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IONOSPHERIC DATA IN JAPAN

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CONTENTS

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INTRODUCTION

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

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

A. IONOSPHERE

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

A1. Automatic Scaling

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

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

a. Characteristics of Ionosphere

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

b. Descriptive Letters

The following descriptive letters are used in the tables.

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

C Impossible measurement because of any failure in observation.

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

N Impossible automatic scaling because of complex echoes.

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

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

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

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

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

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

d. Reliability of Automatic Scaling

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

e. Summary Plot

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

A2. Manual Scaling

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

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

a. Characteristics of Ionosphere

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

b. Symbols

(i) Descriptive Letters

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

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

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

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

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

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

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

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

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

K Presence of particle *E* layer.

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

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

N Conditions are such that the measurement cannot be interpreted.

O Measurement refers to the ordinary component.

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

Q Range spread present.

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

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

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

V Forked trace which may influence the measurement.

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

X Measurement refers to the extraordinary component.

Y Lacuna phenomena, severe layer tilt.

Z Third magneto-electronic component present.

(ii) Qualifying Letters

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

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

D Greater than.

E Less than.

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

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

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

U Uncertain or doubtful numerical value.

X Measurement deduced from the third magneto-electronic component.

(iii) Description of Types of *Es*

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

The types are:

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

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

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

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

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

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

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

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

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

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

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

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

Median count (**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

NOV. 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		37	A	38	37	37	46	74	81			83	71	82	93	81	75	59	57	35				34
2	A	34	32	34	34	32	34	72	76	82	85		84	82	81	72	65	54	39	34	36	37	37	28
3	28	34	34	37	37	37	45	77	80	80	92	95	86	81	82	81	70	58		32	37	36	36	38
4	40	41	A	36	38	40	44	73	81	90	91	82	84	84	90	93	88	71	54	43	44	38	38	44
5	51	51	52	47	50	36	48	71	81	77	90	100	81	82	81	86	71	63	47	45	A	45	44	44
6	41	40	41	41	44	36	45	75	83	81	76		84	78	83	77	67	34	A	33	32	32	32	34
7	34	32	37	31	40	41	37	64	81	80	77	81	79	81	74	74	64	53	44	35	34	34	A	
8	30	38	36	34	36	36		42	34		49	68	57	81		122		66	46		146	149		72
9	80	A	62	A	64	54	60	82	109	89	89	90	83	92	84	84	81	74	45	45	38	33	36	40
10	29	30	31	24	A	A	A	40	47	61		62	A	68	61	74	55	44	32	71	74	77	54	54
11	44	A	A	A	54	62	39	A	A	45	49	50	57	50	57	58	45	41	34	38		34	30	32
12	34	A	34	32	30		30	55	67	63	74	88	83	55	81	70	53	A	A	A	A	A	A	35
13	32		34	32	30	32		44	66	72	83	81	72	81	70	87	58	42	34	34	36	36	A	
14	37	A		38	38	37	32	54	67	77		83	84	77	79	68	62		A	A	37	34	28	40
15	39	39	41	42	42	41	34	52	66	73	78	67	82		75	70	61	43	35	36	38	34	40	34
16	38	38	43	42	42	45		54	71	81	75	76	81	82	76		61	37	31	35	34		37	40
17	40	40	34	42	39	40		54	76	C	76	81	82	75	71	67	61	52	38	A	A			37
18	36	40	40	40	39	42	35	62	68	70	C	C	82	84	77	65	54	44	35	37	37	40	37	44
19	45	36	44	38	47	43	35	52	60	74	71	84	83	66	75	64	55	A	A	A	40	42	41	37
20	36	40	44	45		44	38	50	72	77	73	97	89	71	78	A	64	50	A	44	48	47	44	40
21	53	54	51	45	41	34	40	66	79	81	102	75	82	81	82	81	77	52	A	44		45	45	42
22	40		41	41	42	34	33	52	81	84	78	82	84		81	74	62	51	40	31	A	A	A	A
23		34	32	37	37	37	38	59	70	74	77	76		84	73	74	60	45	36	38	40	37	40	36
24	40	40	41	41	44	34	37	62	66	76	68	84		75	72	76	58	42		30	32	37	32	38
25	38	38	41	41	42	41	45	66	79	83		92	84	82		80	59	35	34		31	34	A	37
26	38	40	37	37	43	35	31	54	85	92				80	80	72	66	42	36	36	A	29		32
27	34	32	37	36	35	32	38	51	66	79	84		78	76	75	75	57	44	29	34	32	34	32	34
28	35	34	36	37	40	30		53	71	80	82	103	78	84	75	66	A	A	34	41				34
29	37	40	41	40	36	40	36		73	75	71	82	80	82	75	62	59	61	A	A	46	41	42	46
30	52	54	54	52	53	46	46	65	74	84	80	83	84	79	74	70	A	54	A	40	A	43	47	52
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	24	26	28	28	28	24	28	29	27	24	25	26	28	28	28	27	26	20	23	20	24	20	27
MED	38	38	40	38	40	37	38	57	73	79	78	82	82	81	76	74	61	50	36	36	37	37	38	38
U Q	41	40	43	41	43	41	45	68	81	82	84	89	84	82	81	81	67	58	44	43	42	42	43	44
L Q	34	34	34	36	37	34	34	52	66	74	73	76	79	75	74	69	58	42	34	34	34	34	34	34

HOURLY VALUES OF fEs AT Wakkanai

NOV. 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	32	26	34	30	G	26	25	34	41	57	69	40	G	G	34	G	38	42	32	G		28	32	G
2	36	34	29	26	28	G	G	28	35	39	46		37	40	42	G	30	28	25	29	24	G	26	29
3	26	26	29	G	29	30	G	G	G	G	49	39	36	G	40	44	36	41	33	G	G	G	G	G
4	G	G	36	26	28	G	30	G	G	39	41	40	41	35	34	41	41	48	42	40	28	28	G	G
5	30	38	37	32	29	G	28	28	G	34	39	44	47	42	57	44	32	36	33	32	49	G	G	G
6	G	G	G	33	26	G	G	G	N	46	G	G	G	G	48	32	34	41	40	30	28	27	25	G
7	G	27	28	G	G	G	G	G	34	G	41	G	G	40	G	30	G	G	G	G	G	30	38	28
8	G	G	G	G	G	G					G	38	G	40	G	30	G	G	G	G	G	11	32	38
9	49	67	53	83	51	26	29	G	36	47	61	63	47	61	41	41	40	33	G	33	35	G	G	G
10	G	G	G	23	28	60	36	38	37	42		48	88	40	G	29	G	G	G	G	G	G	28	33
11	43	50	52	65	43	39	34	71	110	40		G	G	G	G	G	32	26	25	G		27	G	32
12		60	27	G	G		G	39	36	33	36	80	40	52	35	41	36	35	38	50	69	60	49	32
13	44	36	G	G	G	G	26	G	31	52	35	61	G	G	G	G	G	G	G	G	G	40	47	34
14	36	40	36	28	27	G	28	G	32	41		G	G	G	G	33	40	28	42	59	35	G	G	28
15	28	43	36	G	32	G	G	29	32	48	G	G	G		G	G	G	G	G	G	G	G	G	G
16	G	G	32	G	28	27		G	30	35	G	G		G	G		39	G	G	G	G	33	G	G
17	30	26	26	23	G	G		G	G	C	G	36	G	G	G	G	G	G	28	53	60	32	35	G
18	30	31	26	29	32	27	G	G	37	45	C	C	43	42	G	39	11	G	G	G	G	G	G	G
19	32	G	30	28	G	G	G	27	G	G	G	G	G	47	39	79			58	52	30	G	G	30
20	G	26	G	G	G	G	G	G	G	G	36	42	37	G	60	78	58	40	48	32	G	G	G	G
21	36	28	G	46	26	G	G	G	G	40	47	62	54	52	40	50	G	27	52	G	G	39	38	32
22	48	40	G	G	G	G	G	G	G	G	G	G	46	47	41	G	G	G	25	26	40	32	34	34
23	32	26	G	G	G		G	G	G	34	G	G	G	G	40	48	68	51	28	G	G	G	G	G
24	30	G	G	G	G	G	G	G	G	G	52	G	36	G	45	G	G	G	39	G	G	G	G	G
25	G	G	G	G	G	25	G	G	G	G	34	G	39	35	G	G	11	G	30		G	G	59	26
26	33	G	G	G	G	G	28	G	G	G		35		36	40	30	G	G	G	G	30	G	32	24
27	G	G	G	G	G	25	G	G	32	36			35	G	G		27	31	60	33	26	G	G	G
28	G	29	G	G	G	30	30	30	G	38	G	G	G	44	68	37	111	76	60	39	32	28		G
29	29	G	G	28	G	G	G	33		G	G	G	39	39	39	G	41	43	60	56	35	34	28	G
30	G	29	26	G	G	25	40	38	60	G	46	G	G	G	G	38	64	54	48	26	66	32	29	G
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	30	30	30	30	28	27	29	27	28	24	27	28	29	30	28	29	29	30	29	28	30	29	30
MED	30	26	26	G	G	G	G	G	30	36	36	G	36	35	34	31	32	28	31	26	25	6	25	G
U Q	34	36	32	28	28	26	28	29	36	41	46	42	40	42	41	41	40	41	42	36	35	32	33	30
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

NOV. 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	15	14	14	14	15	15	14	14	14	14	15	15	18	17	16	14	14	14	16	16		20	17	17
2	14	14	15	18	16	16	15	21	17	16	15		15	15	14	14	14	16	18	15	17	15	15	14
3	15	16	14	15	14	15	15	21	15	14	15	18	18	21	15	14	14	14	15	21	15	17	20	15
4	16	15	15	15	15	16	15	20	15	16	16	18	17	17	14	15	15	14	14	15	15	15	15	15
5	14	14	14	15	15	18	15	15	29	21	24	20	21	18	14	14	14	15	16	15	16	14	15	14
6	14	15	16	14	15	15	14	21	15	18	52	54	33	21	17	15	14	14	15	16	16	15	17	17
7	16	18	15	14	14	15	15	20	16	18	17	20	20	15	18	14	17	17	16	14	17	15	17	15
8	16	17	18	18	14	17		14	15	14	16	16	18	18	27	14	18	15	16	15	14	15	15	14
9	14	14	14	14	14	15	15	17	21	15	16	18	20	16	16	14	15	14	17	14	15	14	16	15
10	14	15	18	15	14	15	15	14	15	15		15	21	18	15	14	18	15	15	17	15	14	15	17
11	16	14	14	14	14	15	14	14	15	18	16	15	17	17	16	22	15	15	15	14		15	15	15
12	14	14	14	15	14		16	14	15	15	16	17	16	15	15	15	14	14	14	20	15	15	17	15
13	14	14	14	14	18	17	18	20	20	20	21	20	20	30	26	22	18	16	16	18	18	16	14	15
14	14	14	14	15	14	14	15	20	21	16		15	16	28	26	14	15	16	14	14	15	18	17	14
15	16	14	15	14	14	16	15	18	21	23	21	21	34		26	22	20	15	21	15	21	20	14	18
16	15	20	14	14	14	15		21	20	20	20	23	20	20	20		17	16	18	16	20	15	14	15
17	15	14	16	15	17	15		21	27	C	21	20	21	29	28	22	21	15	15	15	14	15	16	14
18	15	14	14	14	15	15	15	21	23	20	C	C	23	23	22	20	17	15	14	15	15	17	20	16
19	16	20	15	14	15	15	15	15	22	28	22	20	23	22	21	17	15	14	14	14	15	15	20	15
20	14	14	14	15		14	14	20	24	22	21	22	26	23	20	18	14	15	14	15	15	16	14	18
21	14	15	15	14	15	20	15	21	26	26	21	22	24	21	20	20	20	16	14	15	21	14	14	15
22	16	15	20	15	15	15	14	14	23	20	30	27	21	20	20	16	17	16	16	16	14	15	14	14
23	15	15	15	16	14	15	15	20	14	18	20	20	21	21	18	17	14	14	18	16	14	15	15	15
24	14	14	14	15	14	14	15	17	23	21	18	22	21	21	18	15	18	17	15	20	20	17	16	15
25	15	14	15	14	15	15	14	18	24	21	17	21	16	14	16	22	17	20	15		16	15	15	18
26	15	17	15	18	14	15	20	20	15	17		18		17	14	14	18	15	14	14	15	20	15	14
27	15	16	15	18	15	18	18	18	14	14	17		15	18	14	20	15	15	14	15	20	14	14	14
28	16	14	15	17	15	14	16	14	14	14	15	15	16	15	16	15	14	14	14	15	17	16		16
29	20	16	15	14	14	15	16	15	14	15	15	16	17	14	14	20	15	14	15	15	15	15	15	15
30	14	15	15	14	14	16	14	14	14	16	18	15	30	15	18	16	14	15	14	15	14	15	16	16
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	29	29	27	30	30	29	26	27	29	29	30	29	30	30	30	29	28	30	29	30
MED	15	14	15	15	14	15	15	18	16	18	18	20	20	18	18	15	15	15	15	15	15	15	15	15
U Q	16	16	15	15	15	16	15	20	23	20	21	21	22	21	20	20	18	16	16	16	17	16	17	16
L Q	14	14	14	14	14	15	14	14	15	15	16	16	17	15	15	14	14	14	14	15	15	15	14	14

HOURLY VALUES OF foF2 AT Kokubunji

NOV. 2004

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

HD	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	38	A	39	36	39	37	49	91	91	107	112	104	105	88	90	100	85	64	51	47	32	28	34	
2	34				24		45	78	92	91	82	93	106	101	86	82	60	54	46	39	39	36	38	35
3	30	26		34		28	51	76	86	92	100	111	101	97	95	90	81	44	52	A				
4	36	38	34		32	34	47	84	87	81	100	100	91	102	111	96	86	80	51	A	38	A	38	32
5		43	36	41	41	38	52	94	92	86	87	90	108	115	111	87	74	51	54	53	A	A	36	
6	A	A	37	38	36	36	49	74	84	88	90	91	88	85	92	87	81	53	38	39		37	34	34
7	34	32	34		34	28	43	74	78	86	85	86	88	85	86	88	69	52	44	46	39	26		32
8	34	37	36		36	44		58	62	101	108	140	136	131	143	151	130	130	109	89	111	130	110	105
9	108	92	76	79	87	66	79	125	112	94	85	90	108	108	110	97	74	66	64	54	47	37		38
10	34	36	34	36	A	A	A	42	100	75	84	88	101	83	91	82	75	46						
11										71	84	73	A	A	67	64	55	44	42	42		32		28
12	30	27	28	28	28		38	62	78	87	98	80	99	82	74	90	61	46				42	43	
13	A	A	A	30	30	28	35	54	77	87	101	91	92	92	88	71	87		A	32		36	A	A
14		36	38	37	39	30		62	69	91	91	87	77	78	91	78	61	49	31	32	39	38	28	26
15					30		36	62	69	90	101	91	77	77	105	78	64	A		A				34
16	27	34	36		38		34	66	69	77	84	97	74	81	94	80	71	61		37	34	34	32	
17		34	36	39	41	27	34	59	64	84	86	91	81	77	80	81	68	50	36	32		34	27	
18		28	32		34		37	66	72	74	78	87	76	85	87	81	63	44	34	32			28	
19	34	30	32	34	36	31	34	58	65	72	78	76	75	96	82	72	62	44	27	28	36		32	
20	34		34	28	34		36	64	72	82	87	90	98	115	86	74	65	53	48			38	37	
21	42	45	45	43	A		30	72	84	85	80	88	85	85	88	88	69	51	43	38	34		36	36
22	37		36	34	36	28			85	104	107	94	81	85	86	83	72	55	43	43		28	30	
23		28			41	28	34	67	77	78	76	94	86	86	91	75	62	54	39	30				30
24	32	35	32	37	36	36	36	65	77	72	86	71	85	95	76	72	67	51	36		32		30	34
25	32	34		41			36	66	80	85	99	100	84	94	95	86	68	49	A	28		A	A	A
26			36	A	39	28	36	76	78	98	115	104	88	98	85	80	65	46	43	36	34			
27		32	32				39	66	86	83	97	90	87	87	75	75	62	48	48	34	32			27
28		30		30	32			59	75	83	91		76	75	80	72	62	53	52	42	A	A	32	26
29		34		36		28	36	66	86		91	87	84	82	90	80	55	46	45		36	35		
30	32		34	34	40	46	47	66	81	76	95	104	88	82	78	66	69	52	46	44		27	36	39
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	17	20	21	19	23	18	24	28	29	29	30	29	29	29	30	30	30	28	24	22	14	16	18	15
MED	34	34	36	36	36	30	36	66	78	85	90	91	88	86	88	81	68	51	44	38	36	36	34	34
U Q	36	36	36	39	39	37	47	75	86	91	100	98	100	97	94	88	74	54	51	44	39	37	37	36
L Q	32	30	33	34	32	28	35	62	72	77	84	87	81	82	82	75	62	46	38	32	34	30	30	28

HOURLY VALUES OF fEs AT Kokubunji

NOV. 2004

LAT. 35°42.4'N LON. 139°29.3'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	51	47	G	G	G	G	G	41	47	47	45	40	G	G	G	41	41	G	G	G	G	G	31
2	G	26		25	26		G	36	48	82	50	49	G	G	G	G	G	G	G	G	G	G	G	G
3	G	G		G	G	G	G	G	G	44	G	G	43	G	50	42	60	52	49	60				
4	G	32	G	33	G	G	G	G	33	43	G	42	49	G	G	68	37	43	G	44	29	34	32	G
5		G	G	29	28	G	G	G	G	G	48	52	107	62	104	63	50	39	G	G	79	59	24	26
6	60	50	32	G	G	G	G	34	G	40	G	G	G	G	G	G	G	23	G	33	34	32	25	G
7	G	G	G		G	G	G	G	G	G	G	G	G	G	G	G	34	36	39	G	G	G	G	G	G
8	G	G	G	31	G	G		G	G	G	G	46	47	G	G	G	G	G	G	G	G	G	G	G
9	G	G	49	40	41	33	G	G	G	48	50	51	62	63	53	69	71	42	43	40	30	G		G
10	G	G	G	G	36	27	31	35	G	G	44	G	G	G	G	G	G	11				G	G	G
11	G		G		G	G		G	G	G	47		103	81	40	G	35	32	26	32	31	G	26	G
12	G	G	G	G	G		G	31	35	40	45	89	43	40	G	35	G	G	30			G	G	
13	66	52	39	29	27	G	29	G	G	57	49	50	48	41	58	40	33	41	40	G	G	G	87	52
14	28	24	G	G	G	G		G	G	G	G	G	G	G	35	G	G	G	G	G	G	G	G	G
15					G		G	G	G	G	G	G	G	40	G	47	65	43	28	35		G		G
16	G	G	G		G		G	G	G	G	G	G	G	G	G	G	G	28	30	27	G	26	G	
17	G	24	G	25	G	G	G	G	G	45	61	51	G	40	60	G	G	G	G	G	G	G	G	27
18	32	G	28		30	30	G	47	G	G	38	G	G	G	55	40	51	32	G	G	29	G	G	
19	G	G	G	G	G	G	G	G	G	G	47	47	58	50	G	G	G	G	G	27	G	50	G	32
20	G	27	25	G	31		G	G	G	G	51	47	45	53	43	50	G	G	G	G		G	G	40
21	G	28	30	G	32		G	G	G	G	G	45	53	44	G	40	36	G	30	35	29		G	G
22	G	40	31	34	30	G	33		G	G	G	G	G	43	44	43	63	33	G	G		G	G	
23	G	G	26	29	27	G	G	G	G	G	G	G	39	49	40	G	G	34	34	G				G
24	G	G	G	G	G	G	G	G	G	G	G	G	G	G	38	34	28	G	26	G	G		G	G
25	G	G	29	G			G	G	G	G	43	47	50	50	38	G	53	54	45	G		30	55	34
26		29	G	40	G	G	G	G	G	G	G	G	G	43	G	55	36	37	39	G	G			29
27	30	G	G				G	29	35	51	42	G	43	G	G	G	G	G	29	G	24		27	G
28		G	G	G	G			G	G	G	G	G	G	G	40	40	43	26	G	26	29	71	33	24
29	29	G		25	24	G	G	G	34		G	G	50		39	77	43	43	G	33	G	G		
30	G		G	G	G	G	G	G	G	G	G	G	G	G	44	44	G	29	G	G		23	G	G
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	27	26	24	28	21	26	29	30	29	30	29	30	29	30	30	30	30	29	28	21	24	24	24
MED	G	G	G	G	G	G	G	G	G	G	G	G	40	G	36	34	34	30	G	G	G	G	G	G
U Q	G	28	29	29	27	G	G	G	G	43	47	47	49	46	44	44	43	41	32	32	29	28	25	28
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Kokubunji

NOV. 2004

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

HD	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	21	14	13	21	14	14	21	26	17	24	23	22	21	14	22	28	18	13	17	18	17	22	14	13
2	17	15		15	14		15	13	20	28	29	33	37	26	22	15	25	14	14	14	15	15	17	18
3	17	15		21	21	15	14	14	14	22	22	39	25	39	21	14	14	14	14	14				
4	18	14	14	13	20	18	14	18	14	13	21	23	22	20	38	17	14	17	17	14	13	13	17	15
5		15	20	13	14	14	14	24	43	38	34	29	30	24	21	14	13	13	18	23	18	14	15	15
6	14	13	14	15	13	13	15	13	18	14	68	64	39	40	24	29	25	15	23	14	14	13	14	14
7	14	17	17		14	21	13	23	31	14	37	39	37	40	35	34	13	14	15	17	17	18	24	17
8	13	18	17	13	17	13		14	15	18	21	21	26	38	34	18	23	14	15	21	17	20	15	14
9	14	21	14	13	13	14	17	22	14	15	22	34	26	24	22	15	13	14	15	13	13	18		14
10	23	15	20	20	13	13	13	13	14	15	28	34	40	39	21	18	22	14				14	15	14
11	15		17		17	15		13	28	40	20	23	23	22	20	15	17	13	15	14	13	15	15	13
12	14	14	13	14	13		13	14	14	20	20	21	24	21	21	25	23	15	13			15	13	
13	14	13	14	14	15	17	14	20	14	17	20	22	23	22	15	17	17	14	21	22	24	14	13	14
14	13	14	14	13	13	15		23	17	17	23	23	23	39	20	14	22	15	21	14	14	14	14	20
15					13		14	23	28	36	35	28	23	20	18	17	13	14	13	14		24		13
16	20	17	17		14		14	23	24	33	35	35	29	26	22	26	25	13	15	14	14	14	18	
17	14	14	13	15	15	14	20	21	18	24	26	29	22	20	17	17	14	15	24	14	21	18	14	14
18	13	15	17		14	14	13	23	37	34	29	39	36	37	28	18	14	14	15	22	14	23	14	
19	14	13	14	15	20	15	20	22	30	20	34	31	33	29	21	33	23	13	15	17	14	17	13	14
20	17	14	15	18	17		15	21	28	31	29	30	23	29	20	17	14	14	17	23		25	20	14
21	15	13	13	14	14		14	22	28	31	33	30	33	26	23	22	21	15	14	14	14		15	15
22	17	13	14	13	13	17	14		33	33	35	21	20	30	24	21	21	14	14	14		14	15	
23	15	23	17	13	13	14	14	22	13	33	22	37	25	24	20	17	13	14	13	14				17
24	13	14	13	14	13	14	17	22	28	18	39	22	22	23	20	15	13	17	17	14	17		18	17
25	15	15	14	14			14	21	17	17	21	33	25	22	14	14	18	20	21	23		13	14	13
26		13	21	13	14	14	14	22	15	13	39	36	35	18	14	15	13	14	13	21	14			15
27	14	14	15				14	14	13	14	18	21	20	18	21	14	21	17	13	17	15		13	21
28		14	17	14	18			22	14	15	13	14	14	20	13	13	18	14	13	15	14	14	14	15
29	15	17		14	17	18	15	13	20		21	40	22	23	13	13	14	13	14	17	17	14		
30	14		13	14	15	13	14	21	13	15	21	22	18	22	15	14	23	14	14	17		22	23	23
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	27	26	24	28	21	26	29	30	29	30	30	30	30	30	30	30	30	29	28	21	24	24	24
MED	14	14	14	14	14	14	14	21	18	20	24	30	24	24	21	17	18	14	15	14	14	15	15	14
U Q	17	15	17	15	17	16	15	22	28	32	34	35	33	30	22	21	22	15	17	19	17	19	17	17
L Q	14	14	14	13	13	14	14	14	14	15	21	22	22	21	18	14	14	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Yamakawa

NOV. 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	32		34		36	A	34	66	95	108	114	100	98	98	115	106	100	81	54	50	36	A	37	34
2	29	26	34	34	A		29	68	90	84	97	87	87	100		96	74	72	61	54	37	43	34	36
3	30				34	30	37	62	83	84	98	98		86	114	110	85	78	70	50		50	36	37
4	36	30	31	34	32	34	36	60	70	76	98		82	113	114	114	86	85	70	53	50	A	37	32
5	32	34	34	36	37	36	32	59	76	84	84	90	99	122	127	103	83	81	73	51	A	A	42	36
6	34	34	A	A	36	34	34	59	84	83		90	83	97	98	98	97	80	61	43	52	54	42	34
7	32	34	34	32	38	36		61	70	78	84	84	86	80	96	102	81	71	53	53	54	42	A	
8	34	36			32	37		48	77	77	100	130	151	134	146	151	114	117	110	70			90	84
9	80	76	54		62	62	61	84	83	92	96	82	111	127	107	120	84	78	67	54	51			36
10		34	30	34				52	108	66		148	136	114	113	111	87	64	52					55
11					49			68	78	82	112	113	81	68	87	81	73	58	47	36		A	A	A
12		A	32	34	A	36	28	62	82	79	83	88	100	84	80	107	68	63	49	32	36	37	38	28
13			29	32	36	30	28	54	68	86			92	82	100	87	97	81	43	36	37		36	34
14	34	34		34	37	38		51	70	78	98	93	78	80	98	96	81	65	54	A	A	37	39	32
15		30	34	34	34	32	26	54	64	80	82	100	97	84	96	101	76	65	55	37	36	28	31	
16	28		32	32	37			54	72	67	80	85	85	84	86	97	80	78	66	A		38	29	
17			34	37	36	26		52	66	77	82	86	97	78	86	82	81	76	54			38	29	26
18		26	A	30	34	29	32	52	76	77	77	86	82	81	76	99	81	A	A	37	32	37	34	32
19		26		31	34	32	30	48	71	72	78	85	A	88	82	93	78	57	51	37	37	38	32	34
20			34	28	34	29	29	53	66	80	81	78	100	102	98	84	74	74	53	48	51	43	36	38
21	36	36	34		34	A	28	64	77	78	77	100	86	107	101	96	78	66	69	34	36		34	36
22	32	34	A	36	36			48	78	82	104	98	87	84	107	88	78	76	54	54	37		32	32
23	29	32	32	34	37			52	74	78	77	81	82	78	100	78	74	67	61	42	37	34	26	28
24	30			32	32	31	29	51	68	74	81	78	81	82	82	82	81		47	44	50	44		34
25	36	34	34	38	32	29		51	78	83	112	101	84	112	98	82	74	62	50	54	37	34	36	36
26	32		37	38	34	32	A	53	82	88	88	107	85	95	84	85	76	63	38	53	37	29		29
27	32		31	32	34		30	52	73	80	80	98	87	81	80	92	82	66	60	A	34		26	
28	A	A	30		31	28	26		84	92	112		81	81	84	80	70	65	72	53	36	34	35	32
29	32	32	32	36	37		28	51	81	87	85	82	80	80	86	98	72	51	52	44	37	37	35	32
30	29	32	34	32	34	32	34	51	74	80	98	110	88	86	82	75	75	66	54	47	A		37	A
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	20	18	21	22	27	20	19	29	30	30	27	27	28	30	29	30	30	28	29	25	21	18	24	24
MED	32	34	34	34	34	32	30	53	76	80	85	90	86	85	98	96	80	69	54	48	37	38	36	34
U Q	34	34	34	36	37	36	34	61	82	84	98	100	97	102	107	103	84	78	66	53	50	43	37	36
L Q	30	30	31	32	34	29	28	51	70	77	81	85	82	81	84	84	74	64	51	37	36	34	32	32

HOURLY VALUES OF fEs AT Yamakawa

NOV. 2004

LAT. 31°12.1'N LON. 130°37.1'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	27	G	G	33	28	29	G	31	38	43	G	G	G	42	G	G	G	42	30	G	40	36	G	G
2	G	G	G	26	42	G	G	G	G	42	50	41	49	41		42	36	29	27	27	G	G	G	G
3	G			G	G	G	G	G	G	G	40	58	G	G	G	53	55	36	G	32	38	27	G	G
4	G	G	G	G	G	G	G	G	40	50	59		40	40	G	36	40	G	G	36	40	41	G	G
5	G	G	G	G	G	G	G	G	G	G	49	96	64	80	62	95	83	55	72	30	60	54	G	G
6	G	G	41	71	G	G	G	G	G	40		G	44	40	G	39	43	31	G	G	G	G	G	G
7	G	G	G	G	G	G		G	G	G	G	G	G	G	G	40	36	G	28	G	G	26	38	30
8	G	G			G	G	G		33	G	44	G	G	G	G	G	G	G	G	G		G	G	29
9	27	G	30	G	G	G	G	G	G	36	49	62	59	82	42	56	38	G	G	44	36	29		G
10		G	G	G	G	25	25	44	38	59		55	66	87	38	G	G	G	G	G	G	G	G	G
11	26				G			G	G	G	G	G	G	G	67	46	68	50	31	41	41	50	68	42
12	35	60	32	G	39	34	G	G	G	G	G	41	74	56	G	G	G	G	23	G	G	G	G	G
13			G	G	G	G	G	G	G	G		72	54	46	62	61	54	35		G	27		G	G
14	G	G	38	29	28	11		G	G	G	G	42	G	43	42	39	54	56	60	52	41	31	G	G
15		G	G	G	G	G	G	G	32	43	G	G	46	44	48	43	46	33	30	34	G	G	G	G
16	G	G	G	G	G		G	G	G	G	G	G	G	G	G	G	G	G	G	37	37	28	28	
17	G		G	G	G	G	G	G	G	G	G	G	G	G	G	39	G	G	29	28		27	G	G
18	28	G	32	G	G	G	G	G	G	G	G	G	43	43	42	61	103	80	50	31	G	G	G	G
19	G	G		G	G	G	G	G	G	G	38	40	88	49	61	G	39	G	G	26	G	G	G	G
20	G	G	G	G	G	G	G	G	G	G	G	46	G	67	50	61	68	59	60	28	28	G	G	G
21	24	40	G	37	29	29	33	G	G	G	44	45	52	52	G	46	G	G	G	29	G	26	G	G
22	G	29	39	30	G		G	G	G	G	G	44	59	52	48	60	44	29	41	49	G	G	G	G
23	G	G	G	30	30	34	29	G	30	G	G	G	G	40	40	47	33	G	G	G	G	G	G	G
24	G			G	G	G	G	G	G	G	G	G	G	G	G	G	32	31	29	G	G	G		G
25	G	G	G	G	G	G	G	G	33	35	G	G	42	G	52	52	58	47	G	G	G	G	G	G
26	G	28	G	G	28	35	38	G	G	G	G	G	G	42	42	45	60	30	28	28	G	G		G
27	G	G	G	24	32		G	G	32	G	44	43	56	54	47	40	33	G	28	44	G	G	G	26
28	46	36	27	28	G	G	G	G	30	36	G	G	43	39	58	35	G	28	G	G	G	G	G	G
29	G	G	23	G	G	G	G	G	G		G	40	64	G	52	60	43	44	27	27	G	G	G	G
30	G	G	G	G	G	G	G	G	G	36	38	39	G	G	38	35	G	G	G	28	34	30	G	34
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	25	25	28	30	26	27	29	30	29	27	29	30	30	29	30	30	30	29	30	28	29	27	29
MED	G	G	G	G	G	G	G	G	G	G	G	39	42	42	42	41	38	29	27	28	G	G	G	G
UQ	24	G	28	27	28	11	G	G	30	36	44	44	56	52	51	53	54	42	30	34	36	28	G	G
LQ	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	35	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Yamakawa

NOV. 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	17	21	16	14	15	15	15	16	15	17	18	18	27	24	22	20	18	16	15	15	15	14	15	17
2	15	16	20	15	15	16	16	21	14	15	20	34	18	18		23	17	15	15	15	16	15	16	15
3	21			20	18	17	17	21	16	16	18	28	24	48	21	18	16	15	20	15	15	17	18	15
4	15	16	15	18	15	15	16	16	15	16	20		20	30	26	18	18	22	16	14	15	15	15	17
5	18	15	18	16	14	16	15	20	47	35	32	33	29	23	26	20	15	14	15	15	15	15	15	15
6	17	15	14	14	15	18	15	18	14	18		66	38	34	24	22	17	15	15	17	15	15	15	15
7	15	15	15	18	17	15		21	17	16	27	36	30	23	42	21	17	21	15	15	15	14	15	15
8	21	15			15	17	16	22	15	18	21	28		44	46	21	17	20	20	17		15	15	15
9	20	18	15	15	17	15	17	18	17	17	18	20	23	30	22	18	16	20	15	15	14	14		16
10		15	17	16	15	18	17	15	14	16		28	48	24	21	18	24	20	18	20	16	15	14	15
11	18				16			18	26	18	20	21	21	20	17	18	15	15	14	15	16	15	15	15
12	14	14	14	15	14	14	16	18	15	14	18	20	28	22	20	18	27	21	15	15	17	15	16	15
13			15	15	15	18	17	20	17	16		16	21	29	20	18	17	17	15	18	17		16	14
14	16	14	15	16	16	15		18	15	16	20	20	22	22	21	17	17	18	14	14	15	15	16	15
15		18	15	15	14	16	17	17	15	17	18	22	22	27	23	18	15	15	14	14	21	16	15	14
16	20	18	16	17	15		17	20	16	17	21	20	20	24	21	22	27	20	16	15	15	16	15	
17	22		14	14	15	15	17	18	26	17	16	45	35	40	22	18	18	20	14	15		15	15	16
18	15	17	15	20	17	17	15	17	20	20	18	22	32	22	21	17	17	14	15	15	22	24	15	17
19	21	15		16	15	17	16	20	15	17	23	21	24	22	21	20	16	20	14	18	15	14	17	15
20	16	20	18	17	18	17	17	18	16	16	18	18	24	21	20	18	17	14	15	16	14	17	20	15
21	16	15	20	14	15	14	15	18	15	16	18	17	20	21	20	20	16	21	14	15	18	18	17	17
22	15	14	15	15	16		20	17	17	20	21	22	22	21	20	20	17	15	15	15	16	26	18	18
23	18	14	17	15	14	15	15	18	14	15	18	21	18	20	23	20	15	18	16	14	17	17	21	18
24	15			15	15	16	17	17	16	15	20	21	22	23	21	18	15	15	15	15	17	15		17
25	18	18	17	21	16	17	18	18	15	16	16	22	20	20	18	21	15	15	15	15	16	18	17	16
26	15	15	15	15	16	17	14	17	15	17	17	22	17	20	20	15	15	15	16	14	17	15		15
27	15	18	14	17	15		17	18	14	15	18	20	21	21	18	20	15	20		15	15	18	17	16
28	15	15	15	16	16	17	16	18	14	15	18	21	18	21	17	16	14	16	15	15	17	16	15	17
29	15	15	17	15	15	15	15	18	16	17	21	20	21	17	18	16	14	17	18	14	16	18	15	16
30	17	15	15	15	18	17	15	17	14	17	16	20	21	18	17	16	28	21	15	21	15	14	16	14
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	25	25	28	30	26	27	30	30	30	27	29	29	30	29	30	30	30	29	30	28	29	27	29
MED	16	15	15	15	15	16	16	18	15	16	18	21	22	22	21	18	17	17	15	15	16	15	15	15
U Q	18	18	17	17	16	17	17	20	17	17	21	28	27	27	22	20	17	20	16	15	17	17	17	17
L Q	15	15	15	15	15	15	15	17	15	16	18	20	20	21	20	18	15	15	15	15	15	15	15	15

HOURLY VALUES OF foF2 AT Okinawa

NOV. 2004

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	64	52	48	54	48		29	65	102	94	101	111	116	131	137	144	146	118	88	76	76	54	45	42
2	40	34	31	38	36	A	30	62	86	98	114	106	100	120	131	121	106	93	87	86	73	64	64	54
3	37			30	31	30	32	64	82	96	101	98	102	108	131	118	111	106	88	87	77	82	63	54
4	51	40	36	30	32	32	32	54	75	84	98	108	108	131	141	145	137	120	108	104	88	88	54	53
5	43	48	41	51	64	54	26	54	80	85	97	105	116	136	130	118	A	108	110	87	81	86	66	52
6	46	40	34	30		31		54	75	82	87	111	102	102	107	117	122	118	87	85	84	87	74	51
7	40	36	34	37	42	44	30	54	72	81	84	88	95	102	105	115	122	108	86	78	85	78	53	45
8	A	48	32	A	32	53		46	86	121	103	135	150	142	145	145	113	146	147	131	141	131	127	109
9	106	73	63	59	61	66	62	86	81	84	97	111	117	134	132	137	131	108	84	61	58		40	A
10	55	38	36	37	38		A	62	98	66	173	162	150	142	117	122	105	76	84	100	128		126	86
11	65				52			71	78	102	126	126	101	87	92	99	80	74	51	52	53	41	36	37
12	37	40	28	26	A	31	A	61	81	89	85	90	118	126		116	88	71	66	47	44	52	51	38
13				28	36	28		52	76	89	114	111	105	116	122	127	98	96	66	38	42	46	37	
14	28	31	34	34	40	28		51	70	78	97	95	107	112	125	123	112	95	80	A	54	63	66	48
15	34	38	47	45	45			54	72	80	90	113	118	106	107	118	112	90	72	53	43	43	42	30
16	32	31	37	41	41			51	71	78	81	86	102	125	103	121	118	122	100	84	63	63	52	32
17		30	32	45	42			52	62	77	101	106	127	125	126	124	113	101	88	63	64	66	52	34
18	36	32	32	31	42	36	31	54	89	83	88	91	101	91	74	91	107	77	55	52	53	50	52	49
19	36	32	30	43	52	45	43	59	66	78		91	97	87	114	116	102	78	65	50	54	53	52	36
20	43	40	40	32	32	29	28	54	74	76	92	88	92	110	104	101	102	87	66	58	66	58	52	42
21	53	36	28	26		A	A	60	73	76	82	98	104	106	112	98	82	87	75	66	66	52	54	54
22	40	31	34	43	22	30		51	82	84	116	120	105	105	121	108	95	87	88	66	61	48	47	41
23	36	32	34	36	32			54	72	84	84	91	98	94	107	104	90	86	83	66	52	52	41	31
24		26	29	32	30			52	94	78	84	90	85	93	97	97	96	78	73	63	62	60	51	42
25	42	34	34	36	30	29	28	50	78	90	102	111	112	114	114	96		76	66	65	76		47	47
26	43	41	40	42	28		29	52	86	106	111	102	105	105	107	96	88	76	63	52	66	52	29	35
27	36	32	30	34	36		A	54	77	96	118	88	88	92	100	103	96	88	74	74	A	42	32	
28	30	30	31	34	A	30	30	50	80	106	121	110	100	98	98	101	93	82	82	62	54	54	42	40
29	37	37	38	43	49	29		51	85	97	106	108	102	80	96	117	90	68	A	52	52	61	51	40
30	42	37	41	41	40	34	34	54	66	88	120	131	122	87	96	86	92	87	66	54	51	43	37	42
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	27	27	28	26	18	14	30	30	30	29	30	30	30	29	30	28	30	29	29	29	27	30	27
MED	40	36	34	36	39	31	30	54	78	84	101	106	104	107	112	116	104	88	82	65	63	54	52	42
U Q	46	40	40	43	45	44	32	60	85	96	114	111	116	125	128	122	113	108	88	84	76	66	54	52
L Q	36	32	31	31	32	29	29	52	72	78	87	91	100	94	101	101	92	78	66	52	53	50	42	37

HOURLY VALUES OF fEs AT Okinawa

NOV. 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	G	G	G	G	G		G	31	38	43	38	58	63	53	G	53	55	34	11	G	G	G	G	G
2	G	G	G	G	G	28	G	G	G	43	48	53	49	46	47	43	46	29	G	G	G	G	G	G
3	G		G	G	G	G	G	G	35	G	G	G	G	G	56	62	58	36	35	39	32	49	25	G
4	G	G	G	G	G	G	G	G	45	50	50	58	52	54	71	46	44	48	28	34	G	G	30	G
5	25	24	G	G	G	G	G	28	G	G	50	42	44	G	60	106	132	34	38	34	51	44	32	30
6	G	G	G	G	39	G	G	G	G	G	G	G	53	G	54	48	48	36	28	20	G	G	G	G
7	G	G	G	G	G	G	G		36	G	G	48	47	49	44	45	43	34	25	G	G	G	G	G
8	36	35	27	28	G	G	G	G	38	46	G	G	G	G	G	46	34	43	30	G	30	28	32	G
9	G	G	37	33	32	26	26	G	G	43	49	56	72	63	54	56	50	66	33	36	43		28	40
10	28	G	G	G	G		25	G	G	45	50	49	49	66	79	91	45	30	27	38	29	26	30	28
11	45	28			G	G	G	G	G	G	G	G	G	42	G	45	55	35	48	53	32	36		33
12	34	31	G	28	55	G	41	40	G	G	G		G	49		48	G	30	G	25	G	G	G	G
13			G	G	G	G		G	34	G	42	G	G	G	G	67	47	38	36	24	35	G	G	
14	G	G	G	G	G	24		G	G	40	44	46	G	G	G	65	54	60	59	50	28	28	32	G
15	G	G	G	G	G				G	41	46	G	G	G	50	40	G		30	28	24	34	G	G
16	G	G	G	G	G	G	G	G	48	G	G	48	56	50	47	G	G	G	31	39	30	G	G	G
17		G	G	G	11			G	G	36	58	49	50	G	G	40	G	G	28	28	G	26	G	G
18	G	23	G	24	G	G	G	G	G	35	38	G	G	G	48	58	61	46	26	32	28	G	G	G
19	G	G	G	G	G	G	G	G	34	G	45	50	G	G	52	36	56	G	40	G	G	G	G	G
20	G	G	G	G	24	G	G	26	G	N	G	G	48	45	49	52	79	41	28	30	33	36	26	G
21	G	28	G	25	G	36	31	40	G	G		46	G	G	G	40	53	34	29	43	29	G	25	G
22	G	G	G	28	28	24		G	G	G	G	52	56	66	86	71	52	54	32	G	11	G	G	G
23	G	G	G	31	30	37	28	38	36	G	G	39	G	50	54	48	42	29	24	28	27	G	30	29
24	G	G	G	G	G	G	G	26	33	34	G	G	G	G	G	42	47	G	G	G	G	G	G	G
25	G	G	G	G	G	G	G	G	30	35		41	G	G	52	58		60	G	G	G		G	G
26	G	G	G	G	G	G	G	G	41		G	G	47	G	54	45	36	36	32	G	G	G	G	G
27	G	G	G	G	G	25	35	26	34	G	G	G	G	G	G	40	42	40	28	39	43	G	27	
28	G	G	G	G	36	G	G	G	36	36	44	53	65	60	42	37	33	G	G	11	G	G	G	G
29	G	G	G	34	29	G	G		G	G	G	G	G	52	78	55	38	50	58	40	27	G	G	G
30	G	G	G	G	G	G	G		48	42	46	48	52	47	G	45	G	G	25	27	28	22	G	G
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	29	29	30	26	25	26	30	28	28	29	30	30	29	30	29	29	30	30	30	28	29	28
MED	G	G	G	G	G	G	G	G	16	18	20	42	22	22	48	47	46	35	28	28	27	G	G	G
U Q	G	G	G	24	24	24	13	26	36	41	46	49	52	50	54	58	54	44	33	38	30	27	27	G
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	42	35	29	25	G	G	G	G	G

HOURLY VALUES OF fmin AT Okinawa

NOV. 2004

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	15	15	14	14		15	14	14	15	17	20	21	32	35	14	18	14	15	14	15	14	16	15
2	14	16	16	16	14	14	15	16	14	14	18	33	22	22	21	18	16	15	14	14	14	15	14	15
3	14		15	15	15	14	15	16	14	15	20	39	23	52	39	22	15	15	14	14	14	14	15	15
4	14	15	15	14	15	15	15	15	15	14	18	18	20	20	22	18	17	14	14	15	18	17	14	16
5	15	14	15	14	14	14	15	14	40	35	33	34	21	22	27	21	15	14	14	15	14	14	14	14
6	14	16	18	15	14	14	15	18	14	14	63	59	38	37	30	28	20	14	14	16	15	15	14	14
7	15	15	15	14	14	14	14	15	14	16	16	34	33	27	29	21	20	16	14	14	14	14	15	15
8	14	14	14	14	15	16	18	14	14	16	22	23	40	44	43	30	27	15	16	15	14	14	14	15
9	14	14	14	14	14	14	14	15	14	16	18	22	35	23	22	20	17	14	14	14	14		14	14
10	14	16	15	21	14		14	15	14	17	21	24	38	33	22	21	17	14	14	14	14	14	14	14
11	14	14			15	16		20	14	15	20	24	21	20	21	14	15	18	14	14	14	14	14	14
12	14	14	15	14	14	15	14	14	15	16	17	18	22	23		20	17	16	15	14	15	14	15	15
13			14	14	18	14		14	14	14	14	18	22	23	23	18	15	14	14	14	14	14	16	
14	16	15	14	14	14	14		15	15	17	15	18	22	24	21	20	15	15	14	14	14	14	14	15
15	17	15	14	14	16			14	14	15	17	20	21	18	21	17	18	14	14	14	14	15	14	15
16	15	15	15	14	14	14	15	20	15	14	16	22	22	21	21	24	20	15	14	18	14	20	15	15
17		15	16	15	14			18	14	15	20	20	22	21	20	15	15	14	14	15	14	15	14	15
18	15	14	15	14	14	15	14	20	14	15	20	22	21	18	21	17	14	14	14	14	15	15	14	14
19	14	15	14	15	14	15	14	14	14	16	22	21	21	26	23	18	16	14	14	15	14	15	15	17
20	15	14	15	14	14	15	15	15	14	14	15	15	15	18	20	17	15	14	14	14	14	14	14	14
21	15	14	14	14	15	14	14	14	14	14	16	15	22	20	21	17	17	14	14	14	14	17	15	14
22	15	15	14	14	14	15		16	14	14	21	22	22	22	22	20	15	14	14	15	15	14	14	14
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24	20	15	15	15	14	15	20	16	14	15	14	14	15	22	14	17	14	14	15	14	15	14	14	15
25	15	14	14	14	14	14	14	16	14	17	15	16	22	16	21	15		14	14	15	15		15	15
26	15	15	14	14	14	15	15	17	14	14	18	17	17	15	18	16	14	14	14	14	15	14	14	15
27	14	15	20	14	14	16	14	14	14	14	15	17	17	17	22	17	14	14	14	14	15	15	14	
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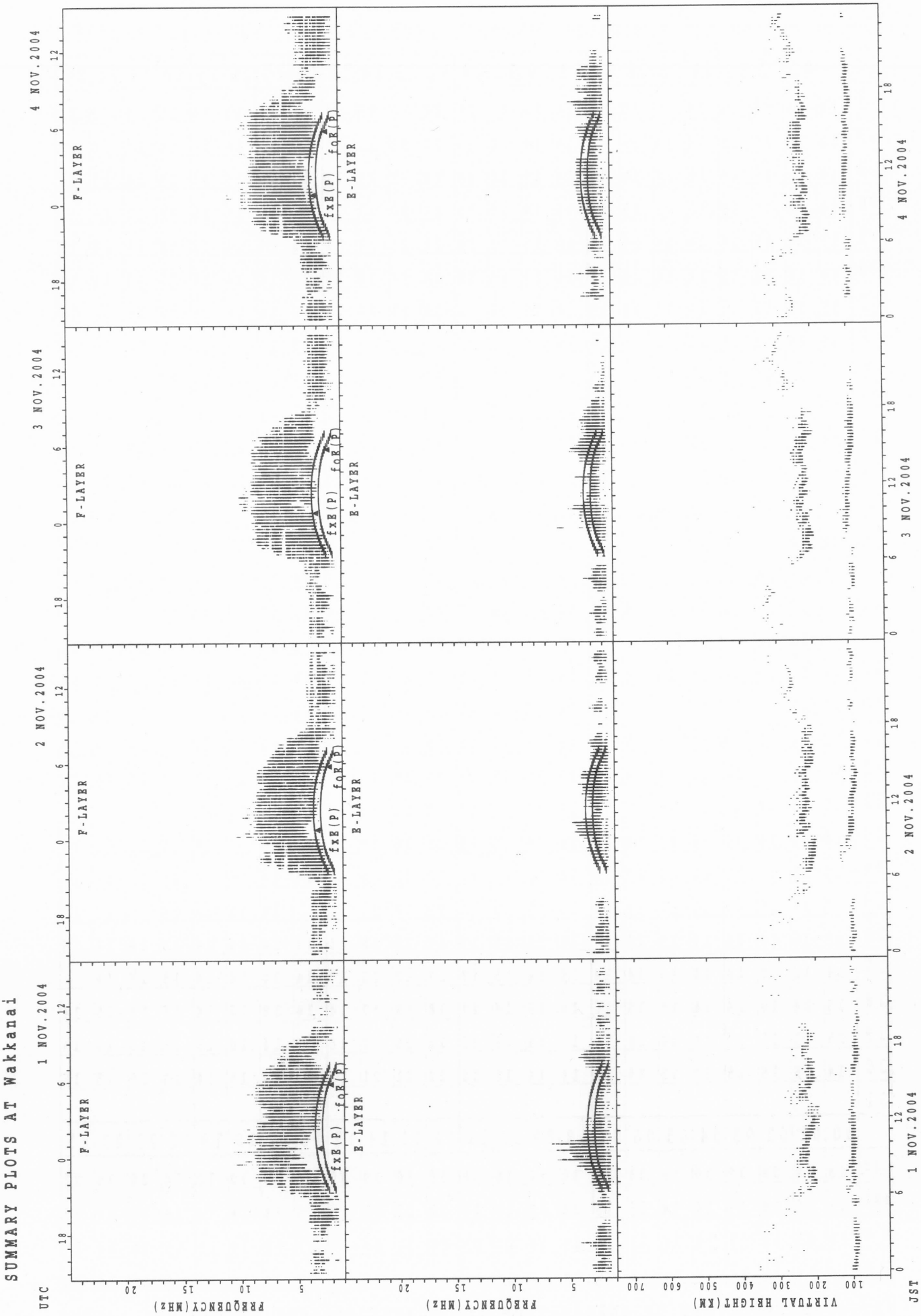
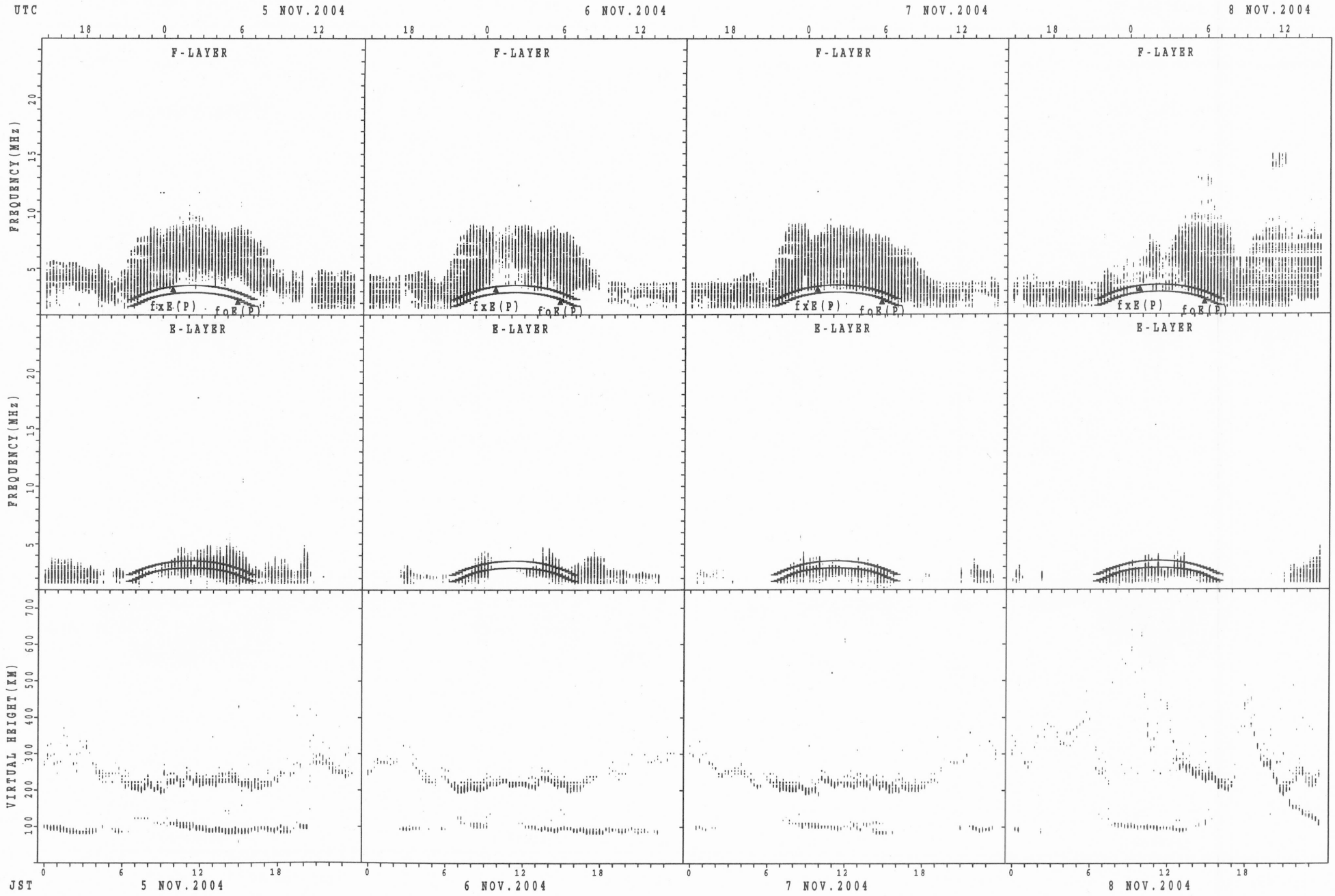
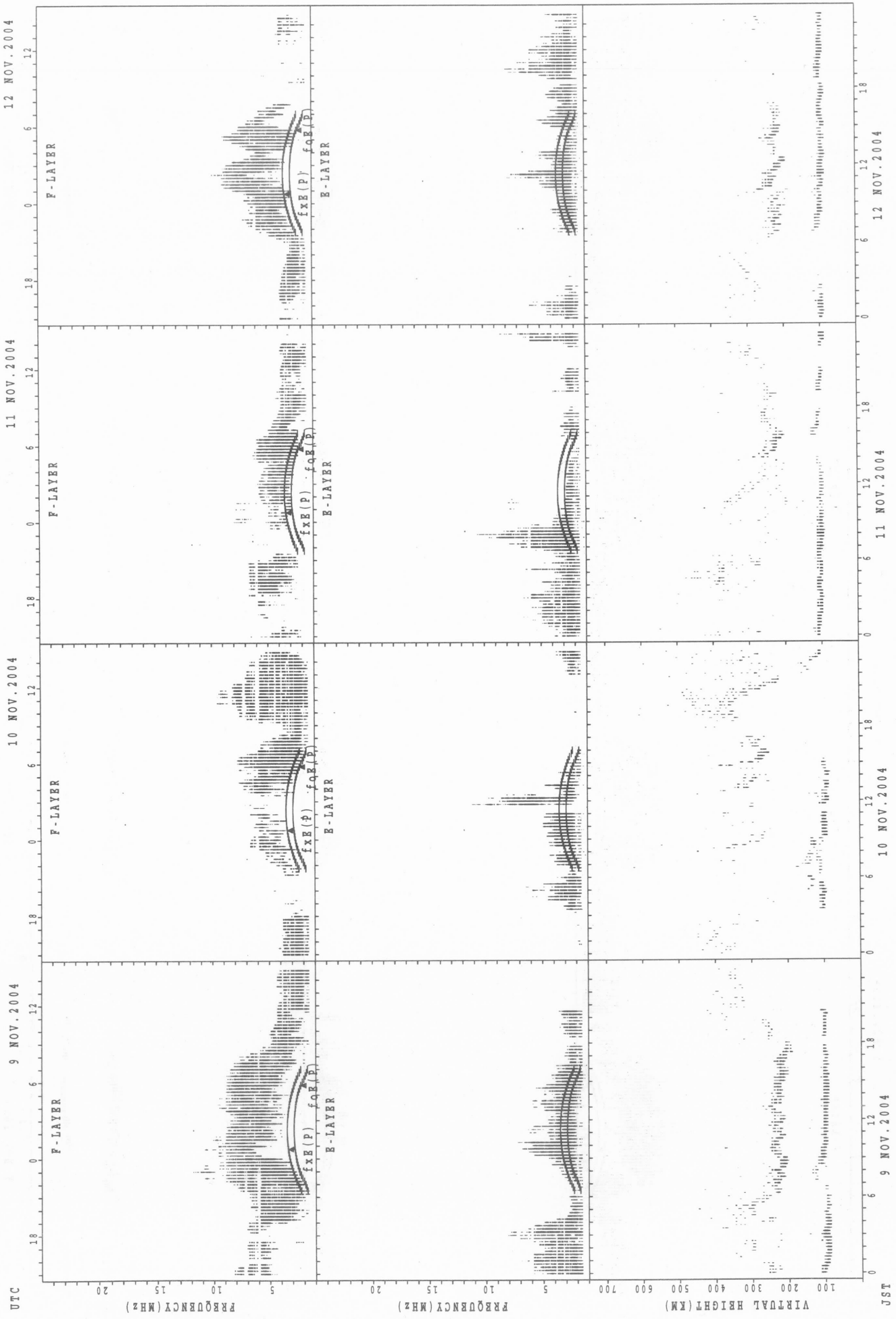
30	14	15	15	15	14	15	15	14	14	14	15	18	22	21	21	17	20	20	14	14	14	15	15	15
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	29	29	30	26	24	30	30	30	30	30	30	30	29	30	29	30	30	30	30	28	30	28
MED	14	15	15	14	14	14	15	15	14	15	17	20	22	22	21	18	15	14	14	14	14	14	14	15
U Q	15	15	15	15	14	15	15	16	14	16	20	23	22	24	23	20	17	15	14	15	15	15	15	15
L Q	14	14	14	14	14	14	14	14	14	14	15	18	21	18	20	16	14	14	14	14	14	14	14	14


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

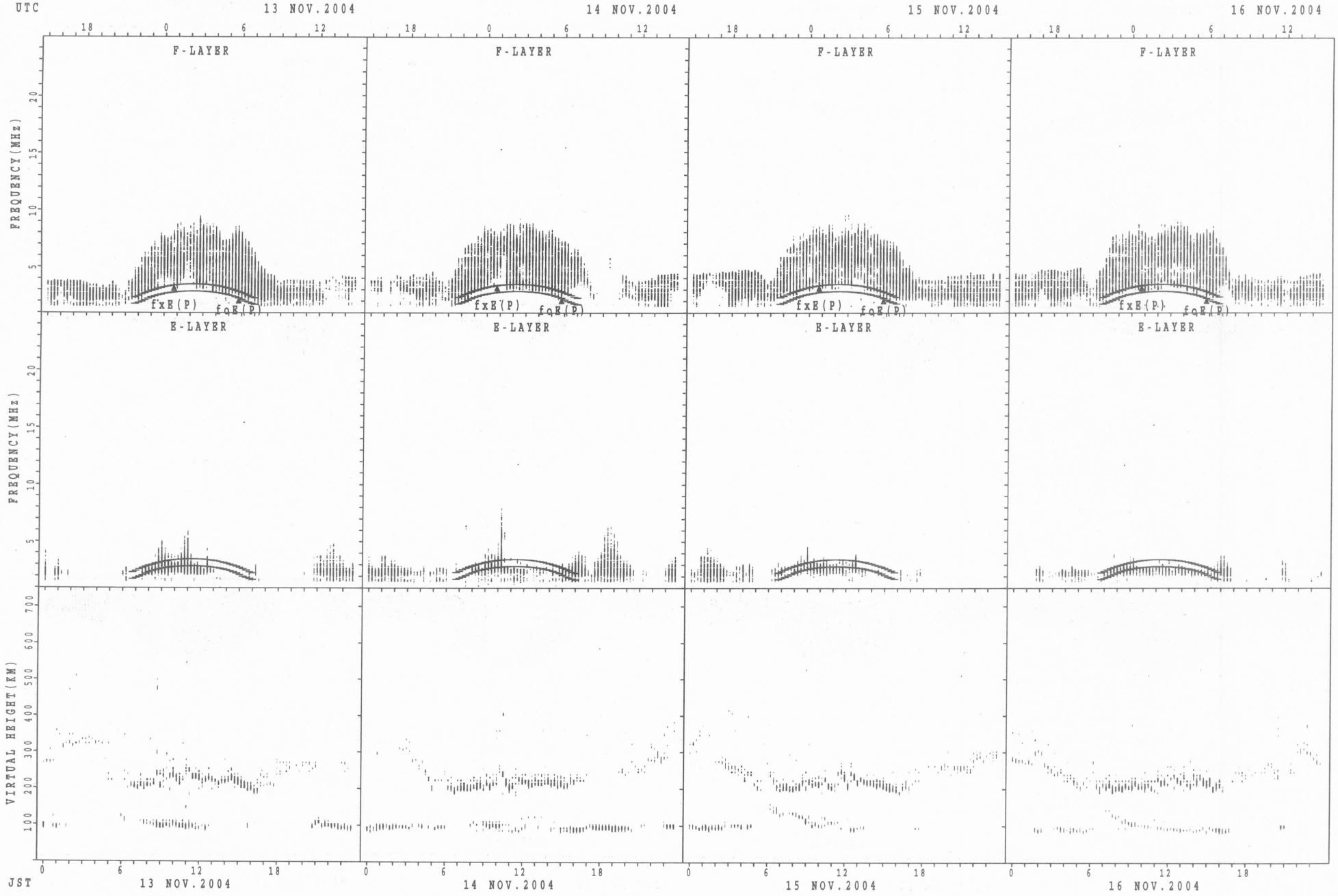
SUMMARY PLOTS AT Wakkanai



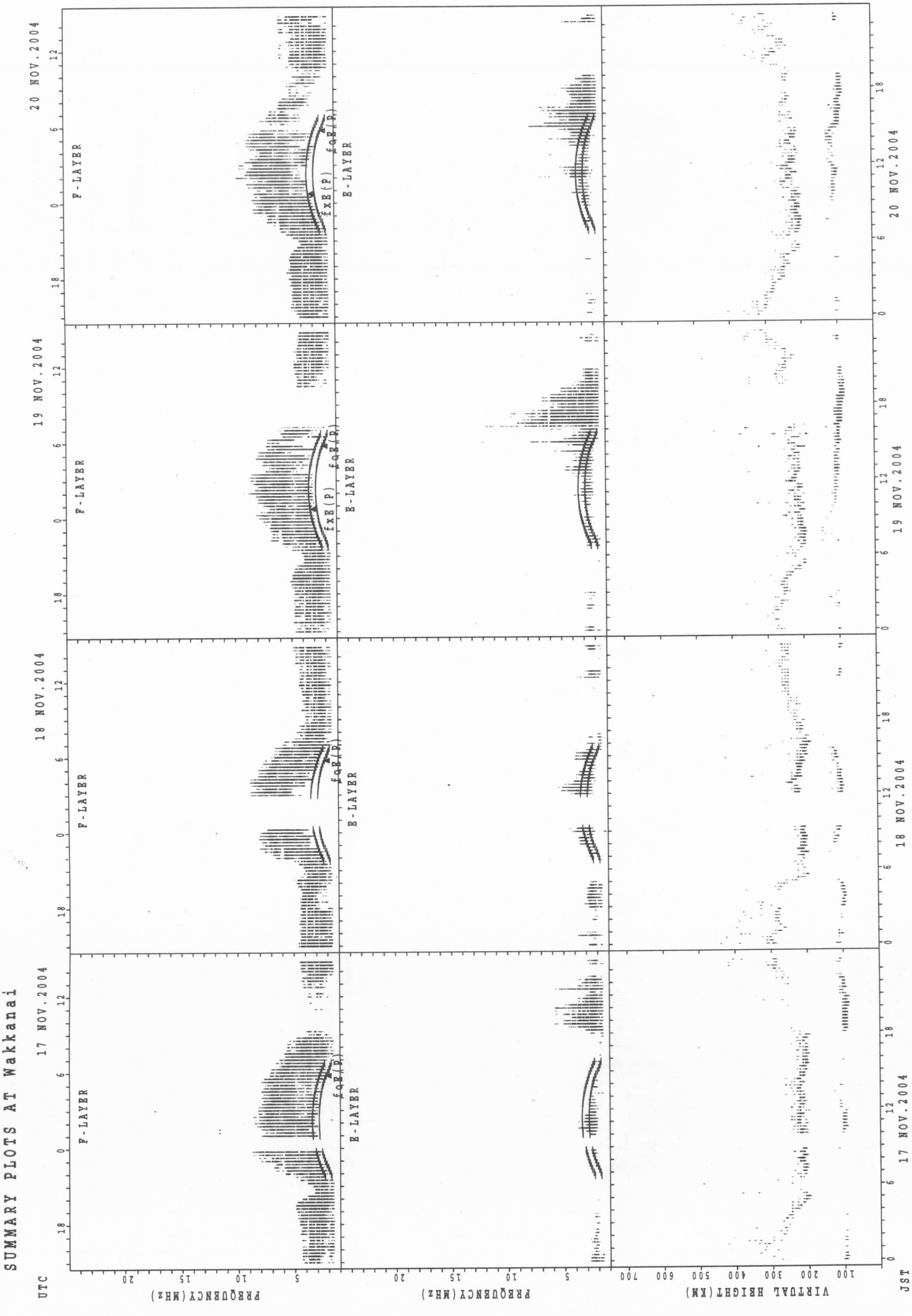
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


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

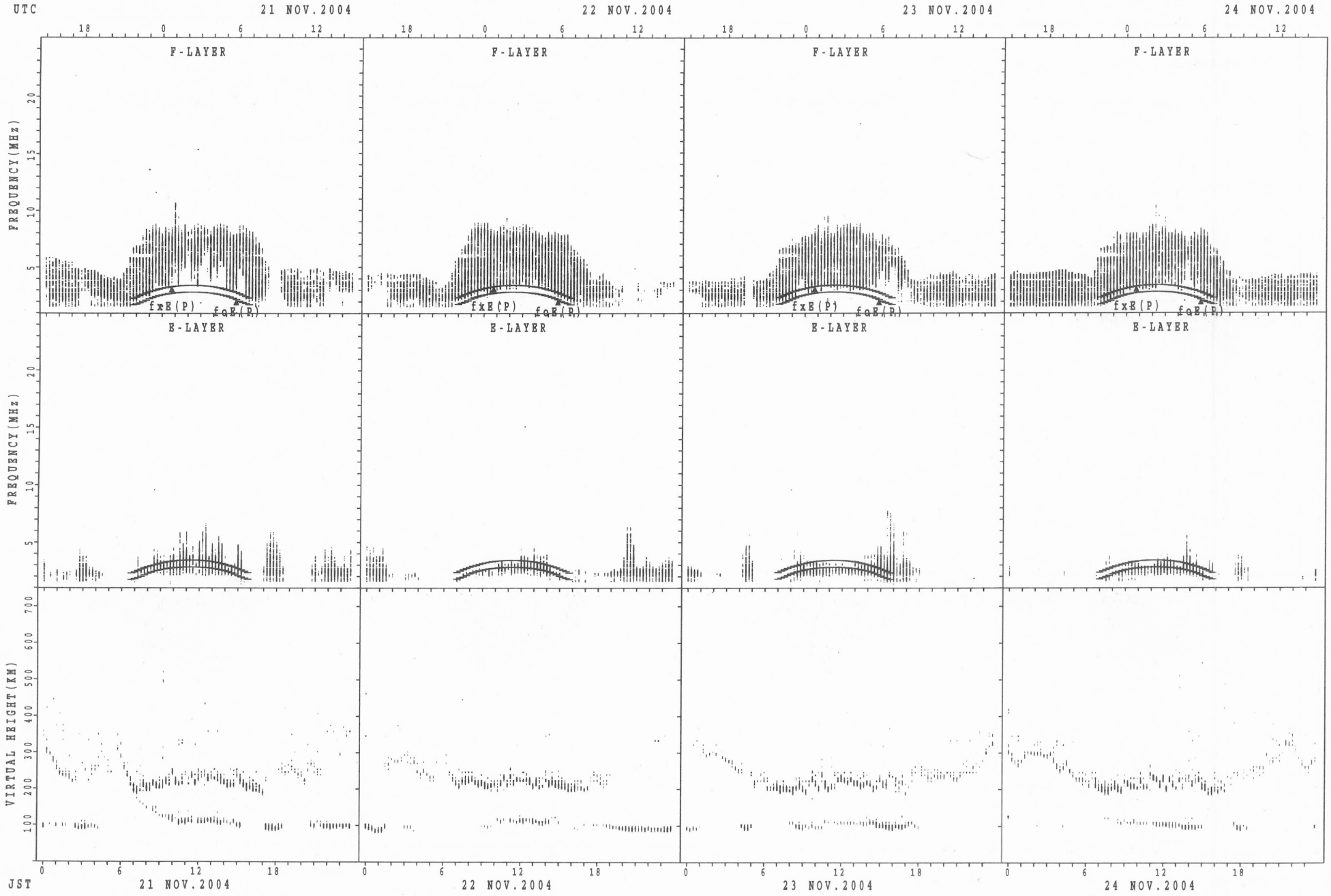
SUMMARY PLOTS AT Wakkanai



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

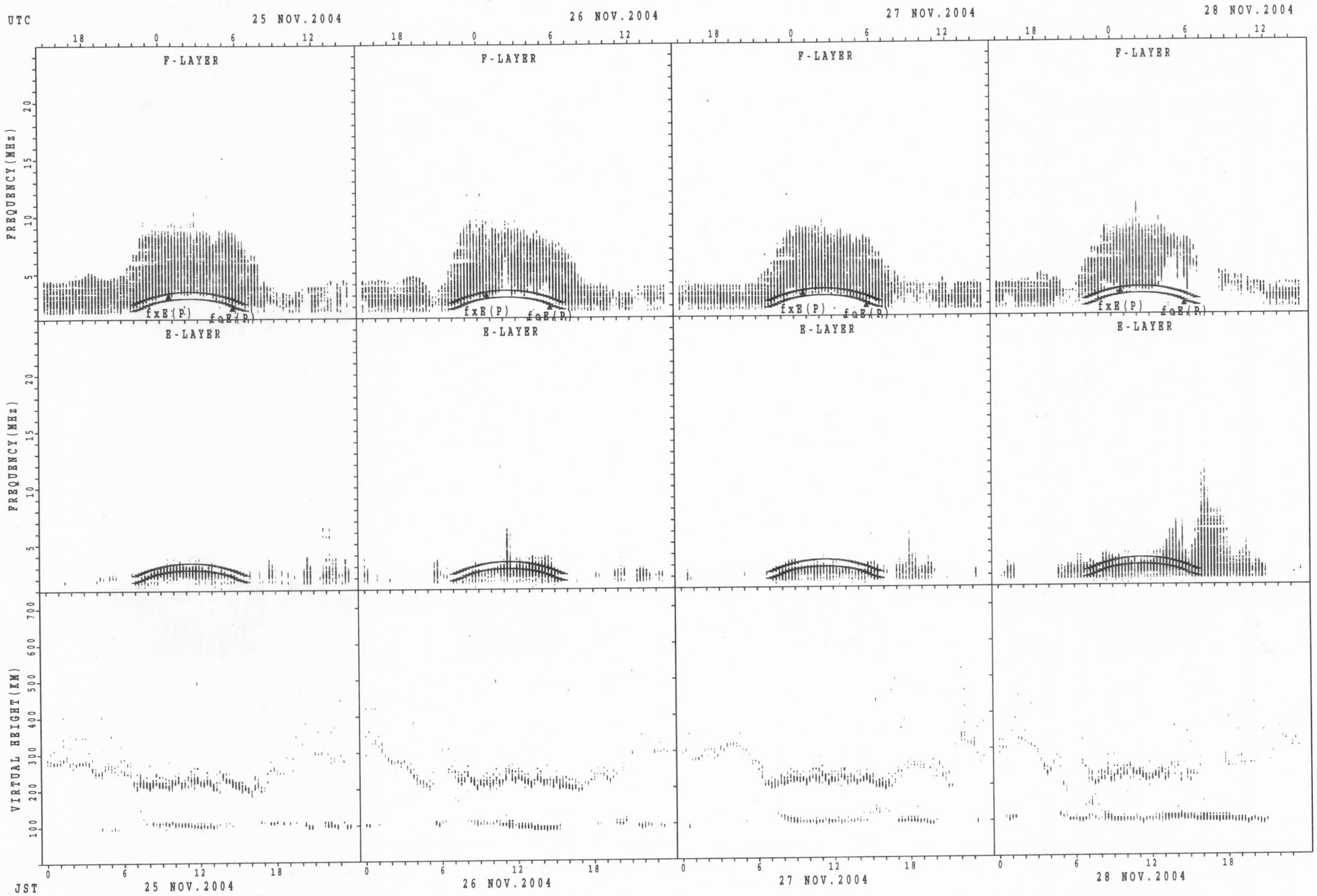

SUMMARY PLOTS AT Wakkanai
17 NOV.2004
18 NOV.2004
19 NOV.2004
20 NOV.2004
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
UTC
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



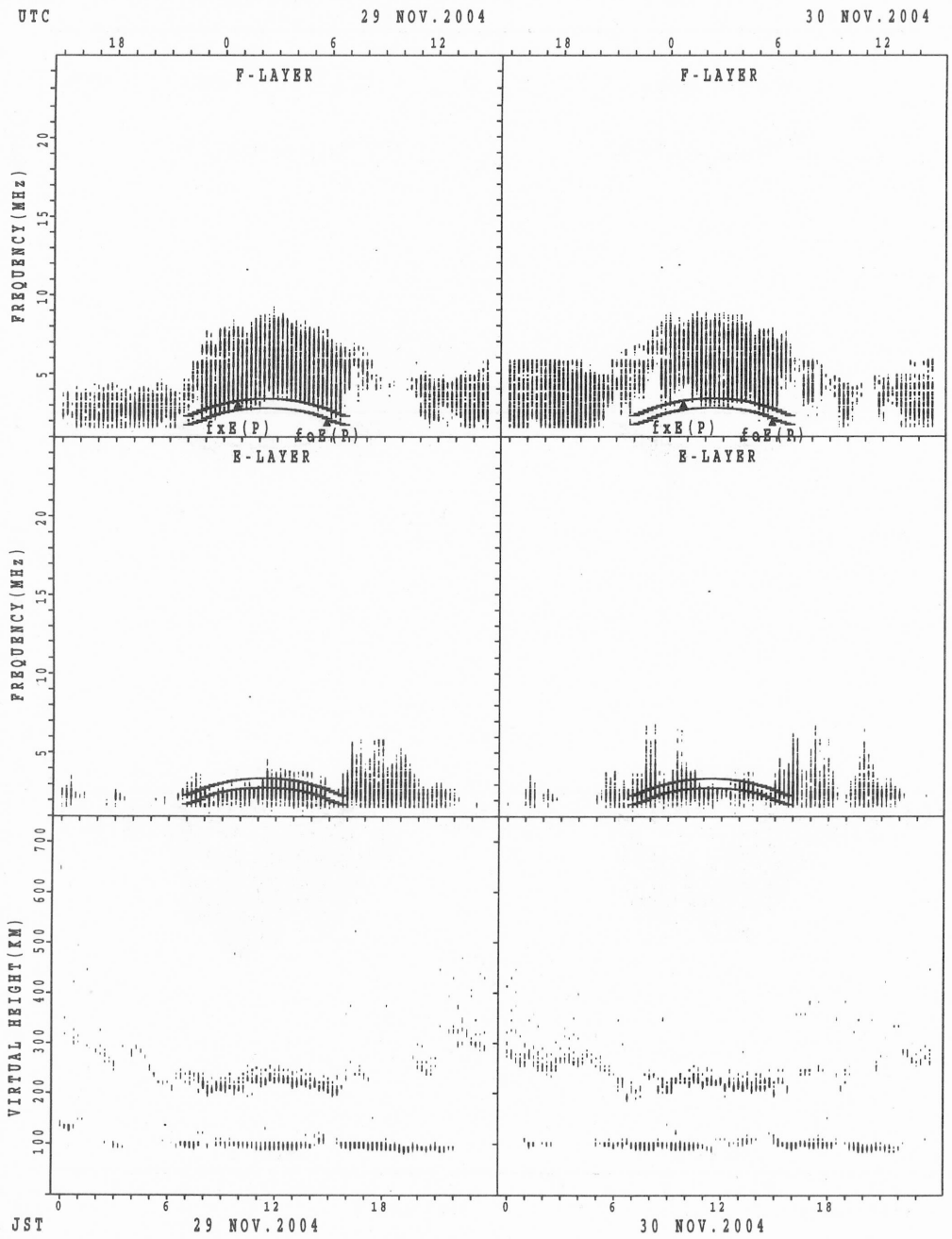
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



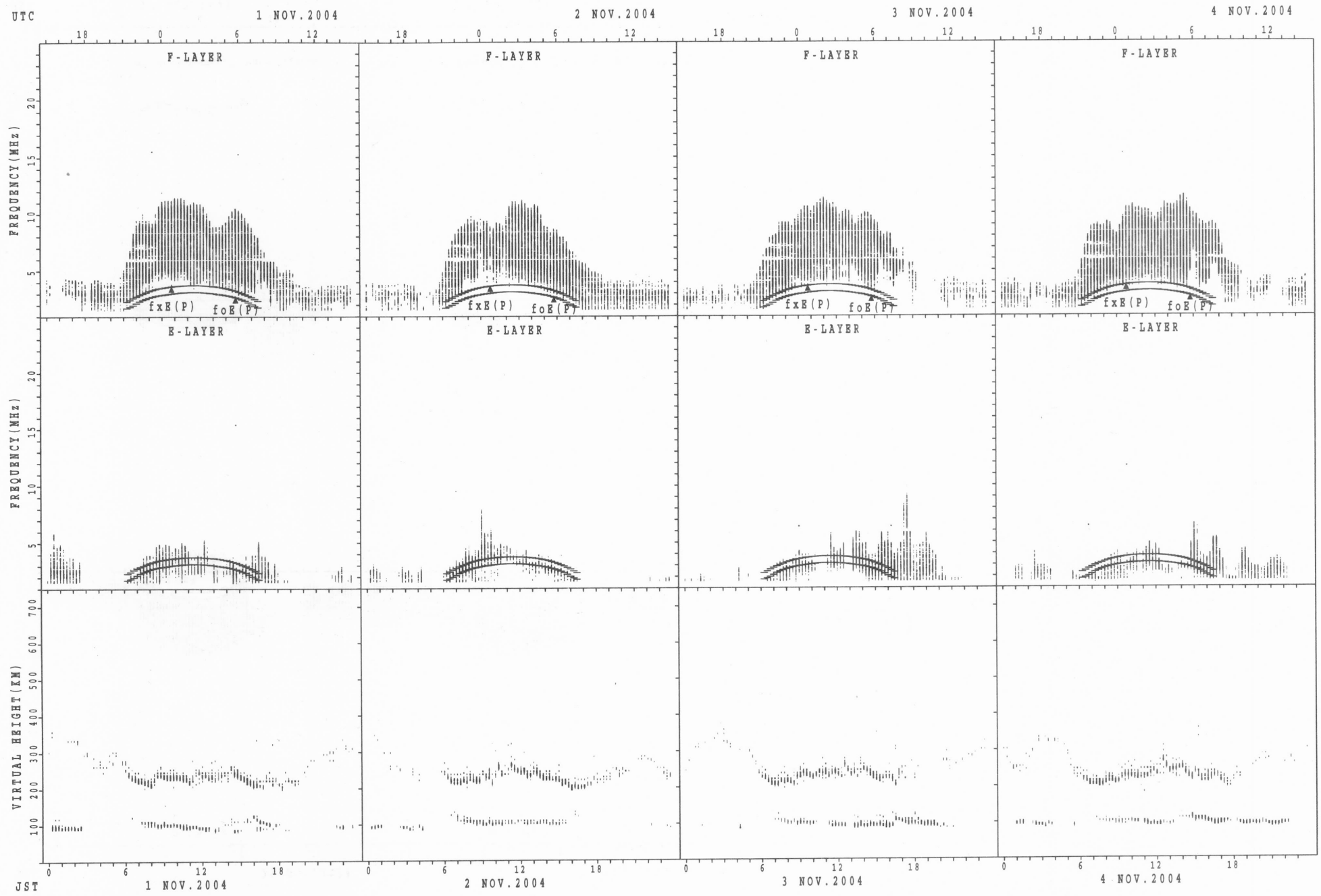
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



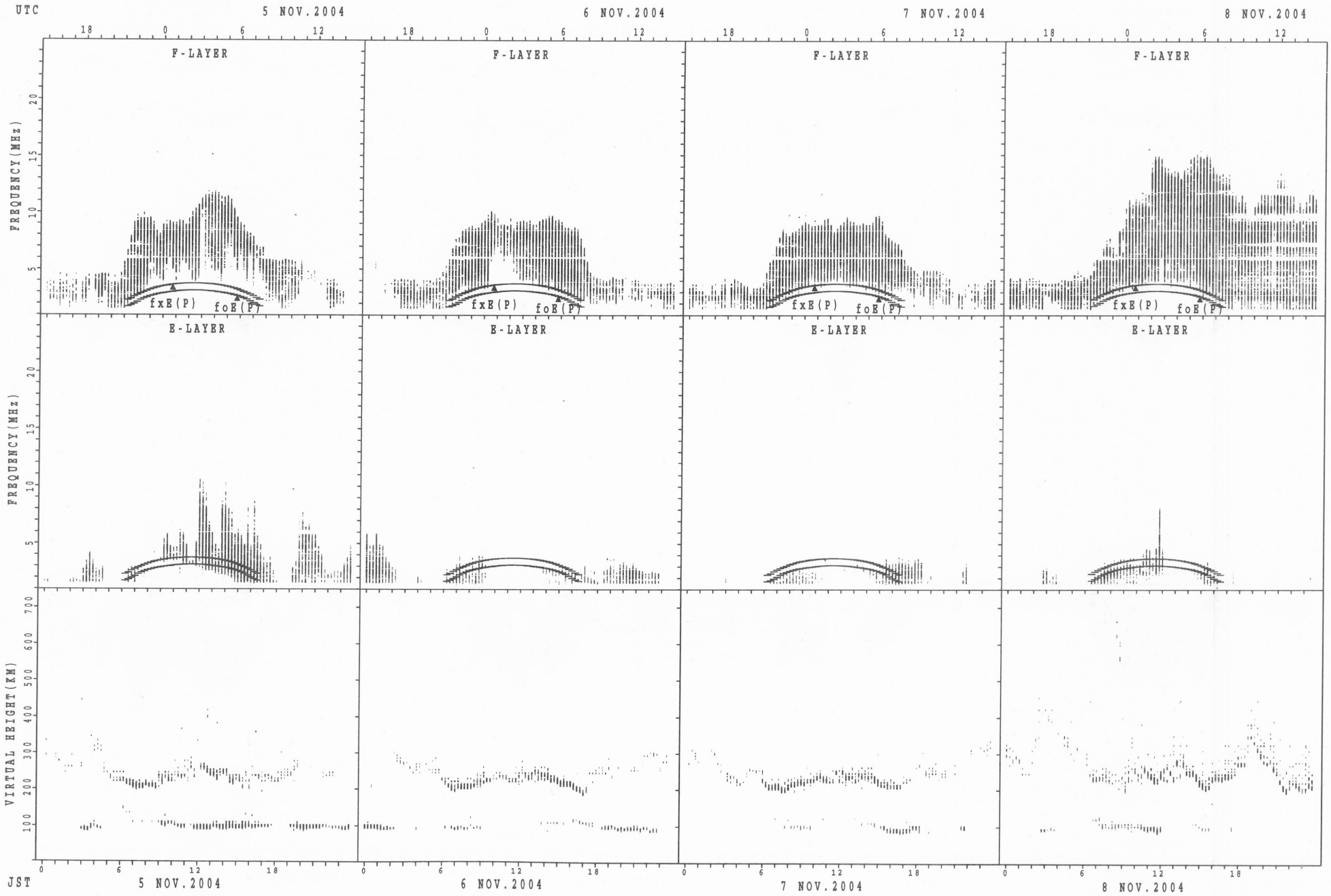
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



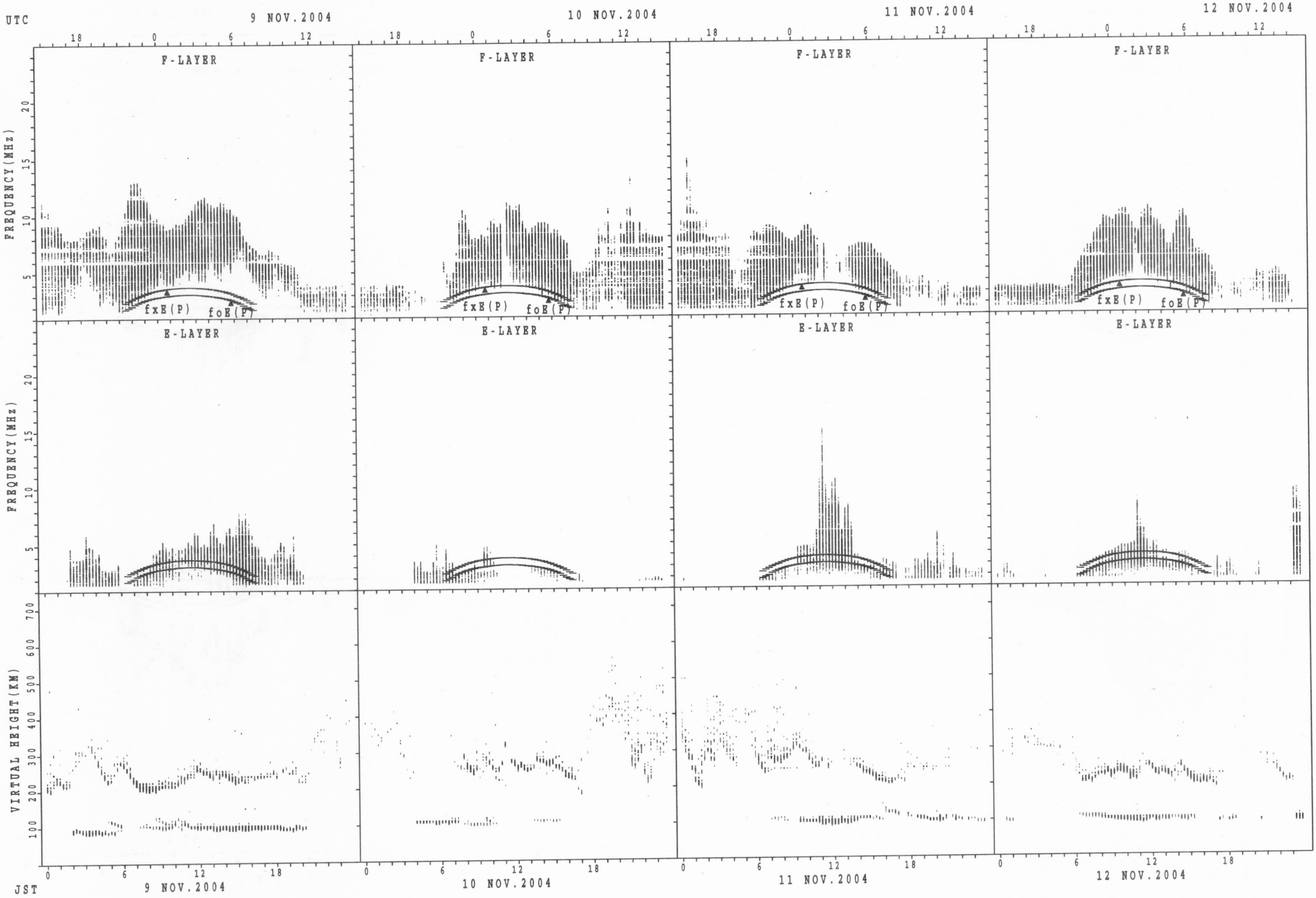
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



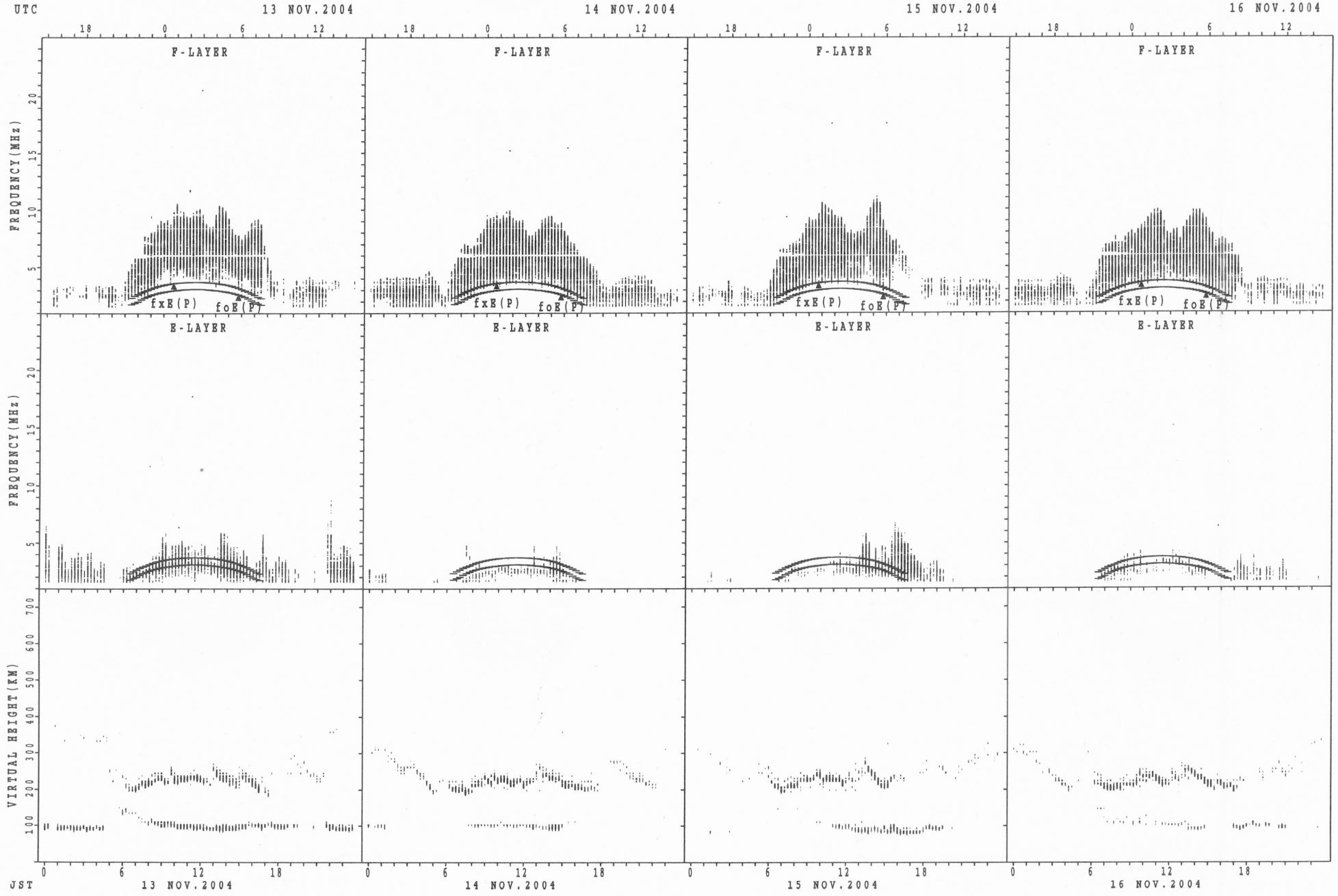
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



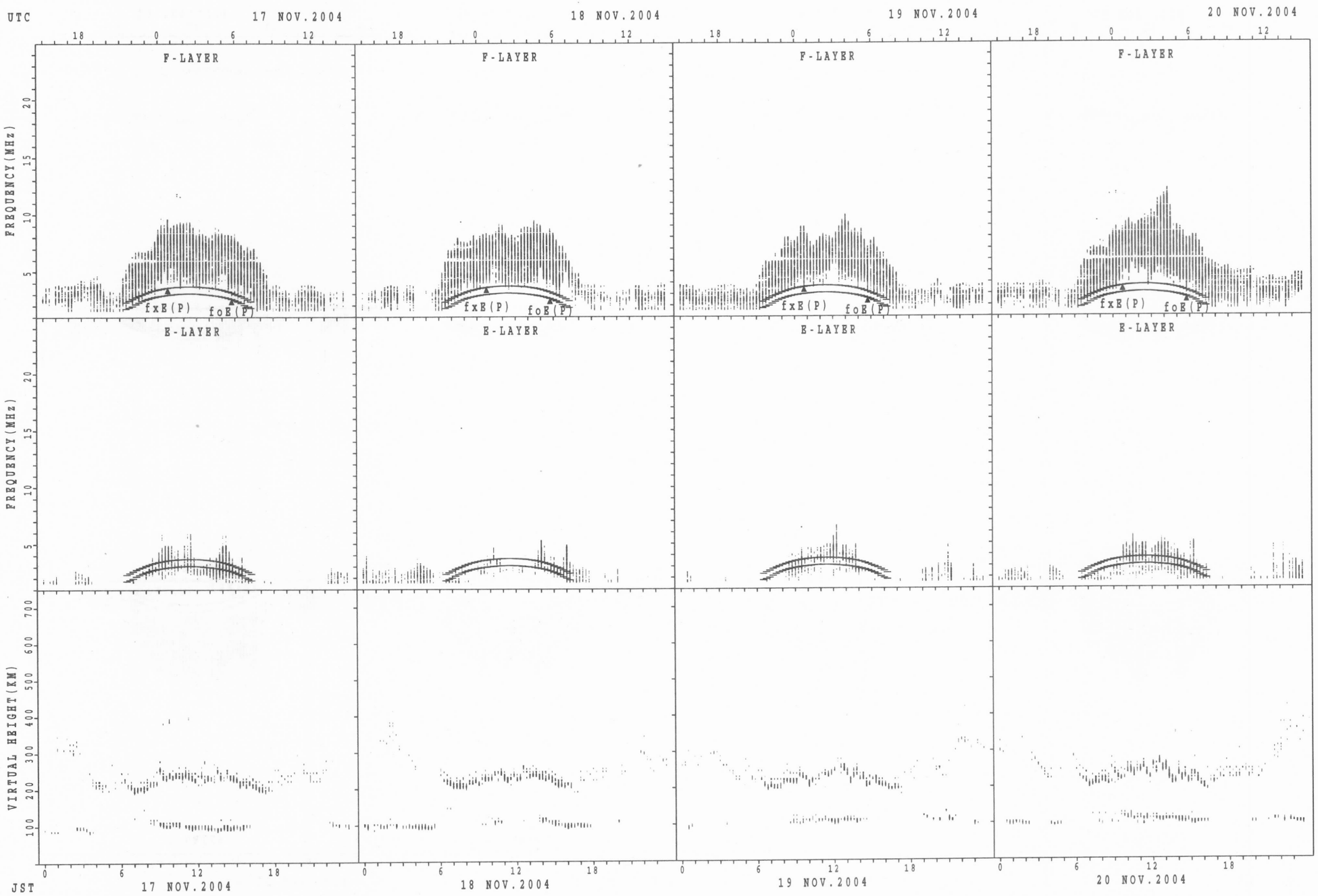
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



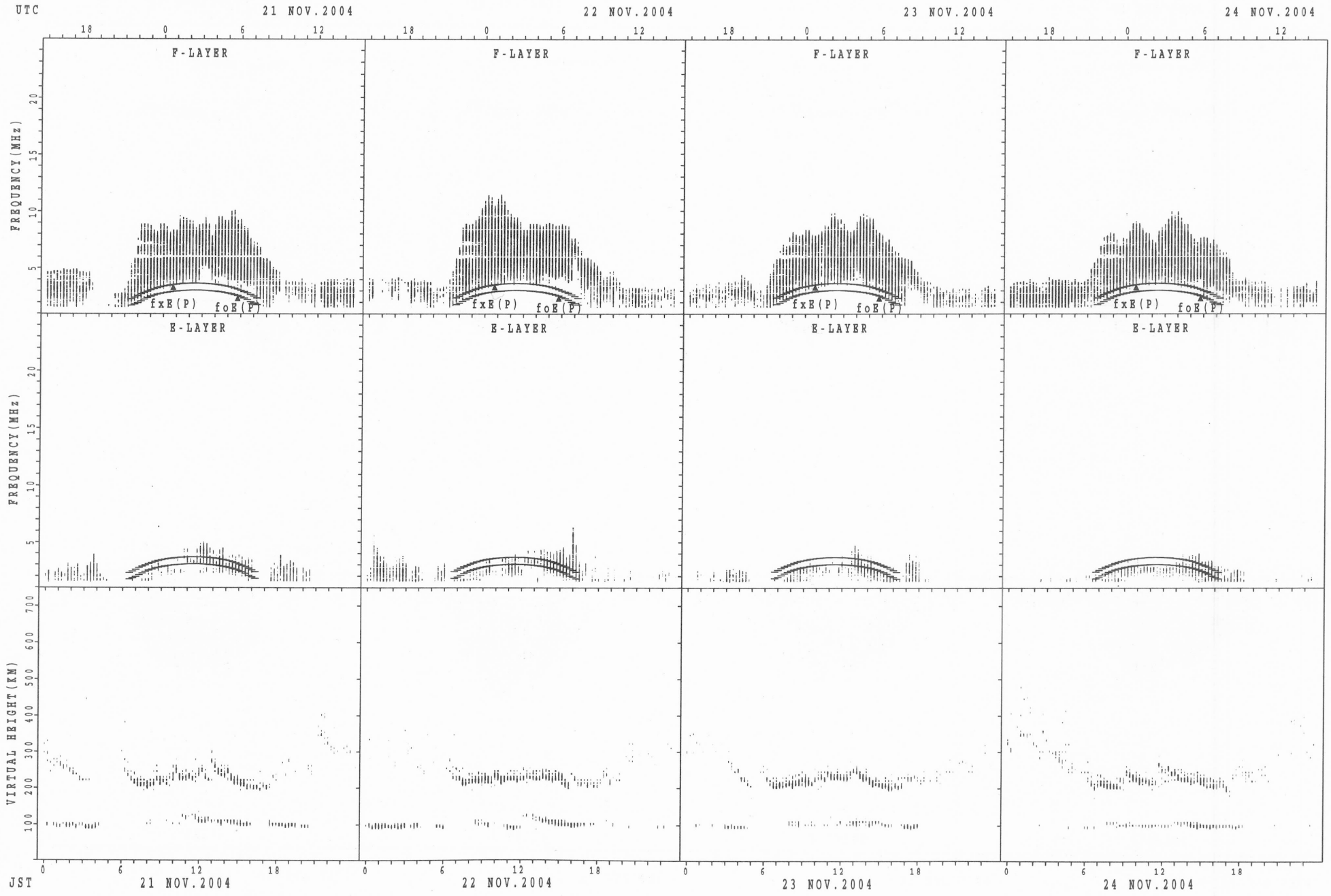
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

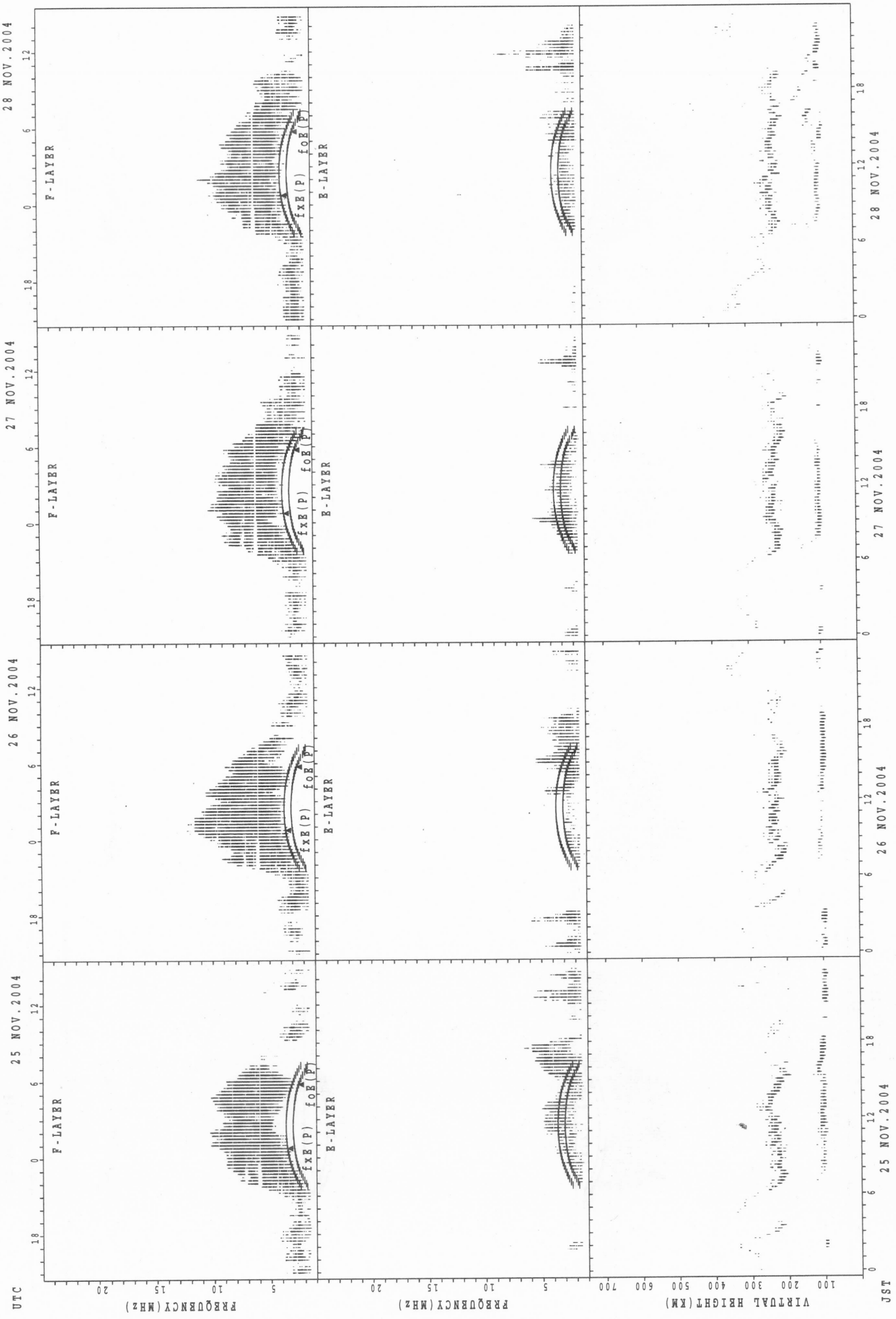


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

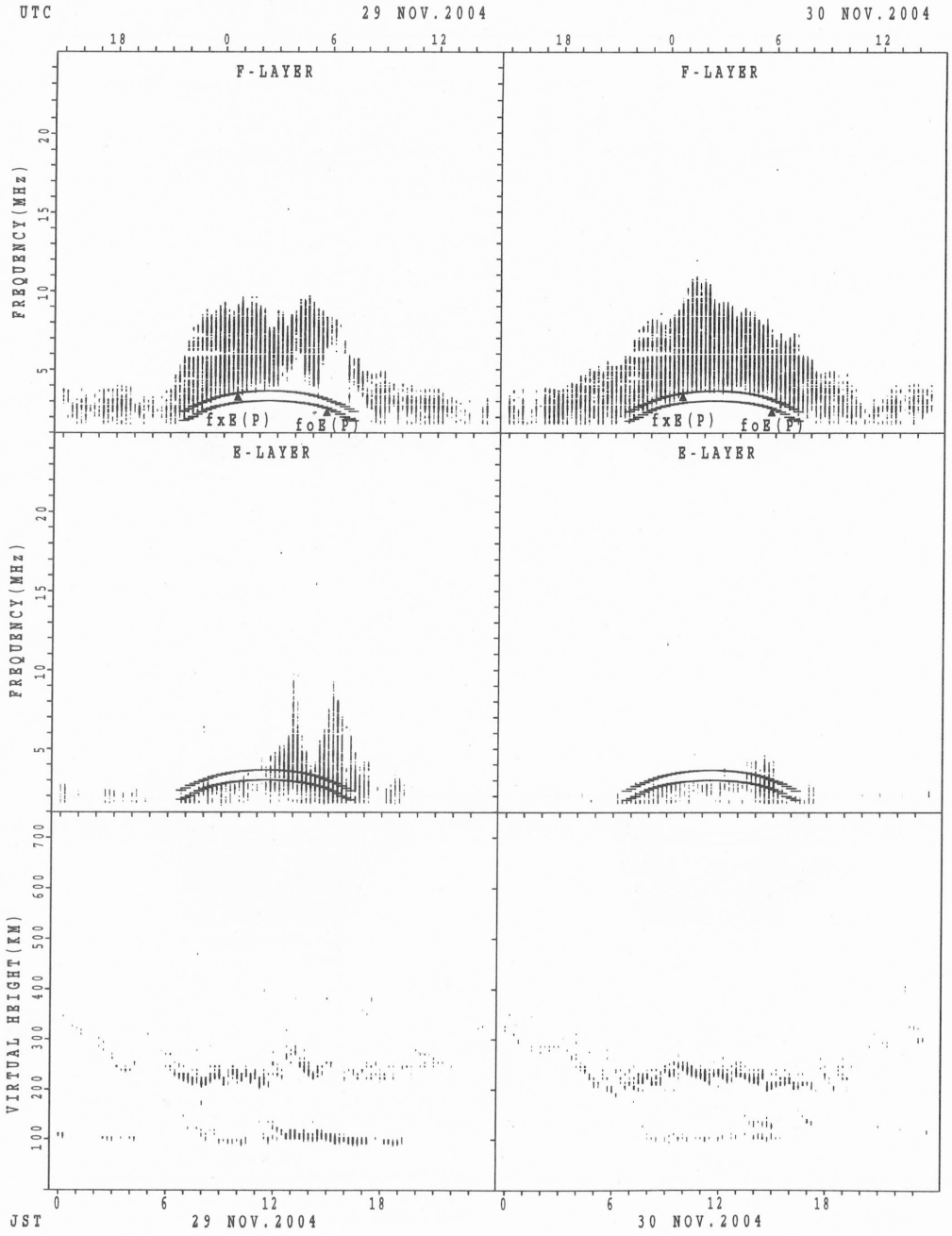
SUMMARY PLOTS AT Kokubunji



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

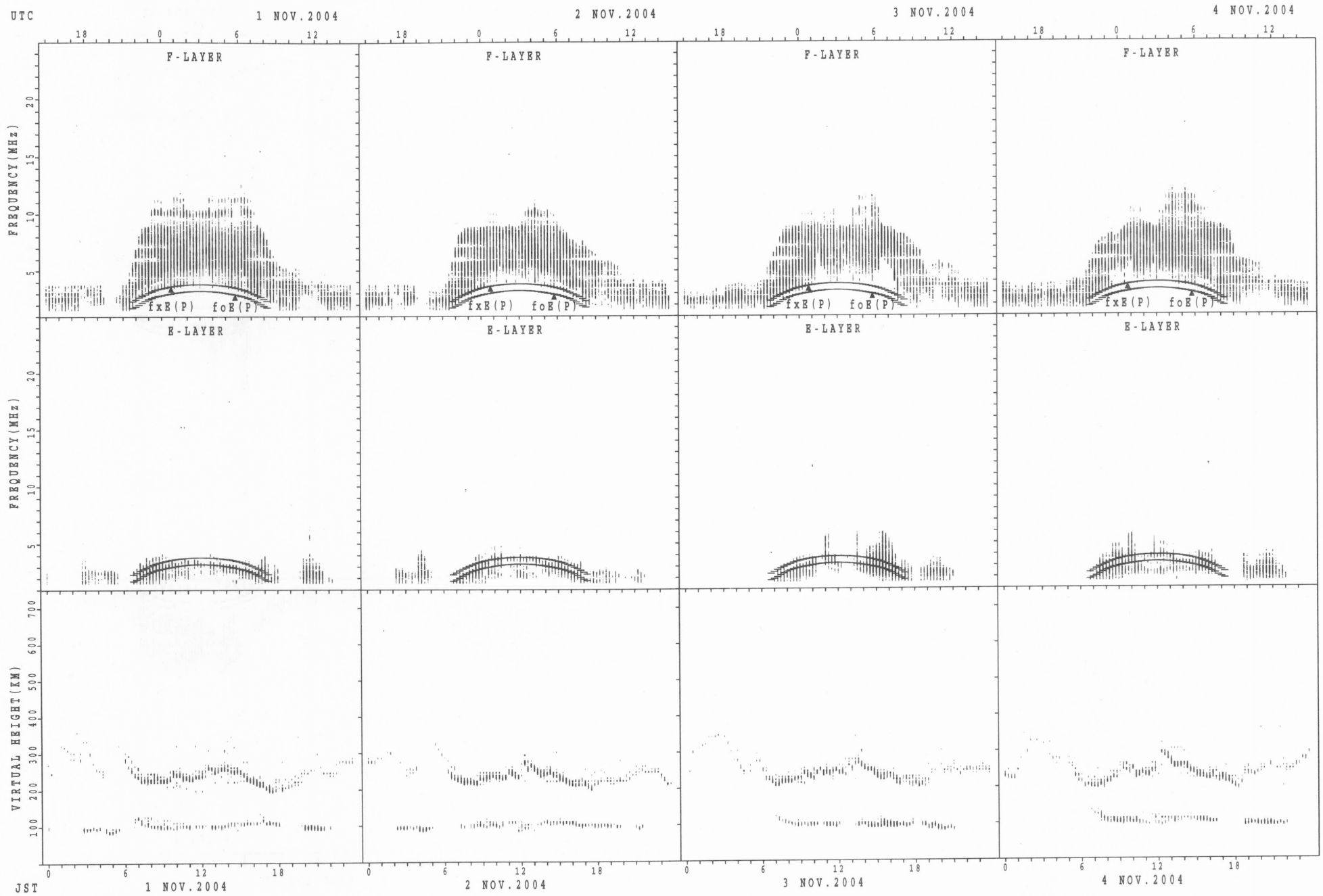

SUMMARY PLOTS AT Kokubunji
25 NOV.2004
26 NOV.2004
27 NOV.2004
28 NOV.2004
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
UTC
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



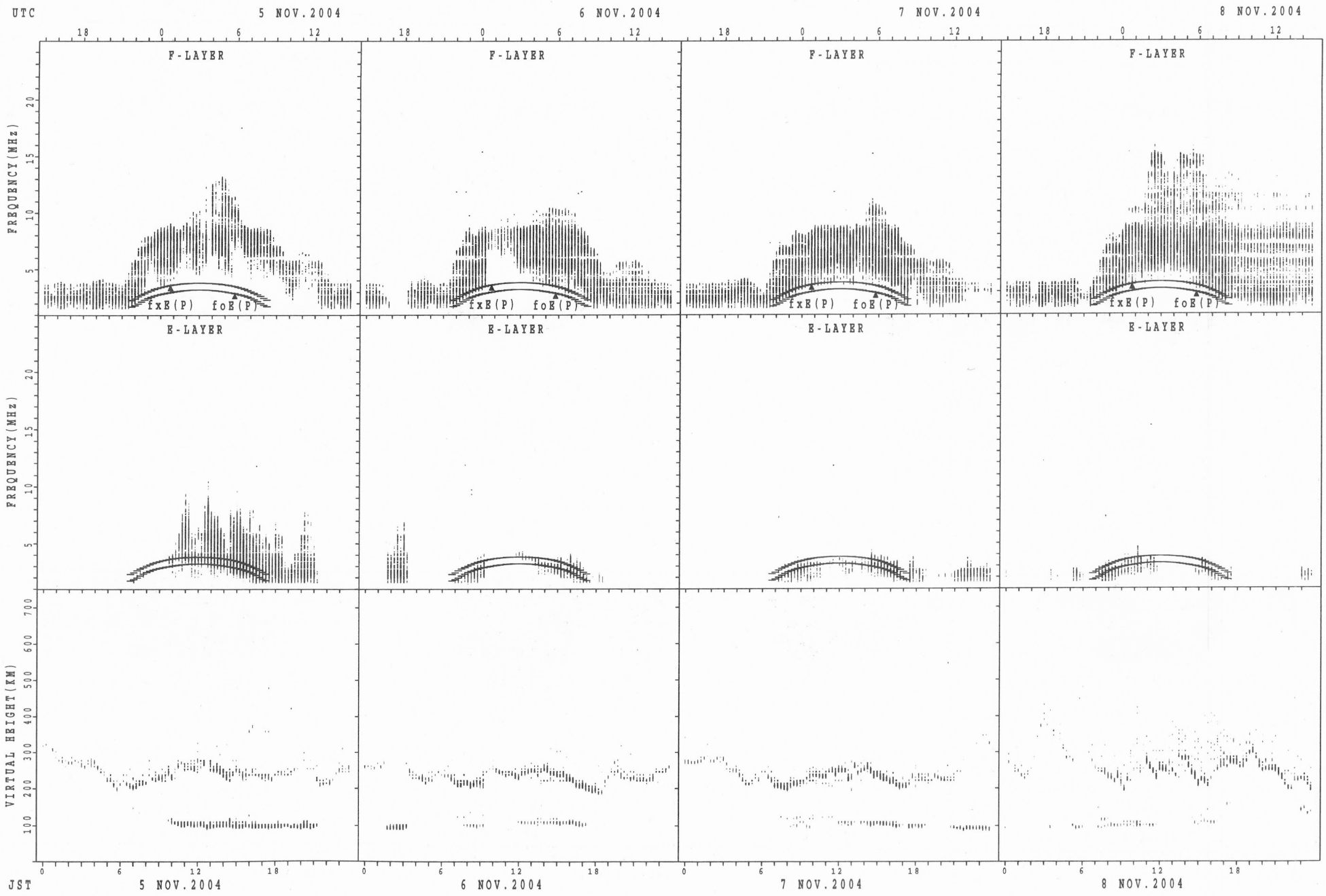
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



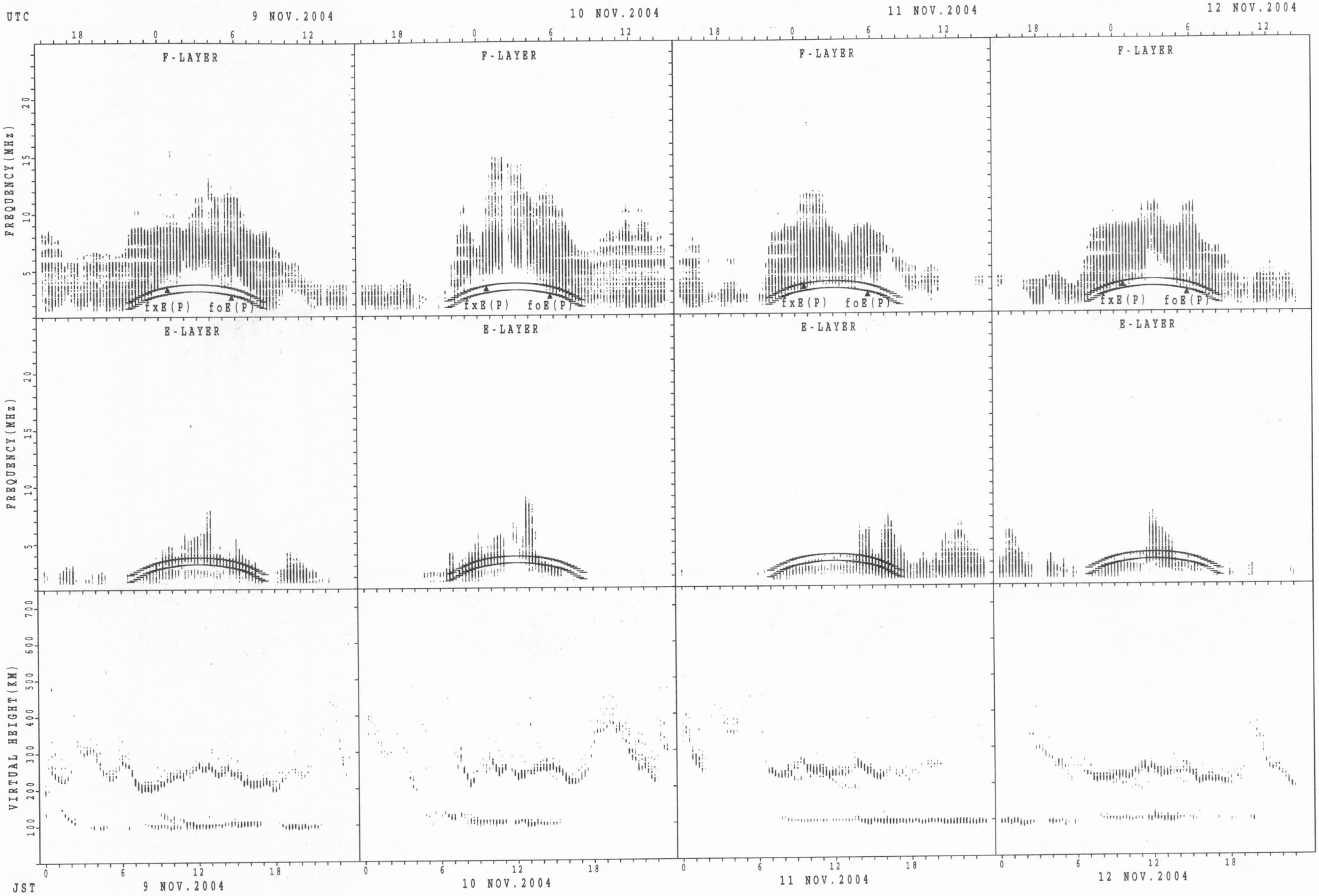
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



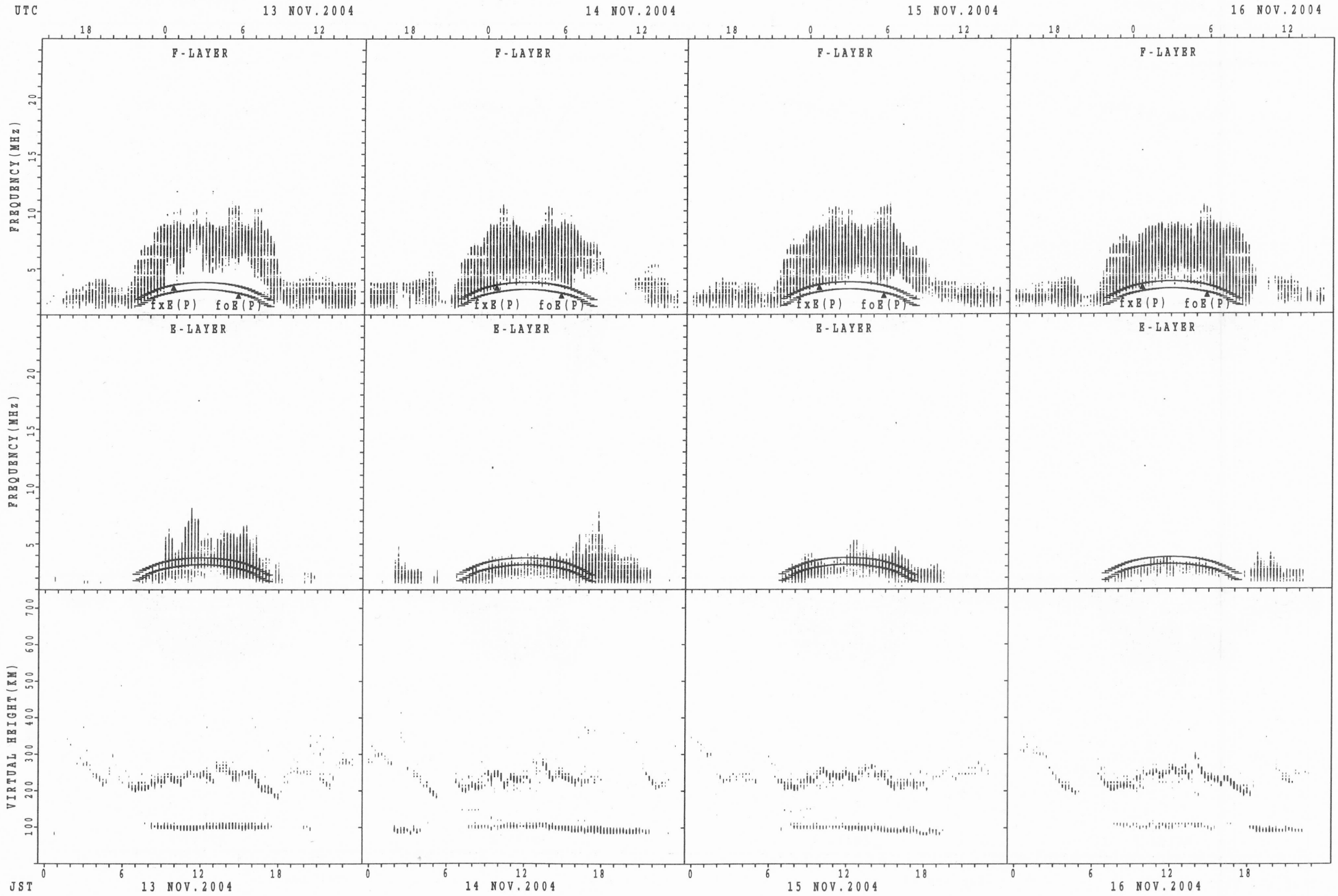
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



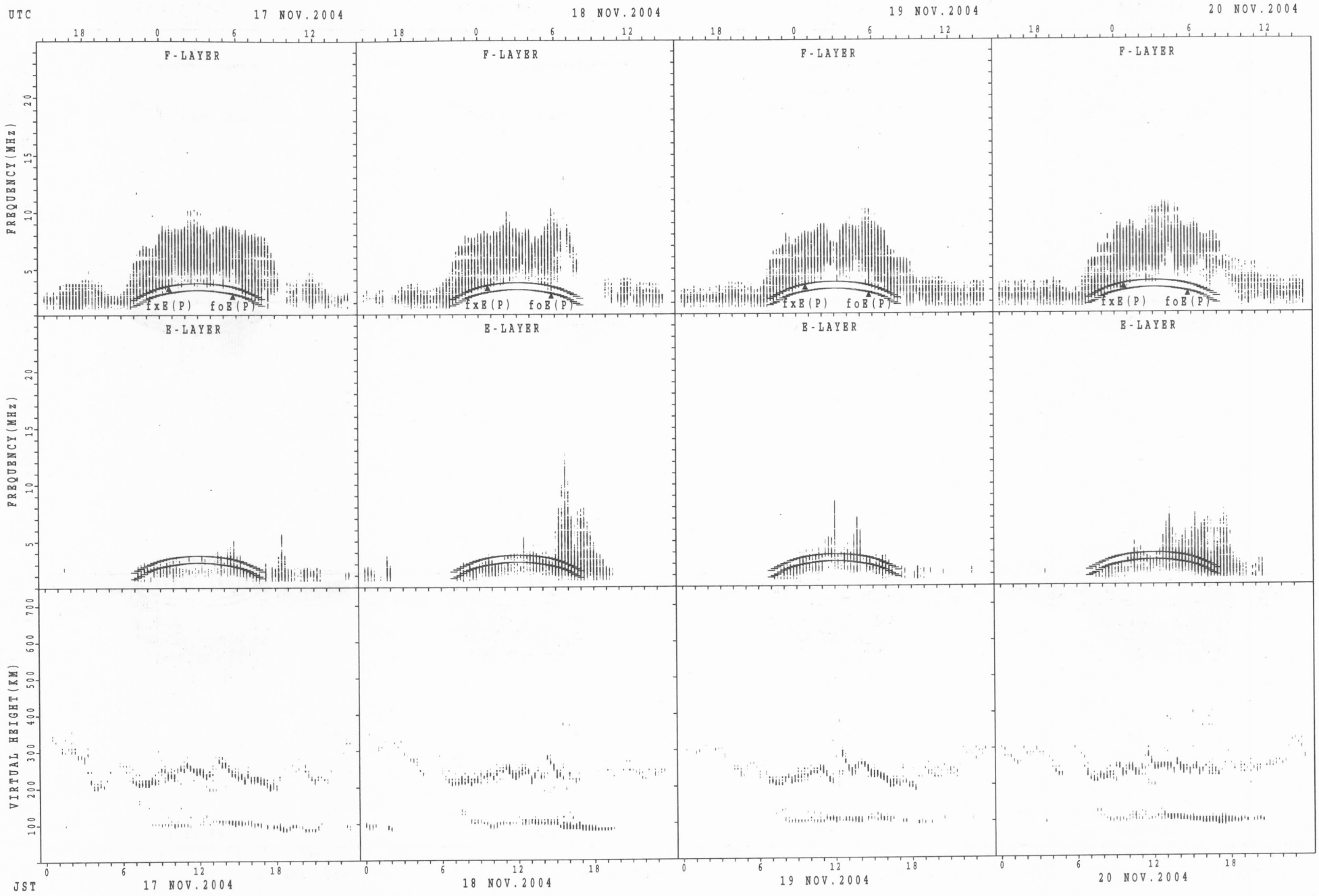
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



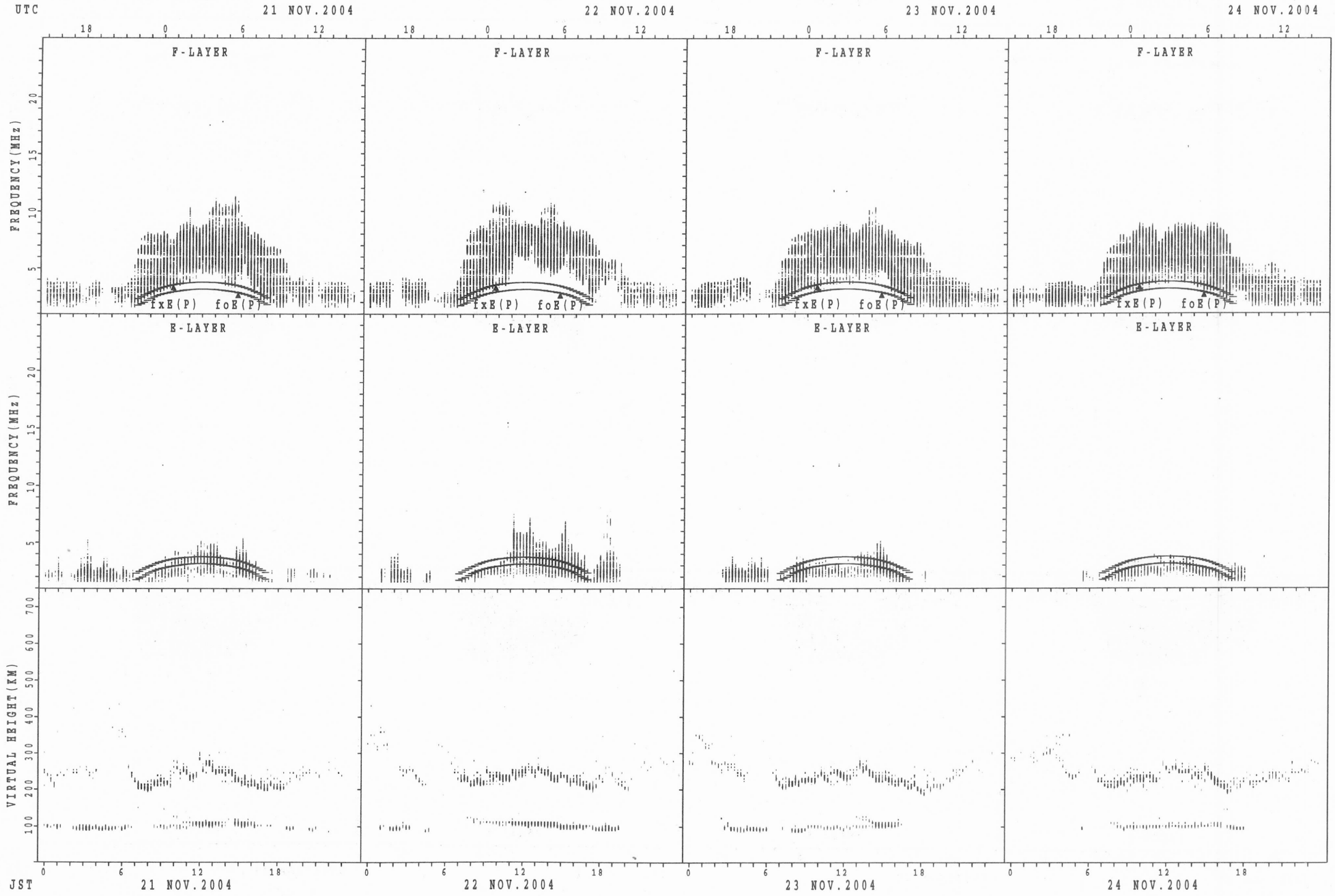
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



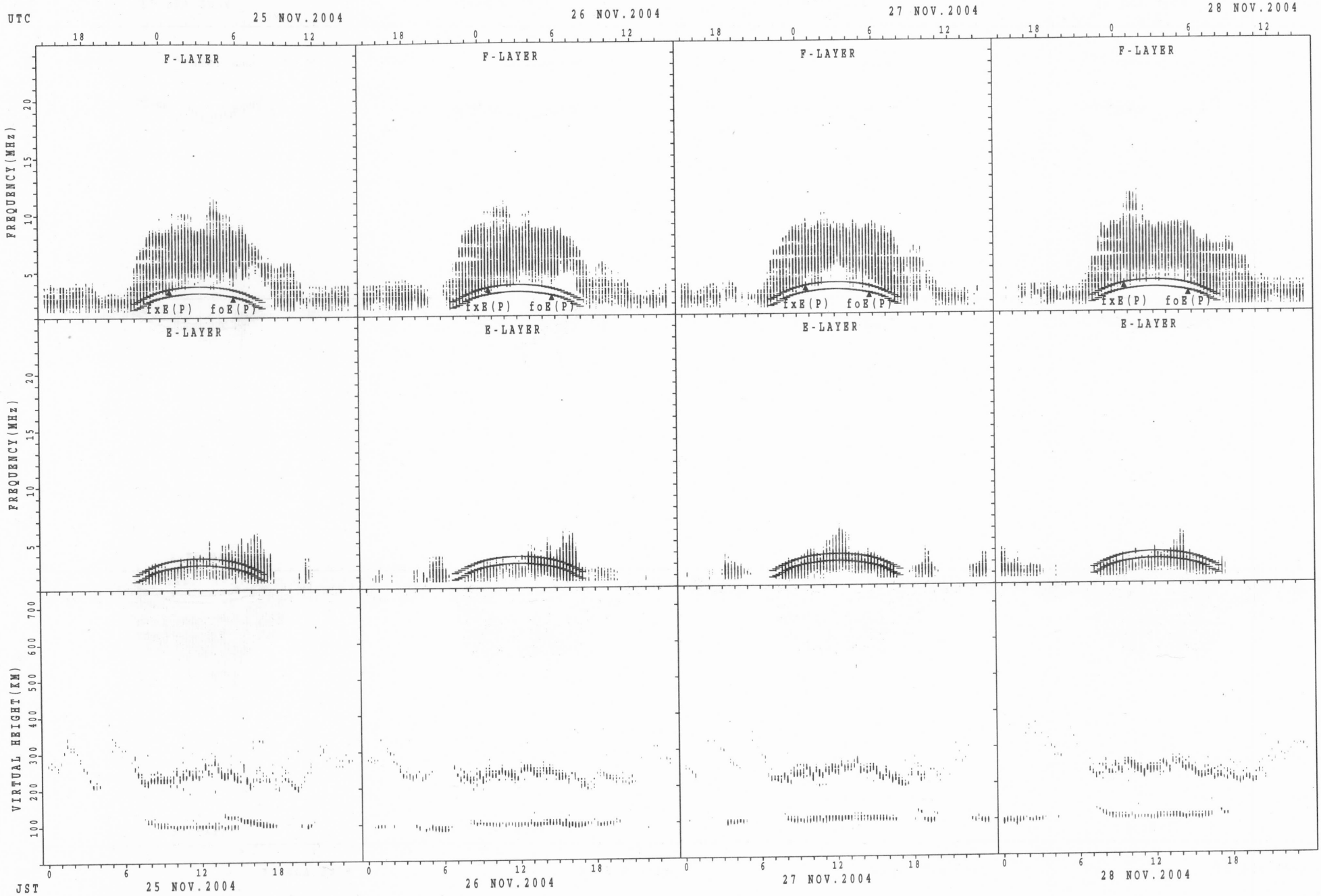
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



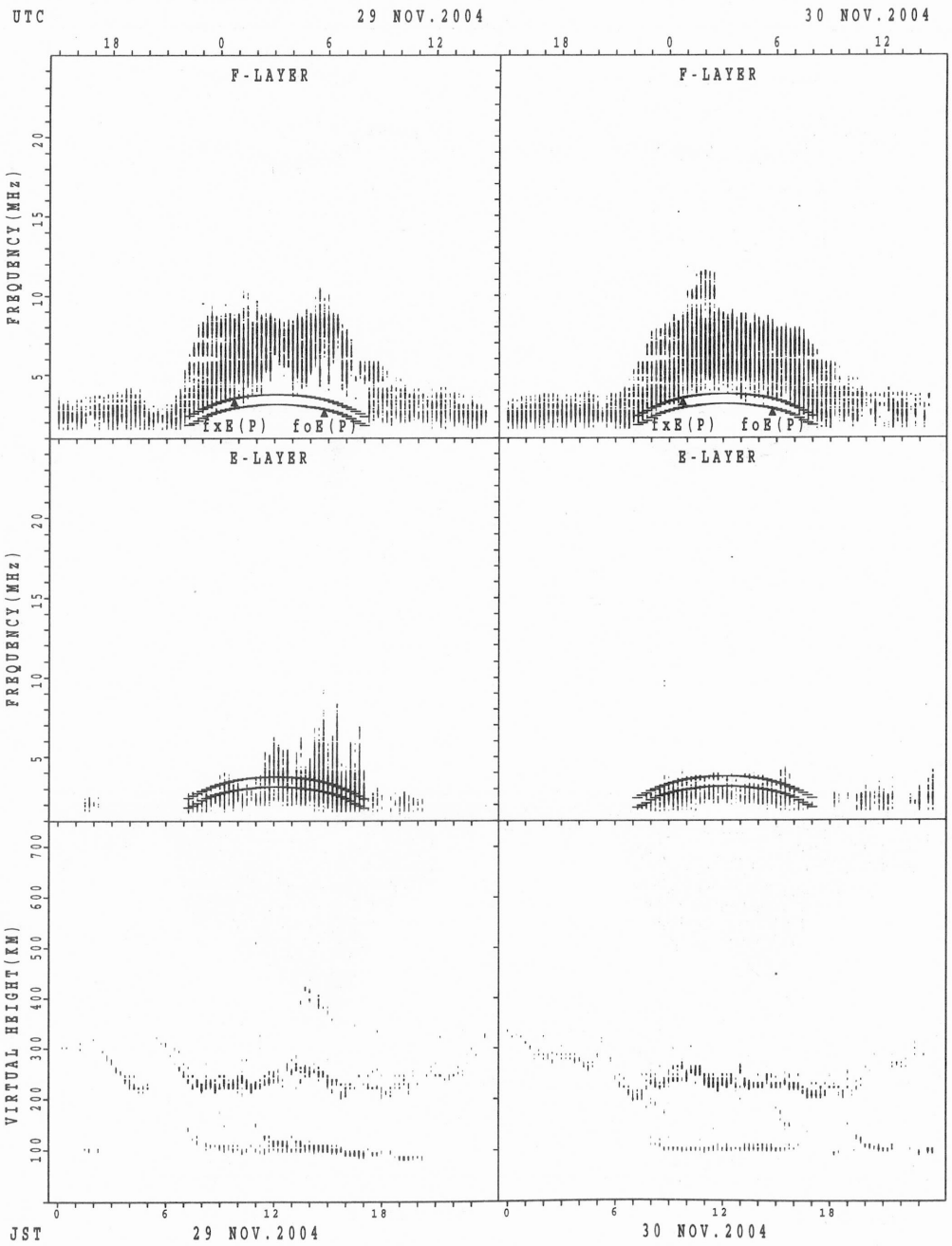
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



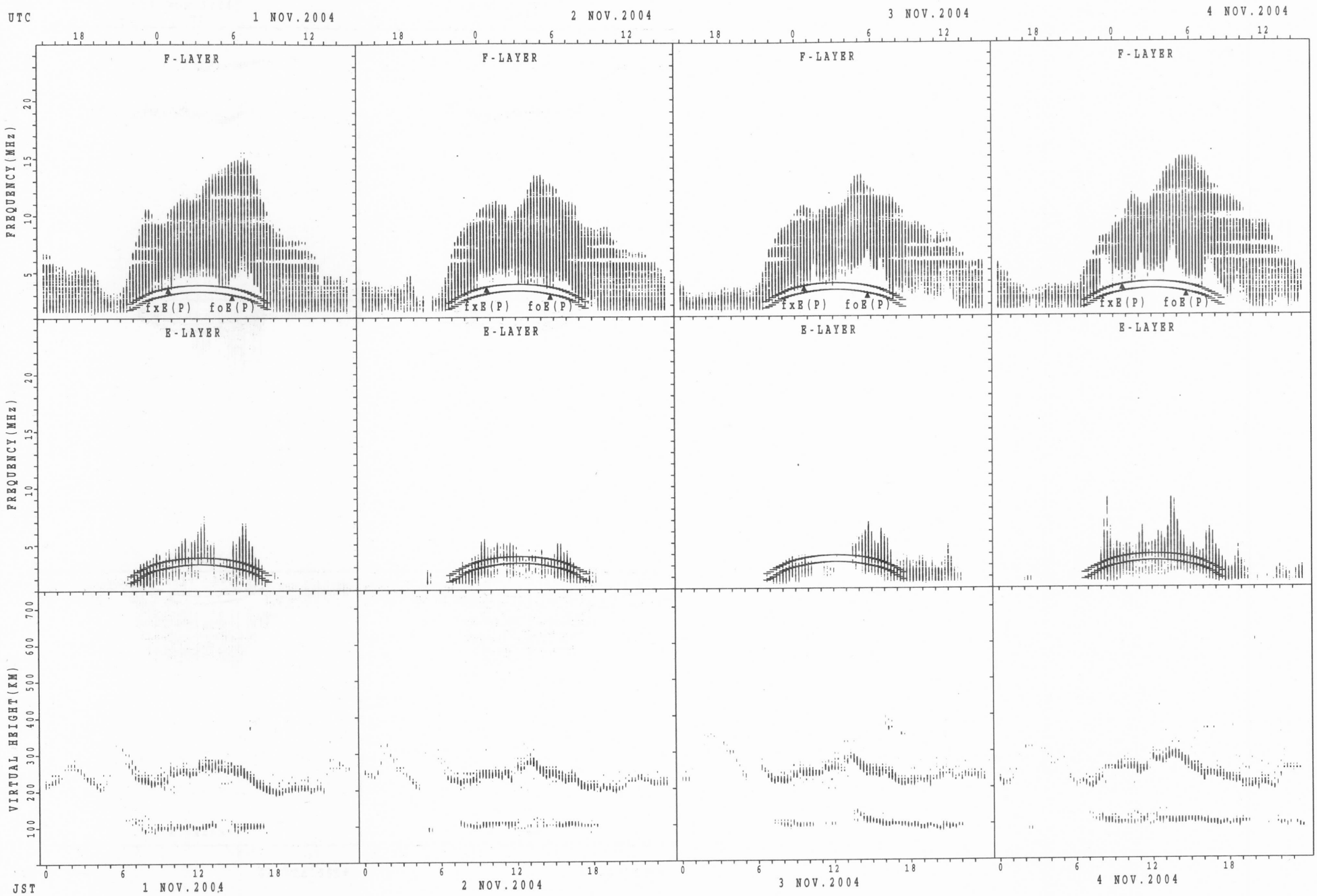
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



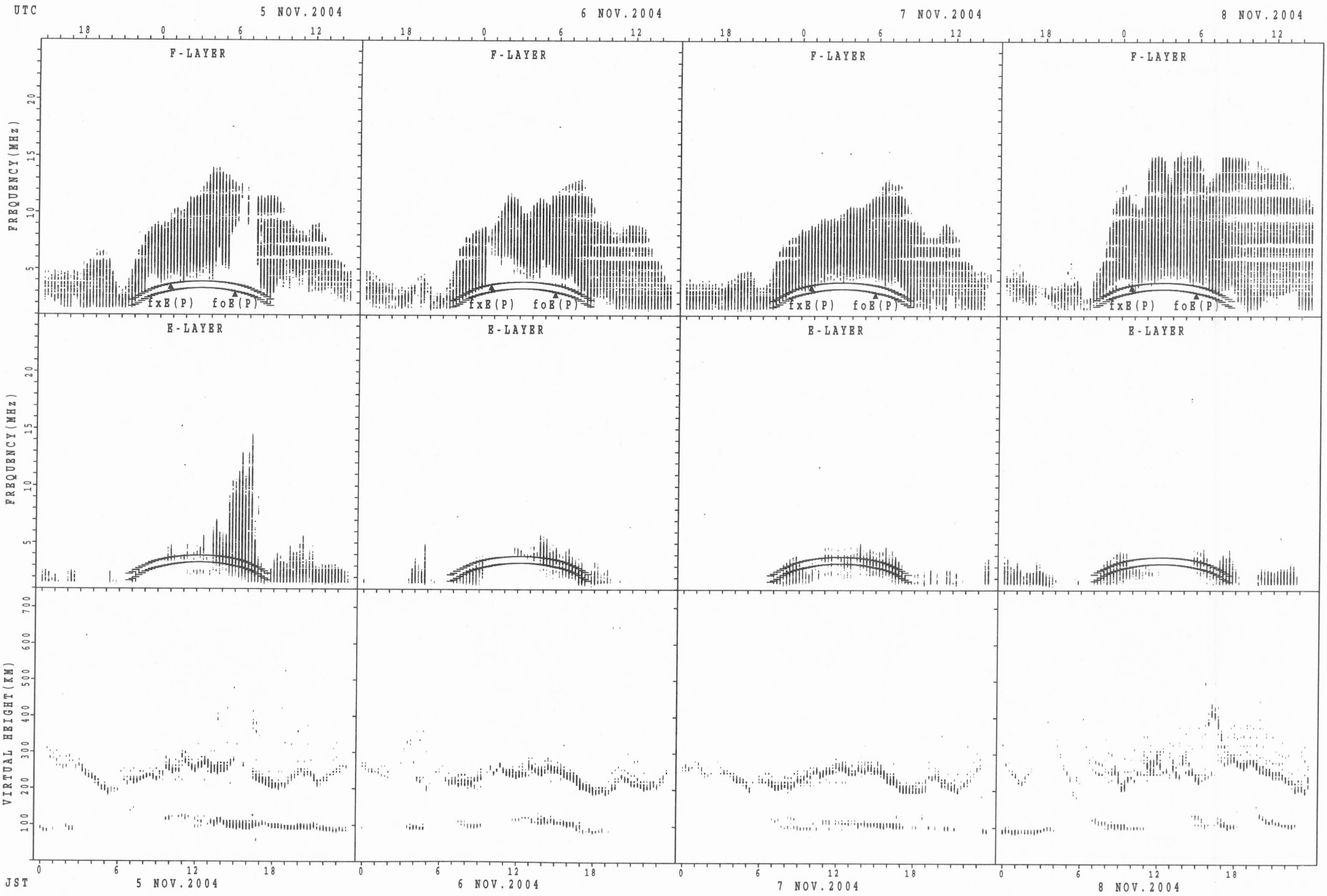
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



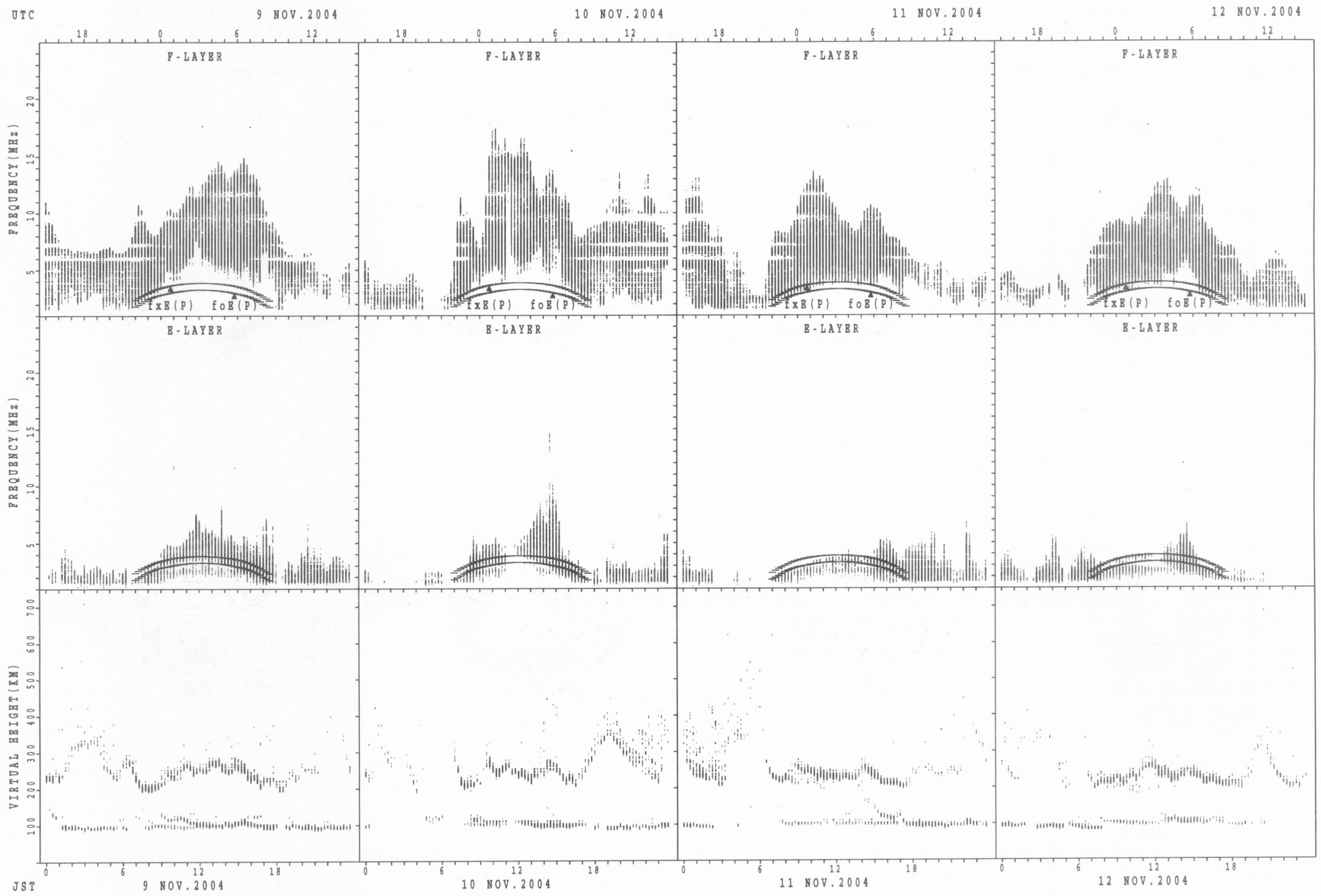
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



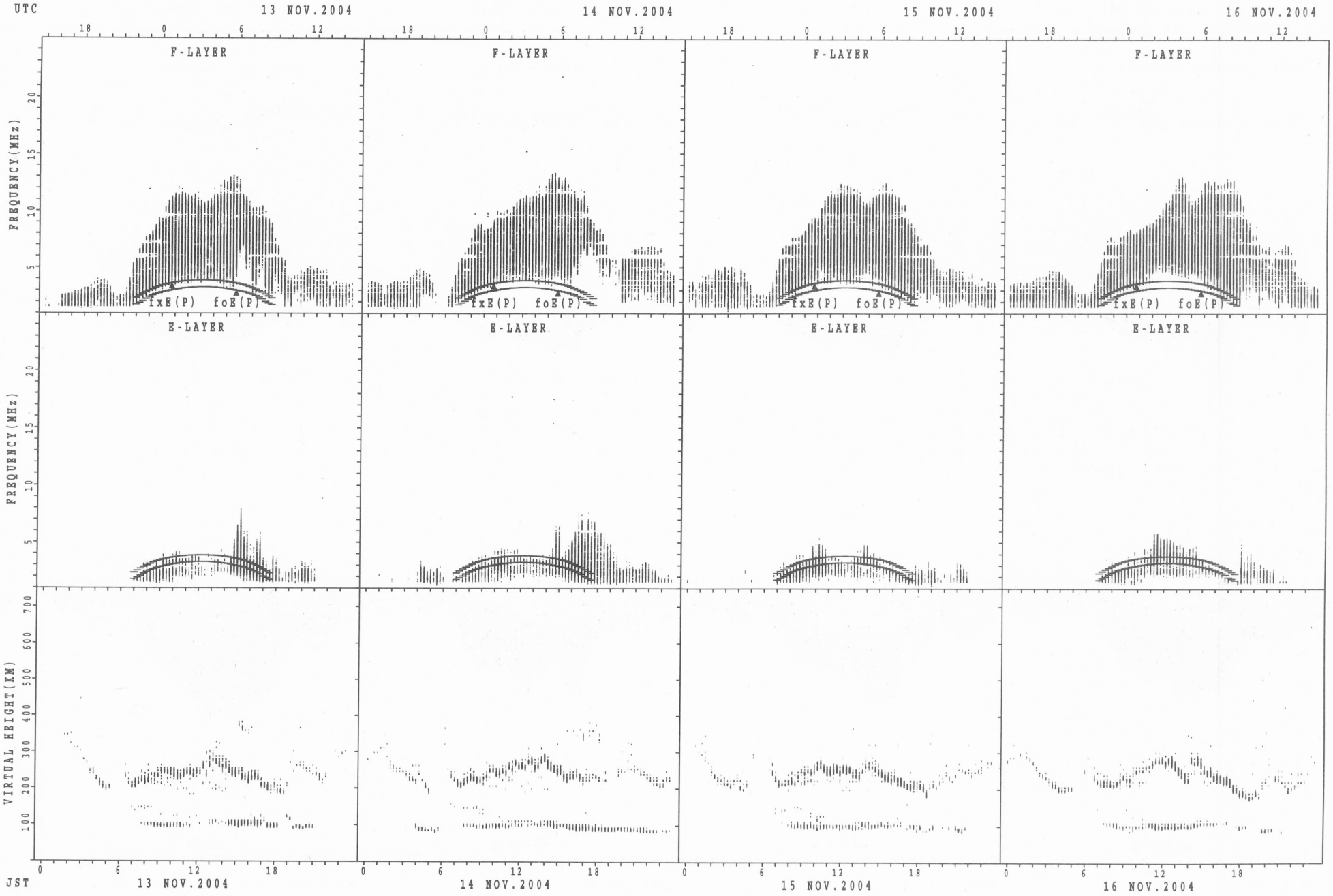
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



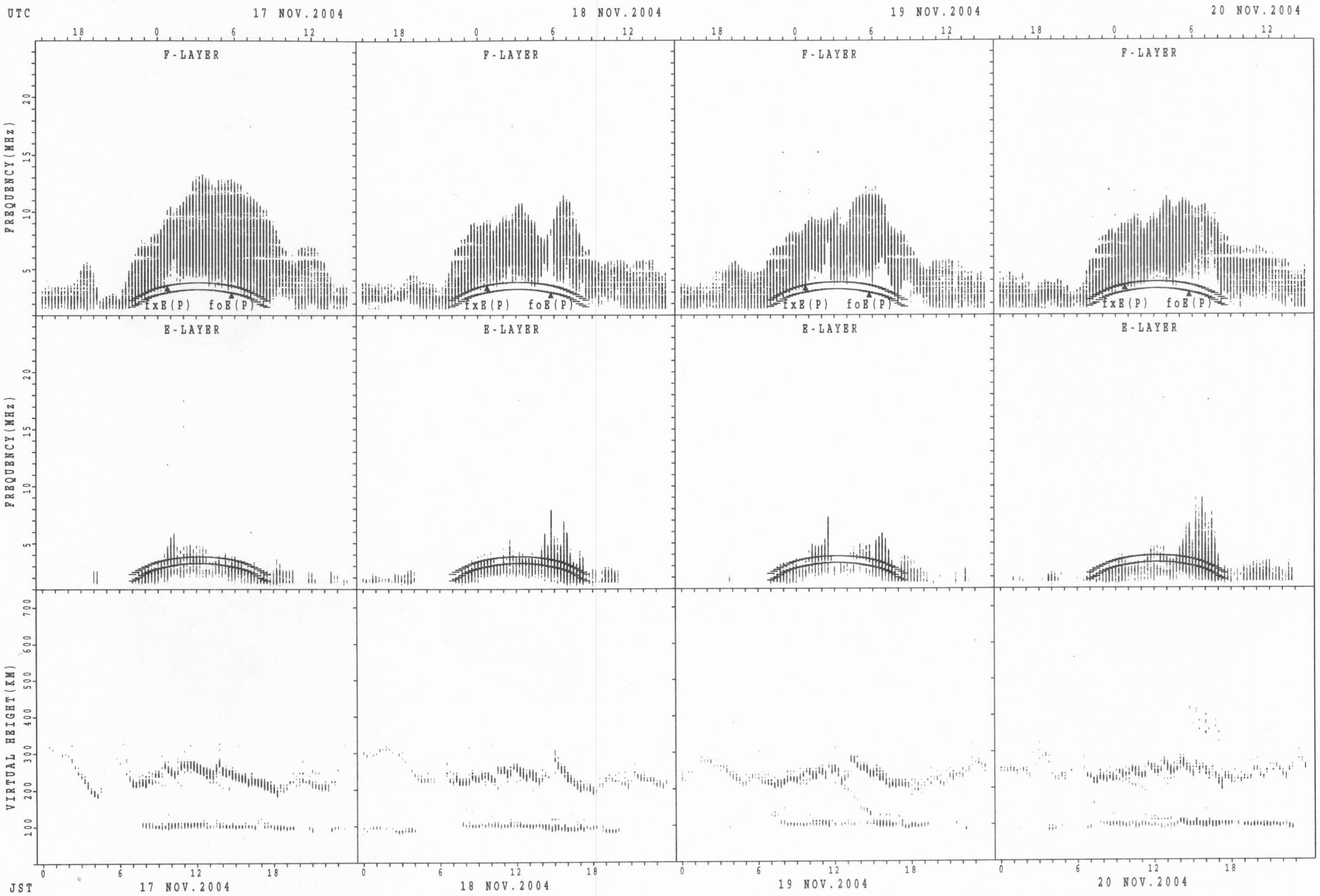
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



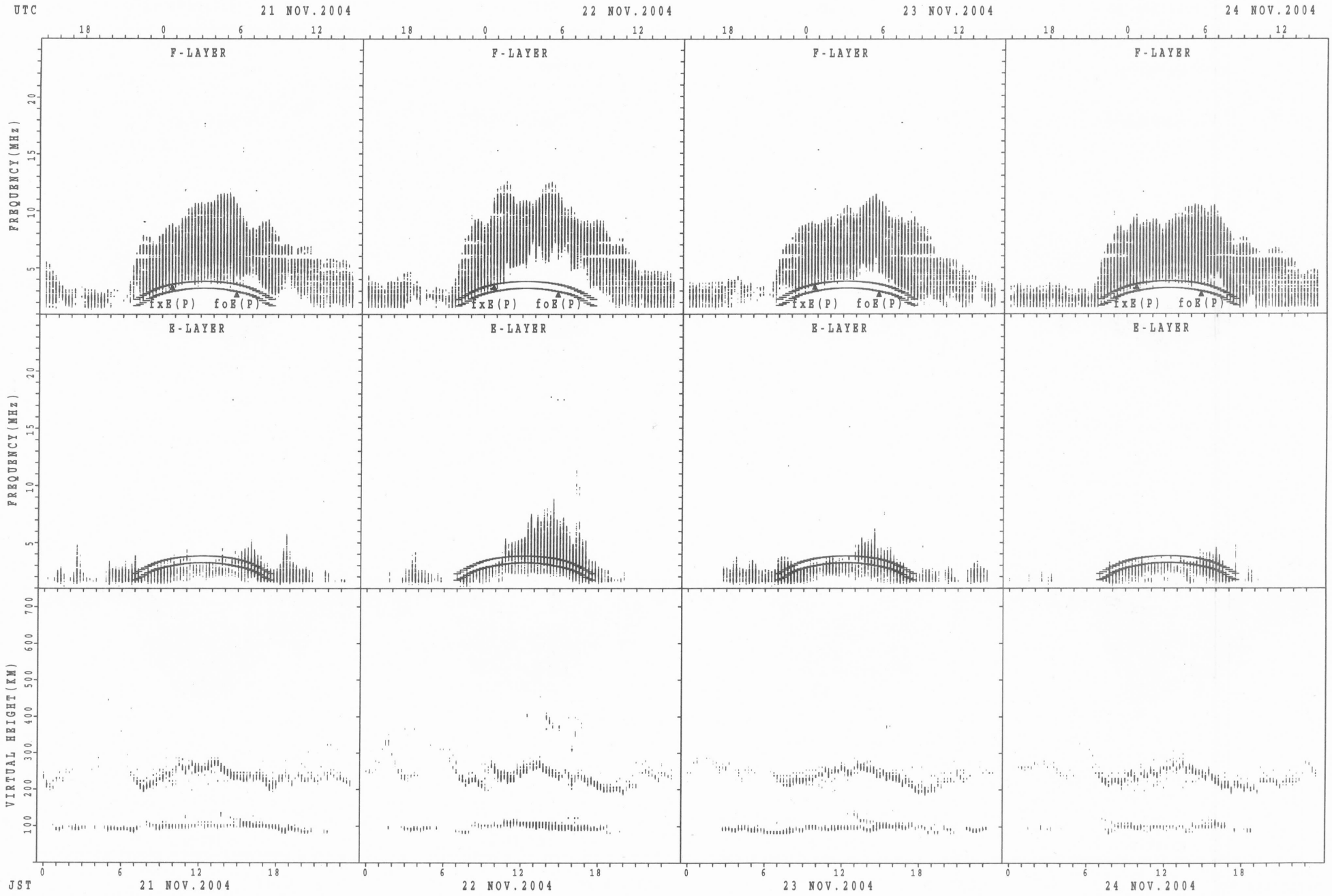
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



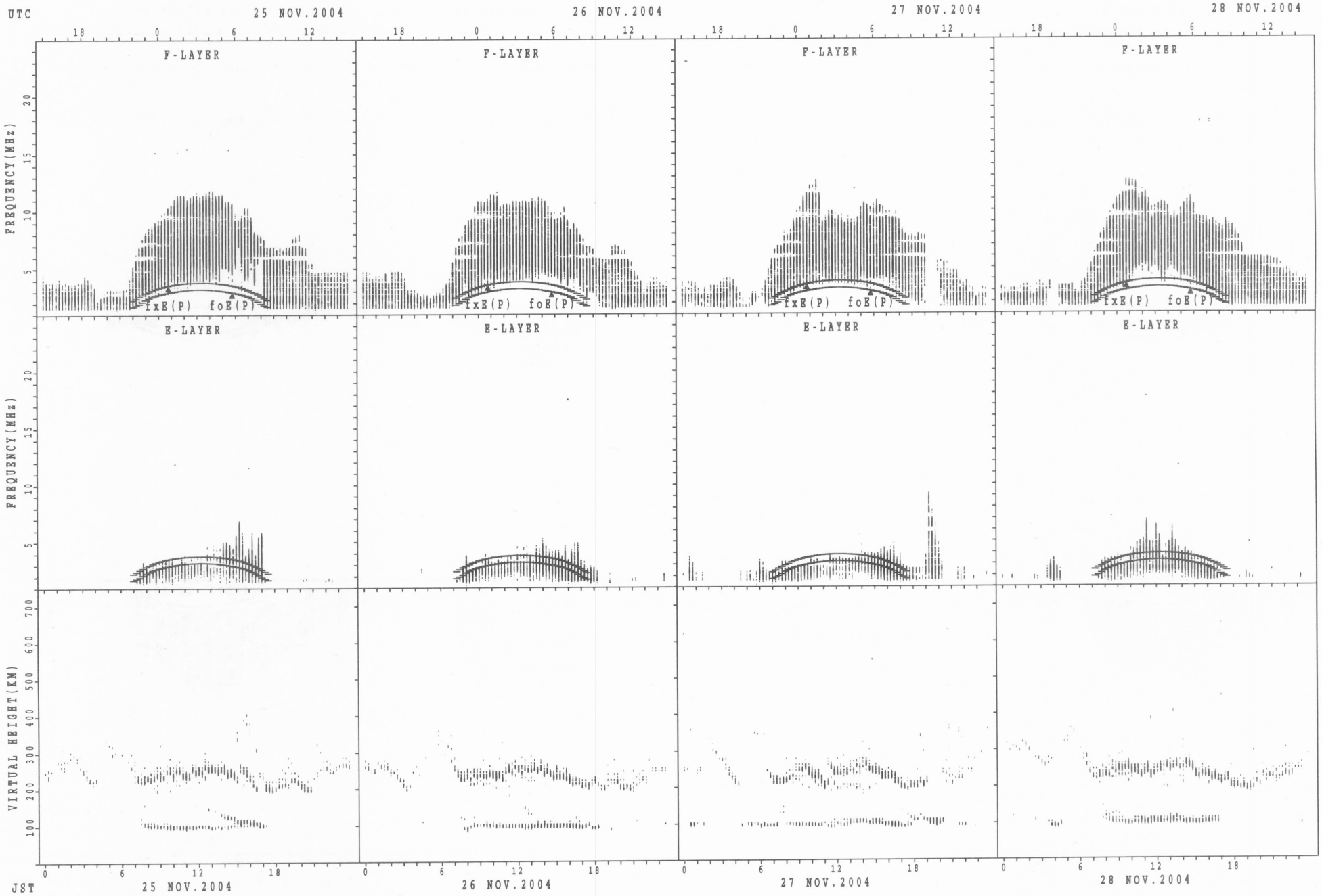
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



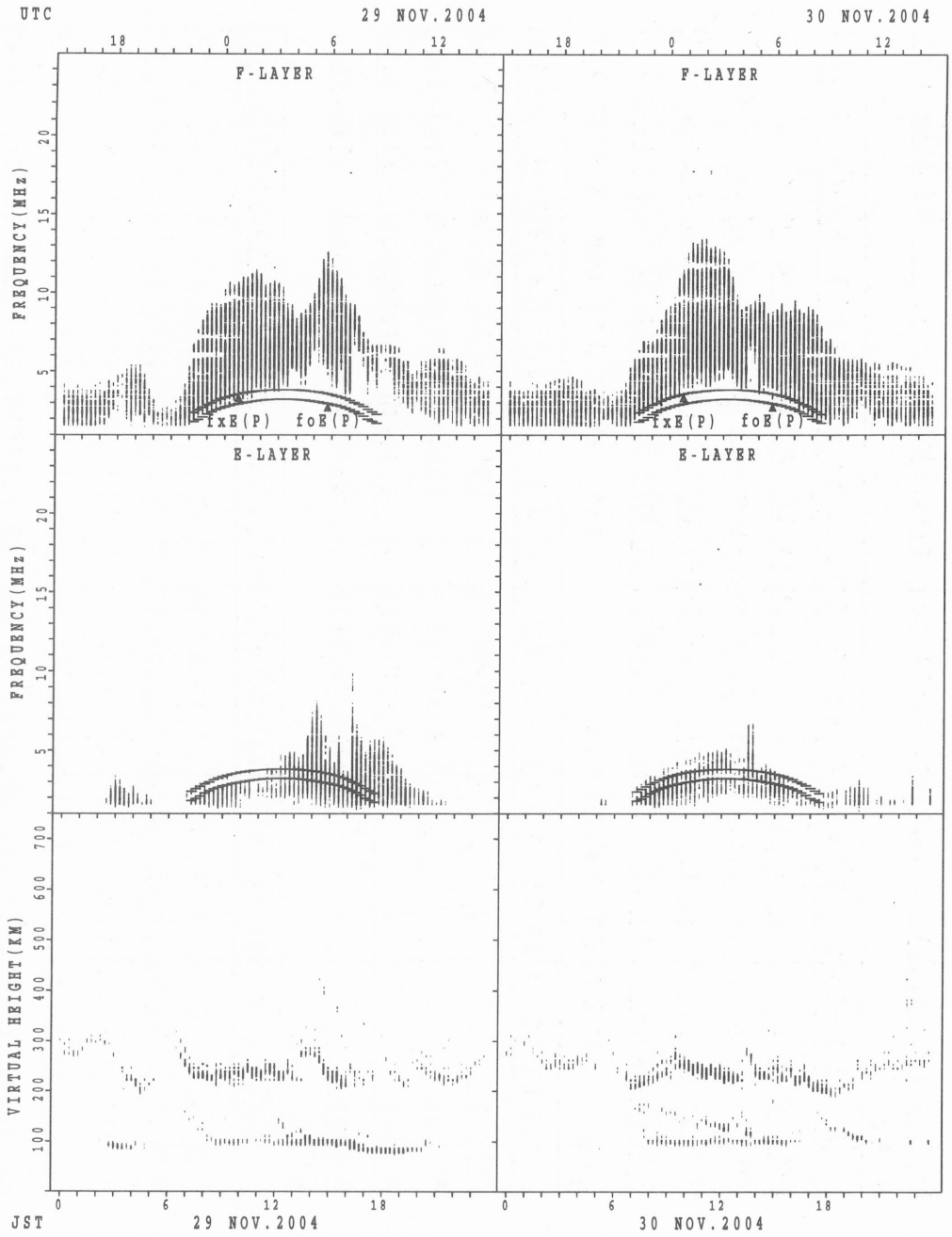
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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

NOV.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		1			11	27	26	24	24	27	27	29	26	12	4			1	2	1	1
MED	246		302		352			230	224	217	229	226	222	230	234	229	228	238			278	302	292	272
U Q	123		151		176			234	232	228	239	235	230	238	240	232	233	256			139	388	146	136
L Q	123		151		176			222	214	214	223	217	220	222	227	222	223	232			139	216	146	136

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	18	19	16	14	13	11	11	11	14	18	14	13	15	16	17	18	17	17	21	15	15	14	15	13
MED	101	97	95	97	97	103	103	109	112	107	103	101	99	99	103	96	97	97	95	97	97	97	97	103
U Q	107	103	105	103	101	107	111	131	127	113	109	109	107	103	113	105	103	103	106	103	103	101	103	108
L Q	97	95	91	95	91	93	93	103	105	99	101	97	95	93	94	93	91	93	93	93	93	95	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	1	1	1	1	2	1	1	20	28	28	21	8	8	23	29	29	22	4	2		1	2	2	2
MED	248	280	376	322	327	256	304	227	222	230	234	232	235	246	238	228	230	262	282		302	284	301	333
U Q	124	140	188	161	368	128	152	244	232	238	243	237	254	254	249	235	236	265	308		151	312	330	386
L Q	124	140	188	161	286	128	152	219	214	225	227	225	228	238	230	221	222	241	256		151	256	272	280

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	11	10	11	11	3	3	6	6	10	14	13	16	14	16	16	17	19	14	11	9	8	8	9
MED	103	97	98	95	97	111	111	114	106	105	109	103	101	101	106	103	103	99	101	99	99	97	98	99
U Q	103	99	99	97	103	117	137	143	113	109	113	113	109	111	111	106	111	107	105	107	106	108	105	103
L Q	99	95	95	95	97	95	95	107	105	103	103	99	96	97	98	100	96	97	99	95	97	95	96	97

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	1							4	27	29	26	5			26	30	28	13	4	1		2	2	1
MED	220							250	226	238	238	230			249	231	229	230	239	336		289	264	280
U Q	110							260	234	251	244	238			256	240	232	242	264	168		308	294	140
L Q	110							235	222	230	232	219			238	230	222	223	226	168		270	234	140

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	7	5	8	9	8	6	4	2	9	10	10	15	17	20	18	23	21	17	16	19	11	12	3	5
MED	97	97	95	97	96	94	95	120	107	107	106	111	107	105	103	105	103	101	99	97	97	96	95	97
U Q	137	99	98	102	98	95	112	121	115	119	113	115	112	108	107	111	106	106	103	99	101	97	99	126
L Q	95	93	92	95	93	89	91	119	106	105	103	105	103	103	103	103	99	97	95	91	95	94	95	94

MONTHLY MEDIANS OF h'F AND h'Es

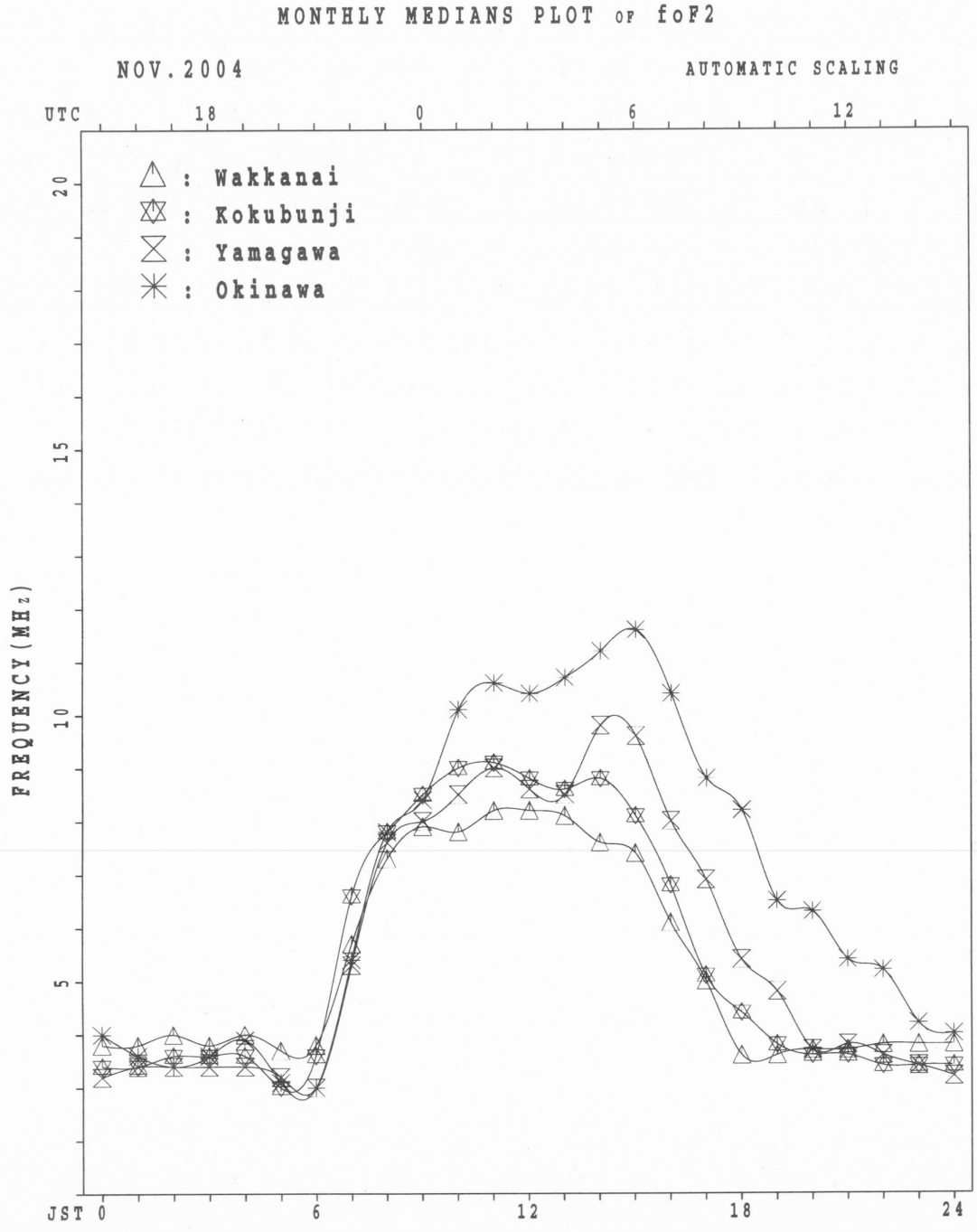
NOV.2004 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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	2	2				1		2	28	29	28				13	30	28	28	17	6	8	7	3	2
MED	305	277				290		239	232	238	240				254	238	227	222	228	231	259	252	240	332
U Q	356	296				145		240	240	246	249				265	248	230	231	248	240	268	256	294	418
L Q	254	258				145		238	225	230	235				242	230	222	214	217	228	243	238	232	246

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	5	6	2	8	8	7	6	8	15	14	14	17	15	15	19	29	24	23	24	19	17	10	11	5
MED	95	94	93	95	95	93	95	102	119	107	113	111	111	111	109	105	102	103	99	97	97	95	95	95
U Q	97	97	95	95	95	95	97	131	143	131	119	113	117	113	113	111	105	105	100	103	99	97	97	98
L Q	92	91	91	91	92	91	89	88	107	105	111	106	103	107	103	103	98	95	95	93	91	93	93	92


MONTHLY MEDIANS PLOT OF foF2
NOV. 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

NOV. 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 44	X 43	X 45	X 44	X 44	X 42												X 70	X 57	X 54	X 38	X 38	X 40	X 40
2	X 40	X 40	X 42	X 40	X 36	X 36												X 60	X 52	X 46	X 46	X 43	X 44	X 44
3	X 39	X 39	X 39	X 40	X 41	X 41												X 66	X 58	X 46	X 46	X 46	X 42	X 42
4	X 43	X 45	X 40	X 40	X 40	X 42												X 86	X 57	X 49	X 45	X 47	X 48	X 43
5	X 46	X 48	X 46	X 47	X 46	X 46												X 64	X 59	X 61	A	X 50	X 44	X 41
6	X 39	X 41	X 43	X 43	X 42	X 43												X 59	X 46	X 46	X 45	X 42	X 41	X 42
7	X 40	X 40	X 40	X 45	X 43	X 37												X 57	X 50	X 52	X 49	X 40	X 41	X 41
8	X 45	X 44	X 42	X 40	X 42	51	X 42											X 137	X 123	X 110	X 121	X 138	X 119	X 114
9	X 114	X 100	X 80	X 86	X 92	X 80												X 70	X 72	X 62	X 53	X 43	X 41	X 45
10	X 41	X 42	X 39	X 41	X 35	A												X 54	X 60	105	135	150	108	100
11					133	109	100	90	85									X 51	X 46	X 46	X 43	X 38	X 32	X 35
12	X 35	X 35	38	38	X 37	X 33	X 43											X 52	X 36	X 39	X 42	X 47	X 49	X 35
13	X 32	X 34	X 37	X 37	X 37	X 35	X 41											X 61	O X 42	X 39	X 44	X 43	X 43	X 41
14	X 42	X 42	X 43	X 43	X 45	X 43	X 41											X 55	X 39	X 41	X 46	X 46	X 37	X 34
15	X 35	X 38	X 40	X 39	X 38	X 33	X 42											X 51	X 42	X 44	X 43	X 42	X 42	X 41
16	X 40	X 40	X 42	X 44	X 46	X 31	X 40											X 68	X 38	X 43	X 42	X 40	X 39	X 36
17	X 40	X 40	X 41	X 44	X 47	X 36	X 39											X 62	X 42	X 39	X 40	X 42	X 37	X 37
18	X 38	X 38	X 38	X 39	X 40	X 36	X 43											X 50	X 41	X 40	X 39	X 38	X 38	X 38
19	X 40	X 39	X 38	X 39	X 41	X 36	X 40											X 50	X 39	X 36	X 43	X 36	X 39	X 39
20	X 39	X 39	X 40	X 42	X 40	X 35	X 40											X 58	X 56	X 51	X 51	X 45	X 45	X 46
21	X 48	X 50	X 51	X 49	X 39	X 29	X 38											X 63	X 50	X 46	X 41	X 40	X 42	X 42
22	X 42	X 41	X 43	X 40	X 41	X 37	X 38											X 62	X 50	X 50	X 35	X 35	X 38	X 37
23	X 38	X 40	X 40	X 41	X 46	X 35	X 40											X 60	X 46	X 39	X 35	X 36	X 35	X 36
24	X 38	42	X 36	X 40	44	X 42	X 42											X 60	X 42	X 43	X 40	X 35	X 36	X 38
25	X 40	X 40	X 40	X 46	X 36	X 37	X 40											X 56	A	X 45	X 32	X 35	A	X 43
26	X 40	X 40	X 43	X 44	X 45	X 35	X 42											X 53	X 50	X 45	X 40	X 31	X 36	X 37
27	X 40	X 39	X 39	X 40	X 39	X 40	X 46											X 57	X 54	X 41	X 39	X 34	X 35	X 34
28	X 36	X 37	X 37	X 38	X 39	X 33	X 34											X 59	X 57	X 56	X 37	A	X 39	X 38
29	X 39	X 39	X 39	X 42	X 39	X 36	X 41											X 50	X 52	X 44	X 42	X 42	X 35	X 35
30	X 38	X 40	X 40	X 41	X 49	X 51	X 53											X 60	X 51	X 50	X 36	X 39	X 42	X 45
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	30	29	21	1	1									30	29	30	29	29	29	30
MED	X 40	X 40	X 40	X 41	X 41	X 37	X 41	90	85									X 60	X 50	X 46	X 42	X 42	X 41	X 40
U Q	X 42	X 42	X 43	X 44	X 45	X 42	X 42											X 63	X 57	X 51	X 46	X 46	X 44	X 43
L Q	X 38	X 39	X 39	X 40	X 39	X 35	X 40											X 54	X 42	X 41	X 39	X 37	X 37	X 37

NOV. 2004 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

NOV. 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	38	37	39	38	38	36	49	87	90	108	112	104	105	87	89	100	84	64	51	48	32	31	34	33
2	34	34	36	34	30	29	45	78	92	88	85	94	106	102	87	82	64	54	46	40	40	37	38	38
3	33	33	33	34	35	35	50	76	92	93	99	110	100	98	95	90	80	60	52	40	40	40	36	36
4	37	39	34	34	33	36	46	84	86	79	101	100	92	103	110	96	86	80	51	43	39	41	41	37
5	40	42	40	41	40	40	53	94	92	87	87	92	109	115	111	87	75	58	53	55	A	44	38	35
6	33	35	37	37	36	37	49	74	84	90	91	92	88	86	93	88	83	52	40	40	39	36	35	36
7	34	34	34	39	37	31	43	74	78	87	85	87	89	87	87	89	70	51	44	46	43	34	35	35
8	39	38	36	34	36	F	36	60	65	103	110	142	140	135	148	S 156	132	131	117	103	115	132	113	108
9	108	94	74	80	86	74	79	124	116	95	86	91	107	109	109	98	73	64	66	56	46	37	35	38
10	35	36	33	34	29	A	30	43	99	74	78	91	102	84	91	81	75	48	54	F	F	F	F	F
11	J F 128	F	F	F	F	F	F	F	F	67	80	71	63	63	67	69	59	45	40	40	37	32	26	29
12	29	29	F	F	30	27	36	60	79	88	98	77	100	81	76	91	61	46	30	33	36	41	43	29
13	25	28	31	31	31	29	35	57	76	86	100	90	93	94	88	72	88	55	36	33	38	37	36	35
14	36	36	37	36	39	36	35	63	69	88	90	89	80	84	90	79	62	49	33	35	40	40	31	28
15	29	32	34	33	32	27	36	61	69	89	103	91	77	78	106	77	63	45	36	38	37	36	36	35
16	34	34	36	38	40	25	34	67	68	78	84	97	74	82	95	79	72	62	31	37	36	34	33	30
17	33	34	35	38	41	30	33	58	64	84	87	90	82	77	80	80	68	56	36	33	34	35	31	31
18	32	32	32	33	34	30	37	69	71	74	78	87	75	85	87	80	62	44	35	34	33	32	32	32
19	34	33	32	33	35	30	34	58	70	72	79	76	75	96	82	72	63	44	33	30	37	30	33	33
20	33	33	34	36	34	29	34	63	71	82	89	89	96	115	86	74	65	52	50	45	45	38	38	40
21	42	44	45	43	33	23	32	72	83	84	80	90	85	84	90	89	69	57	44	40	35	34	36	36
22	36	35	37	34	35	30	32	68	84	106	108	93	82	85	86	86	73	56	44	44	29	29	32	31
23	32	34	34	35	40	29	33	62	78	79	76	93	86	87	91	75	61	54	40	33	29	30	29	30
24	32	F	30	33	F	36	36	65	76	73	87	70	83	94	76	72	67	53	36	36	33	29	30	32
25	34	34	34	40	30	31	34	67	81	85	99	99	83	93	94	86	68	50	A	38	26	29	A	37
26	34	34	36	38	40	30	36	75	77	98	114	104	88	98	82	79	64	47	44	39	34	25	30	31
27	34	33	33	34	33	34	40	68	84	83	98	90	87	87	79	75	64	50	48	35	33	28	29	28
28	30	31	31	32	32	27	27	60	71	84	93	106	79	81	81	71	63	53	51	50	31	A	32	32
29	33	33	33	36	33	30	35	68	85	90	92	88	83	83	89	82	56	44	46	38	36	35	29	29
30	32	34	34	35	43	45	47	66	80	79	100	104	88	83	78	66	70	54	45	44	30	33	35	38
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	28	28	28	28	27	29	29	29	30	30	30	30	30	30	30	30	30	29	29	28	28	28	29
MED	34	34	34	35	35	30	36	67	79	86	90	91	88	87	88	80	68	53	44	40	36	34	34	33
U Q	36	36	36	38	40	36	46	74	86	90	100	99	100	98	94	89	75	57	51	44	40	38	36	36
L Q	32	33	33	34	32	29	34	60	71	79	85	89	82	83	82	75	63	48	36	35	33	30	31	30

NOV. 2004 foF2 (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

NOV. 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										
2												L	L	L										
3											L	L	L		L									
4										L	L	L	A	L	L									
5											L	A	A	A	A									
6										L	E	B	E	B	L	L								
7											L	L		L	L									
8										L	L	L	L	L										
9													L	A										
10									L	L	L	L 500	L	L	L									
11								L	L	L 440	L 440	A	A	A	L									
12									L	L	L	L	L	L										
13										A	L	L	L	L										
14									L	L	L	L	L	L	L									
15										L	L		L	L	L									
16										L	L	L	L	L	L									
17										L	A	L	L	L										
18											L	L	L	L										
19											A	L	A	L										
20										L	L	L	L	A	L									
21												L	A	L										
22											L		A	L										
23										L	L	L	L											
24											L	L	L	L										
25											L	L	L	L	A									
26										L	L													
27										L	L	L	L											
28										L	L	L	L											
29											L		L	A	L									
30									L	L	L		L											
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										1	1	1												
MED										L 440	L 440	L 500												
U Q																								
L Q																								

NOV. 2004 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

NOV. 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								B U A 232	U A 276	A	A	A	A	U R 316	U A 304	U R 272	A							
2								B A	U A 268	A	A	A	A	U R 344	A	A	200							
3								B U R 244	A	A	A	R	A	A	A	U A 272	A							
4								B U A 212	A	A	A	A	A	A	R	A	A							
5								B 216	B	A	A	A	A	A	A	A	A							
6								B 232	U A 272	U A 296	B	B	B	R	U R 308	276	192							
7								B U R 228	R	U R 308	U R 340	R	A	R	R	U R 268	A							
8								U R 240	A	A	A	A	A	R	U R 304	U R 256	U R 212							
9								B U R 224	264	A	A	A	A	A	A	A	A							
10								B A	284	R	A	A	B	A	U R 300	R	U R 208							J K 96
11	J K 92	J K 88	J K 92	J K 132				U A 212	R	A	A	A	A	A	U A 300	U A 256	192							
12								A	A	A	A	A	A	A	A	U R 256	196							
13								196	U A 260	A	A	A	A	A	A	A	A							
14								188	U R 248	U R 280	A	R	R	R	A	U A 256	A							
15								188	268	U R 288	U R 320	A	A	A	A	A	A							
16								192	268	A	R	A	A	A	A	U R 268	B							
17								192	U R 272	A	A	A	U R 328	A	A	U R 276	A							
18								U A 184	U A 272	U A 296	A	A	A	A	A	A	A							
19								U A 172	U A 260	U A 304	A	A	A	A	316	R	B							
20								212	R	U A 300	A	A	A	A	A	A	A							
21								U R 184	U R 248	288	316	A	A	A	A	A	A							
22								U R 184	R	304	U R 312	A	A	A	A	A	A							
23								180	U R 248	U R 296	R	A	A	A	A	A	U R 196							
24								180	U R 260	U R 304	R	R	A	A	A	A	A							
25								192	R	U R 304	A	A	A	A	A	U A 260	U A 200							
26								U R 188	U R 264	U R 312	R	R	336	A	A	A	A							
27								B	U A 268	A	A	A	A	U A 316	A	U A 244	U R 180							
28								188	256	U R 288	A	328	U R 324	U A 312	R	U R 244	U A 188							
29								B	248	284	U R	U A 336	A	A	A	A	A							
30								196	248	U R 296	324	R	R	308	U A 284	248	U A 176							
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	1	1	1	1				25	20	16	5	2	3	5	7	14	11							1
MED	J K 92	J K 88	J K 92	J K 132				192	U 264	U R 296	U R 320	332	U R 328	U 316	U 304	U 258	U 196							J K 96
U Q								U R 220	U A 270	U R 304	332		336	U R 330	308	U 272	U R 200							
L Q								U 186	252	U R 288	314		U R 324	310	U A 300	U 256	U A 188							

NOV. 2004 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

NOV. 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	J A 19	J A 44	J A 42	E B 15	E B 14	J A 27	J A 21	27	35	J A 44	J A 42	J A 43	J A 39	G 28	34	G 22	J A 36	J A 36	J A 24	18	J A 18	E B 15	J A 20	J A 26
2	J A 19	J A 23	J A 20	J A 26	J A 25	E B 15	22	30	J A 42	J A 76	J A 45	J A 46	J A 43	J A 36	35	J A 28	24	E B 15	E B 16	19	E B 15	E B 16	19	18
3	20	J A 19	J A 18	J A 16	J A 19	J A 18	20	G 19	31	37	36	G 32	J A 41	39	J A 45	J A 40	J A 54	J A 45	J A 34	J A 53	J A 25	20	20	E B 15
4	E B 16	J A 28	J A 17	J A 30	J A 18	19	J A 22	24	30	37	36	J A 36	J A 46	35	G J A 22	63	J A 32	J A 37	J A 20	J A 42	J A 23	J A 32	J A 26	J A 16
5	19	19	J A 22	J A 28	J A 24	E B 16	E B 14	26	E B 40	39	J A 43	J A 46	J A 103	J A 60	J A 99	J A 63	J A 54	J A 36	J A 23	J A 20	J A 77	J A 53	J A 19	J A 22
6	J A 64	J A 52	J A 29	E B 16	J A 17	J A 17	J A 22	J A 28	32	34	E B 56	E B 51	E B 39	G	G	30	27	J A 24	18	J A 45	J A 30	J A 30	J A 20	J A 17
7	19	E B 16	E B 15	E B J A 19	E B 15	E B 15	E B 15	G	G 22	35	G 25	G	40	G 26	G 26	G 20	J A 31	J A 34	J A 35	J A 20	20	E B 15	20	E B 16
8	J A 23	19	18	J A 26	J A 18	18	E B 16	G	30	34	36	J A 44	J A 47	G	G	G 24	G	E B 15	19	E B 14	E B 15	E B 15	E B 16	E B 16
9	E B 15	E B 15	J A 45	J A 40	J A 39	J A 27	J A 21	G	30	41	J A 44	J A 45	J A 57	J A 58	J A 49	J A 70	J A 73	J A 36	J A 38	J A 34	E B 25	E B 14	E B 14	E B 15
10	E B 16	E B 15	E B 14	E B 14	J A 30	J A 30	J A 26	J A 29	31	G 24	38	38	E B 40	34	G 26	G 24	G	E B 15	E B 15	E B 16	E B 15	E B 15	E B 16	B K 16
11	J K 15	J K 15	J K 15	J K 23	E B 16	E B 16	E B 14	24	G	32	J A 41	J A 130	J A 108	J A 76	34	29	29	J A 26	J A 20	J A 26	J A 28	20	J A 23	J A 20
12	19	J A 18	19	18	19	E B 15	E B 14	23	J A 30	J A 34	J A 39	J A 88	J A 37	J A 36	30	J A 40	G 18	J A 20	J A 31	E B 16	E B 16	E B 16	E B 15	B J A 75
13	J A 62	J A 55	J A 34	J A 30	J A 24	E B 15	J A 23	27	31	J A 52	J A 43	J A 44	J A 48	J A 35	J A 56	J A 35	26	J A 39	J A 34	J A 18	E B 15	E B 14	B J A 91	J A 53
14	J A 25	J A 24	22	E B 14	E B 14	E B 14	E B 16	22	G 22	G 25	J A 33	G 27	G 29	G 28	J A 29	32	21	E B 15	J A 19	19	18	E B 14	19	20
15	19	18	J A 23	20	E B 16	E B 16	E B 15	23	30	32	G 23	J A 38	J A 48	40	J A 34	J A 42	J A 60	J A 45	J A 25	J A 30	19	J A 21	17	E B 16
16	J A 16	E B 15	19	18	19	E B 16	E B 15	24	30	34	G 22	36	38	34	33	G	E B 25	J A 22	J A 24	J A 22	J A 26	J A 22	E B 15	19
17	J A 17	J A 20	E B 16	J A 19	19	E B 15	18	22	G	J A 47	J A 56	J A 50	J A 34	J A 42	J A 57	J A 37	24	J A 18	J A 17	E B 16	E B 14	E B 15	18	J A 26
18	J A 33	J A 22	J A 29	J A 22	J A 30	J A 26	J A 23	23	28	32	38	36	35	34	J A 49	J A 35	J A 45	J A 46	J A 20	J A 18	J A 23	J A 17	J A 22	E B 15
19	19	20	E B 16	E B 16	20	E B 15	E B 15	23	30	35	42	40	J A 54	J A 46	34	G 23	E B 20	E B 15	E B 14	B J A 22	J A 18	J A 52	19	J A 30
20	20	J A 24	J A 20	19	J A 36	23	E B 14	G	G 20	32	J A 46	J A 41	38	J A 48	J A 38	J A 46	J A 26	22	J A 20	20	J A 26	J A 24	20	J A 37
21	J A 21	J A 21	J A 25	J A 18	32	20	E B 16	G	G 20	32	34	40	J A 50	J A 44	33	33	J A E 31	B J A 14	J A 24	J A 30	J A E 23	B E 15	B E 15	B E 15
22	J A 19	J A 39	J A 25	J A 32	J A 28	18	J A 26	G 18	G 20	33	G 26	38	40	38	J A 40	J A 43	J A 58	J A 27	J A 23	23	J A 22	E B 15	B E 15	B J A 21
23	19	J A 21	J A 23	J A 26	J A 22	19	E B 14	G	G 19	G 23	G 22	35	J A 40	J A 43	35	26	J A 26	J A 28	J A 32	E B 16	B E 15	B E 14	B E 14	B E 16
24	E B 16	E B 15	E B 16	E B 16	19	19	J A 17	G	G 22	G 27	G 26	G 29	36	35	33	J A 29	J A 27	J A 22	J A 21	E B 15	J A 20	J A 22	J A 18	21
25	E B 15	19	J A 23	E B 14	B E 15	B E 14	E B 15	G	G 23	G 28	36	J A 46	J A 45	J A 44	J A 36	32	J A 47	J A 48	J A 46	J A 22	J A 20	J A 29	J A 54	J A 32
26	J A 56	J A 30	J A 19	J A 41	E B 14	E B 14	E B 16	G	G	G 23	G 25	G 26	37	J A 40	34	J A 50	37	J A 35	J A 36	E B 21	16	20	J A 22	27
27	J A 27	E B 15	J A 20	19	J A 19	E B 14	B E 15	J A 24	31	J A 44	35	34	J A 40	38	32	28	G	E B 16	J A 24	E B 16	B J A 18	J A 19	J A 24	J A 16
28	20	20	20	E B 15	B E 15	B E 18	E B 15	23	29	G 24	36	39	G 28	36	J A 36	32	J A 38	J A 27	J A 24	J A 20	J A 32	J A 76	J A 34	J A 23
29	J A 24	J A 23	E B 16	B J A 19	J A 20	E B 15	B E 15	21	30	32	G 23	38	J A 45	J A 130	J A 36	J A 70	J A 39	J A 38	J A 20	J A 35	20	E B 15	B E 15	B E 14
30	E B 16	E B 14	E B 16	E B 15	19	18	E B 16	G	G 20	G 23	36	G 25	G 25	38	37	34	21	J A 24	E B 14	21	J A 18	E B 17	15	20
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MED	19	J A 20	J A 20	J A 19	19	E B 16	E B 16	22	30	34	36	38	J A 40	38	34	32	J A 28	J A 26	J A 23	J A 20	J A 20	17	19	J 20
U Q	J A 23	J A 24	J A 23	J A 26	J A 24	19	J A 21	24	31	J A 37	J A 42	J A 45	J A 47	J A 44	J A 38	J A 42	J A 39	J A 36	J A 31	J A 26	J A 25	J A 22	J A 22	J A 26
L Q	E B 16	E B 16	E B 16	E B 16	E B 16	E B 15	E B 15	G	G 22	G 28	G 26	G 35	37	G 34	G 32	G 28	24	E B 18	19	E B 18	B E 16	B E 15	B E 15	B E 16

NOV. 2004 foEs (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

NOV. 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 14	28	24	E B 15	E B 14	E B 16	E B 15	25	34	36	40	38	34	G 24	32	G 20	32	34	20	E B 15	E B 16	E B 15	E B 16	19
2	E B 15	17	E B 16	23	16	E B 15	E B 15	28	33	37	36	40	36	G 30	32	26	23	E B 15	E B 16	E B 15	E B 15	E B 16	E B 16	E B 15
3	E B 15	E B 15	E B 15	E B 15	16	E B 15	E B 15	G 19	30	35	35	U Y 32	38	36	36	30	35	37	E B 16	30	20	E B 15	E B 15	E B 15
4	E B 16	E B 15	E B 14	16	15	16	17	24	28	33	34	34	40	34	G 19	56	25	35	18	36	20	27	24	E B 15
5	E B 15	16	E B 15	20	E B 15	E B 16	E B 14	24	E B 40	37	40	44	78	47	56	34	26	E B 16	E B 15	18	A A 77	38	E B 16	19
6	23	23	19	E B 16	E B 15	E B 14	E B 14	G 20	30	32	E B 56	E B 51	E B 39	G	G	28	24	22	E B 15	21	24	E B 14	17	E B 16
7	E B 16	E B 16	E B 15	E B 16	E B 15	E B 15	E B 15	G	G 22	34	G 24	G	37	G 26	G 26	G 20	22	23	27	E B 16	17	E B 15	16	E B 16
8	E B 16	E B 16	E B 15	20	E B 15	E B 15	E B 16	G	29	32	34	37	36	G	G	G 24	G	E B 15	E B 15	E B 14	E B 15	E B 15	E B 16	E B 16
9	E B 15	E B 15	24	23	28	24	E B 15	G	28	40	41	42	39	54	41	31	25	31	35	27	20	E B 14	E B 14	E B 15
10	E B 16	E B 15	E B 14	E B 14	20	A A 30	21	27	30	G 23	37	35	E B 40	34	G 26	G 24	G	E B 15	E B 15	E B 16	E B 15	E B 15	E B 16	E B 16
11	E B 15	E B 15	E B 15	J K 16	E B 16	E B 16	E B 14	23	G	31	39	40	46	54	33	29	26	21	E B 16	24	20	E B 15	16	E B 15
12	E B 14	E B 15	E B 14	E B 14	E B 15	E B 15	E B 14	22	28	30	37	38	36	31	27	G 23	G 18	E B 16	24	E B 16	E B 16	E B 16	E B 15	E B 15
13	18	20	20	16	17	E B 15	20	24	28	41	32	35	33	32	30	27	24	32	27	E B 16	E B 15	E B 14	15	21
14	16	E B 15	E B 16	E B 14	E B 14	E B 14	E B 16	20	G 20	G 25	32	G 26	G 28	U Y 28	28	27	20	E B 15	E B 15	E B 16	E B 16	E B 14	E B 16	E B 15
15	E B 15	E B 15	E B 16	E B 16	E B 16	E B 16	E B 15	22	29	30	G 23	35	34	35	31	27	36	28	20	25	E B 15	E B 15	17	E B 16
16	E B 16	E B 15	E B 15	E B 15	E B 15	E B 16	E B 15	24	29	32	G 22	35	35	34	31	G	E B 25	20	20	18	E B 15	17	E B 15	E B 16
17	E B 16	E B 16	E B 16	E B 15	16	E B 15	E B 15	21	G	36	36	40	G 26	32	32	G 23	22	E B 16	E B 16	E B 16	E B 14	E B 15	15	17
18	E B 16	E B 16	E B 16	E B 15	E B 14	20	E B 14	22	G 27	31	36	35	34	33	36	29	31	20	E B 15	E B 15	21	E B 15	E B 15	E B 15
19	E B 15	E B 15	E B 16	E B 16	E B 16	E B 15	E B 15	21	29	34	40	38	47	40	32	G 23	E B 20	E B 15	E B 14	E B 15	16	E B 15	E B 15	E B 16
20	E B 16	19	E B 15	E B 15	E B 16	17	E B 14	G	G 20	32	43	39	37	43	34	27	21	E B 15	E B 16	18	20	16	18	22
21	16	E B 15	17	E B 16	26	E B 15	E B 16	G	G 19	31	33	38	46	36	32	32	31	E B 14	17	26	17	E B 15	E B 15	E B 15
22	E B 15	22	21	17	20	E B 15	21	G 17	G 19	33	G 24	35	38	36	34	36	47	16	E B 15	E B 15	17	E B 15	E B 15	E B 15
23	E B 16	16	E B 15	E B 16	E B 16	E B 16	E B 14	G	G 19	G 23	G 22	34	34	35	32	26	G 18	23	20	E B 16	E B 15	E B 14	14	E B 16
24	E B 16	E B 15	E B 16	E B 16	E B 14	E B 15	16	G	G 21	G 27	G 26	G 28	34	33	32	24	22	19	19	E B 15	18	E B 15	16	E B 15
25	E B 15	E B 15	16	E B 14	E B 15	E B 14	E B 15	G	G 23	G 27	35	38	36	39	33	31	43	44	A A 46	E B 15	18	22	A A 54	23
26	E B 15	17	E B 15	24	E B 14	E B 14	E B 16	G	G	G 23	G 25	G 25	35	36	31	35	36	26	20	E B 15	E B 16	E B 15	E B 16	E B 15
27	E B 15	E B 15	16	E B 16	E B 15	E B 14	E B 15	22	28	36	33	34	33	34	30	26	G	E B 16	20	E B 16	E B 15	16	E B 16	E B 15
28	E B 16	E B 16	E B 15	E B 15	E B 15	E B 18	E B 15	20	28	G 21	34	34	G 24	35	28	31	24	17	17	17	18	A A 76	17	17
29	17	E B 15	E B 16	E B 14	19	E B 15	E B 15	21	27	31	G 23	35	37	55	31	64	21	22	E B 16	20	E B 16	E B 15	E B 15	E B 14
30	E B 16	E B 14	E B 16	E B 15	E B 15	E B 16	E B 16	G	G 20	G 23	34	G 23	G 25	37	36	30	20	24	E B 14	E B 14	E B 16	E B 16	E B 15	E B 15
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MED	E B 16	E B 15	E B 16	E B 16	E B 15	E B 15	E B 15	20	28	32	34	35	36	34	32	27	24	20	16	E B 16	16	E B 15	E B 16	E B 16
U Q	16	16	16	16	16	16	16	23	29	35	37	38	39	37	33	31	31	26	20	20	20	16	16	16
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	G	G 22	G 27	G 26	G 34	34	G 32	G 28	G	G 20	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

NOV. 2004 fbEs (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

NOV. 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	14	16	15	15	14	16	15	14	16	14	16	17	18	14	18	14	16	15	14	15	16	15	16	14
2	15	15	16	14	15	15	15	14	14	15	16	22	20	17	21	14	14	15	16	15	15	16	16	15
3	15	15	15	15	13	15	16	14	14	14	14	23	18	26	18	14	15	14	16	15	14	15	15	15
4	16	15	14	14	14	14	15	14	15	14	13	15	16	18	15	15	14	16	14	15	14	14	15	15
5	15	16	15	14	15	16	14	14	40	24	22	18	16	17	17	14	16	16	15	15	16	15	16	14
6	15	15	14	16	15	14	14	14	15	16	56	51	39	26	18	19	14	15	15	15	15	14	14	16
7	16	16	15	16	15	15	15	15	14	14	14	24	28	21	18	15	15	14	16	16	14	15	14	16
8	16	16	15	14	15	15	16	15	15	16	16	15	21	23	21	14	15	15	15	14	15	15	16	16
9	15	15	14	15	14	14	15	14	14	13	16	18	21	14	17	14	16	14	14	14	15	14	14	15
10	16	15	14	14	15	13	15	14	13	16	20	21	40	21	17	13	16	15	15	16	15	15	16	16
11	E S 15	15	15	16	16	16	14	16	15	17	15	14	17	18	15	15	14	14	16	16	16	15	14	15
12	14	15	14	14	15	15	14	14	16	16	14	15	16	20	15	16	16	16	15	16	16	16	15	15
13	14	15	14	14	14	15	14	16	14	14	15	14	18	16	14	15	14	16	14	16	15	14	15	15
14	15	15	16	14	14	14	16	14	15	14	14	15	13	14	16	13	15	15	15	16	16	14	16	15
15	15	15	16	16	16	16	15	14	16	17	17	19	22	19	16	14	15	15	16	15	15	15	14	16
16	15	15	15	15	15	16	15	14	17	15	15	17	19	17	18	15	25	15	14	15	15	14	15	16
17	16	16	16	15	15	15	15	15	16	16	17	22	16	18	14	15	14	16	16	16	14	15	15	15
18	16	15	16	15	14	15	14	14	15	20	22	23	19	20	19	16	16	14	15	15	15	15	14	15
19	15	15	16	16	16	15	15	13	16	16	22	16	20	17	16	15	20	15	14	15	16	15	15	16
20	16	15	15	15	16	15	14	14	13	16	14	18	14	16	15	14	15	15	16	16	15	14	16	15
21	15	15	14	16	14	15	16	15	14	16	18	18	19	23	18	16	14	14	15	16	15	15	15	15
22	15	16	15	14	14	15	14	13	17	14	18	17	17	16	16	15	16	14	15	15	15	15	15	15
23	16	14	15	16	16	16	14	14	15	16	14	16	14	14	14	14	15	15	15	16	15	14	14	16
24	16	15	16	16	14	15	16	14	12	15	17	15	19	16	14	14	16	16	14	15	14	15	13	15
25	15	15	15	14	15	14	15	14	15	14	14	14	14	15	14	14	16	14	14	15	15	16	15	14
26	16	15	15	15	14	14	16	14	13	14	14	15	13	15	14	16	15	15	14	15	16	15	16	15
27	15	15	15	16	15	14	15	15	15	16	15	13	15	15	14	16	16	16	14	16	15	15	16	15
28	16	16	15	15	15	18	15	14	14	13	14	16	16	14	15	14	16	14	15	15	15	16	15	14
29	15	15	16	14	15	15	15	14	19	16	14	17	14	13	15	15	14	15	16	14	16	15	15	14
30	16	14	16	15	15	16	16	14	14	14	14	18	15	16	15	15	15	15	14	14	16	16	15	15
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MED	15	15	15	15	15	15	15	14	15	16	15	17	18	17	16	15	15	15	15	15	15	15	15	15
U Q	16	15	16	16	15	16	15	14	16	16	17	19	20	20	18	15	16	15	16	16	16	15	16	16
L Q	15	15	15	14	14	14	14	14	14	14	14	15	15	15	15	14	14	14	14	15	15	14	14	15

NOV. 2004 fmin (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

NOV. 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	285	291	286	312	310	298	317	358	356	345	344	329	339	334	324	345	350	348	361	355	321	298	294	289
2	300	297	318	326	338	305	339	365	362	356	322	320	342	338	339	361	387	345	331	321	315	304	304	318
3	314	289	275	279	308	301	340	368	366	342	342	344	341	331	337	353	356	352	353	319	311	321	318	298
4	292	323	302	298	289	304	340	367	368	345	345	342	325	335	335	337	340	358	322	321	311	321	318	294
5	288	299	315	315	281	323	340	384	379	353	348	317	319	341	345	367	371	335	326	323	A	336	334	307
6	269	303	302	310	313	318	350	371	373	358	363	353	339	327	345	365	362	370	314	324	329	336	312	312
7	301	304	300	336	357	328	340	361	365	369	357	361	328	343	337	358	354	343	324	330	317	306	295	292
8	290	304	287	264	275	F	246	323	344	247	288	299	303	291	290	S 296	292	294	267	245	276	304	306	297
9	332	330	293	290	308	304	294	360	362	365	338	330	334	341	346	352	344	334	346	331	343	279	250	306
10	269	283	277	302	288	A	258	296	337	309	323	288	316	317	322	317	325	290	239	F	F	F	F	F
11	F	F	F	F	F	F	F	F	F	307	330	340	359	336	359	362	372	338	332	341	324	323	300	315
12	294	279	F	F	298	328	330	379	359	350	369	386	347	376	319	375	370	374	303	282	284	318	364	411
13	316	288	294	290	295	333	346	383	375	367	368	356	359	331	360	358	365	398	330	319	319	341	291	284
14	298	291	309	313	333	383	336	381	368	364	365	373	371	325	351	353	363	349	322	308	327	342	379	302
15	298	295	318	325	356	304	335	381	364	366	356	359	344	336	343	373	362	351	320	327	332	331	305	293
16	291	302	318	347	370	320	331	377	384	376	353	361	330	318	342	366	356	357	338	337	325	334	309	293
17	293	291	297	300	375	355	312	386	366	342	336	341	339	322	345	366	359	375	334	328	311	341	319	317
18	298	291	277	304	326	317	338	376	380	366	364	366	342	348	360	370	385	358	334	328	315	314	290	306
19	315	306	296	315	330	326	328	380	362	368	392	329	345	362	362	352	376	359	335	321	323	311	269	288
20	300	295	299	322	342	294	326	361	364	354	338	345	335	345	355	348	378	320	329	324	332	300	288	281
21	288	302	320	338	362	268	305	347	378	370	336	339	345	325	324	369	363	351	340	327	337	305	283	295
22	294	284	302	302	328	331	304	342	349	343	342	355	353	348	350	357	358	345	337	353	313	304	304	297
23	292	288	289	299	343	360	323	373	366	362	356	349	355	336	351	371	355	345	351	331	316	319	316	311
24	274	F	286	308	F	304	338	356	384	341	362	369	341	354	355	360	369	364	316	347	348	311	308	291
25	302	309	288	340	283	287	323	356	355	352	350	340	330	338	354	356	364	328	A	339	277	278	A	321
26	288	287	295	311	339	327	310	357	353	333	356	343	337	346	365	362	372	340	351	338	364	276	276	296
27	300	294	288	305	284	283	312	358	368	362	351	362	330	361	344	356	365	357	328	333	328	302	315	294
28	280	286	283	293	324	283	311	361	355	348	358	364	348	360	361	365	349	333	327	364	325	A	304	292
29	286	288	295	318	345	289	312	360	356	368	366	352	345	349	355	358	377	329	350	322	310	322	300	284
30	295	288	298	295	311	343	376	363	363	343	332	344	357	348	363	355	360	338	345	344	303	304	295	285
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	28	28	28	28	27	29	29	29	30	30	30	30	30	30	30	30	30	29	29	28	28	28	29
MED	294	292	296	309	325	317	328	363	364	354	350	344	341	338	346	358	362	346	331	328	320	312	304	296
U Q	300	302	302	320	342	328	340	378	370	366	362	361	347	348	355	366	371	358	342	338	328	327	316	309
L Q	288	288	288	298	296	298	312	358	356	343	338	339	330	331	337	353	355	335	322	321	311	304	292	292

NOV. 2004 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

NOV. 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

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											L	L	L	L										
2												L	L	L										
3											L	L	L		L									
4										L	L	L	A	L	L									
5											L	A	A	A	A									
6										L	E	B	E	B	L	L								
7											L	L		L	L									
8										L	L	L	L	L										
9													L	A										
10									L	L	L	L 356	L	L	L									
11								L	L	L 349	L 349	A	A	A	L									
12									L	L	L	L	L	L										
13										A	L	L	L	L										
14									L	L	L	L	L	L	L									
15										L	L		L	L	L									
16										L	L	L	L	L	L									
17										L	A	L	L	L										
18											L	L	L	L										
19											A	L	A	L										
20										L	L	L	L	A	L									
21												L	A	L										
22											L		A	L										
23										L	L	L	L											
24											L	L	L	L										
25											L	L	L	L	A									
26										L	L													
27										L	L	L	L											
28										L	L	L	L											
29											L		L	A	L									
30									L	L	L		L											
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										1	1	1												
MED										L 349	L 349	L 356												
U Q																								
L Q																								

NOV. 2004 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

NOV. 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											236	230	246	242										
2												256	244	246										
3											234	242	244		250									
4										224	236	234	244	252	252									
5											226	248	274	248	244									
6										234	222	226	244	248										
7											234	228		238	250									
8										388	276	262	240	280										
9													266	242										
10									264	278	262	318	256	254	274									
11								282	278	314	274	266	256	E A 288	254									
12									226	232	236	220	242	226										
13										232	224	238	230	256										
14									216	234	226	220	218	248	240									
15										230	242		234	246	246									
16										218	242	224	226	268	244									
17										260	240	244	244	248										
18											234	232	238	238										
19											210	242	238	242										
20										246	248	252	260	246	238									
21												238	240	276										
22											238		224	246										
23										234	232	248	234											
24											228	226	258	248										
25											246	238	250	250	238									
26										236	232													
27										232	240	230	254											
28										238	230	234	212											
29											232		252	250	242									
30									226	242	250		232											
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	5	17	27	24	28	24	12									
MED								282	226	234	236	238	244	248	245									
U Q									271	253	242	248	253	253	251									
L Q									221	232	230	229	234	244	241									

NOV. 2004 h'F2 (KM)

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IONOSPHERIC DATA STATION Kokubunji

NOV. 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 270	E A 328	E A 314	E B 276	E B 254	E B 268	244	226	214	222	210	204	196	208	220	224	212	214	208	212	218	E B 254	E B 274	E A 316
2	E B 280	E B 298	E B 246	E A 270	220	E B 274	240	218	218	214	204	214	208	218	226	220	198	200	208	216	230	E B 256	E B 268	E B 246
3	240	E B 282	E B 318	E B 326	E A 274	E B 276	230	210	214	212	208	206	224	234	218	224	218	222	216	E A 274	E A 258	E B 244	238	E B 272
4	E B 268	234	E B 250	E A 290	E A 300	E A 268	226	204	208	196	198	H 184	A	232	212	222	218	206	206	E A 290	E A 258	E A 278	E A 264	E B 264
5	E B 288	E B 276	242	246	E B 290	232	220	214	210	204	A	A	A	A	A	218	212	202	214	228	A	E A 264	228	E A 268
6	E A 380	E A 330	E A 292	E B 262	240	E B 248	228	202	208	206	B	B	210	220	224	220	216	188	216	E A 244	E A 252	234	E A 266	E B 258
7	E B 254	E B 264	E B 280	238	212	228	226	206	H 190	216	216	210	220	196	206	218	210	202	E A 254	234	226	232	E A 282	E B 284
8	E B 280	E B 264	E B 270	E A 382	E B 336	E B 278	E B 304	232	228	H 202	H 204	228	218	224	244	224	224	236	268	E B 340	E B 276	240	202	202
9	204	220	214	286	E A 268	218	E A 268	220	206	210	210	222	E A 236	A	238	214	200	218	232	E A 234	212	E B 288	E B 358	E B 256
10	E B 344	E B 312	E B 320	E B 252	E A 322	A	E A 368	E A 270	E A 236	226	A	208	B	218	250	254	230	H 188	E B 382	Q 360	Q 344	Q 262	Q 236	Q 280
11	Q 308	Q 216	Q 286	Q 290	Q 266	Q 340	Q 266	238	238	236	A	A	A	A	226	228	208	210	222	234	E A 242	E B 242	E B 248	E B 270
12	E B 264	E B 272	E B 292	E B 280	E B 278	E B 236	234	206	202	206	202	A	H 180	194	206	212	200	192	E A 306	E B 292	E B 312	244	222	188
13	E A 292	E A 362	E A 316	E A 304	E A 300	228	234	202	214	A	204	206	190	208	214	208	218	198	E A 254	E B 240	236	220	E B 266	E A 324
14	E A 282	E B 280	E B 266	E B 242	232	192	E B 210	198	188	H 176	198	196	198	206	202	214	204	200	202	E B 246	E B 244	224	200	E B 268
15	E B 280	E B 286	E B 256	232	212	E B 274	226	196	208	206	210	216	196	H 194	206	212	204	218	E A 240	E A 254	224	226	E A 260	E B 282
16	E B 282	E B 276	E B 254	232	202	208	228	206	202	200	206	206	194	H 178	216	212	218	200	216	234	232	224	E B 254	E B 290
17	E B 284	E B 292	E B 298	E B 266	206	200	212	194	202	214	A	214	204	200	216	222	214	196	210	212	E B 250	216	E B 244	E A 258
18	E B 272	E B 280	E B 322	E B 290	E B 250	E B A 274	226	212	208	214	208	208	202	206	226	216	206	206	220	218	E A 266	E B 248	262	E B 248
19	E B 248	E B 256	E B 270	E B 270	234	E B 234	206	204	214	214	A	206	A	A	214	216	206	196	210	242	E A 236	226	E A 312	E B 306
20	E B 284	E A 308	E B 284	E B 256	214	E A 264	244	204	208	208	A	222	194	A	A	210	198	208	216	230	224	E A 258	E A 270	E A 334
21	E A 290	248	244	212	220	E B 362	E B 264	H 190	H 190	214	218	210	A	210	226	214	202	204	208	E A 248	224	E B 250	E B 310	E B 268
22	E B 290	E A 324	E A 268	E A 268	E A 258	232	E A 274	222	204	214	H 182	212	A	206	220	222	216	204	202	210	222	E B 244	E B 268	E B 272
23	E B 288	E B 292	E A 284	E B 274	238	198	230	206	H 196	H 192	200	194	200	220	220	208	200	212	214	216	212	242	234	E B 266
24	E B 306	E B 282	E B 318	E B 270	E B 272	230	228	H 178	210	202	H 178	200	204	216	216	218	206	202	E A 242	216	228	E B 244	E B A 276	E B 318
25	E B 262	E B 264	E B A 296	230	210	E B 288	E B 264	222	218	216	216	214	210	A	A	220	218	E A 300	A	214	E A 274	E A 372	A	E A 266
26	E B 268	E B 314	E A 290	E B 292	E A 234	212	E B 254	236	206	194	194	212	208	230	216	214	208	222	224	202	208	E B 236	E B 312	E B 312
27	E B 284	E B 264	E B 292	E A 288	E B 278	E B 304	E B 254	216	214	A	208	196	H 194	230	224	212	196	200	228	192	216	218	E B 246	E B 288
28	E B 318	E B 302	E B 302	E B 272	232	E B 316	E B 264	216	214	204	H 192	H 196	H 190	210	226	212	206	212	224	206	218	A	E A 302	E A 308
29	E A 298	E B 296	E B 290	E B 254	228	E B 280	236	222	212	224	206	210	214	A	220	220	200	218	216	E A 240	E B 242	E B 244	236	E B 306
30	E B 296	E B 280	E B 258	E B 266	E B 248	210	198	H 192	H 192	H 194	224	220	206	226	218	204	214	206	222	214	E B 240	E B 270	E B 274	E B 300
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	29	30	30	30	28	23	26	23	23	27	30	30	30	29	30	29	29	29	30
MED	E B 283	E B 281	E B 285	E B 270	U 224	E 248	230	207	208	209	206	209	203	210	220	217	208	204	215	U 223	U 224	E 244	E 264	E B 272
U Q	E 292	E A 302	E B 298	E B 288	E 274	E B 277	E B 264	222	214	214	210	214	210	224	226	222	216	214	E A 236	E A 246	E A 255	E A 257	E 275	E 306
L Q	E B 268	264	E B 258	252	220	223	226	202	202	202	198	204	194	206	214	212	202	200	210	214	223	229	237	E B 264

NOV. 2004 h'F (KM)

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NOV. 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							B	122	114	A	A	A	A	112	120	114	116							
2							B	116	120	A	A	A	A	122	A	A	124							
3							B	124	116	A	A	R	A	A	A	114	A							
4							B	120	118	112	A	A	A	112	116	A	A							
5							B	116	B	110	A	A	A	A	A	A	A							
6							B	120	114	112	B	B	B	122	114	116	114							
7							B	122	120	118	118	118	118	116	116	114	A							
8								124	116	A	A	A	A	114	118	116	118							
9							B	110	114	114	112	A	A	A	A	A	A							
10							B	A	118	118	112	114	B	118	116	118	134							S
11	S	S	S	S				114	114	114	A	A	A	A	122	128	132							
12								A	A	A	A	A	A	A	A	120	120							
13								116	120	A	A	A	A	A	A	A	A							
14								118	120	114	A	118	118	114	A	122	A							
15								124	126	120	112	A	A	A	A	A	A							
16								114	120	120	118	114	A	A	A	116	B							
17								116	114	A	A	A	122	A	A	120	A							
18								114	120	118	114	A	116	118	A	A	A							
19								122	116	118	A	A	A	114	116	126	B							
20								126	122	120	116	116	114	A	A	A	A							
21								128	124	118	118	118	116	116	A	A	A							
22								118	120	118	120	A	116	116	A	A	A							
23								118	114	116	114	116	A	A	120	A	132							
24								128	124	122	116	118	118	116	A	A	A							
25								116	122	122	116	114	A	A	A	122	126							
26								118	114	114	112	112	116	A	118	A	A							
27								B	122	A	A	A	A	122	A	124	132							
28								126	116	114	116	116	114	118	120	110	112							
29								B	122	120	114	118	120	A	A	A	A							
30								E B 152	118	118	112	116	116	116	118	122	128							
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								26	28	22	16	13	12	16	12	16	12							
MED								118	119	118	115	116	116	116	118	119	125							
U Q								124	121	120	117	118	118	118	120	122	132							
L Q								116	115	114	112	114	116	114	116	115	117							

NOV. 2004 h'E (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

NOV. 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	98	96	94	B	B	94	98	122	114	106	102	98	96	90	120	92	122	110	106	90	98	B	100	96
2	96	96	98	96	94	B	146	114	112	102	104	104	108	106	104	104	136	B	B	104	B	B	102	100
3	98	94	94	94	92	94	96	108	118	104	104	104	98	98	96	122	96	110	102	96	92	90	88	B
4	B	90	96	96	96	96	96	130	124	114	104	102	98	120	98	108	104	98	100	96	96	94	98	94
5	88	88	94	98	104	B	B	136	B	112	104	104	100	100	100	100	102	106	104	100	98	100	102	98
6	98	98	96	B	92	96	98	96	120	114	B	B	B	G	G	140	122	112	106	98	94	96	94	92
7	92	B	B	86	B	B	B	G	104	166	104	G	114	106	106	98	92	90	98	86	86	B	98	B
8	104	98	98	92	92	92	B	G	118	106	102	96	94	G	G	100	G	B	96	B	B	B	B	B
9	B	B	94	90	90	116	112	G	132	120	116	106	98	96	94	96	98	102	98	96	96	B	B	B
10	B	B	B	B	110	108	108	110	158	100	118	122	B	120	106	104	G	B	B	B	B	B	B	S
11	S	S	S	S	B	B	B	132	G	116	106	102	100	102	174	158	128	122	112	108	118	104	102	102
12	98	96	102	102	98	B	B	108	104	104	96	94	98	98	100	98	98	98	96	B	B	B	B	108
13	98	96	96	96	92	B	138	124	120	102	102	100	98	96	94	100	104	102	98	98	B	B	96	94
14	98	98	98	B	B	B	B	152	102	104	106	104	102	100	96	116	108	B	108	98	98	B	98	96
15	96	90	94	92	B	B	B	146	148	140	106	102	100	92	92	96	90	86	92	96	92	94	90	B
16	98	B	96	94	94	B	B	146	138	118	96	118	104	104	98	G	B	102	100	104	104	98	B	94
17	94	88	B	94	88	B	90	154	G	108	104	104	100	98	98	96	102	102	102	B	B	B	96	106
18	100	102	100	100	98	98	106	148	132	138	116	108	122	120	110	102	98	100	96	98	106	94	100	B
19	100	94	B	B	98	B	B	128	134	122	108	104	104	116	146	106	B	B	B	122	116	118	98	98
20	98	100	102	100	100	96	B	G	98	156	116	114	114	108	104	100	102	100	92	90	100	100	108	102
21	102	100	100	98	96	102	B	G	100	148	150	116	116	118	106	106	104	B	104	98	100	B	B	B
22	100	96	96	98	98	102	98	98	98	158	104	98	124	120	108	106	102	102	106	102	100	B	B	98
23	102	102	100	96	96	96	B	G	102	102	102	126	106	108	116	108	108	98	98	B	B	B	B	B
24	B	B	B	B	102	100	100	G	104	104	102	102	126	122	108	102	102	98	98	B	96	102	108	102
25	B	102	100	B	B	B	B	G	104	102	120	114	104	104	104	124	118	106	104	104	98	96	96	98
26	100	96	100	96	B	B	B	G	G	100	104	100	140	100	116	100	98	96	98	98	B	104	106	106
27	102	B	94	104	98	B	B	144	128	104	102	106	104	158	106	136	G	B	102	B	98	96	100	102
28	102	100	100	B	B	B	B	152	144	98	116	158	94	162	92	132	124	158	142	128	106	96	90	94
29	108	108	B	102	104	B	B	148	162	152	94	150	126	106	106	106	102	102	102	98	116	B	B	B
30	B	B	B	B	104	100	B	G	102	102	178	100	104	172	120	128	142	138	B	156	138	130	B	116
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	22	22	20	22	14	12	20	26	30	29	28	28	28	28	29	25	23	26	23	22	16	20	20
MED	98	96	97	96	97	97	99	131	118	107	104	104	104	106	105	104	102	102	101	98	98	97	98	98
U Q	102	100	100	99	100	102	110	147	132	122	116	114	114	120	109	119	120	110	104	104	106	103	102	102
L Q	98	94	94	94	92	96	97	112	104	102	102	101	98	99	98	100	98	98	98	96	96	95	96	95

NOV. 2004 h'Es (KM)

IONOSPHERIC DATA STATION Kokubunji

NOV. 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

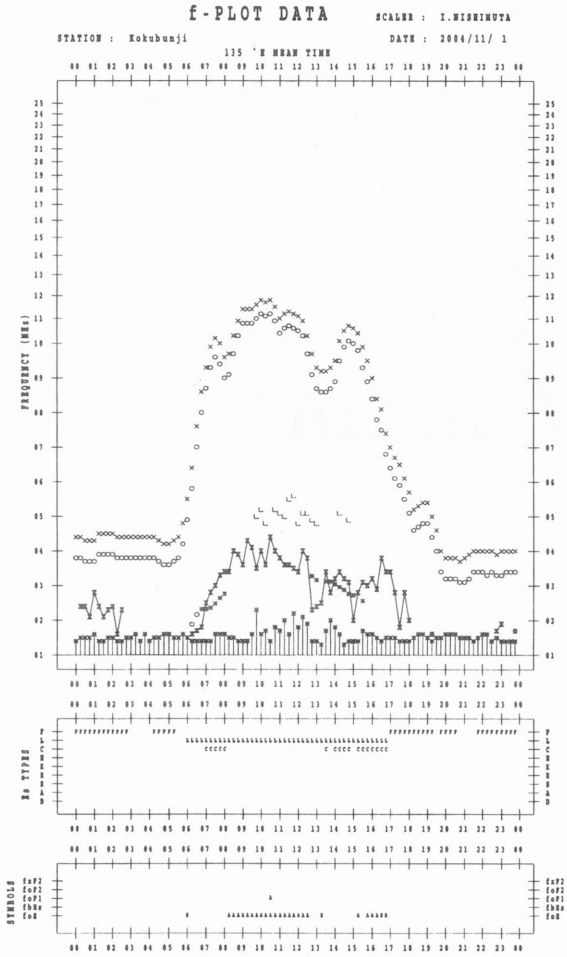
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F2	F3	F4			F2	L1	CL11	CL21	L1	L2	L2	L2	L2	CL11	L1	CL21	FF31	F3	F1	F1		F1	F3
2	F2	F2	F1	F3	F2		HL11	C2	CL21	L1	L1	L2	L1	L1	L1	L2	HL11			F1			F1	F1
3	F2	F2	F1	F2	F1	F2	L1	L1	CL11	L1	L1	L1	L2	L1	L2	CL11	L2	F3	F2	F2	F2	F1	F1	
4		F2	F2	F3	F2	F2	L1	C1	CL11	CL11	L1	L1	L2	CL12	L1	L4	L2	F3	F3	F3	F4	F3	F3	F2
5	F2	F1	F2	F4	F2			H2		C1	L1	L2	L3	L3	L3	L2	L2	F1	F2	F1	F4	F4	F2	F3
6	F2	F3	F3		F2	F2	L1	L2	CL11	CL21						HL11	C1	F1	F1	F2	F4	F2	F2	F1
7	F1			F2					L1	HL11	L1		C1	L1	L1	L1	L2	F3	F2	F1	F1		F2	
8	F1	F1	F1	F3	F1	F1			CL11	L1	L1	L2	L1			L1			F1					
9			F4	F5	F4	FF23	CL21		CL11	CL21	CL21	L1	L2	L3	L3	L3	L2	F3	F4	F4	F3			
10					F3	F2	L3	L3	HL11	L1	CL21	CL11		CL11	L1	L1								K1
11	K1	K1	K1	K1				C1		CL11	L1	L2	L2	L3	HL11	HL11	C2	F3	F2	F4	FF23	F1	F1	F2
12	F2	F2	F2	F1	F1			L2	L1	L1	L1	L2	L1	L1	L1	L1	L1	F1	F4					F2
13	F4	F3	F4	F4	F2		F3	C1	C1	L2	L1	L2	L2	L2	L2	L1	L1	F5	F3	F2			F2	F4
14	F2	F1	F1					H1	L1	L1	L1	L1	L1	L1	L2	CL11	L1		F1	F1	F1		F1	F2
15	F1	F1	F1	F1				H1	HL11	HL11	L1	L1	L2	L3	L1	L2	L2	F3	F3	F4	F1	F1	F1	
16	F1		F1	F1	F1			H1	HL21	CL21	L1	CL11	L1	L1	L2			F3	F3	F4	F2	F2		F1
17	F2	F2		F2	F1		F1	HL11		L2	L2	L3	L1	L1	L1	L1	L2	F1	F1				F1	F2
18	F2	F1	F2	F2	F2	F3	F1	HL11	HL11	HL11	CL11	L1	CL11	CL11	L1	L2	L3	F2	F2	F2	F2	F1	F1	
19	F1	F1			F1			C1	CL11	CL11	L1	L1	L2	CL21	HL11	L1				F1	FF21	FF11	F1	F2
20	F2	F3	F2	F1	F2	F2			L1	HL11	CL11	CL21	CL21	L2	L2	L1	L1	F1	F1	F1	F2	F1	F2	F3
21	F2	F2	F3	F3	F4	F1			L1	HL11	HL11	CL21	CL21	CL11	L1	L2	L2		F3	F3	F2			
22	F2	F3	F4	F2	F2	F2	F4	L1	L1	HL11	L1	LC21	CL11	CL11	L2	L3	L3	F1	F1	F1	F2			F2
23	F1	F2	F2	F2	F2	F1			L1	L1	L1	CL11	L1	L1	CL11	L1	L2	F3	F2					
24					F1	F2	F1		L1	L1	L1	L1	CL11	CL11	L1	L3	L3	F3	F3		F1	F1	F1	F2
25		F1	F2						L1	L1	CL11	CL21	L1	L2	L2	CL11	CL31	F3	F4	F1	F2	F2	F4	F6
26	F2	F3	F2	F4						L1	L1	L1	HL11	LC21	CL11	L3	L3	F3	F2	F2		F1	F1	F2
27	F3		F2	F1	F1			H2	CL11	L2	L1	L1	L1	HL11	L2	CL11			F1		F3	F2	F2	F2
28	F1	F1	F2					H1	HL21	L2	CL11	HL22	L1	HL21	L2	HL21	CL21	F1	F1	F1	F2	F3	F2	F1
29	F3	F1		F2	F2			H1	HL11	HL11	L2	HL12	CL21	L3	L1	L2	L2	F3	F1	F2	F1			
30					F1	F1			L1	L1	HL11	L1	L2	HL11	CL21	CL21	HL11	F2		F2	F1	F1		F2
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

NOV. 2004 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

f-PLOTS OF IONOSPHERIC DATA

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


f-PLOT DATA
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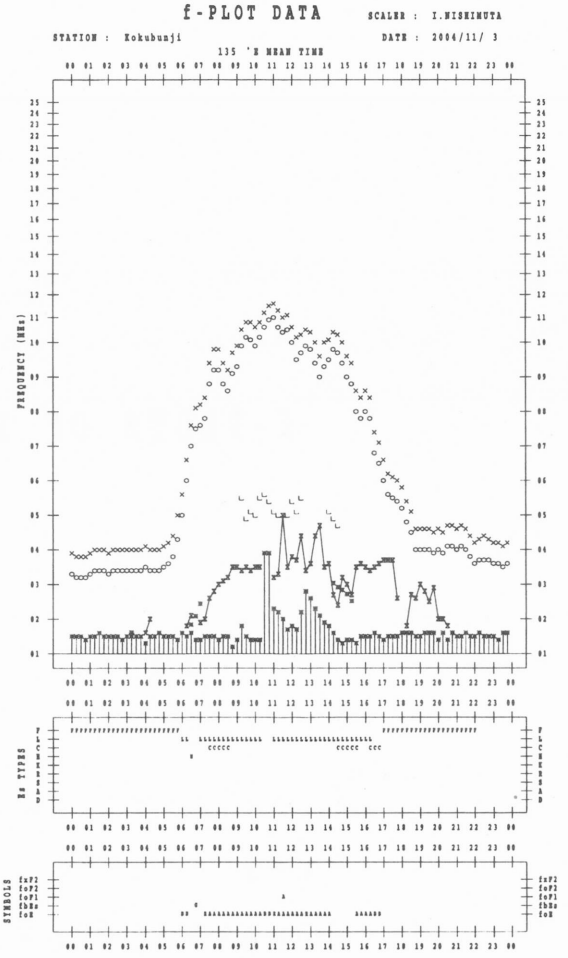
STATION : Kokubunji
DATE : 2004/11/ 1
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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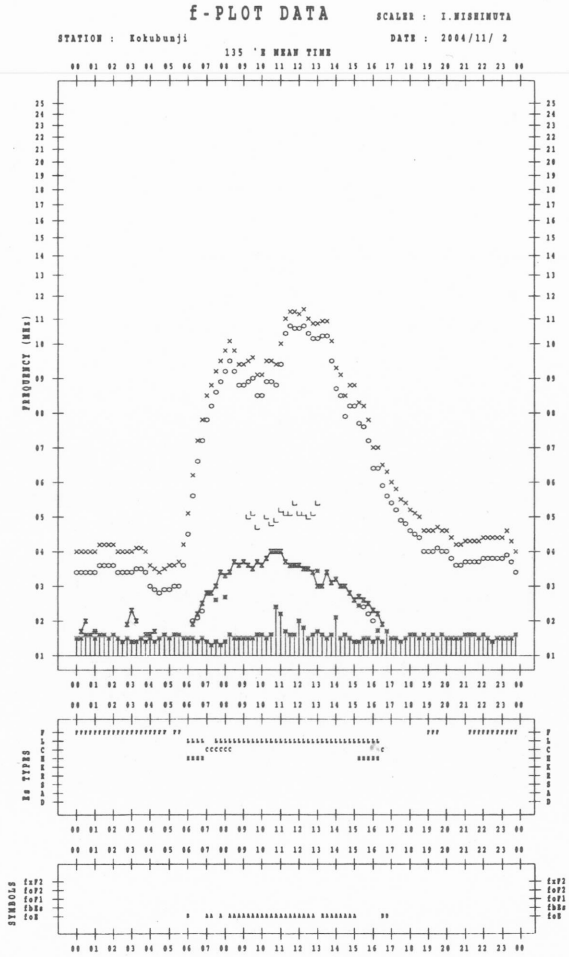
STATION : Kokubunji
DATE : 2004/11/ 3
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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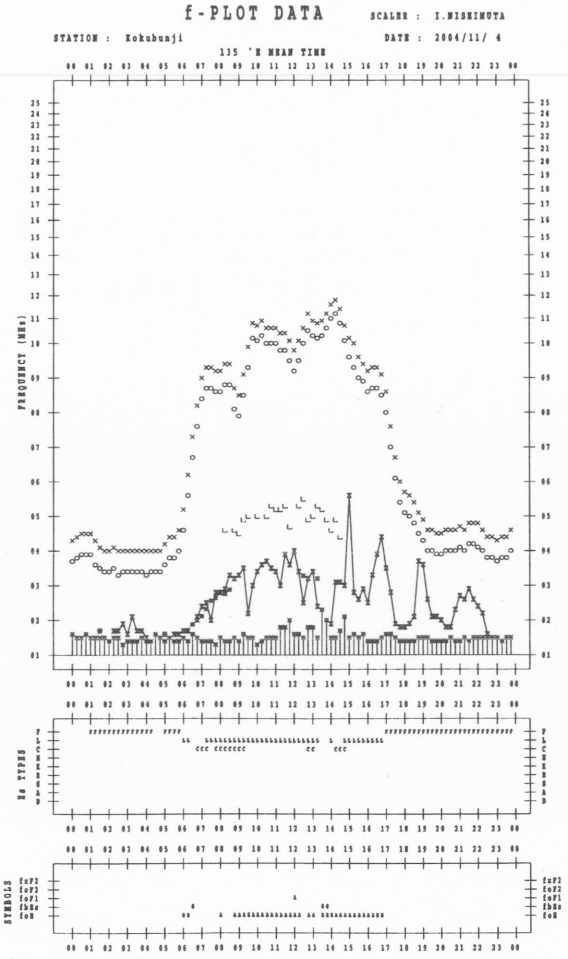
STATION : Kokubunji
DATE : 2004/11/ 2
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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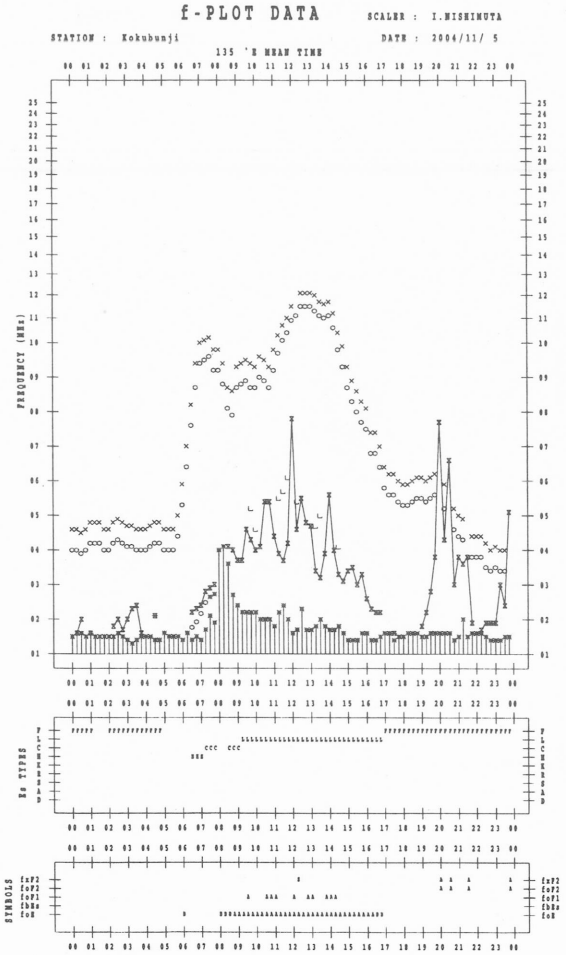
STATION : Kokubunji
DATE : 2004/11/ 4
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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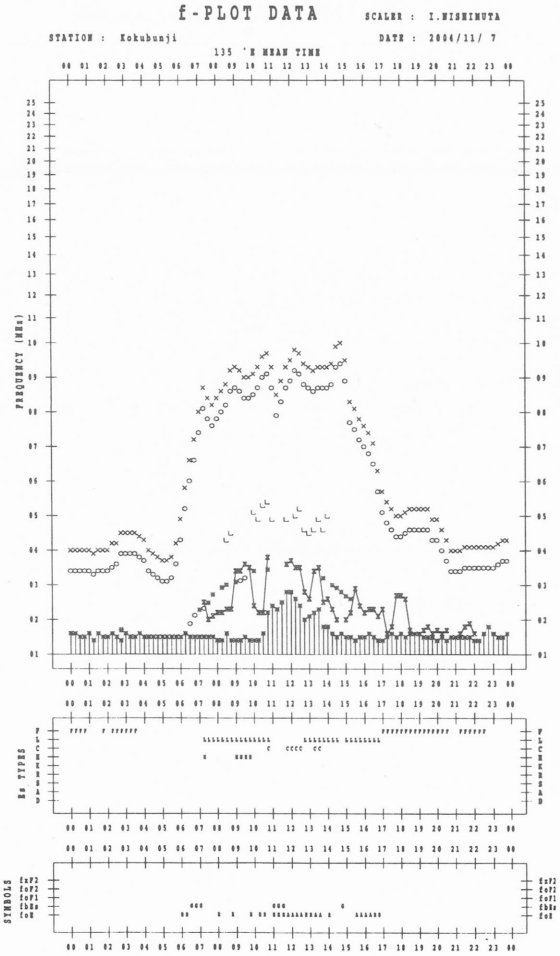
STATION : Kokubunji
DATE : 2004/11/ 5
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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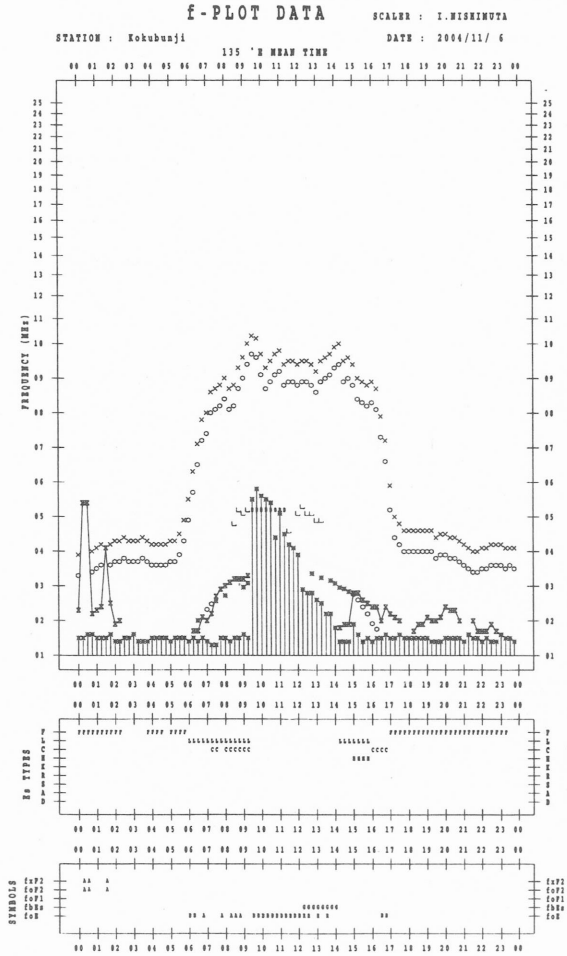
STATION : Kokubunji
DATE : 2004/11/ 7
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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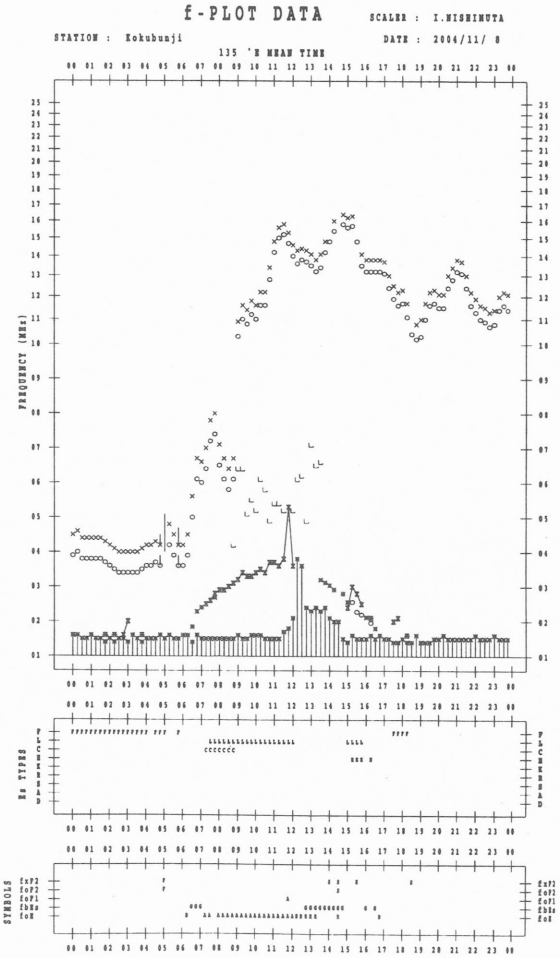
STATION : Kokubunji
DATE : 2004/11/ 6
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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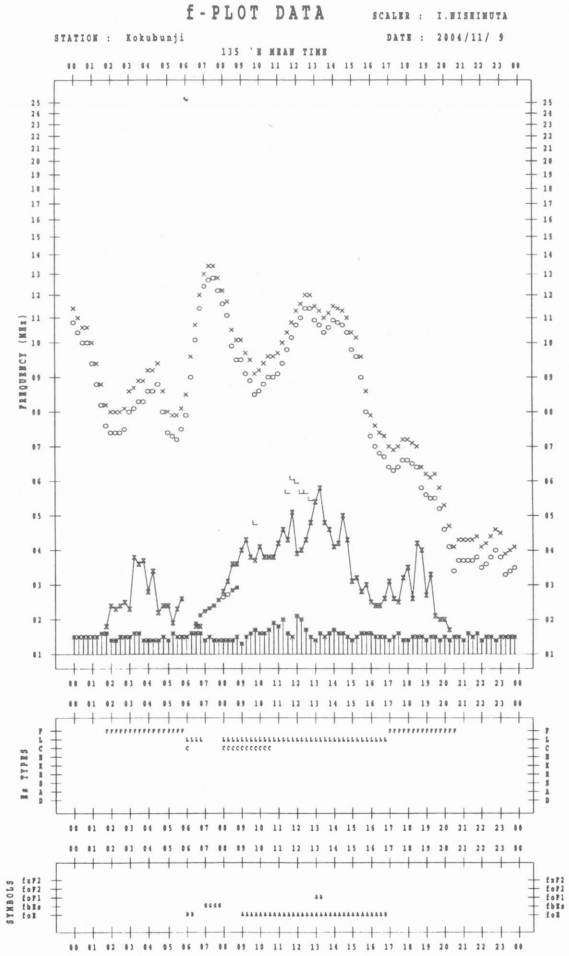
STATION : Kokubunji
DATE : 2004/11/ 8
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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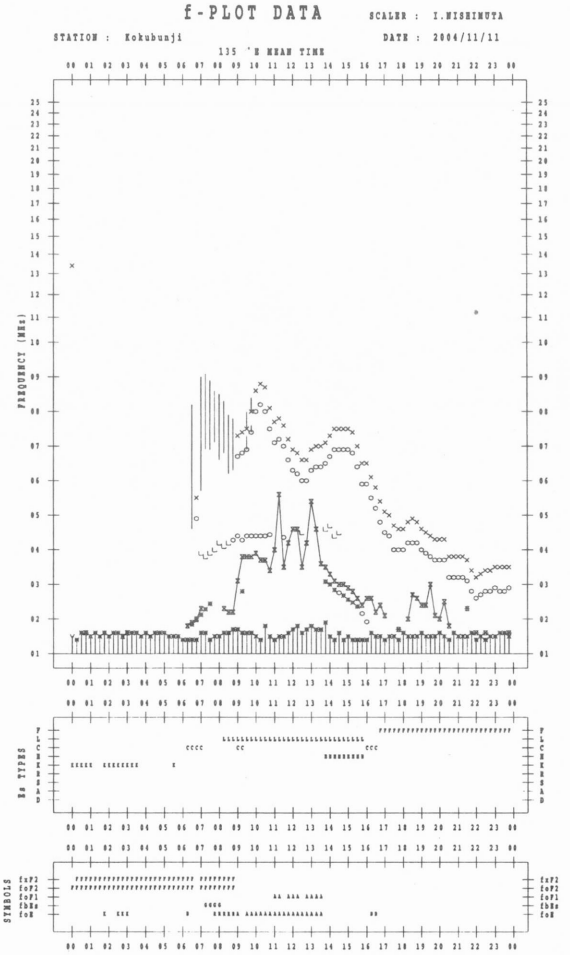
STATION : Kokubunji
DATE : 2004/11/ 9
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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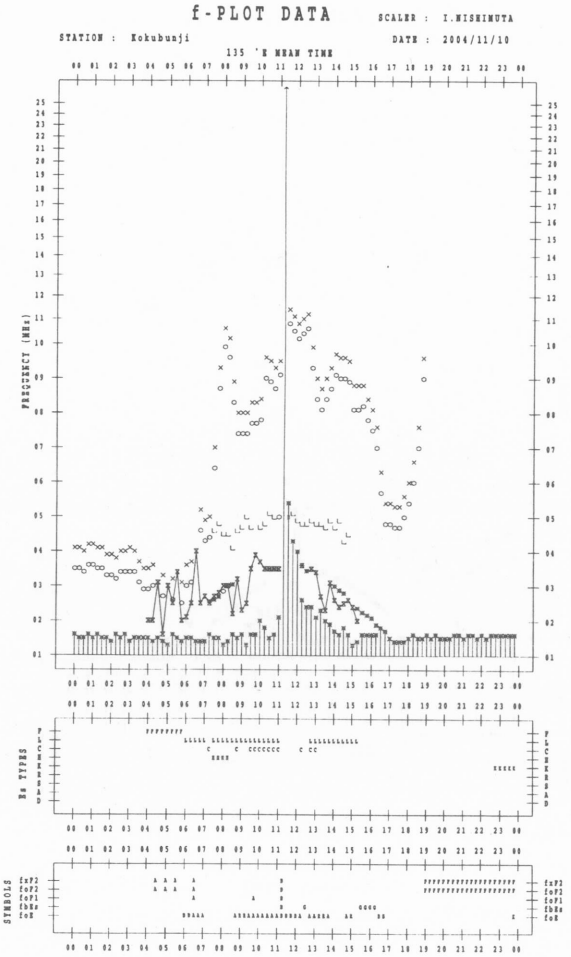
STATION : Kokubunji
DATE : 2004/11/11
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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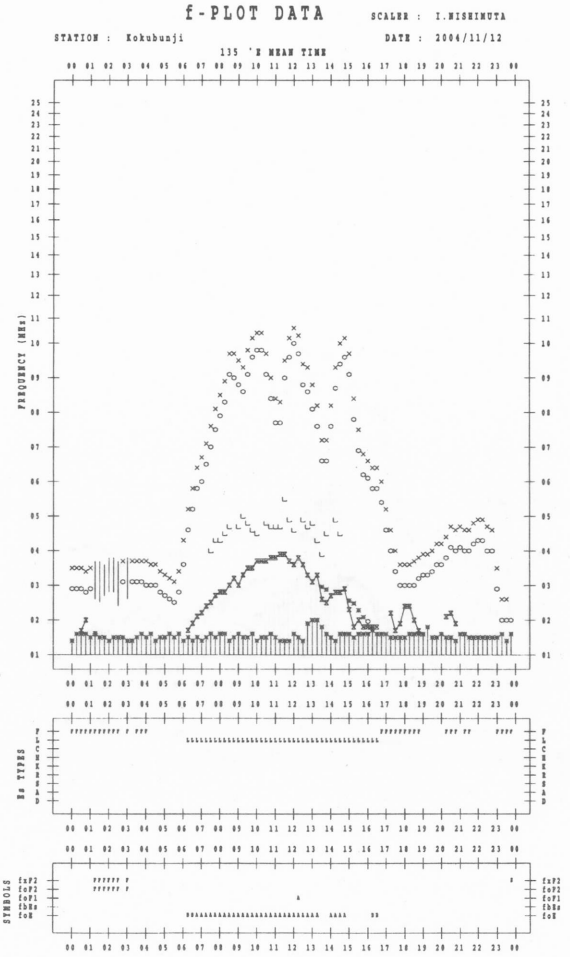
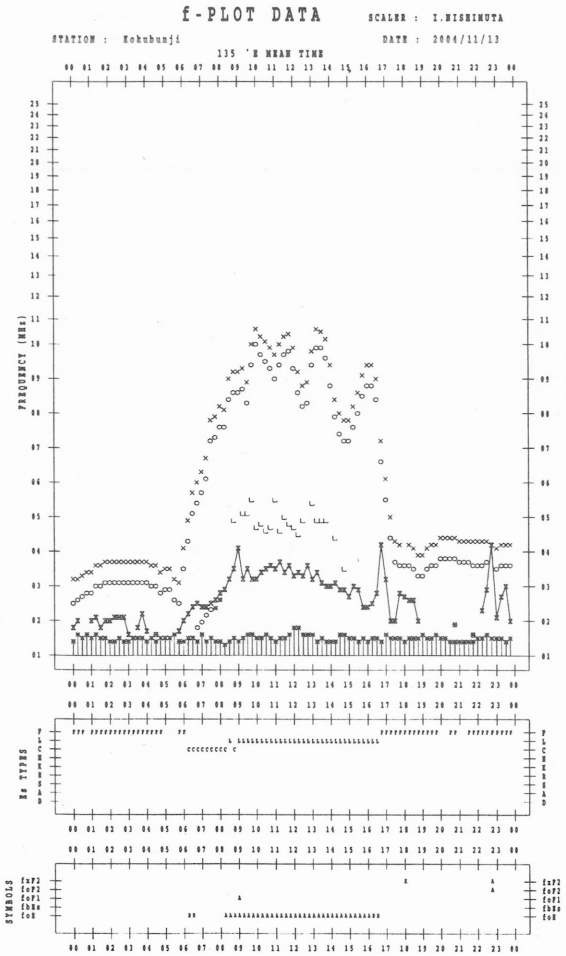
STATION : Kokubunji
DATE : 2004/11/10
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/11/12
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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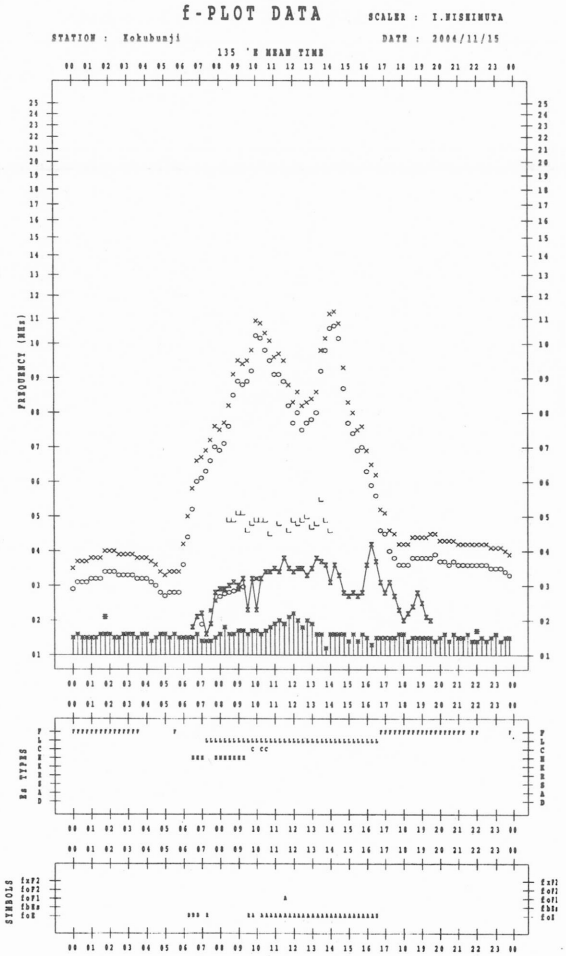
STATION : Kokubunji
DATE : 2004/11/13
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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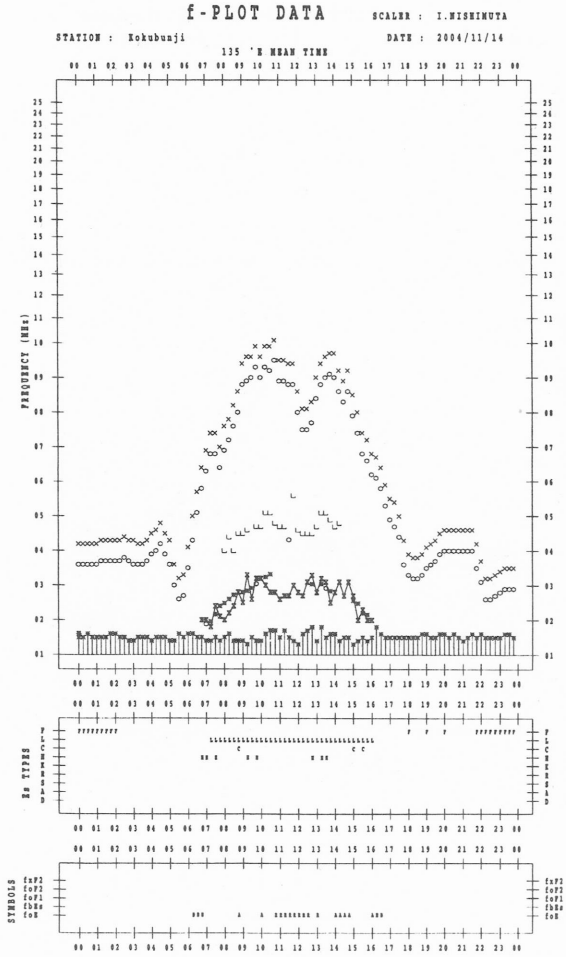
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/11/15
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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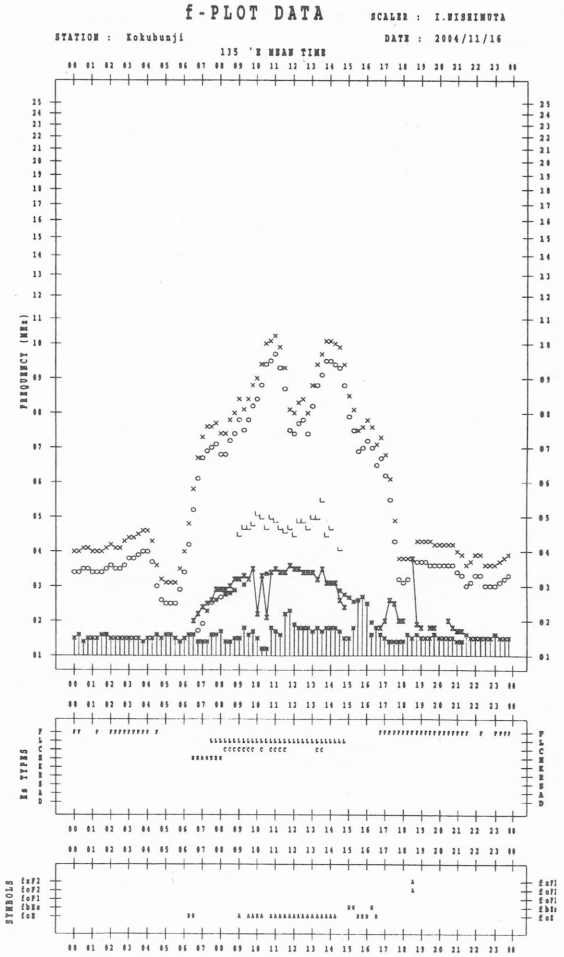
STATION : Kokubunji
DATE : 2004/11/14
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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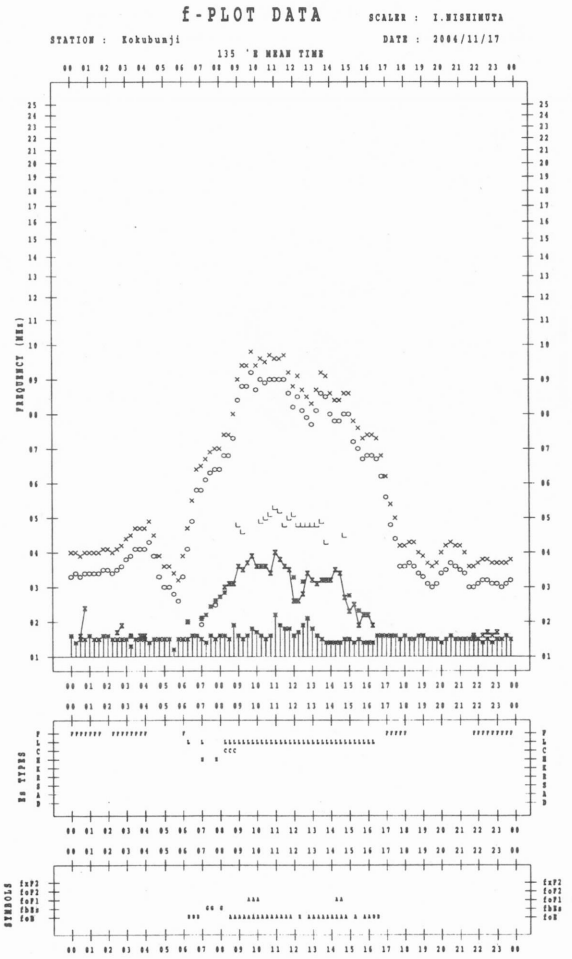
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/11/16
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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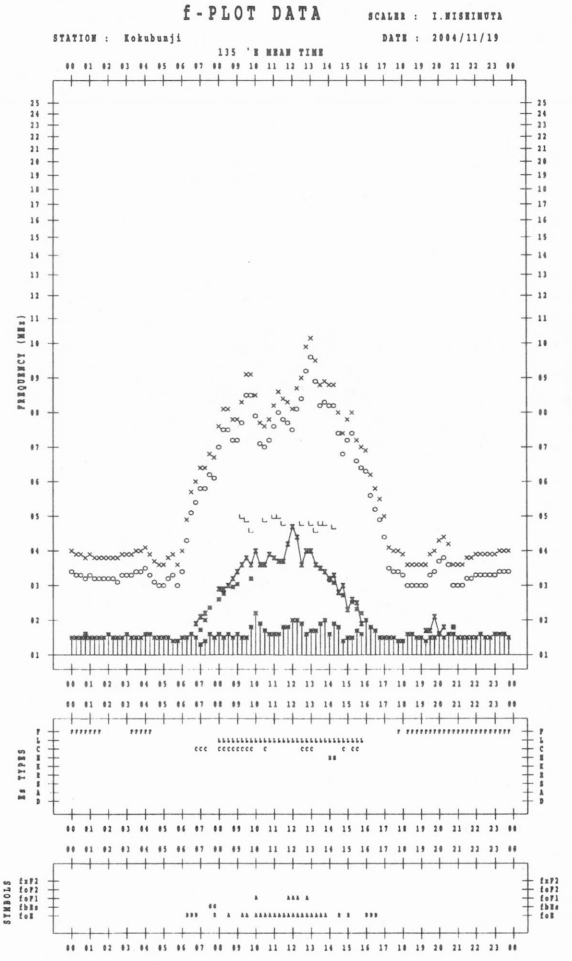
STATION : Kokubunji
DATE : 2004/11/17
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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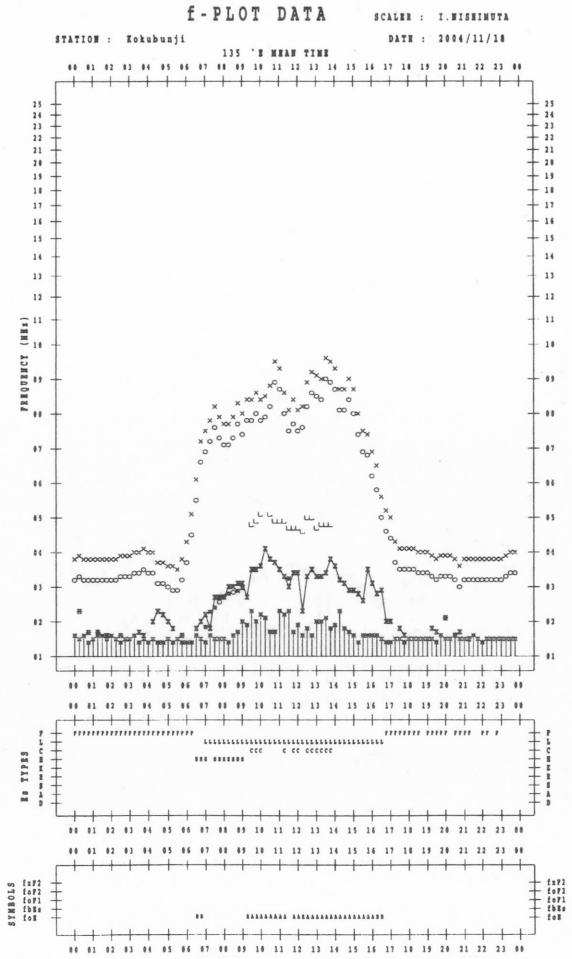
STATION : Kokubunji
DATE : 2004/11/19
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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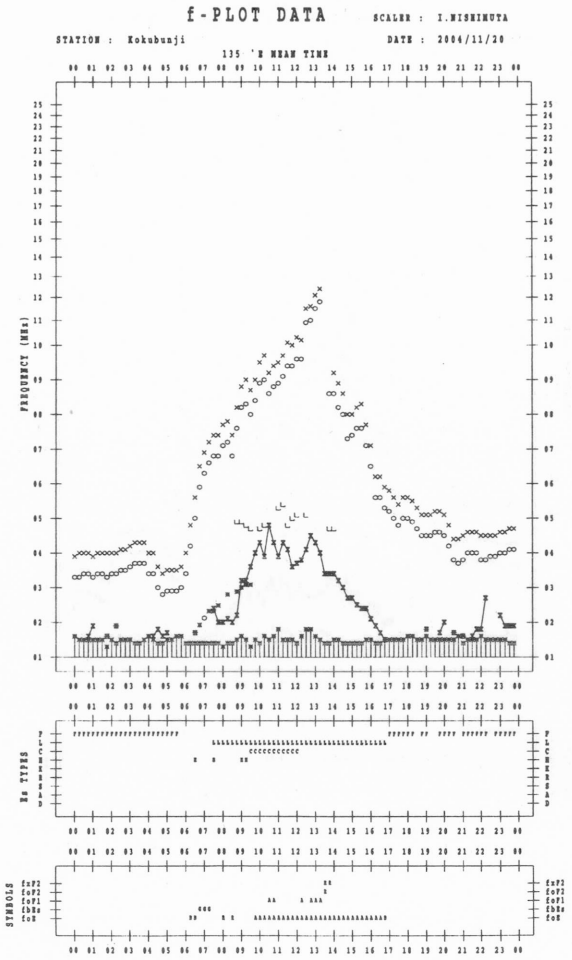
STATION : Kokubunji
DATE : 2004/11/18
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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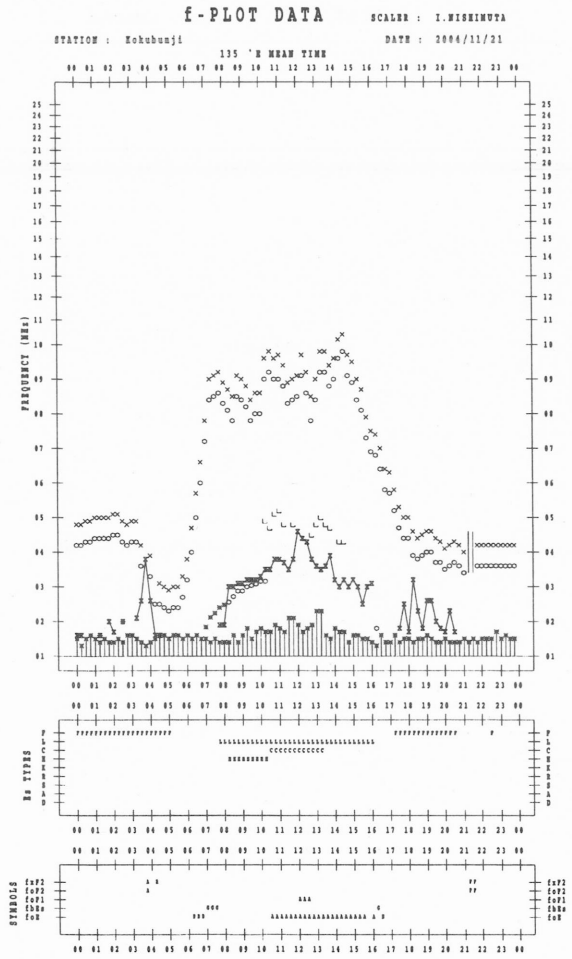
STATION : Kokubunji
DATE : 2004/11/20
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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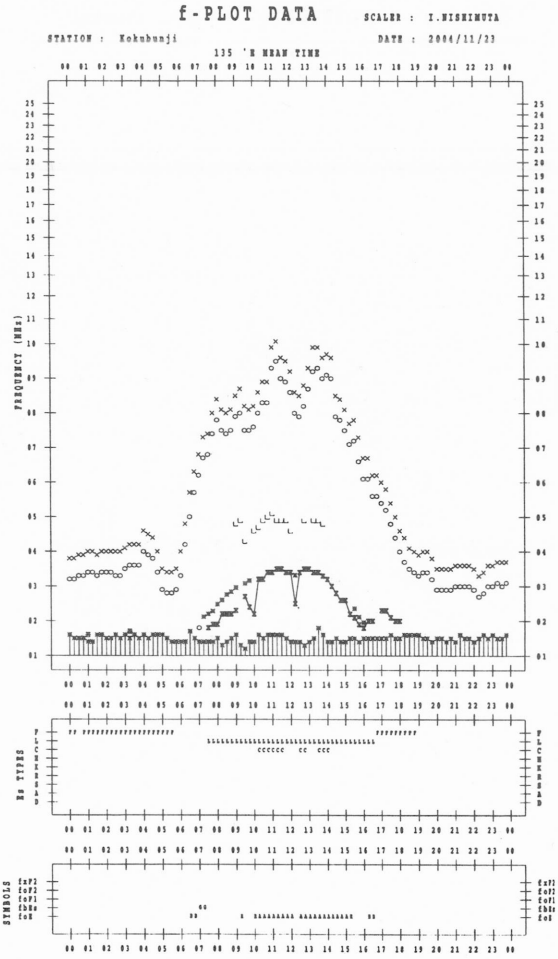
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/11/21
135 'E MEAN TIME
FREQUENCY (MHz)
Ro TYPES
SYMBOLS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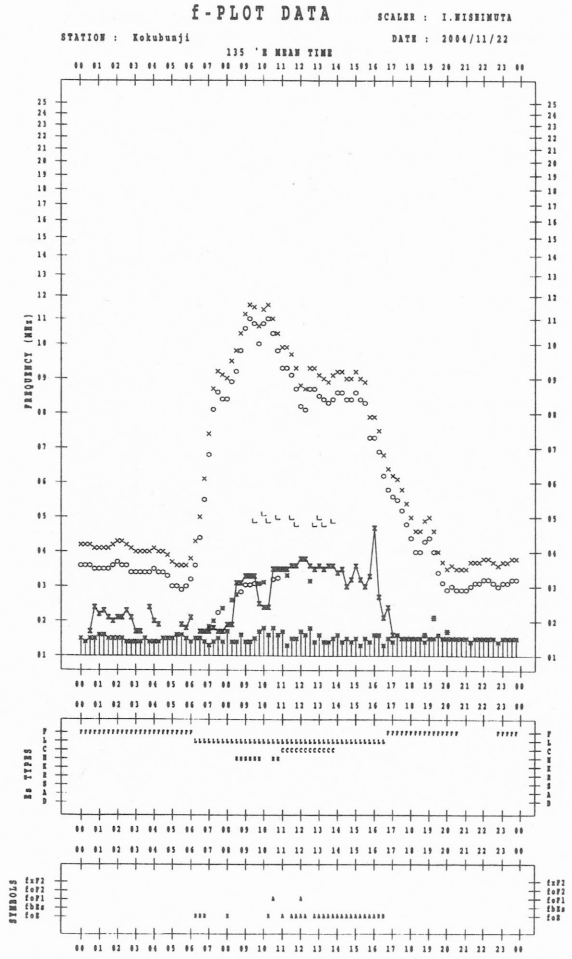
STATION : Kokubunji
DATE : 2004/11/23
135 'E MEAN TIME
FREQUENCY (MHz)
Ro TYPES
SYMBOLS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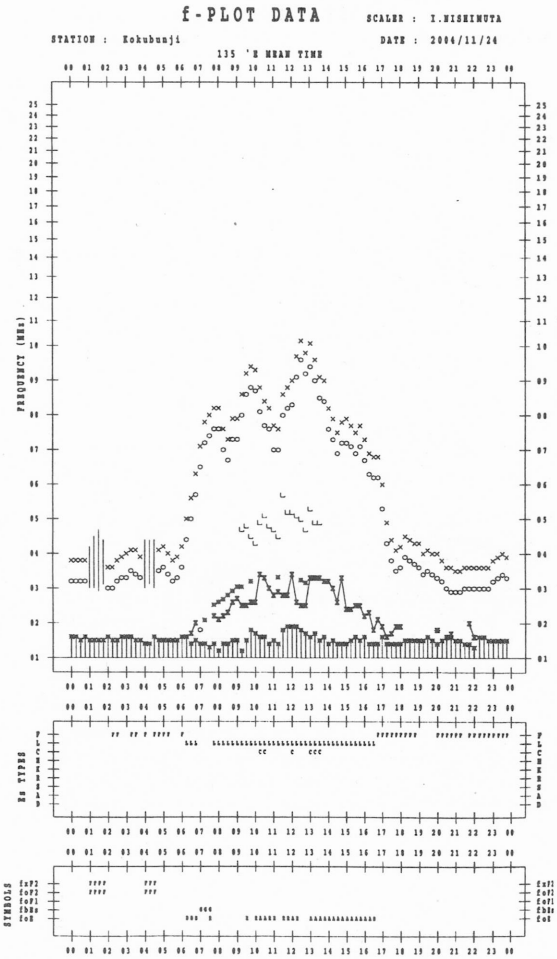
STATION : Kokubunji
DATE : 2004/11/22
135 'E MEAN TIME
FREQUENCY (MHz)
Ro TYPES
SYMBOLS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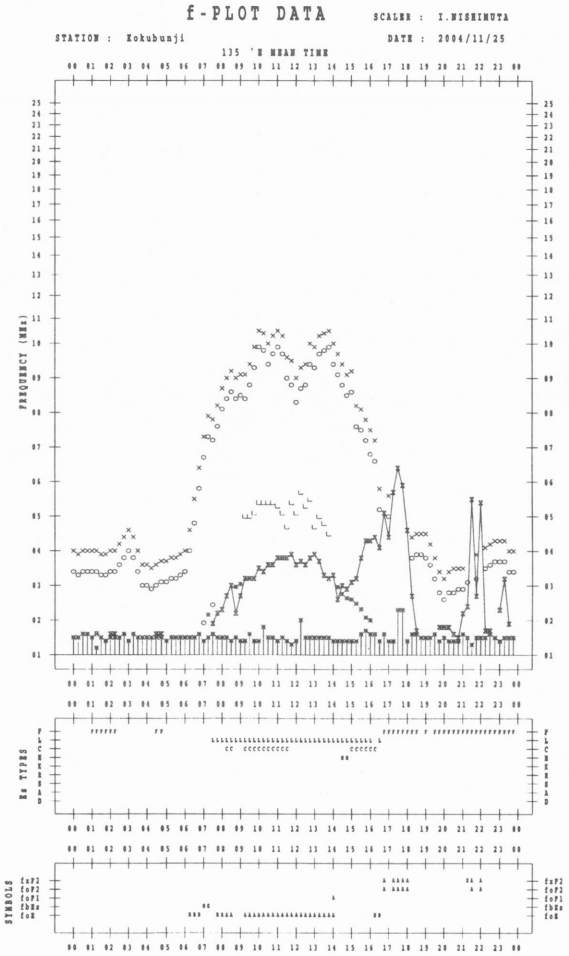
STATION : Kokubunji
DATE : 2004/11/24
135 'E MEAN TIME
FREQUENCY (MHz)
Ro TYPES
SYMBOLS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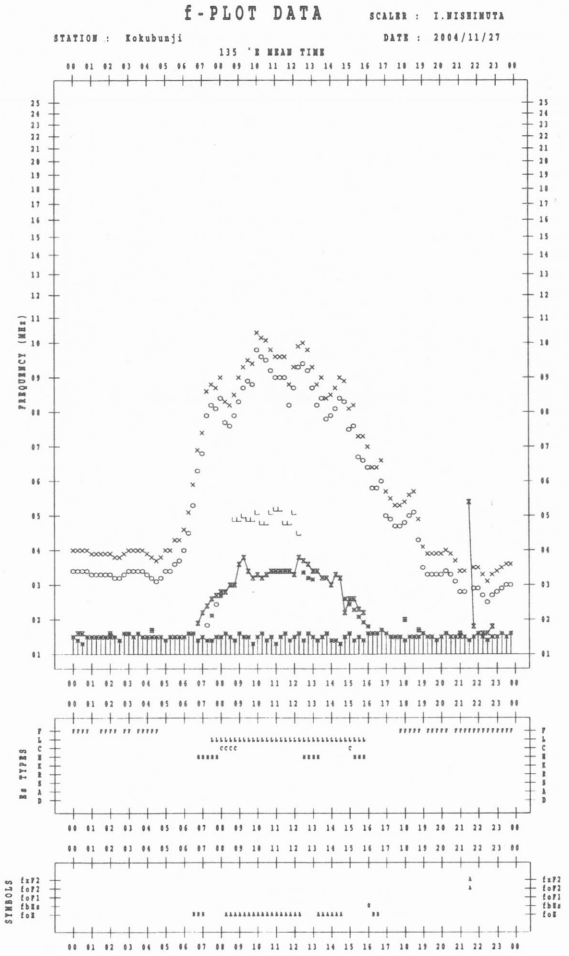
STATION : Kokubunji
DATE : 2004/11/25
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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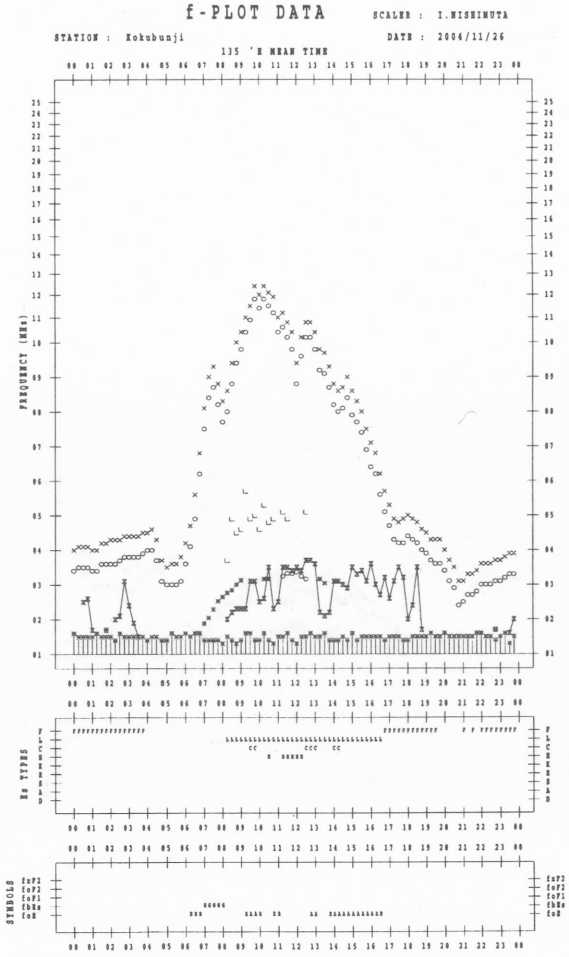
STATION : Kokubunji
DATE : 2004/11/27
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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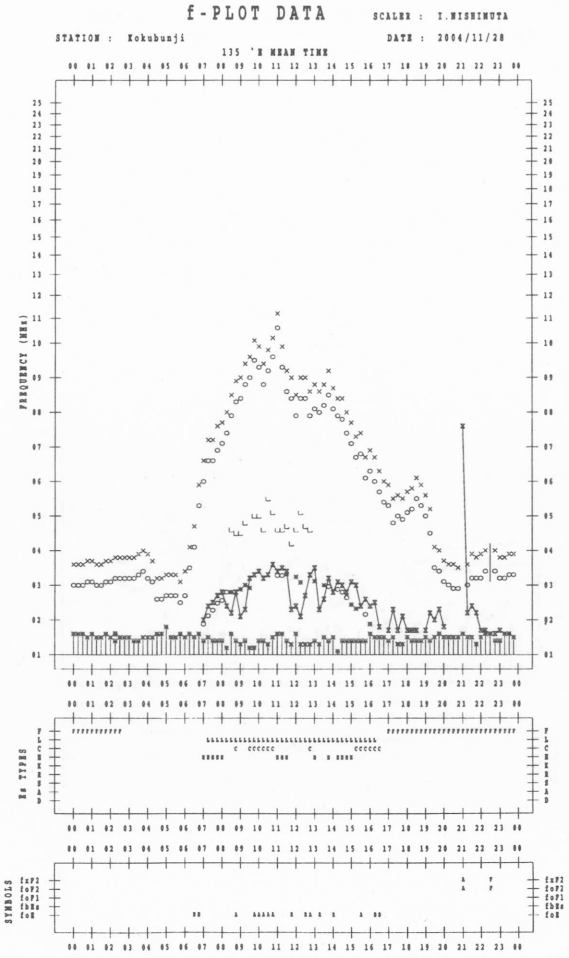
STATION : Kokubunji
DATE : 2004/11/26
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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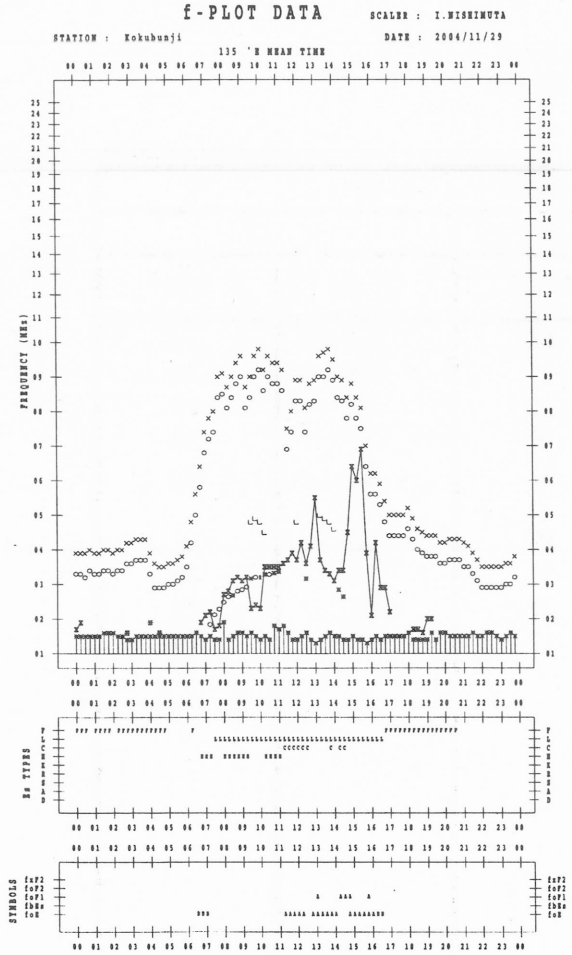
STATION : Kokubunji
DATE : 2004/11/28
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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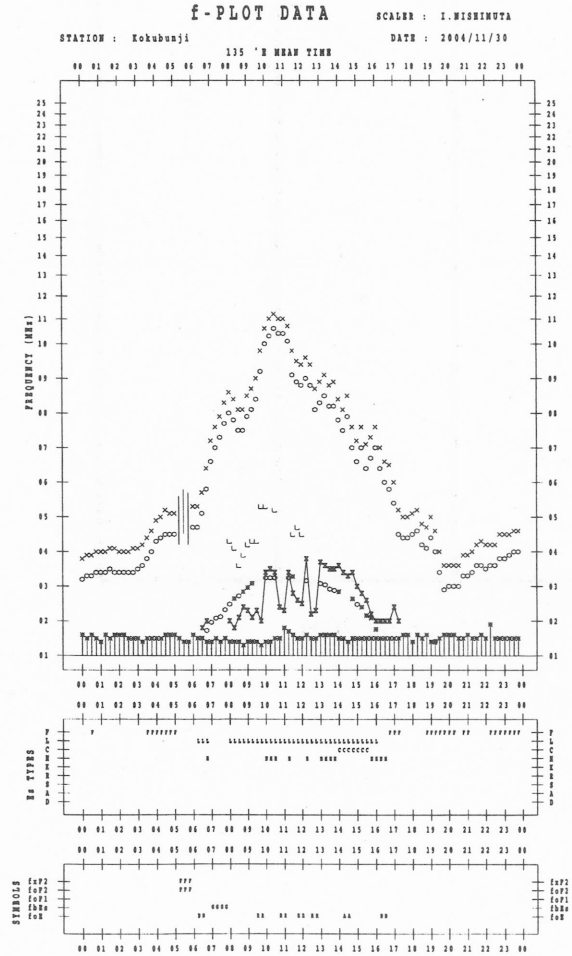
STATION : Kokubunji
DATE : 2004/11/29
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/11/30
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

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

Hiraiso November 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	21	19
2	20	19	19	20	20
3	20	21	21	21	20
4	20	18	19	30	22
5	28	21	21	22	23
6	21	19	19	22	21
7	20	20	20	22	20
8	20	24	21	22	22
9	19	18	17	22	19
10	18	18	-	-	-
11	-	-	-	-	-
12	-	-	-	-	-
13	-	-	-	-	-
14	-	-	-	-	-
15	-	-	-	-	-
16	-	-	-	-	-
17	-	-	-	-	-
18	-	-	-	-	-
19	-	-	-	-	-
20	-	-	-	-	-
21	-	-	-	-	-
22	-	-	-	-	-
23	-	-	-	-	-
24	-	-	-	-	-
25	-	-	-	-	-
26	-	-	-	-	-
27	-	-	-	-	-
28	-	-	-	-	-
29	-	-	-	-	-
30	-	-	-	-	-
31					

Note: No data is available during the following periods.
500MHz observation has been stopped since 4:00 on 10th November 2004.

A superscript * denotes to be superposed on a burst.

B. Solar Radio Emission

B2.Outstanding Occurrences at Hiraiso

Hiraiso November 2004

Single-frequency observations

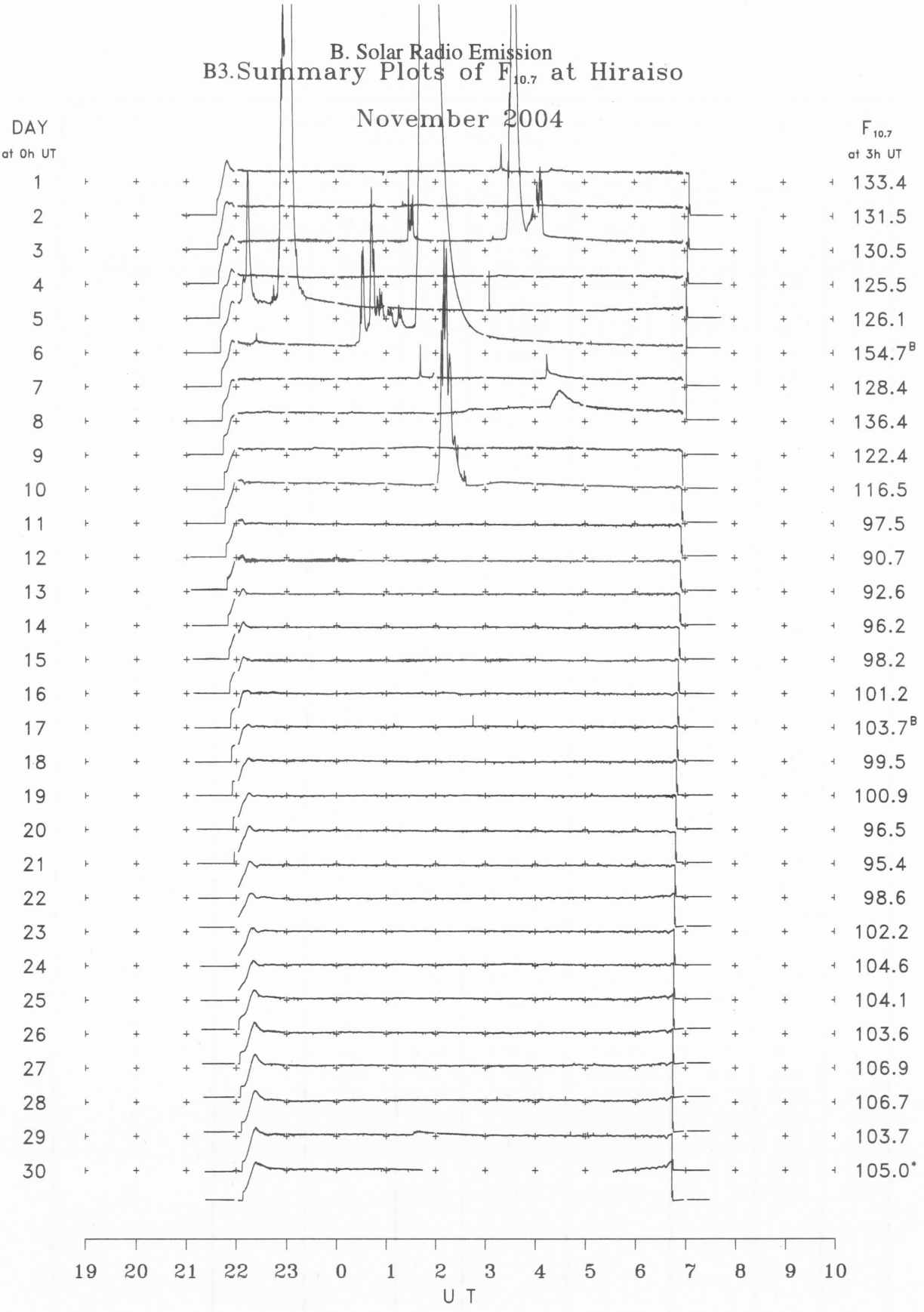
Normal observing period: 2110 - 0735 U.T. (sunrise to sunset)

NOV. 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	MEAN	POLARIZATION REMARKS
1	2800	3 S	0318.0	0319.0	3.0	75	-	0
1	2800	1 S	0417.0	0420.0	5.0	10	-	0
1	500	42 SER	0307.0	0307.0	6.0	20	-	0
1	500	8 S	0318.0	0319.0	3.0	110	-	0
2	2800	2 S	0120.0	0121.0	2.0	15	-	0
3	500	4 S/F	0126.0	0127.0	13.0	95	-	0
3	2800	7 C	0127.0	0127.0	13.0	215	-	0
3	2800	47 GB	0325.0	0334.0	45.0	1205	-	SR
3	500	47 GB	0326.0	0406.0	121.0	2955	-	0
4	500	8 S	0608.0	0608.0	1.0	15	-	0
4	2800	3 S	2204.0	2214.0	19.0	380	-	0
4	500	7 C	2206.0	2212.0	24.0	105	-	0
4	2800	47 GB	2244.0	2300.0	37.0	1520	-	0
4	500	47 GB	2247.0	2305.0	48.0	1770	-	0
5	500	3 S	0054.0	0057.0	5.0	20	-	0
5	500	7 C	0121.0	0130.0	22.0	40	-	0
5	2800	8 S	0305.0	0305.0	1.0	115	-	ML
5	2800	1 S	2224.0	2224.0	1.0	25	-	0
6	2800	47 GB	0024.0	0153.0	144.0	2635	-	0
6	500	47 GB	0030.0	0154.0	124.0	3340	-	0
7	2800	8 S	0139.0	0142.0	4.0	100	-	0
7	500	8 S	0141.0	0141.0	1.0	60	-	0
7	2800	1 S	0156.0	0158.0	6.0	10	-	0
7	500	47 GB	0258.0	0258.0	1.0	800	-	0
7	2800	3 S	0413.0	0414.0	6.0	70	-	0
7	500	8 S	0524.0	0524.0	1.0	15	-	0
7	500	7 C	2322.0	2323.0	7.0	470	-	0
8	500	42 SER	0005.0	0005.0	4.0	45	-	0
8	500	4 S/F	0018.0	0020.0	2.0	30	-	0
8	500	8 S	0106.0	0106.0	1.0	20	-	0
8	500	47 GB	0219.0	0220.0	8.0	865	-	0
8	500	7 C	0237.0	0304.0	32.0	120	-	0
8	500	4 S/F	0417.0	0430.0	37.0	45	-	0
8	2800	20 GRF	0418.0	0430.0	37.0	45	-	0
9	500	8 S	2206.0	2207.0	2.0	255	-	0
10	2800	47 GB	0202.0	0210.0	35.0	705	-	0
10	500	47 GB	0206.0	0210.0	31.0	1760	-	0
10	500	8 S	0306.0	0306.0	1.0	55	-	0
17	2800	8 S	0245.0	0245.0	1.0	30	-	
29	2800	20 GRF	0133.0	0140.0	29.0	15	-	0

B. Solar Radio Emission

B3. Summary Plots of $F_{10.7}$ at Hiraiso

November 2004



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

IONOSPHERIC DATA IN JAPAN FOR NOVEMBER 2004
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