36	31	27	26	G	G
7	G	G	G	G	G	G	G	37	G	68	65	G	46	79	G	G	34	30	40	26	G	28	66	G
8	25	G	G	28	51	26	31	G	43	41	G	G	N	G	G	G	G	G	29	G	30	29	29	27
9	G	G	G	G	25	32	51	46	G	G	G	G	G	G	G	G	36	43	49	28	28	36	G	G
10	G	G	G	G	G	G	G	G	G	G	39	46	G	G	G	G	34	29	G	G	G	G	G	G
11	26	25	G	G	G	G	35	59	G	G	G	40	44	43	46	36	38	44	46	38	27	26	G	G
12	G	G	G	G	G	G	G	31	41	40	42	50	42	48	49	53	70	32	32	G	30	29	G	G
13	G	G	G	G	G	G	G	36	42	45	51	G	G	G	G	G	G	46		29	34	G	G	G
14	G	28	G	25	G		33	47	40	51	46	46	46	59	39	41	46	34	74	39	G	G	34	G
15	47	G	40	G	26	26	G		G	50	G	40	44	40	39	34	40	37	34	G	39	28	24	39
16	40	32	29	25	G	26	29	G	34	G	50	45	G	G	G	38	56	33	G	33	28	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	27
18	G	G	G	G	G	G	G	30	34	38	41	G	G	G	G	G	G	G	G	G	G	G	G	G
19	G	G	G	G	G	G	G	36	43	G	G	G	G	G	38	G	39	G	42	30	39	G	G	G
20	27	G	G	G	G	30	33	29	G	G	38	G	G	G		G	42	31	G	G	G	G	30	G
21	G	G	24	G	G	G	G	52	G	47	G	G	G	49	44	35	41	43	33	34	29	G	G	G
22	30	27	28		32	32	G	G	G	G	G	50	68	64	59	40	28	28	29	28	G	G	G	G
23	G	33	28	G	G	28	26	G	G	45	45	40	42	43	G	G	27	G	30	G	34	29	G	44
24	29	G		26	24	G	G		32	41	G	G	G	G	G	G	G	G	G	G	G	G	G	G
25	G	G	G	G	G	G	G	G	40	54	46	53	G	38	G	G	G	40	45	38	71	45	32	27
26	26	38	30	G	29	31	G	G	38	61	42	40	68	62	45	41	48	27	27	G	G	36	48	G
27	G	G	26	G	28	G	G	G	36	G	G	G	G	G	35	G	G	11	G	26	G	27	G	G
28	32	G	30	G	G	G		G		41	40	G	G	G	34	32	G	G	28	34	G	G	G	44
29	30	G	27	G	G	G	G				40	38	G	G	G	G	G	G	G	G	G	24	G	G
30	35	29	78	65	47	44	34	33	47	52	46	G	G	G	G	G	G	G	29	27	28	29	35	29
31	26	32	57	60	49	29	G	33	38	43	50	73	44	50	39		G	34	42	40	42	48	44	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	30	31	30	30	25	29	30	31	31	30	31	29	30	31	31	30	31	31	30	30	31
MED	25	G	G	G	G	G	G	29	34	41	40	38	G	G	G	G	32	30	30	27	27	26	G	G
U Q	30	28	29	25	28	27	31	36	40	50	46	46	44	48	39	36	40	34	40	34	34	29	30	27
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

OCT. 2004

LAT. 45°23.5'N LON. 141°41.2'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	16	15	15	16	16	17	18	14	15	20	18	18	18	17	17	20	15	15	15	15	14		14	15
2	14	14	15	15	15	15	14	15	17	17	18	18	20	22	16	16	16	17	15	14	15	14	18	17
3	15	14	15	14	15	15	14	14	18	17	20	21	20	17	15	14	17	14	14	15	15	17	18	15
4	15	15	15	14	14	14	17	16	15	18	18	17	21	16	15	14	14	16	15	18	14	18	15	14
5	14	18	14	16	15	16	20	15	15	17	18	20	16	23	15	14	15	15	14	21	16	20	18	16
6	15	15	15	14	14	16	18	17	16	17	20	20	18	21	16	16	16	16	14	15	17	18	15	27
7	15	17	17	14	15	14	20	16	14	17	16	20	20	17	15	14	20	14	15	15	18	18	15	21
8	15	18	20	15	14	15	16	15	14	17	20	16	20	18	17	14	22	15	18	16	14	15	14	15
9	20	15	15	15	16	14	18	22	17	18	18	22	22	15	30	20	14	14	14	14	14	15	16	18
10	16	14	15	16	15	14	20	14	20	14	15	15	17	14	20	23	18	15	20	20	18	16	20	16
11	18	15	16	15	18	16	18	16	15	15	20	18	18	15	15	14	15	14	15	14	15	16	16	14
12	14	14	14	15	14	14	20	14	14	14	14	14	20	16	18	14	14	14	14	15	15	15	14	14
13	15	14	15	15	14	14	16	16	15	18	17	17	21	34	18	15	15	14	15	15	14	15	18	15
14	20	17	16	18	15		14	15	16	18	21	20	18	20	15	15	14	14	14	15	16	16	14	20
15	14	15	14	20	14	15	18		15	18	24	21	21	20	15	15	14	14	15	15	14	17	15	17
16	15	14	18	15	18	20	14	14	15	16	20	21	20	21	20	18	16	15	20	17	17	15	15	15
17	14	15	16	14	14	15	18		16	20	20	20	18	18	18	23	17	17	17	15	14	15	21	16
18	15	17	15	15	14	14	17	14	15	15	17	18	20	20	16	15	20	14	15	16	14	15	15	15
19	14	15	16	18	15	14	15	14	15	16	18	18	20	21	20	15	16	15	14	14	14	15	16	15
20	15	15	15	18	20	14	14	14	14	15	17	18	17	14	15	15	15	14	18	18	17	15	14	15
21	20	17	15	16	14	16	16	14	14	15	21	18	16	17	15	15	16	14	15	14	15	20	15	14
22	15	16	17	14	14	15	15	15	14	14	17	16	16	14	14	14	15	16	14	15	18	15	14	15
23	15	14	16	20	14	16	18	22	15	20	21	20	17	14	14	14	16	17	15	18	15	14	16	14
24	17	18	16	14	15	18	20	15	16	15	17	16	16	15	18	16	15	16	18	15	15	14	17	18
25	15	15	18	15	14	15	16	24	18	15	21	20	20	17	20	15	15	15	17	17	15	15	14	16
26	15	14	17	17	20	15	17	23	14	17	16	15	17	14	14	14	14	18	18	15	18	14	15	16
27	14	14	15	15	14	16	15	14	16	16	16	16	20	16	14	16	20	15	18	18	14	15	21	15
28	15	16	15	15	15	15	16	23	14	15	18	20	20	17	15	15	20	15	17	16	15	15	18	14
29	17	18	14	15	14	15	15	22			17	17	18	14	16	15	20	17	14	14	15	15	17	15
30	15	14	15	14	14	14	14	15	15	17	20	17	21	21	20	15	20	15	14	15	16	14	15	14
31	15	15	14	14	15	14	18	14	14	16	17	17	18	15	14		20	15	14	14	15	14	14	16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	30	31	29	30	30	31	31	31	31	31	30	31	31	31	31	31	30	31	31
MED	15	15	15	15	15	15	17	15	15	17	18	18	20	17	16	15	16	15	15	15	15	15	15	15
U Q	16	17	16	16	15	16	18	16	16	18	20	20	20	20	18	16	20	16	17	17	16	16	18	16
L Q	15	14	15	14	14	14	15	14	14	15	17	17	17	15	15	14	15	14	14	15	14	15	14	15

HOURLY VALUES OF foF2 AT Kokubunji

OCT. 2004

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	43	36	45	46	44	43	52	65	75	71	72	76	74	78	75	78	81	78	71	48	41	43	45	44
2	41	45	45	44	44	46	63	65	61	69	74	77	75	80	84	77	77	80	72	53	43	A	A	42
3	43	42	43	42	36		52	77	68	80	88	90	86	75	76	76	78	77		A	A	45	44	42
4	37	41	44	47	34	37	51	66	82	77	88	101	80	72	76	71	71	82	76	48	39	44	44	44
5	44	42	42	43		36	52	71	86	73	91	100	90	91	95	84	72	72	66	A	44	44		
6	42		42	45	36		51	66	80	80	82	95	102	88	80	77	78	80	66	43			42	43
7	44		44	41	41	41	66	80	80	77	81	96	90	94	88	78	72	77	63	55	50		38	37
8	38	39	39	A	A	35	59	80	82	76	77	91	88	85	87	82	81	75	71	51		34		36
9	37	26	35	36	36	36	55	75	72	71	61	91	85	74	81	81	70	72	64	A	A			
10	A	39	41	44	43	39	55	78	86	80	72	82	90	88	77	69	76	72	59	37	30	33	38	38
11	36	36	39	42	34	32	52	76	72	80	67	82	90	84	95	92	77	72	62	38	A	A	A	32
12	34	37	38	41	37		58	78	81	77	85	111	120	95	85	78	82	74	57	A	47		46	
13	41	42	43	42	42	41	51	73	77	69	85	106	125	98	80	84	71	73	59	66	54	40		36
14	25	34	36	41	34		54	93	106	96	106	117	94	72	77	82	62	66	A	A	A	54	A	A
15	A		34	35	34	A	55	77	96	86	63	84	81	84	75	69	68	64	53		43	43	34	39
16	41			28		30	47	76	72	76	80	92	81	84	90	80	68	56	36			34	A	34
17			36	34	36	27	42	66	77	74	83	100	101	88	80	84	66	58	47	39		36		32
18	34		36	36	32		45	58	76	81	68	88	98	87	81	80	61	55		A		36	36	36
19	36	36	36	35	26	27	47	65	82	73	71	76	78	84	92	85	80	62	46	38	43	42	41	A
20	42	39		39			47	72	78	77	59	84	78	76	84	74	62	62	58	50	47		53	54
21	55	55	54	51	47	39	52	77	74	93	90	101	94	95	78	75	75	67	64	53	44		42	44
22	44	43	41	41	32		55	76	77	84	86	82	85	88	85	77	72	64	63	43	44	44	42	42
23	44	41	42	42	38	37	60	74	81	84	97	102	102	75	82	84	84	66	48	46	49	46	32	
24	43			47			49	78	75	80	96	98	91	92	84	86	81	77	53	47	49		43	
25	30	39		44	34		52	82	78	86	100	112	118	104	102	97	90	77	A		53	51	49	52
26	42	47	38	A	A	39	62	86	96	85		117	98	95	97	90	76	69	61	64	52		48	48
27	42	38	36	37	36		48	73	82	95	90	88	92	92	84	86	82	57	A	A	41	44		39
28	34	38		39	36	34	49	66	76	82	94	100	102	111	107	85	76	66	49	48	42	36	38	36
29	36	36	36	A	36	30	45	71	88	91	82	91	87	93	95	95	82	71	47	37	A	39		38
30	38		36		27	34	51	78	86	92	100	86	101	116	111	111	87	61	52	53	51	52	49	42
31	30	36	38	28	37	41	54	74	88	101	112	104	88	97	104	111	90	67	49	52	54	53	47	39
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	23	26	27	25	20	31	31	31	31	30	31	31	31	31	31	31	31	26	21	21	21	20	24
MED	41	39	39	41	36	36	52	75	80	80	84	92	90	88	84	82	76	71	59	48	44	43	42	39
U Q	43	42	43	44	39	40	55	78	86	86	91	101	101	95	95	86	81	77	64	53	50	45	46	43
L Q	36	36	36	36	34	33	49	66	75	76	72	84	85	80	80	77	71	64	49	41	42	36	38	36

HOURLY VALUES OF fEs AT Kokubunji

OCT. 2004

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G	G	G	G	G	G	32	G	G	G	G	G	G	G	G	39	50	34	G	G	G	G	G
2	G	G	G	G	G	G		G	G	49	G	G	G	G	G	G	G	43	36	G	35	70	50	G
3	G	G	G	G	G		G	G	48	50	G	G	G	G	G	G	G	52	60	82	72	36	G	G
4	G	G	G	G	G	G	G	43	43	49	63	G	G	G	G	G	G	G	G	G	G	33	33	30
5	30	23	G	G		25	G	32	G	46	G	G	48	43	42	42	31	28	G	52	33	G	25	G
6	G		G	G	G		27	G	G	G	G	G	G	G	G	G	49	55	G	G		28	G	29
7	27	G	G	G	G	G	G	G	G	G	45	40	50	G	G	G	40	46	40	G	44	32	G	G
8	G	G	G	68	52	G	G	35	G	55	G	G	G	G	39	46	40	33	39	23	26	31		G
9	G	G	G	G	G	24	G	G	G	G	G	60	G	G	40	79	37	31	31	68	42	G	42	
10	33	G	G	G	G	G	26	32	G	G	G	G	40	G	G	G	G	28	G	G	G	G	G	G
11	G	G	G	G	G	G	G	G	G	40	45	G	50	46	G	G	43	40	33	37	54	41	60	G
12	G	G	G	G	G	G	G	33	G	G	G	G	G	44	G	37	33	31	G	41	34	35	28	34
13	G	G	G	G	G	G	G	35	G	38	50	G	G	42	41	G	G	33	29	27	27	G	G	G
14	G	G	G	G	G		G	50	41	G	G	G	G	45	G	72		59	88	68	104	G	59	56
15	34	30	G	G	51	59	G	G	44	50	65	40	49		38	35	G	37	33	28	G	G	G	G
16	G	G		G		G	G	G	G	G	G	G	G	G	G	G	G	G	G			G	49	G
17		G	G	G	G	G	G		G	G	G	43	G	G	G	G	G	G	G	G		G	G	G
18	G		G	G	G		G	G	G	G	G	G	G	G	G	G	35	33	31	43	37	G	28	G
19	G	G	G	G	G	G	G	G	G	G	G	G	G	G	42	G	G	G	G	G	G	G	33	46
20	G	G		G			27	94	42	45	G	G	G	G	G	46	41	G	G	G	G		G	31
21	G	G	G	G	G	G	G	G	43	46	G	G	G	G	G	G	35	34	35	31	29		26	29
22	27	G	G	G	G	G	G	G	G	G	G	G	G	G	G	45	G	G	G	G	G	29	25	26
23	G	G	G	G	G	G	G	G	39	G	G	41	G	G	39	43	39	31	33	33	32	G	G	
24	G	39	34	36			G	35	34	42	40	G	40	50	G	G	46	40	44	40	40	41	25	23
25	G	G		G	G	G	G	G	47	47	84	45	G	52	47	G	34	42	81	50	G	G	G	G
26	28	26	G	34	30	24	26	34	45	39	41	G	G	57	37	40	48	46	30	35	33	28	28	G
27	G	26	G	G	G	G	G	G	G	G	G	G	G	G	G	G	61	G	59	45	35	25	39	G
28	G	G	G	G	G	G	G	G	40	44	46	G	45	G	40	G	G	G	G	G	G	G	25	G
29	G	G	G	35	G	G	G	G	G	G	G	G	G	G	G	45	43	43	G	34	40	29	29	G
30	G		G	G	G	G	G	G	41	G	43	G	G	G	G	42	40	G	33	G	31	31	29	G
31	G	G	G	G	G	G	G	36	43	78	61	42	44	43	G	G	31	22	G	36	G	G	G	23
	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	28	28	31	27	25	30	30	31	31	31	31	31	30	31	31	30	31	31	30	28	29	30	29
MED	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	34	33	31	30	32	G	25	G
U Q	G	G	G	G	G	G	G	34	42	46	45	G	40	43	39	42	40	43	36	41	38	31	33	27
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Kokubunji

OCT. 2004

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	21	13	14	20	14	14	13	14	22	23	44	42	42	38	37	21	14	14	14	18	15	14	15
2	14	14	14	18	13	13	14	26	18	30	42	42	44	42	42	35	37	14	15	15	13	15	13	21
3	23	21	15	20	20		23	29	23	26	40	25	43	40	40	40	15	13	14	22	18	13	13	17
4	21	17	22	21	22	17	21	13	14	14	15	43	21	21	43	33	26	20	14	15	15	22	15	14
5	14	14	22	13		13	22	15	15	28	47	40	24	26	21	22	14	21	15	13	14	13	17	20
6	18		22	13	14		14	13	14	22	45	40	44	39	38	36	13	14	18	22		17	22	14
7	14	24	20	14	13	13	20	21	31	23	24	43	21	40	39	31	20	13	14	17	14	14	14	22
8	14	26	17	13	14	13	20	13	14	15	38	40	40	38	38	22	15	14	14	14	23	14		17
9	18	21	20	18	20	15	22	15	18	37	41	29	42		24	22	17	13	14	14	14	24	14	
10	14	22	23	17	13	14	15	14	17	21	41	44	21	38	34	34	14	14	21	15	18	14	14	14
11	14	15	15	13	13	18	20	28	29	34	31	45	37	33	38	20	22	14	14	13	14	14	15	17
12	15	18	22	14	20	18	17	17	20	35	40	20	37	26	34	13	15	14	17	14	14	13	14	13
13	21	18	21	18	17	14	18	13	21	24	23	42	26	24	20	31	28	13	13	15	14	14	14	14
14	15	14	14	14	20		17	15	18	20	39	40	42	26	39	18	18	17	21	17	17	14	14	14
15	15	14	20	17	20	14	13	24	20	15	17	20	21	14	17	14	18	14	14	14	22	21	18	14
16	18	23		17		15	20	22	30	13	40	41	40	39	38	29	25	22	21			26	13	20
17		25	17	13	13	18	20	18	21	33	28	31	40	39	38	30	23	24	20	14		17	20	14
18	20		14	15	14		17	25	17	18	35	36	43	40	33	28	17	14	15	14	14	13	18	17
19	20	14	14	14	15	21	18	14	31	33	40	41	41	18	20	33	23	17	14	18	26	21	13	20
20	18	23		21			13	14	14	14	36	42	38	39	40	18	15	24	18	13	14		13	20
21	25	17	14	13	22	14	18	13	18	22	38	23	51	34	36	23	21	15	13	13	14		14	13
22	17	22	22	21	13	23	18	14	30	21	34	38	43	40	23	13	26	23	22	21	17	13	14	14
23	14	14	15	17	13	17	18	14	25	20	41	42	25	22	22	20	14	13	13	14	13	14	20	
24	14	14	13	17			18	14	15	21	22	40	20	20	18	28	14	13	17	14	14	14	15	15
25	20	14		17	21	23	20	14	14	26	34	31	42	34	30	17	14	15	13	13	14	20	15	14
26	13	13	14	13	15	14	17	14	17	22	17	39	39	25	26	14	14	14	28	18	14	14	13	17
27	15	14	21	20	13	24	17	22	15	18	37	38	43	34	35	20	14	17	15	14	13	14	14	13
28	17	17	21	14	21	14	14	24	14	23	24	24	26	24	21	22	15	15	14	18	14	22	14	20
29	14	20	14	13	17	18	17	24	18	41	28	28	39	40	39	18	14	15	21	14	14	14	13	15
30	14		20	25	13	15	17	14	18	40	28	38	40	39	33	28	18	15	14	20	13	14	13	14
31	20	20	18	18	22	14	20	20	13	25	30	28	23	24	24	21	14	14	20	14	21	15	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	28	28	31	27	25	31	31	31	31	31	31	31	30	31	31	31	31	31	30	28	29	30	29
MED	15	18	18	17	15	15	18	15	18	22	35	40	40	34	34	22	17	14	15	14	14	14	14	15
U Q	20	21	21	18	20	18	20	22	21	30	40	42	42	39	38	31	22	17	20	17	17	18	15	18
L Q	14	14	14	13	13	14	17	14	14	20	24	29	25	24	23	18	14	14	14	14	14	14	13	14

HOURLY VALUES OF foF2 AT Yamakawa

OCT. 2004

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	36	37	36	37	34	36	41	60	65	75	61	72	77	79	86	84	81	81	81	66	A	28	36	32
2	36	37	37	36	36	37	46	60	70	68	66	71	80	81	85	86	82	96	81	63	36		36	32
3	34	A	37	34	37	31	36	61	68	73	81	112	101	87	81	81	82	84	81	57	48	50	A	38
4		44	42	37	29		35	66	80		80	86	87	83	84	80	76	82	81	55	35			37
5	36	36	37	37	36	32		70	84	80	77	85	96		100	97	78	81	77	66	36	38	A	37
6	36	36	36	37	29		34	64		82	81		101	98	98	80	82	72	75	36		36	37	32
7	37	36	36	40	36	37	38	71	84	82	82	82	100	107	102	88	81	82	80	66	43	38	36	42
8	37	37	37	36	37	34	42	66	76	81	83	85	109	114	111	111	98	83	72	54		36	35	36
9	44	43	37	37	37		34	61	80	78	80	81	112	82	82	83	81	76	68	32	A	A	34	36
10	37	37	38	37	36	36	38	67	66	82	78	80	86	88	87	84	81	80	66	A		38	34	37
11	36		32	43	30	29	36	59	66	84	78	70	84	98	110	92	80	84	71	50	A	32	A	
12	A	A	37	37			34	65	80	78	81	80	124	102	110	114	102	84	66	35	A	A	37	37
13	36	36		35	38	37	30	53	80	76	80		125	121	109	86	80	82	78	73	53	42	42	36
14	34	32	36	46			36	72	100	99	99	90		85	80	80	80	75	78	65	63	54	37	A
15	A	36	36	36	36	37	37	68	82	97	83	90	100	92	98	82	76	72	78	64	50	52	37	36
16	34	37	34	29	29		33	68	81	80	80	84	100	84		98	82	66	40	37	32	34	34	29
17	34	36	37	40	37			54	67	74	82		100	97	112	98	78	61	54	37	A	A	A	
18	34	34	37	36	30		28	52	64	74	79	81	85	86	98	97	75	65	56	A	A	A	A	30
19	35	37	A	A	26	28	32	66	74	77	80	80	78	101	114	97	85	68	54	34	37	36	A	36
20	34	A	A		36		36	68	80	70	78	82	92	84	84	86	72	67	61	48	37			A
21	34	37	41	38	36	34	37	68	84	84	86	98	98	98	100	80	76	75	72	54		A	42	37
22		37	36	34	30	31	36	64	76	81	82	84	84	92	94	84	78	74	66	57	47	53		
23	36	37	36	38	37	32	36	66	80	81	98	111	100	112	98	88	82	77	64	53	54	53	54	42
24	37	37	A	37	34	A		68	73	75	91	109	100	90	97	84	84	80	75		53	33	A	37
25	36	44	43	46	32	26	34	76	72	77	99	111	116	122	113	110	88	80	76	54	52	37	52	36
26	37	50	36			32	37	72	82	86	114	126	100		111	98	81	78	78	64	66	54	52	52
27	37	37	34	A			32	62	76	83	98	107	98	98	111	100	81	75	62	52	44	A	A	
28	36	A		31	36	30	36	64		75	86	86	99	111	114	114	98	81	75	62	38	43	36	37
29			34	36	38		32	66	77	81	81	112	95	110	112	121	87	84	66	37	36	34		37
30	37	A			38	29	36	63	77	81	86	81	99	113		112	99	82	64	54	54	A	50	A
31	A	A	A	32	36	36	38	66	83	87	120	96	86	103	128	114	100	85	78	74		78	64	37
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	23	24	26	27	19	28	31	29	30	31	28	30	29	29	31	31	31	31	28	20	21	19	24
MED	36	37	36	37	36	32	36	66	77	80	81	85	99	98	100	88	81	80	72	54	46	38	37	37
U Q	37	37	37	38	37	36	37	68	81	82	86	102	100	108	111	100	85	82	78	64	53	52	50	37
L Q	34	36	36	36	30	30	34	61	71	75	80	81	86	85	86	84	78	74	64	42	36	35	36	36

HOURLY VALUES OF fEs AT Yamakawa

OCT. 2004

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	29	27	G	29	42	45	G	44	G	44	40	G	41	52	72	64	28	G	G	G
2	G	G	G	G	G	G	G		G	G	G	G	41	G	G	G	G	G	G	28	29	G	G	G
3	28	38	G	G	G	G	G	33	40	44	40	50	G	G	G	G	G	30	26	G	27	28	43	27
4	29	G	29	G	G	G	G	32	G		G	G	43	43	G	G	G	G	G	33	34	43	40	41
5	39	G	32	30	28	G		G	36	41	G	G	G		40	G	G	44	29	40	36	G	41	25
6	27	G	G	G	G	G	G	31		G	43	G	G	G	G	G	G	33	50	42	26	28	25	G
7	G	G	G	G	G	G	G	G	36	G	G	G	G	G	G	G	G	G	28	32	60	28	G	G
8	G	G	G	G	G	G	G	29	39	G	40	G	42	40	G	G	38	34	34	26		G	G	33
9	G	G	G	G	G	G	G	34	34	G	G	42	G	G	G	38	49	61	40	36	42	70	G	33
10	29	G	G	G	G	G	G	G	G	G	G		G	G	G	G	G	34	34	60		26	G	G
11	G		G	G	G	G	G	32	38	44	44	40	G	72	42	G	43	32	G	43	72	25	40	28
12	36	37	G	G	G	G	G		37	44	G	G	43	42	G	38	40	33	49		40	50	26	G
13	G	G	G	G	G	G	G		G	G	41		G	G	G	49	G	G	G	G	26	G	G	G
14	G	G	G	G	G		G	31		G	40	G		G	G	44	43	86		86	50	60	30	68
15	59	32	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	26	G	G	G	G	G
16	29	34	32	G	G		G	G	G	G	G	G	40	G		G	37	G	G	G	G	G	G	G
17	G	G	G	G	G	G	G	G	G	40	G		G		41	G	35	G	39	35	36	30	29	28
18	G	G	G	G	G		G		G	G	G	G	G	48	39	38	36	33	42	43	72	71	47	G
19	G	25	40	34	G	G	G	34	44	44	G	G	G	41	G	G	G	44	G	G	G	G	43	42
20	32	38	35	34	32	29	G	G	G	62	49	G	G	G	G	46	57	62	34	G	G	35	39	29
21	G	25	G	G	G	G	G	G	36	44	G	73	44	44	G	G	42	38	28	26	36	34	G	G
22		G	G	G	G	G	G	G	34	G	G	G	G	G	49	44	41	G	G	G	G	G	34	34
23	G	G	G	G	G	G	G	36	G	41	44	G	52	G	49	40	37	39	41	43	35	29	G	G
24	G	G	32	G	G	29	29	30	35	G	40	G	40	65	59	39	42	38	G	43	43	41	57	G
25	G	G	G	G	G	G	G	31	G	40	G	G	G	50	50	47	44	35	G	39	36	39	G	G
26	G	31	G			G	G	G	35	G	G	40	G		51	51	39	28	G	36	G	27	G	G
27	G	G	G	43	G	G	G	27	G	42	44	44	G	G	39	50	44	47	44	39	32	44	40	35
28	31	40		G	G	G	G	26	G	44	G	G	G	G	G	G	G	G	G	G	G	G	24	G
29		29	G	G	G	G	G	G	G	43	44	G	40	G	G	51	43	G	G	G	26	36	29	G
30	32	40	30	27	G	G	G	30	38	43	60	40	G	40		G	G	30	35	25	26	29	58	40
31	38	45	41	26	G	G	G	29	40	40	G	G	G	G	G	G	G	G	G	G	G	G	G	24
	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	30	30	30	30	28	30	27	29	30	31	28	30	28	29	31	31	31	30	30	29	31	31	31
MED	G	G	G	G	G	G	G	29	34	40	G	G	G	G	G	G	37	33	27	32	29	28	25	G
U Q	30	32	29	G	G	G	G	31	37	44	41	40	40	42	40	44	42	39	39	42	38	39	40	33
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 Yamakawa

OCT. 2004

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	18	15	15	14	17	14	14	15	18	21	34	51	23	21	18	16	15	18	15	16	16	17	20
2	18	20	18	16	17	16	15	18	18	24	26	49	20	21	16	21	18	18	17	15	15	16	17	17
3	14	16	17	21	14	17	15	16	16	20	26	32	27	26	26	18	14	15	17	15	17	15	14	16
4	15	16	16	17	15	21	15	17	20		20	20	20	18	16	15	14	14	18	15	17	15	17	15
5	14	17	15	16	14	18		20	15	24	45	28	27		28	20	18	15	14	15	15	15	14	15
6	15	17	15	15	15	18	15	17	14	18	20			54	45	23	16	15	15	15	16	15	16	15
7	15	15	16	17	15	15	15	15	14	16	18	22			16	23	16	16	15	15	14	17	17	17
8	15	18	18	16	15	15	14	15	21	17	20	46	18		23	21	17	17	15	15		16	21	15
9	17	16	16	15	17	17	15	15	15	17	20	20	21	45	43	17	15	14	14	14	15	15	16	15
10	15	15	15	15	15	15	15	14	17	15	20	46		29	27	21	15	15	15	15		15	18	16
11	15		15	16	17	16	15	14	17	29	21	23	50	32	30	24	20	15	17	15	17	16	14	14
12	15	14	15	16	15	20	15	14	15	18	17	27	27	21	22	20	16	15	14	14	14	14	14	15
13	15	15	16	15	16	15	17	22	15	18	18		24	44	23	21	20	15	15	17	15	15	17	16
14	17	18	20	16	15		16	15	16	18	22	45		48	41	30	22	16	17	15	17	14	14	15
15	15	14	15	15	15	14	15	22	16	18	21	45	44	38	23	21	17	23	16	16	16	15	17	16
16	15	15	15	18	15		15	21	15	15	18	28	28	44		34	18	15	15	15	18	15	15	17
17	15	14	15	15	15	15	18	14	15	17	21		23	46	22	20	20	20	14	15	15	14	15	15
18	16	15	16	17	18		15	16	15	16	22	23	20	15	16	16	14	14	14	17	17	14	15	15
19	15	17	14	15	15	14	15	15	16	20	23	44	50	44	40	23	17	14	15	17	21	16	15	16
20	15	15	15	15	14	16	15	22	30	20	22	23	48	49	23	21	17	14	16	17	16	15	15	16
21	20	17	18	15	15	20	15	22	14	17	28	22	18	20	34	21	21	15	14	15	14	14	15	15
22		16	17	17	18	17	15	20	15	18	18	21	44	46	33	29	18	22	16	16	17	15	14	14
23	15	15	22	20	14	15	15	22	17	21	21	28	29	28	21	20	18	15	15	16	16	15	15	15
24	15	15	16	15	17	16	15	14	14	17		27	22	23	23	21	28	17	17	16	17	15	15	17
25	17	16	17	15	15	18	15	23	17	32	20	29	51	34	29	20	17	14	16	16	14	14	22	20
26	18	14	16			21	17	27	16	18	20	23	33		26	18	17	17	17	15	22	16	17	16
27	17	18	17	16	17	17	15	16	16	17	21	21	28	28	24	21	18	15	15	16	15	14	15	15
28	15	15		15	15	15	15	14	17	18	22	32	29	46	24	21	20	22	17	17	15	15	16	15
29		17	15	16	18	18	15	22	14	18	21	23	27	27	22	21	18	22	17	16	15	15	15	16
30	15	15	15	16	15	18	16	15	16	23	22	26	45	23		22	18	15	15	16	17	16	15	15
31	15	16	15	23	18	17	18	15	15	23	21	20	27	48	53	23	16	21	16	18	15	14	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	30	30	30	30	28	30	31	31	30	30	28	27	27	29	31	31	31	31	31	29	31	31	31
MED	15	16	16	16	15	17	15	16	16	18	21	27	27	32	24	21	17	15	15	15	16	15	15	15
U Q	16	17	17	17	17	18	15	22	17	20	22	33	44	46	31	23	18	17	17	16	17	16	17	16
L Q	15	15	15	15	15	15	15	15	15	17	20	22	22	23	22	20	16	15	15	15	15	14	15	15

HOURLY VALUES OF foF2 AT Okinawa

OCT. 2004

LAT. 26°40.5'N LON. 128°09.2'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	44	37	44	43	43	37	32	59	66	70	65	67	81	95	115	111	107	102	97	85	A	A	51	52
2	37	44	45	45	47	40	32	58	73	72	74	84	108	126	131	134	125	123	110	87	61	52	42	
3	43	54	38	37	41	32	30	64	73	72	86	90	116	115	116	117	110	110	90	66	61	51	54	50
4	52	47	50	30	32	34	36	66	82	94	88	100	94	105	125	118	114	109	108	88	71	64	63	
5		50	50	43		34	34	66	96	82	80	88	108	120	132	124	108	101	88	88	80	82	77	54
6	53	52	52	52	32			70	77	76	87	88	106	131	143	134	107	82	80	66	44	42	44	44
7	43	41	44	44	34	34	37	75	78	87	98	108	140	147	148	136	123	121	96	76	51	48	50	46
8	52	54	48	47	34		32	64	74	84	100	116	143	145	151	171	151	126	80	72	66	63	53	53
9	52	51	50	40	40		31	62	81	75	96	87	100	114	117	107	98	85	75	55	54	47	A	51
10	45	40	43	38	34	32	37	65	66	84	87	88	112	104	112	111	96	95	81	66	44	43	42	43
11	42	36	36	40	30	B		58	75	81	100	90	95	115	118	112	104	95	84	60			A	A
12	37	36	42	42				61	87	90	106	117	132	146	152	150	131	116	87	54	A	53	42	53
13	51	47	40	44	45			54	75	76	90	117	138	146	157	145	126	132	120	88	81	63	60	52
14	49	55	44	51	38	32	38	66	98	101	116	112	122	116	102	90	86	84	74	78	58	48		A
15	34	A	36	38	36	40	32	66	81	102	108	111	122	131	142	131	112	98	108	108		63	53	50
16	37	42	34	26				62	87	84	98	108	111	108	130	127	105	84	66	52		42	37	34
17	31	34	40	44				48	74	85	97	118	126	128	147	175	145	109	77	66	62	53	40	38
18	37	36	34	40				58	68	77	87	107	111	129	145	148	131	118	96	62	52	A	A	A
19	A	38	36	32	30		26	60	66		90	88	102	115	138	123	95	91	78	66	52	66	A	52
20	42	34	38	38	32	30	34	66	80	76	76	97	100	98	110	105	88	80	88	A	A	60	52	48
21	48	42	41	52		29	34	65	87	90	108	111	110	130	131	126	102	100	87	86	71	54	66	66
22	54	50	51	34	29	29	30	64	86	90	92	92	87	105	110	108	91	91	82	77	76		76	52
23	53	51	38	43	36	32	29	59	81	101	108	124	125	143	145	138	109	108	88	88	87	88	74	54
24	47	39	46	46		A		61	77	84	101	115	117	125	127	114	111	102	87	88	87	88	86	76
25	52	54	55	41	28		30	72	72	77	114	132	131	150	146	136	120	116	110	89	87	73	64	54
26	52	51	47	32		29	34	63	82	102	130	138	137	143	145	144	130	121	108	121	108	109	108	87
27	76	60	42	40	36			62	86	97	113	121	124	131	148	134	110	101	87	82	65	72	52	52
28	43	36	32	35	34	32	34	61	74	88	98	110	107	122	141	145	134	131	123	105	88	87	64	
29	62	52	52	51	34	30	31	64	82	80	92	100	114	128	141	148	144	120	106	101	104		88	64
30	41	41	32	36	38		31	68	81	85	101	108	111	128	134	142	135	107	88	86	88	88	60	41
31			30	32	34	36	35	63	94	96	121	128	106	131	147	157	145	144	146	144	148	146	101	74
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	29	31	31	23	17	22	31	31	30	31	31	31	31	31	31	31	31	31	30	25	26	26	25
MED	46	44	42	40	34	32	32	63	80	84	98	108	111	128	138	134	111	107	88	84	71	63	57	52
U Q	52	51	48	44	38	35	34	66	86	90	108	117	125	131	146	145	131	120	108	88	87	82	74	54
L Q	41	37	36	36	32	30	31	60	74	77	87	90	106	115	118	114	104	95	81	66	56	51	50	47

HOURLY VALUES OF fEs AT Okinawa

OCT. 2004

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

H / D	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	27	35	35	44	G	57	44	G	G	42	43	41	29	70	86	40	32	G
2	G	G	G	G	G	G	G	33	61	72	G	G		44	G	G	G	34	G	27	28	32	32	28
3	G	G	G	G	G	G	G	33	46	50	45	G	G	50	44	G	36	35	G	G	43	26	38	44
4	32	28	G	25	G	G	G	30	40	G	G	46	50	G	46	45	42	39	29	27	28	28	35	40
5	40	26	36	28	26	G	G	36	34	42	G	G	G	G	46	G	48	61	53	32	G	G	G	28
6	G	G	G	G	G		G		G	41	G		G	G	G	G	52	113	30	G	23	30	G	G
7	32	30	G	G	G	G	G	G	35	G	G	G			G	G	G	38	45	44	50	39	39	G
8	G	G	G	G	G		G	40	37	38	N	G	43	G	G	G	G	34	G	32	24	G	G	G
9	G	G	G	G	G		G	G	G	G	G	G	G	G	G	G	68	60	54	42	35		59	28
10	32	34	G	G	G	G	G	27	G	G	G	45	G	48	46	G	G	G	33	24	G	26	G	G
11	G	G	G	G	G	B	G	G	36	42	50	42	49	42	46	61	62	54	44	45	36	30	45	43
12	G	32	36	G	G		G	29	38	46	47	48	G	43	G	48	44	54	78	56	72	44	28	29
13	G	G	G	G	G	G	G	G	G	41	44	58	47	G	G	48	36	34	26	G	G	G	G	G
14	G	G	24	24	G	G	25	33	40	43	54	G	G	G	G	G	55	88	79	40	29	29	40	82
15	32	43	37	31	27	G	G	G	39	G	G	G	G	G	G	G	36	G	34	40	79	40	28	G
16	24	G	G	25	24		G	27	G	G	G	G	G	G	G	G	38	G	G	G		G	G	G
17	G	G	G	G	27		G	35	G	G	42	G	G	G	G	49	G	G	35	G	G	28	25	G
18	26	26	24	G			G	36	35	59	49	G	46	42	55	40	42	36	35	24	G	58	57	60
19	72	29	G	G	G		G	29	51		44	41	G	G	42	42	35	35	28	30	35	48	89	40
20	G	G	25	28	G	G	26	34	N	G	N	G	43	53	57	52	48	76	106	93	53	42	30	33
21	30	28	G	G		G	G	27	G	G	G	G	G	G	42	G	40	45	36	32	G	G	39	39
22	27	27	G	G	G	G	G	G	G	G	G	G	G	G	50	47	38	34	25	36	36	34	28	G
23	G	G	G	G	G	G	G	30	35	43	G	46	42	51	G	42	41	43	37	35	29	G	G	G
24	G	G	G	G	31	29	24	G	38	G	G	42	G	52	G	G	G	G	G	G	G	G	G	G
25	G	G	G	G	G	57	G	26	G	G	49	G	G	G	G	52	55	54	78	46	47	G	G	G
26	26	G	G	G	G	G	G	G	40	44	G	G	G	G	G	44	41	36	32	34	G	G	G	G
27	G	G	G	G	G	G	34	30	39	47	50	46	47	G	54	45	G	G	G	26	G	G	G	29
28	G	G	G	G	G	G	G	G	37	44	45	G	G	G	G	G	G	G	36	G	G	G	G	G
29	G	G	G	G	G	G	G	G	36	41	46	40	G	49	G	39	39	34	26	G	G	28	G	G
30	G	G	G	30	28		G	G	G	G	59	68	73	56	49	G	G	G	G	G	G	G	G	G
31		G	G	G	G	43	28	33	35	38	G	G	G	G	G	G	G	G	G	G	G	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	31	29	21	31	30	30	30	29	30	29	30	31	31	31	31	31	31	30	30	31	31
MED	G	G	G	G	G	G	G	28	35	40	G	G	G	G	G	G	38	35	32	30	26	27	25	G
U Q	27	27	G	G	G	G	G	33	39	44	46	45	43	44	46	45	44	54	44	40	36	34	38	33
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 Okinawa

OCT. 2004

LAT. 26°40.5'N LON. 128°09.2'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	15	17	15	15	14	14	14	14	14	15	23	23	24	23	23	21	15	14	14	14	14	14	14	14
2	15	15	15	14	14	15	14	14	14	14	24	18	28		15	14	14	15	16	14	14	14	15	14
3	15	15	15	14	15	15	14	14	14	17	23	23	27	26	18	17	14	15	15	14	14	14	14	14
4	14	14	15	14	15	14	15	14	14	14	22	33	23	15	15	21	14	14	14	14	14	14	14	14
5	14	14	14	15	14	15	15	14	14	14	23	24	34	23	22	20	17	14	14	14	15	15	14	14
6	14	15	14	14	14		15	14	14	14	20		40	27	26	16	15	14	14	14	14	14	15	15
7	14	14	15	14	14	14	15	14	14	15	18	21	23	22	23	17	14	14	14	14	14	14	14	15
8	14	15	14	15	17		14	14	17	18	23	18	22	20	18	14	14	14	16	14	14	15	15	15
9	14	15	15	14	14		15	14	14	15	18	17	20	21	20	21	18	14	14	14	14	14	14	14
10	14	14	15	14	15	14	15	14	14	16	26	17	18	27	27	14	18	15	14	15	15	14	15	14
11	15	14	15	14	16	B	15	14	14	17	20	21	22	22	21	17	16	14	14	14	14	14	14	14
12	15	14	14	14	14		15	14	14	15	16	27	27	29	22	18	14	14	14	14	14	14	14	14
13	15	15	15	14	14	14	15	14	14	15	21	18	20	39	18	15	14	14	14	15	15	14	15	14
14	15	14	16	14	14	14	15	14	14	18	21	22	22	21	22	22	18	15	17	15	14	14	14	15
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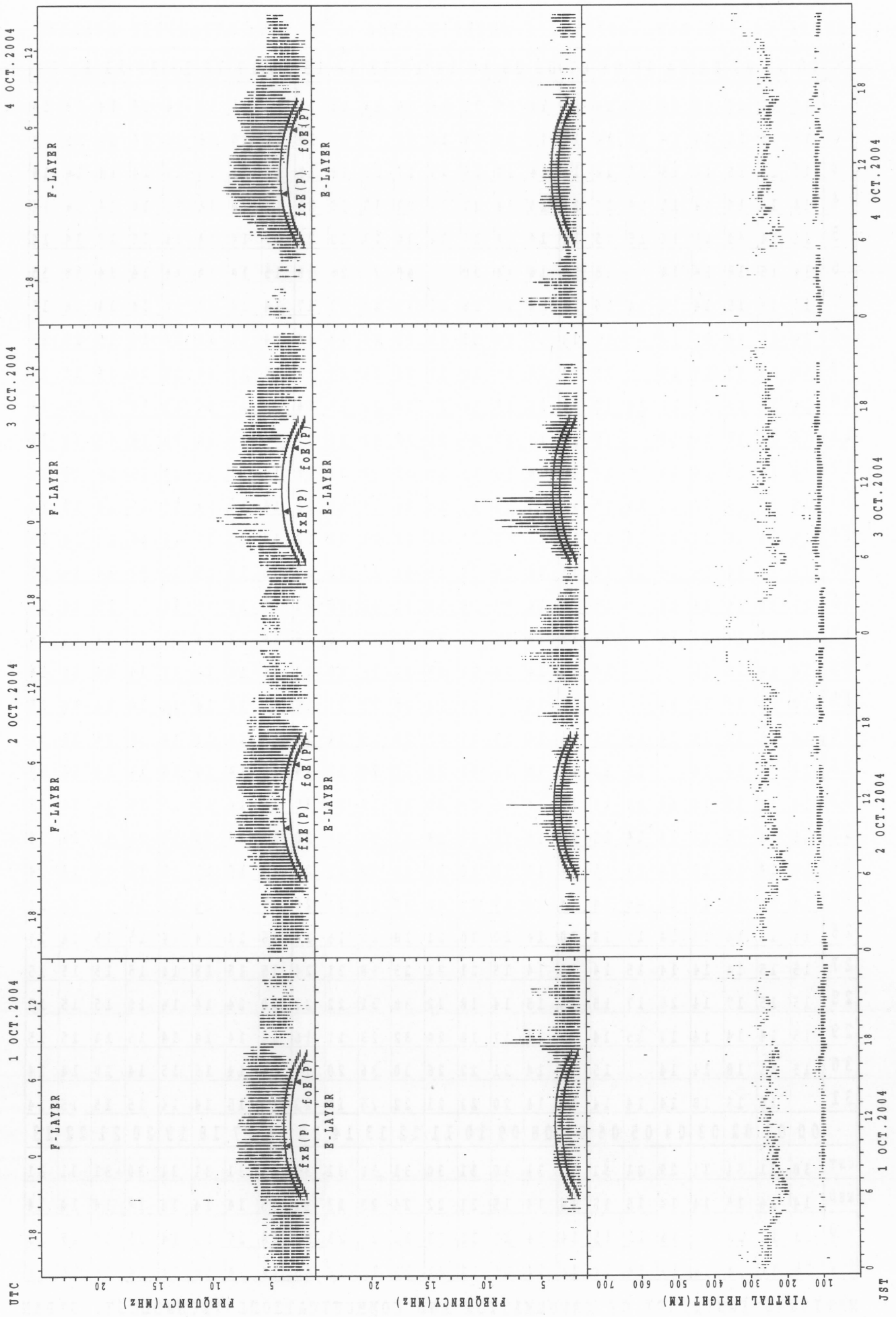
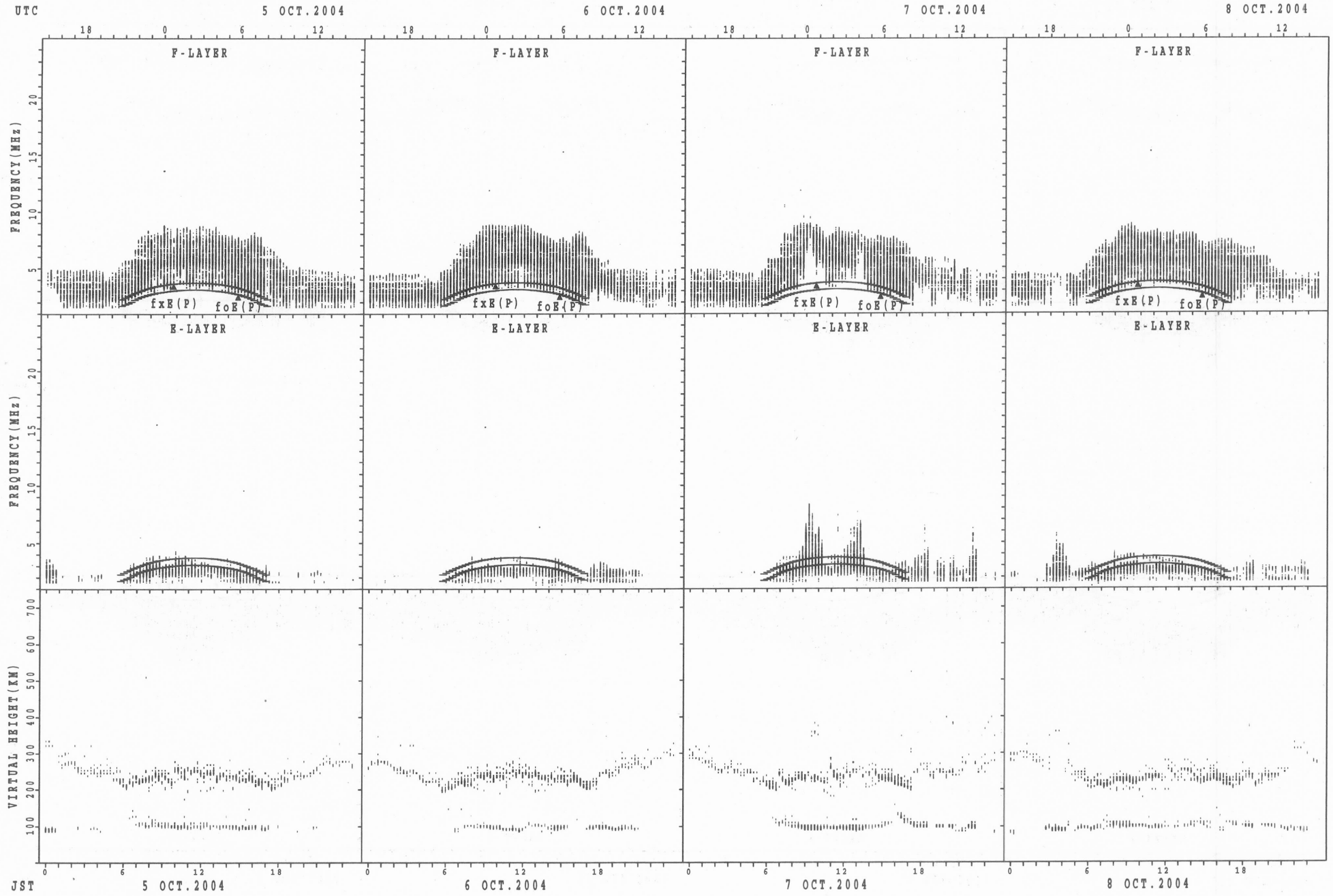
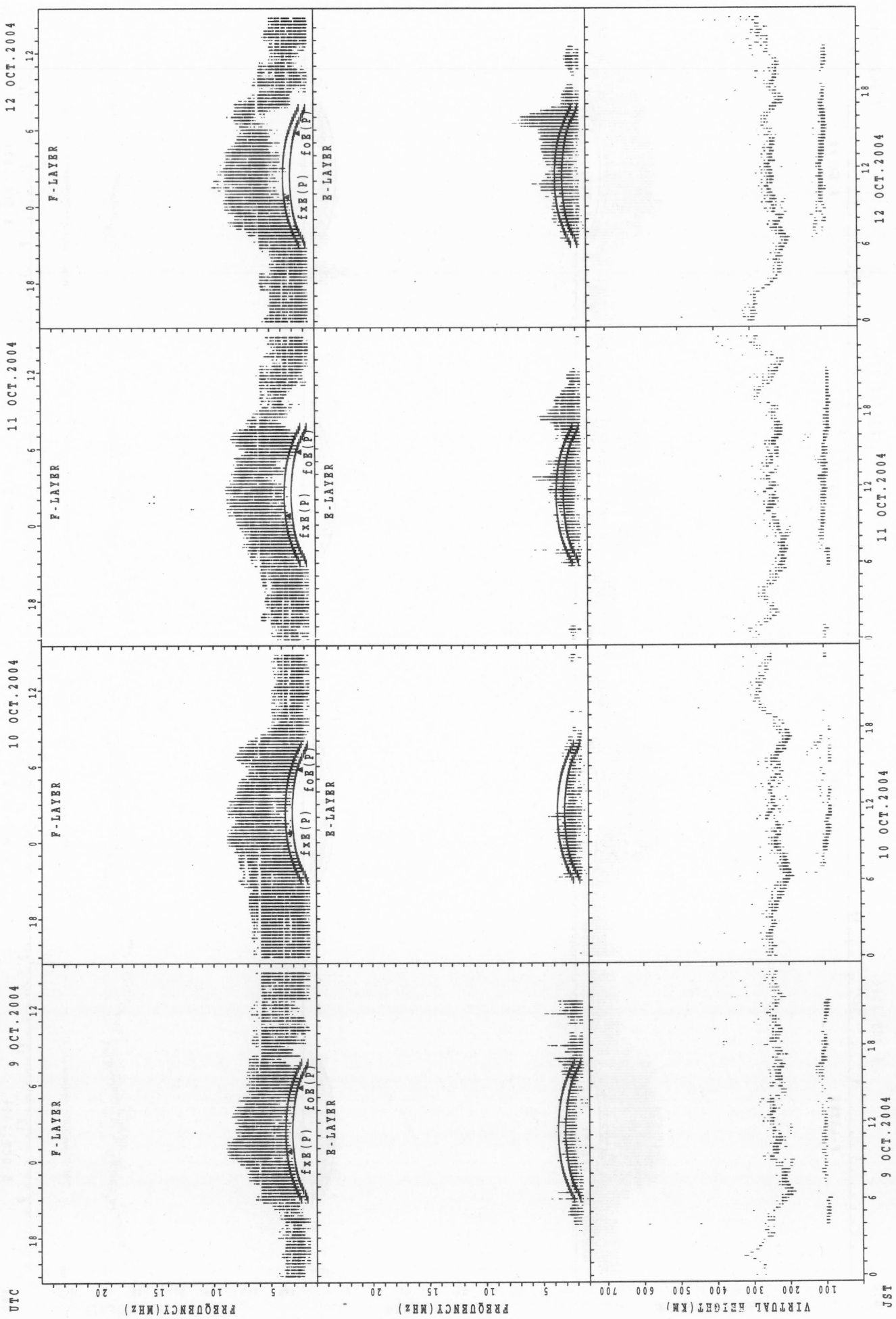
16	17	14	14	14	14		15	14	14	14	14	34	31	42	28	22	15	14	15	14		15	14	14
17	15	15	14	14	14		18	15	14	14	20	22	22	23	20	18	14	14	14	14	17	14	15	16
18	14	14	15	15			15	15	14	14	21	23	22	24	20	14	14	14	14	17	14	14	14	14
19	14	14	14	16	14		14	14	14		17	21	26	22	21	16	14	14	14	14	14	14	14	15
20	14	15	15	14	14	15	15	14	14	23	21	23	29	18	14	14	14	14	14	14	14	15	14	14
21	14	14	14	14		15	14	14	14	16	22	21	21	20	17	14	20	14	14	14	14	14	14	14
22	14	14	15	18	14	15	15	15	14	15	20	20	21	18	21	30	15	14	14	14	15	14	14	15
23	16	14	15	15	14	14	15	14	14	16	20	23	33	22	24	20	21	15	15	14	14	15	16	15
24	15	14	15	15	14	14	15	14	14	15	18	22	40	22	21	22	18	15	15	15	14	14	14	14
25	14	15	14	14	14	49	14	14	14	17	23	42	47	23	34	20	17	14	14	14	14	15	15	14
26	14	15	14	15	14	17	14	20	14	20	20	21	18	23	26	16	16	14	14	14	15	15	14	14
27	15	15	14	14	14	15	14	14	14	15	21	21	23	38	21	24	15	15	15	14	15	15	15	15
28	15	15	17	14	20	17	15	15	15	14	18	22	38	31	22	21	20	24	14	14	18	15	15	15
29	15	14	14	14	14	15	14	14	14	17	18	24	32	23	21	16	14	14	14	14	15	14	15	15
30	15	15	18	14	14		15	16	14	21	22	26	30	36	20	17	30	14	15	15	14	20	14	14
31		15	15	18	14	14	14	14	14	20	22	21	22	20	16	22	18	15	14	14	15	15	15	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	31	29	21	31	31	31	30	31	30	31	30	31	31	31	31	31	31	30	31	31	31
MED	14	14	15	14	14	15	15	14	14	15	21	22	24	23	21	18	15	14	14	14	14	14	14	14
U Q	15	15	15	15	14	15	15	14	14	17	22	23	32	27	23	21	18	15	15	14	15	15	15	15
L Q	14	14	14	14	14	14	14	14	14	14	18	21	22	21	18	16	14	14	14	14	14	14	14	14


SUMMARY PLOTS AT Wakkanai
1 OCT.2004
2 OCT.2004
3 OCT.2004
4 OCT.2004
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
UTC
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

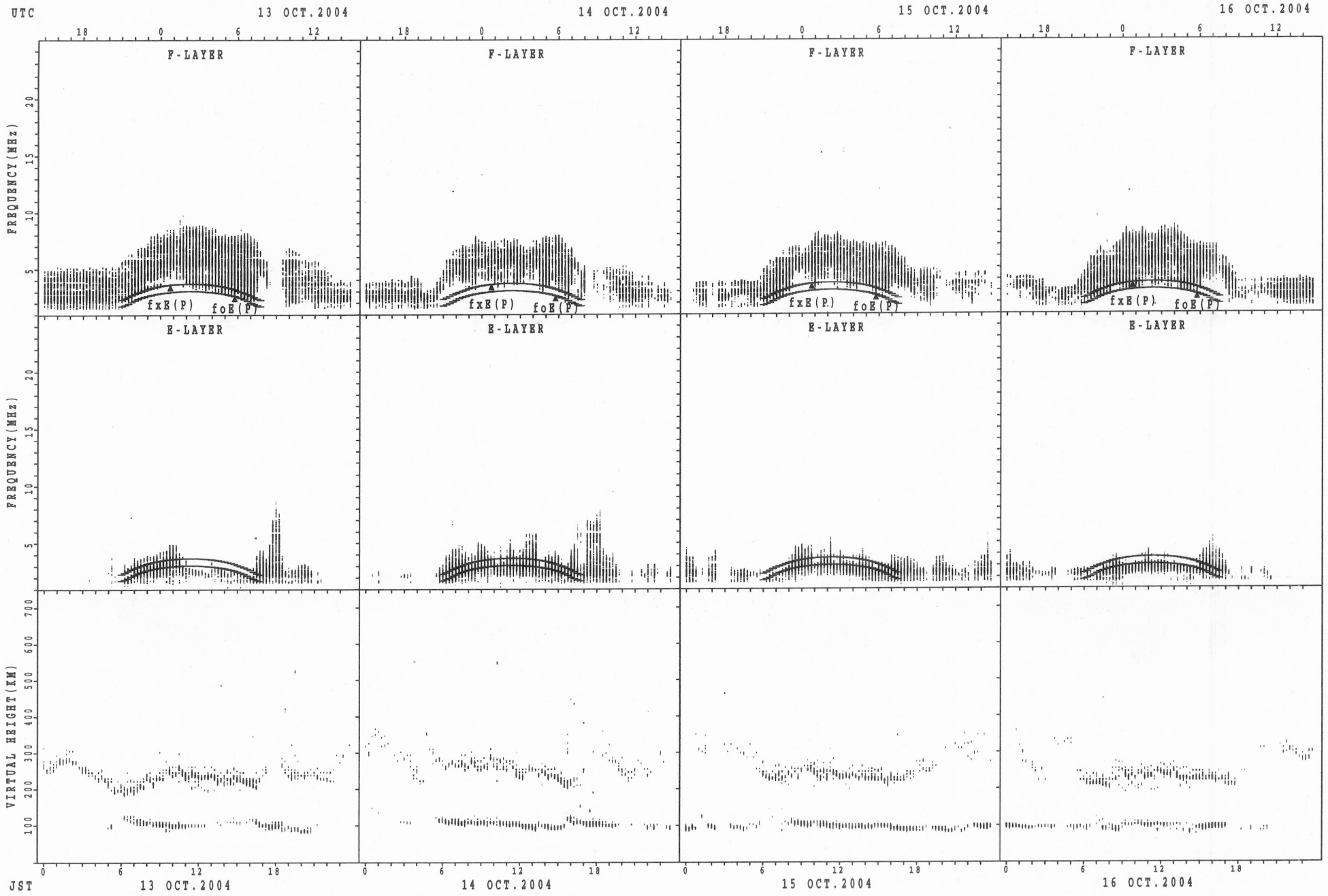
SUMMARY PLOTS AT Wakkanai



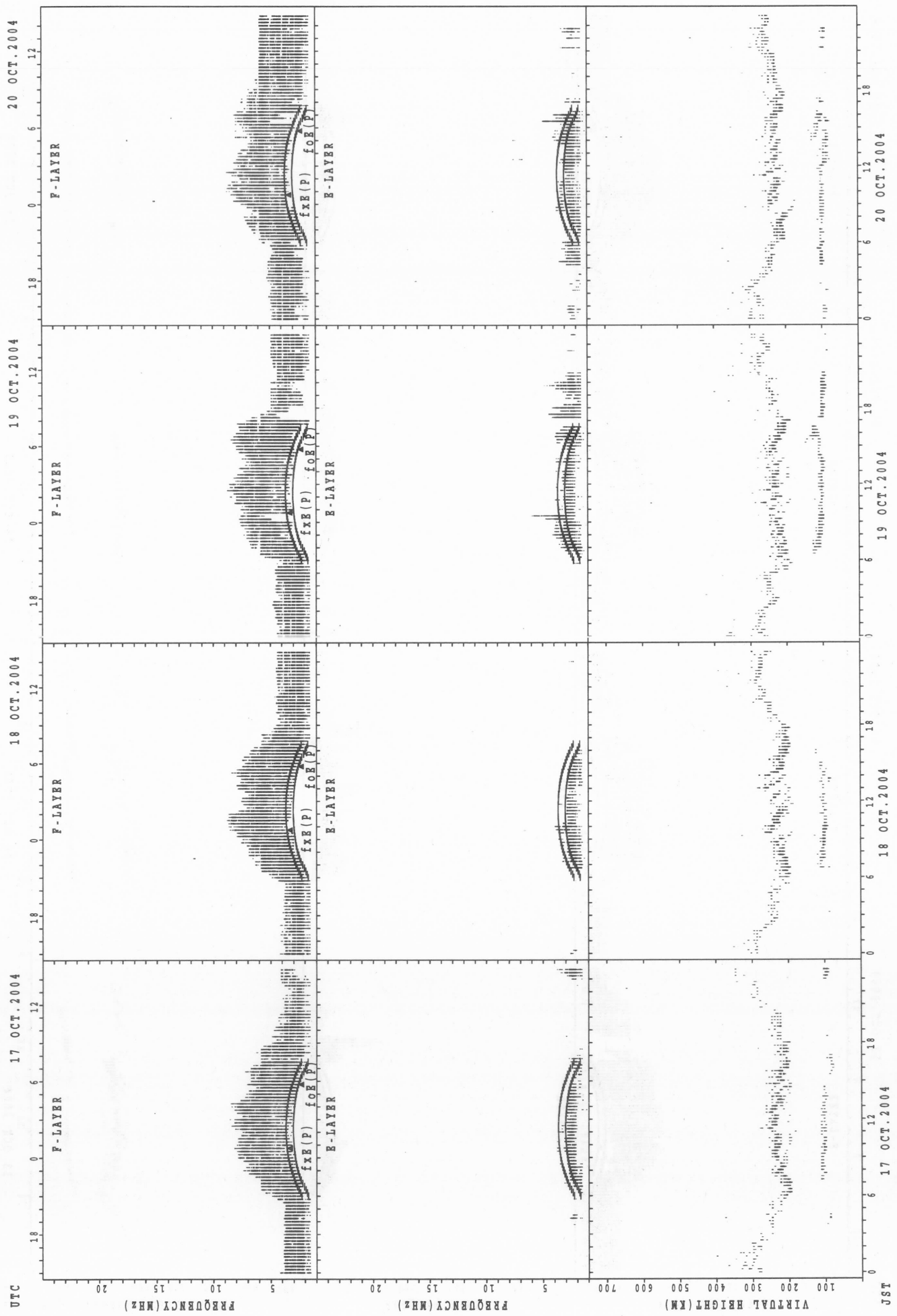
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


SUMMARY PLOTS AT Wakkanai
UTC
JST
9 OCT.2004
10 OCT.2004
11 OCT.2004
12 OCT.2004
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

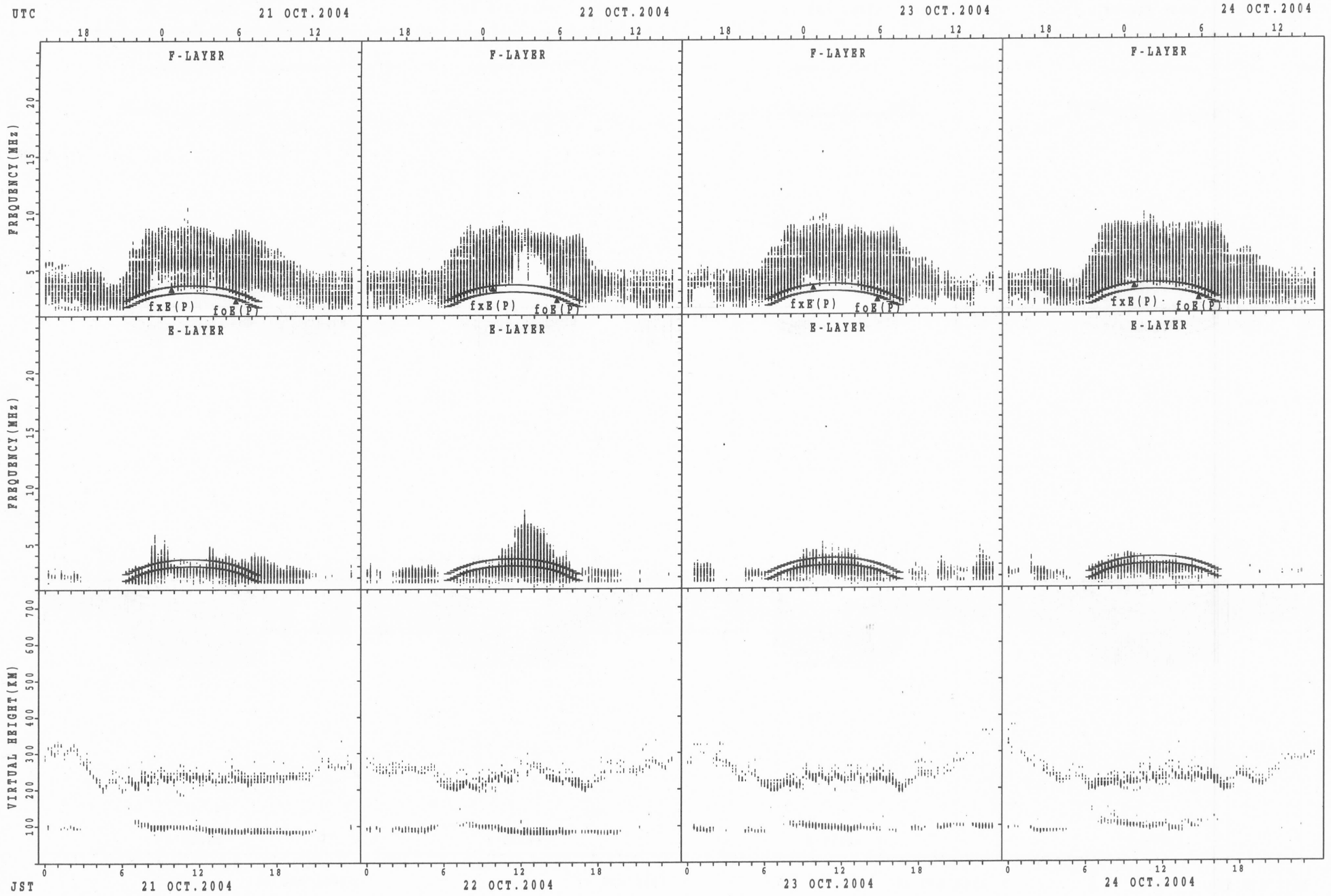
SUMMARY PLOTS AT Wakkanai



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

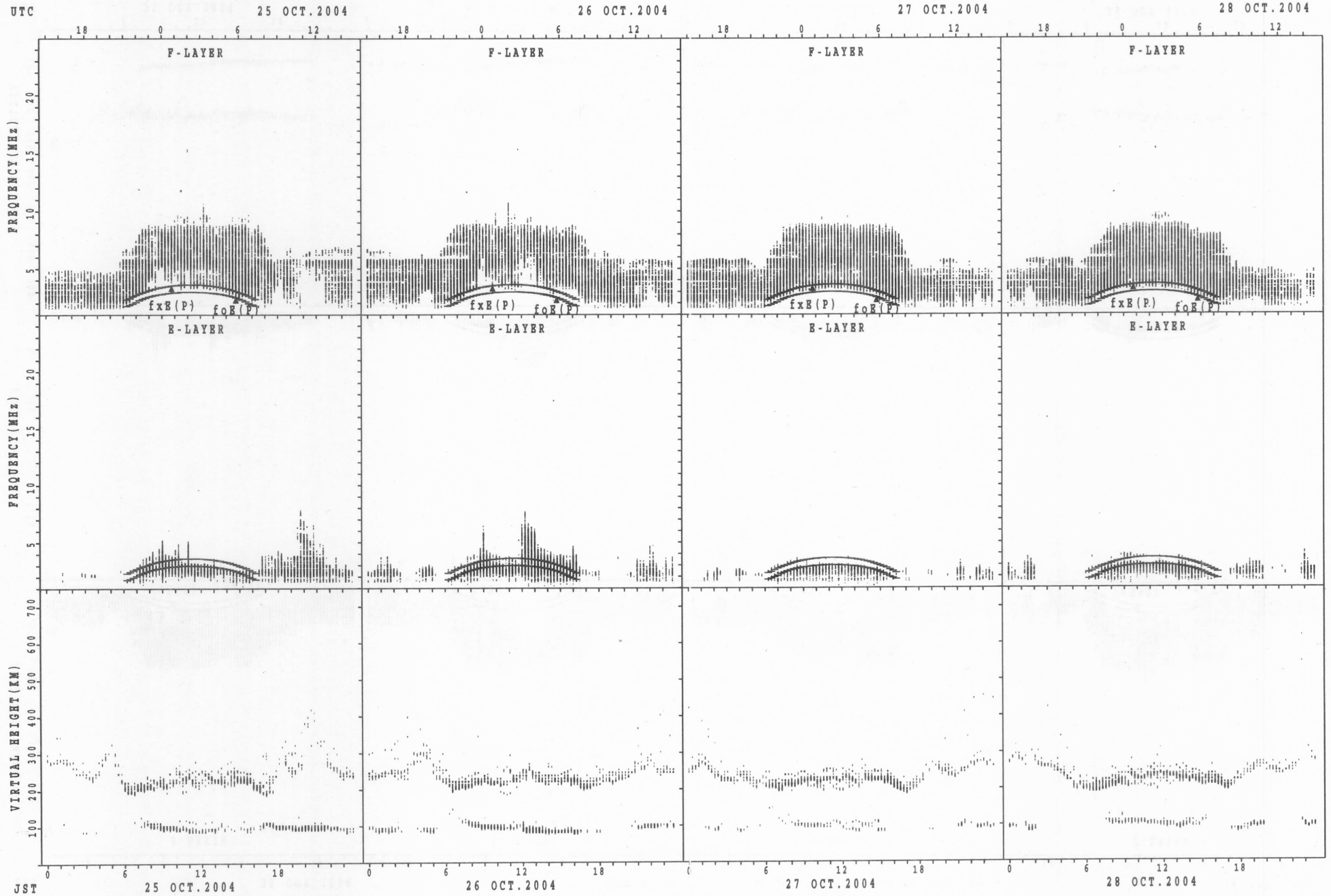

SUMMARY PLOTS AT Wakkanai
UTC
JST
17 OCT.2004
18 OCT.2004
19 OCT.2004
20 OCT.2004
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



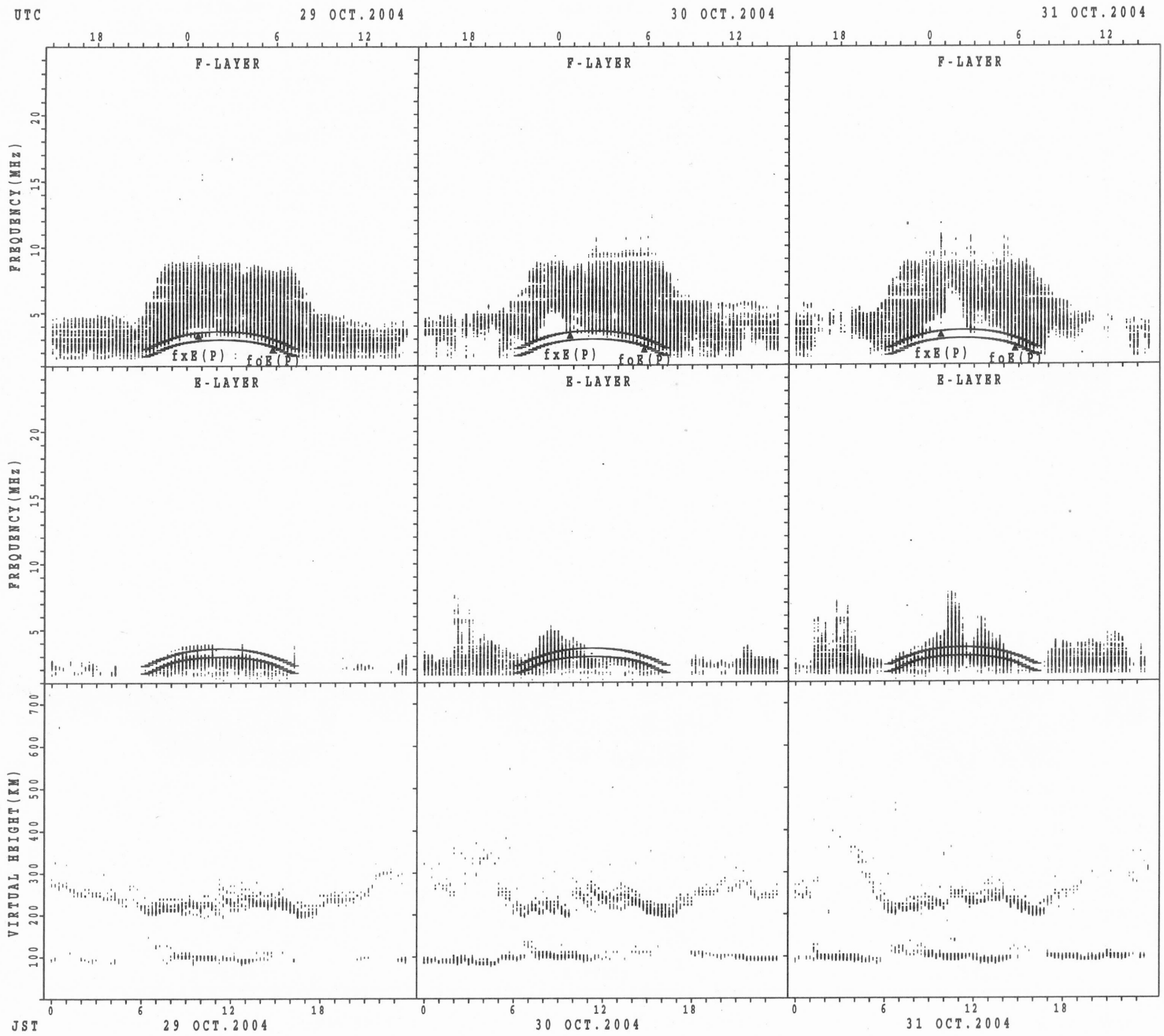
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



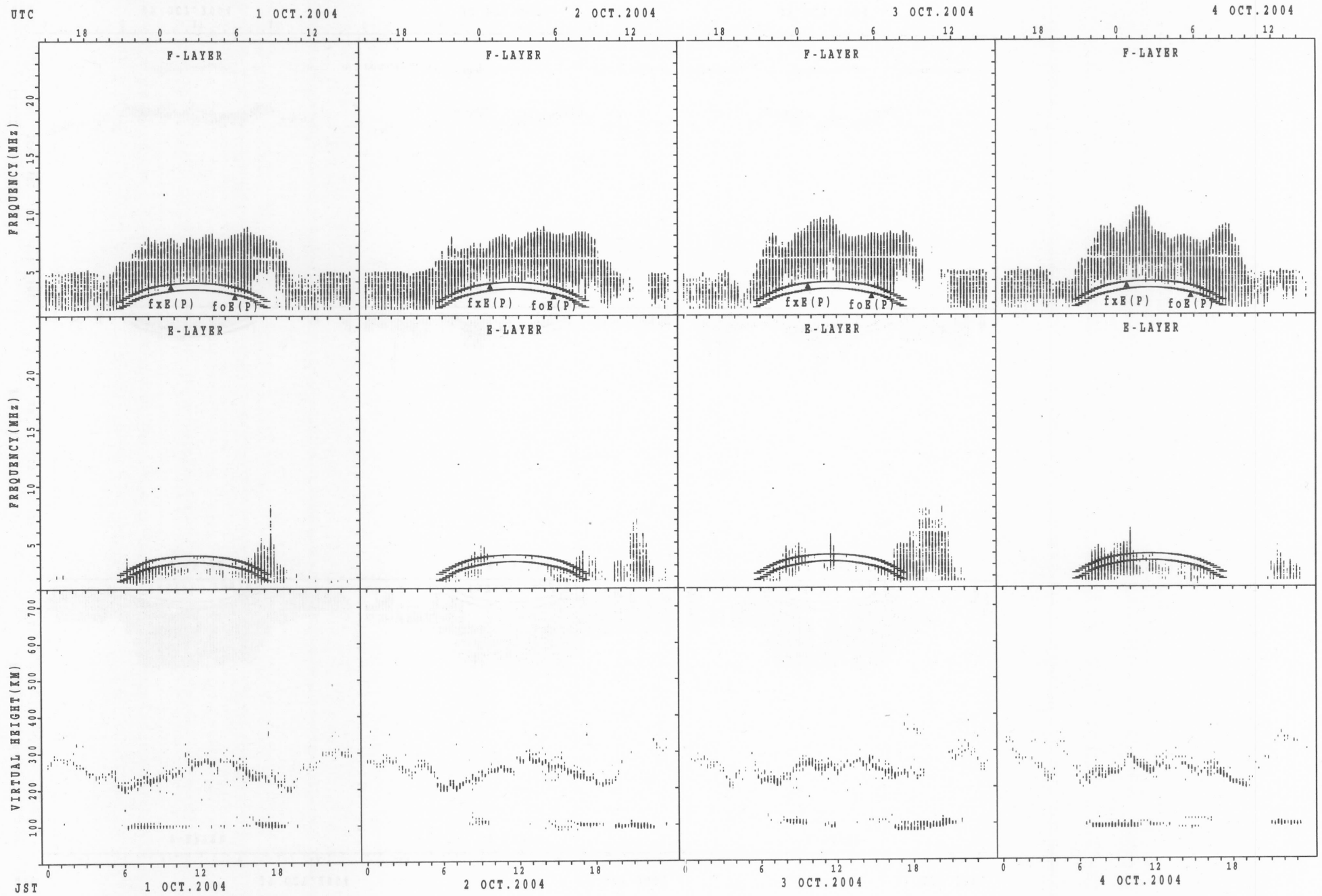
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



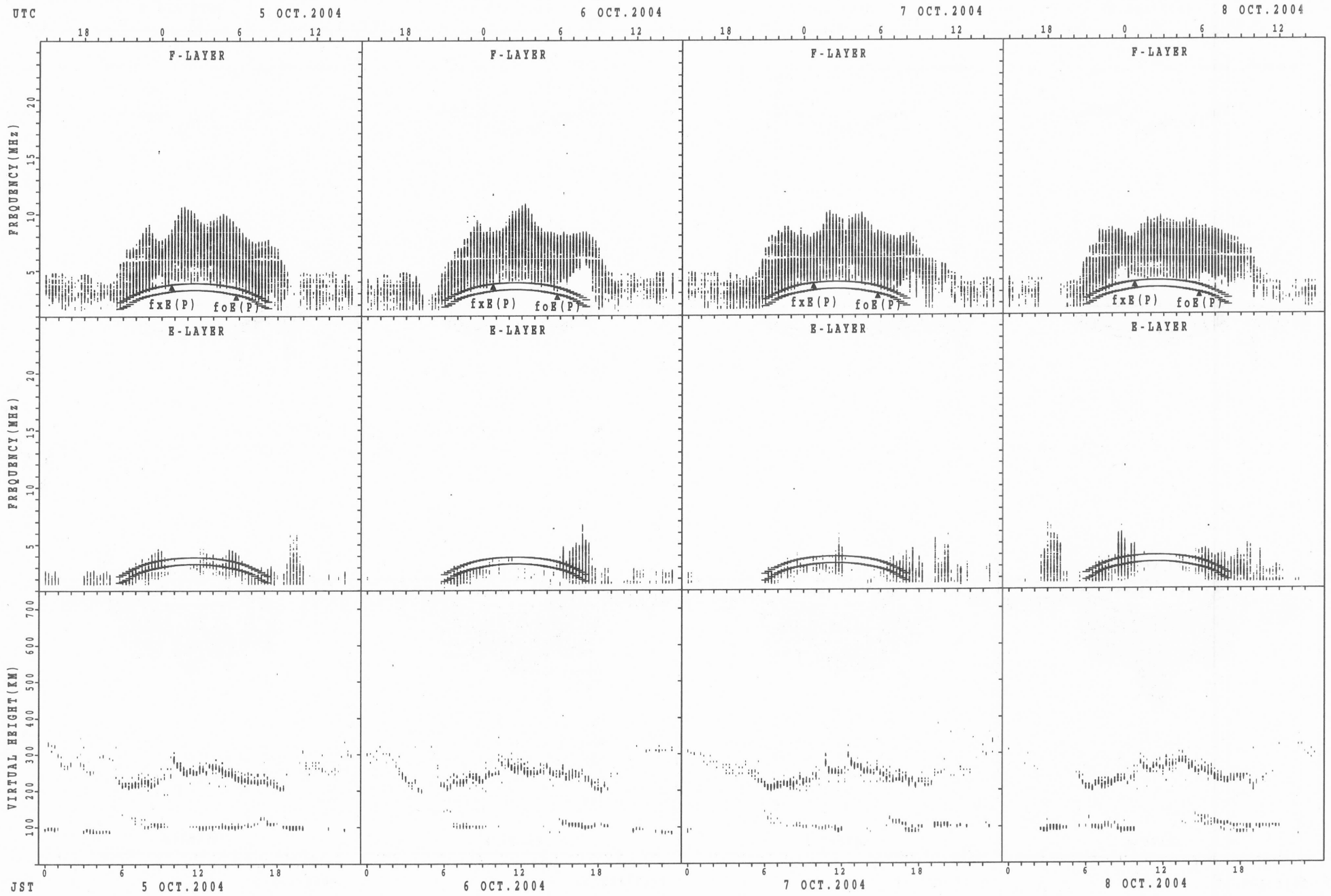
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

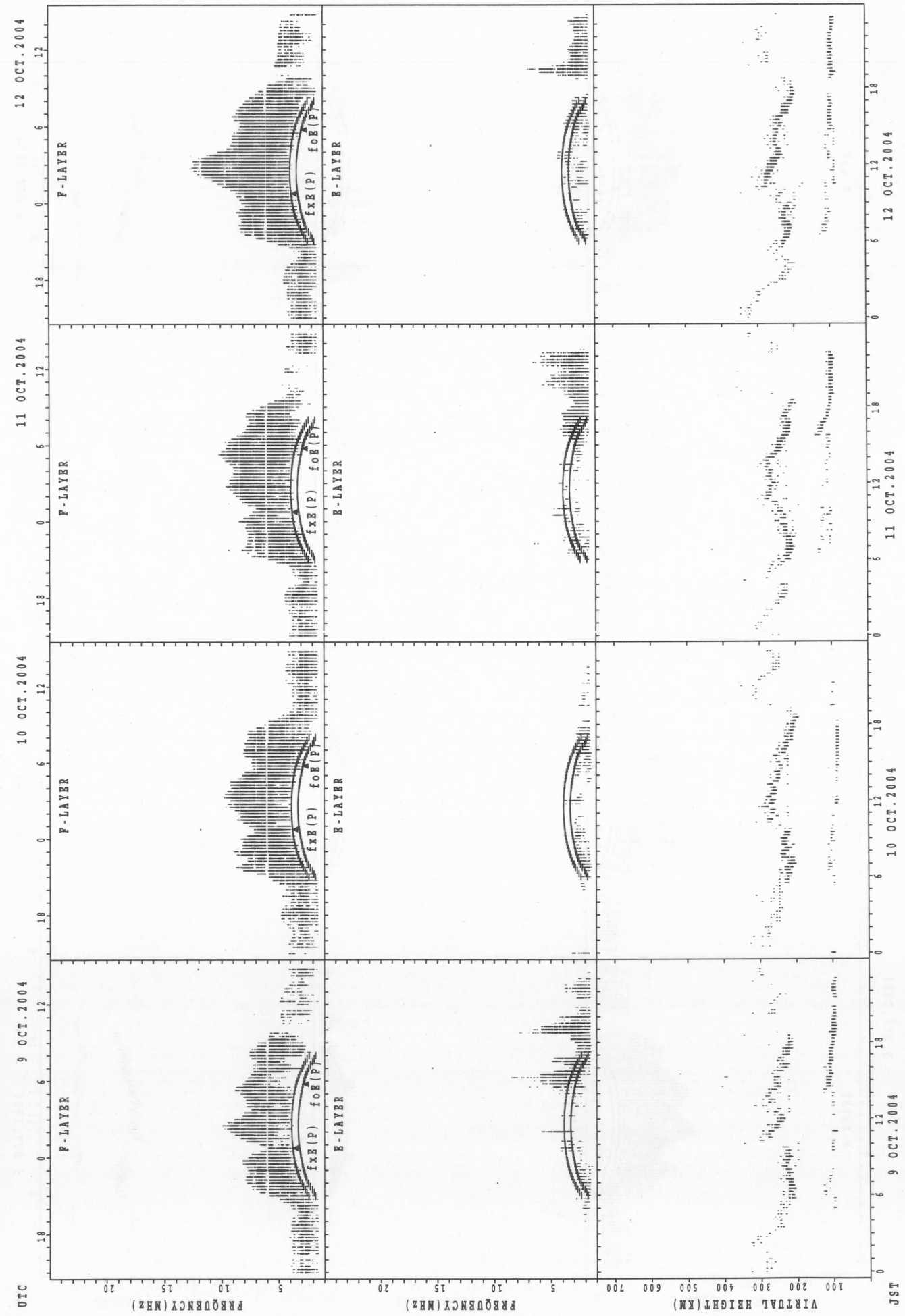


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

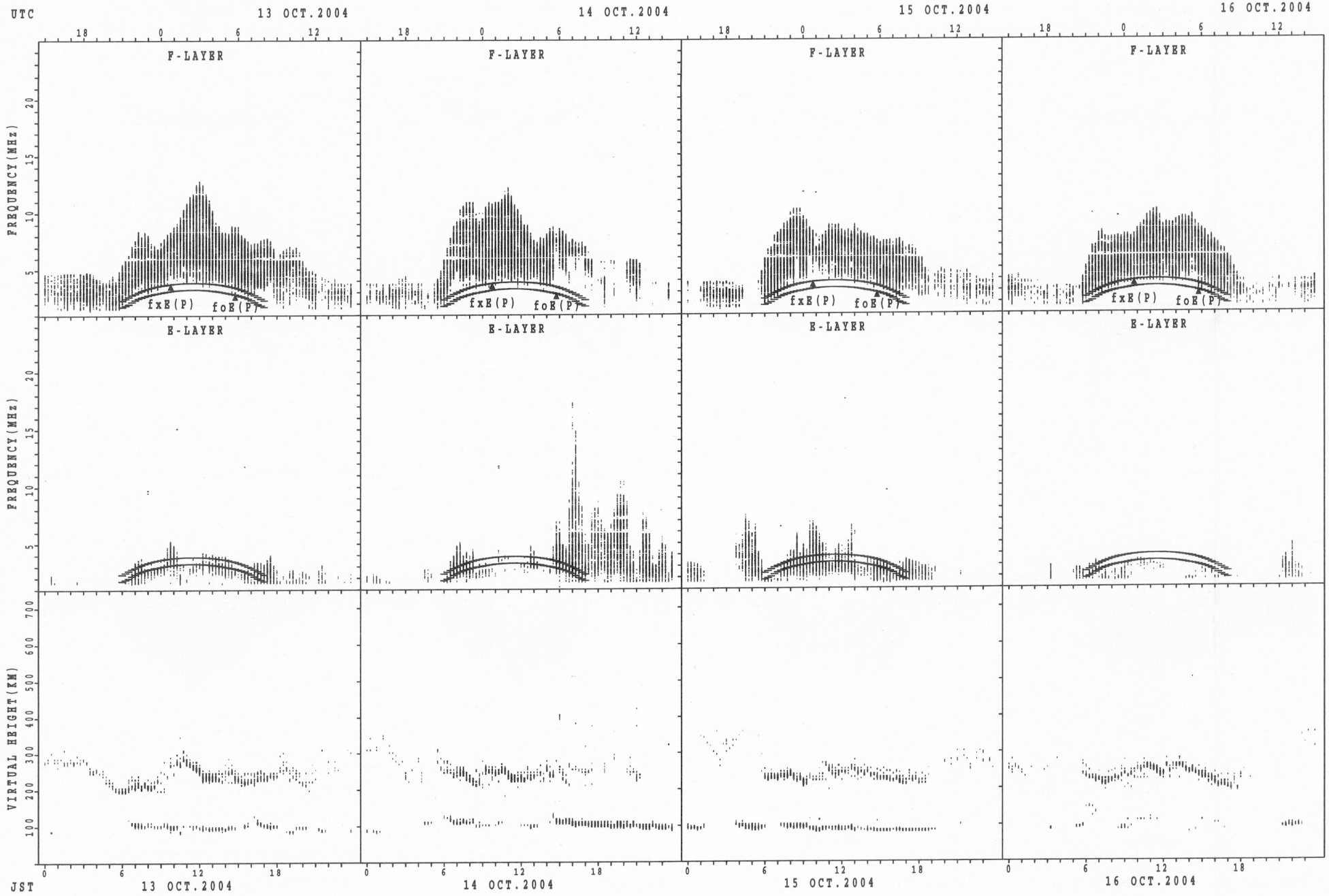
SUMMARY PLOTS AT Kokubunji



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

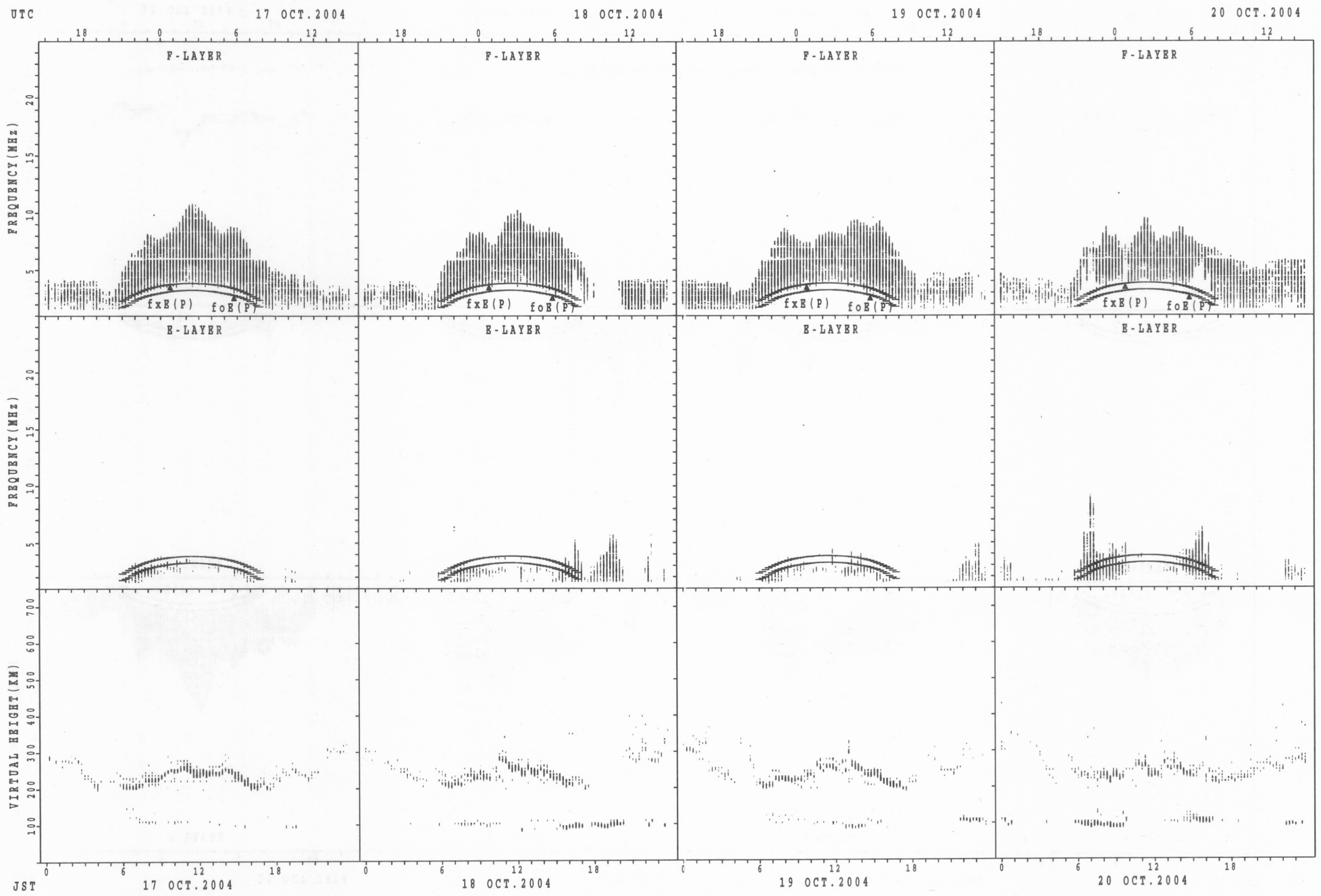

SUMMARY PLOTS AT Kokubunji
UTC
JST
9 OCT.2004
10 OCT.2004
11 OCT.2004
12 OCT.2004
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



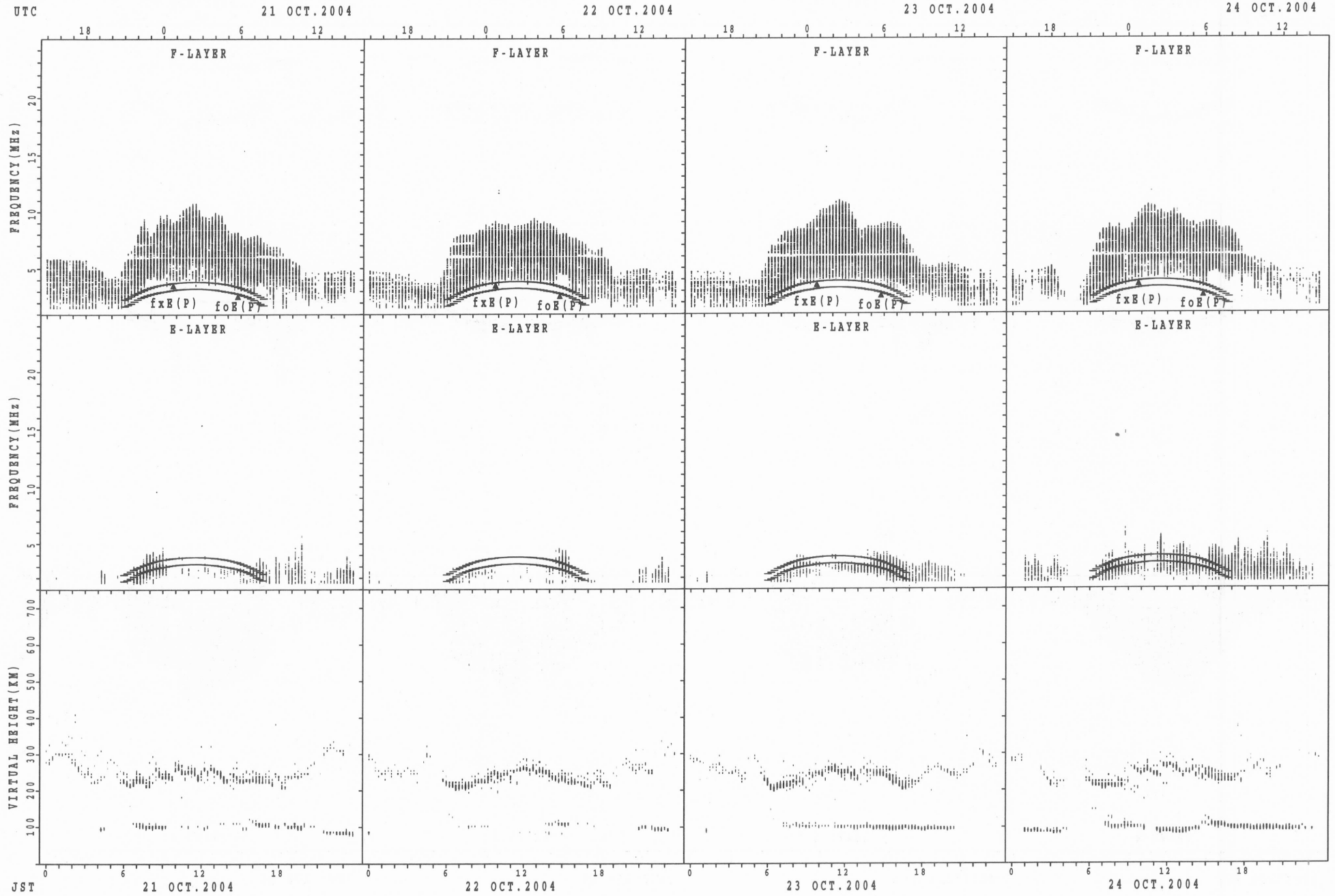
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



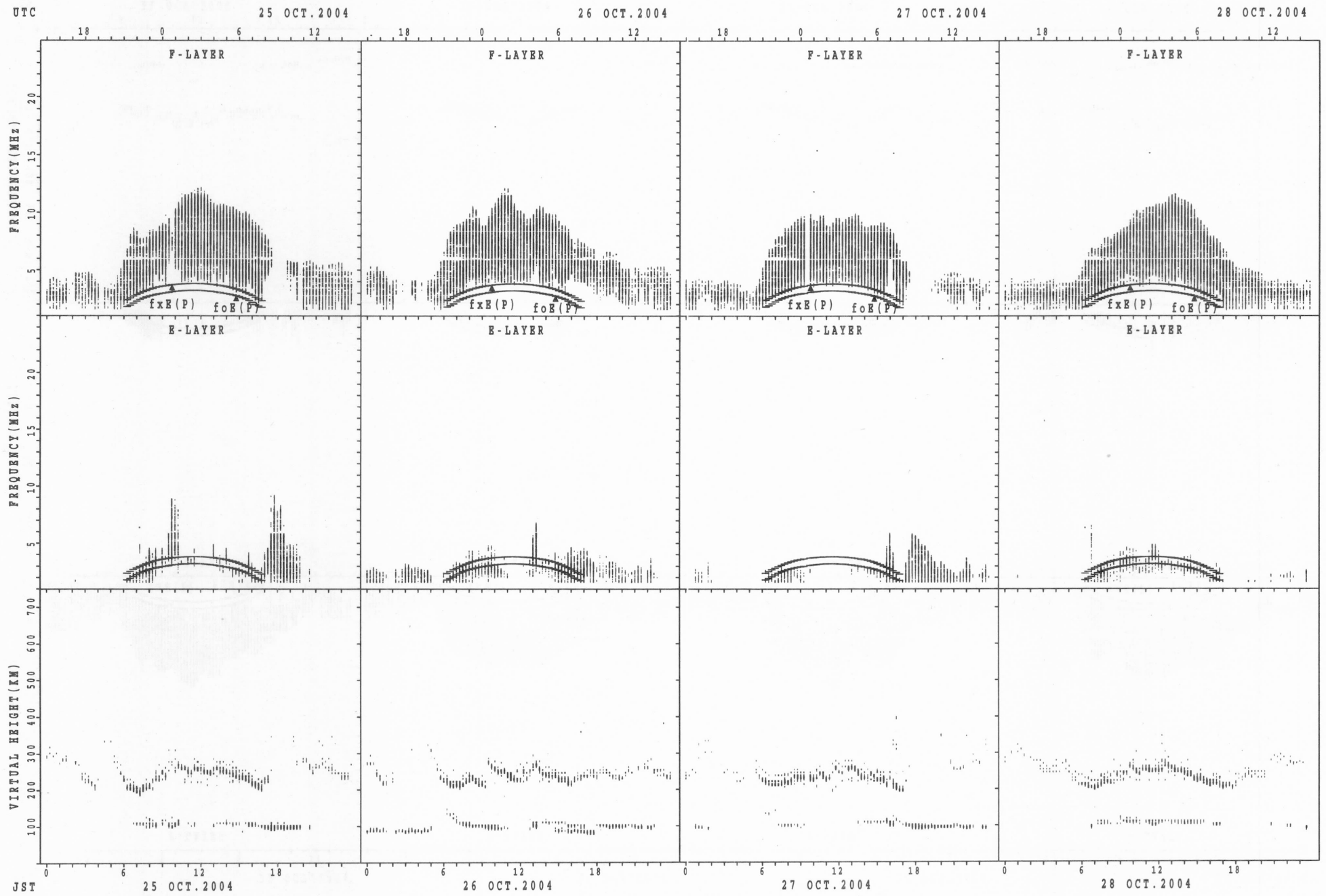
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



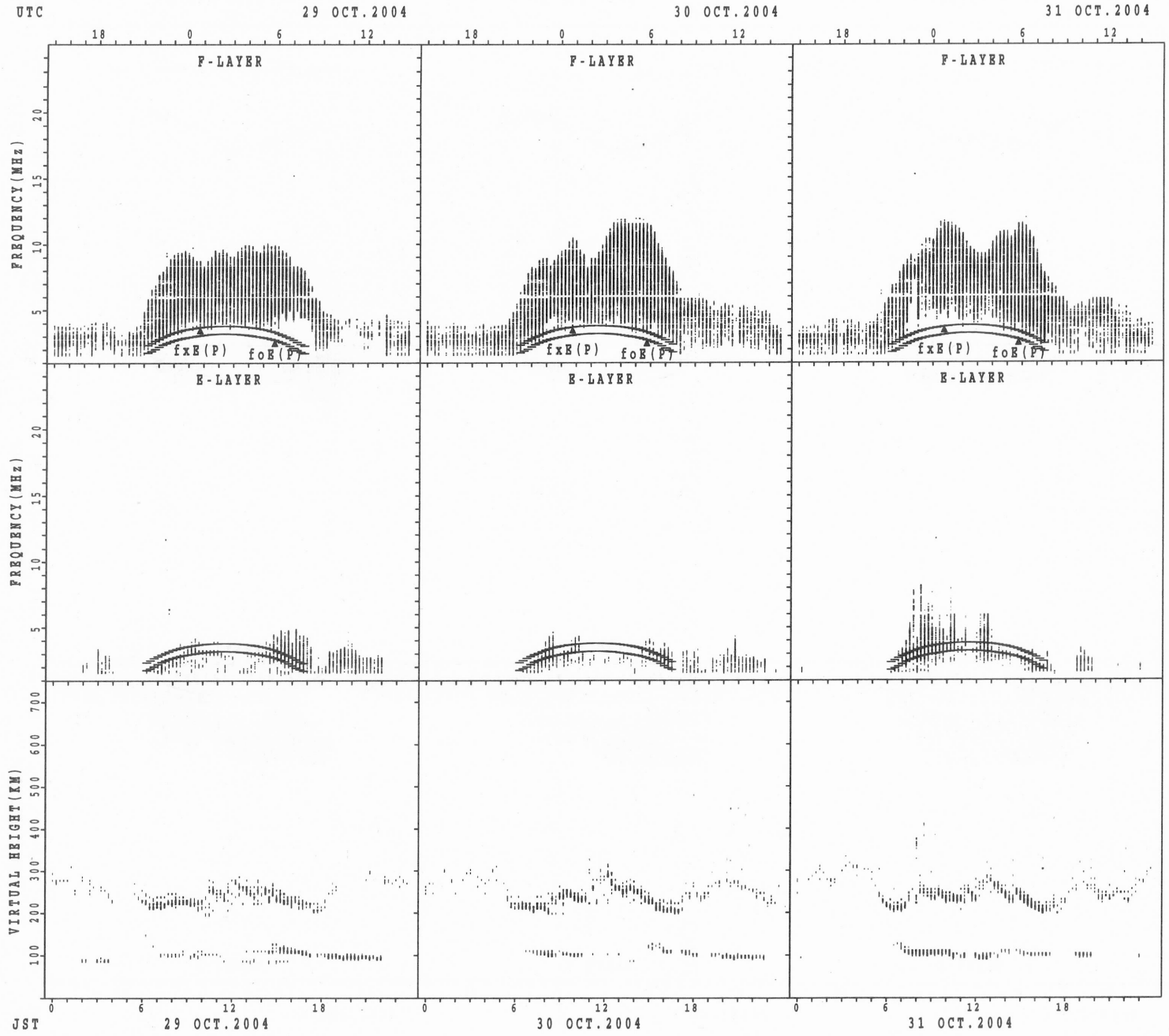
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



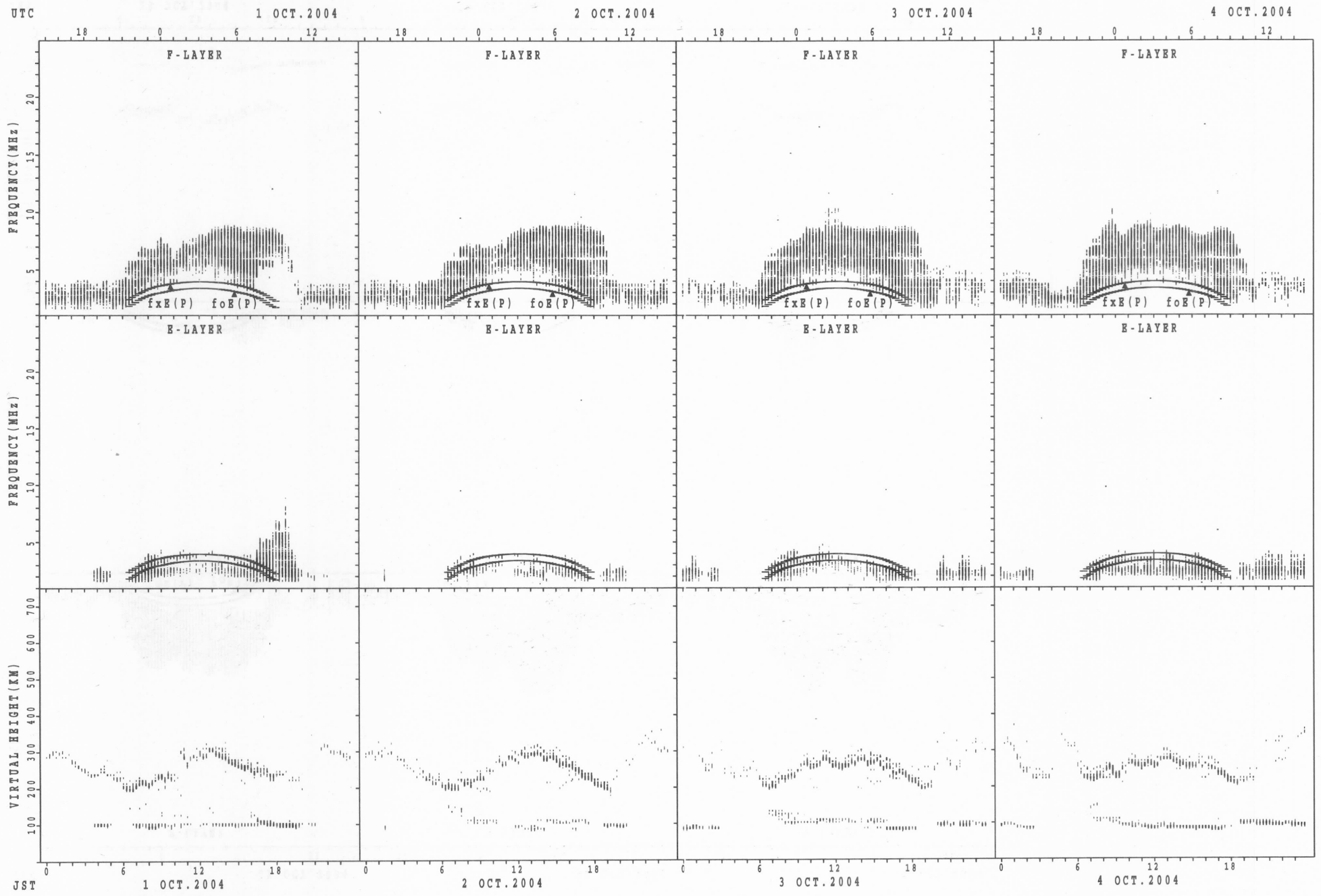
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



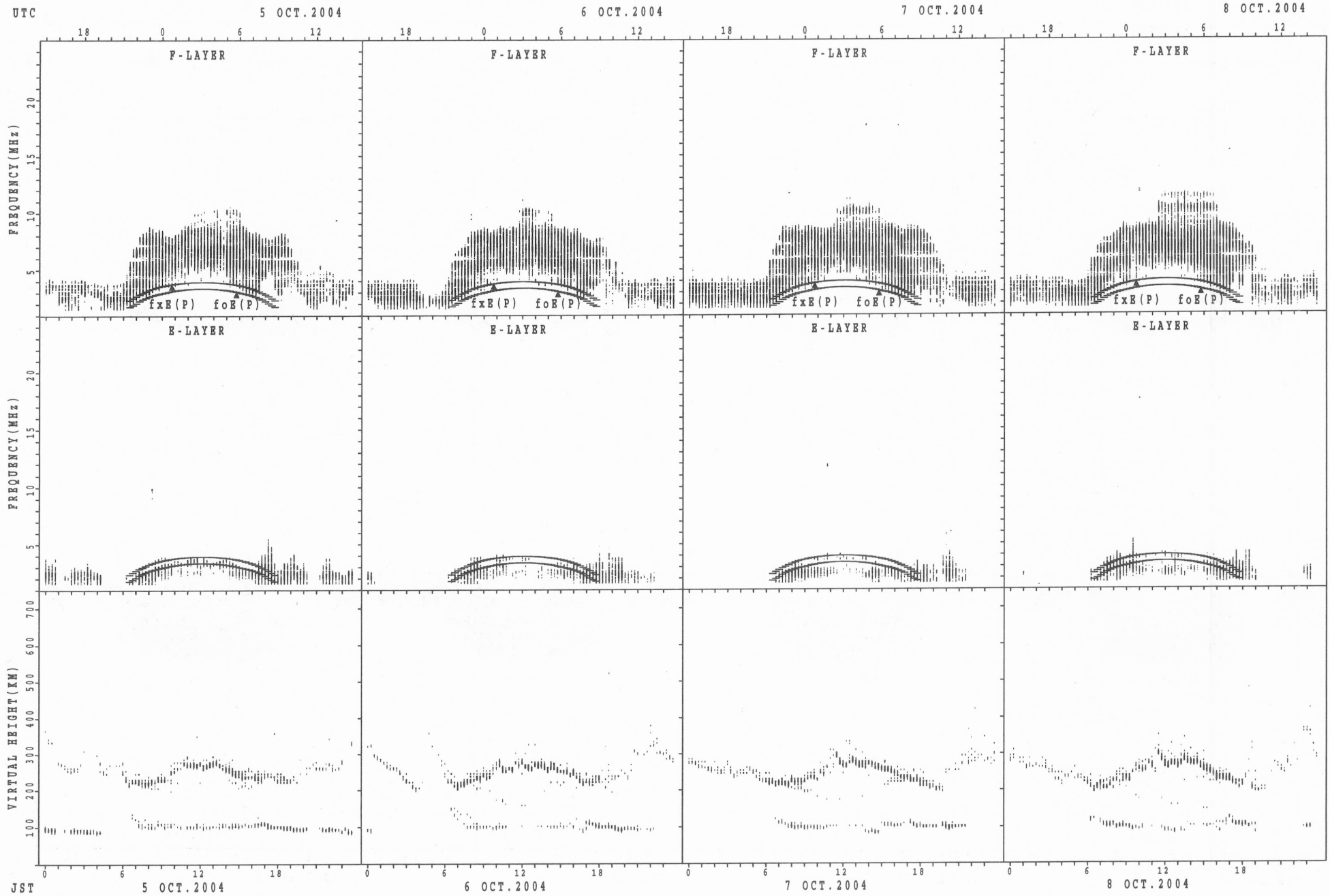
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



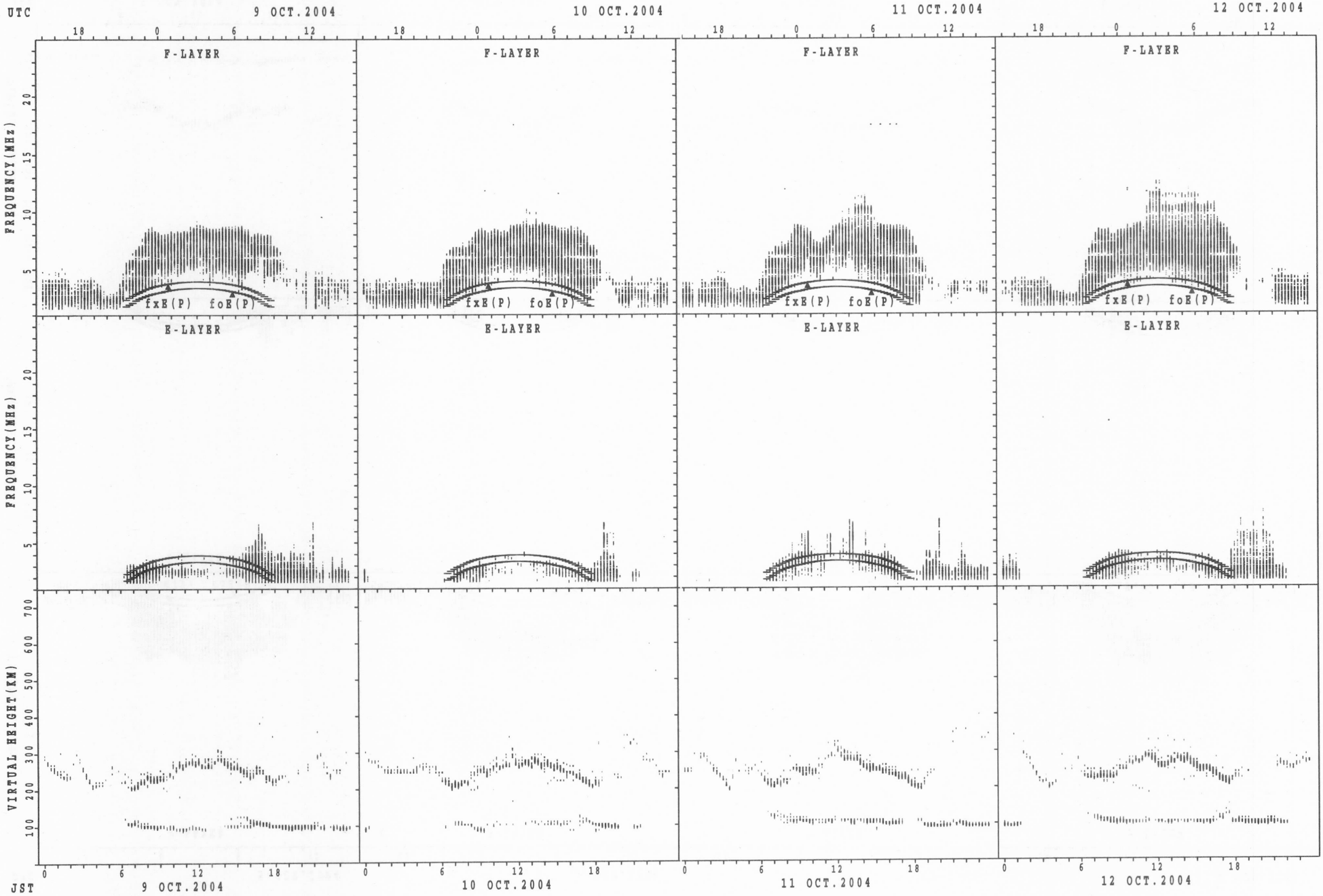
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



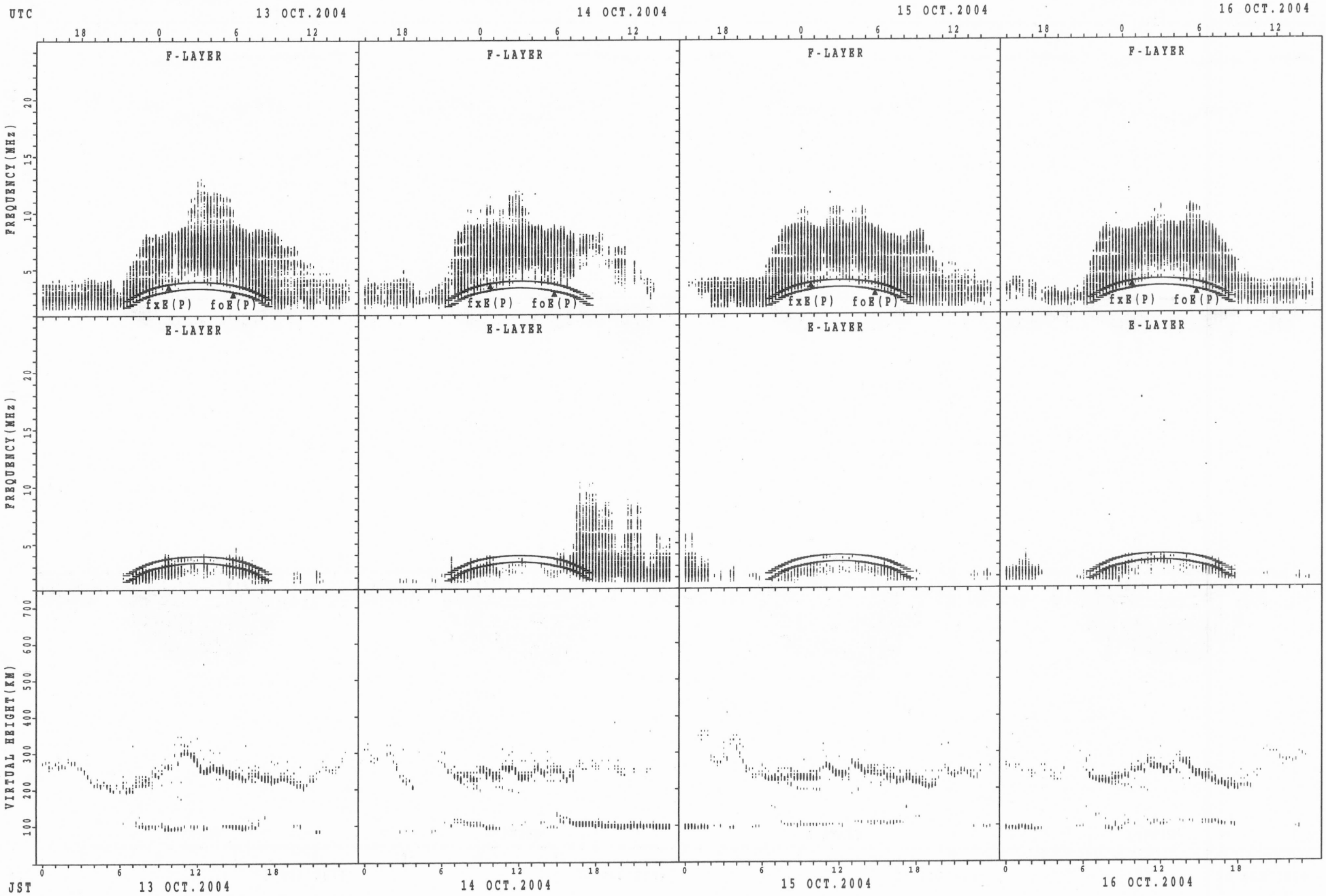
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



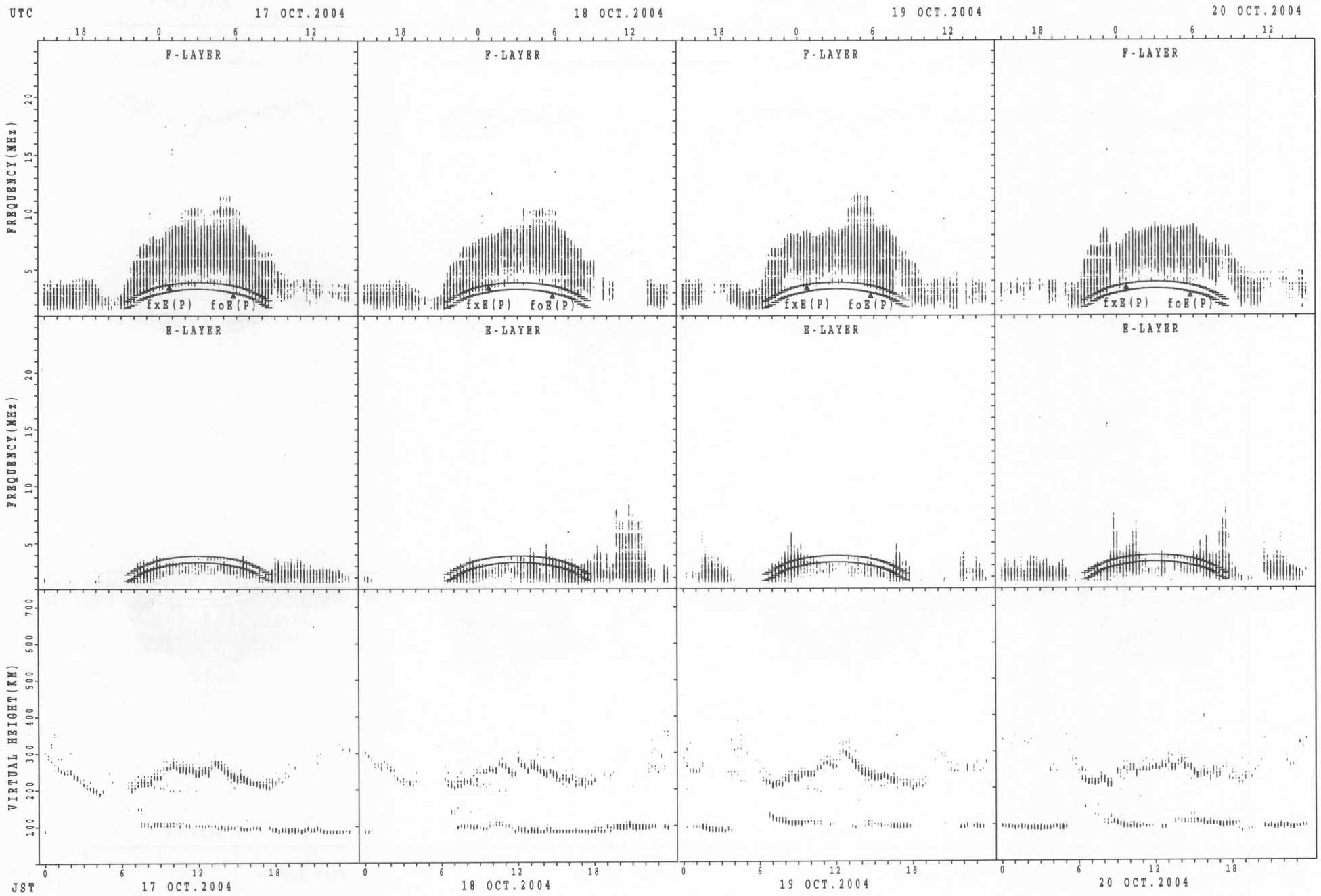
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



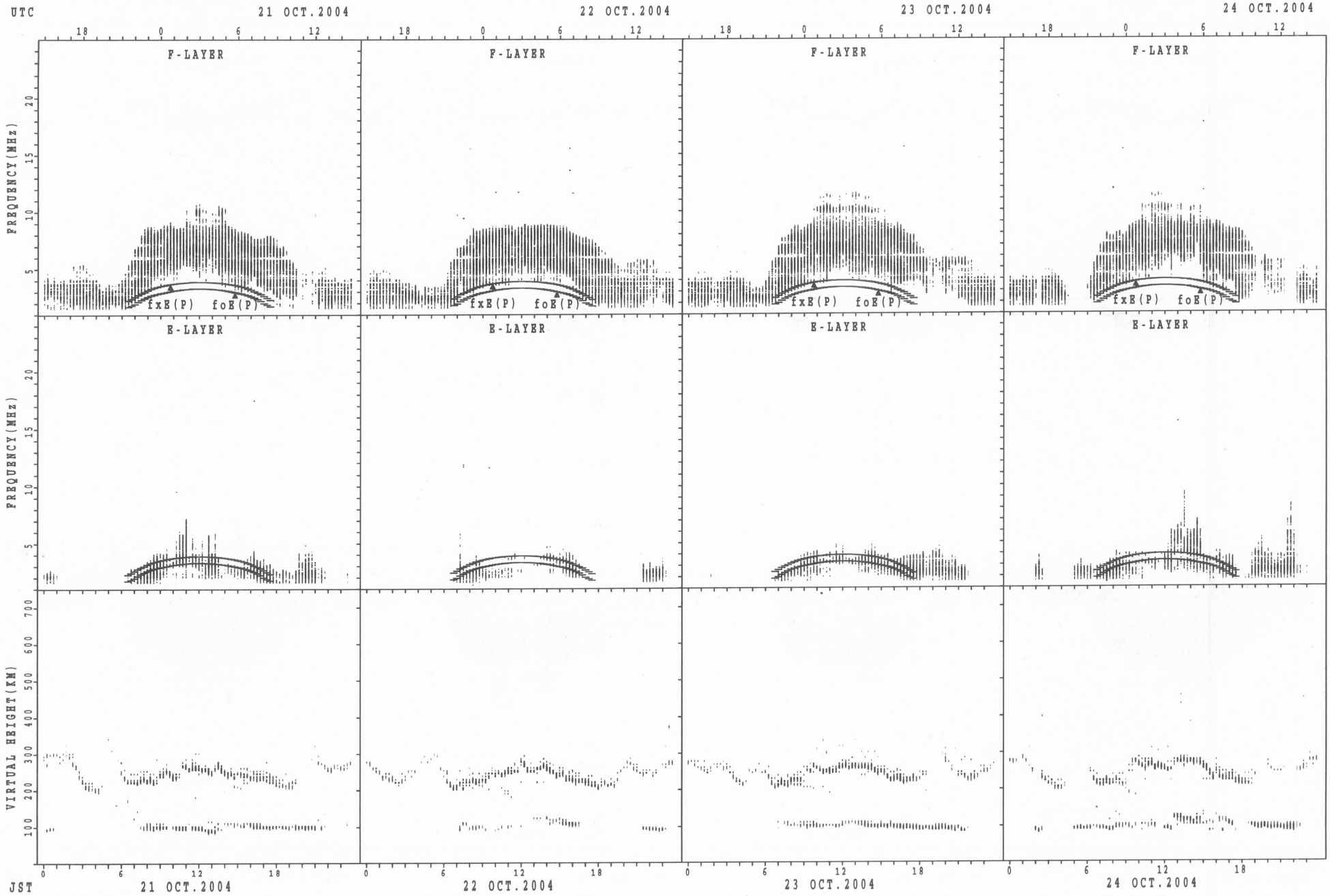
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



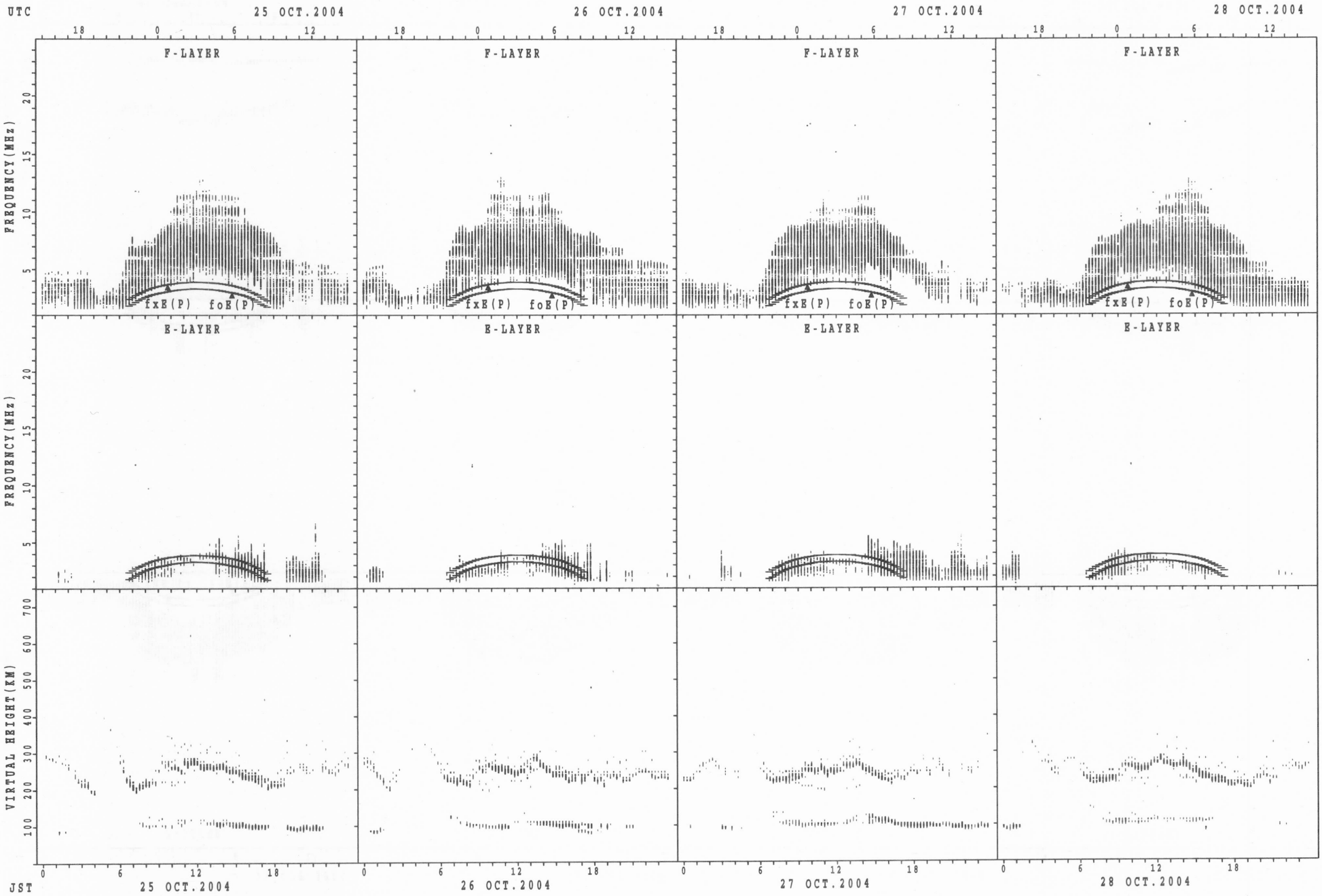
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



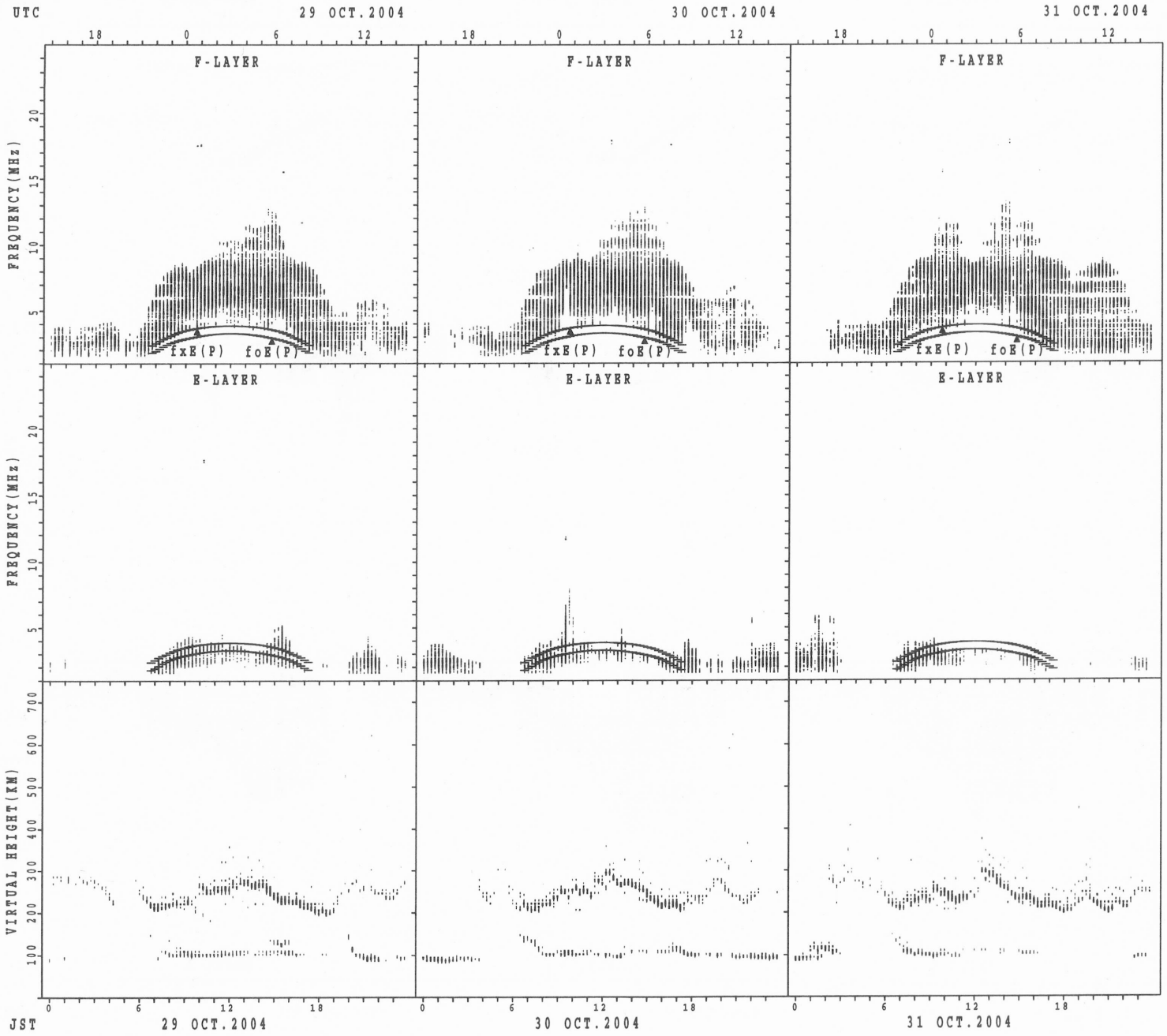
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



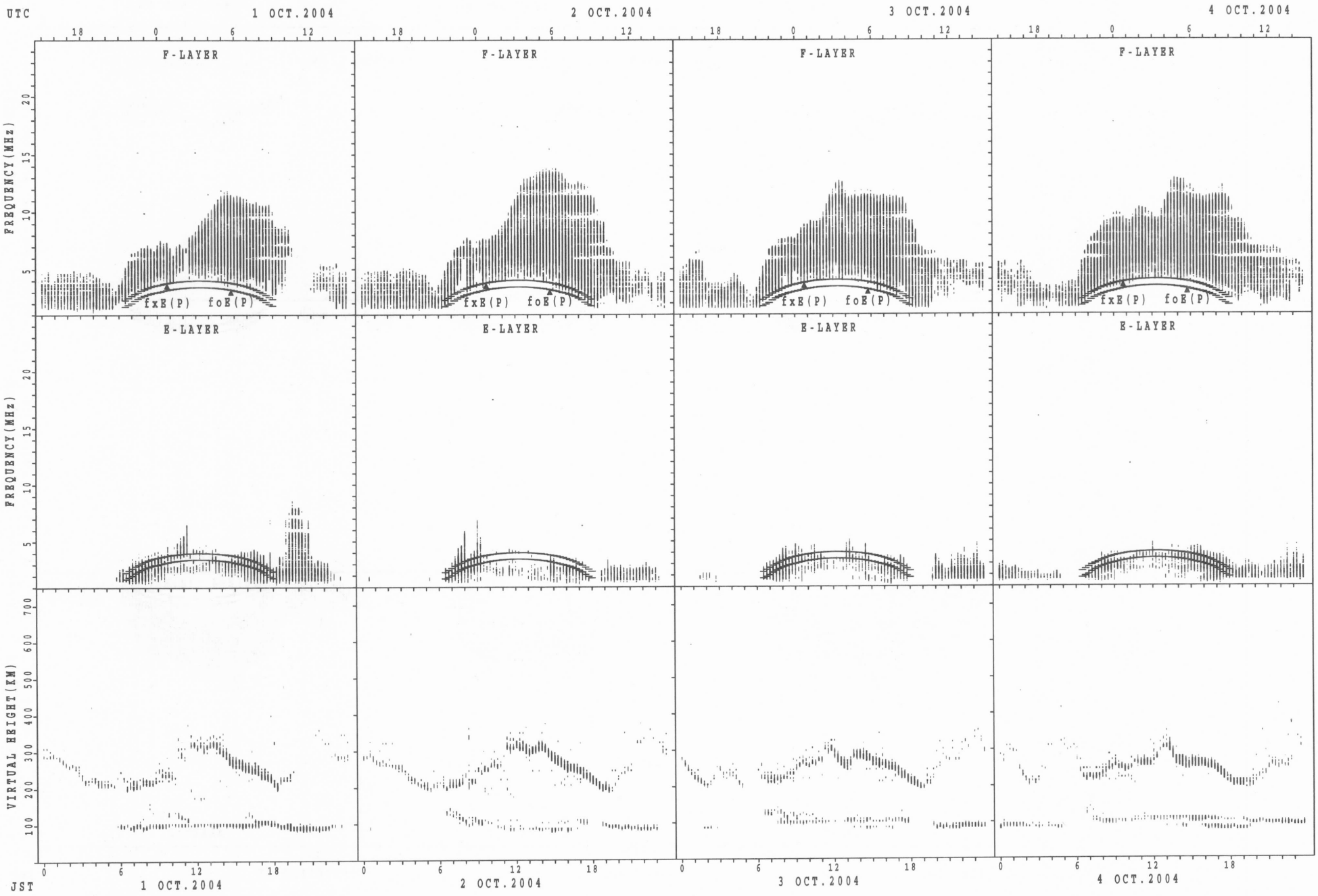
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



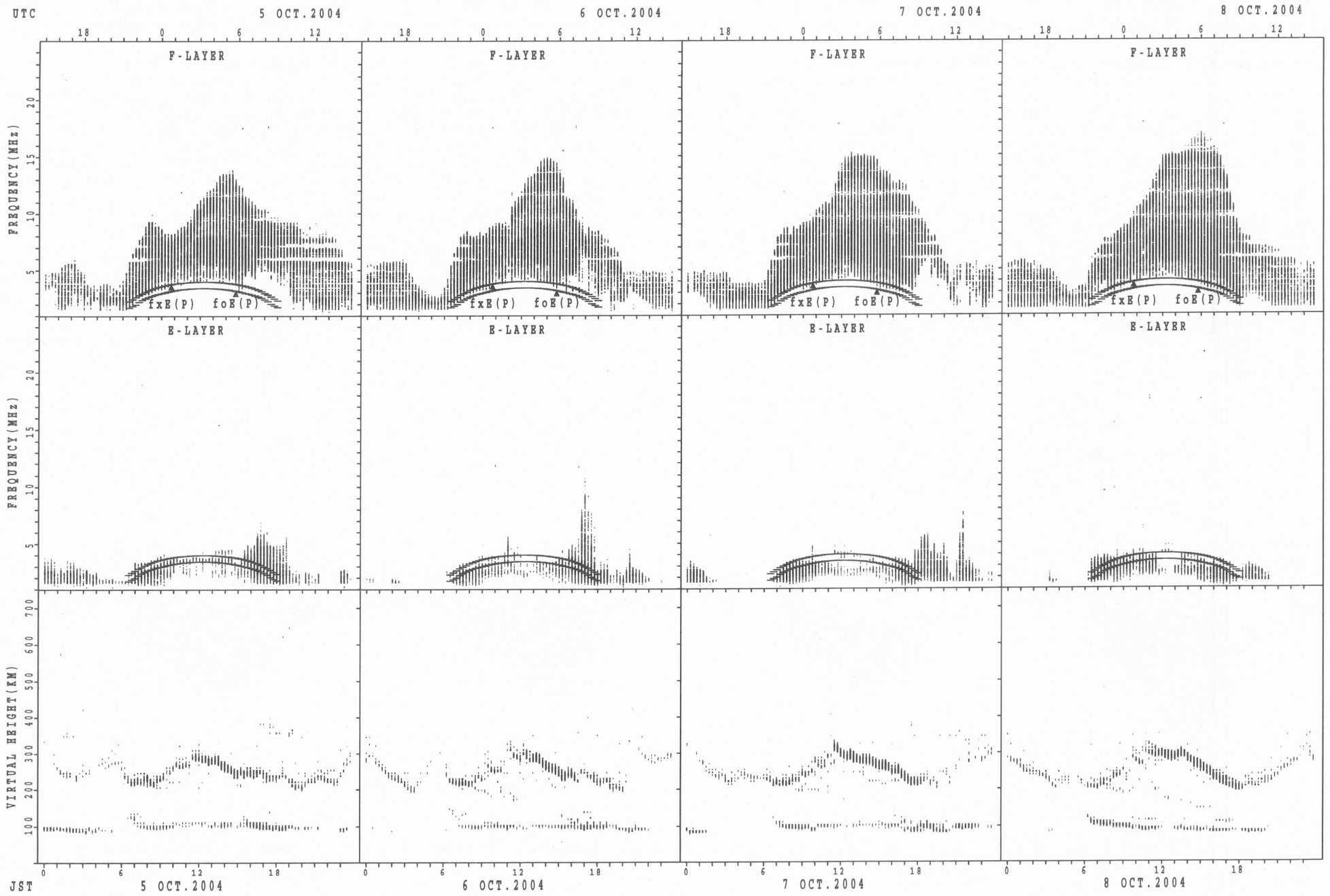
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



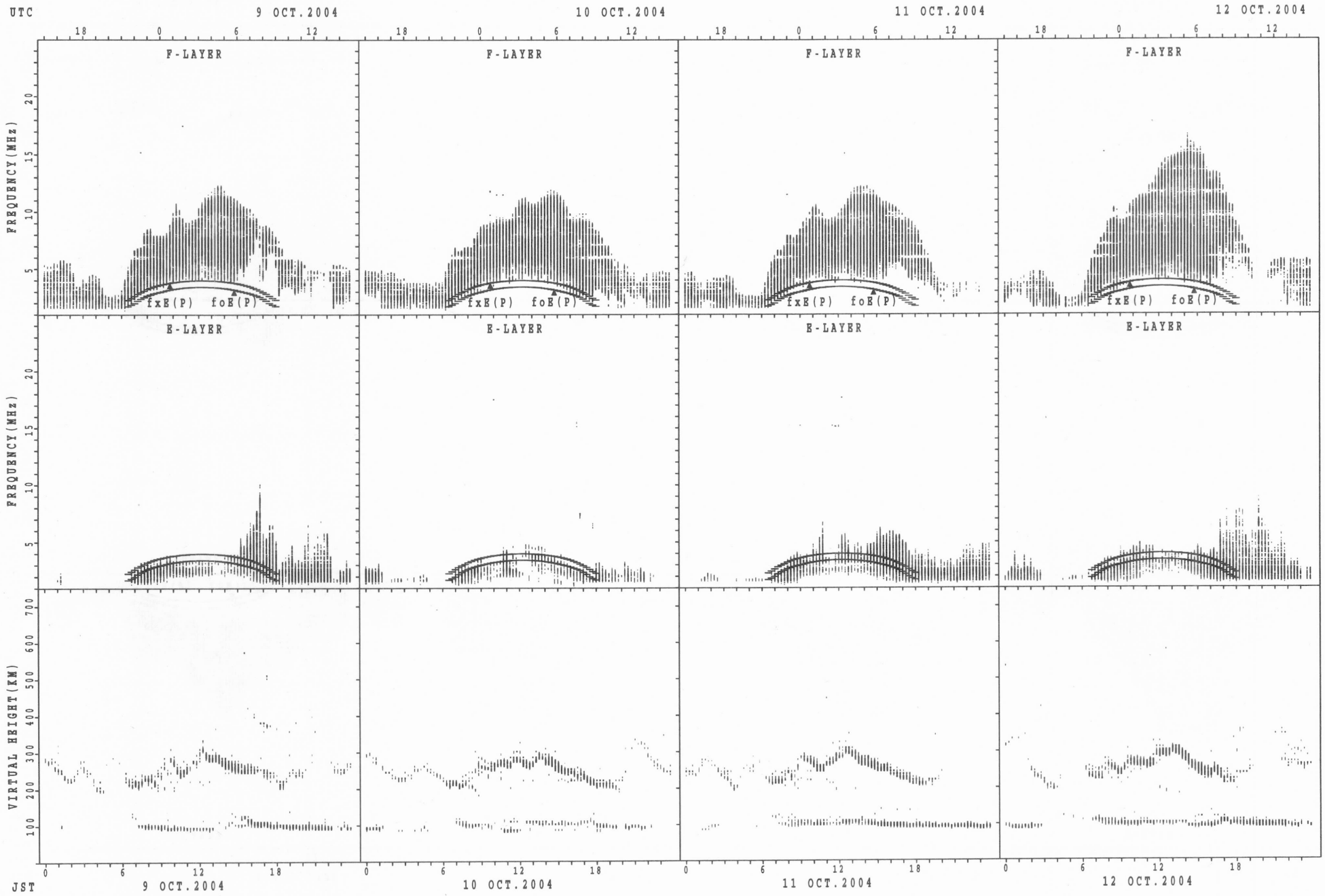
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



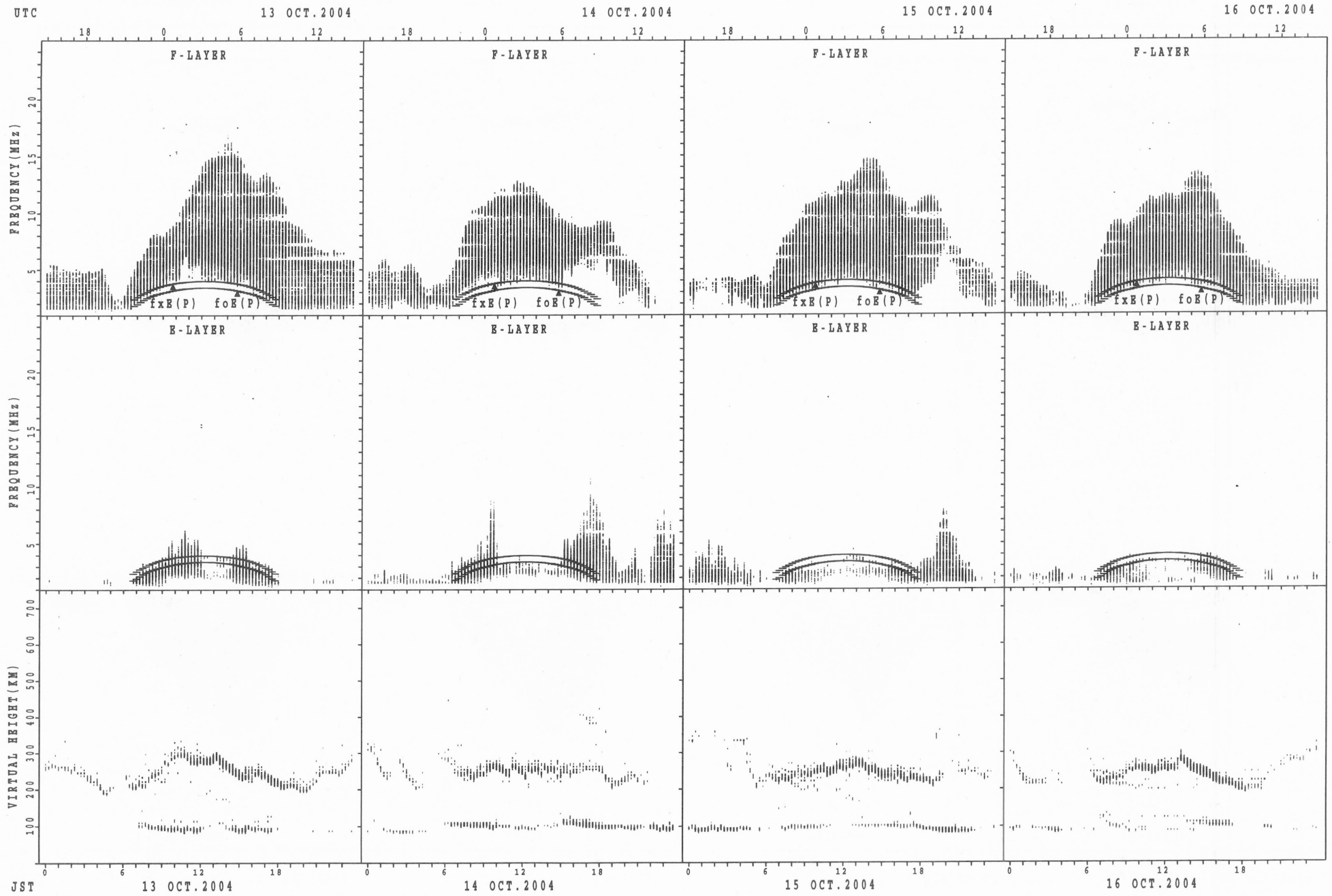
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



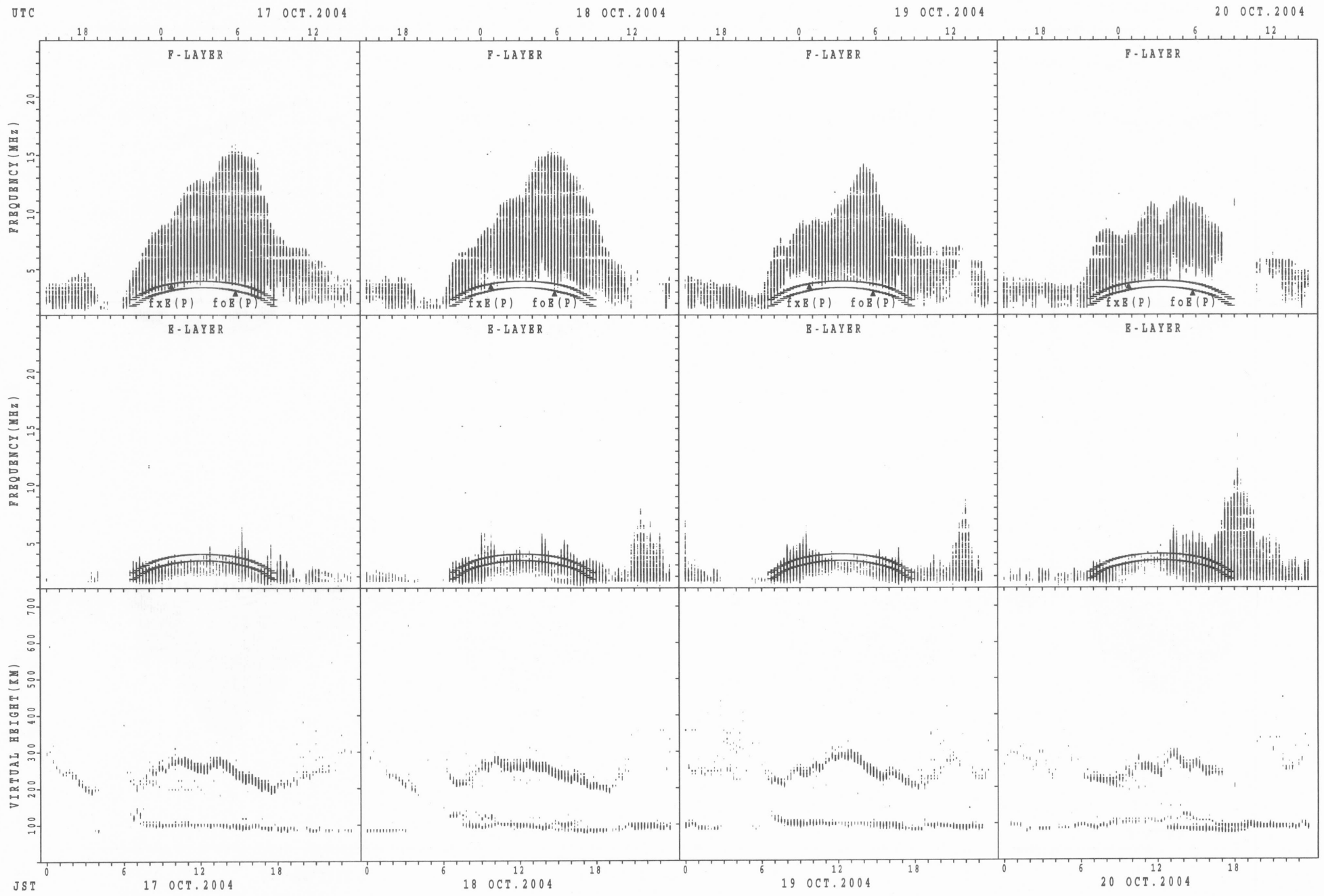
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



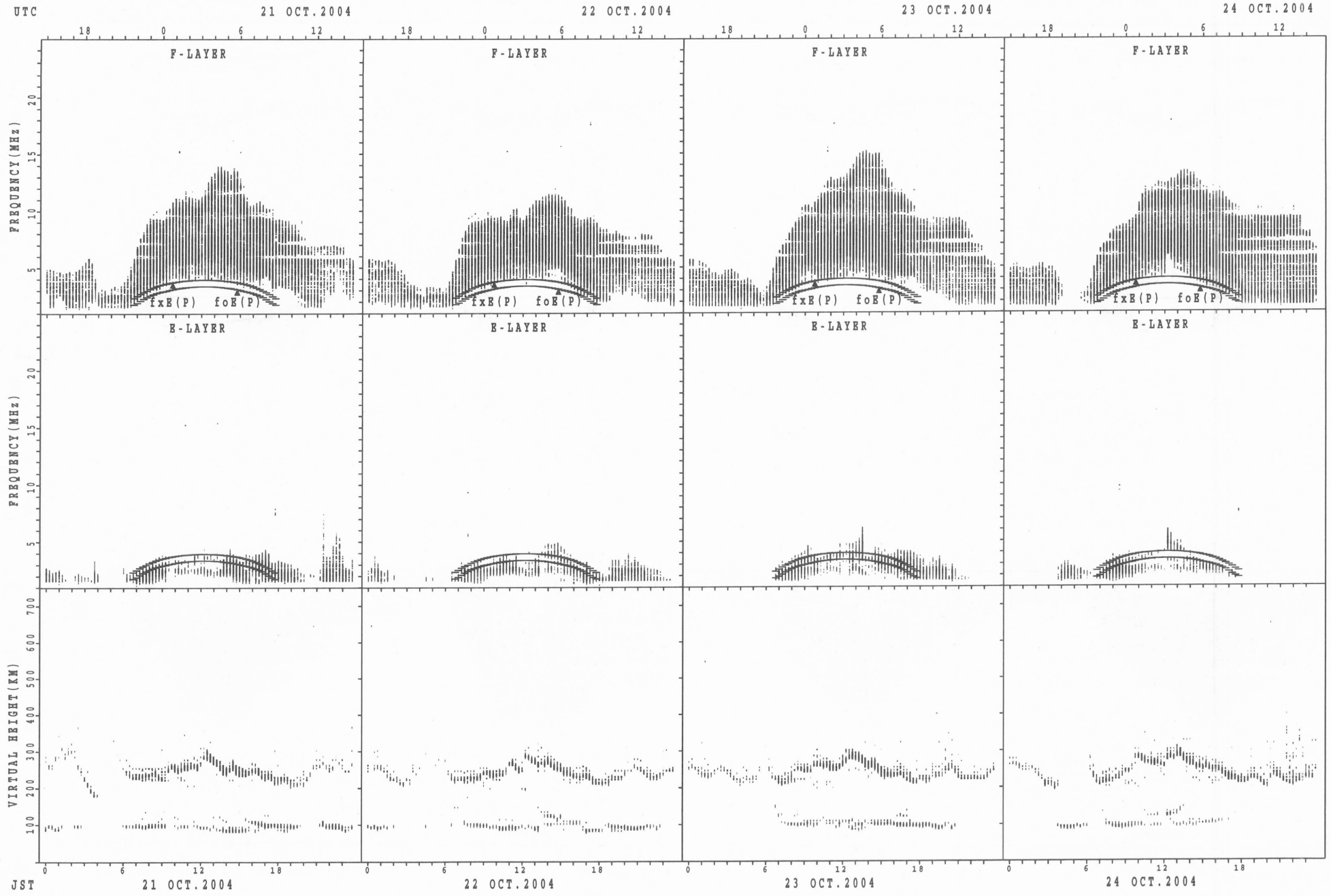
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



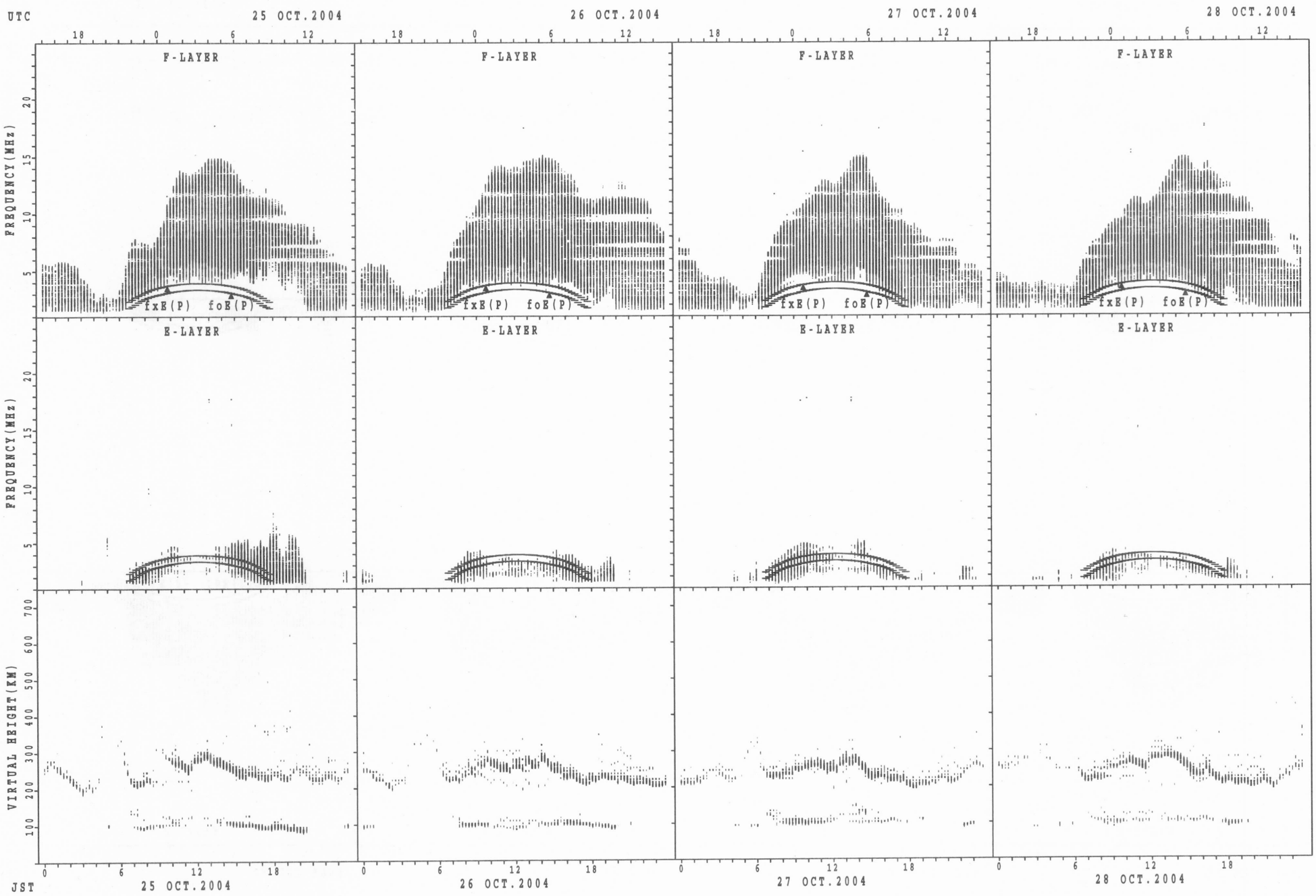
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



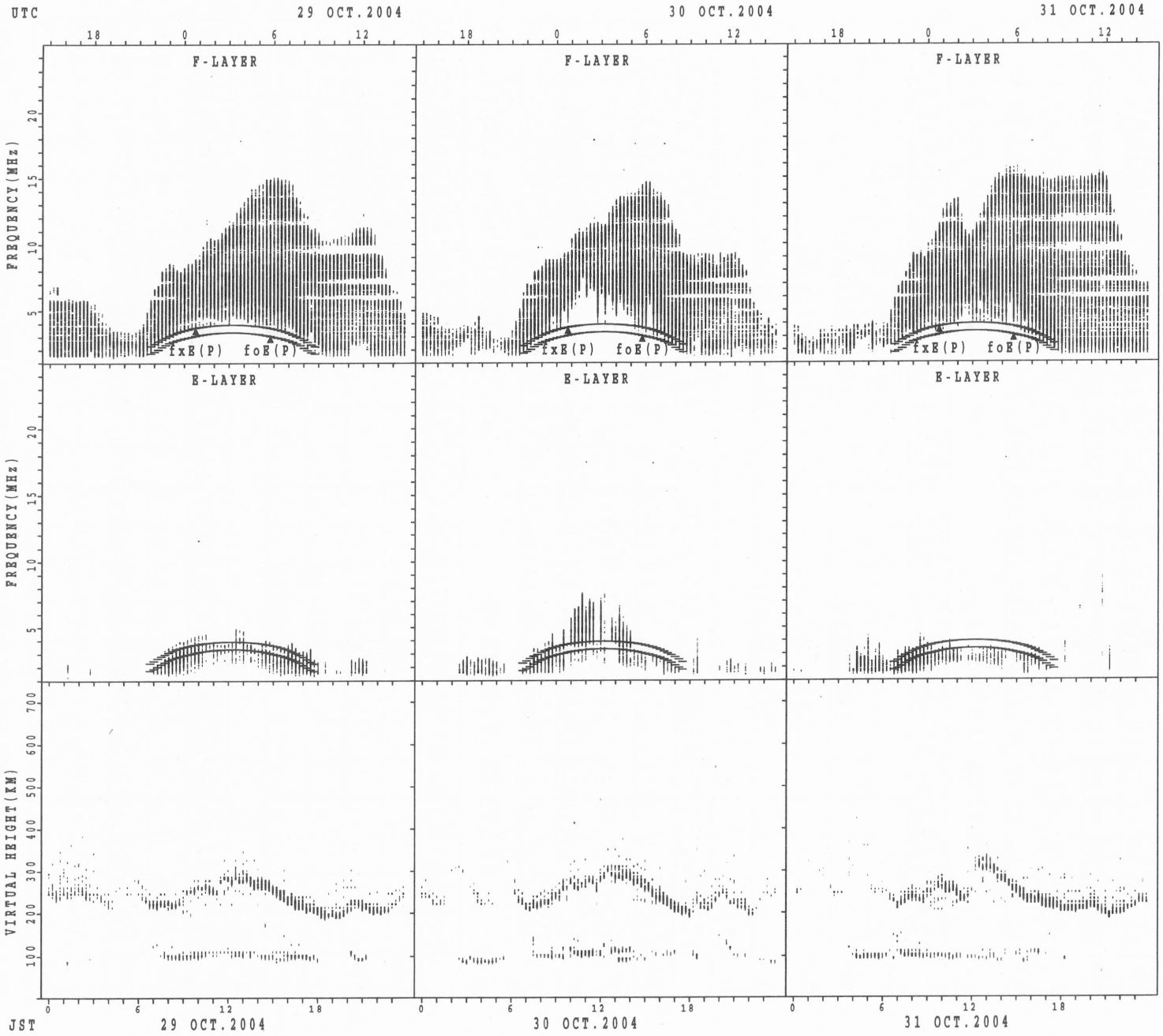
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



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

SUMMARY PLOTS AT Okinawa



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

MONTHLY MEDIANS OF h'F AND h'Es

OCT. 2004 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			1		1		4	20	29	22	6		1	11	29	30	31	18	1	4	1	1		
MED			330		290		238	229	230	238	220		226	238	248	247	236	239	274	277	288	284		
U Q			165		145		255	242	243	248	226		113	254	256	258	246	250	137	286	144	142		
L Q			165		145		229	224	220	222	214		113	234	239	234	228	232	137	264	144	142		

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	16	11	13	9	13	13	11	13	17	19	20	16	12	14	14	12	18	20	22	18	17	17	11	10
MED	95	95	95	97	95	97	97	113	107	103	103	98	96	95	96	95	105	102	99	98	99	97	97	96
U Q	97	97	98	110	98	103	113	121	111	107	109	102	104	101	101	98	115	106	105	105	103	100	99	99
L Q	92	91	91	97	89	92	91	110	105	101	95	95	95	91	87	88	93	93	89	93	91	94	95	95

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							4	28	31	17					19	31	31	18	9					
MED							240	222	226	238					250	240	234	238	238					
U Q							254	231	236	252					254	254	246	246	240					
L Q							227	214	222	228					240	232	224	232	231					

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	6	5	1	4	3	4	4	12	13	15	11	7	8	9	10	12	19	22	18	18	18	14	18	10
MED	94	95	91	89	95	96	121	111	107	105	107	113	97	103	105	112	107	101	101	97	98	98	97	96
U Q	97	95	45	101	101	97	142	116	112	111	113	183	104	104	113	117	113	107	105	101	103	101	99	99
L Q	89	91	45	88	89	93	100	100	99	97	99	101	92	98	95	101	103	97	95	95	97	97	97	93

h'F STATION Yamakawa 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								13	29	28						29	31	29	16	4	2	1		
MED								238	232	241						242	238	244	238	247	283	240		
U Q								240	240	248						255	250	250	250	271	310	120		
L Q								224	225	230						238	230	232	232	225	256	120		

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	12	12	8	6	3	3	1	16	15	16	12	8	9	11	11	13	18	20	17	20	21	20	17	14
MED	95	94	91	93	93	97	95	123	107	107	105	107	105	105	107	113	107	103	103	98	97	97	95	95
U Q	95	96	93	95	103	107	47	134	109	112	143	144	136	119	123	119	115	110	104	102	101	101	97	97
L Q	91	90	90	89	89	95	47	112	103	105	100	102	96	91	103	102	101	96	93	96	95	95	95	95

MONTHLY MEDIANS OF h'F AND h'Es

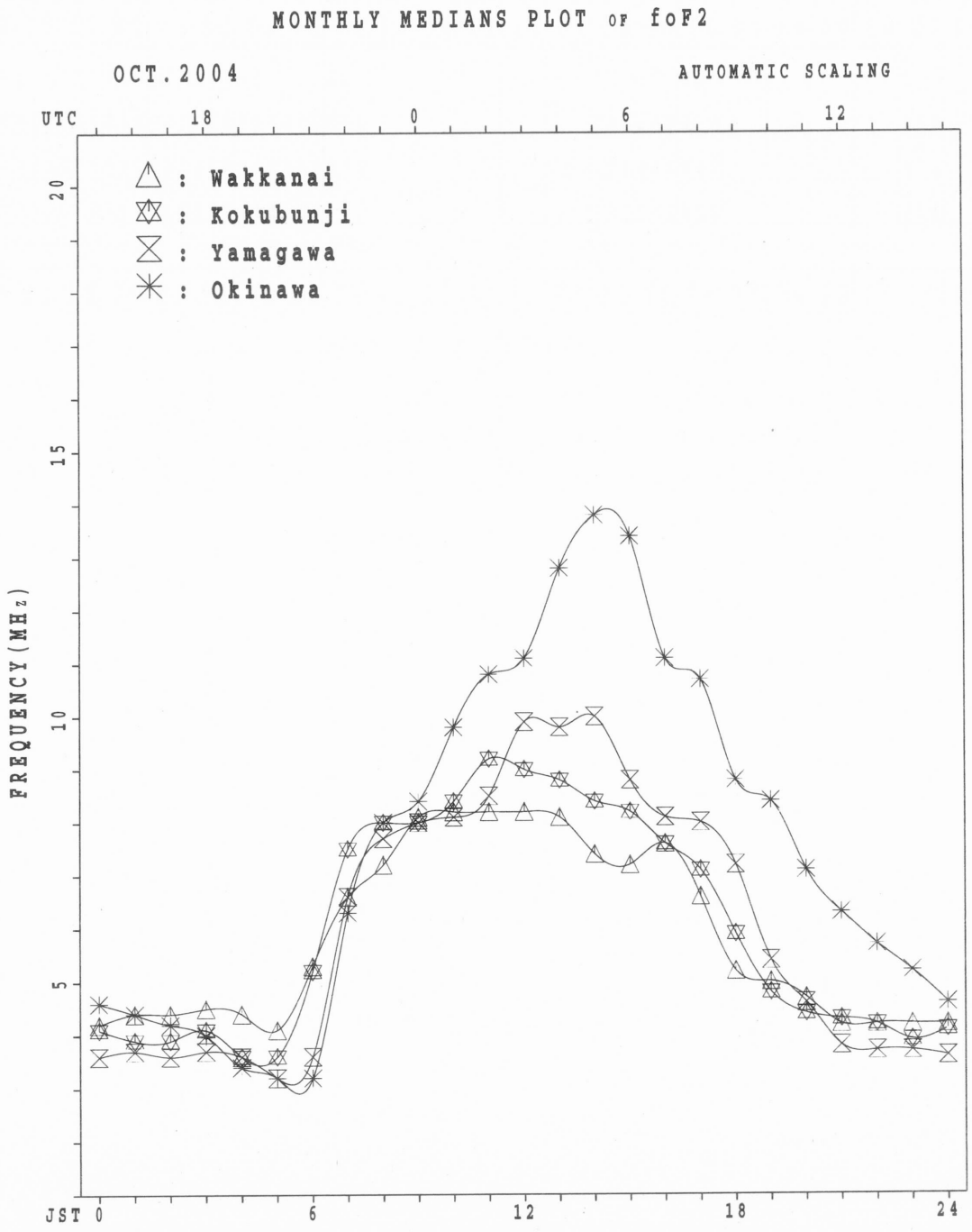
OCT. 2004 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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			1					13	29	29						22	31	31	28	18	11	10	5	2
MED			350					236	238	246						238	238	226	222	230	246	249	230	268
U Q			175					245	244	257						250	246	234	234	240	280	272	256	306
L Q			175					224	230	241						234	230	214	216	220	236	230	225	230

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	10	6	7	6	3	6	19	20	17	13	12	10	11	12	15	21	22	23	21	17	17	16	13
MED	95	91	90	89	89	101	97	123	108	105	107	105	109	107	110	105	105	101	97	95	95	95	95	95
U Q	95	95	91	93	91	105	97	127	119	110	113	107	159	115	119	107	111	107	101	100	95	95	97	96
L Q	91	89	89	87	89	93	95	109	103	103	103	103	107	97	101	97	99	95	89	95	91	89	90	92


MONTHLY MEDIANS PLOT OF foF2
OCT. 2004
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

OCT. 2004 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 50	X 51	X 50	X 51	X 50	X 49													X 77	X 55	X 49	X 48	X 51	X 51
2	X 51	X 51	X 51	X 50	X 49	X 52													X 80	X 61	X 50	X 46	X 48	X 49
3	X 48	X 48	X 48	X 51	X 44	X 38													X 81	A	X 52	X 52	X 51	X 53
4	X 50	X 52	X 50	X 53	X 40	X 42													X 82	X 57	X 50	X 49	X 50	X 51
5	X 50	X 50	X 49	X 49	X 44	X 42													X 72	X 52	X 52	X 52	X 51	X 48
6	X 47	X 48	X 48	X 50	X 42	X 32													X 71	X 49	X 48	X 49	X 49	X 50
7	X 50	X 51	X 50	X 49	X 46	X 48													X 69	X 61	X 56	X 46	X 44	X 44
8	X 44	X 47	X 47	X 45	X 43	X 41													X 77	X 61	X 48	X 41	X 41	X 43
9	X 44	X 44	X 40	X 43	X 42	X 41													X 71	X 54	X 50	X 51	X 49	X 43
10	X 46	X 46	X 47	X 49	X 48	X 48													X 66	X 44	X 43	X 45	X 48	X 46
11	X 44	X 43	X 45	X 48	X 40	X 40													X 69	X 44	X 44	X 46	X 46	X 41
12	X 42	X 43	X 43	X 46	X 43	X 36													X 64	X 49	X 53	X 53	X 51	X 51
13	X 51	X 50	X 50	X 48	X 48	X 47													X 66	X 74	X 62	X 50	X 47	X 43
14	X 42	X 42	X 44	X 48	X 41	X 38													X 60	X 61	A	X 60	X 41	A
15	X 42	X 38	X 41	X 40	X 40	A													X 66	X 48	X 51	X 49	X 50	X 46
16	X 47	X 45	X 40	X 38	X 36	X 36													X 42	X 35	X 40	X 42	X 42	X 41
17	X 42	X 43	X 42	X 43	X 41	X 33													X 55	X 47	X 47	X 43	X 38	X 40
18	X 40	X 40	X 42	X 42	X 39	X 33												X 62	X 42	A	X 42	X 43	46	X 42
19	X 42	X 42	X 42	X 40	X 33	X 34													X 53	X 46	X 50	X 49	X 46	X 50
20	X 47	X 46	X 46	X 46	X 42	X 37													X 65	X 58	X 55	X 59	X 59	X 60
21	X 62	X 60	62	X 55	X 54	X 45												X 75	X 70	X 59	X 51	X 48	X 48	X 50
22	X 50	X 51	X 49	X 46	X 40	X 41												X 71	X 70	X 50	X 50	X 52	X 49	X 48
23	X 49	X 48	X 50	X 48	X 44	X 43												X 73	X 55	X 53	X 56	X 51	X 48	X 47
24	X 49	X 48	X 48	X 52	X 37	X 35												X 84	X 62	X 60	X 55	X 49	X 50	X 47
25	X 47	X 46	X 47	X 51	X 41	X 43												X 85	X 57	X 59	X 59	X 59	X 58	X 58
26	X 53	X 56	X 45	X 44	X 41	X 46												X 76	X 68	X 70	X 58	X 56	X 55	X 55
27	X 48	X 44	X 44	X 44	X 42	X 37												X 64	A	X 45	X 47	X 51	X 48	X 46
28	X 45	X 44	X 46	X 46	X 44	X 43												X 71	X 55	X 55	X 49	X 46	X 46	X 46
29	X 44	X 44	X 42	X 42	X 42	X 36												X 76	X 54	X 47	X 46	X 46	X 48	X 46
30	X 44	X 42	X 43	X 40	X 41	X 42												X 69	X 64	X 59	X 58	X 57	X 56	X 50
31	X 41	X 43	X 46	X 44	X 46	X 48												X 73	X 59	X 57	X 62	X 60	X 52	X 46
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	30												12	30	29	30	31	31	30
MED	X 47	X 46	X 46	X 46	X 42	X 41												X 73	X 66	X 55	X 50	X 49	X 48	X 47
U Q	X 50	X 50	X 49	X 50	X 44	X 45												X 76	X 71	X 60	X 55	X 52	X 51	X 50
L Q	X 44	X 43	X 43	X 43	X 40	X 36												X 70	X 57	X 48	X 48	X 46	X 46	X 44

OCT. 2004 fxI (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 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	44	45	44	45	44	43	57	65	74	71	72	76	74	78	74	78	81	78	71	49	43	42	45	45
2	45	45	45	44	43	46	62	68	66	70	72	77	75	80	84	77	77	80	74	55	44	40	42	43
3	42	42	42	45	38	32	57	80	68	79	88	90	87	76	77	79	79	78	75	A	46	46	46	47
4	44	46	44	48	34	36	51	67	83	78	90	100	81	72	76	71	70	83	76	51	44	43	44	45
5	44	44	43	43	37	36	59	71	88	74	92	100	89	92	94	85	73	72	66	46	46	46	45	42
6	41	42	42	44	36	26	50	66	80	80	81	95	103	89	81	76	78	80	65	43	42	43	43	44
7	44	45	44	43	40	42	66	79	80	78	80	97	87	93	88	80	76	78	63	55	50	39	38	38
8	38	41	41	39	37	35	60	79	82	76	78	90	89	86	88	82	81	75	71	55	42	35	35	37
9	38	38	34	37	36	35	55	74	73	74	67	91	87	74	81	76	69	71	65	48	44	45	43	37
10	40	40	41	43	42	42	58	79	87	80	74	82	90	87	77	68	76	72	60	38	37	39	42	40
11	38	37	39	42	34	34	58	74	72	79	68	83	90	84	96	92	77	72	63	38	38	40	40	35
12	36	37	37	40	37	30	59	78	80	77	88	110	121	98	87	79	82	76	58	43	47	47	45	45
13	45	44	44	42	42	40	51	73	77	72	85	106	126	99	79	85	70	74	60	68	56	43	41	37
14	36	36	38	42	35	31	56	92	106	98	106	118	94	74	78	81	72	64	54	54	A	54	35	A
15	36	32	35	34	34	A	54	77	95	94	76	86	81	83	76	69	68	64	60	42	45	43	44	40
16	41	39	34	32	30	30	48	75	72	74	80	92	86	86	89	80	70	57	36	29	34	35	36	35
17	36	37	35	37	35	27	45	58	77	74	83	100	101	89	80	83	65	59	49	41	41	36	32	34
18	34	34	36	36	33	26	44	59	76	81	69	89	99	88	81	81	66	56	36	A	36	37	F	36
19	36	36	36	34	27	28	46	66	82	S 73	71	77	79	84	90	84	81	63	47	40	44	43	40	R 44
20	41	40	40	40	36	31	48	73	78	76	65	84	78	75	84	75	68	64	58	52	49	53	53	54
21	56	54	F	49	48	39	52	78	75	92	89	101	94	96	78	76	76	69	64	53	45	42	42	44
22	43	45	43	40	34	35	55	76	76	83	87	82	84	88	86	76	72	65	64	44	44	46	43	42
23	43	42	44	42	38	37	60	73	80	83	97	102	102	81	82	84	83	67	49	47	50	45	42	41
24	43	42	42	46	31	29	50	77	80	79	96	97	92	92	84	85	81	78	56	54	49	43	44	41
25	41	40	41	45	35	37	59	80	77	87	99	113	117	105	102	98	90	78	51	53	53	53	52	52
26	47	50	39	38	35	40	62	86	96	84	108	118	99	94	97	89	74	70	61	64	52	50	49	49
27	42	38	38	38	36	31	49	73	82	94	90	88	92	93	84	86	83	58	A	39	41	44	42	40
28	39	38	40	40	38	37	49	65	74	81	94	100	103	112	108	93	76	65	49	49	43	40	40	40
29	38	38	36	36	36	30	45	72	88	90	81	92	88	96	95	94	81	70	48	41	40	40	42	40
30	38	36	37	34	35	36	51	78	86	92	99	86	103	115	112	110	88	63	58	53	52	51	50	44
31	35	37	40	38	40	42	58	79	88	100	115	103	90	97	105	112	90	67	53	51	56	54	46	40
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	30	29	30	31	30	30
MED	41	40	40	40	36	35	55	74	80	79	85	92	90	88	84	81	76	70	60	49	44	43	42	41
U Q	44	44	43	44	38	39	59	79	86	87	94	101	101	96	94	86	81	78	65	54	49	46	45	44
L Q	38	37	37	37	34	30	49	68	75	74	74	86	86	81	79	76	70	64	51	42	42	40	40	38

OCT. 2004 foF2 (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								L	L	L	L 436	L 480	L 484	L 476	L	L								
2									L	L	L 448	L 496	L 484	L 448	L	L	L							
3									L	L 480	L 436	L 464	L 472	L 472	L 436	L	L							
4									L	L	A	L	L	L	L 464	L								
5									L	L	L	L 460	L	L	L									
6									L	L	L	L 492	L	L	L	L	A							
7									L	L	L	L 472	L	L	L	L								
8									L	A	L	L 432	L	L	L	L								
9									L	L	L 556	L 476	L	L 476	L	L								
10									L	L	L	L	L 452	L	L	L								
11									L	L	L 428	L 504	L	L	L	L								
12									L	L	L	L 484	L	L	L	L								
13											L	L 480	L 476	L	L									
14									L	L	L	L 420	L	L	L 452	A								
15									L	L	A	L 456	L	L	L	A								
16										L	L	L	L	L 472	L	L								
17										L	L	L	L	L	L	L								
18									L	L	L	L 476	L	L	L									
19										L	L	L	L 440	L 504	L	L								
20								A	L	L	L	L 432	L 448	L	L									
21									L	L	L	L	L	L										
22										L	L	L	L	L	L	A								
23									L	L	L	L 504	L	L	L	L								
24											L 480	L 464	L 492	L	L	L								
25										L	L	L 520	L	L	L									
26											L	L 468	L	L	L									
27										L	L	L	L	L										
28											L	L	L	L	L									
29											L	L	L	L										
30										L	L	L	L	L	L									
31											L	L	L	L										
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										1	6	19	8	6	3									
MED										L 480	L 442	L 476	L 474	L 474	L 452									
U Q											L 480	L 492	L 484	L 476	L 464									
L Q											L 436	L 460	L 450	L 472	L 436									

OCT. 2004 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							196	U A 244	A	A	R	A	R	R	U A 312	A	U A 248	A						
2							200	U R 256	296	A	R	R	R	R	U A 320	288	U A 236	B						
3							B	256	A	A	U R 348	A	R	U R 336	U R 324	U R 296	U A 244	B						
4							B	A	U A 296	A	A	A	J K 292	R	A	A	240	B						
5							B	U A 244	A	A	R	R	U R 344	A	A	A	U R 236	B						
6							B	U A 220	U A 280	316	A	R	R	R	R	A	U A 228	B						
7							168	A	A	R	A	R	A	R	U A 312	U R 284	240	B						
8							B	U A 236	R	A	R	R	R	U A 344	316	288	240	B						
9							B	U A 232	R	A	A	A	U A 352	R	U A 316	A	U A 232	B						
10							B	U R 252	U R 292	312	R	U R 340	A	R	R	280	U R 208	B						
11							B	236	A	U A 316	A	A	A	A	R	U R 292	248	B						
12							B	U A 248	A	A	U R 344	A	A	A	A	A	A	B						
13							B	A	U R 292	U R 328	A	R	A	A	A	U R 280	U A 216	B						
14							B	A	U A 284	A	A	A	R	A	U R 300	U A 276	A	B						
15							B	228	A	A	A	R	A	A	A	A	A	B						
16							B	U A 228	276	U R 312	A	A	R	R	U R 316	272	U R 228	B						
17							B	224	284	A	A	A	A	U R 324	U R 300	U R 272	U R 204	B						
18							B	220	288	R	R	R	R	R	308	280	A							
19							B	U R 252	U A 292	U A 308	A	R	U R 352	R	A	U R 268	R	B						
20							B	A	A	A	R	R	U R 356	R	308	A	A	B						
21							B	228	A	A	A	U R 340	R	U R 328	U R 312	280	A							
22							B	224	292	R	R	R	U R 356	R	U A 316	U A 284	R							
23							B	224	A	A	A	R	352	R	A	A	A							
24							B	236	A	A	R	R	356	A	324	U A 284	U A 216							
25							B	240	U A 292	A	A	A	R	A	U A 312	U A 280	A							
26							B	232	A	A	A	R	U R 356	A	A	A	A							
27							B	232	296	312	U R 336	R	R	U R 332	R	U R 280	A							
28							B	U R 232	284	A	A	A	A	A	A	A	U R 224							
29							B	224	300	A	A	A	U R 356	U R 336	A	U A 284	U A 216							
30							B	U R 236	A	R	A	R	R	R	R	272	U A 220							
31							B	U A 224	A	A	A	A	U A 356	A	A	R	A							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							3	26	15	7	3	2	11	6	15	19	18							
MED							196	232	292	U 312	U R 344	U R 340	U R 356	U R 334	U 312	U 280	U 230							
U Q							200	U 244	296	U 316	U R 348		U R 356	U 336	U 316	U R 284	240							
L Q							168	224	284	312	U R 336		352	U R 328	308	U 276	U A 216							

OCT. 2004 foE (0.01MHz)

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 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	E B 15	J A 16	J A 20	E B 15	E B 15	20	J A 26	J A 28	J A 35	J A 39	G 32	38	G 28	G 27	36	33	32	J A 46	J A 36	J A 24	J A 18	J A 18	J A 19	19
2	E B 16	E B 15	E B 15	E B 15	E B 15	E B 14	G	G 22	34	J A 43	G	G 26	G 27	G 29	36	32	28	J A 39	J A 36	18	J A 30	J A 75	J A 55	J A 20
3	E B 15	E B 16	E B 15	E B 16	E B 15	E B 16	20	30	J A 42	J A 46	G 32	J A 41	G 29	G 25	G	G	28	J A 47	J A 71	J A 80	J A 69	J A 33	J A 20	J A 22
4	J A 18	20	E B 15	E B 14	E B 15	E B 15	E B 16	J A 41	36	J A 42	J A 58	J A 42	J G 28	G 28	34	32	26	20	E B 15	E B 16	E B 15	J A 31	J A 27	J A 24
5	J A 28	J A 17	20	J A 19	J A 20	J A 19	21	30	34	J A 40	G 30	G 33	J A 43	J A 40	36	J A 38	27	22	J A 20	J A 58	J A 28	E B 15	J A 20	J A 19
6	J A 20	E B 16	E B 15	E B 14	E B 15	15	22	28	32	35	39	G 23	G 24	G 22	G 26	35	J A 44	J A 51	J A 25	J A 20	J A 22	J A 28	J A 22	J A 25
7	J A 24	22	E B 15	E B 16	E B 14	E B 15	20	26	34	G 32	34	G 30	J A 55	G 22	35	G 23	32	J A 46	J A 36	E B 15	J A 56	J A 26	J A 26	E B 15
8	E B 15	E B 16	J A 18	J A 74	J A 49	J A 19	J A 22	28	G 21	J A 49	G 21	G 26	G	38	38	39	J A 38	J A 27	J A 33	J A 19	J A 21	J A 29	22	E B 15
9	E B 15	E B 15	E B 15	E B 16	J A 17	J A 18	21	28	G 26	34	J A 40	J A 56	39	G 30	40	J A 76	J A 35	J A 29	J A 25	J A 65	J A 42	J A 22	J A 37	J A 21
10	J A 26	E B 15	E B 15	E B 15	E B 14	J A 17	J A 20	G 23	G 22	G 30	G 27	G 31	41	G 20	G	G 24	J A 24	J A 23	J A 26	E B 15	J A 19	E B 15	19	E B 16
11	E B 15	E B 15	E B 15	E B 16	E B 15	E B 14	E B 15	30	31	J A 43	J A 43	38	J A 45	41	G 28	G 26	37	J A 34	J A 26	J A 32	J A 54	J A 38	J A 61	19
12	E B 16	E B 15	E B 15	18	18	E B 16	19	28	30	33	G 22	35	37	J A 41	32	J A 32	J A 28	J A 26	E B 16	J A 42	J A 35	J A 32	J A 24	J A 28
13	E B 16	19	E B 16	18	E B 15	E B 15	E B 17	J A 30	G 27	G 31	J A 44	G 32	36	J A 38	J A 37	G 23	27	J A 28	J A 23	J A 23	J A 23	E B 15	E B 15	J A 20
14	J A 21	21	18	E B 16	E B 16	26	22	J A 44	35	33	36	36	G 33	J A 40	G 25	J A 78	J A 179	J A 55	J A 91	J A 69	J A 101	J A 22	J A 55	J A 53
15	J A 43	J A 26	19	E B 15	J A 60	J A 60	J A 21	G 20	J A 40	J A 45	J A 60	G 31	J A 44	36	J A 34	35	27	J A 31	J A 26	30	18	E B 16	21	E B 16
16	19	18	E B 15	J A 25	E B 15	J A 19	19	28	30	G 22	35	36	G 29	G 29	G	G 20	G	E B 16	E B 15	E B 15	E B 15	J A 20	J A 42	E B 16
17	E B 15	J A 19	J A 17	19	E B 15	18	E B 16	G	31	34	38	39	35	G 31	G 28	G 26	G 19	E B 16	20	19	J A 17	E B 15	E B 15	E B 16
18	E B 16	E B 15	E B 15	J A 20	E B 15	E B 15	19	28	G 23	G 25	G 28	G 28	G 25	G	34	G J 20	J A 29	J A 34	J A 31	J A 38	J A 31	E B 15	J A 34	E B 16
19	E B 16	J A 17	J A 22	18	18	21	18	G 20	32	34	35	G 29	G 32	G 29	J A 42	G 22	J A 23	20	E B 16	J A 16	E B 15	E B 15	J A 32	J A 54
20	J A 44	J A 25	18	E B 16	J A 20	J A 19	J A 24	J A 88	J A 36	J A 38	G 23	G	G 28	G 29	37	J A 44	J A 37	20	E B 15	E B 14	E B 16	E B 15	E B 21	J A 25
21	J A 20	J A 16	18	E B 15	J A 17	J A 18	18	27	J A 41	J A 43	36	G 30	G 28	G 26	26	32	30	J A 29	J A 30	J A 33	J A 25	E B 16	J A 21	J A 24
22	J A 20	20	E B 15	E B 15	E B 14	E B 16	E B 16	27	G 24	G 26	G 24	G 25	G 26	G 21	37	J A 40	J G 18	21	19	E B 15	E B 15	E B 25	J A 20	J A 27
23	E B 16	J A 16	E B 15	E B 16	E B 15	E B 15	E B 16	25	32	34	35	G 33	38	J A 37	J A 40	J A 39	J A 33	J A 27	J A 27	J A 28	J A 26	E B 18	E B 16	E B 15
24	J A 17	J A 40	J A 31	J A 35	J A 29	20	19	29	34	J A 36	G 30	G 28	J A 38	J A 43	38	34	J A 43	J A 35	J A 42	J A 36	J A 34	J A 38	J A 24	J A 17
25	19	18	J A 19	E B 15	E B 15	E B 15	E B 16	28	J A 41	J A 42	J A 100	J A 43	G	J A 46	J A 41	33	J A 34	J A 42	J A 90	J A 44	E B 15	E B 15	E B 14	E B 15
26	J A 22	J A 23	J A 19	J A 28	J A 25	J A 20	J A 20	28	J A 39	J A 36	J A 43	G 27	G 25	J A 52	36	35	J A 43	J A 41	J A 32	J A 31	J A 26	J A 22	J A 26	J A 20
27	J A 18	J A 20	J A 25	E B 15	18	20	18	26	32	34	G 28	G 24	G 26	G 29	G 26	G 23	J A 57	J A 21	J A 53	J A 39	J A 30	J A 20	J A 32	J A 19
28	E B 15	J A 17	J A 18	E B 16	E B 16	E B 15	E B 15	G 19	33	36	J A 44	39	J A 44	37	34	31	G J 21	A E 19	B J 15	A J 20	A E 18	B J 14	A J 19	A J 16
29	19	19	J A 18	J A 30	J A 23	E B 15	E B 16	26	G 25	35	J A 38	35	G 31	G 23	34	37	J A 45	J A 38	21	J A 29	J A 36	J A 23	J A 24	E B 15
30	E B 15	E B 16	E B 16	E B 16	E B 15	E B 15	E B 16	G	34	G J 41	A 27	G	G 27	G 28	G 21	37	33	J A 23	J A 27	J A 23	J A 26	J A 28	J A 24	J A 18
31	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	30	J A 38	J A 77	J A 63	J A 43	J A 43	J A 46	34	G 28	J A 26	J A 24	E B 15	B J 30	A E 14	B E 15	B 20	J A 17
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	17	17	E B 16	E B 16	E B 15	E B 16	19	28	33	35	35	G 33	G 33	G 30	34	32	J A 30	J A 28	J A 26	A J 28	A J 25	A J 20	A J 22	A J 19
U Q	J A 20	J A 20	J A 19	J A 19	J A 18	19	21	30	J A 36	J A 42	J A 43	J A 38	J A 39	J A 40	37	J A 37	J A 37	J A 39	J A 36	J A 38	J A 34	J A 28	J A 32	J A 24
L Q	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15	E B 16	G 25	G 30	G 33	G 30	G 28	G 28	G 27	G	G 26	26	21	E B 19	E B 18	E B 17	E B 15	20	E B 16

OCT. 2004 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 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	16	E B 15	E B 15	E B 15	E B 16	G 16	G 23	31	33	G 30	38	G 28	G 27	34	32	32	40	20	E B 16	E B 16	E B 15	E B 15	E B 14
2	E B 16	E B 15	E B 15	E B 15	E B 15	E B 14	G	G 22	32	36	G	G 26	U Y 27	G 29	34	32	27	36	20	17	26	18	29	16
3	E B 15	E B 16	E B 15	E B 16	E B 15	E B 16	20	28	34	37	G 32	36	U Y 29	G 25	G	G	26	34	38	A A 80	41	E B 15	E B 15	E B 15
4	E B 16	E B 16	E B 15	E B 14	E B 15	E B 15	E B 16	29	35	36	49	36	G 25	G 24	31	30	25	18	E B 15	E B 16	E B 15	24	20	E B 16
5	20	E B 15	E B 15	E B 16	18	16	20	28	32	38	G 30	U Y 33	30	36	32	34	26	20	16	29	22	E B 15	E B 16	E B 15
6	16	E B 16	E B 15	E B 14	E B 15	E B 15	21	27	31	34	37	U Y 23	U Y 24	G 21	G 26	33	36	48	16	E B 14	17	18	18	22
7	16	20	E B 15	E B 16	E B 14	E B 15	20	26	31	U Y 32	34	G 30	39	G 22	34	G 23	31	40	32	E B 15	26	18	E B 14	E B 15
8	E B 15	E B 16	E B 16	26	23	E B 15	18	26	G 20	44	G 20	G 26	G	38	37	35	30	25	23	E B 15	E B 15	E B 15	E B 15	E B 15
9	E B 15	E B 15	E B 15	E B 16	E B 15	E B 15	20	27	G 26	32	36	38	38	G 29	36	34	30	26	20	36	32	E B 15	29	20
10	24	E B 15	E B 15	E B 15	E B 14	16	18	G 23	G 19	G 30	U Y 27	G 31	39	U Y 20	G	G 21	G 18	20	18	E B 15	E B 15	E B 15	16	E B 16
11	E B 15	E B 15	E B 15	E B 16	E B 15	E B 14	15	28	30	35	36	36	41	38	G 28	G 26	35	31	23	29	32	25	20	E B 16
12	E B 16	E B 15	E B 15	E B 15	E B 16	E B 16	17	26	29	32	U Y 22	34	35	35	31	26	25	22	E B 16	29	23	25	17	24
13	E B 16	E B 16	E B 16	E B 15	E B 15	E B 15	E B 17	27	G 26	G 30	42	U Y 32	36	35	34	G 23	26	23	20	18	20	E B 15	E B 15	E B 15
14	E B 15	17	16	E B 16	E B 16	25	17	36	35	32	35	34	U Y 33	36	G 25	44	44	22	36	35	A A 101	17	23	A A 53
15	17	17	E B 16	E B 15	E B 15	A A 60	17	G 18	33	33	54	G 29	38	35	31	34	26	28	25	28	18	E B 16	E B 15	E B 16
16	E B 15	E B 14	E B 15	E B 15	E B 15	17	18	26	30	G 22	34	34	G 28	U Y 29	G	G 19	G	E B 16	E B 15	E B 15	E B 15	19	24	E B 16
17	E B 15	17	E B 16	E B 15	E B 15	E B 15	E B 16	G	29	33	35	36	35	G 30	G 26	G 25	G 17	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16
18	E B 16	E B 15	E B 15	16	E B 15	E B 15	18	25	G 23	G 25	G 27	G 28	G 24	G	32	G 19	24	30	25	A A 38	27	E B 15	E B 15	E B 16
19	E B 16	E B 16	E B 16	E B 16	E B 14	E B 15	17	G 17	30	32	34	G 28	G 32	G 29	31	G 22	G 19	18	E B 16	E B 15	E B 15	E B 15	17	34
20	E B 15	21	17	E B 16	18	16	21	59	34	33	G 23	G	G 28	G 28	36	29	35	19	E B 15	E B 14	E B 16	E B 15	E B 15	21
21	E B 16	E B 14	E B 16	E B 15	E B 15	15	17	26	31	35	36	G 29	G 28	G 26	G 25	30	28	26	28	22	21	E B 16	18	21
22	E B 15	E B 16	E B 15	E B 15	E B 14	E B 16	E B 16	26	G 24	G 26	G 24	G 25	G 24	U Y 21	35	34	G 18	19	19	E B 15	E B 15	20	17	18
23	E B 16	E B 15	E B 15	E B 16	E B 15	E B 15	E B 16	25	31	33	34	G 31	38	30	32	32	29	20	24	23	22	E B 16	E B 16	E B 15
24	E B 16	27	23	20	17	18	17	28	31	35	U Y 30	G 25	G 32	40	35	32	33	30	39	28	22	24	18	E B 15
25	E B 15	E B 16	16	E B 15	E B 15	E B 15	E B 16	26	36	38	37	37	G	40	37	30	26	26	34	24	E B 15	E B 15	E B 14	E B 15
26	18	18	E B 15	26	23	E B 15	17	28	32	34	35	G 24	G 24	40	35	32	36	35	28	26	17	20	19	E B 15
27	E B 14	18	17	E B 15	E B 15	E B 16	17	25	31	33	G 28	G 24	G 26	G 29	G 26	G 22	46	18	A A 53	36	26	17	28	E B 15
28	E B 15	E B 15	E B 16	E B 16	E B 16	E B 15	E B 15	U Y 19	32	36	37	36	37	35	32	30	G 20	17	E B 15	18	E B 15	E B 14	E B 15	E B 15
29	E B 15	E B 15	E B 15	26	17	E B 15	E B 16	25	G 24	34	34	35	G U Y 31	23	33	35	35	36	20	25	29	20	22	E B 15
30	E B 15	E B 16	E B 16	E B 16	E B 15	E B 15	E B 16	G	32	G	36	G 27	G 25	G 28	G 20	36	31	17	20	16	22	24	20	E B 16
31	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	27	33	36	37	36	G 33	36	32	U Y 28	24	21	E B 15	26	E B 14	E B 15	E B 16	17
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	E B 15	E B 16	E B 15	E B 16	E B 15	E B 15	17	26	31	33	34	G	G 32	29	32	30	27	23	20	22	20	E B 16	17	E B 16
U Q	16	17	16	16	16	16	18	28	32	36	36	36	36	36	34	34	33	31	28	29	26	20	20	18
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	G	G 29	G 32	G 30	G 27	G 27	G 26	G	G 25	G 24	19	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15

OCT. 2004 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 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	14	15	15	15	16	13	14	14	19	19	18	18	21	17	16	14	16	15	16	16	15	15	15
2	16	15	15	15	15	14	15	14	14	15	22	17	20	24	15	14	15	16	15	15	15	15	15	14
3	15	16	15	16	15	16	15	15	14	18	15	16	22	18	22	20	14	15	16	14	15	15	15	15
4	16	16	15	14	15	15	16	14	13	14	14	15	16	15	15	15	16	14	15	16	15	15	15	16
5	14	15	15	16	14	14	14	16	16	16	21	25	23	22	16	20	14	16	14	15	14	15	16	15
6	15	16	15	14	15	15	14	15	14	14	24	15	17	15	19	17	17	16	15	14	14	15	14	15
7	14	13	15	16	14	15	14	15	16	16	18	18	16	15	15	19	15	13	14	15	15	14	14	15
8	15	16	16	14	14	15	13	14	13	15	14	17	23	21	19	16	14	15	14	15	15	15	15	15
9	15	15	15	16	15	15	15	14	16	15	19	18	22	18	20	14	14	15	15	16	15	14	14	15
10	15	15	15	15	14	13	14	16	15	18	18	18	18	15	16	14	14	15	14	15	15	15	14	16
11	15	15	15	16	15	14	15	14	15	18	21	23	20	21	21	16	16	15	14	15	15	15	15	16
12	16	15	15	15	16	16	16	13	17	19	16	15	14	15	14	13	15	14	16	15	14	15	14	13
13	16	16	16	15	15	15	17	15	15	20	15	15	23	15	14	16	15	16	15	15	15	15	15	15
14	15	14	14	16	16	14	14	16	16	16	20	22	20	19	16	14	14	14	14	15	14	14	16	16
15	15	16	16	15	15	15	14	15	15	14	16	14	19	16	14	14	16	15	14	15	14	16	15	16
16	15	14	15	15	15	14	15	16	15	15	16	15	22	24	22	15	15	16	15	15	15	15	14	16
17	15	14	16	15	15	15	16	14	18	18	20	22	17	21	23	15	15	16	15	15	15	15	15	16
18	16	15	15	14	15	15	16	14	14	16	16	20	19	17	16	14	16	14	15	15	15	15	15	16
19	16	16	16	16	14	15	14	15	15	15	18	21	20	18	15	15	15	15	16	15	15	15	15	15
20	15	14	16	16	14	14	14	16	14	13	14	21	19	21	22	14	15	14	15	14	16	15	15	14
21	16	14	16	15	15	13	14	14	14	18	21	18	20	19	18	14	15	16	16	14	14	16	15	14
22	15	16	15	15	14	16	16	14	15	16	18	16	14	14	14	14	16	14	16	15	15	15	15	14
23	16	15	15	16	15	15	16	14	15	16	18	17	20	21	18	16	12	14	14	15	15	16	16	15
24	16	14	15	15	14	16	15	15	15	16	16	17	15	15	14	15	17	14	15	15	16	15	14	15
25	15	16	13	15	15	15	16	15	16	17	20	23	28	23	17	14	14	14	15	15	15	15	14	15
26	15	14	15	15	14	14	14	14	16	16	16	16	18	18	16	14	15	14	13	15	14	14	14	14
27	14	15	14	15	15	16	14	15	16	15	16	16	15	23	20	15	16	14	15	15	14	14	16	15
28	15	15	16	16	16	15	15	14	16	15	23	16	19	18	18	16	15	14	15	14	15	14	15	15
29	15	15	15	13	14	15	16	15	15	16	15	16	22	14	14	16	15	16	14	15	15	15	15	15
30	15	16	16	16	15	15	16	14	16	20	22	18	21	18	13	15	16	14	14	15	15	15	15	16
31	15	15	15	15	15	14	15	17	14	15	19	17	21	20	17	16	14	15	15	16	14	15	16	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	15	15	15	15	15	15	15	15	15	16	18	17	20	18	16	15	15	15	15	15	15	15	15	15
U Q	16	16	16	16	15	15	16	15	16	18	20	20	22	21	19	16	16	16	15	15	15	15	15	16
L Q	15	14	15	15	14	14	14	14	14	15	16	16	17	15	15	14	14	14	14	15	14	15	14	15

OCT. 2004 fmin (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 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	303	293	314	323	319	332	378	362	371	348	358	334	319	333	313	330	350	361	369	362	303	299	288	292
2	297	310	298	316	307	321	388	381	359	366	359	341	327	325	328	331	338	352	359	333	313	271	286	286
3	298	301	311	327	345	300	362	378	340	336	326	332	323	329	339	345	336	343	355	A	306	293	276	304
4	268	298	293	319	332	300	344	348	348	342	314	344	334	336	342	345	336	341	355	349	306	291	290	282
5	284	297	299	306	311	304	353	362	365	336	320	338	331	326	352	352	338	345	356	312	303	306	321	300
6	298	295	305	345	372	307	363	361	354	342	329	330	331	338	334	335	343	352	365	312	303	283	289	278
7	293	295	301	308	318	319	372	384	375	372	338	337	330	331	336	342	349	345	364	343	334	319	304	296
8	286	292	315	323	332	317	377	371	376	367	319	332	327	309	326	344	353	351	355	355	323	295	295	298
9	302	311	288	311	333	344	365	375	369	369	296	331	333	326	323	345	355	352	351	340	309	304	330	304
10	297	306	310	317	310	315	354	381	371	372	322	320	319	328	342	340	350	354	359	353	285	287	310	309
11	313	294	315	333	337	315	351	379	362	346	326	326	325	314	328	339	359	346	356	347	295	289	305	297
12	283	283	303	340	347	327	357	373	367	337	309	316	328	339	331	348	367	353	357	298	307	307	302	305
13	300	304	303	295	309	348	385	368	375	325	318	317	342	350	337	353	334	338	313	337	339	313	310	299
14	292	266	296	332	314	296	331	337	360	313	336	352	355	354	343	354	352	348	307	299	A	341	291	A
15	305	276	304	292	285	A	340	354	356	381	369	345	347	348	358	346	349	353	353	299	313	304	315	308
16	323	333	320	324	310	309	350	369	372	353	332	346	327	332	344	366	367	367	352	286	293	309	306	285
17	298	317	311	335	361	366	355	369	372	352	343	336	342	343	340	363	361	359	347	323	324	327	294	301
18	303	308	323	326	357	342	357	366	358	355	336	331	340	356	352	357	379	365	332	A	313	294	F	307
19	289	294	312	344	340	306	363	357	373	369	360	338	344	325	346	350	367	361	339	300	309	316	287	R 315
20	286	286	293	305	343	300	339	372	357	376	329	329	360	344	351	359	356	337	339	314	304	299	297	295
21	294	287	F	309	317	301	348	354	356	355	327	333	324	333	346	347	341	336	332	318	319	300	284	295
22	308	316	314	328	310	295	356	375	361	352	350	355	333	340	338	346	350	345	344	320	303	319	319	300
23	294	298	311	319	316	303	365	371	357	338	325	327	335	328	333	337	353	347	320	307	323	324	308	306
24	302	290	320	375	356	302	343	378	354	332	331	325	320	342	333	338	348	351	332	310	324	294	298	302
25	292	302	308	339	357	290	343	388	353	333	309	326	322	321	327	336	348	340	312	303	285	294	299	323
26	299	337	313	316	286	299	340	370	344	351	326	335	326	321	329	352	348	331	324	330	309	311	310	325
27	325	302	298	315	330	302	346	364	355	352	351	338	337	331	337	344	354	346	A	287	300	317	310	301
28	292	295	304	318	316	324	344	372	361	337	333	331	323	326	332	339	345	343	327	327	322	298	312	309
29	301	309	321	321	340	311	343	367	358	365	350	339	317	331	320	342	354	359	350	319	310	305	311	303
30	319	297	319	308	313	293	349	377	365	346	355	309	297	322	321	341	343	336	323	307	300	304	311	333
31	301	299	304	293	287	302	358	360	344	333	345	345	323	315	327	342	372	342	328	304	321	333	330	305
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	30	29	30	31	30	30
MED	298	298	309	319	319	306	354	370	360	351	331	333	328	331	336	345	350	347	348	318	309	304	304	302
U Q	303	308	314	332	343	321	363	377	371	366	350	339	337	340	343	352	356	353	356	338	321	316	311	307
L Q	292	293	301	309	310	300	344	362	355	337	322	327	323	325	328	339	343	342	328	304	303	294	291	296

OCT. 2004 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								L	L	L	L 415	L 397	L 389	L 368	L	L								
2									L	L	L 414	L 370	L 390	L 407	L	L	L							
3									L	L 375	L 437	L 405	L 389	L 371	L 384	L	L							
4									L	L	A	L	L	L	L 359	L								
5									L	L	L	L 386	L	L	L									
6									L	L	L	L 373	L	L	L	L	A							
7									L	L	L	L 401	L	L	L	L								
8									L	A	L	L 442	L	L	L	L								
9									L	L	L 361	L 380	L	L 370	L	L								
10									L	L	L	L	L 408	L	L	L								
11									L	L	L 426	L 370	L	L	L	L								
12									L	L	L	L 373	L	L	L	L								
13											L	L 371	L 367	L	L									
14									L	L	L	L 429	L	L	L 367	A								
15									L	L	A	L 413	L	L	L	A								
16										L	L	L	L	L 361	L	L								
17										L	L	L	L	L	L	L								
18									L	L	L	L 385	L	L	L									
19										L	L	L	L 423	L 376	L	L								
20								A	L	L	L	L 433	L 401	L	L									
21									L	L	L	L	L	L										
22										L	L	L	L	L	L	A								
23									L	L	L	L 378	L	L	L	L								
24											L 380	L 388	L 387	L	L	L								
25										L	L	L 354	L	L	L									
26											L	L 390	L	L	L									
27										L	L	L	L	L										
28											L	L	L	L	L									
29											L	L	L	L										
30										L	L	L	L	L	L									
31											L	L	L	L										
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										1	6	19	8	6	3									
MED										L 375	L 414	L 386	L 390	L 370	L 367									
U Q											L 426	L 405	L 404	L 376	L 384									
L Q											L 380	L 373	L 388	L 368	L 359									

OCT. 2004 M(3000)F1 (0.01)

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 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								226	224	246	244	274	276	270	296	270								
2									232	242	250	254	278	274	274	270	252							
3									230	262	266	250	242	266	264	256	252							
4									246	250	282	248	260	250	262	254								
5									222	242	284	244	254	270	244									
6									242	232	242	270	264	250	268	258	234							
7									226	228	244	250	252	270	254	254								
8									222	232	248	252	264	268	260	256								
9									232	226	354	270	242	290	284	246								
10									232	232	252	266	266	264	258	256								
11									232	246	242	274	260	274	266	248								
12									234	242	274	274	252	238	262	250								
13											274	274	250	234	258									
14									230	248	244	240	228	240	252	242								
15									242	220	228	252	248	258	248	234								
16										240	256	248	236	260	248	234								
17										244	252	258	240	244	256	238								
18									242	244	250	272	252	246	242									
19										232	240	252	250	298	250	240								
20								E A 252	234	234	232	256	232	256	252									
21									222	240	260	254	246	260										
22										234	240	242	264	254	246	236								
23									232	244	256	258	252	236	266	254								
24											248	244	268	254	254	252								
25										254	266	254	262	258	258									
26											262	242	254	266	246									
27										234	230	230	250	264										
28											260	258	256	262	250									
29											234	252	260	262										
30										242	236	286	284	258	258									
31											230	234	238	278										
	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	18	25	31	31	31	31	27	19	3							
MED								239	232	242	250	254	252	260	258	252	252							
U Q									234	245	262	270	264	270	264	256	252							
L Q									226	232	240	248	246	250	250	240	234							

OCT. 2004 h'F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 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 258	E A 270	E B 262	244	220	226	202	H 168	202	188	186	200	H 174	H 182	200	198	226	220	206	198	246	248	E B 282	E B 270
2	E B 272	256	E B 264	E B 240	E B 252	242	200	200	198	198	H 190	H 168	192	H 180	218	216	216	228	210	210	E A 258	E A 304	E A 350	E A 292
3	E B 274	E B 256	248	230	218	240	214	218	204	194	H 172	H 162	200	192	200	210	212	220	226	A	E A 350	E B 270	E B 294	E B 264
4	E B 286	E B 278	E B 268	236	212	E B 258	H 200	198	A	204	A	H 188	200	198	206	210	226	232	210	200	E B 238	E A 300	E A 302	E B 302
5	E A 296	E B 278	252	248	238	E A 266	216	216	208	200	H 188	E B 184	H 192	206	210	228	220	218	210	E A 254	E A 284	248	238	E B 270
6	E A 276	E B 278	E B 270	226	200	E B 280	214	222	206	202	H 180	H 182	224	204	212	210	A	230	206	208	E A 260	E A 280	E A 294	E A 300
7	E A 290	E A 286	E B 266	246	236	236	214	208	198	194	H 186	H 174	186	216	216	226	222	228	214	210	E A 238	230	236	E B 268
8	E B 292	E B 272	E B 252	E A 272	246	242	210	216	204	A	186	H 170	H 174	230	E A 238	224	230	220	208	194	210	E B 266	E B 284	E B 280
9	E B 268	E B 258	E B 286	E B 272	222	224	212	216	214	198	202	H 184	220	204	236	220	228	226	214	E A 248	E A 298	E B 254	246	E A 286
10	E A 290	E B 264	252	244	228	230	214	210	208	206	200	H 190	194	210	220	212	230	210	206	202	E B 280	E B 286	E A 268	238
11	E B 244	E B 282	E B 260	230	218	E B 254	220	210	196	200	194	202	E A 230	222	212	218	220	216	206	E A 244	E A 342	E A 322	E A 260	242
12	E B 296	E B 300	E B 274	228	206	220	228	212	202	196	H 190	H 176	H 180	212	202	216	214	204	202	E A 290	E A 264	E A 264	E A 268	E A 276
13	E B 258	E B 260	E B 260	E B 262	238	218	198	H 180	206	200	E A 238	H 184	H 178	218	206	208	222	226	232	226	210	220	242	E B 256
14	E B 296	E A 316	E A 280	230	E B 252	E A 322	244	226	A	202	H 198	H 186	200	212	208	A	226	212	E A 276	E A 302	A	220	E A 296	A
15	E A 276	E A 336	E B 276	E B 270	E B 294	A	226	224	218	202	A	H 186	210	206	210	A	220	210	212	E A 270	E A 262	E A 260	E B 242	E B 268
16	238	218	228	228	242	E A 260	226	220	212	202	198	194	202	198	214	212	214	202	198	E B 244	E B 272	E B 278	E A 298	E B 298
17	E B 272	E B 252	E A 254	E B 226	204	206	208	H 164	212	206	200	202	196	196	200	218	200	214	212	222	226	216	E B 280	E B 278
18	E B 288	E B 272	E B 252	242	210	220	214	212	200	210	202	H 178	H 182	216	214	212	212	206	E A 258	A	E A 302	H 268	E B 290	E B 266
19	E B 268	E B 278	E B 246	224	206	E B 276	212	204	218	204	202	H 190	H 178	212	222	206	208	202	202	236	E B 246	228	E A 270	E A 310
20	E B 284	E A 308	E A 292	E B 264	216	E A 256	222	A	E A 218	206	H 184	H 176	H 172	208	224	226	216	208	214	214	226	240	238	E A 262
21	E B 264	E B 286	E B 272	238	212	E A 250	222	220	208	204	206	192	H 190	218	218	224	226	220	228	218	236	E B 250	E A 304	E A 288
22	E B 262	228	236	232	230	E B 270	218	208	210	196	194	H 196	206	216	222	A	220	212	224	212	E B 252	E A 258	244	E A 282
23	E B 274	E B 266	E B 250	236	226	E B 256	218	208	208	202	200	H 184	226	212	212	224	222	208	226	E A 258	246	232	244	E B 274
24	E B 256	E A 308	E A 270	214	208	E A 276	224	208	212	200	178	182	200	A	206	220	220	216	E A 240	E A 252	228	E A 272	E A 262	E B 264
25	E B 274	E B 268	E A 270	222	202	E B 286	228	198	206	222	200	H 188	212	216	224	218	220	210	E A 270	E A 264	E B 260	E B 244	E B 248	226
26	E A 252	224	214	E A E 280	E A E 330	E B 278	222	212	210	206	194	H 184	200	E A 236	222	222	210	230	226	234	218	E A E 254	E A 260	236
27	222	E A 262	E A 274	236	222	E B 260	226	214	216	208	208	194	196	206	224	220	216	202	A	E A E 416	E A 322	E A 250	E A 286	E B 264
28	E B 268	E B 278	E B 264	244	238	240	212	198	214	216	212	208	204	202	220	222	212	206	204	232	224	E B 256	E B 264	E B 254
29	E B 262	E B 258	E B 256	E B E 276	E A E 224	E B 262	232	216	216	220	206	194	204	212	220	232	218	216	202	E A 256	E A E 300	E A 272	E A 276	E A 258
30	242	E B 264	246	E B 254	246	E B 274	216	212	210	208	H 192	H 192	202	222	222	228	206	204	230	234	E A 268	E A E 262	E A 246	212
31	234	E B 260	E B 264	E B 276	E B 282	E B 264	218	212	220	224	204	206	H 184	214	238	230	212	202	214	E A 268	240	226	228	E A 250
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	30	31	30	29	30	29	31	31	30	31	28	30	31	30	29	30	31	31	30
MED	E B 272	E B 270	E B 262	234	221	E 256	216	212	208	202	196	H 186	198	212	215	219	220	214	212	U 216	E 255	E 256	E 268	E 268
U Q	E B 286	E B 282	E A 270	E B 262	E B E 242	E B 270	224	216	214	206	202	194	204	216	222	224	222	220	226	E A 257	E A 280	E A 272	E A 290	E A 282
L Q	258	258	252	230	212	236	212	204	204	200	H 187	H 182	H 184	204	208	212	212	206	206	211	236	240	244	256

OCT. 2004 h'F (KM)

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 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							132	A	A	A	118	116	112	114	116	118	120	A						
2							E B 132	128	118	118	118	114	114	120	114	110	114	B						
3							B	122	120	A	122	A	118	116	112	114	120	B						
4							B	A	122	A	A	A	116	112	114	112	114	B						
5							B	116	110	A	114	R	114	A	A	A	124	B						
6							B	122	122	118	A	110	112	106	114	112	118	B						
7							128	122	118	116	A	116	A	110	114	114	118	B						
8							B	120	116	A	116	112	114	116	118	120	120	B						
9							B	116	116	116	A	A	116	114	116	114	118	B						
10							B	122	112	114	110	110	A	110	110	108	112	B						
11							B	114	114	118	114	116	116	118	118	118	124	B						
12							B	116	118	A	114	106	110	A	110	A	A	B						
13							B	A	128	122	A	A	A	A	A	116	120	B						
14							B	116	116	114	114	114	A	A	118	122	A	B						
15							B	118	A	A	A	110	A	A	A	A	A	B						
16							B	122	124	110	112	A	118	120	120	116	116	B						
17							B	116	114	118	118	A	A	118	120	118	116	B						
18							B	114	116	118	116	114	112	112	114	114	A							
19							B	122	124	122	114	116	116	112	A	112	110	B						
20							B	A	A	A	112	110	116	116	118	124	A	B						
21							B	118	A	A	A	116	112	116	118	116	112							
22							B	118	118	112	110	114	114	116	114	114	114							
23							B	114	114	A	A	116	120	118	A	A	A							
24							B	116	114	A	116	110	110	A	110	114	120							
25							B	120	118	A	A	A	116	A	116	116	A							
26							B	116	A	A	A	112	116	A	112	112	A							
27							B	118	118	116	114	114	112	120	120	116	A							
28							B	114	120	116	A	A	A	A	A	A	122							
29							B	118	118	110	A	A	120	114	112	114	116							
30							B	118	A	114	A	110	114	116	112	112	118							
31							B	120	A	A	A	A	118	A	A	118	A							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							3	27	24	17	17	20	24	21	24	26	21							
MED							132	118	118	116	114	114	115	116	114	114	118							
U Q							132	122	120	118	117	116	116	118	118	118	120							
L Q							128	116	115	114	113	110	112	112	112	112	114							

OCT. 2004 h'E (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 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	B	116	112	B	B	110	108	106	106	106	104	134	102	98	142	126	120	106	106	108	108	100	100	88
2	B	B	B	B	B	B	G	106	126	116	G	96	100	104	138	140	116	102	100	100	98	100	96	94
3	B	B	B	B	B	B	160	134	114	104	100	100	98	100	G	G	116	106	100	96	96	106	104	104
4	92	96	B	B	B	B	B	94	124	96	96	98	98	94	110	116	124	128	B	B	B	98	96	96
5	96	94	94	90	92	90	128	126	118	104	104	102	100	100	102	98	160	120	110	98	100	B	94	96
6	94	B	B	B	B	B	144	136	140	126	106	92	94	92	100	120	114	102	110	108	104	94	92	90
7	90	92	B	B	B	B	134	120	124	102	102	100	94	96	142	104	114	110	104	B	106	106	108	B
8	B	B	96	108	98	100	102	118	102	92	92	100	G	154	134	122	118	110	104	88	100	104	104	B
9	B	B	B	B	90	96	122	128	106	110	100	100	148	98	128	116	116	108	104	100	98	98	96	96
10	100	B	B	B	B	94	96	108	94	100	98	98	88	90	G	86	90	88	86	B	98	B	98	B
11	B	B	B	B	B	B	B	130	122	120	122	130	114	120	106	106	132	114	108	102	100	96	96	100
12	B	B	B	88	88	B	132	134	114	106	92	110	108	98	110	98	98	98	B	94	96	96	96	94
13	B	94	B	96	B	B	B	108	106	104	98	98	100	96	96	98	130	108	102	92	94	B	B	94
14	92	94	90	B	B	110	124	114	114	120	120	116	104	102	104	114	102	104	102	100	102	106	100	98
15	98	96	98	B	100	96	100	100	104	98	90	96	96	94	92	90	90	90	88	88	88	B	92	B
16	84	86	B	92	B	96	134	130	154	92	116	104	104	106	G	104	G	B	B	B	B	98	94	B
17	B	92	94	94	B	100	B	G	134	118	116	106	108	106	104	104	98	B	90	94	94	B	B	B
18	B	B	B	102	B	B	136	146	102	100	104	98	98	G	160	92	96	98	100	96	102	B	106	B
19	B	96	94	98	100	96	132	102	124	120	118	100	102	92	94	104	90	116	B	116	B	B	114	110
20	106	96	96	B	92	98	104	96	96	92	94	G	100	102	136	124	104	106	B	B	B	B	100	96
21	100	98	98	B	104	100	144	152	104	100	106	102	102	98	104	128	120	108	108	102	104	B	90	86
22	86	86	B	B	B	B	B	148	102	100	96	98	92	94	124	112	88	110	106	B	B	100	100	96
23	B	96	B	B	B	B	B	154	114	104	104	104	164	102	102	98	98	100	96	96	96	94	B	B
24	92	90	90	92	94	94	142	126	118	106	102	98	94	90	138	130	110	104	100	98	98	96	94	96
25	96	96	92	B	B	B	B	146	122	110	102	104	G	102	112	128	102	102	98	98	B	B	B	B
26	88	90	90	88	90	92	140	122	106	102	100	96	102	104	116	114	104	100	100	100	100	100	100	100
27	96	98	98	B	98	96	130	140	144	142	102	98	100	106	106	106	104	104	98	98	98	98	96	96
28	B	94	92	B	B	B	B	100	122	118	108	104	106	108	102	106	104	100	B	100	100	B	98	96
29	94	96	92	92	92	B	B	154	104	110	102	100	104	90	112	124	120	106	102	96	96	96	96	B
30	B	B	B	B	B	B	B	G	106	G	104	100	94	102	88	122	112	122	106	104	98	96	96	96
31	B	B	B	B	B	B	B	118	106	106	108	104	102	100	106	108	102	102	B	100	B	B	100	100
	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	16	20	15	11	12	15	19	29	31	30	30	30	29	30	28	30	30	29	24	25	24	19	27	21
MED	94	95	94	92	93	96	132	126	114	105	102	100	100	100	108	110	107	106	102	98	98	98	96	96
U Q	97	96	98	98	99	100	140	138	124	116	106	104	104	104	131	122	118	110	106	101	101	100	100	99
L Q	91	92	92	90	91	94	108	107	104	100	98	98	97	94	102	104	98	101	99	96	96	96	96	94

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2004 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

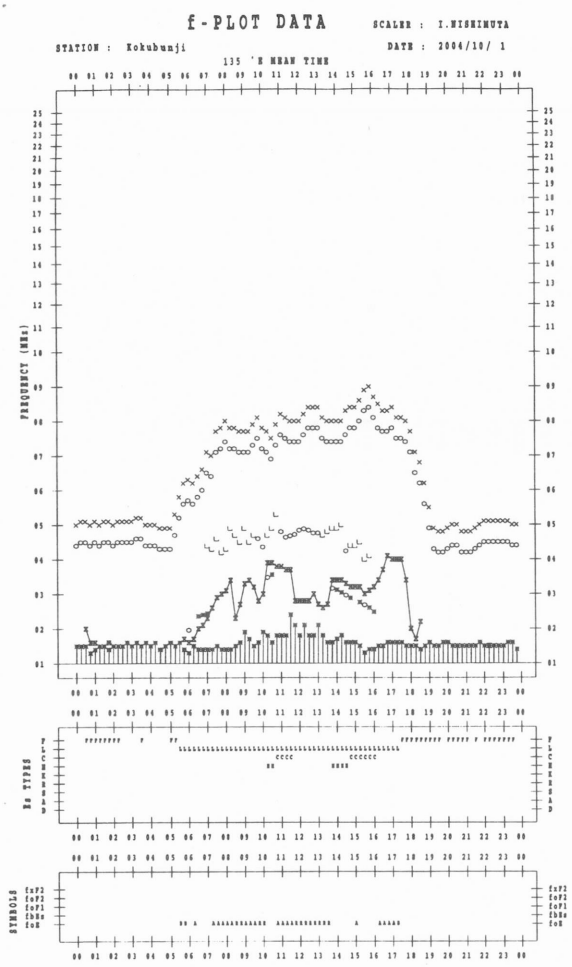
LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

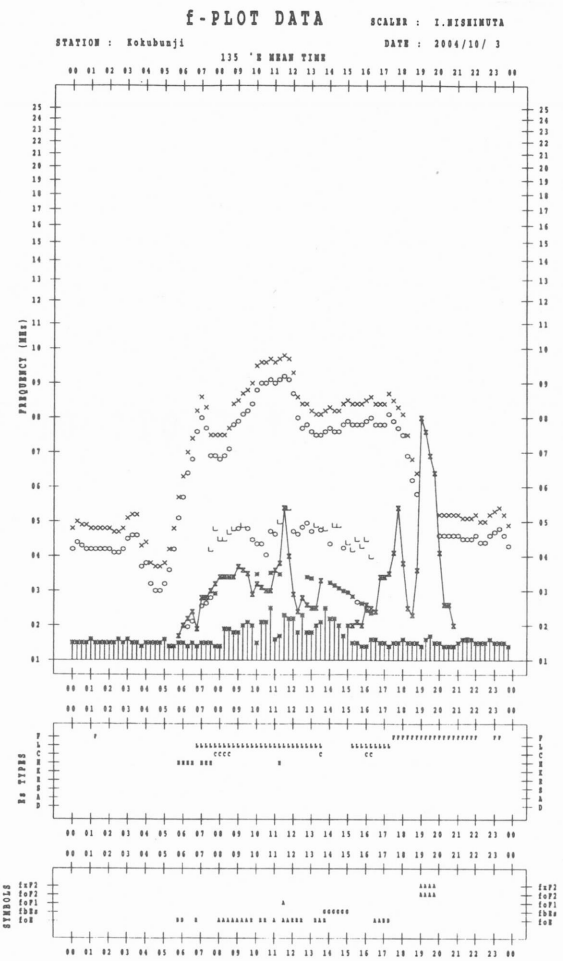
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1		F2	F2			F1	L1	L2	L1	L1	L1	CL11	L1	L1	HL11	CL11	CL31	L4	F3	F1	F1	F1	F1	F2
2								L1	CL11	CL21		L1	L1	L1	HL11	HL11	CL11	L2	F2	F1	F3	F2	F3	F2
3							H1	HL21	CL21	L2	L1	L1	L2	L1			CL11	LL12	FF22	F3	F4	F2	F2	F1
4	F1	F1						L2	CL12	LC11	L2	L1	L1	L1	CL11	CL11	C1	C1				F2	F2	F2
5	F2	F2	F2	F3	F5	F3	CL21	C2	CL21	L2	L1	L1	L1	L1	L1	L2	HL11	C2	F2	F5	F3		F2	F2
6	F2						H2	HL21	HL11	CL11	L1	L1	L1	L1	L1	CL11	C3	L4	F2	F3	F2	F2	F2	F3
7	F2	F1					H2	CL21	CL11	L1	L1	L1	L1	L1	HL11	L1	CL21	CL33	FF22		F2	F2	F1	
8			F2	FF23	F3	F2	L2	CL12	L1	L2	L1	L1		HL11	HL11	CL21	CL31	CL31	FF22	F1	F1	F2	F2	
9					F2	F2	C2	C1	L2	CL11	L2	L2	HL11	L1	CL11	CL11	CL31	L2	F3	F3	F3	F3	F2	F2
10	F2					F2	L1	L2	L2	L1	L1	L1	L2	L1		L2	L3	L3	F1		F2		F1	
11								H1	CL11	CL11	CL11	CL11	CL11	CL11	L1	L1	HL21	C4	F3	F4	F4	F4	F3	F1
12				F1	F1		C1	C1	CL11	L1	L1	CL11	CL11	L1	CL11	L1	L2	L3		F3	F2	F2	F2	F4
13		F1		F1				L2	L1	L1	L2	L1	L1	L2	L3	L1	CL11	C3	F3	F3	F4			F2
14	F2	F2	F1			F2	C1	C2	CL11	CL11	CL11	CL11	L1	L1	L1	CL21	L3	L1	F3	F2	F4	F1	F3	F4
15	F4	F3	F1		F2	F4	L2	L1	L2	L2	L2	L1	L2	L1	L1	L2	L2	L2	F3	F2	F1		F1	
16	F1	F1		F2		F3	H2	CL11	HL11	L2	CL11	L1	L1	L1		L1						F1	F3	
17		F2	F1	F1		F1			H1	CL11	CL11	L2	L1	L2	L1	L1	L2		F1	F1	F1			
18				F1			H1	HL12	L1	L1	L1	L1	L2		HL11	L1	LC11	F3	F2	F4	F3		F1	
19		F1	F1	F1	F1	F1	H1	L1	CL11	CL11	CL11	L1	L1	L2	L2	L1	L2	C1		F1			F3	F3
20	F1	F2	F1		F2	F1	L2	L3	L2	L2	L1		L1	L1	HL11	CL21	L3	L1					F1	F3
21	F2	F1	F1		F1	F1	H1	HL11	L1	L2	L1	L1	L1	L1	L1	CL11	CL21	F2	F2	F3	F3		F4	F3
22	F2	F1						H1	L2	L1	L2	L1	L2	L1	CL12	CL11	L1	F1	F1			F3	F3	F3
23		F1						HL11	CL11	L1	L1	L1	HL11	L1	L2	L2	L2	F1	F3	F2	F3	F1		
24	F1	F2	F3	F2	F2	F1	H1	CL11	CL11	L2	L1	L1	L2	L2	HL11	CL22	CL32	F3	F3	F3	F2	F4	F2	F3
25	F1	F1	F2					H1	CL21	L1	L2	L1		L1	CL11	CL11	L2	F2	F4	F3				
26	F2	F3	F1	F3	F3	F2	H2	C2	L1	L1	L1	L1	L1	L2	CL11	CL11	L2	FF32	FF22	F3	F3	F2	F3	F1
27	F2	F2	F1		F1	F1	H1	HL11	HL11	HL11	L1	L1	L1	L1	L1	L1	L3	F2	F4	F4	F3	F3	F4	F2
28		F1	F1					L1	CL11	CL11	L1	L1	L1	L1	L1	L2	L2	F2		F3	F1		F2	F1
29	F1	F1	F2	F3	F2			HL11	L1	CL21	L2	L1	L1	L1	CL11	CL11	CL31	F3	F1	F3	F3	F3	F5	
30									L1		L1	L1	L1	L1	L1	CL21	C2	F1	F2	F1	F4	F4	F3	F3
31								CL11	L2	L1	L2	L1	L1	L1	L1	L1	L2	F3		F4			F1	F2
	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																								

OCT. 2004 TYPES OF Es

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
DATA : 2004/10/ 1
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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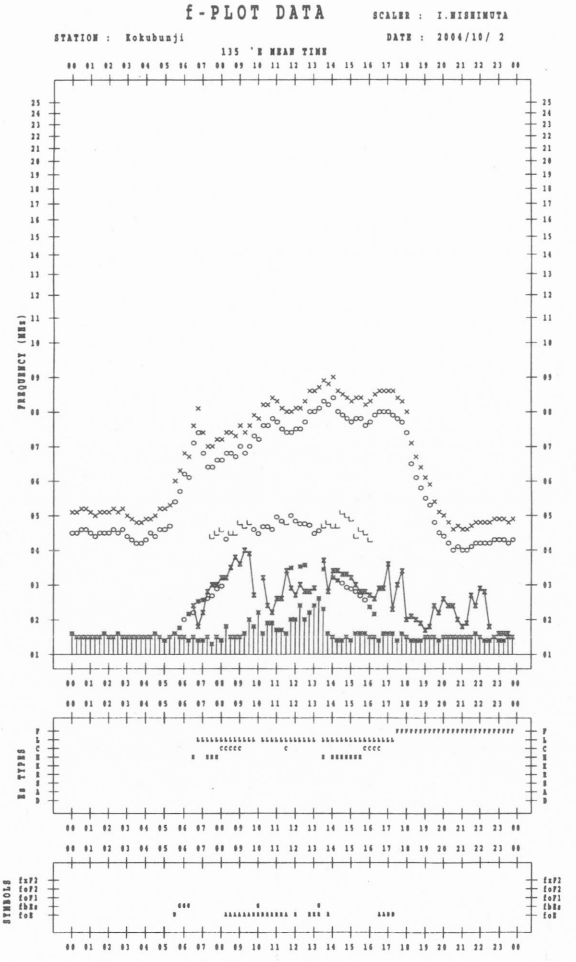
STATION : Kokubunji
DATA : 2004/10/ 3
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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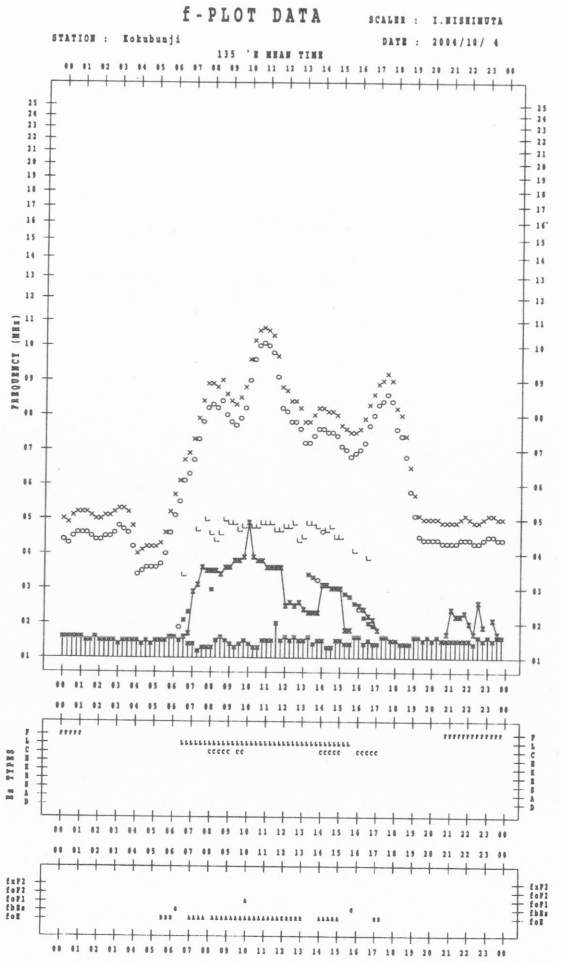
STATION : Kokubunji
DATA : 2004/10/ 2
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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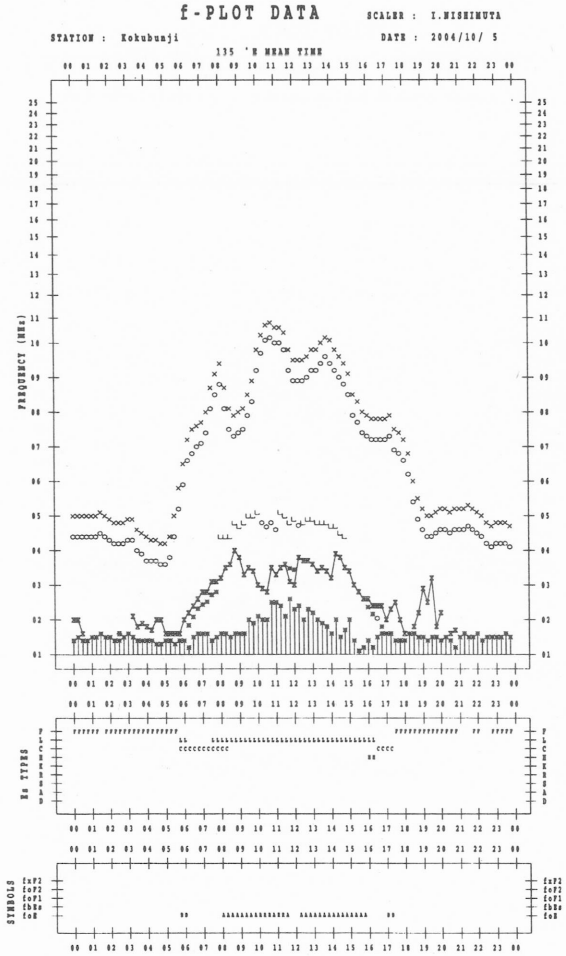
STATION : Kokubunji
DATA : 2004/10/ 4
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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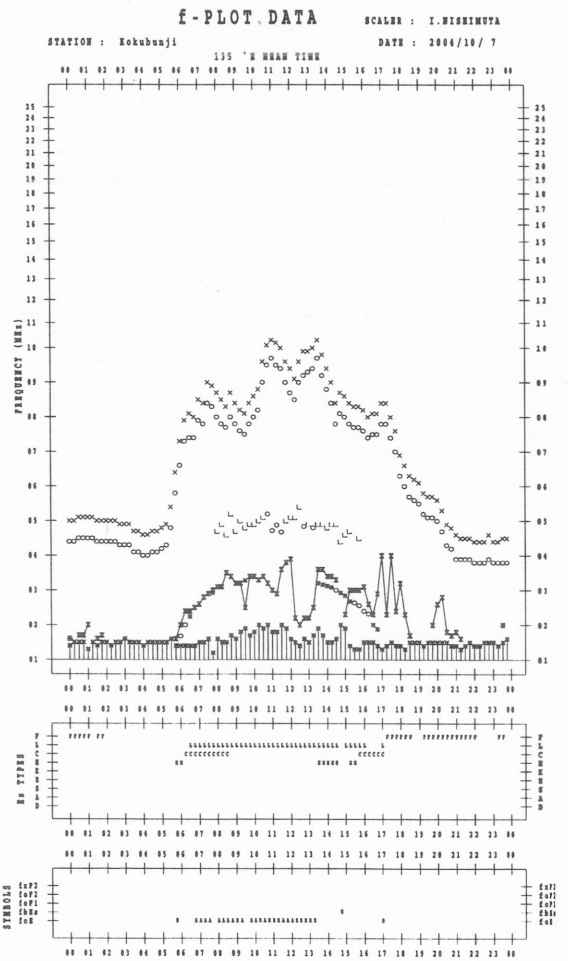
STATION : Kokubunji
DATE : 2004/10/ 5
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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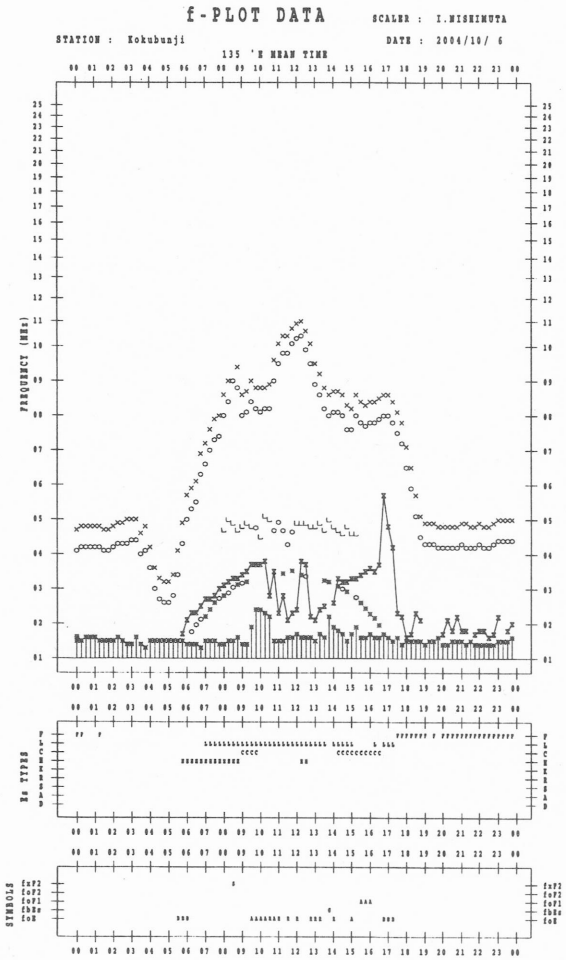
STATION : Kokubunji
DATE : 2004/10/ 7
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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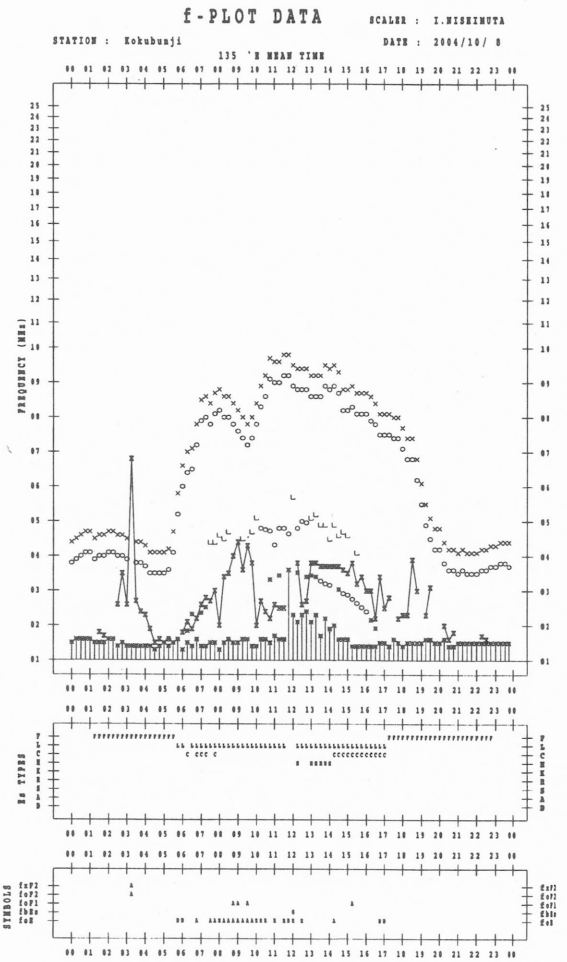
STATION : Kokubunji
DATE : 2004/10/ 6
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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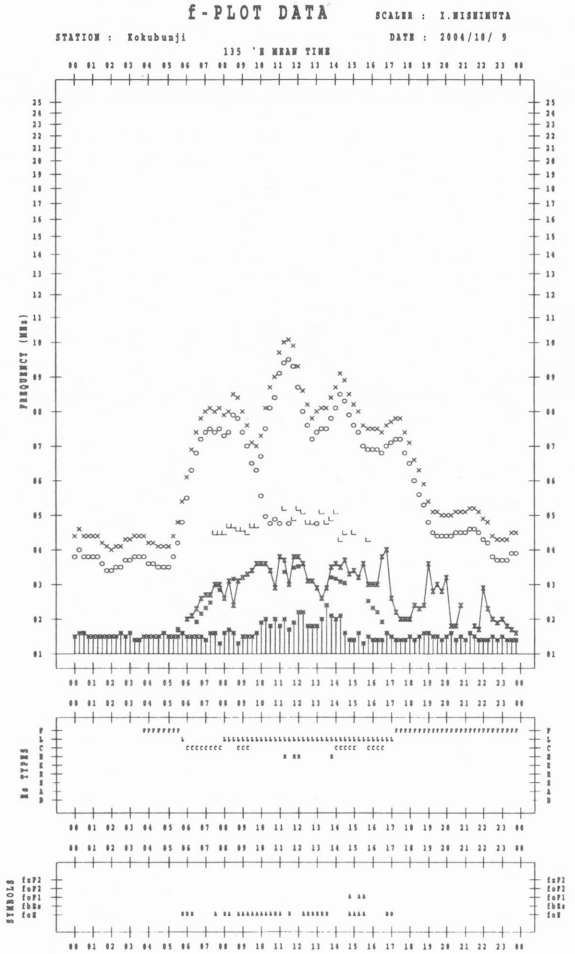
STATION : Kokubunji
DATE : 2004/10/ 8
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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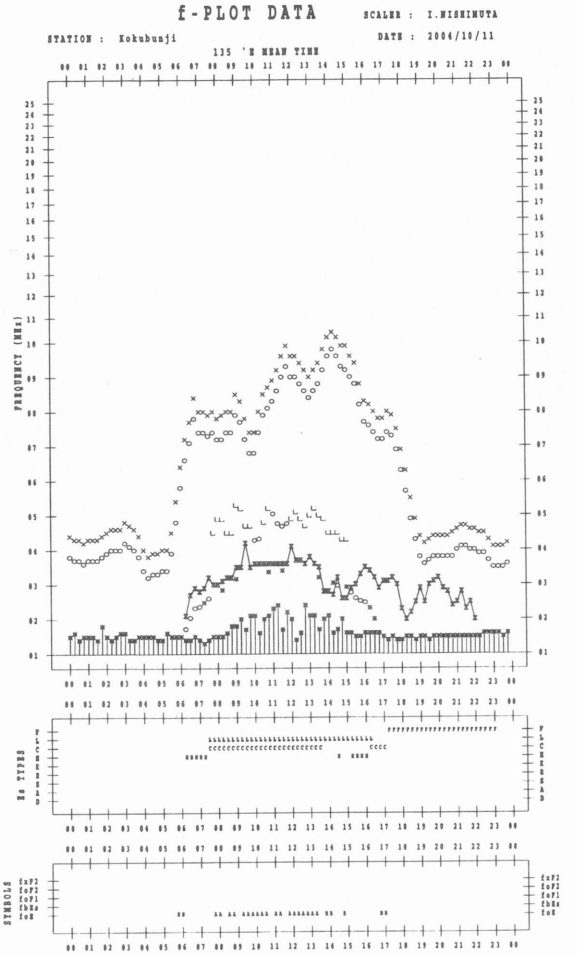
STATION : Kokubunji
DATE : 2004/10/ 9
135 'E MEAN TIME
FREQUENCY (MHz)
Re TYPES
SYMBOLS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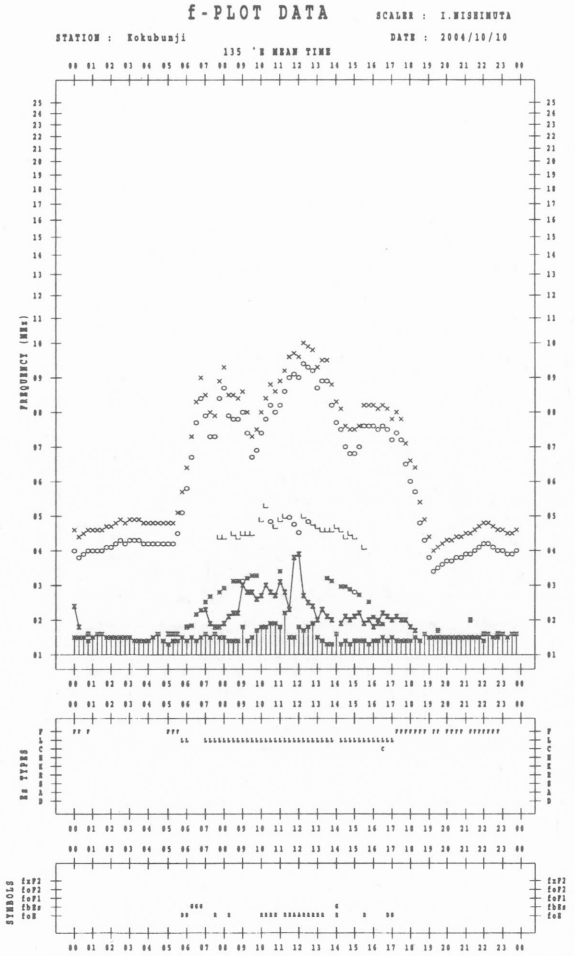
STATION : Kokubunji
DATE : 2004/10/11
135 'E MEAN TIME
FREQUENCY (MHz)
Re TYPES
SYMBOLS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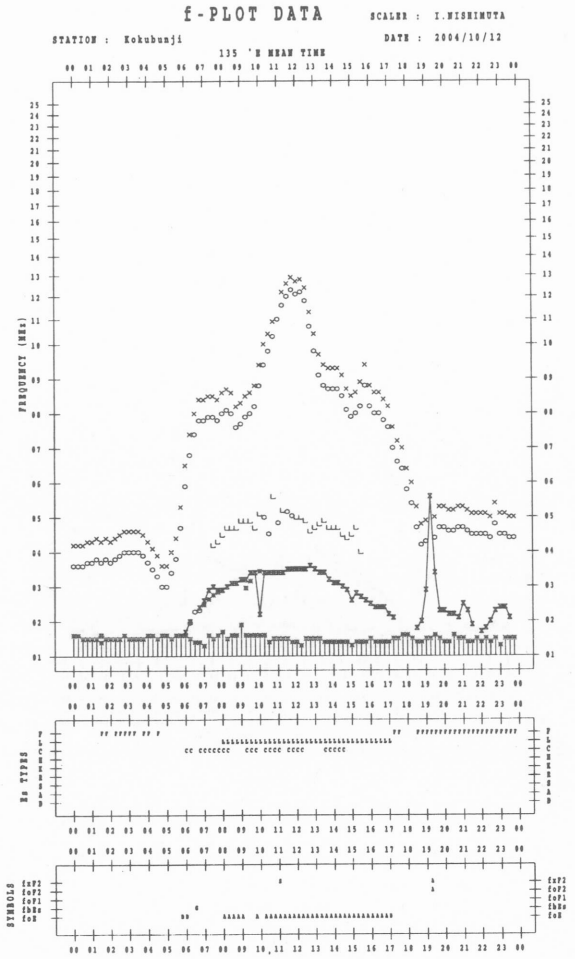
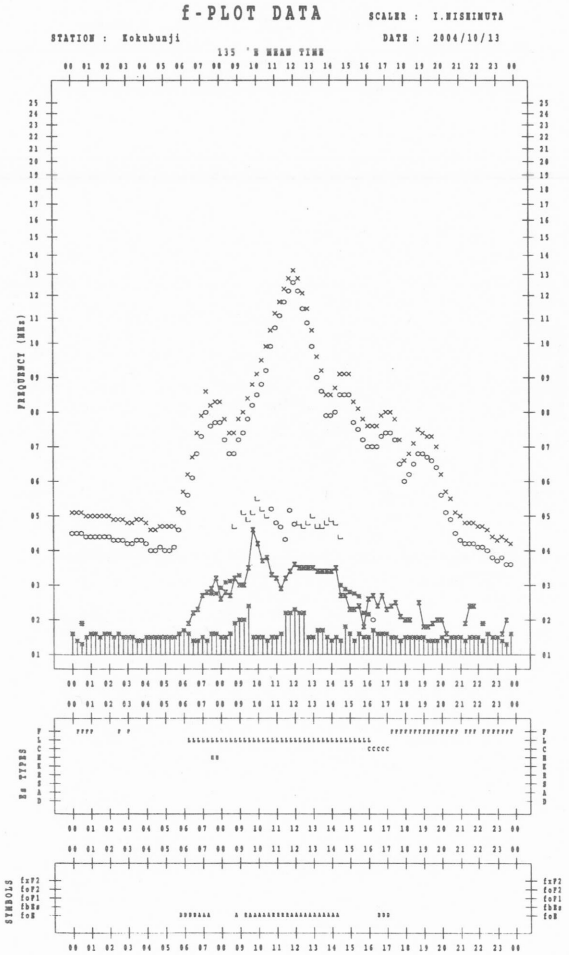
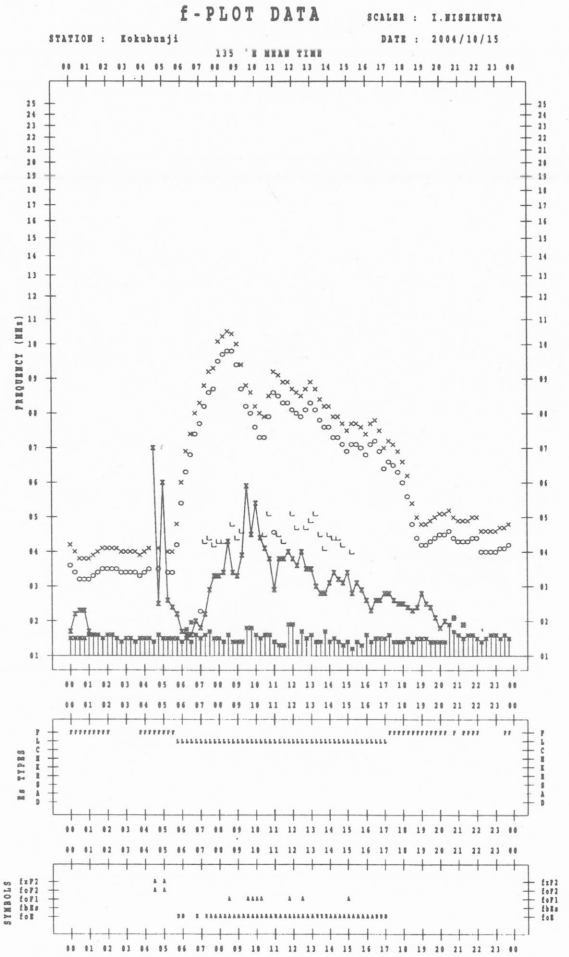
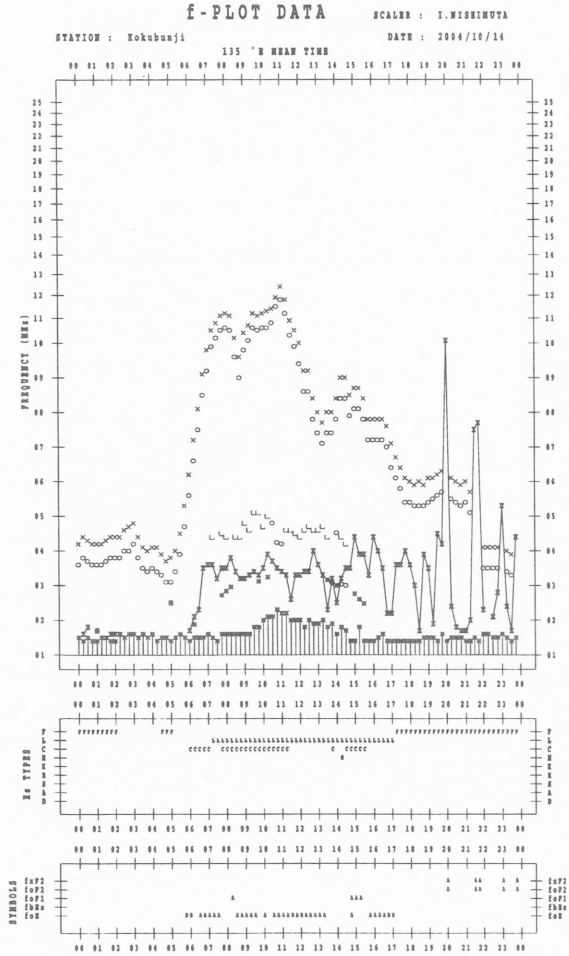
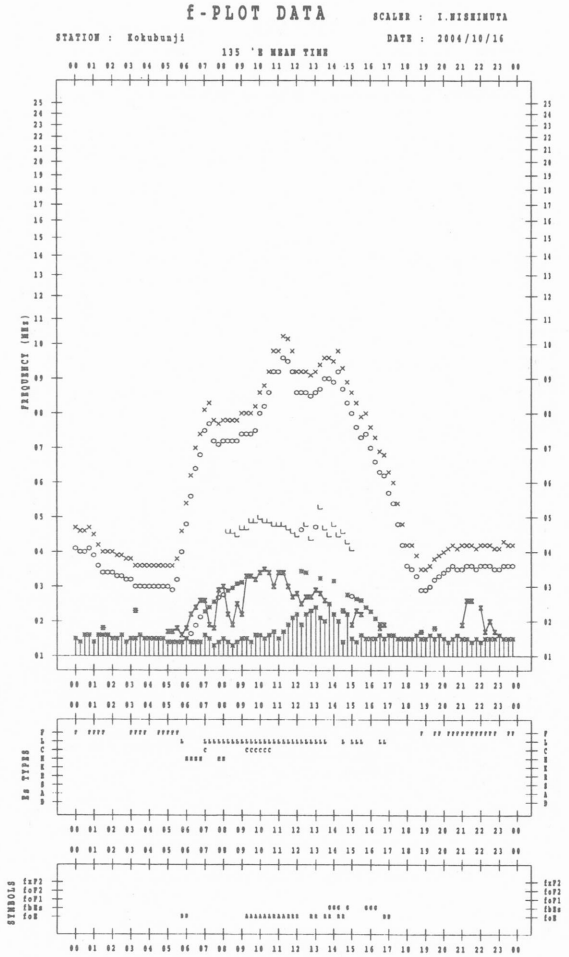
STATION : Kokubunji
DATE : 2004/10/10
135 'E MEAN TIME
FREQUENCY (MHz)
Re TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/10/12
135 'E MEAN TIME
FREQUENCY (MHz)
Re TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2004/10/13
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2004/10/15
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2004/10/14
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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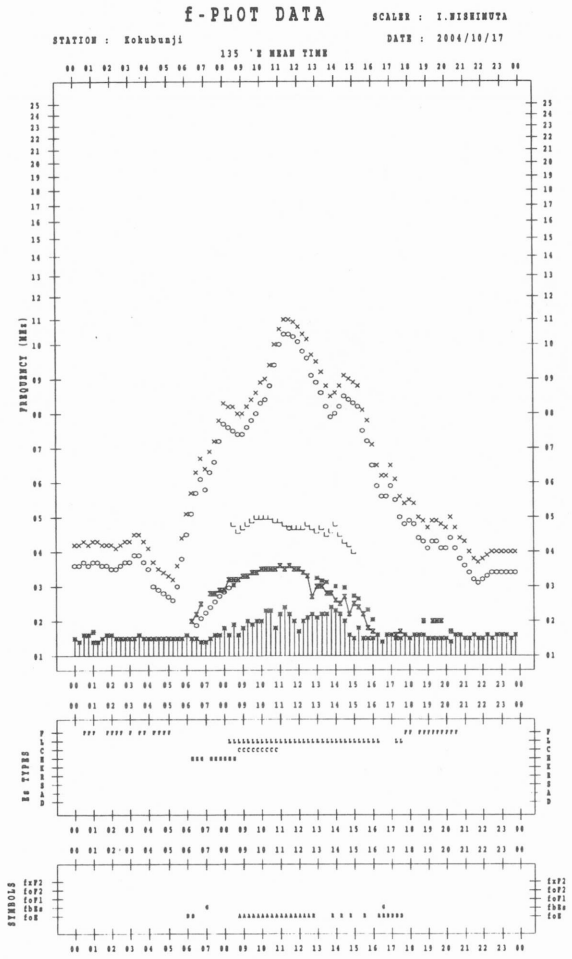
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2004/10/16
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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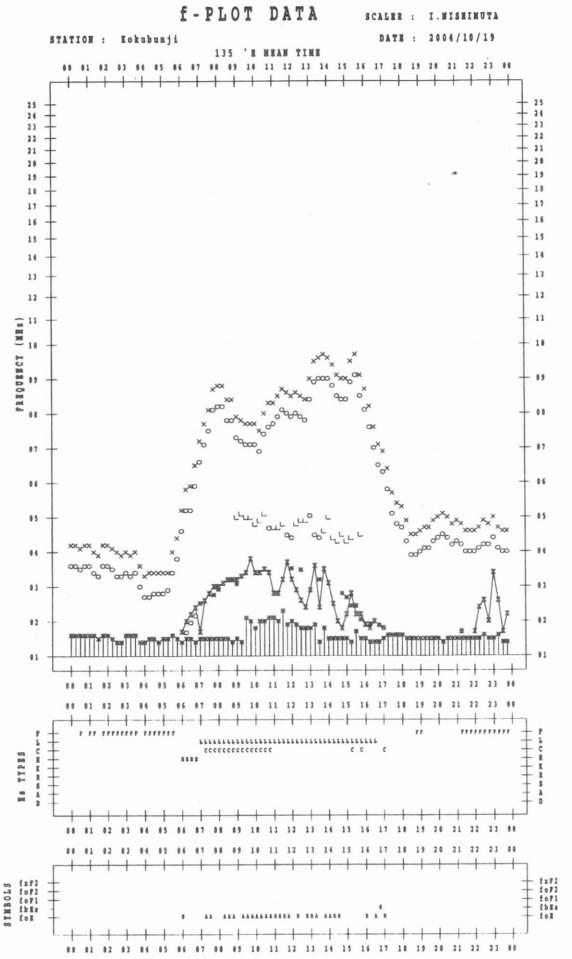
STATION : Kokubunji
DATE : 2004/10/17
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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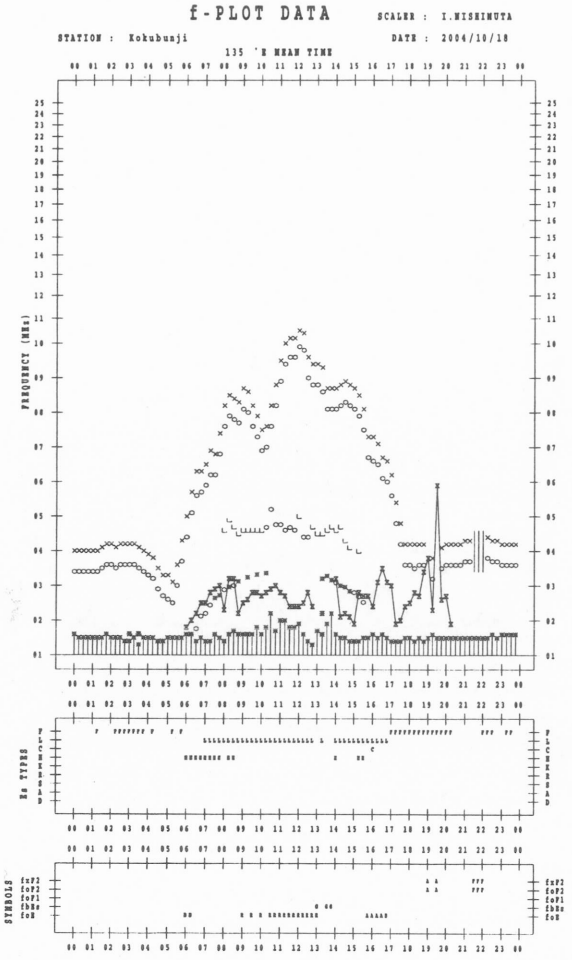
STATION : Kokubunji
DATE : 2004/10/19
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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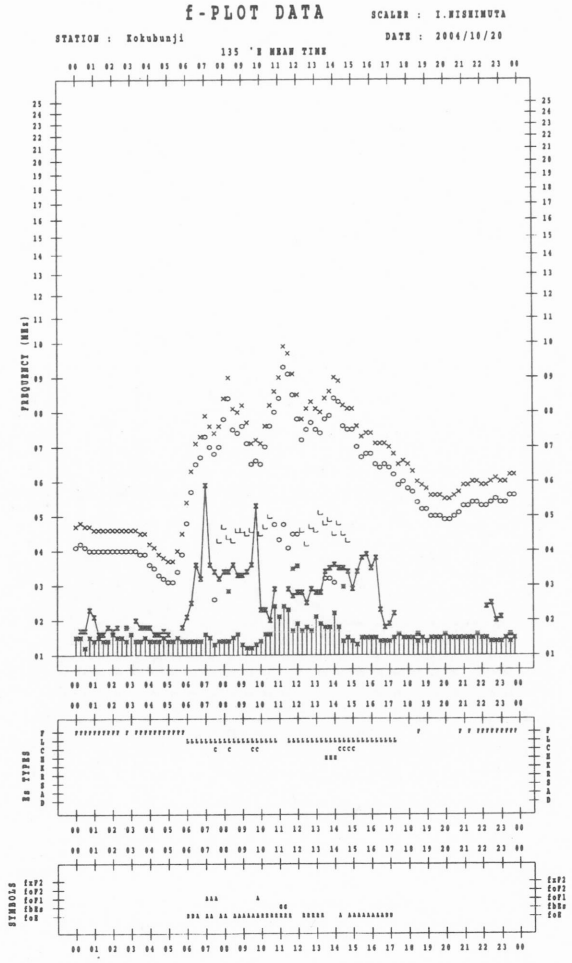
STATION : Kokubunji
DATE : 2004/10/18
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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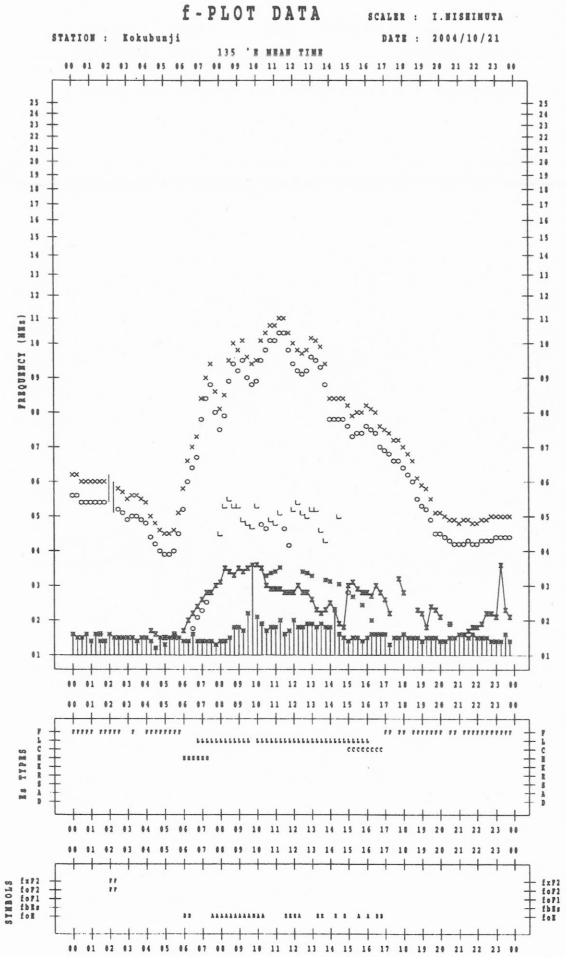
STATION : Kokubunji
DATE : 2004/10/20
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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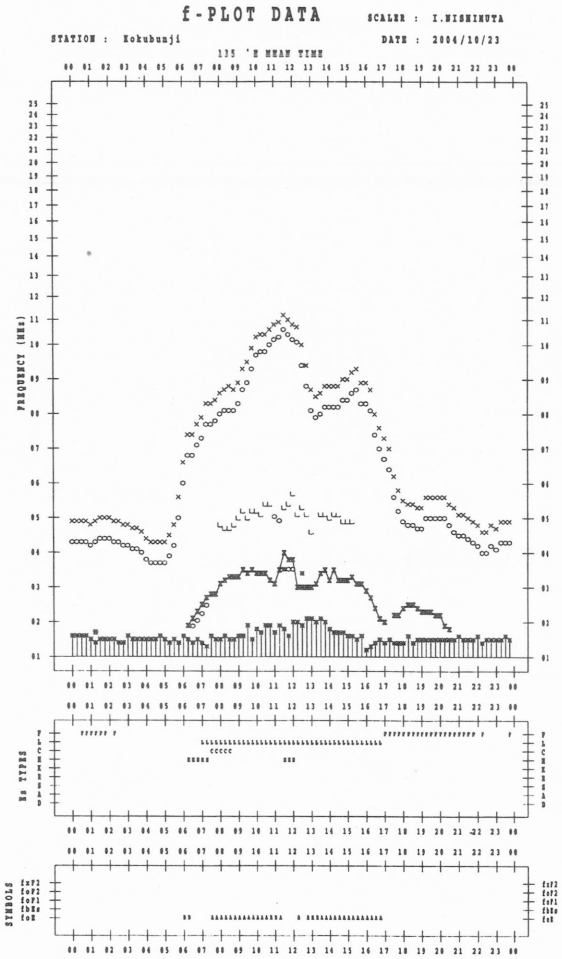
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/10/21
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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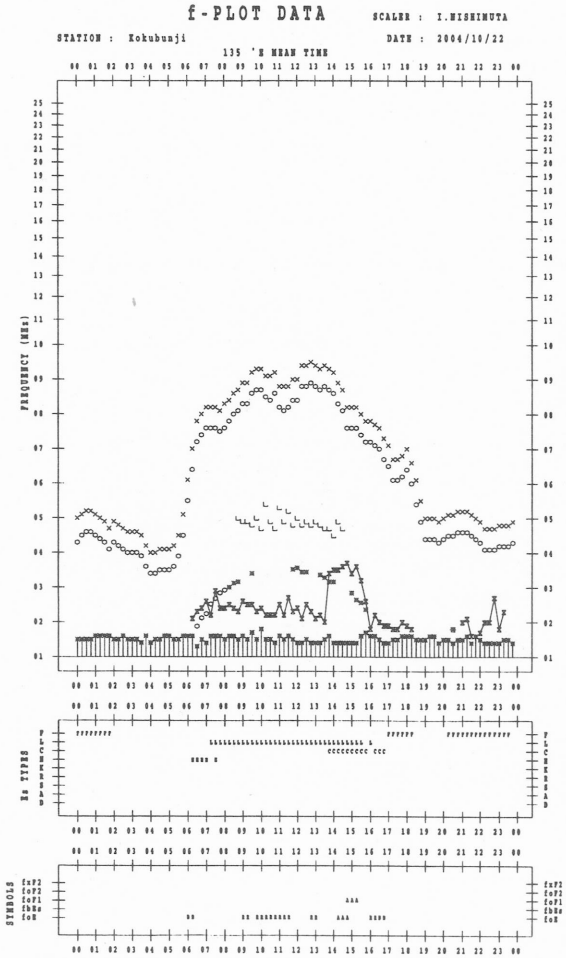
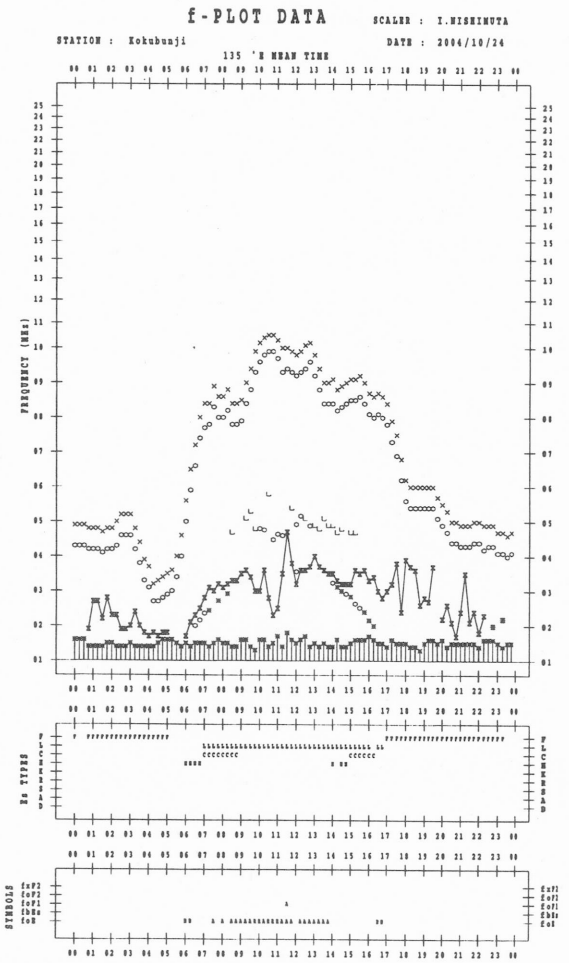
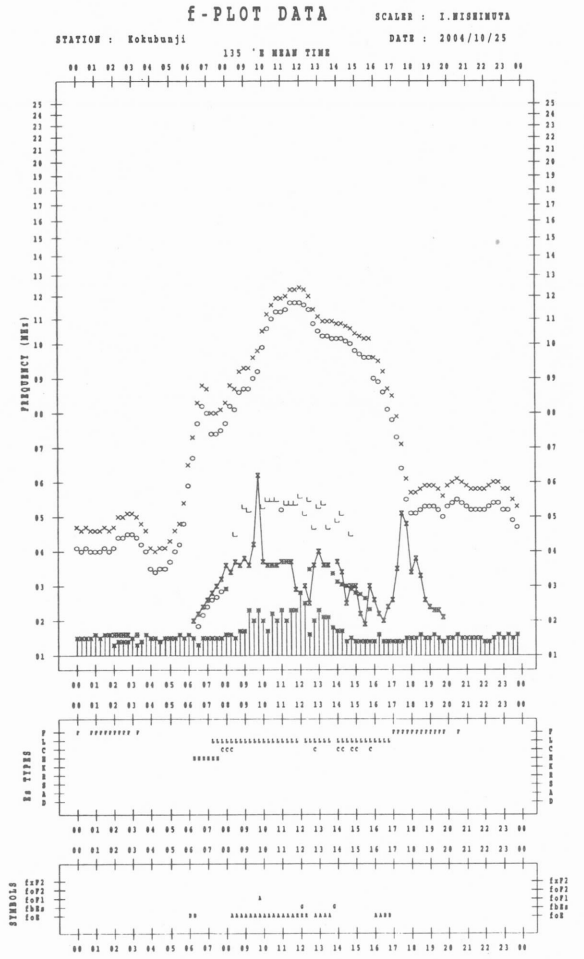
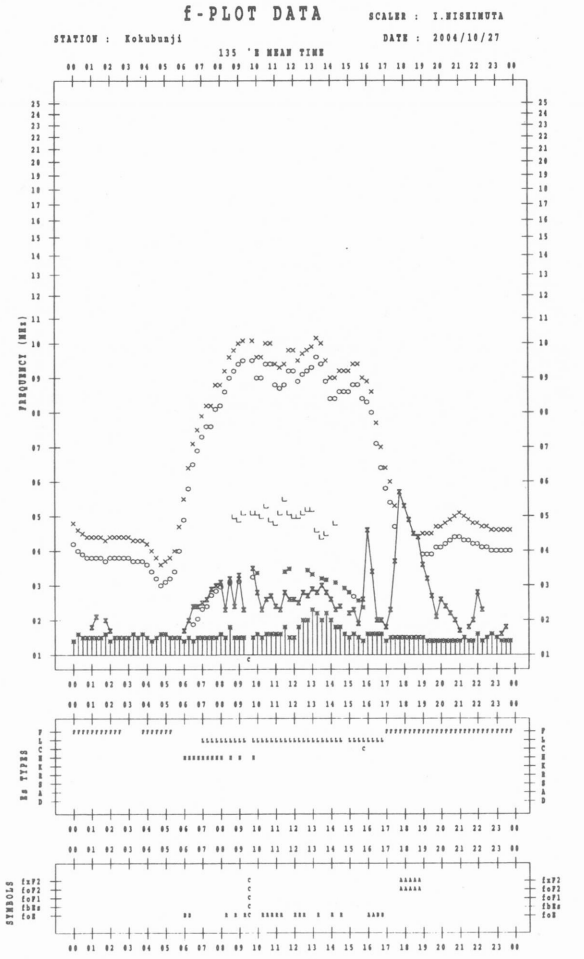
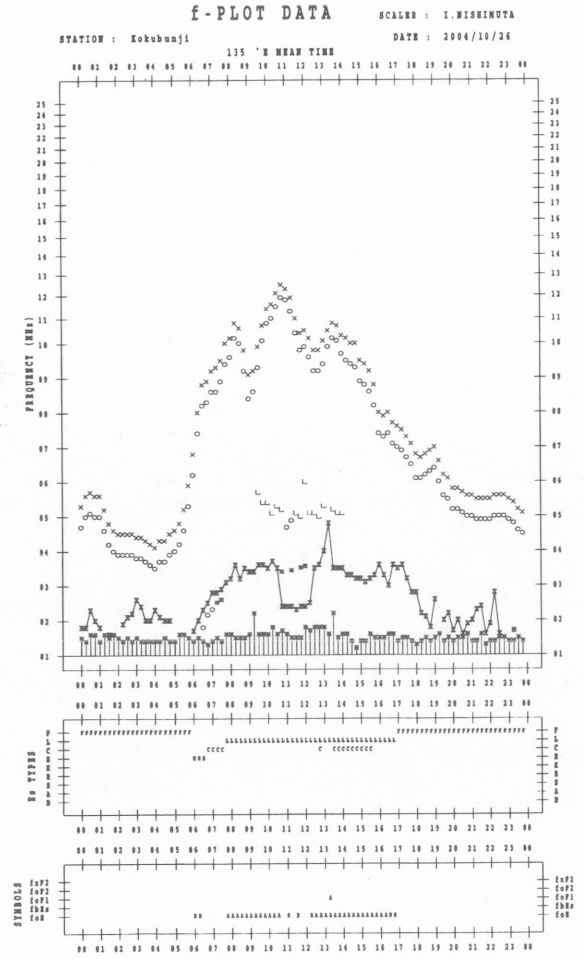
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/10/23
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

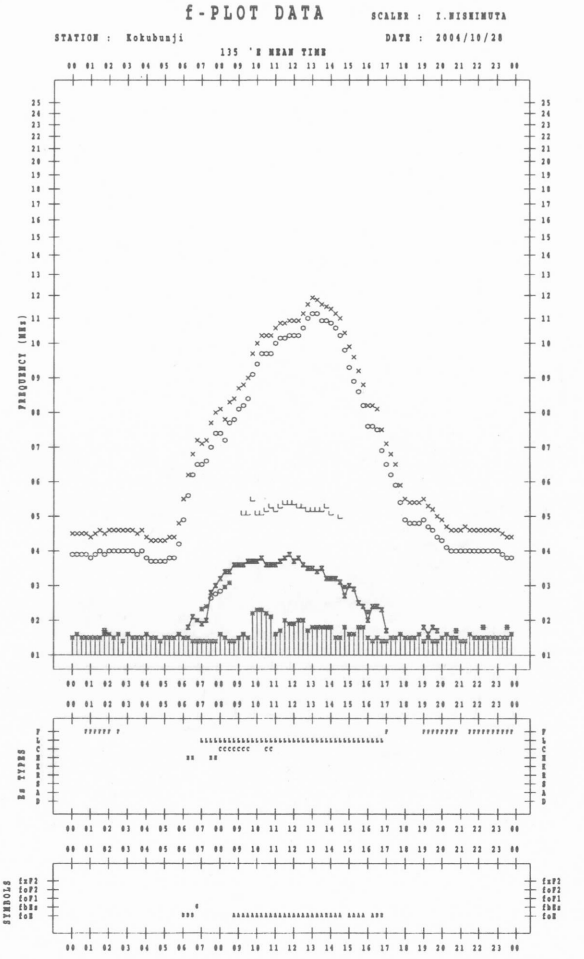

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/10/22
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

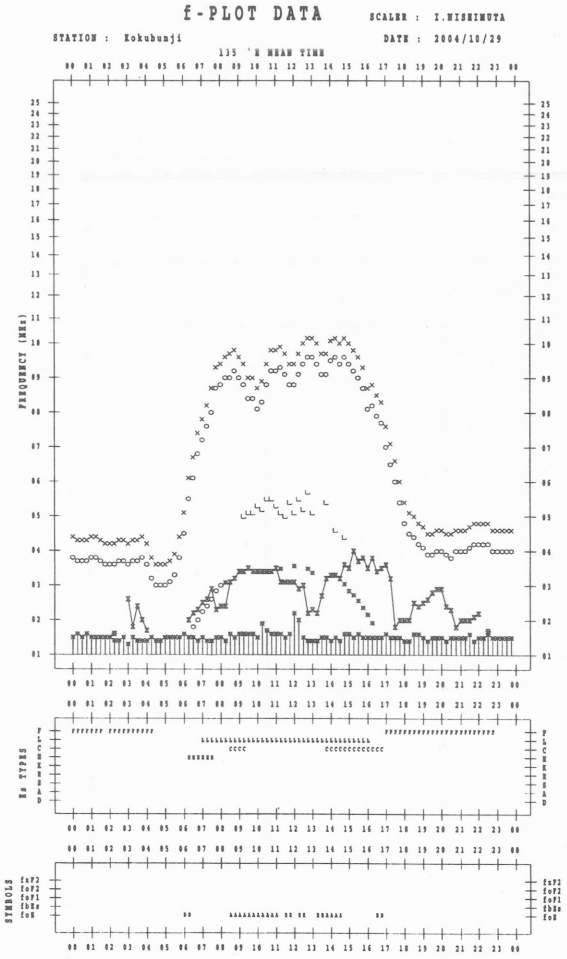

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/10/24
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

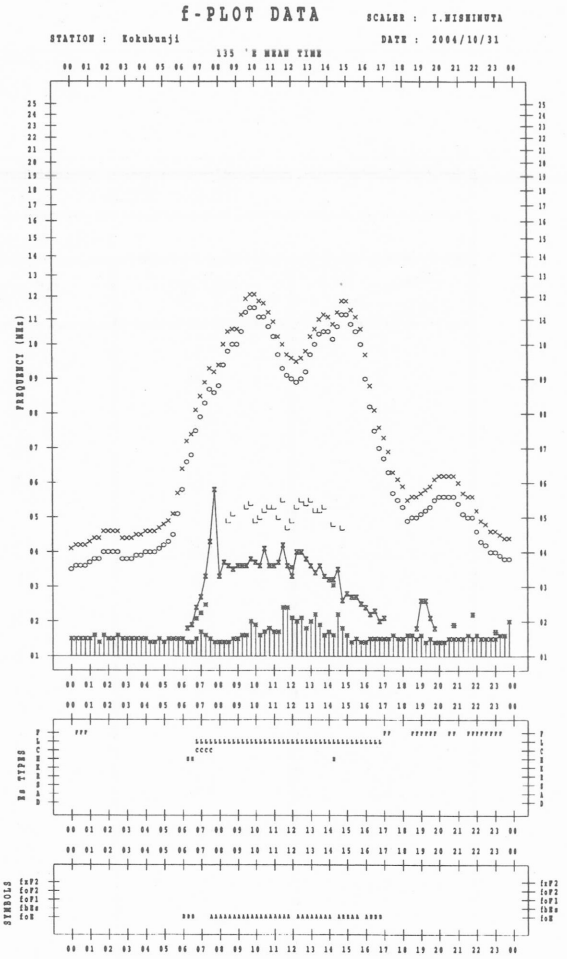

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/10/25
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/10/27
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/10/26
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/10/28
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2004/10/29
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
foF2
foF1
fbEs
foE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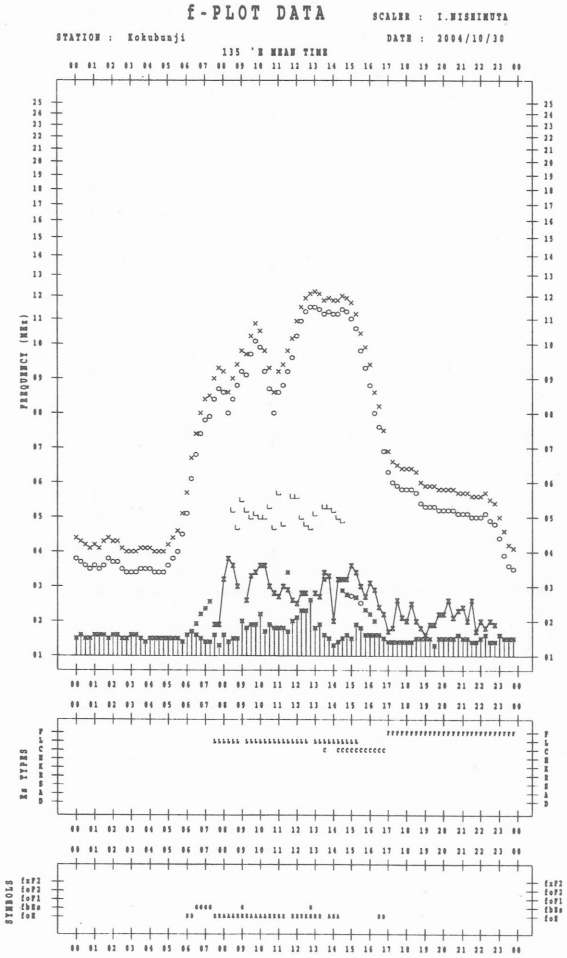
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2004/10/31
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
foF2
foF1
fbEs
foE


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2004/10/30
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
foF2
foF1
fbEs
foE

B. Solar Radio Emission
B1. Daily Data at Hiraiso
500 MHz

Hiraiso October 2004

Single-frequency total flux observations at 500 MHz					
Flux density: 10^{-22} W m^{-2} Hz^{-1}					
Date \ UT	00-03	03-06	06-09	21-24	Day
1	18	18	18	20	19
2	18	17	17	18	17
3	18	19	18	19	18
4	19	18	18	18	18
5	18	18	18	-	18
6	18	17	17	19	18
7	17	16	17	20	18
8	19	18	18	18	18
9	18	18	18	18	18
10	17	17	18	16	17
11	16	17	17	17	17
12	16	16	16	14	15
13	17	18	19	17	17
14	17	17	17	19	18
15	16	15	15	18	16
16	17	17	17	19	18
17	18	17	17	21	18
18	18	16	17	18	17
19	17	17	17	16	17
20	16	17	16	-	16
21	18	17	17	20	18
22	17	16	16	19	17
23	18	18	19	21	19
24	19	18	17	23	19
25	20	18	18	19	19
26	19	19	18	20	19
27	20	20	20	24	21
28	22	19	19	24	21
29	20	19	19	23	20
30	22	22	21	20	22
31	21	18	18	18	19

Note: No data is available during the following periods.
5th 2035 - 6th 0045 20th 2045 - 21st 0040

A superscript * denotes to be superposed on a burst.

B. Solar Radio Emission
B2.Outstanding Occurrences at Hiraiso

Hiraiso October 2004

Single-frequency observations
Normal observing period: 2045 - 0800 U.T. (sunrise to sunset)

OCT. 2004	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
10	500	7 C	2125.0	2127.0	5.0	75	-	0
11	500	8 S	0231.0	0231.0	1.0	70	-	
11	500	8 S	0400.0	0400.0	1.0	10	-	
12	500	8 S	2304.0	2304.0	1.0	15	-	0
13	500	8 S	0146.0	0146.0	1.0	25	-	0
17	2800	1 S	0134.0	0134.0	1.0	15	-	0
18	2800	1 S	0311.0	0311.0	1.0	10	-	0
18	500	8 S	2332.0	2333.0	2.0	20	-	0
21	2800	3 S	0021.0	0022.0	3.0	40	-	0
21	2800	1 S	0040.0	0040.0	1.0	10	-	0
21	500	8 S	0040.0	0040.0	1.0	5	-	0
21	2800	1 S	0212.0	0213.0	2.0	10	-	0
21	500	7 C	0212.0	0214.0	6.0	5	-	0
21	500	7 C	0400.0	0402.0	5.0	90	-	ML
21	2800	1 S	0402.0	0402.0	1.0	10	-	0
21	500	7 C	0505.0	0507.0	7.0	140	-	ML
21	2800	1 S	0506.0	0507.0	2.0	10	-	0
21	500	8 S	0618.0	0619.0	1.0	10	-	WL
21	500	7 C	0644.0	0648.0	13.0	50	-	ML
21	2800	1 S	0647.0	0648.0	3.0	10	-	0
22	2800	1 S	0149.0	0149.0	2.0	15	-	0
22	500	8 S	0149.0	0149.0	1.0	5	-	0
22	500	7 C	0336.0	0339.0	4.0	10	-	0
22	2800	1 S	0625.0	0625.0	1.0	10	-	0
22	500	8 S	0625.0	0625.0	1.0	10	-	0
22	500	8 S	0630.0	0630.0	1.0	10	-	0
22	500	8 S	2208.0	2208.0	1.0	5	-	0
24	500	4 S/F	0256.0	0257.0	7.0	55	-	WL
25	2800	1 S	0242.0	0245.0	6.0	10	-	0
26	500	8 S	0305.0	0305.0	1.0	30	-	0
26	500	8 S	0439.0	0444.0	1.0	15	-	
26	500	8 S	0445.0	0445.0	1.0	15	-	
29	500	8 S	2259.0	2259.0	2.0	40	-	0
29	500	7 C	2349.0	2356.0	9.0	45	-	0
29	2800	1 S	2355.0	2356.0	3.0	10	-	0
30	2800	7 C	0042.0	0044.0	8.0	95	-	0
30	500	4 S/F	0042.0	0044.0	10.0	35	-	WR
30	500	8 S	0205.0	0206.0	2.0	55	-	0
30	2800	4 S/F	0210.0	0211.0	4.0	85	-	SL
30	500	4 S/F	0211.0	0212.0	3.0	5	-	0
30	2800	1 S	0310.0	0311.0	3.0	20	-	0
30	2800	4 S/F	0329.0	0331.0	10.0	135	-	WL
30	500	4 S/F	0330.0	0331.0	8.0	40	-	0
30	2800	1 S	0411.0	0414.0	4.0	20	-	0
30	500	3 S	0411.0	0414.0	5.0	25	-	0
30	2800	4 S/F	0453.0	0456.0	5.0	45	-	SL
30	2800	1 S	0530.0	0531.0	2.0	15	-	0

B. Solar Radio Emission
B2.Outstanding Occurrences at Hiraiso

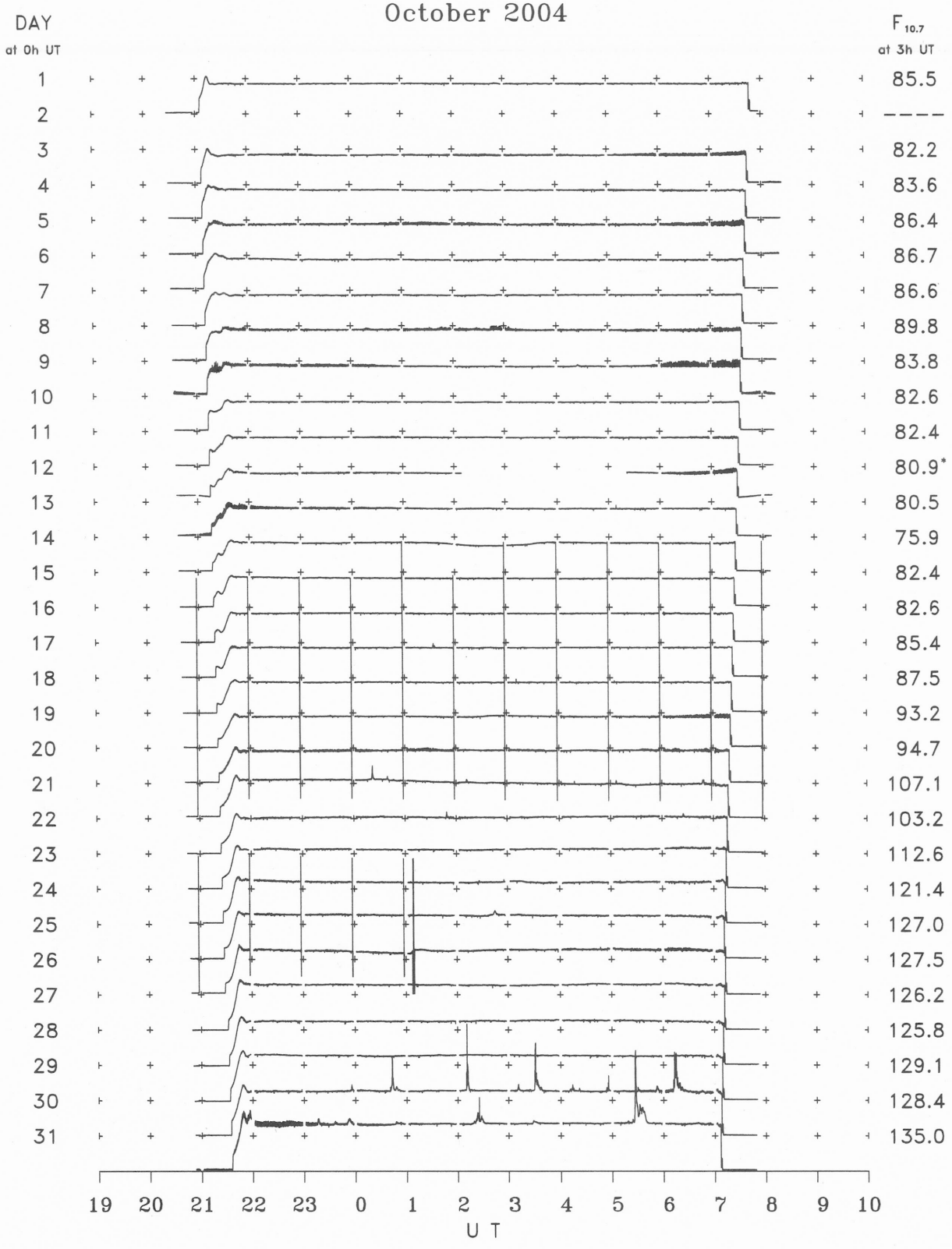
Hiraiso October 2004

Single-frequency observations
Normal observing period: 2045 - 0800 U.T. (sunrise to sunset)

OCT.	FREQ.	TYPE	START TIME	TIME OF MAXIMUM	DUR.	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1})		POLARIZATION
2004	(MHz)		(U.T.)	(U.T.)	(MIN.)	PEAK	MEAN	REMARKS
30	2800	1 S	0551.0	0553.0	4.0	15	-	0
30	500	47 GB	0611.0	0615.0	9.0	605	-	WR
30	2800	7 C	0612.0	0613.0	11.0	105	-	SL
30	2800	3 S	0658.0	0700.0	4.0	55	-	0
30	500	3 S	0659.0	0700.0	5.0	20	-	0
31	500	7 C	0218.0	0223.0	11.0	40	-	0
31	2800	7 C	0219.0	0225.0	11.0	75	-	0
31	2800	7 C	0523.0	0527.0	18.0	200	-	0
31	500	7 C	0524.0	0527.0	15.0	100	-	WR

B. Solar Radio Emission
B3. Summary Plots of $F_{10.7}$ at Hiraiso

October 2004



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

IONOSPHERIC DATA IN JAPAN FOR OCTOBER 2004
F－670　Vol.56　No.10（Not for Sale）

電離層月報（2004年10月）
第56巻　第10号（非売品）
2005年　1月24日 印刷
2005年　1月27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

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