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F−668

IONOSPHERIC DATA IN JAPAN

FOR AUGUST 2004

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CONTENTS

《 Real time Ionograms on the Web ..... *http://wdc.nict.go.jp/index.eng.html* 》

NATIONAL INSTITUTE OF INFORMATION
AND COMMUNICATIONS TECHNOLOGY
TOKYO, JAPAN

INTRODUCTION

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

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

A. IONOSPHERE

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

A1. Automatic Scaling

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

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

a. Characteristics of Ionosphere

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

b. Descriptive Letters

The following descriptive letters are used in the tables.

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

C Impossible measurement because of any failure in observation.

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

N Impossible automatic scaling because of complex echoes.

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

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

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

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

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

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

d. Reliability of Automatic Scaling

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

e. Summary Plot

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

A2. Manual Scaling

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

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

a. Characteristics of Ionosphere

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

b. Symbols

(i) Descriptive Letters

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

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

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

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

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

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

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

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

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

K Presence of particle *E* layer.

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

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

N Conditions are such that the measurement cannot be interpreted.

O Measurement refers to the ordinary component.

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

Q Range spread present.

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

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

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

V Forked trace which may influence the measurement.

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

X Measurement refers to the extraordinary component.

Y Lacuna phenomena, severe layer tilt.

Z Third magneto-electronic component present.

(ii) Qualifying Letters

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

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

D Greater than.

E Less than.

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

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

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

U Uncertain or doubtful numerical value.

X Measurement deduced from the third magneto-electronic component.

(iii) Description of Types of *Es*

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

The types are:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

B. SOLAR RADIO EMISSION

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

B1. Daily Data at Hiraiso

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

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

* Measurement impossible because of interference.

B Measurement impossible because of bursts.

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

B2. Outstanding Occurrences at Hiraiso

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

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

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

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

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

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

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

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

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

B3. Summary Plots of F10.7 at Hiraiso

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

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

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

HOURLY VALUES OF foF2 AT Wakkanai

AUG. 2004

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

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

HOURLY VALUES OF fEs AT Wakkanai

AUG. 2004

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

HD	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	28	29	49	30	G	38	43	42	59	72	112	99	69	64	65	38	54	45	40	53	31	49	48	44
2	48	39	29	27	G	35	42	75	50	60	58	78	102	69	66	50	68		115	146	112	112	82	51
3	50	25	34	29	28	52	58	56	46	69	69	60	64	74	64	59	53	52	50	36	35		46	35
4	46	60	59	32	33	32	48	78	89	78	65	46	G	G	G	39	40	39	51	87	43	52	45	39
5	28	29	28	26	G	40	40	36	48	51	88	44	G	40	51	41	39	37	43	34	43	48	36	58
6	23	G	30	G	G	G	37	45	50	40	G	72	66	52	46	38	G	41	40	37	28	43	72	39
7		51	60	52	36	39	41	44	53	52	51	42	50	69	83	60	60	35	52	81	70	78	53	40
8	30	G	G	G	G	30	41	G	55	56	52	76	76	66	67	83	67	77	53	35		70	58	47
9	34	35	39	78	G	25	49	82	38	45	77	50	46	77	70	63	76	G	40	58	29	69	79	77
10	27	26	27	G	33	G	G	G	50	51	67	60	62	40	52	50	43	114	64	G	G	G	G	49
11	37	28	26	G	G	G		49	53	79	72	70	43	146	78		65	92	39	G	G	49	33	27
12	33	28	34	69	77	41	36	46	67	134	76	86		G	G	47	48	34	64	78	37	39	G	G
13	33	43	59	38	40	27	48	76	54	53	79	58	45	G	79	73	82	51	G	G	G	40	44	39
14	30	30	G	G	G	28	39	45	38	62	70	46	72	G	G	G	39		45	39	33	G		G
15	G	G	G	G	G	G	33	51	78	G	43	G	G	44	39		47	66	114	83	44	36	67	
16	52	59	43	47	32	40	51	60	84	76	69	51	52		39	41	72	65	68	87	80	59	37	52
17	54	32	28	G	34	47	47	47	65	59	74	55	98	76	51	60	48	40		75	60	40	78	83
18		59	48	26	30	G	40	49	50	54	52	49	46	52	65	83	67	40	61	71	54	70	G	G
19	G	G	G	26	24	28	46	45	45	50	G	G	43	G	G	G		51	32	28	34	33	34	G
20	27	26	30	29	31	G	41	47	51	65	64	91	76	74	52	G	50	43	61	73	69	44	51	30
21	32	36	29	G	26	40	38	42	47	70	67	48	60	G		G	G	34	38	30	32	44	33	32
22	32	G	G	G	G	28	50	50	50	47	59	60	G	G	G	G	G	41	54	38	29	35	G	G
23	G	G	29	25	G	G	37	48	61	57	52	60		52	G	57	51	53	31	G	79	51	43	48
24	27	27	G	G	26	29	39	70	65	47	48	45	G	G	G	G	G	47	53	40	29	26	38	34
25	38	38	32	G	26	37	59	45	46	52	57	64	51	58	69	G	47	G	G	38	60	34	85	59
26	31	G	24	34	38	33	34	42	43	39	48	46	G	G	G	G	G	39	50	60	53	32	30	38
27	G	G	G	G	30	29		G	G	G	40	G	G	G	G	G	G	G	G	G	30	G	G	G
28	G	27	G	G	45	39		86	48	42	G		G	G	39	52	58	55	64	83	45	60	G	33
29	G	28	G	32	30	40	40	36	39	41	G	G	G	G	47	53	86	78	G	G	51	39	40	34
30	28	G	G	G	28	35	51	44	G	50	41	42	G	G	G	G	44	40	40	30	53	43	31	33
31	G	36	33	24			31	G	G	39	40	G	G	G	44	G	G	G	29	27	G	27	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	31	31	30	30	28	31	31	31	31	30	29	30	30	29	30	29	30	31	30	30	30	30
MED	30	28	29	25	27	31	41	46	50	52	58	50	46	40	46	41	48	41	48	38	40	43	39	36
U Q	35	36	34	32	33	39	48	56	59	65	70	64	65	66	65	58	65	54	61	75	54	52	53	48
L Q	12	G	G	G	G	25	37	42	45	45	43	44	G	G	G	G	39	36	38	28	29	34	30	27

HOURLY VALUES OF fmin AT Wakkanai

AUG. 2004

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	14	14	14	17	14	20	18	18	22	24	21	23	22	21	20	16	14	18	15	14	14	14	15
2	15	14	15	15	16	14	14	15	16	17	21	18	20	21	21	17	15		14	14	14	14	14	14
3	15	14	14	14	14	14	15	16	17	21	20	23	21	20	18	17	16	14	14	15	14	14	14	15
4	15	15	14	14	14	15	14	15	14	18	17	26	20	20	21	17	17	15	14	15	14	14	14	14
5	14	15	14	14	15	14	14	14	18	22	20	20	26	18	20	14	15	15	14	14	14	14	14	14
6	15	15	14	16	15	20	14	14	15	16	18	20	18	20	20	20	15	14	14	14	14	15	14	14
7		15	14	14	14	14	14	14	17	16	20	23	22	21	18	18	17	15	14	14	14	14	14	15
8	14	15	17	18	14	15	16	15	18	18	20	16	17	20	21	20	15	20	14	17	14	14	15	14
9	14	14	15	14	16	14	14	16	14	20	24	27	18	17	18	16	18	17	14	14	14	15	14	14
10	15	14	15	14	14	24	14	14	16	18	20	22	20	22	17	16	16	15	15	16	15	18	16	14
11	14	15	16	20	18	18	14	16	15	20	18	22	21	38	20	16	18	14	14	16	16	15	15	15
12	14	14	14	17	14	15	14	15	18	20	21	20	21	20	24	18	18	14	14	15	14	14	14	21
13	16	15	14	14	14	15	14	14	26	20	21	22	26	21	22	18	18	15	14	15	15	14	15	14
14	14	15	15	16	15	14	14	18	15	49	23	21	28	21	22	53	20		14	15	14	14	15	15
15	15	15	15	14	15	15	17	17	21	23	26	26	22	20	20	34	18	14	14	15	14	15	14	
16	14	14	14	14	14	15	16	18	20	20	20	20	21		21	20	18	16	14	14	15	14	14	14
17	14	14	15	14	14	14	15	15	21	22	26	28	24	28	22	21	22	18		15	14	14	14	15
18		14	14	15	15	14	14	21	22	18	22	21	32	23	20	20	15	14	15	14	15	14	15	16
19	15	14	16	14	14	14	15	15	20	20	21	26	21	20	22	15		15	14	14	14	15	15	14
20	15	15	14	15	14	17	15	14	18	21	28	21	22	24	21	20	16	16	14	14	14	15	14	15
21	14	15	14	15	14	15	14	14	17	18	20	21	17	20		18	16	14	14	14	14	15	14	15
22	15	18	14	14	17	14	14	16	17	20	17	20	18	22	21	21	16	16	14	15	15	15	15	17
23	15	15	15	17	14	18	15	16	18	18	20	22	24	22	20	18	15	14	14	15	14	14	14	15
24	14	14	17	15	15	14	14	14	17	20	21	20	27	20	20	18	16	14	14	14	14	17	14	15
25	14	15	14	15	15	15	15	17	16	18	21	20	20	18	20	20	15	22	14	15	14	14	14	14
26	14	14	15	14	14	14	16	15	18	18	18	18	20	17	18	17	14	14	14	14	14	17	15	14
27	15	15	14	15	14	14	14	14	14	18	20	20	20	20	18	16	17	16	18	15	15	15	18	17
28	15	17	15	21	14	14	14	16	18	22	18		17	17	16	14	14	14	14	14	15	15	15	15
29	15	15	14	15	14	14	14	14	14	20	15	17	17	16	21	14	15	14	18	15	14	14	15	16
30	15	15	16	14	14	14	14	14	15	16	18	17	21	20	20	20	14	14	14	14	15	15	15	14
31	17	15	14	15			14	15	17	20	18	21	24	22	17	22	17	14	15	14	15	16	20	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	31	31	30	30	31	31	31	31	31	30	31	30	30	31	30	29	30	31	31	31	31	30
MED	15	15	14	15	14	14	14	15	17	20	20	21	21	20	20	18	16	14	14	15	14	14	14	15
U Q	15	15	15	15	15	15	15	16	18	21	21	22	24	22	21	20	18	16	14	15	15	15	15	15
L Q	14	14	14	14	14	14	14	14	15	18	18	20	20	20	18	16	15	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Kokubunji

AUG. 2004

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	55	54	55	54	49	52	59	68	67	75	75	67	A	67	A		55	56	58	A	71	A	A	54
2	A	45	44	44	37	41	53	61	A					68	63	66	A	54		A	55	65	A	A
3	54	A	36	35	A	A	A	59		A	A	A	A	A		67	A		A	60	A	49	48	42
4	44	42	44	41	39	46	59	55	A	A	61	A	A		A	A	61	68	A	A	A	54	54	54
5	48	A	44	42	44	42	54	A	74	48		65		67	69	75	66	55	54	68	A	54	54	54
6	A	55	51		44	44	45	68	78	63		A	48	66	77	80	69	58	A	65	69	54	51	44
7	A	50	44	45	45	47	58	56	43	A	A		64	A	A		68	A	A	76	A	72	75	65
8	A	66	52	52	45	47	59	72	A	A	A					56	52	A	53	64	61	A	54	54
9	52	54	50	44	44		52	68	66	64		C	A	A		74	C	A	59	68	72	73	54	42
10	47	44	A	47	44	46	52	56	54			62		68	68	66	66	72	75	71	59	61	A	61
11	52	54	50	42			33		A	A					A	A	60	62	33	57	54	45	48	51
12	51	47	44	44	41	41	51	67	69	74	66		61	76	71	72	58	60	66	69	59	55	52	52
13	55	48	47	47	46	46	52	71	67	66	59			67	66	67	75	78	78		58	53	58	60
14	A	A	52	44	43	42	58	80	75		A	75	71	74	72		67	68	A	76	A	64	54	61
15	62	A	54	54	55	54	76	67	62	77		71	70	66	69	76	78	72	76	71	66	65	65	62
16	52	54	55	53	51	52	54	77	66	68	74		64		A	75	72	A	76	88	82	64	65	66
17	61	55	52	54	55	52	71	73	72	65	68	69	69	69	76	80	84	77	77	78	80	77	A	72
18	61	53	54	55	49	49	62		A	69			76	80	78	78	76	78	91	90	87	72	A	74
19	66	55	62	51	54	55	68	69	82	90	87	85	88	A	A	69	A	A	67	78	74	71	54	A
20	A	A	55	52	55	55	77	65	62	70	69	84	78	82	81	74	75	68	72	73	65	54	54	A
21	54	54	54	55	46	51		A	A							57	63	57	56	49	48	A	46	A
22	47	44	42	34	37	34	48	52	49		A	A	A	A	A	54		55	54	64	60	44	A	A
23	A	A	44	45	42	45	54	A	A	A	A		A	71	72	68	A	67	64	A	55	49	45	49
24	44	47	47	44	37	40	55	66	66			73	74	69	82	86	75	64	64	66	60	62	54	64
25	59	55	48	45	44	39	55	71	71	77	81	64	63	60	70	A	A	A	82	83	73	53	53	54
26	55		51	45	43	A		90	72	A	64	72	86	65	70	72	69	68	71	71	54	54	54	54
27	54	54	47	47	51	45	51	63	62	65		A	66	68	74	75	55	A	78	81	A	54	53	51
28	53	51	44		55	52	50	57	62	61		61	64	68	63	66	64	59	66	72	66	62	65	52
29	54	43		44	42	39	A	54	65	52		59	61	59	67	67	A	61	63	78	75	52	47	48
30	47	45	47	47	36	44	52	62	69	56	A	58	64	67	70	66	64	A	66	74	65	54	A	62
31	54	47	46	A	A	A	A	56	48	A							49	52	48	A			44	43
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	24	24	29	28	28	26	26	26	23	17	10	14	17	20	19	24	23	22	25	25	24	27	24	26
MED	54	52	48	45	44	46	54	66	66	66	68	68	66	68	70	70	66	63	66	71	65	54	54	54
U Q	55	54	53	52	50	52	59	71	72	74	75	73	75	70	76	75	75	68	76	78	72	65	54	62
L Q	49	46	44	44	42	42	52	57	62	62	64	62	63	66	68	66	60	57	57	65	58	53	49	51

HOURLY VALUES OF fEs AT Kokubunji

AUG. 2004

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

HD	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	25	27	24	G	42	G	G	42	G	G	G	G	85	80	69	60	51	41	48	84	49	106	148	G
2	95	70	28	47	31	29	40	43	65	60	74	66	76	50	42	56	136	75	107	94	92	60	60	82
3	60	49	40	G	60	47	95	80		81	72	84	108	74		52		96	140		79	35	33	32
4	33	G	25	G	24	G	39	65	67	61	G	60	76	130	81	83	56	74	149	112	87	41	43	39
5	34	53	24	G	G	G	31	70	52	52	59	G		52	G	G	G	G	40	42	68	29	50	59
6	71	60	32	48	25	G	G	44	71	59	49	57	53	60	49	G	G	55	70	G	54	47	34	47
7	94	84	39	39	G	G	37	45	47	78	107	68	51	107	118	73	62	61	85	69	94	70	43	57
8	91	29	36	31	35	39	40	53	84	81		64	44	G		G	53	59	36	43	60	68	27	G
9	G	G	G	G	G		G	84	G	48	G	C	78	124	81	61	C	92	51	49	G	28	G	G
10	39	49	71	48	G	29	G	G	G			G		G	G	73	41	78	59	40	G	32	59	46
11	36	30	27	33	G		32	G	53	66		45	46		80	104	48	35	35	G	G	G	G	G
12	G	G	G	G	G	28		42	55	56	47		G	G	G	G	G	G	G	G	G	G	G	29
13	59	G	G	G	G	G	33	G	G	49	52	50	74	122	61	G	G	G	G		52	G	28	40
14	80	60	32	G	G	G	46	48	47	52	64	57	52	62	47	G	65	G	86	71	85	G	26	42
15	60	60	36	G	G	G	34	38	G	G		G	G	G	G	G	53	42	G	34	35	50	G	32
16	G	G	G	G	G	29	42	40	G	51	G		50	52	88	G	G	65	80	40	28	58	60	45
17	44	43	47	29	31	35	45	55	52	46	G	G	G	G	G	G	G	37	38	45	86	50	80	35
18	43	70	G	G	G	G	40	73	78	64	51		G	G	47	40	48	44	37	42	31	28	82	104
19	79	G	G	28	29	G	34	42	49	70	66	49	50	103	87	47	97	70	54	84	40	59	60	80
20	83	79	36	40	27	32	29	G	G	52	51	50	74	58	80	79	42	34	G	34	G	33	40	86
21	39	G	43	24	G	G		62	90	52			50	47	47	40	G	48	35	33	G	80	40	45
22	33	G	26	G	G	G	41	43	47	68	64	66	76	65	64	52	50	40	G	G	28	G	80	92
23	84	80	26	24	35	G	33	61	83	117	151	84	82	62	50	59	92	58	43	60	52	G	G	40
24	33	G	30	30	G	G	50	42	50	70	79	49	G	44	G	45	40	G	G	G	G	31	29	G
25	30	G	G	G	G	G	G	41	56	42	49	43	55	57	59	81		148	50	26	26	G	G	G
26	G		G	G	G	40	60	45	52	72	43	49	G	G	G	G	G	35	34	47	G	G		43
27	39	32	G	G	G	30	79	50	47	44	65	78	44	47	44	52	58	104	60	91	60	48	G	29
28	30	35	33		G	G	G	G	G	39		G	G	45	G	39	42	40	33	48	G	49	50	60
29	34	G		35	31	34	110	40	44	43	G	G	G	50	G	47	82	50	52	71	29	G	G	G
30	G	G	G	G	33	36	42	60	41	52	65	45	G	G	G	G	G	82	42	64	60	33	60	26
31	G	G	G	32	32	34	33	35	42	47		G					G	33	40	37	31	G	26	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	30	30	30	31	29	29	31	30	30	24	26	28	29	28	30	28	31	31	29	31	31	30	31
MED	39	30	26	G	G	G	37	43	48	52	52	49	50	52	47	46	45	48	42	43	35	33	37	40
U Q	71	60	36	32	31	33	43	60	56	68	65	64	75	69	74	60	57	74	60	70	60	50	60	57
L Q	30	G	G	G	G	G	30	40	G	47	22	G	G	G	G	G	G	35	34	33	G	G	G	G

HOURLY VALUES OF fmin AT Kokubunji

AUG. 2004

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	15	18	17	13	20	25	28	48	47	50	36	35	35	34	34	29	24	13	13	13	13	15	13
2	14	14	14	13	17	13	18	17	20	29	34	29	33	34	36	34	29	17	14	13	17	13	15	14
3	14	14	13	13	14	14	20	18		24	30	35	33	31	33	28	21	14	13	14	14	14	13	14
4	14	14	14	14	13	17	14	20	18	22	28	36	34	29	22	18	18	14	13	13	13	13	15	13
5	13	14	17	14	13	21	14	21	22	34	39	53		35	53	46	15	22	14	17	14	15	14	13
6	14	14	13	13	14	17	26	14	22	26	34	31	31	34	23	22	22	18	17	21	15	14	15	14
7	13	14	15	13	13	17	14	14	21	24	34	36	35	34	31	23	26	14	14	14	15	15	13	14
8	18	14	13	13	14	13	14	15	28	24	33	33	36	33		44	21	22	15	14	15	17	14	13
9	17	13	14	13	21		15	28	40	33	33	C	34	30	28	23	C	14	13	13	17	14	28	25
10	14	14	14	14	14	13	13	13	22			57		21	51	35	22	14	15	15	24	14	13	13
11	14	14	14	13	22		18	17	34	25		39	42		36	29	26	17	13	18	14	23	18	22
12	15	15	13	20	21	13	13	13	28	24	25		54	55	55	49	40	35	23	18	21	15	37	18
13	14	21	14	15	13	17	15	18	44	33	37	37	36	33	25	22	43	21	21		14	14	20	13
14	13	13	13	15	33	33	14	14	34	43	37	36	36	39	39	54	36	39	18	13	14	23	15	13
15	13	13	13	18	13	24	17	18	42	50		59	53	49	53	59	21	17	22	13	15	14	25	13
16	15	15	15	14	14	14	15	24	35	40	52		34	44	37	54	23	21	14	20	18	13	13	14
17	15	14	14	13	13	13	17	22	33	42	53	54	54	55	52	44	23	21	15	15	13	14	14	22
18	13	15	18	14	13	21	14	28	34	34	34		53	59	26	22	31	20	13	14	14	14	20	14
19	14	14	22	14	14	17	14	18	31	37	36	55	31	43	33	41	39	17	15	17	20	14	14	15
20	14	14	14	14	13	13	13	18	21	24	39	37	29	31	28	26	21	15	14	14	18	17	14	13
21	13	14	14	14	23	22		18	28	33			36	30	23	23	15	13	13	15	29	14	14	13
22	13	14	14	20	17	23	20	24	21	22	34	36	34	33	33	29	24	18	14	17	13	14	13	14
23	13	14	14	15	13	20	13	20	26	35	37	34	34	34	39	29	23	17	13	13	15	14	21	14
24	17	15	15	13	17	15	13	14	28	31	31	31	52	30	46	24	23	25	21	15	14	14	14	14
25	14	14	18	17	14	14	15	17	22	33	40	37	36	36	26	21	20	13	13	14	17	14	23	21
26	15		13	13	17	14	13	14	20	24	46	53	52	44	50	37	34	13	13	13	14	14	14	13
27	15	13	15	14	13	13	13	17	22	29	30	24	24	23	25	18	14	18	13	13	14	14	17	20
28	17	14	14		14	13	21	13	15	20		50	48	18	52	31	28	14	20	15	21	13	13	14
29	14	25		17	14	13	13	14	20	23	21	46	48	36	48	21	24	13	14	15	14	15	23	15
30	15	15	18	14	13	15	13	14	20	26	25	33	51	53	57	21	17	14	13	15	13	14	13	14
31	15	21	15	13	13	13	14	17	24	29		30					39	30	15	14	13	18	14	25
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	30	30	30	31	29	30	31	30	30	25	26	28	29	29	30	30	31	31	30	31	31	31	31
MED	14	14	14	14	14	15	14	17	25	29	34	36	36	34	36	29	23	17	14	14	14	14	14	14
U Q	15	15	15	15	17	20	17	20	34	34	39	50	49	43	50	41	29	21	15	15	17	15	20	15
L Q	13	14	14	13	13	13	13	14	21	24	30	33	34	30	27	22	21	14	13	13	14	14	14	13

HOURLY VALUES OF foF2 AT Yamagawa

AUG. 2004

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

HD	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	54	54		54	47	50	46	A	70	78	67			62	66	69	A	67	63	68	76	A	66	52
2	A	A	34	34	34	36	50	58	A	A	55	A	A	74			78	73	67	66	71	A	A	A
3	A	A	A	45	A	A	48	67	A	A	64	A	A	A	80	A	A	A	A	A	A	50	46	48
4	44	A	A	A	43	30	41	46	60	62	A	A	A	68	70	74	84	82	A	76	72	A		52
5	52	51	51	54		36	40	69	52	A	61	A	A	A	A	78	83	77	A	71	54	53	54	A
6	54	41	A	A	32	A	A	66	78	A	A	A	A	A	78	A	A	A	A	78	A	58	51	30
7	42	A	44	A	38	37	52	52	63	A	A	A	A	72	84	90	A	80	82	80	78	76	74	54
8	51		65	A	44	46	48	73	72		62	72	74			A		A	76	78	78	77	73	54
9		51	48		A	A	47	67	54	63		71		49	72	76	71	67	66	77	76	66	50	37
10	42	37	40	44	38	36	51	56	54	60					73	72	68		A		61	54	54	53
11		54	47	A	A	42	43	48	A		A	A				A	75	70	74	66	52	50	52	44
12	38	50		33			37	66	66	60		66		75	72	68	72	72	73	71	A	40	51	42
13	37	48	A	45		43	47	66		62	52		66		72	78	86	86	78	78		51	43	51
14	A	52	52	51	47	46	54	80	65		72	76	A	78				A	A	79	78	65	54	54
15	54	53	53	52	51	51	61	65	68	76	70	76	68	72	70	78	82	78	A	A	73	54	66	66
16	54	61	54	53	48	46	60	60	70	71	64	A	A	A		77	77	83	88	87	78	53	54	52
17	54	54	54	50	50	46	61	77	67	61		73	77	75	80	80	92		100	81	77	76	54	54
18	55	64	47	63	45	42	63	68	64	64	A	A		79	83	77	80	80	88		85		42	53
19	66	61	54	55	34	36	43	67	80	70	78	88	82	85	73	76		72	A	A	76	65	A	52
20	63	64	61	54	52	50	64	75	61	66	66	73	74		A	A	86	85	84	83	77	48	A	44
21	42	34	47	51	41	36	47	48	63		A	A	A	72		66	71	66	67	60	A	A	47	A
22	36	A	53	A	A	A	46	68	54	62			64	A	66	A	A	A		78	63	A		37
23	37	36	36	32	36	36	48	54	55	62			78	81	85		75	72	66	67	64	51	42	52
24	47	38	50		37	36	44	66	65	A	A	75	A	88			86	76	76	78	76	52	53	49
25	63	53	48	50	47	43	47	63	67	86	71			76	A	72	77	78	85	82	A	A	54	52
26	52	54	54	37	43	36	50	77	66	64	60	74	84	77	76	80	81	86	77	A	52	52	37	
27	36		51	48	41	35	43	66	80	61	64	65	67	77	A	71	A	76	81	78	A	A	A	A
28		52	50	52	52		35	53	62	64	66	62	66	69	70	69	71	69	67	71	66	54	52	54
29	44	36		41	43	36	32	68	A	50			A	70	71	53	A	64	72	78		A	A	42
30	42	36	42	47	41	41	42	72	55	A	A			72	78	72	67	61	62	66	64	52	52	54
31	63	54	42	40	36		A	47			A						54	C	46		36	42	38	37
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	24	24	23	24	24	29	30	25	19	15	12	11	20	19	20	21	23	22	24	23	22	24	26
MED	51	52	50	50	43	39	47	66	65	63	64	73	74	74	73	75	77	76	75	78	73	53	52	52
U Q	54	54	53	53	47	46	51	68	69	70	70	75	78	77	80	78	83	80	82	78	77	65	54	54
L Q	42	39	45	41	37	36	43	56	57	61	61	68	66	71	70	70	71	69	67	69	63	51	46	44

HOURLY VALUES OF fEs AT Yamagawa

AUG. 2004

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	36	38	43	30	40	49	94	55	59	67		53	46	56	G	73	39	59	34	66	92	58	43
2	56	59	40	34	50	39	28	44	46	61	50	81	72	52	76	72	G	40	56	52	87	103	79	94
3	60	59	43	40	52	37	G	38	73	91	80	73	117	82	75	90	160	172	107	91	85	58	42	53
4	36	84	85	81	40	42	34	36	44	52	106	64	63	60	52	50	41	66	85	55	49	91		43
5	34	35	40	40	40	34	35	42	52	86	58	72	115	85	84	85	39	38	116	57	60	33	38	72
6	G	67	54	58	36	54	49	66	58	54	61	70	59	58	68	86	88	107	114	53		47	41	40
7	40	46	39	49	28	G	G	35	54	62	106	145	136	71	92	103	92	84	82	34	32	31	G	40
8	G		45	49	31	36	32	60	60	56	74	60	55	42	54	83	76	83	45	40	28	28	G	G
9	29	38	36	43	46	43	34	G	G	G		G		G	G	G	G	G	40	41	25	G	G	G
10	G	G	G	28		39	G	39	G	38	G	G	G	G	G	G	52		67	60	71	27	29	40
11		G	G	86	56	G	G	37	49	58	54	54			G	83	G	38	54	G	34	33	G	G
12	G	G		G	30	29	28	35	41	G	44	G	G	G	G	G	71	G	60	45	68	37	25	G
13	G	28	36	32	40	27	G	G		G	G		46	48	G	41	39	44	39	31	25	34	31	40
14	59	37	37	33	33	29	28	43	56		G	63	82	56	44		88	80	84	33	38	26	27	33
15	40	30	G	G	G	G	G	37	G	52	G	G	G	G	G	G	72	114	114	94	67	36	39	39
16	41	28	G	G	36	G	G	38	43	G	41	103	96	68	52	G	49	52	G	39	32	G	G	56
17	39	43	27	30	35	32	G	51	91	72	57	55	G	G	G	42	38		35	G	G	39	G	26
18	40	39	32	24	27	G	G	G	52	48	78	87	86	56	52	51	48	42	48	43	28	49	33	48
19	26	51	39	37	G	28	28	G	36	70	77	58	60	G	G	42	G	54	92	81	50	86	82	34
20	24	48	40	43	28	29	27	36	39	48	G	42	42	85	105	101	80	61	43	28	30	30	58	28
21	30	28	G	28	28	28	G	42	52	59	70	64	56	G	44	40	39	35	36	38	69	53	38	47
22	31	71	G	32	66	42	31	39	46	56	67	50	56	80	55	86	92	82	68	68	40	40	28	28
23	G	39	G	35	41	28	G	35	46	42	61	76	63	58	72	79	51	70	65	G	53	G	30	43
24	39	G	28	29	G	26	25	35	51	71	95	52	85	72	67	49	40	35	G	34	38	G	G	23
25	G	40	G	G	G	G	G	37	43	48	59	43	42	75		52	42	38	44	25	84	85	49	24
26	G	G	G	G	G	G	G	35	43	60	41	42	G	G	G	G	48	45	59	54	G	G	27	32
27	28		G	G	G	G	26	41	46	41	64	42	56	55	90	63	76	54	41	83	71	80	59	47
28	39	33	33	29	27	29	32	39	35	G	48	G	G	G	G	G	G	39	G	31	G	36	G	G
29	G	G		G	G	G	26	35	94	55	44	41	70	G	G	40	56	41	48	58	50	71	42	G
30	29	G	G	G	G	G	24	48	57	72	84	81	G	G	G	G	G	42	40	35	34	40	26	26
31	G	26	G	G	25	34	34	38	40	G	42	G		G	43	G	G	C	35	32	24	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	29	29	31	30	31	31	31	30	30	30	29	28	30	30	30	31	28	31	31	30	31	30	31
MED	29	36	32	32	30	29	26	38	46	54	58	55	56	50	48	46	48	44	54	40	39	36	30	34
U Q	39	47	39	43	40	37	32	42	55	61	74	72	77	68	68	83	76	75	82	57	67	58	42	43
L Q	G	13	G	G	G	G	G	35	41	41	42	41	21	G	G	G	38	38	40	32	28	27	G	23

HOURLY VALUES OF fmin AT Yamagawa

AUG. 2004

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	14	14	15	15	15	17	15	17	21	21		36	51	34	22	30	16	14	14	15	15	16	14
2	14	14	15	14	14	15	16	14	18	18	26	30	34	44	35	32	20	17	16	14	15	14	14	14
3	15	14	15	14	14	14	18	14	16	18	20	21	36	34	27	21	27	15	15	15	14	15	15	15
4	14	14	14	14	15	15	15	14	16	17	21	21	22	21	18	18	17	17	15	18	16	15		15
5	14	15	14	14	14	14	14	14	14	18	21	32	22	33	33	23	21	17	17	17	15	15	14	14
6	17	15	15	15	14	14	14	17	17	20	26	22	35	35	22	22	16	14	14	15	15	15	14	15
7	14	15	15	14	15	14	18	14	16	20	20	27	32	21	34	23	20	16	15	14	15	14	15	14
8	15		14	14	14	14	14	15	16	22	26	27	22	27	39	21	20	15	15	14	15	14	16	15
9	15	14	14	15	14	14	16	15	15	23		52		27		18	16	20	14	14	17	15	15	15
10	15	18	17	15	15	14	16	14	16	17	18	23	28	53	50	27	18		14	15	15	15	14	15
11		14	15	14	15	14	18	17	17	18	27	24			26	21	26	16	14	20	15	15	15	18
12	16	17		14	15	15	15	15	15	17	22	27	54	29	53	24	20	18	15	15	15	15	17	16
13	15	16	15	15	15	14	18	14		18	49		29	40	30	26	22	16	14	14	16	14	15	15
14	15	15	15	14	14	14	14	15	21		54	34	30	30	35		40	43	15	15	14	14	16	15
15	15	14	16	17	17	17	20	16	20	28	29	27	53	53	55	56	20	16	15	15	14	14	14	15
16	14	14	14	17	14	18	18	14	18	18	34	34	36	60	39	52	20	16	14	14	16	15	16	15
17	14	14	14	15	16	15	18	15	29	18	24	24	22		55	34	20		15	18	16	17	15	16
18	14	14	14	15	16	15	20	28	20	21	33	33	35	28	27	22	18	18	14	15	15	17	16	15
19	15	15	15	14	15	15	15	14	17	21	46	34	28	27	47	26	58	21	17	14	15	15	15	15
20	15	15	14	14	14	14	14	16	20	21	29	22	29	23	23	21	18	18	15	15	15	15	14	15
21	14	15	16	14	15	15	16	15	18	18	21	33	28	28	26	17	17	15	14	15	17	17	16	14
22	17	14	17	14	14	15	15	15	20	21	23	35	36	38	33	20	17	17	15	18	15	15	15	15
23	15	15	14	14	16	14	15	15	17	22	38	36	37	37	28	21	20	17	15	18	15	17	14	16
24	15	15	15	15	15	14	17	14	16	20	26	32	27	28	26	23	17	20	15	14	15	16	20	15
25	20	15	15	16	16	15	15	15	17	20	29	35	32	39	36	33	18	16	14	15	14	15	15	15
26	14	15	15	16	16	15	17	15	16	20	28	24	30	33	54	21	18	15	14	15	15	16	15	14
27	15		17	15	15	15	17	14	16	21	21	27	28	33	27	20	18	17	14	14	15	15	14	14
28	15	14	15	14	15	15	14	14	14	18	29	48	52	28	51	26	21	15	16	14	14	14	15	16
29	15	16		15	15	15	16	14	17	17	20		20	50	18	17	14	14	14	17	15	14	14	15
30	15	14	15	15	15	15	16	15	16	18	27	28	59	50	51	27	17	16	14	15	15	14	16	16
31	15	15	15	16	16	14	14	14	17	22	27	26		29	23	22	16	C	14	14	17	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	30	29	29	31	31	31	31	31	30	30	30	28	28	29	30	30	31	28	31	31	31	31	30	31
MED	15	15	15	15	15	15	16	15	17	20	26	28	31	33	34	22	20	16	15	15	15	15	15	15
U Q	15	15	15	15	15	15	18	15	18	21	29	34	36	42	47	26	21	17	15	15	15	15	16	15
L Q	14	14	14	14	14	14	15	14	16	18	21	24	28	28	26	21	17	15	14	14	15	14	14	15

HOURLY VALUES OF foF2 AT Okinawa

AUG. 2004

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	113	90		A	A	A	
3		A	A		A	A	46		51		64	62	68		90	106	112		106	88	66	58	52	50
4	44	47	41	44	41	42		58	70	64	57	60			76	85	95		97	90	65		54	54
5	54	52	51	60	36	36	46	50	64	65	A	A	A		78	86	98	106	100	86	77	65	52	59
6	54	47	44	44	44		41	67	61	50	57	A		A	74	82	86	88	98	102	78	54	52	52
7	53	A	A		39	38	48	60		54	63	A	A		95	98	99	101	110	108		89	87	66
8	54	50	52	32	31	31	44	66	66	A	A	76	85	79	80	80	92	98	102	107	88	87	82	81
9	76	66	66	65	48	45	44	73	66	65	66	68	78	85	100	107	107	103	101	88	82	71	48	48
10	42	42	40	40	32		42	57	61	66	60	54	72	75	86	78	71	67	78	85	64	54	63	54
11	61	54	54	51	47	40	42	56		52			A	57	70	82	87	87	97	90	63	62	55	52
12	54		54	32	30	30	36	61	68	58		62	72	82	80	85	91	92	88	74	61	51	52	52
13	52	50	51	48	46	45	54	74	62	62	61	65	75	77	86	104	104	97	102	107	85	54	54	52
14	52	54	42	44	43	37	51	75	62	68	73	81	88	86	85		86	100	104	88	84	62	52	52
15	54	54	54	50	45	46	52	66	72	67	80	78	82	81	76	90	95	86	A	87	78	66	A	76
16	75	74	88	73	54	55	51	72	80	68	71	66	64	78	81	88	103	117	130	125	82	66	60	54
17	54	62	61	50	51	50	54	74	64		67	86	102	110	118	131	142	146	145	127	107	87	74	66
18	63	52	54	52	51	47	66	64	64	61	68	85	93	101	105	98	104	111	128	126	87	71	64	54
19	65	66	72	66	29	28	36	65	75	66	81	105	107	88	86	87	88	A	101	98	81	A	48	62
20	64	A	66	58	54	54	61	61	58	67	75	67	A		93	A	106	102	102	108	88	52	A	A
21		51	54	51	44	41	41	64	80	74		A	A	A	A		87	80	70	66	51	52	50	A
22	48	54	33	A		28	43	57	A		71	A	74	85	72	76	73	85	90	88	61	A	A	A
23	38	36	36	32	30	29	38	51	58	68	60	66	81	94	106	101	98	A	88	A	87	65	54	50
24	48	45	52	44	34	36	40	61	64	64	70		A	118	136	142	127	116	123	124	108	86	79	73
25	66	61	52	44	43	40	43	56	65	86	77	64		85	86	82	90	A	96	96	78	73	A	65
26	62	52	58	51	47	46	51	81	65	65	67	86	80	96	102	103	126	105	70	58	54	52	53	54
27	54	52	52	43	42	40	44	83	74	63	61	71	76	87	97	84	82	85	92	83	54	51	53	54
28		54	52		44	A		65	61	64	70	71	63		A	81	77	75	78	82	66	54	52	54
29	54	50	46	44	38	37	47	66	56	61	60		A	85	64		67	71	90	87	38		A	A
30	52	42	38	37	32	30	44	75	67		61	78	93	97	78	85	72	62	67	66	59	54	A	52
31	52	53	46	40	38	32		45	A	A		60	A				58	52	50	45	41	38	38	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	26	25	27	25	27	25	26	28	25	23	23	21	18	20	26	24	29	25	29	28	28	25	23	25
MED	54	52	52	44	43	40	44	64	64	65	67	68	79	85	86	86	92	97	97	88	78	62	53	54
U Q	62	54	54	51	47	45	51	72	69	67	71	79	88	95	97	102	104	105	103	107	84	71	63	63
L Q	52	48	44	41	34	31	42	57	61	61	61	63	72	80	78	82	84	82	88	84	61	53	52	52

HOURLY VALUES OF fEs AT Okinawa

AUG. 2004

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

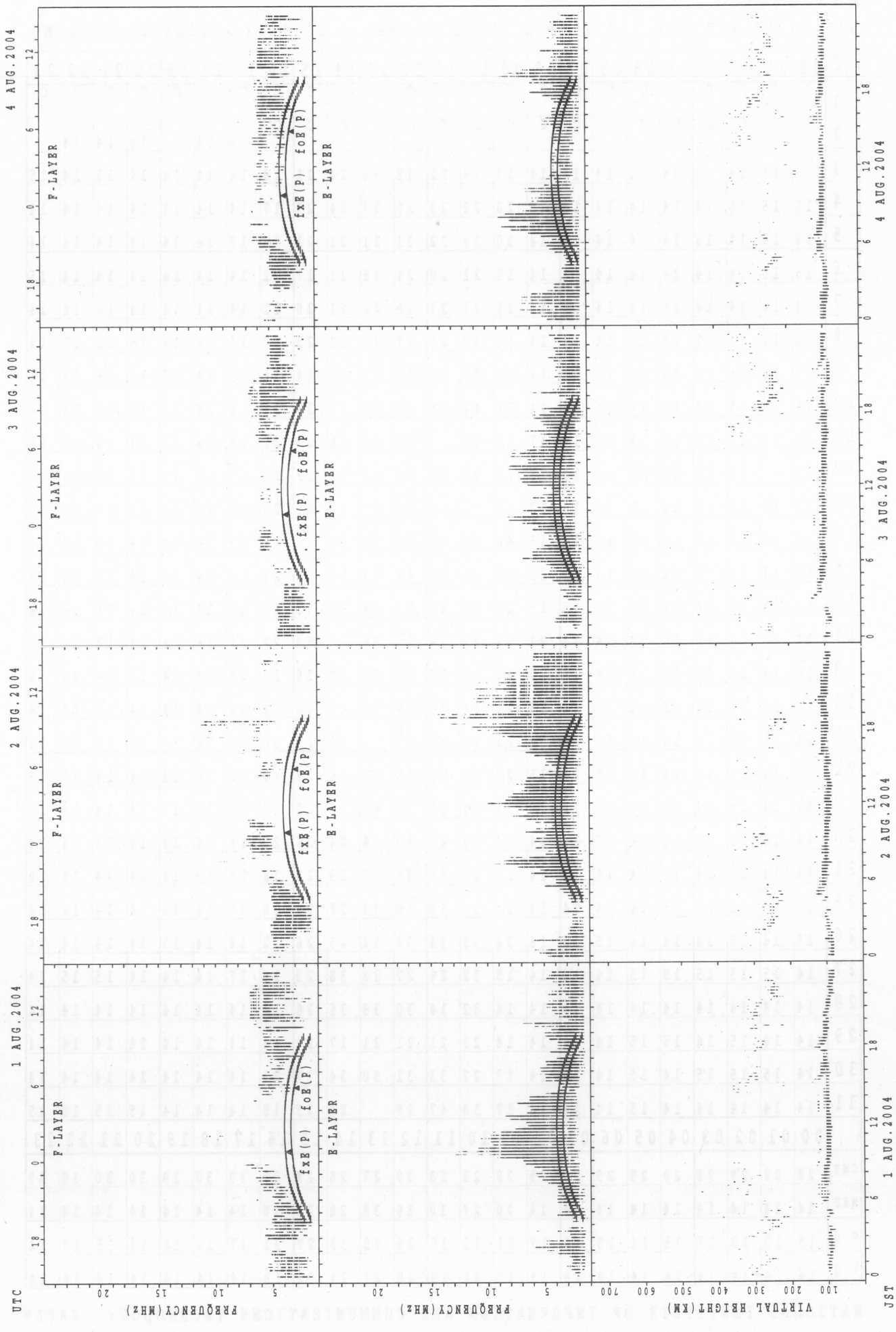
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	48	83		90	81	78	
3		43			85	80	31	58	42	58	42	43	64	82	88	104	105	135	106	46	40	40	30	28
4	G	32	27	49		33	72	43	40	50	52	50	107	86	61	81	66	95	44	38	94	115	50	30
5	48	41	40	48	33	36	28	38	43	68	72	94	110	81	50	70	59	G	45	66	60	34	39	34
6	39	36	38	49	43	36	46	45	41	39	56	96	112	84	G	56	72	80	60	56	38	47	26	26
7	33	78	57	59	49	33	38	38	94	57	59	54	100	94	102	103	78	83	81	60	34	58	29	G
8	G	30	G	G	G	G	30	67	80	93	76	49	51	114	65	64	G	39	36	31	G	28	25	G
9	G	G	G	G	G	G	G	G	36	G	G	G	45	G	G	G	G	36	G	31	G	G	G	G
10	G	G	G	G	G	35	58	34	G	G	G	52	57	46	50	43	67	G	32	G	G	G	36	36
11	G	49	28	34	23	29	G	G	46	51	51	G	62	65	45	G	60	57	58	50	43	57	38	G
12	G		G	G	G	G	G	G	56	G	G	G	G	G	G	G	50	G	48	36	28	58	49	40
13	G	G	33	25	34	24	29	35	G	G	G	43	G	G	50	47	G	36	51	32	49	41	48	44
14	G	G	G	G	G	G	G	33	36	G	G	G	G	68	G		76	60	58	82	34	39	28	24
15	50	33	25	G	G	G	34	33	36	G	G	G	G	G	G	G	66	79	137	66	70	79	70	82
16	49	35	30	24	27	G	G	32	35	50	54	G	G	G	G	G	G	G		35	35	32	36	33
17	43	34	26	32	42	G	30	35	62	59	G	G	G	G	G	G	G	G	G	G	G	28	38	G
18	27	28	26	32	36	G	26	37	45	50	62	62	96	133	113	99	44	46	66	43	35	58	44	G
19	44	30	G	G	G	G	G	34	48	46	81	G	64	G	59	G	G	152	86	58	83	86	41	40
20	70	90	48	26	52	43	40	35	39	38	G	68	91		68	124	101	54	67	48	40	34	58	70
21	44	34	26	40	G	G	G	34	60	72	81	104	158	176	152	93	71	56	61	48	40	33	70	58
22	39	71	88	87	65	28	30	49	79	77	70	146	52	G	G	G	G	G	45	57	112	94	68	44
23	36	G	G	G	G	G	G	G	G	G	42	G	46	67	63	84	90	137	60	112	45	G	G	30
24	37	28	G	G	G	G	24	G	41	46	50	80	112	74	52	G	74	36	53	60	45	28	G	G
25	36	G	G	28	G	G	G	31	G	44	G	G	72	66	54	48	G	91	67	40	36	43	84	27
26	25	G	G	G	G	G	G	34	45	46	40	46	60	G	G	69	50	70	35	G	40	55	29	G
27	26	G	G	G	G	G	27	38	61	80	51	G	67	74	52	47	74	67	45	38	33	G	G	G
28	32	47	G	G	38	39	27	53	43	44	50	G	G	73	79	62	G	48	34	36	G	31	G	30
29	24	G	G	G	G	G	26	47	78	41	G	G	97	64	53	50	89	83	105	60	30	34	80	60
30	29	G	G	G	G	23	24		44	54	61	44	G	G	42	48	46	36	32	37	39	37	56	39
31	36	G	25	G	23	G	34	37	47	43	G	G	49	G	49	G	G	G	30	28	G	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	28	28	28	29	29	28	29	29	29	29	29	28	29	28	29	30	29	29	30	30	30	29
MED	32	30	13	G	G	G	27	35	43	46	50	43	60	66	50	48	59	51	53	43	38	38	38	30
U Q	41	38	29	33	37	33	32	40	58	57	60	58	96	81	64	75	74	80	67	59	45	58	56	40
L Q	G	G	G	G	G	G	G	32	36	19	G	G	G	G	G	G	G	36	35	33	30	28	26	G

HOURLY VALUES OF fmin AT Okinawa

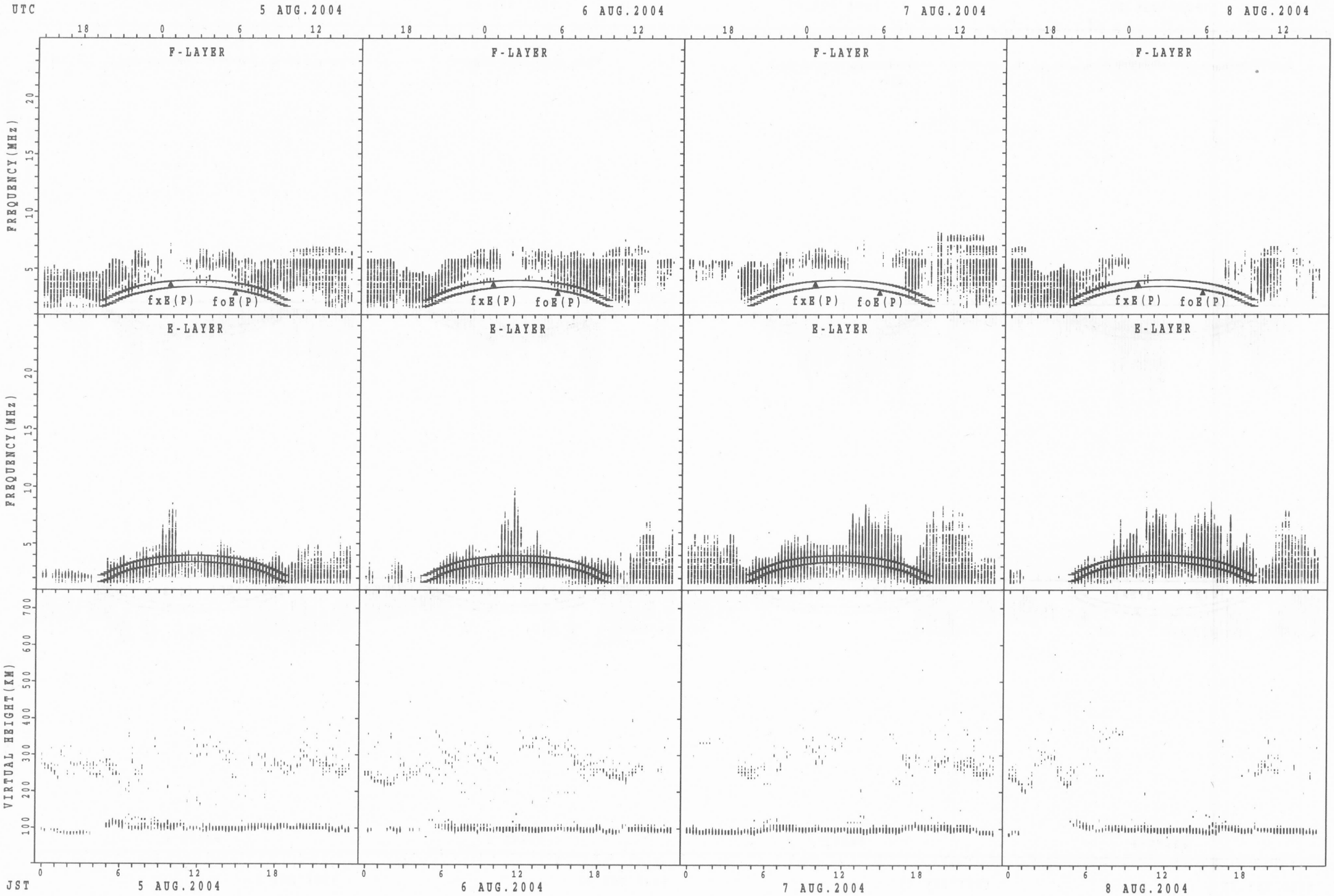
AUG. 2004

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	16	14		14	14	14	
3		14	14		14	14	14	14	14	17	18	22	38	36	24	21	18	14	14	14	14	15	14	15
4	15	15	15	14	14	14	14	14	15	20	22	23	29	22	24	22	17	14	14	14	14	14	14	14
5	14	14	14	14	14	14	14	14	14	20	20	22	21	21	21	21	18	17	14	14	14	14	14	14
6	15	15	14	14	14	14	14	14	14	15	21	20	24	38	21	17	21	14	14	14	14	14	14	15
7	14	14	14	14	15	14	14	14	14	16	21	27	38	26	21	20	21	14	14	14	14	14	14	14
8	18	14	15	17	14	14	14	14	14	18	32	22	37	41	23	23	20	14	14	14	15	15	15	14
9	17	14	14	15	14	14	16	14	14	17	27	53	23	23	20	44	16	18	14	17	15	15	15	14
10	15	14	15	15	15	14	14	14	14	20	44	26	29	29	27	23	21	14	14	17	15	15	14	14
11	15	14	14	14	15	14	17	14	17	23	22		39	40	28	27	22	14	14	14	14	14	15	16
12	17		14	14	14	15	15	14	15	20	20	23	58	52	53	23	20	15	14	15	14	14	14	14
13	15	15	14	14	14	16	14	14	32	17	21	24	24	27	37	29	27	20	14	14	14	14	14	14
14	15	16	15	15	15	14	15	14	17	46	49	48	50	30	52		36	33	14	14	14	15	14	14
15	14	14	14	16	14	14	14	14	21	26	30	30	48	53	54	52	21	14	14	14	14	14	14	14
16	14	14	14	14	14	14	15	15	15	23	27	47	52	56	54	52	22	15	14	14	14	14	14	14
17	14	14	14	14	14	14	14	14	21	22	49	29	52	56		52	22	20	16	14	14	14	14	15
18	16	14	15	14	14	14	14	18	20	21	29	32	39	33	28	26	21	18	14	14	14	14	14	16
19	14	14	14	14	14	14	16	14	15	21	36	38	39	54	40	44	58	22	14	14	14	14	14	14
20	14	14	14	14	14	14	14	14	16	22	29	30	29		36	23	20	14	14	14	14	14	14	14
21	14	14	14	14	14	14	15	14	15	20	22	22	26	21	24	22	15	14	14	14	14	14	15	14
22	14	14	14	14	14	14	14	14	18	18	34	35	38	41	46	22	17	16	14	14	14	14	14	14
23	14	15	15	15	14	14	16	14	14	20	23	47	40	38	24	26	20	16	14	14	14	15	16	14
24	14	14	17	14	15	14	15	14	14	14	14	35	36	33	29	22	18	16	14	14	14	14	16	18
25	14	15	15	14	15	14	14	14	14	20	23	30	30	39	28	28	18	15	14	14	14	14	14	14
26	15	14	15	14	14	14	15	15	18	24	33	34	38	54	45	26	22	14	14	15	14	14	14	14
27	14	15	15	15	15	15	14	14	14	15	32	24	27	38	38	22	18	17	14	14	14	15	15	14
28	14	14	14	14	14	14	14	14	14	14	32	14	30	38	36	26	17	14	14	14	14	14	14	14
29	14	14	15	14	15	15	14	14	14	14	23	21	21	21	17	14	16	14	14	14	14	14	14	14
30	14	15	15	15	14	15	14	15	14	17	22	33	31	50	34	27	21	14	14	14	14	14	14	14
31	14	14	14	14	14	15	14	14	14	17	30	47	29		26	23	18	14	14	14	15	15	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	29	28	29	29	29	29	29	29	29	28	29	27	28	28	29	30	30	29	30	30	30	29
MED	14	14	14	14	14	14	14	14	14	20	27	30	36	38	28	23	20	14	14	14	14	14	14	14
U Q	15	15	15	15	15	14	15	14	17	21	32	35	39	50	39	27	21	17	14	14	14	15	15	14
L Q	14	14	14	14	14	14	14	14	14	17	21	22	28	27	24	22	18	14	14	14	14	14	14	14

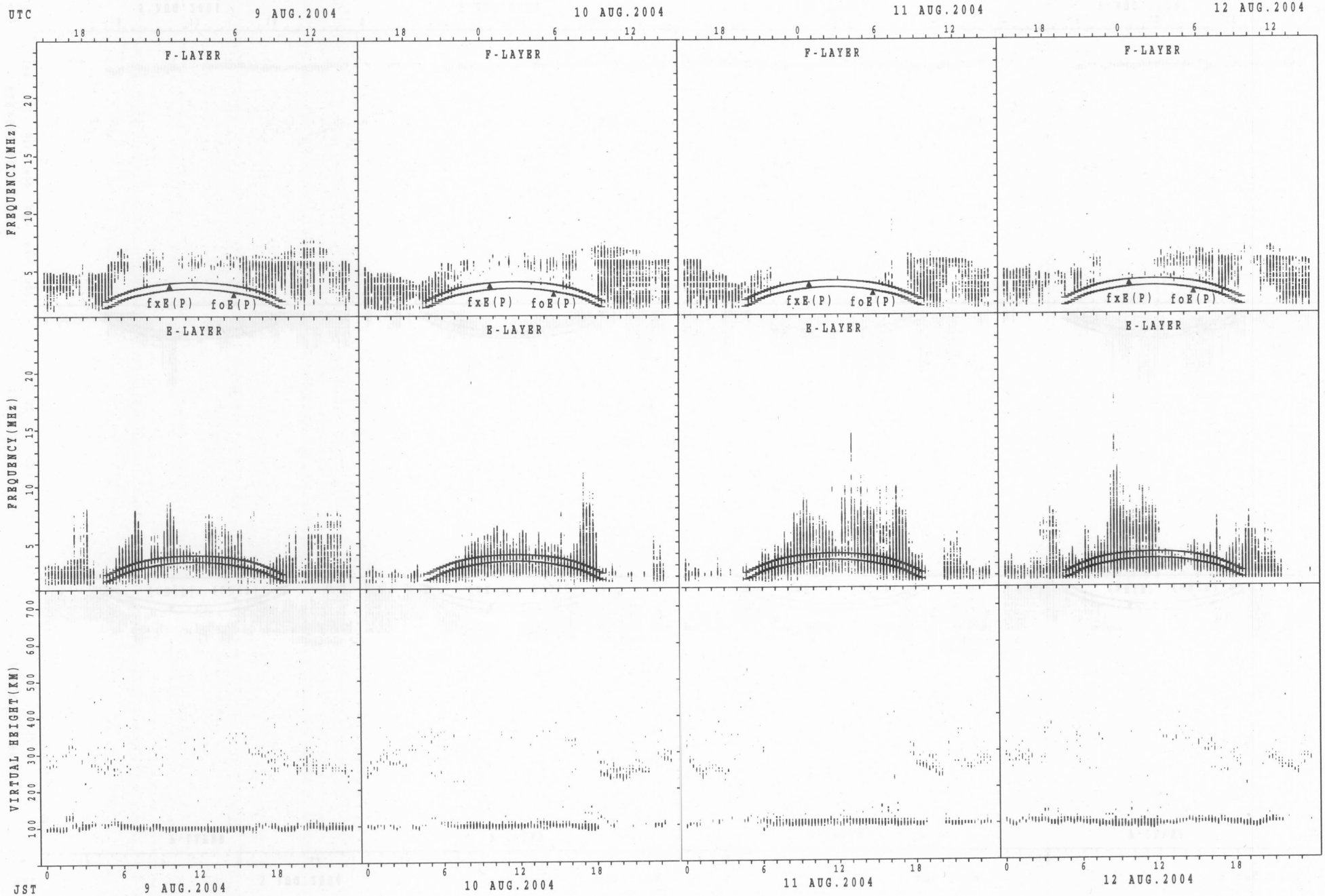

SUMMARY PLOTS AT Wakkanai
UTC
JST
1 AUG.2004
2 AUG.2004
3 AUG.2004
4 AUG.2004
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



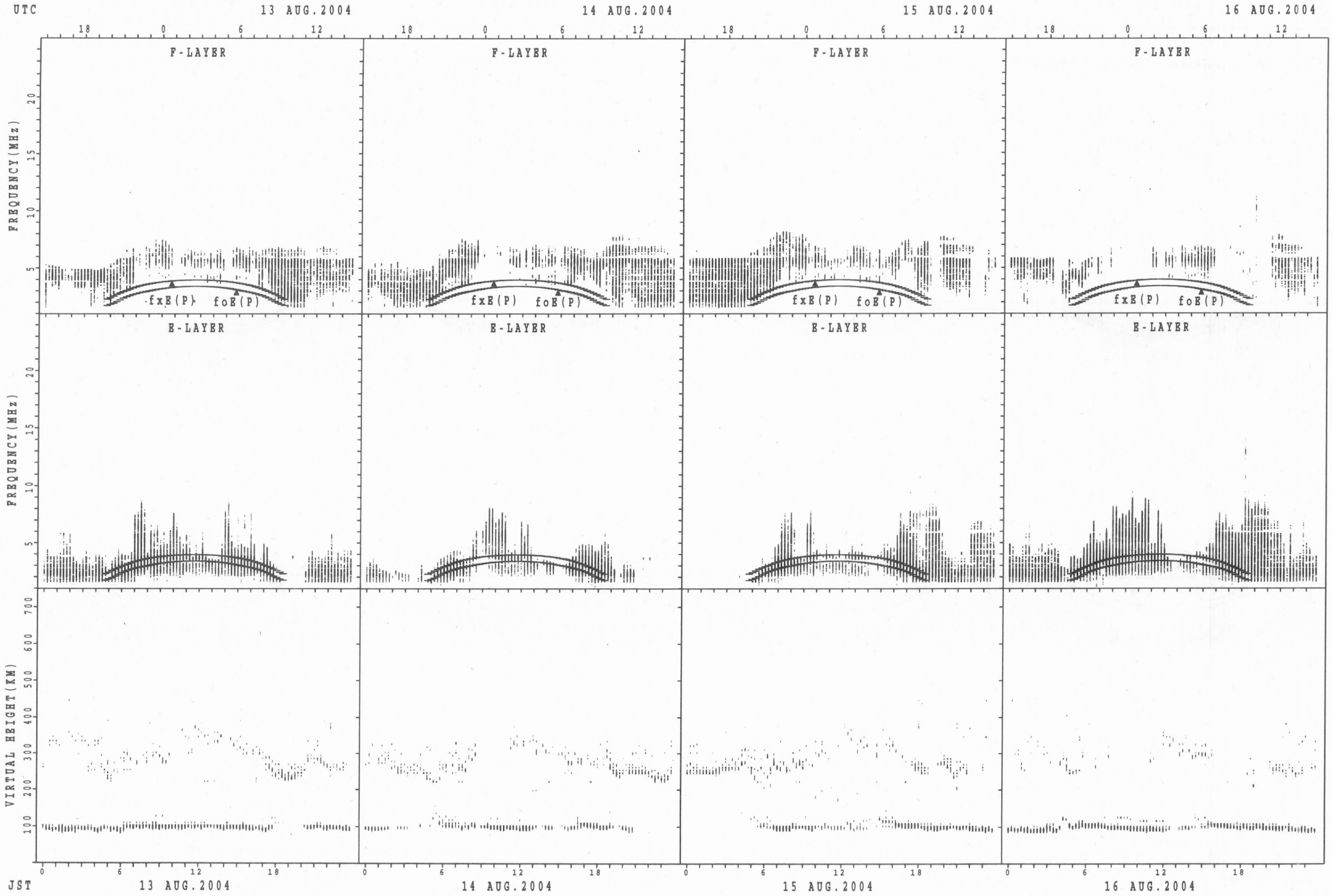
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



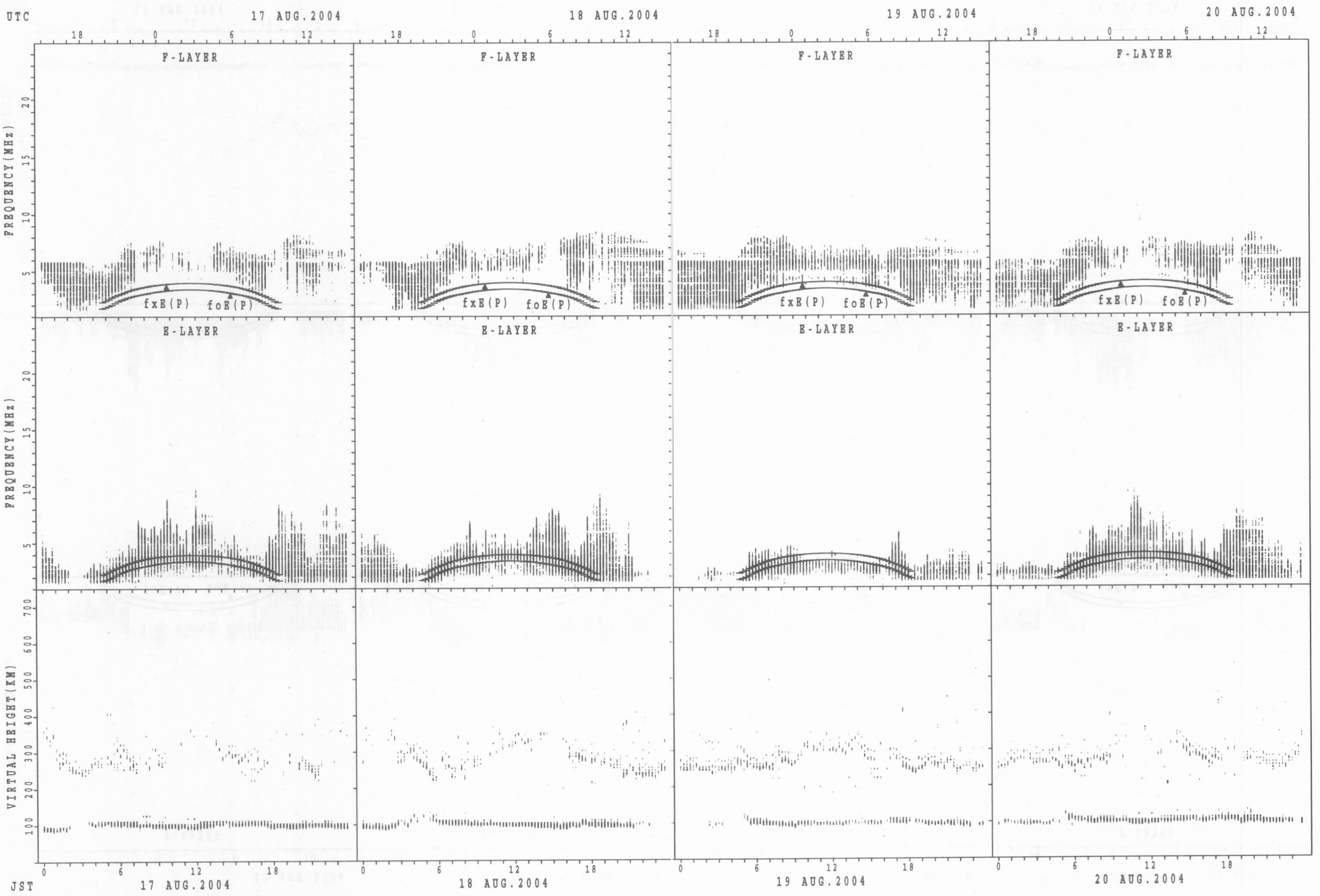
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



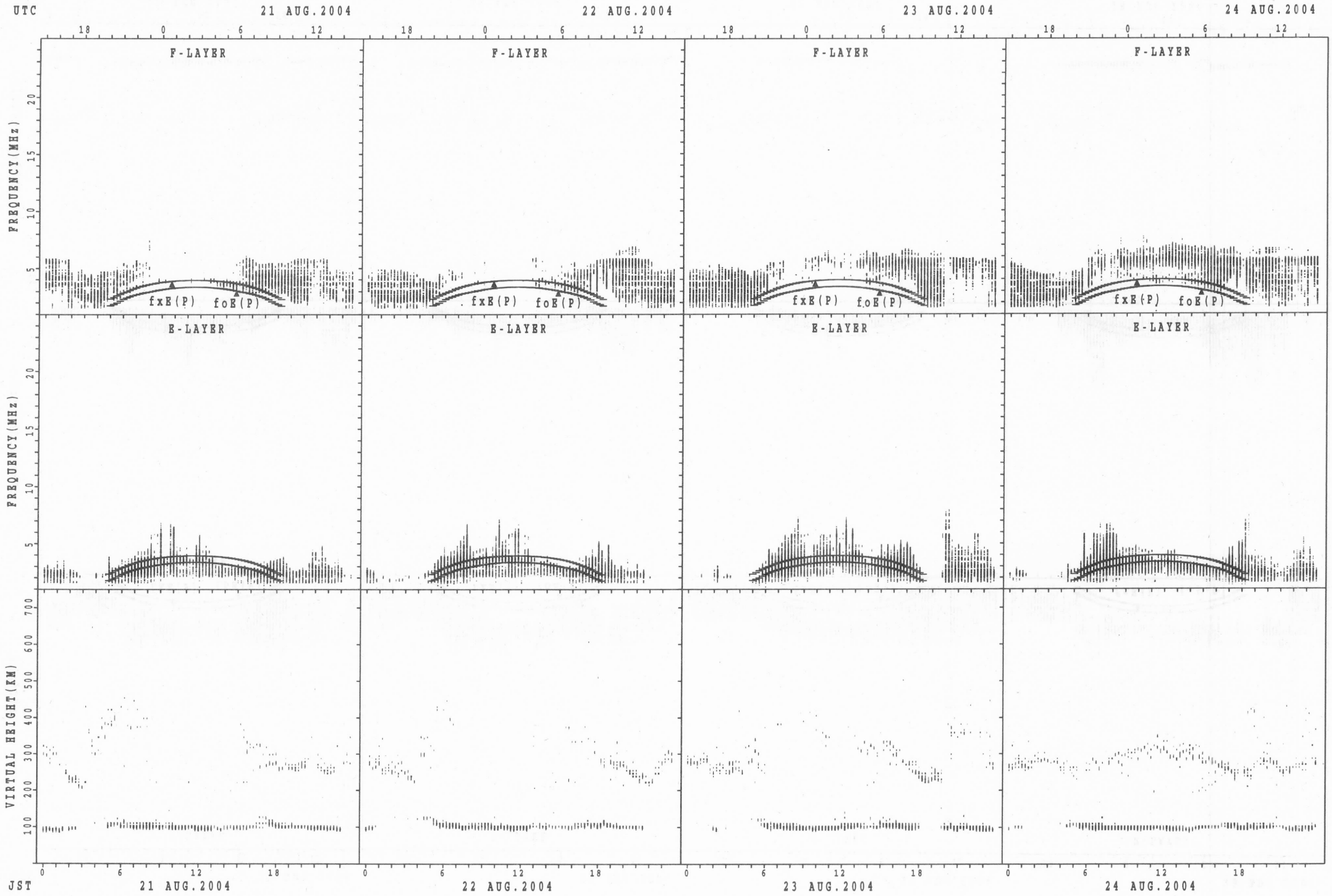
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



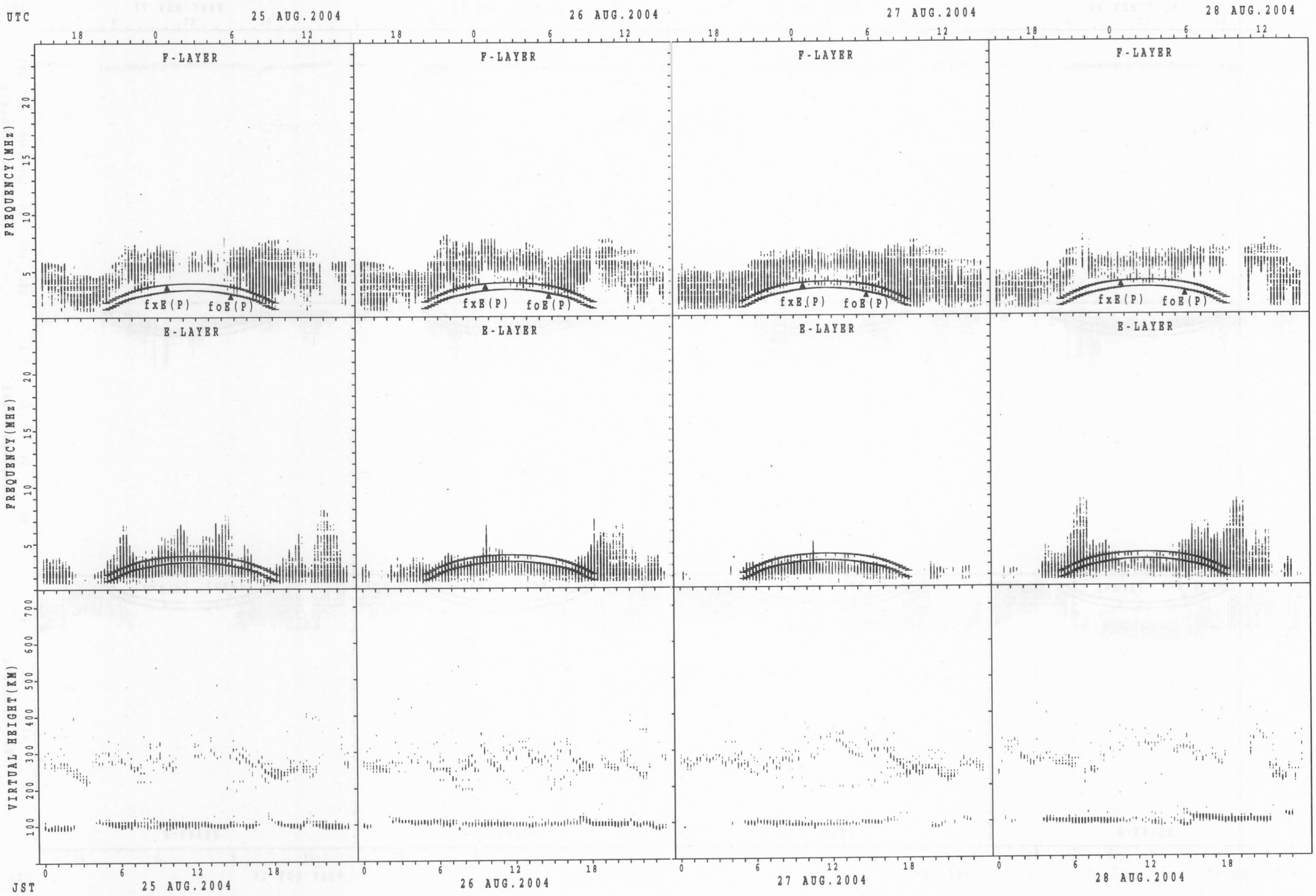
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



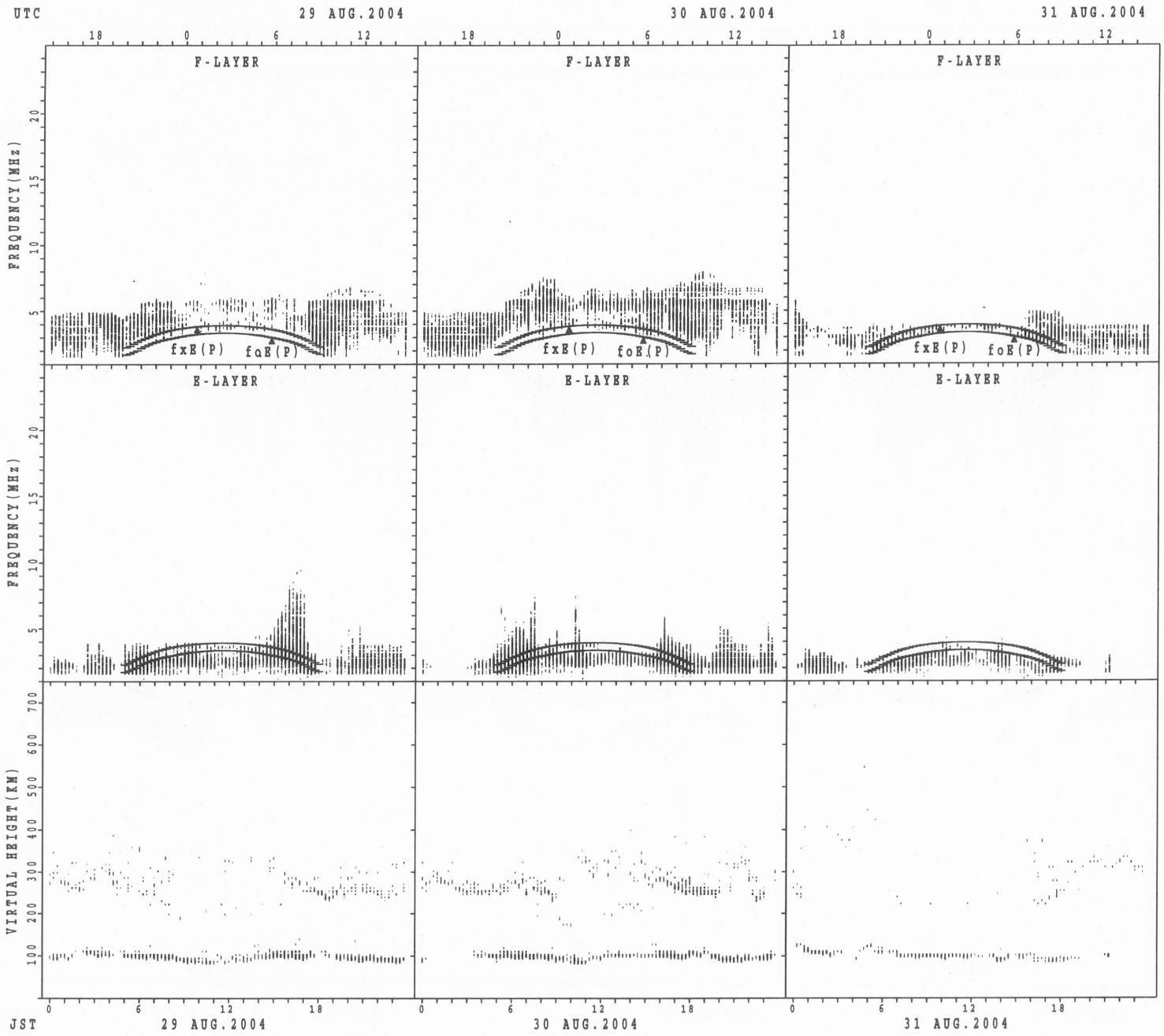
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



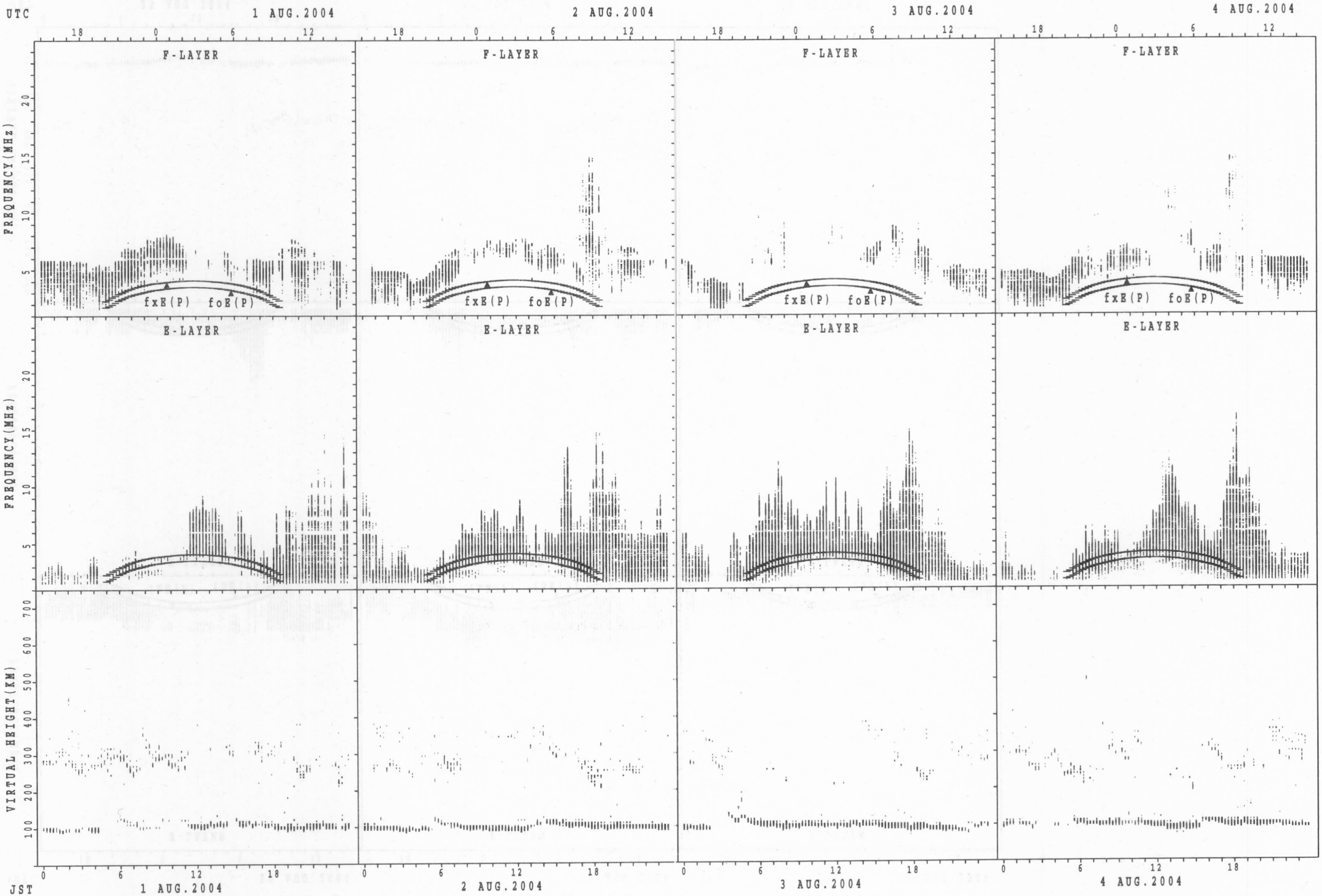
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



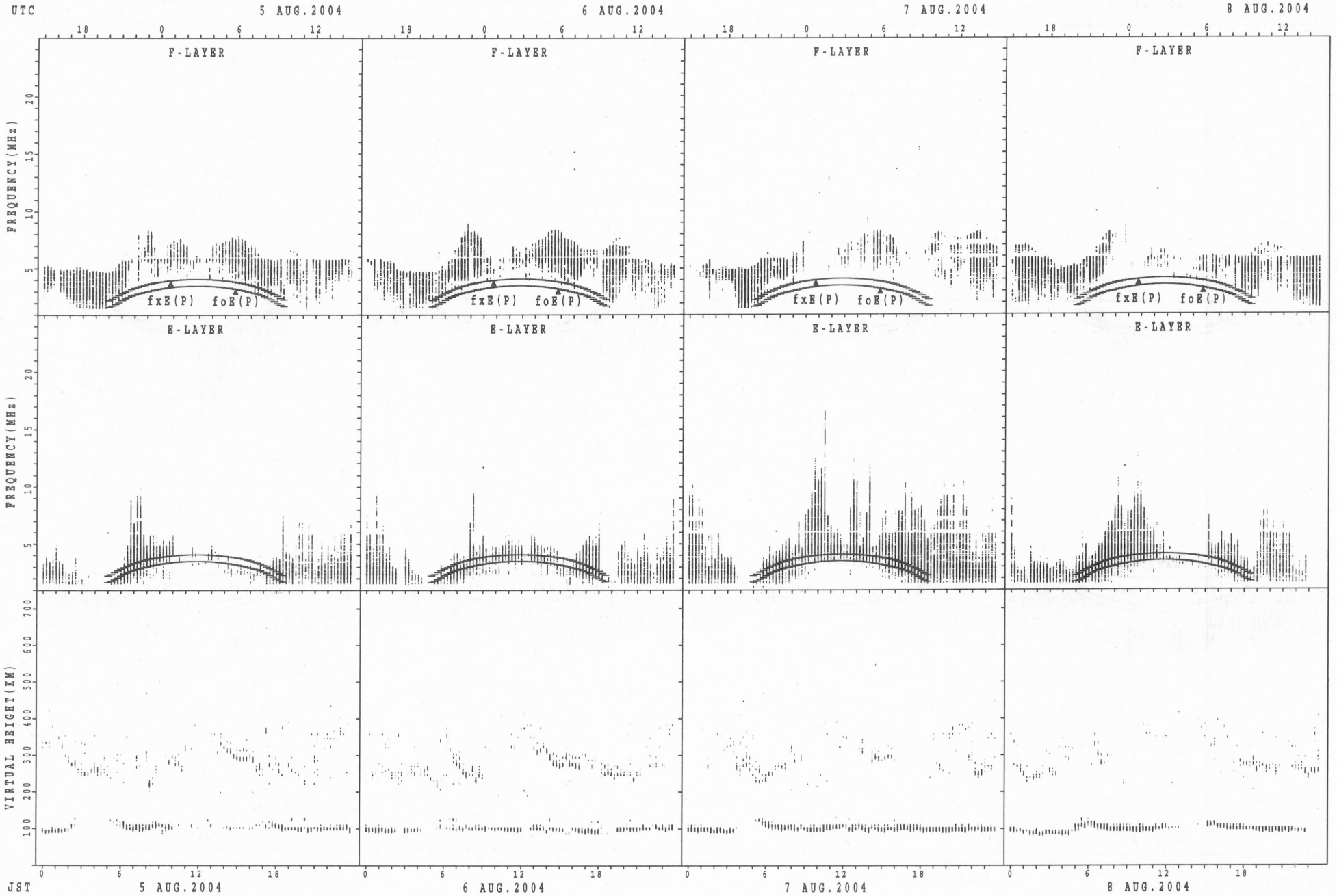
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



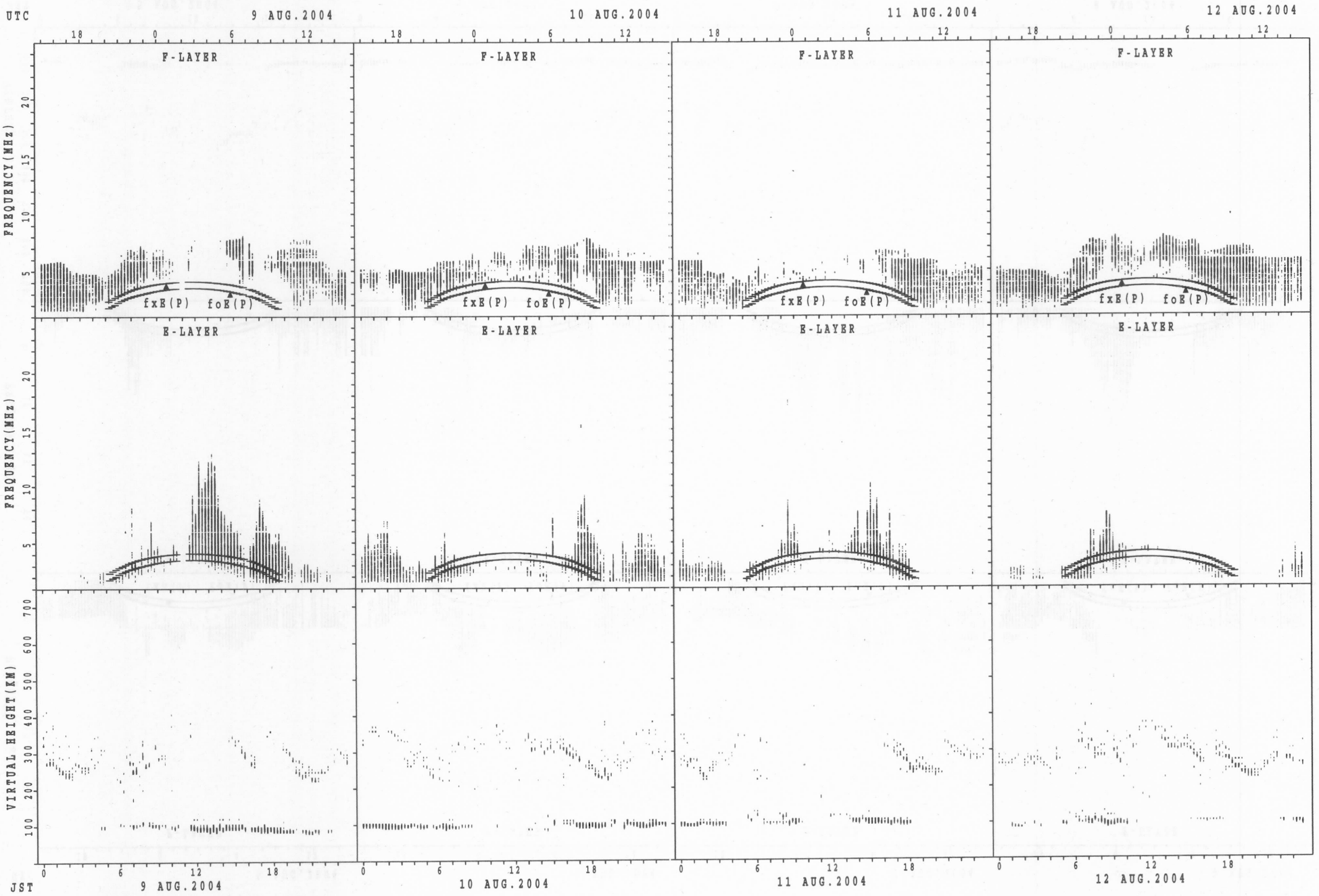
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



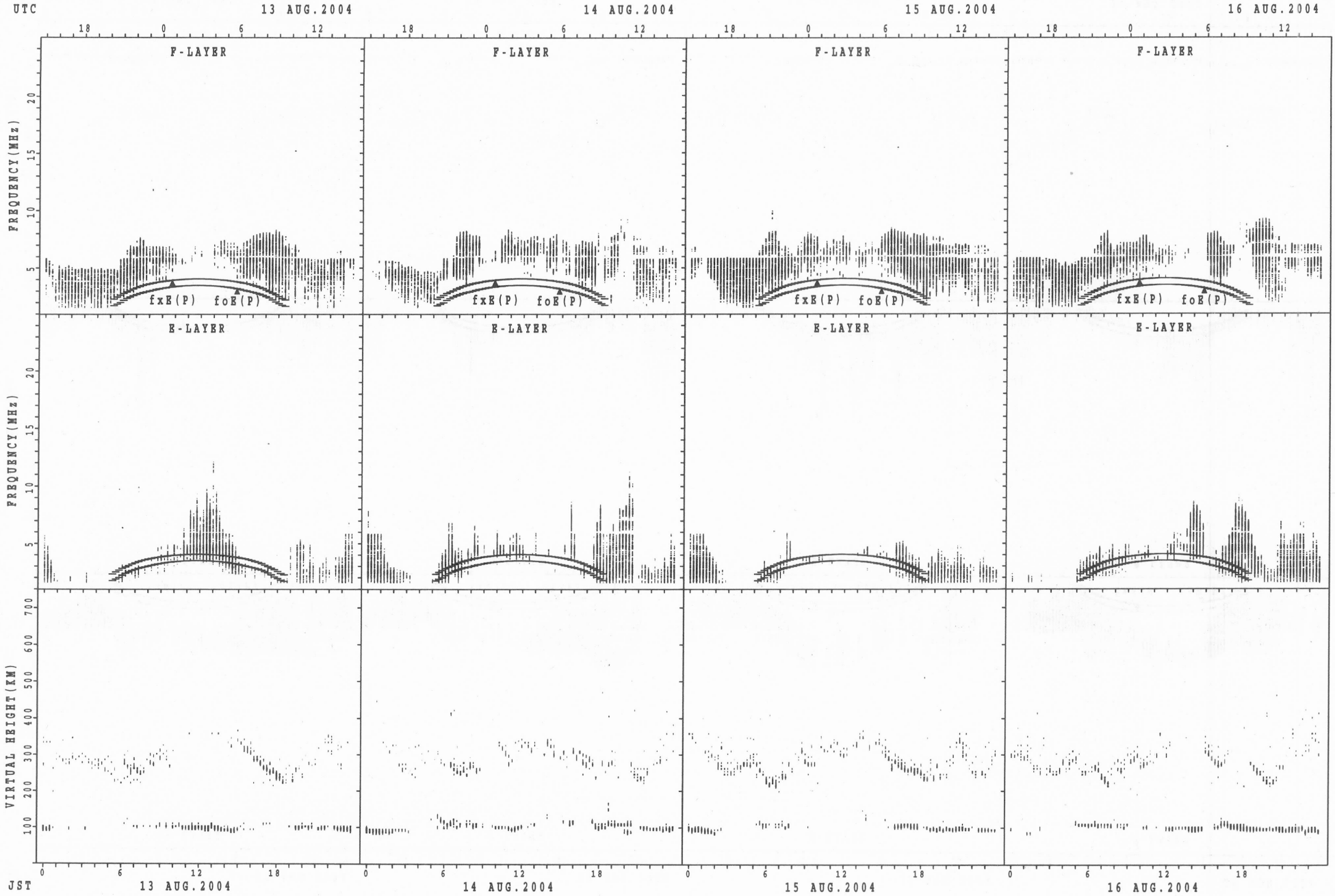
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

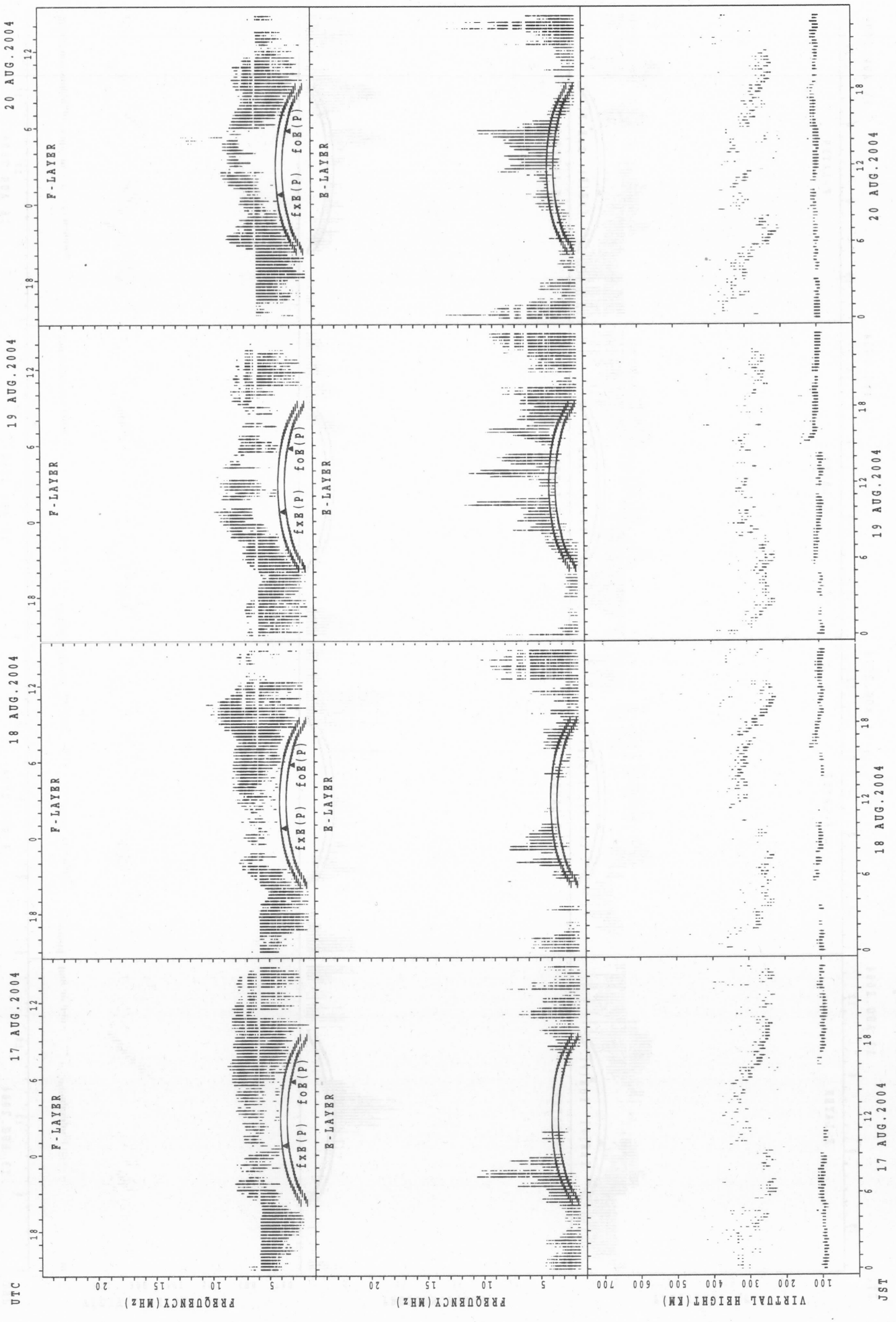


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

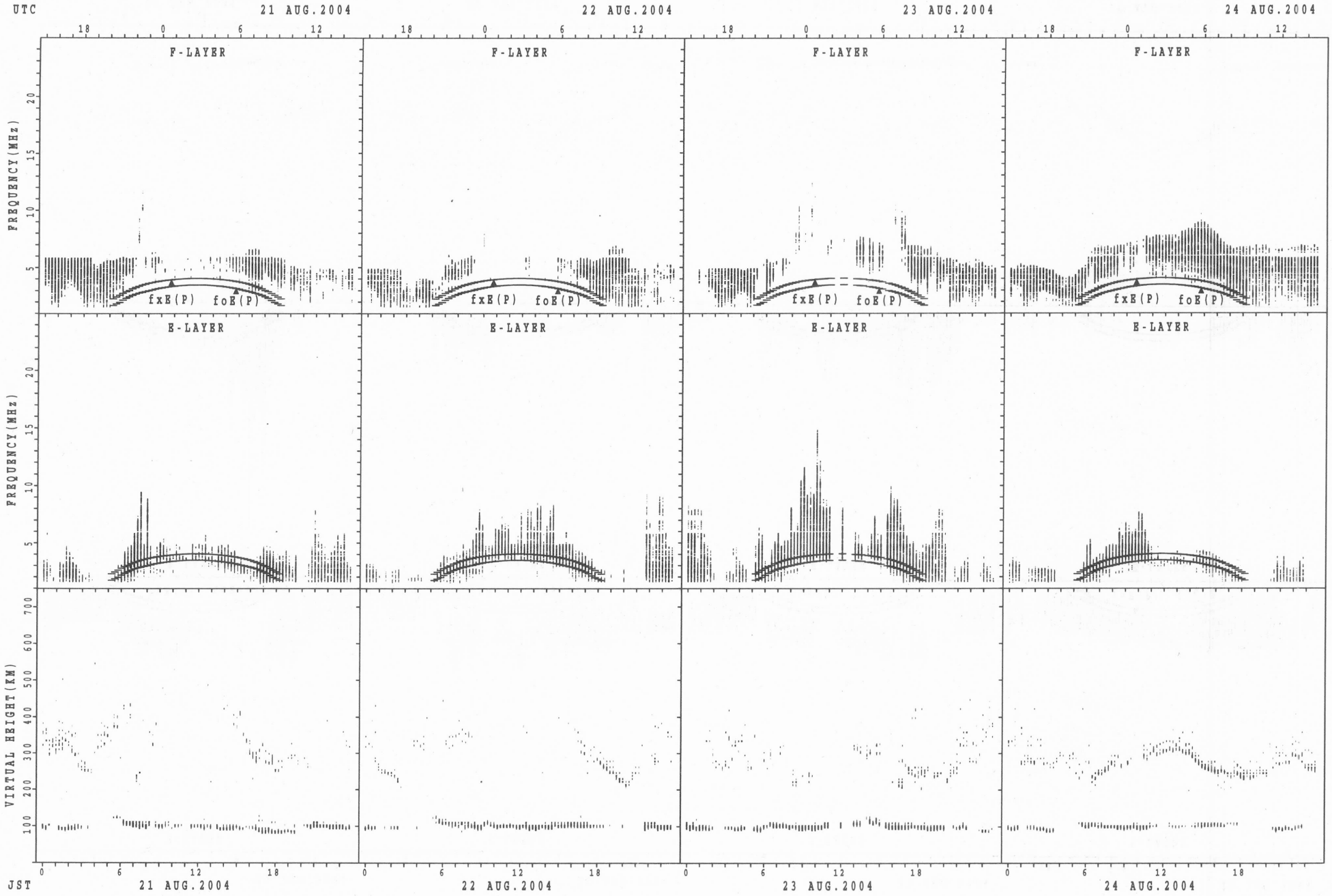
SUMMARY PLOTS AT Kokubunji



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

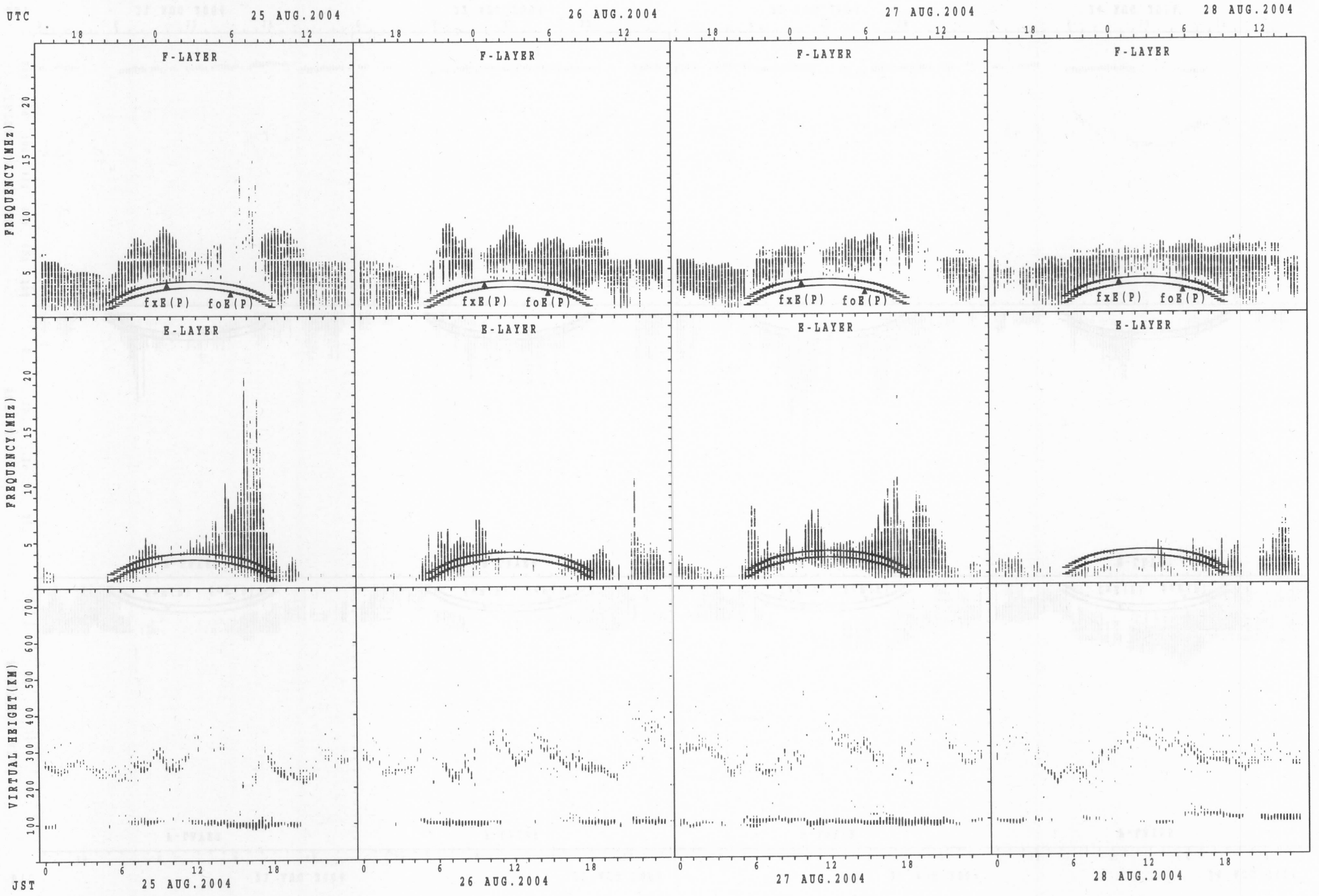

SUMMARY PLOTS AT Kokubunji
UTC
JST
17 AUG.2004
18 AUG.2004
19 AUG.2004
20 AUG.2004
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



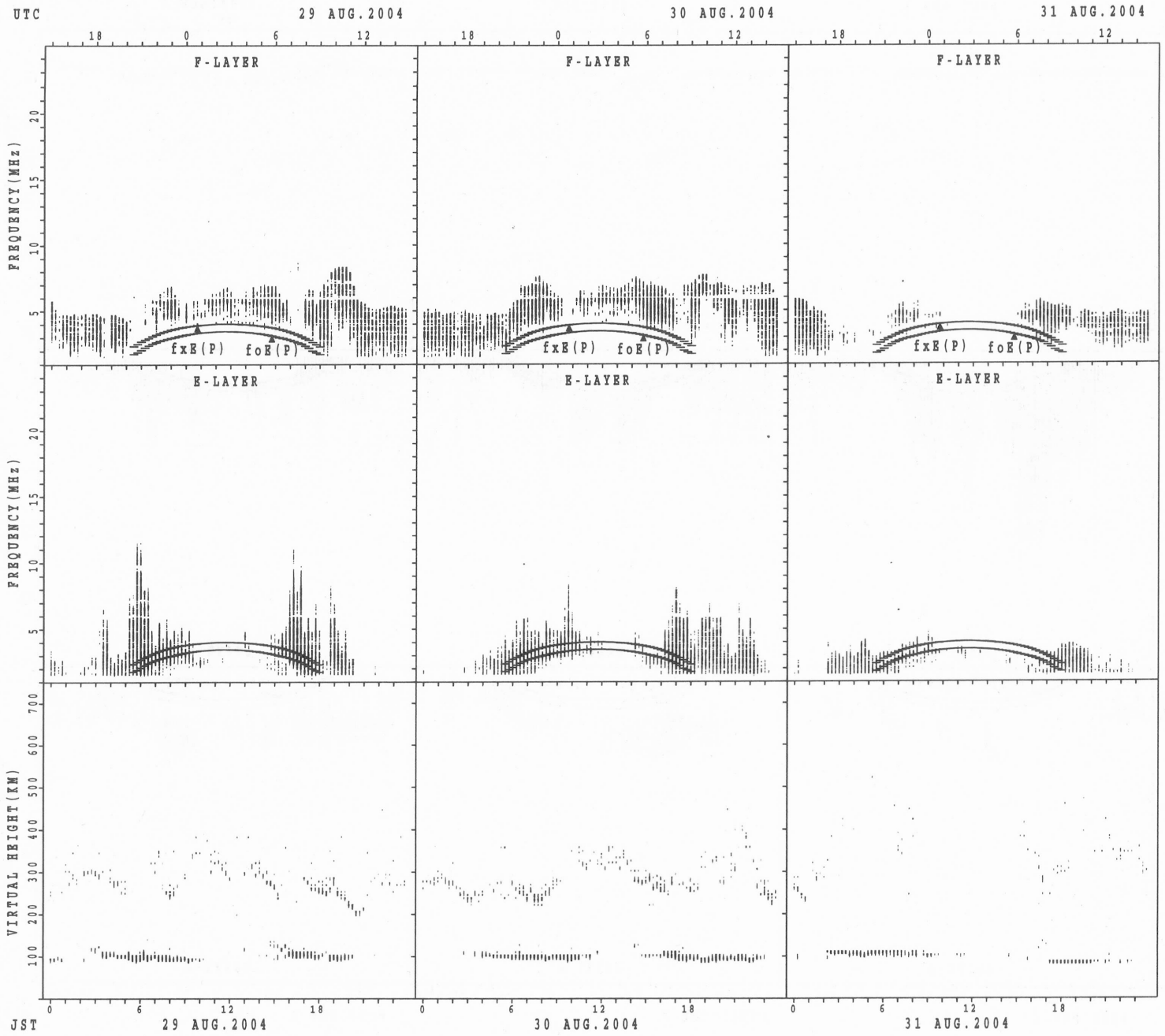
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



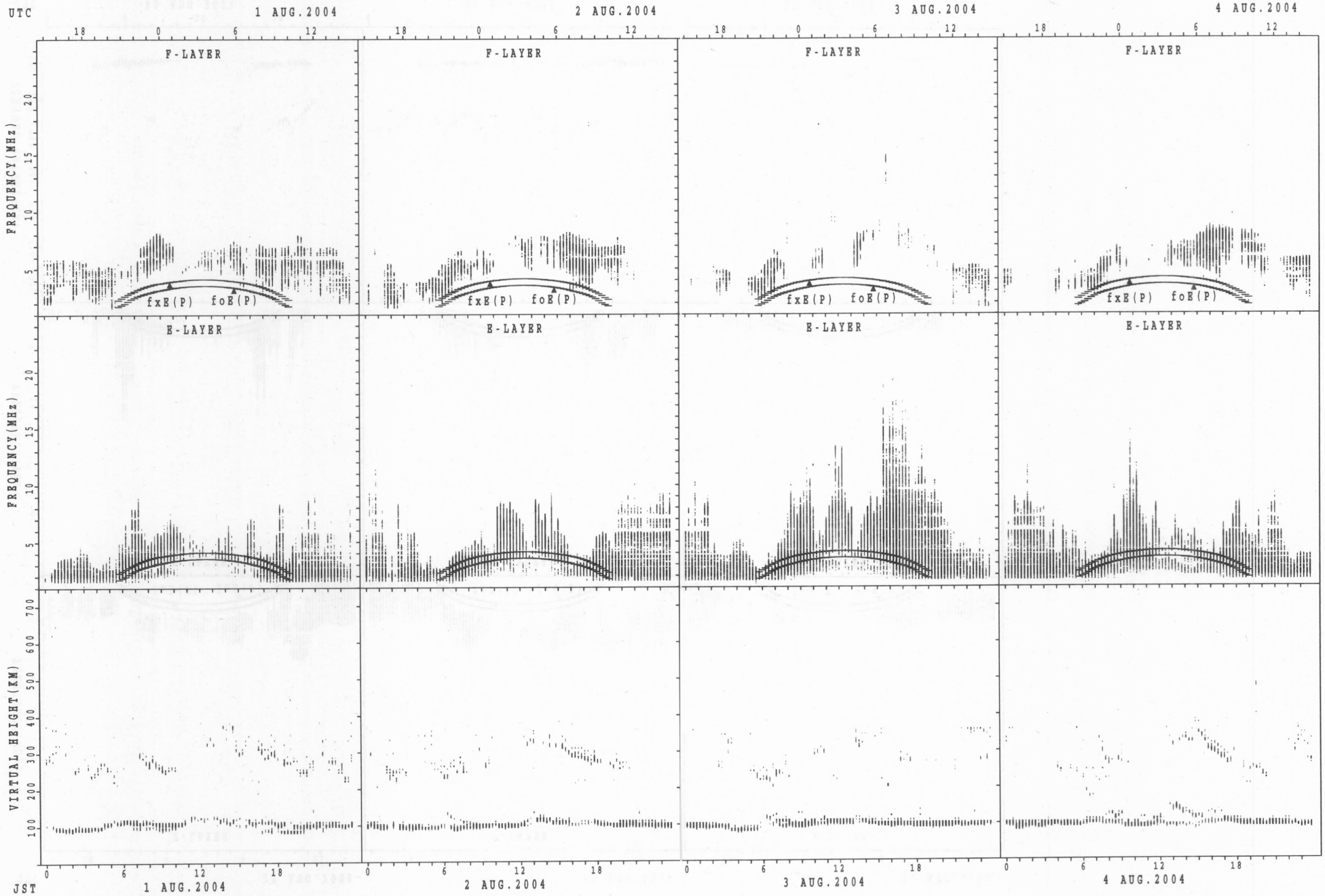
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



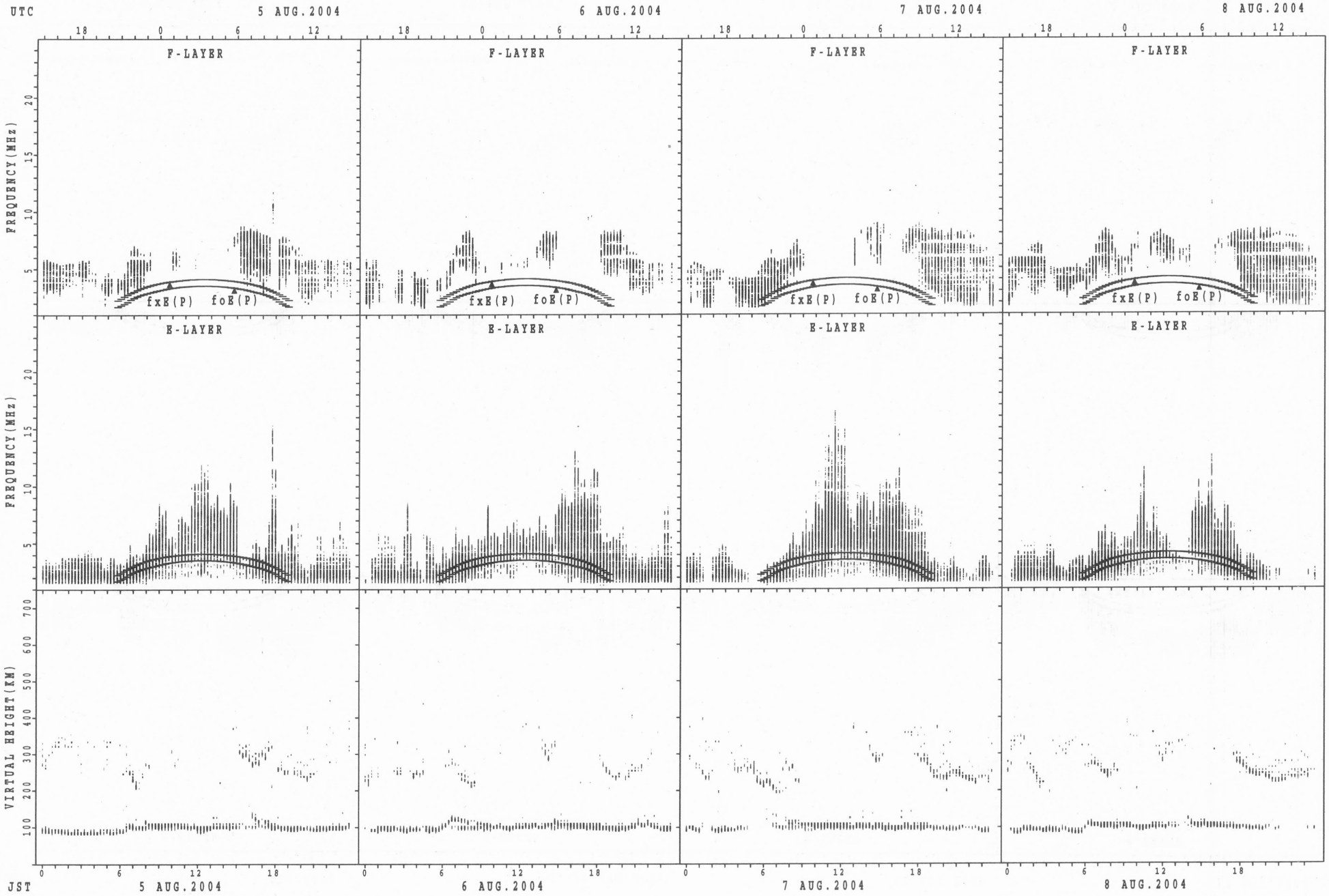
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



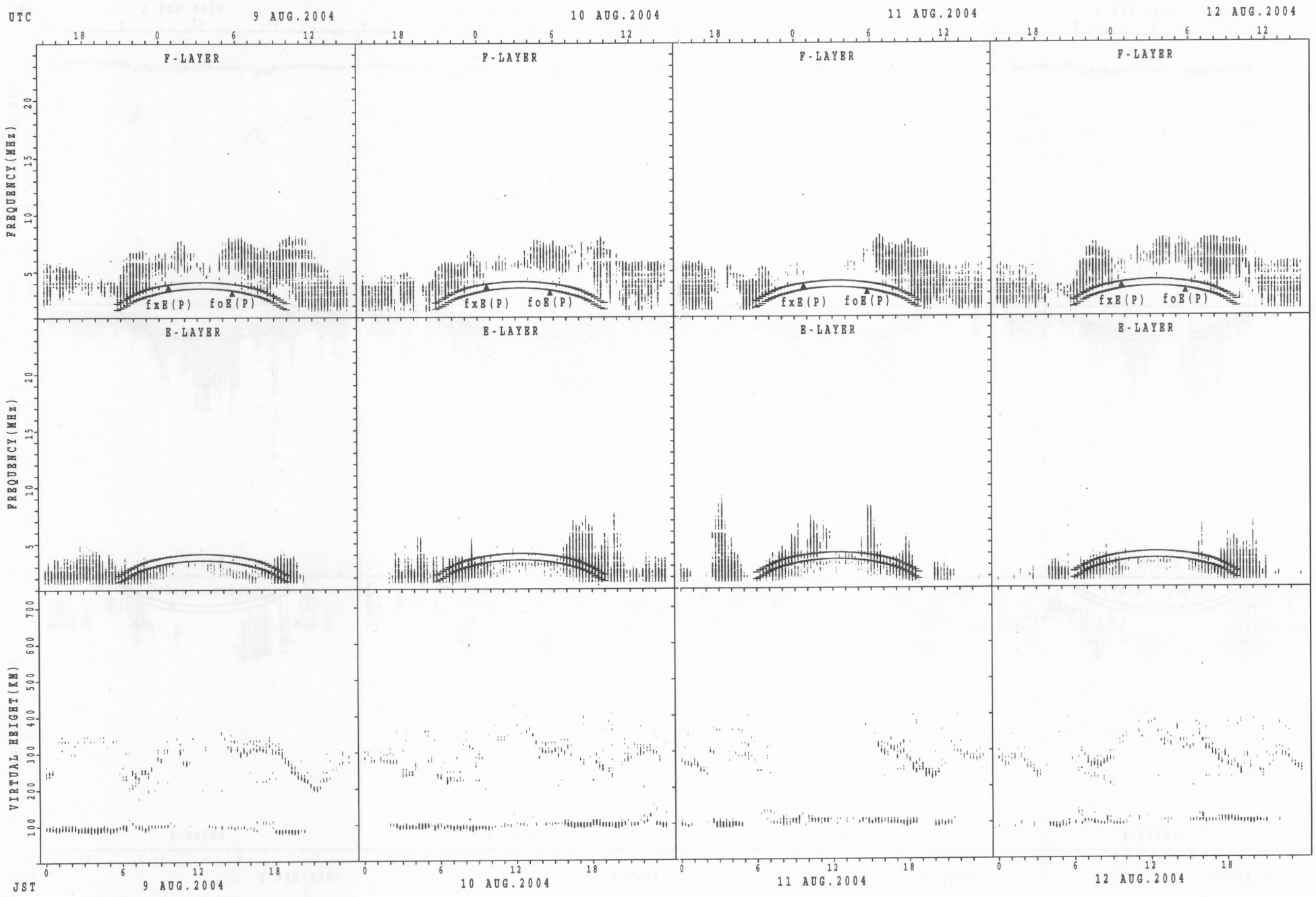
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



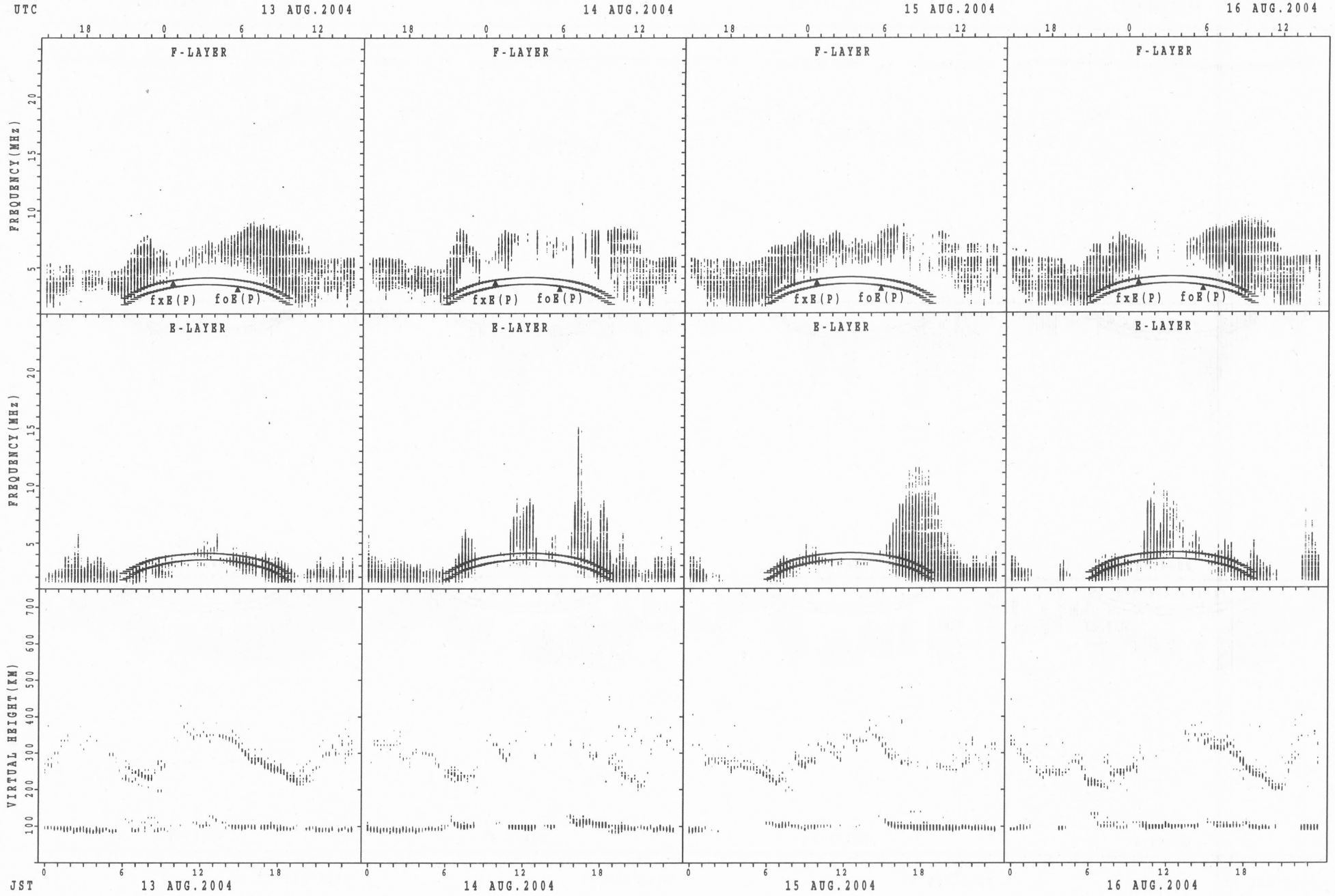
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



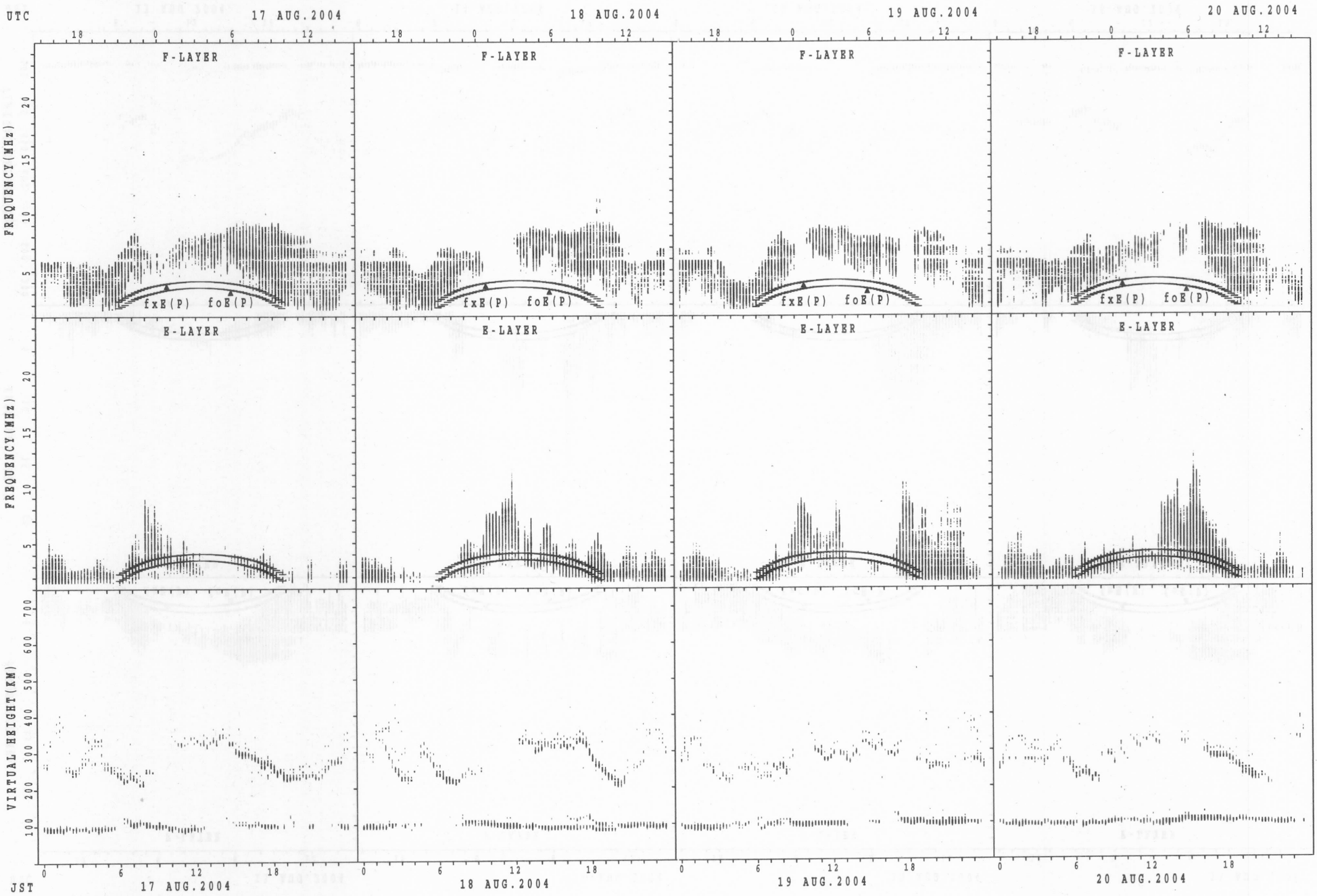
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



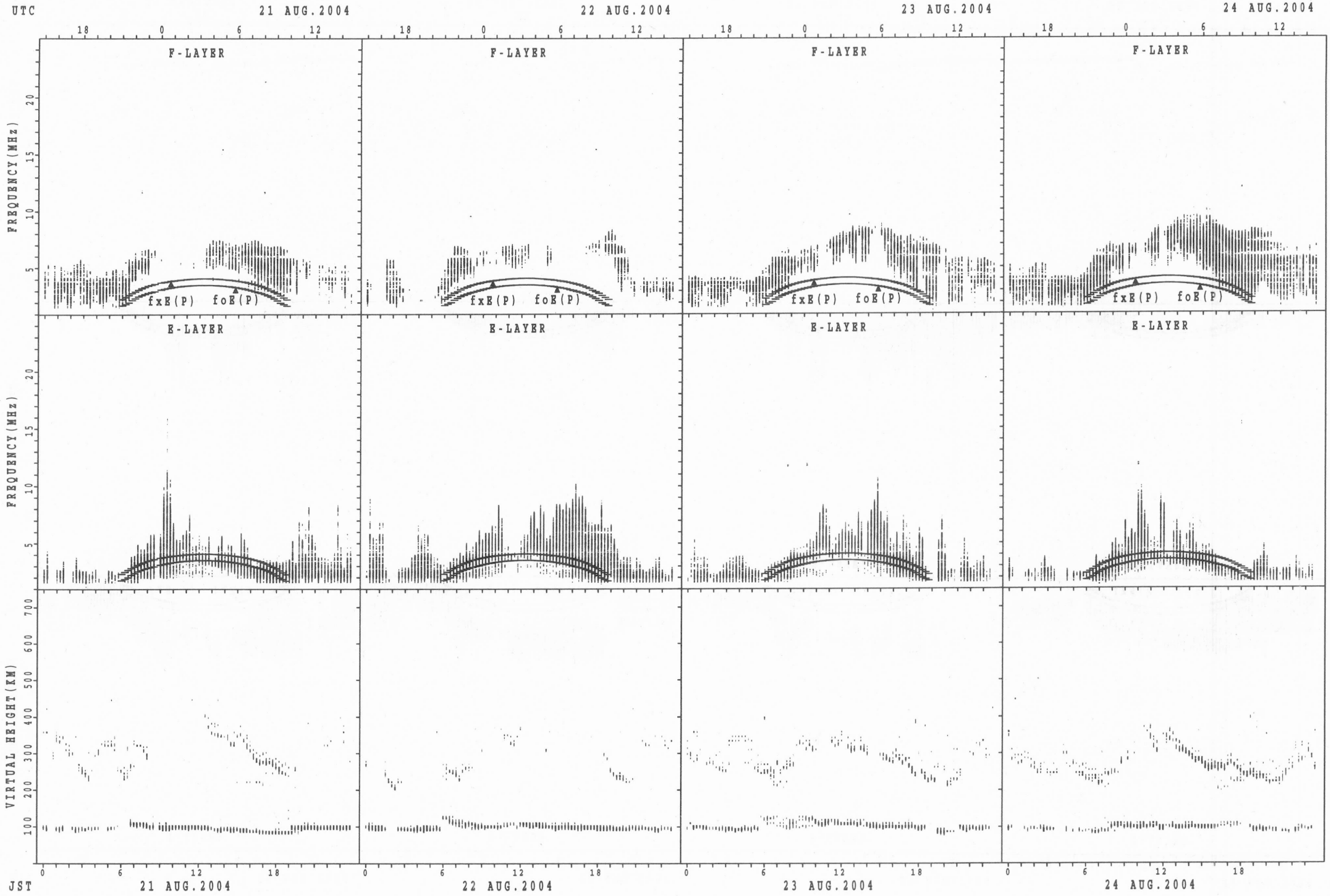
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



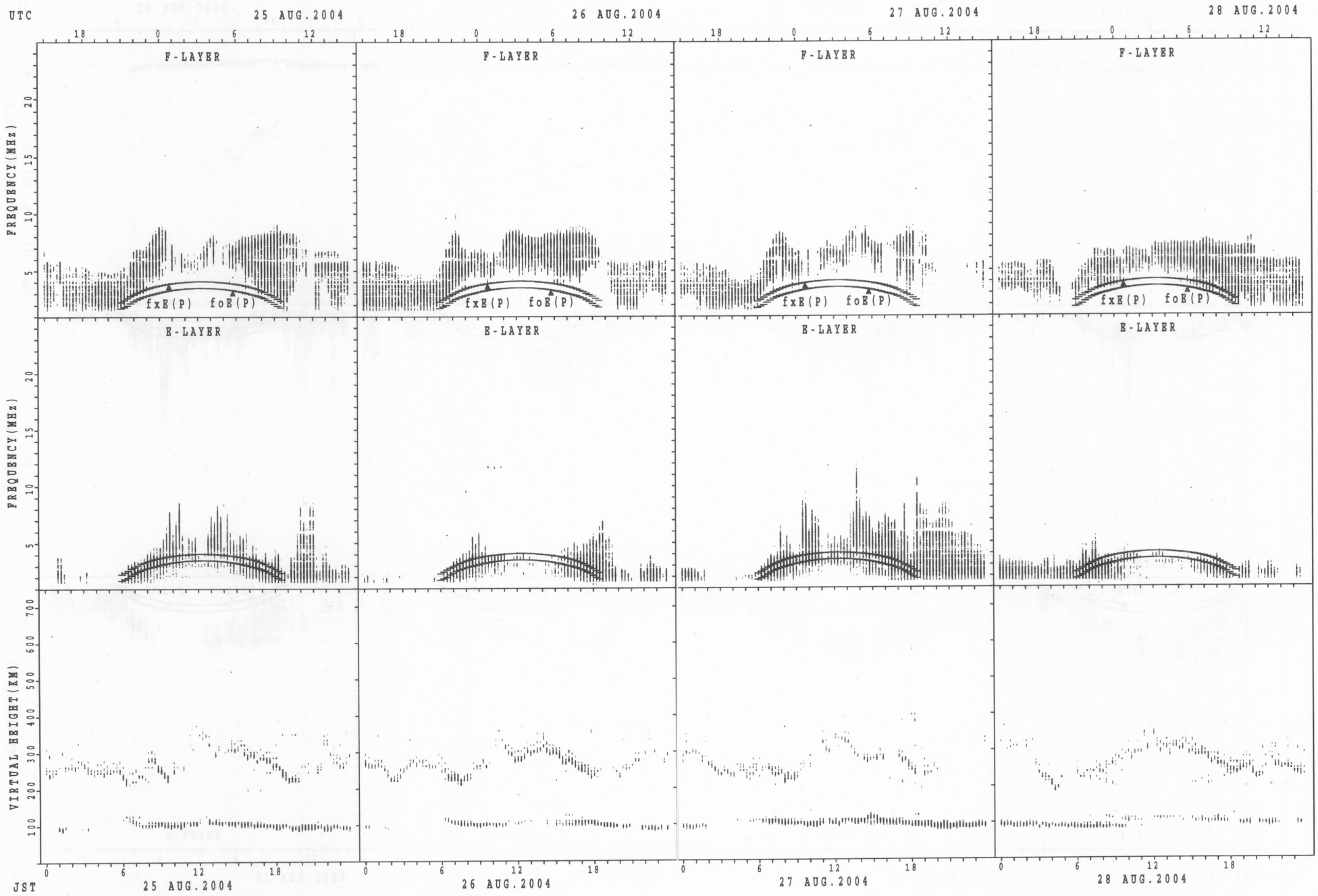
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



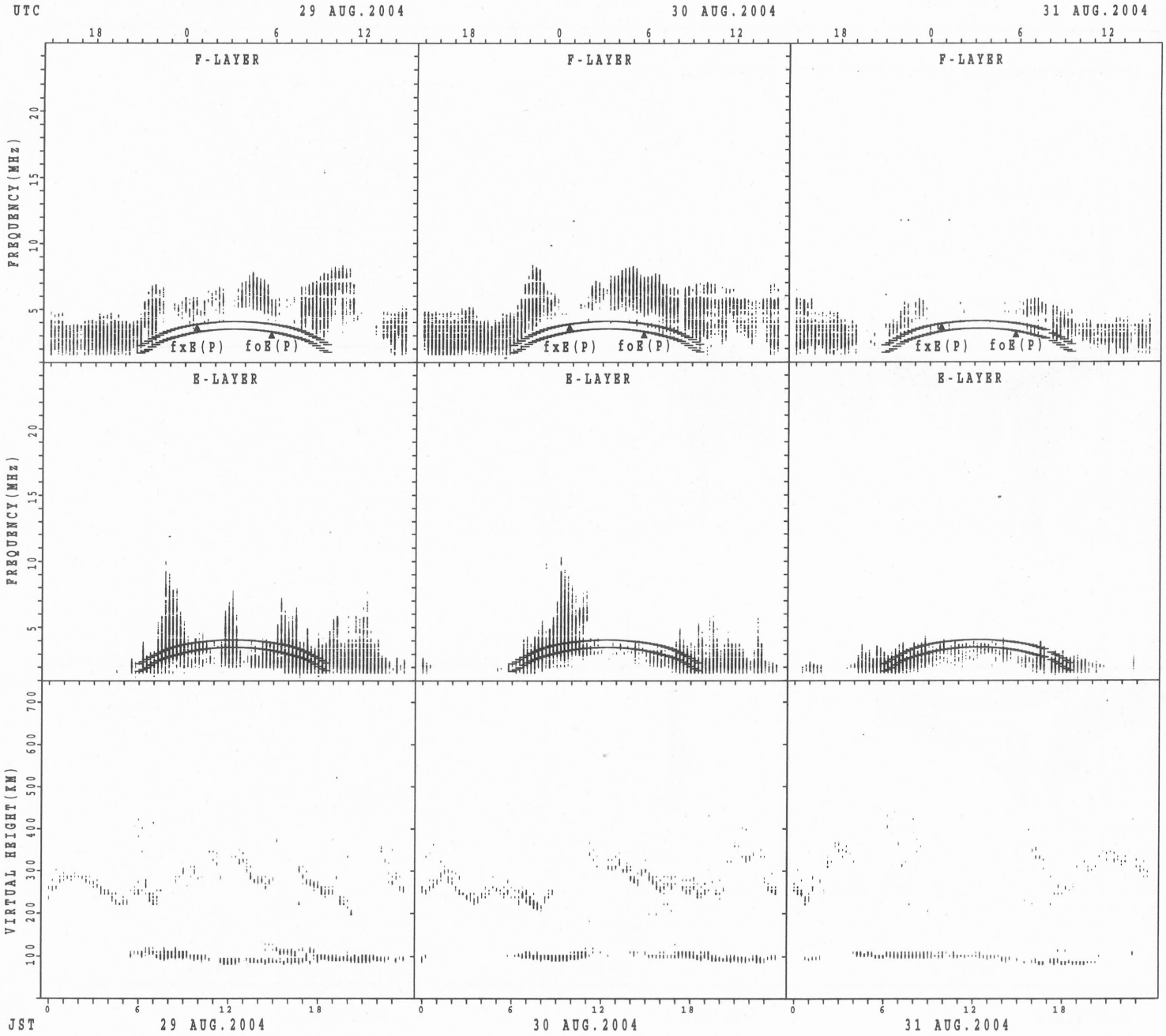
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



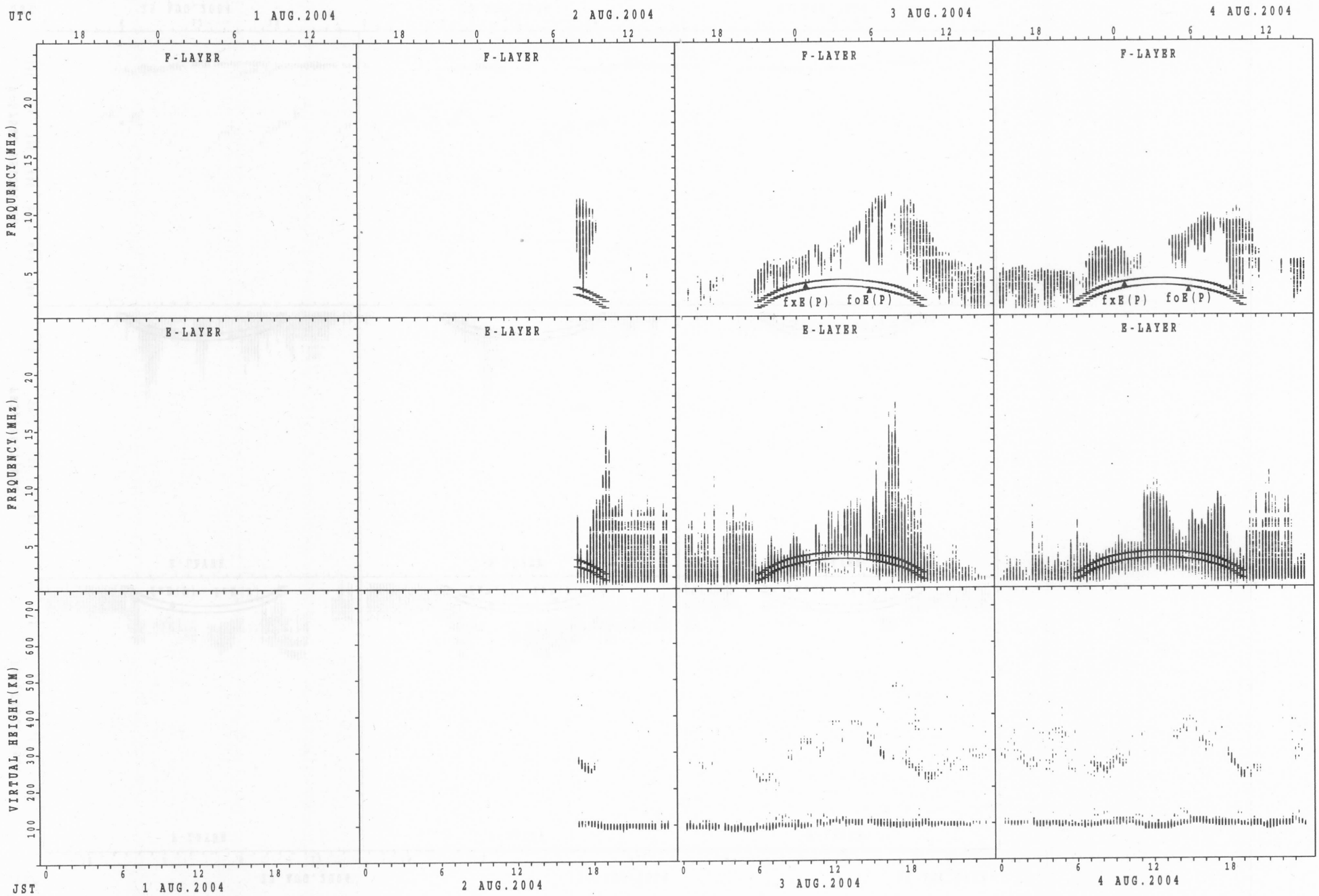
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



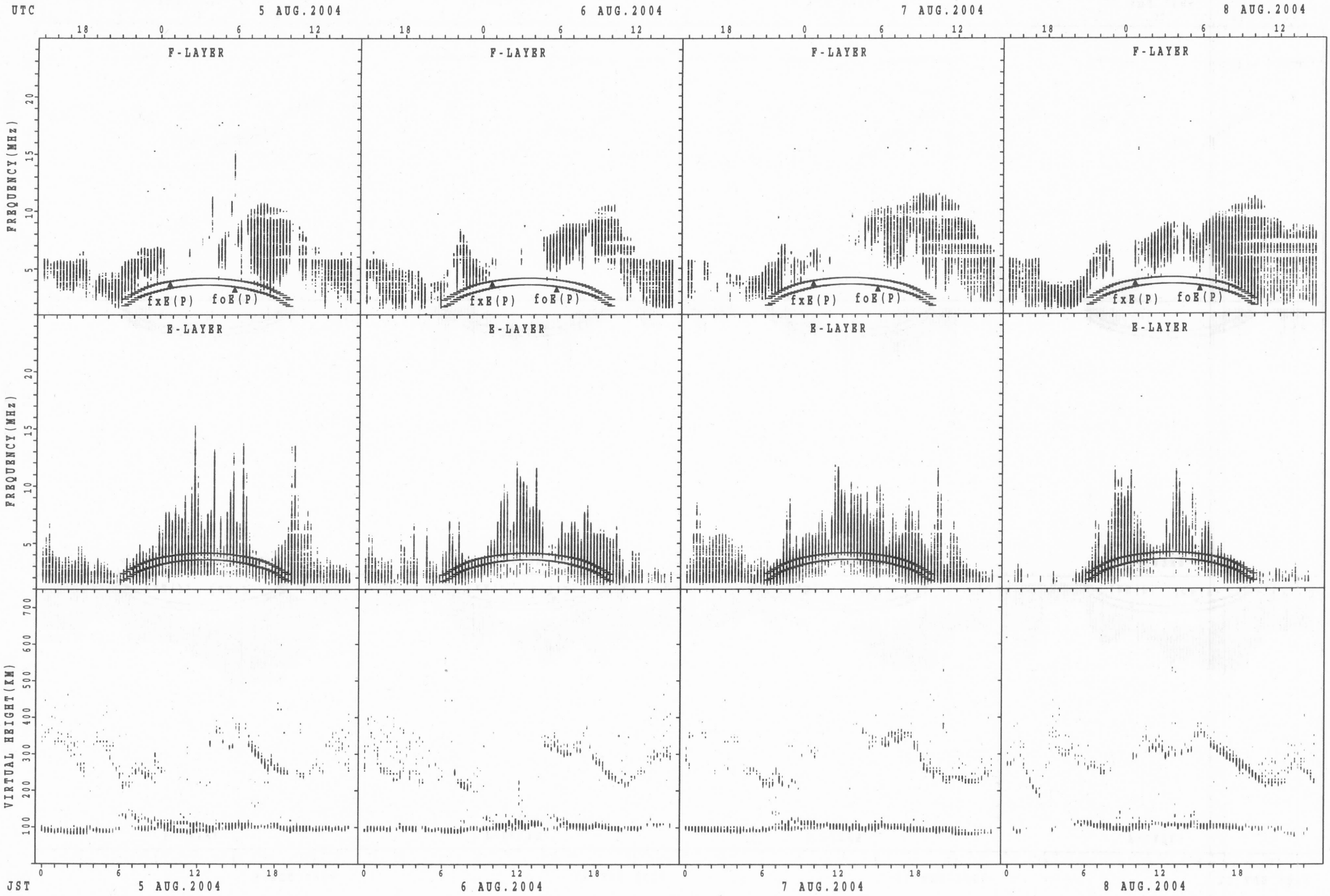
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



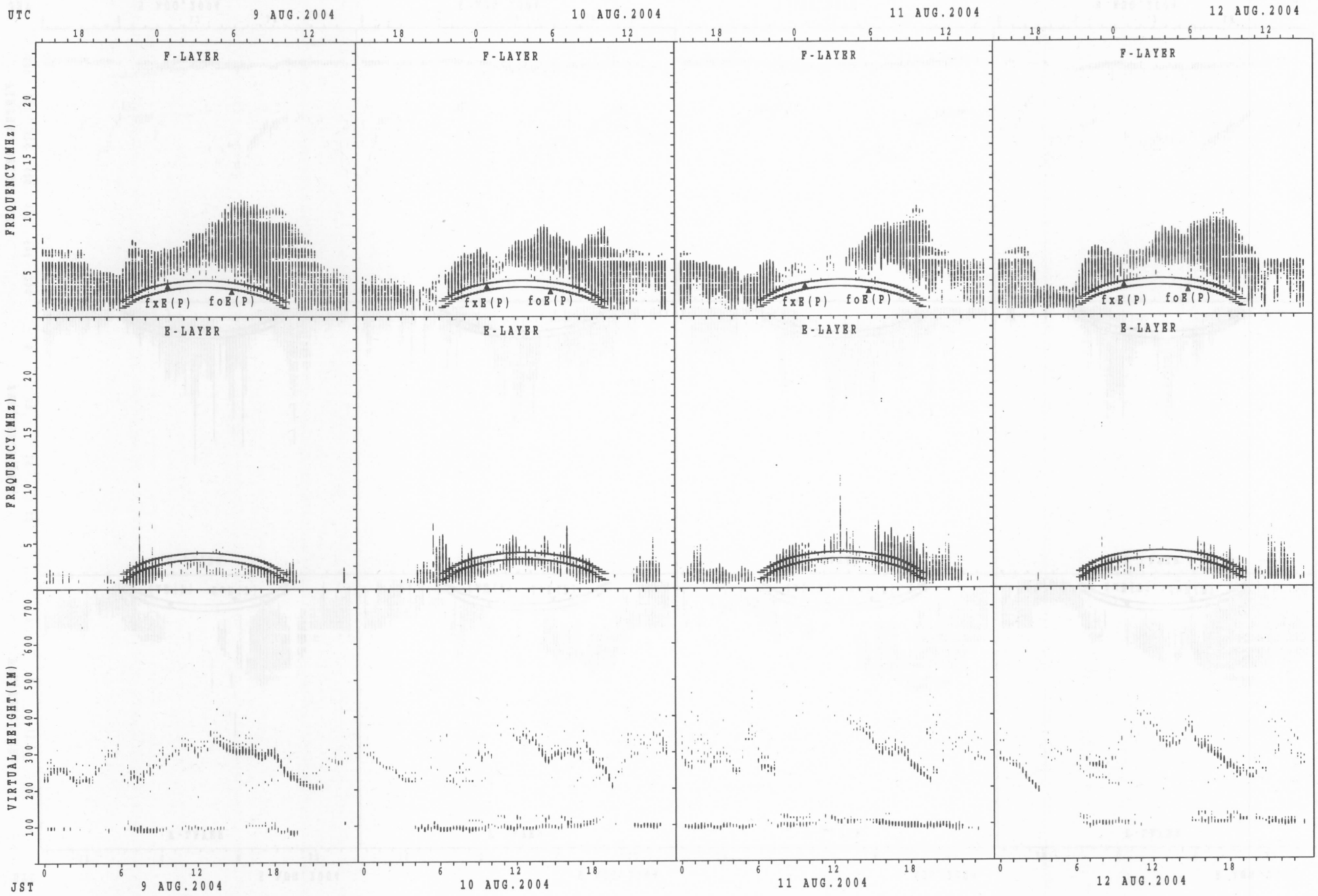
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



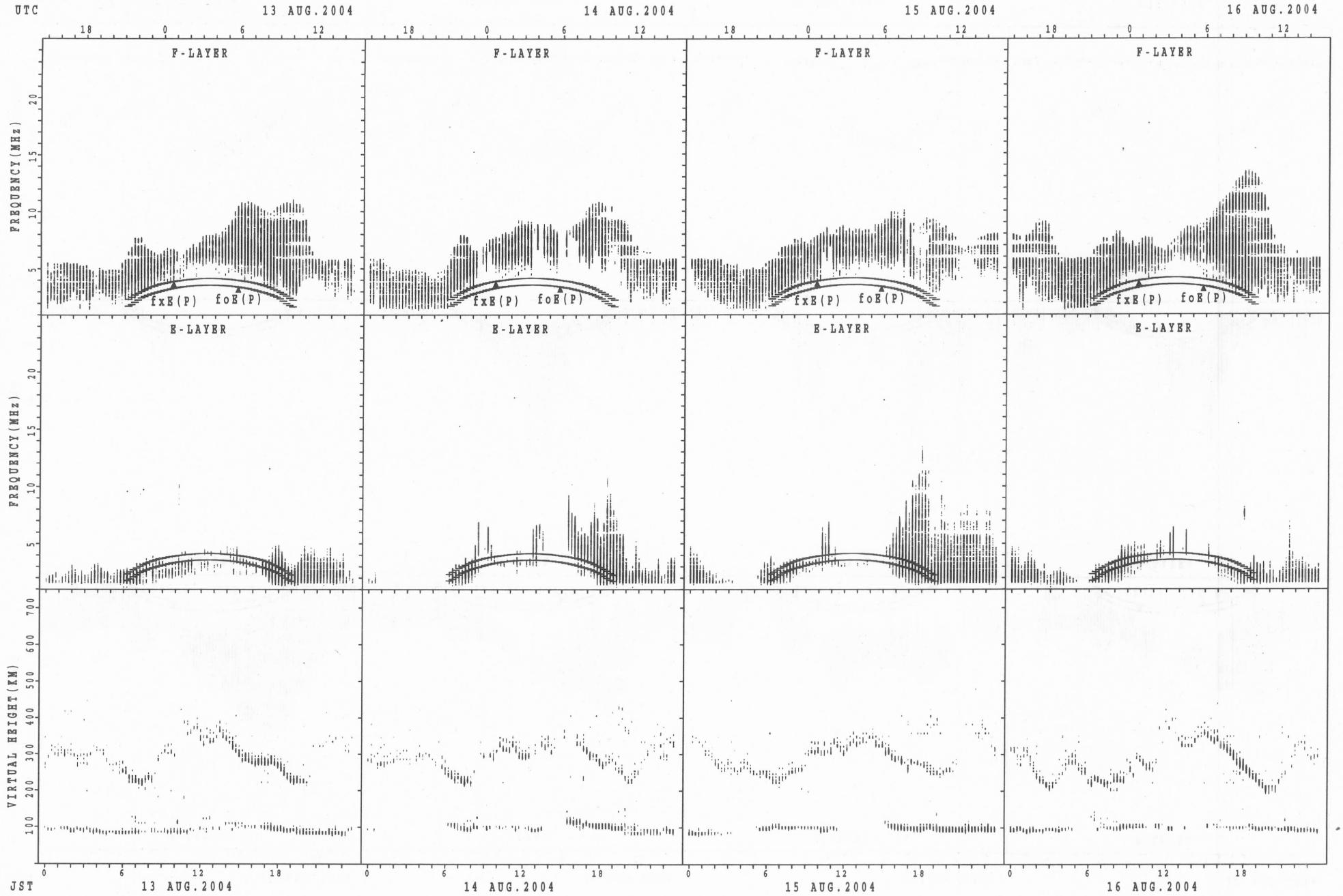
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



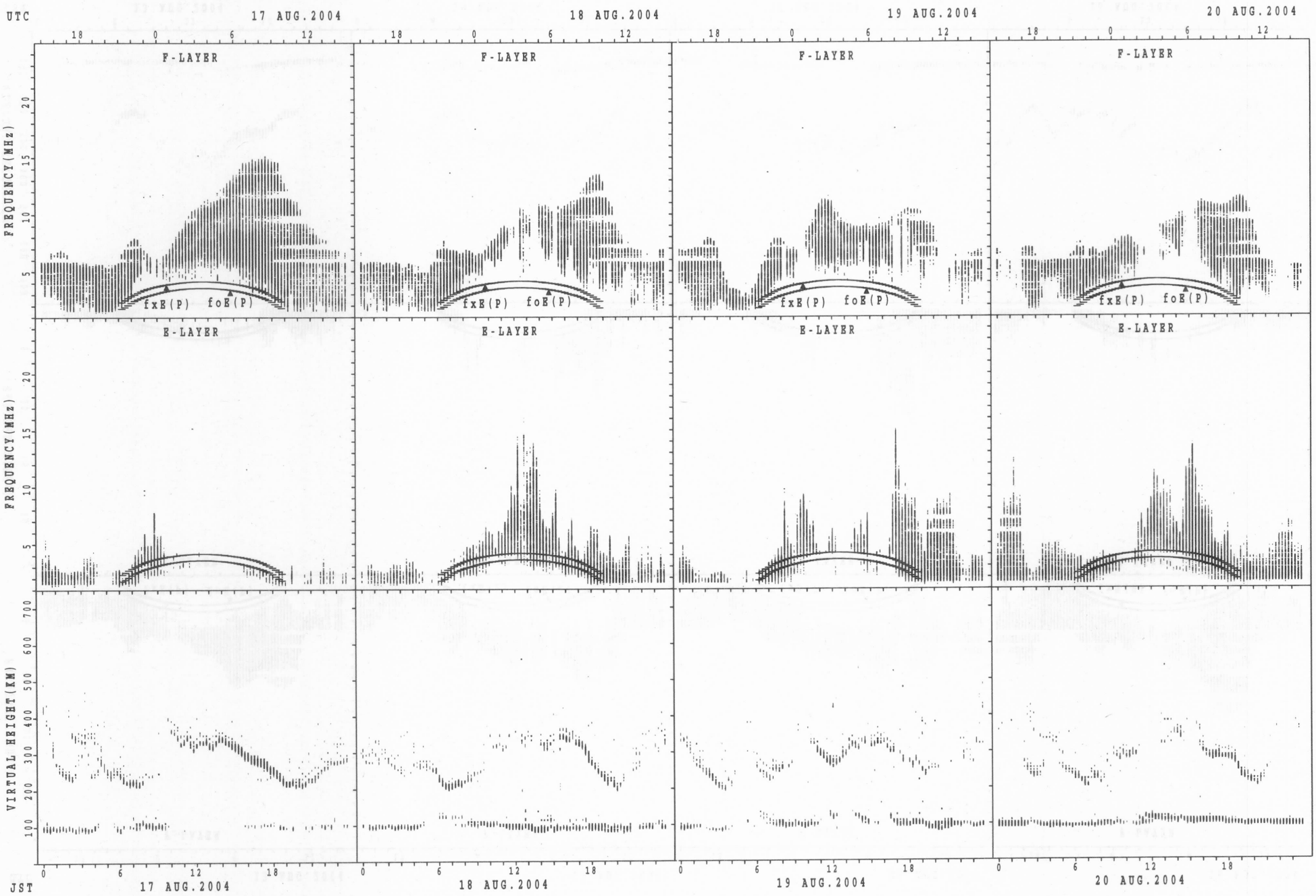
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



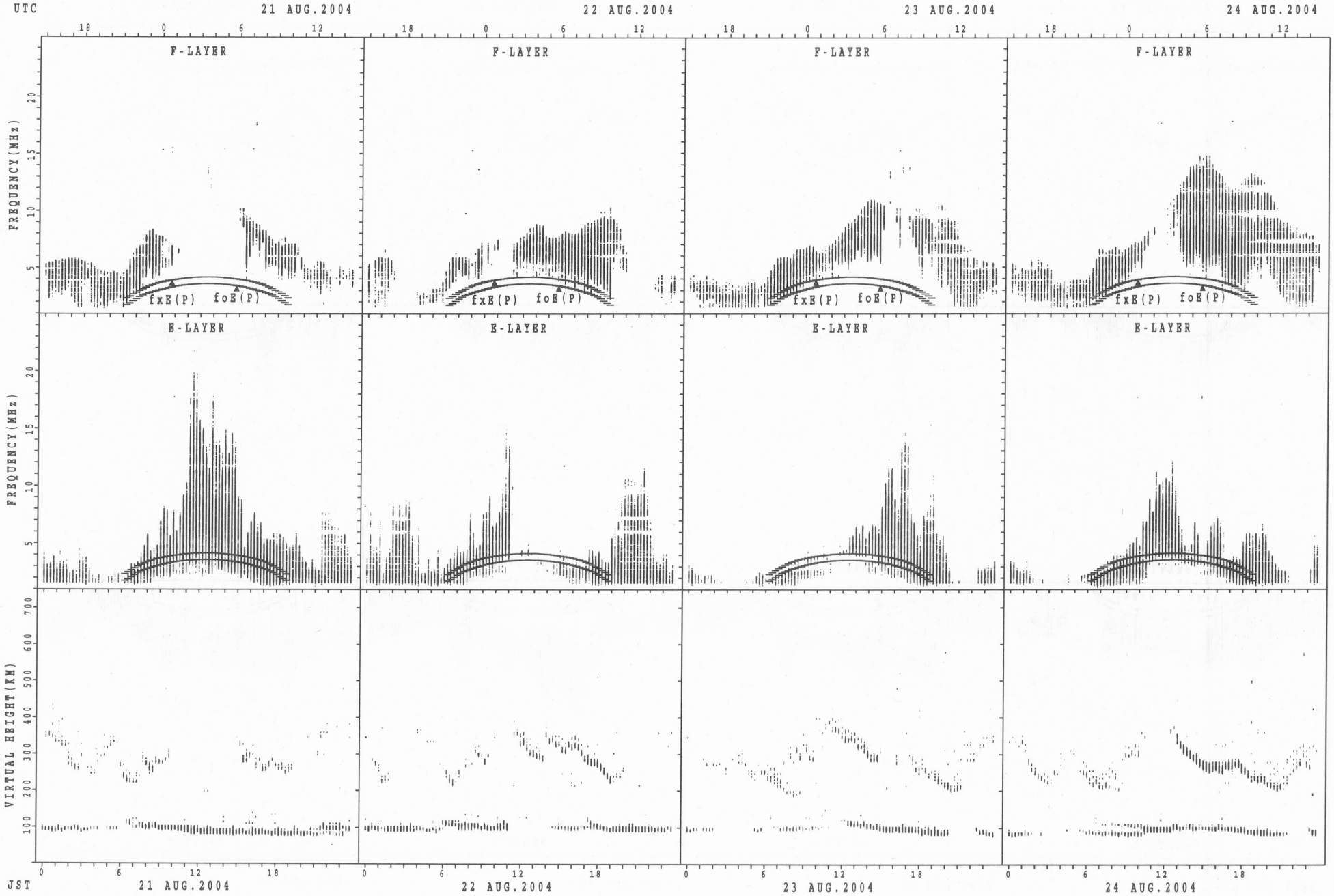
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



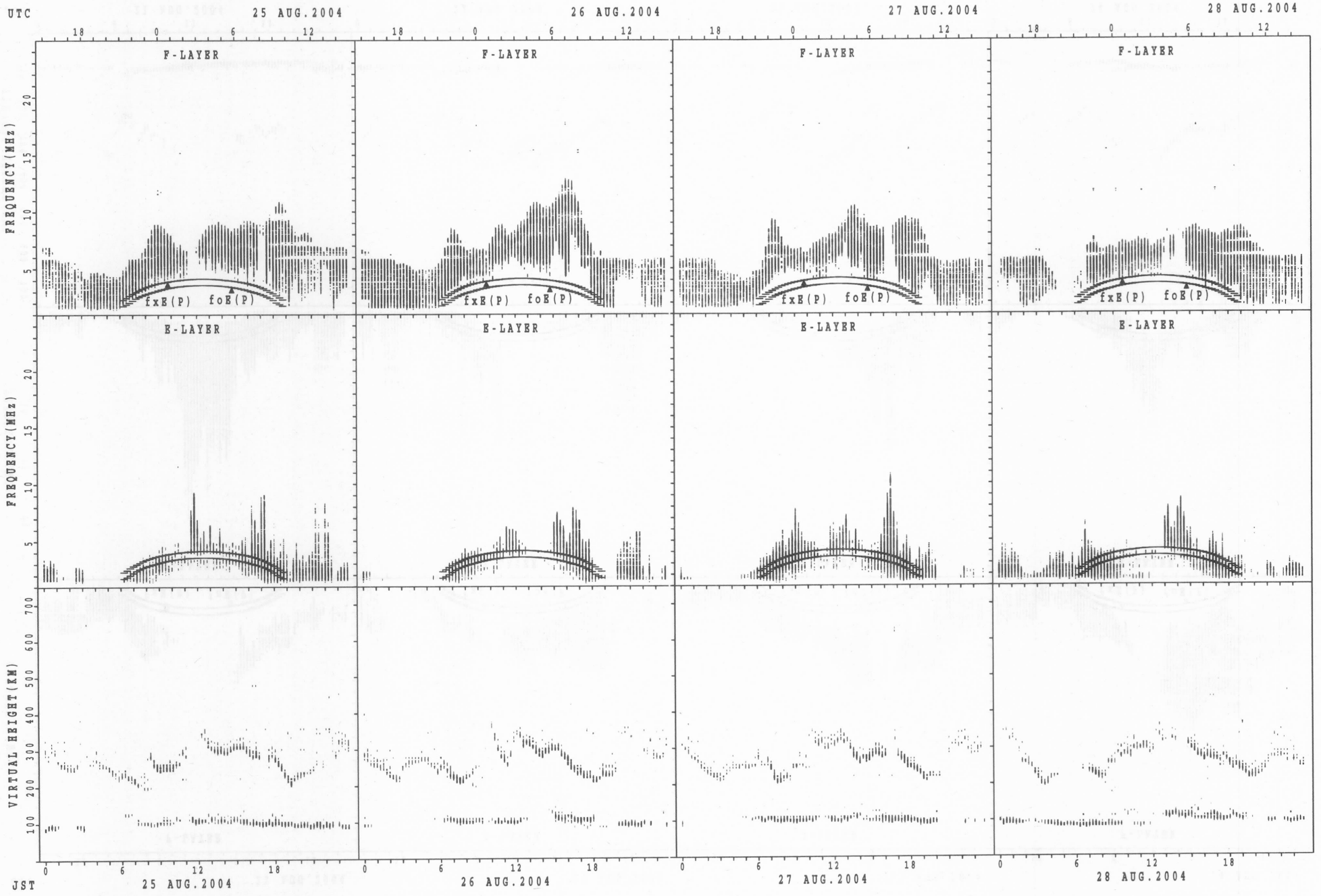
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



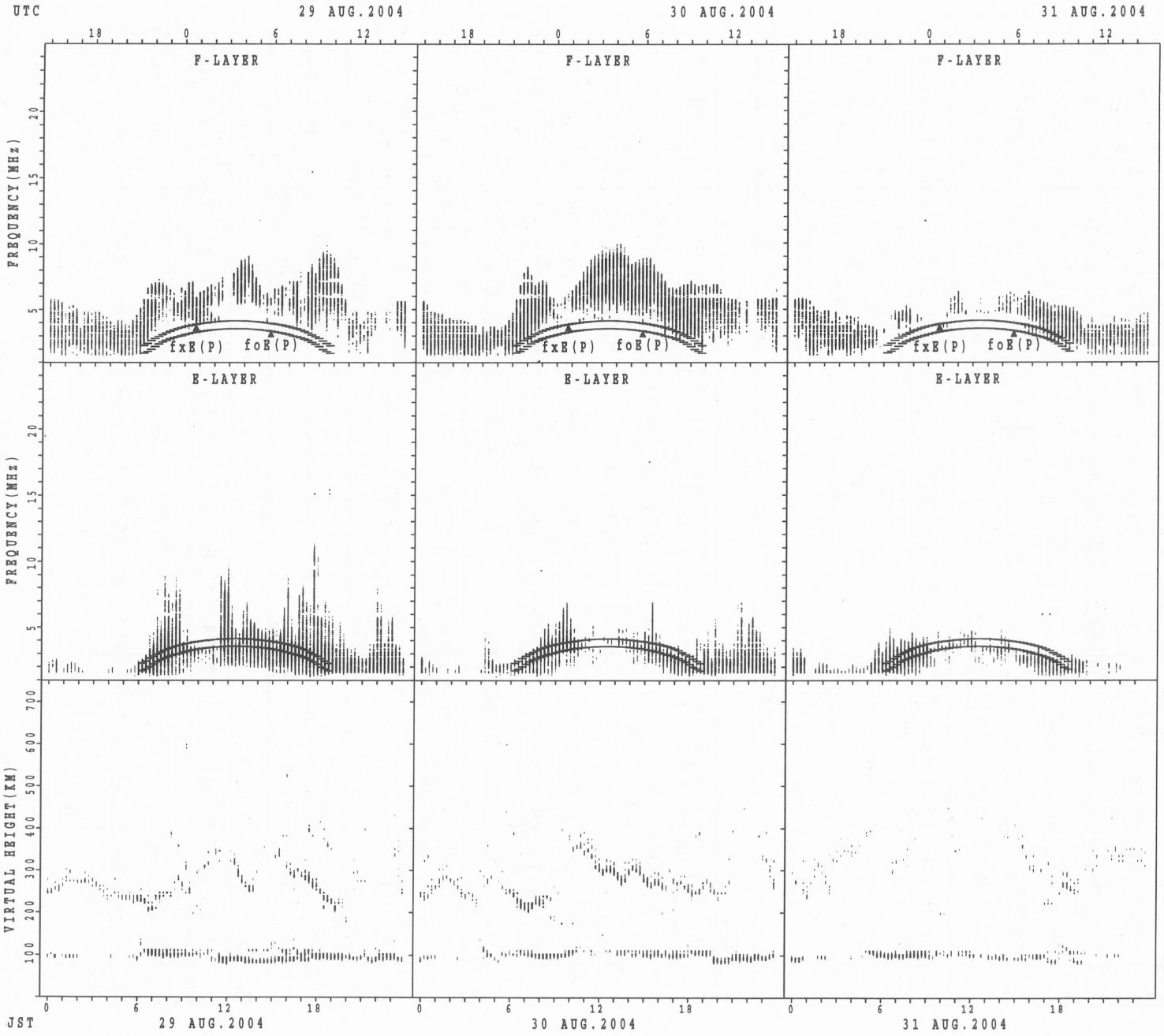
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



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

SUMMARY PLOTS AT Okinawa



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

MONTHLY MEDIANS OF h'F AND h'Es

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

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							4	8									7	10	5	4	8	6	6	
MED							285	271									320	285	260	243	316	279	299	
U Q							305	289									330	302	340	284	350	312	320	
L Q							265	251									288	274	216	211	291	264	296	

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	22	22	21	17	19	23	27	27	28	29	27	25	18	16	20	18	23	25	26	25	26	27	23	23
MED	97	97	97	103	103	105	105	105	103	103	101	101	99	103	102	104	103	103	103	103	102	101	101	97
U Q	97	103	103	111	113	113	109	107	107	103	103	104	107	104	108	113	111	109	105	105	105	105	103	101
L Q	95	95	95	95	95	99	103	101	101	99	97	97	97	98	98	101	97	103	99	100	97	99	97	95

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							5	14	4								14	10	11	9	10	3	2	1
MED							246	261	254								280	286	264	278	268	264	304	354
U Q							263	282	256								306	296	300	286	286	346	316	177
L Q							236	240	246								274	272	246	265	244	262	292	177

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	25	17	19	14	13	13	23	26	22	28	18	18	19	21	18	19	18	26	25	24	22	21	22	23
MED	99	97	95	97	97	103	107	105	103	103	103	103	99	103	97	105	108	105	101	99	99	99	102	99
U Q	102	102	99	99	106	106	111	109	105	105	103	105	105	110	109	111	115	113	103	101	103	103	105	103
L Q	97	94	95	95	95	97	103	103	99	99	97	99	95	97	95	97	105	103	97	95	97	96	97	95

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	2							16	13								6	19	14	19	10	2		
MED	338							248	254								281	288	277	258	255	303		
U Q	354							267	274								288	302	284	278	264	312		
L Q	322							232	232								278	278	264	256	234	294		

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	19	22	17	22	22	21	18	27	27	24	25	23	21	18	18	19	24	26	28	28	27	25	21	24
MED	97	95	95	95	95	95	100	107	105	104	103	103	103	103	104	105	105	105	102	97	97	99	97	97
U Q	99	97	97	95	99	97	113	115	111	107	106	113	109	111	107	111	111	111	103	102	99	102	104	103
L Q	93	93	91	91	91	89	97	103	103	101	101	99	99	103	103	99	100	103	97	95	95	95	95	95

MONTHLY MEDIANS OF h'F AND h'Es

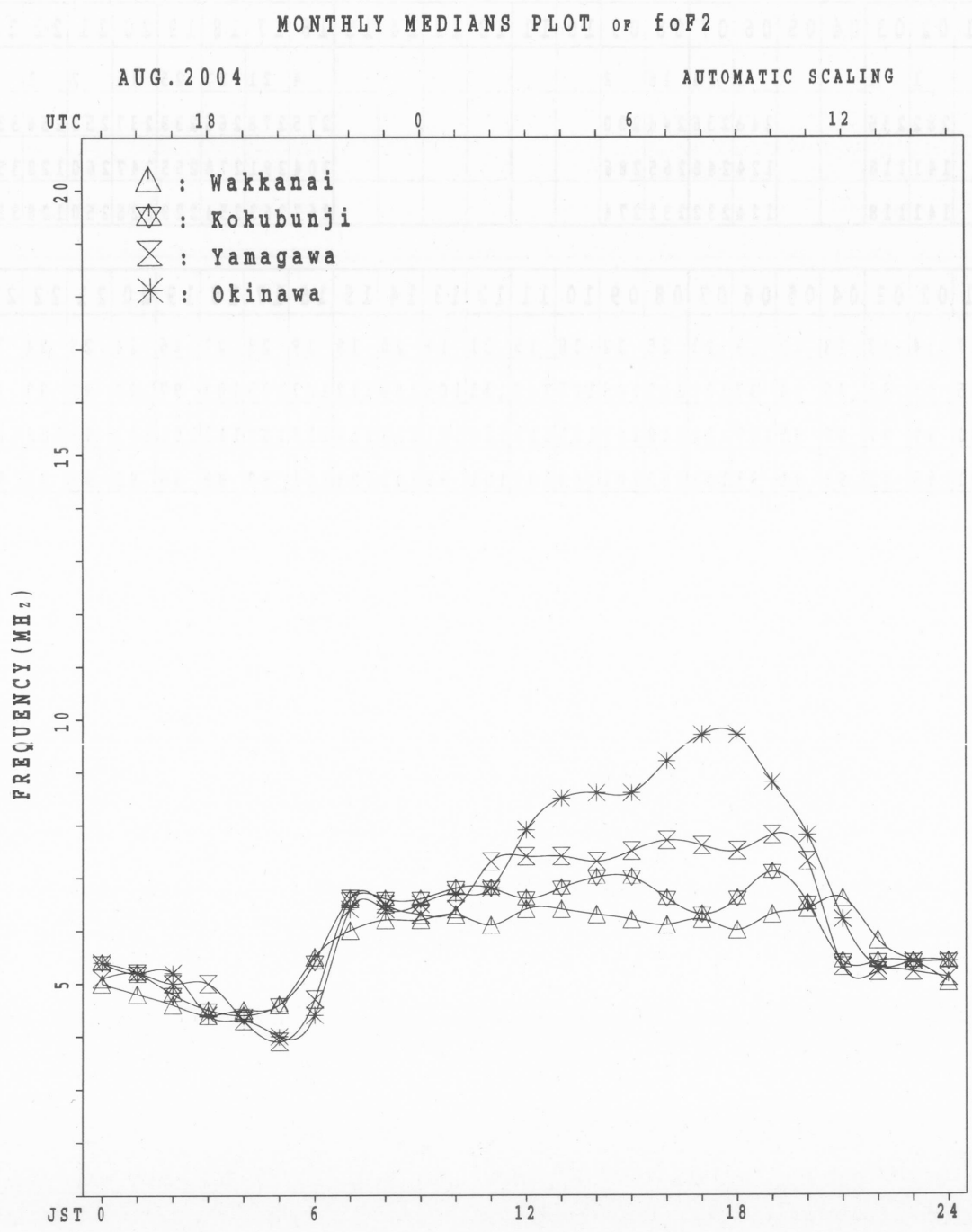
AUG. 2004 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	2		1	1			1	14	16	2							4	21	27	25	16	2	1	2
MED	297		282	236			248	236	244	280							275	278	266	238	237	255	256	334
U Q	320		141	118			124	248	265	286							304	291	278	255	247	260	128	354
L Q	274		141	118			124	232	231	274							267	263	254	229	226	250	128	314

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	20	17	14	13	13	12	19	23	25	22	18	15	21	17	20	18	19	23	27	26	24	25	24	19
MED	95	95	95	95	95	94	97	107	105	105	107	107	111	105	109	112	107	103	103	97	97	97	97	97
U Q	98	98	97	97	97	95	107	121	112	107	113	113	118	111	113	119	113	107	113	101	101	99	102	105
L Q	93	91	95	92	93	91	93	103	102	101	103	103	101	99	103	103	101	99	99	95	92	95	95	95


MONTHLY MEDIANS PLOT OF foF2
AUG. 2004
AUTOMATIC SCALING
UTC
18
0
6
12
△ : Wakkanai
✡ : Kokubunji
⧖ : Yamagawa
✳ : Okinawa
FREQUENCY(MHz)
20
15
10
5
JST 0
6
12
18
24

IONOSPHERIC DATA STATION Kokubunji

AUG. 2004 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 63	X 62	X 60	X 60	X 56															X 72	X 76	A	68	66
2	50	55	52	52	46															A	X 76	X 72	64	A
3	X 59	X 51	X 42	X 40	A															X 75	X 58	X 54	X 55	X 52
4	X 50	X 48	X 50	X 46	X 45															X 73	X 71	65	66	66
5	61	53	56	54	51															X 67	X 67	X 64	66	69
6	66	62	X 57	X 49	X 48															X 76	X 74	X 64	X 57	X 56
7	57	X 56	56	54	53	55														X 82	X 79	X 77	83	80
8	74	X 72	X 64	X 58	X 51															X 71	X 73	X 69	X 65	X 61
9	X 57	X 59	X 56	X 49	X 48							C					C			X 76	X 80	X 79	X 63	X 56
10	X 53	X 53	X 52	X 52	X 48															X 78	X 71	X 67	X 68	X 66
11	X 64	X 63	X 57	X 48	X 46															X 65	X 64	X 57	X 58	X 57
12	X 56	X 52	X 50	X 49	X 45															X 76	X 70	X 64	X 64	X 64
13	X 60	X 55	X 53	X 52	X 52															X 76	X 65	X 62	X 65	X 67
14	X 62	X 57	X 57	X 54	X 50															X 82	A	X 81	X 71	X 73
15	79	74	67	67	67	63														X 79	X 74	X 72	X 74	X 66
16	X 63	X 61	X 62	X 60	X 56															X 94	X 88	X 74	76	76
17	75	X 59	62	X 58	X 60	X 58														X 86	X 86	X 83	X 75	X 78
18	69	66	70	X 60	X 56															X 103	X 99	X 79	78	81
19	X 71	X 70	X 73	X 64	X 59															X 86	X 82	X 80	X 76	X 72
20	X 70	X 66	64	61	X 59			78												X 81	X 78	X 64	69	X 64
21	68	68	67	X 62	X 56															X 56	X 57	X 53	X 52	X 50
22	X 52	X 52	X 53	X 42	X 43															X 70	X 68	X 55	X 47	56
23	53	52	53	X 52	52															X 71	X 63	X 56	X 57	X 56
24	54	X 54	X 52	X 49	X 43															X 71	X 70	X 68	X 68	X 70
25	X 68	X 62	X 54	X 52	X 49															X 86	X 81	X 69	X 65	X 64
26	X 62	X 62	X 60	X 54	X 50															X 80	X 63	X 60	66	66
27	X 60	64	62	X 54	X 56															X 87	X 66	X 66	X 68	X 65
28	X 61	X 58	X 55	X 56	X 61															X 78	X 74	X 74	X 72	X 66
29	X 60	X 47	X 48	X 49	49															X 84	X 81	X 58	X 54	X 56
30	X 54	X 52	X 52	X 54	X 50															X 80	X 76	X 74	72	X 74
31	X 64	X 53	X 51	X 41	X 40														56	48	52	51	X 51	X 49
	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	3		1											1	30	30	30	31	30
MED	X 61	X 58	X 56	X 54	X 50	58		78											56	X 77	X 74	X 66	X 66	X 66
U Q	68	63	62	X 58	X 56	63														X 82	X 79	X 74	72	X 70
L Q	X 56	X 53	X 52	X 49	X 48	55														X 71	X 66	X 60	X 58	X 56

AUG. 2004 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2004 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	57	56	54	54	50	50	58	68	66	76	75	70	64	67	A	57	56	56	57	S 66	70	A	F	F
2	F	F	F	F	F	39	52	60	59	63	73	71	72	69	66	67	A	52	A	A	70	66	F	A
3	53	45	36	34	A	A	A	63	R 54	A	A	A	63	A	64	66	75	78	76	69	52	48	49	46
4	44	42	44	40	39	45	62	54	55	61	62	64	60	A	A	65	62	68	A	67	65	F	F	F
5	F	F	F	F	F	42	53	A	R 81	55	68	67	61	67	70	74	65	57	55	61	61	58	F	F
6	F	F	50	43	42	43	48	66	78	63	49	62	61	71	78	78	68	63	61	70	68	58	51	50
7	F	50	F	F	F	F 45	59	56	60	70	A	58	65	71	79	76	67	62	65	76	73	71	F	F
8	F	66	57	52	45	47	56	72	A	A	58	63	58	55	S 52	57	52	A	56	65	67	63	59	55
9	51	53	50	43	42	40	52	67	68	66	60	C	A	A	72	74	C	60	61	70	74	73	57	50
10	47	47	46	46	42	45	54	55	55	60	57	64	58	69	68	66	68	70	74	72	65	61	62	60
11	58	57	51	42	40	38	45	48	48	53	52	57	52	58	60	61	63	S 63	64	58	58	51	52	51
12	50	46	44	43	39	40	52	66	72	75	66	61	67	77	72	71	59	61	67	70	64	58	58	58
13	54	48	47	46	46	46	57	71	65	66	60	62	65	67	69	67	74	78	79	70	59	55	59	61
14	56	51	51	48	44	42	59	78	75	64	66	79	72	75	72	74	67	69	A	76	A	75	65	67
15	F	F	F	F	F	F	77	67	63	77	66	71	72	68	71	76	78	74	77	73	68	66	69	60
16	57	55	56	53	50	50	57	76	65	67	74	66	66	64	A	75	74	66	75	88	82	68	F	F
17	F	52	F	52	53	52	71	72	71	65	70	69	71	76	77	81	85	76	78	80	80	77	69	71
18	F	F	F	54	50	48	63	71	A	70	69	68	75	80	79	79	78	78	90	97	93	73	F	F
19	65	64	67	56	53	54	66	70	81	91	91	87	88	A	77	69	A	A	68	80	76	74	70	66
20	64	S 60	F	F	53	54	76	F	63	70	70	83	80	82	84	79	74	68	72	75	72	58	F	58
21	F	F	F	56	48	52	54	64	A	53	R 51	54	55	56	56	58	63	56	56	50	51	47	45	44
22	46	46	47	36	37	33	48	52	55	A	52	A	51	56	61	54	52	54	54	64	62	49	40	F
23	F	F	F	46	F	43	52	A	A	A	A	70	70	70	72	68	A	67	64	65	56	50	51	50
24	F	48	46	43	37	39	55	64	64	66	71	72	74	76	81	87	75	65	64	65	64	62	62	64
25	62	55	48	46	43	39	54	70	72	76	81	64	64	64	71	A	76	74	82	80	75	63	59	58
26	56	56	54	48	44	44	63	87	73	A	66	74	87	68	70	73	69	69	70	74	57	54	F	F
27	54	F	F	48	50	45	54	62	62	66	64	64	66	68	73	75	68	A	81	81	60	60	62	59
28	55	52	49	50	55	52	54	56	62	61	60	62	64	68	63	65	66	63	66	72	68	68	66	59
29	S 54	41	42	43	F	38	47	54	65	53	52	60	62	62	66	66	55	60	64	77	75	52	48	50
30	48	46	46	48	44	43	52	66	70	57	56	64	66	67	70	65	65	62	68	74	70	68	F	68
31	58	47	45	35	34	A	41	53	52	49	S 51	51	54	52	48	49	51	51	F	F	F	F	44	43
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	20	23	21	26	24	28	30	28	27	26	28	28	30	27	28	30	27	28	27	29	29	28	21	22
MED	54	51	48	46	44	44	54	66	65	66	65	64	65	68	70	68	67	64	67	72	68	62	59	58
U Q	58	56	52	52	50	49	59	70	72	70	70	70	72	71	75	75	74	70	76	76	74	68	64	61
L Q	50	46	46	43	41	40	52	56	59	60	56	62	61	64	65	65	62	60	61	66	60	54	50	50

AUG. 2004 foF2 (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

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

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

HD	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						L 328	L 376	L 396	440	440	452	460	A	A	A	L 476	L 428	L 372	A					
2							L	L 404	A	A	A	A	A	468	460	436	A	L	A					
3						A	A	A	A	A	A	A	A	A	A	A	A	A						
4							L	A	L 440	U L 456	456	A	A	A	A	A	A	A	A					
5							L	A	A	U L 468	A	U L 448	472	U L 528	U L 484	U L 436	440	L						
6							L 388	L 408	A	A	U L 468	L 484	U L 456	468	A	U L 452	L 428	A	A					
7							L	L	L 452	A	A	U L 532	U L 448	A	A	A	A	A	A					
8							L	A	A	A	A	L 492	456	460	U L 452	436		A	A	L				
9						L 328		L 408	L 436	L 452	U L 480	C	A	A	A	A	C	A	A					
10							L	L 428	L 448	460	496	476	U L 508	U L 492	480	A	L 408	A	A					
11						L	L 368	U L 408	A	U L 456	U L 460	U L 472	U L 468	U L 480	A	A	428	L						
12							L 444	L 436	452	A	L 496	L 496	L 532	U L 492	E B	L 468	L 444	L 424	L					
13							L	L	L 476	476	L 496	516	L 508	492	472	L 488	452	L						
14							A	L	L 460	A	A	500	L 504	L 500	L 496	E B	L 460	L	A					
15							L	L	L 476	476	L 488	L 508	508	L 504	476	L 476	A	L						
16							L	L	L	L	476	L 492	L 492	A	A	L 468	L	A	A					
17							A	L	L 448	L 488	L 492	L 496	L 504	492	508	L 480	L 436	L						
18							A	A	A	A	500	L 516	L 488	L 492	L 484	L 472	L 464	L						
19							L	L	L 464	A	A	L	A	A	A	L	A	A						
20								L	L	L 492	L 520	A	A	A	A	L 468	L	L						
21						L	344	A	A	A	U L 468	U L 464	U L 496	L 472	L 456	436	L 416	A						
22							A	392	432	A	A	A	A	A	L 524	432	L 436	L 384						
23							L	A	A	A	A	472	472	472	L 472	A	A	A						
24							A	L	A	A	A	L 496	496	488	L 476	L 456	L	L						
25							L	L	A	L 476	468	L 496	A	A	L 488	A	A	A						
26							A	L	L	A	L 496	L 500	472	L 472	L 484	L	L	L						
27							A	L	L	L 480	A	A	L 488	L 476	L 472	A	A	A	A					
28							L		L	L 472	L 484	480	L 476	464	476	L 452	L	L						
29							A	L 412	420	L 460	452	456	476	L 464	464	L 440	L 440	A						
30							A	L	L 428	L 464	L 484	468	468	476	460	L	L	L	A					
31						A	U L 316	364	404	U L 428	U L 436	U L 452	U L 464	U L 440	424	U L 420	L 416	L						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						1	6	10	15	16	20	23	22	21	20	18	14	3						
MED						L 328	L 372	L 408	L 448	L 466	L 482	L 492	L 482	L 476	L 476	L 454	L 436	L 384						
U Q							L 388	L 412	L 460	L 476	L 496	L 500	L 504	L 492	L 484	L 472	L 444	L 424						
L Q							344	396	432	U L 456	464	468	U L 468	468	462	436	L 428	L 372						

AUG. 2004 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						B	U A 228	U A 260	300		A	A	A	A	A	A	U R 324	U A 292	U A 252	A				
2						B	A	A	A	A	A	A	A	A	A	U A 320	U A 296	A	A					
3						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
4						B	A	A	A	A	A	A	A	A	A	A	U A 296	A	A					
5						B	U A 236	A	A	A	A	U A 360	U R 396	A	R	R	U A 300	A	U A 192					
6						B	220	U A 280	A	A	A	A	A	A	A	A	U R 288	A	A					
7						B	220	U A 276	A	A	A	A	A	A	A	A	A	A	A					
8						B	U A 232	A	A	A	A	A	A	A	U A 348	A	U A 300	A	A					
9						B	U R 236	A	R	A	A	C	A	A	A	A	C	A	A					
10						B	U A 248	U A 292	U R 328	R	A	372	R	U A 364	A	A	A	A	B					
11						B	U A 212	U R 288	A	A	A	U R 364	U A 380	A	A	A	A	A	A					
12						B	240	A	A	A	A	R	R	R	B	U A 344	U A 308	256	200					
13						B	A	U A 296	R	A	A	A	A	A	A	A	U R 328	276	U A 200					
14						B	U A 228	A	U A 328	A	A	A	A	A	U A 384	B	U A 324	U A 280	B					
15						B	A	A	A	A	A	R	R	U A 372	U A 364	B	A	A	B					
16						B	A	A	A	A	A	A	A	A	A	A	A	264	B					
17							A	A	A	A	R	R	R	B	R	U R 352	U R 324	A	B					
18						B	A	A	A	A	A	A	B	R	A	U R 348	316	U A 268	B					
19						B	U A 224	A	A	A	A	A	A	A	A	U A 348	B	U A 264	B					
20						B	A	U R 280	U A 304	A	A	A	A	A	A	A	A	A	B					
21						B	U A 204	A	A	A	A	A	A	A	A	A	U R 288	A	B					
22						B	U A 220	U A 260	A	A	A	A	A	A	A	A	A	A	B					
23						B	A	A	A	A	A	A	A	A	U A 360	A	A	A	A					
24						B	A	A	A	A	A	A	R	A	U R 352	A	A	244	B					
25						B	232	U A 272	A	A	A	A	A	A	A	A	A	A	A					
26						B	A	A	A	A	A	R	A	A	A	U R 336	U A 292	232	A					
27						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
28						B	U R 196	U R 280	308	U A 324	R	R	360	A	R	320	284	216	B					
29						B	A	A	A	A	U A 344	U A 364	A	A	U A 336	U A 312	A	A	B					
30						B	A	A	A	A	A	A	A	U R 348	U A 344	U R 320	A	A	A					
31						B	A	A	A	A	A	A	R	R	R	R	U R 284	U A 208						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							15	10	5	1	1	4	3	3	7	10	15	11	3					
MED							U A 228	U A 280	U 308	U A 324	U A 344	U 364	U 380	U A 364	U A 352	U 330	U A 296	256	U A 200					
U Q							U 236	U A 288	U 328			368	U R 396	U A 372	U A 364	U R 348	U 316	U A 268	U A 200					
L Q							U 220	U A 272	302			U A 362	360	U R 348	U A 344	U A 320	U R 288	232	U A 192					

AUG. 2004 foE (0.01MHz)

IONOSPHERIC DATA STATION Kokubunji

AUG. 2004 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 22	J A 23	24	J A 23	J A 42	E B 19	28	36	35	38	41	42	J A 82	J A 75	J A 63	J A 60	J A 50	J A 38	J A 42	J A 99	J A 43	J A 116	J A 145	E B 15
2	J A 97	J A 76	J A 28	J A 44	J A 24	J A 25	J A 34	36	J A 63	J A 58	J A 70	J A 61	J A 71	J A 44	42	J A 52	J A 130	J A 78	J A 102	J A 99	J A 95	60	J A 62	J A 86
3	J A 60	J A 43	J A 38	21	J A 56	J A 45	J A 88	J A 76	J A 86	J A 75	J A 66	J A 80	J A 102	J A 72	J A 126	J A 48	J A 144	J A 90	J A 134	J A 78	J A 77	32	J A 29	J A 27
4	J A 28	J A 17	J A 19	J A 18	J A 21	22	J A 34	J A 60	J A 64	J A 57	40	J A 56	J A 71	J A 128	J A 75	J A 79	J A 56	J A 70	J A 112	J A 108	J A 86	38	J A 42	J A 33
5	J A 29	J A 50	J A 21	21	E B 15	E B 16	27	J A 64	59	J A 47	J A 54	42	G 36	52	G 31	G 29	33	29	J A 36	38	J A 69	27	44	54
6	J A 73	J A 62	J A 30	J A 43	J A 19	18	26	35	J A 65	J A 52	J A 46	J A 56	J A 48	J A 59	J A 45	36	35	J A 49	J A 64	J A 18	J A 53	42	32	J A 54
7	J A 97	J A 85	J A 34	J A 36	E B 14	J A 19	30	J A 40	J A 41	J A 73	J A 109	J A 78	45	J A 100	J A 112	J A 70	J A 58	J A 55	J A 79	J A 68	J A 97	77	44	60
8	J A 86	J A 27	J A 34	J A 29	J A 32	J A 33	J A 34	J A 48	J A 82	J A 74	J A 143	J A 60	J A 46	J A 42	42	38	J A 46	J A 52	J A 34	J A 37	J A 74	72	28	20
9	E B 14	E B 15	E B 15	J A 24	20	J A 19	G 19	30	G 32	J A 44	J A 44	C	J A 81	J A 117	J A 78	J A 60	C	J A 92	J A 45	J A 44	J A 23	25	27	20
10	J A 42	J A 53	J A 73	J A 42	J A 26	J A 23	30	34	G 30	G 30	41	42	G 32	41	39	J A 68	35	J A 74	J A 53	J A 34	J A 23	33	75	44
11	J A 32	J A 24	J A 25	J A 36	19	E B 15	27	G 26	J A 47	67	38	41	44	44	J A 90	J A 100	J A 44	32	40	E B 16	E B 14	15	E B 15	B J A 21
12	20	J A 21	J A 24	J A 23	J A 21	J A 25	G	32	J A 52	J A 60	46	G 29	G	G	E B 49	38	35	29	22	J A 18	E B 15	E B 15	B J A 23	J A 27
13	J A 55	J A 24	21	19	E B 15	J A 22	26	32	G 28	J A 43	J A 53	J A 61	J A 73	J A 128	J A 64	J A 42	G 27	32	G	J A 42	J A 47	J A 24	J A 27	J A 38
14	J A 88	J A 58	J A 28	J A 20	20	20	J A 40	J A 42	J A 44	J A 58	J A 60	J A 51	J A 46	J A 57	46	E B 50	J A 82	32	J A 82	J A 64	79	23	J A 20	J A 42
15	J A 54	J A 55	J A 36	J A 22	J A 17	20	J A 32	J A 39	37	J A 41	J A 44	G 35	G 31	42	43	44	J A 48	J A 38	J A 25	J A 28	J A 43	44	27	26
16	J A 21	J A 24	E B 15	20	19	J A 24	J A 37	34	36	J A 46	J A 45	41	J A 47	J A 54	J A 82	42	36	J A 60	J A 74	J A 34	J A 24	56	64	40
17	J A 40	J A 44	J A 45	J A 24	J A 26	J A 30	J A 40	J A 49	J A 46	J A 48	G 34	G 32	G 29	E B 42	G 31	41	G 34	J A 33	J A 44	J A 87	J A 46	76	J A 32	
18	J A 41	J A 66	J A 22	J A 28	J A 22	E B 16	J A 35	J A 68	J A 72	J A 60	J A 47	J A 46	44	G 31	J A 42	G 32	J A 42	J A 39	J A 32	J A 37	J A 25	24	88	104
19	J A 78	J A 22	J A 22	J A 27	J A 24	20	29	J A 37	J A 43	J A 68	66	J A 48	52	J A 97	J A 82	42	J A 98	J A 65	J A 48	J A 83	J A 41	58	58	98
20	J A 86	J A 77	J A 37	J A 40	J A 22	J A 26	J A 27	J A 30	35	J A 47	J A 52	50	J A 70	58	J A 75	J A 78	J A 37	J A 34	24	J A 28	J A 24	28	43	96
21	J A 34	21	J A 37	J A 18	E B E B 17	E B 16	26	J A 54	J A 85	J A 46	J A 44	44	J A 46	J A 44	J A 42	35	G J 26	A 45	J A 31	A 44	22	J A 80	J A 40	J A 46
22	J A 27	J A 19	J A 21	19	J A 18	J A 17	J A 36	36	J A 41	J A 62	J A 62	J A 68	J A 74	J A 70	J A 75	J A 47	J A 47	J A 37	22	J A 18	J A 22	17	J A 95	J A 99
23	J A 86	J A 85	J A 28	J A 21	J A 31	J A 23	J A 34	J A 56	J A 76	J A 114	J A 160	J A 86	J A 82	J A 59	46	J A 54	J A 93	J A 55	J A 38	J A 55	J A 63	26	E B 15	J A 36
24	J A 29	J A 25	J A 25	J A 25	E B 15	E B 16	B J A 43	34	44	J A 64	J A 73	J A 48	G 34	40	G J A 34	40	J A 34	29	18	E B 15	E B 14	B J A 28	J A 23	25
25	J A 25	18	E B 15	E B E B 16	E B 15	21	G 18	34	J A J 50	A 44	42	44	J A J 50	A J 53	A J 55	A J 76	J A J 184	A 144	J A 46	J A 24	J A 24	20	20	E B 15
26	E B 15	E B 16	23	E B 15	19	J A 36	J A 54	J A 40	J A 46	J A 65	J A 40	G 33	40	38	J A 41	G 24	34	30	J A J 29	A 42	J A 28	20	J A 99	J A 44
27	J A 36	J A 27	J A 22	J A 19	J A 16	J A 25	J A 73	J A 45	J A 43	J A 39	J A 59	J A 76	43	J A 43	J A 46	J A 53	J A 55	J A 97	J A 55	J A 92	J A 65	44	J A 25	J A 23
28	J A 27	J A 28	J A 28	J A 22	J A 21	E B 16	G J 28	A	34	37	G 25	G 27	41	J A 45	G 30	38	35	J A 34	J A 36	J A 43	J A 19	43	J A 46	J A 64
29	J A J 31	A 23	20	J A 36	J A 26	J A J 29	A J 110	A 36	J A 38	J A 41	38	40	42	J A 47	39	J A 41	J A J 95	A 44	J A 47	J A 71	J A 28	22	J A 21	E B 14
30	19	18	19	J A 17	J A 28	J A 32	J A 37	J A 56	34	J A 55	J A 61	46	38	G	38	G 28	36	J A 82	J A 42	J A 69	J A 70	28	J A 53	J A 26
31	J A 20	22	22	J A 26	J A 26	J A 32	J A 27	31	35	J A 43	38	38	G 26	G 29	G 27	G	G 20	26	39	J A 35	J A 32	26	J A 21	19
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	30	31	31	31	31	31	31	31
MED	J A 34	J A 25	J A 24	J A 23	J A 21	J A 22	J A 32	J A 36	J A 44	J A 52	J A 46	46	46	J A 47	J A 46	42	J A 43	J A 44	J A 40	J A 42	J A 41	28	J A 40	36
U Q	J A 73	J A 55	J A 34	J A 29	J A 26	J A 26	J A 37	J A 49	J A 63	J A 64	J A 62	J A 60	J A 71	J A 70	J A 75	J A 60	J A 58	J A 70	J A 55	J A 69	J A 70	46	J A 62	J A 54
L Q	25	21	21	19	E B 17	E B 18	27	34	35	J A 43	41	G 41	G 38	42	G 39	G 38	35	32	31	J A 28	23	24	J A 23	23

AUG. 2004 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2004 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 14	17	20	16	21	E B 19	27	34	33	37	39	41	55	48	A A 63	38	35	30	40	44	21	A A 116	E B 16	E B 15
2	18	17	E B 15	25	17	19	32	34	55	50	60	56	62	42	41	37	A A 130	33	A A 102	A A 99	44	21	44	A A 86
3	38	25	22	E B 15	A A 56	A A 45	A A 88	37	42	A A 75	A A 66	A A 80	54	A A 72	47	44	50	42	34	24	24	22	22	23
4	20	E B 16	E B 16	E B 15	17	18	30	47	37	41	39	51	48	A A 128	A A 75	53	44	45	A A 112	54	44	27	30	24
5	22	35	E B 15	E B 15	E B 15	E B 16	25	A A 64	57	42	49	40	G 36	50	G 31	U Y 29	32	29	32	35	26	24	22	35
6	38	24	20	29	16	16	25	34	63	47	41	46	41	42	44	34	33	45	46	E B 15	32	35	23	E B 16
7	36	24	28	21	E B 14	E B 15	29	37	37	66	A A 109	44	42	53	78	53	43	52	48	41	48	22	23	32
8	E B 16	18	21	16	25	19	28	41	A A 82	A A 74	49	42	38	38	39	36	42	A A 52	24	23	35	40	18	E B 14
9	E B 14	E B 15	E B 15	E B 15	E B 16	17	G 19	29	U Y 32	40	40	C	A A 81	A A 117	53	44	C	40	32	34	E B 15	20	23	E B 15
10	22	23	20	26	16	21	G 18	G 24	G 28	G 29	40	40	G 29	40	38	55	34	36	40	E B 15	E B 16	E B 16	36	24
11	20	20	E B 15	15	E B 13	E B 15	25	G 26	42	38	37	39	44	44	48	57	35	28	21	E B 16	E B 14	E B 15	E B 15	16
12	E B 14	17	E B 15	18	16	18	G	30	40	47	43	U Y 29	G	G	E B 49	37	34	29	22	E B 16	E B 15	E B 15	17	18
13	20	E B 15	E B 15	E B 15	E B 15	E B 16	24	31	U Y 28	40	42	44	41	41	42	36	G 24	28	G	22	18	E B 16	E B 16	23
14	46	37	22	E B 14	E B 16	18	36	36	38	48	50	43	44	43	42	E B 50	36	31	A A 82	38	A A 79	E B 16	18	17
15	21	36	21	E B 14	E B 15	17	28	32	35	38	40	U Y 35	U Y 31	42	41	44	44	30	20	25	E B 15	21	E B 14	19
16	E B 15	E B 15	E B 15	E B 15	E B 14	20	33	34	35	39	40	41	40	49	A A 82	42	33	55	64	30	19	26	41	27
17	36	29	22	21	20	26	36	44	40	38	G 33	G 28	G 27	E B 42	G 31	39	G	29	29	23	41	32	36	20
18	24	18	17	E B 15	E B 15	E B 16	33	58	A A 72	53	41	38	42	G 31	38	G 32	40	36	28	34	20	20	41	36
19	40	E B 16	E B 16	21	17	E B 16	26	30	38	56	63	43	50	A A 97	54	40	A A 98	A A 65	46	28	17	26	24	26
20	38	16	E B 15	E B 16	16	23	22	G 24	34	44	42	48	59	55	67	41	30	25	21	26	18	24	26	37
21	E B 15	E B 16	17	E B 15	E B 17	E B 16	24	50	A A 85	40	38	39	39	40	38	34	G 24	34	29	31	20	23	23	E B 15
22	22	E B 16	17	E B 14	15	E B 15	36	35	36	A A 62	47	A A 68	48	47	48	39	34	33	21	E B 16	E B 16	E B 15	20	E B 16
23	22	17	16	16	16	17	25	A A 56	A A 76	A A 114	A A 160	41	41	42	39	44	A A 93	44	31	38	30	E B 15	E B 15	24
24	21	E B 15	17	22	E B 15	E B 16	40	33	42	60	46	39	U Y 34	40	G 34	35	32	27	18	E B 15	E B 14	21	20	E B 15
25	E B 16	E B 15	E B 15	E B 16	E B 15	19	G 18	31	47	39	40	41	47	49	40	A A 76	54	39	20	17	E B 14	E B 15	E B 16	E B 15
26	E B 15	E B 16	E B 15	E B 15	E B 16	27	49	34	42	A A 65	38	G 33	38	37	34	G 24	32	29	25	25	E B 15	E B 15	17	29
27	20	21	17	E B 14	E B 15	19	28	32	35	38	46	55	40	41	38	44	42	A A 97	48	63	39	23	23	21
28	23	23	25	19	16	E B 16	G	G 21	33	36	G 25	G 27	39	39	G 28	36	34	30	22	22	E B 16	24	29	28
29	23	19	E B 16	E B 15	19	22	38	29	35	35	U Y 38	38	40	39	38	36	36	35	18	E B 16	E B 15	E B 15	E B 15	E B 14
30	E B 14	E B 16	E B 15	E B 16	20	19	34	32	34	36	41	40	37	G	37	G 28	32	25	25	42	20	22	39	E B 16
31	E B 14	E B 16	E B 16	24	24	A A 32	24	29	34	37	37	35	G 26	G 29	G 27	G	G 20	24	34	26	24	20	18	18
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	30	31	31	31	31	31	31	31
MED	21	17	16	E B 16	16	18	28	34	38	41	41	41	41	42	40	38	34	33	29	26	20	21	22	20
U Q	24	23	20	21	17	20	34	37	47	A A 56	49	44	48	49	49	44	43	44	46	38	32	24	29	27
L Q	E B 15	E B 16	E B 15	E B 15	E B 15	E B 16	G 24	30	34	38	39	38	G 37	39	G 38	35	32	29	21	E B 17	E B 15	E B 16	E B 17	E B 16

AUG. 2004 fbEs (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

AUG. 2004 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	15	14	14	13	19	15	19	18	21	23	25	25	22	28	25	17	15	16	13	15	16	16	15
2	15	16	15	15	15	14	15	16	17	18	17	23	22	21	24	20	17	14	14	15	15	15	15	16
3	16	15	16	15	15	14	14	14	17	25	20	22	24	20	19	18	16	12	15	14	14	14	14	16
4	15	16	16	14	15	14	14	16	14	18	20	20	23	23	18	16	16	14	15	14	15	15	15	15
5	14	15	15	15	15	16	15	14	14	22	19	24	25	24	20	19	16	14	14	16	14	15	15	16
6	15	15	16	15	13	15	15	16	18	21	23	20	22	21	20	17	16	15	18	15	15	14	14	16
7	16	15	16	16	14	15	16	14	16	17	24	23	25	20	23	19	14	15	14	14	15	15	15	16
8	16	15	15	14	15	16	15	16	15	17	17	18	19	21	22	23	17	14	15	15	15	15	15	14
9	14	15	15	15	16	15	14	16	24	24	23	C	23	19	18	14	C	15	14	14	15	15	15	15
10	14	15	15	15	14	14	15	14	15	20	24	24	22	20	16	16	14	14	15	15	16	16	16	15
11	15	14	15	13	13	15	16	14	16	20	20	26	23	24	25	22	14	14	14	16	14	15	15	14
12	14	15	15	15	14	15	15	16	16	18	18	21	29	30	49	19	18	14	15	16	15	15	14	16
13	13	15	15	15	15	16	15	13	23	25	23	27	28	24	22	17	17	17	13	14	14	16	16	15
14	16	15	15	14	16	16	15	16	24	38	26	23	23	26	28	50	24	20	15	15	14	16	15	14
15	15	14	14	14	15	14	15	14	20	25	21	31	24	19	22	36	16	14	15	15	15	14	14	15
16	15	15	15	15	14	14	16	18	18	20	23	21	26	34	30	29	19	15	14	17	16	14	15	14
17	14	15	14	14	14	14	14	15	25	24	24	18	24	42	26	22	20	17	15	14	14	14	14	15
18	15	15	15	15	15	16	15	18	24	20	23	25	39	24	25	22	20	15	14	15	14	15	16	16
19	14	16	16	15	14	16	14	15	19	20	21	30	29	27	23	21	41	15	15	15	14	15	14	16
20	14	15	15	16	14	14	14	16	16	21	30	22	22	21	23	24	16	16	16	15	14	14	16	14
21	15	16	14	15	17	16	14	14	22	19	16	19	23	19	20	15	16	13	12	15	14	14	16	15
22	14	16	14	14	12	15	14	16	15	18	20	20	20	20	22	19	16	14	16	16	16	15	15	15
23	15	16	14	14	14	16	14	15	22	18	24	18	22	22	22	18	15	16	14	15	16	15	15	16
24	14	15	14	14	15	16	14	13	14	24	25	25	23	21	22	19	16	13	14	15	14	14	15	15
25	16	15	15	16	15	15	14	14	14	18	24	24	21	20	19	16	14	14	15	15	14	15	16	15
26	15	16	15	15	16	16	14	14	15	20	18	20	24	22	22	18	16	16	15	15	15	15	15	15
27	16	15	13	14	15	15	14	15	18	19	20	21	21	24	19	17	14	16	15	14	14	14	14	15
28	14	14	14	16	15	16	14	16	12	18	16	19	17	16	15	16	16	16	14	14	16	15	13	14
29	15	14	16	15	15	14	14	14	15	14	16	19	18	19	15	14	17	13	14	16	15	15	15	14
30	14	16	15	16	15	16	14	15	16	18	20	25	25	20	23	16	15	15	14	14	15	14	14	16
31	14	16	16	15	15	15	14	13	15	20	20	24	21	23	21	21	14	15	14	14	14	14	14	16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	30	31	31	31	31	31	31	31
MED	15	15	15	15	15	15	14	15	16	20	21	22	23	21	22	19	16	15	15	15	15	15	15	15
U Q	15	16	15	15	15	16	15	16	20	22	24	25	25	24	24	22	17	16	15	15	15	15	15	16
L Q	14	15	14	14	14	14	14	14	15	18	19	20	22	20	19	16	15	14	14	14	14	14	14	15

IONOSPHERIC DATA STATION Kokubunji

AUG. 2004 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	293	297	298	308	306	308	321	336	307	317	332	336	302	322	A	289	316	328	311	S 302	321	A	F	F
2	F	F	F	F	F 319	331	345		307	322	313	303	310	315	286	323	A	336	A	A	319	332	F	A
3	318	336	297	316	A	A	A 358		R 296	A	A	A	309	A	287	300	308	338	338	354	296	297	296	303
4	303	292	301	314	302	353	362	377	331	310	326	327	309	A	A	309	314	329	A	301	323	F	F	F
5	F	F	F	F	F 333	323	A		R 338	257	330	297	312	310	310	315	318	329	320	310	307	317	F	F
6	F	F 328	304	312	324	311	333		356	384	345	288	292	312	310	335	337	337	318	317	325	332	310	295
7	F 297		F	F	F	F 335	372	329	327	333	A	262	293	293	S 303	318	322	301	292	286	307	283	F	F
8	F 313	320	301	292	301	300	323		A	A	277	304	314	283	S 253	307	299	A	312	312	305	312	303	307
9	302	299	324	294	308	291	318	356	350	337	302	C	A	A	301	305	C	300	299	291	312	329	315	276
10	288	296	298	300	311	318	334	320	319	330	277	314	304	303	316	326	318	323	327	326	291	278	282	288
11	283	293	326	294	296	292	268	258	268	299	261	300	254	299	297	293	307	S 313	330	315	301	269	286	287
12	299	302	307	309	311	288	273	315	326	322	308	314	287	303	315	320	335	322	313	322	315	293	287	298
13	302	292	295	299	299	312	307	330	324	339	318	289	298	305	324	303	314	317	339	326	300	290	270	307
14	287	283	295	299	299	290	324	348	334	337	287	330	305	304	313	319	320	317	A	304	A	320	290	281
15	F	F	F	F	F	F 357	333		302	342	329	317	320	306	316	319	318	317	326	304	296	280	305	304
16	285	287	296	303	307	307	328	364	326	323	351	337	330	318	A	316	323	304	306	316	329	295	F	F
17	F	302	F	296	313	300	351	371	343	362	322	319	286	302	304	311	324	316	321	303	300	305	303	319
18	F	F	F	297	324	304	340	364	A	350	312	283	316	318	299	299	303	283	291	317	341	293	F	F
19	295	290	307	317	308	315	333	346	320	310	309	297	300	A	319	306	A	A	308	310	301	293	316	293
20	297	S 308	F	F	285	304	344	F	349	328	295	322	293	301	313	316	316	315	302	317	328	326	F	275
21	F	F	F	293	281	275	270	276	A	295	R 268	260	261	261	283	294	318	318	332	301	304	277	287	286
22	292	308	331	299	279	276	271	303	309	A	231	A	275	289	282	301	303	317	299	317	329	296	252	F
23	F	F	F	313	F	323	333	A	A	A	A	312	320	317	337	321	A	320	339	324	327	305	300	287
24	F	303	312	310	297	304	325	356	340	343	331	305	315	304	310	332	341	339	332	308	302	297	287	295
25	301	316	303	309	319	312	326	329	342	321	355	333	332	309	322	A	323	311	316	305	327	291	287	293
26	290	292	314	306	297	298	321	359	348	A	320	304	342	331	322	317	345	322	331	335	319	292	F	F
27	290	F	F	294	332	321	349	368	337	330	332	330	319	301	323	326	350	A	322	345	297	285	302	301
28	301	288	286	303	347	359	348	384	344	339	314	311	312	309	327	328	344	324	315	313	299	311	306	308
29	S 314	295	304	296	F	333	311	314	340	344	324	319	343	344	325	348	313	310	310	320	338	295	284	302
30	294	294	307	321	311	324	336	354	360	348	302	318	318	322	322	333	339	318	310	306	289	273	F	308
31	298	274	286	259	267	A	251	293	289	281	S 267	267	264	S 226	257	268	289	308	F	F	F	F	283	281
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	20	23	21	26	24	28	30	28	27	26	28	28	30	27	28	30	27	28	27	29	29	28	21	22
MED	296	296	304	302	306	310	326	340	331	330	314	312	309	305	312	316	318	318	316	313	307	295	290	295
U Q	302	303	317	309	312	324	340	358	343	342	330	320	318	317	322	323	335	326	330	321	326	312	304	304
L Q	290	292	296	296	296	299	311	322	309	317	291	297	293	301	298	303	313	312	308	304	300	288	285	287

AUG. 2004 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

H / D	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						L 321	L 349	L 394	394	404	394	413	A	A	A	L 348	L 372	L 368	A					
2							L	L 385	A	A	A	A	A	375	393	374	A	L	A					
3						A	A	A	A	A	A	A	A	A	A	A	A	A						
4							L	A	L 401	U L 401	401	A	A	A	A	A	A	A	A					
5							L	A	A	U L 403	A	U L 413	388	R 363	U L 452	U L 376	376	L						
6							L 354	L 373	A	A	U L 417	L 309	U L 406	398	A	U L 378	L 379	A	A					
7							L	L	L 393	A	A	U L 343	U L 457	A	A	A	A	A	A					
8							L	A	A	A	A	L 372	421	400	U L 398	387	A	A	L					
9						L 321		L 389	L 404	L 419	U L 416	C	A	A	A	A	C	A	A					
10							L	L 366	L 379	393	378	403	U L 359	U L 375	379	A	L 398	A	A					
11						L	L 344	U L 359	A	U L 385	U L 402	U L 447	U L 278	U L 356	A	A	364	L						
12							L 316	L 357	380	A	L 380	L 393	L 368	U L 393	E B	L 386	L 373	L 329	L					
13							L	L	L 386	400	L 388	391	L 368	395	396	L 356	362	L						
14							A	L	L 381	A	A	369	L 385	L 389	L 375	E B	L 359	L	A					
15							L	L	L 387	391	L 393	L 389	389	L 388	383	L 336	A	L						
16							L	L	L	L	L 409	L 400	L 400	A	A	L 355	L	A	A					
17							A	L	L 401	L 369	L 426	L 391	L 388	L 362	365	L 350	L 369	L						
18							A	A	A	A	403	L 369	L 355	L 380	L 374	L 357	L 361	L						
19							L	L	L 380	A	A	L	A	A	A	L	A	A						
20								L	L	L 363	L 382	A	A	A	A	L 373	L	L						
21						L	345	A	A	A	U L 384	U L 399	U L 382	L 379	L 379	L 372	L 352	A						
22							A	377	379	A	A	A	A	A	L 302	387	L 344	L 355						
23							L	A	A	A	A	412	408	385	L 373	A	A	A						
24							A	L	A	A	A	L 391	376	374	L 376	L 361	L	L						
25							L	L	A	L 375	410	L 392	A	A	L 361	A	A	A						
26							A	L	L	A	L 397	L 399	419	L 414	L 367	L	L	L						
27							A	L	L	L 380	A	A	L 385	L 388	L 373	A	A	A	A					
28							L		L	L 384	L 385	389	L 370	391	361	L 368	L	L						
29							A	L 368	401	L 402	402	409	383	L 396	382	L 370	L 357	A						
30							A	L	L 403	L 390	L 369	397	408	382	386	L	L	L	A					
31						A	U L 330	348	378	U L 389	U L 402	U L 412	U L 403	U L 382	383	U L 358	L 337	L						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						1	6	10	15	16	20	23	22	21	20	18	14	3						
MED						L 321	L 344	L 370	L 387	L 390	L 399	L 393	L 386	L 385	L 378	L 369	L 363	L 355						
U Q							L 349	L 385	L 401	L 402	406	409	406	394	384	L 376	L 373	L 368						
L Q							L 330	L 359	380	L 382	L 384	L 389	L 370	375	L 370	L 356	L 357	L 329						

AUG. 2004 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2004 h'F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						306	292	248	326	292	270	272	EA 350	316	A	356	306	288	EA 296					
2							278	264	EA 376	EA 290	EA 300	EA 304	EA 334	314	352	290	A	278	A					
3						A	A	232	EA 280	A	A	A	EA 348	A	358	332	296	258						
4							242	EA 252	318	334	296	306	354	A	A	EA 312	312	272	A					
5							284	A	EA 278	476	288	304	352	338	320	294	298	260						
6							328	280	244	236	318	384	362	318	312	270	278	280	EA 278					
7							248	274	314	336	A	436	346	344	EA 408	284	288	EA 332	EA 316					
8							316	282	A	A	414	340	324	402	504	352	356	A	284					
9						352		250	268	288	360	C	A	A	330	310	C	294	292					
10							284	304	314	274	430	330	378	334	324	298	300	284	250					
11						338	430	430	EA 476	380	480	378	492	388	EA 382	EA 408	318	288						
12							426	304	286	296	328	312	376	324	298	298	266	298	276					
13							296	266	288	294	304	380	342	348	304	342	300	270						
14							266	256	268	268	376	272	320	332	336	288	308	276	A					
15							234	246	276	282	278	316	300	328	320	306	282	260						
16							278	240	282	298	270	282	294	326	A	310	282	EA 318	EA 332					
17							238	238	254	254	314	302	370	326	316	298	272	282						
18							262	EA 264	A	268	340	356	308	304	316	312	302	318						
19							276	270	288	292	272	284	298	A	294	308	A	A						
20								254	244	300	356	292	EA 314	310	EA 308	282	286	280						
21						344	370	EA 386	A	374	460	480	466	470	414	366	296	EA 302						
22							414	346	346	A	EA 536	A	EA 476	EA 426	416	366	352	300						
23							290	A	A	A	A	318	318	312	288	298	A	266						
24							276	248	272	EA 304	294	302	304	314	306	268	258	252						
25							274	272	252	290	254	276	304	342	310	A	288	270						
26							EA 274	216	264	A	316	330	262	284	312	278	254	278						
27							246	228	270	286	306	EA 302	320	326	292	288	252	A	256					
28							244		260	286	310	328	318	310	312	294	260	264						
29							EA 310	304	246	286	338	320	280	296	300	266	314	286						
30							278	240	238	276	346	314	320	324	302	276	260	274	EA 254					
31						A	482	350	380	416	440	464	494	574	504	472	366	298						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						4	28	28	27	26	28	28	30	27	28	30	27	28	10					
MED						341	278	262	274	290	316	315	324	326	314	298	296	278	U 268					
U Q						348	313	293	314	304	368	348	362	344	355	332	308	296	EA 296					
L Q						322	264	247	260	282	295	302	308	314	305	288	272	270	256					

AUG. 2004 h'F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2004 h'F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 270	E A 278	E A 282	254	254	256	228	228	200	H 192	218	204	A	A	A	E A 240	220	218	A	E A 292	240	A	210	212
2	E A 280	E A 256	E B 256	E A 278	E A 254	E A 256	E A 236	222	A	A	A	A	A	E A 242	214	216	A	228	A	A	E A 274	230	E A 270	A
3	E A 294	E A 260	E A 296	240	A	A	A	A	A	A	A	A	A	A	A	A	A	A	252	212	220	E A 272	E A 288	E A 276
4	E A 286	E B 286	E B 256	242	E A 282	230	E A 228	A	202	214	206	A	A	A	A	A	A	A	A	E A 336	E A 260	E A 302	E A 268	E A 272
5	E A 292	E A 360	E B 274	246	248	240	224	A	A	210	A	200	H 186	E A 232	H 194	214	200	220	E A 254	E A 266	244	E A 246	E A 296	E A 332
6	E A 330	236	230	E A 290	E A 248	234	208	224	A	A	196	E A 308	216	210	A	206	212	A	A	246	236	E A 240	E A 260	E B 260
7	E A 324	E A 292	E A 258	E A 304	E B 248	244	228	E A 242	210	A	A	224	H 186	A	A	A	A	A	A	E A 276	E A 270	E A 298	E A 280	E A 244
8	246	244	228	240	E A 298	E A 272	E A 236	A	A	A	A	220	H 192	202	204	198	A	A	E A 238	258	254	E A 274	260	238
9	234	E B 254	230	240	248	226	H 200	H 172	194	H 192	200	C	A	A	A	A	C	A	A	E A 292	234	230	226	E B 278
10	E A 278	E A 302	E A 294	E A 288	E A 264	E A 254	224	210	216	202	208	198	H 200	214	210	A	204	A	A	236	238	E B 258	E A 320	E A 296
11	E A 258	246	220	E A 268	E B 252	E B 258	222	222	A	224	198	H 184	E A 374	E A 282	A	A	236	224	E A 248	248	230	E B 288	E B 274	E A 274
12	E B 258	E A 250	250	E A 260	220	E A 254	230	228	E A 238	A	214	H 192	H 194	H 208	B	208	H 190	206	246	236	222	E B 248	E A 272	E A 262
13	E A 258	E B 262	E B 268	E B 268	E B 260	256	218	216	216	200	204	206	208	202	212	218	H 222	214	232	226	234	E B 264	E B 290	E A 264
14	E A 350	E A 324	E A 282	242	252	E A 272	A	E A 232	214	A	A	220	212	198	210	B	220	236	A	E A 274	A	226	244	E A 278
15	E A 308	E A 280	E A 270	242	248	258	216	200	H 192	198	200	198	206	214	216	E A 288	A	E A 228	238	228	222	E A 288	240	234
16	E B 282	E B 280	250	244	250	E A 256	236	A	206	H 204	194	194	200	A	A	E A 250	232	A	A	E A 250	216	E A 256	E A 296	E A 282
17	E A 298	E A 266	E A 276	E A 274	E A 258	E A 296	A	216	214	H 184	H 188	H 190	198	E B 240	216	E A 242	H 208	220	244	244	E A 272	E A 252	E A 276	230
18	294	E A 342	E A 268	258	226	256	A	A	A	A	198	H 182	E A 236	216	208	218	E A 236	E A 252	E A 268	246	216	232	E A 336	E A 308
19	E A 304	E B 272	244	228	236	250	222	214	212	A	A	214	A	A	A	E A 248	A	A	E A 274	E A 254	234	256	236	E A 260
20	E A 292	E A 278	E B 272	E B 286	E A 288	E A 284	224	208	196	E A 228	E A 200	A	A	A	A	E A 240	210	212	244	230	220	226	E A 326	E A 348
21	E B 276	E B 300	E A 292	250	E B 268	E B 280	252	A	A	A	214	208	H 192	218	202	216	216	A	252	E A 278	E A 260	E A 304	E A 294	E B 302
22	E A 292	E B 258	234	E B 254	E A 298	E B 278	A	E A 236	214	A	A	A	A	A	E A 362	E A 244	E A 234	E A 254	E A 250	242	216	224	E A 352	E B 264
23	E A 284	E A 340	E A 278	248	E A 284	E A 256	E A 246	A	A	A	A	206	206	216	210	A	A	A	E A 232	E A 250	E A 248	236	E B 262	E A 286
24	E A 306	E B 262	E A 266	E A 266	E B 258	E B 262	A	208	A	A	A	H 184	202	204	202	214	216	208	236	232	236	E A 264	E A 278	258
25	E B 258	236	238	E B 254	230	234	222	218	A	210	H 192	202	A	A	212	A	A	A	240	222	210	218	E B 260	254
26	E B 270	248	230	234	230	E A 328	A	A	A	A	H 190	E B 174	H 190	H 174	H 178	226	206	228	238	232	214	246	E A E A 266	312
27	E A 286	E A 286	E A 292	E A 266	E B 224	E A 254	A	202	200	H 192	A	A	200	204	218	A	A	A	A	E A 258	E A 262	E A 296	E A 274	E A 248
28	E A 260	E A 302	E A 306	E A 258	224	212	200	206	200	180	H 178	H 178	212	208	218	230	220	E A 240	E A 252	236	234	E A 254	E A 284	E A 246
29	238	E A 262	E B 266	E B 280	E B 286	E A 246	A	206	210	192	200	202	216	H 196	210	218	E A 230	A	E A 246	244	218	200	E B 256	E B 258
30	E B 250	E B 274	258	226	248	244	A	218	200	H E A 190	232	204	H 194	204	202	H 194	206	212	A	E A E A 272	E A 266	E A 284	E A 340	E B 244
31	E B 250	E B 258	E B 272	E A 400	E A 386	A	E A 266	E A 264	228	226	202	198	204	212	218	266	242	224	E A 276	E A 362	E A 336	E A 348	E A 320	E A 298
	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	29	21	22	19	17	20	24	22	21	20	21	20	17	20	30	30	30	31	30
MED	E A 282	E A 272	E A 266	E 254	E 252	E 256	223	213	208	199	200	200	200	207	210	213	214	219	242	U 236	227	E 255	E A 274	E A 264
U Q	E A 294	E A 292	E A 278	E A 274	E A 268	E A 267	E A 236	E A 228	214	212	207	207	212	E 217	216	E A 243	231	E A 232	E A 252	E A 272	E A 260	E A 284	E A 296	E A 286
L Q	E 258	256	244	242	248	244	220	208	200	H 192	H 195	H 191	H 194	203	203	214	207	213	238	236	220	232	260	248

AUG. 2004 h'F (KM)

IONOSPHERIC DATA STATION Kokubunji

AUG. 2004 h'E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						B	120	118	116	114	112	112	A	114	A	122	118	122	A					
2						B	114	114	A	A	A	A	A	A	116	118	118	A	A					
3						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
4						B	A	A	A	A	118	A	A	A	A	A	120	A	A					
5						B	122	A	A	A	A	116	122	A	114	118	124	118	118					
6						B	118	120	A	A	A	A	A	A	A	A	118	A	A					
7						B	120	116	116	A	A	A	A	A	A	A	A	A	A					
8						B	116	A	A	A	A	A	A	A	118	122	116	A	A					
9						B	120	114	A	A	A	C	A	A	A	A	C	A	A					
10						B	116	116	114	114	118	112	114	114	110	112	A	A	B					
11						B	122	122	120	A	114	114	116	114	A	A	A	A	A					
12						B	114	114	A	A	A	114	114	118	B	114	118	116	124					
13						B	120	122	108	A	A	A	A	A	A	A	114	114	122					
14						B	122	118	120	A	A	A	A	A	120	B	116	116	B					
15						B	A	112	112	A	A	R	112	116	116	B	A	A	B					
16						B	A	A	114	A	A	A	A	A	A	A	A	120	B					
17							A	A	A	A	106	112	112	B	112	120	114	A	B					
18						B	120	A	A	A	A	A	B	A	A	116	112	116	B					
19						B	116	A	A	A	A	A	A	A	A	120	B	120	B					
20						B	A	116	112	A	A	A	A	A	A	A	A	A	B					
21						B	120	A	A	A	A	A	A	A	A	A	112	A	B					
22						B	120	116	A	A	A	A	A	A	A	A	A	A	B					
23						B	A	A	A	A	A	A	A	A	118	A	A	A	A					
24						B	A	A	A	A	A	A	122	A	120	A	A	124	B					
25						B	122	120	A	116	118	118	A	A	A	A	A	A	A					
26						B	A	A	A	A	A	114	A	114	A	116	116	122	A					
27						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
28						B	114	116	114	114	114	110	110	A	116	112	110	110	B					
29						B	A	A	A	A	114	114	114	114	108	118	118	A	B					
30						B	A	A	A	A	A	A	A	110	116	114	116	A	A					
31						B	A	A	A	A	A	A	112	112	112	112	104	116						
	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	15	10	4	8	10	10	9	13	14	17	12	3					
MED							120	116	114	114	114	114	114	114	116	117	116	117	122					
U Q							120	120	116	115	118	114	116	115	118	120	118	121	124					
L Q							116	114	112	114	113	112	112	113	112	114	113	116	118					

AUG. 2004 h'E (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2004 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	104	98	94	102	100	B	124	116	128	126	122	118	106	114	106	124	116	116	102	100	102	104	106	B
2	98	102	100	96	96	98	116	110	102	102	100	98	98	104	124	114	112	106	102	98	102	104	102	102
3	98	96	94	144	116	118	106	106	104	104	104	102	104	100	100	104	100	98	92	96	90	90	86	98
4	92	106	100	100	94	92	104	104	104	104	116	102	98	94	94	94	114	102	102	102	98	100	100	98
5	94	94	98	98	B	B	124	104	104	108	100	128	104	108	100	104	116	118	114	102	100	104	104	102
6	100	98	98	98	98	104	128	120	100	102	102	100	100	102	100	102	130	96	96	86	100	100	104	102
7	100	100	98	94	B	122	116	114	114	102	100	102	106	102	100	102	104	104	102	100	96	100	102	98
8	100	94	92	92	92	102	122	106	102	102	102	100	106	106	124	130	116	106	106	100	96	96	98	100
9	B	B	B	98	100	98	102	116	106	102	102	C	94	92	94	98	C	94	94	88	92	84	86	86
10	98	100	98	98	100	98	98	118	98	100	128	146	94	128	128	108	104	102	100	98	98	106	96	102
11	100	100	102	100	102	B	124	104	118	104	112	124	122	118	102	104	106	104	102	B	B	B	B	96
12	106	92	92	92	92	96	G	108	104	96	98	98	G	G	B	134	132	148	130	116	B	B	108	104
13	98	98	100	94	B	96	116	116	86	104	102	102	100	104	98	94	94	120	G	102	102	104	100	96
14	92	92	90	92	92	118	120	118	116	108	102	102	100	106	122	B	116	128	102	110	110	100	98	98
15	98	94	88	94	90	112	104	118	118	104	108	102	98	152	128	126	106	102	106	98	96	96	100	96
16	96	94	B	96	98	116	106	108	118	104	106	104	104	102	102	102	104	114	102	102	96	98	96	96
17	94	92	92	94	98	96	104	102	104	100	92	92	92	B	104	176	G	104	100	94	94	94	100	102
18	98	98	102	106	106	B	114	108	104	100	102	102	144	98	94	94	122	118	106	96	100	96	100	100
19	94	90	96	92	94	92	112	106	102	100	98	98	100	94	94	136	112	114	104	106	102	106	100	96
20	96	96	98	96	96	98	98	100	118	100	102	106	100	98	98	98	112	106	112	104	102	98	104	100
21	98	100	92	100	B	B	116	108	100	102	100	100	100	98	96	96	96	90	88	108	88	100	104	100
22	98	98	98	100	100	134	116	110	106	100	106	102	100	98	102	106	106	102	104	102	102	102	104	98
23	96	96	94	98	96	102	100	102	100	100	98	104	106	108	124	106	102	102	102	98	100	100	B	92
24	96	110	98	92	B	B	104	106	104	100	100	100	102	104	104	104	108	116	104	B	B	96	96	108
25	100	100	B	B	B	96	106	118	104	114	112	116	104	106	106	98	98	98	98	98	98	100	100	B
26	B	B	98	B	98	104	102	102	100	100	100	102	106	118	104	102	120	116	100	100	124	98	122	98
27	94	90	96	90	90	102	102	100	104	104	96	94	96	96	96	94	114	104	100	94	92	94	90	98
28	96	94	92	98	92	B	G	100	146	140	92	92	154	88	90	126	122	116	106	102	106	100	96	98
29	96	94	94	118	106	102	98	100	96	96	154	140	128	124	140	130	112	106	106	98	100	100	100	B
30	96	116	100	106	106	106	102	100	98	100	100	104	108	G	128	102	124	102	102	94	98	94	92	96
31	102	100	118	110	112	106	104	104	102	104	104	104	100	98	100	G	94	122	84	88	88	86	86	86
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	28	29	25	24	29	31	31	31	31	30	30	28	30	29	29	31	30	29	28	29	29	28
MED	98	98	98	98	98	102	106	106	104	102	102	102	101	103	102	104	112	106	102	100	99	100	100	98
U Q	100	100	99	100	101	109	116	116	114	104	106	104	106	108	122	125	116	116	106	102	102	101	104	101
L Q	96	94	93	94	93	97	102	102	100	100	100	100	100	98	98	98	104	102	100	96	96	96	96	96

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

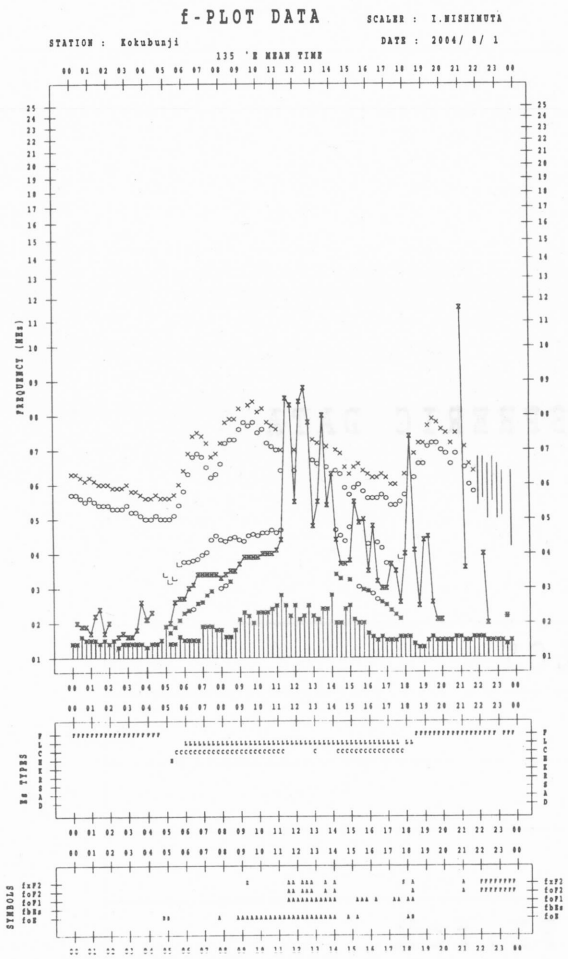
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F2	F3	F2	F2	F3		CL11	CL21	CL11	CL11	CL11	CL11	L3	CL21	L2	CL11	CL21	CL11	L3	F4	F3	F4	F2	
2	F3	F3	F3	F3	F3	L3	CL22	CL21	L3	L3	L3	L3	L3	L2	CL21	CL21	CL31	L3	F4	F4	F4	F3	F6	F5
3	F4	F3	F5	F1	F3	C4	L5	L3	L3	L3	L2	L3	L2	L2	L2	L2	L3	L3	L3	F3	F2	F3	F2	F3
4	F3	F2	F2	F1	F2	L2	L2	L3	L2	L2	CL11	L2	L2	L4	L4	L4	CL21	L4	L4	F4	F4	F4	F5	F4
5	F3	F3	F2	F2			CL11	L3	L3	L2	L2	CL11	L1	L2	L1	L1	CL11	CL11	CL21	F3	F3	F4	F3	F4
6	F4	F3	F3	F3	F2	L2	CL11	CL21	L2	L2	L1	L2	L2	L2	L2	L1	CL11	L5	L3	F2	F4	F3	F2	F4
7	F4	F3	F3	F3		C1	C2	CL21	CL11	L4	L3	L2	L2	L1	L3	L2	L2	L3	L2	F7	F3	F2	F3	F4
8	F3	F2	F3	F2	F3	L2	C2	L3	L3	L2	L2	L2	L1	L1	CL11	CL11	CL31	L3	L2	F3	F3	F3	F3	F2
9				F2	F1	L1	L1	CL11	L1	L1	L1		L3	L3	L2	L2		L2	L2	F3	F3	F2	F1	F1
10	F2	F2	F2	F3	F2	L3	L2	CL11	L1	L1	CL11	HL11	L2	CL11	CL11	CL21	L2	L2	L3	F2	F2	F2	F4	F2
11	F4	F3	F3	F2	F1		C2	L1	CL21	L2	CL11	CL11	CL11	CL11	L2	L2	L2	L2	L2					F2
12	F1	F2	F3	F2	F1	L2		CL21	L2	L2	L2	L1				CL11	HL11	HL11	C2	F1			F1	F2
13	F3	F2	F2	F1		L1	C1	CL11	L1	L1	L1	L1	L1	L2	L1	L1	L1	CL11		F1	F3	F2	F1	F3
14	F4	F3	F2	F2	F2	C2	CL21	CL21	CL11	L1	L2	L2	L2	L1	CL11		CL21	CL11	L3	F5	F6	F1	F2	F3
15	F2	F3	F3	F1	F1	C1	L1	CL11	CL11	L1	L1	L1	L1	HL11	CL11	C1	L2	L2	L3	F3	F3	F3	F2	F3
16	F2	F2		F1	F1	C2	L2	L1	CL11	L1	L1	L1	L1	L1	L3	L1	L1	CL41	L4	F3	F3	F2	F4	F3
17	F5	F3	F2	F3	F2	L2	L2	L2	L2	L2	i	i	i		i	HL11		L2	L3	F2	F3	F3	F2	F2
18	F2	F2	F2	F1	F1		CL21	L3	L3	L2	L1	L1	H1	L1	L2	L2	C2	CL31	L5	F4	F3	F4	F5	F3
19	F4	F2	F2	F1	F2	L1	CL11	L1	L1	L3	L2	L2	L2	L3	L2	HL11	C2	CL41	L4	F3	F2	F2	F3	F3
20	F2	F2	F2	F2	F2	L2	L2	L1	CL11	L2	L1	L1	L2	L2	L2	L2	L1	L1	L2	F3	F3	F3	F5	F3
21	F2	F2	F2	F2			C1	L3	L2	L2	L1	L1	L2	L1	L2	L2	L2	L3	LC32	FF22	F2	F2	F2	F2
22	F3	F2	F2	F2	F2	C1	C2	CL21	L2	L2	L2	L2	L3	L2	L2	L2	L2	L2	L2	F1	F1	F1	F4	F3
23	F2	F4	F2	F2	F2	L1	L3	L3	L2	L3	L3	L1	L1	L1	CL11	L2	L4	L3	L2	F3	F2	F2		F3
24	F2	F1	F2	F3			L3	L2	L2	L2	L2	L1	L1	L1	L1	L2	L2	CL21	L1			F4	F3	F2
25	F2	F2				L2	L1	CL11	L3	CL11	CL11	CL11	L2	L2	L2	L3	L3	L2	L2	F1	F2	F1	F1	
26			F2		F1	L3	L3	L2	L2	L2	L1	L1	L1	CL11	L1	L1	CL11	CL31	L2	F4	FF11	F1	FF22	F2
27	F2	F2	F2	F2	F2	L2	LL23	L2	L1	L2	L2	L2	L2	L2	L2	L3	CL23	LL43	LL43	F3	F3	F2	F1	F2
28	F2	F4	F3	F2	F3			L2	HL11	HL11	L1	L1	HL11	L2	L2	CL11	C2	C3	L3	F3	F3	F3	F3	F3
29	F3	F2	F2	FF21	F4	L4	F3	L2	L2	L2	HL11	HL11	CL11	CL11	HL11	HL11	CL41	L3	L3	F3	F1	F1	F1	
30	F1	F1	F1	F2	F2	L4	L4	L3	L2	L1	L2	L1	L1		CL11	L2	CL21	L2	L2	F4	F3	F3	F4	F2
31	F1	F1	F2	F5	F6	L6	L3	L2	L1	L2	L2	L1	L1	L1	L1		L1	CL11	L3	F3	F2	F2	F2	F1
	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																								

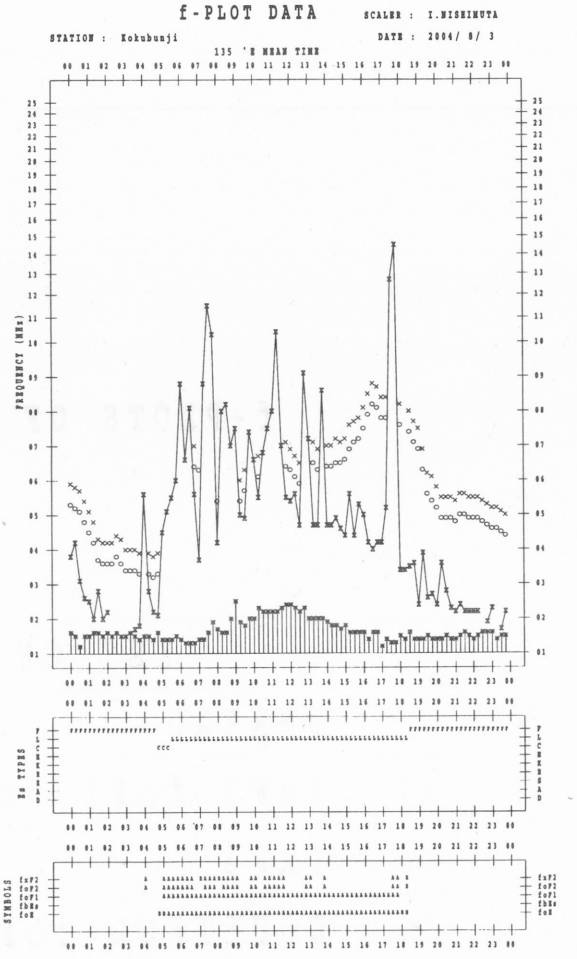
AUG. 2004 TYPES OF Es

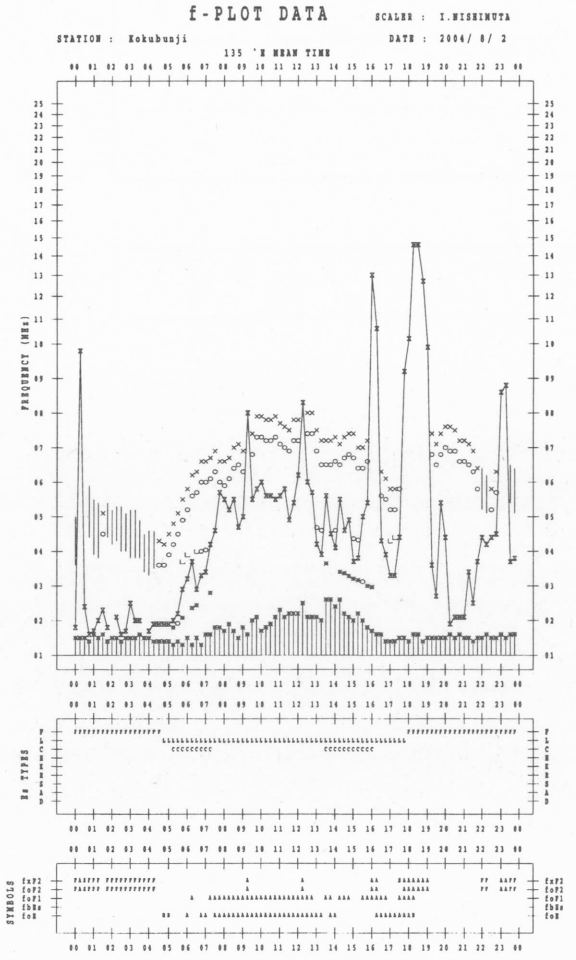
NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

f-PLOTS OF IONOSPHERIC DATA

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


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/ 1
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/ 3
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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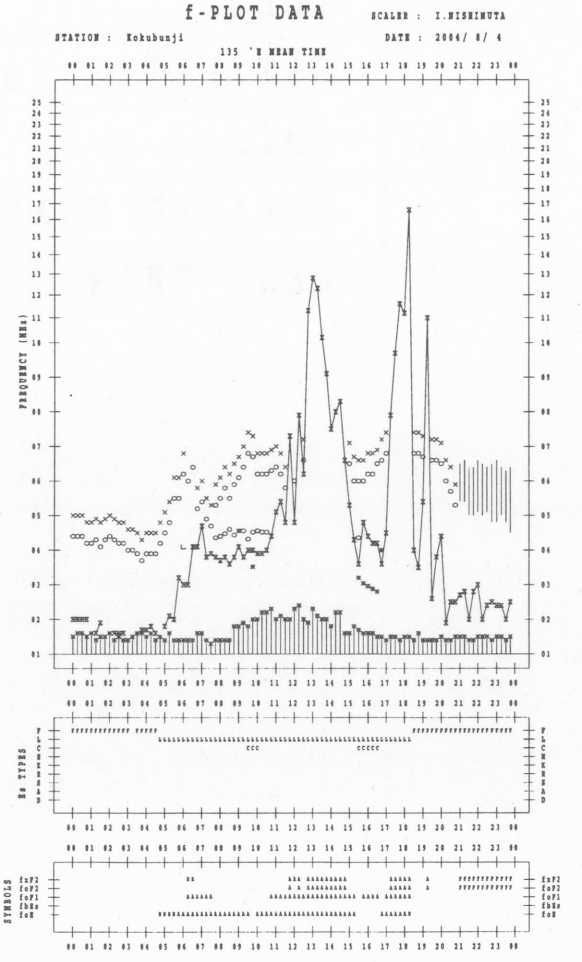
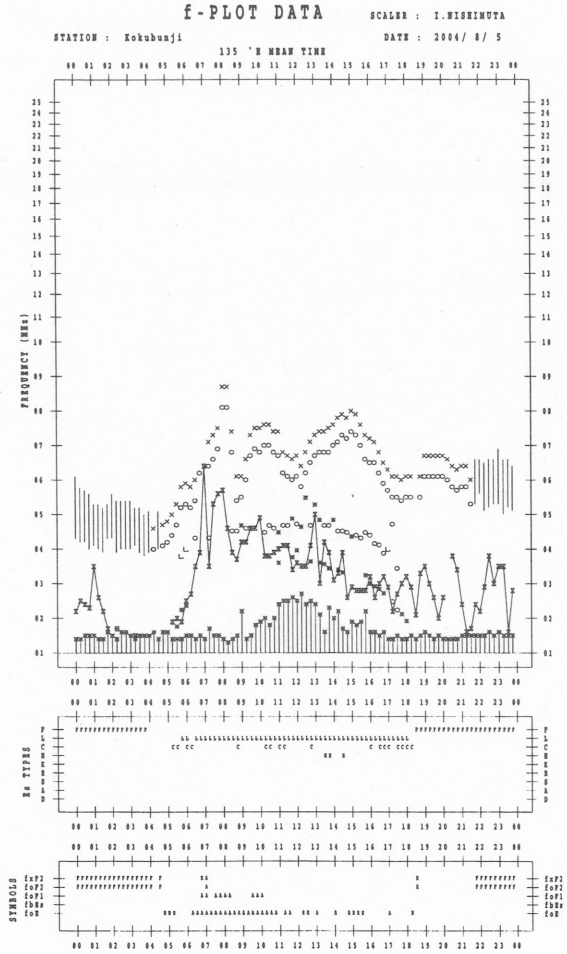
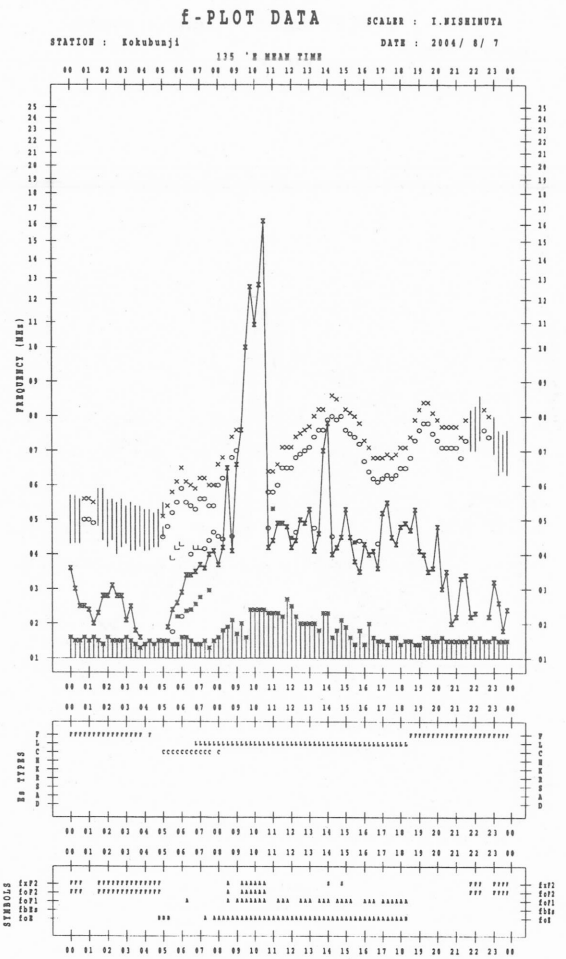
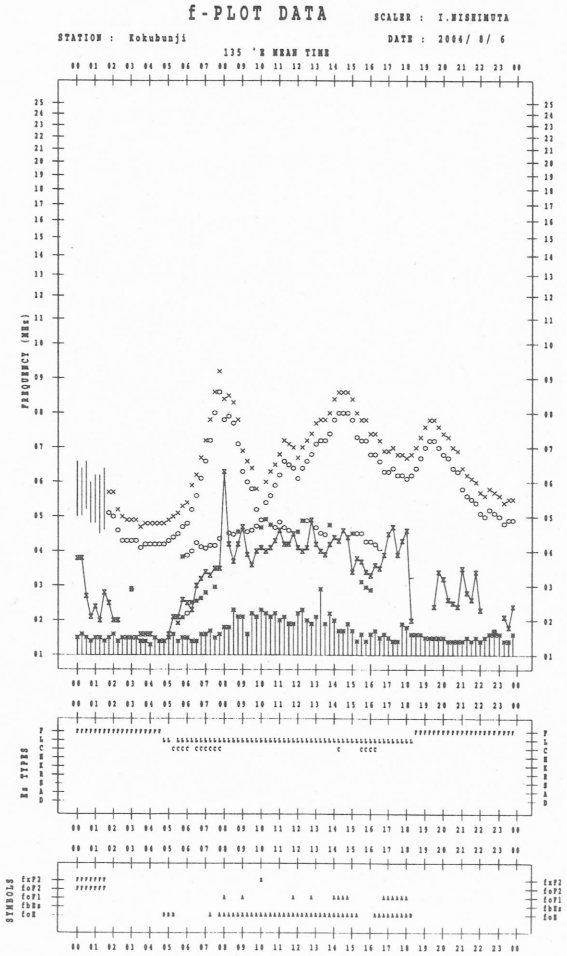
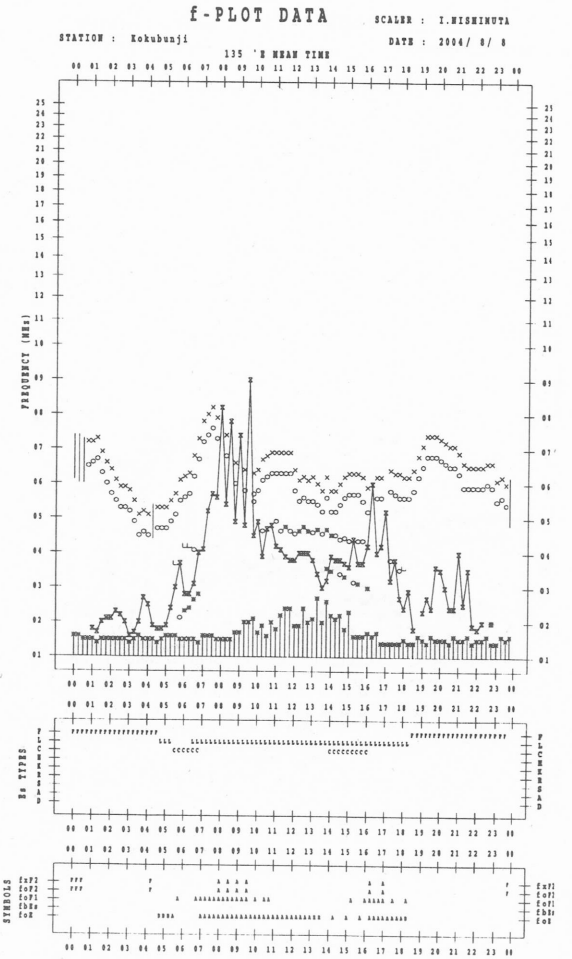
STATION : Kokubunji
DATE : 2004/ 8/ 2
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

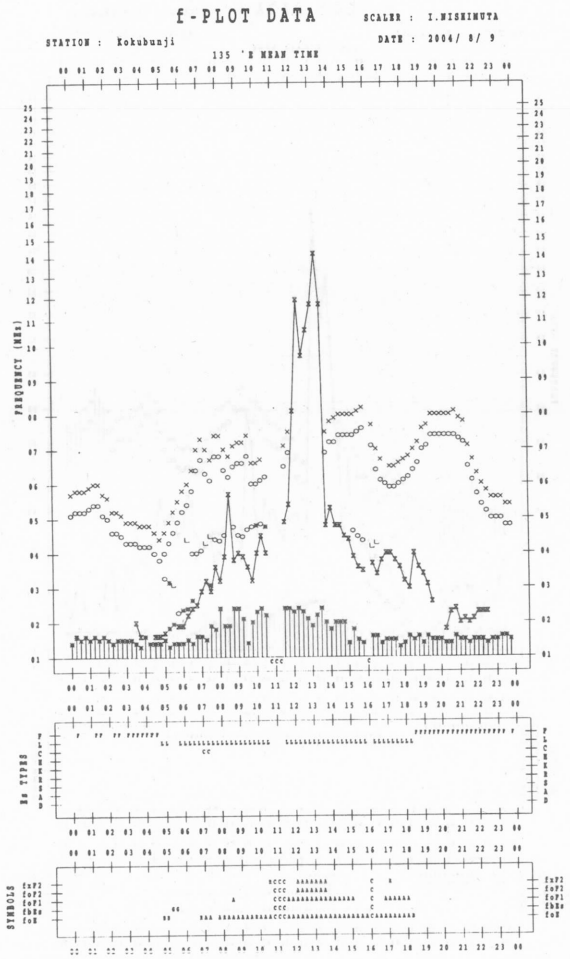

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/ 4
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

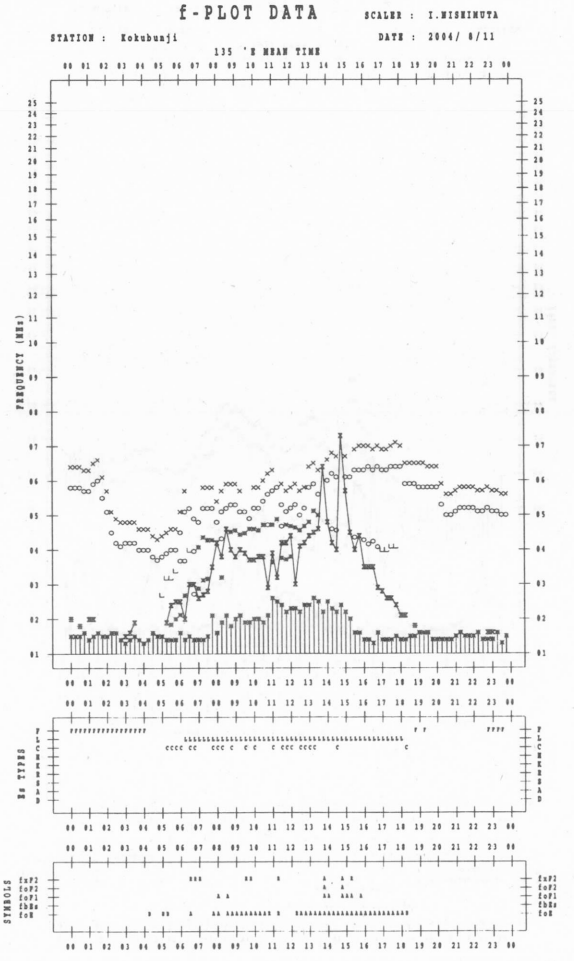

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/ 5
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

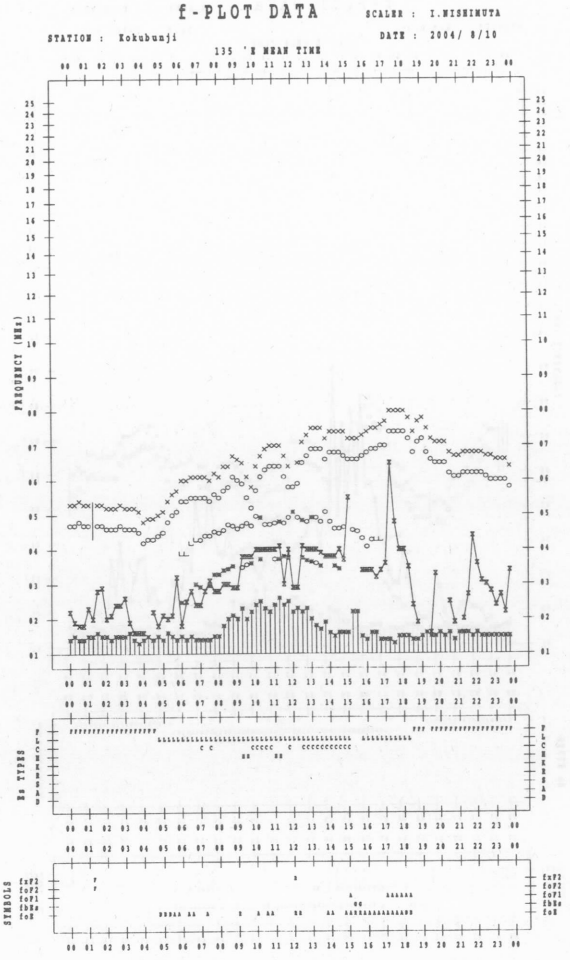

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/ 7
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

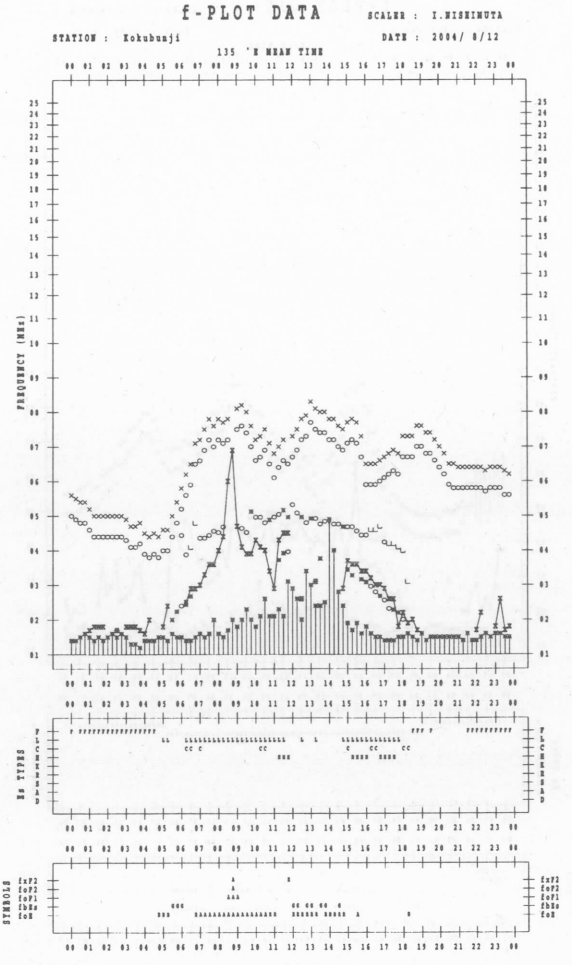

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/ 6
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/ 8
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/ 9
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/11
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/10
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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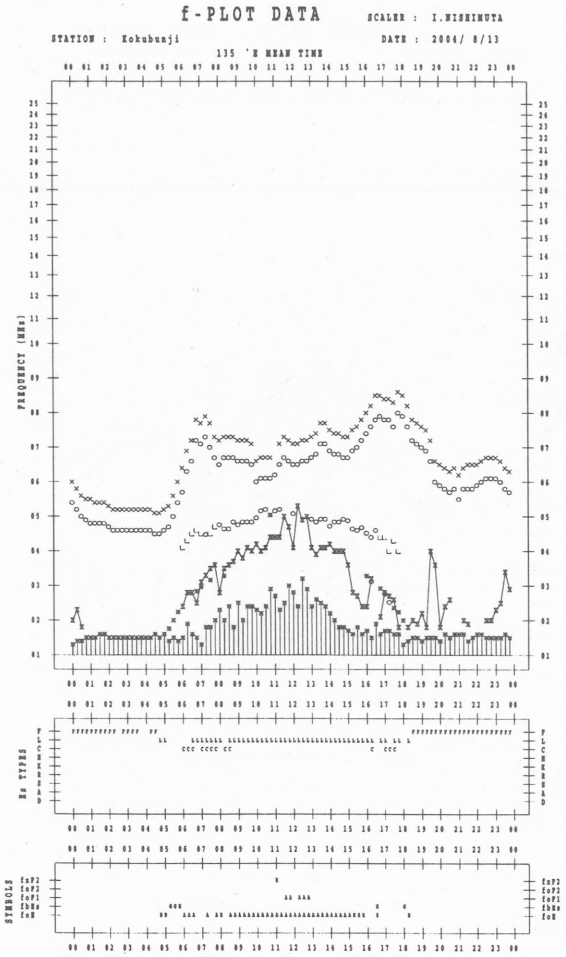
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/12
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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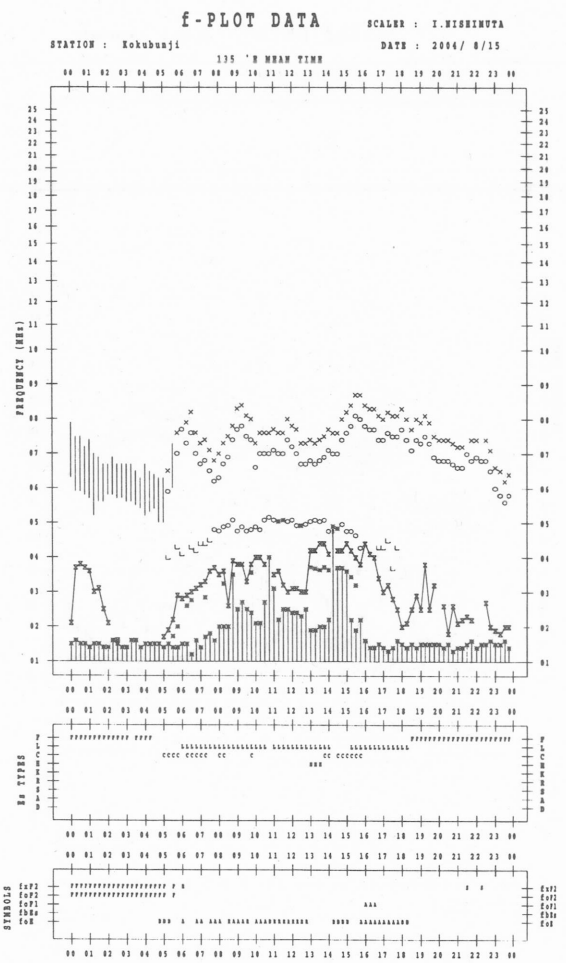
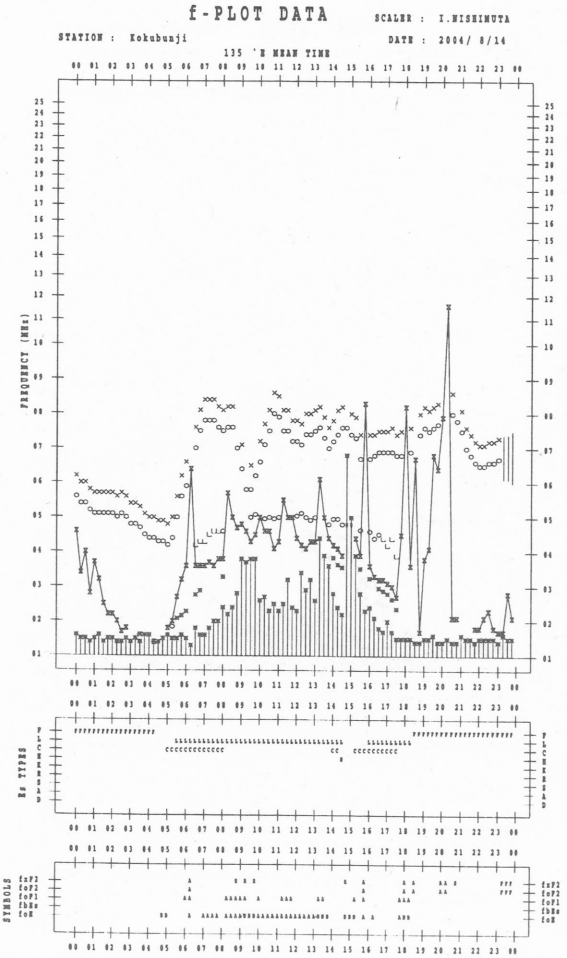
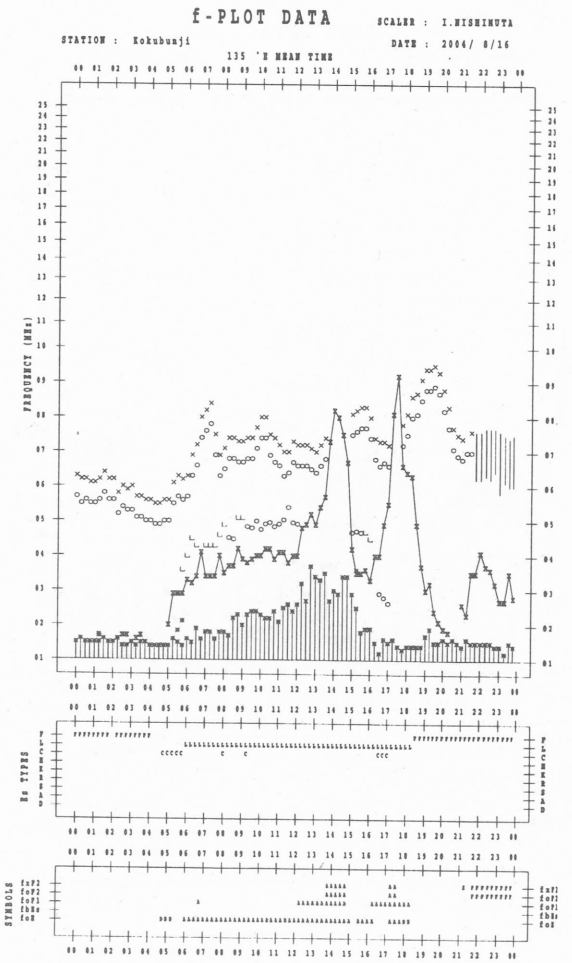
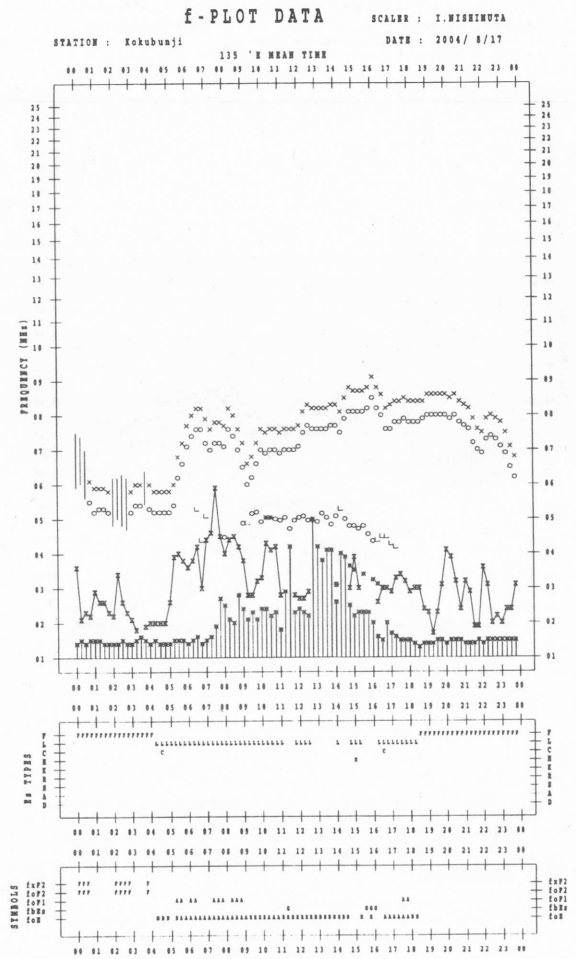
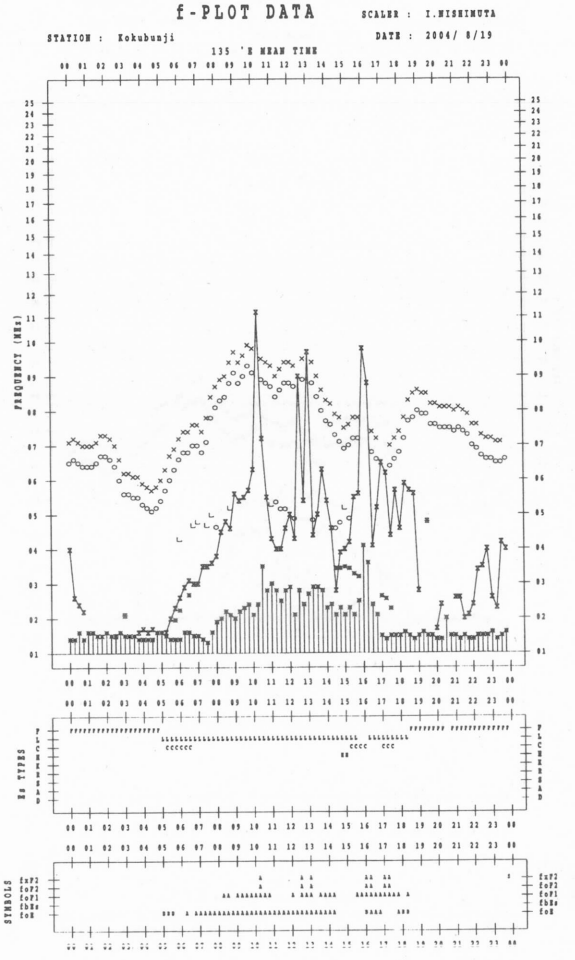
SCALER : I.NISHINUTA
STATION : Kokubunji
DATE : 2004/ 8/13
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHINUTA
STATION : Kokubunji
DATE : 2004/ 8/15
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHINUTA
STATION : Kokubunji
DATE : 2004/ 8/14
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHINUTA
STATION : Kokubunji
DATE : 2004/ 8/16
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/17
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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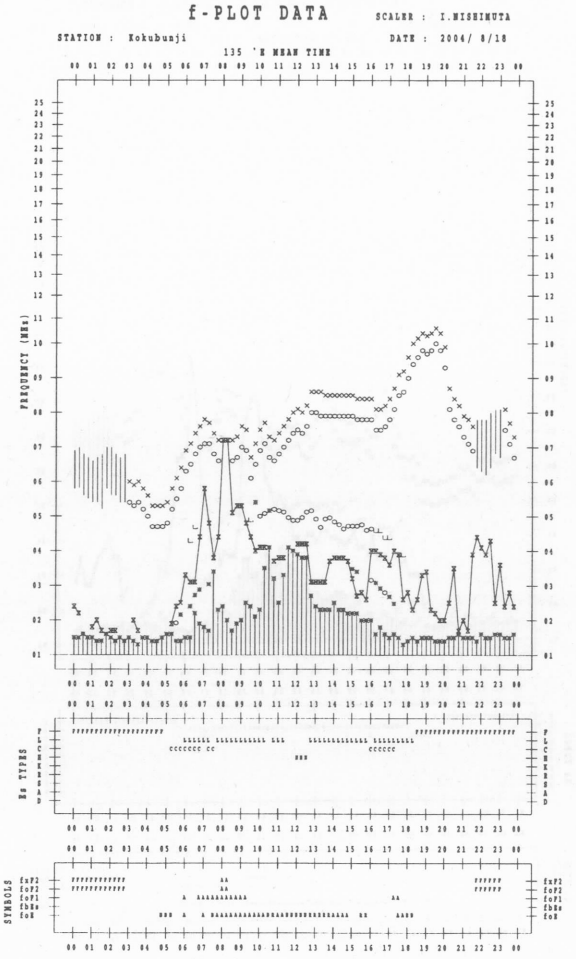
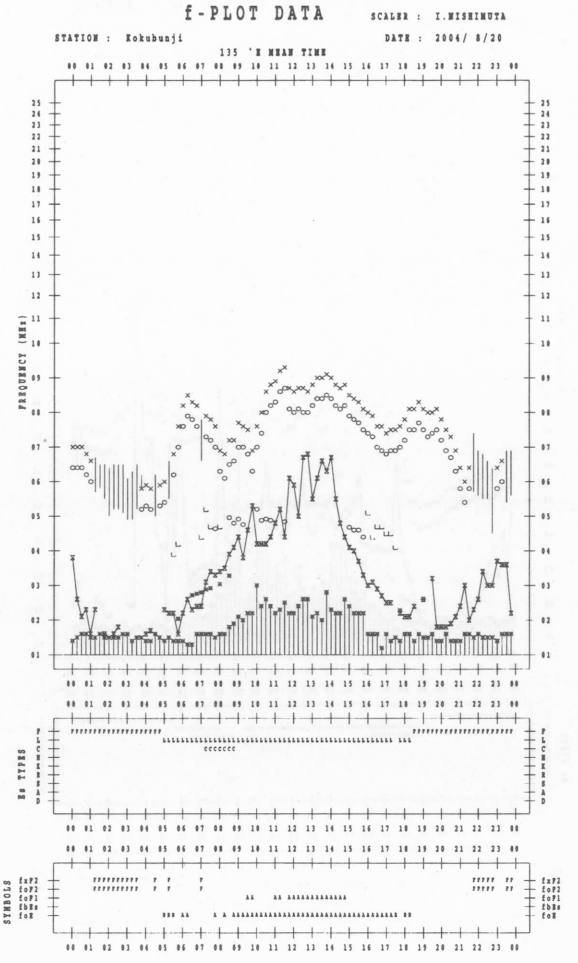
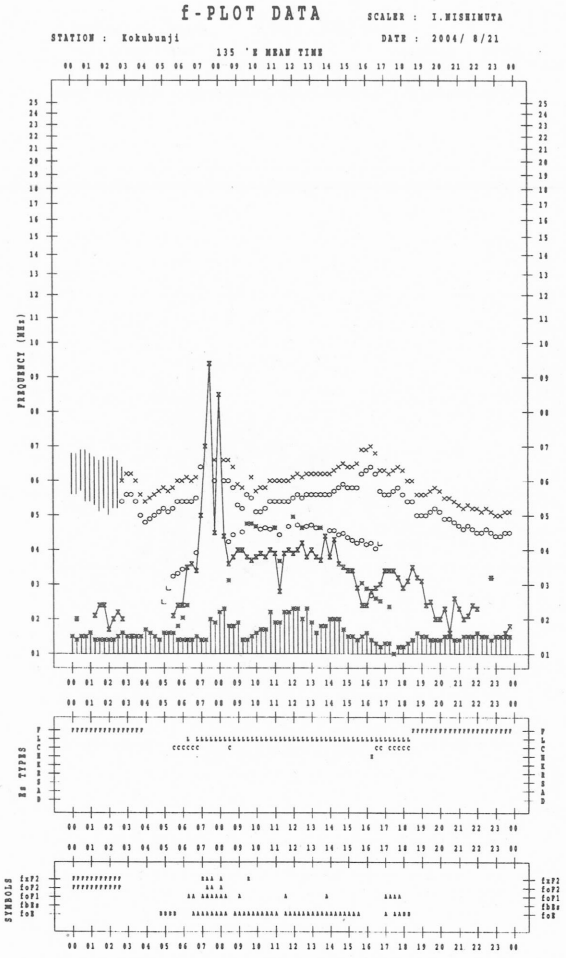
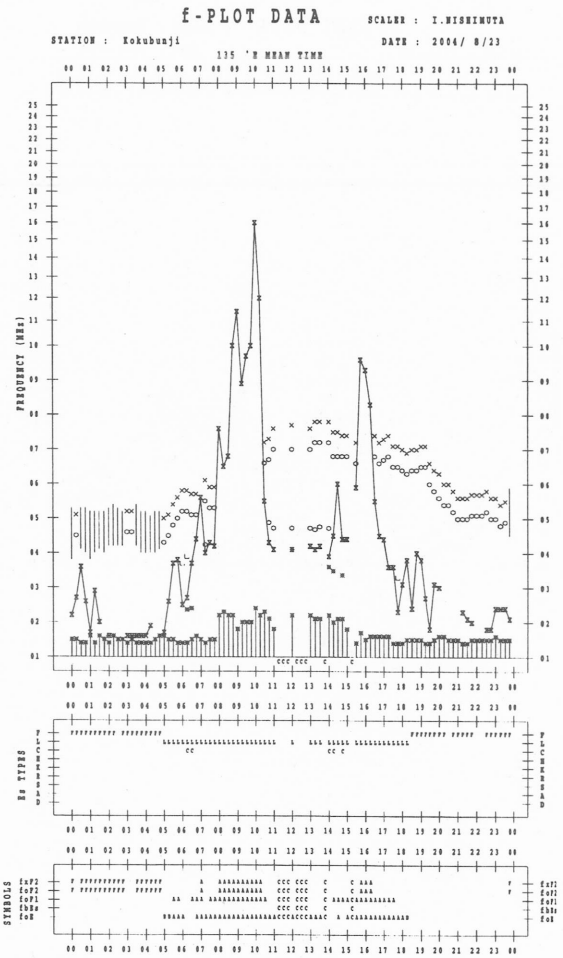
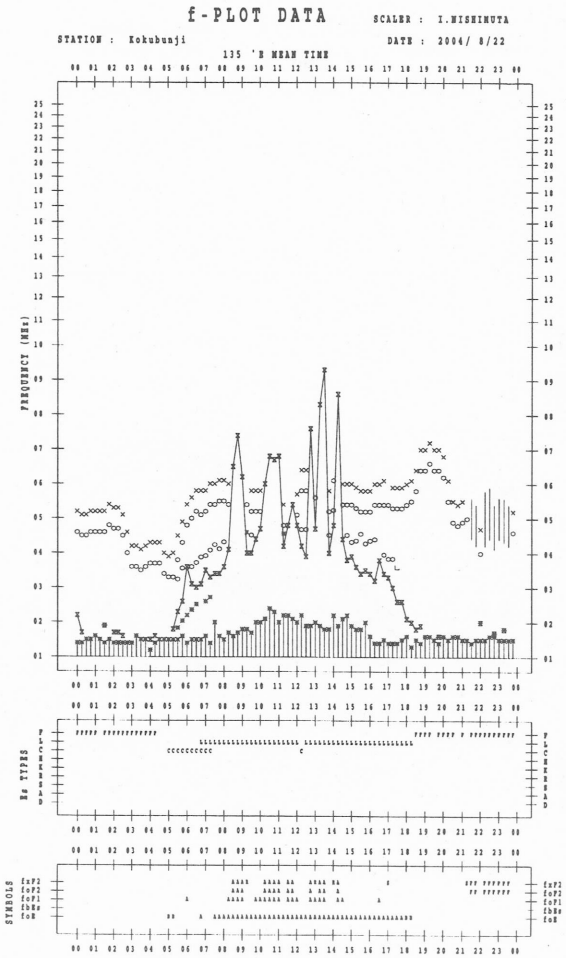
STATION : Kokubunji
DATE : 2004/ 8/19
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

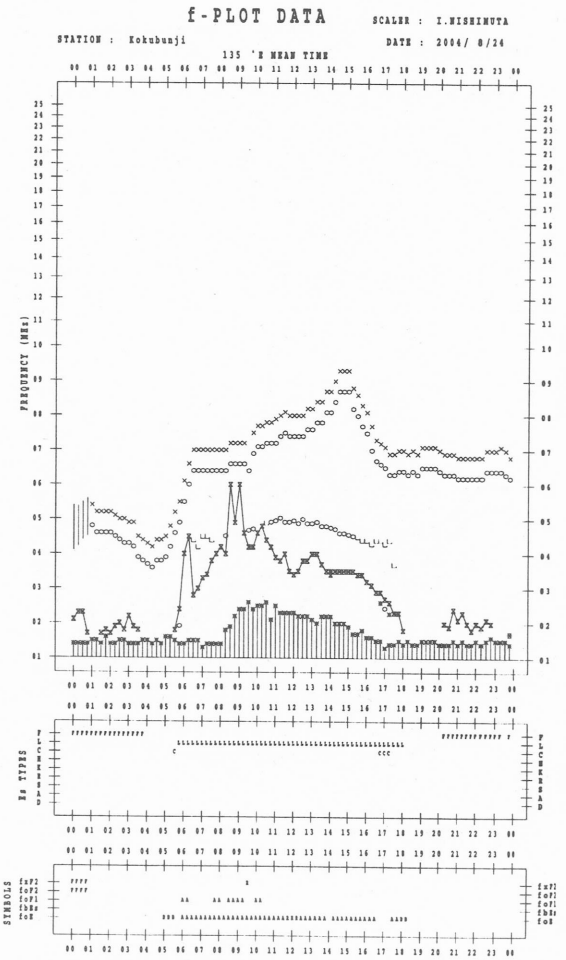

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/18
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

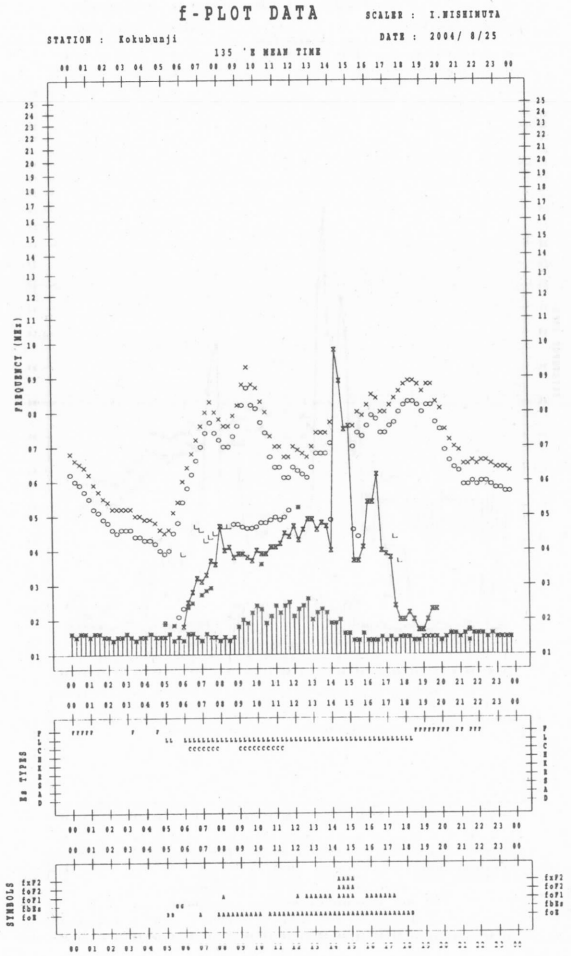

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/20
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

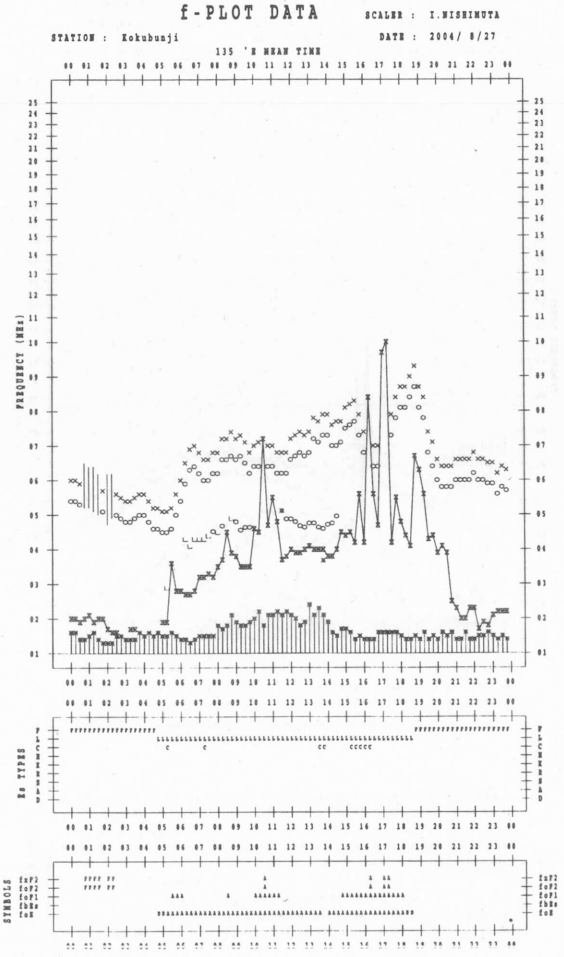

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/21
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

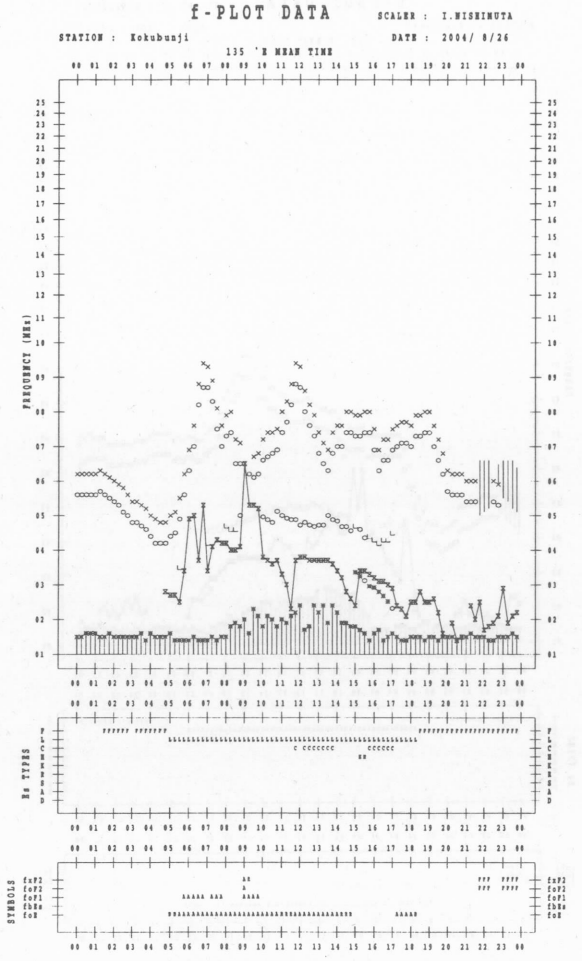

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/23
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

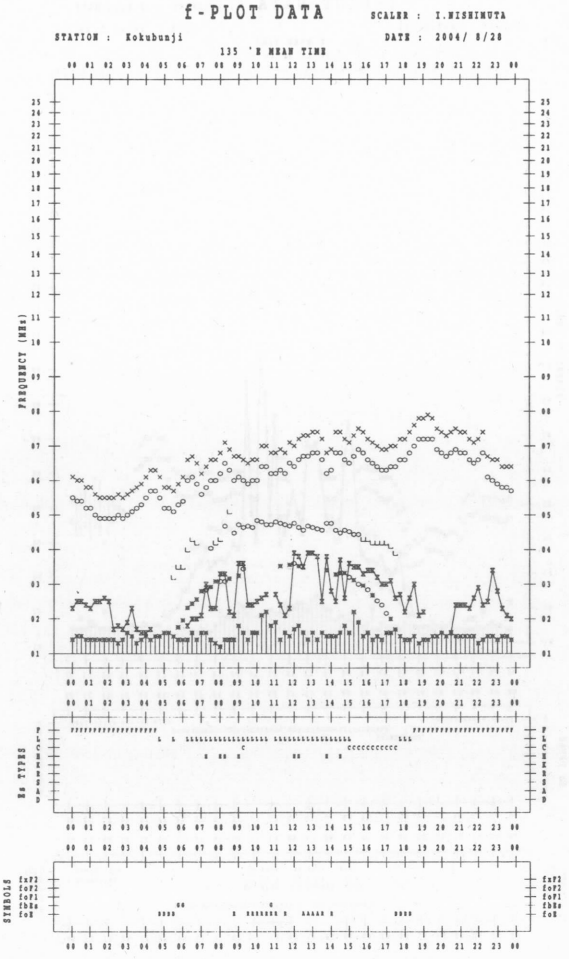

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/22
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

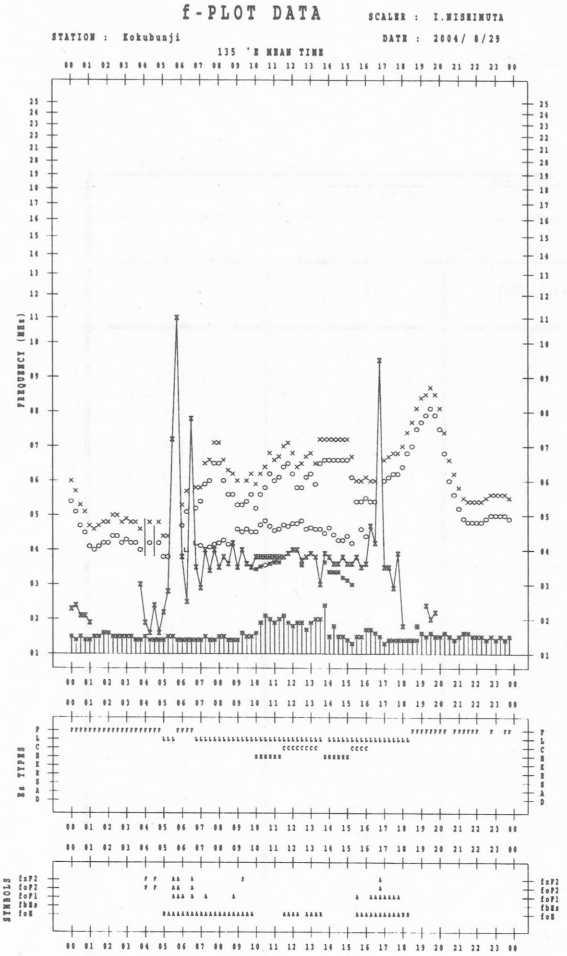

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/24
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

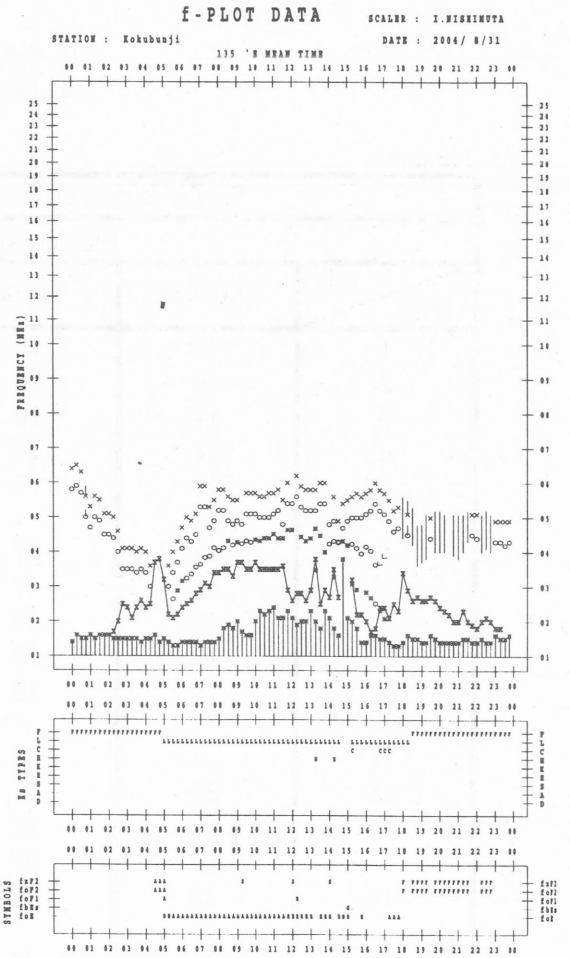

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/25
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

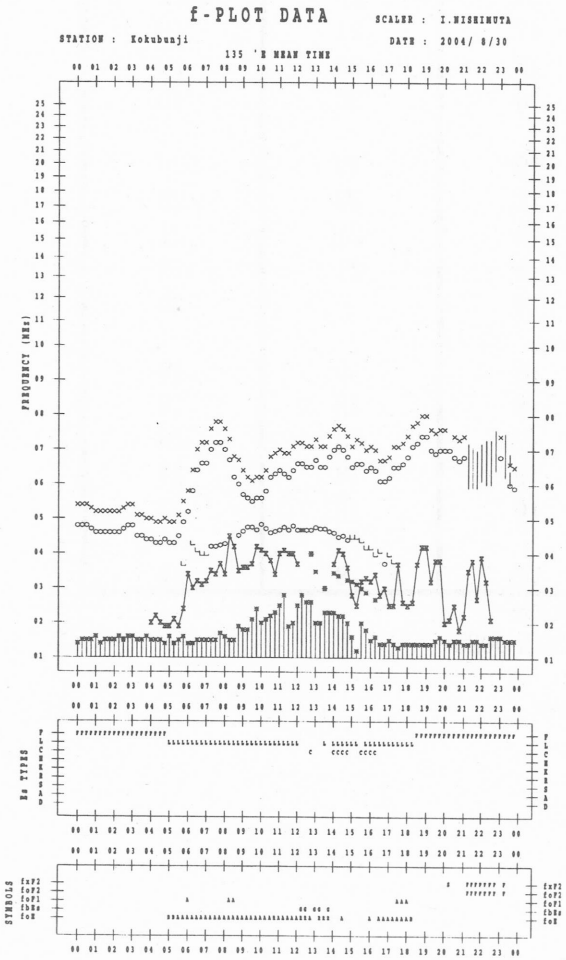

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/27
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/26
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/28
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/29
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/31
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2004/ 8/30
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

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

Hiraiso August 2004

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

Note: No data is available during the following periods.
16th 0650 - 16th 0935 25th 0835 - 26th 0025

A superscript * denotes to be superposed on a burst.

B. Solar Radio Emission

B2. Outstanding Occurrences at Hiraiso

Hiraiso August 2004

Single-frequency observations

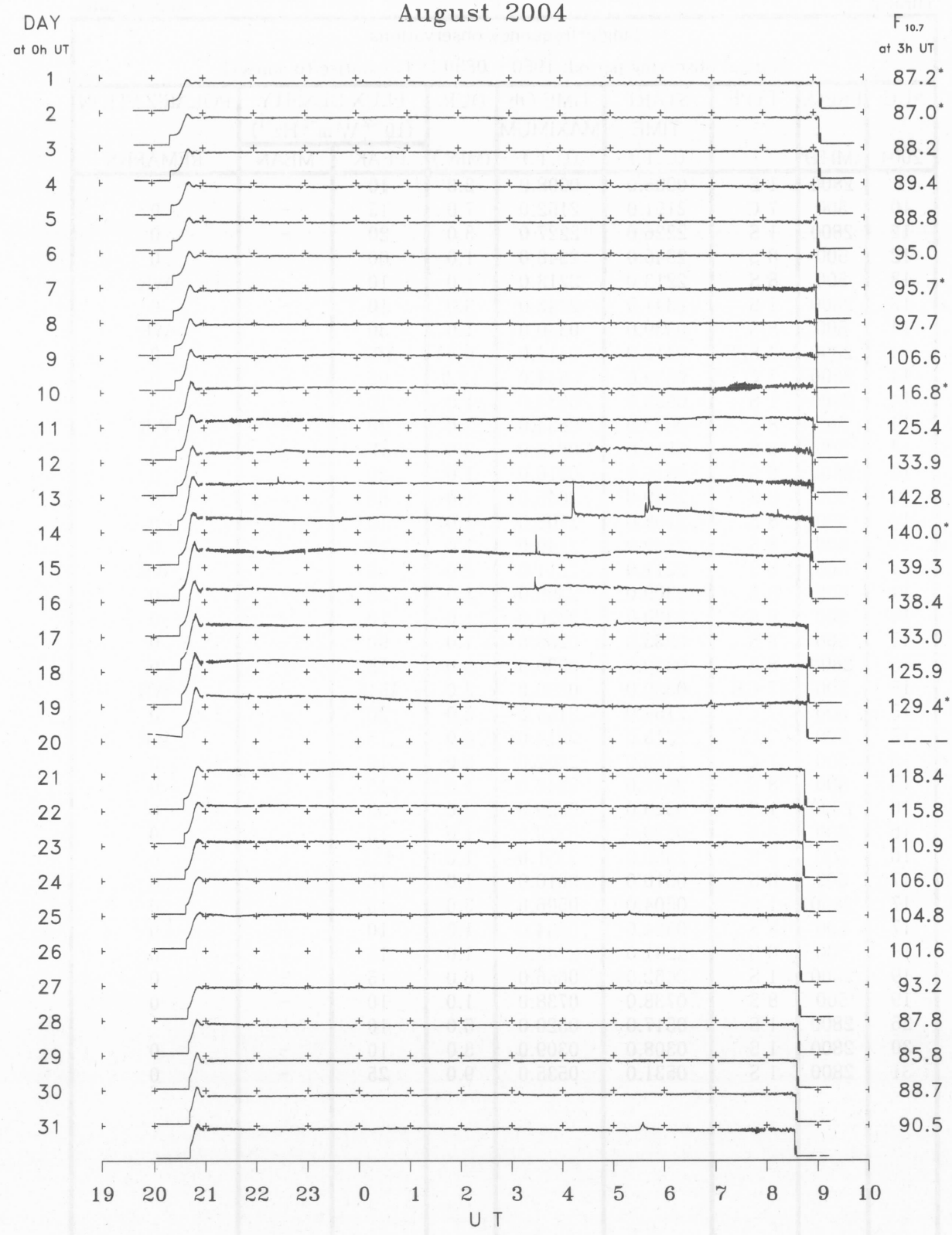
Normal observing period: 1950 - 0650 U.T. (sunrise to sunset)

AUG. 2004	FREQ. (MHz)	TYPE	START TIME (U.T.)	TIME OF MAXIMUM (U.T.)	DUR. (MIN.)	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) PEAK	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) MEAN	POLARIZATION REMARKS
1	2800	1 S	0008.0	0008.0	2.0	10	-	
10	500	7 C	2151.0	2152.0	7.0	15	-	0
12	2800	1 S	2226.0	2227.0	3.0	20	-	0
12	500	8 S	2346.0	2346.0	1.0	60	-	0
13	500	8 S	2213.0	2213.0	1.0	10	-	WR
13	2800	1 S	2341.0	2343.0	3.0	10	-	0
14	500	8 S	0339.0	0340.0	1.0	30	-	WR
14	2800	4 S/F	0412.0	0414.0	6.0	100	-	0
14	2800	7 C	0539.0	0544.0	12.0	95	-	0
14	2800	1 S	0633.0	0634.0	1.0	10	-	0
14	500	8 S	0633.0	0634.0	3.0	30	-	WR
14	500	8 S	0815.0	0816.0	3.0	15	-	0
14	2800	8 S	0816.0	0816.0	1.0	20	-	0
14	500	8 S	2049.0	2049.0	1.0	65	-	0
14	500	8 S	2108.0	2108.0	1.0	10	-	0
14	500	8 S	2149.0	2149.0	1.0	15	-	0
14	500	8 S	2211.0	2211.0	1.0	40	-	WR
14	500	8 S	2309.0	2309.0	1.0	20	-	0
14	500	8 S	2320.0	2320.0	1.0	10	-	0
15	500	8 S	0233.0	0233.0	1.0	90	-	0
15	2800	8 S	0330.0	0330.0	1.0	55	-	0
15	500	47 GB	0330.0	0330.0	2.0	1515	-	WR
15	500	7 C	2154.0	2155.0	5.0	20	-	0
15	500	7 C	2213.0	2214.0	6.0	15	-	WR
15	500	7 C	2258.0	2302.0	5.0	10	-	0
15	500	8 S	2342.0	2342.0	1.0	15	-	0
16	2800	1 S	0329.0	0329.0	2.0	35	-	0
16	500	8 S	0329.0	0329.0	1.0	15	-	0
16	500	8 S	2350.0	2351.0	1.0	135	-	0
17	500	8 S	0010.0	0010.0	1.0	10	-	0
17	2800	1 S	0504.0	0506.0	3.0	15	-	0
17	500	8 S	0534.0	0534.0	1.0	10	-	0
18	500	8 S	2241.0	2242.0	1.0	15	-	0
19	2800	1 S	0652.0	0656.0	6.0	15	-	0
19	500	8 S	0738.0	0738.0	1.0	10	-	0
25	2800	1 S	0517.0	0520.0	5.0	10	-	
30	2800	1 S	0308.0	0309.0	3.0	10	-	0
31	2800	1 S	0531.0	0535.0	9.0	25	-	0

B. Solar Radio Emission

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

August 2004



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

IONOSPHERIC DATA IN JAPAN FOR AUGUST 2004
F－668 Vol.56 No.8 (Not for Sale)

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