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IONOSPHERIC DATA IN JAPAN

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CONTENTS

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INTRODUCTION

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

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

A. IONOSPHERE

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

A1. Automatic Scaling

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

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

a. Characteristics of Ionosphere

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

b. Descriptive Letters

The following descriptive letters are used in the tables.

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

C Impossible measurement because of any failure in observation.

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

N Impossible automatic scaling because of complex echoes.

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

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

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

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

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

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

d. Reliability of Automatic Scaling

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

e. Summary Plot

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

A2. Manual Scaling

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

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

a. Characteristics of Ionosphere

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

b. Symbols

(i) Descriptive Letters

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

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

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

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

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

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

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

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

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

K Presence of particle *E* layer.

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

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

N Conditions are such that the measurement cannot be interpreted.

O Measurement refers to the ordinary component.

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

Q Range spread present.

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

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

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

V Forked trace which may influence the measurement.

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

X Measurement refers to the extraordinary component.

Y Lacuna phenomena, severe layer tilt.

Z Third magneto-electronic component present.

(ii) Qualifying Letters

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

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

D Greater than.

E Less than.

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

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

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

U Uncertain or doubtful numerical value.

X Measurement deduced from the third magneto-electronic component.

(iii) Description of Types of *Es*

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

The types are:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

B. SOLAR RADIO EMISSION

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

B1. Daily Data at Hiraiso

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

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

* Measurement impossible because of interference.

B Measurement impossible because of bursts.

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

B2. Outstanding Occurrences at Hiraiso

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

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

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

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

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

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

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

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

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

B3. Summary Plots of F10.7 at Hiraiso

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

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

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

HOURLY VALUES OF foF2 AT Wakkanai

OCT. 2007

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

HOURLY VALUES OF fEs AT Wakkanai

OCT. 2007

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G	G	G	37	G	27	31	35	G	G	G	39	G	G	G	32	36	G	G	G	G	G	G
2	G	G	G	G	25	G	25	33	39	G	40	53	G	G	39	G		G	36	51	45	40	27	27
3	28	G	G	27	G	G	28	33	40	41	G	G	38	G	G	33	G	29	G	G	28	G	33	G
4	G	25	34	29	39	25	G	32	40	48	47	69	59	41	53	G	38	53	72	39	51	31	57	39
5	29	G	G	G	32	30	38	37	G	G	G	G	G	G	G	G	54	66	46	35	43	G	36	G
6	G	26	G	26	28	G	G	G	G	G	38	G	39	G	44	60	58	67	39	32	32	G	G	G
7	G	G	G	G	G	G	G	G	G	38	39	G	G	G	G	G	62	85	43	48	35	40	30	G
8	26	24	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
9	G	G	G	G	G	G		33	G	48	47	G	40	G	36	33	30	G	G	G	G	G	35	32
10	G	G	G	26	G	G	G		42	44	51	46	41	G	48	41	85	46	51		49	30	48	44
11	32	27	G	G	G	G	31		38	G	42	52	39	G		G	29	29	38	31	34	49	34	26
12	G	G	G	33	28	G	28	30	G	G	C	C	C	40	36	G	40	G	34	39	36	40	58	32
13	G	G	G	26		G			36	G	G	G	G	G	G		G	G	G	G	G	38	26	G
14	45	G	G	G	26	G	G	30	36	37	50	40	G	G	39	G	30	27	G	G	G	G	37	33
15	27	G	30	G	G	G	G		33	35	G	G	G	G	36	G	G	G	26	G	G	G	G	G
16	G	G	G	G	G	G	G	45	G	G	G	G	G	G	G	G	G	G	G	G	G	G	38	27
17	G	G	G	G	G	G	G			85	61	39	G	G	G			11	G	G	32	26	G	G
18	40	37	32	28	G	G	G	30	39	46	45	40	41	G	G	G	G	G	G	G	G	26	28	34
19	30	28	25	27	G	G	26	34	50	55	95	52	64	G	G	36	32	G	40	27	39	27	G	G
20	26	28	27	G	G	G	27	32	40	52	54	G	51	38	52	57	61	38	46	54	32	39	48	71
21	39	34	47	40	34	G	67	G	G	42	42	84	71	62	60	51	39	60	53	41	51	G	30	G
22	30	29	G	G	G	G	G	31	40	40	46	38	54	42	48	36	32	30	27	G	G	G	G	G
23	33	29	G	G	G	11	G	32	G	40	41	54	41	44	50	G	30	G	35	47	38	32	G	G
24	G	45	33	30	G	G	G	G		36	50	60	64	93	86	86	61	27	76	59	52	G	39	33
25	36	G	G	G	G	32	32	32	41	52	55	71	61	39	40	53	39	52	84	59	72	41	34	65
26	41	32	34	41	G	G	27	34	47	40	69	60	51	48	50	44	40	44	64	60	40	32	34	26
27	G	32	30	28	32		G	37	36	78	76	80	70	61	51	53	G	G	G	G	38	36	46	29
28	30	27	G	G	G	25	32	40	40	36	G	G	G	N	39	G	30	33	32	39	58	46	51	48
29	33	39	38	30	G	G	G	29	32	38		G	G	43	G	34	G	G	48	36	29	33	25	32
30	29	29	28	43	25	G	G	G	G	52	51	41	G	40	G	40	33	28	27	G	G	G	G	G
31	G	G	26	30	28	24	G		G	G	36	37	54	45	68	61	42	G	40	59	46	30	35	40
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	30	30	29	25	29	31	29	30	30	30	30	29	29	31	31	30	31	31	31	31
MED	26	24	G	G	G	G	G	32	36	38	42	38	39	G	38	33	32	27	35	32	34	27	33	26
U Q	32	29	30	29	28	G	27	33	40	48	51	53	54	42	50	47	41	44	46	47	45	38	38	33
L Q	G	G	G	G	G	G	G	15	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

OCT. 2007

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

HOURLY VALUES OF foF2 AT Kokubunji

OCT. 2007

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

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

HOURLY VALUES OF fEs AT Kokubunji

OCT. 2007

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	26	G	G	G	G	G	29	48	35	G	G	G	G	G		G	35	40	G	23	G	G	G	G
2	G	G	G	G	G	G	G	G	G	G	G	G	G	G	51	G	G	31	33	36	35	35	30	28
3	26	23	G	G	G	G	27	38	37	39	G	G	G	G	G	54	G	31	26	G	G	G	G	G
4	G	G	G	G	G	G	25	31	G	G	G	G	G	G	G	G	35	30	29	G	G	G	G	G
5	G	27	G	G		G	27	G	G	48	G	45	G	G	G	G	G	26	G	G	G		G	G
6	G		G	G	G	G	G	G	G	G	G	G	40	G	G	G	G	G	34	27	G	G	G	G
7	G	G	G	G	G		36	36	G	G	G	G	G	G	G	G	G	G	29	36	G	44	27	G
8	G		G	G	G	G	26	35	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
9		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	26	26	G	G	G	G	G
10	G	G	23	G	G	G	G	G	G	G	G	72	G	39	G	G	38	36	26	G	26	G	24	G
11	33	G	G	G	G	G	G	36	G	G	G	G	G	G	G	G	G	G	G	G	G	29	G	G
12	G	G	G	29			G	34		G		G	G	G	G	G	G	G	28	30		G	G	25
13	G	G	G	G	G	G	G	30	G	G	G	G	G	G	G	G	G	G	G	23	G	G	G	G
14	G	G	G	G			26	G	37	40	47	G	G	G	G	G	G	28	G	G	G	G	G	G
15	30	26	28	27	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
16	G	G	G	G	G	G	29	35	39	52	G	G	G	G	39	48	40	34	G		G	G	29	33
17	G	G	G	G	G	G	24	34	G	38	G	39	61	G	G	35	37	33	24		G			26
18	G	G	G	G	G	G	29	34	48	78	71	56	67	G	G	G	29	G	G	G	G	G	G	G
19	27	26	28	29	G	G	26	30	48	45	53	50	51	61	37	G	G	G	G	G	G	29	23	
20	24	28		29	36	G	26	G	G	60	41	70	110	G	G	G	G	28	37	37	60	55	55	26
21	G	G	G	G	G	G	G	G	45	G	G	41	49	G	G	G	30	32	28	G	G	39	40	31
22	28	30	28	32	29	25	G	33	38	G	G	G	G	G	41	47	56	54	40	61	52	55	58	43
23	34	48	33	39	G	G	24	36	49	55	57	66	123	43	37	G	G	G	36	31	40	26	33	33
24	30	27	G	G	26	25		34	G	G	90	43	53	65	60	G	G	26	40	34	37	47		52
25	31	26	28	27	G	G	G	33	45	39	50	58	45	39	40	G	29	19	27	47	60	52	44	44
26	29	36	G	G	G	G	28	43	52	61	60	G	39	G	G	39	33	30	33	34	37	34	49	34
27	33	C	29	23	38		G	38	40	55	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	53	48	50	G	29	37	G	G	G	G	24	G
30	G	55	45	G	G	G	23	33	36	44	59	61	79	48	50	51	51	35	33	29	32	31		G
31	G	26	G	G	G	G	22	G	G	41	40	49	G	40	G	34	37	32	30	36	37	29	29	26
	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	26	28	29	26	25	28	29	28	29	27	28	29	29	28	29	29	29	29	27	28	27	26	28
MED	G	G	G	G	G	G	24	33	G	G	G	G	G	G	G	G	G	28	26	23	G	G	12	G
U Q	28	27	25	25	G	G	26	35	39	46	50	49	52	39	38	17	35	32	33	34	36	35	30	29
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Kokubunji

OCT. 2007

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	15	14	14	17	14	13	13	18	18	42	38	20	40		37	14	14	14	14	14	14	15	15
2	17	14	14	14	13	13	18	13	14	13	18	20	18	20	18	13	13	13	13	13	13	14	13	13
3	15	18	14	13	14	14	14	14	13	18	40	40	40	21	21	13	13	13	14	15	14	20	15	18
4	20	14	17	14	13	14	15	13	14	14	17	15	20	42	14	14	14	14	15	15	18	17	14	17
5	17	14	15	18		17	13	13	14	17	45	20	17	21	13	17	14	17	17	17	22		18	17
6	15		18	14	17	17	18	14	14	13	22	43	41	20	18	28	20	15	13	14	17	21	14	13
7	18	15	13	13	14		14	13	17	33	18	22	37	21	20	18	28	13	13	14	13	14	15	14
8	21		21	18	15	17	17	13	15	18	22	43	21	20	18	31	14	18	17	14	22	21	15	15
9		18	15	18	18	14	17	14	14	17	18	18	15	40	34	20	23	15	14	15	14	14	17	14
10	14	14	14	14	13	14	17	13	18	18	20	30	40	21	17	15	13	15	15	18	13	14	15	14
11	14	15	15	18	14	14	17	13	13	18	18	18	18	42	37	14	14	17	15	13	17	13	17	15
12	15	17	20	14			17	13		39		34	44	40	40	17	14	17	17	17		20	15	14
13	17	18	15	18	17	13	18	13	17	17	42	20	22	39	20	21	13	17	15	15	17	17	14	14
14	17	14	14	17			15	13	14	18	17	18	21	40	17	13	13	14	14	17	17	18	13	13
15	14	14	14	17	17	15	18	13	13	18	20	18	14	37	15	13	26	20	18	18	17	18	14	15
16	15	14	13	17	14	15	17	20	15	13	18	20	15	18	14	13	13	14	20		20	14	14	13
17	14	13	14	15	15	14	15	14	13	15	17	20	18	18	15	13	14	13	17		20			14
18	15	13	17	13	14	17	13	13	14	15	21	18	21	20	17	18	13	17	14	15	14	14	17	15
19	15	17	13	13	18	14	13	13	14	18	18	18	18	20	17	13	17	14	15	18	13	14	14	
20	18	14		14	13	14	14	13	17	20	15	26	21	30	36	18	22	14	14	14	14	21	13	18
21	14	17	18	18	15	15	15	13	15	17	18	18	14	14	13	13	13	14	14	14	17	14	13	13
22	14	13	14	13	13	18	15	14	18	18	21	17	18	14	13	13	13	13	14	15	15	14	14	13
23	13	13	13	13	20	14	17	13	13	17	17	15	13	15	14	13	15	17	13	14	14	14	14	13
24	14	13	15	14	14	14	14	13	18	21	25	14	18	15	21	13	22	15	14	14	13	17	13	14
25	14	13	15	13	13	13	15	13	13	13	14	17	18	20	15	18	14	18	15	14	17	13	13	14
26	13	15	14	20	18	17	17	13	13	18	15	17	17	18	15	15	14	13	13	13	14	14	14	13
27	14	C	13	14	13		14	13	13	14	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	17	15	14	17	13	13	17	14	14	20	14	18
30	17	13	14	17	13	17	14	14	13	15	18	15	18	15	13	13	13	13	14	13	13	13		13
31	17	15	14	13	14	14	15	13	13	13	14	20	21	17	17	14	14	13	14	14	14	14	13	13
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	26	28	29	26	25	29	29	28	29	27	28	29	29	28	29	29	29	29	27	28	27	27	28
MED	15	14	14	14	14	14	15	13	14	17	18	19	18	20	17	14	14	14	14	14	14	14	14	14
U Q	17	15	15	17	17	17	17	13	16	18	22	24	21	38	20	18	16	17	16	15	17	18	15	15
L Q	14	13	14	13	13	14	14	13	13	14	17	17	17	17	14	13	13	13	14	14	14	14	13	13

HOURLY VALUES OF foF2 AT Yamagawa

OCT. 2007

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	89	32		28	28	34	45	61	69	59	C	C	C	C	C	70	63	60	42	28	A	A	
2	30	32		26			28	47	49	C	C	C	C	C	C	C	C	64	C	C	A	A	34	26
3	34		A	32	32	32	38	60	59	C	C	C	74	72	67	62	57	56	71	62	47	34	34	34
4	34	34	32		32	26	34	60	57	61	61	69	59	70	60	74	78	78	70	55	34	30	32	
5	32	32	28	30	26	29	36	54	50		70	65	55	64	64	80	58	56	68	64	34	31	34	
6			32	27	26		32	53	57	61	53	58	66	61	61	71	71	57	50	42	31	34	34	32
7			30	30	30		32	50	56	64		58	59	64	57	57	68	75	A	A	A	A		30
8	30	29	30	29	29		29	63	60	57	58	61	74	58	60	56	66	78	67	44	36	34	32	32
9	32	34		30	34	26	28	42	47	57	65	60	66		50	59	60	65	65	42	31	34	31	30
10	31	32	32	30	34	29	28	42	51	60	54	57	67	70	72		55	62	58	41	36	34	34	
11	32	32	32	34	29		69	46	50	61	62	66	62	A	65	59	51	57	55	52	A		29	28
12	28	28	29	31				41	52	56	61	59	60	62	58	62	59	51	47	43	42	47	38	28
13		A	28	31	29	34	37	56	65	65	69	65	65	60	60	67	56	46	46	48	40	40	38	35
14	38	36	32	32	36		28	50	57	55	52		65	61	64	67	56	55	54	36		A		32
15	32	32	34	34	34	28	29	57	60	64	68	62	72	59	56	62	58	56	50	29	28	32	29	31
16	32	34	34	32				44	50	54	61	67	72	74	72	67	64	58	48	37	A	29	29	32
17	34	A	32	31	31		28	52	58	54	62	70	81	75	77	81	65	56	52		29	28		29
18	34	32	30	28	29		29	50	58	56	66	65	68	58	67	60	62	40	55	45	40	44		
19			29	28	A	29	30	71	62	66		57	71	87	96	82	78	61	52	47	45	38	43	
20		30			30		28	45	55	74	78		83	74	66	86	72	60	44	40	40		30	32
21	32	34	34	37	34		A	48	54	64	73		92	84	64	64	62	54	A	A	A	34	A	31
22	32	34	A	37	41		28	48	67	61	66	72	82	82	81	75	64	52	A	A	34	A	A	31
23	30	30	30	29	30	29	28	52	50		71	88	80	78	80	86		57	40	47	A	29	A	29
24	A	41	41	44	44	31	40	50	60	52	70	64	75	72	91	75	60	58	46	40	36	32	28	A
25	A				25		29	54	53	A	64	81	82	80	68	55	62	52	45	A	26	A	32	A
26	A	A	A		A	28	29	55	68	74	87	72	74	103	86	81	67	58	51	35	34	34	34	34
27	A	A	A	41	A		26	54	59	68	74	92	97	91	87	80	61	56	48	26	31	34		32
28	34	34	26					52		65	80	87	67	68	74	72	60	61	56	35				34
29	A	A		29	29	A		45	55	62	79	86	68	65	81	68	58	50	38		37	43		A
30			29	28	28	26	30	58	66	65	61	61	55	61	92	100	60	55	A	37	42	32		30
31		30	28	28	28	26	26	51	61	65	72	72	61	67	90	87	61	53	42		34	34		34
	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	19	20	22	25	24	14	26	31	30	26	27	25	29	27	29	28	29	31	26	23	23	22	18	22
MED	32	32	31	30	30	28	29	51	57	62	66	65	68	70	67	70	61	57	52	42	34	34	33	32
U Q	34	34	32	33	34	29	34	55	60	65	72	72	77	78	81	80	66	61	58	47	40	34	34	32
L Q	31	31	29	28	28	26	28	46	52	57	61	60	63	61	60	62	58	54	46	37	31	32	30	30

HOURLY VALUES OF fEs AT Yamagawa

OCT. 2007

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

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

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HOURLY VALUES OF fmin AT Yamagawa

OCT. 2007

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	18	15	15		16	17	18	15	18	18	27	C	C	C	C	C	17	17	15	15	17	14	14	15
2	15	15	15	18			15	18	17	C	C	C	C	C	C	C	C	14	C	C	14	14	14	15
3	16	14	14	14	14	16	14	14	15	C	C	C	21	22	39	37	15	14	15	15	14	15	18	15
4	15	15	17	21	15	15	15	14	14	17	16	40	16	15	22	15	27	15	14	15	14	16	15	14
5	17	15	15	15	15	14	15	14	14		18	20	22	18	18	16	14	14	15	14	16	15	15	23
6	16	15	14	22	17	17	15	18	14	15	16	18	26	16	20	16	14	15	14	14	14	16	15	15
7		14	16	15	15	17	17	15	16	15		21	23	23	21	21	15	15	14	14	16	15	15	15
8	15	15	16	15	14	16	15	14	14	16	20	18	20	18	22	20	17	15	15	15	15	15	15	14
9	17	17		18	17	17	14	14	14	14	18	18	15		34	39	14	17	15	15	16	16	15	15
10	15	16	15	15	15	15	15	17	14	20	15	17	26	26	27		17	20	16	16	15	16	15	16
11	15	15	15	15	14		15	15	15	16	17	21	28	30	39	17	14	14	17	15	15	15	15	14
12	15	15	14	16	18		18	14	15	16	20	18	44	34	17	14	14	14	15	23	14	14	15	17
13		15	15	16	16	16	15	15	14	16	15	21	34	40	39	20	16	21	15	15	15	15	15	15
14	15	22	17	16	16	16	16	16	14	15	17	21	45	21	32	28	14	15	14	14	16	15	15	16
15	15	15	15	15	15	16	17	14	17	15	17	20	33	40	15	14	14	15	15	15	17	16	15	14
16	14	14	15	15	16		17	15	14	14	15	15	17	39	18	14	16	16	15	17	17	15	15	15
17	14	14	15	14	15	17	17	14	14	14	17	20	18	21	18	15	14	14	15		15	20		17
18	15	15	15	18	15	21	16	15	14	15	17	18	18	17	14	16	17	16	15	17	15	15	14	17
19	15	15	15	14	15	15	14	14	14	15		17	23	20	18	16	15	15	14	15	15	15	15	14
20	16	16			15	15	15	15	15	15	16		15	22	16	17	14	14	15	14	14	16	14	14
21	14	14	15	15	15	15	14	14	14	15	14		17	16	17	14	16	15	15	14	15	14	14	15
22	14	15	14	14	15		15	21	14	15	17	15	22	21	18	16	15	18	15	15	16	15	15	15
23	15	17	15	18	18	15	15	16	14	15	14	15	20	20	17	16		15	15	14	14	14	14	14
24	15	14	15	14	15	15	14	17	14	14	16	20	20	20	24	15	18	18	15	15	15	15	14	15
25	15	15	14	14	14	15	15	15	14	17	17	16	20	18	18	18	16	15	15	15	15	15	14	15
26	14	23	15	17	14	14	16	14	14	14	14	18	22	15	14	14	14	14	15	18	18	17	17	15
27	15	14	15	14	15		15	14	14	14	16	18	21	17	17	17	15	18	15	17	15	15	15	15
28	14	15	14	17		16	16	14	14	14	18	17	17	20	18	18	14	15	15	14	15	15		17
29	14	14	20	18	17	14	14	14	15	16	15	17	21	23	20	18	16	20	15		14	14	15	15
30	15	16	16	15	15	15	15	14	15	16	15	17	17	16	16	14	15	15	15	14	17	15	15	15
31	15	15	15	17	15	14	15	15	14	14	14	17	20	20	18	18	14	14	14	15	15	16	14	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	31	29	29	29	25	31	31	31	28	27	26	29	28	29	28	29	31	30	28	31	31	29	31
MED	15	15	15	15	15	15	15	15	14	15	16	18	21	20	18	16	15	15	15	15	15	15	15	15
U Q	15	15	15	17	16	16	16	15	15	16	17	20	24	23	23	18	16	17	15	15	16	16	15	15
L Q	14	14	15	14	15	15	15	14	14	14	15	17	17	17	17	15	14	14	15	14	14	15	14	15

HOURLY VALUES OF foF2 AT Okinawa

OCT. 2007

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	35	30			29			50	57	69	68		86	122	130	128	124	117	100		A	32	A	A
2	31							48	51	59	61	61	57	69	67	66	73	87	81	42				26
3								54	57	57	52	60	65	82	82	76	73	78	75	53				31
4	28	31	32	38			30	61	62	64	67		81	82	83	80	98	86	80	44	34		29	
5				30			26	55	55	55	60	66	67	72	75	76	75	70	78	71	44	34	31	
6		29					28	56	60	56	56	62	A	67	73	82	80	62		39		31		
7	32	34	28	29	29		29	46	56	64	74	62		66	82	73	72		61		A			
8	A		28	29				54	55	54	57	74	68	69	64	71	77	84	66	A	A	A	A	
9	30	30			31			40	47	58	65	70	66	81	80	70	71	76	66	42			29	
10	29			29				45	56	51	62	65	64	85	96	78	72	75	61	34	32			
11	30			36				46	54	56	69	84	87	90	120	107	90	64	53	A		A	A	
12			28	31				45		63	50	72	74	77	82	78	78	75	A	44	40	42	30	
13	26		30	A			29	50	58	66	73	66	75	74	87	83	63	53	44	41	41	26		
14	30	30		31	28			51	52	52	62	49	64	78	85	70	61	55	56	48			31	30
15	29			30				48	69	65	72	63	68	72	81	77	62	62	56					24
16		30	23	29				45	56	54	64	76	77	70	82	83	76	66	55	31	A	A	A	A
17		A		29				48	68	67	75	80	76	83	90	93	80	69	46	36				
18			28			A		44	52	56	64	66	76	77	78	71	68	66	62	51	34		A	
19		28	A					70	67	A	A	58		86	104	98	90	78	A	A	A	43	32	29
20	30							47	57	65	84	106	91	90	77	92	85	55	48	42		A	A	
21			30	34				A	64	67	81	104	102	92	85	74	64	58	52	A	A	A	A	
22	29		29	A	A	A		48	58	61	75	81	70	82	97	112	102	77	58	44	43	30		
23		31	31		31			45	55	50	66	92	92	102	110	110	101	64			A	32	34	
24	A	A		30				48	50	56	65	74	68	77	98	105	81	70	51	44			A	A
25	A	A	A		29	A		50	55	60	66	86	A	A	98	78	55	62	62	40	A		A	A
26				A	A		28	46	59	74	92	78	91	91	105	106	87	66	55	50		30		
27	28	27	34	A				54	66	59	77	104	132	128	145	135	96	67	62		A	42	41	45
28		36	A					55	61	66	75	96	82	97	102	94	80	70	52			30	31	34
29								46	59	65	84	87	83	88	111	115	90	72	46	44	42	53	25	
30	A		A		30			66	70	62	60	71	64	80	106	132	112	76	76	61	44	48		
31	30	A						50	55	69	75	71	61	72	102	114	78	60	54	34			38	28
	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	14	11	11	13	7		6	30	30	30	30	29	27	30	31	31	31	30	27	21	9	13	11	8
MED	30	30	29	30	29		28	48	57	60	66	72	75	82	87	83	78	70	58	44	41	32	31	30
U Q	30	31	31	32	31		29	54	61	65	75	85	86	90	104	107	90	76	66	49	43	42	34	32
L Q	29	29	28	29	29		28	46	55	56	62	64	66	72	81	76	72	62	52	39	34	30	29	27

HOURLY VALUES OF fEs AT Okinawa

OCT. 2007

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G		G	G	G		G	37	40	G		G	G	G	G	38	35	31	35	38	28	32	34
2	G	29	G	27				30	42	50	50	64	G	G	G	G	42	G	G	24				G
3	G		37	G				29	43	50	G	G	G	49	G	G	G	G	34	50	40	32		G
4	G	G	G	G			G	30	G	G	G	50	64	G	G	G	G	G	G	G	G		G	
5	29	28		G			G	G	35	G	G	G	44	49	G	42	G	32	G	G	G	G	G	
6		G			G		G			G	G	55	72	52	48	52	75	68		27	28	G		G
7	G	G	28	G	G	G	G	G	G	G	G	G	G	G	50	44	55	62	64	38	32	28	G	
8	33	G	G	G			G	30	41	42	G		G	G	G	52	G	39	35	50	60	44	68	30
9	G	G	G		G	G		G	G	G	G	G	G	G	G	G	G	G	G	23		G	G	28
10	G		G	G	G		G		G	G	39	50	52	48	G	G	36	39	38	26	G	27	G	29
11	G	G		G				28	G	G	G	53	53	42	43	45	35	47	47	50	29	32	31	
12		28	24	G				G		52	G	G	G	G	G	46	37	43	41	40	48	44	60	32
13	G		G	38			G	34	42	44	46	42	G	G	G	G	G	G	G	G	G	G		
14	G	G	G	G	G		G	35	35	44	38	G	G	53	81	45	G	34	31	25	G		G	G
15	G			G	G	G	G	39	G	G	G	G	G	G	G	G	G	30	G	G		G	32	G
16		G	G	G	G			31	39	G	G	G	G	G	52	64	47	61	34	32	37	58		40
17	G	37	28	G	26			30	36	42	G	G	G	G	47	G	47	47	31	29	G	G	26	
18	28		G	30		27		30	G	43	G	61	61	52	54	39	36	35	32	34	G	G	32	
19		G	29			G		30	61	84	114	63	62	68	67	G	G	82	72	48	36	27	G	G
20	G				G			28	G	G	G	G	G	G	48	G	37	G	34	37		39	39	
21		26	G	G			29	56	32	38	G	G	G	G	39	57	48	48	28	67	39	59	49	G
22	G	39	29	49	33	29		27	G		G	G	G	G	G	G	35	35	33	G	G	G		29
23		G	G		G		G	40	G	G	G	G	G	42	G	G	36	35	48	39	36	28	G	
24	48	38	30	30			G	71	37	G	48	G	G	G	45	46	G	G	G	G		33	40	41
25	37	38	30	29	33	33		26	36	44	56	73	108	125	77	69	42	34	31	31	40		38	38
26	33		29	39	30	G	G	34	39	48	54	89	52	49	G	G		29	G	G		26	32	36
27	24	G	31	39			G		G	46	44		45	G	50	42	39	29	26	32	34	26	G	34
28	40	36	39			26		31	40	40	43	45	46	G	51	52	39	30	G	G		G	G	G
29	28				28			G	41	50	46	52	57	62	65	46	44	G	G	G	G	30	G	
30	33	30	30		G			29	36	40	G	G	45	54	50	58	52	36	34	28	G	G	G	G
31	26	39		G	G		G	G	35	43	50	47	50	49	58	48	41	36	36	30	30	38	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	23	23	23	17	10	15	28	29	30	31	28	31	31	31	31	30	31	30	31	24	27	25	21
MED	G	G	24	G	G	G	G	30	35	40	G	G	G	G	43	42	36	35	31	29	30	27	G	28
U Q	31	36	30	30	27	27	G	32	39	44	46	52	52	49	51	48	42	43	35	38	37	33	35	34
L Q	G	G	G	G	G	G	G	13	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

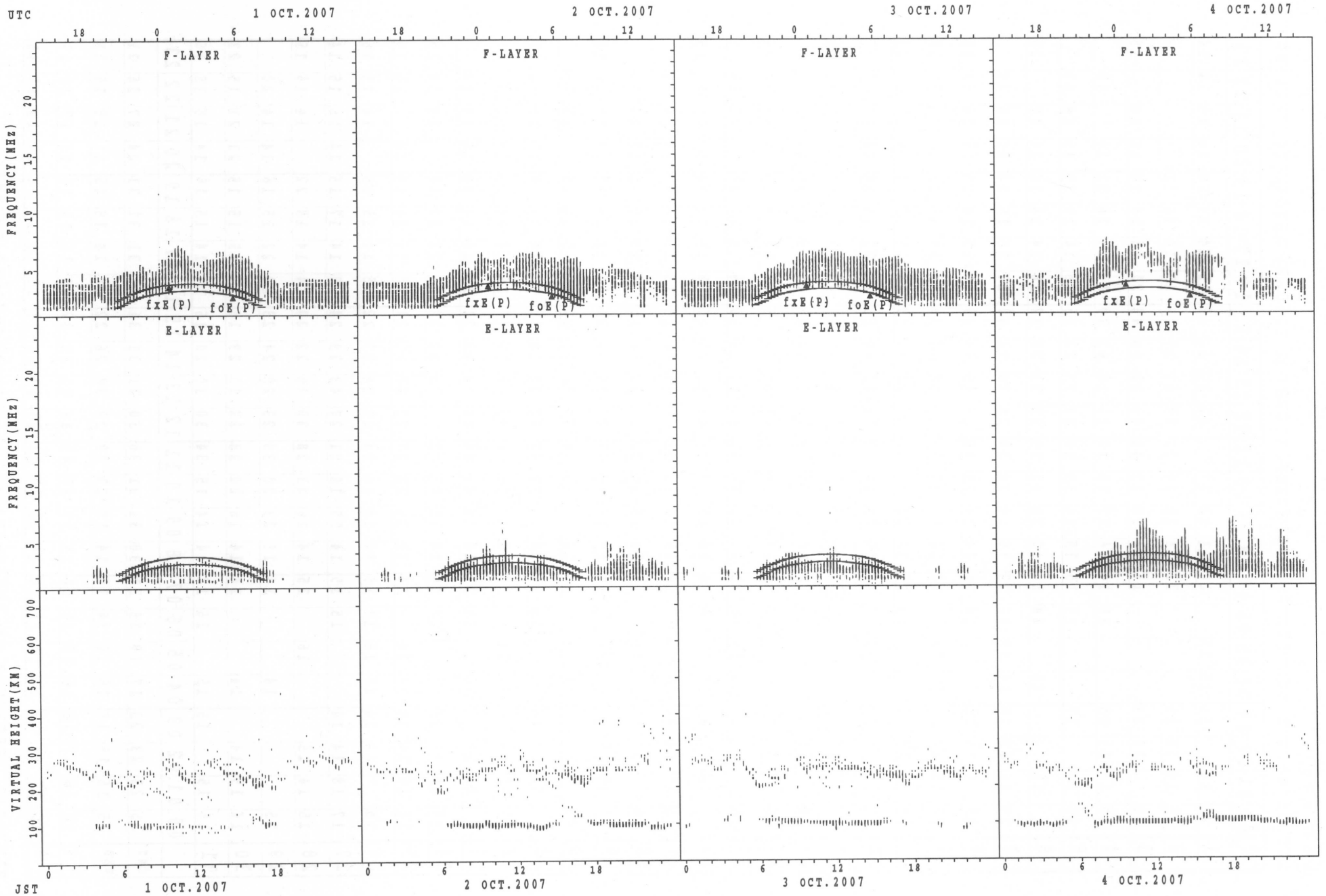
HOURLY VALUES OF fmin AT Okinawa

OCT. 2007

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

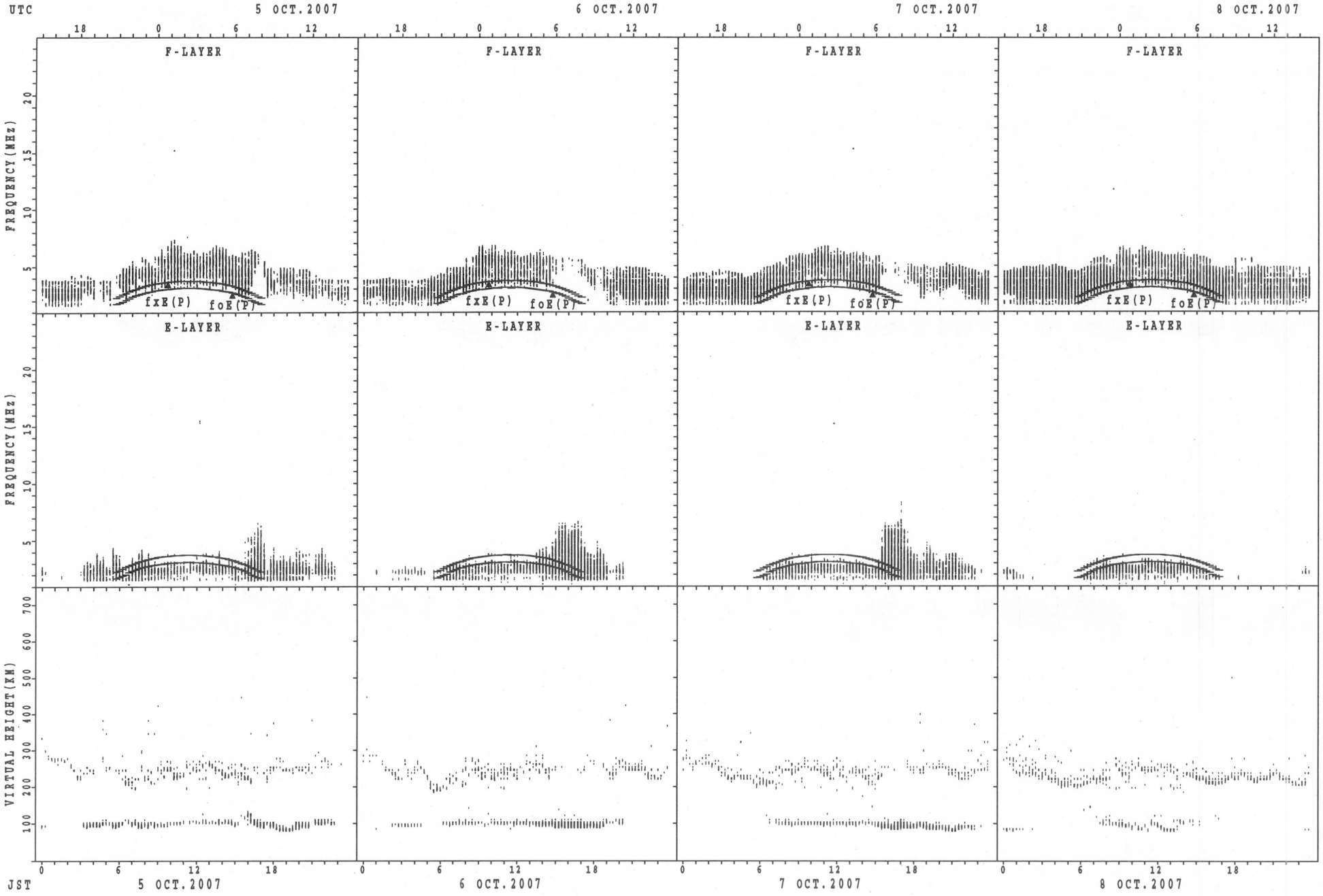
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	21	16		15	15	17		14	14	17	27		47	30	16	42	18	14	14	14	14	15	14	14
2	15	14	21	15				22	14	15	20	21	45	43	17	39	17	14	16	15				18
3	15		14	23				14	14	18	22	45	44	21	40	43	21	14	14	15	14	14		15
4	15	15	15	15			16	14	14	17	15	22	21	18	42	20	14	14	16	21	14		16	
5	15	15		17			15	15	15	14	39	24	23	23	22	15	15	16	17	15	15	14	17	
6		15			15		14	14	15	29	41	35	33	33	20	32	16	14	14	16	14	17		20
7	15	16	17	15	14	18	18	22	15	14	24	26	28	28	34	32	17	15	15	14	15	15	15	
8	15	16	15	15			14	16	14	18	21	45	45	45	44	29	16	15	14	15	14	14	14	15
9	15	15	18		17	20		14	16	14	41	43	17	48	17	39	18	14	15	16		20	15	15
10	15		16	15	16		15	14	15	14	21	28	28	20	15	43	21	15	15	14	14	15	17	14
11	15	18		18				15	18	20	44	33	34	21	36	15	28	20	14	15	14	14	15	
12		17	15	16				22		15	26	47	21	45	26	18	15	14	15	14	15	14	14	16
13	20		15	15			16	14	20	26	28	28	48	42	44	42	15	15	16	15	15	20		
14	18	21	21	15	18		17	17	23	14	39	48	45	34	32	29	28	14	14	16	20		16	20
15	16			17	22	16	15	21	16	29	40	45	42	43	15	38	14	14	22	20		21	16	15
16		16	17	17	17			14	14	15	40	45	45	43	32	27	15	15	14	14	15	14	15	15
17	15	15	14	16	15			14	15	14	32	23	45	22	20	15	15	17	15	17	14	15	17	
18	16		20	15		15		15	14	15	29	22	27	22	18	16	14	14	15	18	18	21	14	
19		15	15			21		14	14	17	15	28	24	24	23	21	14	14	15	15	15	15	20	18
20	15				14			15	14	16	15	26	21	38	23	22	16	15	14	15		15	15	
21		15	17	16			16	14	14	16	22	42	20	20	18	16	27	14	14	14	15	15	14	17
22	15	15	15	14	14	14		20	14	14	18	15	44	28	27	17	16	14	14	15	17	22		14
23		15	17		16		15	23	14	15	42	44	40	32	43	21	16	14	14	18	15	14	17	
24	14	15	16	15			20	16	14	15	23	22		30	30	24	23	22	18	15		14	14	15
25	14	16	14	15	15	14		14	15	15	28	27	22	27	23	21	20	14	14	14	15		15	15
26	15		14	14	15	15	17	15	14	14	14	24	27	24	27	22	15	14	15	15		14	15	15
27	17	18	14	14			15	15	14	15	18	21	27	43	29	24	18	14	17	15	14	16	15	14
28	15	14	15			16		15	14	16	23	28	30	30	22	20	14	14	18	22		14	15	15
29	15				14			14	15	23	20	30	23	28	24	23	20	22	15	16	14	14	20	
30	14	15	14		14			14	14	16	20	23	22	23	29	15	16	15	15	15	21	21	15	23
31	15	15		15	15		16	18	14	14	15	34	30	30	28	16	14	14	15	15	14	15	15	16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	23	23	23	17	10	15	31	30	31	31	30	30	31	31	31	31	31	31	31	24	27	26	21
MED	15	15	15	15	15	16	16	15	14	15	23	28	29	30	26	22	16	14	15	15	15	15	15	15
U Q	15	16	17	16	16	18	17	17	15	17	39	43	44	42	32	32	20	15	16	16	15	17	16	17
L Q	15	15	14	15	14	15	15	14	14	14	20	23	23	23	20	17	15	14	14	15	14	14	15	15

SUMMARY PLOTS AT Wakkanai

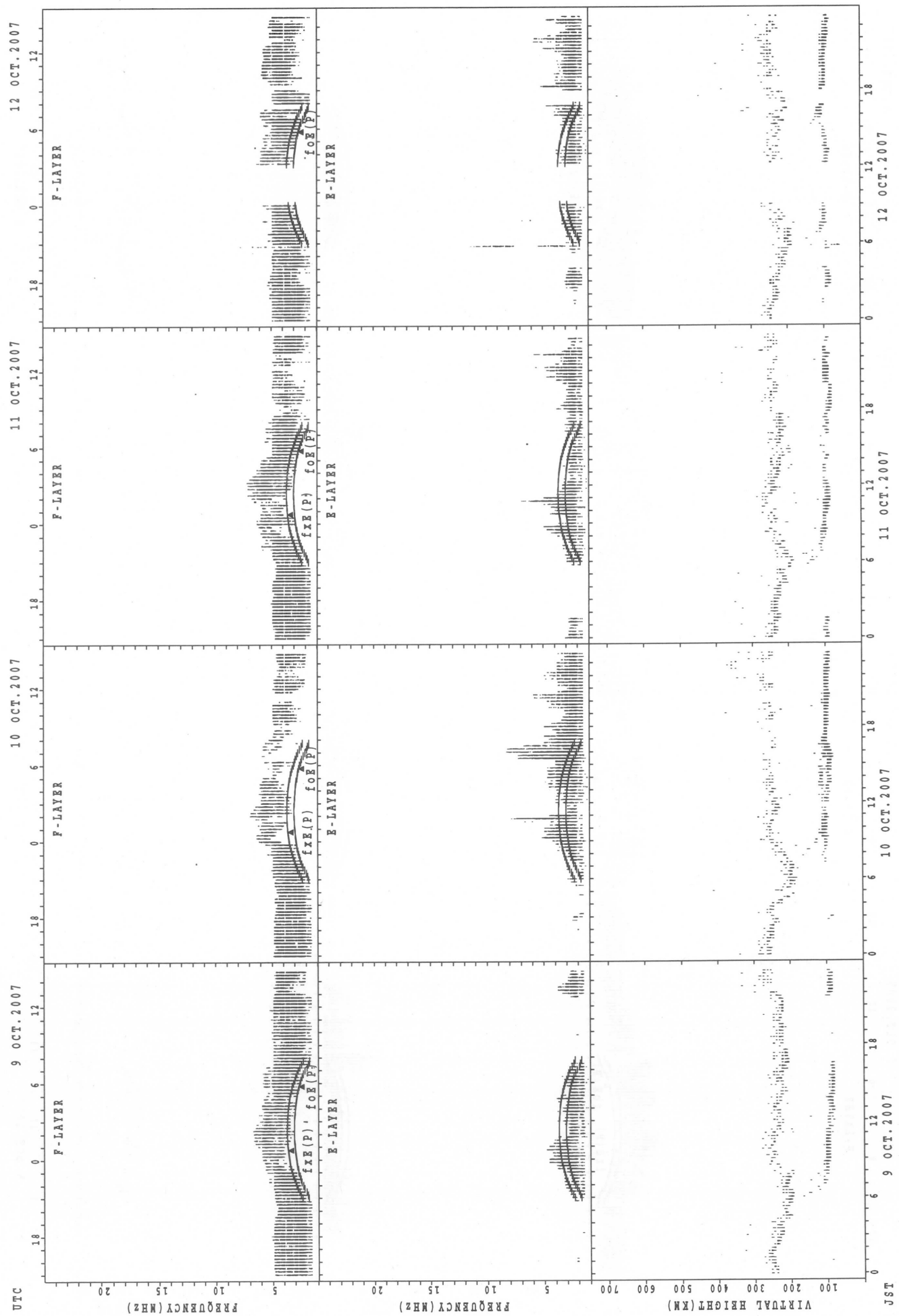


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

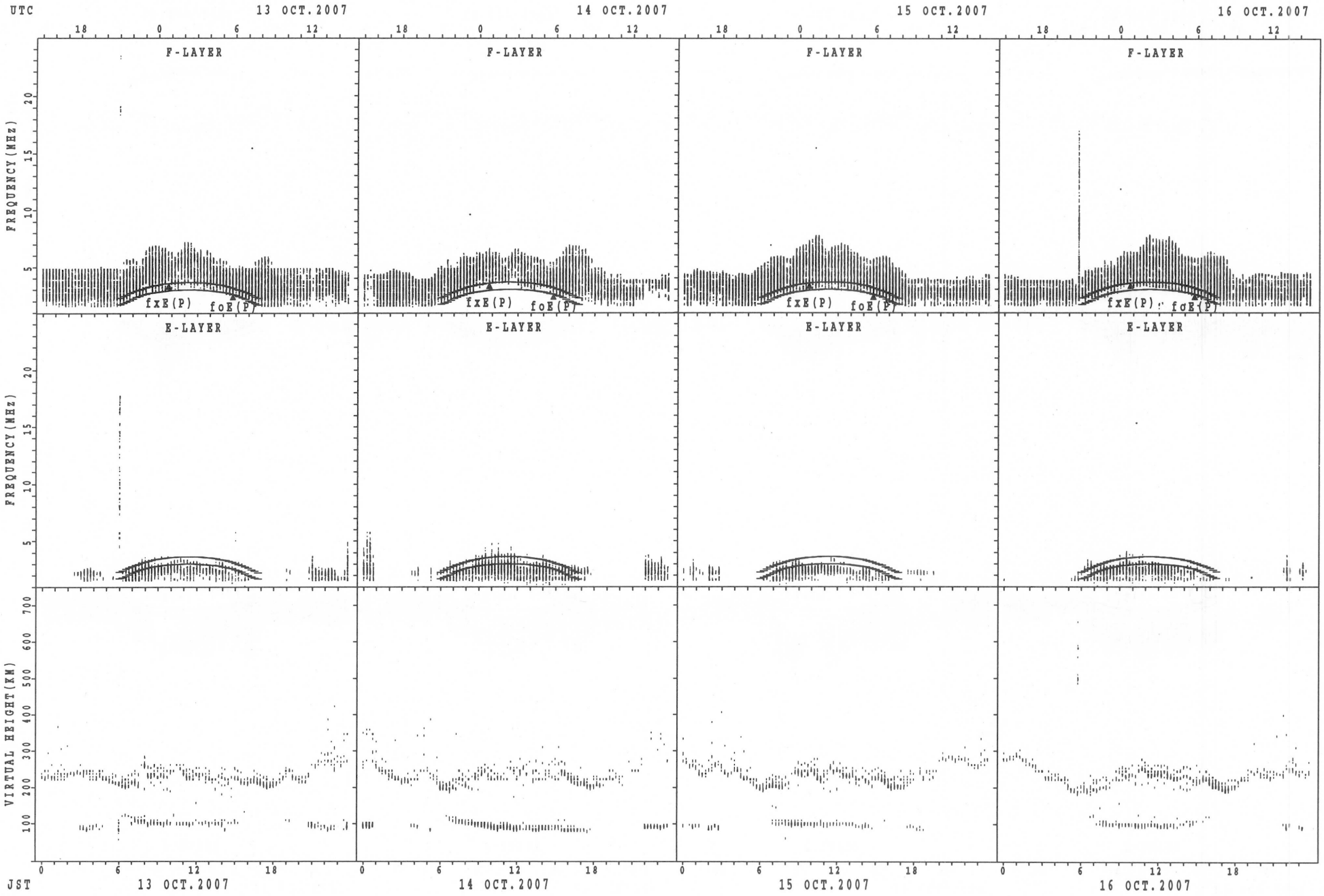
SUMMARY PLOTS AT Wakkanai



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

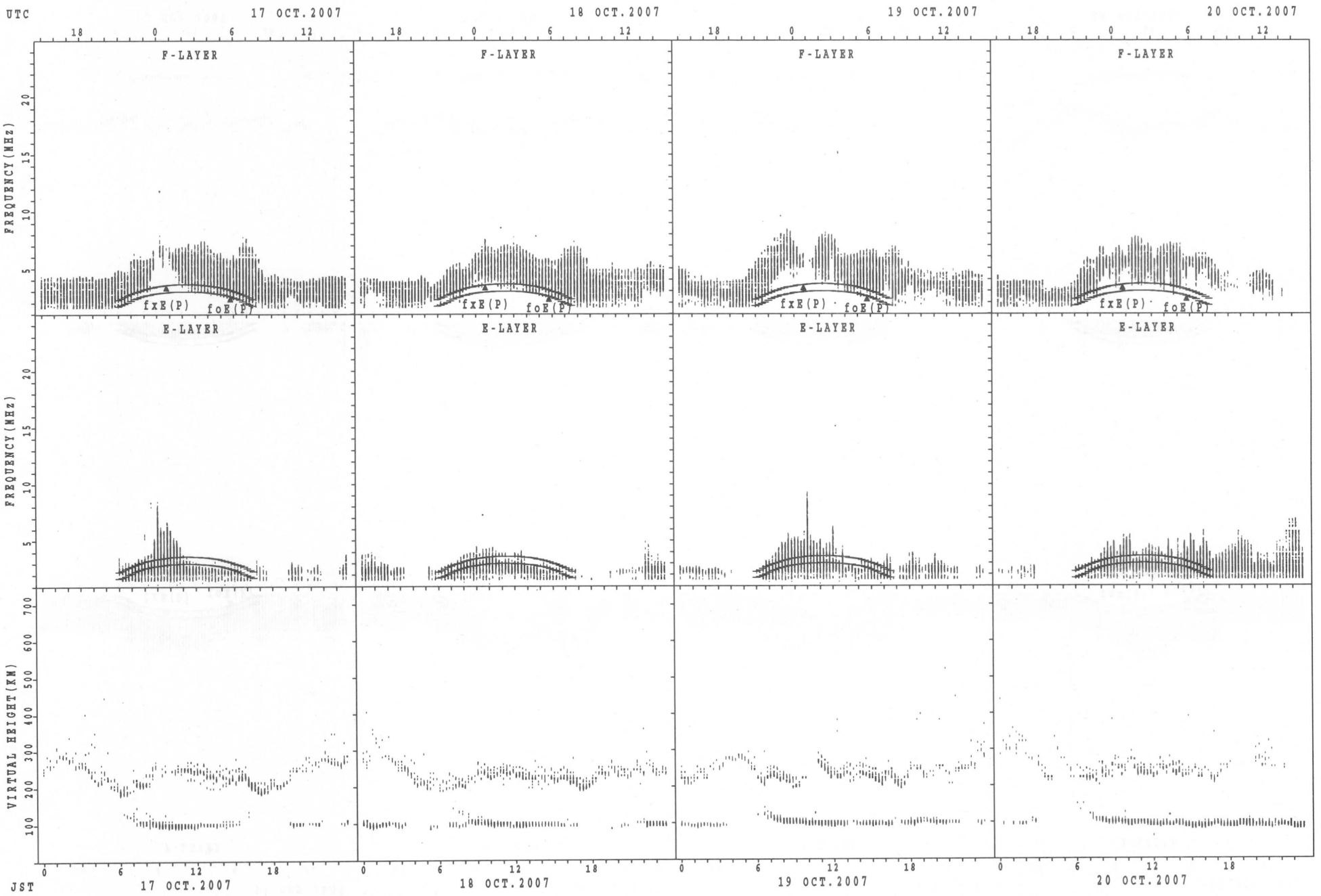

SUMMARY PLOTS AT Wakkanai
UTC
9 OCT.2007
10 OCT.2007
11 OCT.2007
12 OCT.2007
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



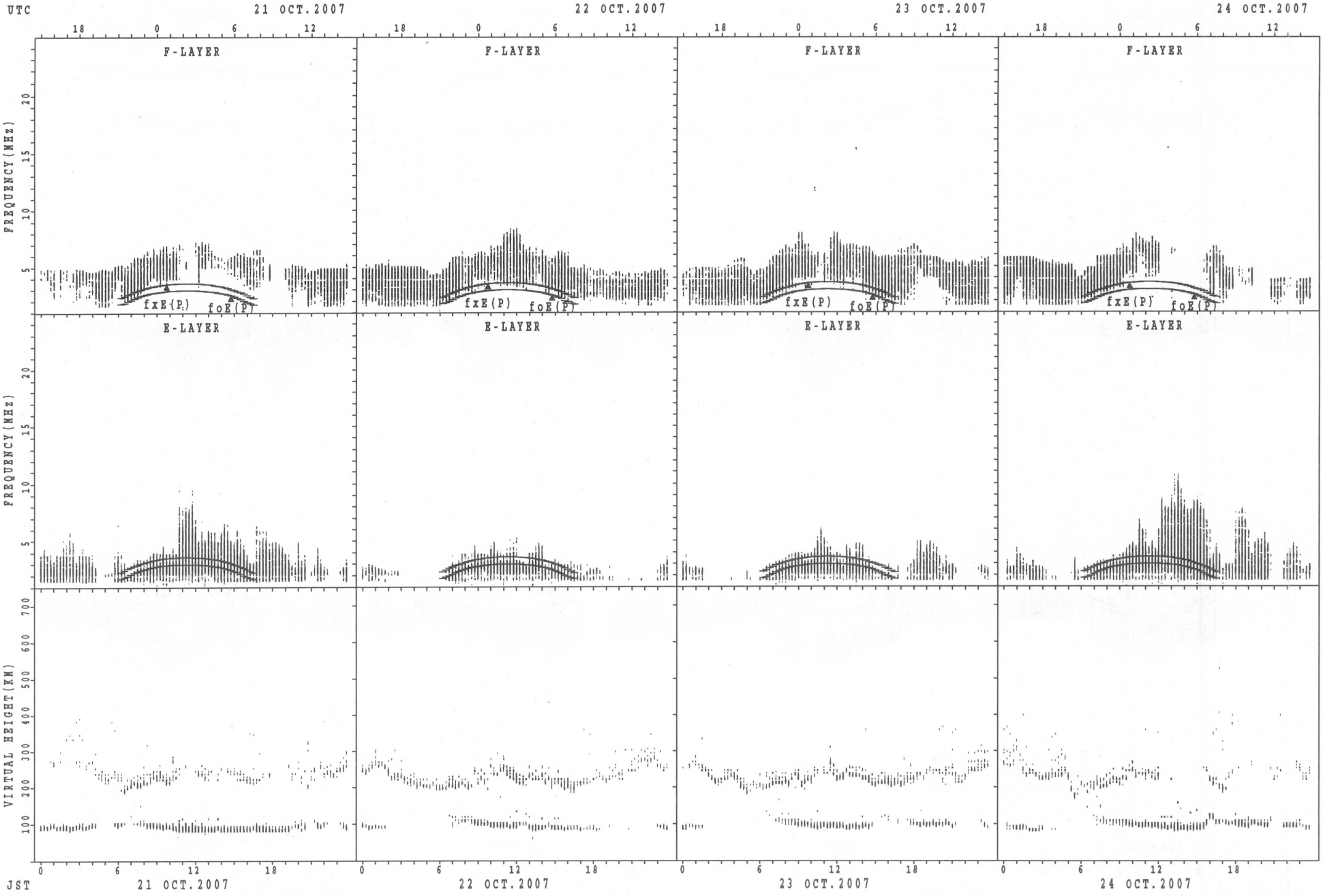
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



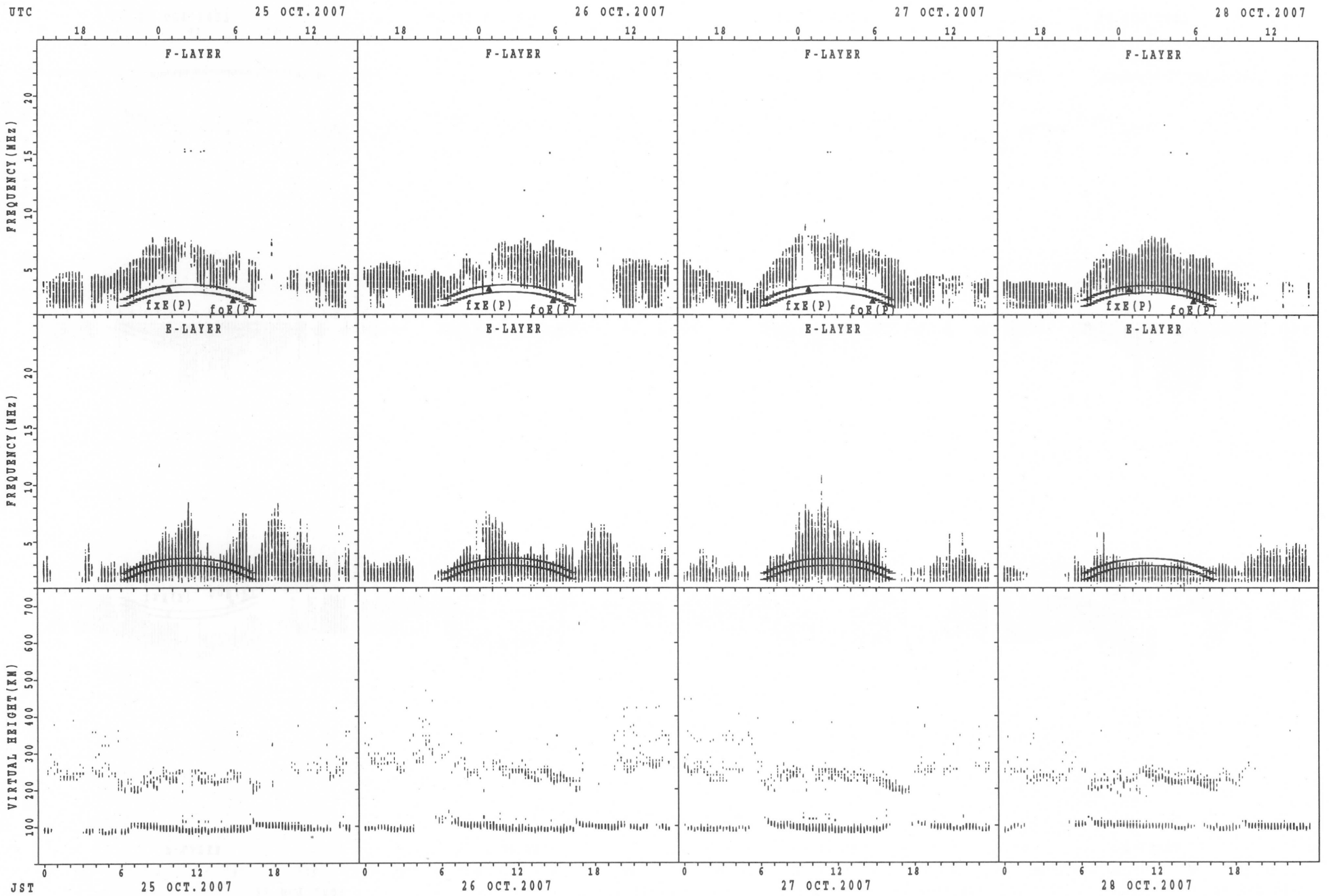
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



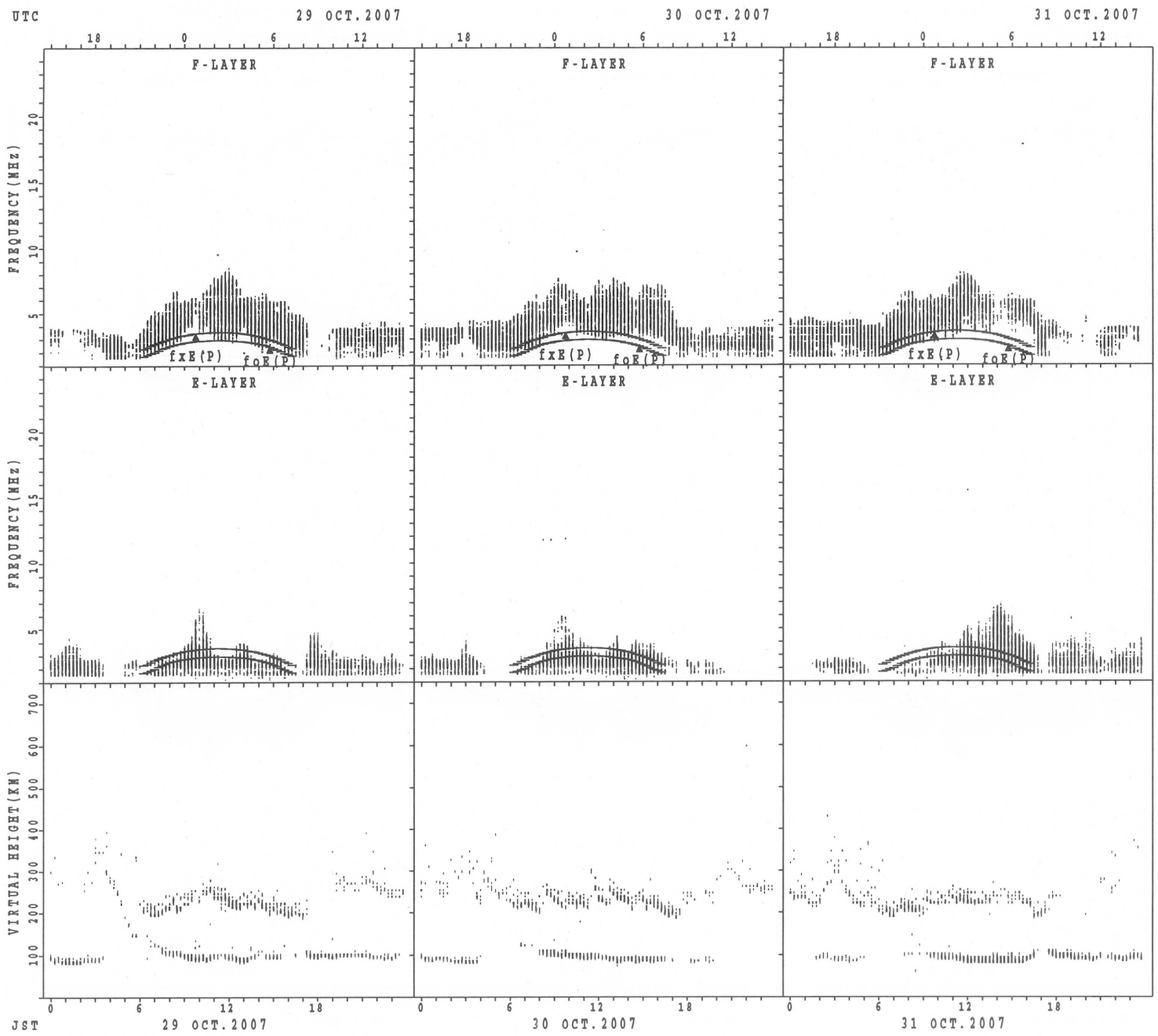
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



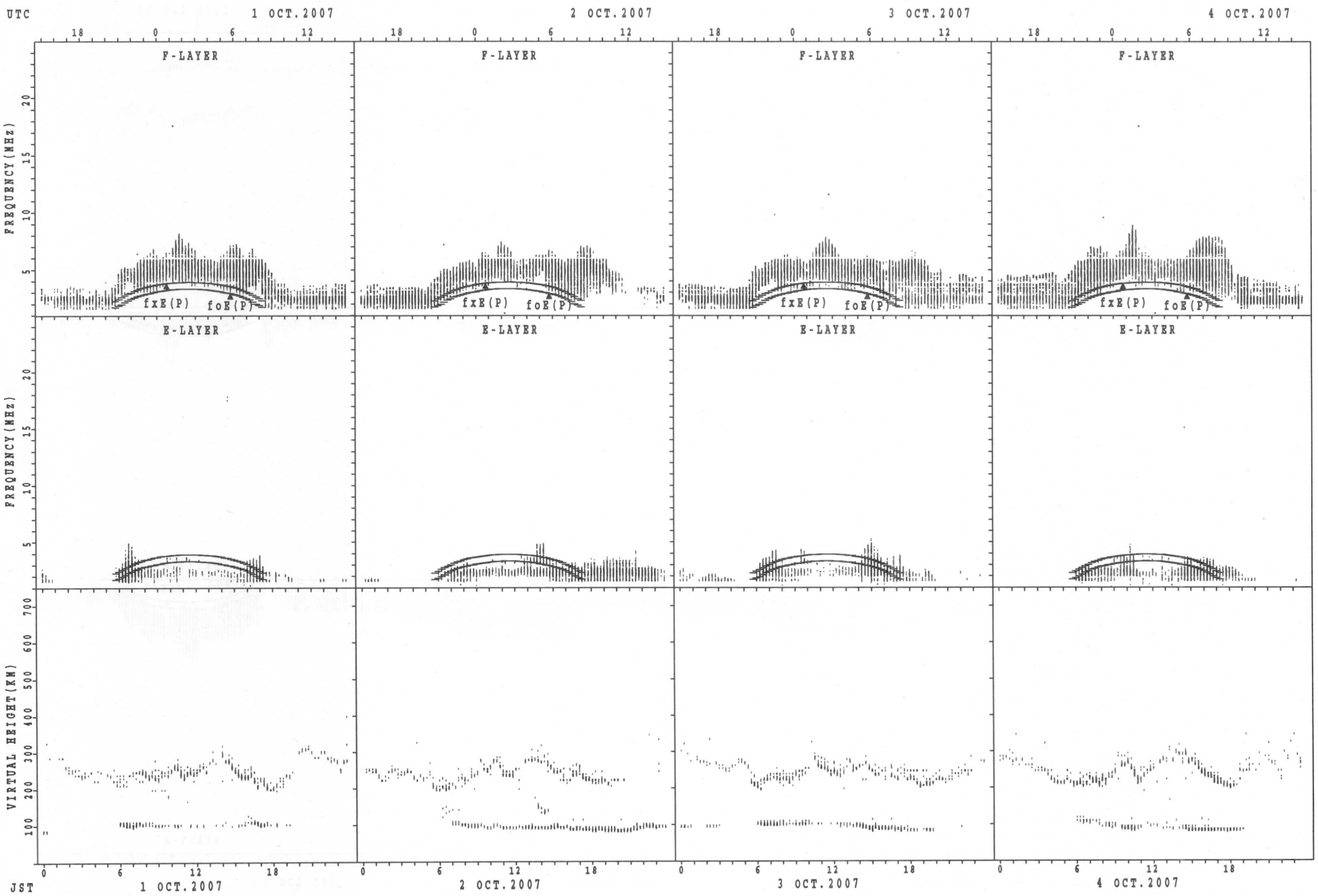
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



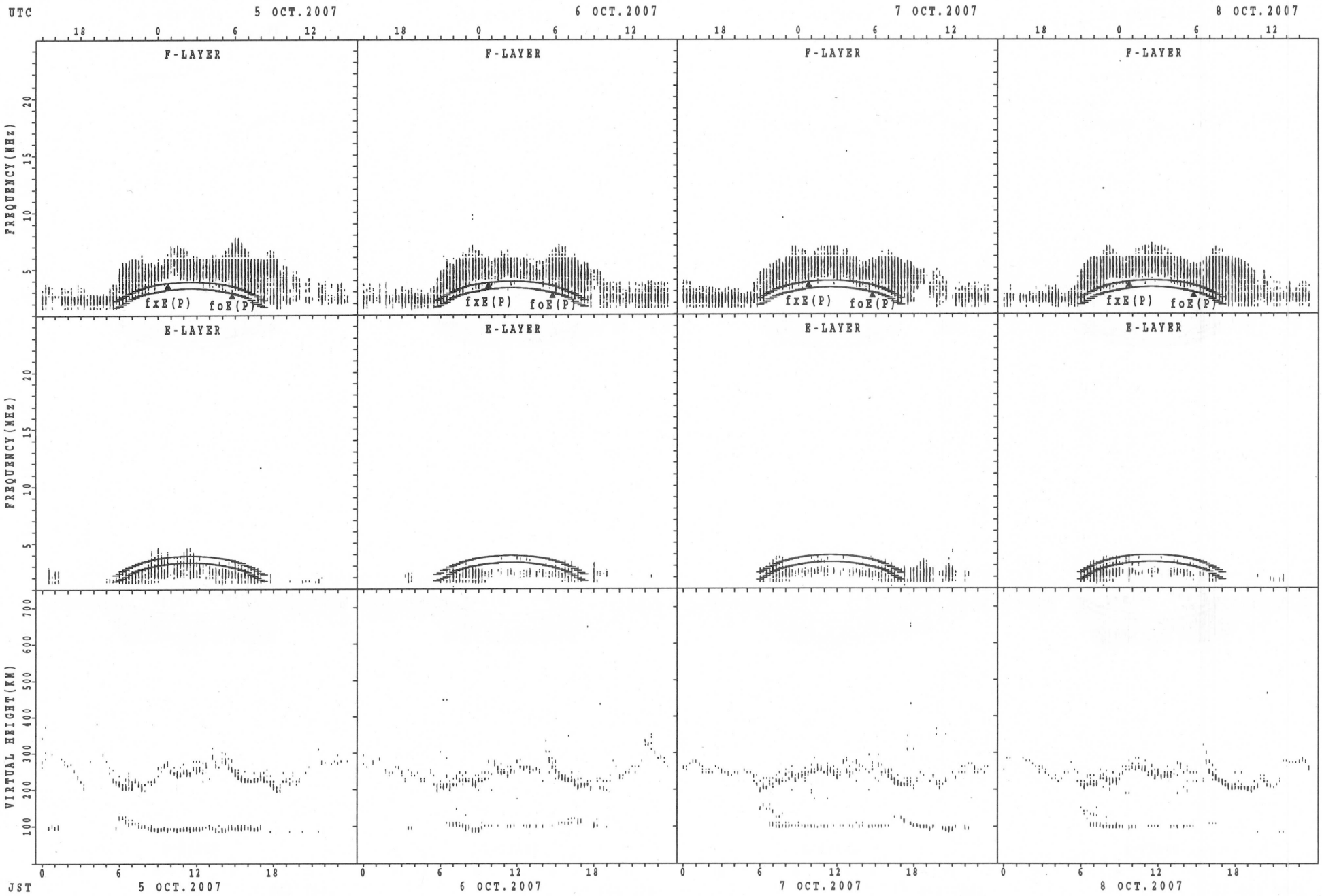
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



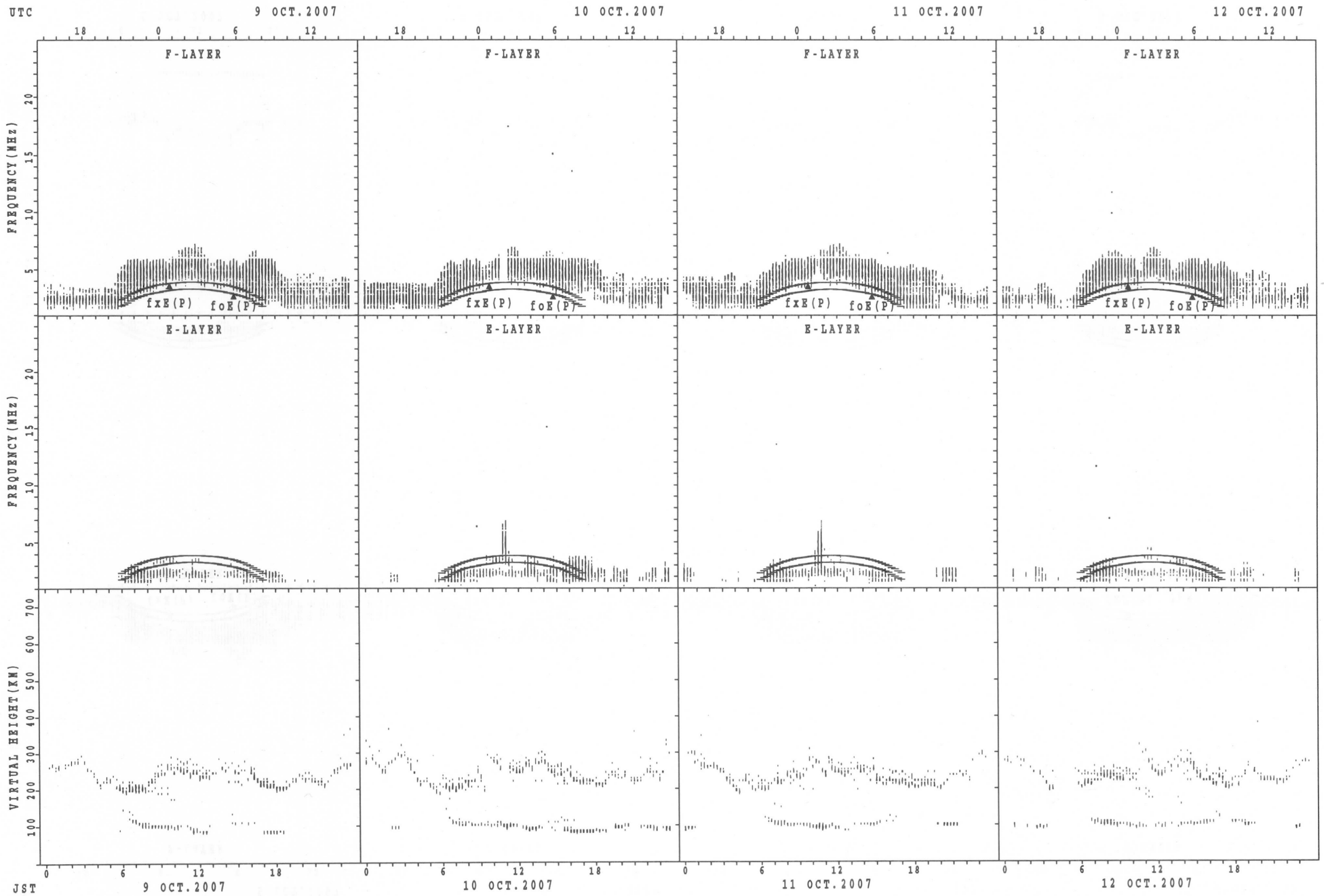
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



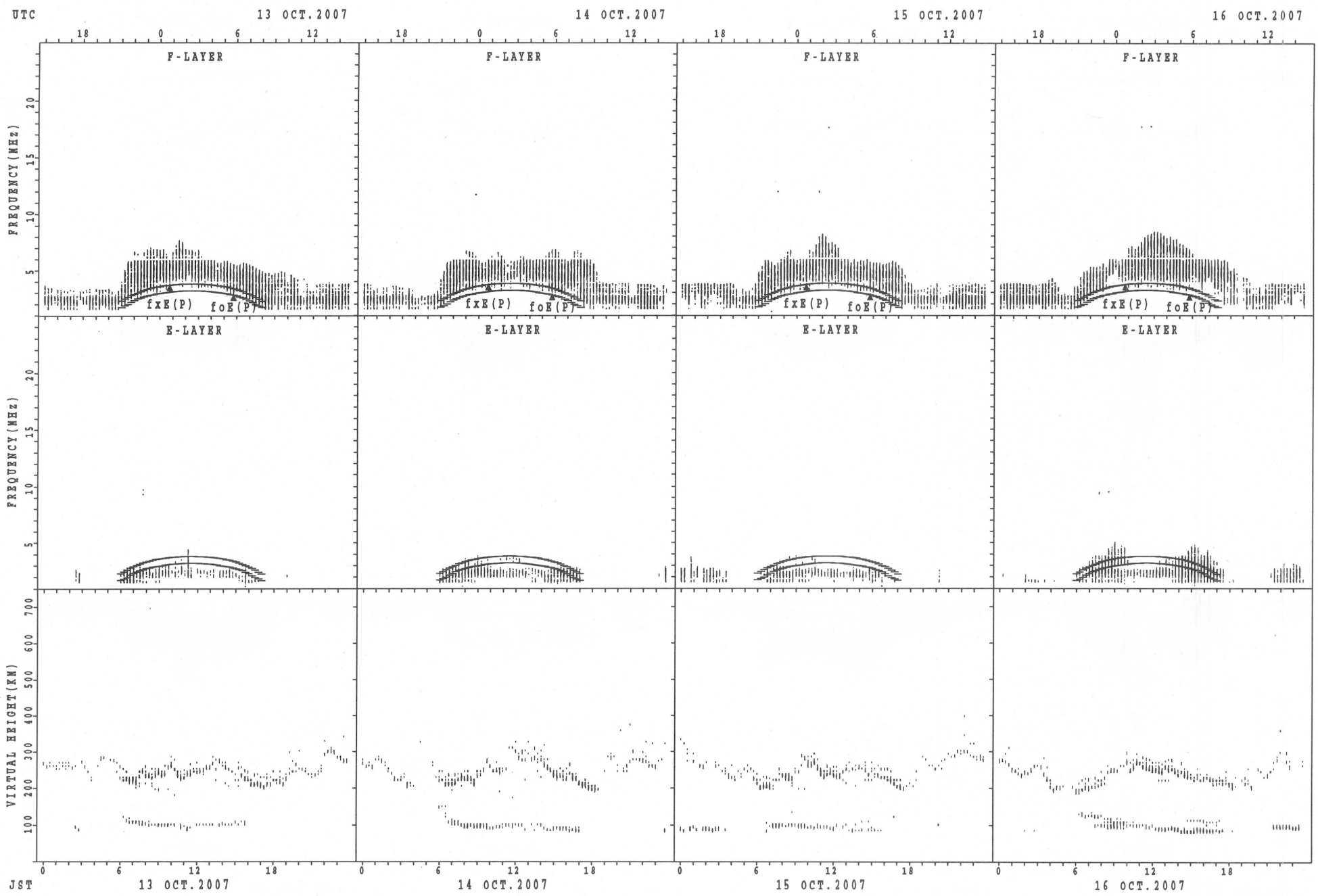
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



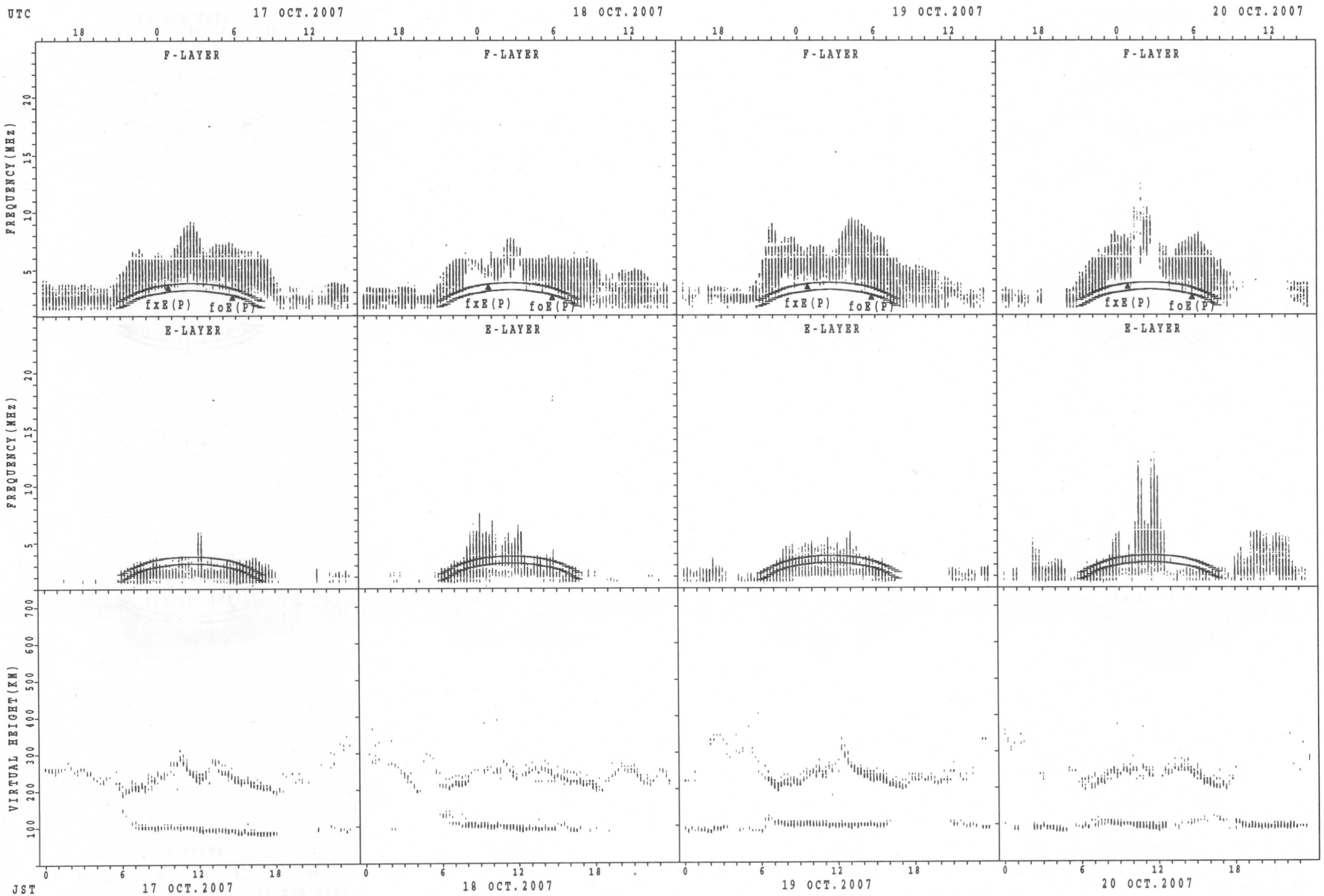
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



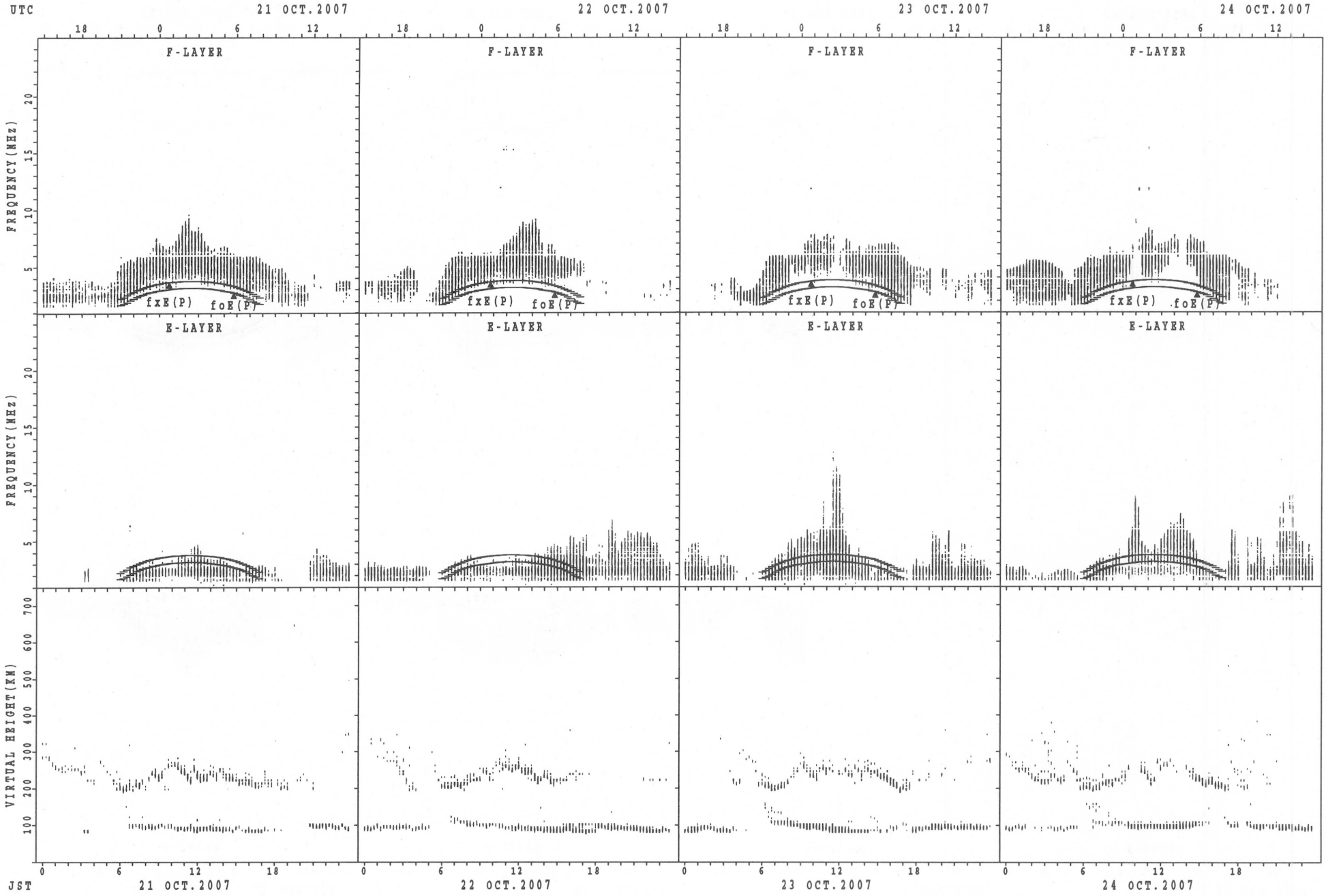
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



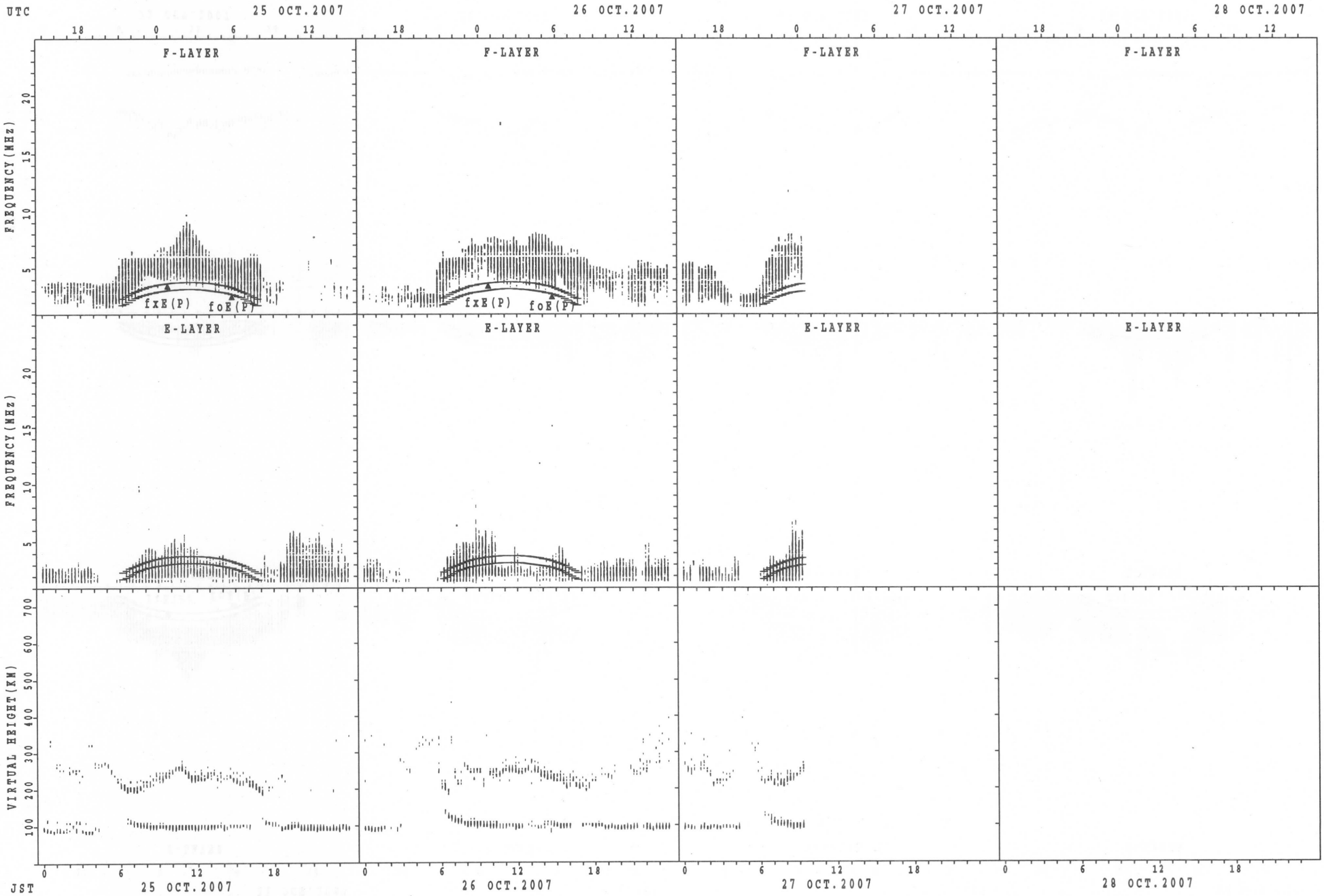
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



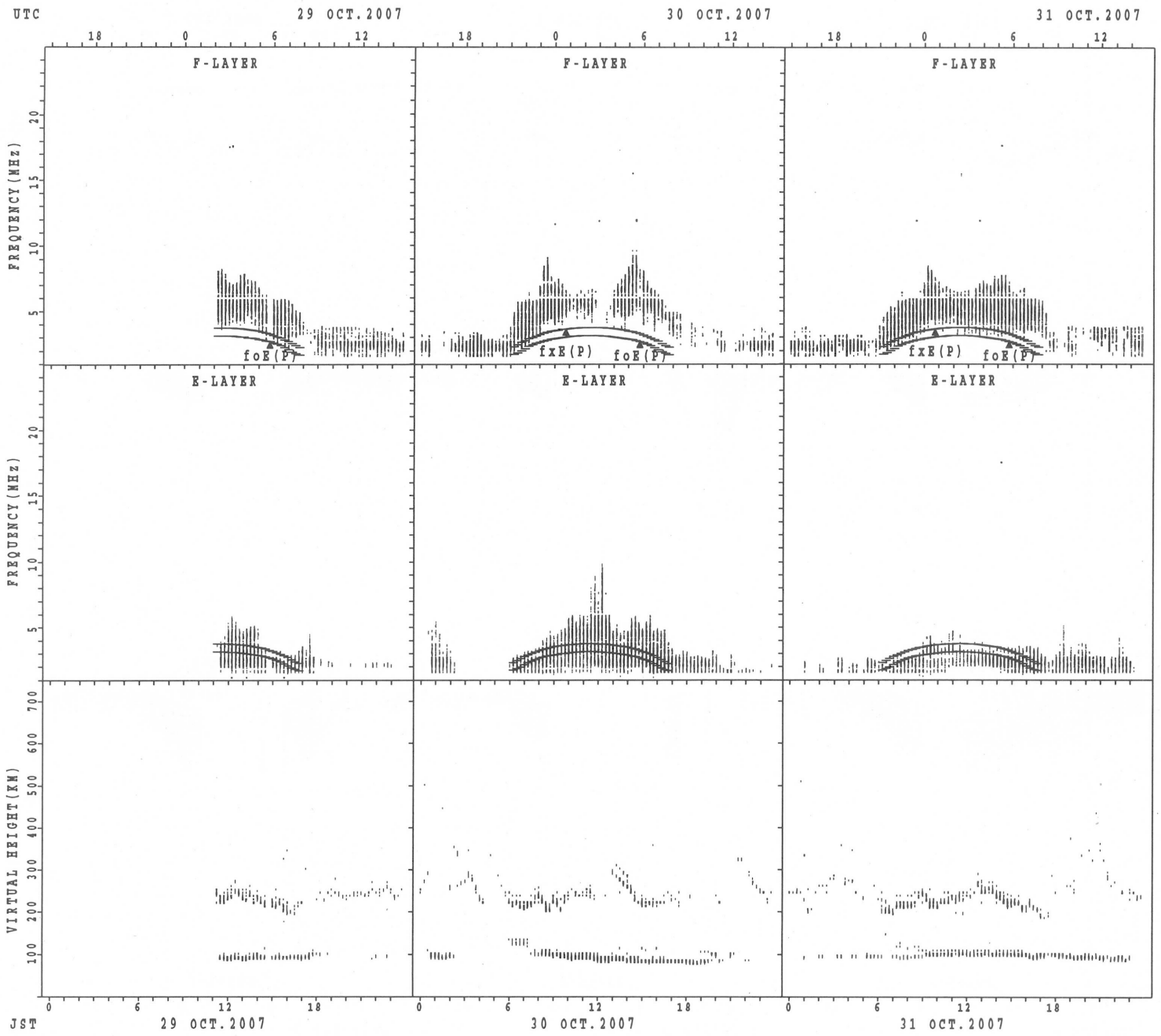
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



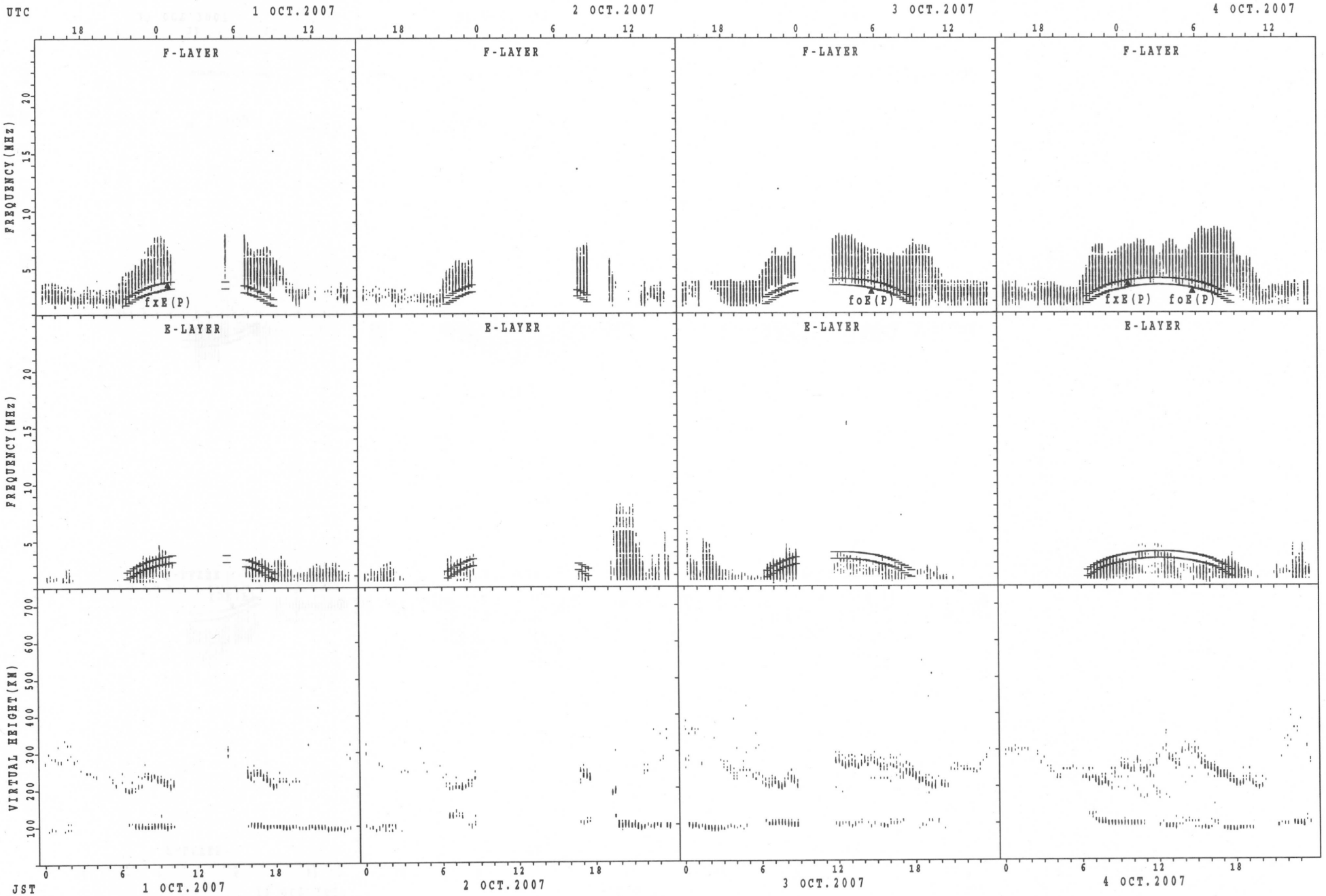
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

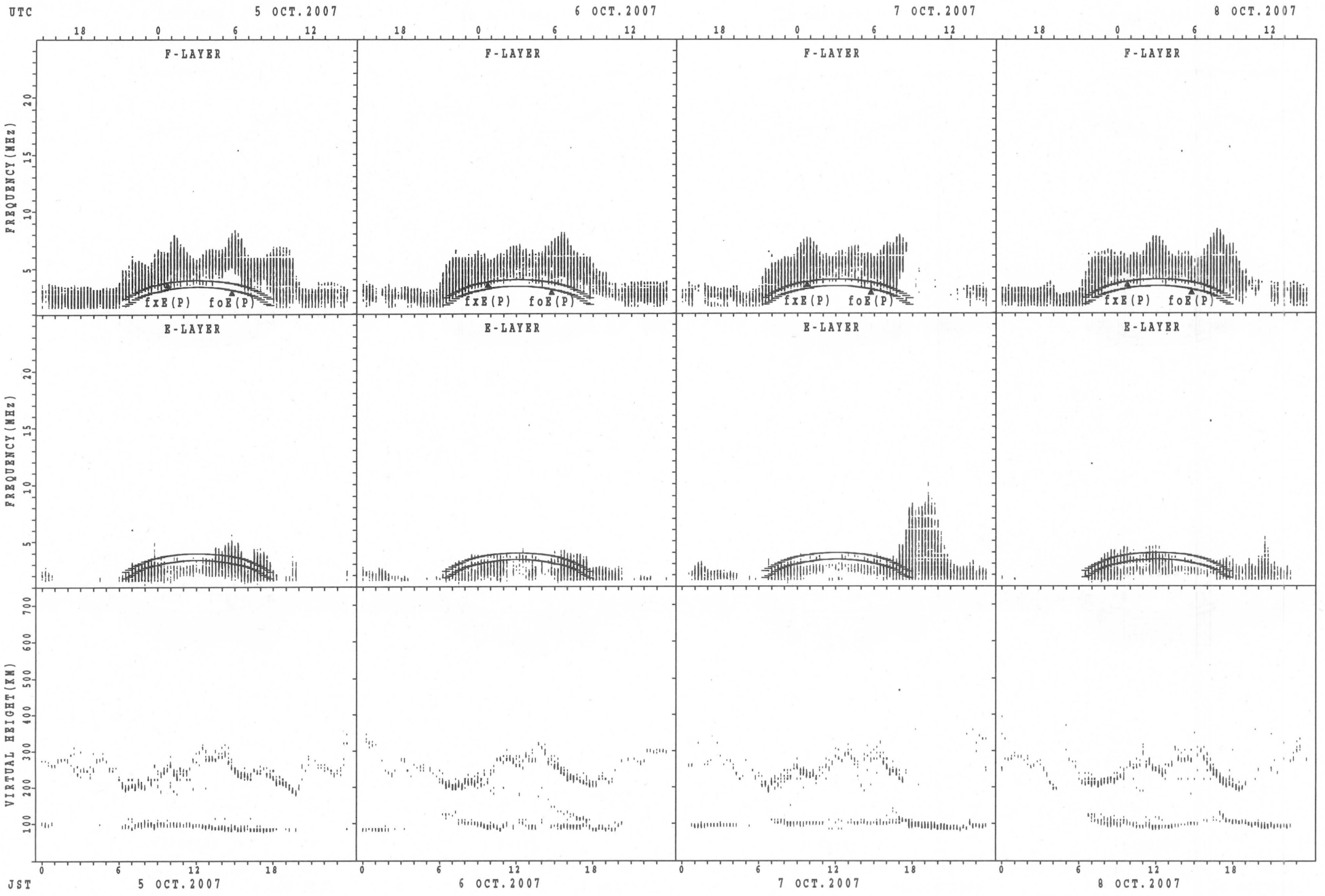


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa

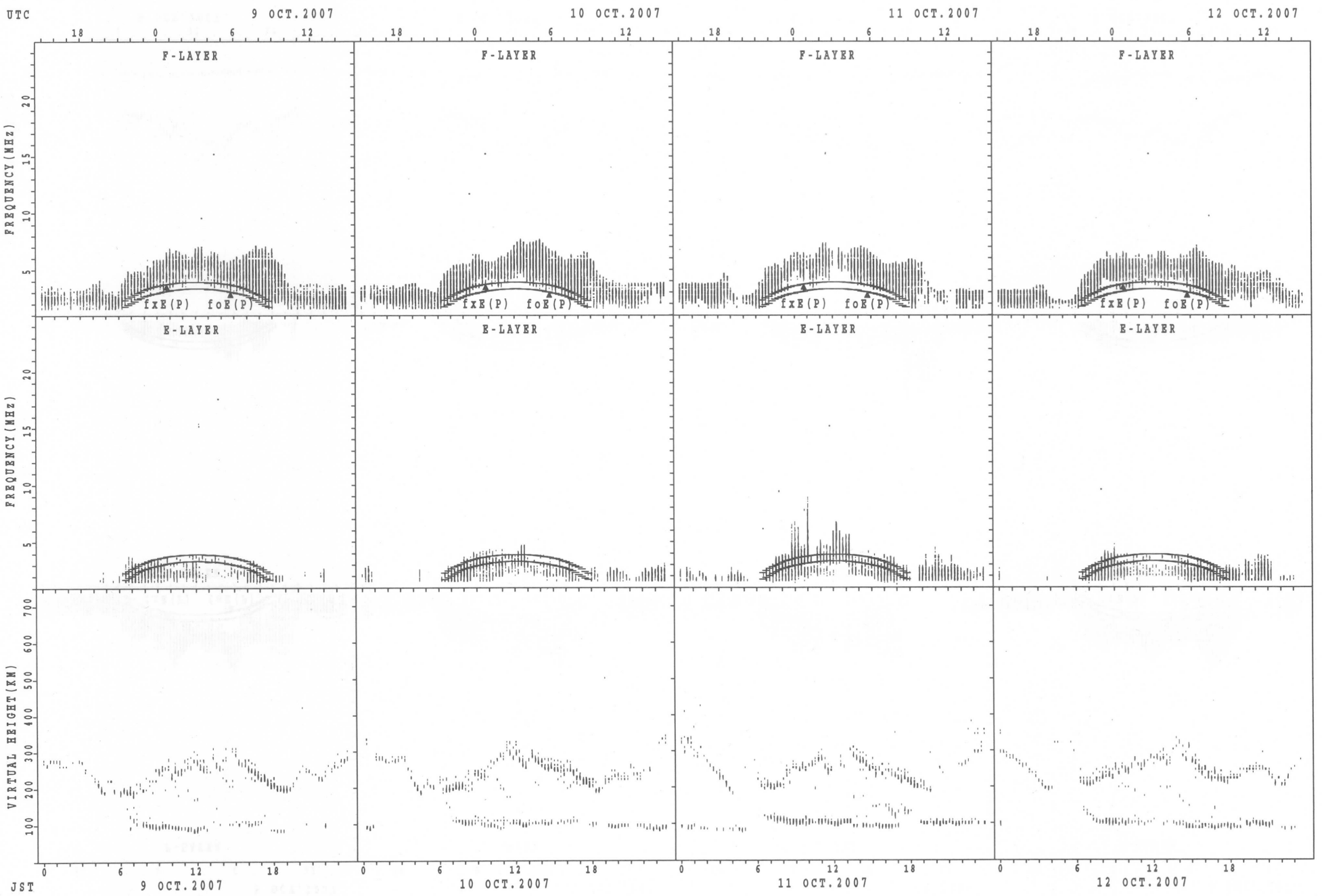


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE



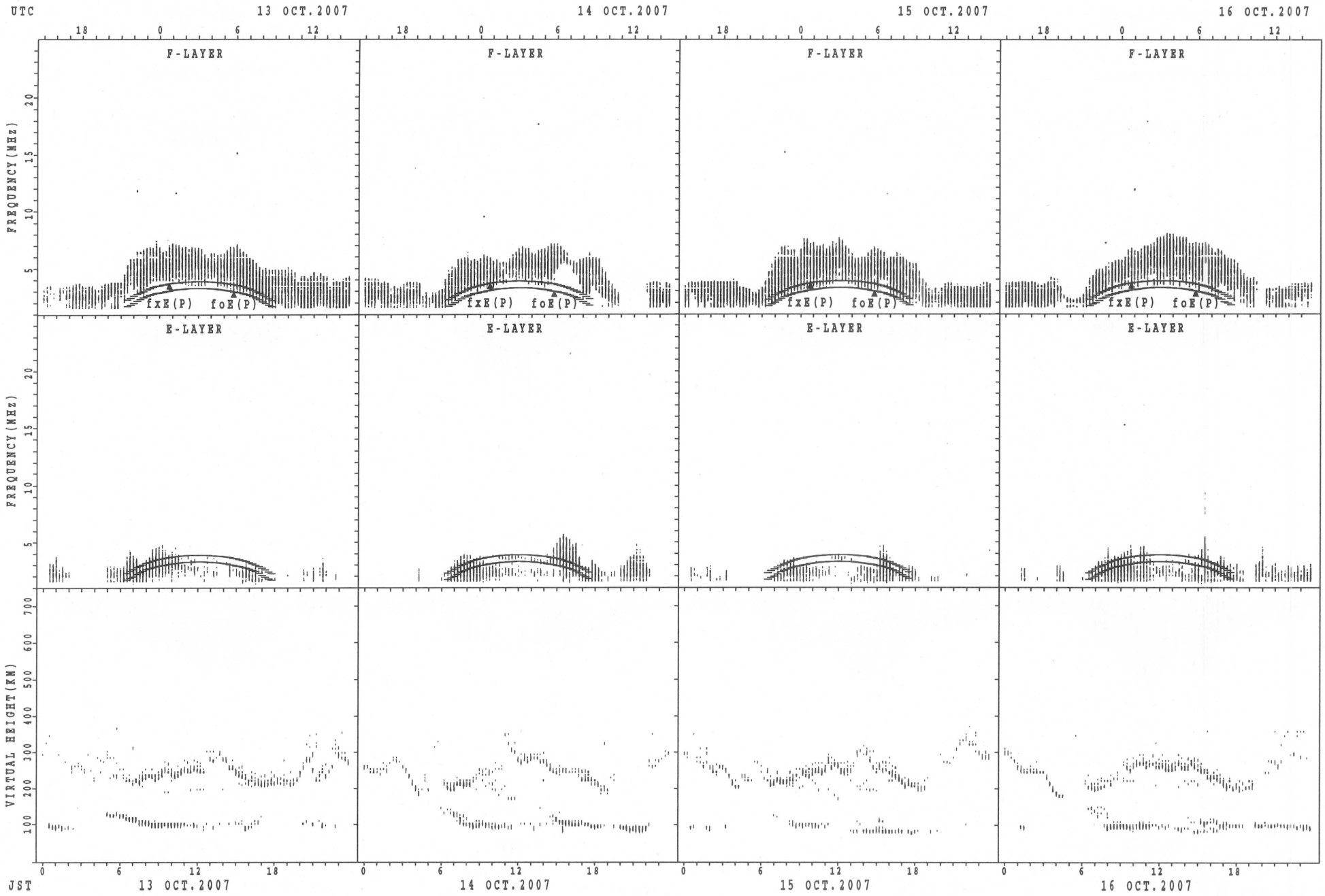
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



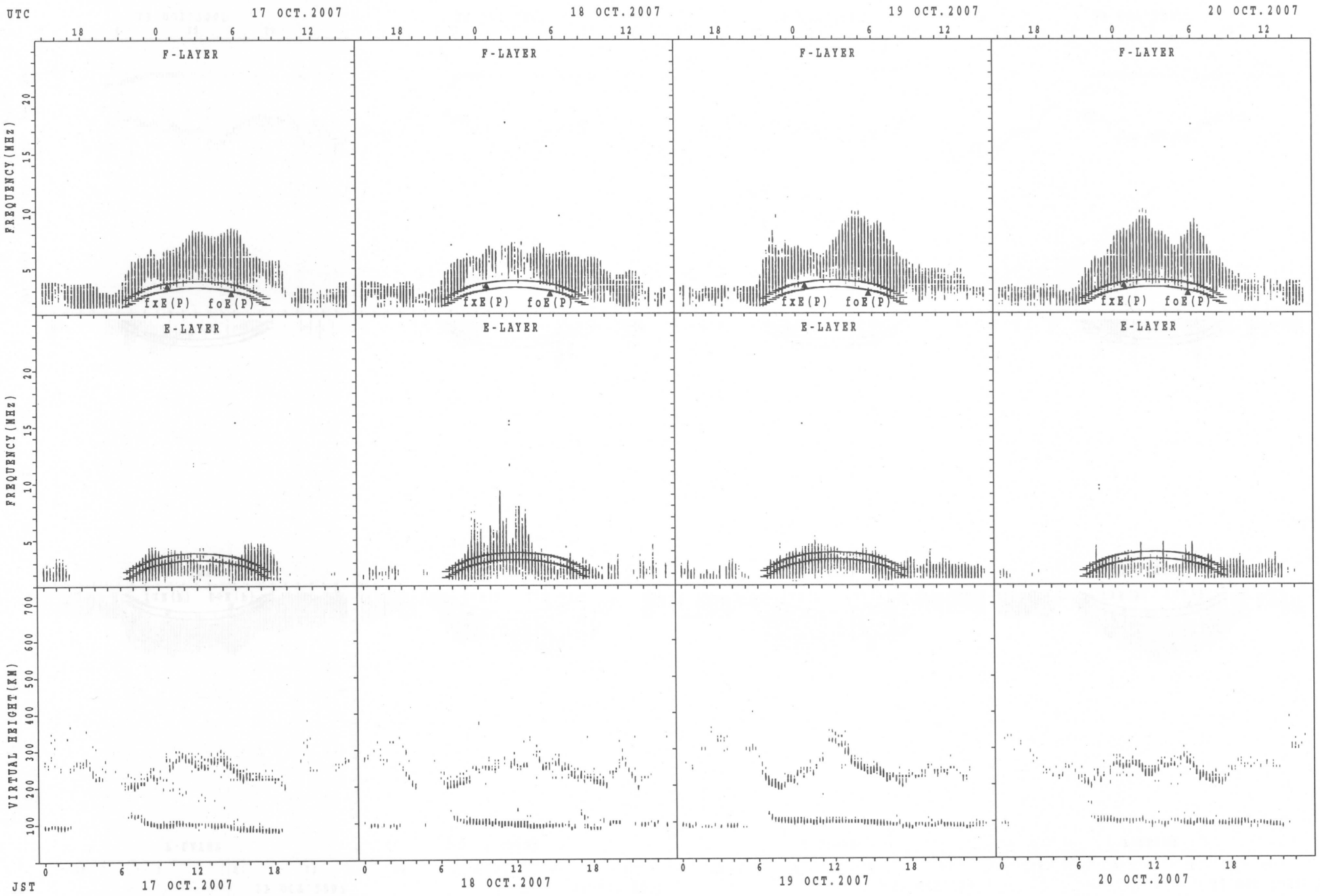
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



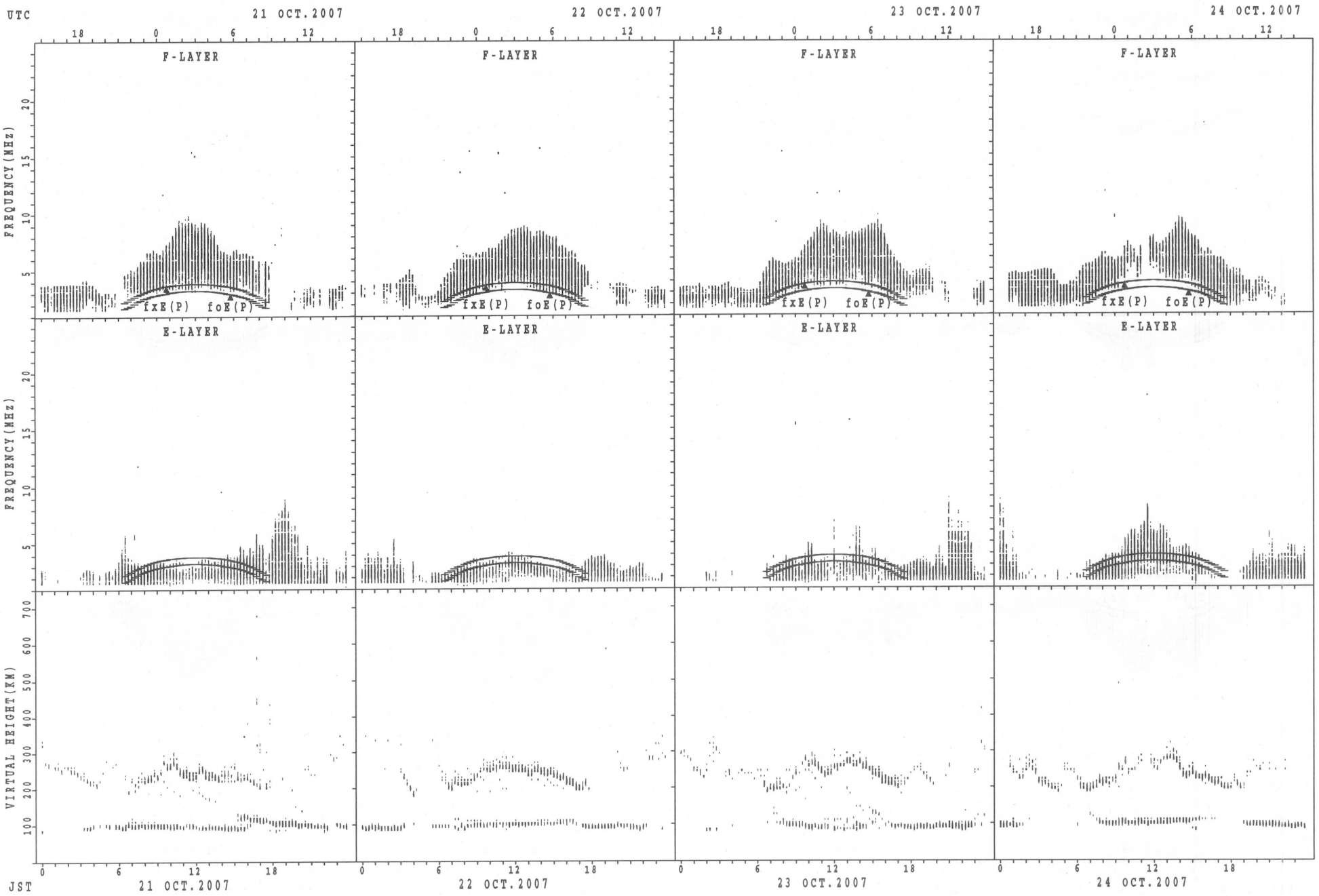
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



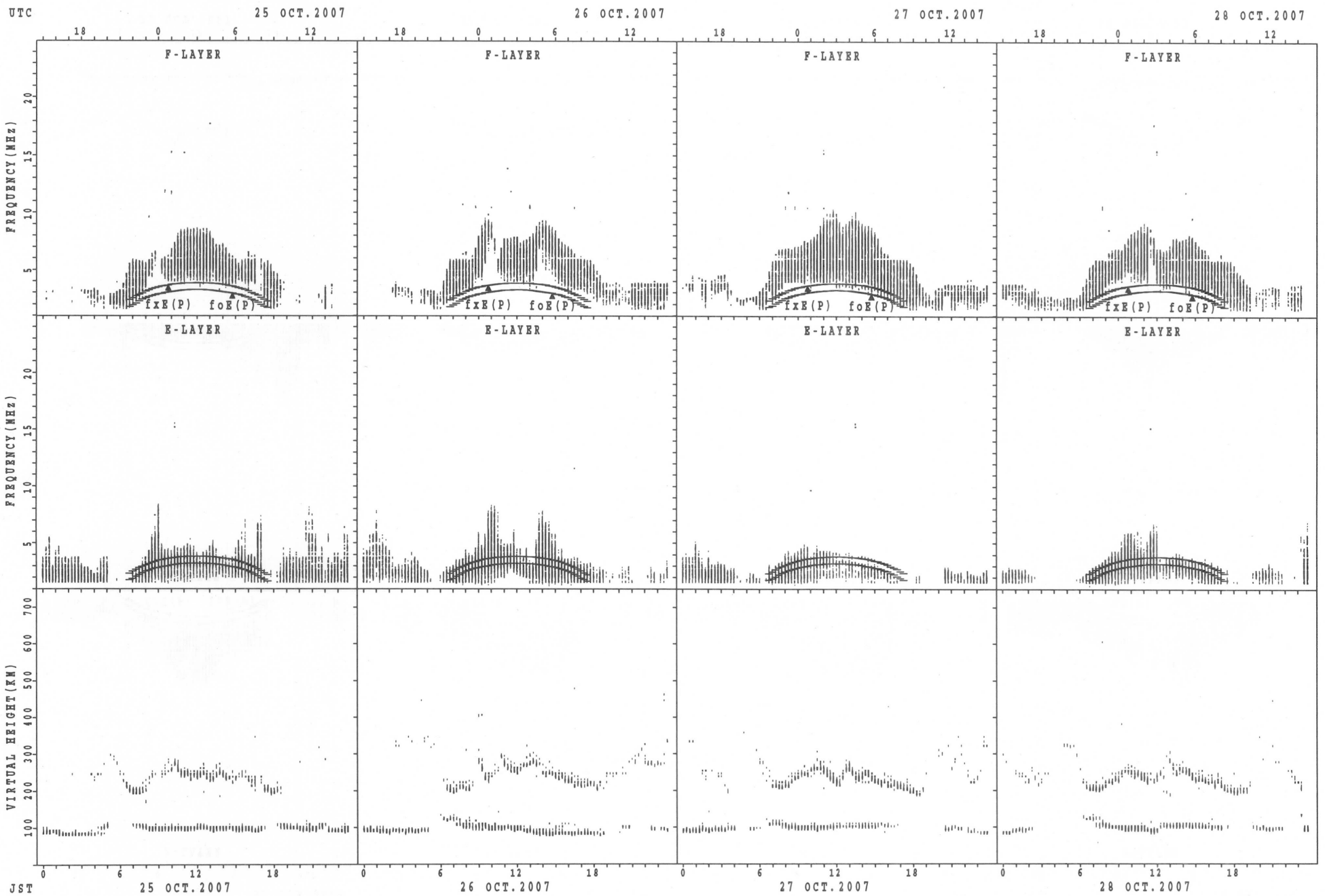
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa

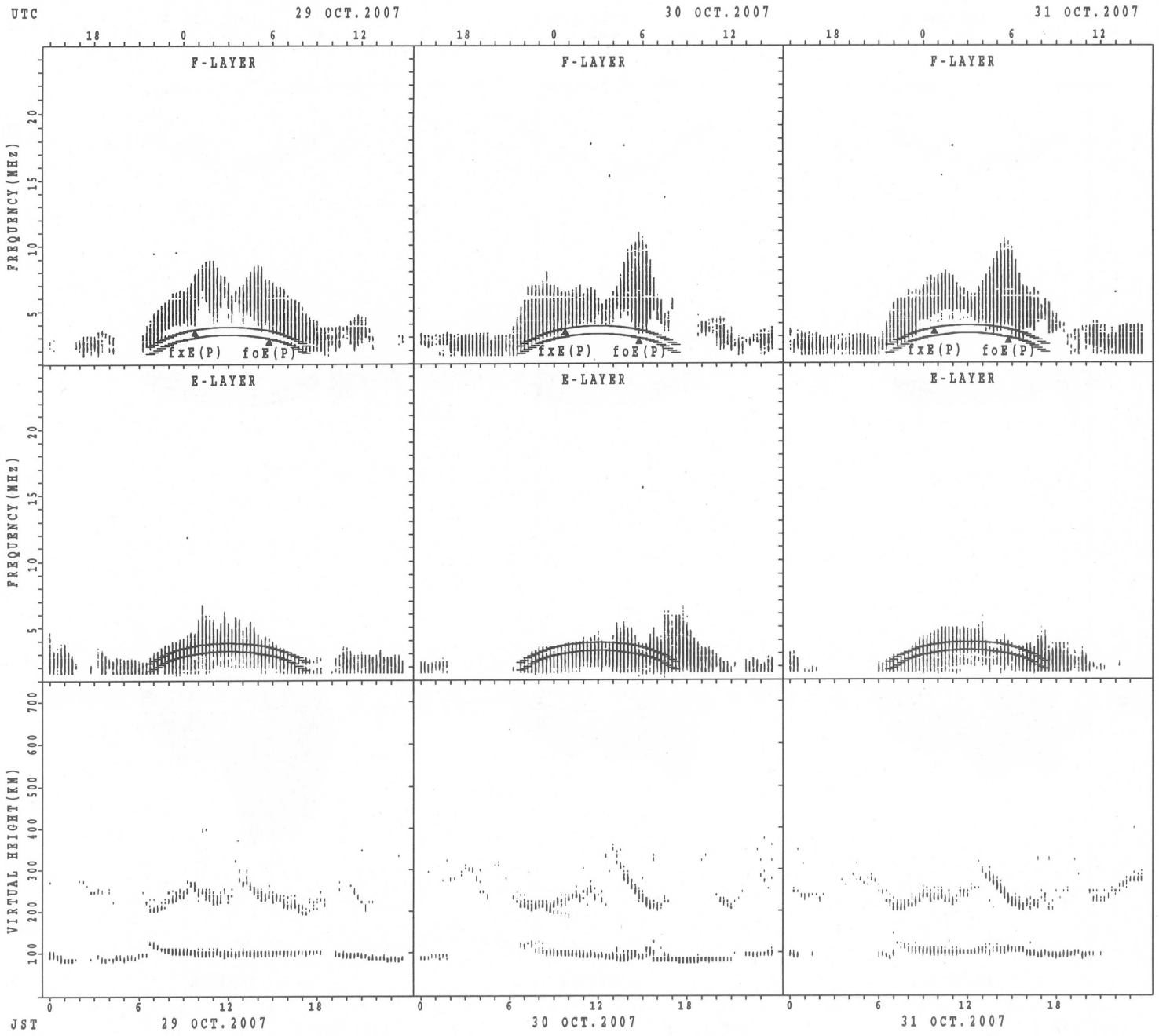


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

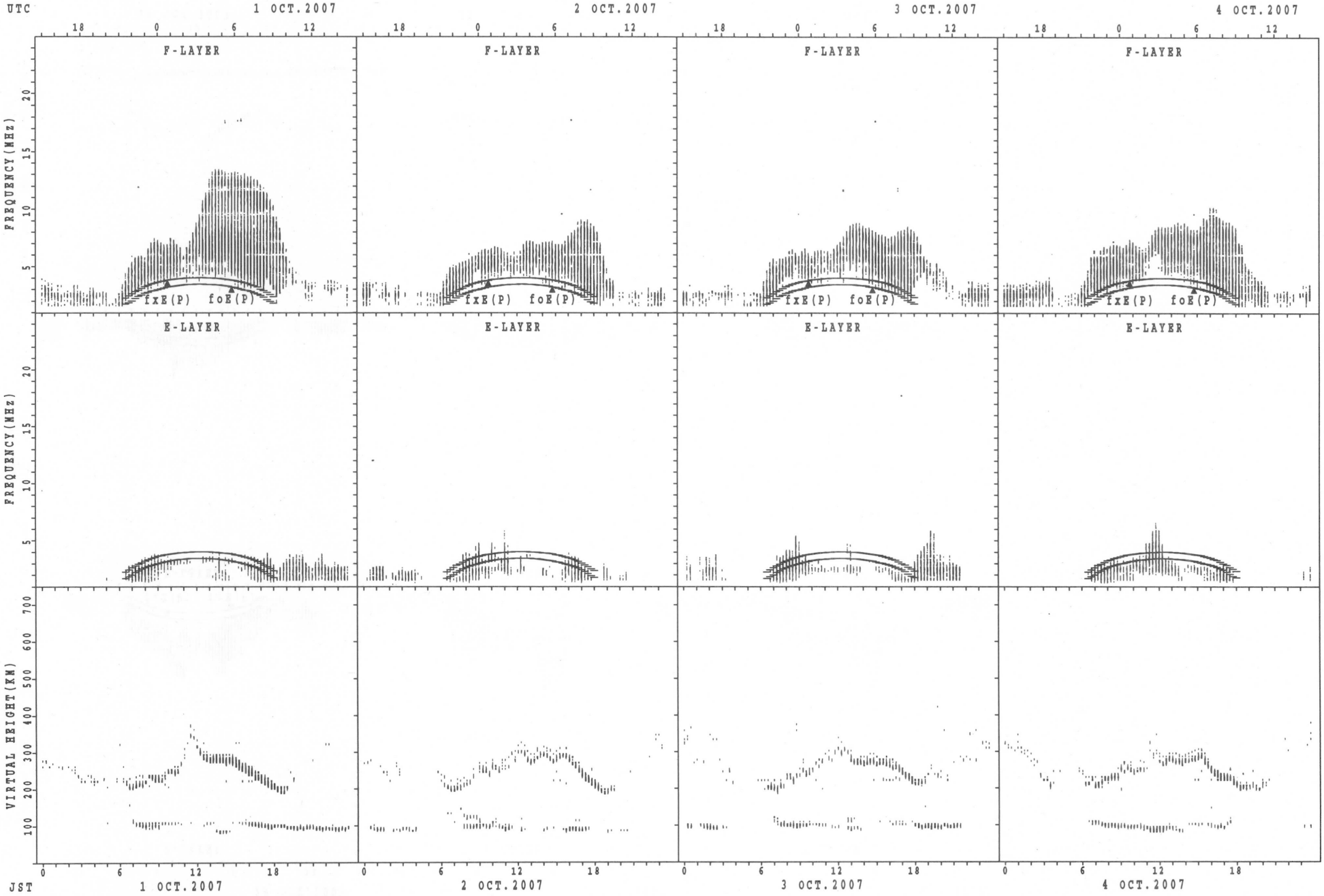
SUMMARY PLOTS AT Yamagawa



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

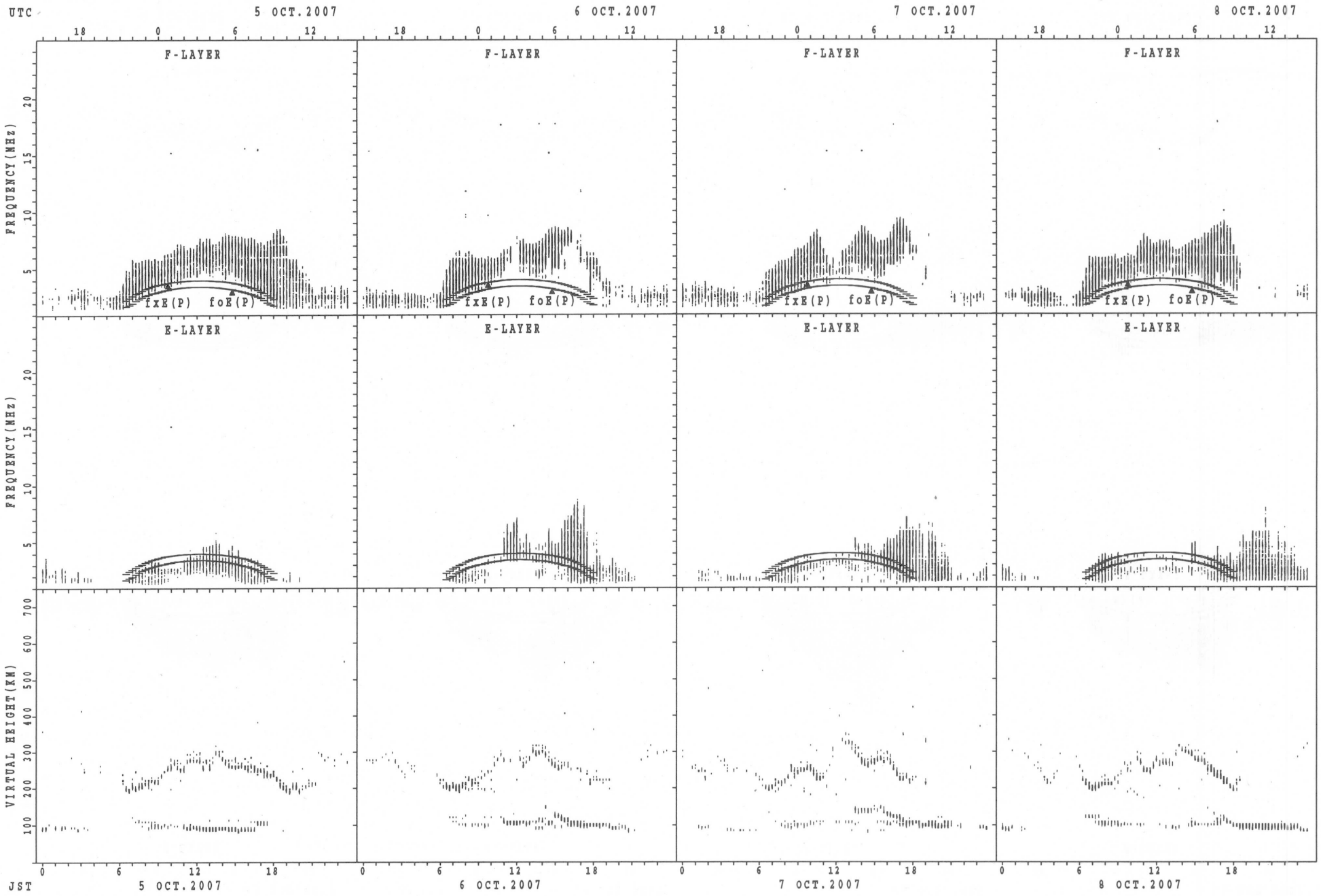

SUMMARY PLOTS AT Yamagawa
UTC
29 OCT.2007
30 OCT.2007
31 OCT.2007
F-LAYER
fxE(P) foE(P)
FREQUENCY(MHz)
E-LAYER
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



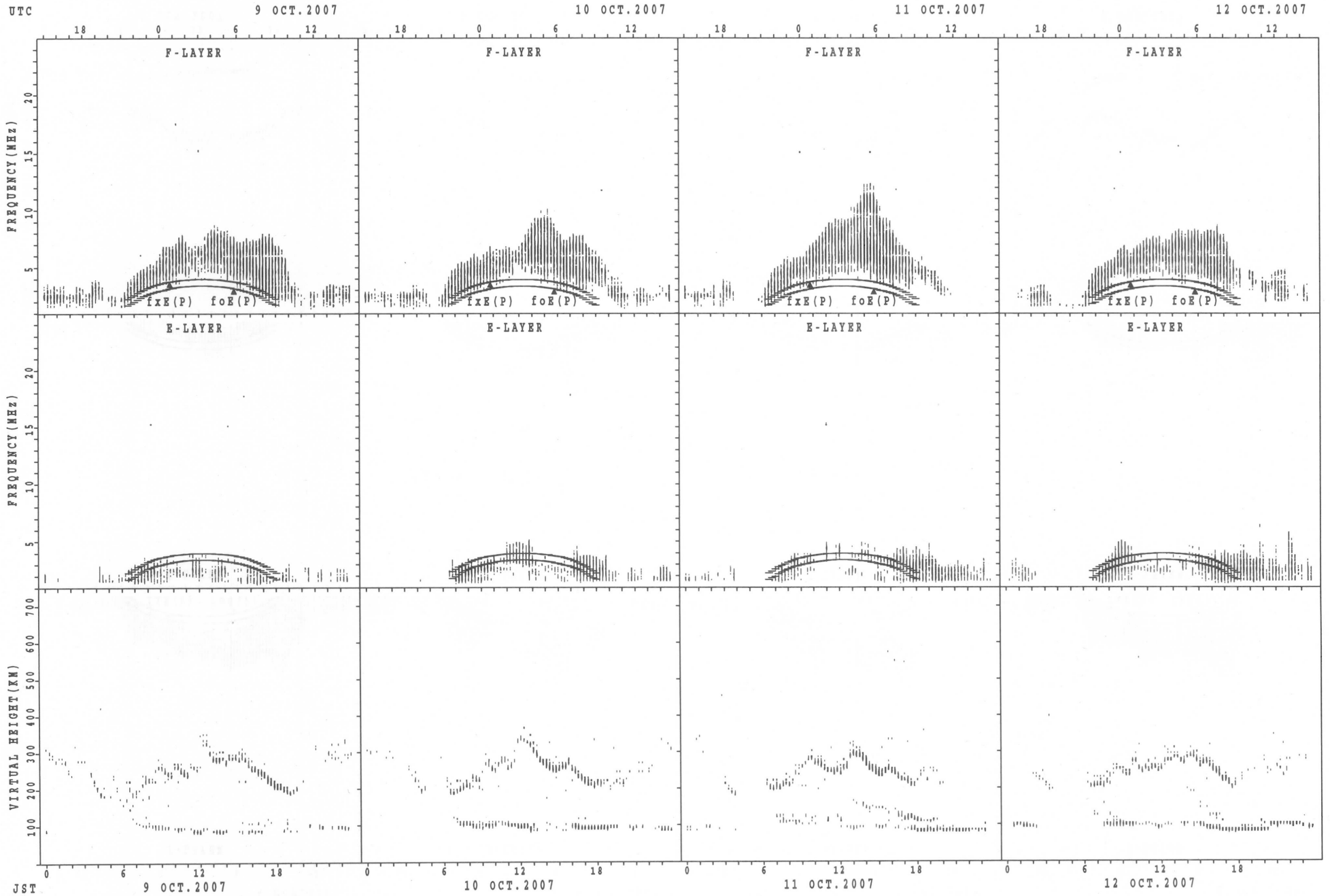
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



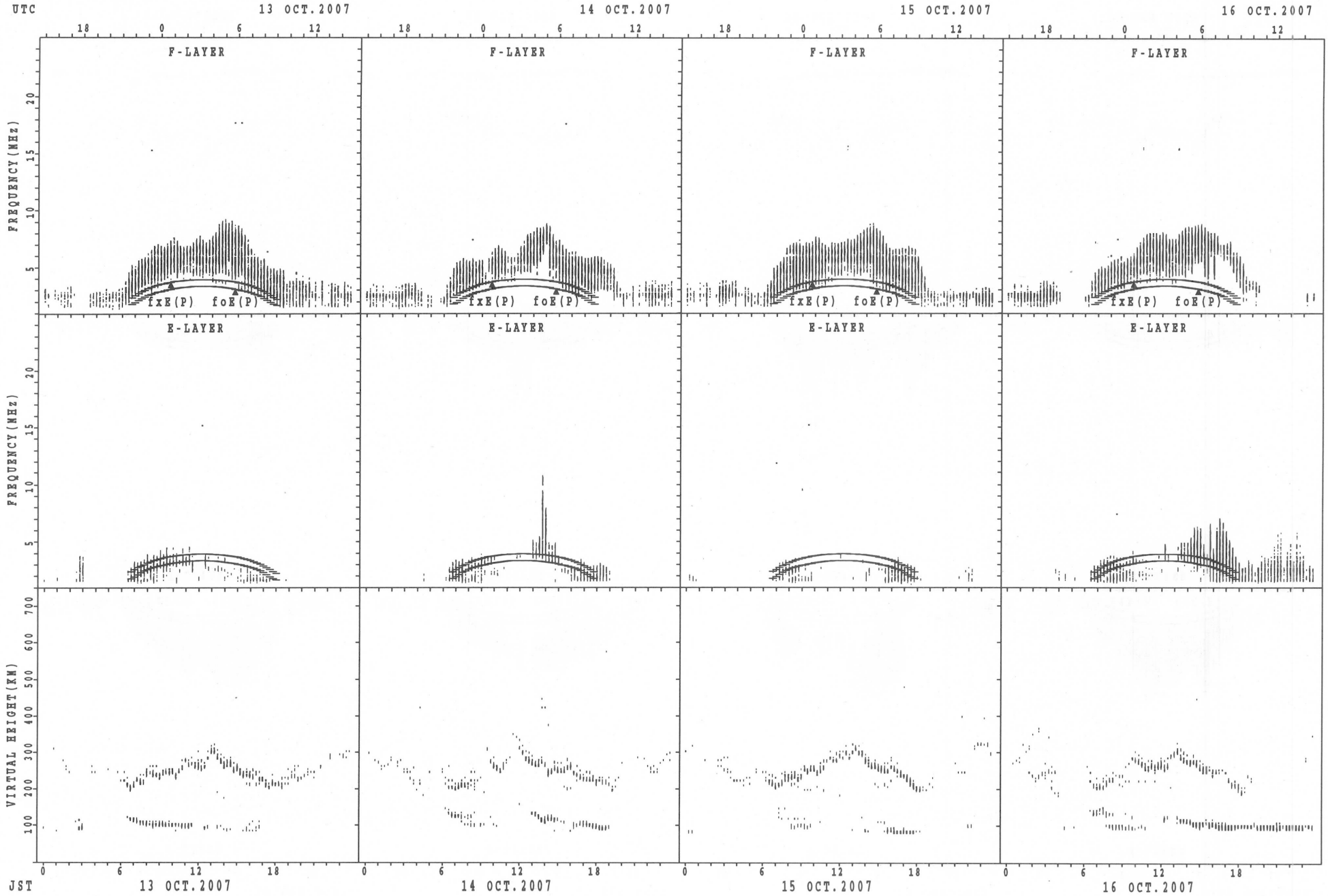
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



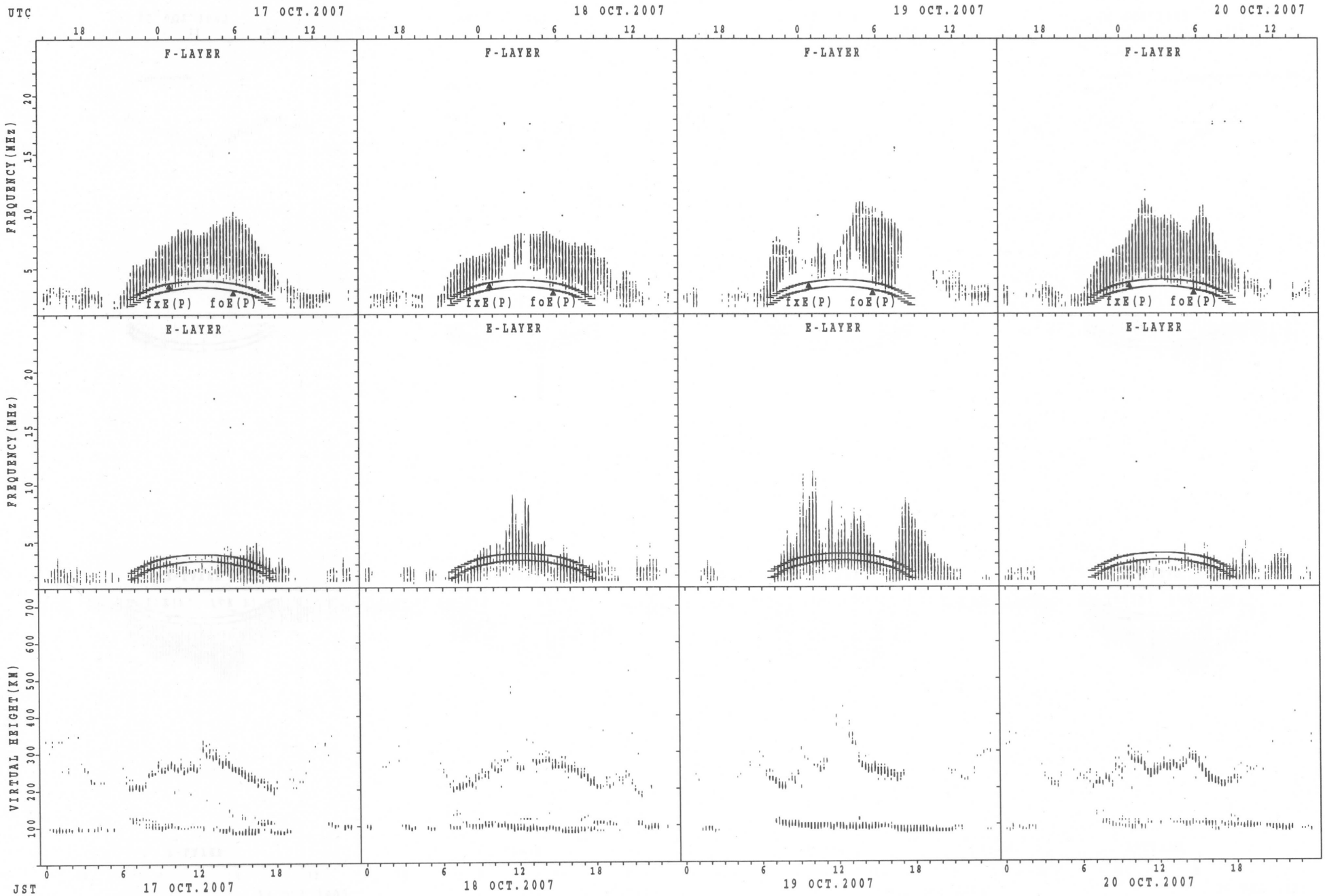
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



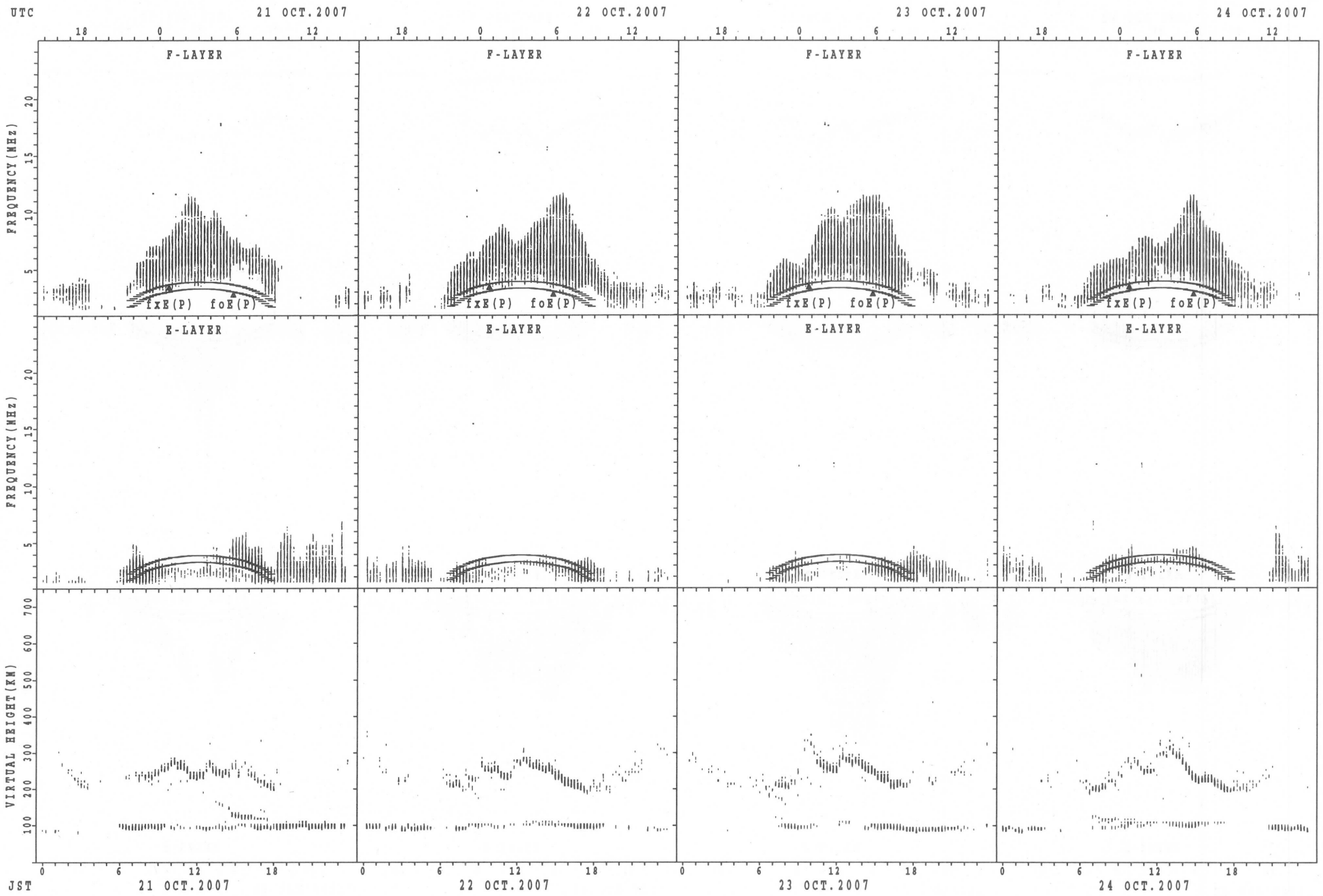
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



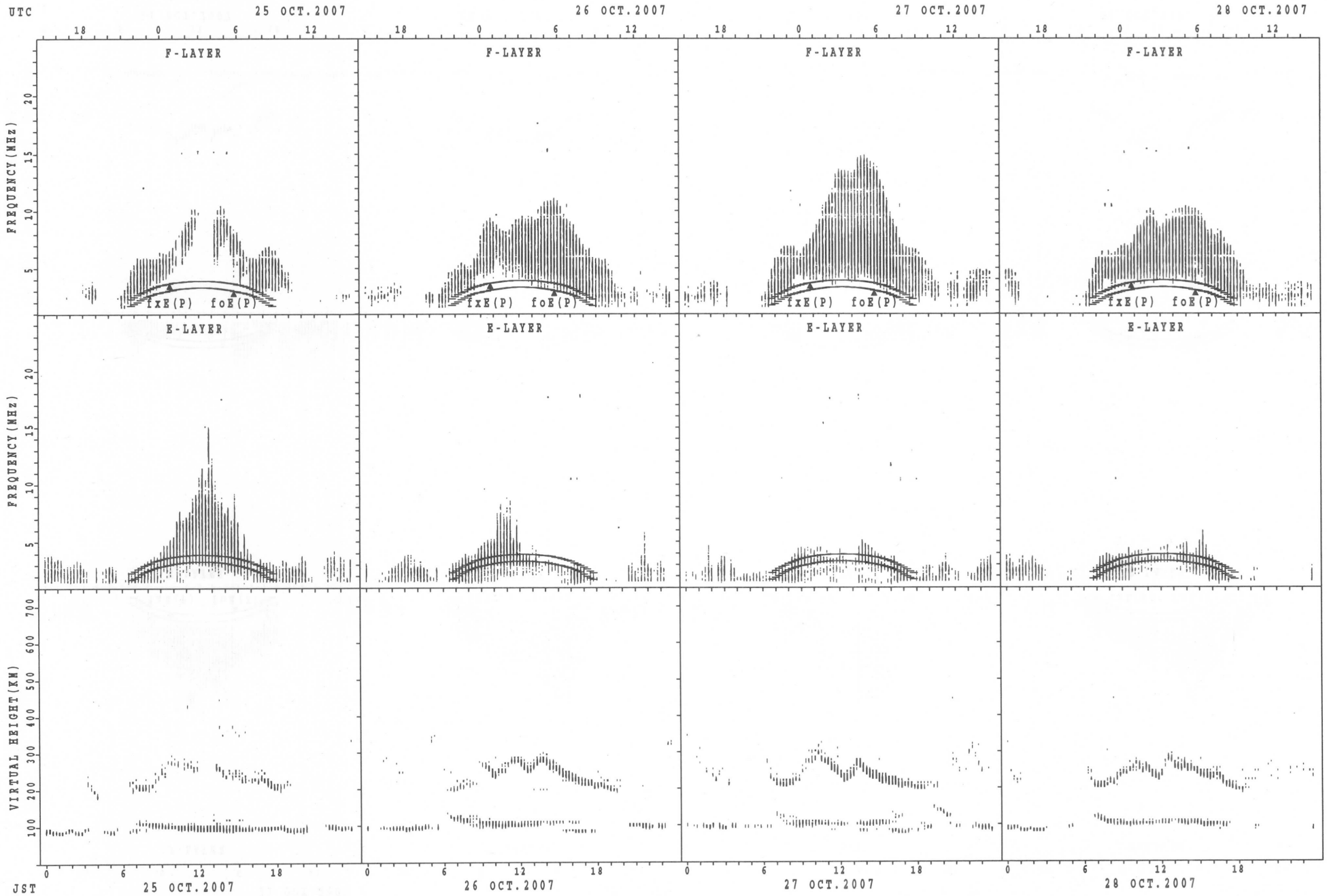
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



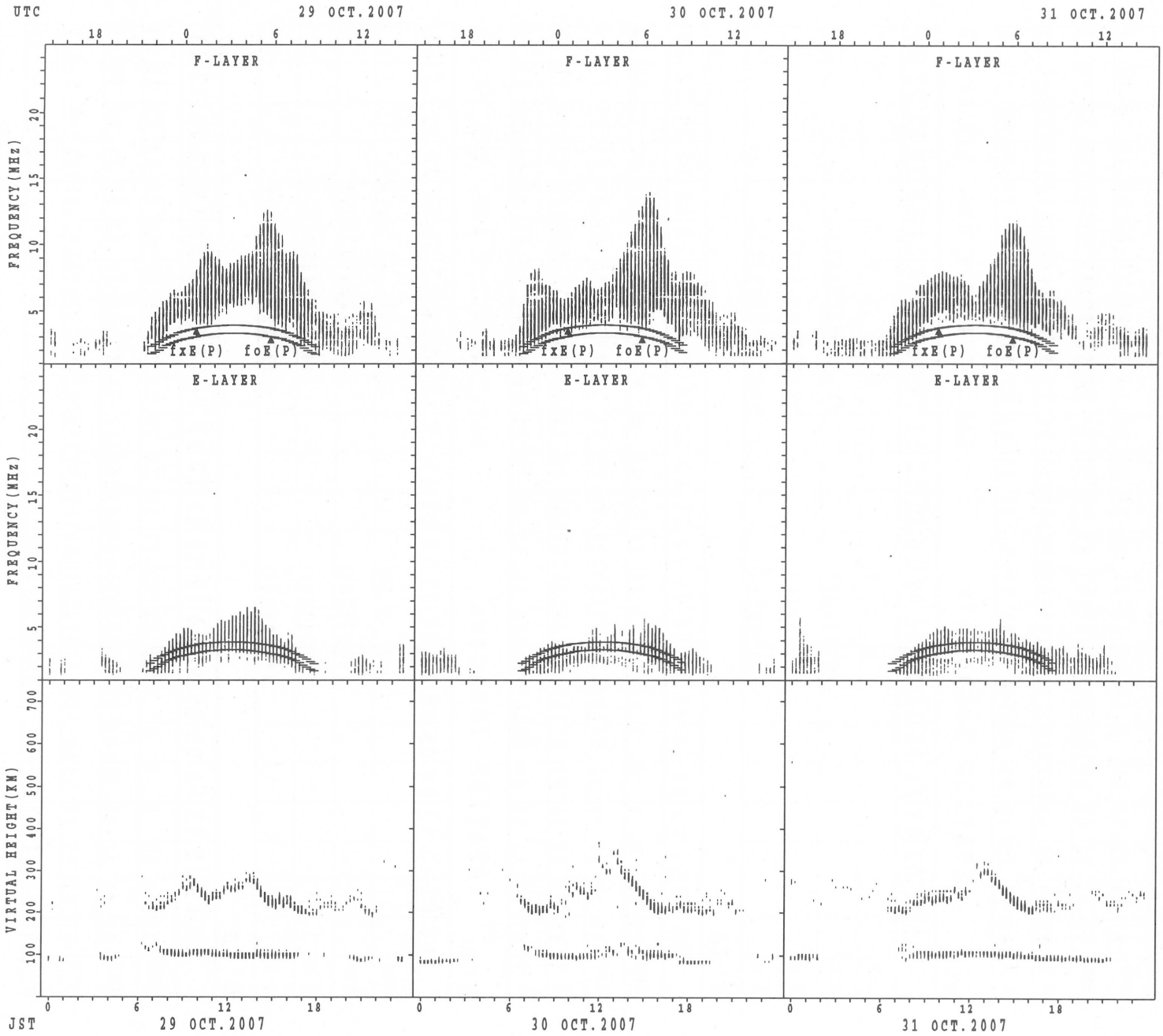
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



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

SUMMARY PLOTS AT Okinawa



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

MONTHLY MEDIANS OF h'F AND h'Es

OCT. 2007 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	12	9				5	6	7	8	3						
MED								240	231	232				244	245	248	237	240						
U Q								120	244	256				248	254	264	249	260						
L Q								120	225	228				227	238	238	228	230						

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	17	16	12	15	11	5	12	19	18	21	21	17	18	13	18	15	21	17	21	16	21	18	22	17
MED	95	95	92	93	99	105	115	111	105	103	97	99	98	91	94	95	97	103	99	102	101	97	96	95
U Q	98	97	98	95	101	108	122	121	109	106	102	102	107	94	97	97	112	104	103	103	103	103	101	99
L Q	91	92	89	89	93	91	102	103	103	99	96	95	95	91	91	91	91	93	93	95	95	95	95	94

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								8	9	4					6	12	8	2	1					
MED								223	238	247					263	243	236	241	240					
U Q								234	254	248					276	249	248	250	120					
L Q								212	226	243					248	237	225	232	120					

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	12	12	8	8	4	2	16	19	13	14	10	12	12	8	9	7	13	19	18	14	10	13	13	12
MED	95	96	95	95	92	96	135	119	107	103	100	99	95	95	95	89	95	95	89	99	95	97	97	95
U Q	95	98	97	96	93	97	149	137	115	105	103	102	98	98	102	103	102	103	105	103	97	100	97	97
L Q	89	92	93	91	90	95	107	111	104	99	95	96	95	94	89	87	87	89	89	95	91	94	95	94

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								3	9	14						18	16	6	4	2				
MED								230	232	243						238	242	239	226	238				
U Q								232	243	250						246	252	248	237	240				
L Q								208	225	240						232	223	228	219	236				

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	16	15	8	9	6	7	22	22	18	17	15	18	10	13	14	19	21	20	16	22	20	22	14
MED	95	93	91	93	95	101	97	119	107	105	103	103	103	103	99	103	101	99	92	97	97	97	95	97
U Q	97	95	95	95	99	109	125	129	111	113	105	105	105	105	105	113	113	111	102	103	101	104	99	101
L Q	91	92	89	90	90	93	95	111	105	103	100	99	97	93	95	97	95	92	87	91	95	93	93	95

MONTHLY MEDIANS OF h'F AND h'Es

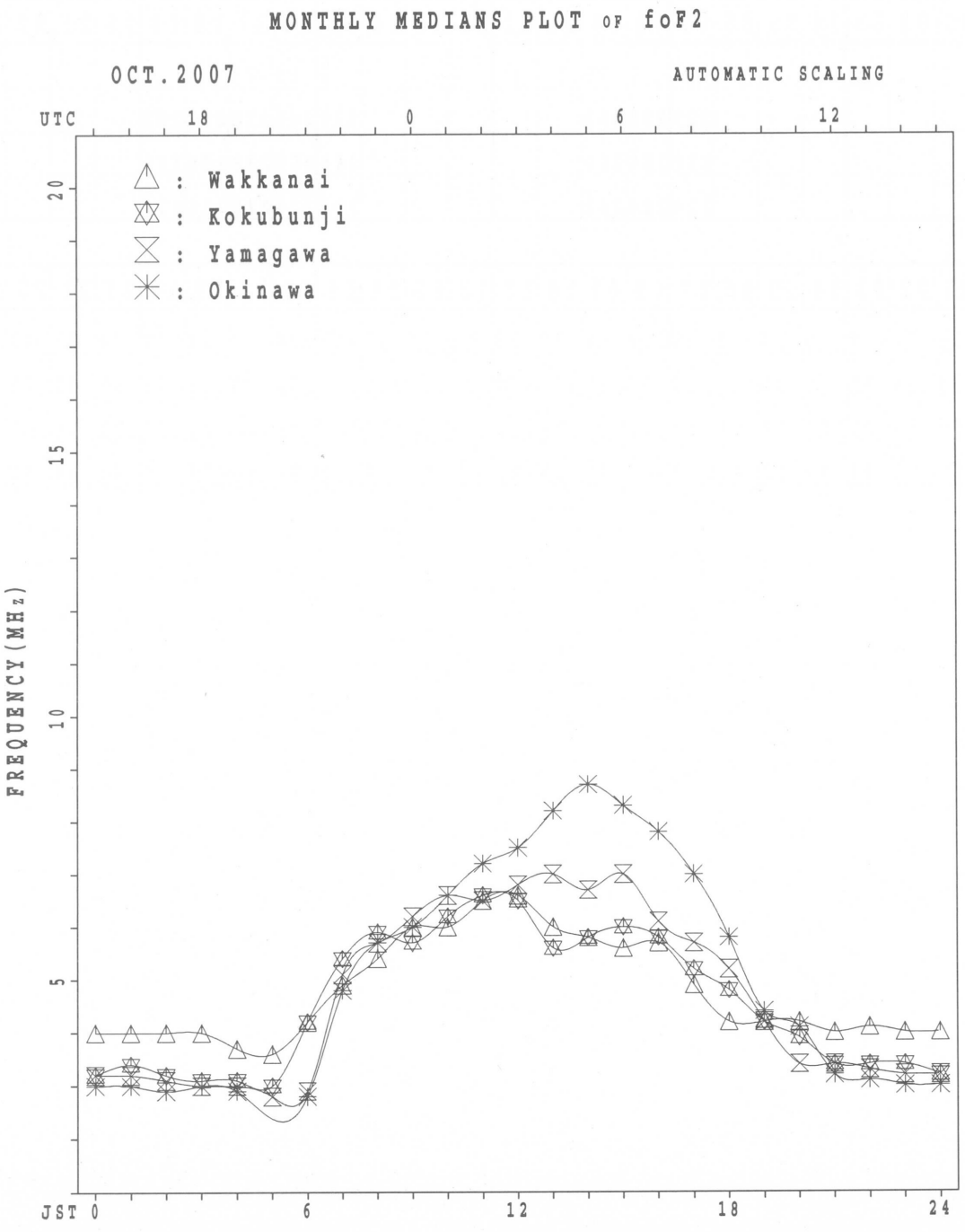
OCT.2007 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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	7	15						9	29	23	9	1				
MED								227	238	252						230	246	232	222	222				
U Q								230	256	266						240	265	238	228	111				
L Q								224	224	232						222	224	222	214	111				

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	11	11	12	8	5	4	1	21	18	18	12	13	14	14	17	17	20	23	20	22	14	17	12	11
MED	95	91	95	95	95	96	103	119	107	105	106	103	102	103	105	105	102	99	97	98	95	97	98	95
U Q	99	97	96	95	141	97	51	131	113	107	108	112	105	111	112	127	111	107	102	101	101	99	105	97
L Q	89	87	92	94	94	92	51	112	103	103	104	96	97	99	96	102	96	95	89	89	89	94	96	93


MONTHLY MEDIANS PLOT OF foF2
OCT.2007
AUTOMATIC SCALING
UTC
18
0
6
12
△ : Wakkanai
✡ : Kokubunji
⧖ : Yamagawa
✳ : Okinawa
FREQUENCY(MHz)
20
15
10
5
JST 0
6
12
18
24

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 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 38	X 39	X 38	X 38	X 35	X 34													X 50	X 40	X 39	X 40	X 39	X 40
2	X 38	X 39	X 35	X 36	X 36	X 33													X 71	X 64	X 51	X 36	X 38	41
3	41	X 38	X 38	X 37	X 35	X 36													X 65	X 61	X 51	X 47	X 47	X 45
4	X 46	X 46	X 45	X 46	X 48	X 43													X 65	47	46	X 42	X 40	X 40
5	X 38	X 37	X 37	X 38	X 30	X 33													X 69	X 54	X 47	X 41	X 43	X 42
6	X 42	X 39	X 40	X 37	X 35	X 33													X 54	X 42	X 43	X 40	42	X 40
7	X 40	X 39	X 36	X 36	X 34	X 32													X 54	X 50	X 48	X 39	X 38	X 38
8	X 37	X 40	X 37	X 36	X 36	X 32													X 60	X 56	X 48	X 42	X 40	X 40
9	X 40	X 39	X 38	X 36	X 37	X 35													X 58	X 45	X 48	X 48	X 42	X 43
10	45	X 42	44	41	42	X 34													X 58	X 46	X 46	X 44	X 43	X 44
11	X 44	X 46	45	46	X 44	X 38													X 56	X 52	X 47	X 38	X 38	X 36
12	X 36	X 36	X 36	X 38	X 29	X 28													X 52	X 49	X 52	X 46	X 41	X 36
13	X 38	X 38	X 38	X 37	X 36	X 34													X 49	X 48	X 43	X 41	X 39	X 41
14	X 41	X 38	X 39	X 37	X 32	X 29													X 56	X 41	X 41	X 40	X 40	X 38
15	X 38	X 39	X 40	X 39	X 39	X 34													X 42	X 37	X 41	X 40	X 39	X 39
16	X 39	X 40	X 39	X 40	X 42	X 32													X 58	X 45	X 38	X 40	41	X 40
17	X 42	X 40	X 40	X 39	X 39	X 37													X 48	X 37	X 38	X 36	X 39	X 40
18	X 38	X 34	X 34	X 37	X 36	X 29													X 60	X 49	X 49	X 50	X 48	X 42
19	X 42	X 36	40	X 36	X 35	36													X 55	X 53	X 49	X 44	X 37	X 34
20	X 35	X 33	X 36	X 34	X 33	X 33													X 46	X 47	A	A	A	X 39
21	X 40	X 42	X 42	X 42	X 38	X 37												X 56	X 52	X 43	X 38	A	A	X 39
22	X 39	42	48	52	X 40	X 29													A	X 44	A	A	A	A
23	X 39	X 39	X 37	X 39	X 37	X 31													X 53	X 48	X 49	X 38	X 45	X 44
24	X 48	X 50	63	X 54	X 48	48	54												X 53	X 47	X 44	X 35	X 30	A
25	38	X 39	X 42	X 38	41	X 38													X 38	A	A	A	X 37	X 38
26	X 36	X 38	X 36	X 35	X 34	X 32	57												X 53	X 53	X 52	X 55	X 54	57
27	55	C	54	44	X 25	X 26					C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C							X 40	X 41	X 42	X 41	X 40	X 40
30	X 35	X 35	X 35	X 33	X 34	X 33													X 43	X 44	X 40	X 34	X 36	X 39
31	X 37	X 39	X 34	X 33	X 36	X 30													X 35	X 40	X 40	X 39	X 41	X 40
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	28	29	29	29	29	2											1	28	28	26	25	26	27
MED	X 39	X 39	X 38	X 38	X 36	X 33	56											X 56	X 54	X 47	X 46	X 40	X 40	X 40
U Q	X 42	X 40	42	40	X 40	X 36													X 58	X 51	X 49	X 44	X 42	X 42
L Q	X 38	X 38	X 36	X 36	X 34	X 32													X 48	X 42	X 41	X 38	X 38	X 39

OCT. 2007 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 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	32	33	32	32	29	28	41	46	58	63	61	72	64	56	58	67	60	56	44	34	33	34	33	34
2	32	33	29	30	30	27	39	47	52	52	58	70	57	56	59	62	54	62	65	58	45	30	32	F
3	F	33	31	31	29	30	48	51	58	54	51	69	68	55	55	58	53	53	59	57	45	41	41	38
4	40	40	39	40	42	37	48	61	66	57	68	67	56	55	57	64	75	74	58	F	F	35	34	34
5	32	31	31	32	24	26	48	59	52	51	66	65	58	58	60	73	62	58	63	47	41	35	37	36
6	36	33	33	31	29	27	41	51	59	61	55	60	59	56	53	66	60	50	48	36	37	34	F	34
7	34	33	30	30	28	26	43	50	55	62	59	66	65	56	53	54	61	52	47	44	42	33	32	32
8	31	34	31	30	30	26	44	56	66	57	58	66	66	59	53	50	58	63	54	50	42	36	34	34
9	34	33	32	30	31	29	48	56	55	55	58	66	68	54	54	53	59	57	52	39	42	42	36	37
10	F	36	F	F	F	28	41	51	56	52	53	A	62	58	57	57	55	58	52	40	40	38	37	38
11	38	40	F	F	38	32	40	51	54	58	56	63	66	58	55	54	48	47	49	46	41	32	32	29
12	30	30	30	32	23	22	36	50	58	61	57	56	64	54	52	57	54	53	46	43	46	40	35	30
13	32	32	32	31	30	28	38	62	65	66	64	66	64	56	55	50	51	46	42	42	37	35	33	35
14	35	32	33	31	26	22	38	56	63	55	62	56	57	55	59	64	56	62	50	35	35	34	34	32
15	32	33	34	33	33	28	44	52	60	56	63	78	67	55	54	52	50	50	36	31	35	34	32	33
16	33	34	33	34	36	26	36	48	50	55	65	70	78	73	71	60	54	55	52	39	32	34	F	34
17	36	34	34	33	33	31	42	62	57	62	62	83	79	64	68	66	62	59	42	31	32	30	33	34
18	32	27	28	30	30	22	38	52	56	57	61	65	70	58	56	56	54	57	54	43	43	44	42	36
19	36	30	F	30	28	F	39	84	74	68	66	65	66	90	87	74	66	50	49	46	43	38	31	28
20	29	27	30	27	27	27	43	55	64	75	71	95	A	59	69	75	63	53	40	41	A	A	A	33
21	33	36	36	36	32	31	48	52	57	69	66	86	81	61	64	59	57	50	46	37	32	A	A	33
22	33	F	F	F	34	23	39	56	57	57	56	66	83	86	61	50	52	48	A	38	A	A	A	A
23	33	33	31	32	30	25	40	55	56	60	74	72	71	64	61	64	65	54	47	42	43	32	39	38
24	42	44	F	48	42	F	F	51	62	57	A	80	65	71	68	66	59	56	47	41	38	29	24	A
25	F	33	36	32	F	32	47	60	57	62	66	84	76	61	55	54	60	49	31	A	A	A	31	32
26	30	32	30	29	28	26	F	58	61	68	72	71	71	72	75	64	59	58	47	46	46	49	48	F
27	F	C	F	F	19	20	33	60	70	68	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	70	75	64	57	54	39	34	35	36	35	33	34
30	29	29	29	27	27	27	37	57	70	69	59	60	55	62	80	76	59	46	37	37	34	28	30	33
31	31	33	28	27	30	24	34	48	58	69	68	61	62	69	71	61	54	54	29	34	34	33	35	34
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	27	23	25	27	27	27	29	29	29	27	27	28	29	29	29	29	29	28	27	25	25	24	25
MED	33	33	31	31	30	27	41	55	58	60	62	66	66	58	59	60	58	54	47	41	40	34	34	34
U Q	36	34	33	32	33	29	44	58	64	67	66	72	70	66	68	66	60	58	52	46	43	38	36	36
L Q	32	32	30	30	28	25	38	51	56	56	58	65	62	56	55	54	54	50	42	36	34	32	32	32

OCT. 2007 foF2 (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 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	U L 416	U L 404	L	U L 432	U L 412	L								
2									L	U L 432	U L 432	U L 432	L	U L 440	E A	E A	L							
3									L	L	L	U L 416	U L 436	L	L	L	L							
4								L	L	L	U L 428	U L 420	U L 428	L	U L 400	L								
5									L	L	U L 404	L	E A	L	L	L								
6									L	U L 424	L	U L 432	U L 436	L	E A	L								
7									L	L	U L 388	U L 404	E A	U L 416		L	L							
8									L	L	L	U L 436	U L 432	L	L	L								
9									L	U L 408	U L 416	432	U L 432	U L 420	L	L	L							
10									L	L	U L 420	A	U L 436	U L 436	U L 412									
11								L	L	L	U L 428	U L 432	U L 436	L	U L 404	L								
12								L	L	U L 408	424	440	U L 424	L	L	L								
13									L	L	U L 432	428	420	L	L	L								
14										L	U L 432	U L 420	U L 432	U L 428	U L 412	L								
15									L	L	U L 420	U L 424	U L 416	L	L	L								
16										E A	U L 420	U L 436	U L 432	L	L	E A								
17										L	L	U L 440	E A	L	L	L								
18									E A	E A	E A	E A	E A	L	L	L								
19										L	L	L	L	E A	L	L								
20										E A	L	E A	A	L	U L 404	L								
21										L	L	U L 424	E A	L	L									
22									E A		L	U L 424	U L 420	L		L								
23										E A	U L 392	E A	E A	L	L	L								
24									L	L	A	E A	E A	E A	E A	L								
25										L	E A	U L 436	L	L	L									
26									E A	E A	L	U L 424	L	L	L									
27										L	C	C	C	C	C	C	C	C						
28							C	C	C	C	C	C	C	C	C	C	C	C						
29							C	C	C	C	C	C	L	U L 412	L	E A								
30									L	L	E A		E A	L	E A	E A								
31										L	E A	L	L	L	L									
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										4	14	19	13	7	6									
MED										U L 416	U L 420	U L 428	U L 432	U L 428	U L 408									
U Q										U L 428	U L 428	U L 436	U L 436	U L 436	U L 412									
L Q										U L 408	U L 416	U L 420	U L 422	U L 416	U L 404									

OCT. 2007 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 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							A	A	A	A	R	A	R	R	292	R	U A 224	B						
2							B	220	A	A	A	A	A	A	340	268	228	B						
3							B	A	A	A	A	A	R	R	A	A	A	B						
4							B	A	A	U R 308	A	R	R	R	U R 288	A	A	B						
5							B	A	R	A	R	A	A	R	A	R	A	B						
6							B	232	A	A	A	A	R	308	292	272	A	B						
7							B	224	A	A	R	320	U A 320	R	U A 300	280	U A 228	B						
8							B	U A 216	A	A	A	U A 320	R	R	R	R	U R 228	B						
9							B	A	R	R	R	R	R	R	R	R	U R 224	B						
10							B	224	R	A	A	A	A	A	288	A	A	A						
11							B	228	A	U R 312	A	A	R	R	R	R	U A 216	B						
12							B	236	A	U R 308	R	U R 340	U R 324	R	292	R	220	B						
13							B	U A 248	R	R	U R 328	U R 332	R	U R 304	R	256	208	B						
14							B	A	A	A	A	U R 328	R	R	R	256	A	B						
15							B	228	264	A	R	R	R	300	280	A	A	B						
16							B	232	A	A	A	R	R	A	A	A	A	B						
17							B	220	U R 284	A	A	A	A	A	A	A	A	B						
18							B	A	A	A	A	A	A	A	A	U R 276	A	B						
19							B	A	A	A	A	A	A	A	A	A	U A 204	B						
20							B	224	A	A	A	A	A	R	R	U A 248	200	B						
21							B	A	R	R	R	A	A	A	A	U R 268	A							
22							B	A	A	R	A	R	A	A	A	A	A	A						
23							B	216	A	A	A	A	A	A	A	R	A	B						
24							B	212	268	U R 308	A	A	A	A	A	U R 280	204	B						
25							B	A	A	A	A	A	A	A	A	U R 260	A	B						
26							B	U A 220	A	A	A	R	A	R	R	A	A	B						
27							B	A	A	A	C	C	C	C	C	C	C	C						
28							C	C	C	C	C	C	C	C	C	C	C	C						
29							C	C	C	C	C	C	A	A	A	A	A	B						
30							B	U A 216	A	A	A	A	A	A	A	A	A	B						
31							B	204	U R 264	A	A	A	A	A	A	A	A	B						
	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	4	4	1	5	2	3	8	10	11							
MED								224	266	U R 308	U R 328	U R 328	U 322	304	292	268	U 220							
U Q								230	276	U R 310		U R 336		308	296	U R 276	U 228							
L Q								216	264	U R 308		320		300	288	256	204							

OCT. 2007 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 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 20	E B 16	E B 15	E B 15	18	J A 24	J A 45	30	33	G 25	36	G 27	G 26	35	G 25	30	J A 34	J A 17	J A 18	E B 15	E B 15	20	19
2	19	20	18	E B 15	E B 15	E B 15	20	28	33	34	37	34	37	J A 39	46	32	26	J A 28	J A 31	J A 35	J A 30	J A 33	J A 32	J A 24
3	J A 22	J A 18	J A 18	J A 18	20	E B 15	J A 22	J A 33	32	35	35	35	G 30	G 29	J A 39	J A 50	J A 28	J A 24	J A 24	20	20	E B 15	J A 23	J A 21
4	J A 18	E B 14	E B 15	E B 15	E B 15	E B 19	J A 20	25	29	G 28	J A 40	G 26	G 27	G 26	G 23	J A 40	J A 32	J A 32	J A 28	J A 17	19	E B 15	E B 15	E B 15
5	J A 22	J A 21	19	E B 14	J A 18	20	J A 22	27	G 21	J A 42	G 30	J A 41	J A 41	G 31	35	G 27	J A 27	J A 24	21	21	J A 22	J A 22	J A 22	20
6	E B 15	J A 20	J A 20	20	19	E B 15	22	28	34	35	35	37	G 26	38	33	34	29	J A 24	J A 36	J A 27	J A 21	E B 15	J A 21	19
7	E B 14	E B 15	E B 15	E B 14	E B 14	E B 15	23	30	34	33	G 28	35	39	G 26	35	32	28	21	J A 24	J A 33	J A 20	J A 40	J A 22	J A 18
8	E B 15	E B 14	E B 15	E B 15	E B 14	E B 14	20	29	33	35	J A 41	38	G 28	G 26	G 27	G 22	G 19	E B 19	E B 14	E B 15	J A 18	20	20	J A 20
9	E B 15	E B 15	E B 14	E B 15	E B 14	E B 15	E B 15	29	G 24	G 27	G 25	G 22	G 25	G 27	G 25	G	G 19	J A 23	J A 21	E B 15	19	19	E B 15	E B 15
10	E B 16	E B 15	J A 20	J A 16	E B 15	E B 14	E B 17	26	G 21	34	36	J A 66	35	J A 38	34	31	J A 34	J A 32	J A 29	J A 23	J A 25	E B 15	J A 18	J A 21
11	J A 28	J A 22	E B 14	20	E B 15	E B 14	E B 15	29	30	G 26	J A 32	J A 40	G 27	G 21	G 26	G 20	26	19	E B 15	E B 15	J A 19	J A 24	J A 20	E B 15
12	E B 14	J A 20	20	J A 23	E B 14	19	18	28	J A 32	G 27	G 27	G 27	G 26	G 25	35	G 20	25	19	J A 23	E B 42	E B 14	J A 20	21	J A 22
13	19	J A 18	J A 20	20	E B 15	E B 15	18	27	G 24	G 30	G 29	G 28	G 26	G 28	G 26	29	G 18	E B 16	E B 15	E B J A 17	E B 14	E B 14	E B 15	E B 15
14	E B 15	E B 14	18	E B 15	E B 15	E B 15	19	25	J A 35	34	J A 42	G 27	G 27	G 26	G 24	30	J A 25	J A 23	E B 16	E B 15	E B 15	E B 14	E B 15	E B 15
15	J A 31	J A 21	J A 24	J A 22	E B 15	E B 15	E B 14	G 19	32	34	G 27	G 26	G 27	35	34	30	26	E B 16	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15
16	E B 15	E B 14	J A 19	20	19	E B 15	E B 16	29	34	J A 46	36	G 27	G J 24	J A 34	J A 34	J A 42	J A 40	J A 29	J A 24	18	E B 15	20	J A 25	J A 27
17	E B 15	E B 15	E B 15	J A 18	20	E B 15	18	28	J G 23	34	38	35	J A 58	J A 38	35	J A 32	J A 35	J A 30	J A 19	19	E B 17	J A 20	J A 23	J A 22
18	J A 19	J A 23	J A 19	J A 18	20	20	J A 23	28	J A 42	J A 72	J A 66	J A 50	J A 61	33	31	G 20	J A 25	J A 18	J A 23	J A 20	E B 16	E B 15	E B 15	20
19	J A 21	J A 22	J A 22	J A 23	J A 20	J A 19	J A 20	30	J A 42	J A 41	J A 46	J A 47	J A 47	J A 55	J A 34	34	25	E B 16	E B 14	E B J A 17	20	J A 27	J A 22	21
20	J A 23	J A 23	19	J A 37	J A 32	19	J A 21	26	31	J A 62	35	69	J A 104	G 23	G 26	30	26	J A 24	J A 31	J A 38	J A 58	J A 64	J A 51	J A 24
21	E B 14	E B 16	E B 15	J A 23	E B 16	E B 14	E B 16	21	G 26	G 27	G 25	J A 38	J A 44	J A 36	J A 35	J G 21	J A 25	J A 28	J A 24	E B 15	E B 15	E B J A 38	J A 41	J A 27
22	J A 24	J A 26	J A 24	J A 28	J A 31	J A 20	18	27	33	G 28	33	G 28	J A 33	37	J A 38	J A 41	J A 50	J A 50	J A 56	J A 76	J A 49	J A 53	J A 53	J A 42
23	J A 32	J A 44	J A 30	J A 36	24	19	E B 16	30	J A 44	J A 49	J A 54	J A 60	J A 118	J A 36	J A 31	G 21	J A 22	J A 22	J A 32	J A 25	J A 39	J A 23	J A 35	J A 30
24	J A 26	J A 22	20	J A 22	J A 20	J A 20	E B 14	29	33	G 24	J A 86	J A 39	J A 49	J A 64	J A 54	G 20	25	J A 21	J A 52	J A 50	J A 32	J A 51	J A 124	J A 54
25	J A 32	J A 21	J A 23	J A 24	J A 20	E B 15	19	27	J A 40	35	J A 44	J A 54	J A 39	J A 40	J A 38	G 25	24	21	J A 22	56	55	48	J A 54	40
26	J A 28	J A 31	J A 27	20	19	E B 15	18	J A 39	J A 46	J A 60	J A 59	G 27	J A 38	G 24	G J 27	J A 38	34	J A 26	J A 28	J A 30	J A 34	J A 32	J A 43	39
27	J A 26	C	J A 24	J A 22	J A 32	E B 14	E B 15	32	J A 34	J A 51	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	J A 51	J A 46	J A 46	29	J A 22	J A 31	J A 20	J A 22	E B 16	22	J A 19	22
30	E B 15	J A 54	J A 56	E B 14	E B 15	E B 15	J A 18	27	32	J A 40	J A 53	J A 57	J A 73	J A 42	J A 42	J A 44	J A 47	J A 31	J A 29	J A 28	J A 27	27	20	20
31	E B 15	J A 20	J A 17	E B 15	J A 20	19	J A 20	24	J A 24	34	39	J A 44	34	36	34	29	J A 32	J A 26	J A 24	J A 32	J A 40	J A 25	J A 28	J A 20
	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	29	29	29	29	29	29	29	29	28	28	29	29	29	29	29	29	29	29	29	29	29	29
MED	J A 19	J A 20	J A 19	20	18	E B 15	18	28	32	34	36	36	35	34	34	30	26	J A 24	J A 24	J A 21	J A 20	J A 22	J A 22	J A 21
U Q	J A 25	J A 22	J A 22	J A 22	J A 20	19	J A 20	30	J A 34	J A 42	J A 43	J A 46	J A 48	J A 38	J A 36	J A 34	J A 32	J A 30	J A 29	J A 32	J A 31	J A 32	J A 34	J A 26
L Q	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	E B 16	26	G 28	G 29	G 30	G 28	G 27	G 26	G 27	G 24	25	20	E B 18	E B 17	E B 16	E B 15	E B 18	E B 18

OCT. 2007 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	17	30	29	30	G 25	32	G 26	G 25	33	G 24	27	32	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15
2	19	E B 15	16	E B 15	E B 15	E B 15	19	26	30	33	34	33	34	34	44	30	25	18	22	21	21	22	17	19
3	18	E B 16	E B 14	16	E B 15	E B 15	17	30	31	32	33	34	G 30	G 28	31	28	24	20	E B 16	E B 15	E B 16	E B 15	E B 15	17
4	E B 15	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15	24	28	G 24	34	G 25	G 26	G 26	G 20	30	25	22	20	E B 16	E B 15	E B 15	E B 15	E B 15
5	E B 15	18	E B 15	E B 14	E B 14	E B 15	19	25	G 20	36	G 29	33	41	G 29	32	G 27	23	19	16	E B 16	20	18	E B 15	E B 15
6	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	18	25	30	32	31	35	G 26	35	33	30	28	17	16	E B 16	E B 15	E B 15	E B 15	E B 15
7	E B 14	E B 15	E B 15	E B 14	E B 14	E B 15	21	28	31	31	G 28	33	37	G 26	32	31	27	18	20	28	E B 15	19	E B 16	E B 15
8	E B 15	E B 14	E B 15	E B 15	E B 14	E B 14	19	27	32	34	34	36	G 28	G 26	G 26	G 20	G 19	E B 19	E B 14	E B 15	E B 15	E B 15	E B 16	E B 15
9	E B 15	E B 15	E B 14	E B 15	E B 14	E B 15	E B 15	26	G 22	G 26	G 25	G 22	G 23	G 24	G 21	G	G 19	17	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15
10	E B 16	E B 15	E B 15	E B 15	E B 15	E B 14	E B 17	25	G 20	32	35	A A 66	34	34	32	29	28	27	20	16	18	E B 15	E B 16	16
11	21	E B 14	E B 14	19	E B 15	E B 14	E B 15	27	28	G 25	31	37	G 26	G 20	G 26	G 19	23	18	E B 15	E B 15	E B 15	16	E B 15	E B 15
12	E B 14	16	16	18	E B 14	E B 15	18	26	29	G 26	G 27	G 27	G 26	G 25	34	G 19	24	17	17	20	E B 14	18	E B 15	15
13	E B 16	15	E B 15	18	E B 15	E B 15	16	26	G 24	G 28	G 27	G 28	G 24	G 27	G 26	28	G 18	E B 16	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15
14	E B 15	E B 14	E B 14	E B 15	E B 15	E B 15	18	24	30	33	34	G 26	G 27	G 25	G 21	29	22	19	E B 16	E B 15	E B 15	E B 14	E B 15	E B 15
15	19	18	19	E B 15	E B 15	E B 15	E B 14	G 19	30	32	G 27	G 26	G 26	33	31	28	25	E B 16	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15
16	E B 15	E B 14	E B 15	E B 15	E B 15	E B 15	E B 16	27	31	38	34	G 27	G 23	32	30	38	29	27	20	E B 15	E B 15	E B 15	19	19
17	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	16	26	G 20	32	34	33	40	32	32	28	28	22	17	E B 15	E B 17	E B 16	E B 15	E B 15
18	E B 15	E B 14	17	E B 15	E B 15	E B 15	20	25	38	47	51	42	58	31	29	G 19	20	16	E B 15	E B 16	E B 16	E B 15	E B 15	E B 15
19	19	18	17	19	16	E B 16	18	29	39	32	37	34	36	52	29	30	22	E B 16	E B 14	E B 15	E B 16	E B 15	E B 15	E B 15
20	E B 15	17	E B 16	16	22	E B 16	16	23	29	40	33	64	A A 104	G 23	G 25	28	23	20	22	29	A A 58	A A A 64	A A 51	18
21	E B 14	E B 16	E B 15	18	E B 16	E B 14	E B 16	20	G 24	G 26	G 23	33	36	33	31	G 20	22	21	20	E B 15	E B 15	B A A 38	A A 41	22
22	17	16	E B 16	18	16	17	16	24	32	G 25	31	G 24	31	34	32	28	31	29	A A 56	32	A A 49	A A 53	A A 53	A A 42
23	20	20	19	20	19	E B 15	E B 16	28	35	46	32	40	47	35	30	G 20	20	17	20	20	29	19	19	19
24	18	E B 14	18	E B 14	E B 15	E B 15	E B 14	26	30	G A 22	A 86	36	44	58	51	G 20	23	17	18	20	20	18	E B 14	A A 54
25	21	16	16	16	E B 15	E B 15	E B 15	24	35	33	37	35	32	32	31	G 24	21	18	18	A A 56	A A 55	A A 48	20	20
26	20	21	16	17	E B 15	E B 15	E B 15	G 21	38	38	34	G 27	33	G 22	G 27	28	30	23	20	22	27	16	19	16
27	19	C	19	E B 15	E B 16	E B 14	E B 15	25	26	30	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	33	33	30	26	21	24	E B 15	E B 16	E B 16	E B 15	E B 15	E B 14
30	E B 15	21	17	E B 14	E B 15	E B 15	16	24	29	32	41	43	44	34	37	40	34	20	22	21	22	20	E B 16	E B 15
31	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	23	G 18	32	36	36	32	32	30	26	28	21	19	18	20	21	17	E B 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	28	29	29	29	29	29	29	29	29	28	28	29	29	29	29	29	29	29	29	29	29	29	29
MED	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	16	25	30	32	34	33	32	32	31	28	24	19	17	E B 16	E B 16	E B 16	E B 15	E B 15
U Q	19	16	16	18	15	E B 15	18	27	32	34	34	36	38	34	32	30	28	22	20	20	20	20	18	18
L Q	E B 15	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15	24	G 25	G 27	G 28	G 27	G 26	G 26	G 26	G 22	22	17	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

OCT. 2007 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

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

OCT. 2007 fmin (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 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	316	309	326	339	362	344	385	369	366	369	365	381	360	341	341	362	370	368	358	349	303	286	298	328
2	316	328	327	341	360	317	397	374	381	347	361	372	367	330	348	357	347	350	370	376	369	371	297	F
3	F	311	327	330	322	330	397	385	376	369	372	354	361	352	355	364	360	349	348	359	337	345	331	322
4	312	312	323	316	348	356	366	377	394	366	342	395	367	346	328	340	362	370	387	F	F	307	329	323
5	317	326	316	355	322	330	369	409	393	362	370	367	369	314	336	365	382	355	367	345	370	340	321	319
6	309	328	345	344	347	337	370	373	368	392	360	371	354	362	332	345	376	364	359	359	347	324	F	313
7	329	316	339	341	339	334	382	381	371	372	362	371	383	377	345	345	365	362	373	354	383	330	334	334
8	318	310	326	337	349	331	378	390	380	388	351	370	372	372	375	334	354	359	359	361	346	362	328	315
9	323	331	319	320	369	347	394	415	398	362	369	358	361	365	357	361	361	374	378	350	335	340	348	321
10	F	315	F	F	F	377	369	407	392	396	339	A	364	366	348	353	359	374	364	327	333	347	329	336
11	312	307	F	F	403	362	395	377	378	381	361	377	365	364	358	383	375	367	360	370	372	343	359	314
12	314	325	328	362	380	320	374	373	385	391	395	341	367	366	340	373	381	370	346	321	344	352	353	316
13	322	336	319	333	331	322	359	389	372	371	345	379	369	353	356	368	378	368	344	353	318	340	301	309
14	316	304	324	350	359	333	360	392	387	378	351	369	332	348	342	372	343	368	391	301	324	321	314	312
15	315	329	320	334	344	336	371	397	368	362	361	362	375	362	361	360	370	377	371	319	326	300	303	307
16	308	329	340	313	365	383	386	388	383	382	357	339	355	348	359	381	371	367	375	354	338	344	F	311
17	334	333	321	322	335	336	381	398	364	365	333	343	367	335	361	372	376	380	363	344	359	331	330	309
18	302	320	337	345	378	320	374	393	388	384	378	343	366	341	359	361	362	357	369	336	306	318	335	324
19	363	326	F	310	313	F	337	402	384	389	369	361	307	340	352	361	380	363	339	341	344	343	344	303
20	269	294	308	360	333	335	381	363	355	360	343	350	A	350	360	374	385	376	354	343	A	A	A	327
21	309	332	341	342	360	330	384	357	364	386	345	359	375	360	367	371	382	368	348	385	337	A	A	315
22	324	F	F	F	409	323	370	380	375	362	357	350	343	362	362	392	381	394	A	332	A	A	A	A
23	313	307	332	339	376	321	364	413	380	341	381	356	365	354	352	368	390	372	354	345	367	346	307	310
24	307	326	F	355	346	F	F	400	382	368	A	373	350	367	352	376	369	378	363	353	363	335	- 347	A
25	F	337	322	341	F	311	375	402	391	370	342	355	374	362	359	376	375	396	361	A	A	A	318	306
26	295	298	318	333	302	298	F	368	360	374	368	360	353	335	353	367	354	365	354	343	320	325	325	F
27	F	C	F	F	309	327	348	384	376	354	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	354	362	366	378	397	377	327	341	330	340	329	342
30	343	324	335	323	348	299	367	396	369	381	398	364	367	333	336	380	391	360	351	356	344	325	312	338
31	331	340	329	324	327	354	369	395	386	365	400	373	362	359	364	390	379	379	352	317	338	297	323	342
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	27	23	25	27	27	27	29	29	29	27	27	28	29	29	29	29	29	28	27	25	25	24	25
MED	316	325	326	339	348	331	374	389	380	370	361	362	365	354	355	368	375	368	360	345	338	340	328	316
U Q	324	329	335	344	365	344	384	399	386	383	370	372	368	363	360	376	381	376	370	356	361	344	334	328
L Q	309	310	320	324	331	321	367	376	368	362	345	354	354	341	344	360	362	362	352	336	328	322	313	310

OCT. 2007 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									L	L	U L 417	U L 447	L	U L 394	U L 376	L								
2									L	U L 384	U L 399	U L 394	L	U L 403	E A	E A	L							
3									L	L	L	U L 400	U L 378	L	L	L	L							
4								L	L	L	U L 405	U L 409	U L 444	L	U L 396	L								
5									L	L	U L 409	L	E A	L	L	L								
6									L	U L 398	L	U L 404	U L 422	L	E A	L								
7									L	L	U L 418	U L 454	E A	U L 419		L	L							
8									L	L	L	U L 398	U L 397	L	L	L								
9									L	U L 429	U L 425	417	U L 418	U L 403	L	L	L							
10									L	L	U L 422	A	U L 391	U L 390	U L 387									
11								L	L	L	U L 400	U L 435	U L 392	L	U L 381	L								
12								L	L	U L 396	423	429	U L 427	L	L	L								
13									L	L	U L 402	403	406	L	L	L								
14										L	U L 383	U L 410	U L 401	U L 384	U L 373	L								
15									L	L	U L 410	U L 388	U L 407	L	L	L								
16										E A	U L 393	U L 375	U L 378	L	L	E A								
17										L	L	U L 393	E A	L	L	L								
18									E A	E A	E A	E A	E A	L	L	L								
19										L	L	L	L	E A	L	L								
20										E A	L	E A	A	L	U L 389	L								
21										L	L	U L 392	E A	L	L									
22									E A		L	U L 401	U L 385	L		L								
23										E A	U L 434	E A	E A	L	L	L								
24									L	L	A	E A	E A	E A	E A	L								
25										L	E A	U L 395	L	L	L									
26									E A	E A	L	U L 391	L	L	L									
27										L	C	C	C	C	C	C	C	C						
28							C	C	C	C	C	C	C	C	C	C	C	C						
29							C	C	C	C	C	C	L	U L 385	L	E A								
30									L	L	E A		E A	L	E A	E A								
31										L	E A	L	L	L	L									
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										4	14	19	13	7	6									
MED										U L 397	U L 410	U L 401	U L 401	U L 394	U L 384									
U Q										U L 414	U L 422	U L 417	U L 420	U L 403	U L 389									
L Q										U L 390	U L 400	U L 393	U L 388	U L 385	U L 376									

OCT. 2007 M(3000)F1 (0.01)

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 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									246	230	250	230	244	272	290	246								
2									236	246	252	240	250	284	266	244	260							
3									232	240	266	260	242	266	262	248	262							
4								236	222	246	268	218	250	272	294	276								
5									224	264	254	252	244	278	274	246								
6									242	230	254	246	272	254	248	254								
7									244	240	242	246	232	246		268	248							
8									232	228	262	256	244	240	260	252								
9									230	242	250	252	234	246	260	260	252							
10									222	228	278	A	248	256	276									
11								238	242	228	262	232	252	260	250	232								
12								250	240	228	238	304	238	264	290	248								
13									244	242	260	228	244	258	262	254								
14										240	264	250	300	292	276	250								
15									246	252	266	244	238	260	260	262								
16										238	270	270	248	258	242	232								
17										248	282	262	232	282	252	234								
18									224	248	244	266	236	264	254	248								
19										216	248	236	316	260	246	242								
20										242	246	250	A	244	254	254								
21										238	260	242	236	250	254									
22									234		252	262	258	246		222								
23										262	236	246	242	242	264	248								
24									228	244	A	234	260	250	E A 256	238								
25										242	250	248	236	244	252									
26									256	228	236	252	250	276	250									
27										248	C	C	C	C	C	C	C	C						
28							C	C	C	C	C	C	C	C	C	C	C	C						
29							C	C	C	C	C	C	234	240	240	224								
30									240	236	226		234	294	260	226								
31										246	212	240	242	246	250									
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								3	19	28	27	26	28	29	27	24	4							
MED								238	236	241	252	247	244	258	260	248	256							
U Q								250	244	246	264	256	250	272	266	254	261							
L Q								236	228	230	244	240	236	246	250	236	250							

OCT. 2007 h'F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 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 276	E B 264	242	228	222	220	212	216	212	198	186	180	208	192	202	218	222	212	200	214	E B 284	E B 296	E B 278	E B 260
2	E A 262	240	228	222	220	218	196	196	202	194	H 188	188	208	192	A	A	210	232	214	210	206	212	E A 294	E A 294
3	E A 274	E B 266	E B 254	E A 250	E B 248	E B 248	208	212	208	196	198	196	196	196	196	212	216	226	222	204	210	210	222	E A 254
4	E B 262	E B 262	E B 250	238	218	208	210	208	200	188	190	188	H 176	H 172	H 174	224	232	216	204	220	240	E B 266	228	E B 252
5	E B 262	E A 280	E B 260	218	E B 240	E B 256	214	208	198	194	200	190	A	202	202	202	224	226	216	214	214	E A 256	E B 264	E B 256
6	E B 258	E B 256	226	232	224	218	208	206	212	196	196	192	190	210	A	228	226	208	208	204	226	236	E B 290	E B 284
7	E B 246	E B 252	236	234	226	226	198	208	212	204	190	176	A	180	212	230	222	214	206	218	206	226	238	236
8	E B 250	E B 262	E B 258	E B 244	220	236	210	216	204	198	190	194	186	186	202	184	H 204	222	204	200	216	202	E B 254	E B 268
9	E B 250	E B 250	E B 256	E B 258	216	210	206	200	198	188	178	198	H 168	190	196	210	224	218	196	202	220	210	206	E B 254
10	E B 262	E B 248	E B 262	E B 280	222	204	206	198	196	196	178	A	194	198	214	208	222	216	204	208	226	214	228	224
11	E A 288	E B 262	E B 248	244	196	208	202	216	194	198	198	H 182	198	202	192	210	222	216	208	204	202	208	218	E B 272
12	E B 272	E A 264	E A 248	226	196	E B 254	208	212	214	H 192	204	192	H 170	H 180	232	220	222	216	212	E A 254	224	220	212	E A 266
13	E B 252	E A 248	240	E A 252	216	E B 260	228	222	208	198	196	192	190	H 176	H 186	216	H 176	206	210	216	224	222	E B 272	E B 278
14	E B 256	E B 254	246	214	208	E B 260	214	214	218	198	200	188	178	H 172	224	226	208	212	198	222	238	236	E B 262	E B 248
15	E A 284	E A 268	E A 262	E B 254	216	222	218	204	188	194	196	176	H 182	206	198	214	226	206	204	246	242	E B 274	E B 278	E B 278
16	E B 258	242	230	246	206	198	194	200	210	A	200	198	190	208	216	A	212	212	212	208	198	222	E A 280	E A 290
17	E B 252	E B 248	E B 256	E B 250	224	218	192	210	210	194	186	182	A	204	220	210	218	208	192	218	212	236	236	E B 278
18	E B 294	E B 266	E A 256	234	198	E B 258	208	210	A	A	A	A	A	206	202	210	H 186	216	204	216	E B 256	242	210	222
19	210	E A 250	E A 278	E A 286	E A 276	E B 288	232	208	210	194	212	194	230	A	224	210	214	204	212	216	212	210	208	E B 280
20	E B 320	E A 316	E B 274	220	E A 292	234	202	206	212	A	182	A	A	192	196	212	216	204	212	E A 276	A	A	A	238
21	E B 266	242	234	234	214	238	204	198	200	208	H 184	206	A	210	206	220	216	202	208	198	208	A	A	E A 320
22	E A 302	E A 278	E B 262	228	194	E A 294	210	212	A	H 190	186	H 192	184	214	220	202	210	202	A	E A 292	A	A	A	A
23	E A 284	E A 290	E A 272	E A 268	214	E B 264	216	202	214	A	H 176	A	A	216	212	216	216	198	214	224	220	222	E A 252	E A 272
24	E A 266	242	228	210	218	E B 258	200	204	204	196	A	A	A	A	A	216	214	202	208	214	222	230	216	A
25	E A 288	E A 262	236	220	E B 252	E B 254	212	196	210	194	A	178	202	202	198	H 214	218	194	204	A	A	A	E A 280	E A 318
26	E A 320	E A 308	E A 282	E A 268	E B 276	E B 306	216	232	A	A	202	190	202	214	214	218	212	206	206	218	E A 266	236	E A 250	E A 264
27	E A 268	C	228	196	E B 334	E B 276	224	220	214	210	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	210	210	208	A	202	208	214	224	224	222	230	E B 242
30	238	E A 294	E A 250	E B 248	230	E B 294	224	210	216	206	A	220	A	226	A	A	200	210	222	228	228	E A 282	E B 286	240
31	236	230	E B 250	E B 268	E B 256	216	208	200	214	218	A	202	192	202	210	216	206	192	230	E A 250	E A 256	E A 296	E A 260	224
	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	29	29	29	29	29	29	26	24	23	23	20	27	25	25	29	29	28	28	26	25	26	27
MED	E B 262	E 262	E 250	U 226	217	U 218	208	208	210	196	190	192	191	202	206	214	216	210	208	215	219	220	E 251	E 264
U Q	E A 284	E A 267	E 261	E 253	E B 244	E B 260	215	213	212	198	200	196	202	210	215	219	222	216	213	224	E 238	E 249	E B 278	E A 278
L Q	E B 252	248	236	224	214	218	203	201	200	194	186	182	H 183	H 190	197	210	209	204	204	208	212	213	222	242

OCT. 2007 h'F (KM)

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 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							A	A	A	A	110	116	116	118	114	118	120	B						
2							B	122	118	112	112	118	114	A	118	120	116	B						
3							B	A	A	A	A	A	124	120	A	A	A	B						
4							B	122	A	114	A	110	116	116	116	A	A	B						
5							B	122	122	A	118	A	A	118	A	114	A	B						
6							B	116	116	A	A	114	116	118	116	122	130	B						
7							B	120	110	A	120	120	128	122	118	124	122	B						
8							B	128	122	A	A	120	122	122	120	118	124	B						
9							B	126	120	118	116	110	108	122	116	118	122	B						
10							B	120	120	112	108	A	112	A	116	116	A	A						
11							B	118	118	120	A	A	112	110	118	118	122	B						
12							B	122	A	116	112	114	114	118	118	114	118	B						
13							B	116	118	120	120	118	110	116	120	122	122	B						
14							B	114	A	112	A	114	114	114	112	110	A	B						
15							B	120	120	112	122	116	114	114	112	106	122	B						
16							B	126	124	112	A	120	112	A	A	A	120	B						
17							B	122	120	A	A	A	A	A	A	A	A	B						
18							B	126	112	A	A	A	A	A	A	116	A	B						
19							B	120	A	A	A	A	A	A	A	A	122	B						
20							B	120	118	A	A	A	A	114	118	118	118	B						
21							B	A	114	106	112	A	A	A	A	112	A							
22							B	118	A	122	A	116	A	A	A	A	A	A						
23							B	118	118	A	A	A	A	A	A	112	A	B						
24							B	112	122	126	A	A	A	A	A	122	122	B						
25							B	A	A	A	A	A	A	A	A	128	A	B						
26							B	126	A	A	A	120	A	114	116	A	A	B						
27							B	120	A	A	C	C	C	C	C	C	C	C						
28							C	C	C	C	C	C	C	C	C	C	C	C						
29							C	C	C	C	C	C	A	A	A	A	A	B						
30							B	126	116	A	A	A	A	A	A	A	A	B						
31							B	116	116	A	A	A	A	A	A	A	A	B						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								25	19	13	10	14	15	15	15	19	14							
MED								120	118	114	114	116	114	118	116	118	122							
U Q								124	120	120	120	120	116	120	118	122	122							
L Q								118	116	112	112	114	112	114	116	114	120							

OCT. 2007 h'E (KM)

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 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	90	92	B	B	B	112	108	104	104	106	104	118	102	102	140	100	116	110	106	108	B	B	102	102
2	102	96	102	B	B	B	140	142	124	114	120	120	120	96	142	144	138	94	94	92	92	90	94	98
3	96	94	94	92	104	B	104	104	104	106	106	104	104	100	96	94	94	92	90	88	86	B	90	90
4	94	B	B	B	B	106	114	124	108	100	94	92	98	98	94	90	90	90	88	88	88	B	B	B
5	102	100	98	B	102	96	122	122	104	96	94	94	94	98	94	98	98	98	94	92	90	88	88	90
6	B	92	92	94	98	B	138	148	118	96	104	124	100	146	150	124	124	106	108	102	102	B	102	100
7	B	B	B	B	B	B	140	144	118	102	100	126	130	102	132	144	130	128	110	104	96	94	98	94
8	B	B	B	B	B	B	148	130	124	106	104	120	106	96	102	100	108	B	B	B	92	90	94	102
9	B	B	B	B	B	B	B	120	106	102	96	94	94	98	104	G	110	92	88	B	88	88	B	B
10	B	B	96	94	B	B	B	170	106	120	116	104	112	94	148	118	92	88	90	90	94	B	98	96
11	96	92	B	90	B	B	B	154	116	100	100	96	98	98	106	102	122	150	B	B	102	102	98	B
12	B	98	98	94	B	96	148	156	106	108	96	94	96	98	150	106	156	124	114	104	B	102	100	94
13	96	96	96	94	B	B	130	134	106	106	100	98	104	100	104	134	106	B	B	106	B	B	B	B
14	B	B	92	B	B	B	138	130	102	132	98	100	100	102	104	138	96	90	B	B	B	B	B	B
15	92	94	90	92	B	B	B	102	132	116	104	98	90	152	138	116	124	B	B	B	B	B	B	B
16	B	B	98	94	94	B	B	130	120	116	104	102	96	96	92	92	112	112	96	88	B	104	102	102
17	B	B	B	96	96	B	148	134	106	104	106	104	100	96	98	92	90	86	84	98	B	98	104	100
18	96	100	96	96	96	96	138	116	118	104	104	106	102	98	96	94	98	92	92	88	B	B	B	98
19	94	90	88	94	94	92	88	120	104	102	106	104	102	102	102	106	128	B	B	102	92	108	96	98
20	98	94	94	94	94	94	94	132	116	106	106	100	96	96	102	120	146	120	102	98	98	98	98	98
21	B	B	B	94	B	B	B	102	102	102	100	96	96	94	92	90	90	90	90	B	B	98	98	98
22	92	96	96	94	96	98	144	120	104	104	106	102	94	96	94	92	96	96	100	100	96	96	94	88
23	88	94	94	94	94	94	B	140	120	104	102	100	96	94	90	90	88	104	94	96	98	98	98	98
24	96	96	100	92	92	92	B	142	128	104	104	104	100	102	102	106	152	118	104	106	100	100	98	96
25	96	92	110	94	94	B	94	102	102	102	102	102	100	102	102	102	104	124	110	102	98	98	94	90
26	98	94	96	94	96	B	148	122	108	106	104	102	98	96	102	100	100	100	100	100	94	94	110	98
27	98	C	98	100	96	B	B	116	106	104	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	98	96	100	100	98	98	104	104	B	102	96	98
30	B	96	96	B	B	B	134	130	118	104	100	98	96	96	94	90	88	88	88	84	106	102	84	84
31	B	94	94	B	96	96	98	152	96	104	102	102	110	106	106	106	106	98	104	100	96	96	92	90
	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	19	21	19	15	11	20	29	29	29	28	28	29	29	29	28	29	25	23	23	19	20	23	23
MED	96	94	96	94	96	96	136	130	106	104	104	102	100	98	102	101	106	98	96	100	96	98	98	98
U Q	98	96	98	94	96	98	142	142	118	106	105	104	103	102	119	117	124	115	104	104	98	102	100	98
L Q	93	92	94	94	94	94	106	118	104	102	100	98	96	96	95	93	95	91	90	90	92	94	94	90

OCT. 2007 h'Es (KM)

IONOSPHERIC DATA STATION Kokubunji

OCT. 2007 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

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

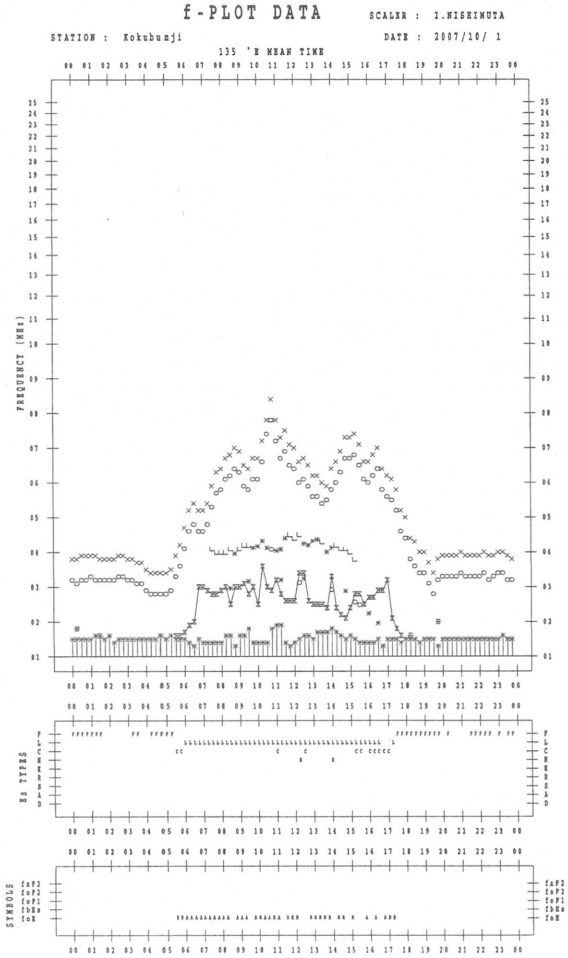
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F2	F2				F1	L2	L3	L2	L2	L2	CL11	L2	L2	HL11	L2	CL11	C3	F2	F1			F1	F1
2	F2	F1	F1				H2	HL22	CL12	CL12	CL12	CL12	CL22	L2	HL22	HL22	HL12	L3	F4	F3	F4	F4	F4	F3
3	F3	F2	F2	F2	F2		L2	L2	L2	L2	L2	L2	L2	L2	L3	L3	L3	L3	F3	F2	F2		F2	F2
4	F1					F2	C1	C2	L2	L2	L3	L2	L2	L2	L2	L2	L2	L3	F3	F2	F1			
5	F2	F3	F2		F1	F1	CL31	CL21	L2	L2	L3	L2	L2	L2	L2	L2	L3	L2	F2	F1	F2	F2	F1	F1
6		F2	F1	F1	F1		C2	H2	CL12	L2	L2	CL21	L2	HL12	HL11	CL22	CL22	L3	F2	F2	F1		F1	F1
7							H3	H2	CL22	L2	L2	CL22	CL22	L2	CL22	HL11	CL21	C2	F6	F3	F2	F3	F2	F1
8							H2	C2	CL12	L2	L2	CL12	L2	L2	L2	L2	L2				F2	F2	F2	F2
9								C2	L2	L1	L2	L2	L1	L2	L2		L1	L2	F2		F1	F1		
10			F1	F1				H2	L2	C2	C1	L3	CL12	L3	HL22	CL22	L3	L3	F2	F2	F3		F3	F3
11	F3	F3		F2				H2	CL22	L2	L2	L2	L2	L2	L2	L2	CL22	H2			F2	F2	F2	
12		F2	F2	F3		F1	H2	HL11	L2	L2	L2	L2	L2	L2	HL11	L2	HL11	C2	F3	F2		F2	F1	F2
13	F2	F2	F2	F2			H2	C2	L2	L2	L2	L2	L2	L2	L2	HL11	L2			F2				
14			F2				H3	C2	L3	CL12	L2	L2	L2	L3	L2	HL12	L2	L3						
15	F2	F3	F2	F2				L2	HL12	CL22	L2	L2	L2	HL11	HL12	CL11	CL22							
16			F2	F2	F1			C2	CL21	CL22	L2	L2	L2	L2	L2	L3	CL23	CL23	F2	F2		F1	F3	F5
17				F2	F1		H2	H2	L2	L2	L2	L2	L2	L2	L3	L2	L3	L3	F2	F1		F1	F1	F2
18	F1	F2	F2	F1	F1	F1	H3	C2	C3	L2	L3	L3	L3	L2	L2	L1	L2	L2	F2	F2				F1
19	F3	F2	F3	F5	F2	F2	L2	C2	L2	L2	L2	L1	L2	L2	L2	L2	CL22			F1	F1	F2	F2	F1
20	F1	F2	F1	F4	F5	F1	L3	C2	CL21	L2	L2	L3	L3	L2	L2	CL11	HL11	C3	F1	F4	F4	F4	F4	F2
21				F2				L2	L3	L2	L2	L2	L2	L2	L3	L2	L2	L2	F3			F5	F5	F4
22	F4	F2	F2	F2	F2	F2	HL11	C2	L2	L2	L2	L1	L2	L2	L2	L2	L2	L2	FF32	F4	F4	F5	F5	F4
23	F4	F3	F3	F3	F2	F1		H2	C3	L3	L2	L2	L3	L2	L3	L2	L2	L2	F3	F3	F4	F4	F5	F2
24	F3	F2	F2	F2	F2	F2		H2	CL11	L2	L4	L2	L2	L3	L4	L2	HL21	C2	F3	F2	F4	F3	F4	F5
25	F4	F4	FF22	F3	F2		L2	L2	L3	L2	L2	L2	L2	L2	L3	L2	L2	C2	F4	F5	F4	F4	F5	F5
26	F4	F7	F2	F2	F2		H1	C4	L3	L2	L2	L1	L2	L1	L2	L2	L3	L2	F2	F5	F4	F2	FF22	F3
27	F3		F2	F2	F5			C2	L2	L2														
28																								
29													L3	L2	L2	L3	L2	L3	F2	F1		F2	F1	F2
30		F4	F5				H2	C2	CL22	L2	L2	L2	L3	L2	L3	L3	L3	L3	F3	F3	F3	FF21	F1	F2
31		F5	F2		F2	F1	L2	HL22	L2	L2	L2	L2	L2	L1	L1	L2	L3	L4	F3	F3	F3	F4	F3	F2
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

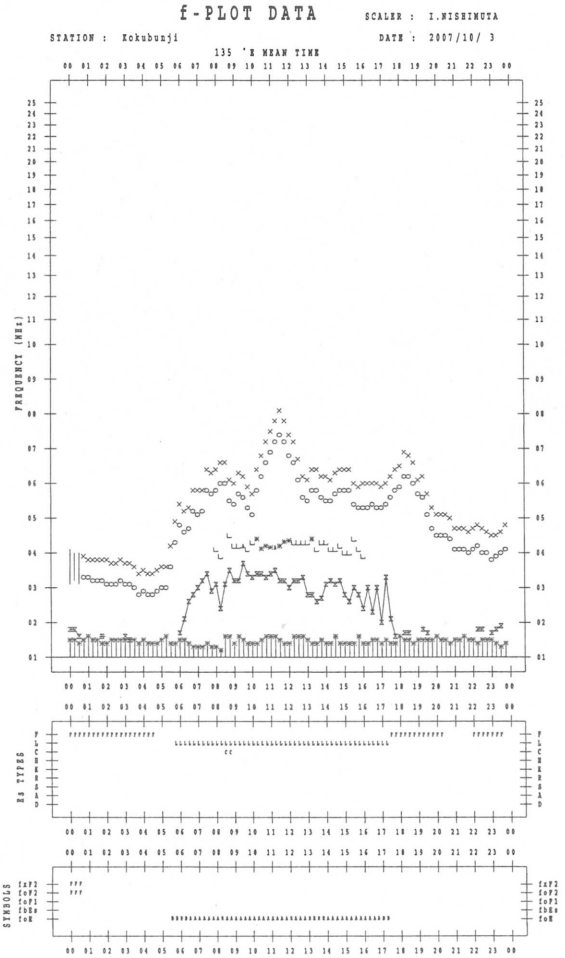
OCT. 2007 TYPES OF Es

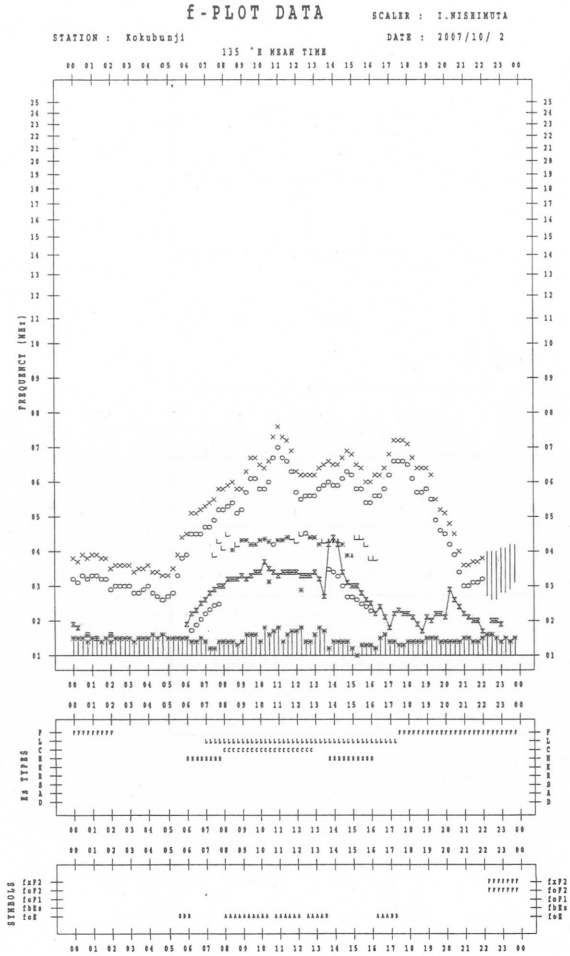
NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

f-PLOTS OF IONOSPHERIC DATA

KEY OF f-PLOT	
|	SPREAD
⬡	foF2,foF1,foE
×	fxF2
✳	DOUBTFUL foF2,foF1,foE
⧖	fbEs
⌊	ESTIMATED foF1
↑,↓	fmin
∧	GREATER THAN
∨	LESS THAN


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/ 1
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/ 3
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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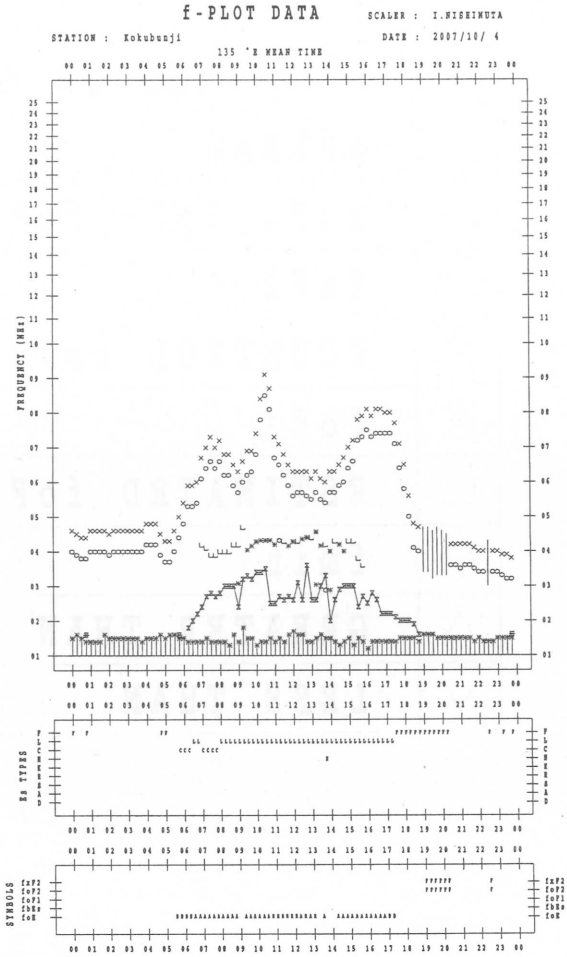
STATION : Kokubunji
DATE : 2007/10/ 2
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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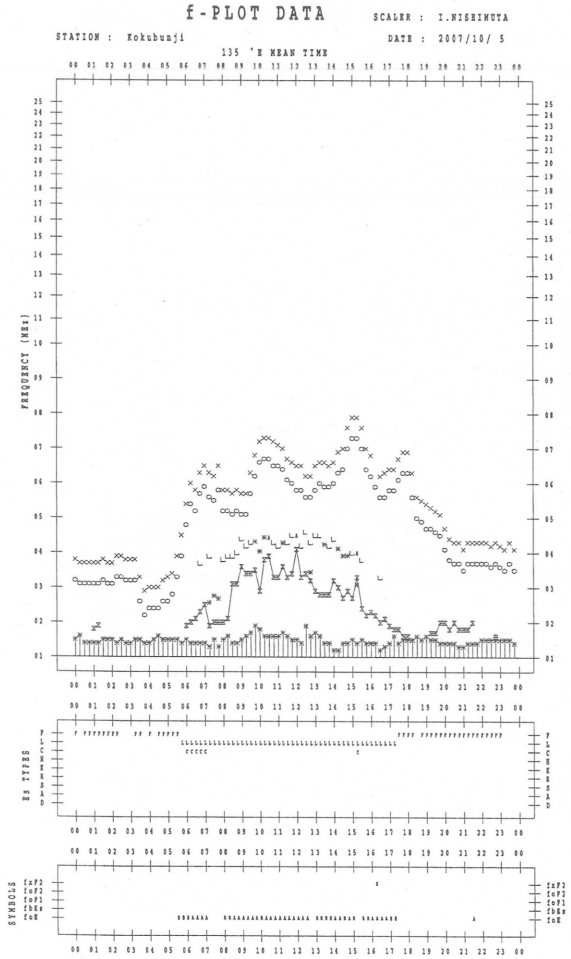
STATION : Kokubunji
DATE : 2007/10/ 4
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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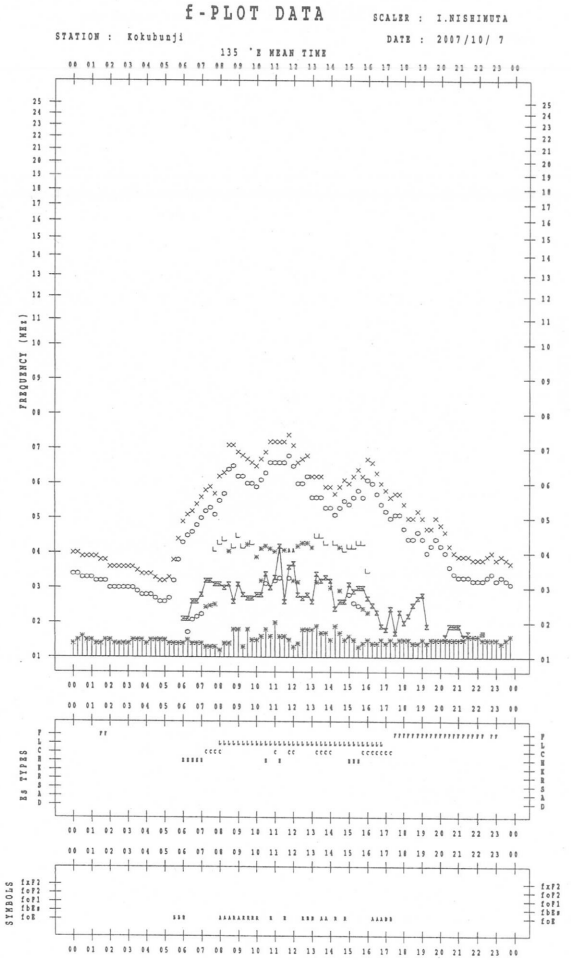
STATION : Kokubunji
DATE : 2007/10/ 5
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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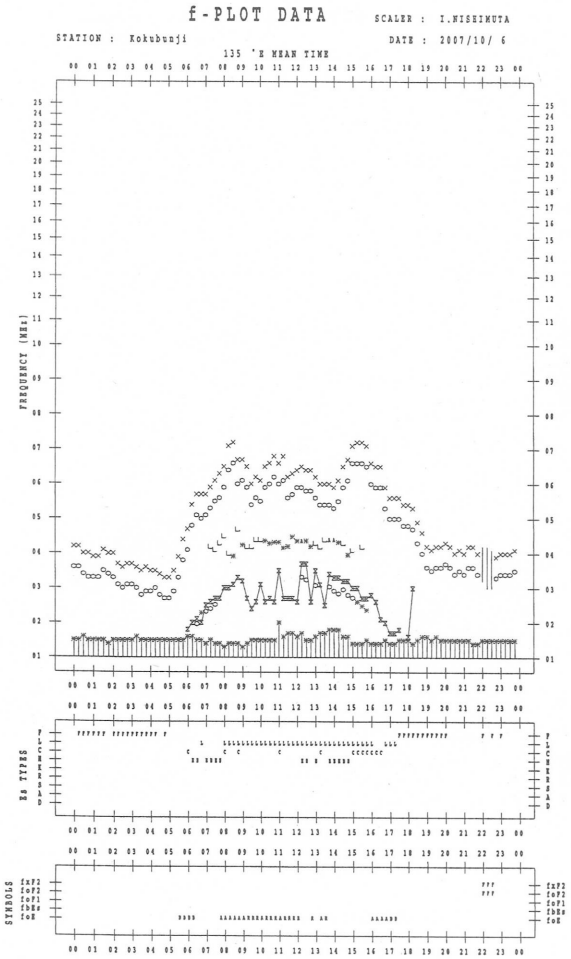
STATION : Kokubunji
DATE : 2007/10/ 7
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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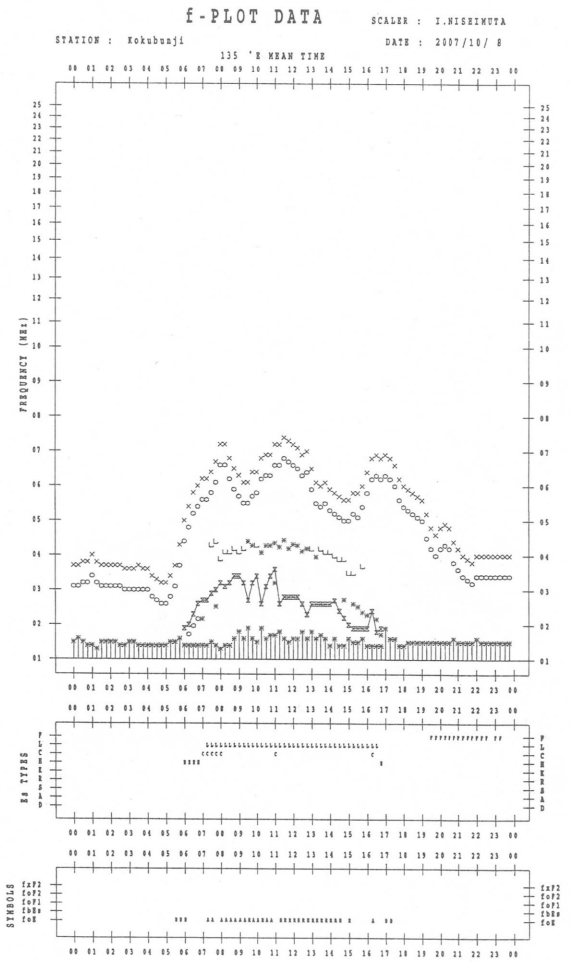
STATION : Kokubunji
DATE : 2007/10/ 6
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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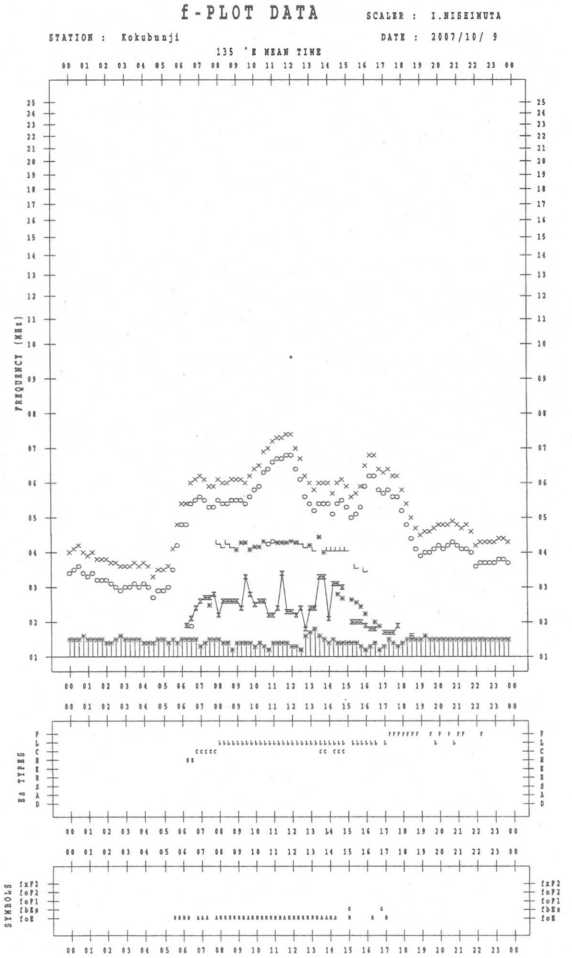
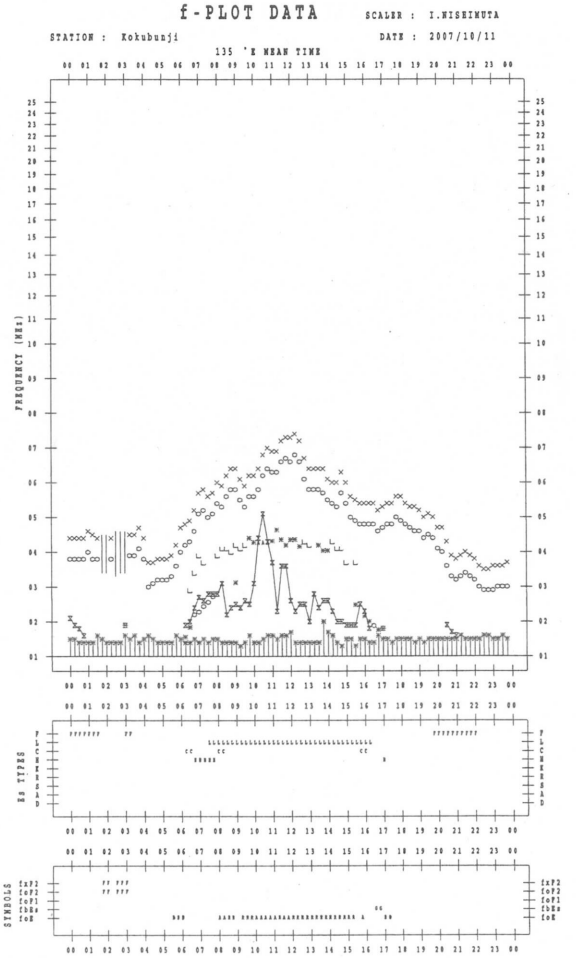
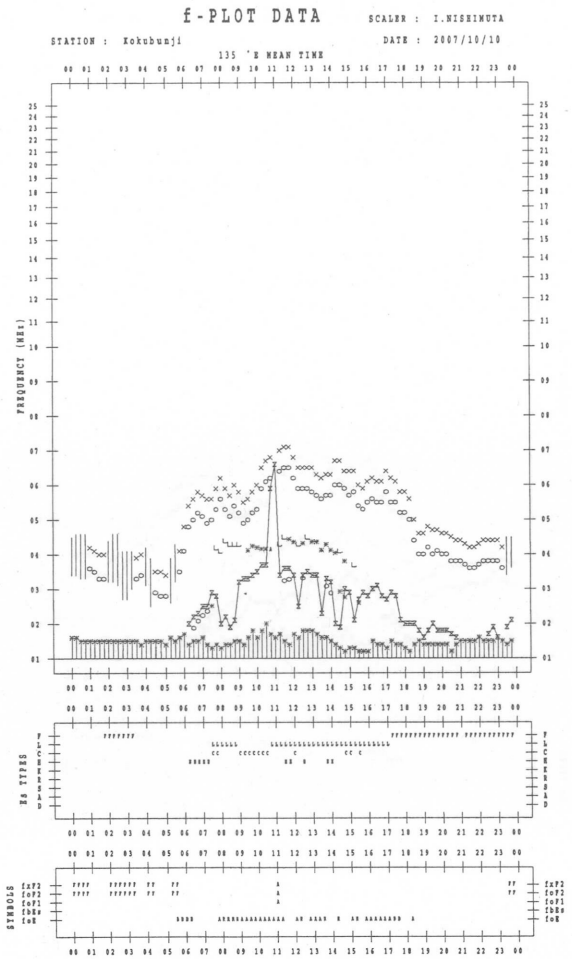
STATION : Kokubunji
DATE : 2007/10/ 8
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/ 9
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/11
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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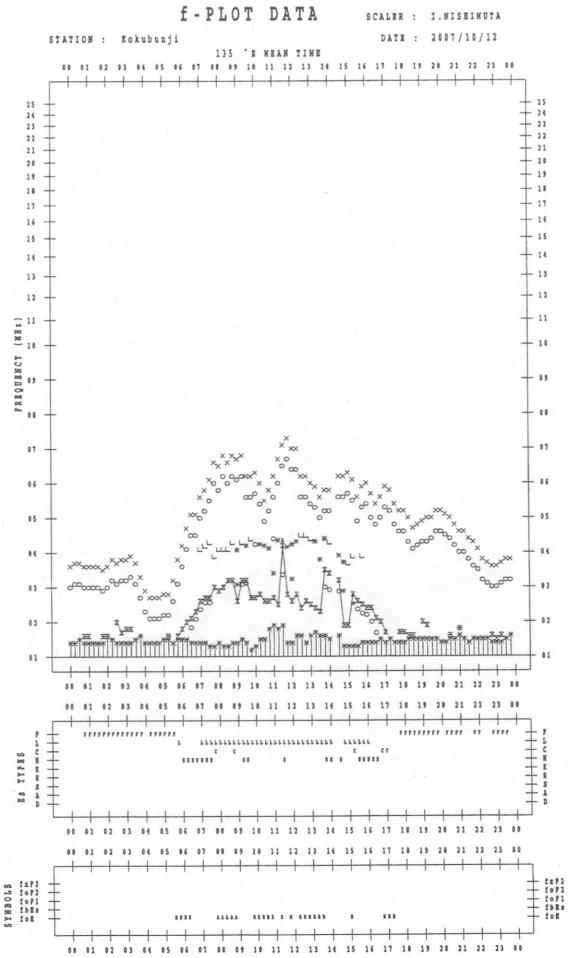
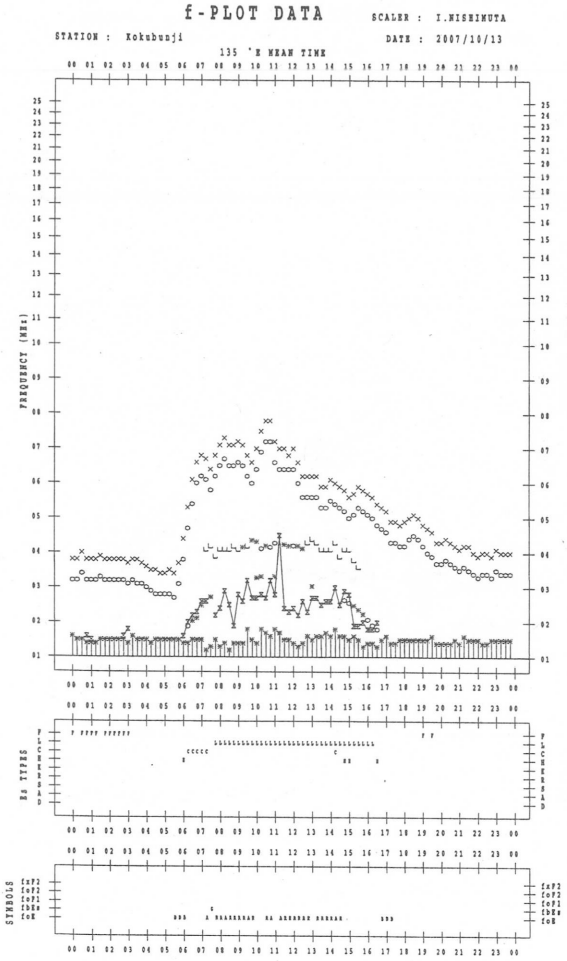
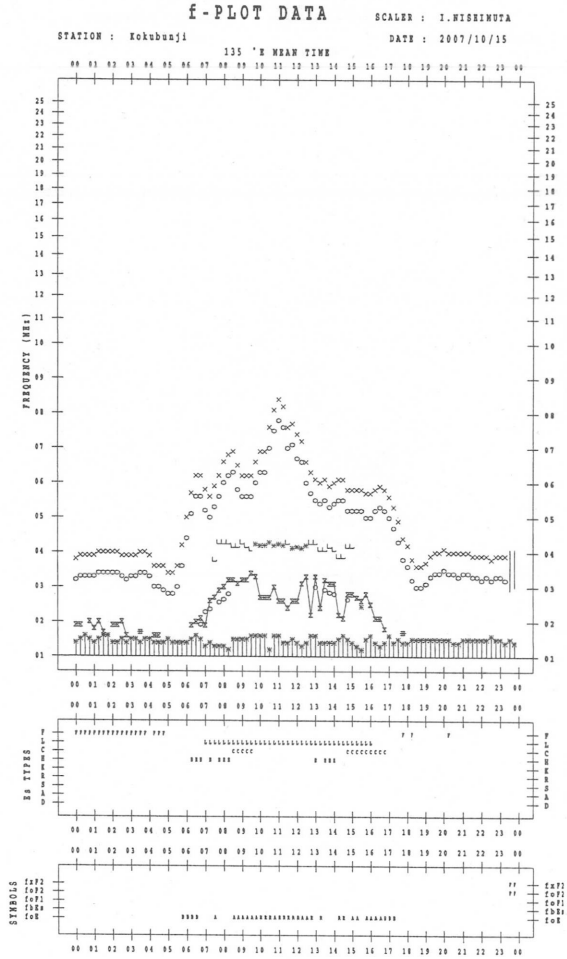
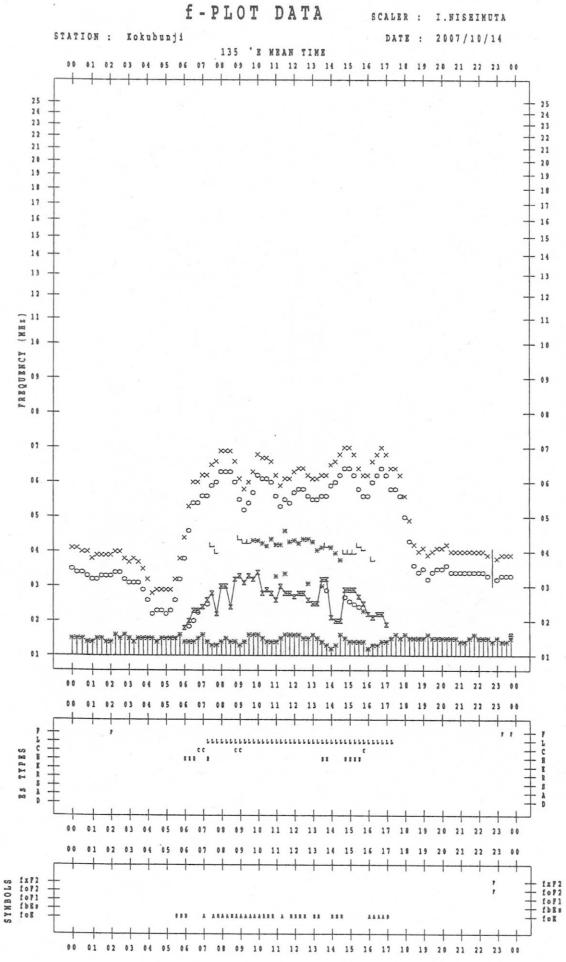
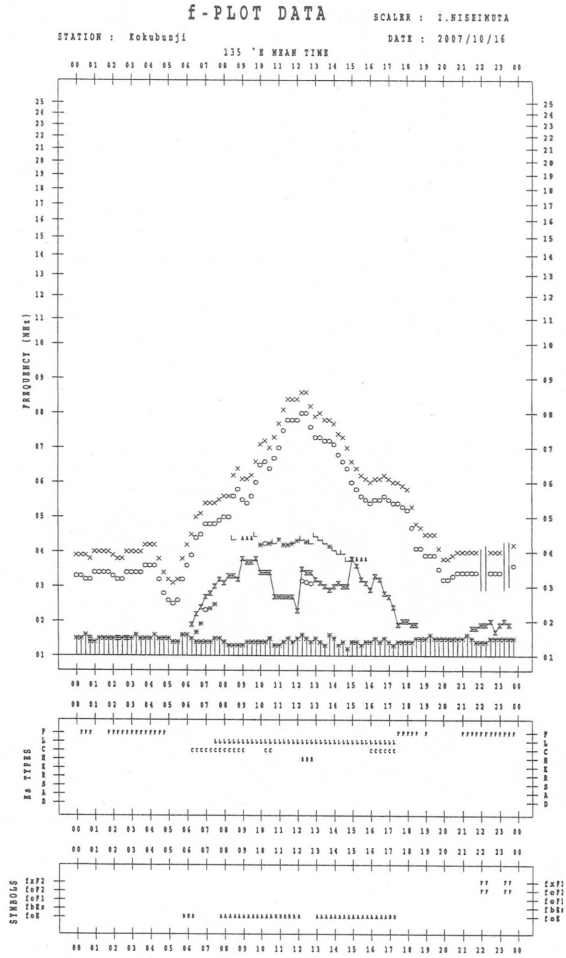
STATION : Kokubunji
DATE : 2007/10/10
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

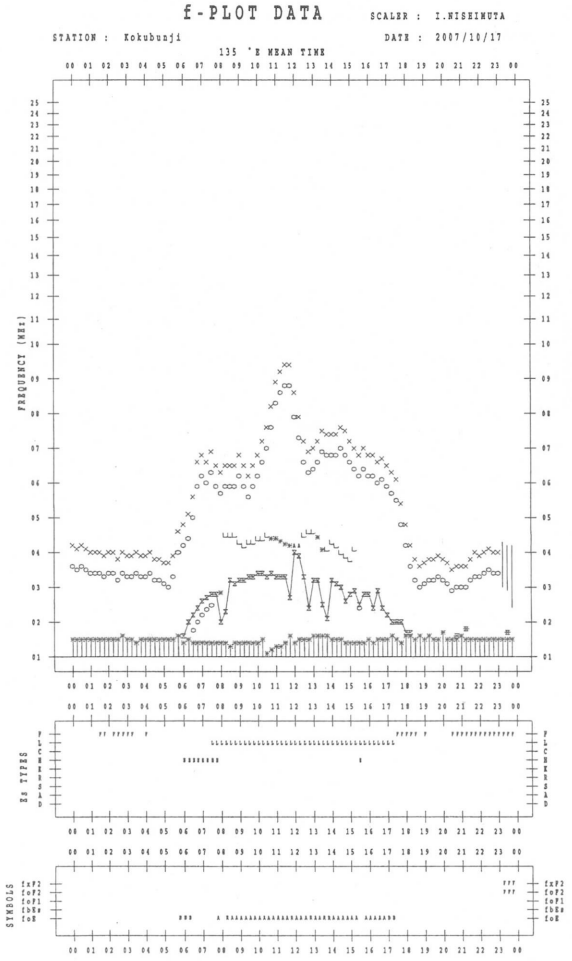

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/12
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/13
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/15
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/14
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/16
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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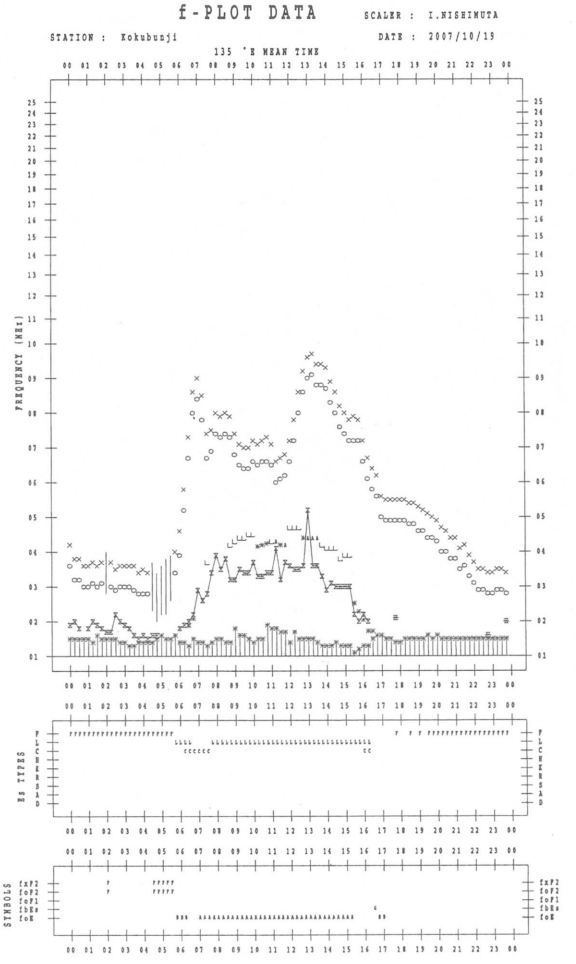
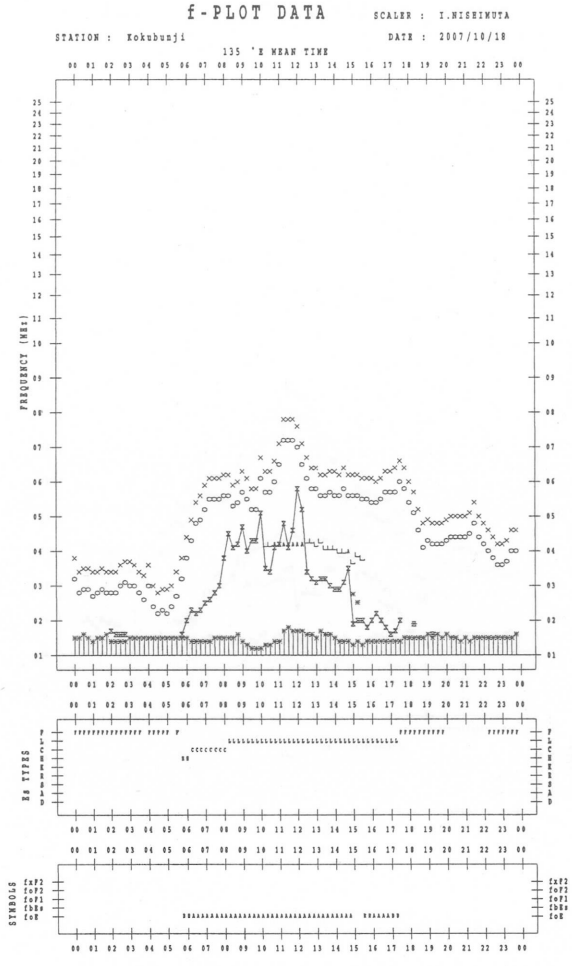
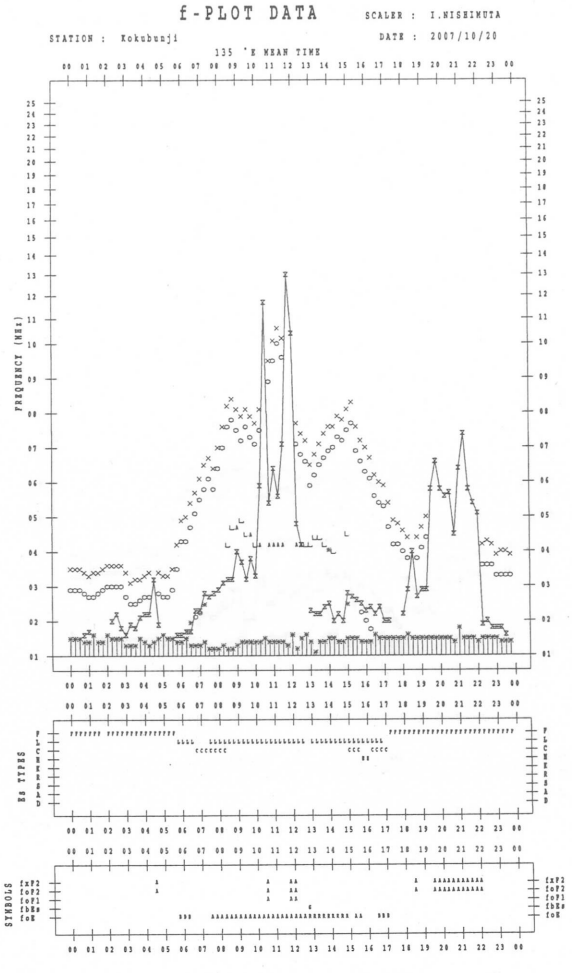
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/17
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/19
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/18
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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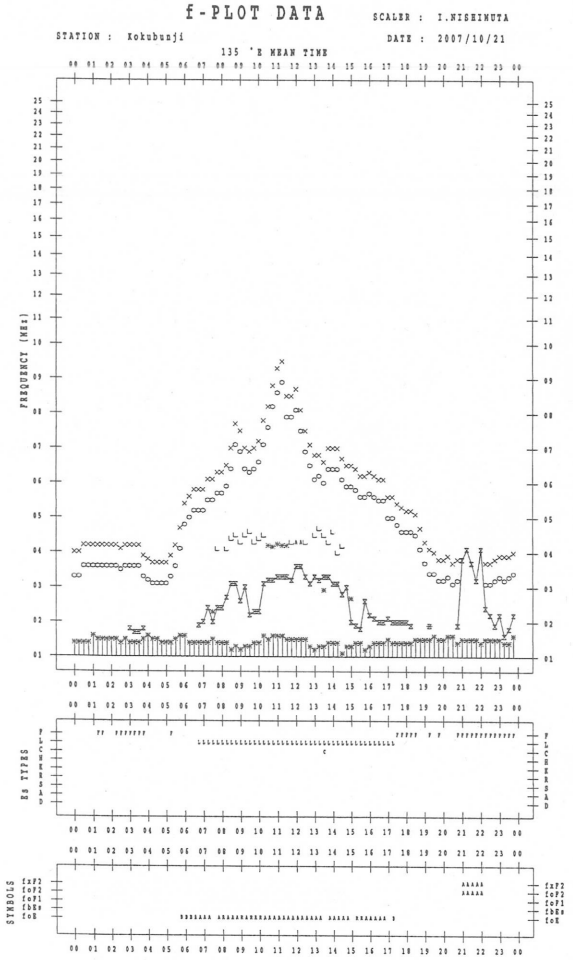
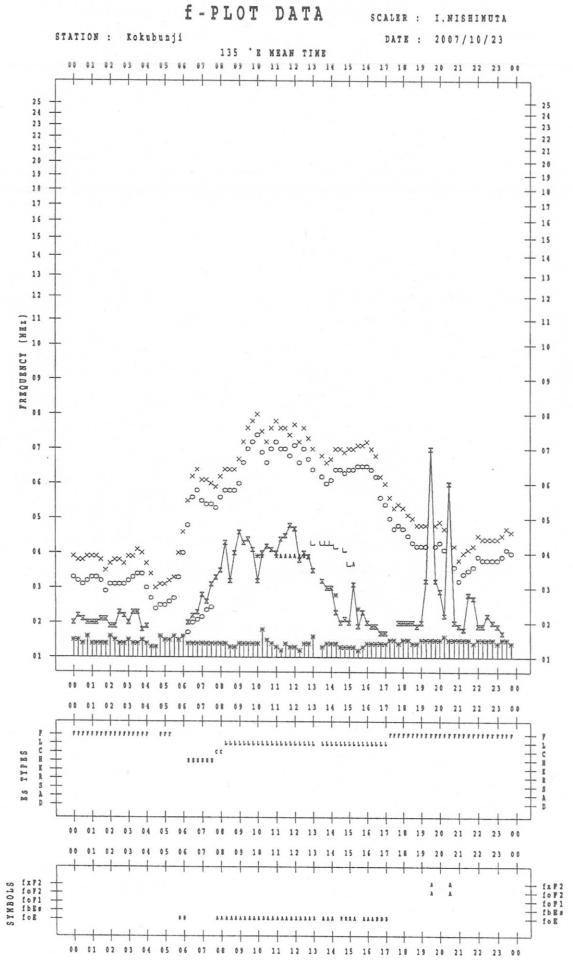
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/20
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/21
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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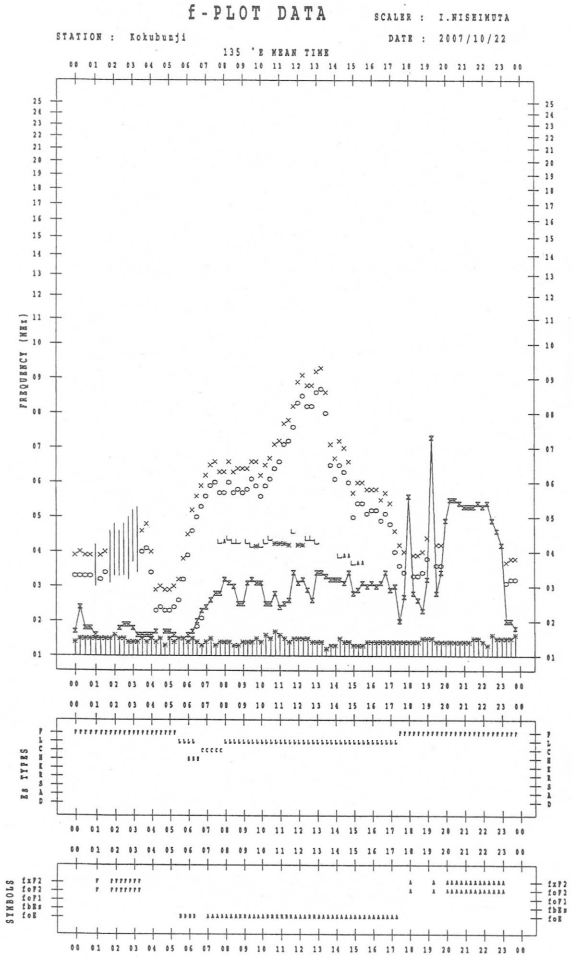
STATION : Kokubunji
DATE : 2007/10/23
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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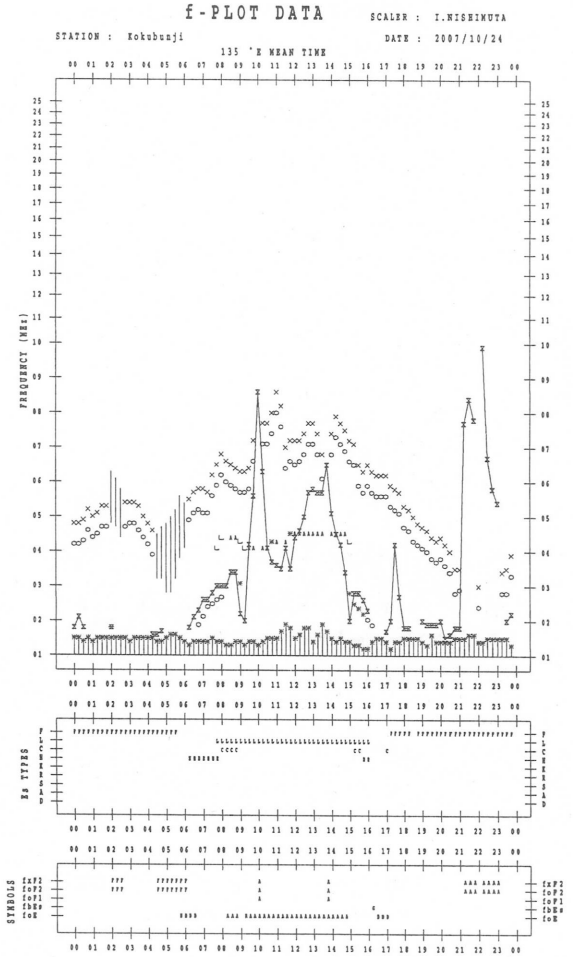
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/22
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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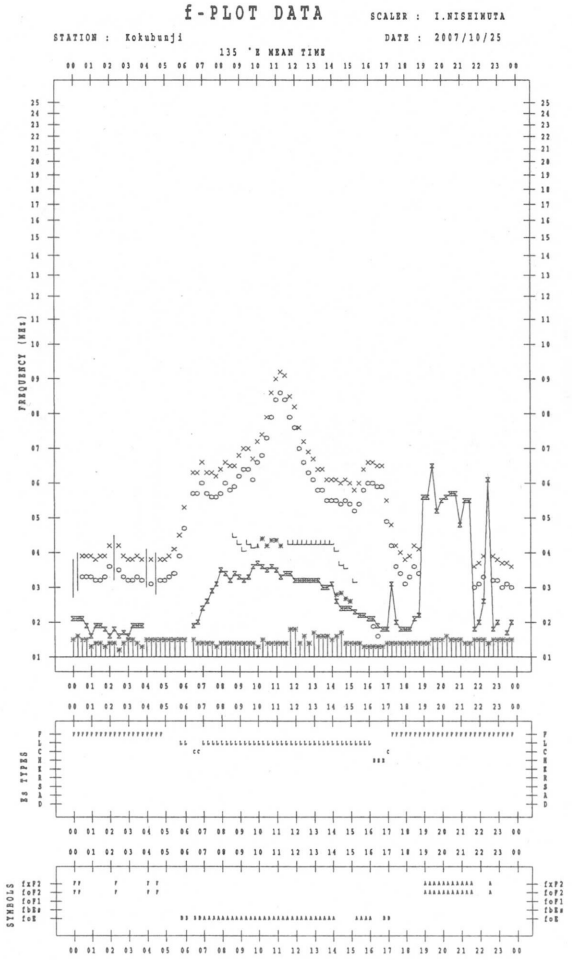
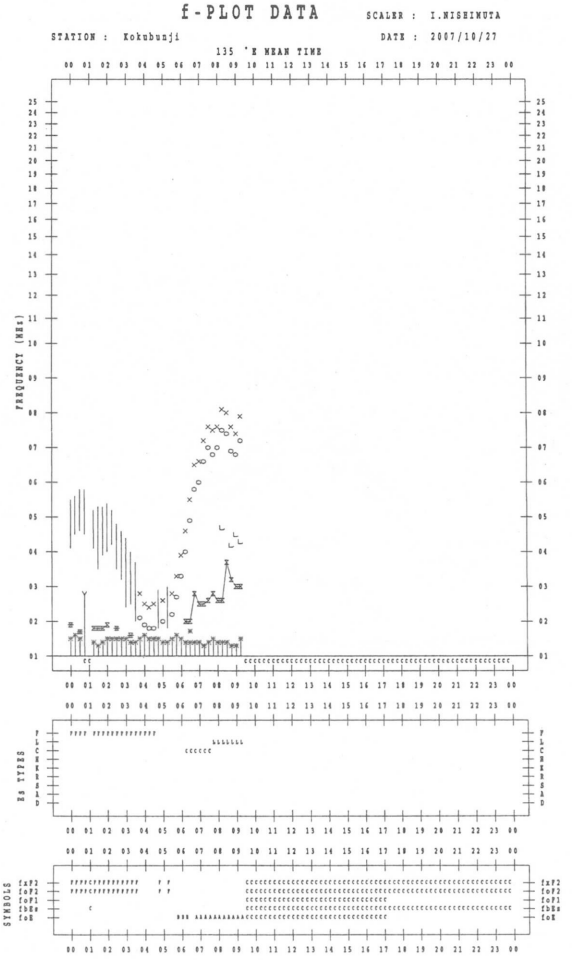
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/24
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/25
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
fxF2
foF2
foF1
fbEs
foE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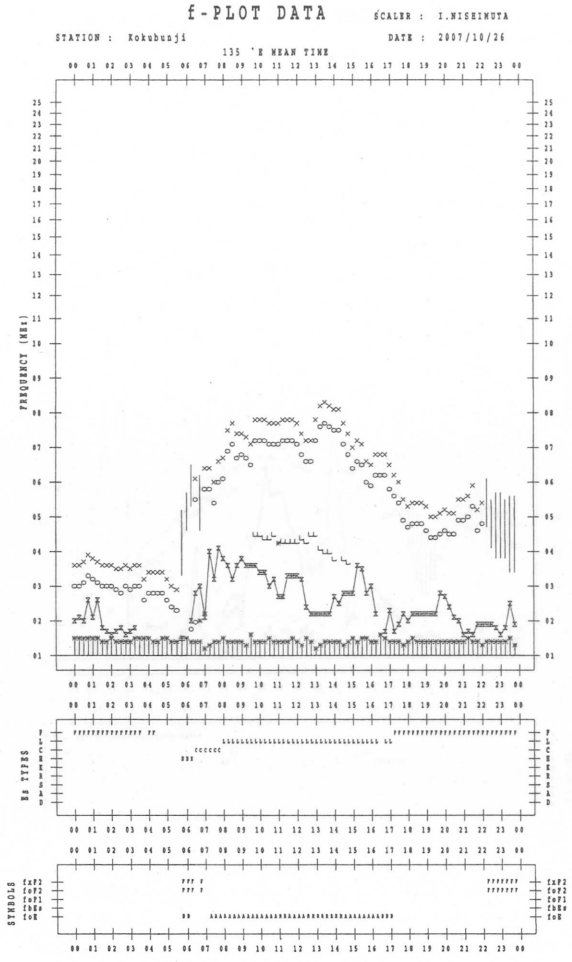
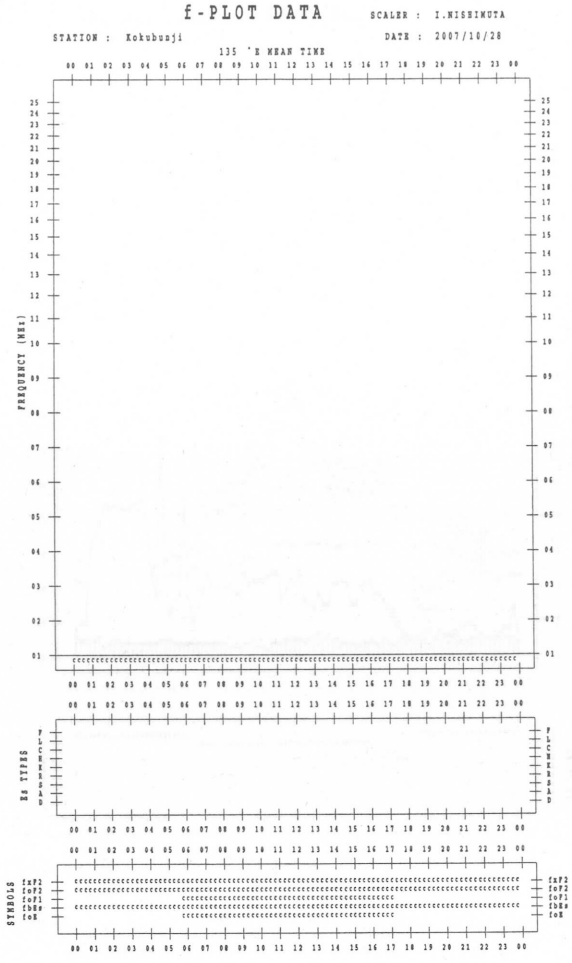
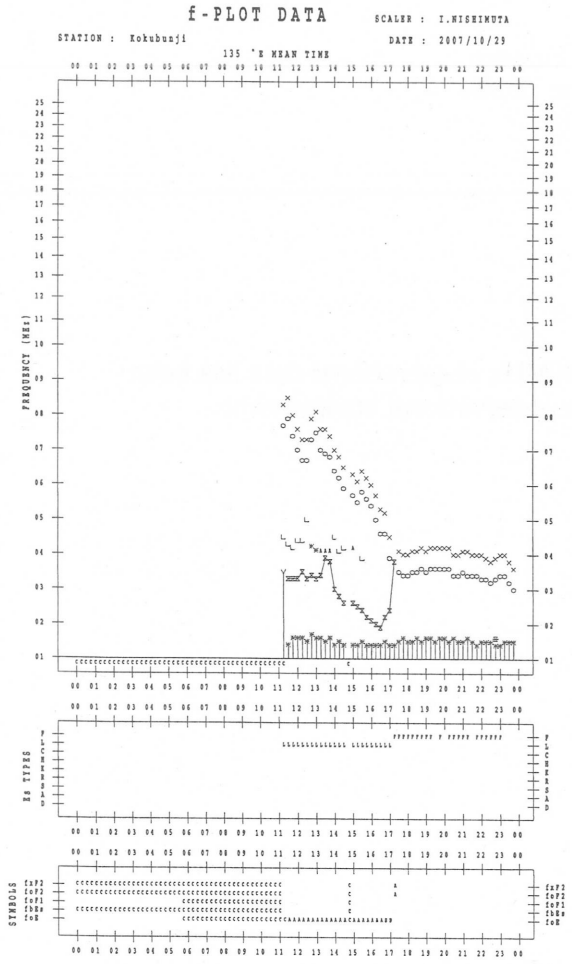
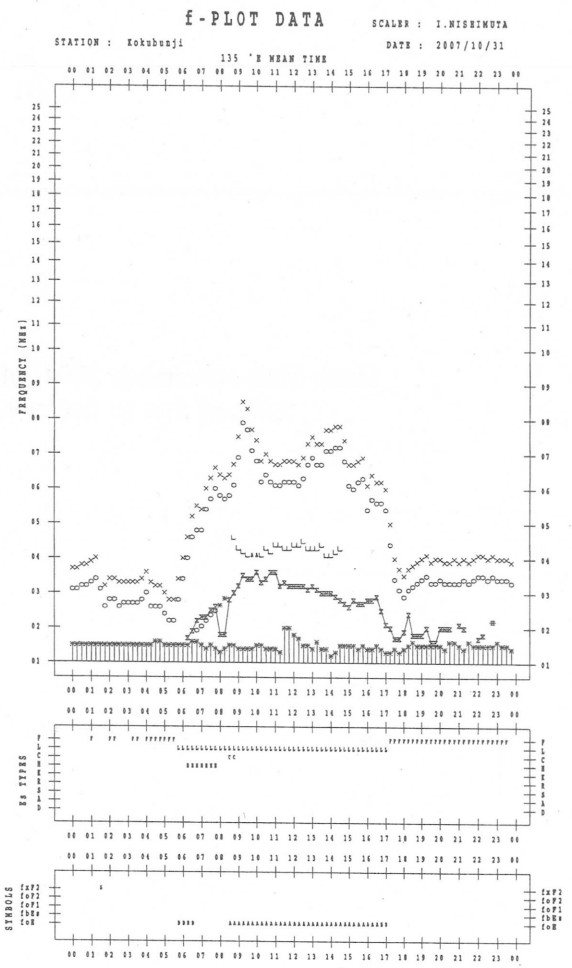
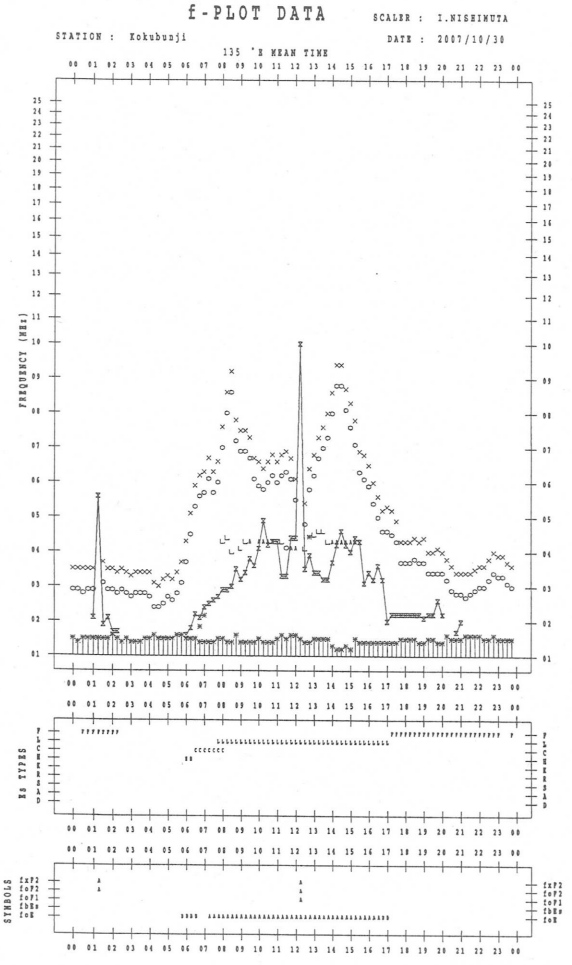
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/27
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
fxF2
foF2
foF1
fbEs
foE


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/26
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
fxF2
foF2
foF1
fbEs
foE


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/28
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
fxF2
foF2
foF1
fbEs
foE


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/29
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/31
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/10/30
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

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

Since 10th November 2004, offering of 500MHz observational data has been finished due to deterioration of the observational environment.

B. Solar Radio Emission

B2.Outstanding Occurrences at Hiraiso

Hiraiso October 2007

Single-frequency observations

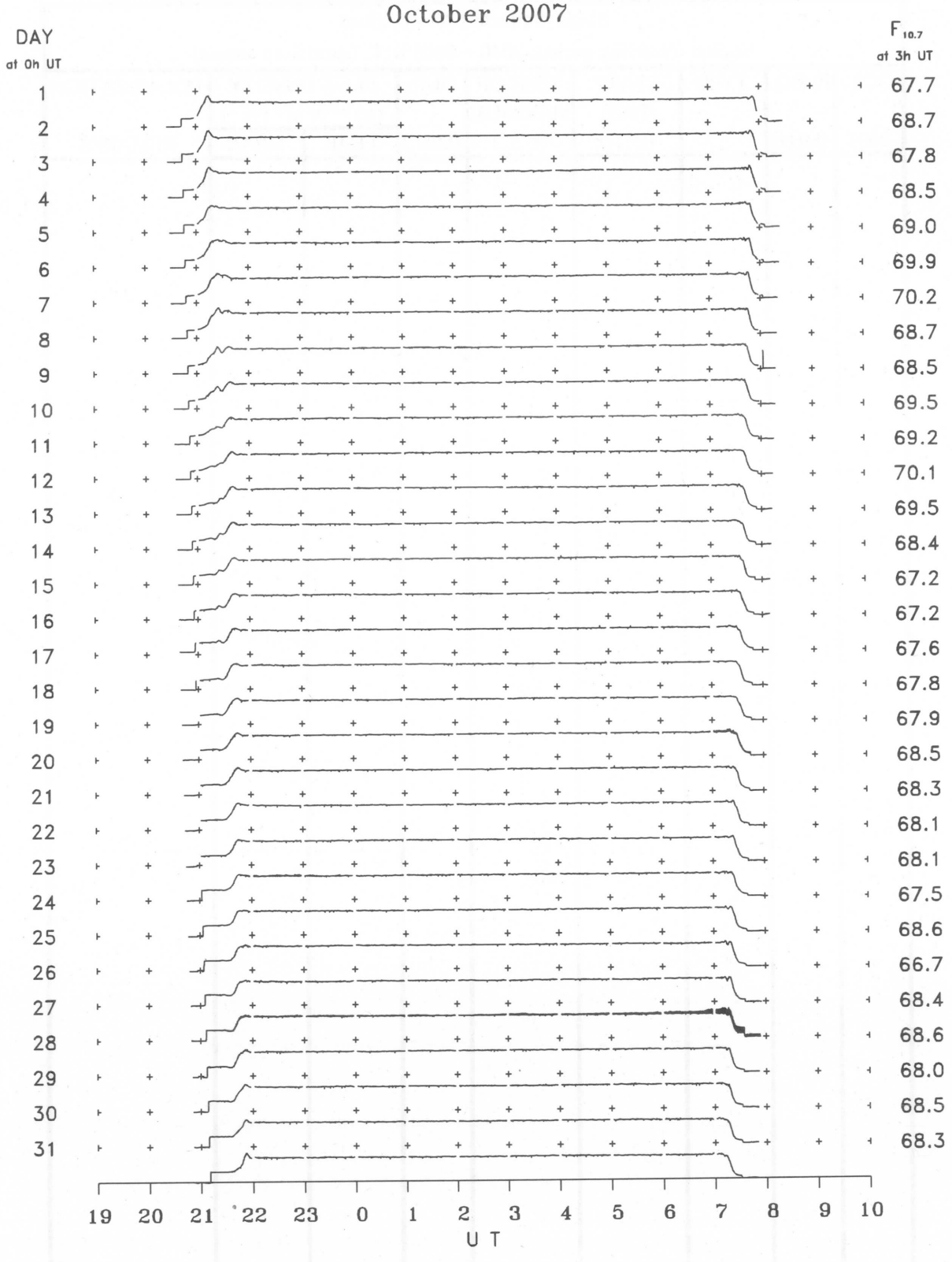
Normal observing period: 2040 – 0805 U.T. (sunrise to sunset)

OCT. 2007	FREQ. (MHz)	TYPE	START TIME (U.T.)	TIME OF MAXIMUM (U.T.)	DUR. (MIN.)	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) PEAK	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) MEAN	POLARIZATION REMARKS

B. Solar Radio Emission

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

October 2007



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

IONOSPHERIC DATA IN JAPAN FOR OCTOBER 2007
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