ISSN 0021-0382

F−679

IONOSPHERIC DATA IN JAPAN

FOR JULY 2005

VOL.57 NO.7

CONTENTS

NiCT

NATIONAL INSTITUTE OF INFORMATION
AND COMMUNICATIONS TECHNOLOGY
TOKYO, JAPAN

INTRODUCTION

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

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

A. IONOSPHERE

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

A1. Automatic Scaling

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

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

a. Characteristics of Ionosphere

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

b. Descriptive Letters

The following descriptive letters are used in the tables.

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

C Impossible measurement because of any failure in observation.

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

N Impossible automatic scaling because of complex echoes.

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

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

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

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

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

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

d. Reliability of Automatic Scaling

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

e. Summary Plot

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

A2. Manual Scaling

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

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

a. Characteristics of Ionosphere

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

b. Symbols

(i) Descriptive Letters

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

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

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

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

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

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

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

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

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

K Presence of particle *E* layer.

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

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

N Conditions are such that the measurement cannot be interpreted.

O Measurement refers to the ordinary component.

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

Q Range spread present.

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

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

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

V Forked trace which may influence the measurement.

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

X Measurement refers to the extraordinary component.

Y Lacuna phenomena, severe layer tilt.

Z Third magneto-electronic component present.

(ii) Qualifying Letters

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

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

D Greater than.

E Less than.

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

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

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

U Uncertain or doubtful numerical value.

X Measurement deduced from the third magneto-electronic component.

(iii) Description of Types of *Es*

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

The types are:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

B. SOLAR RADIO EMISSION

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

B1. Daily Data at Hiraiso

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

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

* Measurement impossible because of interference.

B Measurement impossible because of bursts.

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

B2. Outstanding Occurrences at Hiraiso

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

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

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

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

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

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

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

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

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

B3. Summary Plots of F10.7 at Hiraiso

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

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

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

HOURLY VALUES OF foF2 AT Wakkanai

JUL. 2005

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	54	48	52	50	42	A	A	A	A	A	A		A	A			40	56	43		42	61	53	51
2	51	54	49	51	48	52	58	A	A	A	A	A	A	A		54		57	59	A	66	71	66	66
3	54	52	51	58	58	60	66	78			69	A	A			49	56	55		66	72	A	A	61
4	54		53	54	54	58	69	A	61		A	A	A	A	A	A	A	75	A	A	A	66	A	62
5	61	64	52	54	55	57	61	72		64				A	A	A		66	66	66	74	A	64	54
6	54		53	52	53	68	60	62	66	A	A	A	A		64	66	70	62	61	A	66	66	64	61
7	53	52	58	53	53	58	66	70	75	A	A		58	68	66	62	63	A	66	71	77	80	66	A
8	62	A	A	55	A	64	72	75	73	A	A	A	A	A	A	A	A	65	64	63	A	71	75	62
9	54	53	52	54	54	60	68	60	76	70	61		A			49	62	66	A	A	A	66	62	63
10	40	54	41	48	44	45	54		A	A	56	A	A	67		A		A	62			A	54	52
11	51	50	41	36				A	A			A		A	A	A	A	A	A	A		44	A	38
12	42	42	37	41	A	A			A				A				A	48	52	35	55	54	45	44
13	35	42	30	A	32		A	A	A		A	A							46	48	53	53	54	40
14	43	44	38	34	A					A	A	A	A							A			48	47
15	47		34	35	34	A	A	A	A	A	A	A					A		A	45	34	51	A	53
16		34		40		20				A				A			A	61	59		44	43	48	A
17	45	42	40	37	36	41	56	A	A	A	A	A	A	A		36	39	53	41	64	73	54		47
18	A		A		36		37	40	A	A	A	A	A			A		A	75	58	A	32	A	A
19	42	38	36	36	36		A	A	A	A	A	A	A	A	A	A	A	A	56	58	26	A	A	A
20	48	42	40	38	37	45	54			A	A					A		55	61	64	63	54	44	42
21	40	42	34	36	31	37		40		A	A	A		59			54	54	51	52	62	67	62	44
22	43	45	44	40	40	42	44	57		A					60	44	54	64	61	60	22	54	46	34
23	42	44	44	38	36	38					A	A					54	45	A	54	61	56	53	53
24	45	44	42	45	42	45		58	64	59	A				36			54	A	58	61	52	28	A
25	54	47	41	40		52	37	58		A		A	A			A	A	A	53	60	54	54	58	46
26	40	43	36	41	40	47	54	62	62	58	58	A	A			A	61	60	A	61	64		58	54
27	52	39	41	42	42	45	42	59	56		39		A	66		A	39	55	62	60	66		54	53
28	A	A	59	A	46	A	65	A	A	A		A	A	A		A	A	A	A	A	61	60	53	
29	46	44	54	54	47	A	A	A	A		A					A	58	54	58	A	A	A		
30	52	45		46	36	38	42	A	A	A	A	A	A		58	A	A	55	58	A	A	58	61	54
31	A		A	A	A	A	A	A	A	A		A		58		A	A	66	52	72	A	30	50	54
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	24	26	27	24	20	18	13	8	4	5		1	5	5	7	12	21	21	19	21	23	23	24
MED	48	44	42	42	42	46	57	60	65	62	58		58	66	60	49	55	56	59	60	61	54	54	53
U Q	54	51	52	53	50	58	66	71	74	67	65		29	67	65	62	61	64	62	64	66	66	62	57
L Q	42	42	38	38	36	41	44	57	61	58	47		29	58	47	44	47	54	52	54	48	52	48	45

HOURLY VALUES OF fEs AT Wakkanai

JUL. 2005

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	53	42	40	38	37	68	62	76	72	58	57	56	66	52	G	G	G	45	40	48	43	33	36	39
2	33	30	33	27	30	34	51	61	84	77	76	130	86	65	43	G	63	52	46	108	32	59	59	34
3	29	32	32	29	29	34	40	60	65	78	100	122	98	G	G	G	42	48	61	59	44	71	71	41
4	34	39	37	36	35	43	63	108	60	59	89	69	62	79	61	65	144	120	110	81	83	69	87	29
5	35	50	36	29	32	G	G	52		60	43	59	57	76	86	159	69	62	46	60	43	71	38	39
6	36	46	46	41	37	37	34	G	52	76	84	73	60	45	46	47	46	38	35	68	43	34	29	29
7	26	28	32	26	G	36	45	52	60	76		60	48	52	G	46	39	61	68	G	39	55	45	59
8	70	59	70	58	67	54	82	67	108	98	64	77	142	101	81	176	100	G		71	70	60	33	28
9	G	G	26	G	G	G	G	47	64	69	48	59	113	56	45	40	38	60	145	94	72	58	78	G
10	G	60	39	32	26	32	39	36	53	71	56	76	66	50	47	72	73	150	80	66		32	39	G
11	G	23	G	G	43	36	39	44	44	G	G	48	G	78	45	57	64	71	51	95	45	40	58	33
12	G	32	G	G	54	54	39	43	64	40	41	G	43	G	G	G	78	40	40	50	39	28	G	G
13	G	G	40	61	32	35	44	60	43	51	59	74				G	39	44	39	48	36	32	25	G
14	G	G	31	G	38	32	34		G	54	46	59	66	G	54			G	49	65	42	58	39	46
15	54	50	32	32	30	48	68	60	79	59	51	45	46	41	G	G	50	48	74	46	37	44	60	49
16	60	28	60	50	46	G	46	51	47	60	65	51	44	45	G	50	64	56	50	58	40	36	38	85
17	37		26	34	38	G	44	76	73	72	75	157	76	47	G	G	58	44	52	G	G	G	G	G
18	44	48	37	39	37		56	G	72	81	92	117	76	G	G	50	50	64	44	G	54	82	69	67
19	26	27	G	28	G	35	59	72	54	68	82	143	50	64	53	48	104	82	39	35	33	79	78	60
20	G	28	24	G	39	G	G	91	50	87	73	42	G	42	46	61	43	46	38	G	G	G	G	G
21	28	G	28	G	G	29	47	G	50	52	72	49	46	G	64	60	51	40	46	28	37	30	G	G
22	G	G	G	G	G		G	50	65	62	G	G	G	G	G	G	39	50	G	G	G	34	29	32
23	32	27	G	33	G	29	40	40	50	G	84	52	47	G	G	39	G	41	60	47	53	44	29	66
24	26	G	28	G	G	32	49	35	51	39	51	52	51	48	G	G	58	47	76	60	47	50	38	51
25	52	32	35	32	44		52		51	66	49	78	97	65	46	62	86	60	43		48	43	46	59
26	26	33	34	29	29	G	39	44	50	G	68	73	68	66	51	80	38	40	73	79	45		30	59
27	39	59	27	32	G	29		42	49	49	G	66	56	G		98	G	G	33	31	38	60	79	80
28	80	69	56	78	33	60	61	61	68	79	44	89	52	79	44	78	170	136	152		36	79	46	58
29	39	32	11	38	51	69	87	98	100	57		44	43		43	50	G	41	46		113		70	
30	46	31	50	31	G	27	38	149	148	102	80	89	82	40	G	49	62	76	83	88	68	41	41	49
31	72	48	76	59	75	86	64	62	83	78	41	82	G	G	62	72	62	46	59	58	50	G	32	33
	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	31	31	31	28	30	29	30	31	29	31	30	29	29	30	30	31	30	28	30	29	31	30
MED	33	32	32	32	32	34	44	52	60	62	59	66	56	47	44	50	54	48	50	58	43	44	39	39
U Q	46	48	40	38	39	45	59	69	72	77	78	82	76	65	52	65	69	62	73	69	50	60	60	59
L Q	G	27	26	G	G	28	39	42	50	52	45	51	46	G	G	G	39	41	40	33	37	32	29	28

HOURLY VALUES OF fmin AT Wakkanai

JUL. 2005

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	14	14	14	14	15	14	14	17	18	18	18	20	21	22	21	18	15	14	14	14	15	15	15	14
2	14	15	15	17	14	14	15	16	15	23	21	35	34	23	21	18	16	14	16	14	14	14	15	14
3	15	14	14	14	16	16	15	15	20	21	17	21	24	20	24	18	14	14	14	14	15	14	14	15
4	14	14	14	14	14	14	16	17	20	20	20	29	27	20	21	17	22	15	14	14	14	14	15	14
5	14	14	14	15	14	14	14	16		20	21	21	21	35	20	20	18	15	14	15	14	14	14	14
6	15	15	14	14	14	14	14	14	16	20	21	24	24	22	26	18	15	14	14	14	14	14	14	15
7	15	15	14	15	16	17	15	15	18	18	20	18	26	22	26	20	17	17	16	20	14	14	14	14
8	14	14	14	15	14	15	14	14	18	28	20	20	32	20	22	21	16	15	15	14	14	15	14	15
9	18	15	15	15	15	16	15	15	20	18	20	21	24	23	20	21	15	15	15	14	15	14	15	15
10	16	15	14	15	20	15	14	26	18	20	22	21	28	18	21	18	17	15	14	14		14	14	16
11	15	15	14	21	14	14	15	17	14	18	20	24	26	18	21	20	18	15	17	15	14	15	15	15
12	15	15	14	16	14	14	15	16	20	21	24	26	22	33	22	22	18	15	16	14	14	17	15	16
13	17	14	14	15	15	15	16	21	33	21	27	34				22	21	16	14	14	15	14	15	16
14	21	15	15	14	14	14	15		20	21	22	35	21	29	23	21		20	15	14	15	14	14	14
15	15	15	15	14	15	17	20	16	33	20	21	20	29	24	20	20	18	18	15	15	14	14	14	14
16	14	14	14	14	14	14	14	20	21	26	32	24	23	33	22	20	17	17	14	14	14	14	15	14
17	15		15	15	14	15	15	17	18	18	21	20	22	26	18	20	17	15	14	15	15	18	16	15
18	14	14	14	14	14		15	17	15	18	18	21	21	20	18	17	15	14	15	15	14	14	14	15
19	15	15	14	15	16	14	14	15	20	20	20	20	21	21	18	18	18	15	14	14	14	15	15	15
20	14	14	14	14	14	14	16	16	18	20	22	33	17	20	22	20	16	14	15	15	14	15	14	16
21	15	17	15	20	18	14	15	15	17	18	16	18	18	24	21	17	18	14	16	14	15	15	14	16
22	15	15	14	14	18	14	15	14	16	14	20	20	22	20	18	20	15	17	14	16	17	14	15	14
23	14	15	15	15	14	14	14	15	17	18	23	22	23	26	18	20	16	15	15	14	14	14	15	14
24	14	14	14	14	14	15	15	18	20	20	18	20	20	18	18	14	16	16	14	14	14	14	14	15
25	15	14	14	14	14	15	14	14	20	18	20	23	21	23	20	18	18	15	15	14	14	15	14	14
26	14	15	14	15	16	20	14	17	20	20	16	28	18	21	20	16	17	17	15	15	14		14	14
27	14	15	15	14	14	14	14	18	18	18	20	21	21	21		28	18	15	14	14	14	15	15	14
28	14	14	14	14	15	14	14	14	21	20	34	32	22	20	20	17	16	15	15	15	14	15	14	14
29	14	14	15	14	15	14	14	48	29	21	21	23	21		20	18	16	14	14	14	14	14	14	
30	15	14	15	15	18	14	14	15	18	18	21	20	26	24	21	22	54	18	17	16	15	17	14	14
31	14	16	14	15	14	15	14	20	21	20	20	23	22	21	20	20	15	15	14	14	18	17	14	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	30	31	31	31	30	31	30	30	31	31	31	30	29	29	31	30	31	31	31	30	30	31	30
MED	15	15	14	15	14	14	15	16	19	20	20	21	22	22	21	20	17	15	15	14	14	14	14	14
U Q	15	15	15	15	16	15	15	17	20	21	22	26	26	24	22	20	18	16	15	15	15	15	15	15
L Q	14	14	14	14	14	14	14	15	18	18	20	20	21	20	20	18	16	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Kokubunji

JUL. 2005

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	54	51	42		44	44	51	A	A	A	A	A			A	A	A				54	54	54	54
2	54	44	46		A	54	52	68	A	66	A			66		71	A		A	66	A	A	66	63
3		54	54	45	51	54	68	66	69	71	A		69	A	A		63	62	A	64		54	65	65
4	62	55	66	61	54	61	66	A	A	A	A	A	A		71	77	78	84	75	65	66			64
5		54	66	54	52	54	59	69	78	77	64					78	75	78	80	82	78	75	80	
6	54	52	54	53	52	55	68	64	62	A	A	A	A	81	77	73	74		67	81	76		61	A
7	55	A	54	55	54	55	A	68		70	A	A		A	A	A	A	76	88	87	A	A	54	54
8	54	61	54	54	54	51	62	84	87				67	74	76	69	69	77	82	82	78	65	64	66
9	66	61		61	54	55	64	69	78	A	A	A	A	A	A	67	65	73	A	77	78	79	65	63
10	A	A	A	52	50		61			A		80	71	81	68		69	64	59	71	73	73	54	
11		65	52		A		A	A	A		A		A	A		A	A	A	A		A	A	A	
12	44	36		36	A	39	A	A	53	A	A	A	A	A		67	A	59	66	A	53	54	54	53
13	43	54			49	36						A			A			47	A	54	64	51	54	52
14	54	53	45	43	37		47		48				A	A	A			49	52	55	51	48		
15			41			46	51	51			58				48	57	56	54	55	53	53	53	A	44
16			A		36	41	51			70				48			77	65	71	66			44	46
17		44	41	36	36	41	45	57	71	55	A	A	A	A	58	65	63	68	69	71	66	67	54	61
18	53	34	42	42	36			47	54		62		A		A	90	A		52	61	54	54	51	41
19	A	42		44	39	48		A	A	48	A					64	64		59	64	48	54	53	54
20	45	52	47	41	36	38	47	54	52				A	A	54	62	59	67	69	62	66	47	47	44
21	39	39	39	36	32		42	51	A	A	A			72	90	81	58	51	56	A	59	A	61	54
22	42	39		41	36	39	48	60	A					66			A	81	86	78		51	44	42
23	38	39		34	31	37	A	51	55	A	A	A		59	61	65	59	59	55	62	66	52	47	46
24	45	44	39	36	39		A	62	76	58			56				65			63	54	60	54	54
25	A			37	36		47	58	89	54	A					68	71	68	66	77	54	54		
26	44			A	28		52	64	75	58	C	C	A	74	90	82		69			55	A	54	54
27		55	51	47	44	44	57	A	64	54	C	C	C	C	C	C	C	69	66	72	66		A	
28	54	46	42	45	45	45	54	A	A						A	57	A	67	63	62	64	44		A
29		42	55	50			47		A	A	A	A	A	61	69	63	A		72	74	63	54	67	66
30	69	54	52	41	41			76	41	72			71	70	76	80		69	71	65		A	61	A
31		47	45	45	40	42	55	67	70				66	72	78	77	76	81	69		59	54	54	
	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	25	21	24	26	21	22	19	17	12	3	1	6	12	13	20	17	23	23	25	24	21	24	21
MED	54	51	47	44	40	45	52	64	69	62	62	80	68	71	71	68	65	68	67	66	64	54	54	54
U Q	54	54	54	52	51	54	61	68	77	70	64	40	71	74	77	77	74	76	72	77	66	62	62	63
L Q	44	42	42	39	36	40	47	54	53	54	58	40	66	63	59	64	61	59	59	62	54	51	53	46

HOURLY VALUES OF fEs AT Kokubunji

JUL. 2005

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	40	41	47	29	G	50	60	96	103	112	118	85		100	97	85	70	67	59	72	54	43	33
2	28	47	35		69	G	43	68	59	G	64	59	46	G	78	G	155	58	66	82	93	70	69	35
3	60	55	51	43	47	G	40	61	61	64	60	62	61	85	73	78	65	50	80	42		47	59	60
4	39	39	48	49	53	71	61	93	101	107	118	100	169	G	49	G	G	G	35	116	103	67	68	G
5	151	45	24	49	30	29	31	42	G	G	50	63	59	62	55	60	61	G	40	31	58	60	59	59
6	39	40	40	32	G	G	G	G	G	63	70	82	107	58	68	55	60	65	37	46	40	44	49	69
7	93	60	39	54	50	57	61	50	62	76	76	83	58	89	84	117	94	51	73	79	102	87	52	37
8	36	35	G	27	34	28	68	69	47	G	G		G	70	64	74	G	68	G	40	40	46	31	40
9		49		50	31	27	43	61	59	95	86	61	102	108	87	57	116	90		41	51	49	49	49
10	72	70	60	41	66	39	49		59	97		G	G	48	G	83	G	47	37	33	32	34	30	39
11	50	G	G		68		60	60	81		57		77	83		94	58	80	85	51	82	59	59	34
12	G	33	46	35	48	38	80	60	52	63	147	94	69	75		47	80	48	33	60	40	49	G	G
13	24	G	27	33	35	G	40	45			G	56			62	48	49	40	68	34	28	45	52	34
14	G	G	G	G	39	G	35		52	G			76	63	62			G	G	G	G	26		
15	G		G	G		G	G	G		48	51			46	G	G	G	G	G	29	G	57	60	36
16	G	48	50	40	30	37	35	36		G				G	G	58	48	105	47	G	40	G	G	G
17		29	36	29	26	G	34	G	43	G	93	63	78	67	G	G	G	35	G	G	G	G	G	G
18	G	G	29	G	G		G	40	42	48	48		73		86	138		106	G	G	G	G	35	32
19	55	35	45	26	35	34	42	62	102	69	73		50	53		G	51	62	54	33	43	G	49	70
20	48	59	37	G	G	G	G	G	56	G			45	55	60	G	37	36	29	G	G	G	G	24
21	G	G	G	G	29		37	46	65	60	63			43	G	G	G	G	G	50	60	58	59	G
22	31	G	G	G	G	G	32	41	72	55			49	G	53	63	74	59	60	68		G	28	34
23	31	28		G	G	35	40	45	53	93	53	70	46	G	G	G	40	G	G	27	43	55	68	31
24	30	33	G	G	G		71	51	65	G			G		45	G	G		86	31	36	46	43	57
25	59	37	38	G	G		34	43	73	46	81	53		49		40	81	74	51	105	107	46	60	50
26	39	34	27	26	G		39	57	G	G	C	C	82	62	102	G	95	84	78	39	43	69	84	G
27		35	42	36	31	G	36	92	62	G	C	C	C	C	C	C	C	47	37	36	25	43	67	
28	40	35	26	59	36	G	43	86	80	41	50				62	41	87	50	40	42	40	36	59	93
29	49	G	G	47	43	G	G		81	70	82	82	89	47	91	59	78	75	60	48	G	29	27	27
30	24	G	G	G	26			50	39	G	49	49	47	G	G	81		45	38	G		94	31	82
31	50	56	G	G	G	33	G	G	G		67		G	G	60	G	50	45	40	60	33	36		57
	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	30	29	29	30	24	30	28	28	28	23	16	24	25	26	29	27	30	30	31	28	31	29	29
MED	38	35	29	29	30	G	40	50	59	48	64	63	60	53	61	48	58	50	40	40	40	46	49	35
U Q	50	47	41	45	43	34	49	61	72	69	82	82	80	68	78	76	81	70	66	59	59	58	59	57
L Q	12	G	G	G	G	G	32	40	45	G	50	57	46	G	G	G	G	36	29	29	26	29	30	25

HOURLY VALUES OF fmin AT Kokubunji

JUL. 2005

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	13	13	14	13	13	23	15	22	23	24	33	35	37		35	24	21	14	14	14	14	13	14	13
2	17	21	13		13	21	13	28	31	38	38	38	38	53	35	53	22	18	15	13	14	14	14	13
3	14	14	13	14	13	13	13	21	28	34	34	38	33	31	29	22	22	17	17	14		14	17	14
4	13	14	13	13	18	14	14	21	33	34	38	35	36	53	35	50	46	20	21	14	14	14	14	18
5	14	14	13	13	13	13	13	18	23	53	37	42	38	37	37	34	30	14	17	13	24	13	14	14
6	14	14	14	13	22	13	15	22	42	31	37	36	37	34	30	24	24	21	13	20	14	14	14	13
7	15	14	14	13	15	14	14	17	21	29	35	37	36	36	33	30	33	20	17	14	17	14	13	13
8	17	15	17	17	13	13	13	21	24	44	39		54	40	40	34	22	17	24	13	13	13	15	13
9	17	13		13	13	13	23	28	33	33	34	38	35	40	28	25	30	18	14	14	14	13	14	14
10	21	14	15	13	14	14	15		26	31		53	53	38	50	35	40	15	15	13	13	15	17	15
11	13	14	20		13		13	25	20		34		38	36		34	28	21	15	23	15	13	14	14
12	14	15	13	13	14	17	13	29	31	31	35	34	35	37		33	34	25	14	14	14	14	25	18
13	14	14	14	13	13	13	13	21			37	39			36	37	30	25	20	13	21	15	14	14
14	14	14	14	22	13	34	23		34	23			34	42	37			42	30	20	26	14		
15	15		14	21		21	18	21		28	31			29	54	44	43	26	15	13	23	20	14	21
16	17	13	17	17	14	13	17	29		50				53	45	34	28	15	14	18	13	25	17	13
17		14	13	13	13	21	22	20	29	49	33	34	34	34	44	46	42	13	18	15	18	14	17	14
18	14	18	14	13	13		13	15	23	24	26		34		34	31	21	21	13	20	13	14	14	14
19	14	13	13	14	14	15	13	17	26	33	39		34	36		45	17	15	13	14	17	22	13	14
20	14	14	13	13	13	14	33	15	15	24			35	35	33	43	28	14	14	14	17	17	14	17
21	14	15	14	14	13		13	26	18	31	35			34	51	46	38	17	13	14	14	13	15	13
22	14	20	13	13	13	18	13	13	14	26			33	50	28	22	24	24	14	15		26	14	13
23	13	14		13	17	14	13	14	22	30	33	33	34	49	50	43	22	14	13	13	13	14	17	13
24	14	13	23	17	14		13	21	24	26			28		26	54	42		14	13	13	13	15	15
25	14	14	17	17	14		14	17	22	26	28	28		42		21	20	24	13	13	13	14	14	14
26	13	14	13	20	22		14	13	43	49	C	C	33	31	29	45	20	13	13	13	13	14	13	13
27		15	13	15	14	25	13	14	21	46	C	C	C	C	C	C	C	20	13	14	15	14	14	
28	15	13	18	13	13	18	13	14	33	34	38				34	29	24	15	13	15	14	14	13	14
29	13	14	13	15	13	28	25		33	34	25	35	38	40	40	24	21	14	14	13	15	13	13	14
30	18	15	15	17	14			18	41	25	37	36	38	54	51	38		29	13	17		13	17	14
31	14	17	17	14	21	13	14	18	23		34		50	53	39	49	21	18	14	17	13	14	13	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	30	29	29	30	24	30	28	28	28	23	16	24	25	26	29	28	30	31	31	28	31	30	29
MED	14	14	14	13	13	14	14	20	25	31	35	36	36	38	36	34	26	18	14	14	14	14	14	14
U Q	15	15	16	17	14	21	15	22	33	36	37	38	38	49	44	45	33	21	17	15	17	14	15	14
L Q	14	14	13	13	13	13	13	16	22	26	33	34	34	34	33	27	21	15	13	13	13	13	14	13

HOURLY VALUES OF foF2 AT Yamagawa

JUL. 2005

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	A		36	45	38	42	55	53		A	A		A	A			68	76	76	54	A	49	36	54
2	54	54	A	37	A	A	50	54	71	A	A	49	67	77	81	65			52	66	66	65	A	
3		52	54	36	52	A		A	A	A	69	A	A	66	A	70	A	A	73	A	76		54	66
4	66	66	66	66	62	54	58	78		63	68		72	80	81		96		94	78	58	52	53	
5	52	63	52	A	54	52	61	71	77	73		65		66	68	68	72	77	80	80		77	61	
6	51	36		38	37	36	54	67	56	62	A	A	76	80	78	82	82	A		90	54	53	53	
7	A		54	52	42	50	55	62	67	65	72	67		A	A	74	79	78	110	110	74	53		63
8	66	66	54	55	54	55	60	81	63	61	49			72	67	72	76	77	82	79	A	68		54
9	53	65	60	54	54	54	63	67	73	64		C	C	76	80	80	82	C	80	C	C	76	C	C
10	C	54	A	C	C	43	A		C	C	C		C	C	C	C		71	54	80	78	74	65	66
11	66	73	70	55	43	37	A	A	A	C	C	C								C	C		C	C
12			38	C	A	C	49	A	A	A	A	A	68				76	67	74	67	36	C	34	
13			C	36	A													A	55	A		53	52	53
14	49		53		C		32		A	A									63	54	36		37	39
15	36	34	34	36	36	34	37	54		A	A					60	58	59	55	58	64		36	29
16	38	34	32	32	36	34	A		64								67	78	77	61	36	37	38	32
17	50	34	36	32		34		63	54	A	A	A			68		64	72	C	70	53	67	37	43
18	37	42	37	37	43	36	A			C					68	64	56	62	56	66		36	34	
19		39	A			A	A	37	56	A	A	A	A				C	C	C	74	66	38		A
20	A	36	47	34	34	22	C	54	C	C	C	C	C	C	C	C	C	67	66	71	52		36	37
21	36	32			26	30	37	48	A						84		62	A	A	A	54		52	
22	A	37	A	32	31	31	47	60	49	A	A		A		57	73	A	A	80	A	A	A	A	A
23	38	37						A	57	A					70	76	77	70	67		A	A	A	A
24	A	A	A				A		69		A					74	75	78	74	68	49		51	34
25		37			34	37	57	54									67	76	77	75	55	31	38	31
26		32	32				41	51	67	A		A	A		77	77		78	93	66	A	52	47	34
27	48	32	32	32	A	32	48	56	66	A	A	A					77	A	77	74		49		37
28	37	34	36	37	34	38	50	51	59									72	77	77		A	A	
29	A		36	A		A	A	A	64	A					77	77	78	82	76	76	40	70		60
30	52			49	42		44	53	59			59	C					77	71	54	62	A	42	
31	52	36	38	37		39	43	62	64					77	82	92	84	80	77	72	54	54		
	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	23	20	20	18	20	19	20	18	6	4	4	4	8	14	15	19	19	26	24	19	19	19	16
MED	50	37	38	37	40	37	50	55	64	64	68	62	70	76	77	74	76	76	76	72	54	53	42	41
U Q	53	54	54	50	52	46	57	65	67	65	70	66	74	78	81	77	79	78	80	77	66	68	53	57
L Q	38	34	36	35	34	34	43	53	57	62	58	54	67	69	68	68	67	70	66	66	49	49	36	34

HOURLY VALUES OF fEs AT Yamagawa

JUL. 2005

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	72	56	34	38	G	30	36	34	53	57	75	69	76	67		56	56	52	40	42	69	43	38	36
2	34	37	81	32	58	80	G	43	56	89	103	68	G	64	63	54	45	44	38	43	G	42	58	50
3	43	81	30	33	40	72	55	85	136	87	44	79	101	56	92	G	92	86	67	82	58	40	36	36
4	58	40	27	42	32	34	39	44	79	58	65		G	G	G	G	70		44	32	25	28	33	
5	57	53	72	80	40	37	35	G	38	G	G	55		G	G	G	63	68	68	50		60	70	52
6	40	40	39	30	G	G	31	40	42	G	59	102	86	61	73	69	83	84	76	56	54	28	28	
7	78	59	58	55		68	46	54	43		53	60	67	63	102	G	79	82	95	42	79	28		G
8	24	25	40	28	43	26	40	67	55	42	G		G	G	58	43	48	54	68	55		58	42	28
9	39	43	26	77	31	G	28	40	45	54	62	C	C	56	56	G	56	C	95	C	C	93	C	C
10	C	96	92	C	C	36	43	33	C	C	C	48	C	C	C	C	78	55	46	42	G	G	26	31
11	33	40	29	G	25	32	44	49	50	C	C	C					G	G	44	C	C	29	C	C
12	36		37	C	53	C	26	52	58	85	130	105	G				56	39	40	36	G	C	24	30
13	27	34	C	34	43	29		G		42								45	68	72	41	G	G	G
14	57	40	30	43	C	40	G	32	57	55									G	G	G	G	36	G
15	G	G	G	G	G	G	G	34		84	53					G	G	G	G	G	24	28	G	G
16	27	34	G	25	33	26	58	G	G							43	G	42	42	G	G	24	29	G
17	38	G	G	26		G	G	39	43	60	51	73			44	71	G	60	C	G	G	G	G	G
18	G	24	29	37	40	30	40	32	G	C		G		43	G	G	G	G	G	G	70	G	G	34
19	30	28	43	40	36	56	41	41	46	73	42	54	102	42	44	41	C	C	C	G	G	33	29	85
20	69	38	59	41	28	G	C	36	C	C	C	C	C	C	C	C	C	39	40	G	G		G	G
21	G	G			G	G	G	42	46	G	G				G	66	57	70	82	91	33	36	32	
22	57	G	43	27	G	G	G	G	44	57	72	52	57		G	51	117	172	83	82	104	143		40
23	28	G		28	33	29	34	84	68	62	G				56	74	62	40	G	44	35	58	80	38
24	49	45	67	39	41	36	94	40	56	G	43	G				G	40	G	36	G	28	26	34	34
25	40	29	40	34	G	G	G	G	G	G			57				G	G	68	44	29	G	34	G
26	37	34	G		27	39	G	52	52	79	58	64	64	G	G	G	G	G	39		43	28	G	G
27	G	G	G	G	41	G	38	43	52	52	44	68				60	76	83	59	G	29	27	G	G
28	25	39	27	G	29	G	G	34	G							40		43	G	25		41	57	
29	57	38	33	56	27		40	62	41	61					G	G	G	G	39	G	26	G	G	G
30	G		G	G	G		G	G	45		42	G	C			G		G	G	34	G	58	33	40
31	G	29	39	G	G	27	G	35	40	G		43		G	G	G	74	41	34	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	28	27	27	28	29	31	27	23	20	17	12	13	17	24	25	27	29	28	26	29	26	24
MED	36	37	34	33	31	29	34	40	46	57	52	60	60	43	44	20	56	43	42	35	27	28	30	29
U Q	57	41	43	41	40	36	40	49	56	73	63	71	81	62	60	55	75	68	68	47	43	42	36	37
L Q	25	24	26	25	G	G	G	32	41	G	42	45	G	G	G	G	G	G	35	G	G	G	G	G

HOURLY VALUES OF fmin AT Yamagawa

JUL. 2005

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	16	14	15	14	16	17	14	15	17	20	21	28	28	29		22	20	16	14	15	15	14	15	15
2	15	16	15	16	15	15	15	14	16	21	34	34	52	26	27	48	34	17	14	15	15	15	14	14
3	14	15	15	14	14	15	15	16	17	21	32	34	32	35	36	52	26	20	17	14	15	15	14	15
4	15	14	14	15	14	15	16	16	18	21	35		54			51	34		15	14	16	16	15	
5	15	15	14	14	17	14	14	15	17	23		39		53	52	26	22	20	15	15	15	15	14	14
6	14	14	14	15	16	16	15	16	20	26	34	34	33	38	33	27	22	17	18	18	15	18	14	
7	15	14	14	14	15	14	15	16	21	18	27	45	23	44	46	63	23	18	17	15	14	15		16
8	15	16	15	15	16	15	14	15	18	22	50		26		39	52	21	21	15	14	16	16	15	14
9	15	15	15	15	15	15	14	16	18	20	34	C	C	36	49	56	18	C	14	C	C	14	C	C
10	C	17	15	C	C	14	15	26	C	C	C	32	C	C	C	C	21	18	16	15	15	15	16	15
11	14	15	14	15	15	14	15	15	17	C	C	C					24	20	16	C	C	14	C	C
12	16		16	C	15	C	23	22	22	35	34	34	52				35	18	20	15	15	C	16	15
13	16	16	C	15	17	17		16		34								24	20	14	14	20	15	17
14	15	16	15	18	C	17	23	21	21	32									37	20	21	24	16	16
15	16	16	20	15	18	18	22	17		24	28					22	46	44	30	18	16	17	16	17
16	15	17	17	17	15	15	14	21	23							34	52	17	15	20	17	18	15	14
17	16	20	16	17		21	17	16	20	29	24	26			34	23	21	18	C	18	16	18	15	18
18	16	17	18	15	14	16	15	15	18	C		27		30	49	49	21	17	15	20	17	16	17	14
19	17	17	15	15	16	15	14	15	18	20	22	33	33	32	33	22	C	C	C	17	18	15	16	14
20	15	14	15	15	15	14	C	14	C	C	C	C	C	C	C	C	C	23	17	18	15		20	17
21	21	18			18	18	21	18	18	21	30					34	29	24	18	17	16	18	17	
22	15	18	15	16	18	16	24	16	17	20	21	29	33		48	36	30	24	17	16	18	18	16	15
23	17	18		16	17	17	18	15	18	23	26				33	29	26	17	39	15	17	15	17	15
24	16	17	16	20	18	15	15	18	21	20	24	26				49	30	44	17	20	17	15	17	18
25	16	17	15	15	20	18	27	30	21	22			43				51	47	16	17	15	17	18	17
26	16	16	21		22	18	21	18	21	30	33	36	40		56	29	23	20	21	17	16	16	17	17
27	17	18	17	17	17	15	16	15	24	26	27	32				46	30	20	18	18	16	18	21	17
28	18	17	16	30	21	20	22	22	46							26		18	20	18		17	17	
29	18	18	16	20	17	17	16	43	27	27					53	58	52	42	15	17	16	18	17	20
30	16		17	18	24		20	15	17		32	50	C					52	18	15	21	17	17	17
31	16	17	18	23	21	22	26	16	21	27		34		57	53	53	44	30	20	21	20	22		
	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	28	27	28	29	29	31	27	24	19	17	12	10	15	23	25	27	29	29	28	29	27	24
MED	16	16	15	15	16	16	16	16	18	22	30	34	33	36	46	36	26	20	17	17	16	16	16	16
U Q	16	17	16	17	18	17	21	18	21	27	34	35	47	44	52	52	34	24	20	18	17	18	17	17
L Q	15	15	15	15	15	15	15	15	17	20	24	28	30	30	33	26	21	18	15	15	15	15	15	14

HOURLY VALUES OF foF2 AT Okinawa

JUL. 2005

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	44	A	42	36	40	37	48	56	56	A			62	65	71	76	79	90	82	54	62	63	61	55
2	54	64			A	49	52	56	72	A	A	A	77	82		68	62	57	61	72	80	54	53	55
3	52	54	54	55	48	41	46	57	65	A	A	74		A	76	77		86	70	64	72	73	65	71
4	66	65	66	58	60	50	54	66	64	67		A	75	86	98	104	107	110	122	A	64	63	53	64
5	66	65	64	64	52		58	72	80	62		70	66	67	68	71	72	80	91	100	82	66		A
6	65	61	58	55	54	46	51	66	61	62		71	75	A	93	A	102	111	122	91	66	53	51	51
7	52	52	46	48	44	42	47	61	72	70		A		63	67	74	87	110	126	97	66	66	64	66
8	66	66	66	64	62	58	62	82	71	57	60		62	76	73	78	87	96	100	88	85	65	62	66
9	52	59	63	54	53	51	58	52	67	69		A	68	85	96	102	104	101	100	90	A	77	65	A
10	65	A	65	52	53	A			62				72	71	75	72	61	80	65	80	84	73	66	58
11	53	65	52	52	52	30			A	A	A	A	A	A					51	47	53	54		44
12	45	A	A	38	38	A	44	44	A	56	A	62	74	61		75	84	78	71	73	58		48	51
13	54	54	54	34	30	30		42					B	B			61	71	76	81	66	73	64	61
14	66	66	64	52	48	38	46	60	52	46				62	62	63	62	61	78	81	63	51	41	
15	46	44	43	42	42	29	38	52	52	58	A	A	61	71	68	66	69	63	67	72	59	50	44	42
16	42	36	37	32	34	34	40	54	62					62		57	77	90	70	57	58	52	54	54
17	60	54	46	44		36	41	65	64			A	A	A			74	74	74	78	66	61	53	51
18	52	52	44	42	44	40	A	51	56		44	A	57	69	71	61	66	76	67	66	66	54	51	40
19	38	37	34	30	34		36	53	57	50	A	A	A	A	73	78	71	72	90	85	66	53	50	44
20	41	44		39		A	34	64	50			A		62	62	70	81	78	86	85	66	52	52	53
21	46	43	38	29	34	32	44	56	51				A	82	98	82	66	64	70	90	53		54	52
22	50		42	34	29	31	44	55	42	37		61	67	66	74	80	91	98	101	80	53	48	48	42
23	51	44	41	35			45	58	51	A	A		58	62	72	90	107	106	99	102	88	52	50	42
24	41	38	37	36	32	32	38	56	A	A	56	A			75	78	90	87	83	73	65	65	54	48
25	46		42	32	36	34	54	56	51	52	44	52		60	67	68	81	90	100	88	39		37	32
26	36		30	30	31		40	57	64	67	61		75	A	86	106	122	128	120	107	88	66	63	52
27	51	46	41	36	36	32	42	61	60	58	60	A	A	A	B	82	87	A	90	88	73	66	53	60
28	54	51	52	46	47	46	54	71	54	65		A	A		81	85	80	102	122	110	66		34	A
29		32	32	35	A	A	38	61	62	A	62	66	61	71	91	96	106	102	90	88	77	79	72	65
30	54	73	53		44	41	44	55	61	52		66	66	68	92	111	98	86	71	63	65	49	49	46
31	44	47	44	44	37	40	46	70	63	54	41	64	84	98	111	114	98	91	90	86	78	74	66	54
	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	25	28	29	26	23	27	29	27	17	8	9	17	21	24	27	29	29	31	30	30	27	29	27
MED	52	52	45	42	43	38	45	57	61	58	58	66	67	68	74	78	81	87	86	83	66	63	53	52
U Q	54	64	56	52	52	46	52	64	64	66	60	70	75	79	91	90	98	101	100	90	77	66	63	60
L Q	45	44	41	34	34	32	40	54	52	52	44	61	61	62	69	70	70	75	70	72	62	52	49	44

HOURLY VALUES OF fEs AT Okinawa

JUL. 2005

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

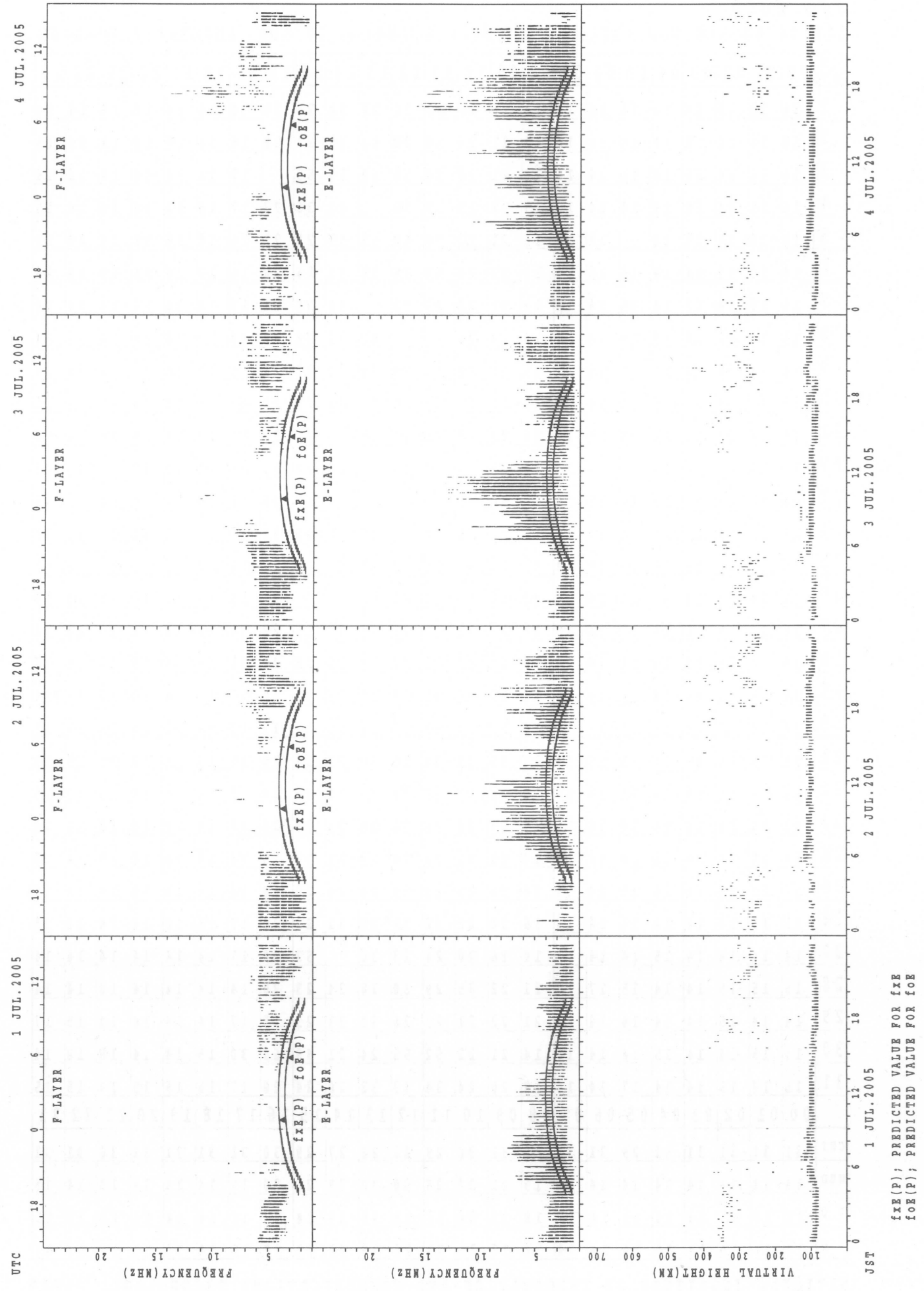
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	39	68	28	30	G	24	G	34	39	63	72	84	48	62	66	51	G	60	66	39	G	26	51	67
2	60	43		G	72	35	55	61	64	79	76	113	G	G	75	55	59	53	42	48	44	28	34	44
3	34	54	29	36	40	36	37	52	61	87	106	79	81	84	64	G	G		84		92	125	66	71
4	39	34	G	G	G	26	40	52	55	52	72	100	50	G	79	80	96	45	93	105	54	49	28	G
5	48	39	58	48	93		53	45	42	44	G	42	G	G	G	44	54	54	64	71	50	38	71	84
6	58	41	28	27	26	24	G	37	46	51	69	G	56	95	95	114	70	112	55	71	34	29	G	32
7	26	29	45	27	37	48	26		50	48	74	87	59	G	56	G	56	47	50	30	G	G	G	G
8	G	G	G	28	53	30	30	45	48		52		G	55	52	79	58	56	64	58	85	69	54	36
9	27	39	40	27	G	G		36	54	50	67	96	50	74	88	67	49	50	73	106	131	54		81
10	81	72	79	28	29	91	43	50	49	44	G	G	54	48	G	G	G	G	40	G	G	G	G	G
11	43	57	50	47	28	36	32	37	49	80	93	88	56	69			G	G	35	26	33	43	36	32
12	38	60	80	37	37	70	27	46	70	56	81	48	48	52	49	G	G	44	37	27	G		G	G
13	G	33	34	G	G	G	34	G		G	42		B	B		G	G	G	G	G	G	G	G	G
14	G	G	G	46	36	49	34	78	39	G	G	G		G	G	42	G	67	36	34	G	G	G	G
15	G	G	G	G	G	G	G	35	G	42	60	66	G	G	G	G	G	G	39	28	26	G	G	34
16	G	28	G	25	32	26	26	40	51	G		G	G	G	G	G	39	70	38	45	25	G	40	29
17	27	36	G	28	39	G	28	37	44	47	51	72	52	69	84	81	62	42	36	29	39	39	G	G
18	G	48	G	28	G	G	85	40	36	40	G	50	G	56	G	46	G	G	35	G	G	G	G	G
19	G	G	G	G	G		25	34	G	N	94	57	66	104	G	54	45	46	36	30	34	51	32	32
20	33		41	48	37	51	G	G	G	43	G	50	48	51	62	82	56	52	44	58	67	G	G	G
21	G	G	G	G	G	G	G	G	38	44	58	42	81	69	51	50	61	47	36		44	36	G	G
22	43	46	32	G	28	G	G	G	G	50	54	44	G	52	57	58	73	46	41	34	27	26	28	59
23	44	77	25	34	29	32	28	34	43	93	104	G	56	46	G	60	71	39	33	26	11	G	G	32
24	36	29	31	G	25	G	29	53	127	45	44	70	46	G	G	G	47	41	51	27	26	G	37	37
25	36	G	G	39	30	G	27	89	36	38	50	44	48	45	52	52	G	G	50	31	11	39	30	38
26	33	48	34	G	G	48	34	48	56	40	G	44	56	103	62	64	57	50	G	G	G	G	40	G
27	G	G	G	G	G	G	50	40	G	G	G	86	101	84	B	G	53	150	94	49	36	49	34	27
28	G	G	G	26	34	G	G	35	36	G	51	58	50	G	47	G	G	G	50	48	33	28	G	68
29	52	28	29	27	45	29	28	G	103	56	45	66	G	G	G	G	G	G	46	29	34	G	G	G
30	G	G	34	32	G	26	28	G	40	G	43	G	G	G	G	G	G	94	58	50	28	34	G	43
31	37		G	G	28	28	25	51	38	G	G	G	48	48	47	78	G	G	G	G	G	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	29	30	31	31	29	30	30	30	29	30	29	29	30	28	30	31	30	31	29	31	30	30	31
MED	33	34	28	27	28	26	28	38	44	44	52	50	48	50	50	48	45	46	42	31	28	27	G	32
U Q	43	48	34	34	37	36	34	50	54	54	72	81	56	69	63	64	58	54	58	49	44	39	36	43
L Q	G	G	G	G	G	G	25	34	36	19	G	21	G	G	G	G	G	G	36	26	G	G	G	G

HOURLY VALUES OF fmin AT Okinawa

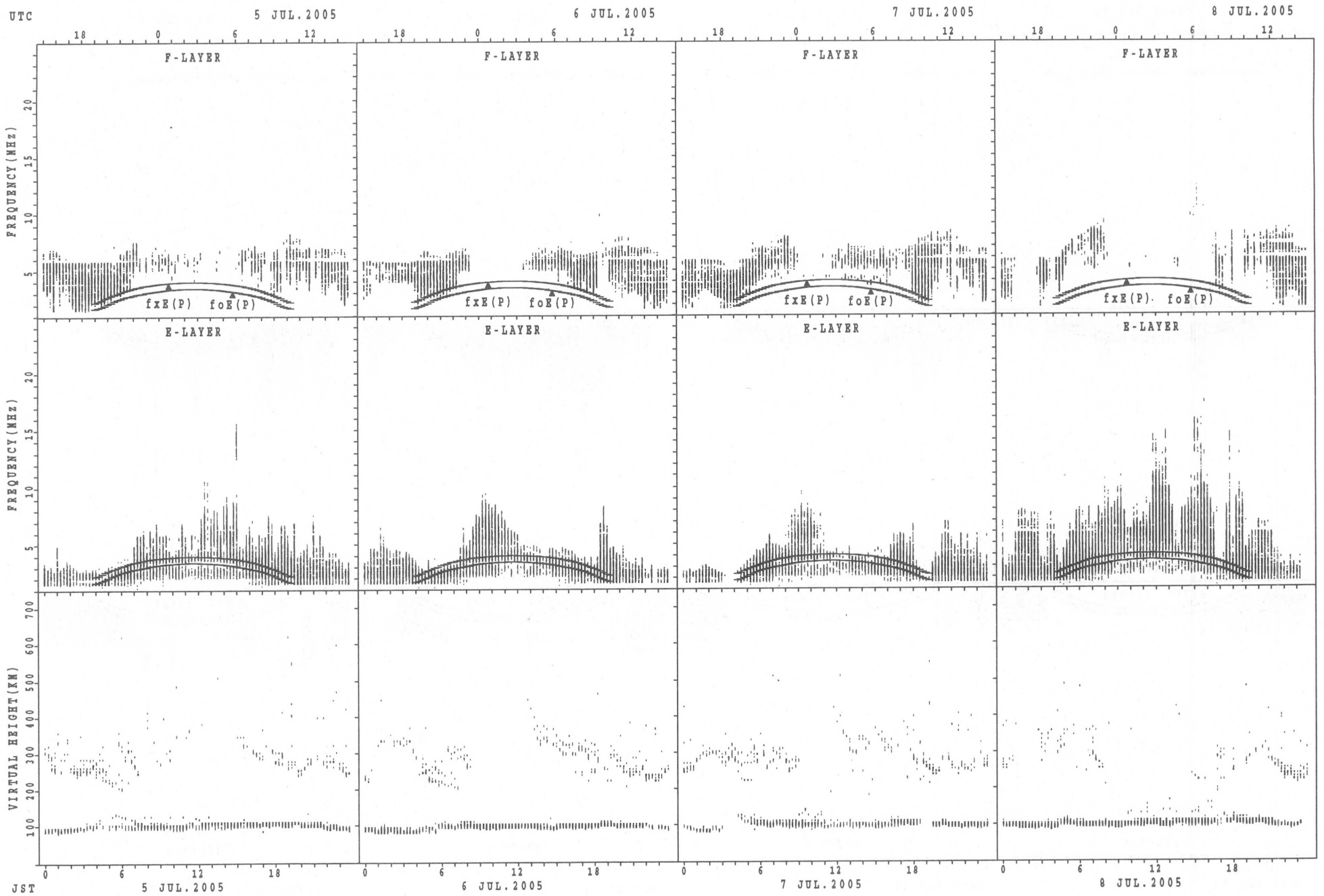
JUL. 2005

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	15	14	14	14	14	16	14	14	16	18	30	26	28	34	23	20	14	14	14	14	14	14	14
2	14	14	14	14	14	14	14	14	17	21	23	28	29	52	39	27	20	16	14	14	14	14	15	15
3	14	14	14	14	14	14	14	14	14	21	23	34	30	30	35	53		17	14	14	14	14	14	14
4	14	15	14	15	14	14	14	16	15	22	23	39	38		42	36	22	17	14	14	14	14	14	15
5	14	14	14	14	14		14	14	15	21	27	28	40	53	53	29	21	16	14	14	14	14	14	14
6	14	14	15	14	14	14	15	14	17	22	24	52	36	35	32	24	20	16	15	14	14	14	14	14
7	14	15	14	14	14	15	14	14	14	21	28	23	23		40	36	21	17	14	14	14	14	14	16
8	15	15	15	14	14	14	14	14	15	23	24			42	39	36	22	20	14	14	14	14	14	14
9	14	14	14	14	16	15	14	14	15	18	21	24	38	39	40	23	21	15	14	14	15	14	14	14
10	15	14	14	14	14	14	14	22	17	20	22	30	29	30	51	27	22	17	14	18	14	17	15	15
11	14	14	14	14	14	14	14	14	15	22	24	38	36	38			22	15	14	14	14	16	14	14
12	14	14	14	14	14	14	14	14	18	21	21	30	28	28	28	28	33	21	14	14	14		14	15
13	15	14	14	15	14	16	15	14		24	21		B	B		81	45	16	14	18	14	14	15	15
14	15	15	15	14	14	14	14	16	18	21	71	81		35	30	30	91	27	15	14	14	15	15	23
15	14	17	15	15	14	14	18	14	41	18	23	29	52	28	28	26	21	14	14	14	14	15	15	14
16	14	14	14	14	14	15	14	16	22	43		47	47	48			21	15	14	14	14	15	14	14
17	14	14	15	14	14	17	14	15	18	22	22	27	28	28	29	23	22	17	14	14	14	16	14	16
18	15	14	15	14	14	14	14	14	16	17	23	22	22	30	22	23	20	16	15	16	15	14	15	14
19	15	15	15	15	14		14	14	14	15	20	22	23	27	24	32	18	17	14	14	14	14	14	15
20	14	14	14	14	14	14	14	14	14	15	16	20	24	21	22	21	17	17	14	14	14	15	15	15
21	15	15	15	15	14	15	16	14	15	15	21	24	26	30	23	27	20	17	15	14	14	15	15	15
22	14	14	14	16	14	15	15	14	14	16	17	38	49	28	36	22	20	17	14	14	14	15	15	15
23	15	14	14	14	14	14	14	15	14	17	24	26	28	28	23	23	20	18	14	14	14	14	15	14
24	14	15	14	14	14	14	14	14	14	15	21	23	24	23	21	17	15	14	14	14	14	15	14	14
25	14	21	15	14	14	15	14	14	14	20	23	23	39	24	24	20	18	14	14	14	14	14	14	15
26	15	15	14	14	14	14	14	14	16	20	22	22	32	26	32	22	20	17	14	18	14	14	14	15
27	14	14	14	14	15	14	14	14	14	16	20	24	23	30	B	53	30	17	14	14	14	14	14	14
28	15	15	15	14	14	15	17	14	21	22	35	29	30	28	24	23	20	14	14	14	14	14	14	14
29	14	14	15	14	14	14	14	32	21	22	21	28	28	30	23	23	15	17	14	14	14	14	15	17
30	14	15	14	14	15	14	14	14	14	21	22	52	53	24	21	49	69	30	15	14	14	18	18	14
31	15	14	15	14	14	17	14	14	18	20	24	34	33	32	28	24	20	17	15	16	15	14	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	29	31	31	30	31	30	29	28	28	27	29	30	31	31	31	31	30	31	31
MED	14	14	14	14	14	14	14	14	15	21	22	28	30	30	29	26	20	17	14	14	14	14	14	15
U Q	15	15	15	14	14	15	14	14	18	22	24	36	38	35	39	34	22	17	14	14	14	15	15	15
L Q	14	14	14	14	14	14	14	14	14	17	21	23	26	28	23	23	20	15	14	14	14	14	14	14

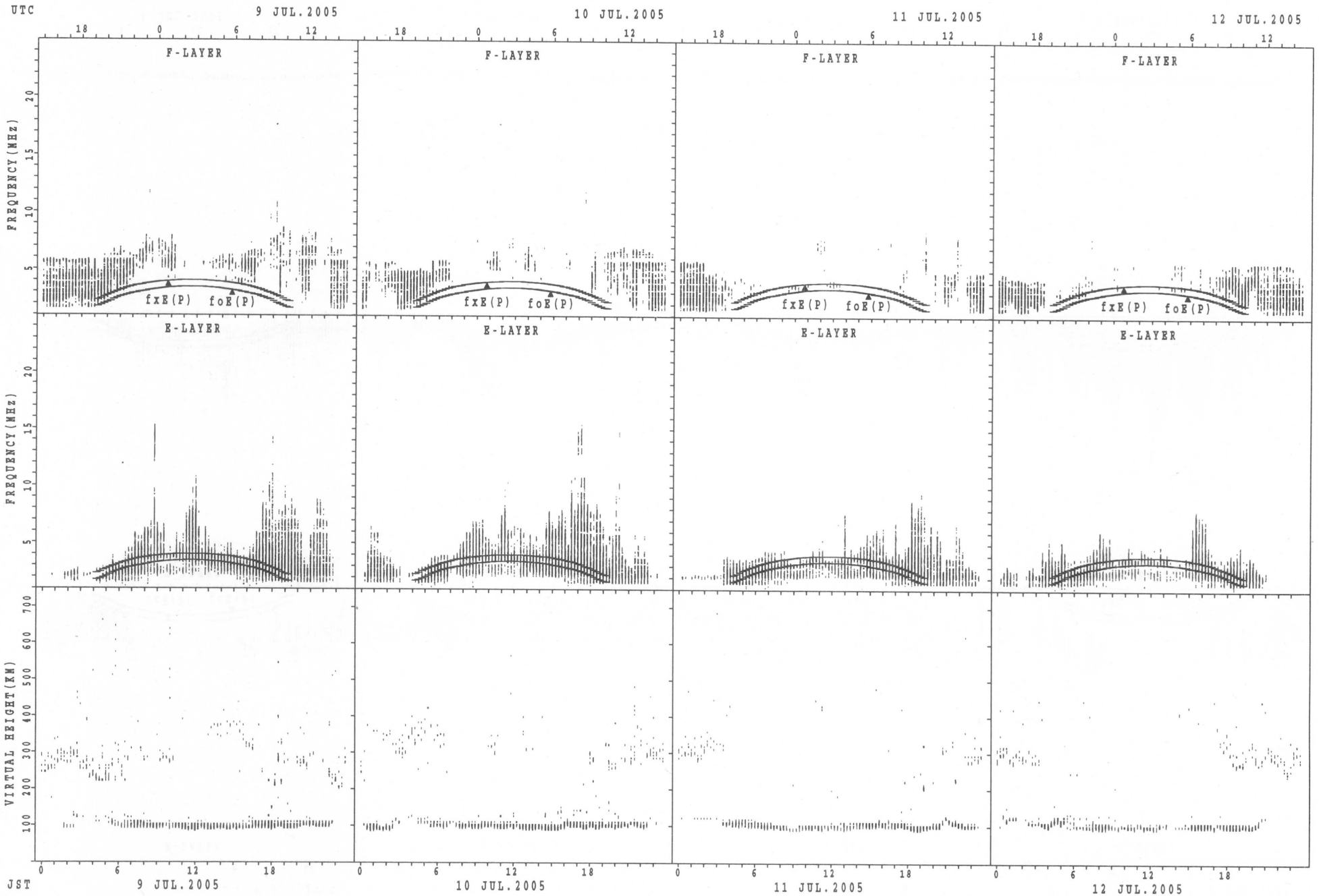

SUMMARY PLOTS AT Wakkanai
UTC
JST
1 JUL.2005
2 JUL.2005
3 JUL.2005
4 JUL.2005
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



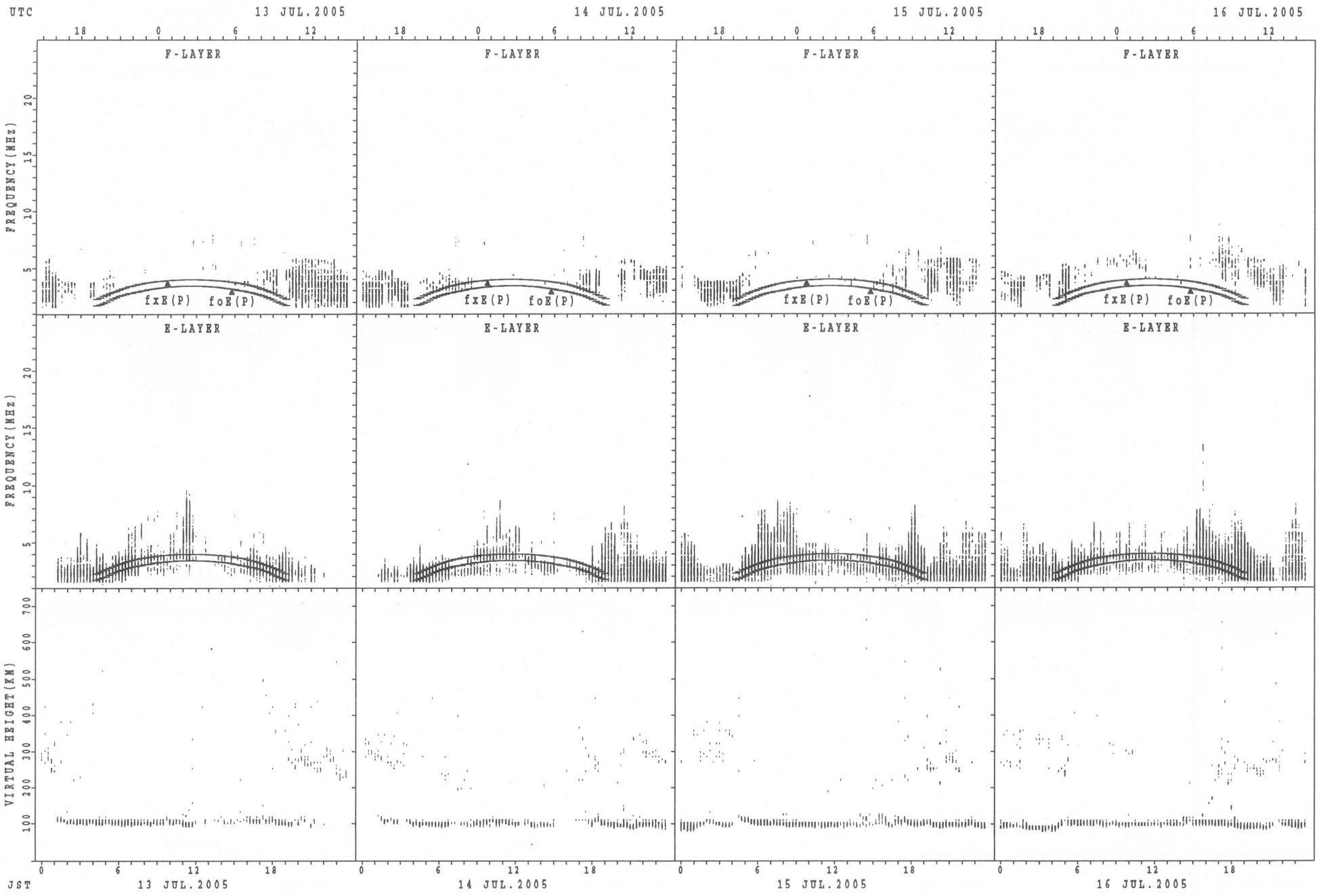
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



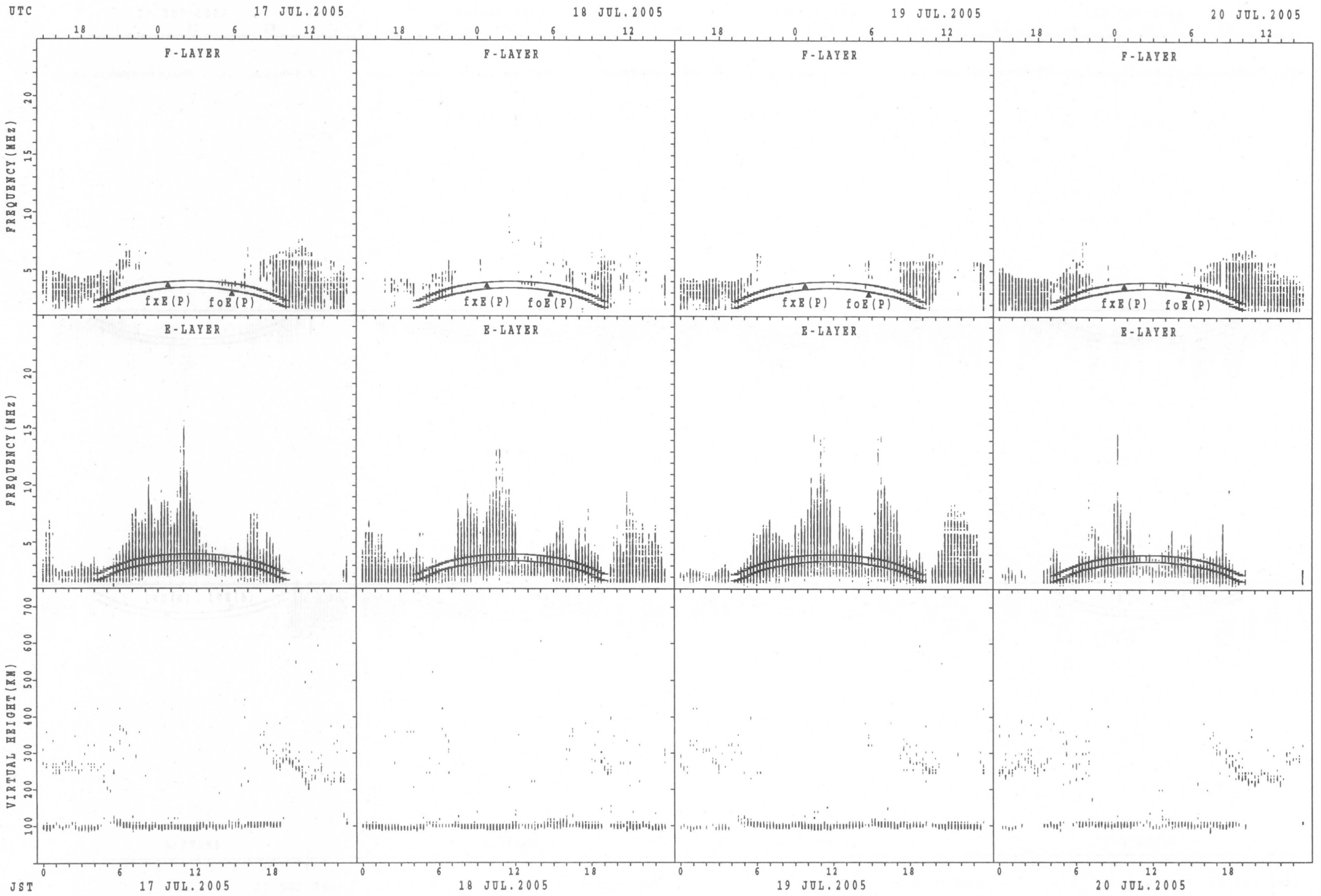
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



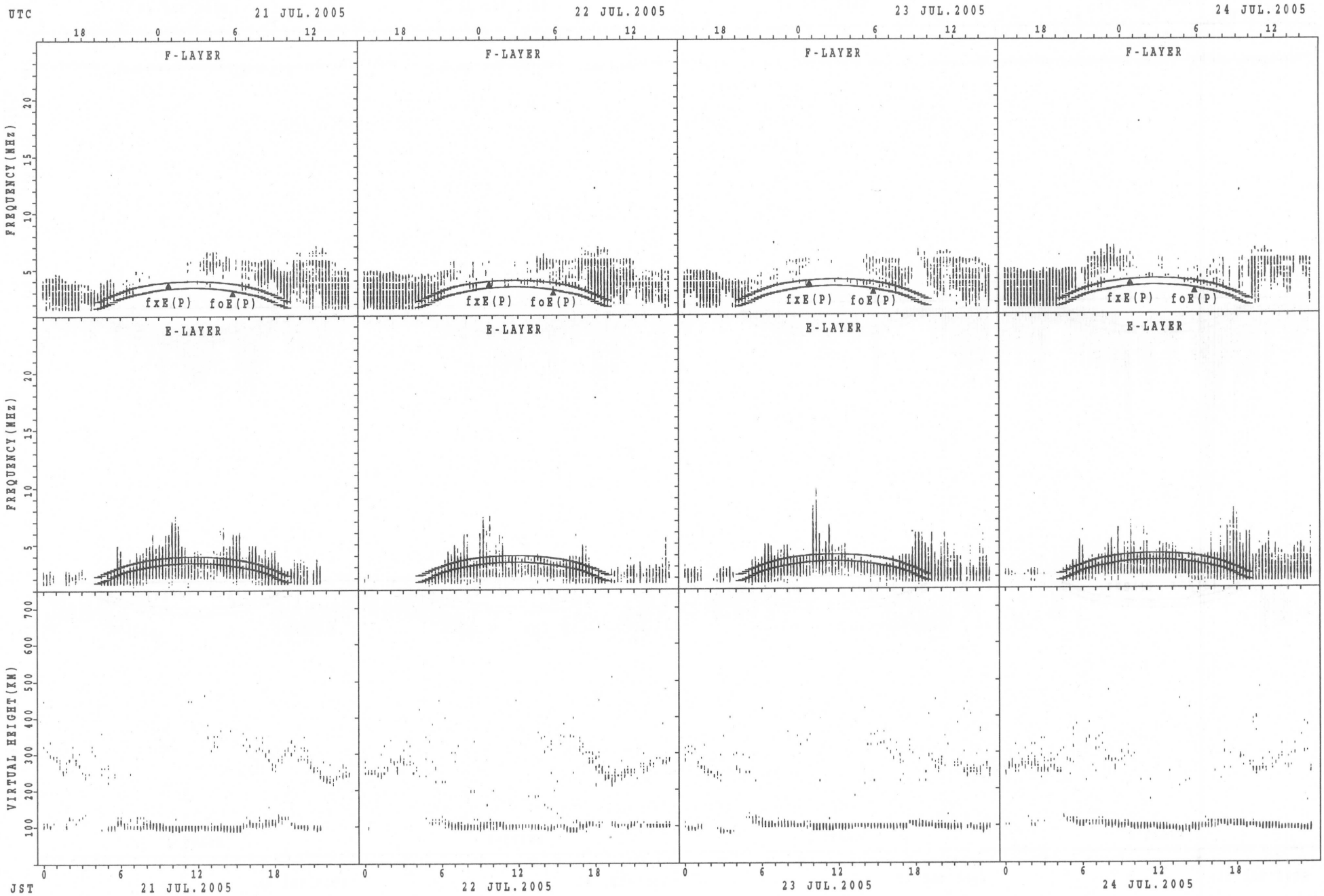
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



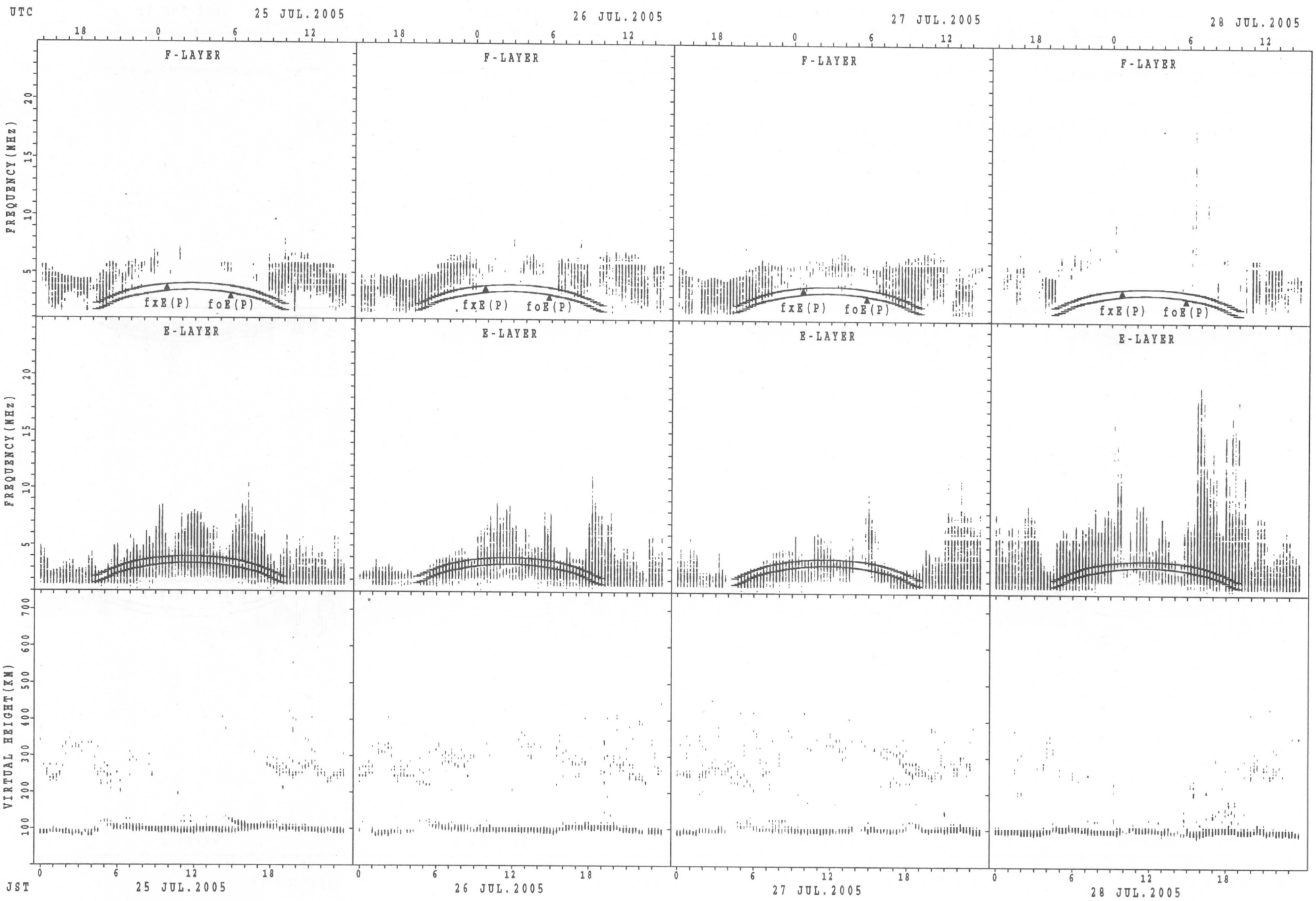
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



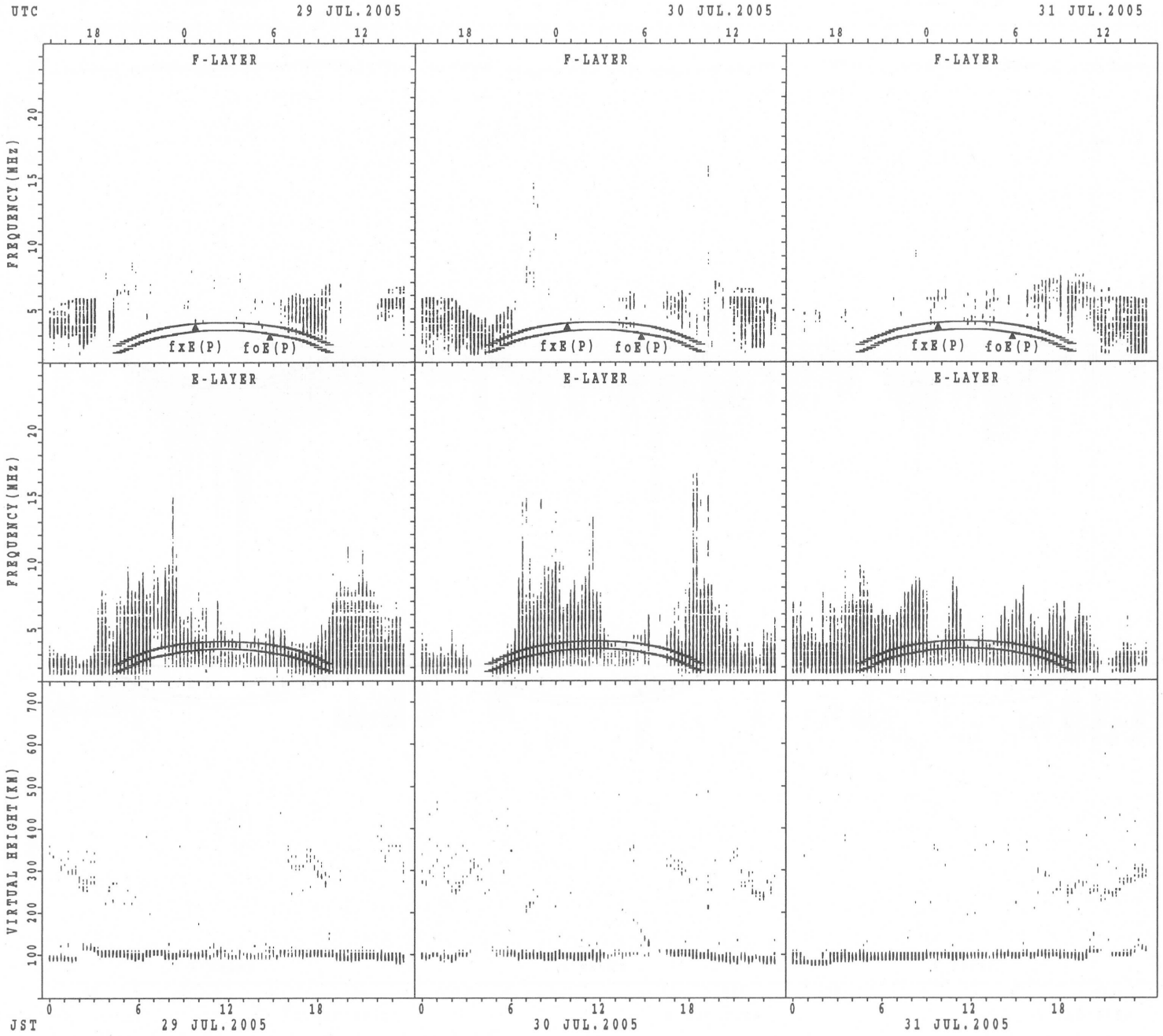
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



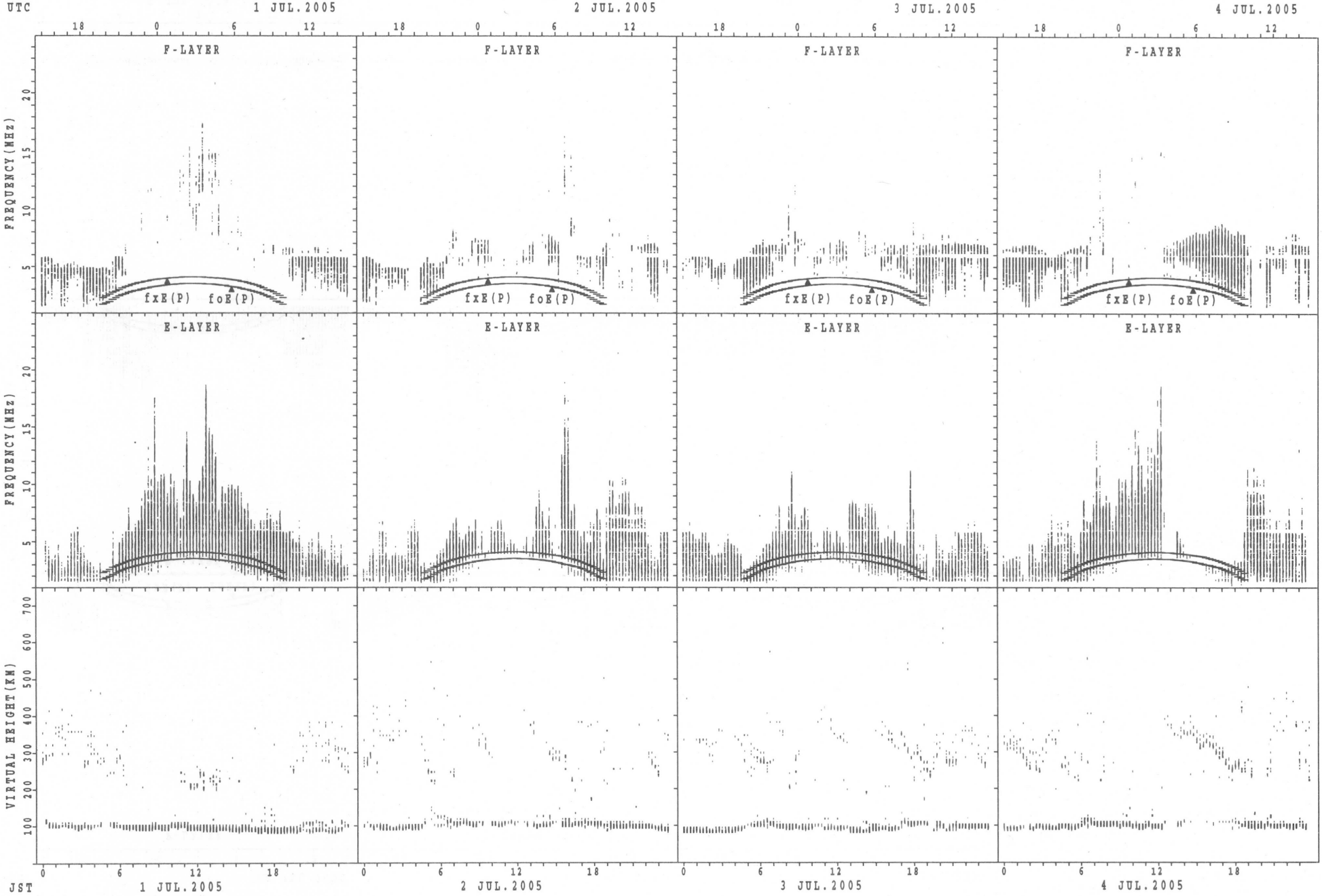
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



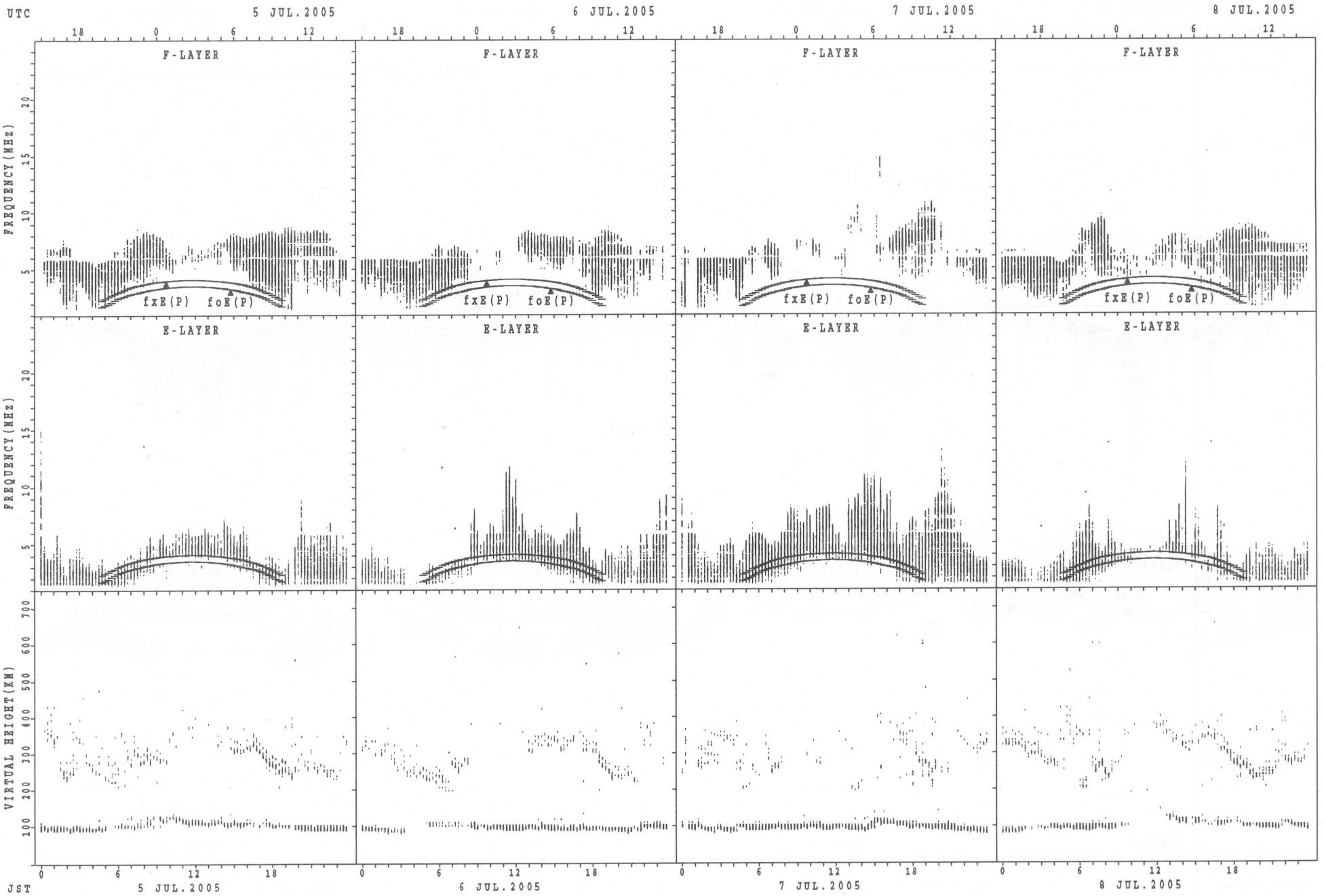
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

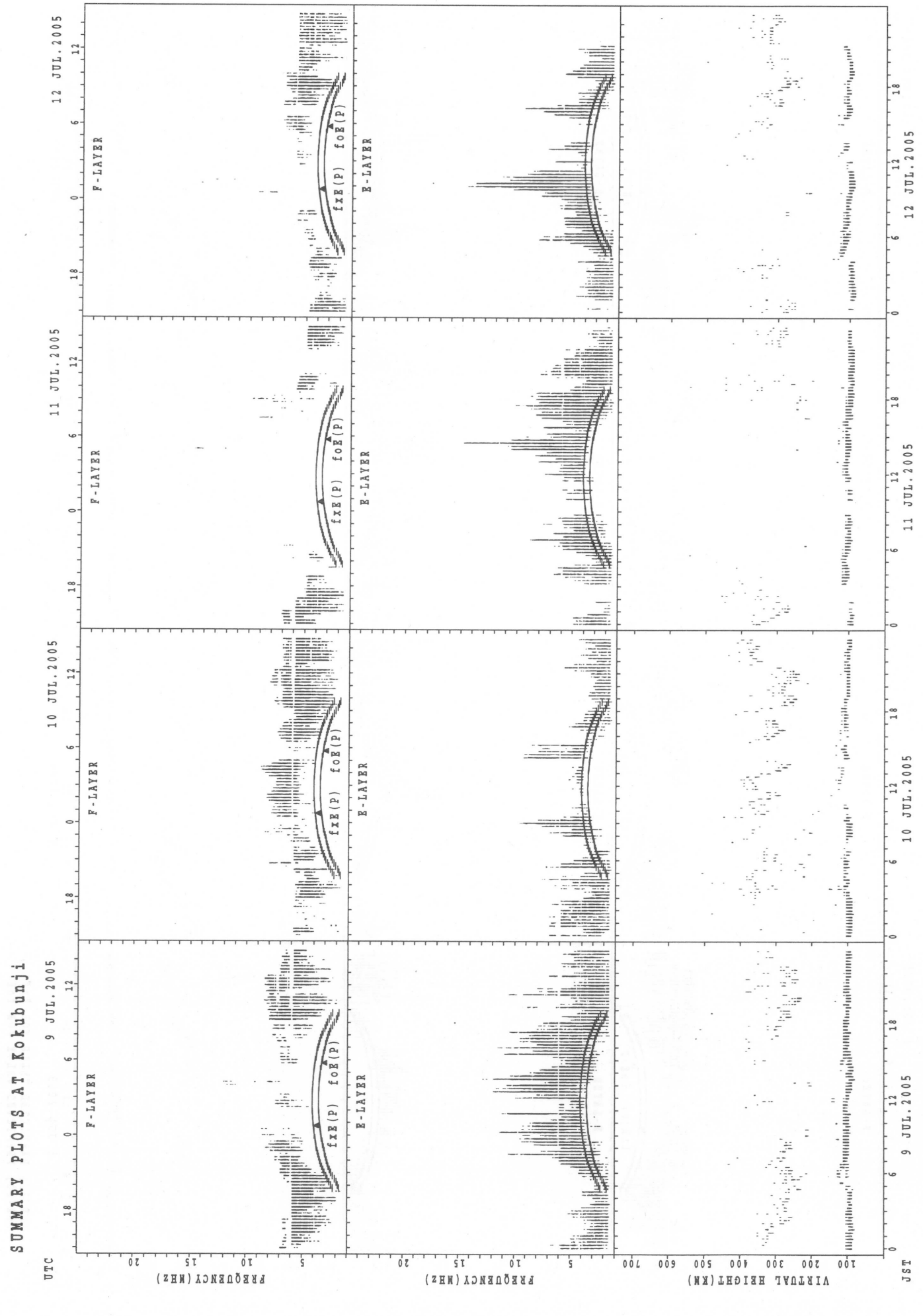


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

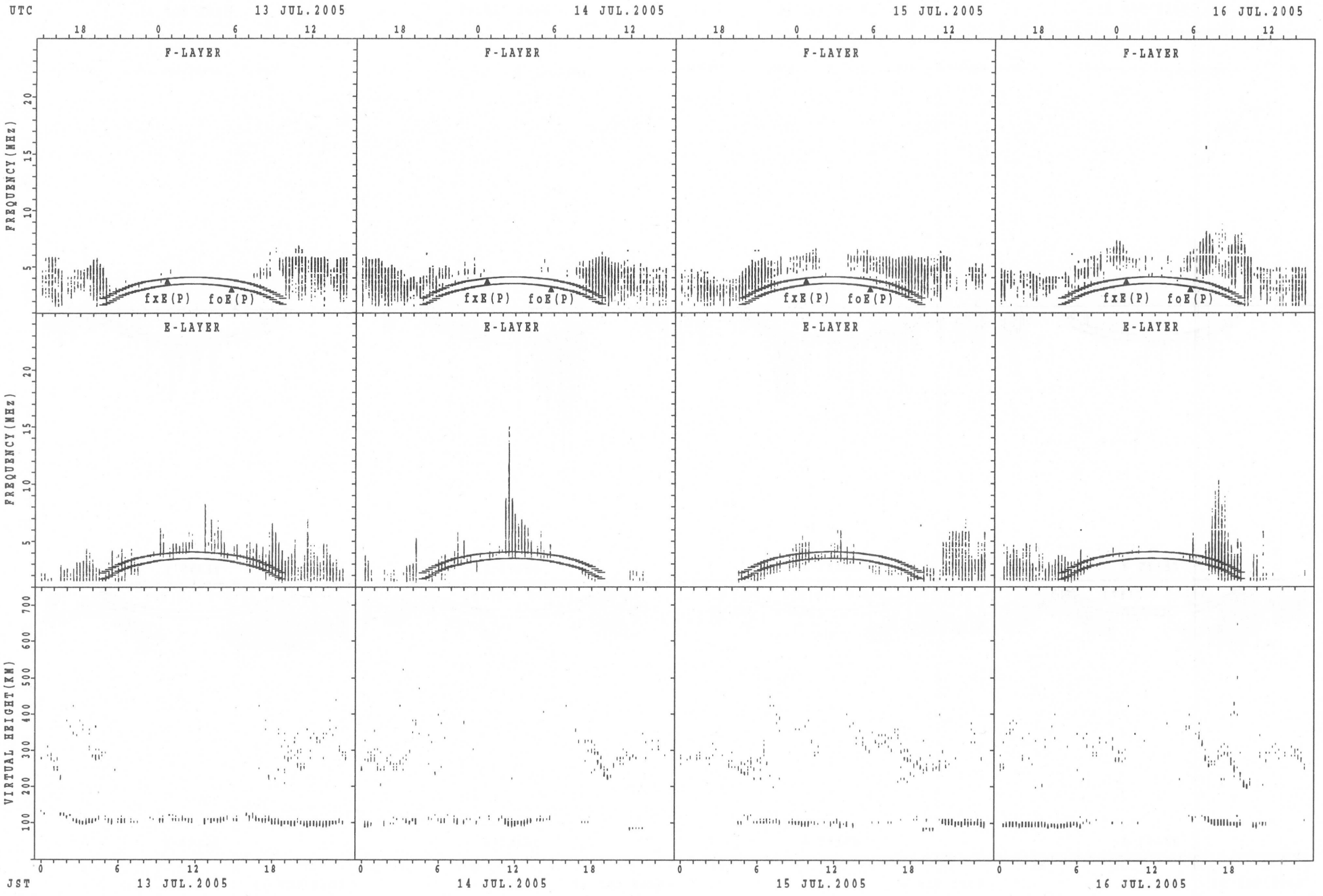
SUMMARY PLOTS AT Kokubunji



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

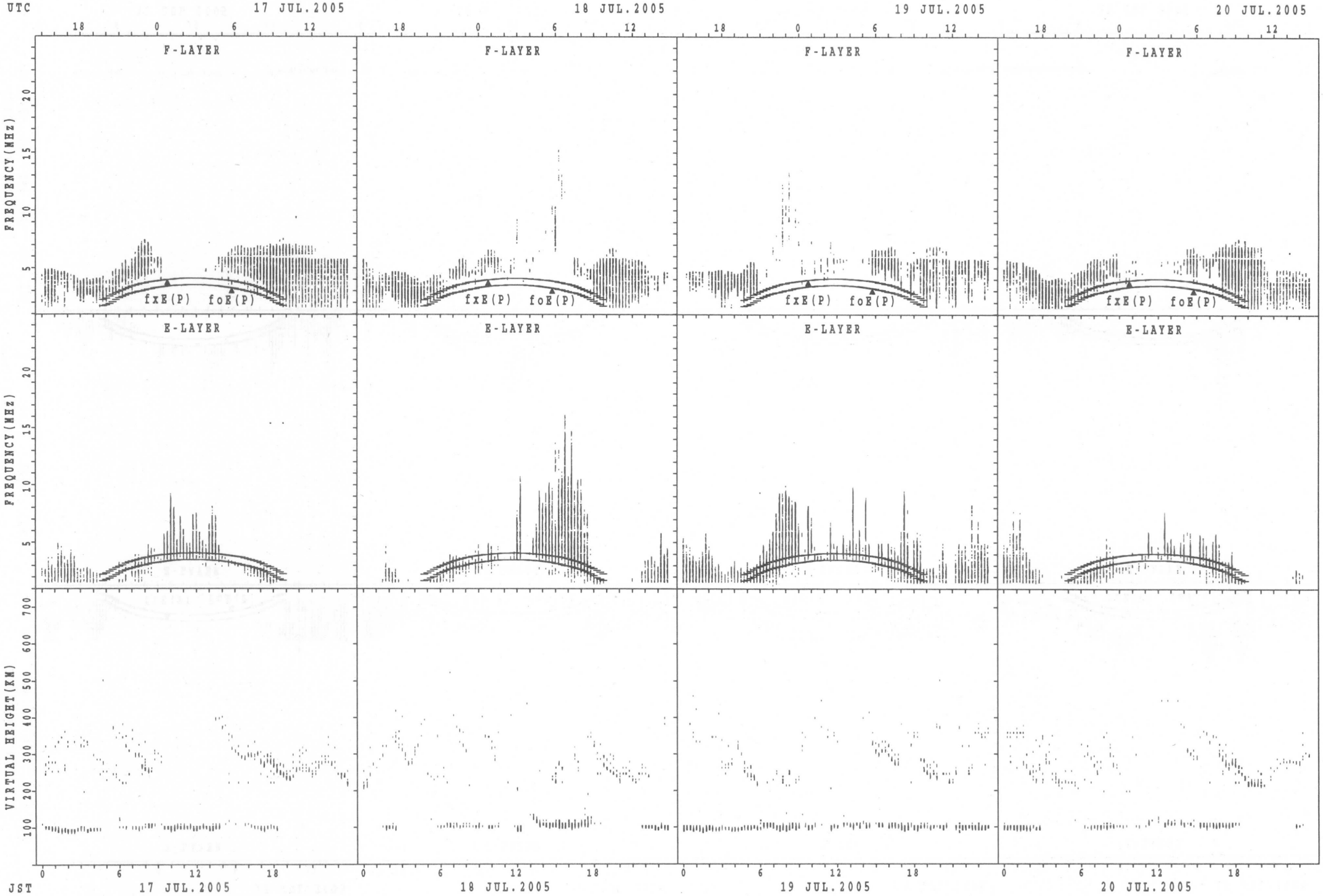

SUMMARY PLOTS AT Kokubunji
UTC
JST
9 JUL.2005
10 JUL.2005
11 JUL.2005
12 JUL.2005
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



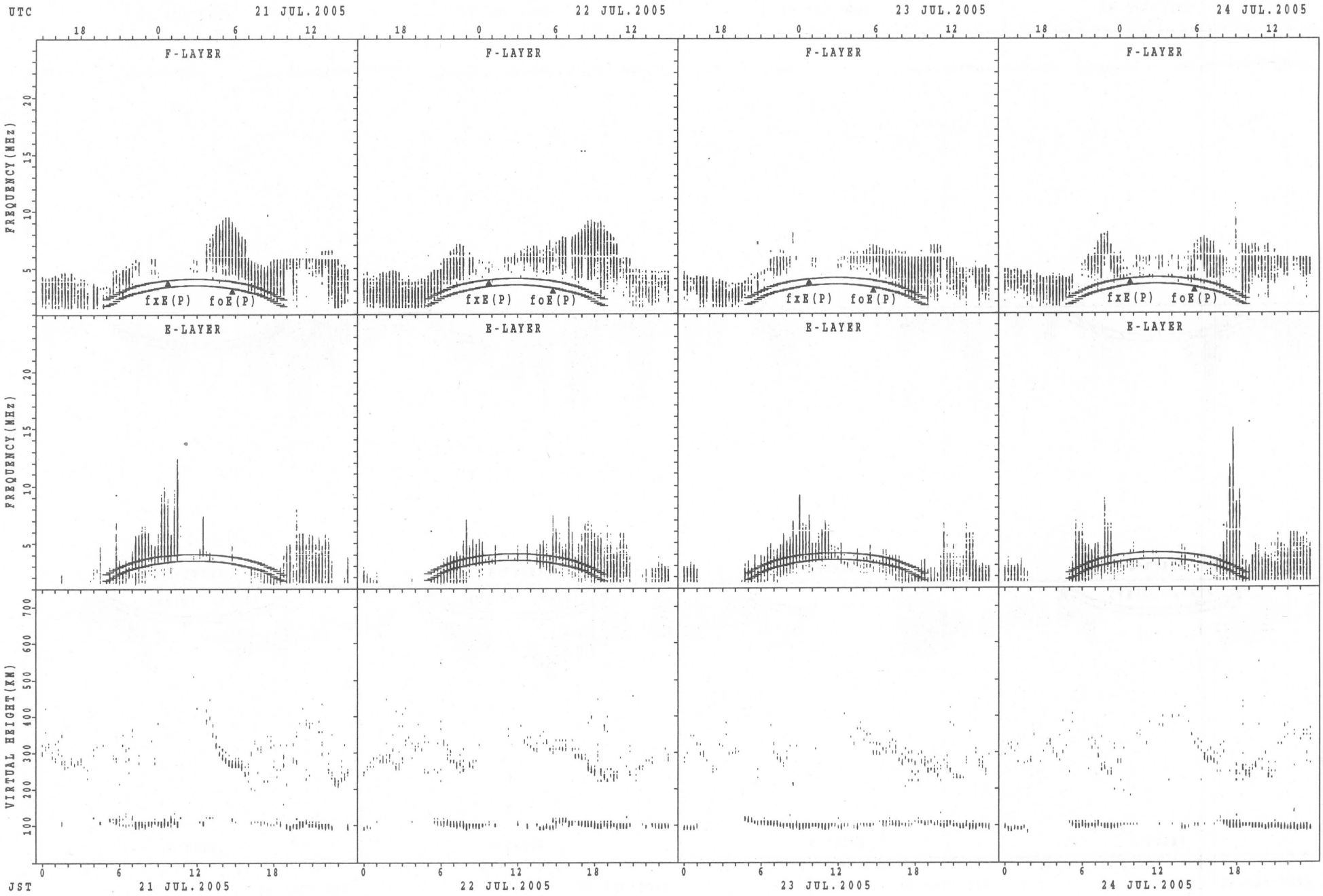
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



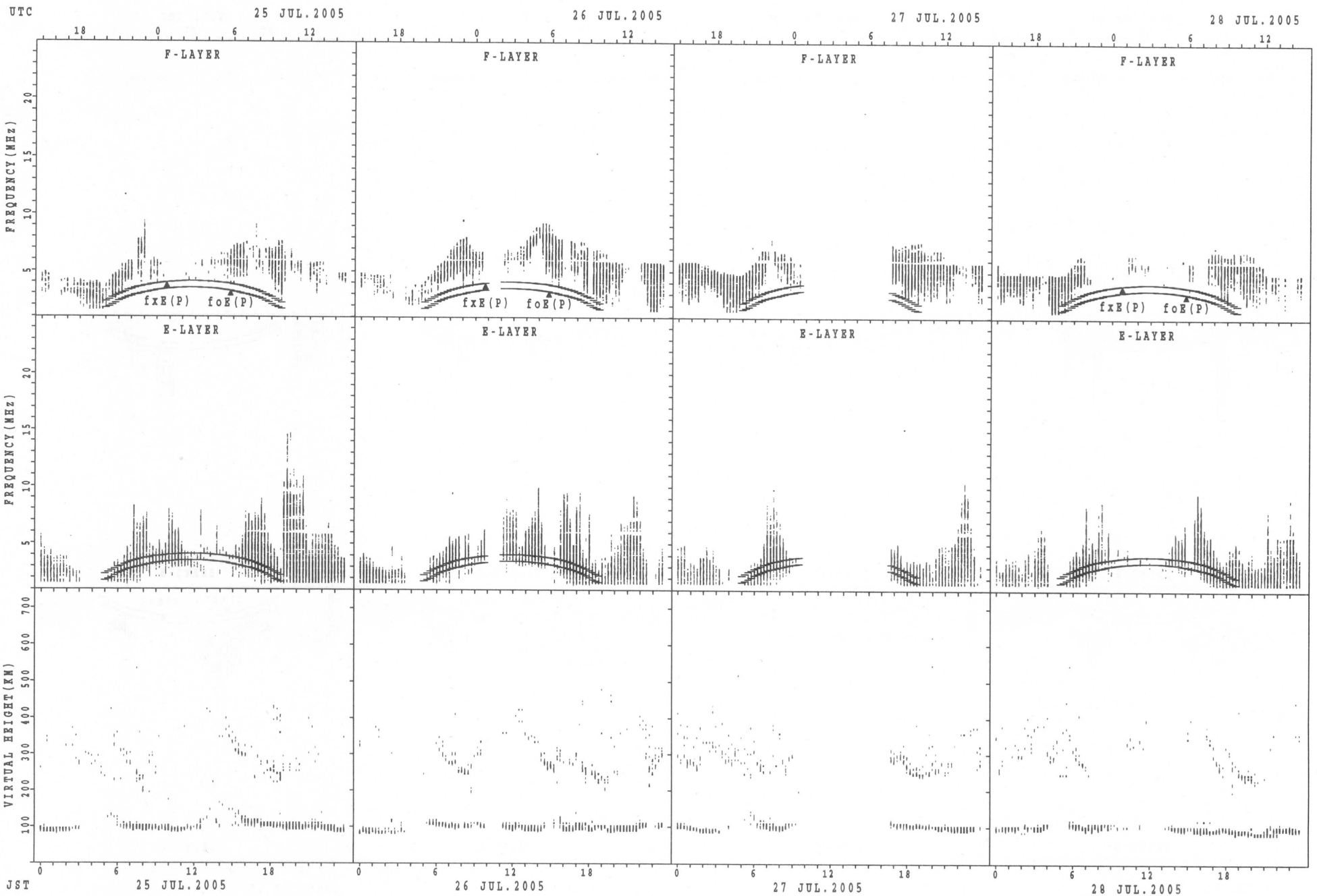
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



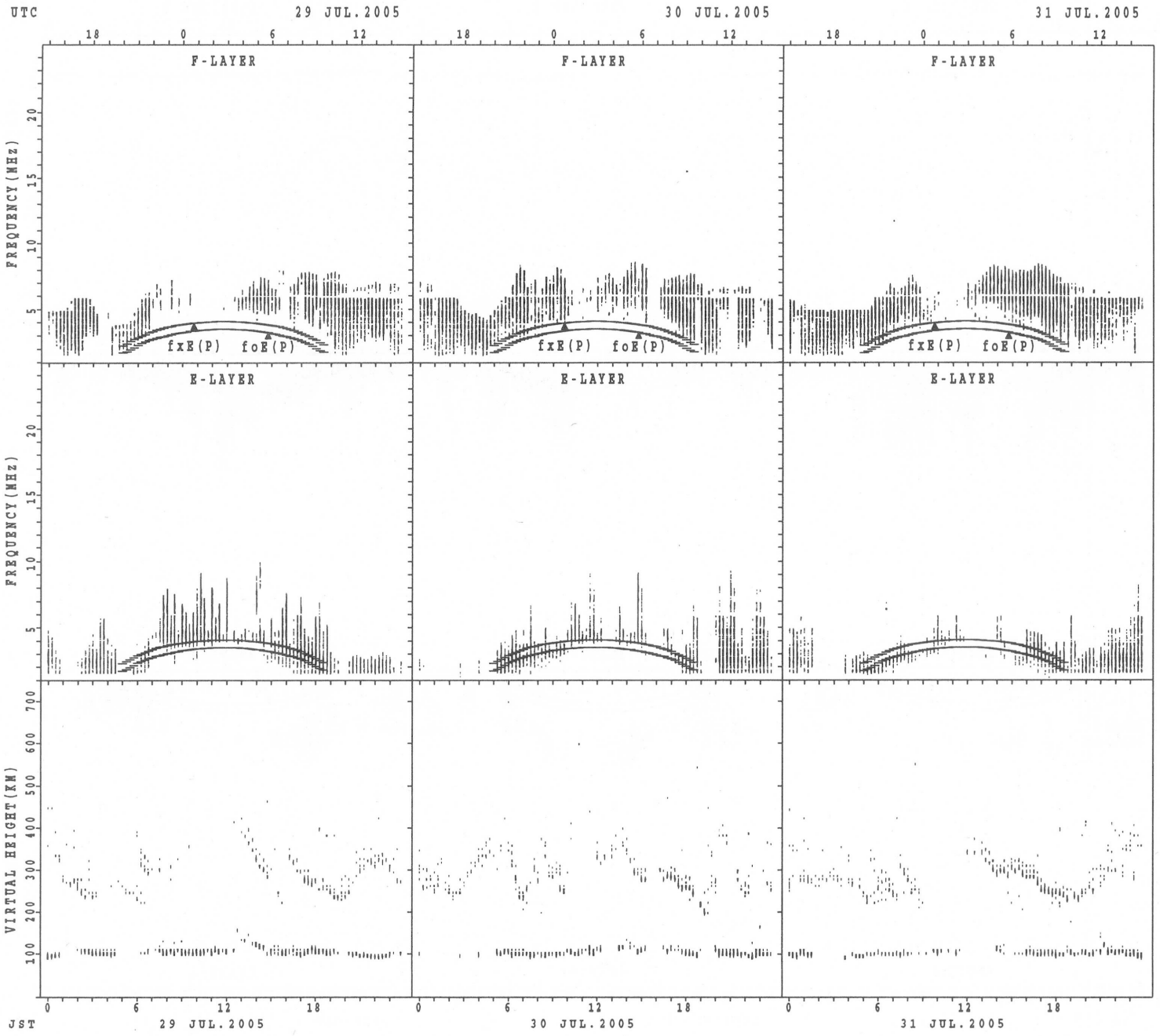
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



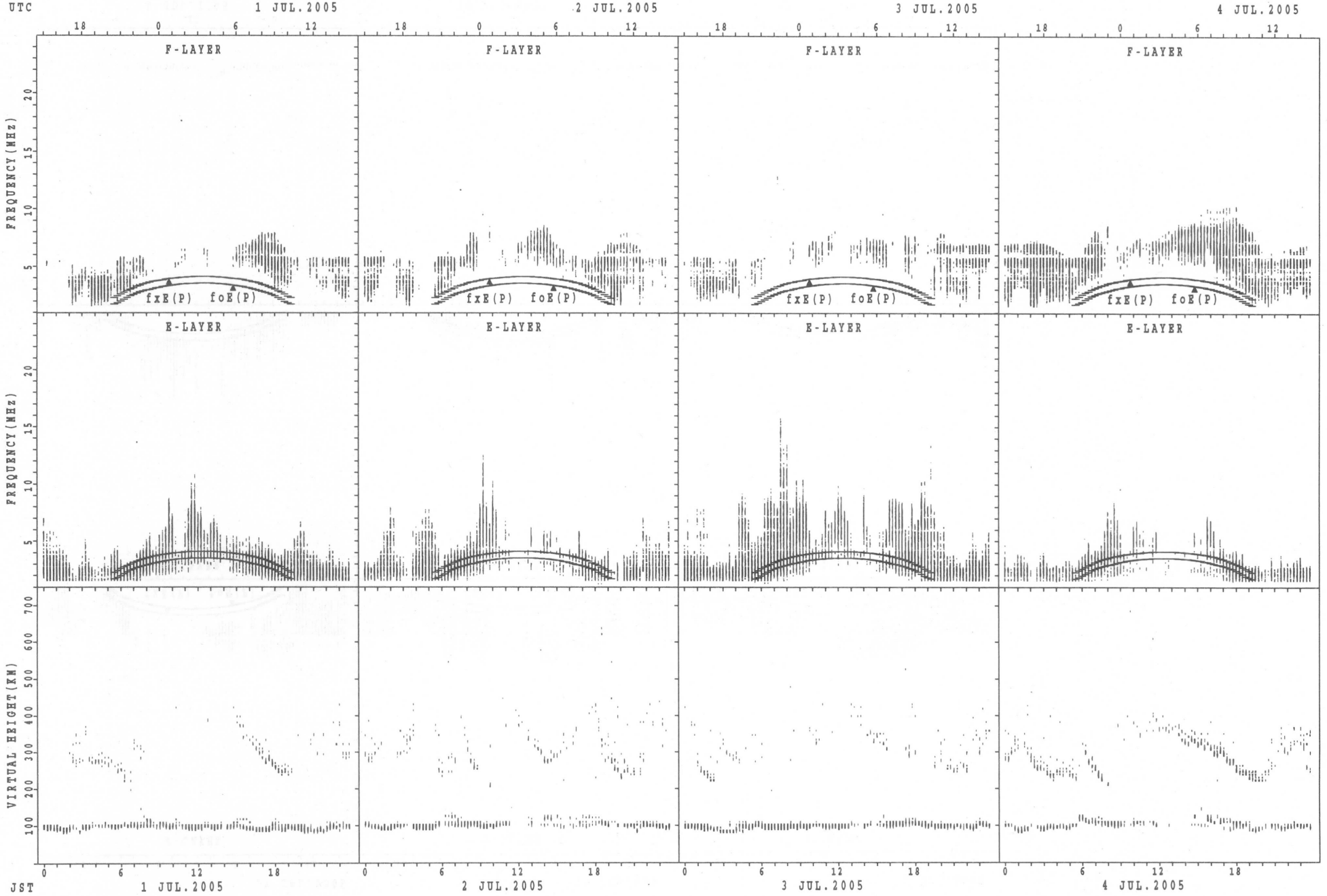
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



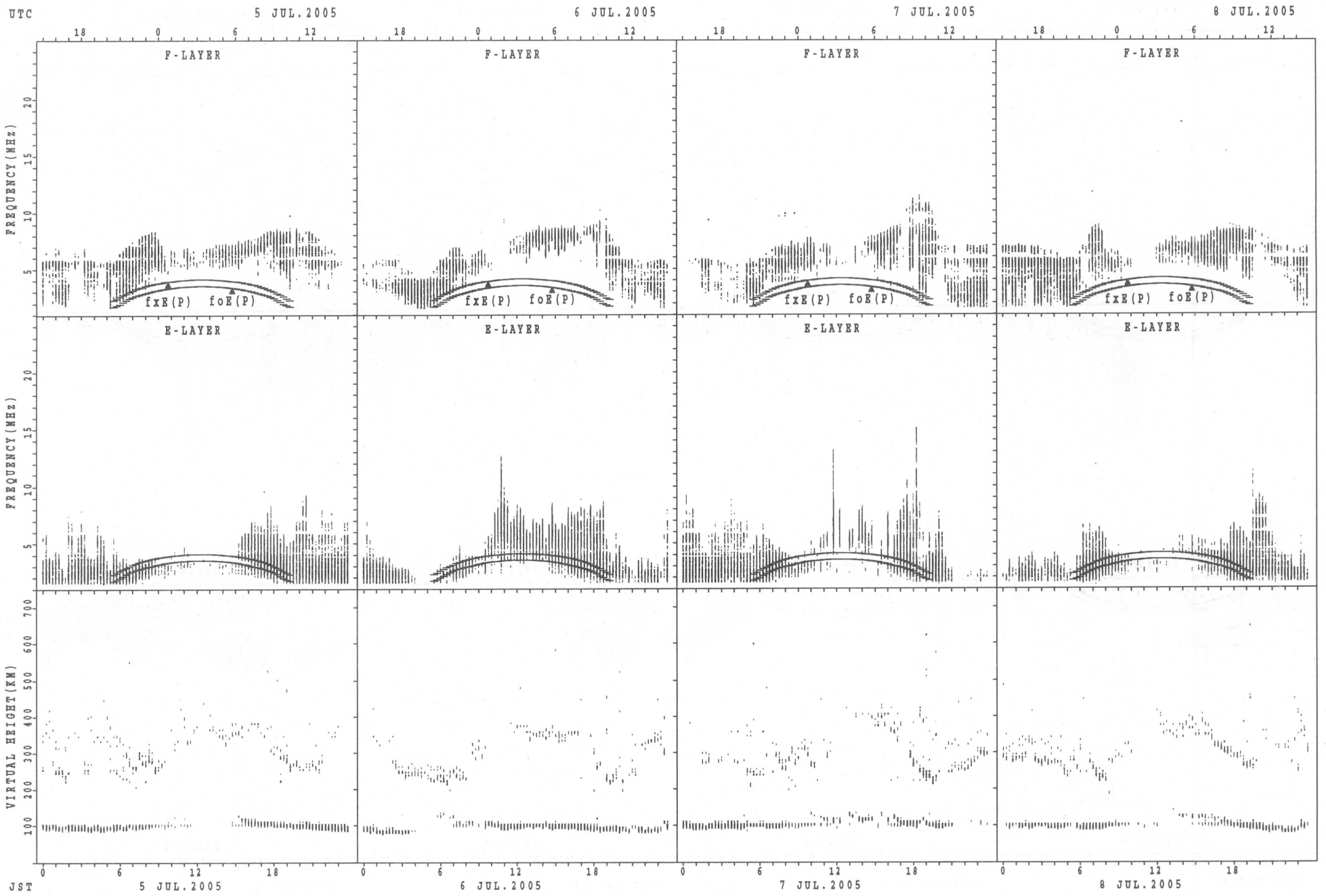
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



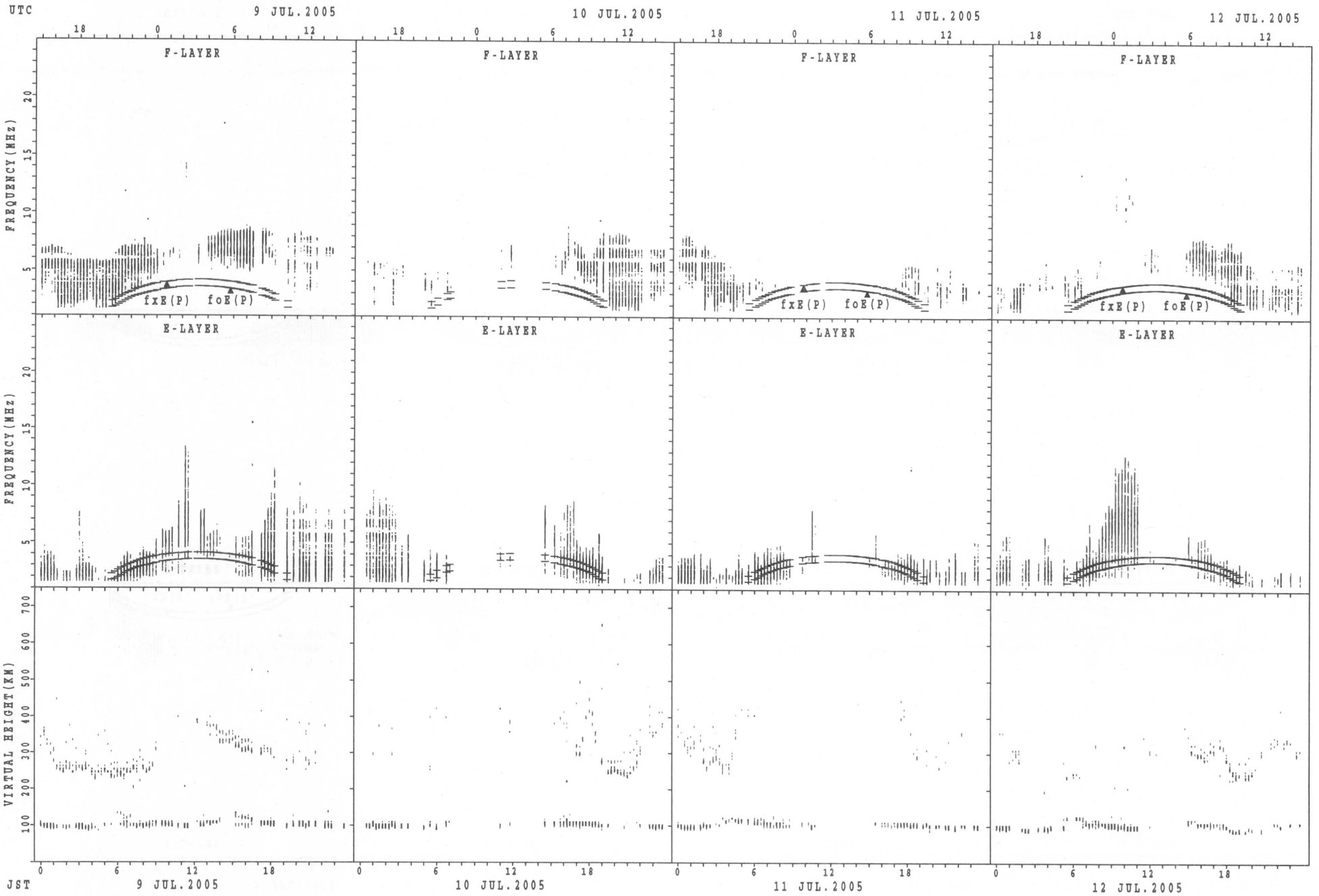
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



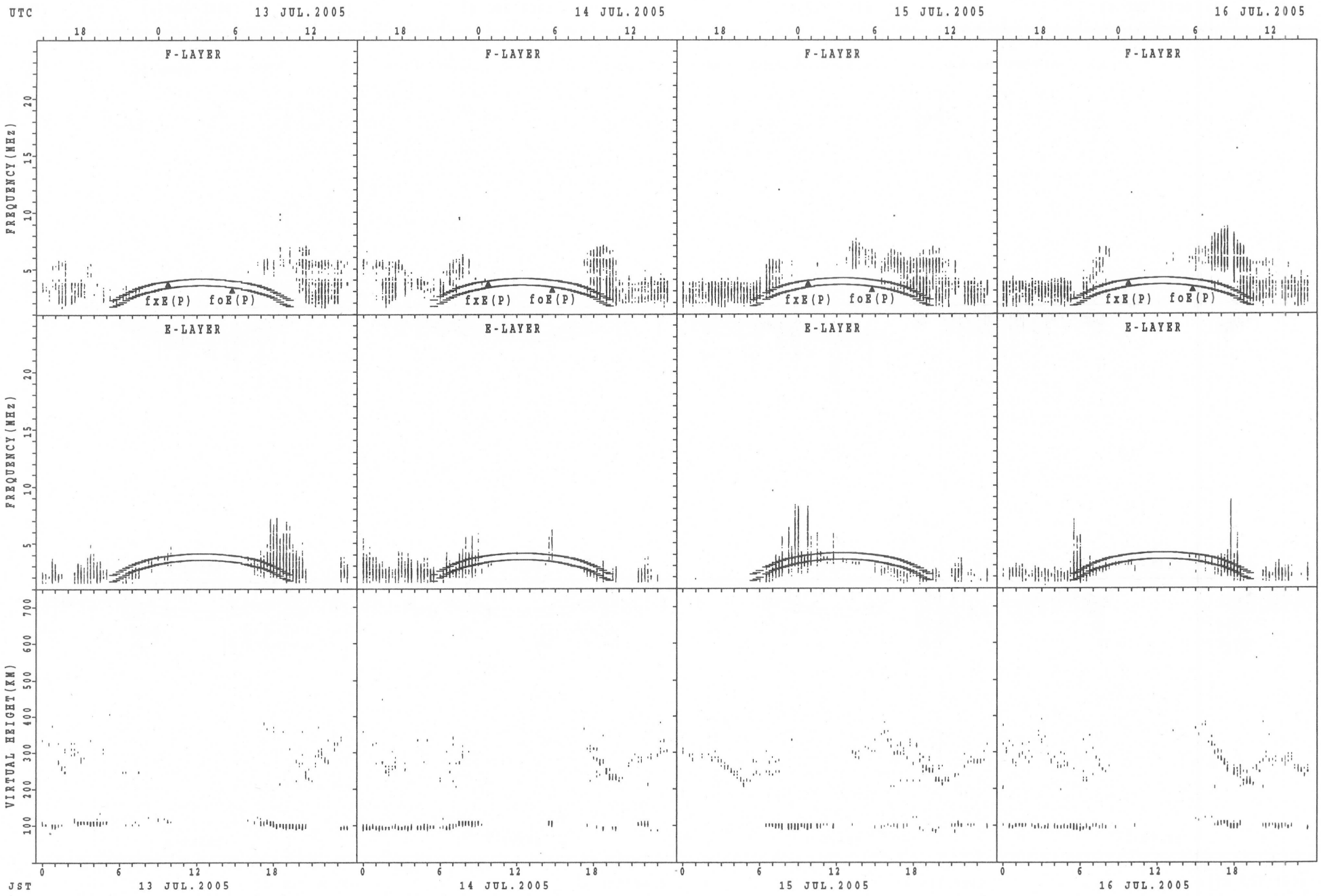
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



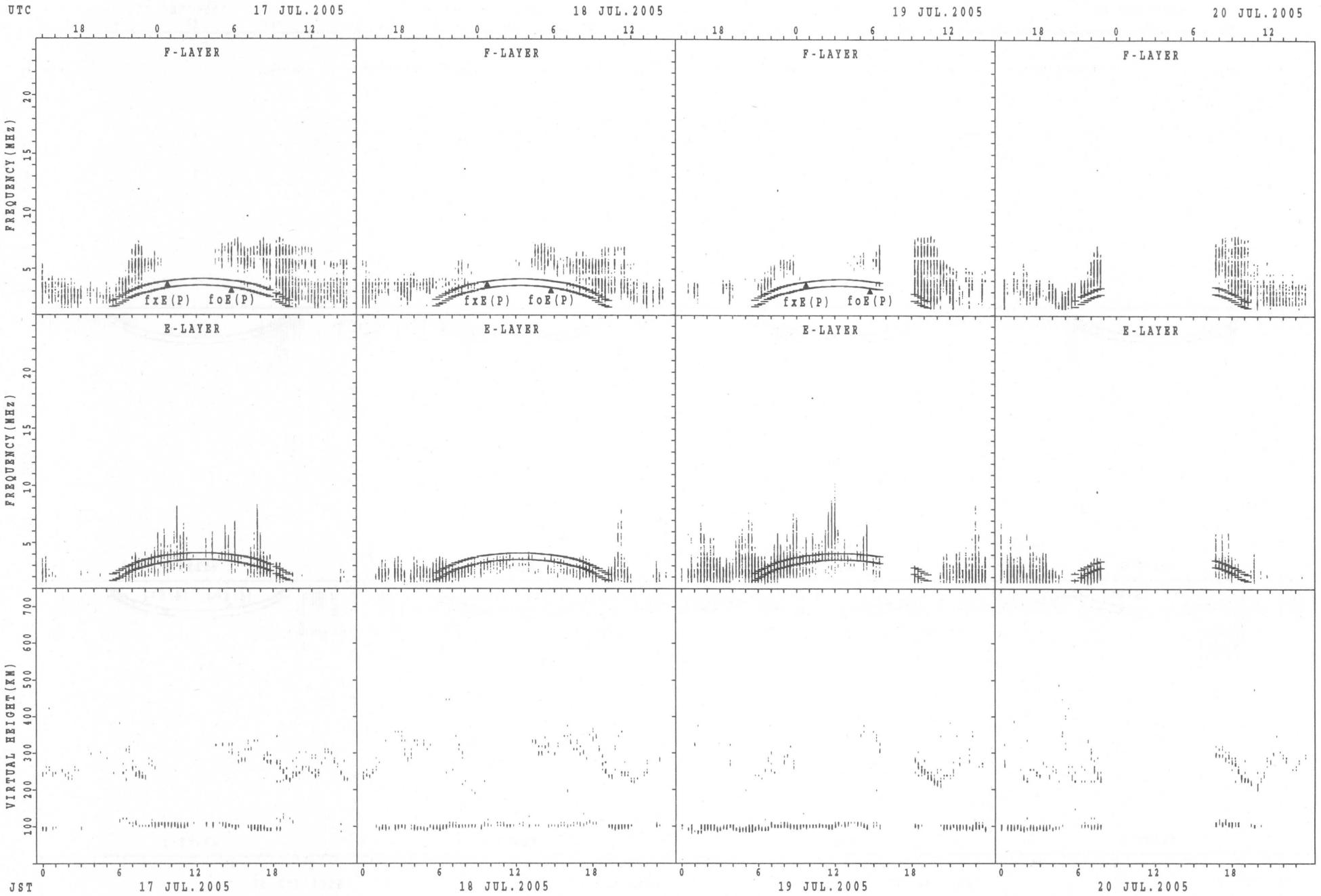
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



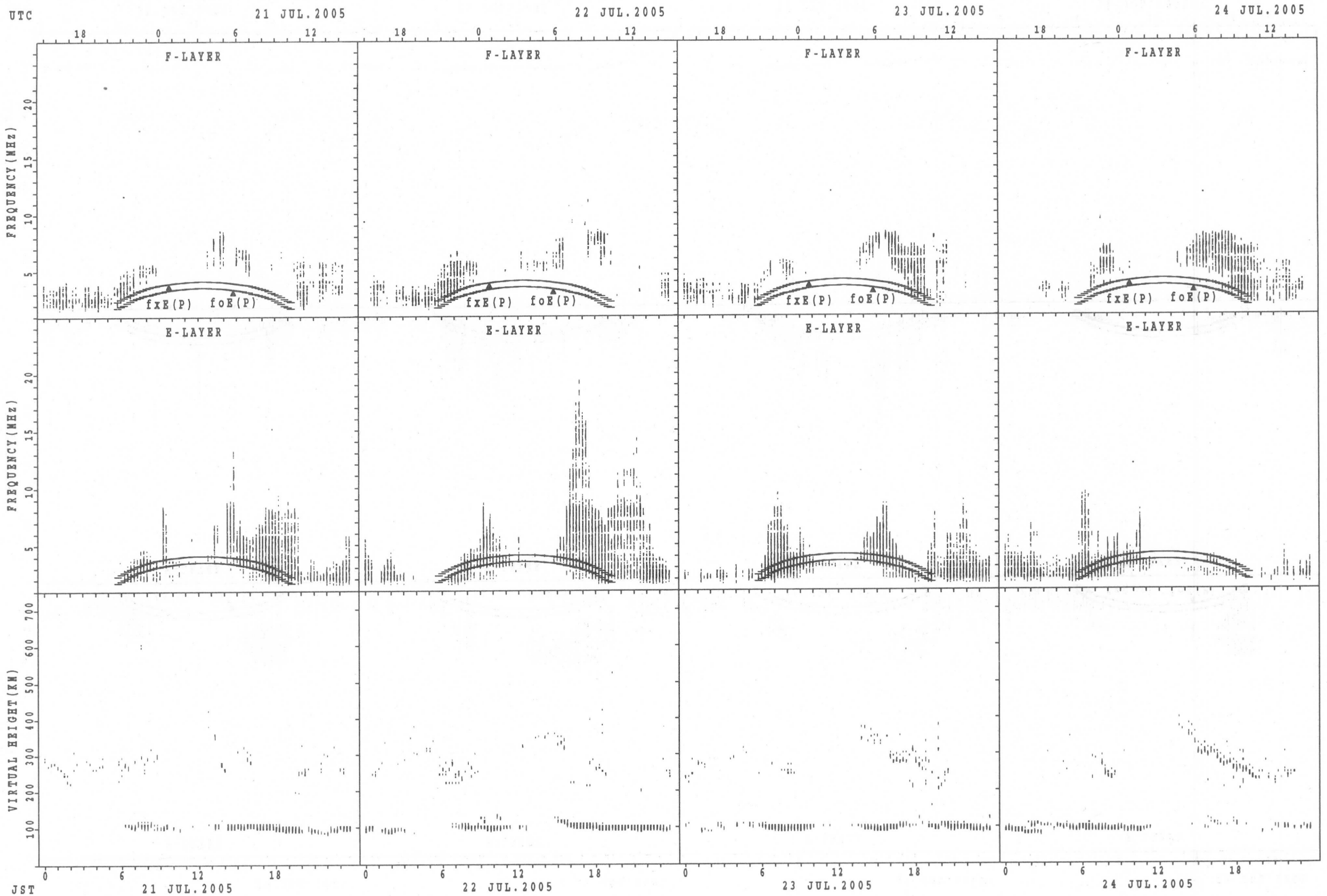
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



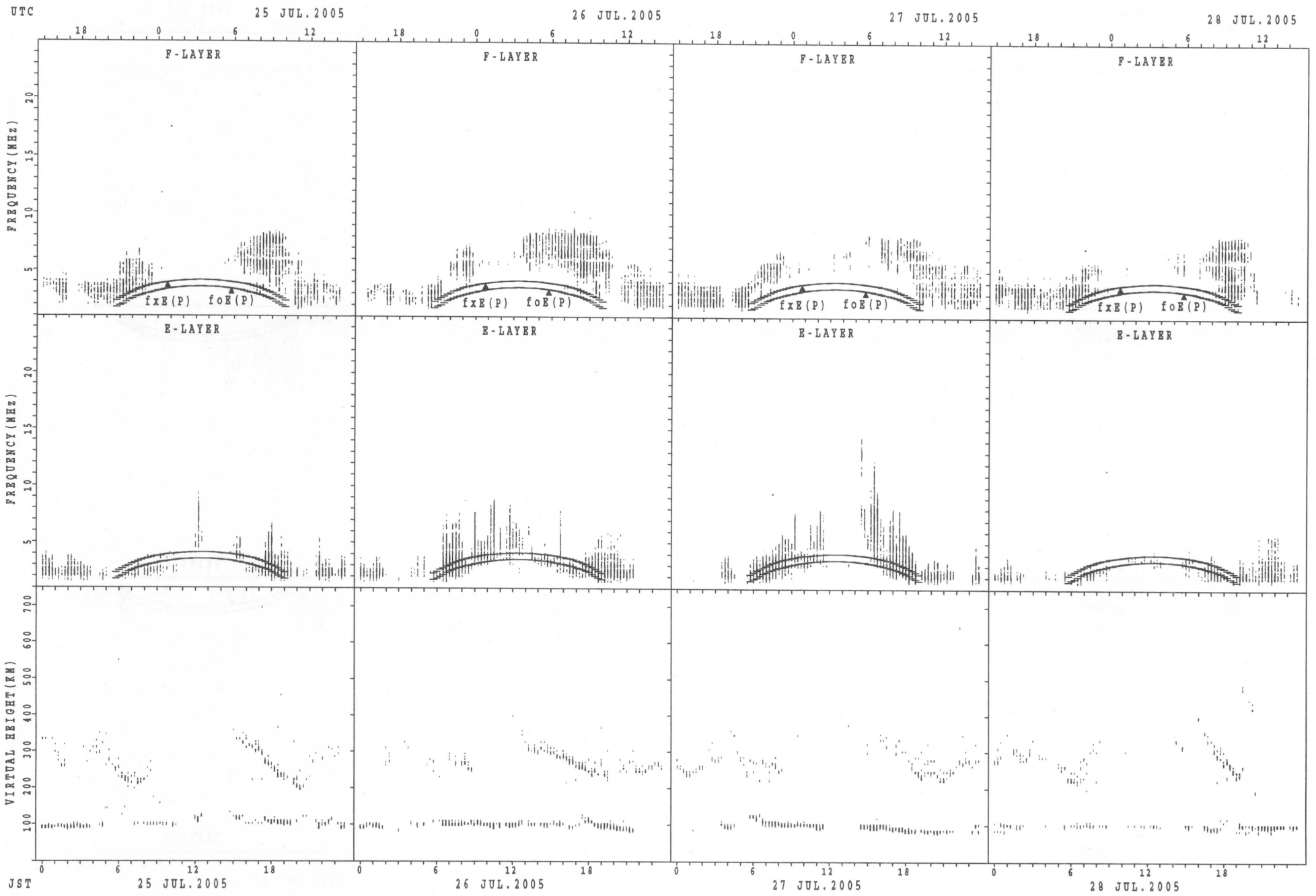
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



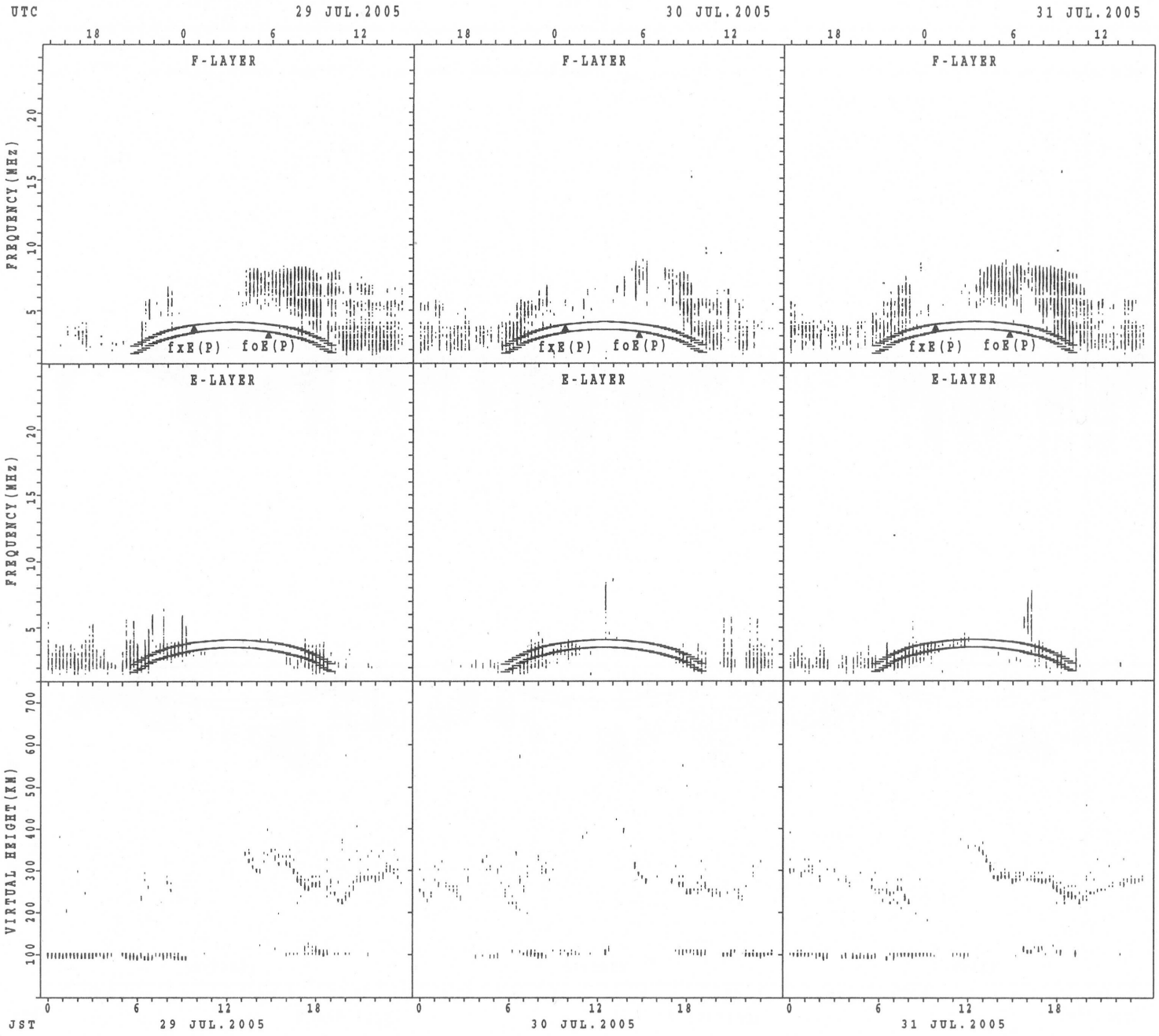
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



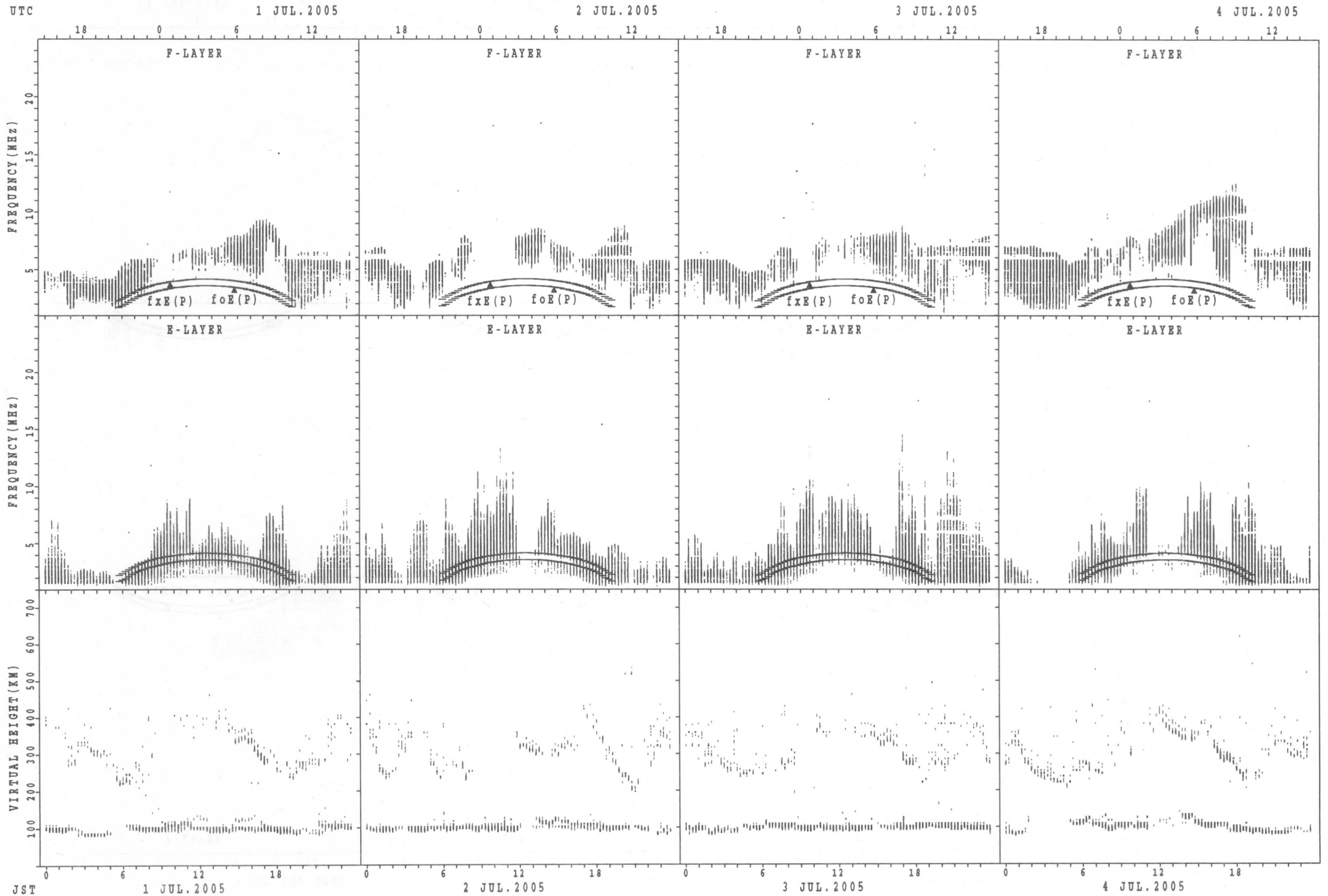
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



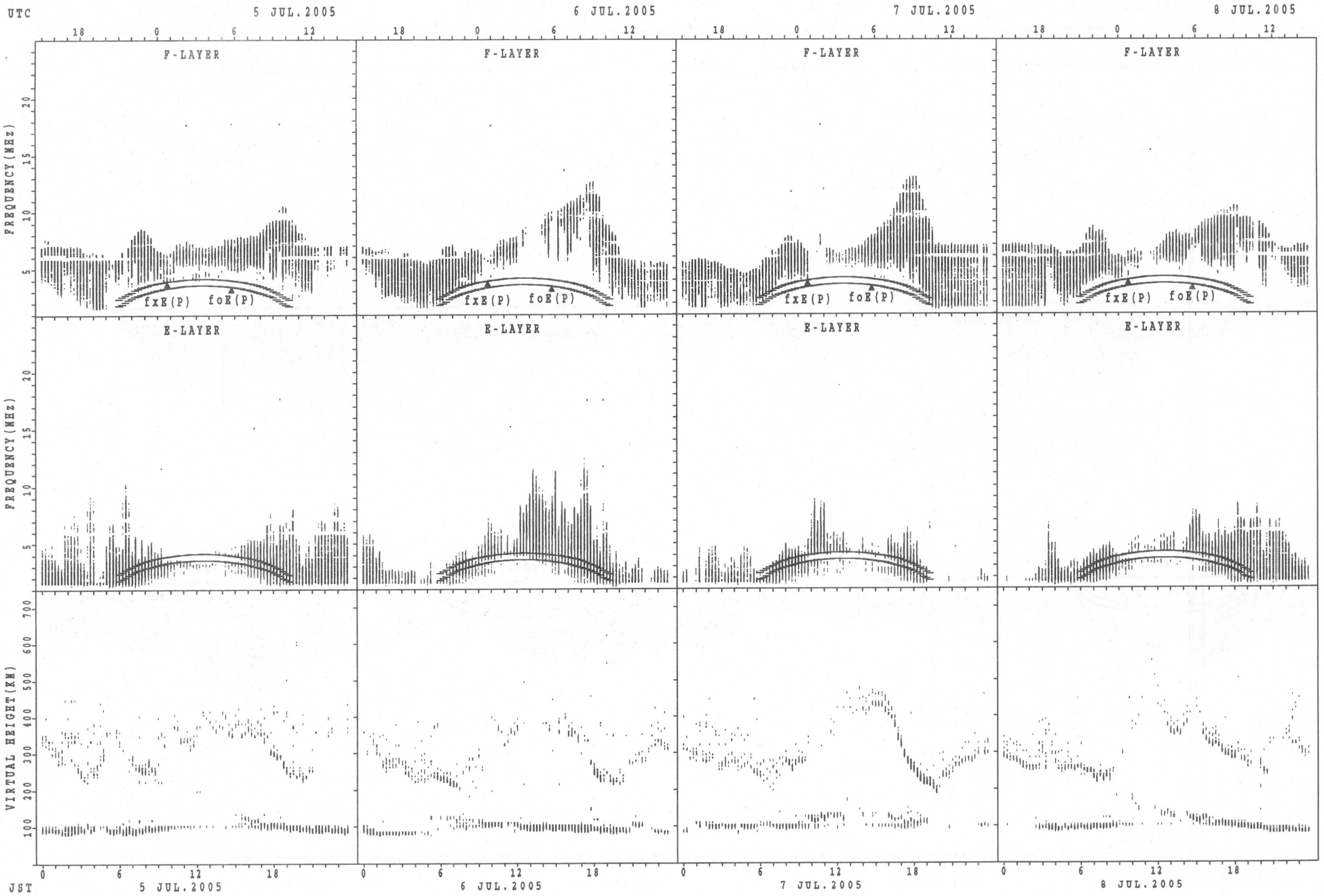
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



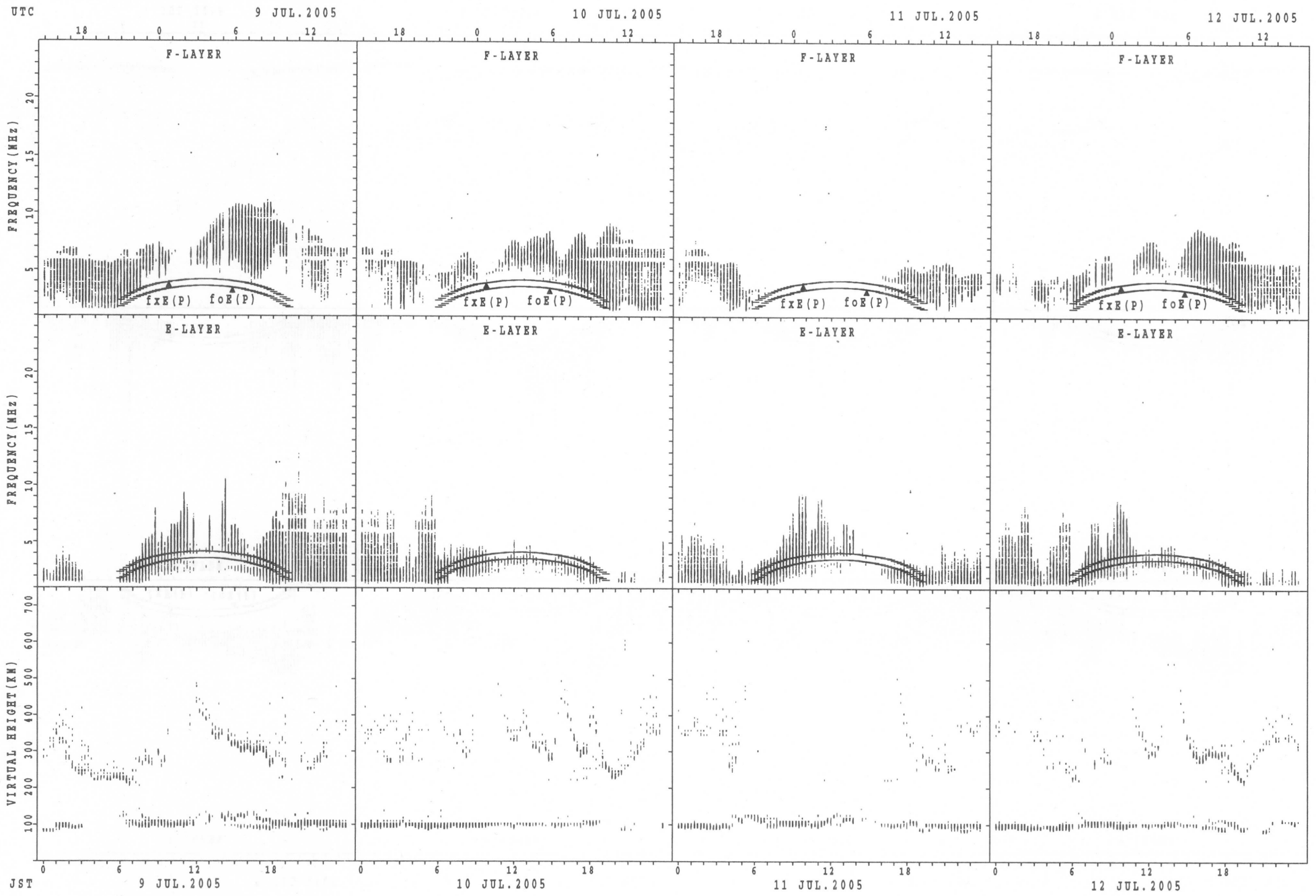
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



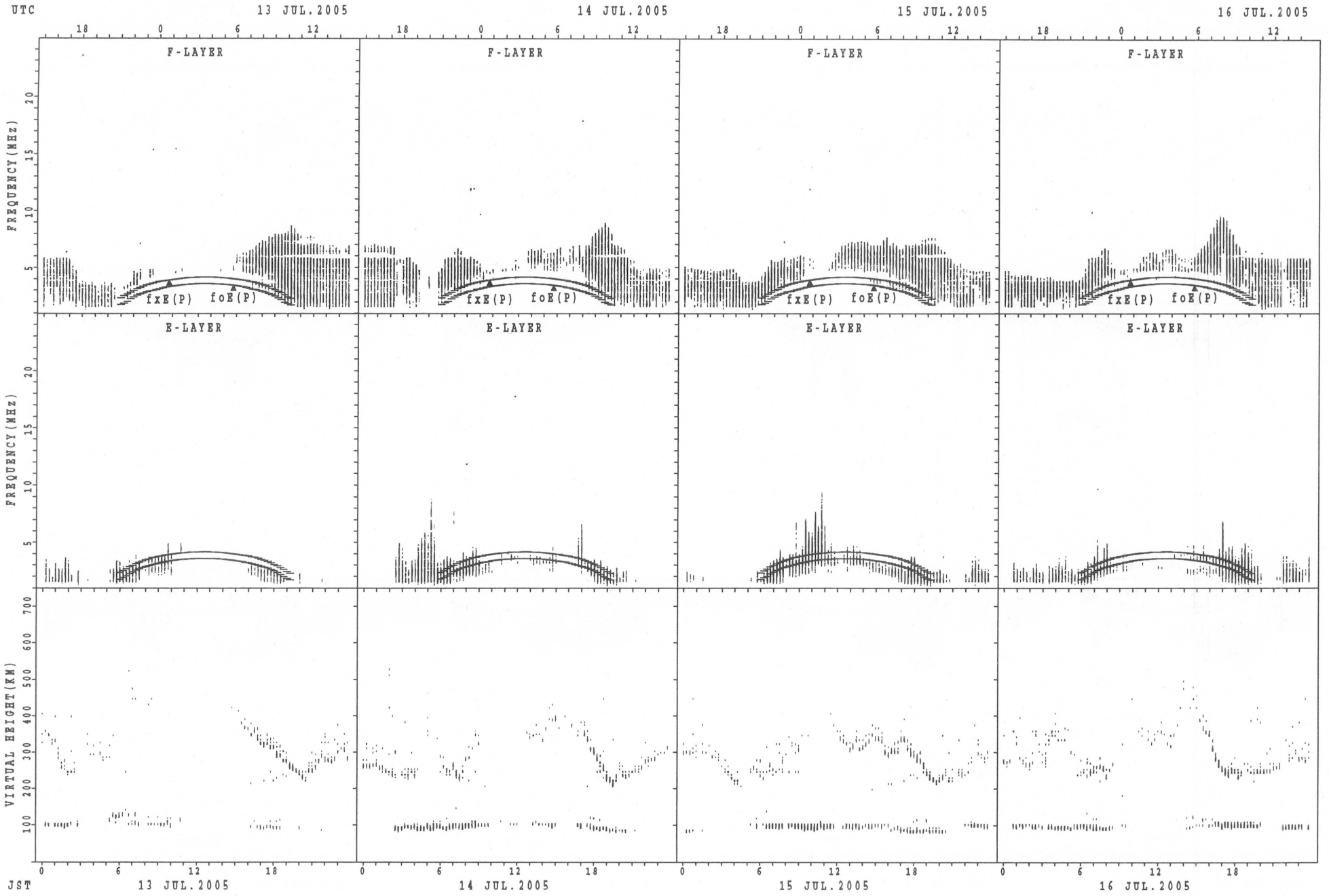
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



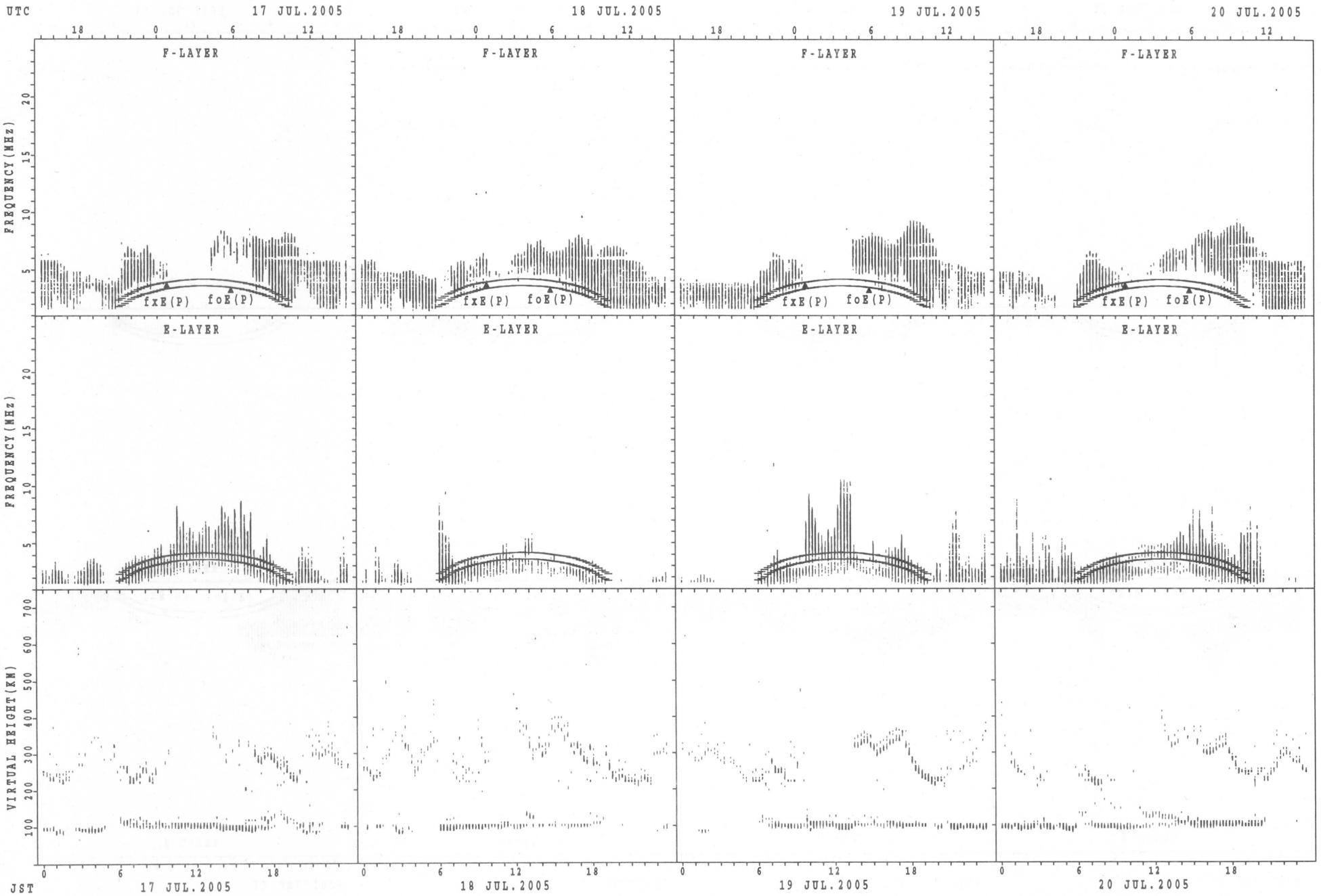
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



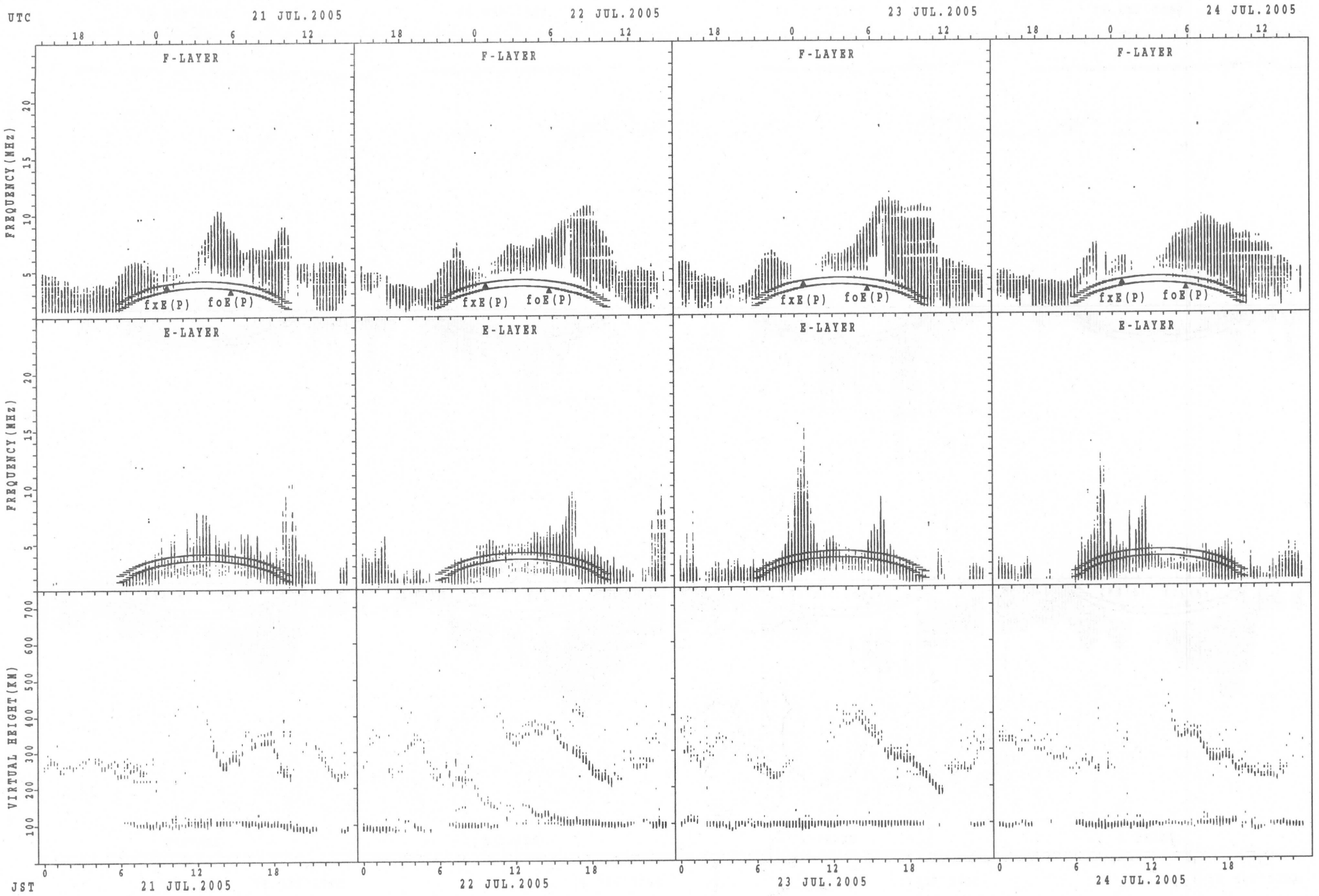
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



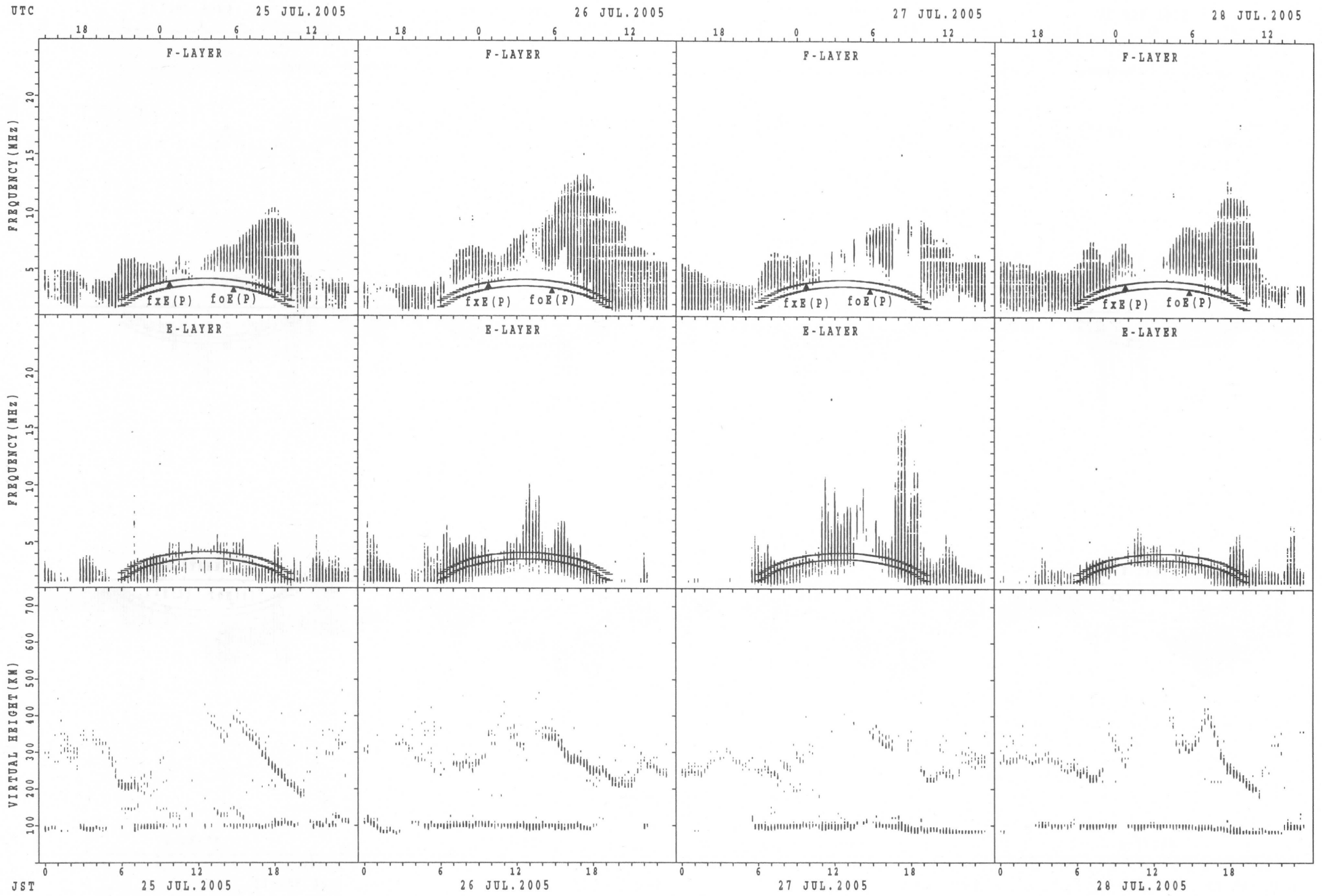
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



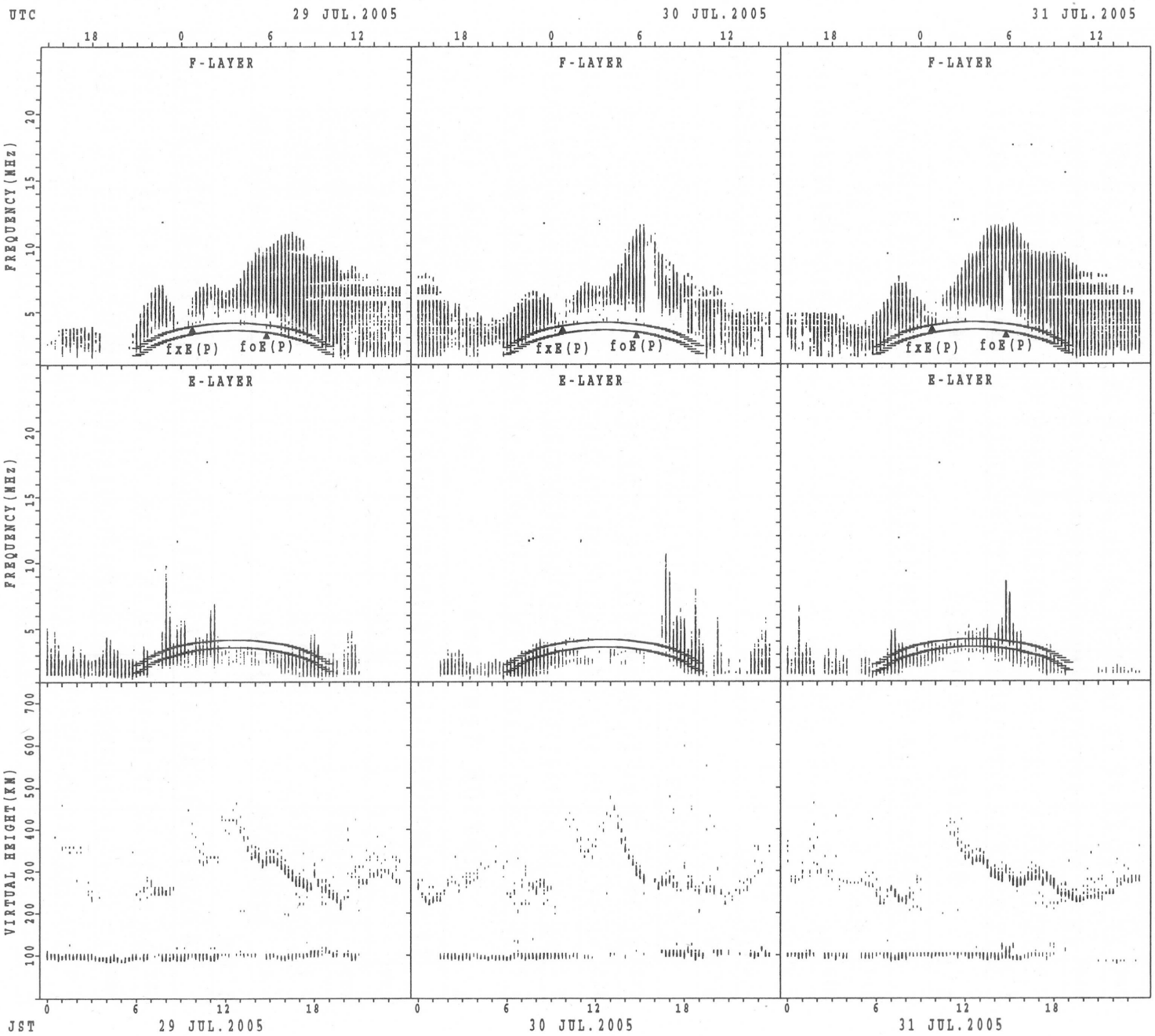
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



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

SUMMARY PLOTS AT Okinawa



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

MONTHLY MEDIANS OF h'F AND h'Es

JUL. 2005 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	1		1				3	2										4	5	3	5	3	4	1
MED	350		206				278	322										271	270	278	288	284	277	248
U Q	175		103				362	340										314	299	280	308	300	293	124
L Q	175		103				274	304										231	254	214	269	276	264	124

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	23	24	25	23	22	22	26	26	29	28	26	29	26	20	17	21	26	28	29	23	27	26	27	23
MED	97	95	97	97	98	109	107	106	103	103	101	101	101	103	103	105	108	105	105	105	103	103	103	99
U Q	105	100	103	105	105	115	111	111	106	105	105	104	105	106	109	111	111	109	107	111	105	111	105	105
L Q	95	91	91	91	91	105	103	103	102	101	97	97	99	101	97	98	105	103	103	103	99	97	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	2		1				3	10									1	12	14	11	6	3	2	2
MED	331		282				284	275									288	301	280	264	265	290	295	303
U Q	352		141				298	296									144	328	286	278	290	304	320	306
L Q	310		141				210	254									144	291	270	222	258	270	270	300

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	21	22	19	18	21	11	24	23	24	17	21	15	20	18	19	18	20	24	23	25	22	25	25	23
MED	97	97	95	97	99	99	112	105	103	103	103	103	103	106	105	113	109	107	103	103	103	101	101	103
U Q	103	99	99	99	106	105	115	111	107	106	107	107	108	121	113	113	111	111	107	106	107	104	104	105
L Q	95	95	93	97	95	97	104	103	95	97	97	97	97	97	95	103	102	103	99	99	99	97	98	97

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	1	1				5	10									16	18	10	3	2		
MED		356	378	342				260	271									286	272	264	300	270		
U Q		390	189	171				262	292									320	292	274	330	274		
L Q		322	189	171				255	238									272	256	238	264	266		

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	24	23	22	21	19	18	18	25	23	17	16	14	8	8	9	12	17	19	23	17	16	21	18	13
MED	101	97	97	97	99	100	103	105	105	103	104	103	103	108	109	105	111	105	105	101	97	99	102	99
U Q	105	103	103	101	105	105	111	111	109	111	105	105	114	113	120	117	115	111	109	103	104	104	105	105
L Q	96	97	95	95	97	95	95	101	101	101	102	99	100	104	99	100	105	99	103	96	94	95	99	94

MONTHLY MEDIANS OF h'F AND h'Es

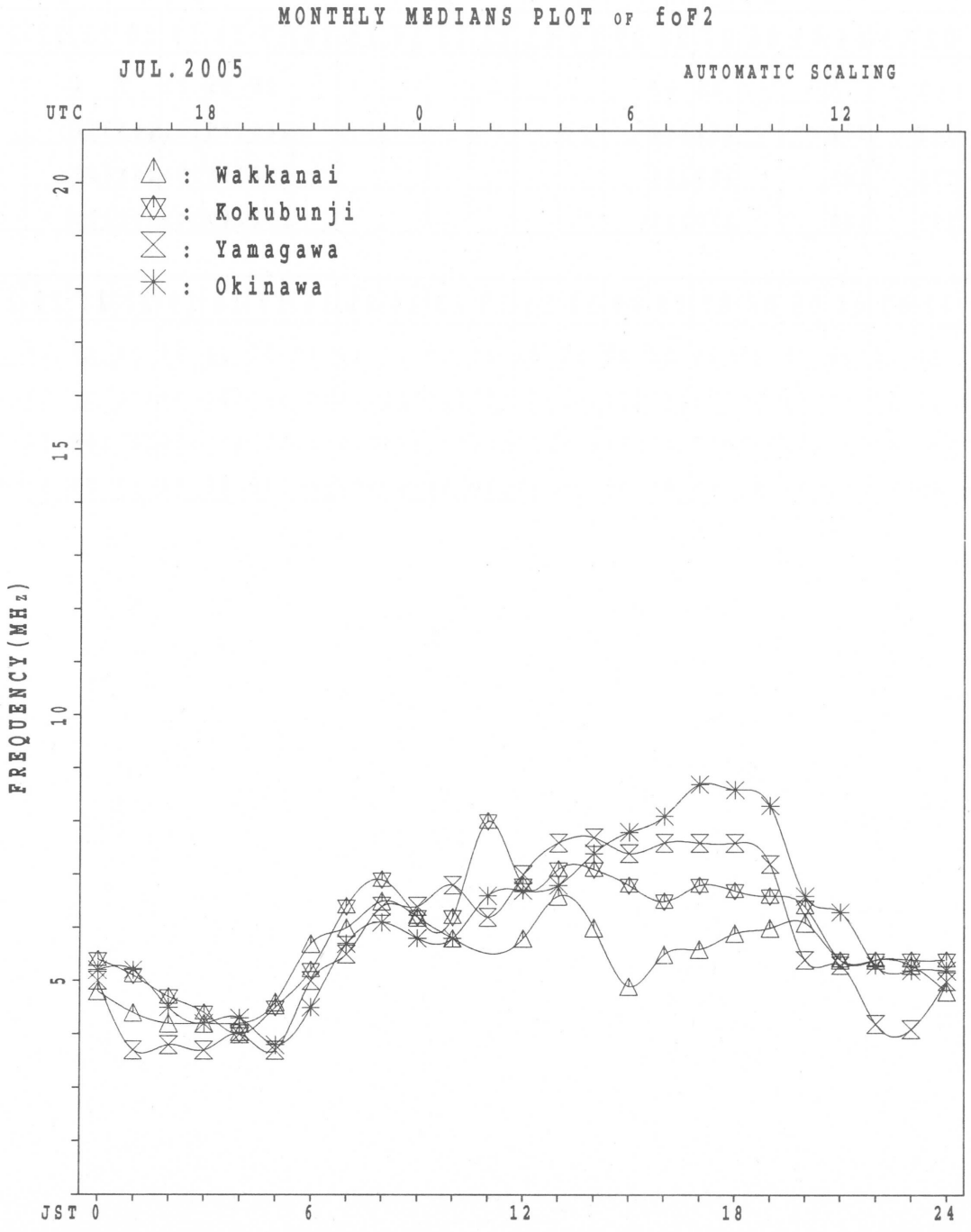
JUL.2005 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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	3		1		1			11	12									25	25	22	7	4		
MED	328		342		372			262	254									286	276	251	244	311		
U Q	346		171		186			278	279									312	299	264	264	407		
L Q	306		171		186			230	243									272	249	242	208	270		

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	20	17	20	20	18	23	24	25	22	22	22	20	19	17	18	17	21	28	24	20	17	14	18
MED	97	98	97	97	97	99	99	100	101	104	103	104	103	105	111	111	107	105	103	99	100	99	97	97
U Q	103	103	103	97	100	101	107	110	105	111	115	111	114	121	123	115	113	113	107	106	107	104	105	103
L Q	95	94	93	95	94	95	97	96	95	99	99	97	100	99	99	103	100	102	96	94	92	89	93	93


MONTHLY MEDIANS PLOT OF foF2
JUL. 2005
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

JUL. 2005 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 61	X 57	54	65	51																X 64	X 65	X 67	68
2	X 59	X 56	X 52	X 50	X 50																X 80	X 75	79	76
3	X 64	X 61	X 62	57	57																X 78	X 77	X 74	80
4	70	71	X 71	X 65	X 62																X 75	X 72	82	81
5	74	82	77	X 57	X 57																X 88	X 86	X 86	X 67
6	X 64	X 63	X 60	X 59	X 56																X 82	X 73	X 67	75
7	67	70	70	X 59	X 58																X 101	X 69	X 66	X 66
8	70	68	67	65	X 58																X 85	X 76	X 76	X 77
9	X 71	X 66	70	X 64	X 59																X 85	X 88	X 79	X 68
10	X 67	A	X 63	X 56	X 57																X 80	X 80	X 70	76
11	74	75	X 58	X 52	X 48																X 55	56	58	54
12	51	46	X 42	X 42	X 48																X 65	X 65	X 63	X 66
13	X 62	X 64	X 46	X 49	X 57																X 70	X 63	X 60	X 57
14	X 62	X 58	X 52	X 49	X 42																X 57	X 57	X 55	X 51
15	X 50	X 48	X 47	X 44	X 44															X 60	X 65	X 58	X 54	56
16	52	49	X 44	X 43	X 42																X 52	X 52	X 52	X 52
17	X 55	X 49	X 47	X 43	X 41																X 76	X 74	X 66	X 67
18	X 62	X 51	X 48	50	50																X 64	X 63	X 56	X 46
19	50	51	51	51	X 45																X 74	X 58	X 58	61
20	62	X 57	X 53	X 42	X 41																X 71	X 53	X 53	X 50
21	X 46	X 45	X 46	X 43	X 37																X 70	68	67	X 59
22	X 48	X 46	51	49	47	47															X 66	X 58	X 50	X 50
23	X 48	X 44	X 43	X 40	X 38																X 73	X 61	58	58
24	X 50	X 48	X 46	X 43	47																X 72	X 65	X 58	65
25	X 58	X 46	X 44	X 42	X 42																X 66	60	64	58
26	52	51	49	X 42	43						C	C									X 61	X 60	65	64
27	60	X 60	X 56	X 54	53						C									X 79	X 72	X 66	X 62	X 59
28	63	X 52	X 52	51	X 50															X 76	X 70	X 54	52	A
29	X 51	56	64	57	X 38															X 81	X 74	X 73	X 71	X 75
30	X 76	X 69	X 63	X 52	X 46																X 66	A	68	X 60
31	62	58	X 52	X 50	X 50															X 75	X 67	X 64	X 63	65
	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	31	31	31	1														5	31	30	31	30
MED	X 62	X 56	X 52	X 50	X 48	47														X 76	X 71	X 65	X 64	X 64
U Q	67	64	63	X 57	X 57															X 80	X 78	X 73	X 70	68
L Q	X 51	X 49	X 47	X 43	X 42															X 68	X 65	X 58	X 58	X 57

JUL. 2005 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 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	55	51	F	F	F	43	52	A	A	A	A	A	A	A	A	A	60	62	64	66	58	59	61	F
2	53	50	46	44	44	51	50	A	A	70	61	55	58	65	74	71	A	55	A	65	74	69	F	F
3	58	55	55	F	F	54	68	65	70	73	58	63	69	A	A	66	64	64	65	68	72	71	68	F
4	F	F	65	59	56	59	65	64	A	A	A	65	A	69	71	78	78	83	75	72	69	66	F	F
5	F	F	F	51	50	52	60	68	78	76	64	62	63	66	71	78	74	78	80	82	82	80	80	61
6	58	56	54	53	50	56	64	65	63	60	A	63	A	80	78	74	74	68	68	82	76	67	60	F
7	F	F	F	53	52	54	61	70	61	72	65	A	60	A	68	A	A	80	88	107	94	62	60	60
8	F	F	F	F	52	50	60	82	86	61	59	53	66	74	75	69	69	76	81	84	79	69	69	71
9	65	60	F	58	53	54	63	69	77	67	58	A	69	A	65	67	67	72	A	77	79	82	73	62
10	61	A	57	49	51	49	60	55	60	68	79	80	71	80	68	57	69	65	59	73	74	74	64	F
11	F	F	52	46	42	39	A	A	A	R 52	A	R 56	A	A	A	A	A	50	53	52	49	F	F	F
12	F	F	36	36	42	38	49	A	53	51	A	A	A	A	58	66	A	60	67	66	59	59	56	60
13	56	58	40	42	51	40	46	52	B	46	50	A	A	A	A	54	46	48	A	55	64	57	54	51
14	56	51	46	43	36	39	46	48	51	53	A	A	A	A	59	53	R 56	51	51	57	51	51	49	45
15	44	42	41	38	38	46	52	50	53	59	58	R 53	51	57	60	56	56	53	56	54	59	52	48	F
16	F	F	37	37	36	39	49	55	60	70	58	58	55	54	55	60	78	65	69	69	46	46	46	46
17	45	43	40	36	34	40	47	56	69	59	A	A	A	A	58	65	64	67	70	72	70	68	59	61
18	56	45	42	F	F	35	41	49	54	52	62	51	A	51	A	A	A	49	51	60	58	57	50	40
19	F	F	F	F	39	48	41	A	A	A	A	56	60	53	54	64	65	54	54	64	68	52	52	F
20	F	51	46	35	36	38	45	56	53	54	53	46	A	A	59	64	58	67	70	68	64	47	47	44
21	40	39	40	36	31	32	42	49	A	51	A		59	72	89	82	58	51	55	56	64	F	F	53
22	41	40	F	F	F	F	48	64	A	54	50	55	60	66	66	69	72	80	87	79	60	52	44	44
23	42	38	37	34	32	37	43	56	55	A	54	A	55	60	60	66	60	59	55	61	66	54	F	F
24	44	42	40	36	F	39	48	61	74	58	55	57	56	58	58	70	68	59	A	64	66	58	52	F
25	52	40	38	36	36	37	48	58	68	58	A	53	53	52	61	68	69	68	66	73	60	F	F	F
26	F	F	F	36	F	37	50	63	74	62	C	C	65	74	88	85	74	68	66	66	55	54	F	F
27	F	54	50	48	F	42	56	66	64	55	C							68	69	73	66	60	56	52
28	F	46	46	F	44	44	54	55	50	S	53	60	58	53	56	58	A	66	62	70	64	48	F	A
29	45	F	F	F	32	36	48	62	A	A	A	A	A	61	69	63	62	72	72	75	68	67	65	69
30	69	63	57	46	40	45	56	74	61	71	56	66	70	73	75	81	66	69	69	71	60	A	F	53
31	F	F	45	44	44	47	58	63	70	56	58	56	67	72	78	76	76	80	73	69	60	58	56	F
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	18	19	22	23	24	30	30	26	22	25	18	19	19	20	25	26	24	31	27	31	31	27	22	16
MED	54	50	46	43	42	42	50	62	62	59	58	56	60	66	66	66	66	66	67	69	64	59	56	53
U Q	58	55	52	49	50	50	60	65	70	69	61	63	67	72	74	74	73	72	72	73	72	68	64	61
L Q	44	42	40	36	36	38	47	55	54	54	54	53	56	56	58	63	60	55	56	64	59	52	50	46

JUL. 2005 foF2 (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	A	A	A	A	A	A	A	A	A	A	A	A					
2						L	L 420	A	A	468	A	L 496	U L 480	484	A	L 460	A	A	A					
3						L	L	A	A	A	A	A	A	A	A	A	A	L 484	A					
4						L	A	A	A	A	A	A	A	488	488	476	440	424	L					
5							L	L	460	464	496	A	A	A	A	A	448	416	L					
6							L	L 440	L 464	A	A	A	A	A	484	456	A	A	L					
7							A	L	A	A	A	A	A	A	A	A	A	A	A					
8							A	A	448	L 492	484	U L 484	L 484	A	A	L 484	L 448	L 440	L					
9							L	A	A	A	472	A	A	A	A	A	436	L 476	A					
10						A	A	L 440	L 488	A	U L 484	480	460	A	456	L 452	L 448	A	L 384					
11						L 292	A	A	A	L 424	A	U L 452	A	A	A	A	A	384	A	A				
12						A	A	A	A	A	A	A	A	A	U L 444	432	A	A	L					
13						L	344	U L 384	B	424	436	A	A	A	A	A	A	380	A	A				
14						L 312	368	404	A	U L 452	A	A	A	A	L 440	U L 436	U L 420	L 392	L					
15							L	436	E B	444	A	U L 468	L 476	U L 456	444	444	400	384	L					
16						A	360	U L 408	U L 428	444	U L 472	444	U L 456	U L 492	448	A	408	A	A					
17							L 396	L 392	L 432	L 448	A	A	A	A	444	420	420	L 384	L					
18						L 296	L 356	400	408	436	A	U L 452	A	U L 480	A	A	A	A	L 328					
19								A	A	A	A	448	A	A	U L 460	424	A	L	L 404					
20							L	388	420	L 432	444	440	A	A	456	424	424	L 384	L 336					
21							L	U L 404	A	A	A		U L 504	A	444	432	L	U L 380	L 324					
22							L 376	L 396	A	A	444	464	L 464	444	A	A	A	A						
23							376	388	A	A	A	A	L 448	U L 460	U L 472	428	420	L 388	L					
24						L 304	372	416	A	448	U L 472	468	460	460	464	432	408	A	A					
25							L 436	404	A	440	A	A	U L 492	U L 448	A	440	A	A	A					
26							L	A	432	448	C	C	A	468	A	432	A	A	A					
27							L	A	L	L 468	C							A	L					
28						L	360	U L 424	A	U L 440	U L 468	U L 504	U L 496	U L 464	A	440	A	U L 380	L					
29							L 400	A	A	A	A	A	A	A	A	A	A	L	A					
30						L	L	L 412	L 452	460	L 468	U L 492	468	480	464	456	E B	L 420	L					
31							L	L	440	L 456	L 476	484	472	U L 472	460	460	428	A						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						4	12	16	11	18	12	14	13	13	15	19	13	15	5					
MED						L 300	374	L 404	440	448	L 472	468	L 472	U L 468	456	440	424	L 388	L 336					
U Q						L 308	L 398	L 420	L 460	460	L 480	U L 484	U L 488	482	464	L 456	444	L 424	L 394					
L Q						L 294	360	L 394	428	440	456	452	460	458	444	432	414	384	L 326					

JUL. 2005 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						A	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
2						192	A	A	A	A	A	A	A	A	A	A	A	A 272	A	B				
3						176	A	A	A	A	A	A	A	A	A	A	A	U A 276	A	B				
4						U A 208	U A 252	U A 300	A	A	A	A	A	R	A	U R 352	320	U R 280	A	B				
5						A	U A 244	A	A	A	A	A	U A 376	A	A	A	A	A	A	B				
6						U R 192	R	U A 296	A	A	A	A	A	A	A	A	A	A	A	B				
7						A	A	A	A	A	A	A	A	A	A	A	U A 312	A	A	B				
8						U A 196	A	A	A	A	A	B	U A 380	A	A	U A 332	A	A	A	B				
9						A	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
10						A	A	A	A	A	A	R	U A 380	U A 356	R	A	R	U A 264	A	B				
11						A 172	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
12						U A 168	U A 248	A	A	A	A	A	A	A	R	A	A	U A 268	U A 208	B				
13						B	A	A	B	A	A	A	B	B	A	A	U A 304	A	A	B				
14						U A 172	A	A	A	A	A	A	A	A	A	A	B	296	U A 200	B				
15						B	U A 232	U R 300	B	A	A	A	A	A	R	R	296	R	192					
16						A	A	A	R	A	R	R	R	B	A	A	U A 304	A	A	B				
17						B	U A 228	U A 268	U A 296	A	A	A	A	A	A	A	A	A	U A 204	B				
18						B	U A 216	U A 276	A	A	A	R	A	U A 356	A	A	A	A	U A 216	B				
19						B	U A 224	A	A	A	A	A	A	A	A	A	A	A	A	B				
20						B	U A 220	A	A	R	A	A	U A 352	A	A	A	A	A	A	B				
21						B	A	A	A	A	A		A	U A 344	U R 360	A	R	U R 256	U A 200	B				
22						B	A	A	A	A	A	B	A	A	A	A	A	A	A	B				
23						B	A	A	A	A	A	A	A	R	A	A	A	A	U A 196	B				
24						B	A	A	A	A	U R 356	U A 368	A	A	A	R	300	A	A	B				
25						B	A	A	A	A	A	A	U A 360	U A 368	U A 364	U R 328	A	A	U A 196	B				
26						B	A	A	A	A	C	C	A	A	A	R	U A 300	A	A	B				
27						U R 176	A	A	A	A	C							U A 260	A					
28						B	A	A	A	A	A	B	R	R	A	A	A	A	A					
29						B	R	B	A	A	A	A	A	U A 344	A	A	A	A	A					
30						A	A	A	A	A	A	A	A	U A 364	A	A	B	U A 288	A	B				
31						B	U R 236	A	U A 320	A	A	A	A	R	A	U A 324	U A 308	A	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						9	9	5	2		1	1	5	6	2	4	8	9	8					
MED						U A 176	U A 232	U A 296	U A 308		U R 356	U A 368	U A 376	U A 356	U 362	U 330	U A 304	U A 272	U A 200					
U Q						U A 194	U A 246	U 300					U A 380	U A 364		U 342	U A 310	U 284	U A 206					
L Q						U A 172	U A 222	U A 272					U A 356	U A 344		U 326	300	U A 262	U A 196					

JUL. 2005 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 15	J A 40	J A 52	J A 44	J A 32	J A 22	J A 47	J A 61	J A 97	J A 100	J A 105	J A 118	J A 90	J A 156	J A 94	J A 98	J A 80	J A 62	J A 66	J A 62	J A 67	J A 52	J A 41	J A 32
2	J A 26	J A 42	J A 31	J A 36	J A 77	24	36	J A 62	J A 54	J A 52	J A 60	J A 68	J A 46	42	J A 73	J A 88	J A 170	59	J A 61	J A 78	J A 88	J A 69	J A 64	J A 32
3	J A 54	J A 52	J A 45	J A 39	J A 41	22	33	J A 54	J A 55	J A 60	J A 56	J A 58	J A 56	J A 81	J A 70	J A 76	J A 59	J A 45	J A 76	J A 37	J A 46	J A 47	J A 60	J A 60
4	J A 40	J A 33	J A 44	J A 43	J A 53	J A 68	J A 58	J A 88	J A 98	J A 101	J A 115	J A 99	J A 175	G 30	44	G	35	G 20	28	J A 109	J A 108	J A 80	J A 66	J A 129
5	J A 171	J A 41	J A 33	J A 44	J A 23	J A 25	30	36	38	J A 46	J A 49	J A 58	J A 53	J A 59	J A 52	J A 54	J A 58	33	J A 34	J A 34	J A 54	J A 55	J A 58	J A 57
6	J A 36	J A 46	J A 34	J A 27	18	G	G 22	35	38	J A 58	J A 65	J A 80	J A 102	J A 55	J A 69	J A 54	J A 55	J A 64	36	39	42	42	43	J A 63
7	J A 93	J A 67	J A 40	J A 52	J A 46	J A 49	J A 55	J A 44	J A 58	J A 74	J A 70	J A 78	J A 52	J A 85	J A 80	J A 118	J A 88	J A 54	J A 68	J A 74	J A 102	J A 86	J A 52	J A 38
8	J A 34	J A 36	J A 24	J A 25	J A 30	J A 26	J A 62	J A 73	J A 41	J A 46	J A 40	G	47	J A 64	J A 66	J A 76	37	J A 64	J A 26	J A 36	J A 43	J A 42	J A 30	J A 35
9	J A 85	J A 51	J A 34	J A 47	J A 26	J A 23	J A 38	J A 56	J A 53	J A 102	J A 98	J A 76	J A 102	J A 119	J A 86	J A 54	J A 110	J A 88	J A 71	J A 36	J A 52	J A 44	J A 55	J A 56
10	J A 65	J A 65	J A 58	J A 43	J A 65	39	J A 44	J A 42	J A 54	J A 90	44	G 31	44	48	G J A 30	J A 78	G J A 26	J A 41	J A 32	J A 28	J A 27	J A 30	J A 29	J A 37
11	J A 45	J A 17	J A 21	J A 16	J A 70	26	J A 64	J A 58	J A 75	38	J A 54	J A 50	J A 70	J A 76	J A 105	J A 101	J A 52	J A 88	J A 82	J A 46	88	J A 55	53	J A 28
12	J A 17	J A 36	J A 40	J A 44	J A 46	J A 32	J A 74	J A 54	J A 48	J A 61	J A 142	J A 93	J A 63	J A 69	G	42	J A 74	J A 43	26	J A 56	40	J A 42	E B 16	20
13	J A 20	19	J A 22	J A J A 28	J A 31	23	J A 36	J A 41	B	39	J A 54	J A J A 52	J A 56	J A J A 64	J A 64	48	44	J A 36	J A J A 61	J A 28	J A J A 30	J A J A 40	J A J A 46	J A 35
14	J A 20	J A J A 23	J A 20	20	J A 34	23	31	33	J A 47	39	44	54	J A 74	J A J A 57	J A 59	38	E B 38	G 30	23	E B 16	E B J A 15	20	29	E B 15
15	J A 17	E B 16	E B 15	E B 15	E B 16	21	27	G 26	E B 45	J A 43	J A 53	42	J A 52	J A 46	G 32	G 27	34	G 22	24	29	J A 20	J A 54	J A 72	J A 32
16	J A 36	J A 43	J A 44	J A 38	J A 26	J A 32	J A 30	40	G 33	41	G 30	G 28	G 28	E B 40	36	J A 54	J A 44	J A 104	J A 42	J A 40	J A 55	18	E B 15	E B 16
17	J A 30	J A 41	J A 34	J A 23	J A 21	20	28	32	J A 41	J A 47	90	J A 57	J A 76	J A 62	J A 47	J A 42	34	J A 30	28	E B 16	E B 15	E B 16	E B 15	E B 15
18	E B 16	E B 15	J A 28	19	20	E B 16	26	34	37	J A 46	J A 47	G 30	J A 81	43	J A 82	J A 144	J A 142	J A 106	26	J A 17	E B 15	20	J A 30	J A 28
19	J A 50	J A 37	J A 45	J A 22	J A 30	J A 30	J A 38	57	J A 100	70	70	38	J A 47	J A 68	J A 49	35	J A 54	J A 61	J A 49	J A 32	J A 42	22	J A 44	65
20	J A 42	74	J A 36	J A 19	E B 15	20	26	31	J A 49	G 30	39	43	45	J A 52	J A 55	36	37	J A 30	28	E B 17	E B 15	E B 15	E B 14	J A 24
21	19	20	E B 15	E B 15	J A 38	J A 22	J A 32	J A 44	J A 61	J A 54	J A 62		40	54	G 28	35	G 26	G 20	23	J A 44	J A 62	J A 57	J A 54	E B 16
22	J A 26	J A 20	E B 15	19	E B 15	E B 15	28	J A 38	J A 66	J A 49	38	E B 36	J A 49	42	J A 48	J A 60	J A 68	J A 53	J A 66	J A 64	J A 54	E B 16	J A 22	J A 37
23	J A 25	J A 27	20	E B 15	E B 15	J A 29	J A 36	J A 40	J A 47	86	J A 56	J A 68	J A 54	G 32	40	37	36	28	24	J A 22	J A 43	75	75	J A 26
24	J A 28	28	J A 20	J A 20	J A 20	24	J A 72	47	J A 61	41	G 32	41	J A 48	40	J A 54	G 30	36	J A 48	82	J A 26	J A 35	J A 65	J A 44	J A 54
25	J A 54	J A 33	J A 37	J A 23	E B 15	20	J A 31	J A 43	J A 69	43	J A 80	53	44	44	50	43	J A 75	J A 76	46	J A 98	J A 119	45	58	47
26	J A 32	J A 40	J A 27	J A 40	J A 20	19	32	J A 52	37	J A 45	C	C	J A 77	64	96	G 34	J A 89	J A 80	72	J A 34	J A 61	75	80	E B 15
27	J A 43	J A 34	J A 37	J A 33	J A 28	G	32	J A 86	J A 58	38	C							J A 47	33	J A 30	37	J A 45	66	J A 79
28	J A 36	J A 34	J A 27	J A 54	J A 38	E B 15	J A 40	81	72	43	44	43	G 34	G 33	J A 57	J A 43	J A 84	J A 45	37	44	41	38	53	87
29	J A 44	22	J A 25	J A 41	J A 44	E B 16	G 20	48	J A 76	63	J A 79	76	J A 83	48	J A 86	53	J A 72	70	55	28	22	23	24	J A 27
30	J A 22	22	E B 15	J A 19	J A 21	J A 24	J A 32	44	32	36	J A 47	54	J A 54	42	48	J A 79	J A 71	J A 46	J A 32	J A 20	76	100	34	76
31	J A 44	J A 56	E B 16	E B 16	J A 22	J A 27	G 20	37	36	37	J A 60	42	42	G J A 32	54	39	J A 43	J A 40	J A 34	J A 57	J A 26	J A 31	J A 76	J A 62
	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	30	31	29	28	30	30	30	30	30	31	31	31	31	31	31	31
MED	J A 36	J A 36	J A 31	J A 27	J A 28	23	J A 32	44	J A 54	J A 46	J A 56	J A 54	J A 54	J A 53	J A 54	J A 50	J A 54	47	36	36	43	44	46	J A 35
U Q	J A 45	J A 43	J A 40	J A 43	J A 41	27	44	57	66	63	74	72	76	64	73	76	75	64	66	56	62	57	60	J A 60
L Q	J A 22	22	E B 20	19	E B 20	20	28	37	41	41	44	42	46	42	47	37	37	33	28	J A 28	27	23	29	E B 26

JUL. 2005 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 15	19	E B 15	27	E B 15	19	43	A A 61	A A 97	A A 100	A A 105	A A 118	A A 90	A A 156	A A 94	A A 98	48	46	49	34	38	35	35	24
2	E B 15	16	19	26	26	21	34	A A 62	A A 54	40	51	44	41	40	55	38	A A 170	44	A A 61	40	57	E B 15	39	20
3	24	38	37	32	36	21	29	42	48	46	54	46	48	A A 81	A A 70	47	44	40	37	20	26	26	21	39
4	23	24	E B 15	22	27	G 17	46	59	A A 98	A A 101	A A 115	55	A A 175	U Y 30	40	G	33	G 20	25	26	32	24	36	E B 16
5	20	27	E B 15	25	16	20	29	35	36	42	44	53	49	50	48	46	35	30	29	21	36	35	32	24
6	26	23	21	20	E B 16	G	G 22	33	36	52	A A 65	48	A A 102	48	40	39	51	46	30	34	24	28	36	38
7	E B 16	23	20	24	23	44	52	38	46	50	56	A A 78	50	A A 85	61	A A 118	A A 88	41	57	50	69	55	27	24
8	25	27	20	20	20	G 17	43	44	39	38	38	G	43	59	48	38	35	31	24	34	18	E B 15	22	30
9	37	32	18	24	19	20	29	53	50	55	39	A A 76	56	A A 119	49	47	35	41	A A 71	26	23	27	34	36
10	52	A A 65	36	24	16	34	40	34	43	58	39	G 29	41	44	G 30	38	G 26	36	29	22	25	22	17	25
11	36	E B 15	E B 16	E B 15	22	22	A A 64	A A 58	A A 75	36	A A 54	39	A A 70	A A 76	A A 105	A A 101	A A 52	31	38	41	27	30	24	21
12	E B 14	E B 15	26	20	22	26	43	A A 54	42	42	A A 142	A A 93	A A 63	A A 69	G	38	A A 74	39	24	36	36	34	E B 16	E B 14
13	20	E B 15	19	26	19	20	26	31	B	38	39	A A 52	A A 56	A A 64	A A 64	46	41	30	A A 61	24	E B 16	E B 15	E B 15	23
14	E B 14	E B 15	16	18	16	22	30	32	41	36	A A 44	A A 54	A A 74	A A 57	39	38	E B 38	G 28	22	E B 16	E B 15	E B 16	26	E B 15
15	E B 15	E B 16	E B 15	E B 15	E B 16	20	26	G E B 24	45	38	46	40	38	37	G 32	G 27	31	G 22	21	25	17	31	34	22
16	E B 15	24	20	28	23	30	27	33	E B 32	38	G 30	G 28	G 28	E B 40	35	51	34	43	32	E B 15	36	E B 16	E B 15	E B 16
17	E B 15	18	16	17	17	18	26	29	36	38	A A 90	A A 57	A A 76	A A 62	39	34	31	26	G 18	E B 16	E B 15	E B 16	E B 15	E B 15
18	E B 16	E B 15	16	E B 16	E B 14	E B 16	25	32	34	36	43	G 30	A A 81	39	A A 82	A A 144	A A 142	37	22	E B 15	E B 15	E B 15	26	20
19	26	22	22	17	20	27	27	A A 57	A A 100	A A 70	A A 70	36	44	45	39	34	41	32	27	17	20	E B 15	28	28
20	30	20	20	16	E B 15	19	24	31	33	G 30	37	38	A A 45	A A 52	40	35	34	27	20	E B 17	E B 15	E B 15	E B 14	17
21	E B 15	E B 15	E B 15	E B 15	E B 15	19	26	36	A A 61	42	A A 62		39	52	G 28	34	G 26	G 20	21	26	17	30	43	E B 16
22	19	E B 15	E B 15	E B 15	E B 15	E B 15	24	32	A A 66	42	37	E B 36	39	38	43	53	58	39	42	17	22	E B 16	19	16
23	20	E B 16	E B 16	E B 15	E B 15	26	32	35	42	A A 86	44	A A 68	40	G 32	37	34	35	27	22	17	18	16	16	E B 15
24	18	22	E B 17	16	16	18	25	33	55	39	G 32	38	39	38	37	G 29	32	38	A A 82	17	26	20	33	25
25	20	26	25	17	E B 15	17	28	34	48	36	A A 80	44	42	40	46	39	42	54	39	35	29	21	33	30
26	28	25	23	24	17	17	30	46	35	36	C	C	53	41	51	G 33	41	39	62	20	27	30	30	E B 15
27	22	24	27	17	16	G	29	58	40	35	C							38	26	26	35	23	34	33
28	27	20	18	16	17	E B 15	31	36	45	38	42	40	U Y 34	G 33	51	35	A A 84	31	24	29	22	21	28	A A 87
29	23	E B 15	E B 15	24	16	E B 16	G 20	46	A A 76	A A 63	A A 79	A A 76	A A 83	46	44	48	53	41	42	23	E B 15	20	19	21
30	E B 16	E B 16	E B 15	E B 15	16	22	23	30	31	35	41	40	42	40	42	38	56	36	26	17	E B 15	A A 100	19	35
31	17	E B 16	E B 16	E B 16	16	20	G 20	34	34	36	42	38	42	G 31	40	36	38	35	29	42	21	22	32	E B 15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	30	31	29	28	30	30	30	30	30	31	31	31	31	31	31	31
MED	20	20	18	18	16	20	29	35	43	39	44	44	46	46	42	38	41	36	29	24	23	22	27	22
U Q	26	24	21	24	20	22	34	A A 53	A A 55	A A 52	A A 68	A A 56	A A 70	A A 62	A A 51	47	A A 53	41	42	34	32	30	34	30
L Q	E B 15	E B 15	E B 15	E B 16	E B 16	G	25	32	36	36	39	38	41	39	39	34	34	30	24	E B 17	E B 17	E B 16	E B 19	E B 16

JUL. 2005 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	14	15	14	15	13	14	15	15	17	23	17	24	19	20	20	17	15	14	14	15	15	13	14
2	15	16	14	14	15	13	14	13	15	20	24	25	23	20	24	20	18	16	15	15	15	15	16	16
3	16	16	15	16	14	16	14	14	16	18	24	23	21	25	22	17	23	15	13	14	15	16	14	15
4	15	16	15	14	16	15	13	14	13	16	18	24	24	20	22	18	14	15	16	15	16	14	15	16
5	16	15	15	14	14	14	14	16	18	18	22	23	24	26	28	22	18	15	15	15	15	15	16	15
6	16	15	15	14	16	14	14	15	21	19	24	23	27	24	22	19	18	14	14	15	15	16	15	14
7	16	15	14	14	15	15	13	15	19	25	18	28	24	25	32	25	17	15	12	13	16	15	14	14
8	18	15	15	14	14	13	14	19	16	23	22	30	28	20	18	21	16	14	16	14	15	15	14	15
9	15	15	15	14	14	14	15	16	18	16	17	24	35	30	26	22	16	16	14	14	15	14	16	15
10	16	15	14	14	14	16	15	22	17	20	22	23	24	27	25	18	20	16	15	14	15	15	15	16
11	15	15	16	15	15	14	15	15	14	22	18	27	21	28	26	24	15	14	15	15	16	15	15	14
12	14	15	14	15	14	14	14	20	22	22	23	24	22	24	23	17	16	16	14	16	16	15	16	14
13	15	15	16	15	15	13	15	20	B	24	28	30	41	45	30	27	21	15	15	14	16	15	15	15
14	14	15	14	14	14	13	15	23	15	22	22	26	27	23	20	23	38	16	14	16	15	16	15	15
15	15	16	15	15	16	14	14	16	45	20	17	27	31	24	21	18	15	14	13	14	15	15	15	15
16	15	15	15	14	15	14	14	20	21	26	23	23	24	40	24	14	17	14	14	15	14	16	15	16
17	16	15	15	14	15	14	15	15	18	20	24	26	21	18	22	19	16	14	15	16	15	16	15	15
18	16	15	15	16	14	16	13	13	15	17	16	19	24	24	19	16	16	15	14	15	15	15	14	15
19	16	14	15	14	15	16	15	12	15	18	15	18	17	14	18	15	16	12	13	14	16	15	15	16
20	15	15	14	15	15	16	15	16	16	19	22	19	18	19	18	18	14	14	15	17	15	15	14	16
21	15	15	15	15	15	16	13	14	14	19	20		19	25	21	19	19	14	13	15	16	16	16	16
22	14	15	15	15	15	15	14	14	12	16	19	36	24	22	19	20	15	15	14	15	14	16	14	15
23	15	16	16	15	15	15	14	13	20	20	16	22	19	20	17	17	10	14	13	14	14	15	16	15
24	15	15	17	14	14	14	14	16	16	21	21	21	17	20	20	17	14	13	15	14	15	15	14	15
25	16	16	15	14	15	14	14	12	14	19	18	20	25	20	18	18	15	15	13	14	15	15	15	16
26	14	16	15	14	14	14	15	14	16	20	C	C	22	22	24	25	16	15	14	15	14	15	15	15
27	15	15	15	16	16	14	14	14	16	17	C							16	15	15	16	16	15	16
28	15	16	12	13	14	15	14	16	24	19	22	37	24	22	20	16	21	14	15	15	14	14	16	15
29	15	15	15	15	14	16	13	42	25	15	20	20	23	21	21	19	15	14	14	14	15	14	14	14
30	16	16	15	15	14	14	14	14	13	23	24	23	22	26	22	19	E B 56	20	14	15	15	16	16	15
31	15	16	16	16	14	15	15	14	16	21	22	22	24	22	22	20	16	15	15	16	16	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	31	31	31	31	31	31	31	31	31	31	29	28	30	30	30	30	30	31	31	31	31	31	31	31
MED	15	15	15	14	15	14	14	15	16	20	22	23	24	22	22	19	16	15	14	15	15	15	15	15
U Q	16	16	15	15	15	15	15	16	20	22	23	26	24	25	24	21	18	15	15	15	16	16	16	16
L Q	15	15	15	14	14	14	14	14	15	18	18	22	21	20	20	17	15	14	14	14	15	15	14	15

JUL. 2005 fmin (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 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	296	294	F	F	F	324	353	A	A	A	A	A	A	A	A	A	306	320	316	320	291	285	305	F
2	301	302	294	284	290	350	308	A	A	302	350	248	283	288	321	332	A	298	A	280	287	308	F	F
3	272	301	332	F	F	305	325	289	314	325	327	289	301	A	A	317	307	303	302	308	288	315	286	F
4	F	F	298	310	307	340	326	303	A	A	A	301	A	289	293	293	296	311	319	300	307	279	F	F
5	F	F	F	290	305	327	307	331	312	325	307	285	288	295	290	300	297	299	306	301	312	306	317	302
6	286	298	302	312	321	347	341	343	338	329	A	277	A	303	302	283	306	309	297	299	322	323	288	F
7	F	F	F	298	301	322	333	353	309	318	312	A	282	A	304	A	A	281	282	312	339	284	297	290
8	F	F	F	F	302	286	300	328	364	353	319	322	293	296	308	298	291	298	306	308	310	303	290	301
9	289	289	F	308	306	311	336	333	336	343	325	A	309	A	286	303	301	309	A	289	316	286	296	292
10	292	A	273	274	275	287	317	266	297	303	286	307	286	306	318	286	313	312	285	297	293	309	252	F
11	F	F	282	269	262	238	A	A	A	R 257	A	S 309	A	A	A	A	A	271	302	302	300	F	F	F
12	F	F	277	275	298	302	344	A	354	280	A	A	A	A	272	301	A	321	316	331	284	288	274	280
13	298	314	259	282	293	316	253	236	B	254	297	A	A	A	A	298	253	286	A	288	310	292	288	283
14	304	295	300	311	290	312	289	292	300	341	A	A	A	A	289	243	R 277	323	316	337	299	296	295	296
15	306	307	308	301	321	341	331	283	303	308	307	R 307	339	299	310	317	316	307	312	303	307	323	318	F
16	F	F	322	304	302	293	308	307	329	343	275	298	297	308	297	300	324	318	329	372	287	292	300	291
17	324	320	319	301	292	320	299	302	350	334	A	A	A	A	297	324	320	329	318	315	295	308	280	304
18	341	305	275	F	F	285	290	283	319	286	319	240	A	297	A	A	A	348	304	305	309	327	326	284
19	F	F	F	F	323	355	372	A	A	A	A	295	327	288	303	327	321	317	297	310	333	314	314	F
20	F	298	325	327	329	327	329	346	326	373	331	304	A	A	318	320	305	321	322	336	349	301	309	305
21	294	309	305	309	300	320	379	308	A	293	A		278	269	307	340	348	317	313	299	279	F	F	350
22	321	306	F	F	F	F	297	335	A	333	296	307	309	317	309	318	307	307	334	342	327	315	301	298
23	304	304	323	293	299	322	260	326	342	A	320	A	311	307	317	319	314	336	323	312	333	344	F	F
24	309	311	302	304	F	282	307	309	364	352	313	330	307	287	288	318	328	319	A	322	316	320	310	F
25	308	301	306	304	301	334	307	339	389	373	A	297	263	290	312	305	314	324	330	328	339	F	F	F
26	F	F	F	319	F	312	316	333	352	326	C	C	312	298	315	330	318	329	336	341	310	283	F	F
27	F	302	289	293	F	304	304	310	313	355	C							313	315	319	307	316	307	297
28	F	287	298	F	282	294	301	287	273	S	322	336	255	298	282	309	A	313	293	319	339	304	F	A
29	274	F	F	F	307	309	290	331	A	A	A	A	A	289	308	313	293	321	319	315	306	281	283	282
30	308	304	312	305	280	290	288	359	345	335	348	274	309	285	294	324	309	328	335	341	288	A	F	304
31	F	F	300	299	312	336	341	359	344	326	323	254	306	301	317	305	317	335	319	325	319	291	281	F
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	18	19	22	23	24	30	30	26	22	25	18	19	19	20	25	26	24	31	27	31	31	27	22	16
MED	302	302	301	301	301	314	308	318	332	326	319	298	301	296	304	311	308	317	316	312	309	304	296	296
U Q	308	307	312	309	307	327	333	335	350	343	325	307	309	302	314	320	318	323	322	328	322	315	309	303
L Q	292	298	289	290	291	294	299	292	312	302	307	277	283	288	292	300	299	307	302	301	293	288	286	287

JUL. 2005 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	A	A	A	A	A	A	A	A	A	A	A	A					
2						L	L 360	A	A	389	A	L 316	U L 380	361	A	L 353	A	A	A					
3						L	L	A	A	A	A	A	A	A	A	A	A	L 333	A					
4						L	A	A	A	A	A	A	A	395	356	370	381	L 352	L					
5							L	L	379	399	L 371	A	A	A	A	A	374	349	L					
6							L	L 384	L 384	A	A	A	A	A	365	L 409	A	A	L					
7							A	L	A	A	A	A	A	A	A	A	A	A	A					
8							A	A	404	L 394	419	U L 418	L 423	A	A	L 355	L 376	L 340	L					
9							L	A	A	A	412	A	A	A	A	A	376	L 346	A					
10						A	A	L 344	L 349	A	U L 404	407	392	A	400	L 352	L 339	A	L 305					
11						L 282	A	A	A	L 385	A	U L 394	A	A	A	A	A	349	A	A				
12						A	A	A	A	A	A	A	A	A	U L 386	370	A	A	L					
13						L	355	U L 364	B	395	412	A	A	A	A	A	A	365	A	A				
14						L 334	341	406	A	U L 374	A	A	A	A	399	U L 380	U L 369	L 339	L					
15							L	347	E B	392	A	U L 372	L 400	U L 390	388	362	397	368	L					
16						A	360	U L 400	U L 412	408	U L 426	431	U L 407	U L 368	402	A	376	A	A					
17							L 344	L 391	L 363	L 407	A	A	A	A	377	389	376	L 356	L					
18						L 321	L 349	382	406	393	A	U L 408	A	U L 355	A	A	A	A	L 330					
19								A	A	A	A	402	A	A	U L 375	389	A	L	L 338					
20							L	369	407	L 393	451	397	A	A	401	385	382	L 358	L 367					
21							L	U L 345	A	A	A		U L 354	A	381	379	L	U L 356	L 336					
22							L 343	L 369	A	A	399	400	L 418	405	A	A	A	A						
23							355	370	A	A	A	A	L 427	U L 390	U L 358	388	373	L 359	L					
24						L 340	349	376	A	407	U L 434	404	406	395	387	413	400	A	A					
25							L 359	400	A	426	A	A	U L 366	U L 418	A	369	A	A	A					
26							L	A	374	404	C	C	A	413	A	401	A	A	A					
27							L	A	L	L 392	C							A	L					
28						L	369	U L 353	A	U L 415	U L 406	U L 396	U L 415	U L 401	A	365	A	U L 366	L					
29							L 359	A	A	A	A	A	A	A	A	A	A	L	A					
30						L	L	L 388	L 395	412	L 399	U L 417	385	372	377	394	E B	L 360	L					
31							L	L	394	L 412	L 384	397	428	U L 398	400	387	394	A						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						4	12	16	11	18	12	14	13	13	15	19	13	15	5					
MED						L 328	355	L 373	394	397	L 409	401	L 406	U L 395	386	380	376	L 356	L 336					
U Q						L 337	360	L 390	406	408	422	U L 408	L 420	403	400	389	388	360	L 352					
L Q						L 302	346	U L 358	L 374	L 392	L 399	U L 396	U L 382	370	375	L 365	374	L 346	L 318					

JUL. 2005 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 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							282	A	A	A	A	A	A	A	A	A	E A 328	E A 302	E A 278					
2						268	340	A	A	324	282	506	416	374	302	284	A	E A 338	A					
3						300	278	292	298	280	E A 336	378	336	A	A	314	324	354	294					
4						264	282	E A 354	A	A	A	E A 346	A	368	354	330	322	288	262					
5							264	272	278	290	336	E A 412	374	356	326	306	314	308	270					
6							252	272	284	E A 318	A	404	A	308	316	336	310	276	306					
7							E A 272	254	E A 302	314	E A 310	A	418	A	E A 342	A	A	328	E A 318					
8							344	266	246	272	324	428	368	E A 336	316	338	344	308	280					
9							262	282	258	276	312	A	E A 318	A	368	332	326	300	A					
10						E A 334	300	324	358	E A 336	324	320	358	316	296	380	308	306	356					
11						506	A	A	A	402	A	286	A	A	A	A	A	416	E A 318	E A 316				
12						336	E A 280	A	280	E A 322	A	A	A	A	412	324	A	298	276					
13						298	588	544	B	542	394	A	A	A	A	E A 378	E A 506	400	A	E A 272				
14						346	392	360	370	318	A	A	A	A	402	542	354	322	306					
15							282	412	352	332	354	362	362	360	326	322	316	338	282					
16						E A 340	344	310	316	274	372	352	362	368	374	E A 362	280	272	266					
17							350	338	258	296	A	A	A	A	360	302	292	284	270					
18						382	394	400	312	406	314	508	A	408	A	A	A	E A 256	328					
19								A	A	A	A	366	310	E A 380	376	306	296	284	328					
20							306	270	316	244	332	410	A	A	334	290	336	288	276					
21							256	342	A	360	A		398	E A 382	290	270	250	312	276					
22							344	280	A	296	386	370	340	316	326	296	E A 310	290						
23							468	302	280	A	324	A	368	348	330	298	316	272	276					
24						352	340	314	246	270	356	316	360	390	398	310	282	302	A					
25							360	270	224	240	A	382	454	390	330	334	294	E A 292	256					
26							308	274	250	286	C	C	320	334	282	268	276	272	E A 284					
27							306	E A 308	276	292	C							286	280					
28						322	312	380	E A 430	S	370	306	444	396	390	338	A	294	292					
29							374	292	A	A	A	A	A	380	326	E A 294	E A 372	290	264					
30						346	334	240	270	290	280	386	332	328	338	280	E B 318	280	264					
31							260	246	278	286	310	508	344	340	290	304	286	254						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						13	29	26	22	25	18	19	19	20	25	26	24	31	25	2				
MED						335	308	292	279	293	326	374	362	358	330	309	308	292	278	E A 294				
U Q						349	347	342	316	328	356	412	398	381	371	336	327	312	306					
L Q						299	279	272	258	278	312	346	336	335	316	296	293	284	270					

JUL. 2005 h'F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 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 264	E A 302	E B 292	E A 284	E B 282	232	A	A	A	A	A	A	A	A	A	A	A	A	A	E A 248	E A 294	E A 324	274	276
2	E B 254	250	E A 300	E A 322	E A 324	236	234	A	A	H 204	A	E A 296	216	238	A	E A 238	A	A	A	E A 300	E A 332	238	E A 308	228
3	E A 282	E A 312	E A 272	E A 338	E A 318	238	234	A	A	A	A	A	A	A	A	A	A	E A 276	A	246	E A 286	E A 256	E A 284	E A 288
4	E A 292	E A 284	E B 250	E A 258	E A 278	240	A	A	A	A	A	A	A	H 192	E A 258	H 194	214	220	222	242	236	E A 282	E A 330	244
5	228	E A 316	226	E A 300	E A 256	226	210	232	198	220	E A 240	A	A	A	A	A	210	204	E A 242	248	244	E A 268	246	214
6	E A 302	E A 266	E A 276	E A 248	224	228	208	200	200	A	A	A	A	A	228	214	A	A	E A 242	E A 252	232	232	E A 312	E A 332
7	232	E A 282	E A 266	E A 276	E A 264	E A 272	A	A	A	A	A	A	A	A	A	A	A	A	A	E A 270	236	E A 326	E A 272	E A 284
8	E A 316	E A 308	E A 286	E A 280	E A 266	224	A	A	204	206	190	H 182	196	A	A	212	204	234	224	E A 254	222	228	E A 276	E A 268
9	E A 298	E A 300	E A 272	E A 268	E A 262	226	214	A	A	A	200	A	A	A	A	A	204	E A 264	A	E A 264	222	E A 272	E A E 250	E A 296
10	E A 362	A	E A E 348	E A 340	E A 294	A	A	218	E A 282	A	H 188	188	224	A	220	230	210	A	E A 270	244	E A 272	232	E A E 316	E A 352
11	E A 352	E B 272	E B 266	E B 302	E A 322	E A 360	A	A	A	204	A	200	A	A	A	A	A	E A 238	A	A	E A 276	E A 326	E A 314	E A 286
12	E B 262	E B 266	E A E 344	E A 314	E A 306	A	A	A	A	A	A	A	A	A	214	E A 244	A	A	238	E A 246	E A 308	E A 312	E B 306	E B 300
13	E A 278	E B 248	E A 340	E A 340	E A 282	E A 246	232	E A 238	B	224	204	A	A	A	A	A	A	230	A	A	E B 250	E B 268	E B 278	E A 320
14	244	E B 262	E B E A 262	248	E A E 298	E A E 256	E A 298	204	A	200	A	A	A	A	216	226	E B 248	228	230	232	238	E B 258	E A E 292	E B 276
15	E B 256	E B 252	E B 256	E B 272	242	234	212	H 192	E B 262	208	A	216	194	202	H 202	228	208	216	230	236	236	E A 252	E A 284	E A 308
16	242	E A 302	E A 268	E A 314	E A 300	A	222	202	208	202	194	196	198	204	202	A	E A 230	A	A	212	E A 344	E B 268	E B 272	E B 276
17	E A 246	E A 260	E A 270	E A 286	E A 284	220	232	200	216	210	A	A	A	A	208	212	218	200	214	228	E B 248	236	E B 270	242
18	206	E B 244	E B E A 302	E B 292	E B 288	240	228	210	218	204	A	216	A	E A 226	A	A	A	A	228	256	226	226	240	E A 288
19	E A 332	E A 316	E A 320	E A 266	E A 268	238	208	A	A	A	A	H 176	A	A	234	206	A	226	E A 248	242	226	212	E A 272	E A 282
20	E A 338	E A 264	242	212	220	220	H 192	206	H 190	200	H 174	218	A	A	224	214	204	H 200	216	216	210	E B 244	E B 262	E A 260
21	E B 284	E B 272	E B 254	E B 260	E B 290	E A 266	212	E A 278	A	A	A	228	A	208	204	206	204	200	232	E A 292	E A 336	E A 302	206
22	224	E B 264	E B 270	E B 264	E B 284	238	224	216	A	A	202	198	H 190	204	A	A	A	A	E A 236	214	218	222	E A E 262	E A 268
23	E A 266	E A 296	248	E B 260	E B 284	E A 286	E A 268	E A 248	A	A	A	A	188	194	222	202	E A 240	208	232	246	224	218	230	E B 258
24	E A 270	E A 270	E B 270	E A 262	E A 282	236	218	222	A	200	H 184	196	186	206	204	188	210	A	A	226	242	220	E A 296	E A 282
25	242	E A 286	E A 300	E A 260	E B 260	236	226	210	A	H 190	A	A	216	208	A	E A 244	A	A	A	234	222	E A 260	E A 274	E A 268
26	E A 304	E A 318	E A 292	E A 328	E A 292	242	E A 244	A	216	H 182	C	C	A	202	A	H 194	A	A	A	218	E A 240	E A 304	E A 336	232
27	E A 276	E A 272	E A 296	E A 268	E A 270	244	226	A	E A 230	196	C							A	E A 234	230	E A 248	E A 248	E A 274	E A 302
28	E A 250	E A 282	E A 276	E A 290	E A 294	238	240	240	A	H 194	206	H 178	210	E B 190	A	H 226	A	214	232	244	224	220	E A 342	A
29	E A 318	E A 268	E B 258	E B 226	E A 264	E A 258	B 230	A	A	A	A	A	A	A	A	A	A	E A 236	A	240	226	E A 284	E A 300	E A 300
30	E B 256	E B 250	242	E B 250	E A 292	E A 278	214	204	H 176	180	212	H 188	E A 236	214	224	208	B	E A 244	236	220	E B 250	A	240	E A 252
31	E A 248	E B 268	244	E B 272	E B E 254	236	H 176	204	206	194	218	192	184	208	214	214	220	A	E A 242	E A 238	238	E A 258	E A E 310	E B 284
	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	31	31	31	28	24	18	13	18	12	14	13	13	15	19	14	17	19	29	31	30	31	30
MED	E A 266	E A 272	E A 270	E A 272	E A 282	234	220	207	204	201	199	195	197	204	215	211	208	U 215	227	236	230	E 257	E A 278	E A 279
U Q	E A 302	E A E 300	E A 296	E A 302	E A E 294	E A 251	233	E A E 232	E A 224	206	209	216	220	211	224	E A 228	E 220	E A 237	E A E 242	E A E 248	E A E 272	E A 282	E A E 308	E A 296
L Q	246	E B 264	256	E 260	E 264	233	212	204	199	H 194	H 189	H 188	189	198	208	204	206	206	224	229	226	232	270	258

JUL. 2005 h'F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 h'E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						A	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
2						120	120	A	A	116	A	A	A	A	A	A	A	118	A	B				
3						110	112	A	A	A	A	A	A	A	A	A	A	120	A	B				
4						118	120	120	A	A	A	A	A	116	114	114	112	110	110	B				
5						A	114	116	114	114	114	114	112	114	118	A	120	118	A	B				
6						116	122	118	118	A	A	A	A		A	A	A	A	A	B				
7						A	A	A	A	A	A	A	A	A	A	A	124	116	A	B				
8						118	A	A	A	A	A	118	112	118	112	118	120	A	116	B				
9						A	126	118	A	A	A	A	A	A	A	A	A	A	A	B				
10						A	A	A	A	A	A	116	120	118	120	A	120	120	A	B				
11						116	A	A	A	116	A	A	A	A	A	A	A	A	A	B				
12						E B 130	120	120	120	A	A	A	A	116	116	116	A	116	120	B				
13						B	122	118	B	118	122	A	B	B	A	A	120	A	A	B				
14						116	114	114	A	118	116	114	A	A	A	114	B	114	124	B				
15						B	120	116	B	A	A	A	A	A	116	116	116	116	116					
16						A	A	A	118		112	114	114	B	114	118	124	A	A	B				
17						B	118	118	116	A	A	A	A	A	A	A	A	A	118	B				
18						B	118	116	112	A	A	114	A	112	A	A	A	A	120	B				
19						B	120	A	A	A	A	A	A	116	A	116	A	A	A	B				
20						B	116	116	A	112	114	118	118	A	A	114	114	A	114	B				
21						B	120	120	A	118	118		116	116	116	118	118	116	120	B				
22						B	118	A	A	A	A	B	A	A	A	114	A	A	A	B				
23						B	112	A	A	A	A	A	A	116	A	A	A	A	116	B				
24						B	A	A	A	A	116	116	A	116	A	118	116	120	A	B				
25						B	124	A	A	A	A	A	118	118	118	122	124	118	114	B				
26						B	118	A	118	A	C	C	A	A	A	124	124	A	A	B				
27						E B 130	112	A	A	A	C							116	114					
28						B	A	A	A	A	A	B	116	118	A	A	A	A	A					
29						B	116	B	A	A	A	A	A	118	114	A	A	A	A					
30						116	116	A	A	A	A	A	116	120	120	A	B	122	A	B				
31						B	122	A	120	116	A	114	114	114	114	116	122	A	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						10	23	12	8	8	7	9	10	15	12	14	14	14	12					
MED						116	118	118	118	116	116	114	116	116	116	116	120	117	116					
U Q						E B 120	120	119	119	118	118	117	118	118	118	118	124	120	120					
L Q						116	116	116	115	115	114	114	114	116	114	114	116	116	114					

JUL. 2005 h'E (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	104	104	98	102	106	104	104	100	102	104	104	98	96	98	96	96	94	90	88	92	110	110	114
2	100	98	98	96	98	126	118	106	106	116	106	104	104	104	102	106	104	114	104	106	104	104	100	94
3	90	90	92	88	92	126	114	108	102	100	100	100	98	92	92	92	94	110	104	106	106	94	100	100
4	94	94	94	98	98	98	120	112	102	102	102	102	102	102	110	G	154	96	112	102	100	96	102	106
5	94	96	96	96	96	96	110	122	120	122	122	118	114	112	116	106	112	114	100	102	98	96	98	96
6	94	96	90	90	88	G	106	118	116	102	102	102	100	102	100	100	96	96	96	98	94	90	102	102
7	102	98	94	94	94	100	100	98	98	98	102	100	100	100	100	112	112	114	104	100	100	100	94	92
8	92	88	94	94	98	98	96	96	100	100	104	G	138	124	116	116	116	106	120	106	104	102	100	104
9	100	96	92	96	94	98	124	114	106	106	104	106	106	98	96	116	106	106	102	104	102	102	104	102
10	100	96	94	98	106	104	108	104	100	104	106	104	126	122	106	108	102	112	106	108	104	104	108	104
11	94	96	100	122	108	116	104	104	104	116	102	106	108	108	104	108	108	104	102	100	98	98	96	104
12	102	102	94	96	98	122	116	116	116	106	100	100	108	116	G	126	106	114	114	104	104	114	B	118
13	138	112	116	106	106	112	112	120	B	114	122	110	106	108	108	110	124	108	106	104	102	98	100	102
14	102	100	100	102	110	120	106	116	104	118	116	114	102	104	106	112	B	104	118	B	B	92	90	B
15	92	B	B	B	B	120	124	108	B	104	98	102	100	102	98	98	136	102	114	88	90	104	104	106
16	106	100	100	100	96	96	100	104	104	104	100	102	102	B	114	116	122	104	104	108	98	108	B	B
17	106	102	96	98	96	122	114	120	114	104	100	100	98	98	102	104	106	102	102	B	B	B	B	B
18	B	B	102	98	100	B	128	114	114	104	102	98	98	132	106	106	106	106	126	112	B	114	104	98
19	98	96	96	98	94	102	116	106	100	106	100	102	102	110	106	116	104	104	100	104	102	94	100	100
20	102	100	100	98	B	108	114	112	106	102	128	128	124	108	104	120	110	106	112	B	B	B	B	104
21	106	112	B	B	122	120	122	122	102	110	118		120	118	104	124	100	106	122	100	104	104	98	B
22	98	98	B	106	B	B	118	104	100	98	102	B	104	104	96	116	102	104	104	102	98	B	98	102
23	96	96	98	B	B	116	114	104	106	100	102	100	102	104	100	106	108	108	124	106	106	102	100	100
24	98	96	92	96	96	106	106	104	100	102	102	140	104	132	98	98	146	112	102	104	102	102	98	94
25	94	90	92	94	B	132	126	102	100	100	100	94	116	120	136	144	120	116	112	104	102	102	102	98
26	92	90	90	112	94	116	112	104	110	106	C	C	94	100	98	122	116	96	100	102	96	96	104	B
27	102	100	94	94	98	G	124	104	104	104	C							116	110	104	104	102	98	98
28	96	98	90	98	104	B	108	98	100	106	100	106	106	102	102	100	98	96	100	94	92	88	102	98
29	96	100	108	106	104	B	98	114	102	106	106	104	106	140	120	106	102	104	106	108	108	102	98	98
30	102	92	B	94	96	118	110	102	104	102	102	104	116	146	120	108	112	110	106	106	108	102	102	102
31	106	102	B	B	102	98	100	102	116	114	106	118	118	104	116	114	116	106	104	106	106	106	108	102
	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	26	27	26	25	31	31	29	31	29	26	30	29	29	29	29	31	31	28	27	28	27	26
MED	98	98	95	98	98	112	112	106	104	104	102	104	104	104	104	108	108	106	104	104	102	102	100	102
U Q	102	100	100	100	104	120	118	114	108	106	106	106	114	119	112	116	116	112	112	106	104	104	104	104
L Q	94	96	92	94	96	99	106	104	100	102	100	100	100	102	99	105	102	104	102	101	98	96	98	98

JUL. 2005 h'Es (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2005 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

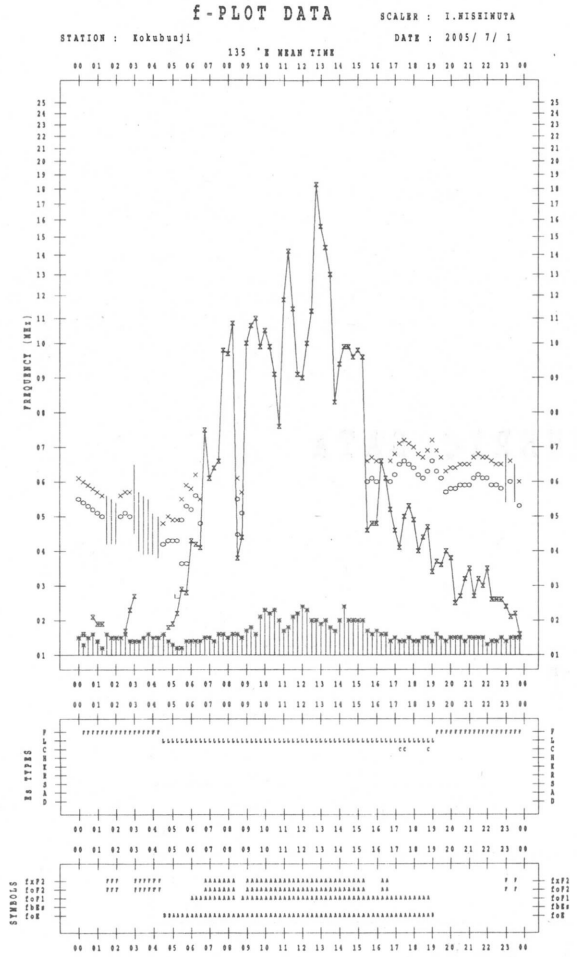
LAT. 35°42.4'N LON. 139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

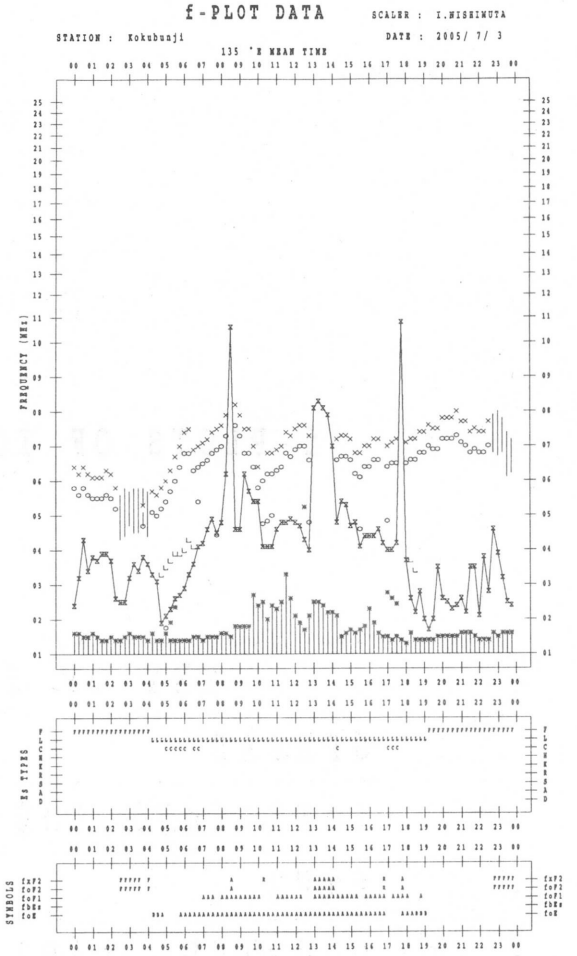
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1		F5	F2	F3	F2	L2	L2	L3	L3	L3	L3	L2	L3	L4	L4	L4	L3	L4	L3	L3	F4	FF33	FF32	FF22
2	F2	F2	F3	F4	F3	CL11	CL21	L2	L2	CL21	L2	L1	L1	L1	L2	L2	L5	CL31	L5	LL42	F4	F3	F4	F4
3	F3	F4	F3	F4	F3	CL11	CL11	L2	L2	L2	L2	L2	L3	L3	L3	L2	L3	CL22	L3	L2	F2	F2	F3	F3
4	F2	F3	F2	F3	F3	L2	CL31	CL31	L2	L3	L2	L2	L3	L2	CL21		HL11	L1	CL22	L3	F3	F2	F4	F2
5	F3	F4	F3	F2	F3	L2	CL11	CL11	CL11	CL21	CL11	CL21	CL21	CL21	CL11	L2	CL11	CL21	L2	L3	F3	F3	F3	F3
6	F4	F2	F3	F3	F1		L1	CL11	CL11	L2	L3	L2	L3	L2	L2	L2	L3	L4	L3	L5	F5	F3	F4	F4
7	F2	F3	F2	F2	F3	L4	L3	L2	L2	L2	L2	L2	L2	L3	L3	CL33	CL31	CL31	L4	L3	F4	F3	F2	F2
8	F2	F2	F1	F2	F2	L2	L3	L2	L2	L2	L1		CL11	CL21	CL21	CL21	CL11	L2	CL21	L4	F2	F3	F3	F4
9	F5	F3	F2	F4	F4	L2	CL21	CL31	L2	L3	L2	L2	L1	L3	L2	CL22	L2	L2	L3	L3	F2	F3	F4	F4
10	F6	F5	F4	F3	F2	L2	L2	L1	L3	L2	L1	L1	CL11	CL11	L1	L3	L1	CL31	L3	L4	F3	F3	F2	F3
11	F5	F2	F2	F2	F3	C3	L4	L3	L2	CL11	L2	L2	L3	L3	L3	L3	L2	L3	L3	L4	F4	F3	F3	F4
12	F2	F3	F3	F3	F3	C2	CL41	CL21	CL21	L2	L3	L3	L2	CL21		CL11	L4	CL21	CL21	F4	F4	F4		F1
13	F2	F2	F3	F5	F3	C2	CL21	CL11		C1	CL11	L1	L2	L2	L2	L1	CL21	L2	L4	L4	F1	F2	F2	F3
14	F1	F2	F2	F2	F2	C1	C2	C1	L2	CL11	CL11	CL11	L2	L2	L1	CL11		L1	CL21			F2	F2	
15	F1					C1	CL11	L1		L1	L2	L1	L1	L1	L2	L2	CL11	L2	CL12	F2	F3	F3	F4	F6
16	F2	F4	F3	F3	F4	L2	L2	L1	L1	L1	L1	L2	L1		CL11	CL11	CL11	L3	L4	L1	F4	F2		
17	F2	F2	F3	F3	F3	C1	CL21	CL11	CL21	L2	L3	L2	L3	L2	L2	L1	L2	L2	L2					
18			F2	F1	F1		CL11	CL21	CL11	L1	L2	L1	L3	CL11	L3	L2	L3	L3	CL11	L1		F1	F3	F3
19	F3	F3	F2	F3	F4	L3	CL22	L3	L3	L3	L2	L2	L1	L2	L2	CL11	L3	L3	L2	L2	F2	F2	F3	F4
20	F5	F3	F3	F3		L1	CL11	CL21	L1	L1	CL11	CL11	CL21	L2	L2	CL11	CL21	L2	C2					F2
21	F1	F1			F1	C3	C2	CL32	L3	CL21	CL21		CL11	CL21	L1	CL11	L1	L1	CL22	L5	F3	F4	F5	
22	F3	F2		F1			C2	L2	L3	L2	L2		L2	L1	L2	CL32	CL21	L2	L3	L2	F2		F2	F3
23	F2	F2	F1			C2	C3	L2	L2	L3	L2	L2	L2	L2	L1	L1	L2	L2	C2	L3	F2	F2	F2	F2
24	F2	F3	F1	F1	F1	L1	L2	L2	L2	L1	L1	HL11	L1	CL11	L1	L2	HL11	CL41	L4	L3	F7	F3	F4	F3
25	F2	F2	F2	F2		C1	C2	L2	L3	L2	L3	L2	CL11	CL11	CL21	HL11	CL21	CL31	C4	L5	F2	F3	F3	F3
26	F4	F2	F2	FF11	F1	C1	CL21	L2	CL11	L1			L2	L2	L3	L1	CL21	L3	L3	L3	F3	F3	F3	
27	F4	F4	F5	F2	F1		C1	L4	L2	L2								CL22	CL22	F3	F3	F5	F4	F3
28	F3	F2	F1	F2	F1		L3	L2	L2	L1	L1	L1	L1	L1	L2	L2	L2	L2	L5	F3	F3	F4	FF32	F3
29	F3	F2	F2	F2	F3		L1	C1	L3	L2	L3	L3	L2	H1	CL21	L2	L3	L3	L3	F5	F2	F6	F3	F3
30	F2	F1		F1	F2	CL21	CL11	L1	L1	L1	L1	L2	CL11	HL11	CL21	L2	C1	CL21	L2	L2	F1	F3	F2	F3
31	F4	F3			F2	L2	L1	L1	CL11	CL11	L2	CL11	CL11	L1	CL21	CL11	CL21	L2	L3	F2	F4	FF22	F3	F2
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

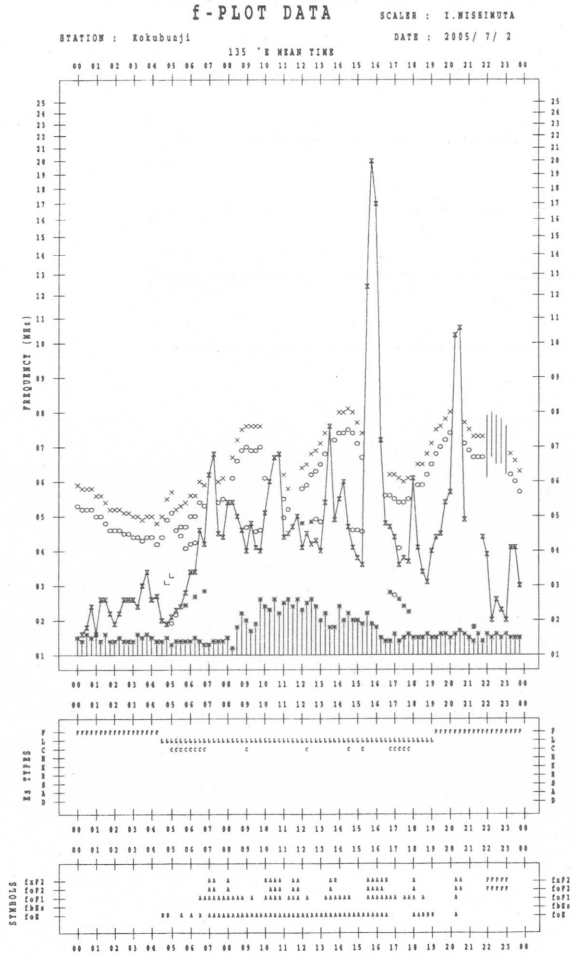
JUL. 2005 TYPES OF Es

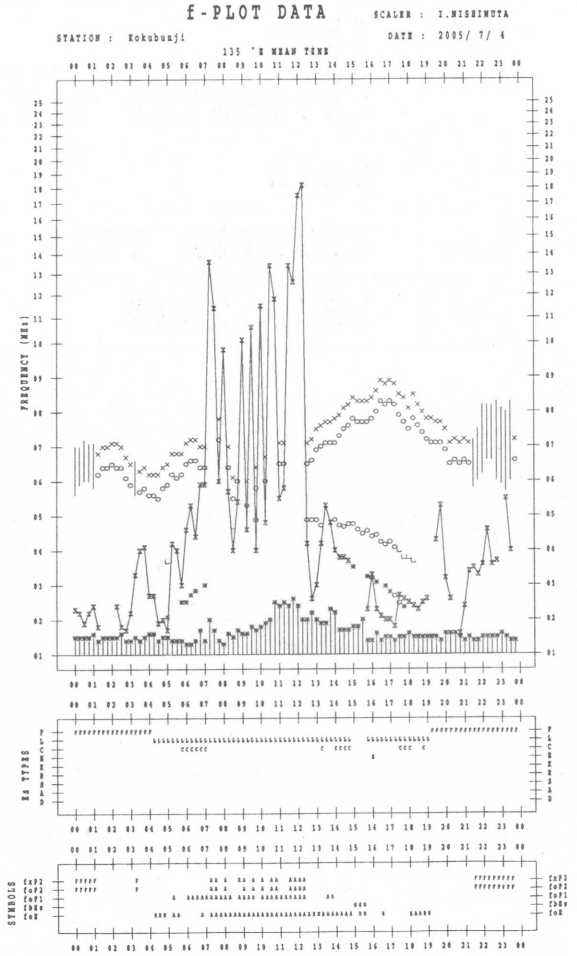
f-PLOTS OF IONOSPHERIC DATA

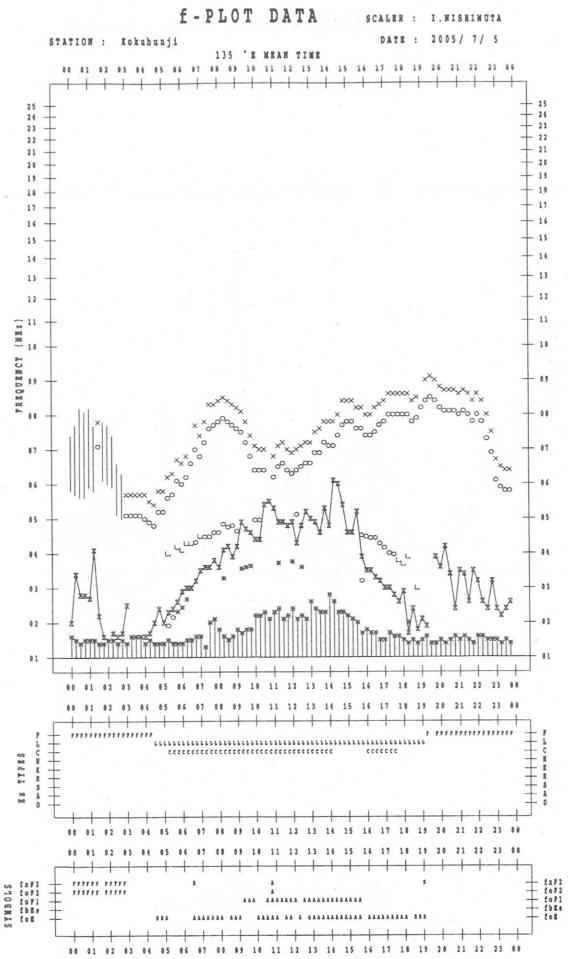
KEY OF f-PLOT	
|	SPREAD
⬡	foF2, foF1, foE
×	fxF2
✳	DOUBTFUL foF2, foF1, foE
⧖	fbEs
⌊	ESTIMATED foF1
↑, ↓	fmin
∧	GREATER THAN
∨	LESS THAN

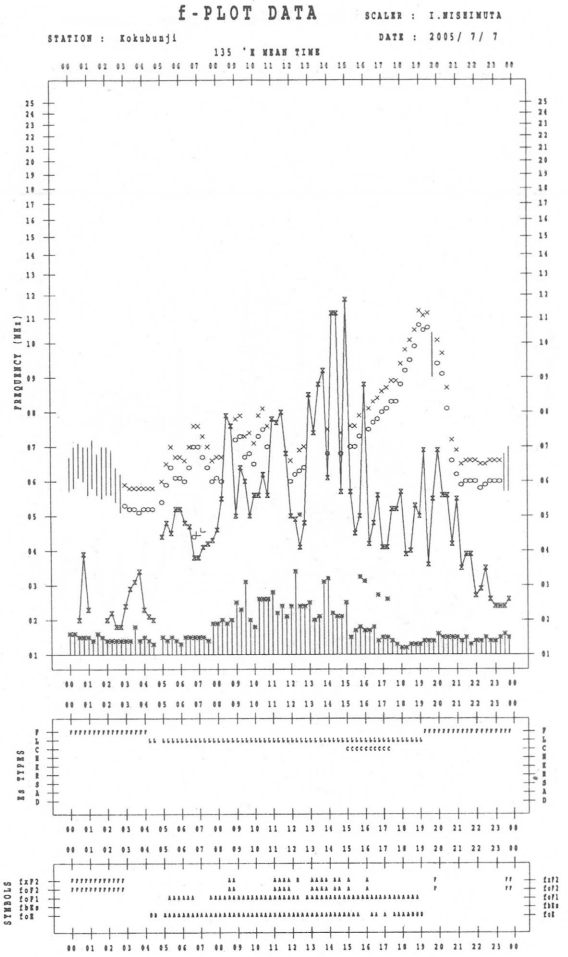

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/ 1
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

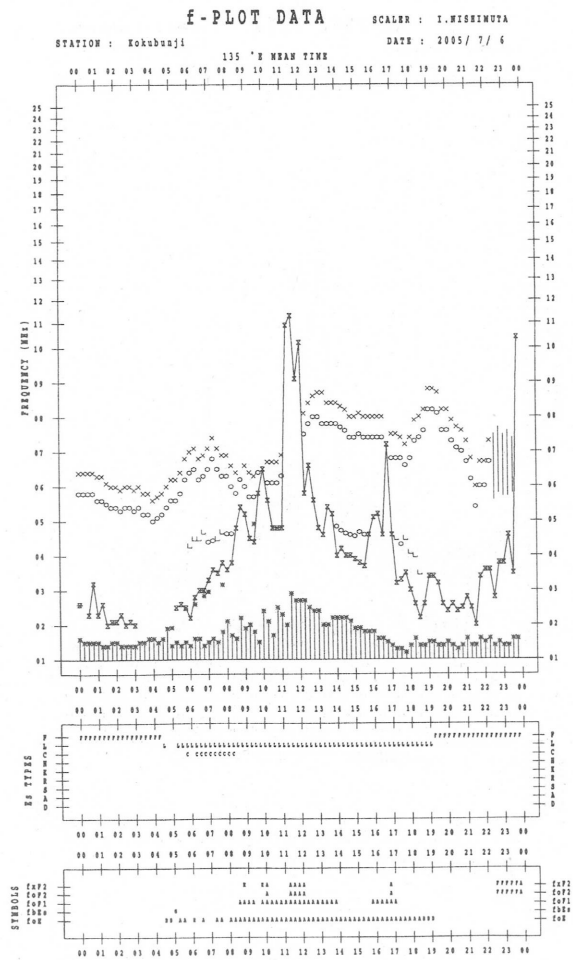

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/ 3
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

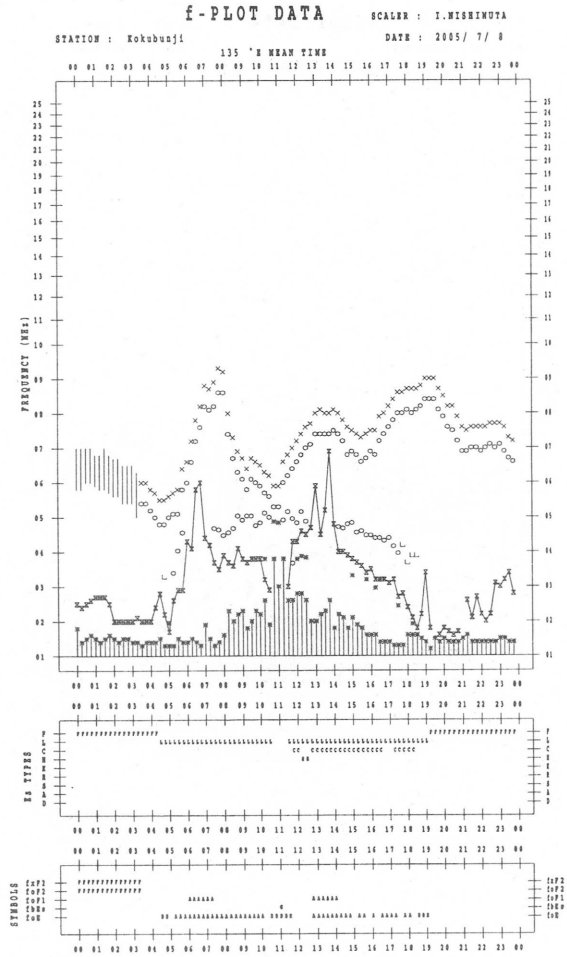

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/ 2
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

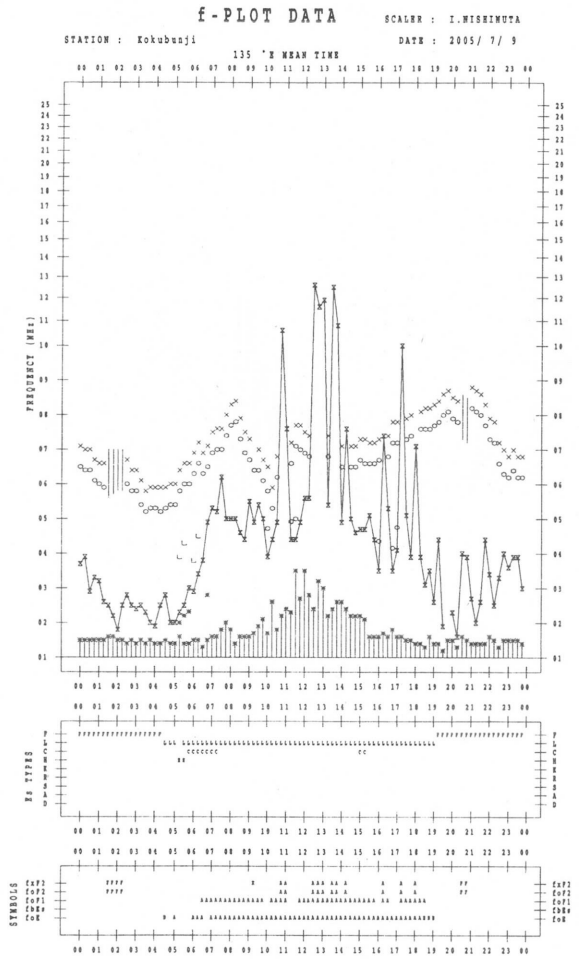

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/ 4
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

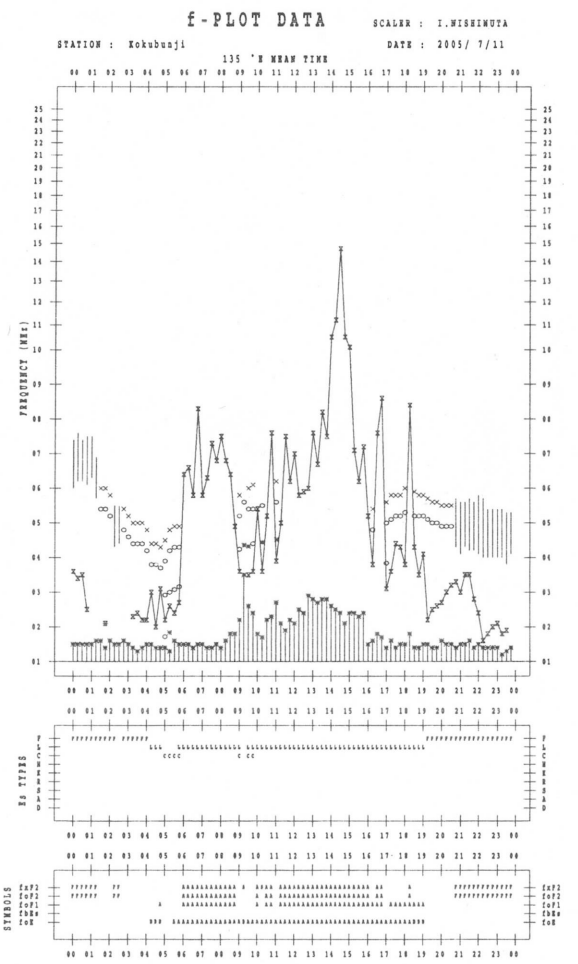

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/ 5
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

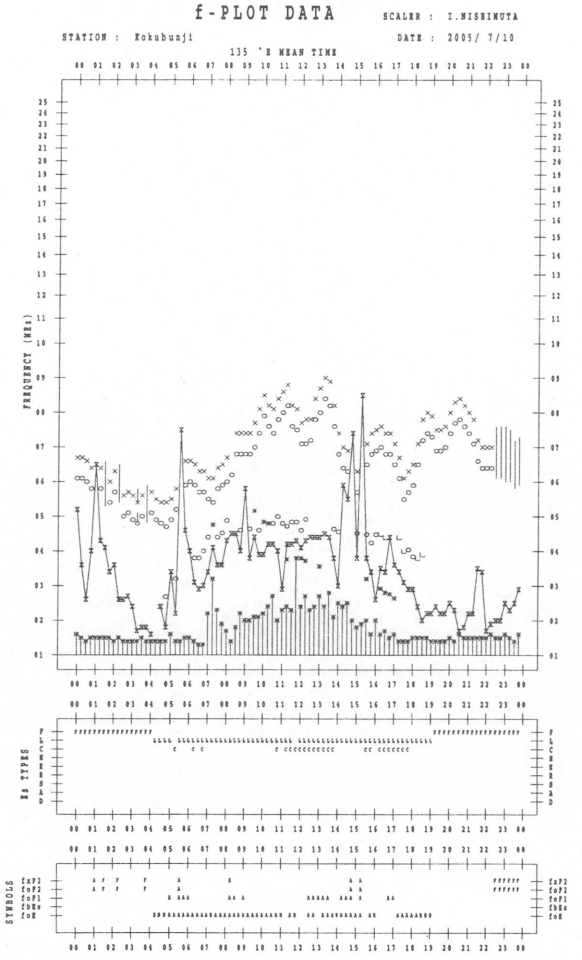

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/ 7
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

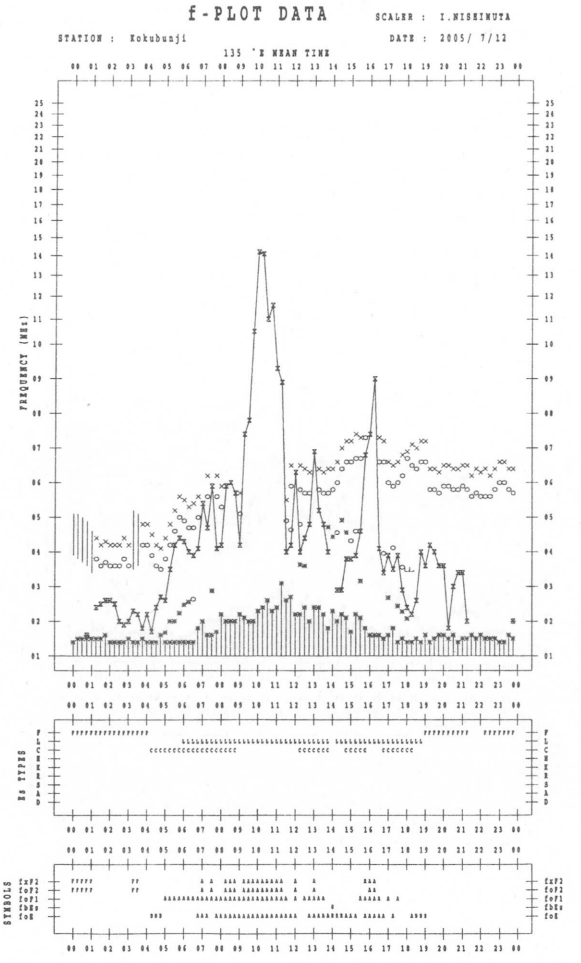

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/ 6
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

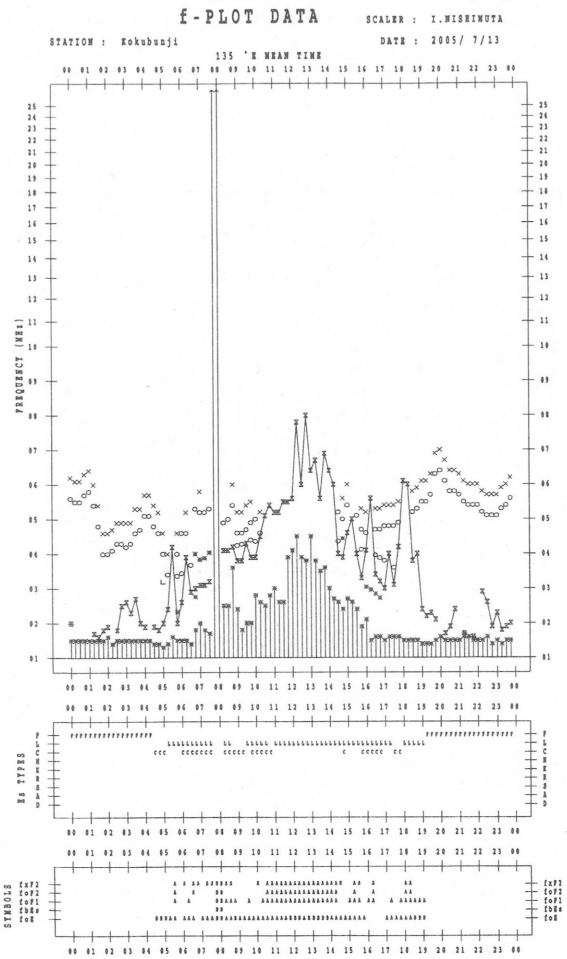

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/ 8
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

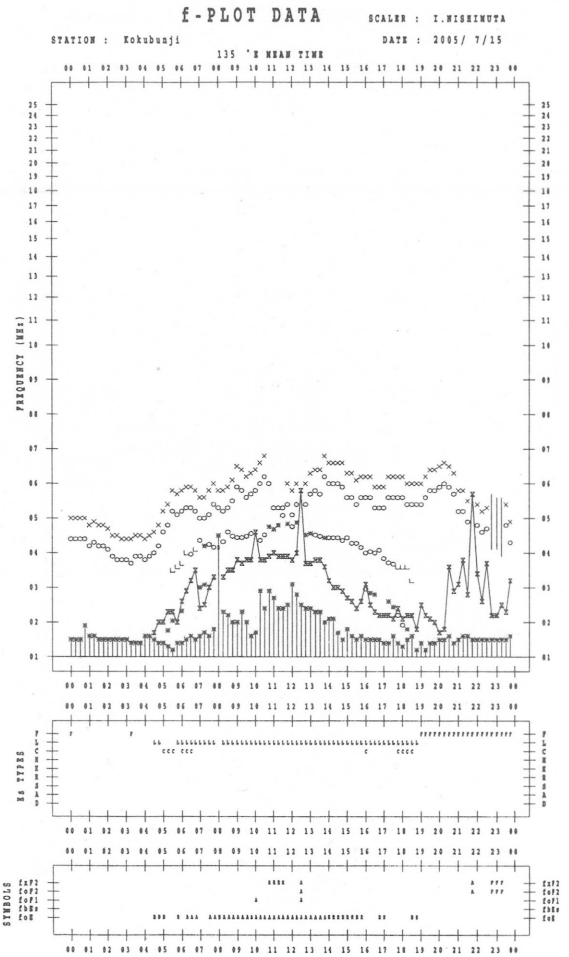

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/ 9
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

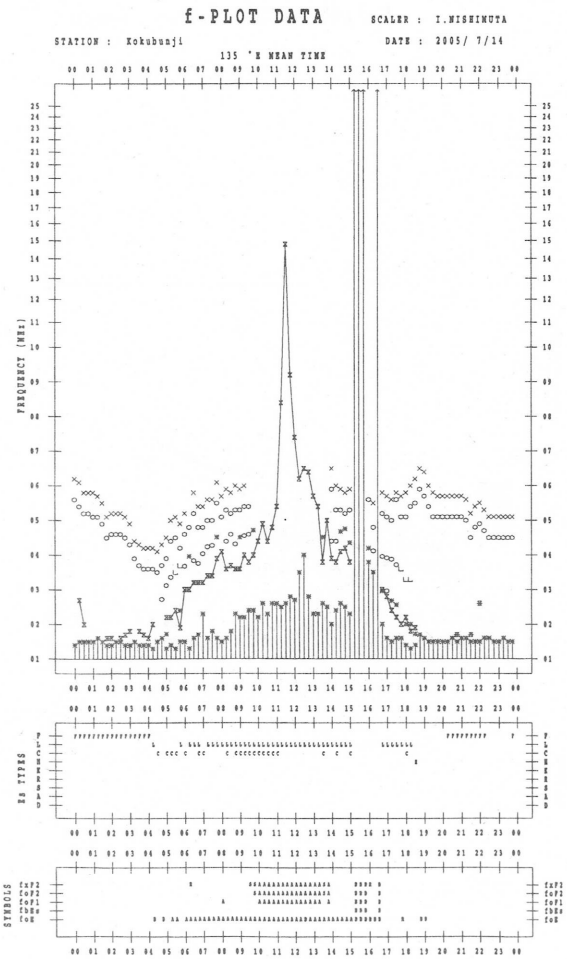

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/11
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

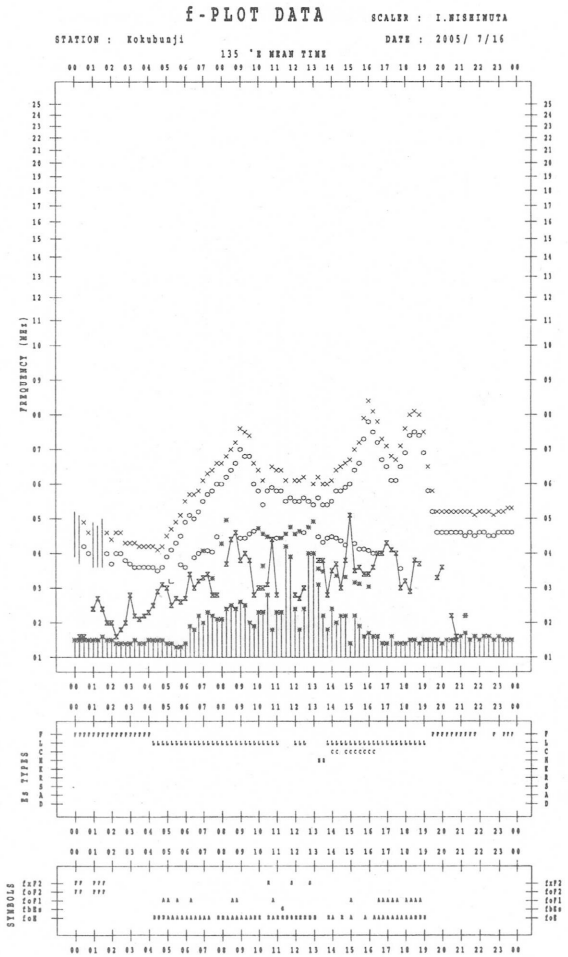

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/10
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

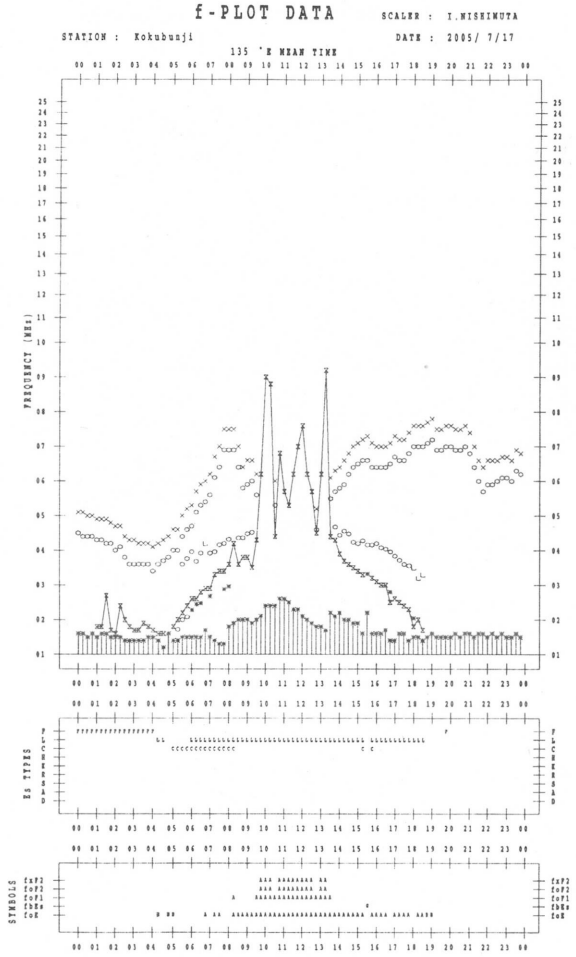

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/12
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

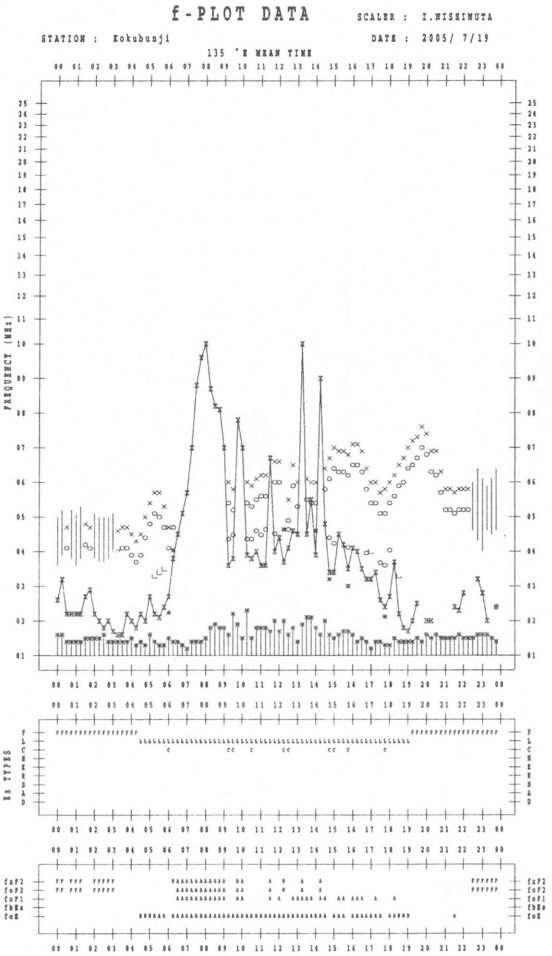

f-PLOT DATA
SCALER : I.NISHINUTA
STATION : Kokubunji
DATE : 2005/ 7/13
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

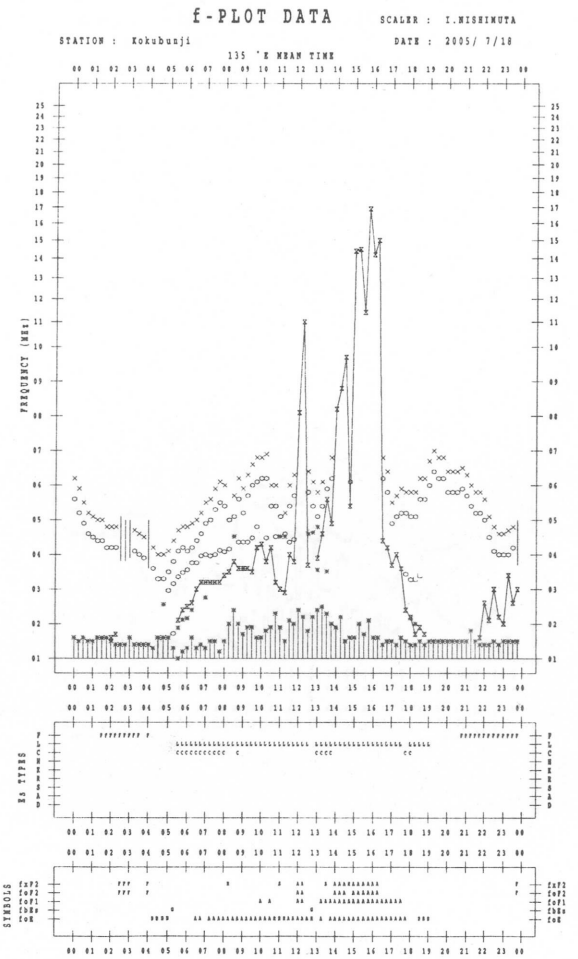

f-PLOT DATA
SCALER : I.NISHINUTA
STATION : Kokubunji
DATE : 2005/ 7/15
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

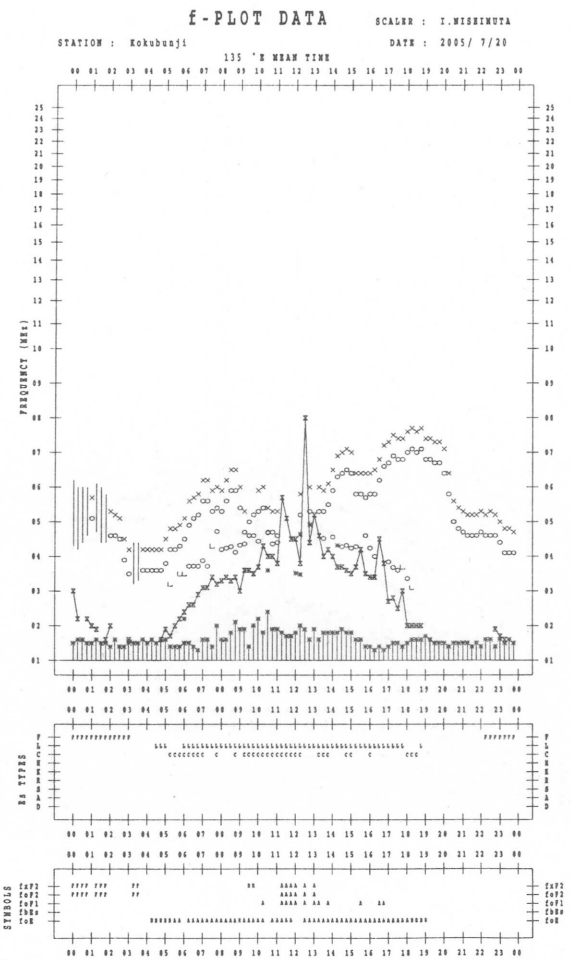

f-PLOT DATA
SCALER : I.NISHINUTA
STATION : Kokubunji
DATE : 2005/ 7/14
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

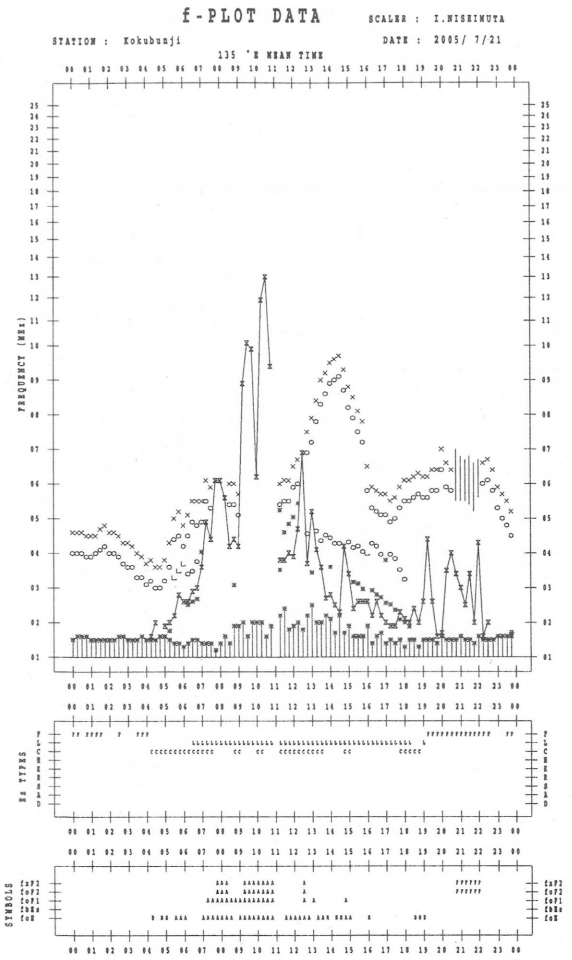

f-PLOT DATA
SCALER : I.NISHINUTA
STATION : Kokubunji
DATE : 2005/ 7/16
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

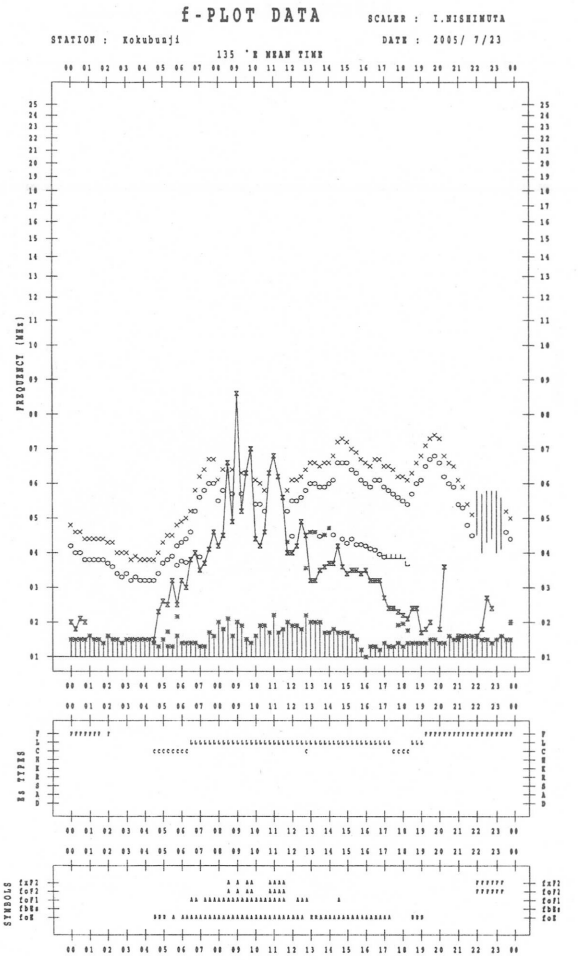

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/17
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

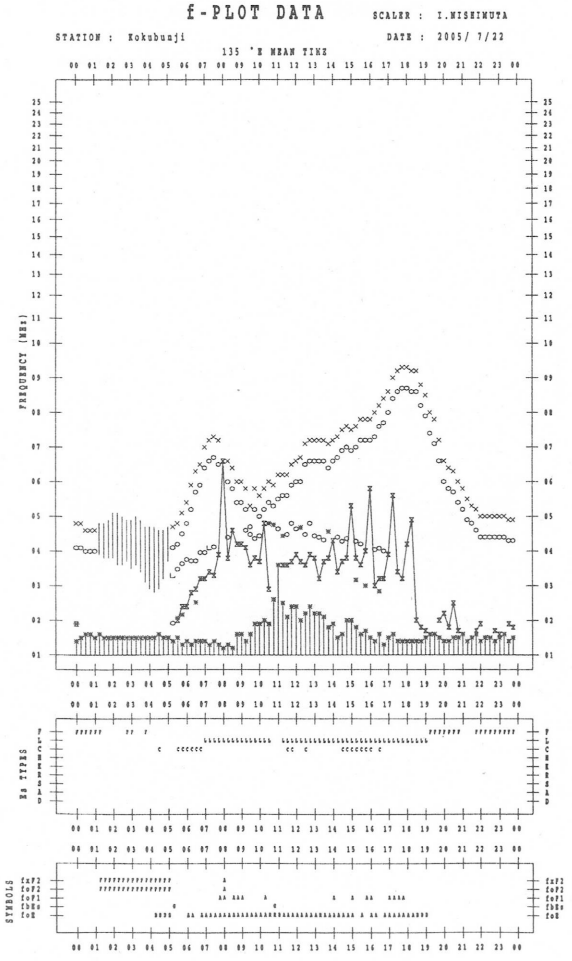

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/19
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

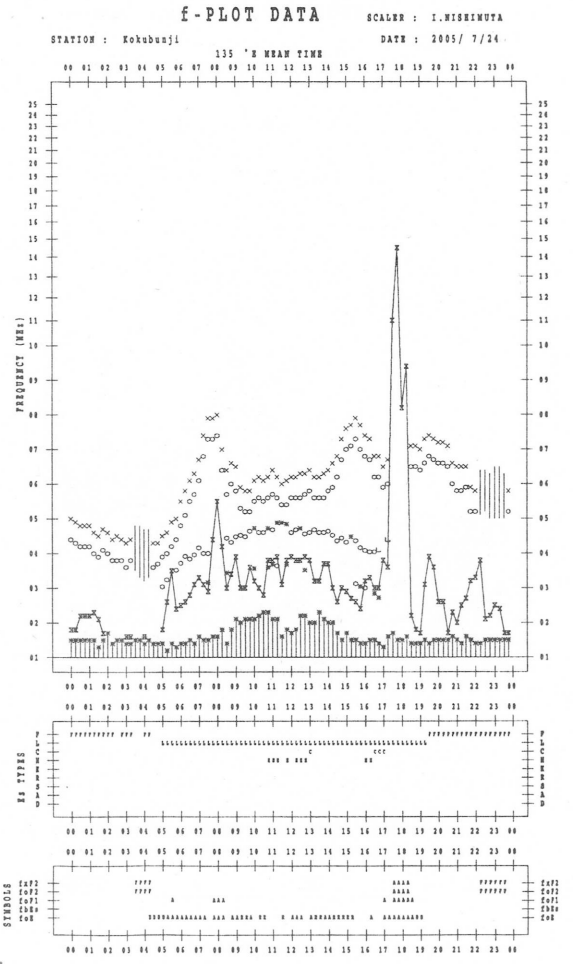

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/18
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

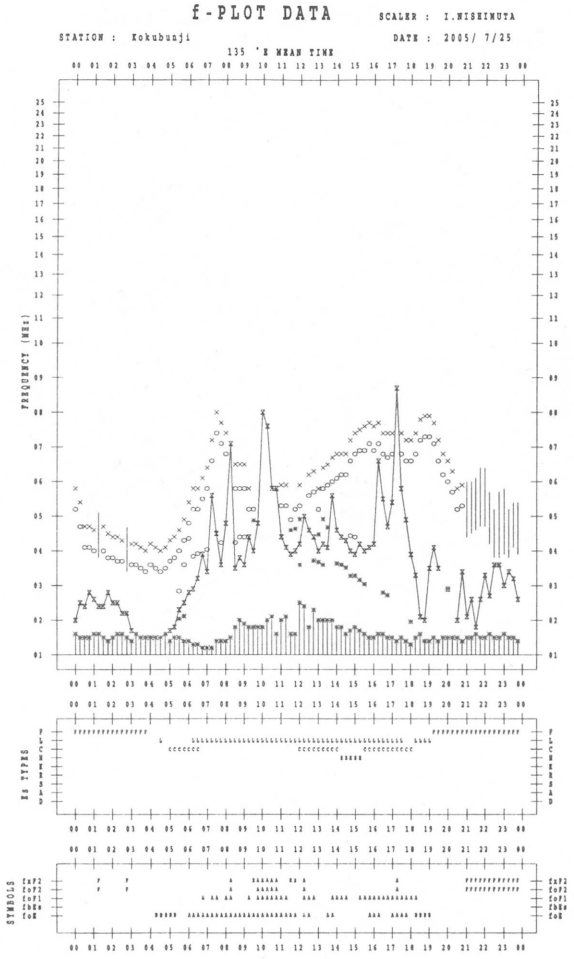

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/20
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

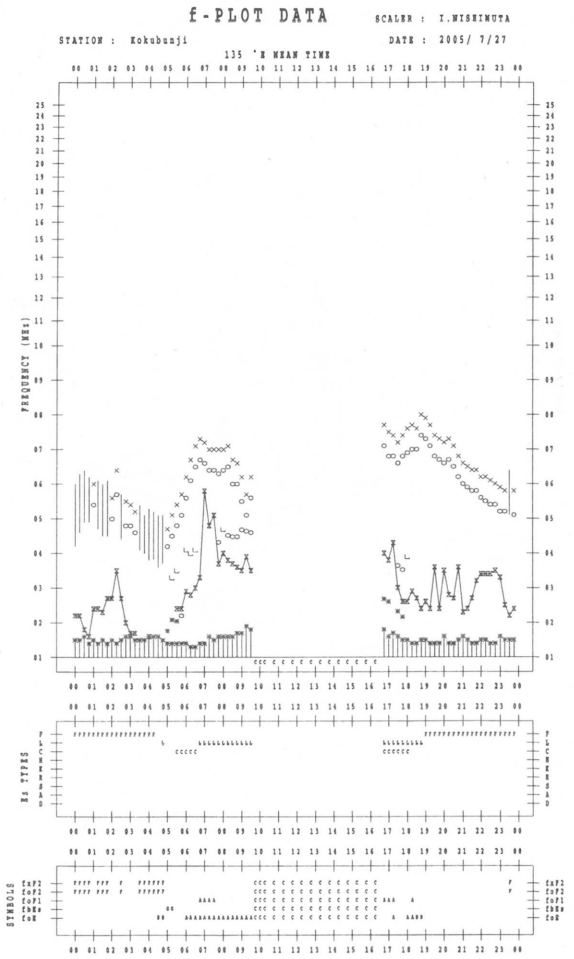

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/21
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

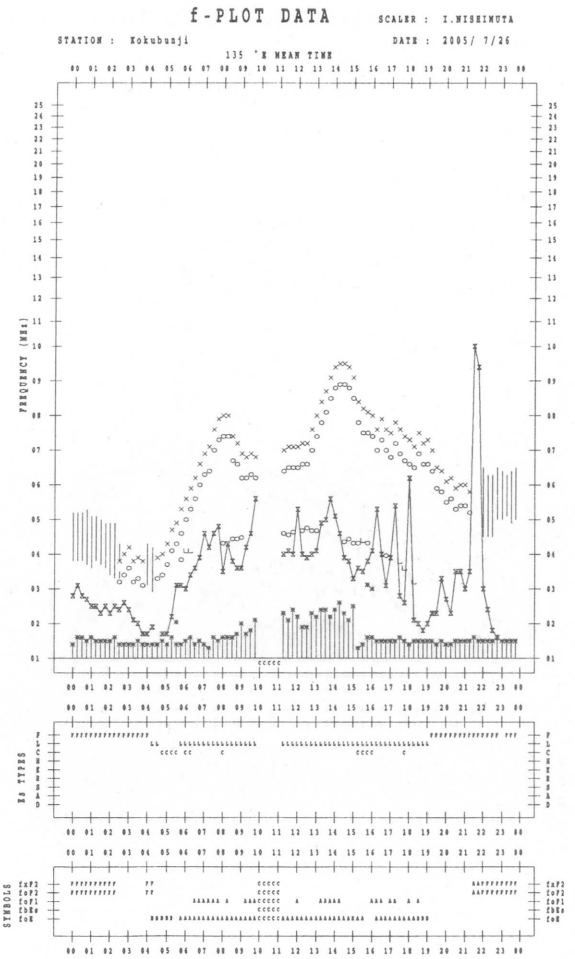

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/23
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

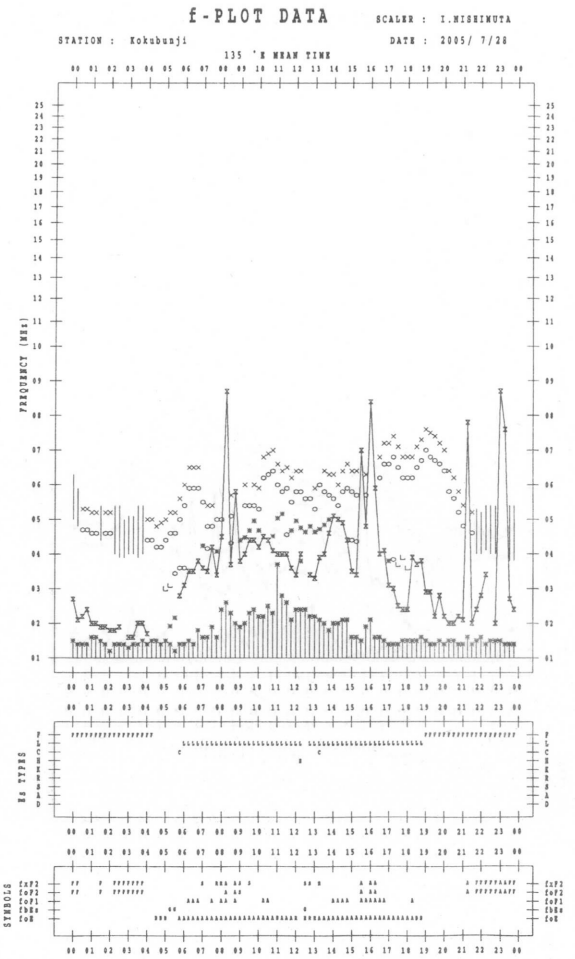

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/22
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

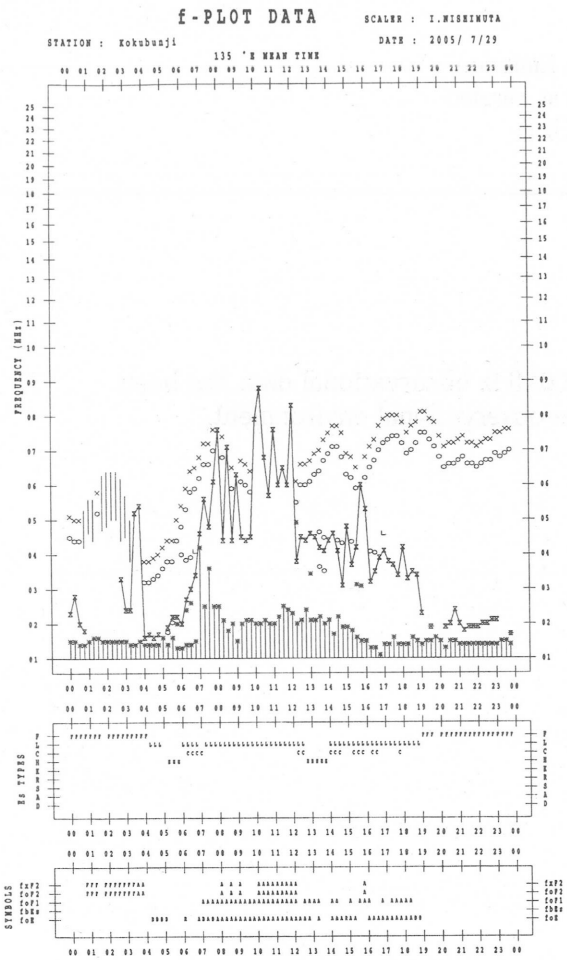

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/24
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

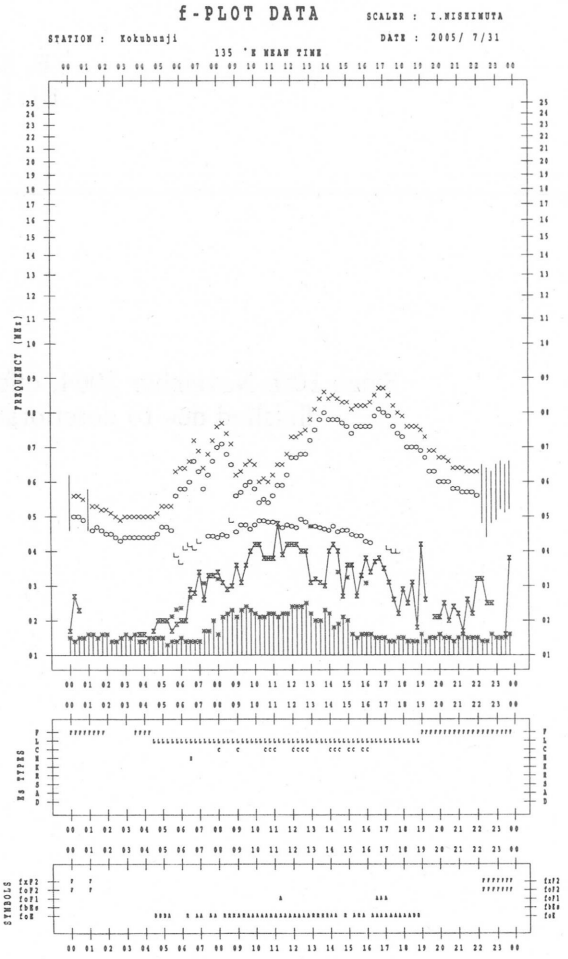

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/25
135 °E MEAN TIME
FREQUENCY (MHz)
Rx TYPES
SYMBOLS

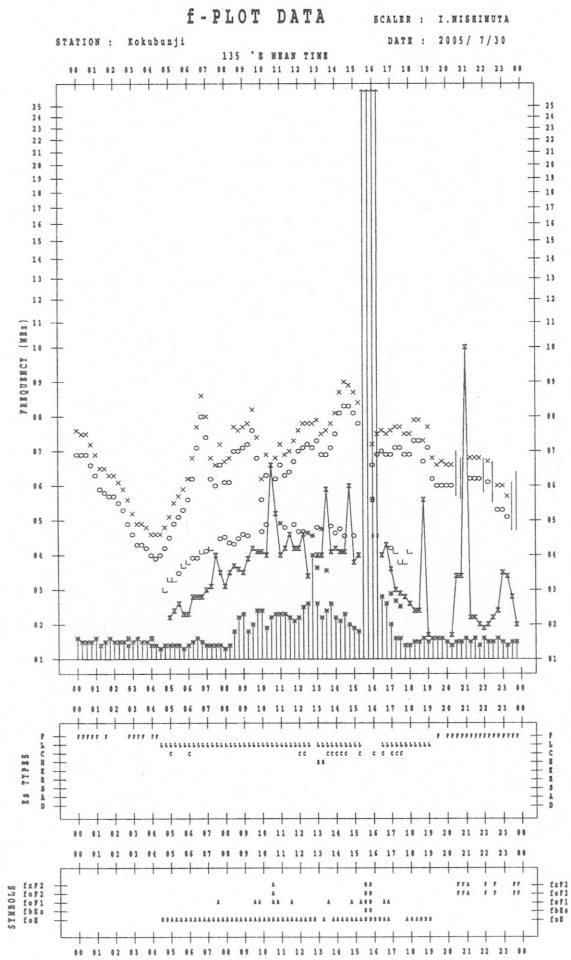

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/27
135 °E MEAN TIME
FREQUENCY (MHz)
Rx TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/26
135 °E MEAN TIME
FREQUENCY (MHz)
Rx TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/28
135 °E MEAN TIME
FREQUENCY (MHz)
Rx TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/29
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/31
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 7/30
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

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

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

B. Solar Radio Emission

B2.Outstanding Occurrences at Hiraiso

Hiraiso July 2005

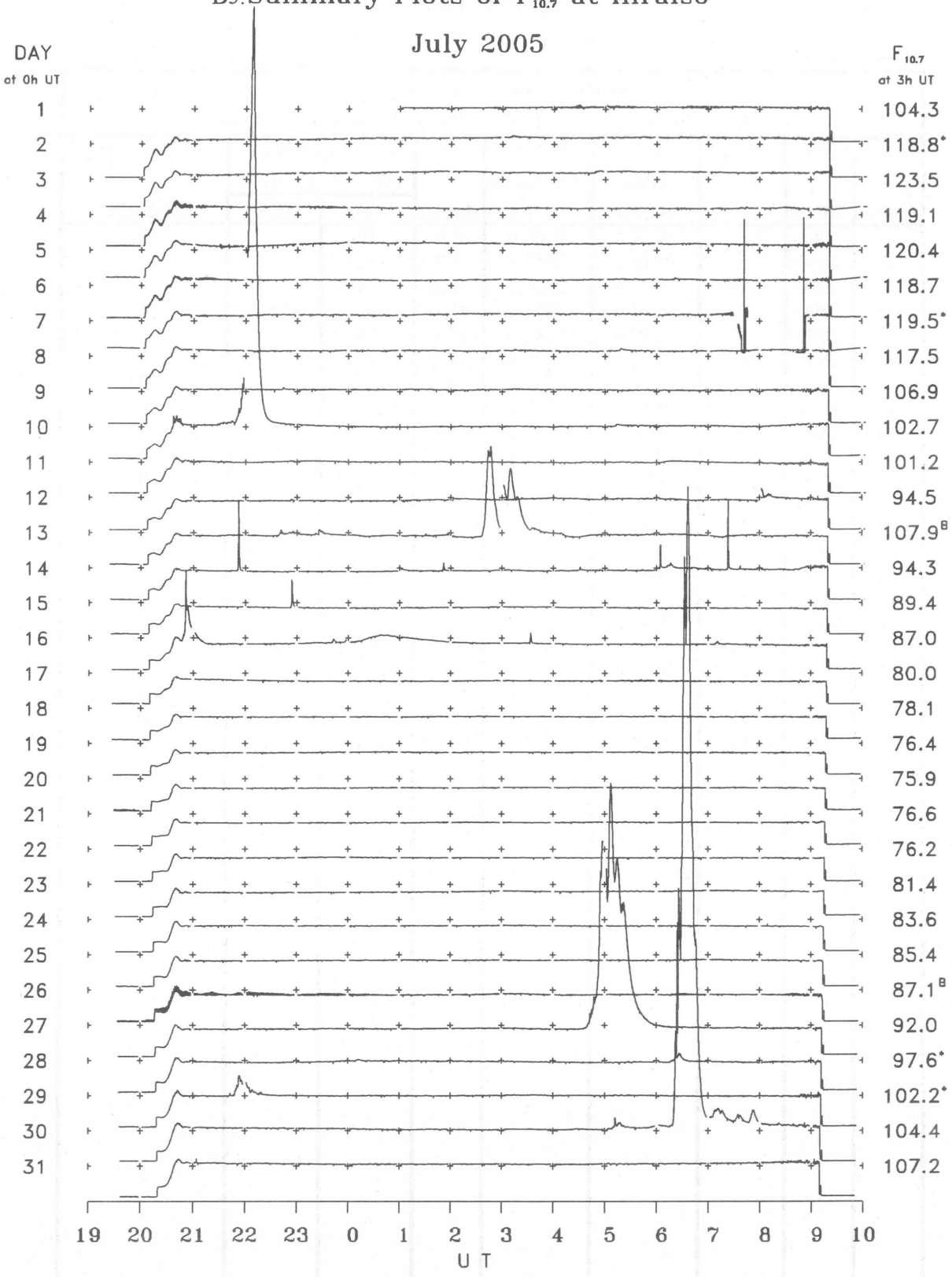
Single-frequency observations

Normal observing period: 1925 - 1000 U.T. (sunrise to sunset)

JUL. 2005	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	7 C	0458.0	0500.0	5.0	40	-	0
6	2800	1 S	0846.0	0847.0	2.0	10	-	
9	2800	47 GB	2148.0	2208.0	43.0	1145	-	0
12	2800	7 C	0800.0	0802.0	16.0	35	-	0
12	2800	7 C	2238.0	2242.0	21.0	20	-	0
12	2800	7 C	2322.0	2326.0	17.0	15	-	0
13	2800	7 C	0237.0	0247.0	93.0	245	-	0
13	2800	8 S	2152.0	2153.0	4.0	200	-	0
14	2800	8 S	0151.0	0152.0	3.0	25	-	0
14	2800	1 S	0431.0	0431.0	2.0	10	-	0
14	2800	7 C	0600.0	0605.0	23.0	70	-	0
14	2800	8 S	0723.0	0724.0	3.0	95	-	0
14	2800	1 S	0737.0	0738.0	1.0	10	-	0
14	2800	8 S	2253.0	2255.0	7.0	80	-	0
15	2800	4 S/F	2047.0	2051.0	28.0	195	-	0
15	2800	21 GRF	2341.0	0089.0	173.0	20	-	0
16	2800	3 S	0333.0	0334.0	4.0	30	-	0
27	2800	47 GB	0434.0	0507.0	96.0	665	-	0
28	2800	4 S/F	0616.0	0627.0	23.0	25	-	0
28	2800	4 S/F	2143.0	2154.0	38.0	55	-	0
30	2800	7 C	0503.0	0513.0	32.0	35	-	0
30	2800	47 GB	0619.0	0637.0	105.0	1740	-	0

B. Solar Radio Emission

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



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

IONOSPHERIC DATA IN JAPAN FOR JULY 2005
F－679 Vol.57 No. 7 (Not for Sale)

電離層月報(2005年7月)
第57巻 第7号(非売品)
2005年11月10日 印刷
2005年11月15日 発行

編集兼 独立行政法人情報通信研究機構
発行所 〒184－8795 東京都小金井市貫井北町4丁目2－1
☎ (042) (327) 7 4 7 8 (直通)

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