F-736

IONOSPHERIC DATA IN JAPAN

FOR APRIL 2010

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≪Real Time Ionograms on the Web ・・・・・・・・・・・・・http://wdc.nict.go.jp/index_eng.html≫

NATIONAL INSTITUTE OF INFORMATION
AND COMMUNICATIONS TECHNOLOGY
TOKYO, JAPAN

INTRODUCTION

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

Stations	Geographic(WGS84)		Geomagnetic (IGRF-10(2005))		Technical Method
	Latitude	Longitude	Latitude	Longitude	
✳Wakkanai/Sarobetsu	45˚10'N	141˚45'E	36.4˚N	208.9˚	Vertical Sounding (I)
Kokubunji	35˚43'N	139˚29'E	26.8˚N	208.2˚	Vertical Sounding (I)
Yamagawa	31˚12'N	130˚37'E	21.7˚N	200.5˚	Vertical Sounding (I)
Okinawa	26˚41'N	128˚09'E	17.0˚N	198.6˚	Vertical Sounding (I)
Hiraiso	36˚22'N	140˚37'E	27.6˚N	209.1˚	Solar Radio Emission (S)

✳We moved the observation facilities at Wakkanai to Sarobetsu on February 2009. The new observatory is located at approximately 26km south from the old observatory. The observation at Sarobetsu commenced on March 6, 2009.

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 a 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 by experienced specialists to supplement automatically-scaled parameters.

A1. Automatic Scaling

Digital ionograms are automatically scaled by the pattern recognition method. The following five characteristics of the ionospheric are listed below. 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 iono-spheric 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 very small ionization density of the layer (for *fEs*).

N Impossible automatic scaling because of complex echoes.

Blank No digital record because of problems occurring in the auto matic data processing system, but existence of film record.

c. Definitions of 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 spread ***F*** trace
foF2 ***foF1*** ***foE*** ***foEs***	Ordinary wave critical frequency for the ***F2***, ***F1***, ***E,*** and ***Es*** (including particle type ***E)*** layers, respectively
fbEs	Blanketing frequency of the ***Es*** layer, e.g. the lowest ordinary wave frequency visible through ***Es***
fmin	Lowest frequency that shows vertical ionospheric reflections
M(3000)F2 ***M(3000)F1***	Maximum usable frequency factor for a path of 3000 km for transmission by the ***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.
Z 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 as-sociated 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. 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
SGD Code	Letter Symbol	Morphological Classification
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.

B2. 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

APR. 2010

LAT. 45°10.0′N LON. 141°45.0′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	52	53	54	53	48	47	52	57	64	59	64	67	65	67	63	55	62	67	63	66	61	53	53
2	43	56	42	51	52	44	50	57	56	67	53	69	69	68	67	67	62	56	66	64	61	60	53	37
3	42	51	42	32	34	40	50	56	58	62	65	69		66	65	65	64	63	62	58	54	50	51	48
4	47	42	42	42	42	43	50	60	57	65	66	69	70	80	70	67	65	62	64	66	54	47	47	47
5	42	42	45	43	44	38	47	54	54	62	63	59	70	70	66	66	64	66	66	61	67	60	60	34
6	34	35	34	34	29	32	38	48	49	A	56	53	64	60	61	58	60	61	55	66	54	48	42	34
7	34	32	34	36	37	42	44	54	57			39	52	57	58	58	57	47	60	32	52	48	45	36
8	32	34	29	34	34	36	40		52	56		60	61	60	58	65	55	54	60	56	51	46	44	46
9	45	34	34	40	35	42	44	48	54	65	67	65	68	65	62	65	61	60	64	64	60	53	42	43
10	42	37	34	38	38	40	52	52	56	58	68	68	67	65	66	65	60	61	61	54	54	50	26	32
11	47	46	44	42	40	46	48	58	57	65	68	68	69	67	62	62	59	51	56	62	62	37	48	44
12	34	42	37	37	37	38	34	56	50	53	A	65	64	70	68	62	58	55	60	62	65	62	51	46
13	47	47	50	52	51	47	50	48	50	56	57	57	58	57	62	62	56	54	58	62	55	57	44	38
14	34	41	42	42	42	46	48	54	55	60	61	65	62	61	61	63	58	58	58	61	52	54	53	37
15	37	36	37	37	40	54	70	50	48	57	62	69	69	60	58	63	63	56	58	57	54	58	50	34
16	42	34	42	41	38	40	55	54	59	60	62	65	61	60	64	66	60	55	57	61	58	52	52	51
17	38	41	34	40	42	46	52	54	70	64	67	64	58	60	62	61	58	61	55	62	54	34	32	48
18	47	45	45	42	37	50	46	57	63	62	62	59	60	53	62	68		64	55	54	54	53	54	32
19	48	47	44	42	42	46	54	52	56	60	64	70	62	60	65	66	64	56	55	58		52	50	47
20	47	43	43	42	38	44	51	57	51	52	57	62	65	59	58	66	65	63	63	66	61	54	53	51
21	50	34	44	41	42	46	47	47	55	61	56		49	62	61	65	57	61	66	A	61	59	58	58
22	54	54	52	52	54	51	56	54	58	58		A	60	62	66	67	65	62	61	63	53	58	53	51
23	53	47	46	46	44	47	53	53	60	57	63	60	57	61	67	63	58	59	53	57	52	53	58	53
24	50	44	44	43	46	46	52	52	57	60	63	62	60	64	67	61	58	60	55	63	63	64	53	48
25	36	47	47	34	40	45	56	52	58	66	66	63	62	60	58	64	61	60	60	64	61	54	54	50
26	36	36	50	37	48	48	48	56	54	61	70	67	62	60	63	65	64	62	60	64	66	64	54	52
27	48	47	45	43	44	47	56	56	63	64	64	62	55	57	61	64	67	66	67	65	66	53	54	53
28	51	48	47	44	45	48	52	60	57	57	66	66		57	59	63	64	60	57	64	54	63	58	54
29	43	48	48	44	48	48	46	58	56	61	64	62	64	62	60	64	61	57	54	61	64	54	51	51
30	53	34	41	34	38	45	52	60	64	64	63	62	64		62	62	62	65	61	57	52	52	54	55
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	29	30	28	26	28	28	29	30	30	29	30	30	29	29	30	30	30
MED	44	42	44	42	42	46	50	54	56	61	63	64	62	61	62	64	61	60	60	62	55	54	52	48
U Q	48	47	46	43	45	47	52	57	58	64	66	67	67	65	66	66	64	62	63	64	62	59	54	51
L Q	37	36	37	37	38	42	47	52	54	57	61	61	60	60	61	62	58	56	56	57	54	50	47	37

HOURLY VALUES OF fEs AT Wakkanai

APR. 2010

LAT. 45°10.0′N LON. 141°45.0′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	27	30	30	32	G	G	31	32	36	38	39	G	G	G	41	41	36	34	36	34	34	26	23	G
2	G	G	G	G	G	G	28	35	35	G	G	G	G	G	G	G		G	23	29	G	G	G	G
3	G	G	G	G	G	G	32	36	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
4	G	G	G	G	G	G		36	41	45	52	50	G	39	45	44	34	29	26	33	30	G	G	G
5	G	G	G	G	G	G	G	G	G	G	50	G	G	G	G	G	33	32	G	G	G	G	23	G
6	G	24	G	27	G	26	32	36	39	40	G	G	G	G	38	G	G	G	G	G	G	G	G	G
7	G	24	24	G	G	G		G	G	46	G	G	51	G	G	G	G	32	G	24	24	G	29	G
8	G	G	26	G	G	G	28		G	G	58	G	G	39	37	41	G	28	27	25	36	33	24	G
9	G	G	G	G	G	G	39	32	G	G	46	G	G	G	G	G	33	G	25	32	G	G	G	G
10	G	G	G	G	G	G	29	37	35	G	G	G	40	G	G	G	39	G	32	27	G	G	G	G
11	26	G	G	G	G	G	G	G	G	G	G	G	G	G	39	G	34	32	G	G	G	G	G	G
12	G	G	G	G	G	G	G	G	G	G	38	G	41	G	G	G	34	G	G	G	24	G	G	G
13	G	G	G	G	G	G	28	G	G	G	G	G	G	G	G	G	34	G	27	G	G	G	G	G
14	G	G	G	G	G	G	33	G	G	G	G	G	G	G	G	G	34	34	26	G	G	G	G	G
15	G	G	G	G	G	G	G	34	G	G	G	G	G	39	39	G	38	G	G	G	G	G	G	G
16	G	G	G	G	G	G	34	33	36	G	G	G	G	39	G	G	G	G	29	25	G	G	G	G
17	G	G	G	G	G	G	40	33	G	G	G	41	G	G	G	G	34	G	G	G	G	G	G	G
18	G	G	G	G	G	G	38	G	G	G	G	G	G	G	G	G		35	G	24	G	G	G	G
19	G	G	G	G	G	G	35	34	G	G	G	G	G	G	N	36	G	G	30	11	G	G	G	G
20	G	G	G	G	G	G	G	40	G	G	G	G	G	G	G	G	34	36	36	25	G	G	G	G
21	G	G	G	G	G	G	G	39	44	47	47	G	G	G	39	G	40	60	40	70	26	26	28	G
22	G	24	G	G	G	G	34	42	46	56		155	G	G	G	G	41	43	34	26	G	G	G	G
23	G	G	G	G	G	G	G	G	G	G	G	45	G	G	G	G	46	58	43	34	24	G	G	25
24	G	27	24	G	G	G	37	G	G	G	G	G	G	G	G	G	G	40	30	28	G	29	25	28
25	25	G	G	28	G	G	33	43	44	40	G	G	G	40	39	G	39	37	29	G	G	G	G	G
26	G	G	G	G	G	G	35	34	G	G	G	G	G	G	G	G	34	G	G	G	G	G	G	G
27	G	G	G	G	27	29	34	38	G	G	G	40	41	G	G	G	G	39	40	G	27	24	G	G
28	G	G	G	G	G		33	40	G	G	G	G	G	G	G	G	34	46	36	32	24	G	G	G
29	G	G	G	G	G	28	33	G	G	G	G	G	G	G	G	G	G	36	32	G	G	G	G	G
30	G	G	G	G	G		35	40	G	G	G	G	G	G	G	G	G	36	32	25	26	27	G	G
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	28	28	29	30	30	29	30	30	30	29	30	28	30	30	30	30	30	30	30
MED	G	G	G	G	G	G	32	34	G	G	G	G	G	G	G	G	34	32	27	24	G	G	G	G
U Q	G	G	G	G	G	G	34	37	35	G	19	G	G	G	37	G	35	36	32	28	24	G	G	G
L Q	G	G	G	G	G	G	14	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

APR. 2010

LAT. 45°10.0′N LON. 141°45.0′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	15	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
2	14	14	14	14	14	14	14	14	14	14	14	14	17	15	14	14	14	15	15	14	15	14	15	15
3	14	14	14	15	14	14	14	14	14	14	14	15	14	14	14	14	14	15	15	14	14	14	15	14
4	14	15	15	15	15	14	15	14	14	14	14	16	15	15	14	14	14	14	15	14	14	15	14	15
5	14	14	14	14	14	14	14	14	14	14	14	15	15	16	15	14	14	14	14	14	15	15	15	15
6	14	15	17	16	15	15	14	14	14	14	17	20	16	15	14	14	14	14	15	14	14	14	15	15
7	14	14	15	14	14	15	14	14	14	14	14	15	14	15	14	14	15	14	14	17	15	14	14	14
8	14	14	15	14	15	14	14		14	14	15	14	45	17	18	14	14	14	14	14	14	14	14	14
9	14	15	14	14	14	15	14	14	14	14	14	16	16	15	15	14	14	14	15	14	14	14	14	14
10	14	14	15	14	14	14	14	14	14	14	15	16	17	15	16	14	14	14	14	14	14	14	15	14
11	14	16	15	15	14	15	14	14	14	14	15	14	15	15	14	14	14	14	16	14	15	15	15	14
12	14	14	14	14	14	14	14	14	14	15	15	17	14	45	14	14	14	14	16	14	14	14	14	15
13	14	14	14	14	14	17	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	15	14	15
14	14	15	14	14	14	15	14	14	14	15	14	14	14	17	14	14	14	14	14	14	14	14	14	14
15	14	15	14	14	14	15	14	14	14	14	14	17	14	14	14	14	14	14	16	15	14	14	16	15
16	14	15	14	14	14	17	15	14	14	14	14	14	14	14	14	14	14	14	14	14	15	14	14	14
17	15	15	15	15	14	14	15	14	14	14	15	15	16	15	14	14	14	14	17	14	14	15	17	14
18	14	14	14	14	14	16	15	14	14	14	14	15	14	14	14	14		14	17	14	15	14	14	15
19	14	14	14	14	14	16	14	14	14	15	14	14	15	14	15	14	14	14	14	14	15	14	14	14
20	14	14	14	14	14	14	14	14	14	14	14	14	16	14	14	14	14	14	14	14	14	15	14	15
21	14	14	14	14	14	16	14	14	14	14	14	14	15	15	17	14	14	14	14	15	15	14	14	14
22	15	15	14	15	15	15	14	14	14	15	14	20	15	15	14	14	14	14	14	15	15	14	15	14
23	14	14	14	14	15	14	14	14	14	14	14	14	15	15	15	14	14	14	14	14	15	14	14	14
24	14	15	14	14	14	15	14	14	14	15	14	15	16	14	17	14	14	14	14	14	14	14	14	14
25	15	15	14	15	14	15	14	14	14	14	15	15	14	15	15	15	14	14	14	14	14	15	14	14
26	18	14	14	14	15	17	14	14	14	14	14	14	15	15	15	14	14	14	16	15	14	15	14	14
27	15	14	14	14	14	14	14	14	14	14	16	14	15	14	15	14	14	14	14	14	14	15	17	15
28	14	14	14	14	14	14	14	14	14	14	15	15	15	15	14	14	14	14	14	14	15	14	15	15
29	15	15	14	14	15	14	14	14	14	15	14	14	14	14	14	14	14	14	14	15	14	15	16	15
30	14	15	15	15	14	14	14	14	14	14	14	14	15	14	15	14	14	14	14	14	14	15	15	15
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	29	30	30	30	30	30	30	30	30	29	30	30	30	30	30	30	30
MED	14	14	14	14	14	14	14	14	14	14	14	14	15	15	14	14	14	14	14	14	14	14	14	14
U Q	14	15	15	15	14	15	14	14	14	14	15	15	16	15	15	14	14	14	15	14	15	15	15	15
L Q	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Kokubunji

APR. 2010

LAT. 35°43.0′N LON. 139°29.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	42	47	45	39	36	34	44	60	62	65	80	86	82	78	65	63	64	64	70	70	52	45	43	43
2	42	43	29	36	30	28	42	59	61	71	84	90	90	80	76	62	64	76	80	63	49	49	48	47
3	49	49	44	43	36	32	45	61	64	68	73	80	91	74	69	75	74	76	76	A	A	A	41	43
4	42	45	48	51	45	30	51	59	62	72	82	97	96	97	92	85	80	80	76	44	A		37	
5	38	37	A	45	A	A	46	59	61	63	65	84	110	108	91	75	68	75	80	88	53	64	54	63
6	44	A	51	49	A	28	44	53	55	63	67	77	71	80	74	66	58	71	76	74	45	45	47	43
7	41	42	39	38	34	34	51	68	62	67	82	82	91	72	67	65	65	68	68	71	54	26	47	45
8	42	44	42	32	34	34	47	51	64	66	69	77	90	86	75	67	78	68	61	54	A	44	44	44
9	44	45	45	44	30	30		56	64	72	72	87	88	87	77	72	77	85	81	78	43	37	41	43
10	44	36	41	43	38	31	47	56	59	66	73	87	95	95	76	75	71	62	63	55	51	41	41	43
11	36	39	34	39	30	32	48	51	67	78	75	80	82	91	86	74	68	62	58	57	51	36	43	44
12	43	34	38	37	38	37	46	56	57	66	63	86	86	98	97	91	65	59	63	77	87	34	37	34
13	38	39	43	51	31	36	51	59	56	65	65	77	77	69	66	64	66	65	60	74	67	36	34	37
14	37	36	36	37	24	32	51	57	56	57	59	66	80	81	69	58	64	67	72	77	72	44	38	
15	37	38	36	37	36	34	46	54	60	62	66	68	84	85	68	57	64	67	71	63	54	53	44	37
16	43	42	41	42	27	30	49	59	59	59	70	76	66	64	66	69	66	65	58	55	55	53	30	42
17	41	43	39	42	30	34	49	55	59	68	71	74	69	74	77	74	71	61	62	52	54	53	53	44
18	59		47	44	34	36	44	57	69	67	65	67	A	66	76	82	81	74	58	48	54	A	52	52
19	51	42	42	44	31	36	54	52	66	67	66	61	65	66	75	83	81	59	61	64	A	45	44	46
20	44	44	42	42	37	41	52	59	54	58	63	66	75	81	96	82	72		71	73	56	47	45	46
21	46	41	42	39	36	40	51	A	A		74	71	73		68	66	66	A	61	54	51	54	53	52
22	51	47	49	42	30	A	52	56	58	73	76	75	86	85	86	72	76	69	66	A	54	51	44	47
23	44	44	44	43	38	44	55	54	65	68	82	83	C	C	C	C	68	54	A	65	65	54	52	44
24	44	52	51	48	42	43	56	54	57	60	62	69	75	82		72	59	57	A	A	71	54	47	46
25	49	44	46	38			56	60	58	67	78	84	77	84	A	73	67	A	A	52	64	61	51	53
26	51	45	47	45	32	39	54	55	62	74	67	76	73	77	82	86	86	66	69	73	73	52	44	41
27	44	44	42	32	35	39	54	68	63	71	66	61	56	62	63	87	90	84	84	84	53		45	47
28	47	42	45	46	34	41	54	61	69	74	69	65	A	A	68	69	71	68	72	77	74	54	59	53
29	50		48	49	42	42	54	59	62	69	63		62	66	63	67	76	80	75	67	54	52	52	53
30	54	52		43	39	44	59	64	71	67	66	A	68	72	82	80	A	78		46	67	A	A	48
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	27	28	30	27	27	29	29	29	29	30	28	27	27	27	29	29	27	26	27	26	25	29	28
MED	44	43	42	42	34	34	51	57	62	67	69	77	80	80	75	72	68	68	70	65	54	49	44	44
U Q	49	45	46	45	38	40	54	59	64	71	75	84	90	86	82	81	76	76	76	74	67	53	51	47
L Q	42	39	40	38	30	32	46	54	58	64	65	68	71	72	68	66	65	62	61	54	52	42	41	43

HOURLY VALUES OF fEs AT Kokubunji

APR. 2010

LAT. 35°43.0′N LON. 139°29.0′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	27	G	48	32	26	29	G	G	G	G	48	49	48	48	G	G	G	G	G	23	G	G	G	G
2	G	34	39	28	G	G	29	G	G	43	G	G	48	49	G	37	36	G	G	G	24	26	46	30
3	36	28	31	G	G	G	29	G	G	45	G	G	45	45	47	G	35		G	109	102	43	G	G
4	G	G	29	27	G	G	G	G	43	40	G	G	G	G	45	G	40	48	51	51	50	29	33	33
5	34	33	58	32	39	39	G	G	G	38	45	G	G	G	G	G	G	G	30	G	G	27	24	G
6	G	45	42	G	29	G	33	39	G	54	45	G	G	52	G	49	43	48	53	37	41	G	G	G
7	23	29	G	31	25	G	G	G	G	G	G	G	G	G	G	G	G	35	29	26	40	33	33	G
8	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	50	G	G	G
9	G	29	G	26	G	G	38	G	G	G	G	G	G	G	G	61	39	G	30	28	G	G	G	G
10	G	G	G	G	G	G	G	G	G	G	G	46	G	G	G	G	G	36	34	33	23	26	29	G
11	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	37	28	33	57	G	G	G
12	G	G	G	G	G	G	G	40	43	G	45	50	G	G	G	G	G	G	29	32	24	G	24	G
13	G	G	G	G	G	G	G	G	G	44	48	G	G	53	49	45	G	G	G	G	G	G	G	G
14	G	G	G	G	26	G	34	G	G	G	G	G	G	G	G	G	G	36	41	50	50	30	G	G
15	G	G	G	G	G	G	28	39	42	47	49	51	73	75	52	49	37	52	52	43	G	G	G	G
16	G	24	27	G	G	G	35	G	G	G	G	54	58	G	G	45	50	50	31	37	29	G	G	G
17	G	G	G	G	11	G	G	33	G	G	48	G	G	G	G	G	G	38	27	26	G	G	G	G
18	G	G	G	G	G	G	30	G	G	43	G	50	96	G	G	G	45	40	50	33	50	72	26	G
19	G	G	G	G	G	G	29	G	G	G	49	52	G	G	46	G	34	41	39	36	92	51	G	G
20	G	G	G	23	24	G	29	G	52	54	53	51	57	G	G	49	56		39	64	29	28	G	22
21	34	G	G	G	G	G	41	72	129	67	121	64	81	64	84	G	83	95	60	43	28	24	G	26
22	G	24	24	56	43	46	36	47	58	61	58	G	G	G	65	49	65	60	50	92	32	36	50	38
23	34	56	36	28	G	G	G	43	58	G	58	52	C	C	C	C	40	40	47	48	27	25	27	29
24	G	G	G	G	G	G	G	42	48	G	G	42	52	53	122	45	49	37	62	60		41	40	35
25	32	27	G	G	25		37	45	44	52	50	G	G	G	80	37	48	68	97	84	71	28	G	G
26	G	24	G	G	G	G	37	45	47	47	49	G	G	G	G	G	G	46	43	39	G	G	G	G
27	G	G	G	G	G	G	37	45	47	55	G	G	G	G	G	38	47	57	60	46	25	G	49	33
28	29	G	24	33	26	23	39	57	63	54	G	G	78	61	G	G	46	34	48		G	G	G	G
29	G	G	G	G	G	G	36	G	G	G	G	G	G	G	40	G	36	36	36	G	28	G	G	G
30	G	G	G	G	G	25	G	52	58	53	59	106	54	51	61	83	148	152	106	60	37	70	71	G
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	29	30	30	30	30	30	30	29	29	29	29	30	28	30	29	29	30	30	30
MED	G	G	G	G	G	G	29	G	G	39	23	G	G	G	G	G	36	38	39	37	28	24	G	G
U Q	23	27	27	27	25	G	36	43	47	52	49	50	53	50	48	45	47	49	51	50	50	30	29	22
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	17	29	26	G	G	G	G

HOURLY VALUES OF fmin AT Kokubunji

APR. 2010

LAT. 35°43.0′N LON. 139°29.0′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	13	13	13	13	13	14	13	14	17	34	34	30	31	21	15	14	13	14	14	14	14	13	13
2	14	13	13	14	13	14	13	13	13	18	42	21	33	28	20	22	13	13	13	14	14	13	13	14
3	13	14	13	15	13	14	13	14	13	13	41	42	34	33	21	24	20	13	18	13	14	13	15	14
4	13	13	13	13	13	14	18	14	13	15	34	42	35	41	23	28	14	13	13	13	13	13	13	13
5	14	13	13	13	13	13	13	13	13	14	18	43	44	43	40	40	14	24	13	13	14	14	13	14
6	13	13	13	14	13	14	14	14	13	15	21	42	44	31	20	31	14	13	13	13	14	14	14	14
7	13	13	14	13	14	14	14	18	15	14	44	42	43	42	20	15	17	13	13	14	13	13	14	14
8	14	13	14	17	14	13	21	14	14	42	18	43	52	43	42	31	14	13	15	14	13	15	13	13
9	13	14	13	13	18	17	14	13	15	41	43	42	42	42	43	20	20	13	13	13	14	20	13	14
10	14	13	13	14	13	13	14	13	20	40	43	43	43	45	41	40	13	13	13	13	14	14	13	14
11	14	18	14	13	14	13	15	18	13	14	43	47	45	44	42	40	15	13	13	13	13	18	15	14
12	13	15	14	15	14	14	13	13	13	42	30	29	43	49	39	20	13	13	13	14	14	13	13	18
13	13	13	14	15	15	13	24	14	37	28	31	47	42	30	23	21	13	13	14	14	13	14	13	13
14	13	13	13	15	14	15	14	31	15	15	44	46	47	45	40	13	13	13	13	14	13	13	14	14
15	13	13	14	14	13	17	13	14	13	14	31	31	26	23	24	14	13	13	13	14	14	14	17	14
16	20	14	13	15	13	13	14	13	14	14	46	15	18	33	42	31	14	13	13	13	13	13	14	13
17	13	14	13	13	14	13	20	13	14	15	17	21	44	46	21	17	14	13	13	13	14	13	14	14
18	13	15	13	13	14	14	14	13	13	14	20	41	37	17	23	20	13	13	14	13	13	13	13	13
19	14	13	14	13	17	14	13	14	13	42	41	34	43	48	17	18	14	13	13	13	14	13	14	14
20	13	13	13	13	13	13	13	14	14	33	15	34	33	30	48	34	14		13	13	14	14	13	13
21	13	14	13	13	13	14	13	14	14	21	33	34	34	35	31	40	14	13	13	13	14	13	13	14
22	13	13	13	13	13	13	14	15	31	15	34	44	49	45	34	31	14	13	13	13	13	14	13	13
23	13	13	13	13	13	14	13	13	33	21	35	37	C	C	C	C	13	13	13	13	14	13	13	13
24	15	14	15	13	14	21	15	13	14	13	33	33	34	37	33	22	14	14	13	13	14	13	14	13
25	14	13	13	14	13		14	13	14	20	35	29	52	14	25	14	17	15	14	13	13	14	13	13
26	13	13	13	13	13	17	13	15	14	18	33	48	44	48	46	15	14	13	13	14	14	13	13	14
27	14	13	13	14	13	14	17	13	15	20	42	47	44	48	45	14	18	14	14	13	13	14	13	13
28	13	13	14	13	14	17	14	14	15	21	31	29	39	34	47	21	17	14	13	13	14	14	15	13
29	14	20	14	13	14	15	13	14	15	17	46	55	53	51	51	17	20	13	14	14	13	14	15	14
30	14	13	15	13	14	15	13	15	14	20	33	33	33	34	15	33	21	13	13	13	13	13	13	13
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	29	30	30	30	30	30	30	29	29	29	29	30	29	30	30	30	30	30	30
MED	13	13	13	13	13	14	14	14	14	18	34	42	43	41	33	21	14	13	13	13	14	14	13	14
U Q	14	14	14	14	14	15	14	14	15	21	42	43	44	45	42	31	17	13	14	14	14	14	14	14
L Q	13	13	13	13	13	13	13	13	13	14	31	33	34	31	21	16	13	13	13	13	13	13	13	13

HOURLY VALUES OF foF2 AT Yamagawa

APR. 2010

LAT. 31°12.0′N LON. 130°37.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

HD \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	43	48	43	37	29		34	54	61	68	90	90	87	96	90	81	81	75	77	75	54	41	38	
2		40	45	40			32	55	67	77	88	90	92	92	78	69	77	92	77	72	51	37	A	44
3	A	42	47	38	26	A		47	65	66	76	64	90	90	86	87	85	85	81	66	54	37	34	40
4	41	42		48	A	A	34	54	54	66	78	88	95	87	92	91	97	90	84	65	46			36
5	40	36	42	57				55	63	56	60	78	100	111	82	75	80	81	93	85	36	44	53	51
6	48	34	48	48	34		40	59	66	77	77	90	88	84	92	67	74	81	85	72	54	52	53	53
7	52	53	48	45	40	30	47	64	62	73	82	90	97	95	92	72	67	71	78	88	77	47	42	42
8	42	44	44	44	40	28	38	50	71	66	66	75	88	96	95	96	94	80	67	67	52	53	50	46
9	29	44	45	47	34	26	32	55	70	66	73	72	92	96	97	90	91	90	93	81	48	37	28	36
10	41	40	42	40	34		37	48	64	75	74	78	94	100	96	87	81	81	72	55	54	38		
11	A	32	A	36	29		38	60	65	78	78	77	86	94	95	86	87	76	67	52	A	40		42
12	41	37	37	38	37	29	42	54	57	66	68	76	94	86	90	92	68	65	79	76	73	A	A	34
13	37	37	37	43	28		41	55	58	66	75	81	87	88	87	78	82	78	74	80	64	29	28	32
14	31	32	34	34	32		35	48	55	62	63	61	76		89	76	66	78	93	88	72	A	A	A
15	A	32	32	28	34	29	38	54	63	70	67	68	85	94	72		67	77	86	78	53	44	34	37
16	37	34	37	40	28		40	58	69	58	66	66	71	76	72	70	67	68	75	76	78	64		28
17	37	36	37	44	29		38	56		62	72	70	76	77	82	82	74	66	52	64	66	54	53	54
18	34	47	46	45	34		42	58	58	65	66	64	64	82	82	85	77	68	63	60	A	A	50	50
19	52	48	47	47	34	34	45	50	60	65	67	65	A	77	85	88	81	78	74	77		50	A	42
20	A	42	42	44	34	29	44	60	70	61	68	65	78	90	90	A	81	77	81	73	67	52	46	48
21	47	42	43	44	38	30	48	52	60	A	71	78	77	70	70	74	81	71	74	76	73	52	47	44
22	42	44	47	59	29		40	54		63	70	70	77	81	81	78	71	75	75	72	71	54		A
23	44	41		36	36	34	41	54	76	71	77	86	93	82	91		84	55	A	A	86	67	44	47
24	48	53	50	52	38	35	48	A	57	65	71	80	92	88	86	82	77	81	88	88	78	A	50	51
25	53	42	51	42	29	29	45	44	60	74	72	87	93	97	86	86	84	64	61	A	A	64	A	45
26	A	42	47	34	A				69	67	61	66	87	85	94	91	82	87	84	74	78	64	43	42
27	43	43	43	40	29	31	48	71	63	65	64	61	58	64	72	90	92	75	A	78	A	A	A	A
28	A	50		40	38	30	44	66	71	62	65	67	64	72	77	76	77	81	76	72		49	54	63
29	52	51	47	43	43	38	51	66	67	71		62	64	A	76	72	83	84	81	81		66	54	52
30	54	52	33	46	45	41	47	64	65	61	62	A	A	85	88	93	85	82	77	74	81	A	37	40
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	30	26	30	26	15	27	28	28	29	29	29	28	28	30	27	30	30	28	28	23	23	19	25
MED	42	42	44	43	34	30	41	55	64	66	71	75	87	88	86	82	81	78	77	74	66	50	46	44
U Q	48	47	47	46	38	34	45	59	68	71	76	83	92	94	92	90	84	81	84	79	77	54	53	50
L Q	37	37	37	38	29	29	38	53	60	62	66	65	76	81	81	75	74	71	74	69	53	40	37	38

HOURLY VALUES OF fEs AT Yamagawa

APR. 2010

LAT. 31°12.0′N LON. 130°37.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G	G	G	26	41	32	34	G	42	41	52	51	49	44	39	G	G	36	29	25	24	23	40
2	34	34	28	33	32	G	28	30	G	43	48	53	52	54	53	59	48	37	29	G	G	33		39
3	48	37	32	G	37	36	38	34	G	G	48	G	G	G	G	G	G	36	33	28	23	G	G	G
4	G	27	36	28	38	28	G	G	G	G	G	G	42	G	G	44	44	38	32	27	G	44	34	G
5	G	30	G	G	26			34	42	51	48	50	G	G	46	44	G	G	33	39	33	G	24	G
6	25	G	G	G	G		24	G	44	47	50	G	64	G	G	G	G	G	30	44	40	G	36	G
7	36	35	31	34	31	26	G	34	G	43	43	G	46	45	G	G	G	G	G	33	G	25	G	33
8	33	33	30	G	G	29	32	33	39	39	G	43	G	48	44	G	G	G	34	G	G	G	G	38
9	G	G	24	G	G	G	25	34	G	G	G	G	G	G	41	39	G	40	38	37	21	G	G	G
10	33	G	G	G	G		26	35	G	G	G	G	44	46	72	G	G	36	32	48	50	G	33	28
11	29	G	40	27	G		G	G	G	G	G	44	48	G	G	38	44	46	56	50	40	32	40	33
12	G	G	G	G	G	G	G	34	43	46	44	50	43	G	G	G	G	G	38	28	59	55	40	24
13	30	G	G	23	G		G	29	35	G	G	G	50	48	46	59	48		34	30	23	24	G	G
14	G	G	34	24	G	G		31	40	42	46	50	71	67	52	G	39	42	50	70	41	39	31	48
15	36	29	25	G	G	G	36	40	42	49	44	66	G	58	53	56	44	39	G	30	36	27	G	G
16	G	G	G	G	G		G	36	G	G	G	G	41	G	G	G	G	38	29	G	48	25	26	23
17	G	G	G	G	21		26	36		38	53	G	G	59	43	40	39	38	29	25	G	G	G	G
18	G	G	G	G	G			37	42	51	47	44	50	G	44	66	G	34	36	35	72	59	40	G
19	G	G	59	G	G	G		36	43	52	58	62	69	65	46	65	40	G	35	35		49	69	33
20	58	44	G	G	G	G	38	40	50	55	59	63	54	49	50	153	74	59	G	G	G	G	26	G
21	40	32	42	G	G	26	G	38	65	63	48	G	G	G	41	46	47	72	44	27	69	G	G	25
22	G	G	G	G	G		G	36	43	44	G	G	46	64	59	42	47	46	33	34	70	43	59	58
23	49	31	32	G	G	G	G	34	44	42	44	47	G	41	G	G	G	38	72	72	81	36	G	G
24	G	48	46	34	G	G	39	59	49	51	49	54	78	46	48	56	47	74	54	78	70	68	59	69
25	67	34	G	24	G	G	37	48	60	G	G	53	44	46	91	39	37	67	47	87	83	57	72	50
26	59	40	38	40	39		40		46	50	51	47	44	54	56	43	G	34	34	50	50	28	G	G
27	G	G	26	G	G	G	31	40	47	45	G	46	47	G	52	39	53	58	112	79	92	103	91	79
28	73	40	32	27	25	G	29	34	48	43	G	G	48	57	60	50	48	50	47	61	60	57	34	48
29	37	38	G	G	G	G	G	36	42	G		47	55	84	G	44	G	G	50	36	56	59	G	G
30	G	G	G	G	G	G	31	36	48	53	57	71	82	50	78	55	55	49	38	39	49	73	31	49
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	20	26	29	29	30	29	30	30	30	30	30	30	29	30	30	29	30	29	30
MED	27	14	24	G	G	G	26	34	42	43	44	45	46	46	45	41	38	38	34	35	41	30	26	24
U Q	37	34	32	24	25	26	32	36	46	50	48	52	52	54	53	55	47	47	47	50	64	55	40	40
L Q	G	G	G	G	G	G	G	33	G	G	G	G	G	G	G	G	G	G	32	28	22	G	G	G

HOURLY VALUES OF fmin AT Yamagawa

APR. 2010

LAT. 31°12.0′N LON. 130°37.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	14	14	14	15	14	14	14	16	14	18	22	24	20	22	17	15	15	15	14	15	15	15	15
2	15	14	14	14	15	16	15	15	14	17	18	17	21	21	18	18	15	14	14	15	15	15	15	14
3	15	14	15	15	15	15	14	14	14	15	20	18	18	17	20	21	14	14	14	14	15	17	15	15
4	16	15	14	14	14	14	15	21	14	18	18	20	20	18	20	18	14	14	14	15	15	14	14	14
5	15	14	14	14	14			14	14	14	17	20	23	42	18	15	14	14	14	15	14	15	16	15
6	14	15	15	15	14		16	17	14	17	16	23	23	24	20	16	17	14	16	14	14	15	14	15
7	15	15	15	15	15	15	15	14	14	17	21	20	32	18	42	18	16	14	14	15	14	15	15	14
8	14	14	15	14	15	16	14	14	17	14	18	24	28	20	20	16	15	17	16	15	15	15	14	14
9	15	14	14	15	14	14	16	14	14	17	20	18	27	22	21	20	17	14	14	14	15	16	15	14
10	14	14	15	15	14		17	16	14	14	17	20	18	21	20	18	14	14	15	15	16	15	15	14
11	15	16	14	16	18		16	14	14	17	18	27	18	23	24	21	16	14	14	14	14	14	15	14
12	14	14	14	14	15	14	17	14	14	14	15	26	18	21	18	15	15	15	14	15	14	14	15	15
13	14	14	14	15	14		15	14	16	17	18	22	18	22	21	20	17	21	14	14	15	15	20	16
14	14	14	14	14	15	16	17	14	15	15	18	22	26	20	23	18	16	15	16	14	14	15	15	14
15	14	14	15	16	14	14	15	14	14	16	20	18	44	20	20	21	16	14	20	14	14	14	15	14
16	15	14	15	14	14		17	15	15	16	20	21	18	50	44	42	18	17	15	15	15	14	17	14
17	14	15	15	14	14		18	14		17	17	18	20	20	17	18	14	14	16	15	15	15	15	14
18	15	15	14	14	14		15	14	14	17	17	18	20	18	18	15	14	14	15	14	17	15	15	14
19	15	14	14	15	14	15	17	14	14	20	17	20	20	18	29	17	20	14	15	14		15	14	15
20	14	14	14	15	14	14	16	14	14	15	17	20	20	21	48	17	18	15	14	17	15	15	15	14
21	15	14	14	15	15	15	18	14	14	17	17	18	29	27	23	17	16	14	14	14	15	14	16	15
22	14	14	14	15	16		16	14	14	14	18	30	21	26	18	20	15	14	14	14	14	14	14	15
23	15	14	14	15	15	14	16	14	15	16	21	18	20	26	20	18	34	15	14	16	15	14	15	15
24	14	14	14	14	15	14	14	14	15	17	16	26	24	24	24	33	15	15	14	15	15	14	14	14
25	14	14	15	15	17	15	15	14	14	16	17	21	21	18	34	20	30	14	14	15	15	14	14	14
26	14	14	14	14	14		14		17	16	18	18	20	24	18	16	15	14	14	15	14	14	15	16
27	15	15	14	15	15	14	14	14	14	18	20	21	21	48	21	18	15	14	15	15	14	14	15	15
28	15	14	14	14	15	15	15	14	16	17	18	44	32	28	21	18	18	15	14	14	14	15	14	15
29	14	14	15	15	15	16	17	14	17	18		20	24	28	20	17	16	14	14	15	14	15	14	15
30	15	17	16	14	15	17	15	14	15	20	18	22	26	27	24	20	18	15	14	15	15	14	15	15
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	20	29	29	29	30	29	30	30	30	30	30	30	30	30	30	29	30	30	30
MED	15	14	14	15	15	15	15	14	14	17	18	20	21	22	20	18	16	14	14	15	15	15	15	14
U Q	15	15	15	15	15	15	17	14	15	17	19	22	26	26	24	20	17	15	15	15	15	15	15	15
L Q	14	14	14	14	14	14	15	14	14	15	17	18	20	20	20	17	15	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Okinawa

APR. 2010

LAT. 26°41.0′N LON. 128°09.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

HD \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1		36	43	41	28			48	60	76	93	102	107	135	142	140	131	111	92	89	80	52	34	32
2	A	44	47	51	A			51	71	84	91	106	97	101	108	102	106	97	83	84	50	33	43	43
3	38	A	52	39	A	A	A		54	72	81	74	85	106	112	110	116	114	87	88	66	42	37	33
4	32	32	42	54	A			49		74	80	96	97	101	111	115	121	120	97	78	50	42	31	37
5	35	43	61	54				50	66	64	62	77	110	107	90	88	98	96	88	78	42			47
6	52	31	37	32				68	67	80	89	104	100	104	105	85	84	90	92	71	62		52	45
7	66	74	52	40	36	32	34	61	73	81	77	98	110	122	110	96	82	80	98	104	81	44	32	
8		40		38			30		67	72	75	85	98	114	125	114	108	105	88	84	74	54	43	41
9	44	34		34			30	50	72	69	70	78	93	110	127	121	120	121	110	88	54	30		35
10	32	42	46	46	32			48	64	76	88	90	102	110	128	121	104	88	87	75	54	32		30
11			34		A	A		52	65	81	95	86	102	121	135	127	112	94	85	66	42	A		36
12	36	32	32	41	28		32	56	61	72	82	82	105	100	107	114	80	81	102	88	A			29
13		A	32	41			31	56	58	67	85	84	101	120	122	101	100	98	98	82	A			A
14	32			35	32		29	49		61	71	82	87	107	114	107	100	106	123	123	78	36	32	42
15		44	58	76	47	36	45	58	69	71	69	71	90	104	80	68	76	90	88	88	52	43		
16	34	34	40	34			32	57	62	61	69	70	80	84	88	82	72	82	88	88	86	42		
17	A	32	A	47			30	50	60	61	75	74	81	93	98	90	84	78	67	A	77		A	63
18	62	54	54	52		A	34	53	66	66	A	A	A	97	102	90	77	66	71	77		53	51	A
19	52	44	47	46	34	32	38	58	61	58	74	64	73	91	100	101	102	88	96	87	66	47	40	32
20	32	32	31	38	28	A	36	A	A	63	70	72	80	88	A	102	98	102	101	88	71	50	53	49
21	52	50	46	52	29	34	41	54	62	64	71	77	90	77	75	82	84	70	77	87	83	A	A	A
22	A			44	A	A	A	A	68	68	77	77	81	87	91	90	84	87	96	88	77	A	A	47
23	A	44	44	34	A		34	62	66	77	89	86	88	102	101	104	90	82	91	88	105	85	A	43
24		56	54	52		A	43	58	A	A	84	85	87	97	101	95	100	105	118	108	77	A	46	45
25	49	52	63	60			34	58	76	68	85	96	115	127	124	110	96	A	A	A	77	67		
26	30		41		A	A	32	66	71	A	A	A	A	110	123	119	116	115	105	90	87	A	51	43
27	32	44	44	30	32	30	44	68	64	62	62	68	77	85	98	110	105	90	96	101	88	A	66	52
28	53	47	45	45	29		37	66	67	67	62	66	85	87	90	91	91	91	78	A	A	76	54	52
29	45	44	44	41			44	68	76	66	60	A	72	81	87	88	88	96	97	102	72	54	52	A
30	58	45	45	45	36	40	47	72	58	A		67	81	97	105	108	97	88	96	110	86	A	A	36
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	20	24	25	28	12	6	21	26	26	27	27	27	28	30	29	30	30	29	29	27	26	18	16	22
MED	41	44	45	42	32	33	34	56	66	68	77	82	90	102	105	102	98	91	92	88	76	46	44	42
U Q	52	46	52	51	35	36	42	62	69	76	85	90	101	110	122	114	106	105	98	90	81	54	52	47
L Q	32	34	40	38	28	32	31	50	61	64	70	72	81	91	94	90	84	84	87	82	54	42	35	35

HOURLY VALUES OF fEs AT Okinawa

APR. 2010

LAT. 26°41.0′N LON. 128°09.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G	G	G	G	G	26	30	36	36	47	50	49	G	G	G	G	G	32	G	G	G	G	29
2	32	28	27	28	29		G	32	G	G	41	G	56	61	53	48	41	G	36	G	G	G	G	G
3	33	44	30	33	32	36	33		38	40	47	52	52	G	G	G	39	G	35	G	35	G	G	G
4	G	G	G	G	33			G	G	G	G	G	G	G	G	G	G	G	40	30	48	28	G	27
5	G	G	G					30	40	46	53	66	69	51	G	G	G	G	G	30	G	G	32	G
6	G	G	G	G	G	G		G	G	40	G	G	G	G	G	G	G	G	35	36	G	24	41	28
7	G	G	G	G	G	G	G	G	38	47	G	G	G	52	G	40	G	G	30	28	39	31	G	
8	G	G	G	G			25	29	49	42	44	42	G	G	G	G	G	G	G	28	G	G	G	G
9	30	34		G	G		G	32	G	G	G	G	G	G	43	G	G	G	G	G	30	G		G
10	G	G	G	G	G		G	34	G	G	G	G	G	G	G	G	G	G	30	35	G	G	28	29
11		G	G	43	30	30		G	G	G	G	G	G	G	G	G	G	G	33	G	G	29	G	34
12	31	30	G	G	G		G	34	40	47	46	G	70	64	G	40	G	G	G	40	33			29
13	28	36	38	G	G		G	G	G	G	G	G	G	49	49	51	42	35	40	49	48			29
14	26			G	20		G	G		54	50	51	52	72	61	53	43	52	74	51	49	G	G	G
15	36	G	G	G	33	G	G	36	39	48	50	59	49	50	G	G	G	35	33	27	G	G		
16	G	G	G	G			G	35	G	G	G	G	G	G	G	G	G	36	35	G	26	G	26	30
17	29	G	25	24			G	35	34	39	59	92	63	69	G	53	48	90	64	90	49	34	43	48
18	31	32	29	G	38	33	G	44	48	52	52	83	108	74	84	51	G	50	61	52	38	40	40	58
19	32	G	G	G	G	G	G		36	G	G	G	76	G	52	G	G	G	G	G	40	26	G	30
20	27	29	29	28	G	33	30	60	57	53	58	60	53	48	148	57	G	G	G	32	G	G	25	G
21	G	G	G	G	34	25	30	48	43	G	G	G	60	46	G	54	62	52	44	61	60	86	92	51
22	50	40		G	50	40	48	59	73	70	70	46	G	G	G	G	G	G	37	40	36	50	35	48
23	57	58	57	30	33		G	29	G	53	70	56	62	G	G	48	G	39	53	61	50	54	48	34
24	39	32	G	G		33	27	37	70	88	65	G	54	45	G	40	G	53	53	40	50	58	48	29
25	59	49	49	37			35	49	91	70	48	50	G	G	69	59	51	81	126	126		49	40	37
26	G	28	G	G	64	37	28	46	58	90	102		107	52	101	82	40	G	45	60	92	95	48	33
27	G	G	G	G	23	G	27	36	48	50	48	50	51	51	51	80	57	36	50	61	60	86	57	57
28	32	G	27	G	G		G	36	35	G	G	52	50	45	G	50	52	68	92	93	80	54	49	54
29	40	30	G	G	51		G	38	43	54	45	59	54	49	51	55	59	57	55	33	43	29	40	48
30	G	G	G	39	28	G	G	47	52	65	50	54	57	76	53	G	G	G	G	38	73	81	54	28
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	27	29	24	15	26	28	29	30	30	29	30	30	30	30	30	30	30	30	29	28	26	28
MED	28	G	G	G	26	25	G	34	38	44	46	46	52	46	G	40	G	G	36	36	38	28	34	29
U Q	32	32	27	26	33	33	27	41	48	53	52	55	60	52	52	53	42	50	53	52	49	52	48	42
L Q	G	G	G	G	G	G	G	29	G	G	G	G	G	G	G	G	G	G	30	27	G	G	G	14

HOURLY VALUES OF fmin AT Okinawa

APR. 2010

LAT. 26°41.0′N LON. 128°09.0′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
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2	17	15	15	15	15		21	15	17	22	33	48	36	33	34	30	28	28	14	14	14	15	15	15
3	14	14	14	15	14	15	14		15	15	32	35	36	43	55	34	29	17	14	15	14	15	15	15
4	15	15	16	14	14			23	15	21	44	44	52	53	44	43	39	27	14	14	15	14	21	15
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6	15	15	22	15	27	20		24	18	30	43	43	44	45	54	43	29	29	14	14	14	15	15	15
7	14	15	15	18	15	23	15	22	26	29	31	45	48	38	45	41	32	29	14	15	14	14	17	
8	23	14	35	18			20	15	15	24	29	29	29	27	50	42	38	15	23	14	17	17	20	14
9	15	15		17	15		15	24	17	37	46	52	44	45	44	43	33	34	23	15	14	22		15
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11		17	17	15	14	15		14	29	42	44	29	30	54	50	54	40	34	14	15	15	16	16	14
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13	18	15	14	15	16		15	14	20	42	43	44	55	35	34	28	26	27	15	14	14			15
14	15			15	15		17	24		20	32	34	35	35	33	34	28	27	16	14	15	16	18	16
15	15	18	22	18	15	21	15	14	15	24	28	32	33	32	29	27	24	20	14	14	15	17		
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17	14	15	15	14			14	22	30	22	34	36	40	35	46	28	24	14	14	14	15	15	15	15
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19	15	15	15	16	16	16	15	18	24	39	43	45	38	54	37	50	30	28	15	18	14	16	17	15
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27	17	15	15	15	15	14	14	14	22	26	33	35	36	36	40	35	33	28	14	20	17	15	15	14
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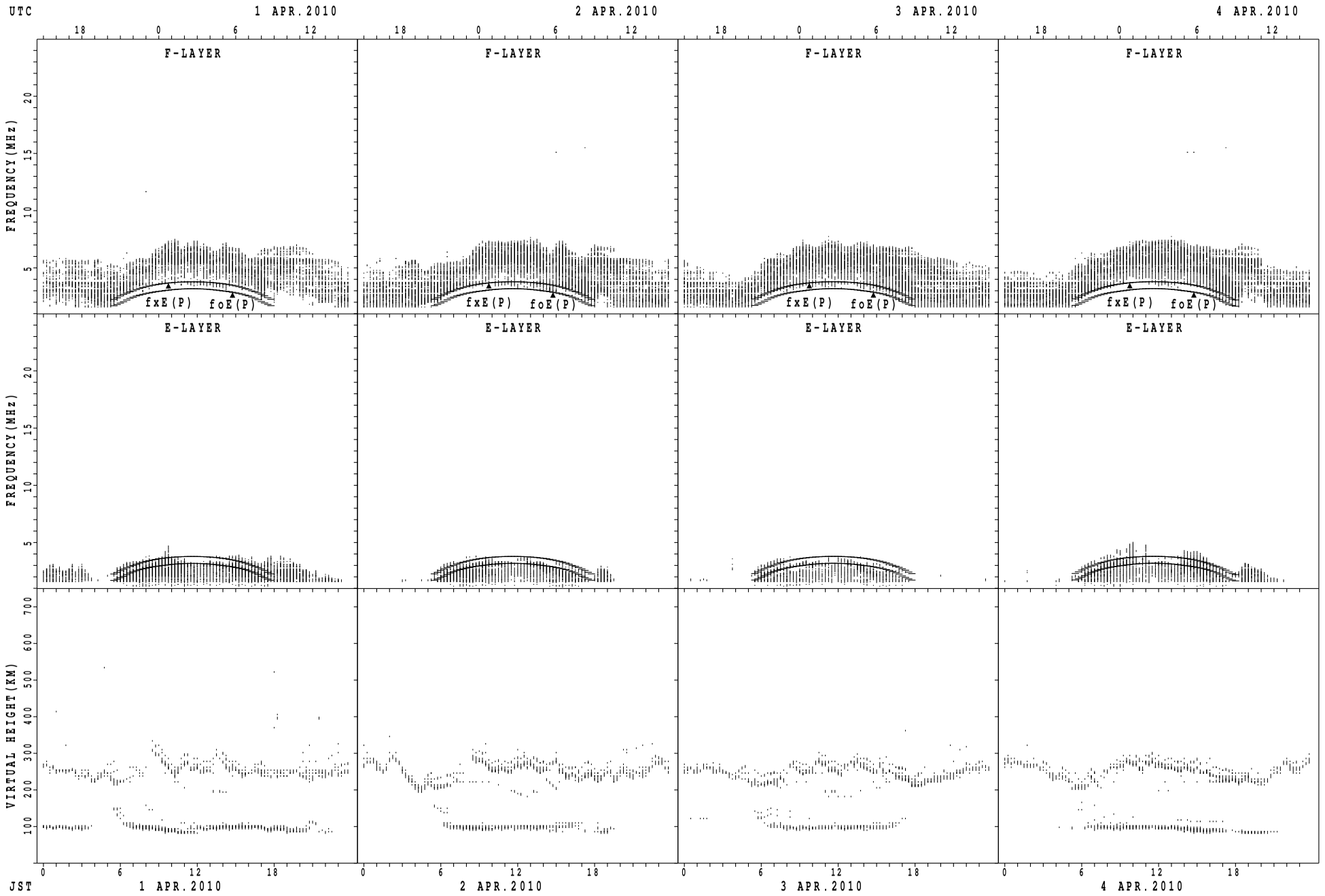
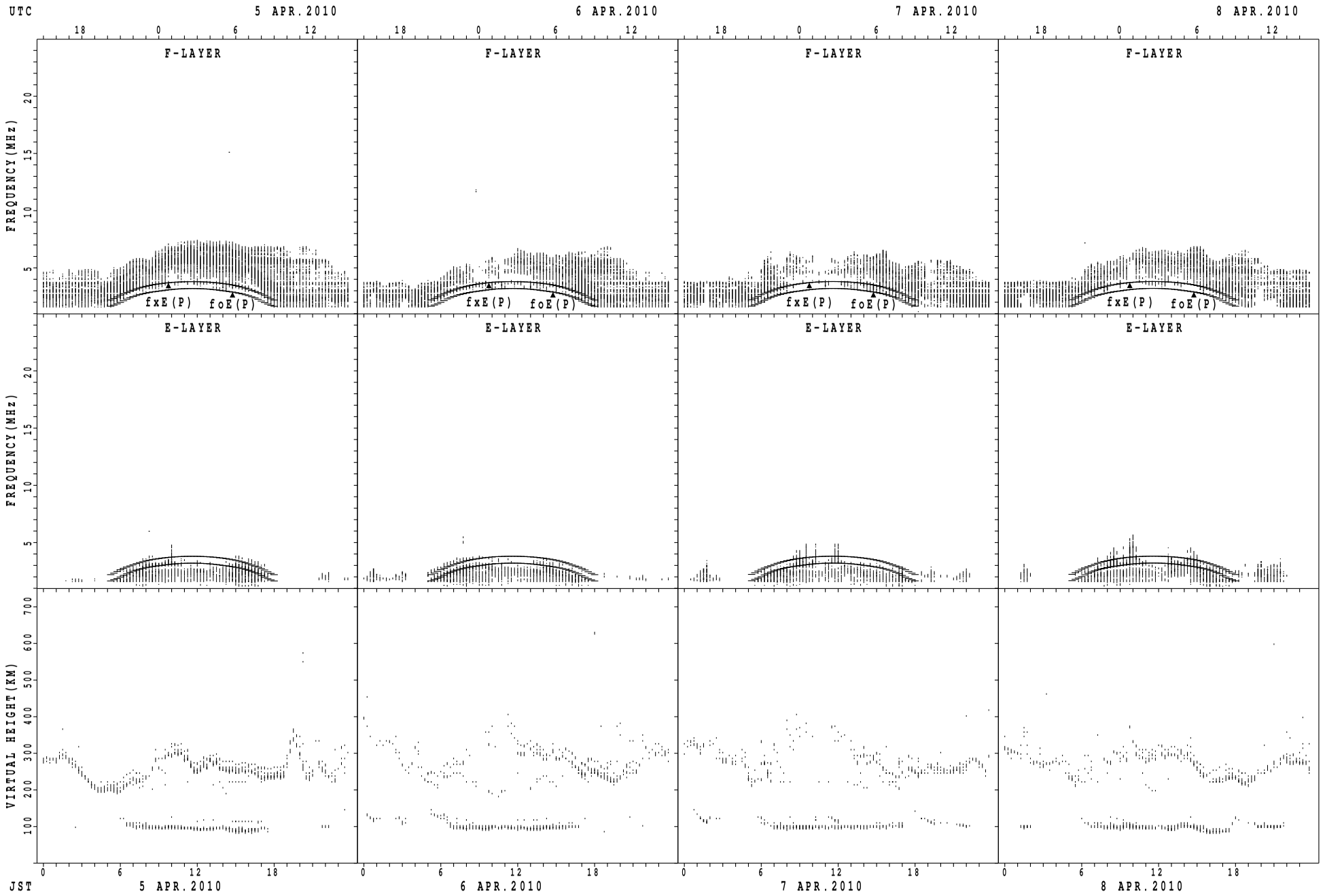
30	17	15	15	14	15	21	18	14	22	30	34	32	36	38	32	52	40	29	18	14	20	15	14	15
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	27	30	24	15	26	29	29	30	30	30	30	30	30	30	30	30	30	30	30	28	26	28
MED	15	15	15	15	15	15	15	15	18	26	33	38	36	36	44	34	33	28	14	14	15	15	15	15
U Q	16	15	16	17	16	20	17	20	23	30	43	44	40	45	51	43	40	29	16	15	17	16	16	15
L Q	14	15	14	15	15	14	14	14	15	22	30	32	34	32	34	30	29	24	14	14	14	15	15	14

SUMMARY PLOTS AT Wakkanai



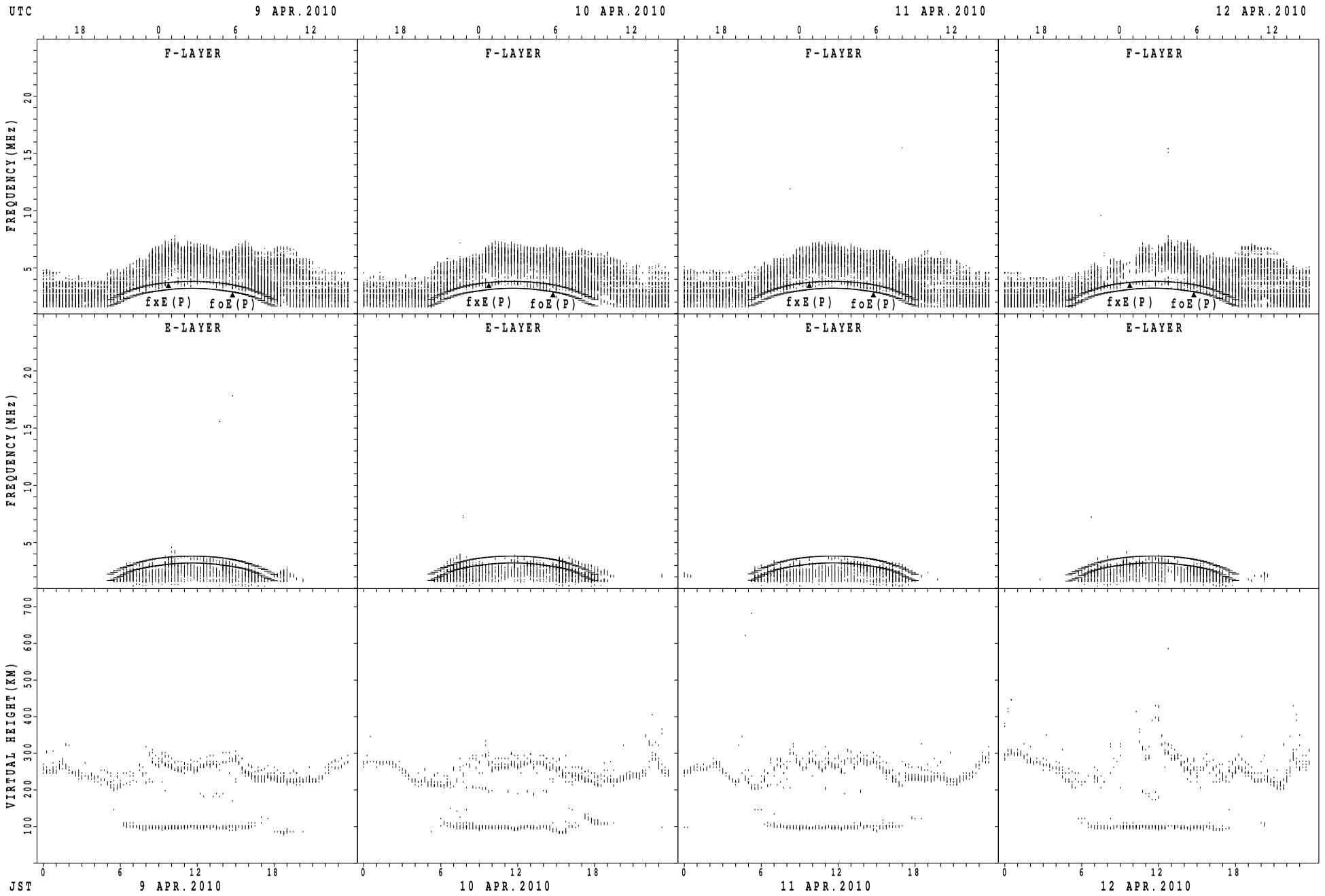
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



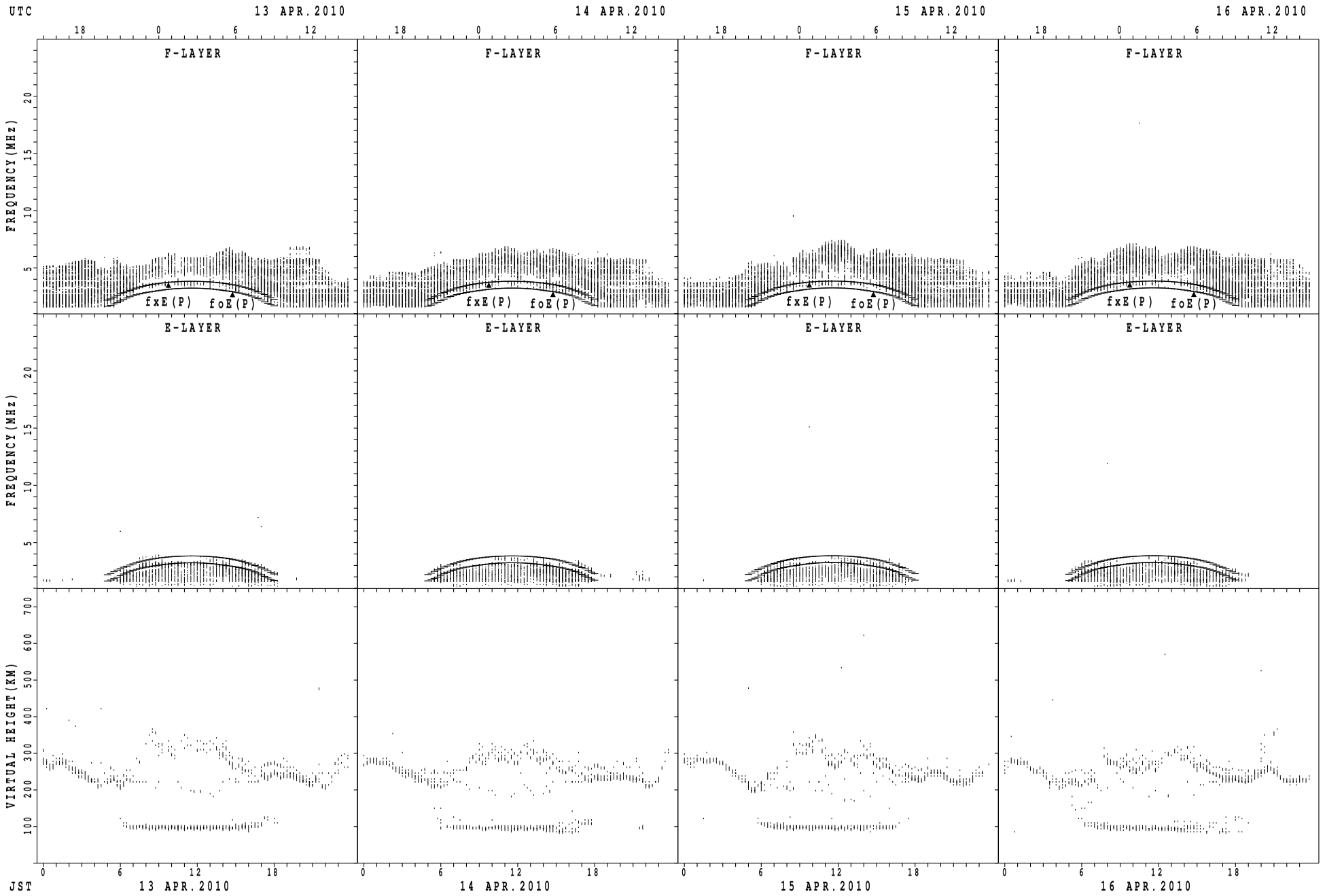
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



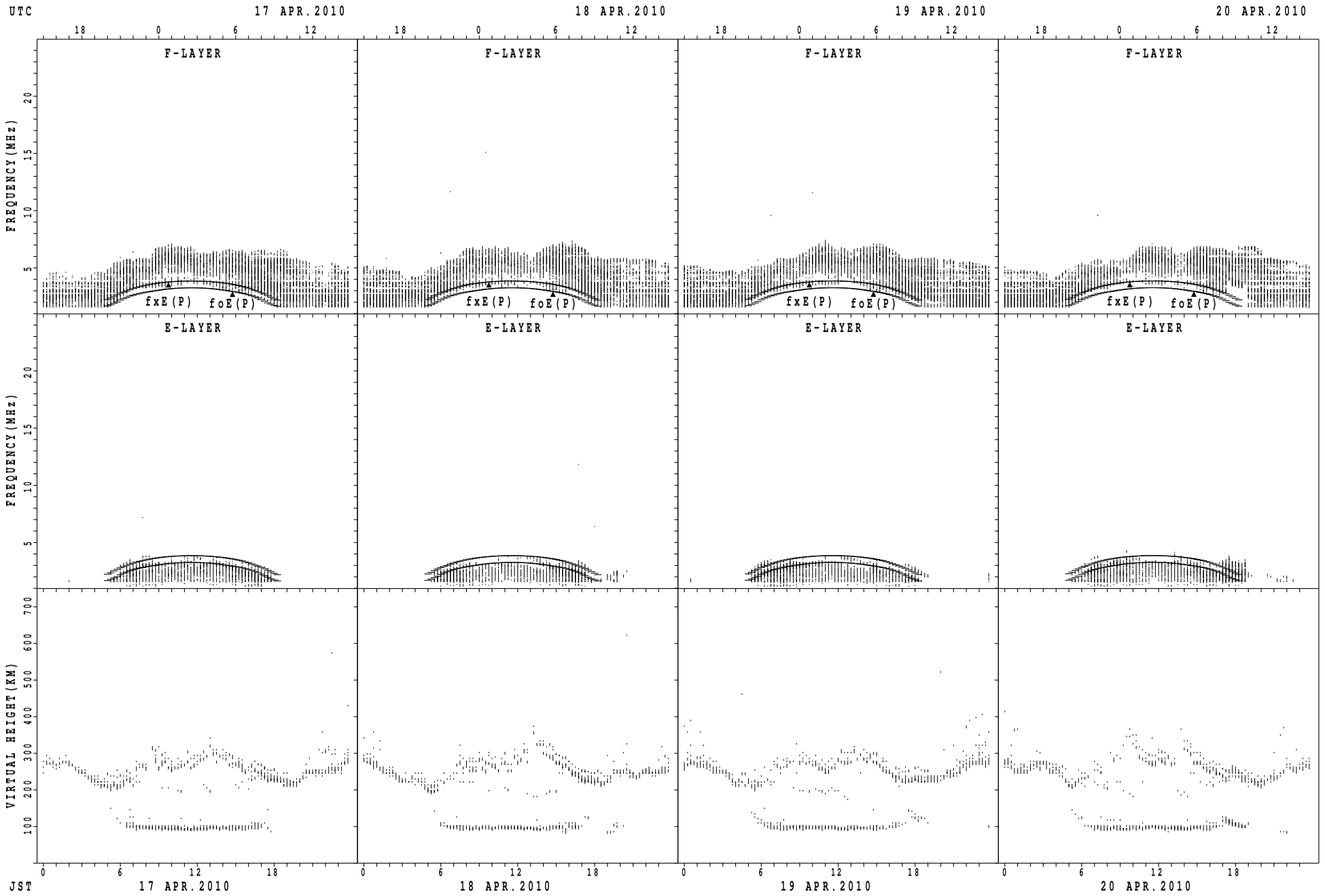
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



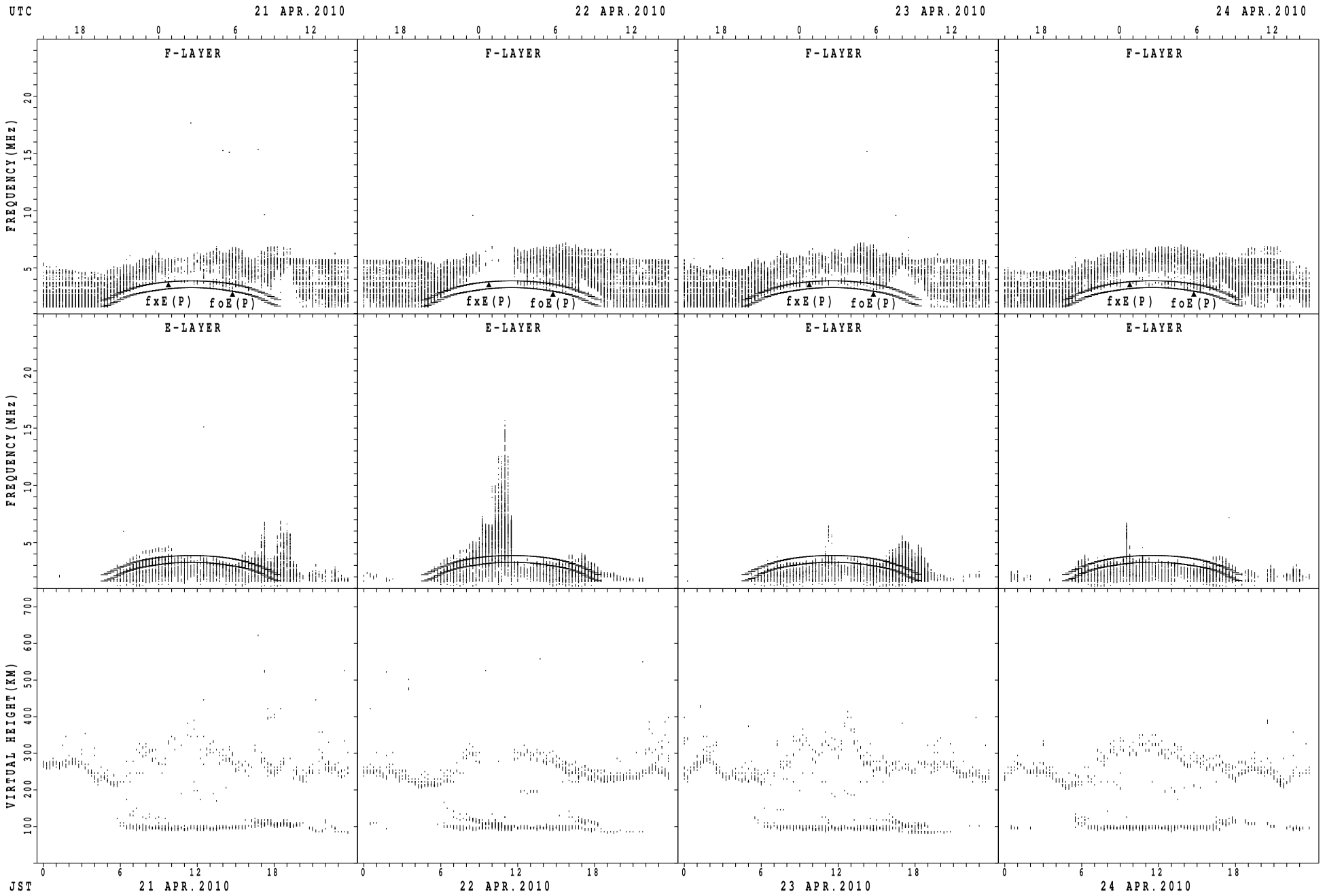
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



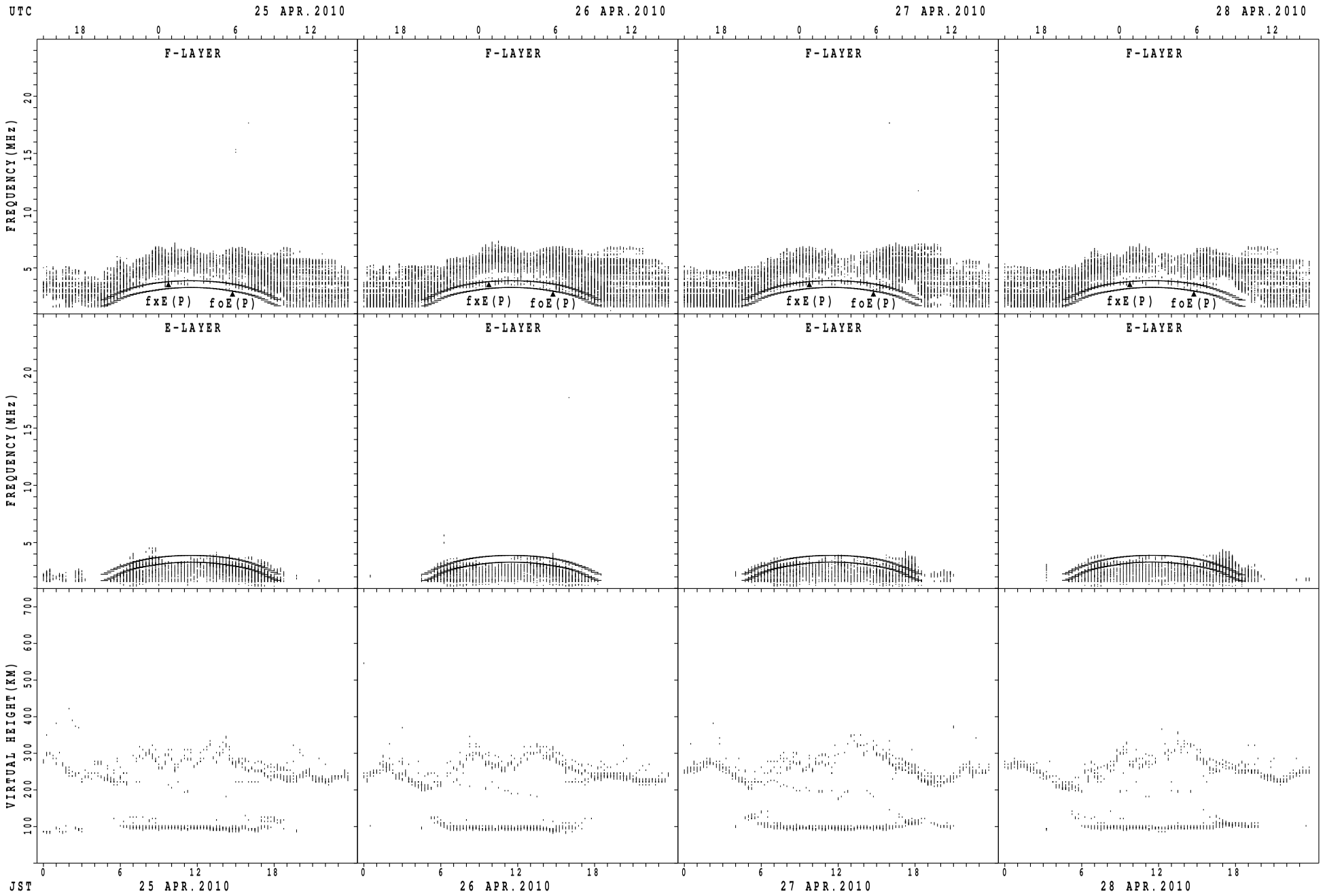
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



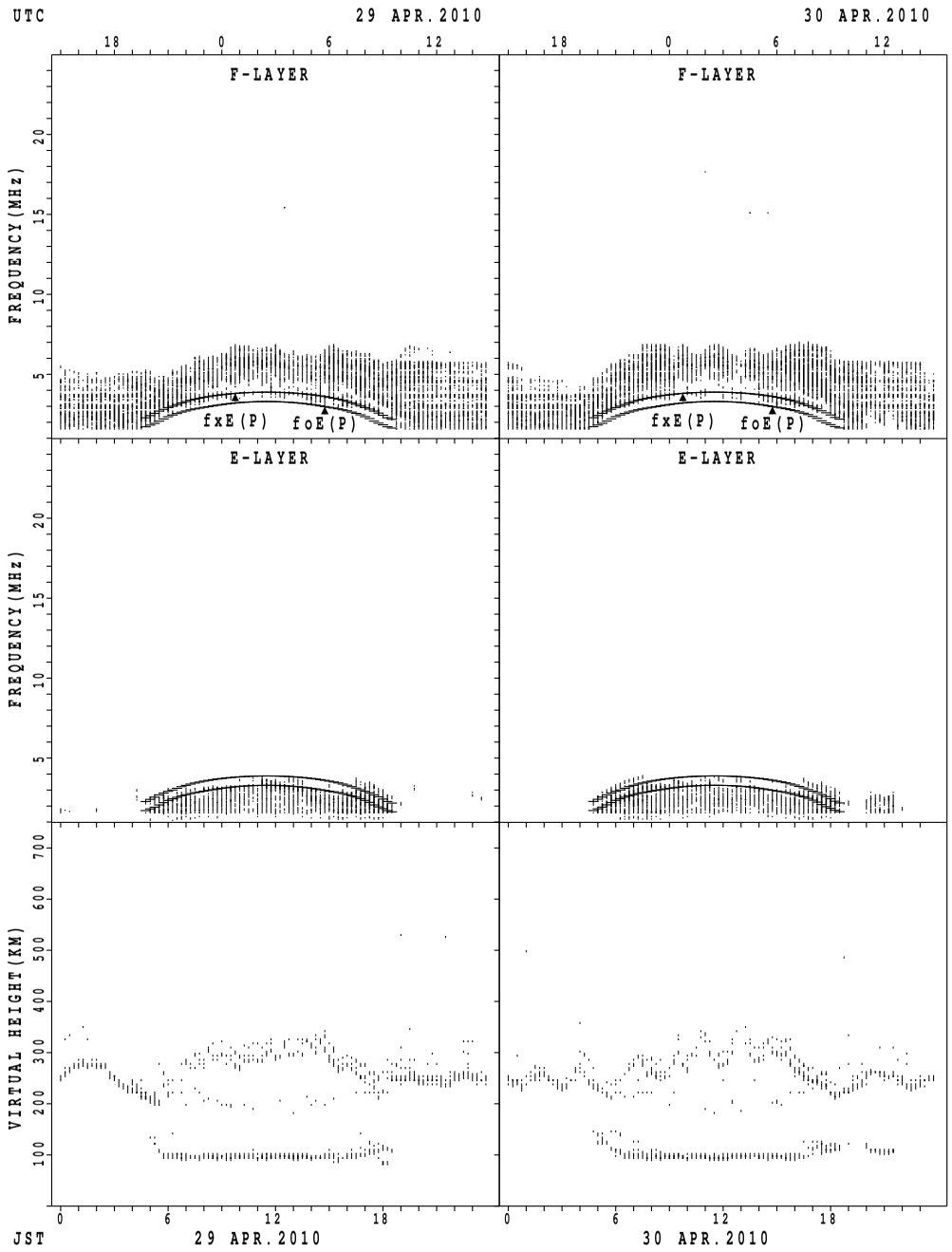
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



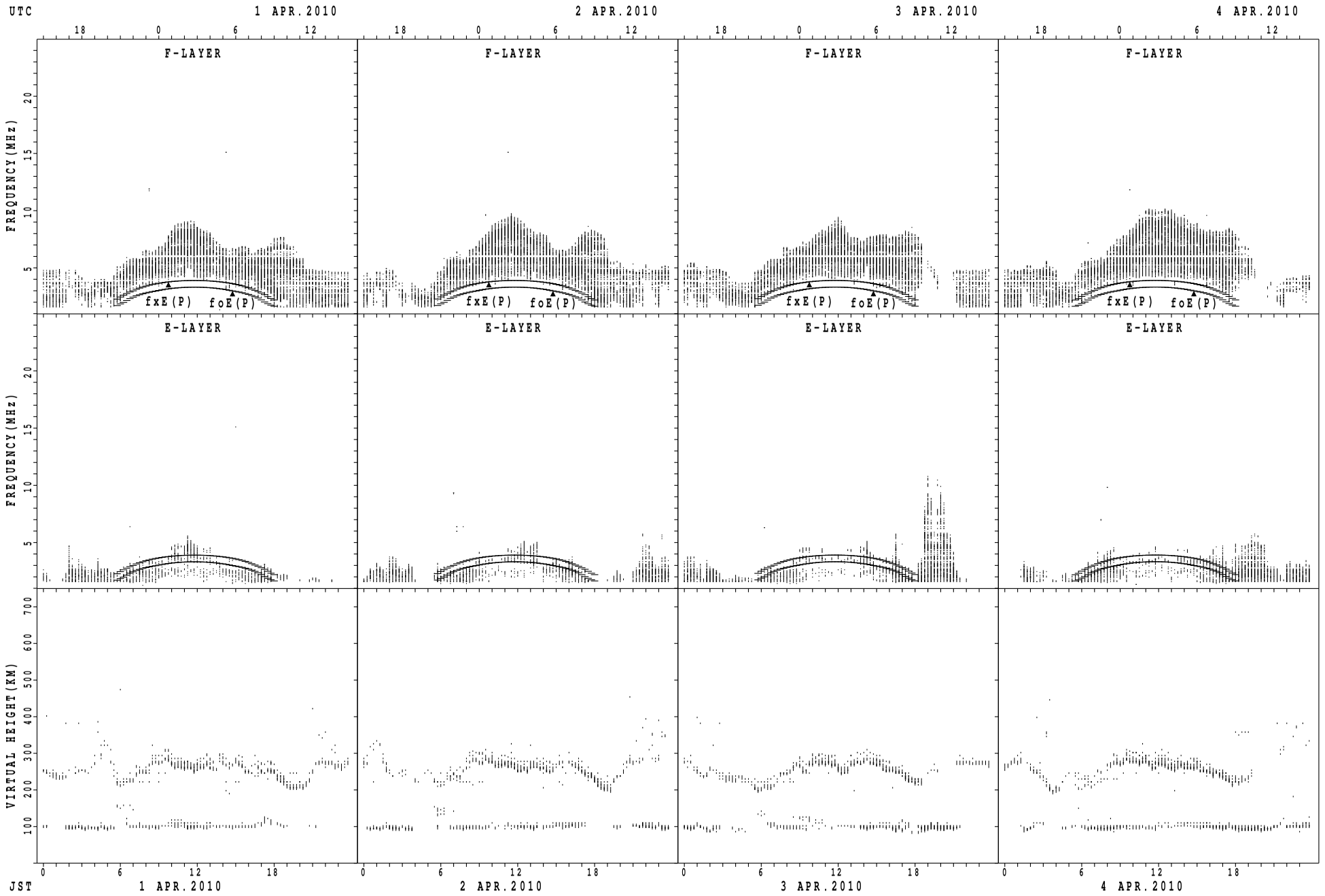
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



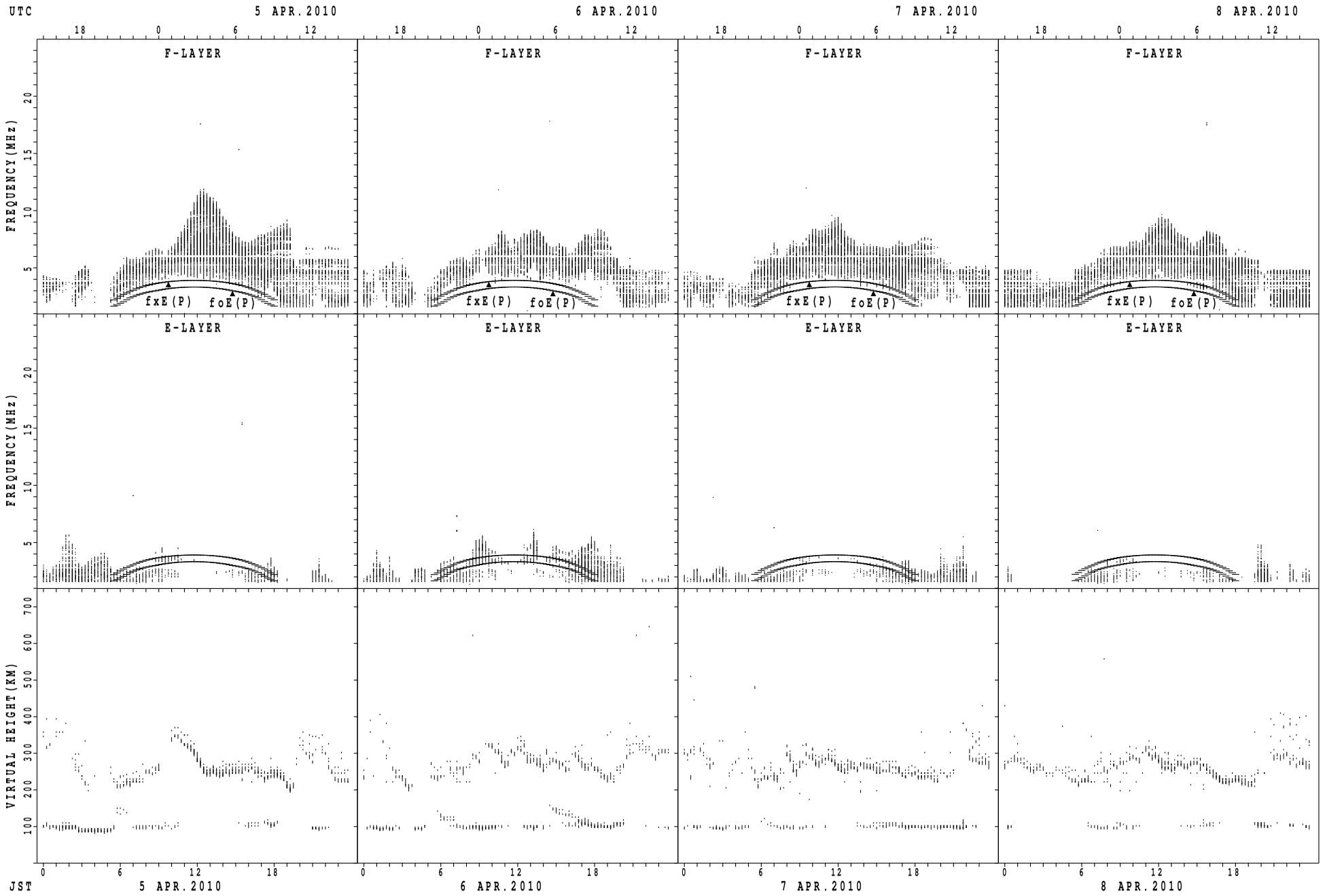
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



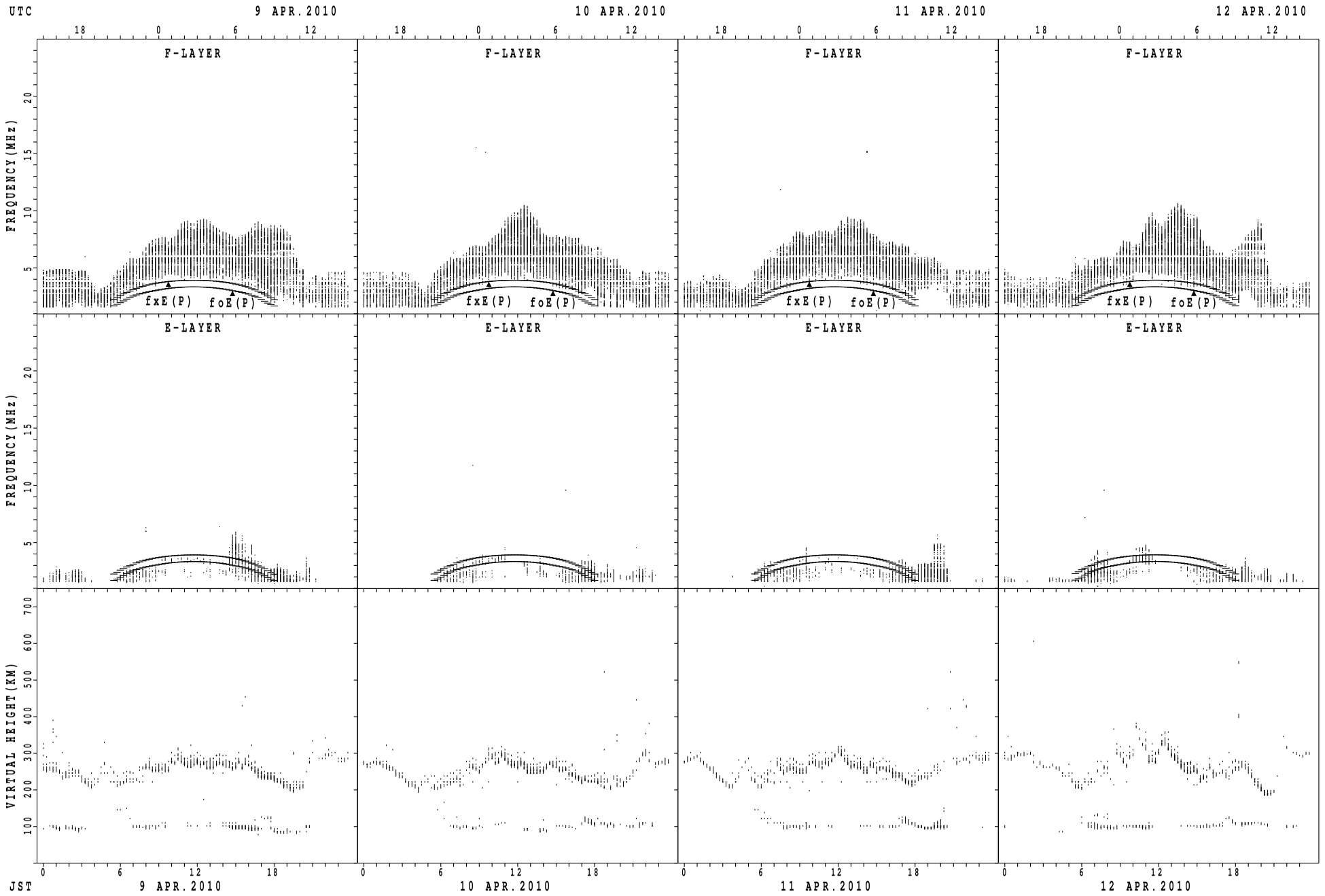
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



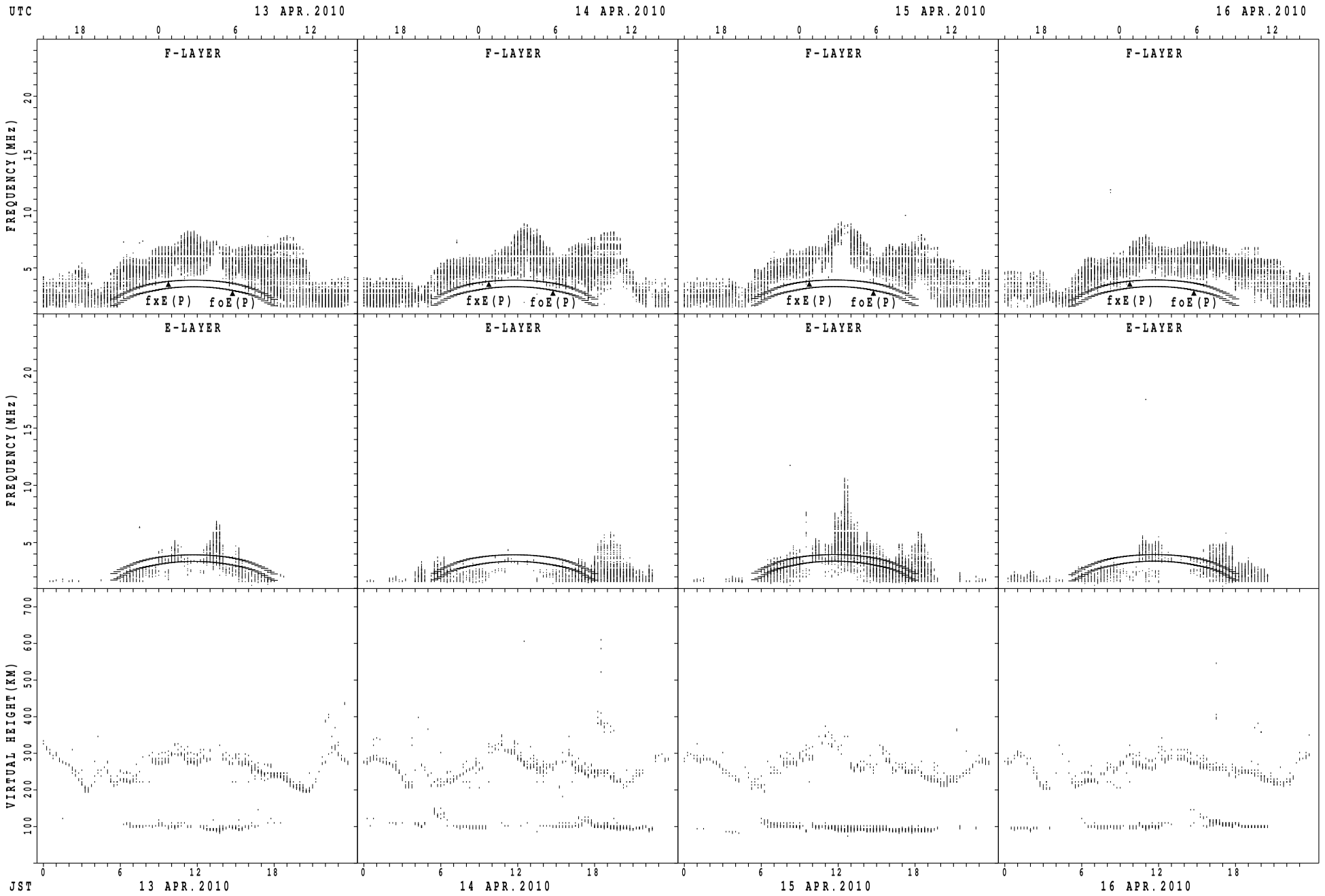
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



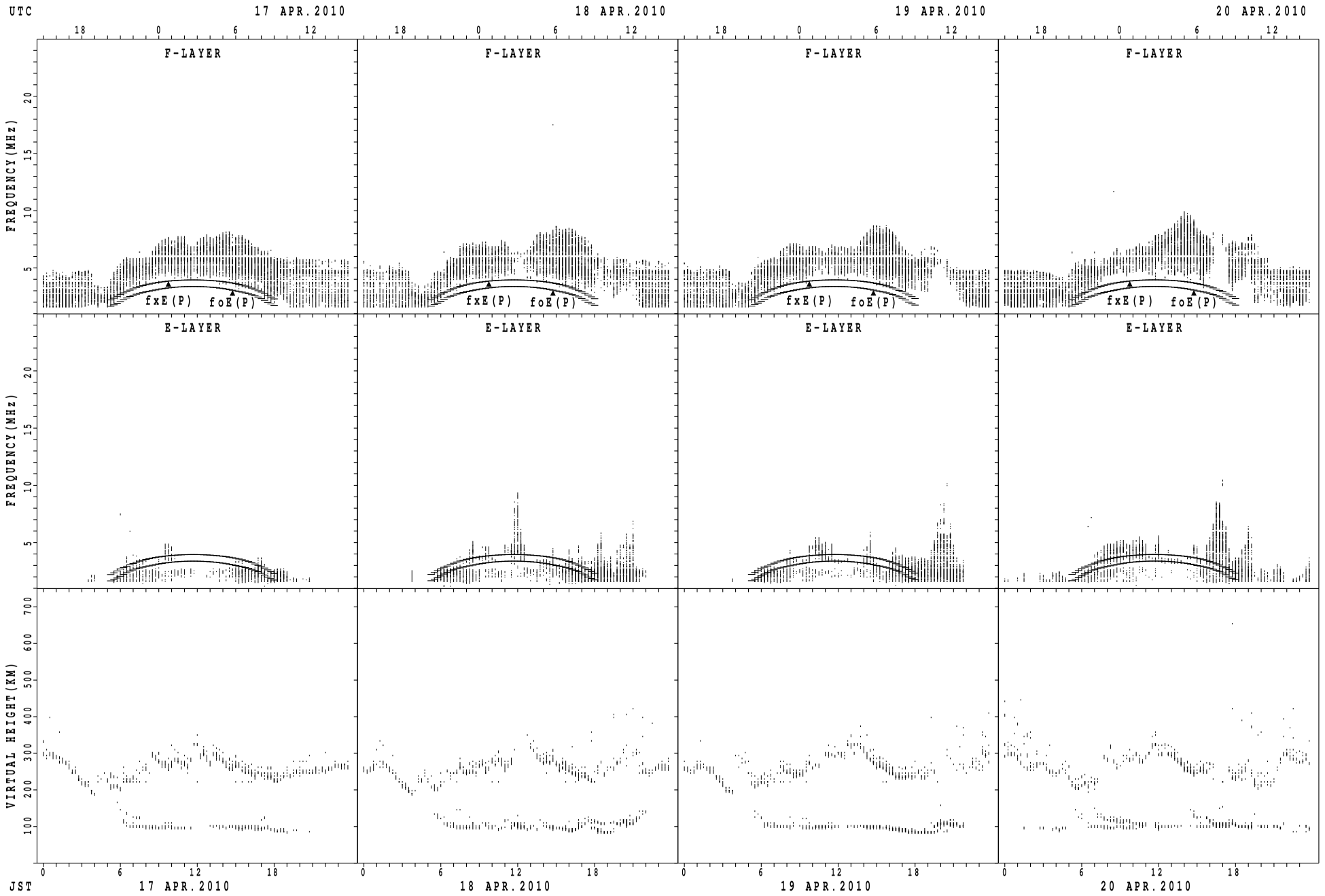
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



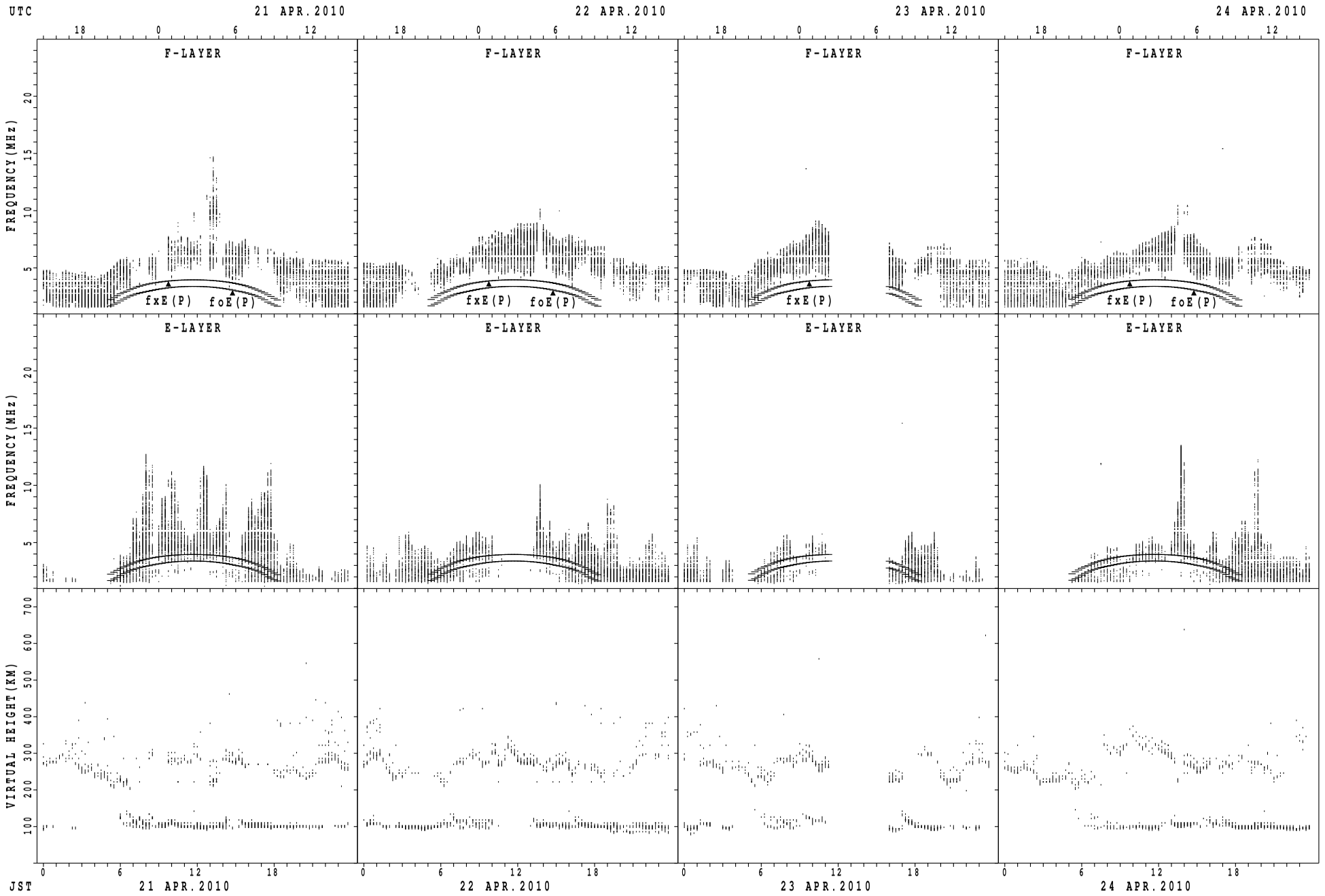
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



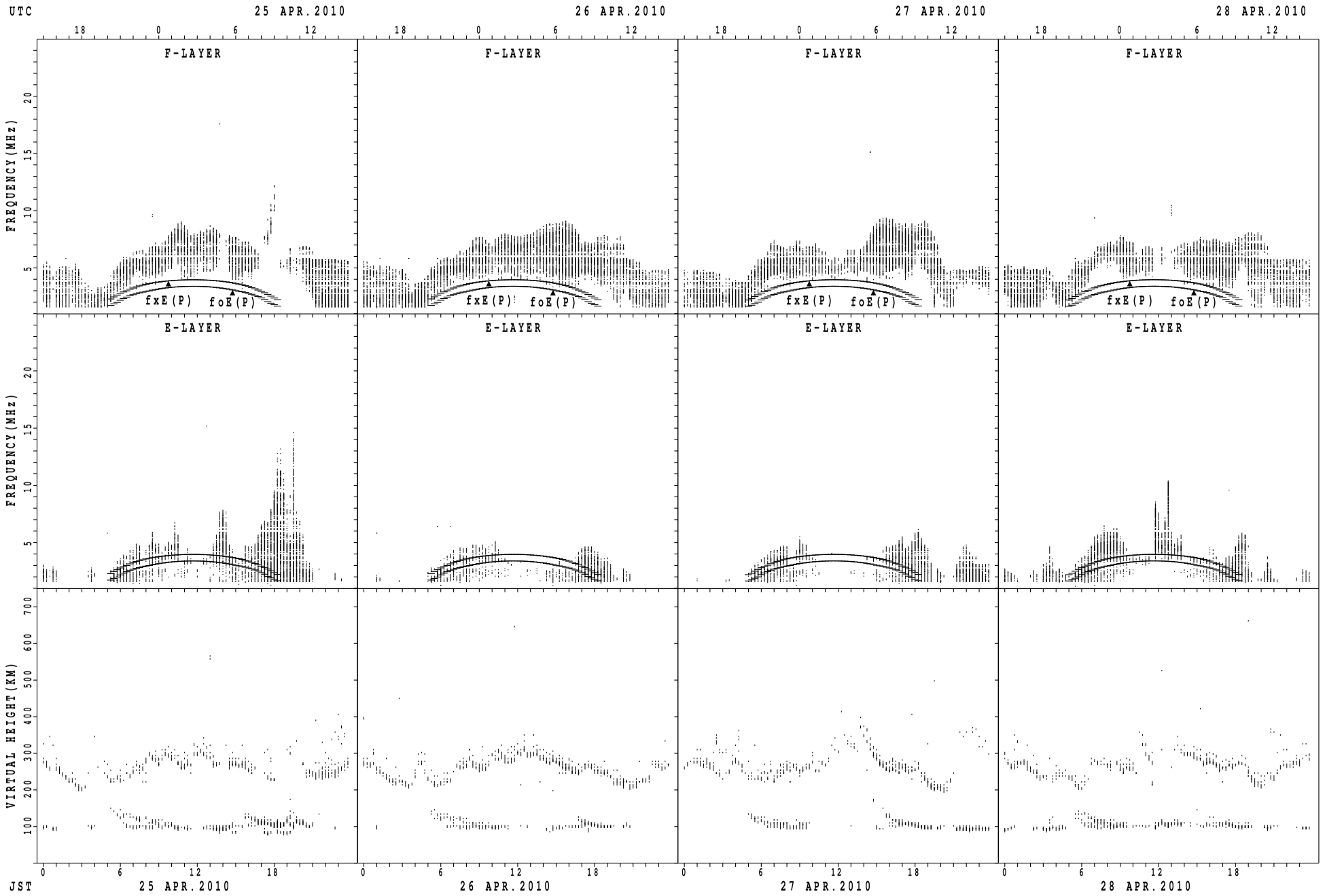
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



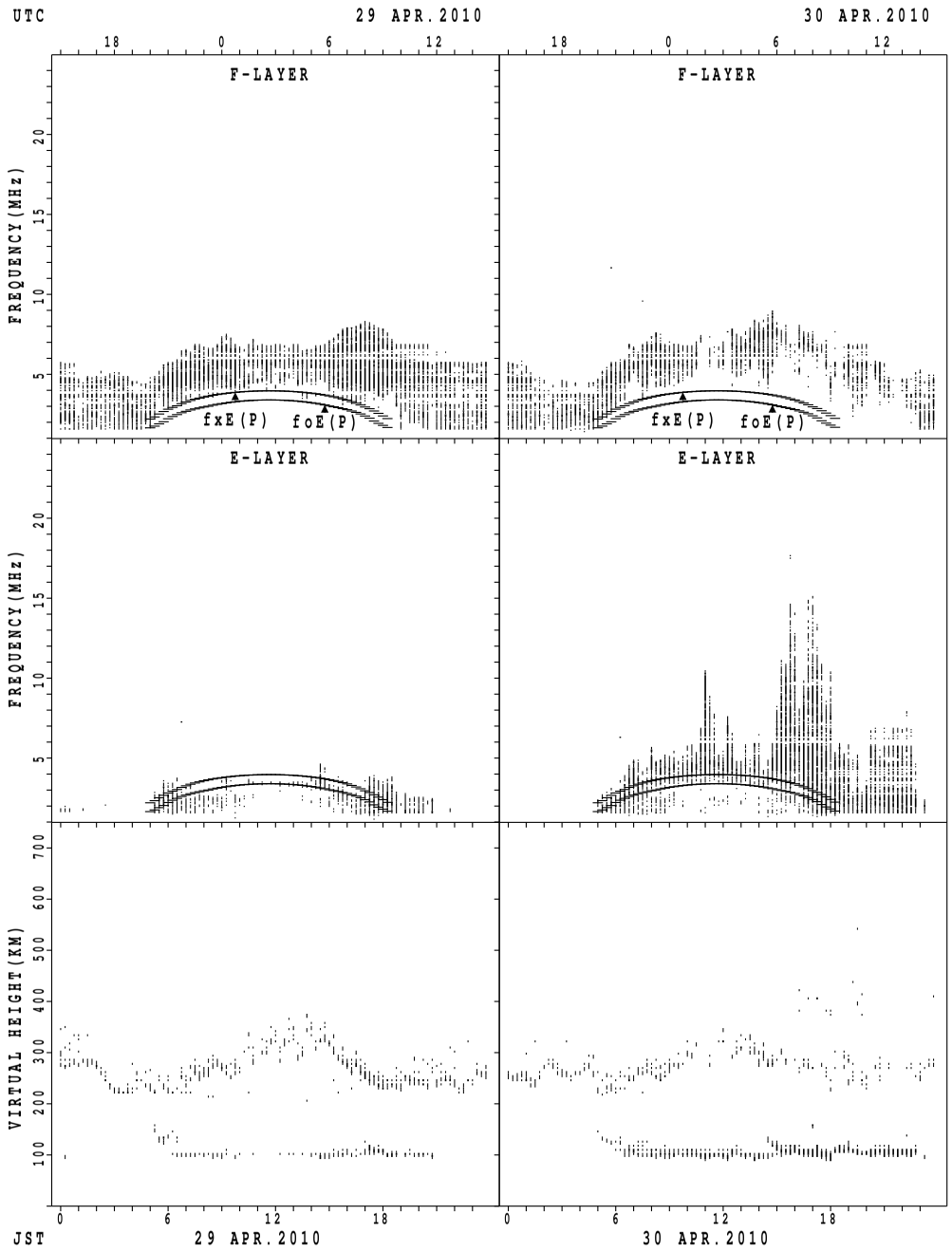
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



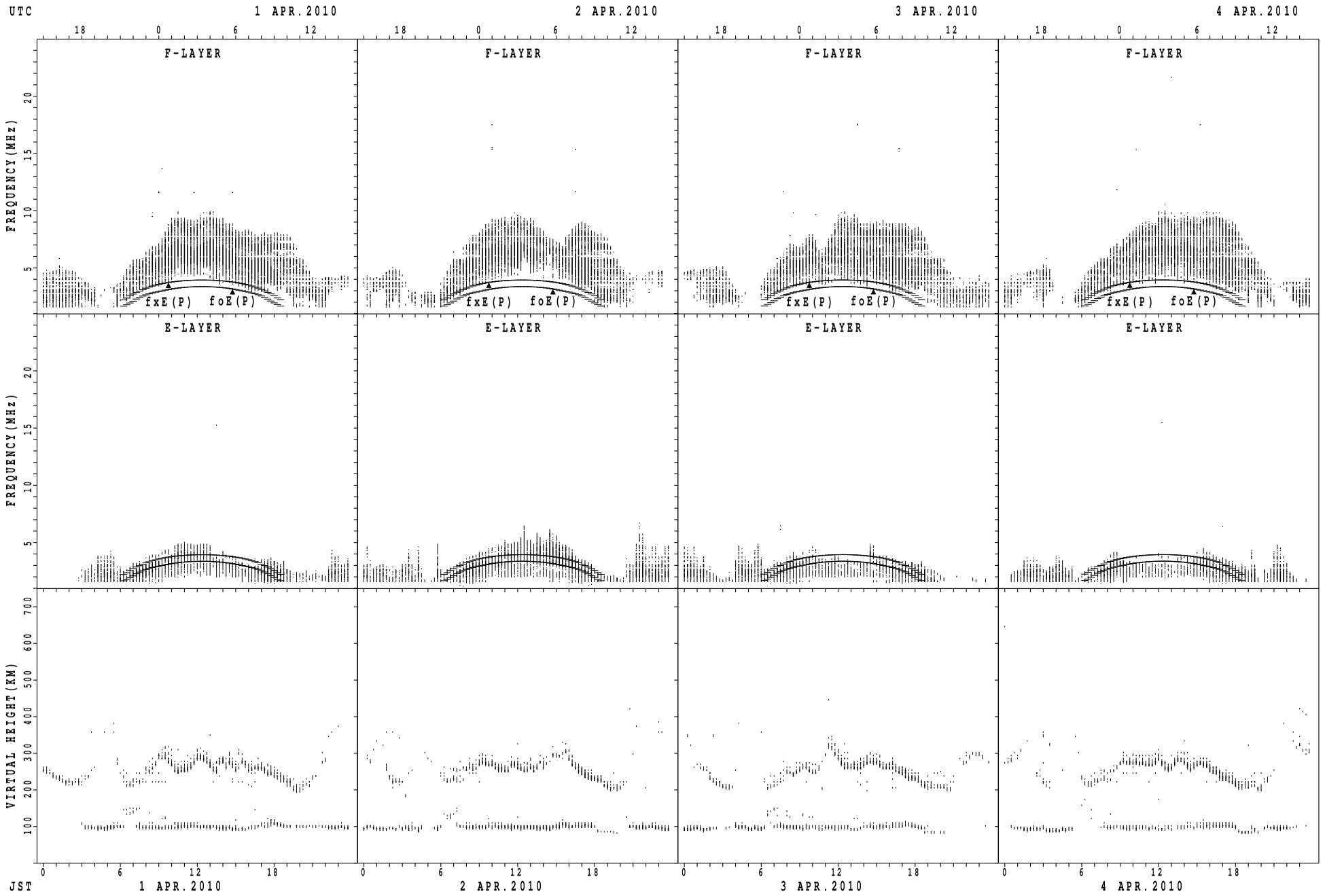
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



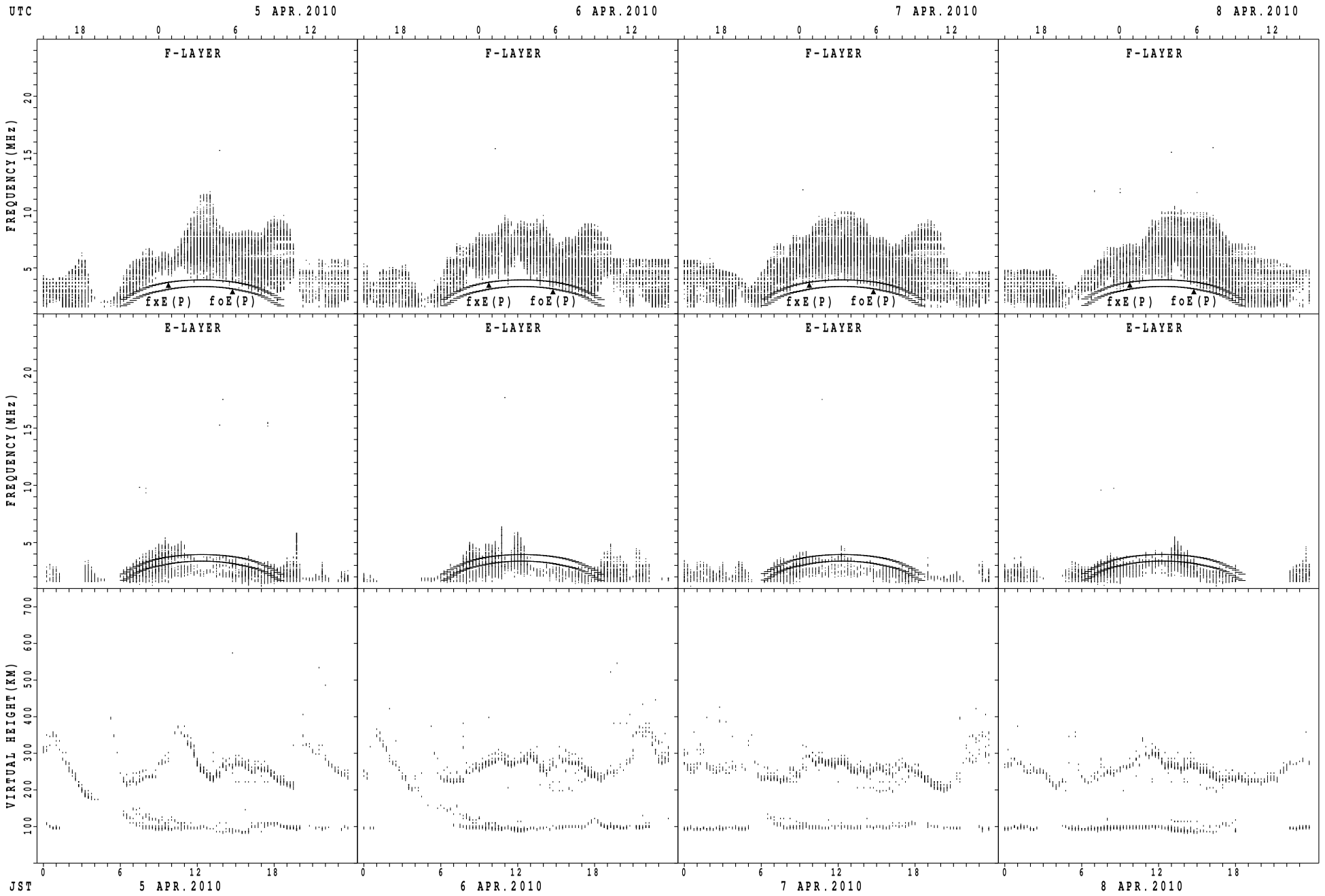
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



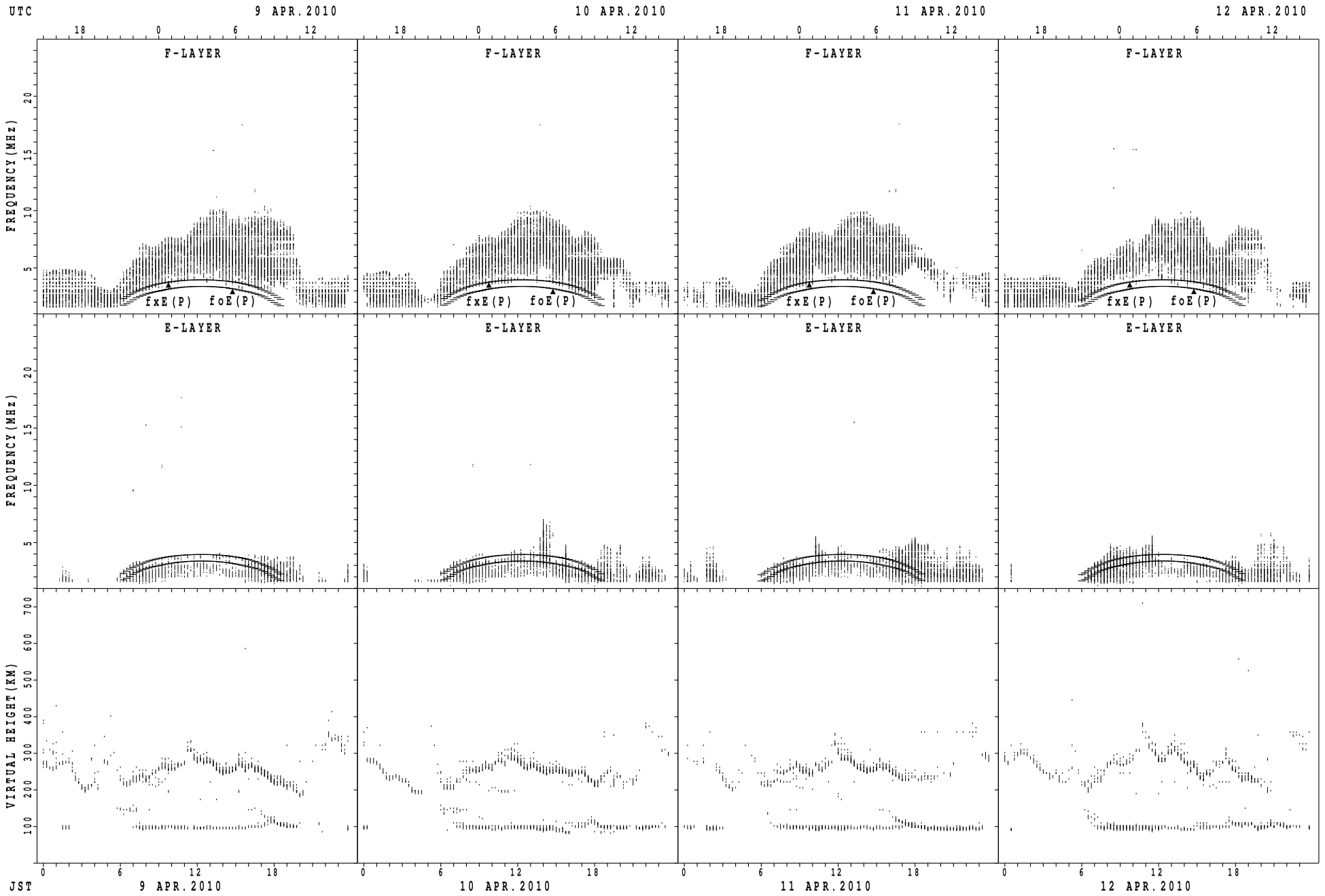
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



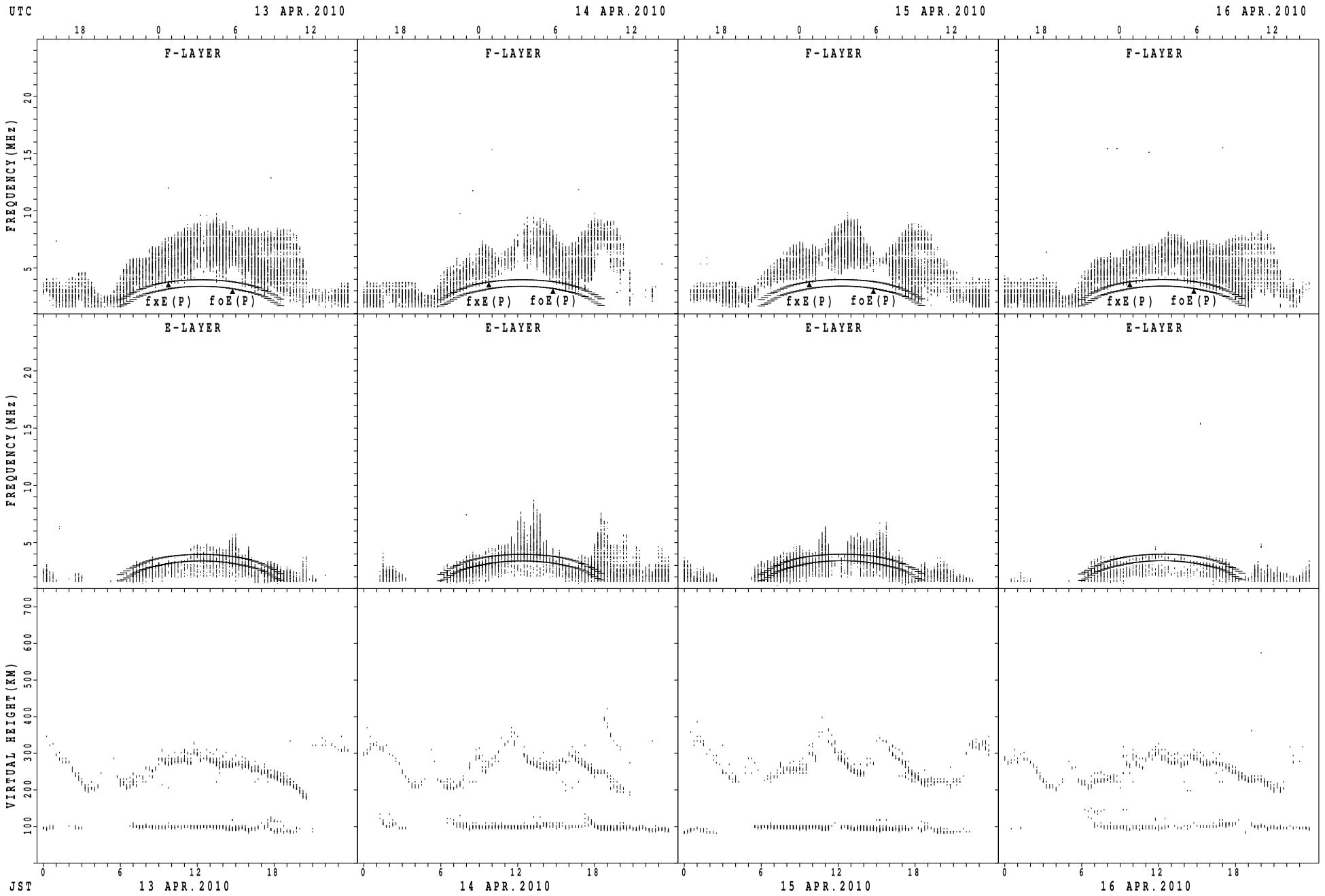
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



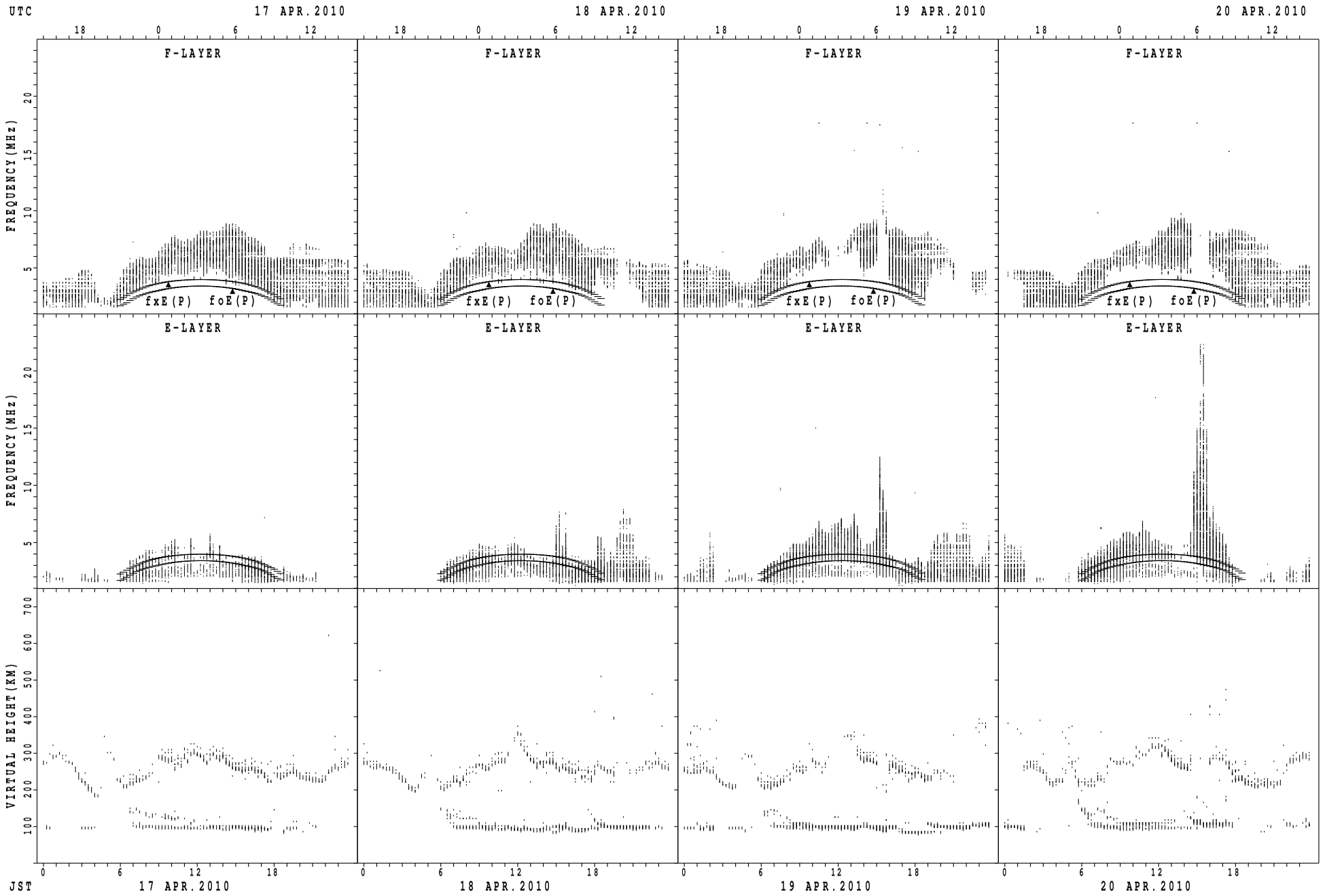
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



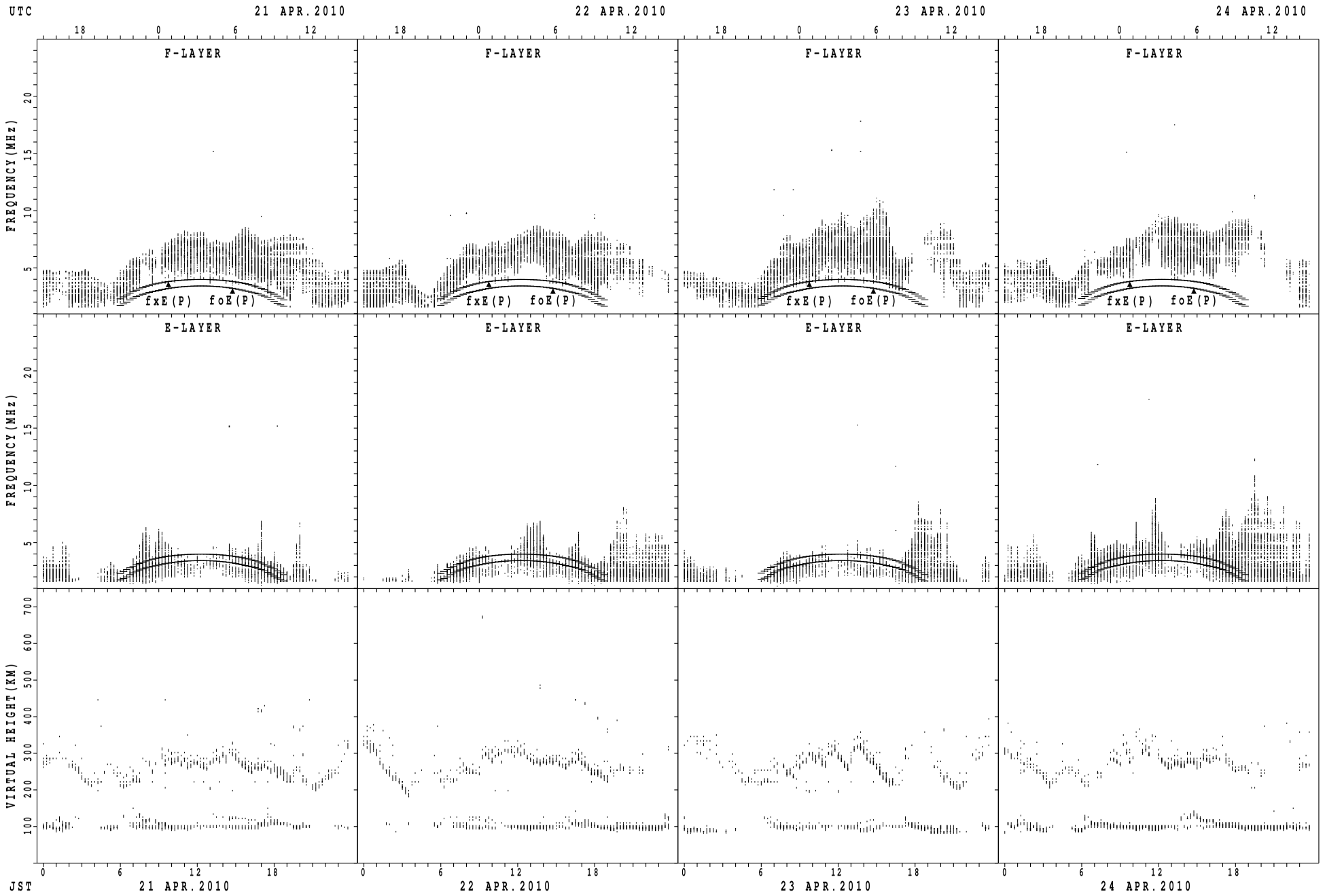
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



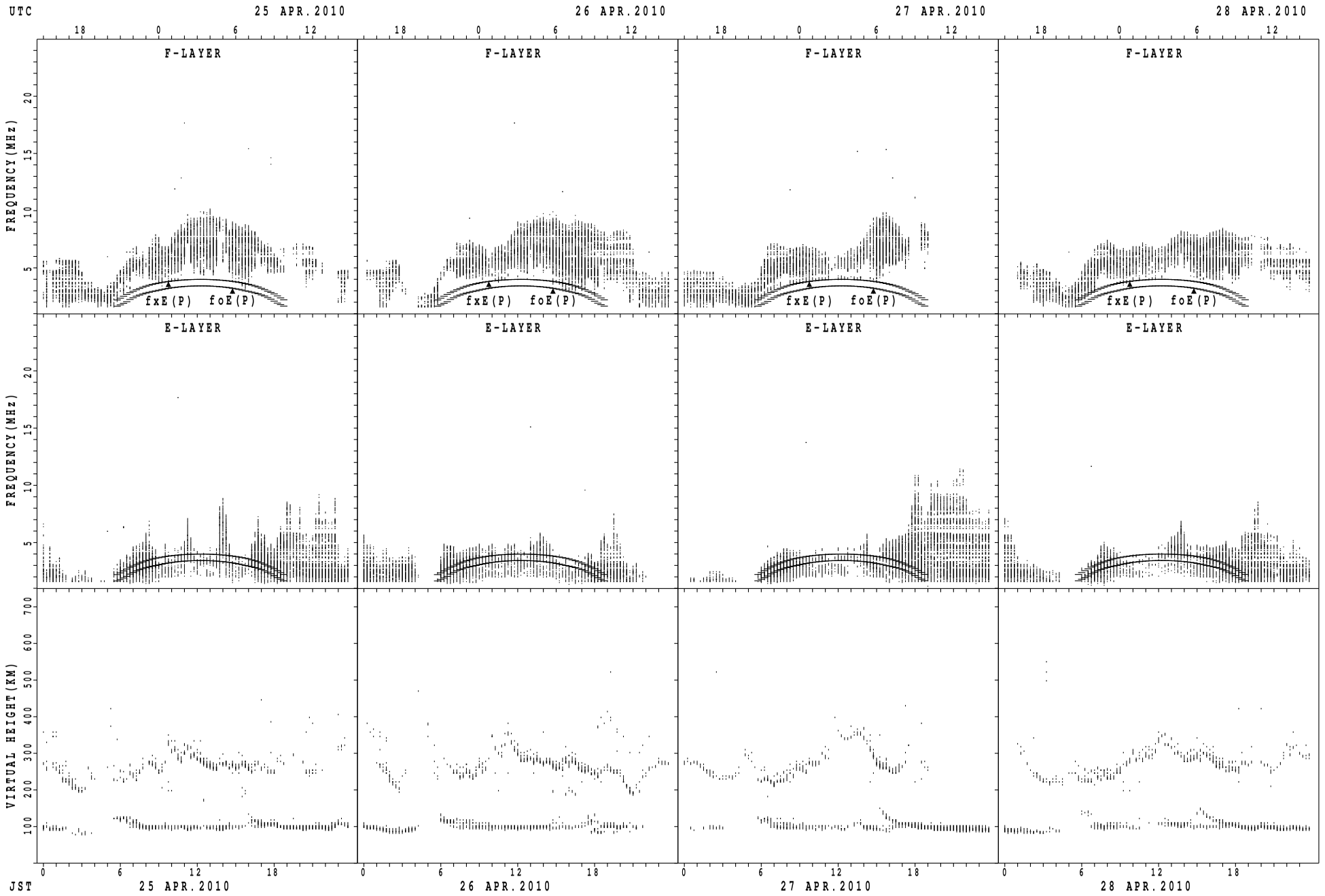
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



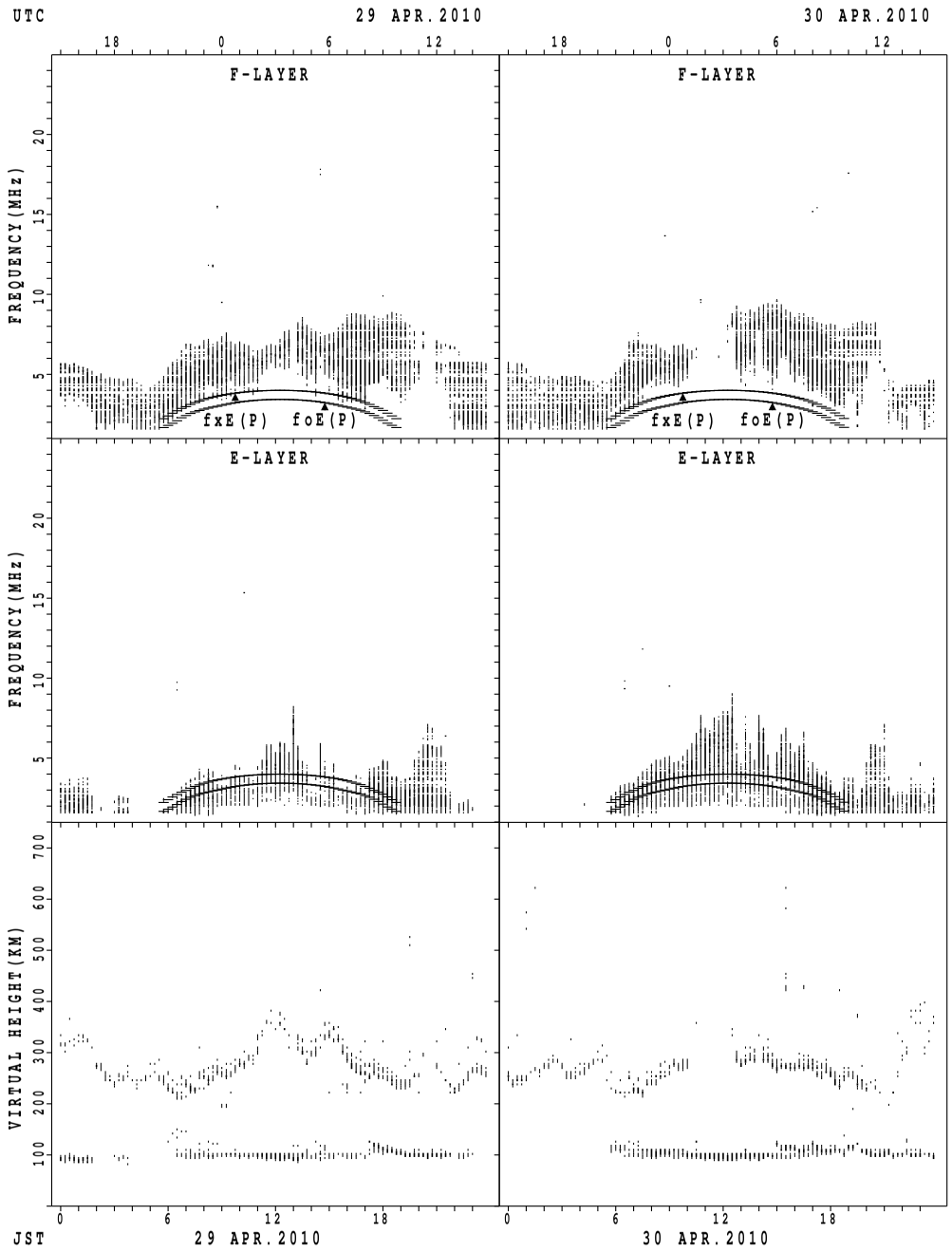
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



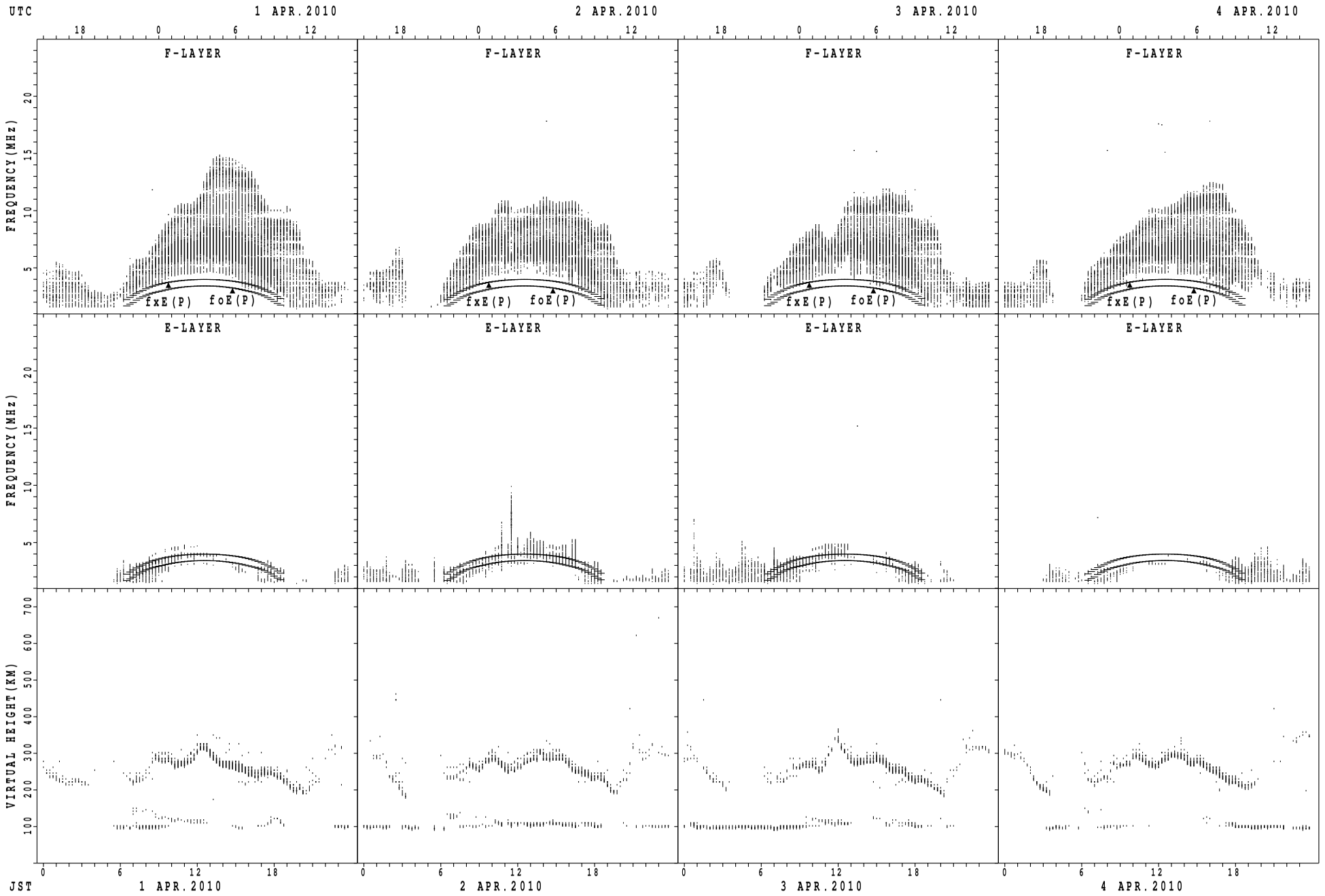
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



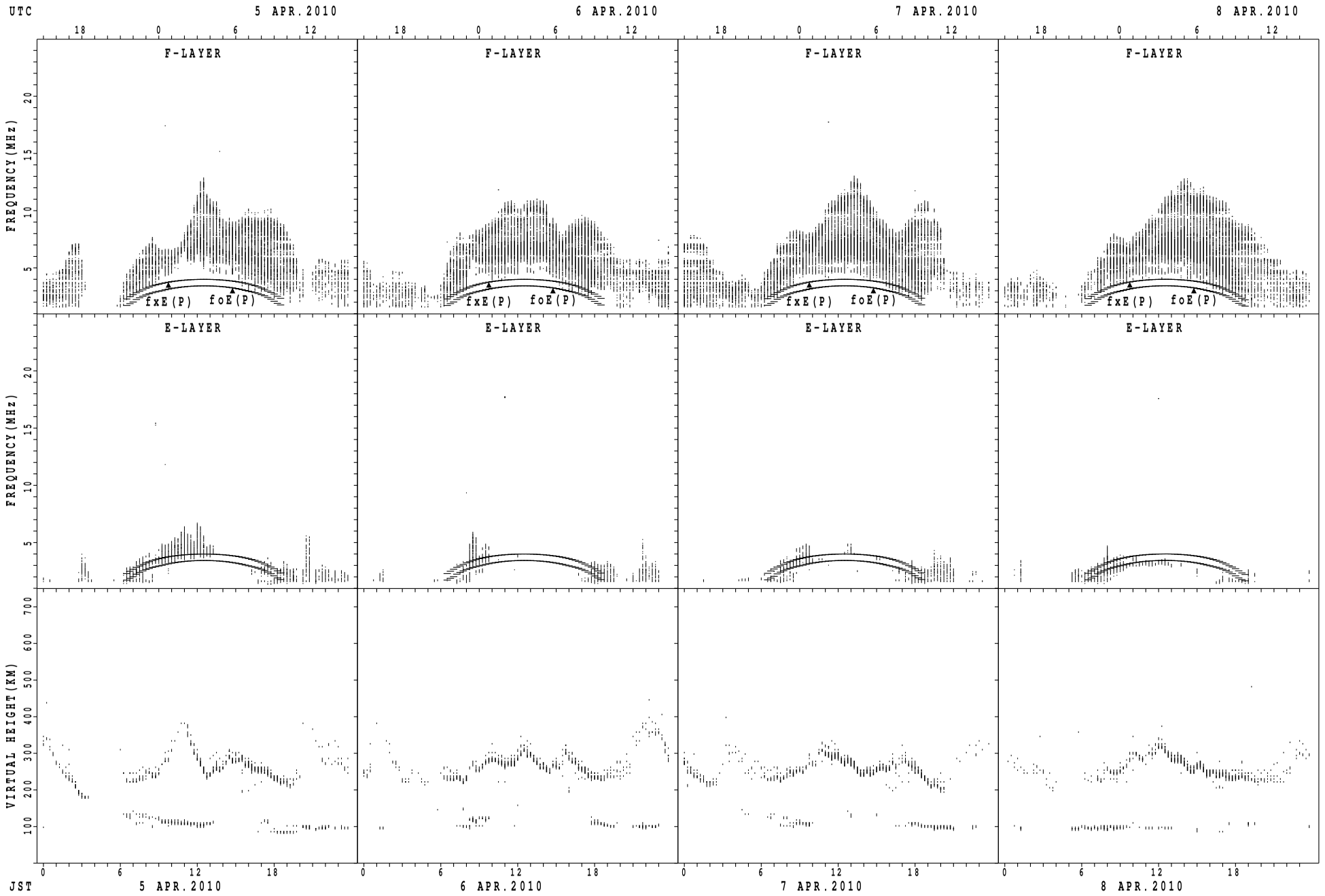
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



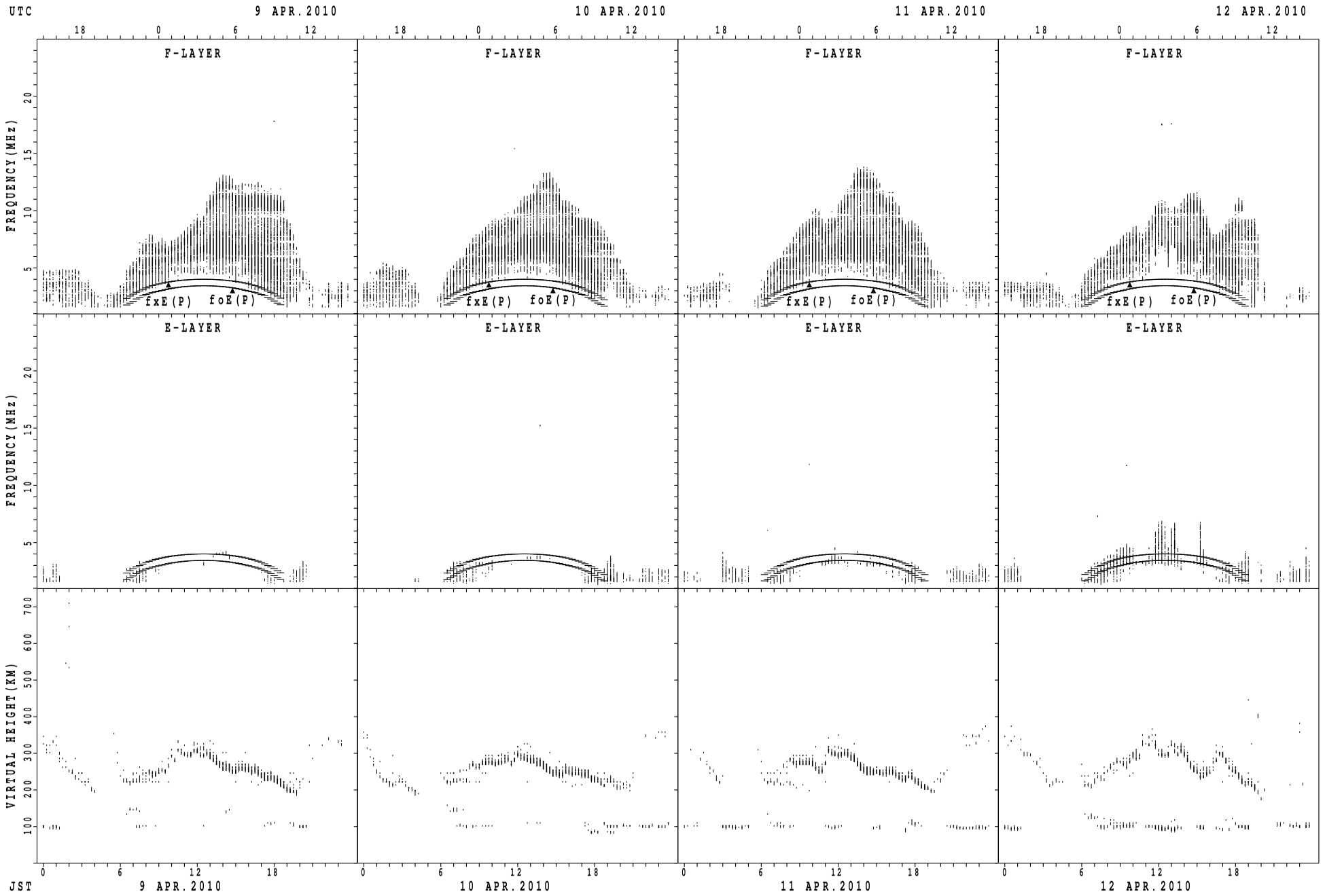
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



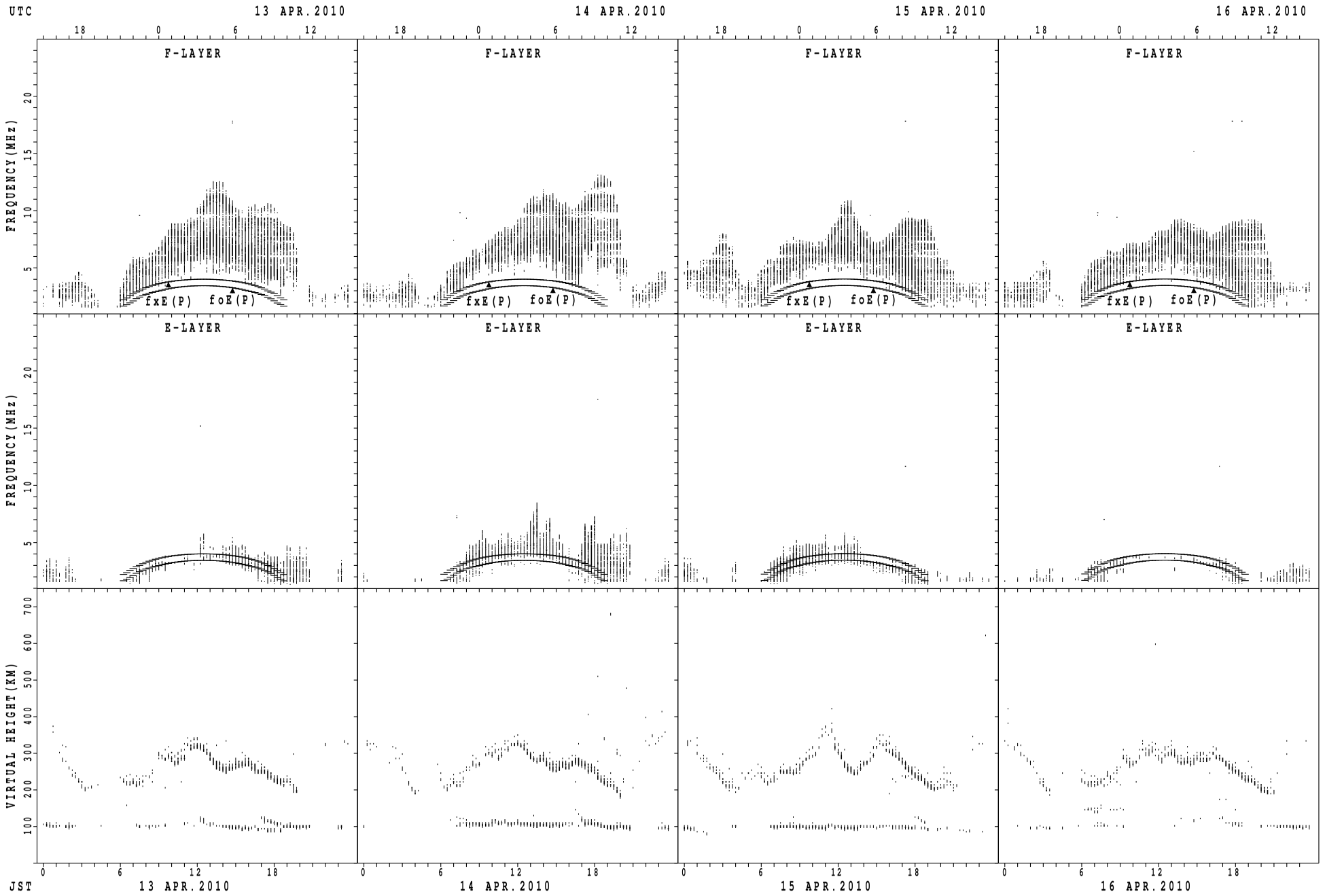
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



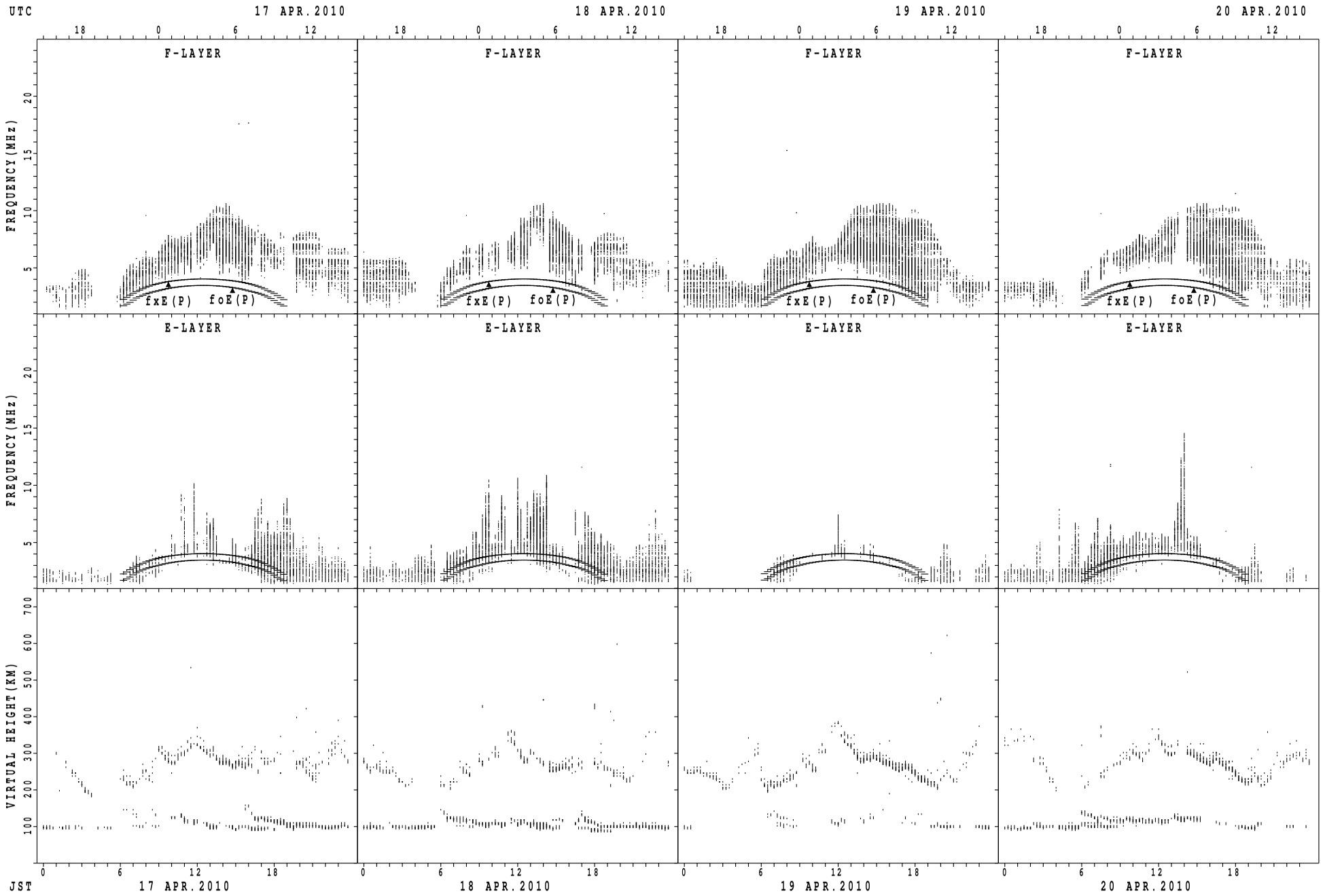
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



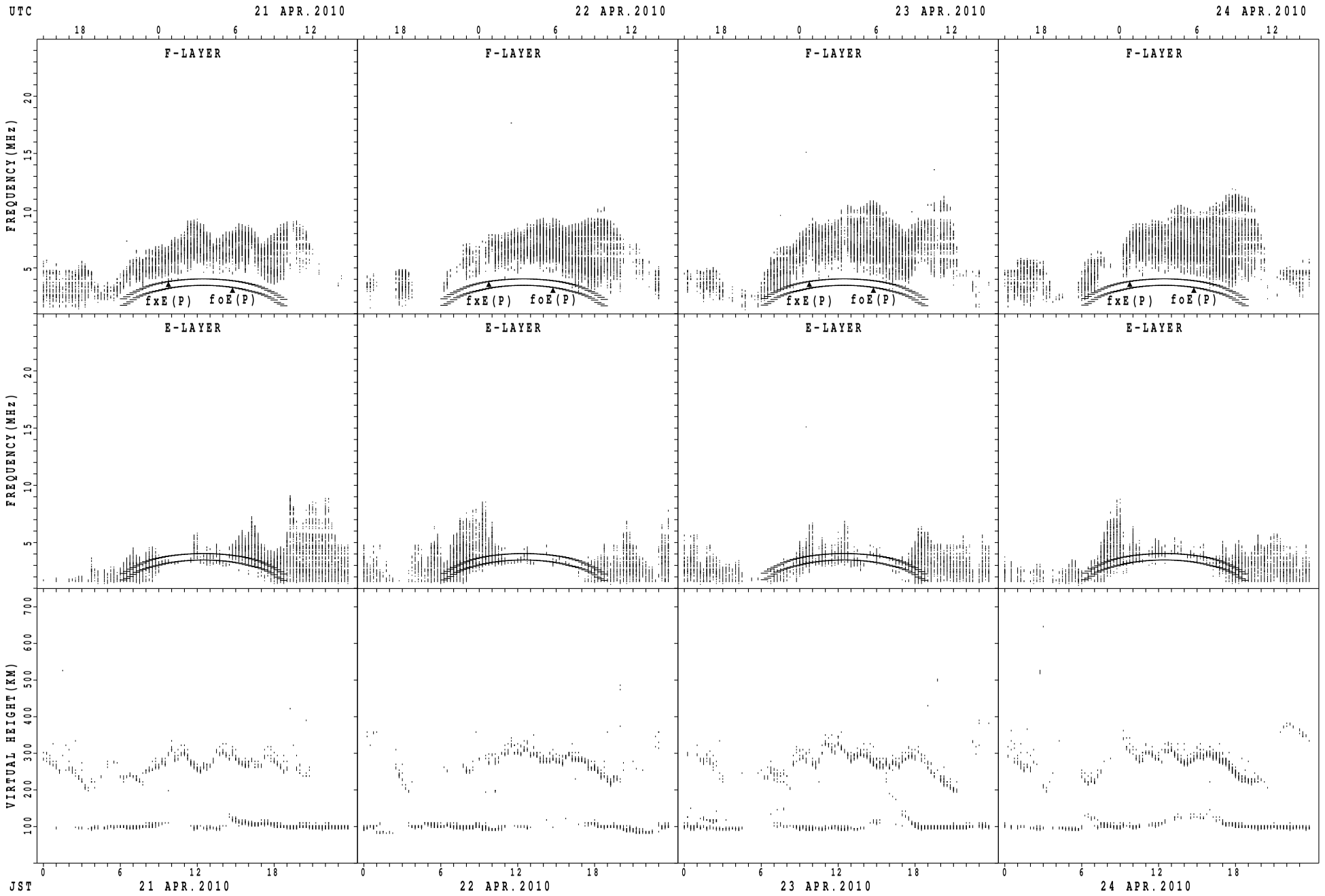
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



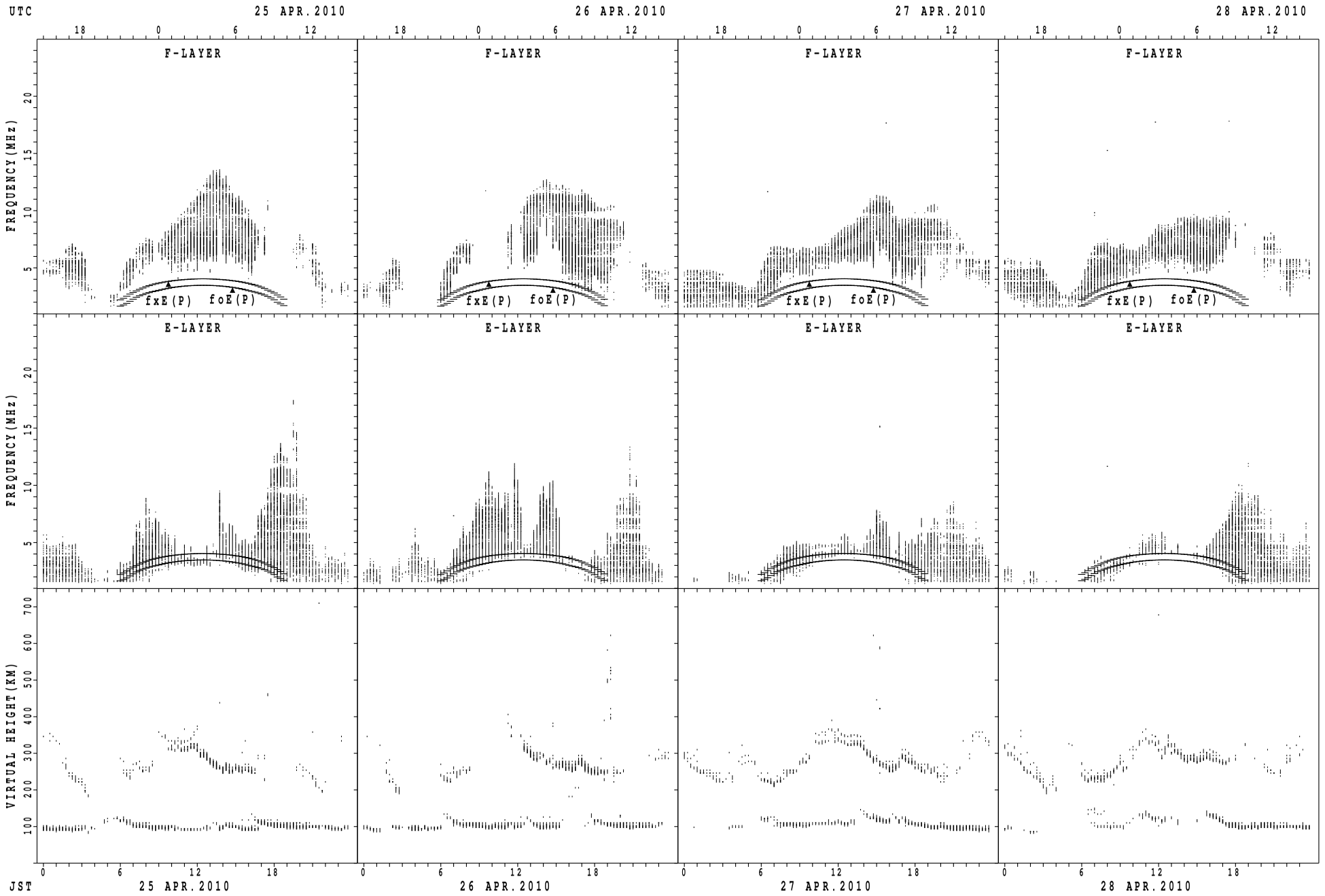
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



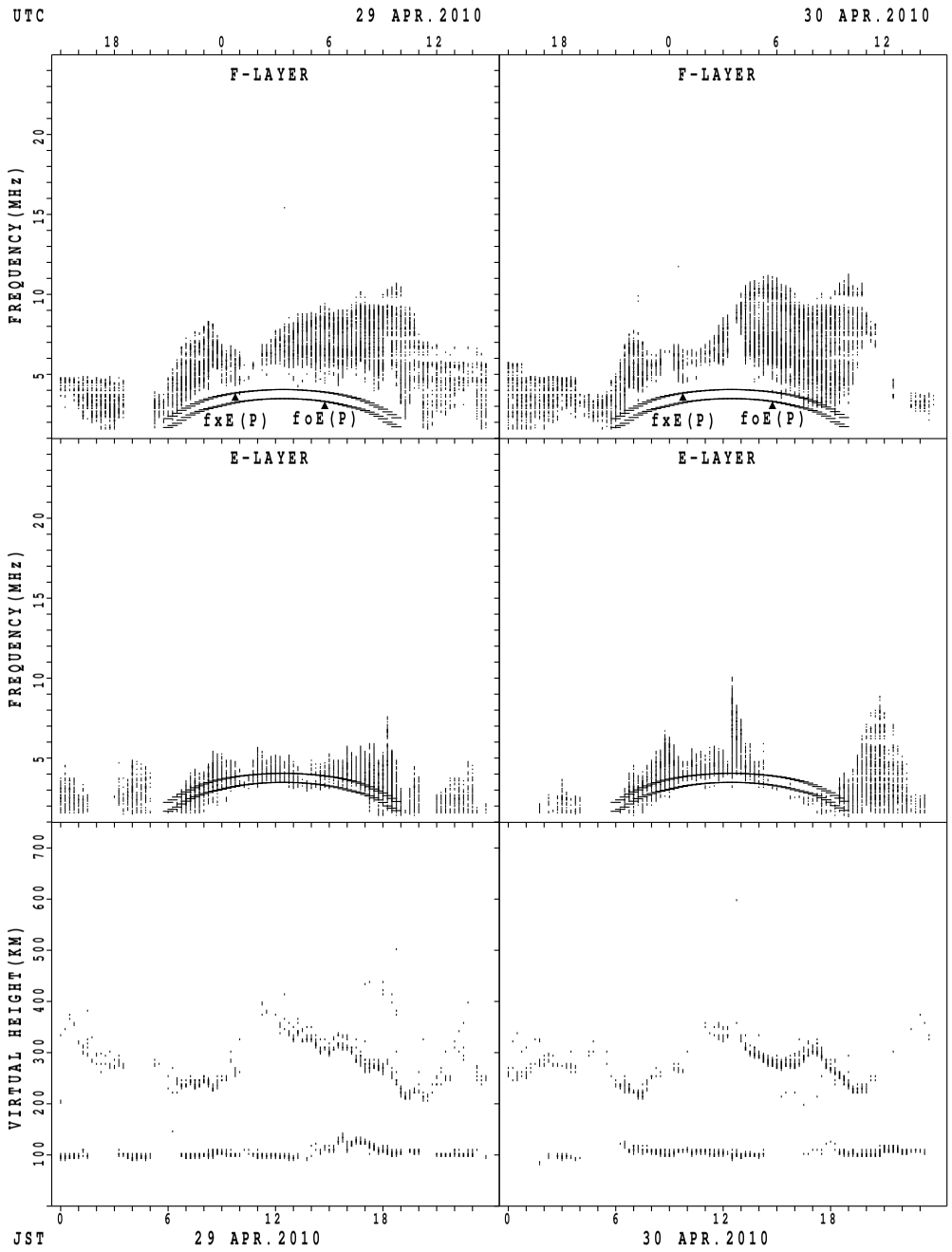
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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

APR.2010 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

h′F STATION Wakkanai LAT. 45°10.0′N LON. 141°45.0′E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								2									16	7	3	3	3			
MED								254									270	266	268	266	276			
U Q								258									278	272	268	298	288			
L Q								250									264	262	266	254	256			

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	3	5	4	3	1	3	21	19	9	7	7	5	4	5	8	4	18	18	20	16	10	6	6	2
MED	101	113	102	95	103	127	137	125	107	101	103	103	148	99	103	95	105	111	109	106	106	103	104	101
U Q	103	130	117	115	51	167	149	137	119	111	103	107	187	169	172	99	131	119	115	113	113	109	107	107
L Q	89	99	98	91	51	121	124	113	98	101	99	98	108	96	96	92	101	107	99	89	91	101	99	95

h′F STATION Kokubunji LAT. 35°43.0′N LON. 139°29.0′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								7	2								20	19	15	12	7			
MED								258	274								261	260	254	252	244			
U Q								268	274								271	270	266	269	264			
L Q								252	274								254	240	240	234	232			

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	8	11	10	10	9	5	17	13	13	16	15	12	11	10	11	12	19	21	25	24	20	16	12	8
MED	97	97	99	98	97	101	131	117	111	108	109	103	105	104	103	109	105	107	103	103	103	103	103	99
U Q	101	101	103	101	102	126	135	121	116	111	113	111	107	107	107	121	119	113	107	104	107	108	108	104
L Q	95	97	97	95	95	93	123	114	108	105	105	101	97	103	95	97	97	104	103	98	100	101	97	93

h′F STATION Yamagawa LAT. 31°12.0′N LON. 130°37.0′E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								4	16								8	26	25	19	12	3	1	
MED								251	256								260	264	254	248	252	224	332	
U Q								258	267								272	278	263	270	266	278	166	
L Q								237	249								255	246	239	238	227	214	166	

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	16	15	16	10	9	6	16	26	20	21	18	18	22	19	21	21	16	21	27	26	23	21	18	17
MED	97	97	95	96	99	97	117	131	108	105	103	101	99	103	99	107	114	111	107	101	99	99	100	101
U Q	104	99	98	97	103	97	149	141	119	113	107	103	105	103	107	125	120	119	111	103	105	103	103	105
L Q	95	93	92	89	92	95	102	113	105	102	101	97	97	99	96	100	106	104	103	97	97	98	97	98

MONTHLY MEDIANS OF h′F AND h′Es

APR.2010 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

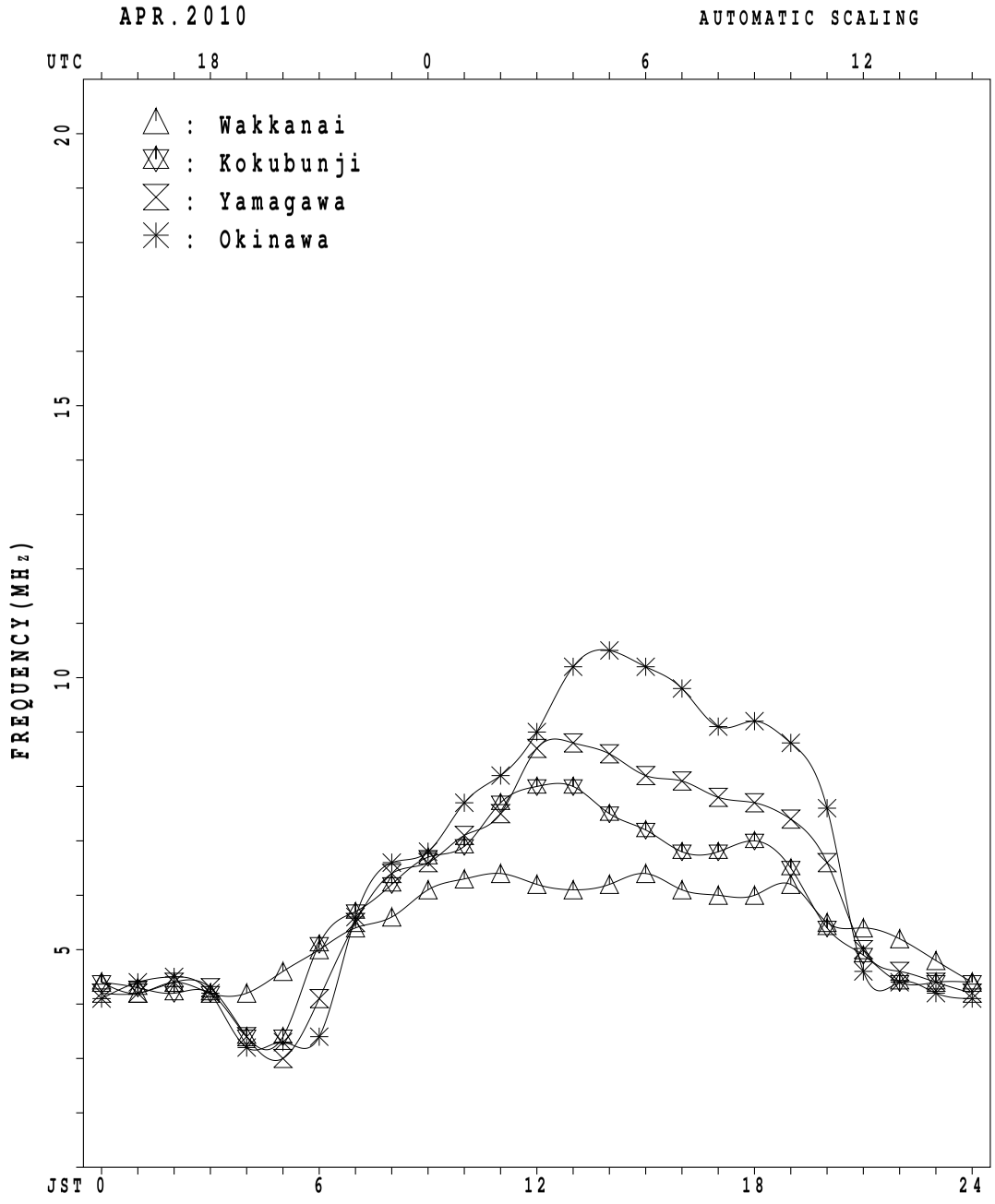
h′F STATION Okinawa LAT. 26°41.0′N LON. 128°09.0′E

	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	2	2				5	18	3								28	28	26	14	4		
MED		270	282	242				248	258	262								269	246	230	236	265		
U Q		135	290	250				260	270	282								283	263	246	248	285		
L Q		135	274	234				227	252	254								244	236	228	222	228		

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	17	13	9	8	14	8	10	22	20	20	19	16	19	17	12	16	11	13	23	23	20	17	17	21
MED	101	99	99	98	98	103	103	116	105	105	111	109	107	105	105	110	111	115	109	103	104	103	103	103
U Q	105	103	108	102	101	105	119	137	110	109	111	116	113	121	117	119	133	127	113	105	108	105	105	105
L Q	97	94	97	97	97	98	103	105	103	100	103	98	103	99	102	105	107	111	105	99	102	102	99	99

MONTHLY MEDIANS PLOT OF foF2



IONOSPHERIC DATA STATION Kokubunji

APR. 2010 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'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 55	X 53	X 50	X 45	X 42	X 41														X 77	X 65	X 51	X 51	X 51
2	X 50	X 49	X 55	X 42	X 38	X 35														X 69	X 57	X 57	X 54	X 53
3	X 55	X 55	X 52	X 50	X 43	X 40														X 66	A	X 50	X 52	X 54
4	X 54	X 51	X 54	X 56	X 50	X 40														X 68	A	X 43	X 43	X 44
5	46	47	X 42	X 51	A	X 32														X 95	X 65	X 70	X 70	X 70
6	X 56	X 51	X 56	X 56	X 33	X 35														X 80	X 54	X 54	X 55	X 52
7	X 50	X 48	X 46	X 45	X 40	X 39														X 79	X 66	X 56	X 53	55
8	55	X 52	X 50	49	X 44	X 43														X 66	O X 60	55	53	53
9	54	X 51	X 50	X 48	X 37	X 36														X 85	X 55	X 45	X 47	X 51
10	X 51	X 51	X 49	X 49	X 46	X 39														X 62	X 57	X 47	X 48	X 49
11	X 48	X 45	X 44	X 45	X 37	X 38														X 64	X 56	X 50	X 50	X 50
12	X 49	X 46	X 45	X 44	X 44	X 43														X 83	X 92	X 42	X 44	X 46
13	X 44	X 45	X 48	X 55	X 40	X 42														X 80	X 75	X 46	X 42	46
14	X 42	X 42	X 42	X 45	X 36	X 40														X 83	X 78	X 50	X 45	X 43
15	X 42	X 44	X 42	X 42	X 42	X 41														X 75	X 68	X 60	X 53	X 51
16	X 50	X 49	X 48	X 50	X 33	X 38														X 71	X 70	X 67	X 54	X 46
17	X 45	X 47	X 46	X 49	X 37	X 39														X 65	X 66	X 63	X 62	X 60
18	X 59	X 57	X 56	X 56	X 40	X 42														X 61	X 61	X 61	X 58	X 58
19	X 57	X 55	X 53	X 56	X 39	X 40														X 72	X 68	60	52	X 55
20	55	53	51	X 46	X 44	X 46														X 79	X 68	X 53	X 51	X 52
21	X 52	X 48	X 47	X 44	X 42	49														X 67	X 66	X 61	59	62
22	X 55	X 56	57	X 54	X 41	X 42														A	X 64	X 58	X 55	56
23	54	X 54	X 50	X 48	X 45	X 49							C	C	C	C				X 72	X 76	X 67	X 60	X 62
24	X 62	X 59	X 57	X 56	X 48	X 48														X 77	77	X 68	X 56	X 53
25	X 56	X 53	X 54	X 44	X 37	X 43														X 70	75	X 66	X 63	X 59
26	X 57	X 56	X 54	X 50	X 40	X 45														X 81	X 80	X 64	X 54	X 51
27	X 51	X 50	X 48	X 44	44	X 44														X 92	X 67	X 51	X 51	54
28	X 53	X 52	X 51	X 51	X 43	X 46														X 85	X 81	X 65	X 64	X 64
29	X 62	X 59	X 56	X 56	X 49	X 48														X 74	X 73	X 68	X 68	X 63
30	X 61	X 57	X 51	X 49	X 47	X 51														X 72	X 73	X 58	X 57	X 54
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	29	30														29	28	30	30	30
MED	X 54	X 51	X 50	X 49	X 42	X 42														X 74	X 68	X 58	X 54	X 53
U Q	X 56	X 55	X 54	X 54	X 44	X 45														X 80	X 75	X 64	X 58	X 58
L Q	X 50	X 48	X 47	X 45	X 38	X 39														X 68	X 62	X 50	X 51	X 51

APR. 2010 fxI (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'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	49	47	44	39	36	35	48	55	61	64	80	86	82	76	64	63	63	62	72	71	59	45	45	45
2	44	43	48	36	32	29	44	60	59	70	83	89	90	80	75	62	62	76	79	63	51	50	48	47
3	49	49	46	44	37	33	46	54	64	68	72	80	90	74	70	74	73	75	76	60	A	44	46	47
4	48	45	48	50	44	34	50	52	62	72	83	95	94	97	90	84	80	78	75	62	A	37	37	38
5	F	F	36	45	A	26	46	54	60	63	66	86	110	107	92	74	69	74	81	89	58	63	64	64
6	50	45	50	50	27	29	45	54	55	62	66	77	70	79	73	66	60	70	77	74	48	48	49	46
7	44	42	40	39	34	33	55	68	63	66	81	82	90	72	67	66	62	70	68	72	60	50	47	F
8	F	45	44	F	38	37	47	52	63	66	69	76	89	85	74	68	77	68	60	60	54	F	F	F
9	F	45	44	42	31	30	46	55	64	72	72	87	88	86	78	71	77	85	83	79	48	39	41	44
10	45	44	43	43	40	33	46	57	59	66	72	87	94	94	76	73	73	68	62	56	51	41	42	43
11	42	39	38	38	31	32	48	57	66	77	74	79	83	89	86	73	69	68	56	58	50	44	44	44
12	43	39	39	38	38	37	44	52	56	66	64	86	85	97	96	90	65	60	62	77	86	36	37	40
13	38	39	42	49	34	36	52	55	53	64	66	77	76	69	66	63	66	66	66	74	68	40	36	F
14	36	36	36	38	30	33	49	56	55	57	59	66	79	82	69	59	64	68	72	77	72	44	39	37
15	36	38	36	36	36	35	46	53	60	62	66	70	86	84	68	57	66	66	71	69	62	54	47	45
16	44	43	42	44	27	32	48	54	56	59	70	74	64	63	66	70	66	63	60	65	64	60	48	40
17	40	40	40	42	30	33	50	54	57	68	70	74	68	73	76	72	70	61	62	59	60	57	56	54
18	53	51	50	50	34	36	43	57	69	67	66	69	60	65	76	82	80	72	63	55	54	55	52	52
19	51	49	47	50	33	34	51	54	65	67	66	61	65	65	74	84	80	64	60	66	62	F	F	48
20	F	F	F	40	38	40	49	54	54	61	64	66	75	81	95	80	72	66	70	73	62	47	45	46
21	46	42	41	38	36	F	56	53	A	62	72	70	71	69	68	65	70	A	62	61	60	54	F	F
22	49	48	F	48	35	36	52	57	58	72	73	74	86	84	84	70	76	69	65	A	58	52	49	F
23	F	48	44	42	38	43	56	56	64	68	82	82	C	C	C	C	68	54	51	65	70	61	54	56
24	56	53	51	50	42	42	51	50	56	60	61	70	75	82	78	72	59	56	62	70	F	62	50	47
25	50	47	48	38	31	37	51	60	59	67	78	82	75	83	A	72	68	A	A	64	F	60	57	53
26	51	50	48	44	34	39	54	56	62	72	68	76	72	76	82	85	86	69	70	76	73	57	48	45
27	45	44	42	38	F	38	56	68	63	70	65	61	55	61	66	87	89	85	84	86	61	45	45	F
28	47	45	45	45	37	40	52	59	69	73	68	64	A	62	67	69	70	68	71	78	75	59	58	58
29	56	53	49	50	43	42	54	60	63	70	63	64	66	64	62	67	75	78	74	67	67	62	62	56
30	55	51	45	43	41	45	56	64	71	67	64	A	68	71	79	83	79	80	A	66	67	52	51	49
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	28	28	29	28	29	30	30	29	30	30	29	28	29	28	29	30	28	28	29	26	28	27	24
MED	47	45	44	43	36	35	50	55	61	67	68	76	78	79	74	72	70	68	69	67	60	51	48	46
U Q	50	48	48	48	38	38	52	57	64	70	73	84	88	84	80	81	77	74	74	75	67	58	52	52
L Q	44	42	40	38	32	33	46	54	56	63	66	70	69	69	68	66	66	65	62	62	54	44	44	44

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									L	U L 444	440	A	460	456	436	L	L							
2								L	L	432	448	460	468	U L 456	L	A	L							
3									L	U L 448	U L 448	U L 464	U L 464	U L 456	A	L	L	L						
4									L	L	452	L	468	U L 460	444	U L 440	L	L						
5									L	L	U L 468	U L 464	U L 480	460	440	L	L	L						
6								A	L	A	468	448	U L 488	456	U L 428	A	A	A						
7								L	U L 424	U L 436	472	L	464	L	436	U L 412	U L 384							
8									L	444	U L 456	U L 480	472	U L 464	444	L	U L 388							
9									L	L	452	U L 476	L	U L 464	460	A	L							
10									L	L	456	468	460	A	L	U L 440								
11									L	448	456	464	U L 484	460	440	424	U L 404	A						
12									A	452	448	A	U L 468	452	452	L	L							
13										432	U L 448	460	460	456	448	L	L	L						
14									L	444	468	452	452	U L 448	444	U L 432	U L 416	A						
15									U L 424	U L 468	428	476	A	A	A	L	L	A						
16									L	U L 448	436	A	U L 484	468	432	U L 424	A	A						
17									L	444	U L 464	464	476	456	440	U L 436	L	A						
18								L	A	U L 444	456	U L 456	480	U L 460	436	428	L	L						
19									L	436	448	A	U L 476	452	448	428	L							
20									A	A	A	A	A	456	424	A	A	A						
21								A	A	A	448	460	A	A	A	U L 436	A	A						
22									A	A	A	464	460	460	A	A	U L 412	A						
23								A	A	456	A	A	C	C	C	C	L	A	A					
24								A	U L 432	448	456	456	452	A	A	A	A	L	A					
25								A	L	A	A	456	460	460	A	L	A	A	A					
26									L	452	456	472	472	460	448	436	U L 412							
27								A	L	A	468	472	U L 476	464	456	432	A	A						
28								A	A	A	U L 456	476	A	A	452	432	A	L	A					
29								L	L	444	448	460	468	U L 464	460	444	U L 424	A						
30									A	A	A	A	A	456	440	A	A	A	A					
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									3	18	25	21	23	23	21	14	7							
MED									U L 424	444	456	464	468	460	444	432	U L 412							
U Q									U L 432	448	460	472	U L 476	U L 460	450	U L 436	U L 416							
L Q									U L 424	444	448	458	460	456	436	428	U L 388							

APR. 2010 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'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	240	A	A	A	A	A	A	R	R	UR 284	UA 212	B					
2							B	A	R	A	A	A	A	A	R	A	A	R	B					
3							B	A	A	A	A	A	A	A	A	A	A	A	B					
4							UR 204	UR 264	A	R	A	R	A	A	A	A	A	A	B					
5							B	256	A	A	A	A	A	R	R	R	UR 284	UA 220	B					
6							184	A	A	A	A	A	R	A	344	308	A	UA 212	B					
7							B	R	R	A	R	352	R	A	R	R	R	A	B					
8							B	UA 240	A	A	A	R	R	R	R	R	R	UR 216	B					
9							188	252	R	A	A	R	A	A	A	A	A	UA 216	B					
10							184	256	A	A	A	A	R	332	R	R	UA 268	A	B					
11							192	R	R	A	R	R	A	R	R	R	UA 260	A	B					
12							196	A	A	R	A	A	R	R	R	R	R	A	B					
13							196	264	A	A	A	A	R	A	A	A	R	UA 212	B					
14							200	R	A	R	R	A	R	A	R	R	R	A	B					
15							R 216	A	A	A	A	A	A	A	A	A	A	A	B					
16							212	268	R	R	A	A	A	A	R	A	A	A	B					
17							220	A	A	A	A	R	R	R	A	R	R	A	B					
18							UA 188	A	A	A	A	A	A	A	A	R	A	A	B					
19							200	272	A	R	A	A	A	R	A	A	R	A	A					
20							UA 188	268	A	A	A	A	A	A	R	A	A	A	B					
21							A	A	A	A	A	A	A	A	A	R	A	A	B					
22							B	A	A	A	A	R	R	R	A	A	A	A	B					
23							212	A	A	R	A	A	C	C	C	C	A	232	B					
24							UR 240	A	A	A	A	A	A	A	A	A	A	A	B					
25							216	A	A	A	A	R	R	A	A	A	A	A	B					
26							UA 240	A	A	A	A	A	R	R	R	R	R	A	B					
27							UA 212	A	A	A	A	R	R	R	R	308	A	A	B					
28							240	A	A	A	A	A	A	A	R	300	A	A	B					
29							A	A	R	A	A	R	R	A	A	A	A	UA 228	B					
30							UA 220	A	A	A	A	A	A	A	A	A	A	A	B					
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							21	10				1		1	1	3	4	8						
MED							204	260				352		332	344	308	U 276	UA 216						
U Q							218	268								308	UR 284	UA 224						
L Q							190	252								300	UA 264	UA 212						

APR. 2010 foE (0.01MHz)

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IONOSPHERIC DATA STATION Kokubunji

APR. 2010 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 22	E B 16	J A 42	J A 28	J A 21	J A 23	22	30	34	36	42	J A 43	J A 44	40	G 31	G 26	G 22	27	18	J A 17	20	21	E B 16	E B 15
2	19	J A 29	J A 38	J A 26	19	E B 14	23	30	G 28	37	39	40	J A 42	J A 45	G 28	J A 38	J A 36	G 21	E B 14	19	J A 19	J A 21	J A 60	J A 34
3	J A 32	J A 27	J A 28	20	22	20	23	29	33	39	41	40	J A 42	40	J A 41	34	31	J A 25	J A 21	J A 108	J A 109	J A 42	20	E B 14
4	E B 16	E B 15	J A 27	J A 23	18	21	G 18	G 24	J A 38	G 31	36	G 32	41	39	38	37	J A 38	J A 42	J A 44	J A 45	J A 53	J A 25	J A 28	J A 30
5	J A 30	J A 30	J A 54	J A 28	J A 34	J A 33	23	30	35	38	40	40	40	G	G	G 27	G	26	J A 26	20	E B 15	J A 23	J A 18	E B 14
6	20	J A 44	J A 37	19	J A 23	E B 15	26	J A 34	36	J A 49	J A 40	40	G 34	J A 46	42	42	37	J A 43	J A 47	J A 36	J A 39	E B 15	18	21
7	J A 17	J A 24	20	J A 29	J A 24	20	22	G 20	G 25	34	G 25	41	G 32	40	G 29	33	G 28	J A 30	J A 23	J A 22	J A 41	J A 26	J A 30	E B 16
8	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	21	28	36	37	42	G	G 26	G 26	G 28	G 25	G 20	G 20	E B 16	20	J A 45	20	J A 27	E B 15
9	22	J A 30	J A 22	J A 22	20	E B 15	23	29	G 26	39	39	G 32	40	37	36	J A 54	J A 46	29	J A 26	J A 24	20	20	19	E B 15
10	E B 15	E B 15	E B 15	18	E B 14	E B 14	22	30	35	38	40	J A 42	G	41	G 26	G 26	33	30	J A 28	J A 28	J A 19	J A 20	J A 24	J A 19
11	E B 15	E B 16	E B 14	E B 14	J A 20	E B 15	24	G 23	G 25	37	G 32	G 32	41	G 30	G 27	G 27	34	30	J A 24	J A 27	J A 61	E B 15	E B 15	18
12	J A 21	E B 15	20	20	20	19	G	34	37	G 26	41	J A 44	G 34	G 30	G 29	G 29	G 23	28	22	J A 31	J A 19	20	J A 19	18
13	E B 16	18	20	20	19	E B 15	25	32	34	40	J A 44	38	G 35	J A 47	J A 45	J A 43	G 25	26	18	E B 15	E B 15	E B 16	E B 15	E B 15
14	18	18	20	20	J A 21	E B 14	29	G 22	34	G 26	G 26	38	G 34	41	G 27	G 25	G 23	30	J A 36	J A 45	J A 52	J A 25	J A 21	E B 16
15	E B 15	20	19	20	22	20	G 19	32	36	40	J A 44	J A 46	J A 70	J A 74	J A 47	J A 45	J A 31	J A 48	J A 50	E B 43	15	19	21	20
16	E B 14	23	J A 21	20	20	E B 15	25	33	G 28	G 28	39	J A 48	J A 56	41	G	39	J A 44	J A 44	J A 26	J A 35	J A 24	E B 14	E B 14	E B 14
17	E B 15	E B 16	E B 14	E B 15	E B 16	E B 15	27	34	36	39	J A 44	G 30	G 32	G 27	38	G 29	G 26	31	19	J A 24	E B 16	19	E B 15	E B 15
18	E B 15	E B 16	E B 15	E B 15	E B 16	E B 14	25	32	38	43	40	44	J A 92	40	38	G 26	J A 39	J A 38	J A 46	J A 32	J A 52	J A 79	J A 28	E B 16
19	E B 16	E B 15	E B 14	E B 14	E B 14	E B 15	25	32	38	G 31	42	J A 47	38	G 33	39	36	G 26	J A 37	J A 35	J A 31	J A 89	J A 51	E B 14	E B 15
20	20	22	19	J A 19	24	19	24	35	J A 46	J A 49	J A 49	J A 45	J A 52	38	G 32	J A 46	J A 50	J A 65	J A 33	J A 62	J A 23	29	20	22
21	J A 29	J A 16	21	18	E B 15	E B 14	34	J A 68	J A 122	J A 61	J A 128	J A 60	J A 74	J A 61	J A 80	G 26	J A 76	J A 90	J A 54	J A 40	J A 25	E B 20	E B 15	J A 23
22	J A 30	J A 33	J A 19	J A 60	J A 45	J A 42	J A 32	41	J A 52	J A 58	J A 52	G 33	G	G 30	65	J A 43	J A 62	J A 56	J A 45	J A 88	J A 30	J A 40	J A 46	J A 38
23	J A 44	J A 51	J A 31	J A 22	E B 15	E B 14	27	37	J A 55	G 30	J A 54	J A 47	C	C	C	C	J A 34	35	J A 41	J A 44	J A 21	J A 19	J A 26	J A 29
24	E B 15	E B 15	E B 15	E B 14	E B 15	E B 15	G	35	41	37	40	J A 48	J A 48	J A 48	J A 116	J A 41	J A 44	30	J A 59	J A 72	J A 112	J A 39	J A 37	J A 29
25	J A 26	J A 21	E B 15	E B 15	J A 25	20	32	J A 40	40	J A 48	J A 45	G 35	G 30	J A 41	J A 74	37	J A 42	J A 62	J A 94	J A 81	J A 74	E B 24	E B 15	20
26	18	J A 20	E B 14	E B 14	E B 15	18	30	38	41	J A 42	J A 46	38	G 31	G 32	G 26	G 24	G 20	J A 41	J A 38	J A 34	J A 18	19	E B 14	E B 16
27	E B 14	J A 22	18	E B 15	E B 14	18	30	J A 41	J A 42	J A 51	39	G 25	G	G 29	G 27	40	42	J A 52	J A 56	J A 41	J A 19	J A 19	J A 50	J A 35
28	J A 24	J A 23	J A 21	J A 29	J A 22	22	33	J A 51	J A 58	J A 52	41	40	J A 73	J A 57	G 27	37	38	30	J A 42	27	20	20	E B 15	19
29	21	20	18	E B 16	E B 15	E B 16	29	34	G 26	39	41	G 30	G	39	43	36	32	32	J A 34	21	J A 23	E B 14	E B 14	E B 15
30	E B 15	E B 15	E B 15	E B 15	19	18	29	J A 47	J A 52	J A 47	J A 53	J A 100	J A 52	J A 47	J A 63	J A 78	J A 144	J A 152	J A 100	58	J A 47	78	J A 66	E B 14
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	30	30	30	30	30	29	29	29	29	30	30	30	30	30	30	30	30
MED	18	20	20	20	20	E B 16	25	32	36	39	41	40	40	40	36	36	34	32	J A 34	J A 33	J A 24	J A 20	20	17
U Q	J A 22	J A 24	J A 22	J A 22	J A 22	20	29	J A 37	J A 41	J A 47	J A 44	J A 45	J A 50	J A 46	J A 44	J A 42	J A 42	44	J A 46	45	J A 52	J A 26	J A 28	J A 22
L Q	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15	22	30	G 34	G 36	39	G 35	G 34	G 32	G 28	G 26	G 26	29	23	24	19	E B 19	E B 15	E B 15

APR. 2010 foEs (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 15	E B 16	17	17	16	16	20	29	32	33	39	41	38	38	G 31	G 25	G 22	24	17	E B 15	E B 14	E B 15	E B 16	E B 15
2	E B 16	22	30	17	15	E B 14	21	28	G 25	35	36	37	38	36	G 28	34	30	G 20	E B 14	E B 15	16	E B 15	19	16
3	18	E B 15	20	E B 14	15	E B 15	21	27	31	38	38	38	38	38	40	30	30	22	17	36	A A 109	33	E B 15	E B 14
4	E B 16	E B 15	17	E B 15	E B 15	17	G 16	G 19	34	G 30	36	G 26	39	37	37	34	29	24	18	32	A A 53	17	18	20
5	E B 16	E B 15	E B 15	17	A A 34	21	21	28	32	36	38	37	37	G	G	G 23	G	24	22	E B 15	E B 15	E B 15	E B 15	E B 14
6	E B 15	21	16	E B 15	17	E B 15	24	30	32	46	38	36	G 32	37	38	39	35	39	38	28	18	E B 15	E B 15	16
7	E B 15	18	E B 15	17	16	E B 15	20	G 19	G 25	34	G 25	39	G 29	38	G 28	29	G 25	24	20	18	32	17	19	E B 16
8	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	20	26	34	36	39	G	G 25	G 24	G 28	G 24	G 19	G 18	E B 16	E B 15	30	E B 15	E B 15	E B 15
9	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	22	28	G 26	36	37	G 30	37	36	32	38	29	26	18	19	18	E B 16	E B 16	E B 15
10	E B 15	E B 15	E B 15	E B 15	E B 14	E B 14	20	28	32	35	38	39	G	38	G 25	G 24	30	28	20	21	E B 15	18	E B 15	E B 16
11	E B 15	E B 16	E B 14	E B 14	16	E B 15	23	G 20	G 23	35	G 32	G 30	40	G 28	G 27	G 25	32	29	19	22	19	E B 15	E B 15	E B 15
12	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	G	33	34	G 24	38	40	G 32	G 25	G 28	G 28	G 21	26	22	24	E B 15	E B 15	E B 16	E B 15
13	E B 16	16	E B 15	E B 15	E B 14	E B 15	23	28	33	36	40	38	G 34	39	34	32	G 24	24	18	E B 15	E B 15	E B 16	E B 15	E B 15
14	E B 15	E B 16	E B 14	E B 15	E B 15	E B 14	26	G 20	32	G 26	G 25	36	G 33	36	G 25	G 24	G 23	28	26	20	29	19	E B 15	E B 16
15	E B 15	E B 15	E B 15	E B 15	16	E B 14	G 18	31	33	37	39	38	44	45	42	33	30	30	35	19	E B 15	E B 15	E B 16	E B 15
16	E B 14	E B 15	E B 15	E B 15	E B 16	E B 15	24	30	G 26	G 26	35	45	39	38	G	36	35	40	22	30	17	E B 14	E B 14	E B 14
17	E B 15	E B 16	E B 14	E B 15	E B 16	E B 15	24	32	34	36	38	G 29	G 30	G 25	35	G 28	G 26	30	18	15	E B 16	E B 15	E B 15	E B 15
18	E B 15	E B 16	E B 15	E B 15	E B 16	E B 14	22	30	35	40	38	39	40	36	37	G 25	32	24	28	22	23	20	E B 15	E B 16
19	E B 16	E B 15	E B 14	E B 14	E B 14	E B 15	23	29	34	G 26	40	42	36	G 32	37	34	G 25	32	30	24	42	20	E B 14	E B 15
20	16	E B 16	E B 15	E B 15	E B 15	E B 15	22	34	43	46	45	44	49	38	G 31	43	36	60	26	52	19	25	E B 15	16
21	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	30	46	A A 122	44	37	40	46	47	52	G 24	48	A A 90	38	18	E B 15	E B 15	E B 15	E B 15
22	E B 16	E B 15	E B 15	18	27	21	26	36	45	55	44	G 32	G	G 29	62	40	30	44	40	A A 88	20	20	27	E B 15
23	E B 15	20	E B 16	15	E B 15	E B 14	26	34	44	G 28	48	41	C	C	C	C	30	34	38	37	19	E B 15	20	16
24	E B 15	E B 15	E B 15	E B 14	E B 15	E B 15	G	33	38	36	38	41	40	48	53	39	42	29	56	46	34	22	24	21
25	20	E B 15	E B 15	E B 15	E B 15	15	29	37	36	43	43	G 34	G 30	37	A A 74	35	38	A A 62	A A 94	22	51	16	E B 15	E B 15
26	E B 15	E B 15	E B 14	E B 14	E B 15	17	29	36	38	38	39	37	G 31	G 29	G 24	G 22	G 18	38	35	23	E B 15	E B 15	E B 14	E B 16
27	E B 14	E B 16	E B 15	E B 15	E B 14	16	28	33	37	44	38	G 25	G	G 28	G 26	38	38	46	52	32	16	E B 15	28	19
28	16	E B 15	E B 16	18	16	17	29	40	50	42	38	39	A A 73	46	G 26	35	34	28	37	21	E B 15	E B 15	E B 15	E B 15
29	E B 15	E B 15	E B 15	E B 16	E B 15	E B 16	28	32	G 24	37	38	G 29	G	36	41	34	29	30	26	E B 15	19	E B 14	E B 14	E B 15
30	E B 15	E B 15	E B 15	E B 15	E B 15	16	27	40	47	44	44	A A 100	47	40	36	46	50	42	A A 100	40	26	30	19	E B 14
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	30	30	30	30	30	29	29	29	29	30	30	30	30	30	30	30	30
MED	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	23	30	34	36	38	38	37	37	32	33	30	29	26	22	18	E B 15	E B 15	E B 15
U Q	16	16	16	15	16	16	26	34	38	42	39	40	40	38	39	37	35	39	38	32	29	19	18	16
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	20	28	G 32	G 34	37	G 34	G 32	G 30	G 28	G 25	G 25	24	18	E B 18	E B 15	E B 15	E B 15	E B 15

APR. 2010 fbEs (0.1MHz)

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IONOSPHERIC DATA STATION Kokubunji

APR. 2010 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'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	16	15	15	15	15	14	13	12	14	14	14	15	14	14	14	13	13	15	15	14	15	16	15
2	16	15	14	15	15	14	15	14	12	12	14	14	15	17	15	13	14	12	14	15	15	15	15	15
3	15	15	15	14	15	15	15	15	13	12	19	14	16	16	14	14	14	14	16	15	15	16	15	14
4	16	15	14	15	15	14	14	14	14	16	14	13	17	14	20	14	14	14	13	16	16	15	15	15
5	16	15	15	14	15	14	15	14	13	15	13	16	18	25	19	16	14	14	14	15	15	15	15	14
6	15	15	14	14	15	15	14	16	14	14	16	17	17	19	20	13	14	14	16	15	15	15	15	16
7	15	15	15	15	14	15	14	13	14	14	17	18	19	22	16	13	13	12	15	14	15	14	15	16
8	15	15	15	15	15	16	15	14	14	15	14	24	16	15	18	15	14	14	16	15	15	15	15	15
9	15	15	16	15	15	15	14	14	12	17	17	19	15	18	17	16	15	14	14	14	15	16	16	15
10	15	15	15	15	14	14	14	14	14	17	17	18	20	18	19	18	12	14	13	14	15	15	15	16
11	15	16	14	14	16	15	14	13	13	14	15	18	21	21	19	15	12	13	12	15	15	15	15	16
12	15	15	15	15	15	15	14	14	13	14	16	18	18	16	14	16	13	14	14	14	15	15	16	15
13	16	15	15	15	14	15	14	14	16	18	17	12	19	14	14	14	14	14	14	15	15	16	15	15
14	16	16	14	15	15	14	15	14	13	15	14	18	15	16	18	14	13	14	14	15	15	14	15	16
15	15	15	15	15	14	14	14	14	14	15	15	12	15	15	14	14	14	14	15	14	15	15	16	15
16	14	15	15	15	16	15	14	14	15	14	12	15	12	16	22	14	15	14	12	13	14	14	14	14
17	15	16	14	15	16	15	15	14	13	15	15	18	19	14	14	15	13	13	14	14	16	15	15	15
18	15	16	15	15	16	14	13	14	13	14	14	14	14	14	12	16	14	13	14	15	14	14	15	16
19	16	15	14	14	14	15	15	13	14	15	14	18	19	16	14	14	14	12	14	14	15	15	14	15
20	14	16	15	15	15	15	14	13	15	12	15	14	17	15	15	12	14	14	13	14	14	14	15	16
21	15	14	15	15	15	14	15	14	14	13	15	18	17	16	17	14	14	15	15	14	15	15	15	15
22	16	16	15	15	14	13	14	14	14	14	15	18	20	22	20	15	14	12	13	15	14	13	15	15
23	15	15	16	14	15	14	14	12	15	14	18	19	C	C	C	C	15	12	14	15	13	15	15	15
24	15	15	15	14	15	15	14	13	14	14	14	17	19	21	17	16	14	14	14	16	15	15	15	16
25	15	15	15	15	15	15	15	13	14	17	16	12	14	14	14	13	14	14	14	14	14	14	15	15
26	15	15	14	14	15	14	13	15	14	15	14	18	16	14	16	14	12	14	15	14	15	15	14	16
27	14	16	15	15	14	14	14	14	16	15	18	16	31	23	18	13	13	14	15	14	14	15	15	15
28	15	15	16	15	16	16	16	12	14	16	13	18	18	23	16	13	12	14	15	14	15	15	15	15
29	15	15	15	16	15	16	15	14	14	14	14	14	18	21	16	17	13	13	14	15	14	14	14	15
30	15	15	15	15	15	14	14	14	13	13	16	16	14	15	13	11	13	13	14	15	15	14	14	14
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	30	30	30	30	30	29	29	29	29	30	30	30	30	30	30	30	30
MED	15	15	15	15	15	15	14	14	14	14	15	17	17	16	16	14	14	14	14	15	15	15	15	15
U Q	15	16	15	15	15	15	15	14	14	15	16	18	19	21	18	16	14	14	15	15	15	15	15	16
L Q	15	15	14	14	15	14	14	13	13	14	14	14	15	14	14	13	13	13	14	14	14	14	15	15

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'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	321	332	338	331	305	301	368	359	357	338	336	339	339	350	335	337	340	334	330	346	348	307	304	308
2	305	292	346	316	333	310	361	357	347	335	334	329	338	338	341	331	330	341	346	355	309	294	294	306
3	302	321	317	326	340	344	375	366	362	344	340	335	347	326	324	337	341	351	359	366	A	295	300	295
4	300	299	317	348	363	320	354	350	336	331	317	319	318	325	335	339	347	355	363	358	A	292	284	283
5	F	F	305	356	A	317	375	366	352	347	300	272	322	339	348	342	338	350	335	357	268	294	284	311
6	310	271	312	343	366	325	350	361	346	347	317	347	309	334	352	340	329	328	328	350	312	278	282	297
7	293	279	304	302	302	300	343	358	328	330	328	313	344	339	347	356	347	346	328	330	342	304	293	F
8	F	295	313	F	309	328	371	338	343	338	330	304	329	345	347	334	349	372	348	335	330	F	F	F
9	F	311	319	354	348	328	364	363	350	356	330	330	325	334	333	322	333	339	352	365	356	295	295	296
10	306	305	318	343	366	332	378	362	350	359	327	318	328	345	338	348	350	362	354	351	338	323	288	302
11	304	297	327	351	328	325	358	322	348	362	331	326	307	333	354	360	355	365	363	339	331	294	297	305
12	292	295	298	317	321	329	373	356	348	327	312	302	289	306	327	355	350	334	319	321	383	313	297	300
13	279	312	315	363	313	333	353	365	331	337	315	328	333	330	334	336	345	345	340	348	371	327	317	F
14	313	317	312	350	323	333	373	380	361	358	322	319	325	342	356	332	328	334	342	340	358	342	296	307
15	300	310	304	332	343	352	371	353	351	329	328	284	308	346	344	324	331	336	334	337	341	318	307	299
16	309	293	302	368	311	335	358	365	358	342	348	357	335	334	337	337	343	346	337	330	337	353	329	298
17	287	293	288	353	352	338	362	368	357	340	339	346	319	338	334	339	356	352	349	313	310	308	307	305
18	302	308	314	352	345	340	377	360	358	351	348	360	322	321	333	335	346	336	345	317	318	289	308	305
19	306	310	316	365	313	345	377	360	365	366	355	340	323	325	316	336	349	353	335	334	338	F	F	308
20	F	F	F	303	322	344	369	380	338	354	335	332	321	316	343	346	343	332	343	329	347	323	294	303
21	309	298	303	317	306	F	385	359	A	324	348	334	326	346	335	336	351	A	351	324	320	309	F	F
22	307	307	F	349	379	350	375	342	324	334	311	313	326	335	342	345	346	340	331	A	316	304	308	F
23	F	299	297	315	310	341	363	352	328	322	324	326	C	C	C	C	365	355	312	307	319	337	302	292
24	297	306	309	338	339	333	358	371	326	324	315	303	307	319	333	350	343	333	318	313	F	335	295	288
25	304	312	337	384	289	342	357	359	327	347	325	335	314	325	A	336	354	A	A	303	F	319	312	301
26	290	311	332	353	316	333	363	346	343	356	314	334	310	319	317	325	332	332	330	336	356	345	315	317
27	316	302	311	319	F	326	359	379	349	376	353	357	338	325	296	318	334	326	336	359	356	299	292	F
28	299	313	308	351	328	329	365	348	357	357	355	335	A	307	333	330	335	329	312	320	347	313	300	298
29	298	301	307	339	303	330	356	364	353	343	352	338	326	314	311	310	319	340	339	318	317	314	323	296
30	305	318	306	307	309	325	344	345	349	350	332	A	317	313	329	333	317	337	A	319	337	326	308	301
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	28	28	29	28	29	30	30	29	30	30	29	28	29	28	29	30	28	28	29	26	28	27	24
MED	304	306	312	343	322	332	364	360	349	344	330	330	324	333	335	336	343	340	338	335	338	311	300	301
U Q	308	312	318	353	344	340	373	365	357	356	340	338	331	339	344	344	349	352	348	350	348	324	308	306
L Q	298	296	304	318	310	325	358	352	337	334	317	316	316	320	331	332	333	334	330	320	318	295	294	296

APR. 2010 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									L	U L 376	397	A	378	382	396	L	L							
2								L	L	380	376	386	402	U L 379	L	A	L							
3									L	U L 373	U L 396	U L 363	U L 374	U L 387	A	L	L	L						
4									L	L	389	L	374	U L 382	389	U L 365	L	L						
5									L	L	U L 380	U L 371	U L 362	383	389	L	L	L						
6								A	L	A	356	375	U L 353	373	U L 383	A	A	A						
7								L	U L 365	U L 393	381	L	363	L	408	U L 396	U L 384							
8									L	401	U L 423	U L 362	391	U L 354	384	L	U L 366							
9									L	L	407	U L 388	L	U L 377	376	A	L							
10									L	L	415	394	395	A	L	U L 374								
11									L	375	413	410	U L 359	383	390	375	U L 377	A						
12									A	367	383	A	U L 396	379	351	L	L							
13										404	U L 402	373	386	393	381	L	L	L						
14									L	398	384	425	398	U L 386	379	U L 388	U L 350	A						
15									U L 367	U L 372	414	380	A	A	A	L	L	A						
16									L	U L 401	403	A	U L 385	384	399	U L 383	A	A						
17									L	379	U L 385	389	391	386	389	U L 373	L	A						
18								L	A	U L 403	393	U L 387	405	U L 400	398	371	L	L						
19									L	399	406	A	U L 374	414	389	363	L							
20									A	A	A	A	A	381	389	A	A	A						
21								A	A	A	385	386	A	A	A	U L 415	A	A						
22									A	A	A	418	384	372	A	A	U L 366	A						
23								A	A	383	A	A	C	C	C	C	L	A	A					
24								A	U L 359	374	383	395	390	A	A	A	A	L	A					
25								A	L	A	A	423	394	389	A	L	A	A	A					
26									L	379	417	391	393	397	390	383	U L 364							
27								A	L	A	399	399	U L 402	385	389	368	A	A						
28								A	A	A	U L 398	398	A	A	390	364	A	L	A					
29								L	L	402	393	403	391	U L 398	368	366	U L 357	A						
30									A	A	A	A	A	407	353	A	A	A	A					
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									3	18	25	21	23	23	21	14	7							
MED									U L 365	382	396	389	390	384	389	374	U L 366							
U Q									U L 367	401	406	401	395	393	390	U L 383	U L 377							
L Q									U L 359	375	384	378	U L 374	379	380	366	U L 357							

APR. 2010 M(3000)F1 (0.01)

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 h'F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 35°43.0'N LON. 139°29.0'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									254	276	270	264	258	260	280	280	256							
2								250	266	278	274	266	254	266	260	258	282							
3									248	274	272	272	262	266	282	276	258	254						
4									274	272	282	278	266	264	262	262	256	244						
5									248	262	334	324	280	242	246	246	266	254						
6								244	254	276	322	268	318	284	258	280	258	266						
7								248	294	264	282	286	258	262	268	256	260							
8									254	270	292	318	282	258	258	274	250							
9									262	258	276	274	272	264	270	264	272							
10									260	254	286	286	264	248	248	268								
11									254	244	276	272	306	268	248	252	256	236						
12									262	294	290	314	310	300	260	254	266							
13										278	290	286	270	284	288	290	272	254						
14									262	264	304	310	284	258	252	272	296	256						
15									264	290	290	342	284	262	256	268	280	264						
16									258	270	276	262	300	288	286	270	258	250						
17									256	274	260	262	322	270	280	260	250	242						
18								250	246	266	272	256	338	320	274	272	258	250						
19									244	240	264	292	300	324	308	266	248							
20									268	256	284	284	298	292	256	248	256	E A 314						
21								E A 274	A	322	274	282	290	264	280	278	256	A						
22									E A 266	280	296	294	278	270	252	260	260	246						
23								246	282	300	284	264	C	C	C	C	232	228	E A 288					
24								244	314	300	342	318	314	292	270	252	264	272	E A 310					
25								260	276	268	288	260	294	286	A	274	254	A	A					
26									266	254	296	278	300	294	284	276	264							
27								234	258	236	278	266	300	318	344	288	256	256						
28								256	256	260	258	300	A	E A 338	298	284	276	260	260					
29								246	258	276	266	282	324	332	328	320	282	262						
30									264	266	290	A	316	308	278	270	E A 272	242	A					
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								11	28	30	30	29	28	29	28	29	29	19	3					
MED								247	260	270	283	282	292	270	270	270	258	254	E A 288					
U Q								256	266	278	290	297	308	297	283	277	272	262	E A 310					
L Q								244	254	260	274	266	271	263	257	259	256	244	260					

APR. 2010 h'F2 (KM)

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 h'F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'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 240	E B 230	224	E A 232	E A 270	E A 290	208	220	212	214	220	A	212	212	206	216	220	E A 242	E A 248	208	202	E B 236	E B 266	E B 260
2	E B 262	E A 298	E A 244	E A 232	216	226	212	214	216	206	210	202	190	202	210	A	216	E A 234	222	200	E A 232	E B 268	E A 300	E A 270
3	E A 272	E B 236	E A 248	222	218	216	196	204	206	222	200	212	218	208	A	202	208	224	222	214	A	E A 326	E B 262	E B 262
4	E B 256	E B 266	E A 256	224	196	E A 248	200	210	220	204	200	202	202	216	208	208	220	222	212	210	A	E A 268	E A 314	E A 304
5	E B 308	E B 290	E B 294	220	A	E A 306	206	218	200	196	206	212	208	208	194	202	212	222	234	210	E B 306	E B 272	E B 278	212
6	224	E A 334	E A 274	224	210	E B 256	234	A	218	A	E A 250	214	234	208	222	A	A	A	E A 244	222	222	E B 288	E B 302	E A 286
7	E B 286	E A 304	E B 260	E A 278	E A 246	E B 278	220	220	E A 232	184	222	224	198	210	200	192	202	E A 242	240	228	224	224	E A 304	E B 270
8	E B 258	E B 278	E B 244	E B 246	E B 242	E B 228	218	214	218	194	176	210	194	206	210	198	190	218	228	210	E A 232	E B 268	E B 284	E B 260
9	E B 256	E B 244	226	222	204	E B 238	208	218	212	208	210	196	200	218	202	A	214	232	226	204	202	E B 264	E B 274	E B 276
10	E B 268	E B 262	E B 254	E B 230	208	E B 210	204	214	210	200	196	196	208	A	198	202	232	220	220	210	210	E A 238	E B 282	E B 262
11	E B 272	E B 278	E B 256	220	214	E B 246	208	214	214	216	190	192	226	200	184	206	208	A	210	218	218	E B 250	E B 274	E B 278
12	E B 278	E B 288	E B 278	E B 250	E B 246	E B 236	H 184	220	A	208	222	A	202	206	198	206	208	232	E A E 258	E A 244	202	188	E B 284	E B 276
13	E B 314	E A 276	E B 256	216	210	E B 240	222	220	208	208	202	206	204	208	196	204	218	224	E A 238	216	202	198	E B 258	E B 294
14	E B 262	E B 272	E B 264	222	208	214	210	218	214	202	196	180	200	196	216	194	210	A	226	226	212	208	E B 248	E B 274
15	E B 274	E B 274	E B 272	E B 250	222	228	204	228	202	224	E A 230	212	A	A	A	198	228	A	236	210	204	210	224	E B 264
16	E B 266	E B 274	E B 262	206	E B 232	E B 230	210	218	212	202	194	A	214	204	208	224	A	A	E A E 240	E A 234	226	210	E B 210	E B 266
17	E B 280	E B 280	E B 256	E B 216	186	E B 222	196	214	206	198	210	186	208	212	196	208	216	A	226	224	E B 232	E B 238	E B 242	E B 258
18	E B 248	E B 258	E B 254	208	190	218	206	204	A	212	208	208	194	186	186	190	214	212	216	E A 234	E A E 270	E A E 278	E B 242	E B 254
19	E B 254	E B 250	E B 246	E B 212	194	E B 242	214	206	214	202	222	A	196	192	202	202	210	E A 232	228	224	E A 240	E A 238	E B 234	E B 254
20	E A 276	E B 286	E B 254	E B 262	E B 234	E B 234	208	218	A	A	A	A	A	206	216	A	A	A	224	E A 270	204	212	E B 284	E A 270
21	E B 258	E B 268	E B 270	E B 248	E B 240	228	226	A	A	A	214	214	A	A	A	190	A	A	216	226	E B 226	E B 234	E B 272	E B 270
22	E B 252	E B 280	E B 234	218	220	224	222	E A 254	A	A	A	198	208	208	A	A	196	A	E A 238	A	222	E A 246	E A 284	E B 274
23	E B 274	E A 280	E B 260	E A 244	E B 256	E B 238	228	A	A	204	A	A	C	C	C	C	212	A	A	E A 284	228	214	E A 262	E A 278
24	E B 262	E B 242	E B 250	214	214	222	192	A	230	208	208	208	208	A	A	A	A	226	A	E A 276	E A 256	212	E A 242	E A 314
25	E A 276	E B 250	E B 218	200	E B 238	E B E A 236	222	A	220	A	A	180	196	200	A	E A 230	A	A	A	E A E 250	E A 302	228	E B 232	E B 238
26	E B 262	E B 252	218	208	226	224	212	E A 230	E A 232	204	190	196	182	212	202	188	218	E A 244	E A 238	228	208	202	214	E B 256
27	E B 256	E B 262	E B 260	218	E B 266	E B E A 230	220	A	E A 232	A	198	198	186	198	192	E A 248	A	A	E A 238	210	200	228	E A 324	E A 290
28	E A 280	E B 256	E B 248	228	214	222	204	A	A	A	202	198	A	A	198	216	A	210	A	226	206	216	E B 254	E B 262
29	E B 272	E B 270	E B 270	224	208	224	220	220	204	200	198	200	188	202	218	198	198	A	230	222	E A E 236	E B 230	226	E B 228
30	E B 252	E B 242	E B 258	E B 252	E B 242	220	216	E A 232	A	A	A	A	A	206	E A 252	A	A	A	A	E A 284	228	E A 258	222	E B 242
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	29	30	30	23	22	22	25	23	24	24	23	22	21	16	25	29	28	30	30	30
MED	E B 264	E B 271	E B 256	216	U 207	E 229	210	216	213	204	204	202	202	206	202	202	212	222	224	217	U 212	E 235	E B 264	E B 268
U Q	E B 276	E B 280	E B 262	E B 244	E B 241	E B 240	220	220	220	208	217	212	208	209	210	208	218	E A 233	E A E 238	E A E 234	E A 232	E B 264	E 284	E A 276
L Q	E B 256	E B 252	E 246	216	208	222	204	214	208	200	197	196	195	201	196	198	208	221	222	210	205	212	242	E B 258

APR. 2010 h'F (KM)

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 h′E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′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 118	118	120		A 118	A 120	A 120	A 118	120	118	120	120	B 124					
2							B 120	122	122	122	118	A 114	A 114	A 114	114	A 114	A 114	124	B 118					
3							B 112	112	112	112	112	A 114	A 114	A 114	A 114	A 114	A 114	A 114	B 118					
4							122	126	A 114	122	A 114	110	A 114	114	A 114	A 114	A 114	A 114	B 118					
5							B 118	116	116	116	114	114	114	116	114	114	114	118	B 118					
6							118	112	106	A 114	A 114	A 114	112	A 114	116	120	120	118	B 118					
7							B 118	118	116	116	120	118	A 114	116	116	122	A 114	B 118						
8							B 110	116	A 114	A 114	116	114	114	116	112	118	122	B 118						
9							122	120	122	118	118	118	A 114	A 114	A 114	A 114	A 114	B 118						
10							120	116	116	116	116	A 114	132	118	116	116	120	122	B 118					
11							118	122	118	116	116	116	118	120	120	120	118	116	B 118					
12							118	122	122	114	A 114	A 114	124	124	118	120	118	118	B 118					
13							122	128	120	A 114	A 114	A 114	114	A 114	A 114	A 114	118	120	B 118					
14							118	118	122	120	120	A 114	118	A 114	122	120	118	118	B 118					
15							124	120	A 114	A 114	A 114	A 114	A 114	A 114	A 114	A 114	A 114	A 114	B 118					
16							120	120	120	120	118	A 114	A 114	A 114	118	116	114	A 114	B 118					
17							118	116	116	116	A 114	116	114	118	A 114	118	122	118	B 118					
18							106	126	116	A 114	A 114	112	A 114	112	A 114	110	A 114	A 114	B 118					
19							118	120	120	120	A 114	A 114	A 114	118	A 114	A 114	120	A 114	A 114					
20							120	122	122	120	A 114	A 114	A 114	A 114	114	116	122	A 114	B 118					
21							132	122	A 114	A 114	A 114	A 114	A 114	A 114	A 114	114	A 114	A 114	B 118					
22							B 114	A 114	A 114	A 114	118	114	118	A 114	A 114	A 114	A 114	118	B 118					
23							116	114	A 114	118	122	120	C 114	C 114	C 114	C 114	A 114	112	B 118					
24							122	120	A 114	116	A 114	A 114	A 114	A 114	A 114	A 114	116	114	B 118					
25							122	122	122	A 114	A 114	122	120	A 114	A 114	A 114	120	118	B 118					
26							126	124	124	A 114	A 114	A 114	118	118	118	112	116	120	B 118					
27							118	A 114	A 114	A 114	A 114	118	122	122	118	122	118	A 114	B 118					
28							118	116	A 114	A 114	A 114	A 114	A 114	A 114	120	120	120	120	B 118					
29							130	122	118	116	112	112	112	A 114	A 114	A 114	A 114	116	B 118					
30							120	A 114	A 114	A 114	A 114	A 114	A 114	A 114	A 114	118	118	A 114	B 118					
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							23	28	21	18	11	13	15	12	15	18	20	19						
MED							120	120	118	117	116	116	118	118	118	117	118	118						
U Q							122	122	122	120	118	119	120	119	120	120	120	120						
L Q							118	116	116	116	114	113	114	115	116	114	118	116						

APR. 2010 h′E (KM)

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	104	B	104	102	98	94	150	146	128	126	108	106	102	104	104	102	108	118	116	106	106	106	B	B
2	100	98	100	98	100	B	132	128	102	120	112	106	104	100	102	106	104	106	B	102	100	110	106	106
3	102	108	98	96	94	92	130	130	130	122	112	104	104	102	102	102	104	98	94	98	98	98	104	B
4	B	B	96	112	100	100	100	96	96	98	98	98	100	110	106	108	104	104	100	98	98	98	110	102
5	104	104	98	94	92	92	138	144	122	120	116	118	116	G	G	108	G	126	104	112	B	96	96	B
6	104	102	98	98	98	B	120	120	112	100	100	100	102	102	150	138	126	118	106	106	106	B	104	96
7	96	102	102	98	100	100	114	106	98	112	100	154	102	102	100	104	106	106	100	100	104	104	104	B
8	B	B	B	B	B	B	124	132	114	108	104	G	98	98	98	100	104	102	B	118	108	104	114	B
9	100	100	98	96	100	B	146	144	102	116	114	104	100	106	110	106	100	116	92	88	110	92	94	B
10	B	B	B	126	B	B	140	144	120	116	114	102	G	138	92	100	128	128	114	110	106	106	110	108
11	B	B	B	B	108	B	140	104	104	122	104	102	120	108	104	100	122	120	108	102	102	B	B	94
12	100	B	98	98	98	94	G	128	120	100	100	100	100	102	98	104	102	122	110	114	108	106	104	136
13	B	128	120	106	104	B	160	158	116	102	104	104	104	100	96	98	100	122	118	B	B	B	B	B
14	120	116	116	116	112	B	134	108	122	100	100	104	100	106	104	100	104	120	108	104	100	98	102	B
15	B	94	96	96	90	90	106	116	104	102	102	102	100	96	98	98	98	96	96	96	B	102	104	102
16	B	96	94	98	96	B	152	146	104	98	114	104	104	102	G	124	118	108	108	106	102	B	B	B
17	B	B	B	B	B	B	142	132	118	116	104	102	100	98	104	104	102	120	94	90	B	92	B	B
18	B	B	B	B	B	B	126	134	120	106	104	118	104	114	104	100	94	106	118	114	114	110	138	B
19	B	B	B	B	B	B	136	142	126	102	104	102	100	104	102	102	102	98	94	92	108	112	B	B
20	92	106	102	98	94	100	128	130	114	112	104	102	102	100	98	120	120	106	106	106	108	104	98	100
21	98	98	96	96	B	B	124	120	104	106	108	106	104	104	104	102	102	104	104	104	104	100	B	106
22	114	110	106	104	98	96	104	120	108	106	106	98	G	98	110	104	104	114	106	102	102	102	98	98
23	98	98	112	100	B	B	130	120	106	104	116	114	C	C	C	C	96	128	104	104	102	100	100	98
24	B	B	B	B	B	B	G	116	108	114	102	102	102	104	106	106	122	122	104	102	102	102	102	98
25	100	96	B	B	100	100	130	124	120	108	104	100	100	100	96	102	126	114	102	116	114	110	B	100
26	98	102	B	B	B	148	122	118	118	104	104	100	102	100	96	96	102	122	106	106	104	102	B	B
27	B	102	102	B	B	126	112	106	106	104	104	106	G	104	100	154	120	106	106	102	98	98	96	94
28	94	100	98	98	100	98	136	122	108	104	106	104	106	108	106	144	120	112	102	100	104	100	B	98
29	100	100	100	B	B	B	126	120	104	114	112	102	G	102	100	102	102	126	108	100	100	B	B	B
30	B	B	B	B	112	126	124	108	106	102	102	100	100	106	102	120	116	104	102	114	112	110	108	B
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	17	19	20	19	19	14	28	30	30	30	30	29	25	28	27	29	29	30	28	29	26	25	19	15
MED	100	102	99	98	100	99	130	123	110	106	104	102	102	102	102	104	104	114	105	104	104	102	104	100
U Q	104	106	103	104	100	100	139	134	120	116	112	106	104	106	104	108	120	122	108	108	108	106	108	106
L Q	98	98	98	96	96	94	123	116	104	102	102	101	100	100	98	100	102	106	101	100	102	98	98	98

APR. 2010 h'Es (KM)

IONOSPHERIC DATA STATION Kokubunji

APR. 2010 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′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	F3		F4	F3	F2	F2	H3	HL22	CL22	CL22	L2	L2	L2	L2	L2	L2	L2	CL32	C2	F1	F1	F2		
2	F2	F6	F7	F4	F3		H2	C2	L2	CL12	CL22	L2	L2	L2	L2	L2	L2	L2		F1	F2	F3	F3	F3
3	F3	F2	F4	F2	F3	F3	C2	C2	CL22	CL22	CL22	L2	L2	L2	L2	L2	L3	L2	L2	F4	F3	F4	F1	
4			F4	F2	F1	F2	L2	L2	L2	L3	L2	L2	L2	CL21	L2	L3	L2	L3	L2	F4	F4	F3	F3	F2
5	F2	F3	F5	F3	F5	F6	H2	HL22	CL22	CL22	CL22	CL22	CL11			L2		CL22	L4	F1		F2	F2	
6	F2	F5	F4	F2	F5		C2	C3	C1	L3	L2	L2	L2	L2	HL21	HL21	CL21	CL42	L4	F6	F2		F2	F3
7	F2	F3	F2	F3	F3	F2	C3	L2	L2	CL12	L2	HL12	L2	L2	L2	L2	L2	L2	L4	F4	F5	F4	F4	
8							C2	C2	CL22	CL22	L2		L2	L2	L2	L2	L2	L2		F1	F3	F2	F2	
9	F2	F2	F2	F2	F1		H2	HL22	L2	CL22	CL22	L2	L2	L2	L2	L2	L3	CL23	LC22	F2	FF22	F1	F1	
10				F1			H2	HL22	CL22	CL12	CL22	L2		HL11	L2	L2	CL22	CL22	C3	F5	F2	F4	F2	F1
11					F1		H2	L2	L2	CL22	L2	L2	C2	L2	L2	L2	CL22	C2	L4	F8	F3			F2
12	F1		F1	F1	F2	F1		CL22	CL22	L2	L2	L2	L2	L2	L2	L2	L2	CL22	C3	F6	F2	F2	F3	F1
13		F2	F1	F1	F1		HL11	HL22	CL22	L2	L2	L2	L2	L2	L2	L2	L2	CL11	C2					
14	F1	F1	F2	F1	F2		H4	L2	CL22	L2	L2	L2	L2	L2	L2	L2	L2	CL22	L3	F3	F4	F3	F1	
15		F1	F1	F2	F3	F1	L3	CL22	L2	L2	L2	L2	L2	L2	L3	L2	L2	L2	L4	F4		F1	F1	F1
16		F2	F3	F2	F1		H3	HL22	L2	L2	CL12	L2	L3	L2		CL22	CL22	L3	L4	F7	F3			
17							H3	H2	C2	CL12	L2	L2	L2	L2	L2	L2	L2	CL22	L2	F2		F2		
18							C2	CL22	CL12	L2	L2	CL12	L2	CL11	L2	L2	L2	L2	CL22	FF23	F3	F3	F1	
19							H2	HL12	CL11	L2	L2	L2	L2	L2	L2	L2	L2	L2	L3	F4	FF43	F3		
20	F2	F2	F1	F2	F2	F1	C2	HL22	CL22	CL22	L2	L2	L2	L2	L2	CL22	CL22	L5	L5	F5	F2	F3	F2	F2
21	F3	F2	F2	F1			C2	CL32	L3	L2	L2	L2	L3	L3	L3	L2	L3	L4	L3	F3	F2	F2		F2
22	F1	F2	F3	F3	F5	F6	L4	CL22	L3	L2	L2	L2		L2	L2	L2	L2	CL32	L4	F5	FF25	FF23	F4	F2
23	F2	FF23	FF22	F2			H2	CL32	L3	L2	CL22	CL22					L2	CL22	L4	F6	F3	F3	F4	F3
24								CL22	L2	CL22	L2	L2	L2	L2	L3	L2	CL22	C2	L3	F6	F5	F3	F5	F6
25	F3	F3			F1	F2	H3	CL22	CL22	L3	L2	L2	L2	L2	L3	L2	CL22	CL52	L5	FF23	F5	F2		F1
26	F1	F2				F3	C2	CL21	CL21	L2	L2	L2	L2	L2	L2	L1	L2	CL22	L5	F4	F1	F1		
27		F2	F1			F2	C3	L3	L2	L2	L2	L2		L2	L2	HL22	CL22	L3	L4	F4	F3	F2	F3	F2
28	F4	F3	F1	F2	F2	F2	H2	C2	L3	L2	L2	L2	L3	L2	L2	HL21	CL21	CL21	L5	F4	F1	F1		F1
29	F1	F1	F1				CL21	CL21	L2	CL12	CL12	L2		L2	L2	L2	L2	CL21	L5	F2	F3			
30					F1	F3	C3	L3	L2	L2	L2	L3	L2	L2	L3	CL22	CL32	L3	L3	F7	F3	F3	F3	
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

APR. 2010 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

f-PLOTS OF IONOSPHERIC DATA

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

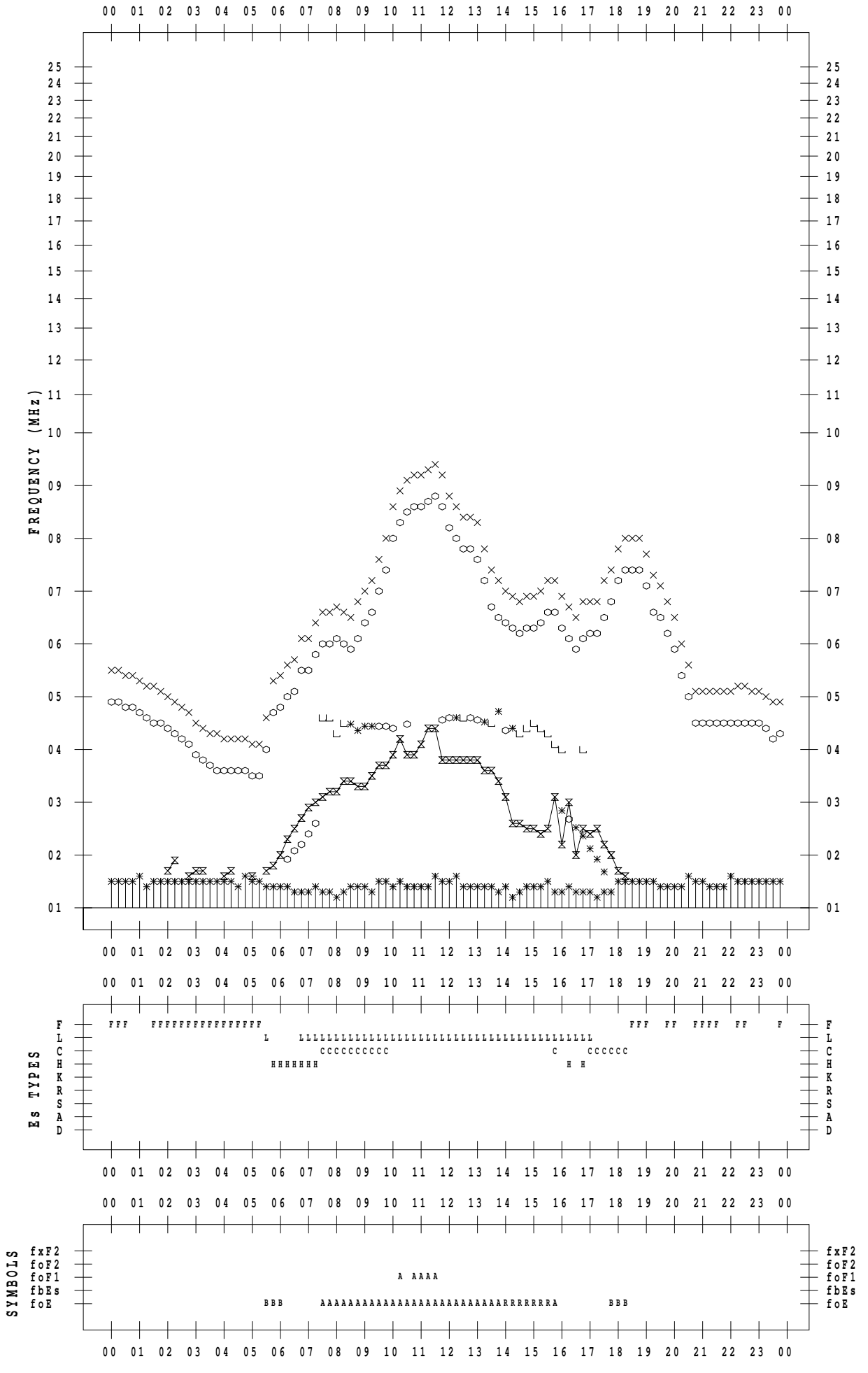
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/ 1

135 °E MEAN TIME



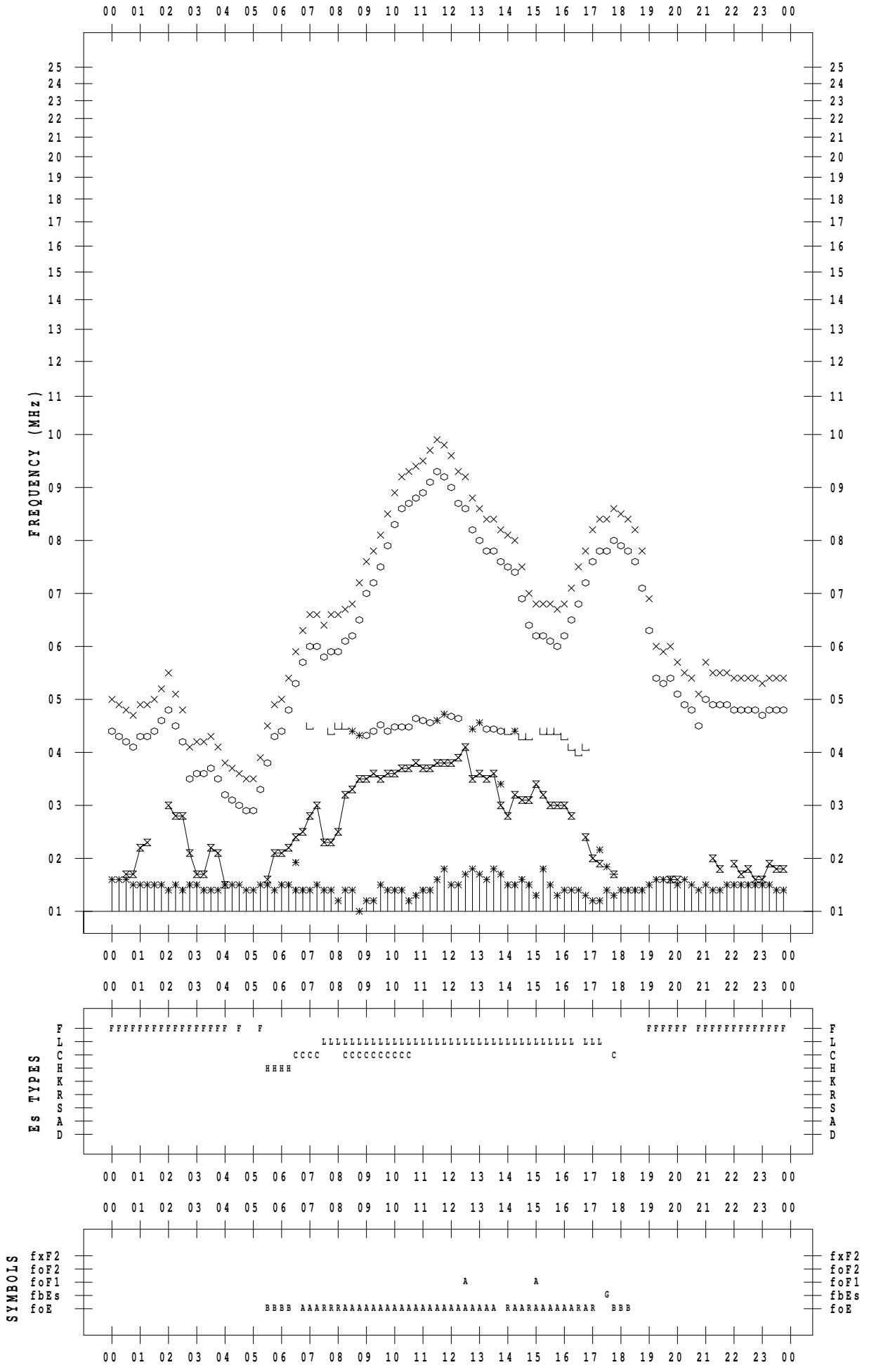
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/ 2

135 °E MEAN TIME



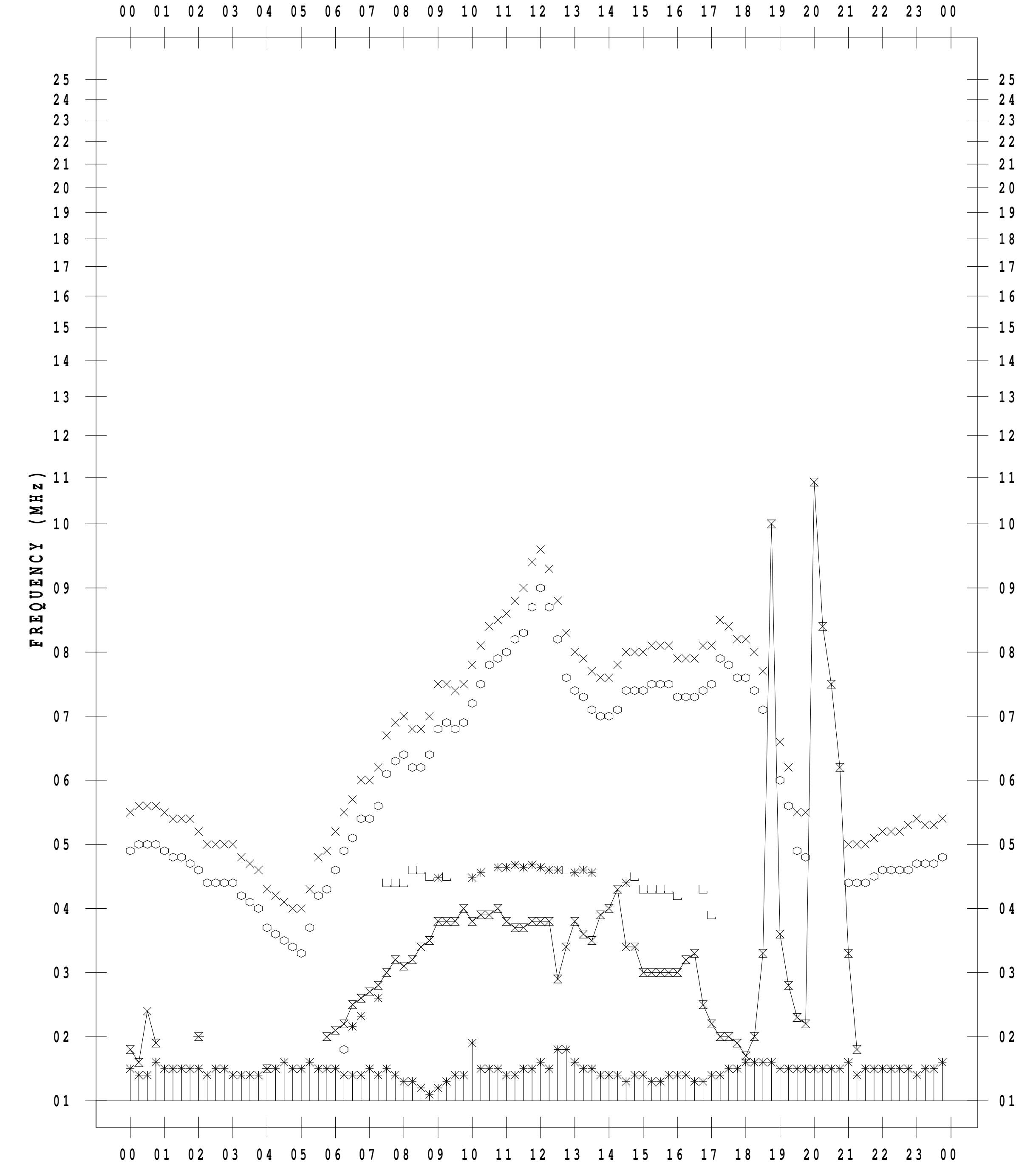
f-PLOT DATA

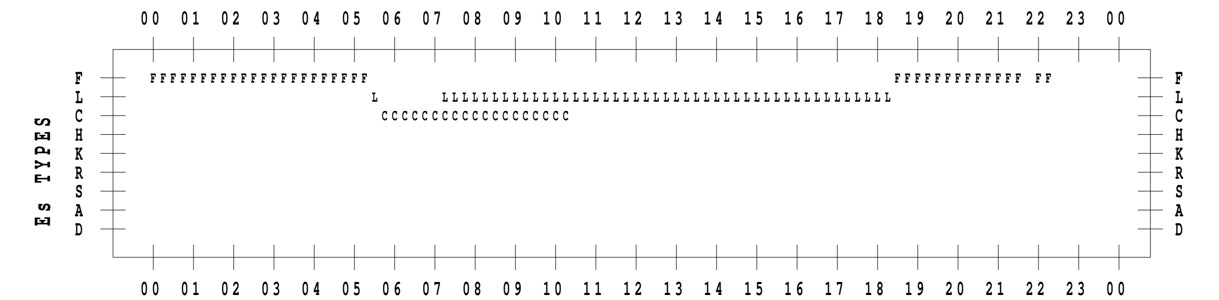
SCALER : I.NISHIMUTA

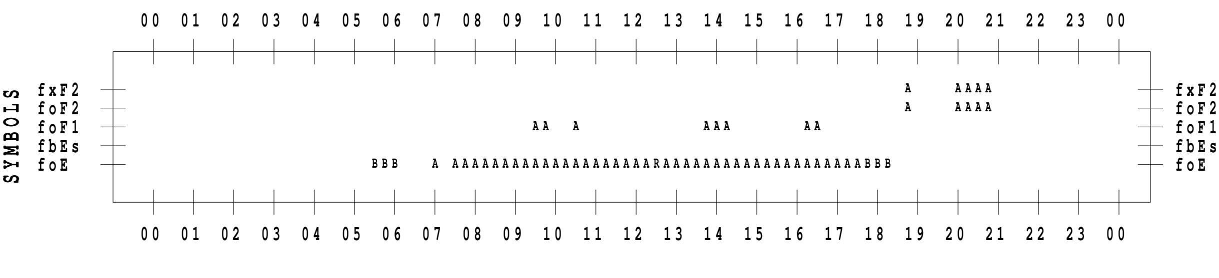
STATION : Kokubunji

DATE : 2010/ 4/ 3

135 °E MEAN TIME







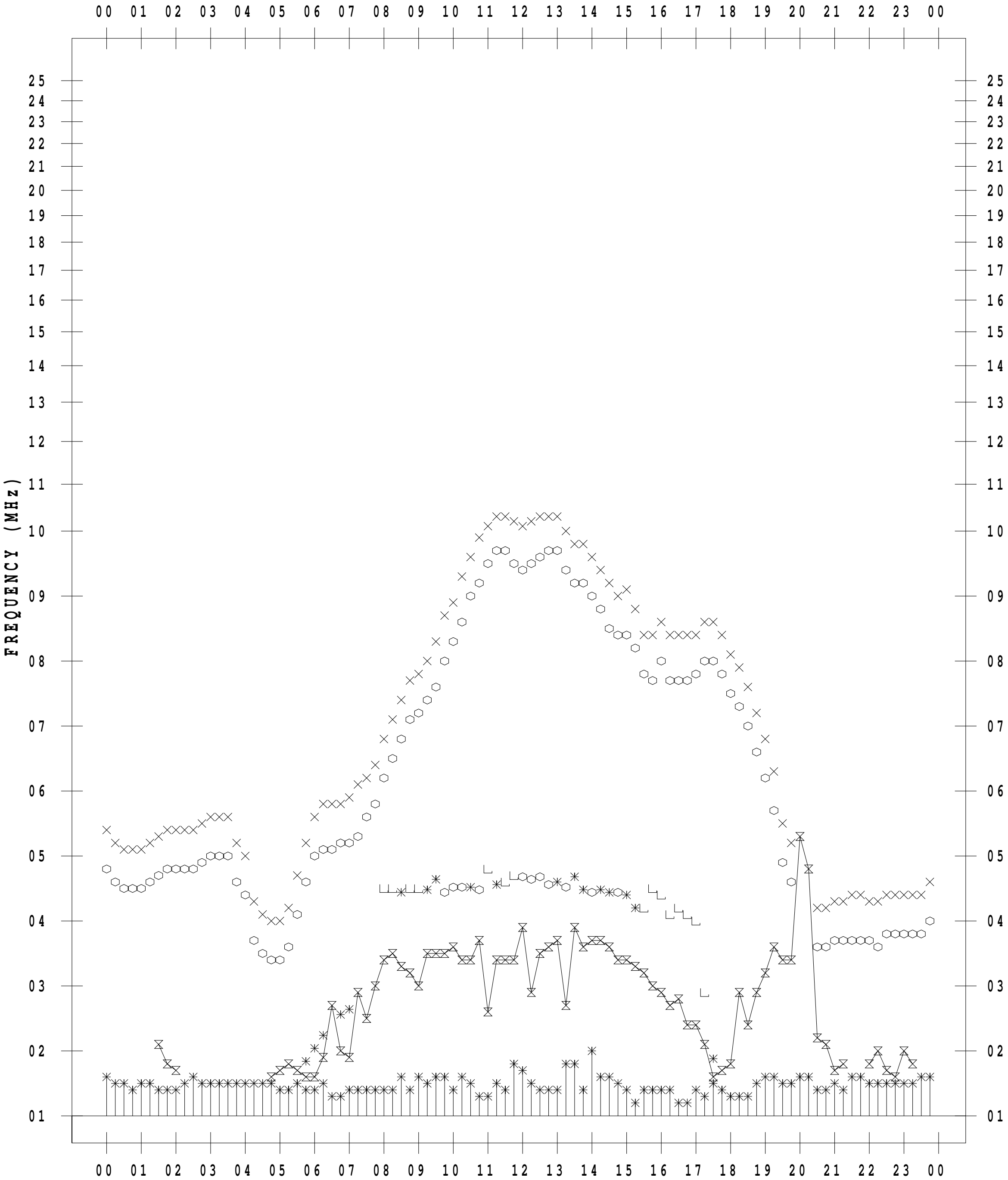
f-PLOT DATA

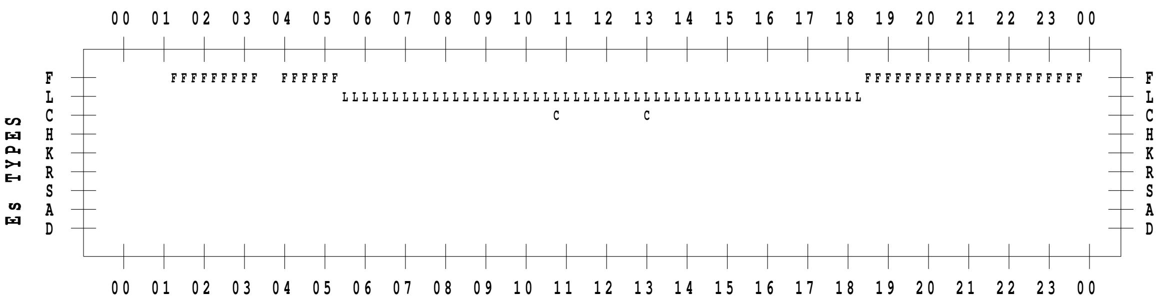
SCALER : I.NISHIMUTA

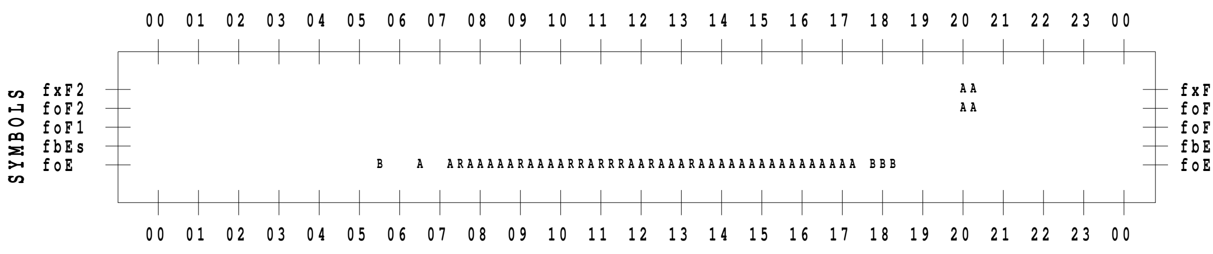
STATION : Kokubunji

DATE : 2010/ 4/ 4

135 °E MEAN TIME







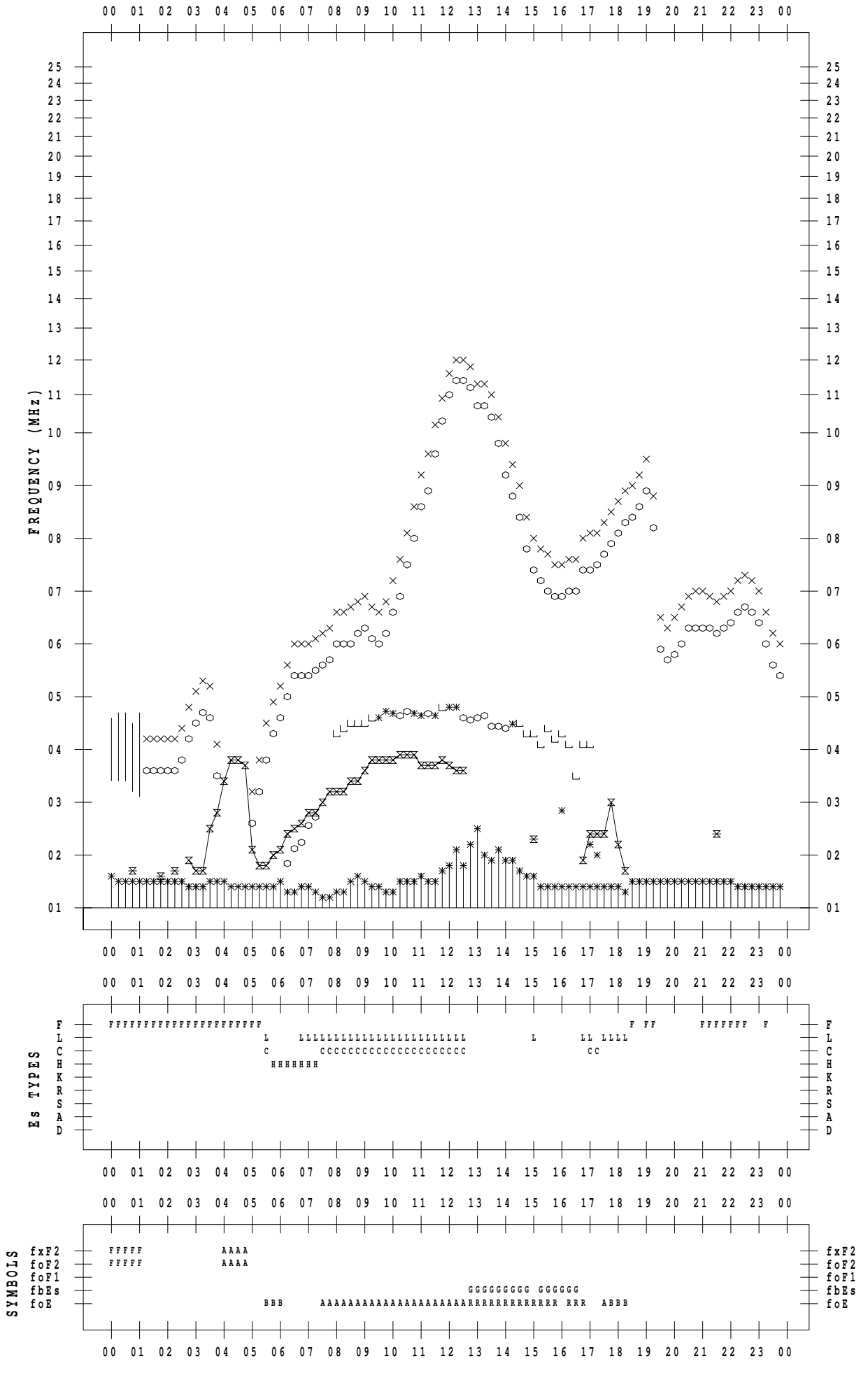
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/ 5

135 °E MEAN TIME



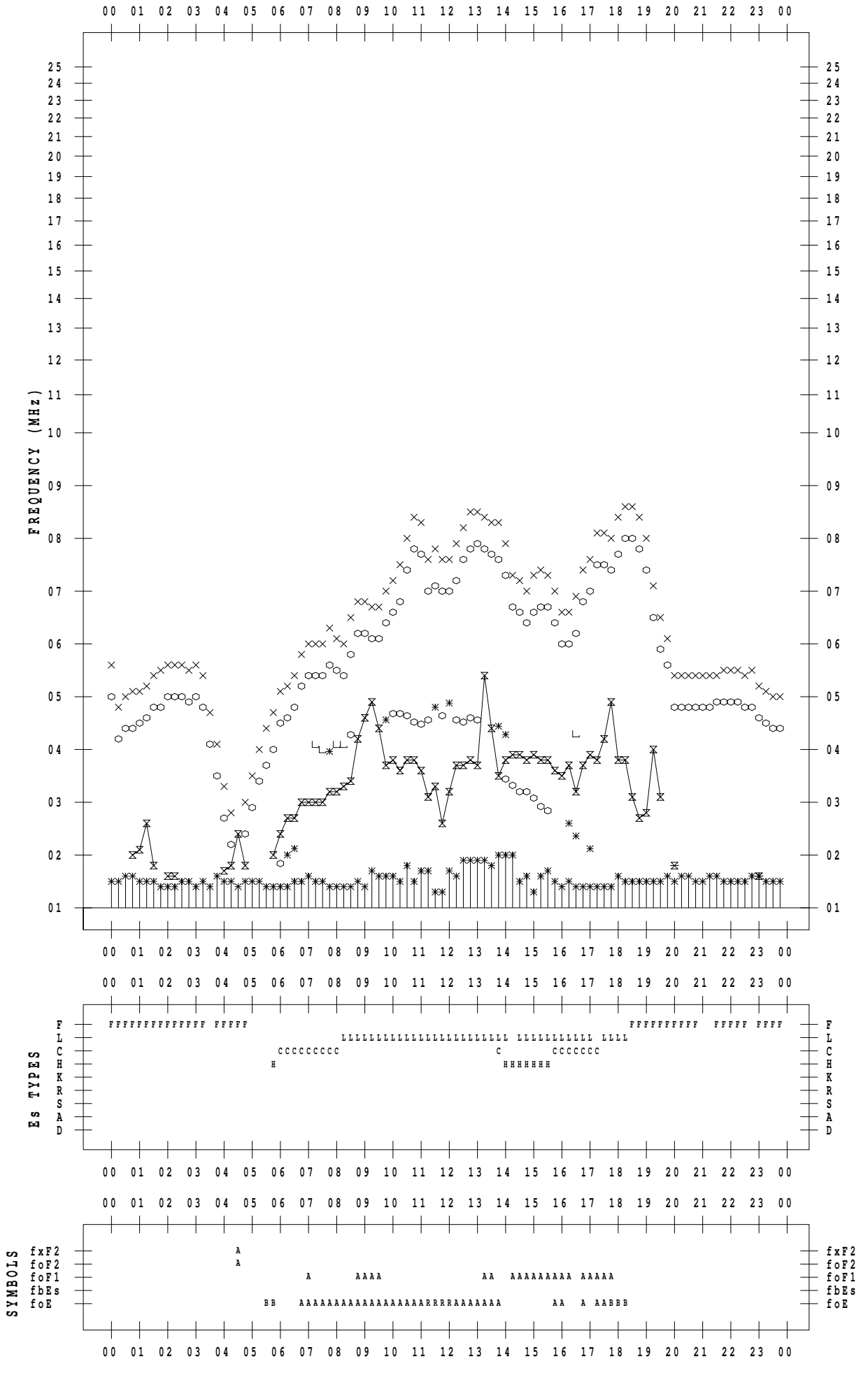
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/ 6

135 °E MEAN TIME



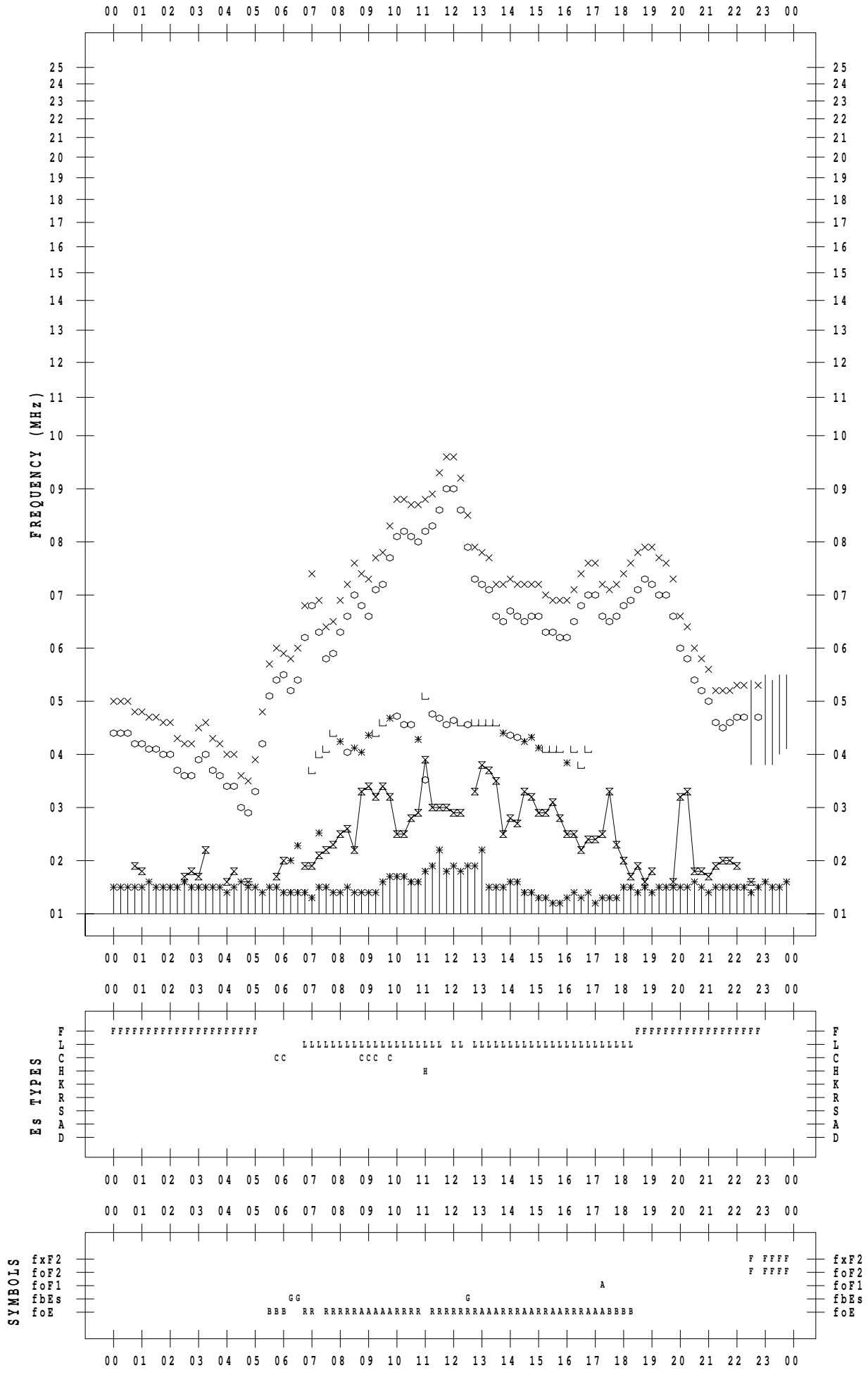
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/ 7

135 °E MEAN TIME



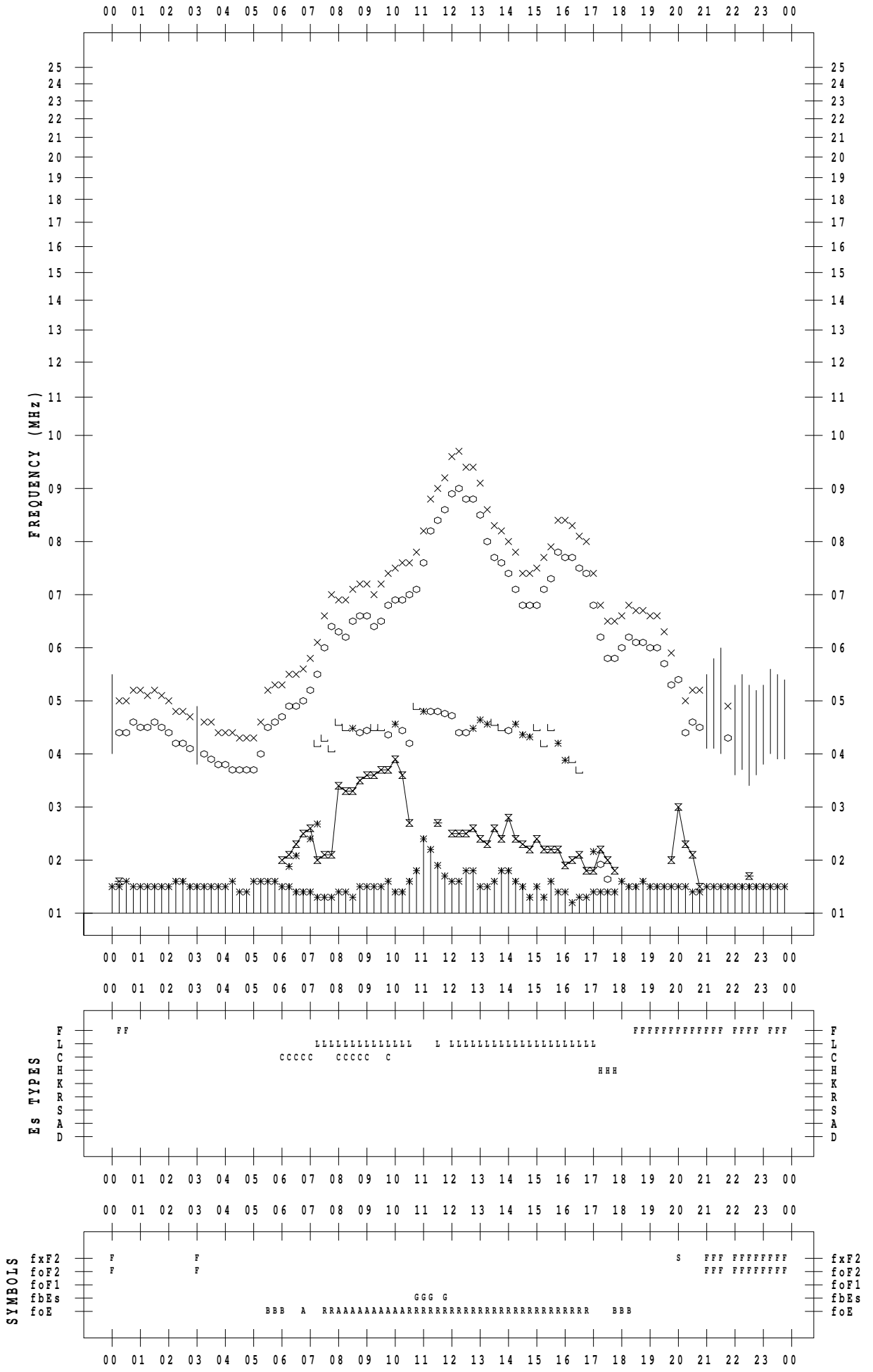
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/ 8

135 °E MEAN TIME

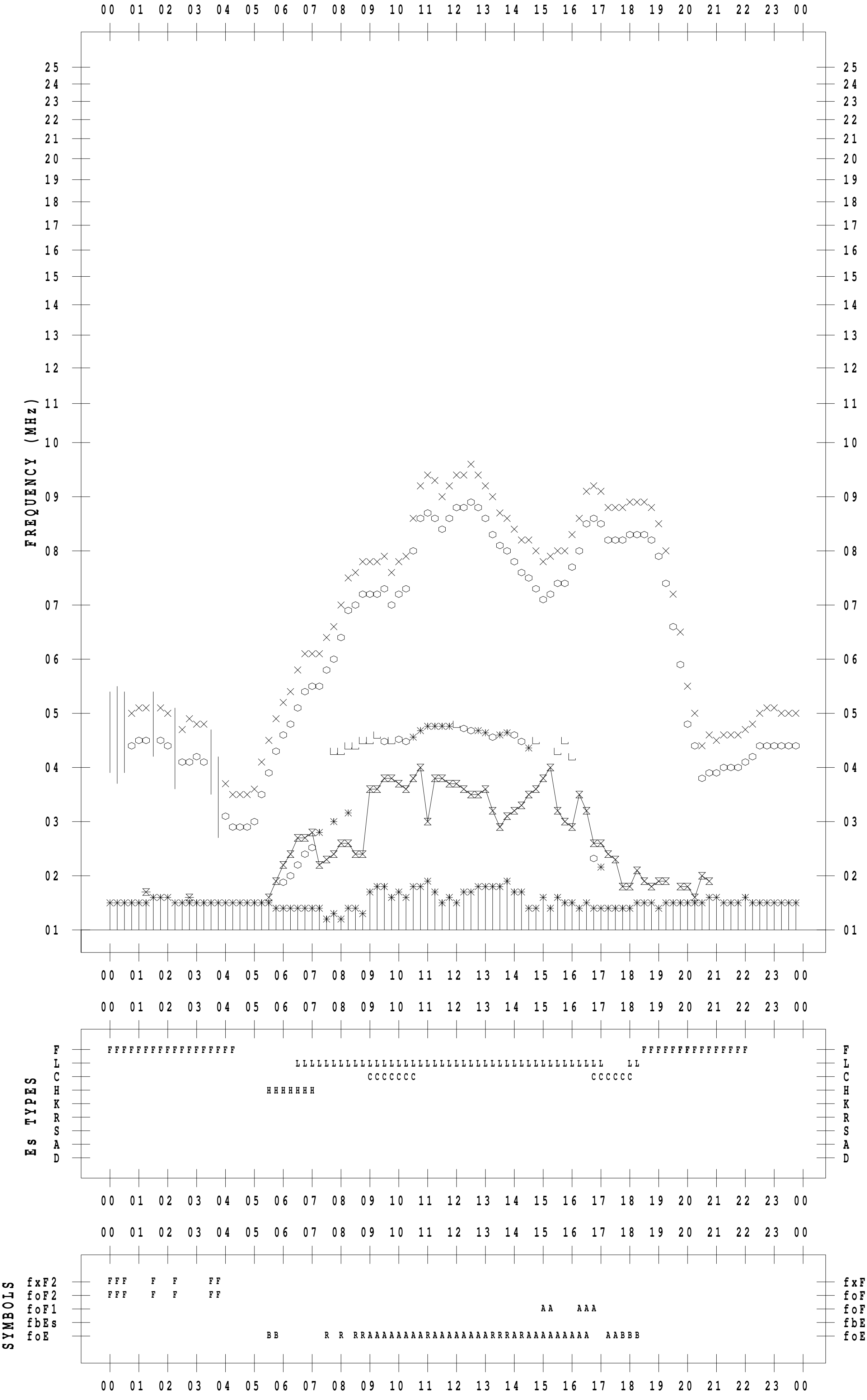


f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2010/ 4/ 9

135 °E MEAN TIME



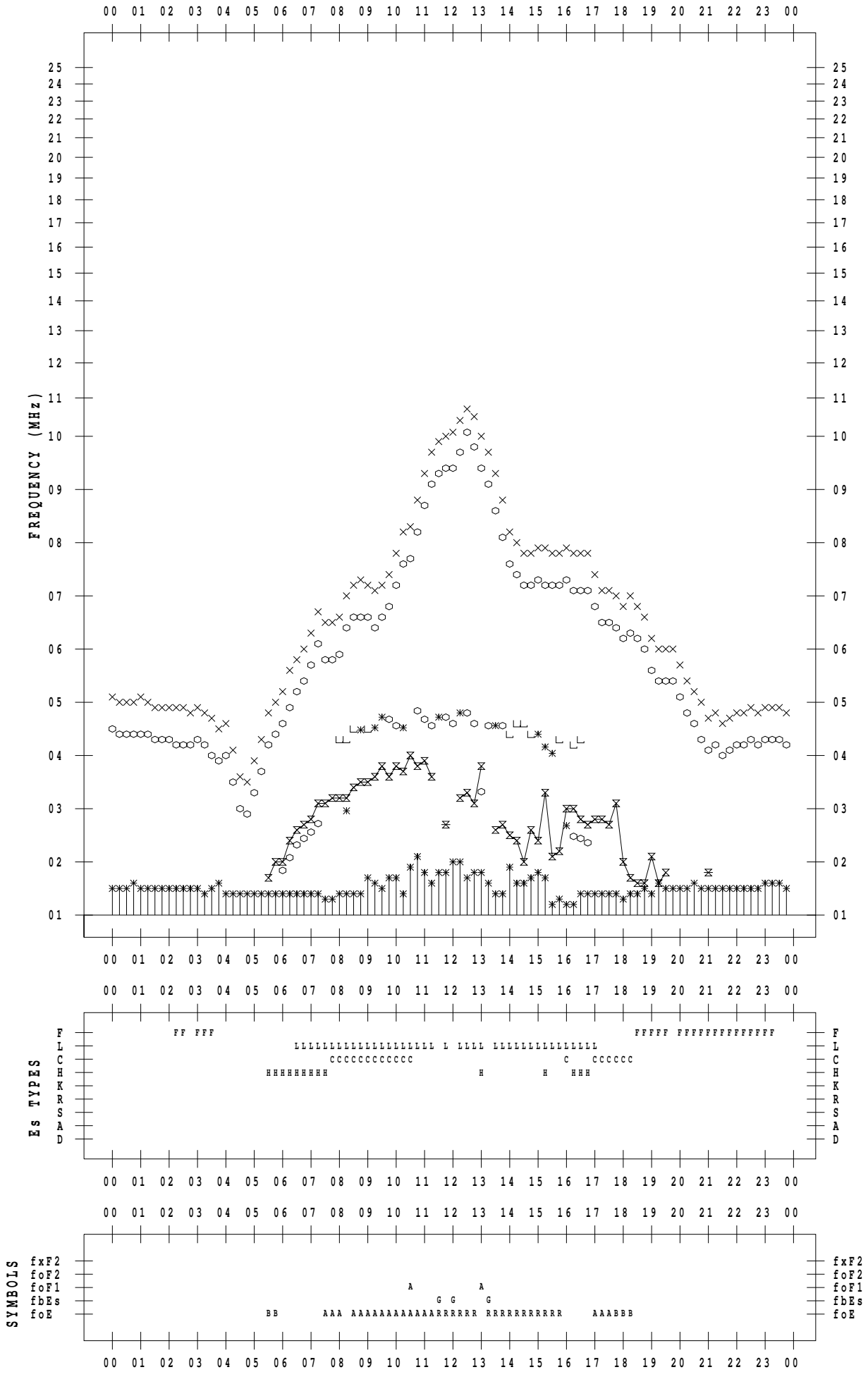
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/10

135 °E MEAN TIME



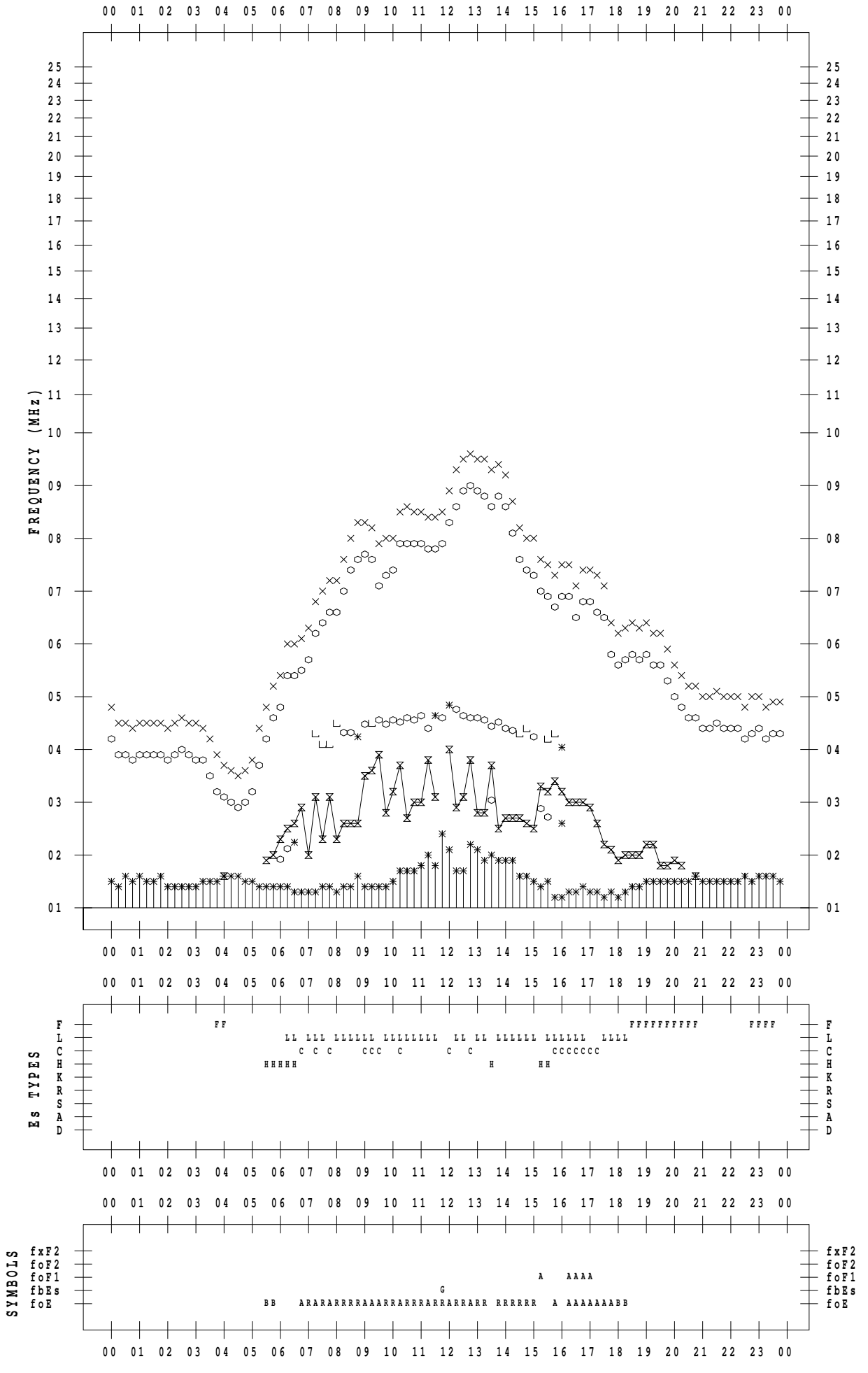
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/11

135 °E MEAN TIME



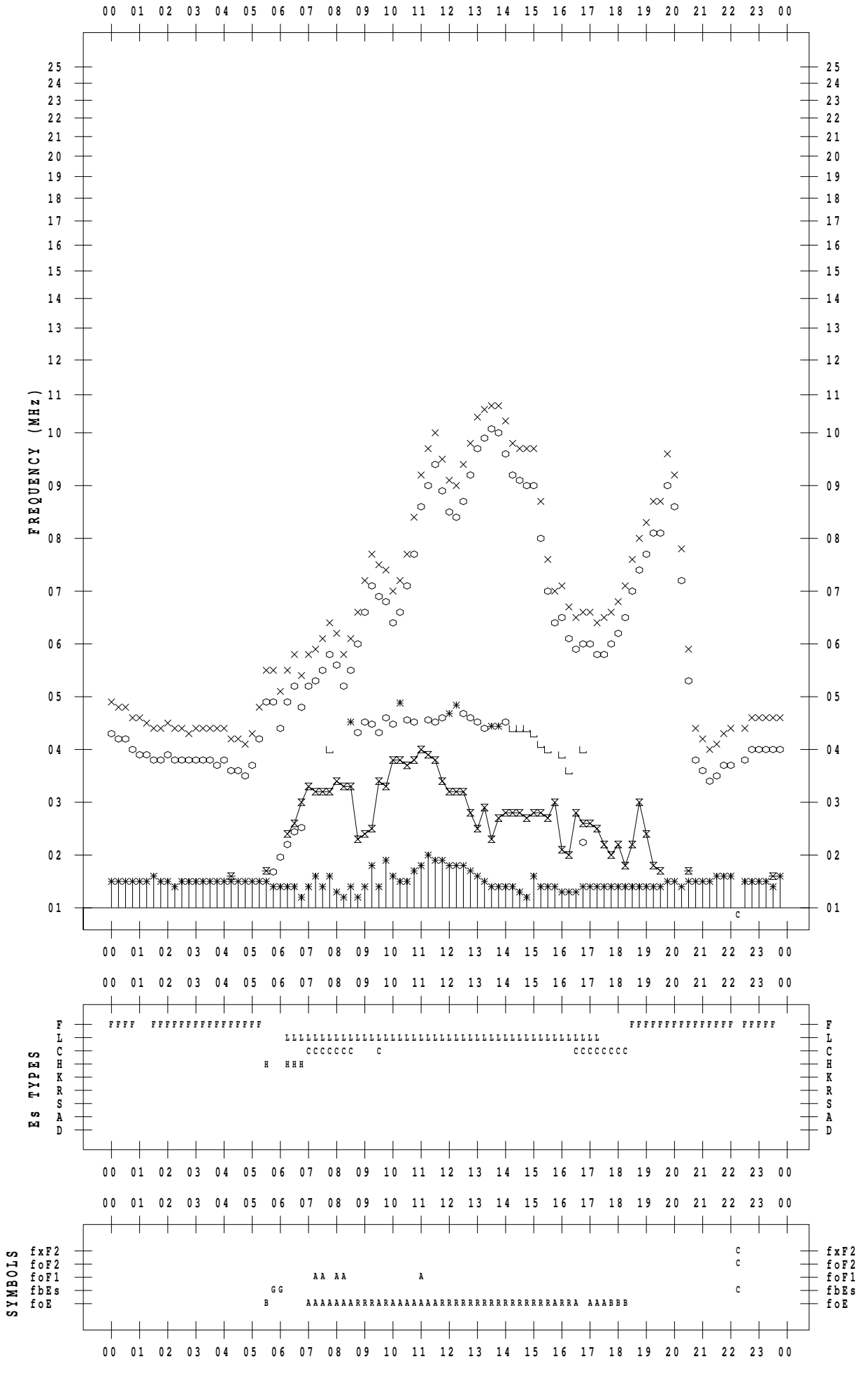
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/12

135 °E MEAN TIME



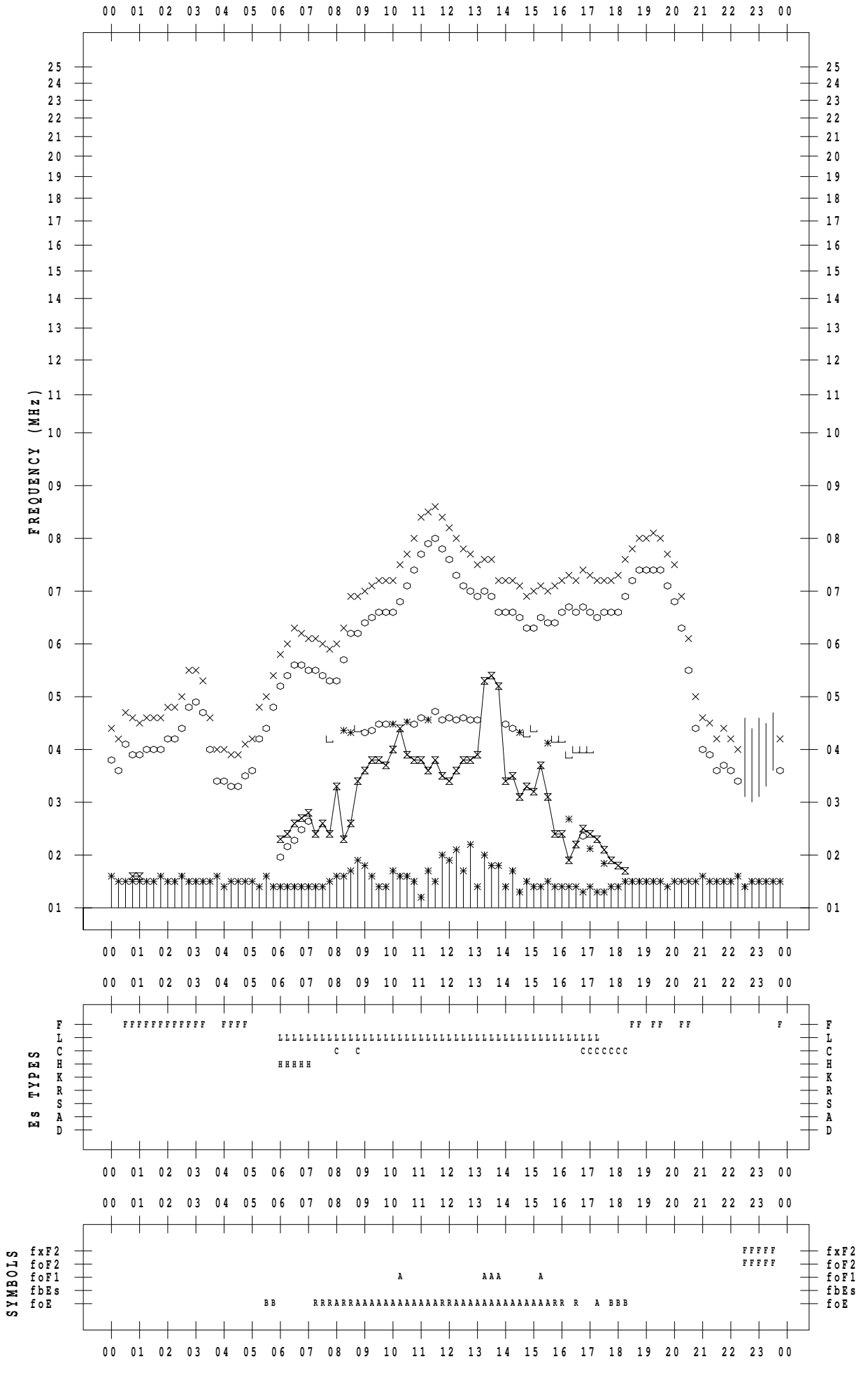
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/13

135 °E MEAN TIME



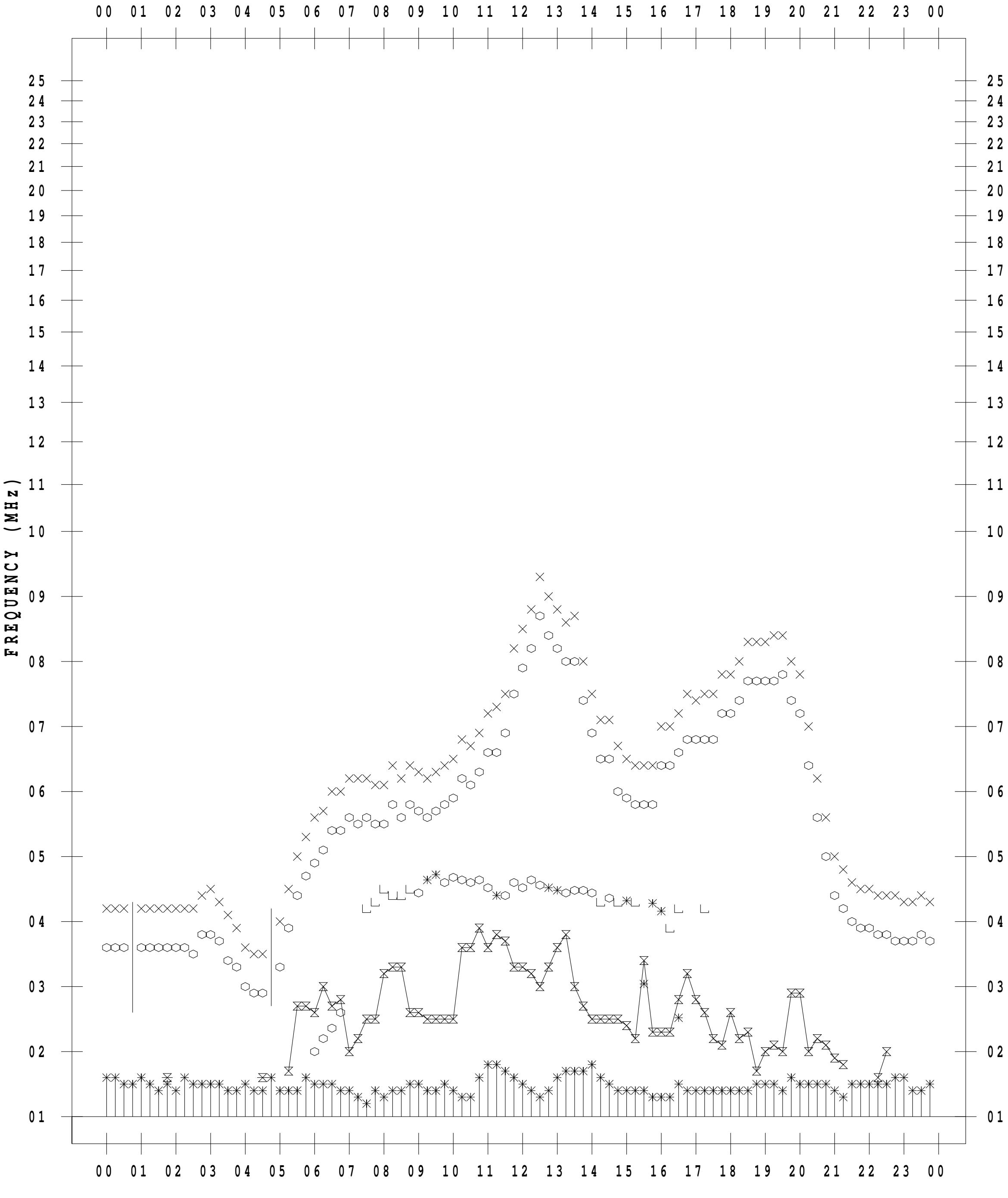
f-PLOT DATA

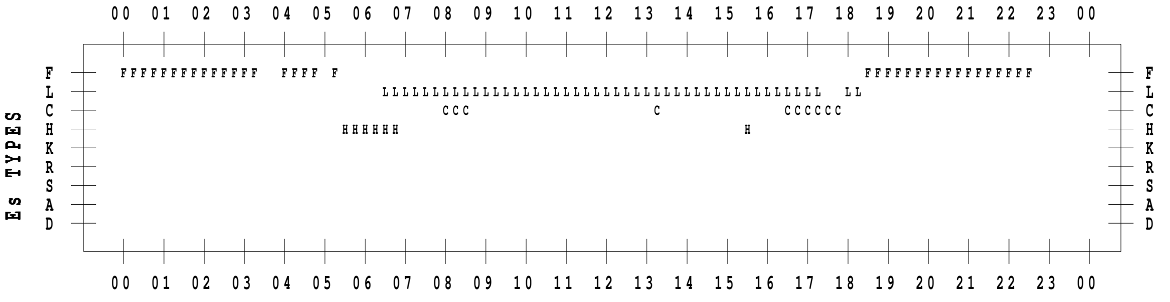
SCALER : I.NISHIMUTA

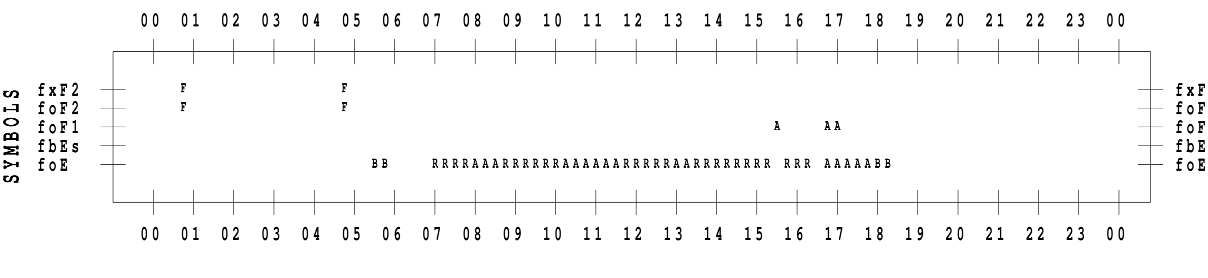
STATION : Kokubunji

DATE : 2010/ 4/14

135 °E MEAN TIME







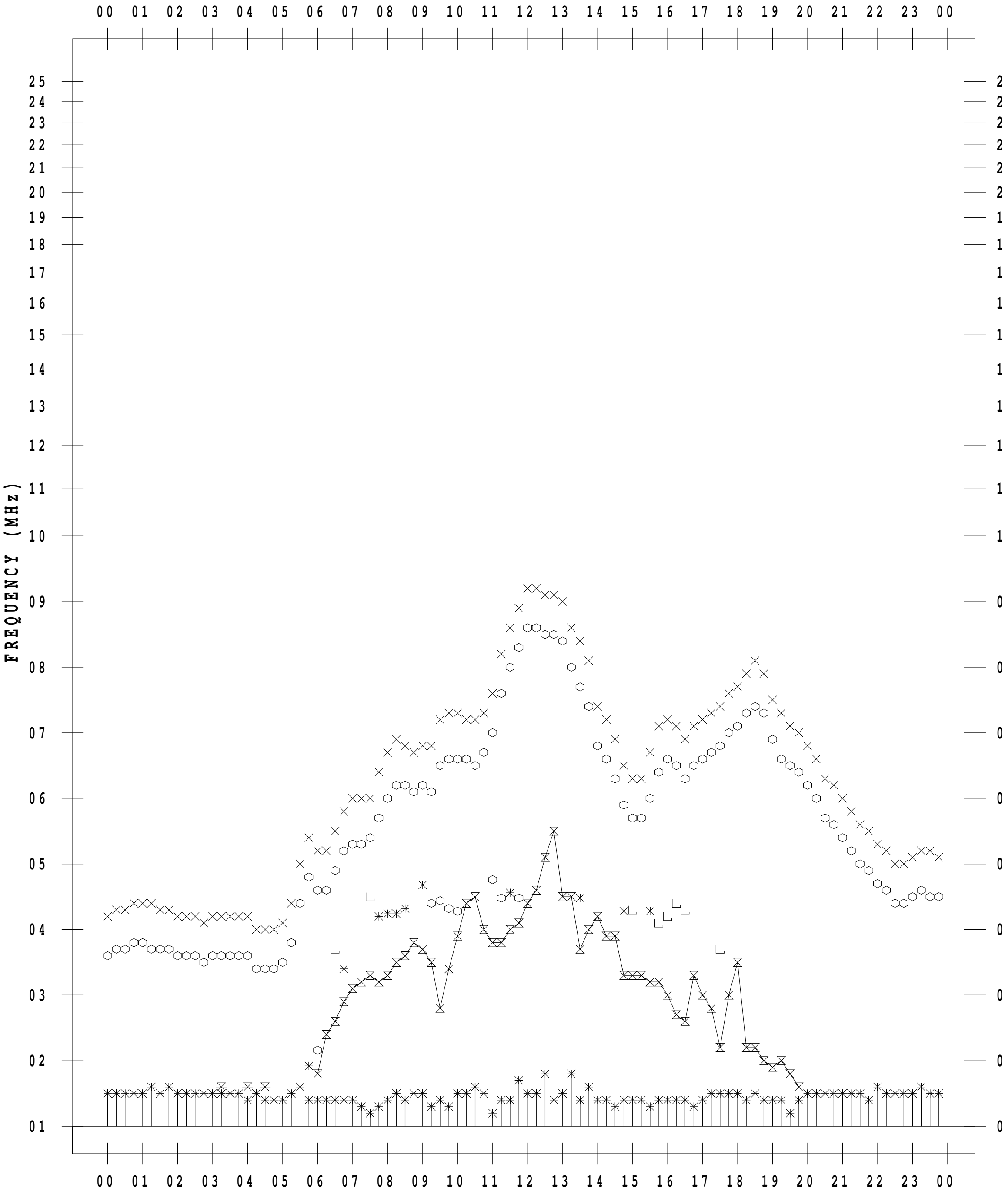
f-PLOT DATA

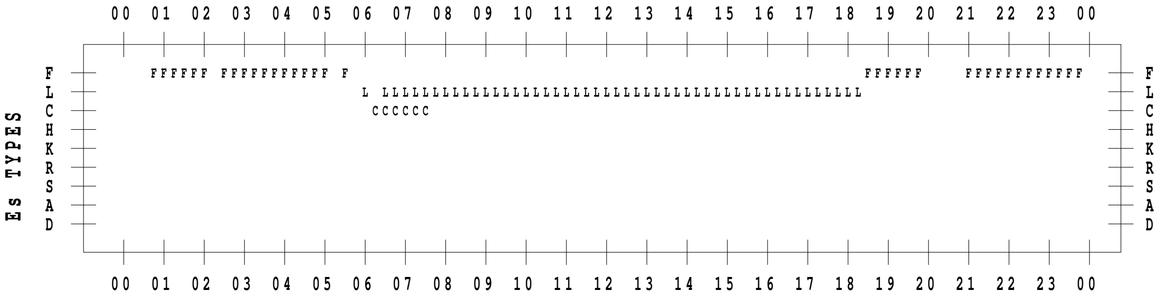
SCALER : I.NISHIMUTA

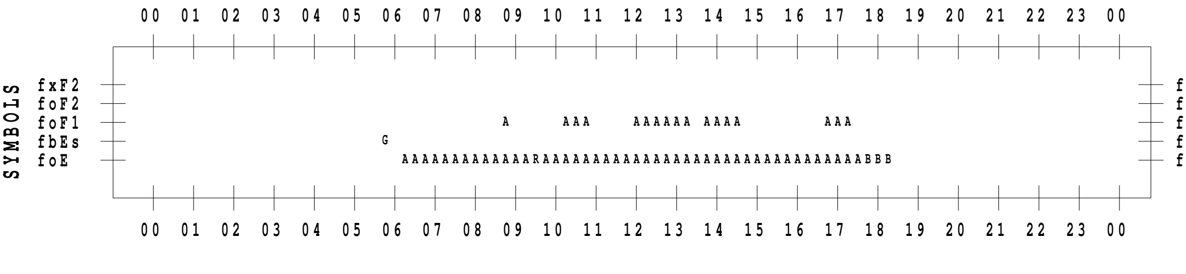
STATION : Kokubunji

DATE : 2010/ 4/15

135 °E MEAN TIME







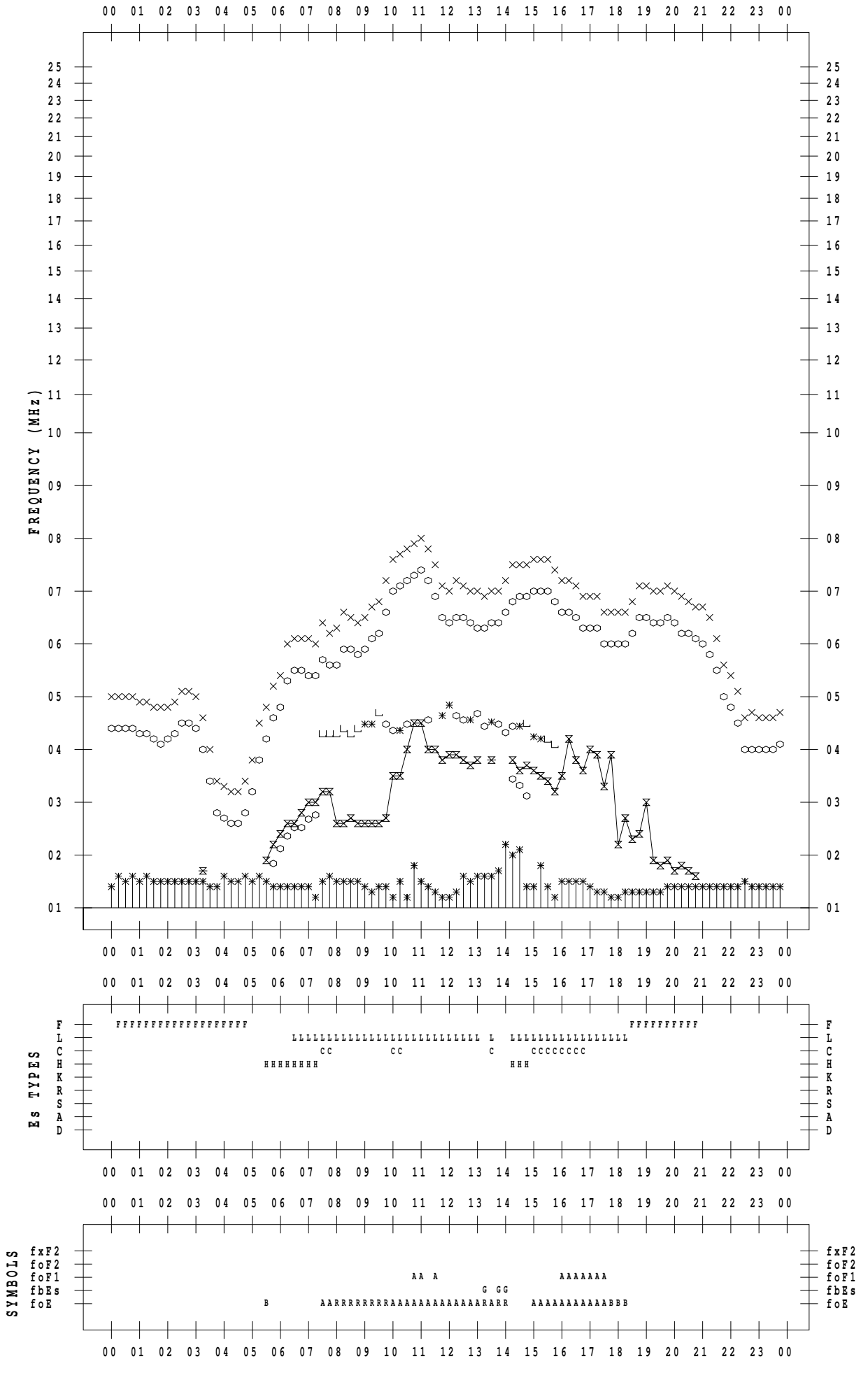
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/16

135 °E MEAN TIME



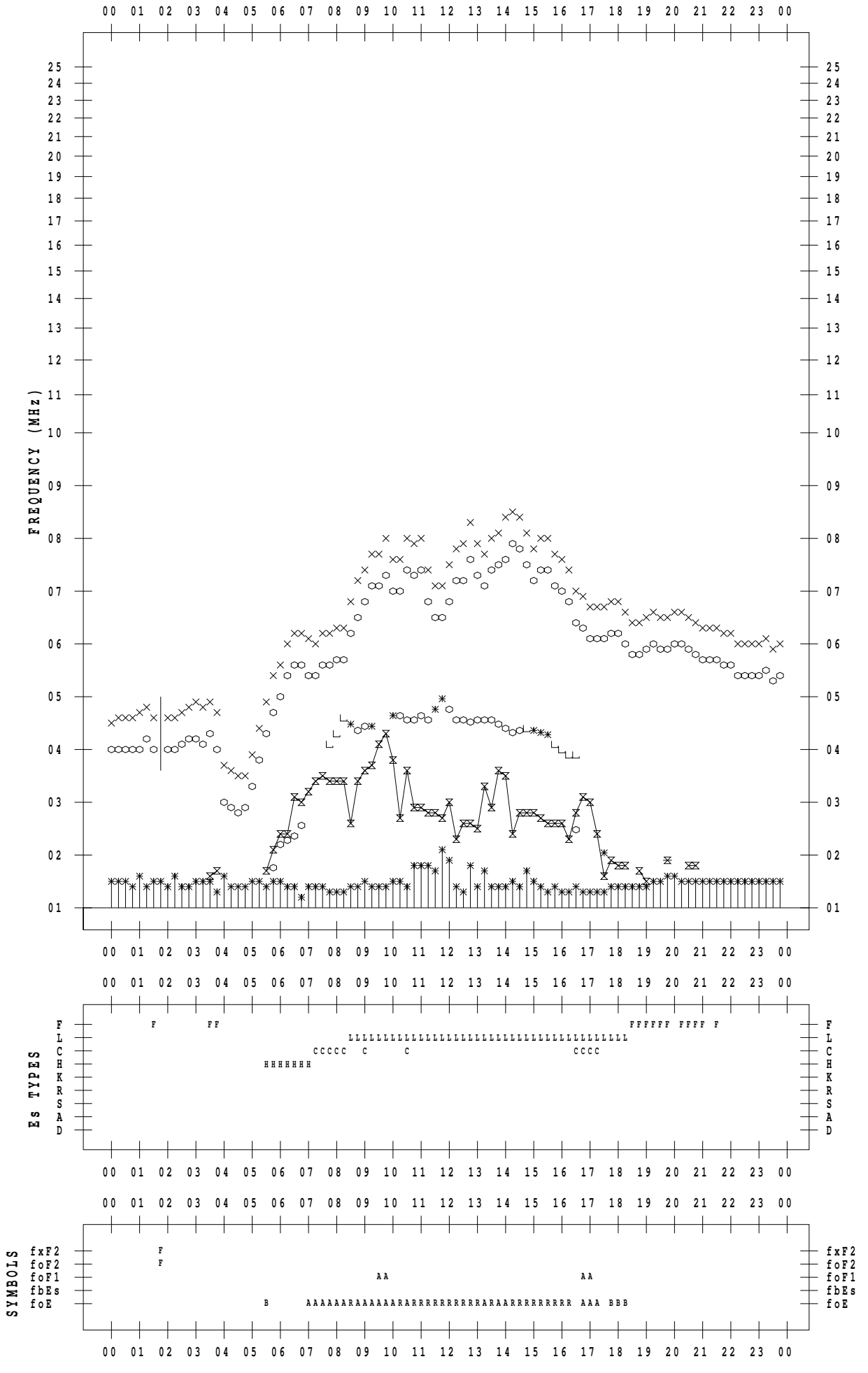
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/17

135 °E MEAN TIME



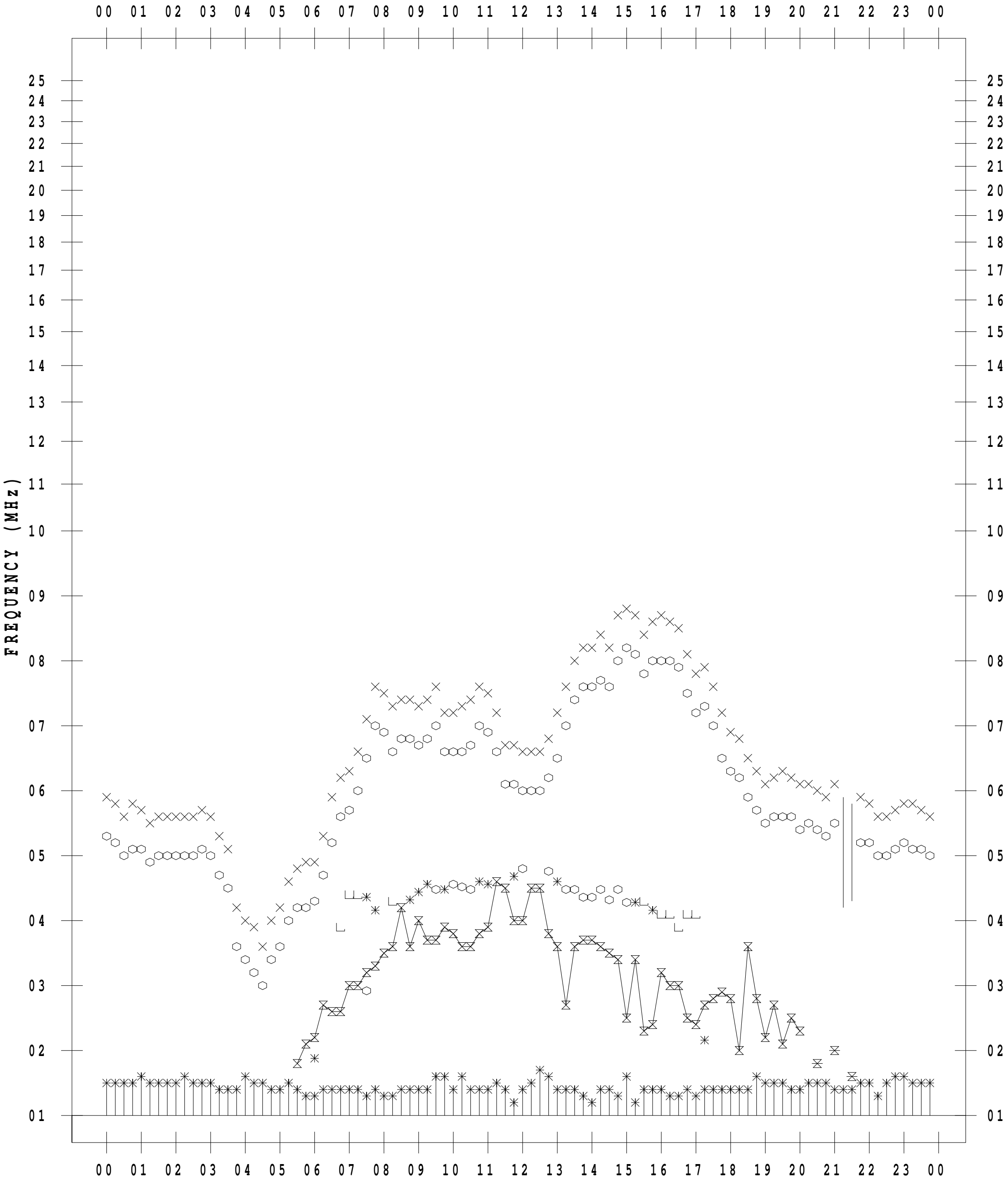
f-PLOT DATA

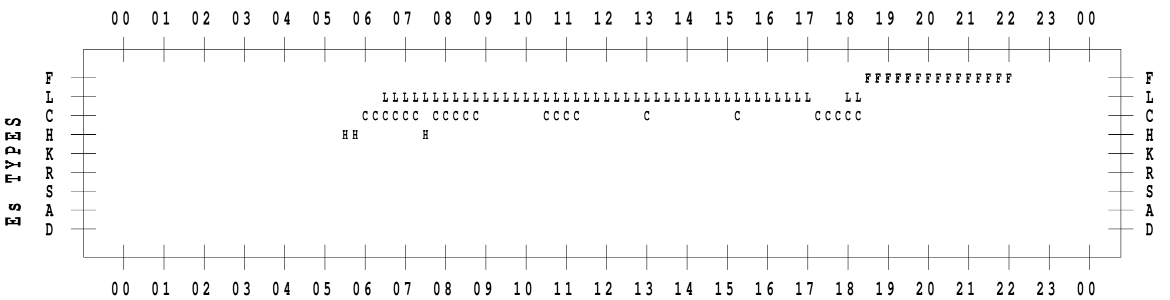
SCALER : I.NISHIMUTA

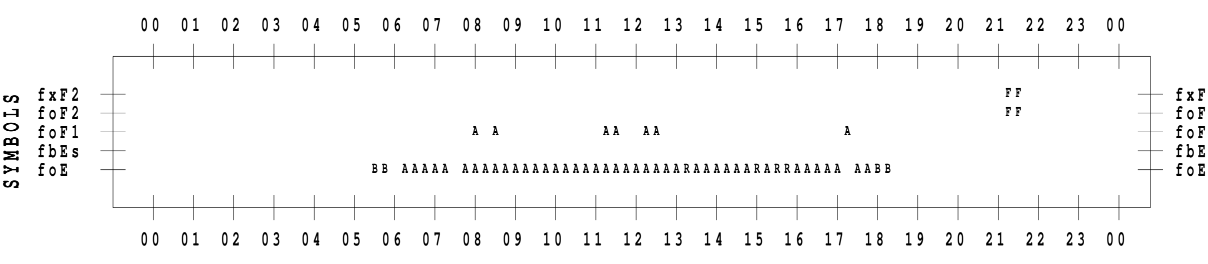
STATION : Kokubunji

DATE : 2010/ 4/18

135 °E MEAN TIME







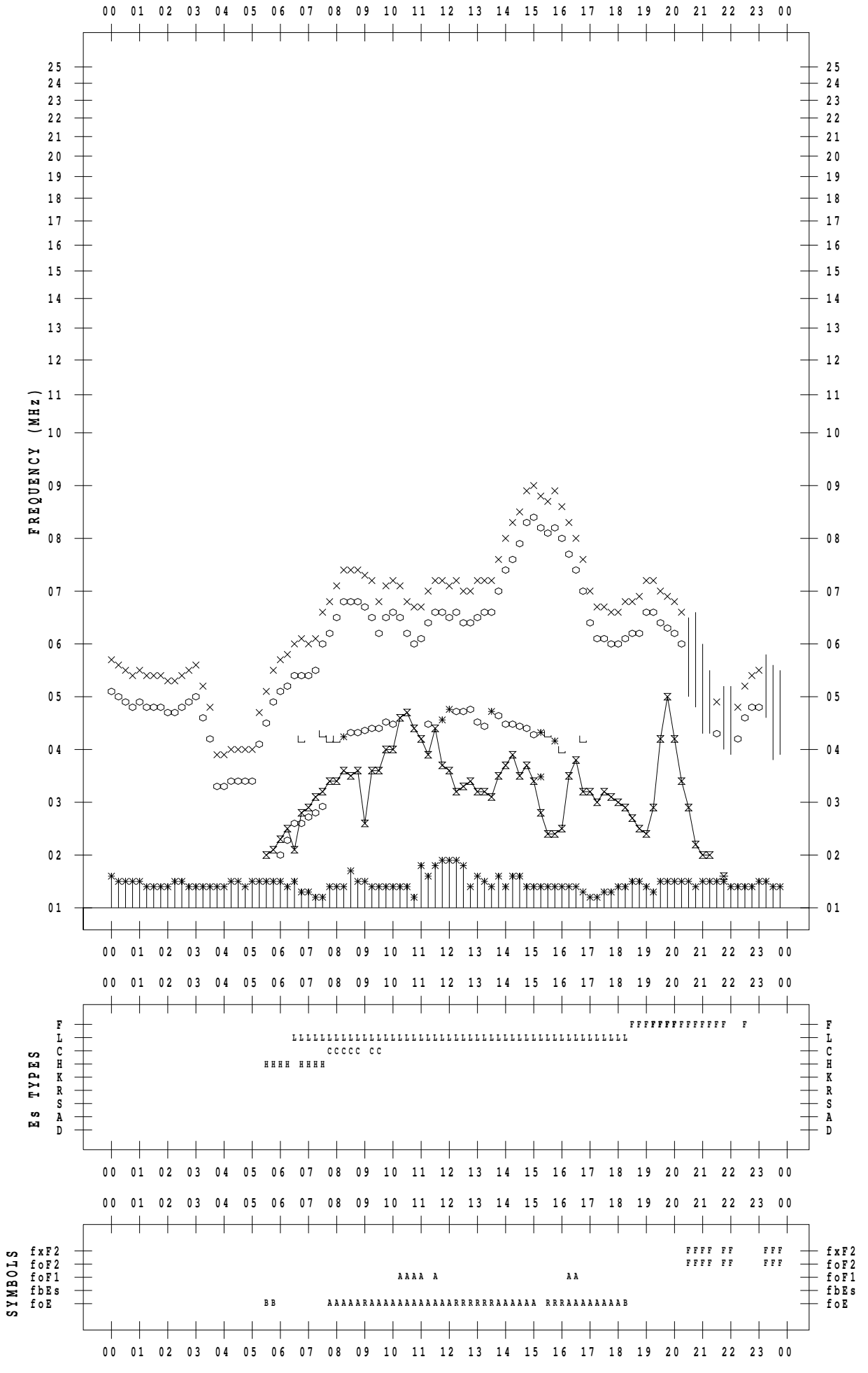
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/19

135 °E MEAN TIME



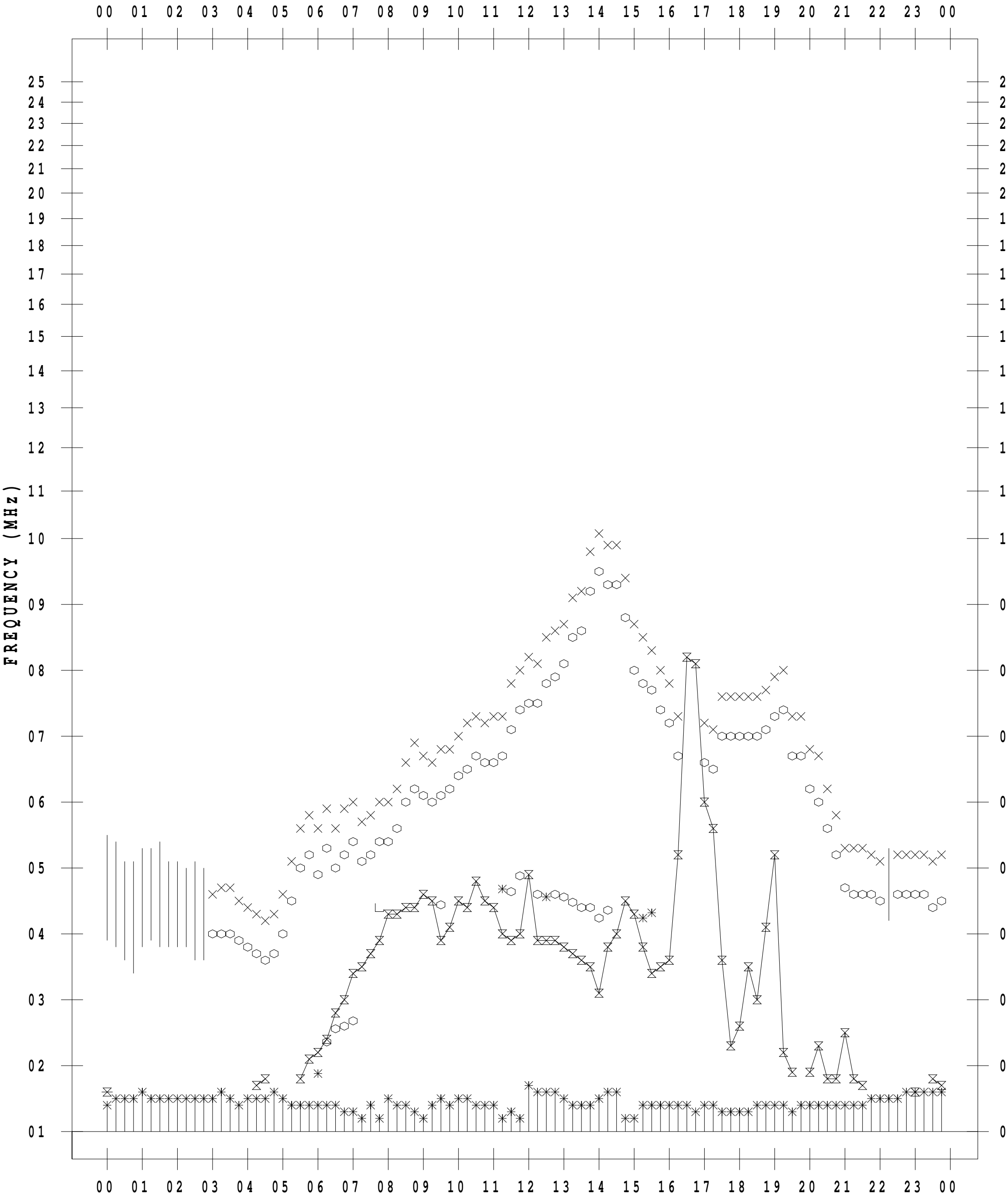
f-PLOT DATA

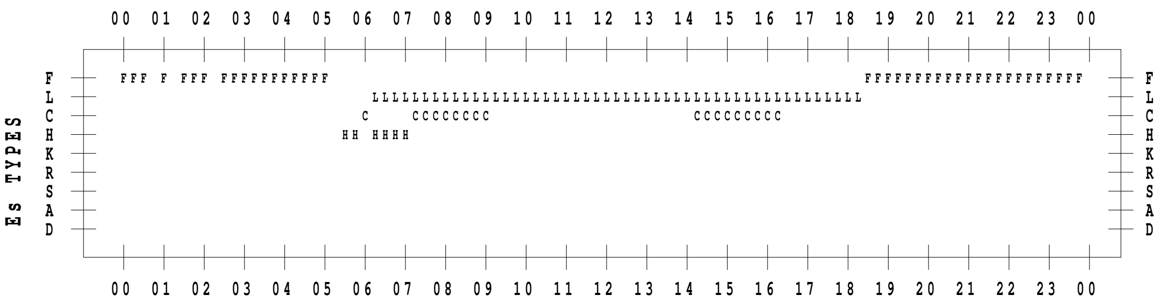
SCALER : I.NISHIMUTA

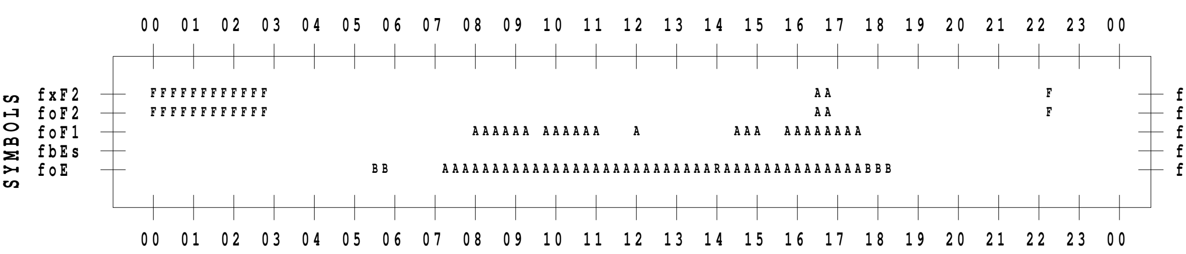
STATION : Kokubunji

DATE : 2010/ 4/20

135 °E MEAN TIME







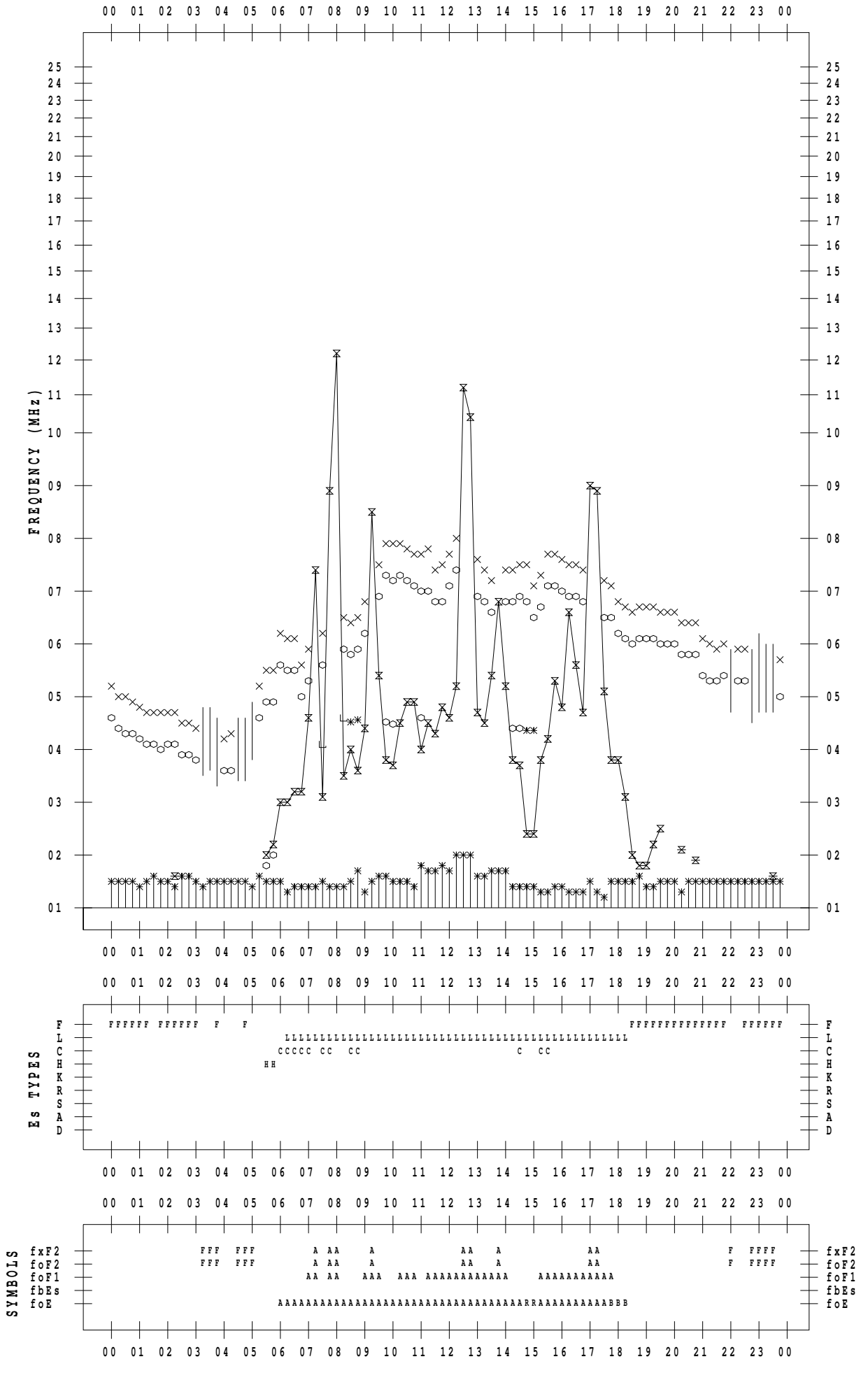
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/21

135 °E MEAN TIME



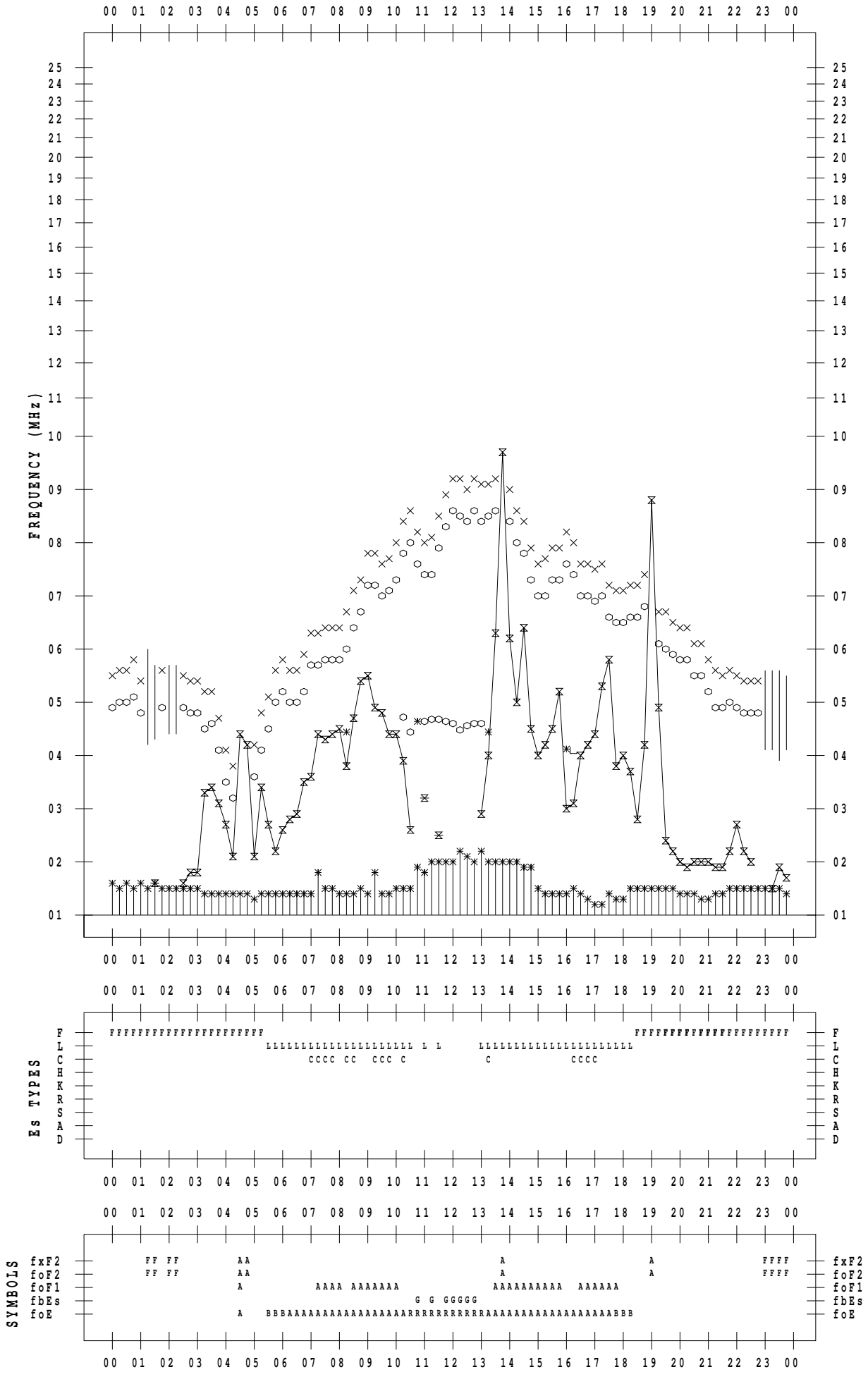
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/22

135 °E MEAN TIME



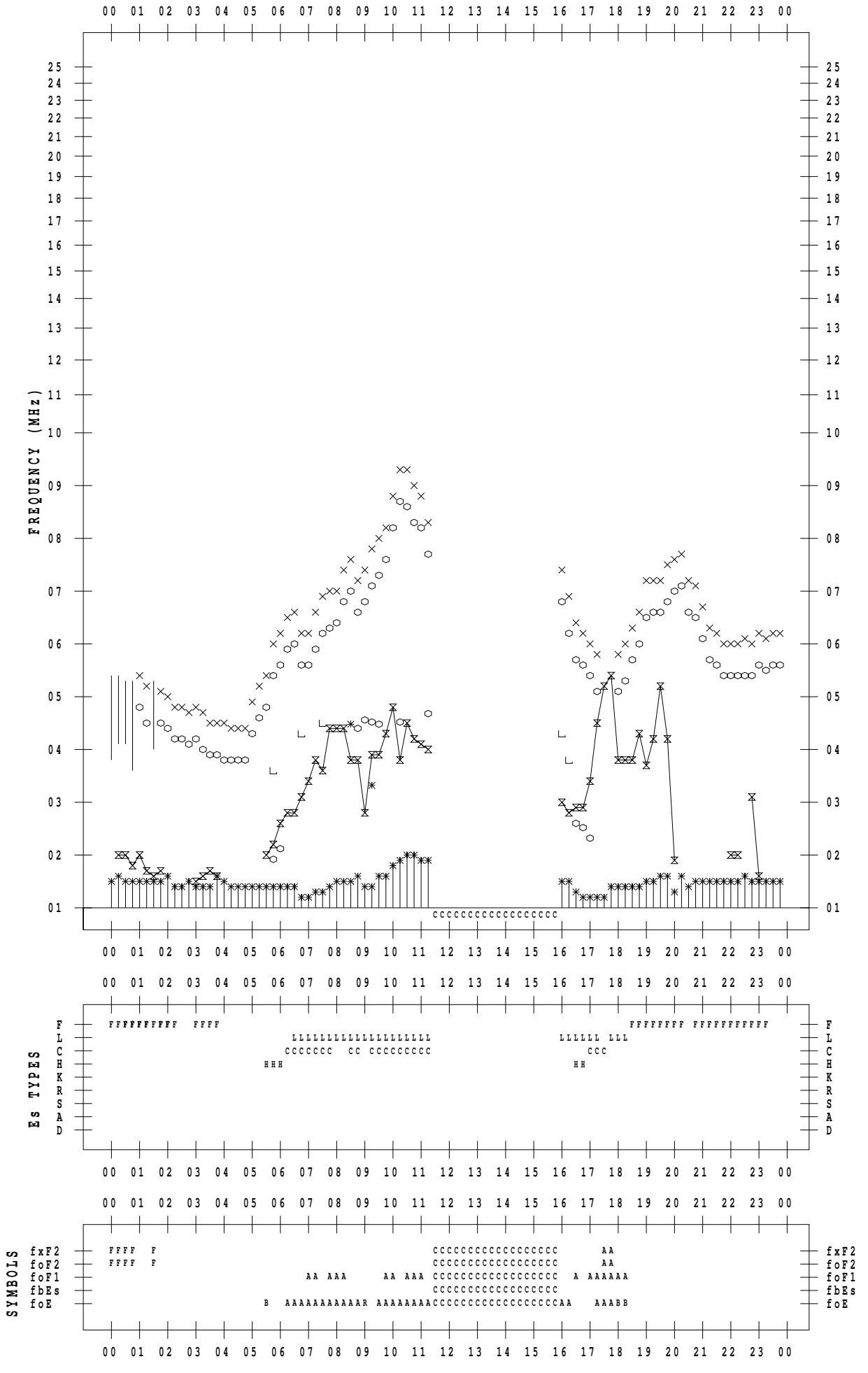
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/23

135 °E MEAN TIME



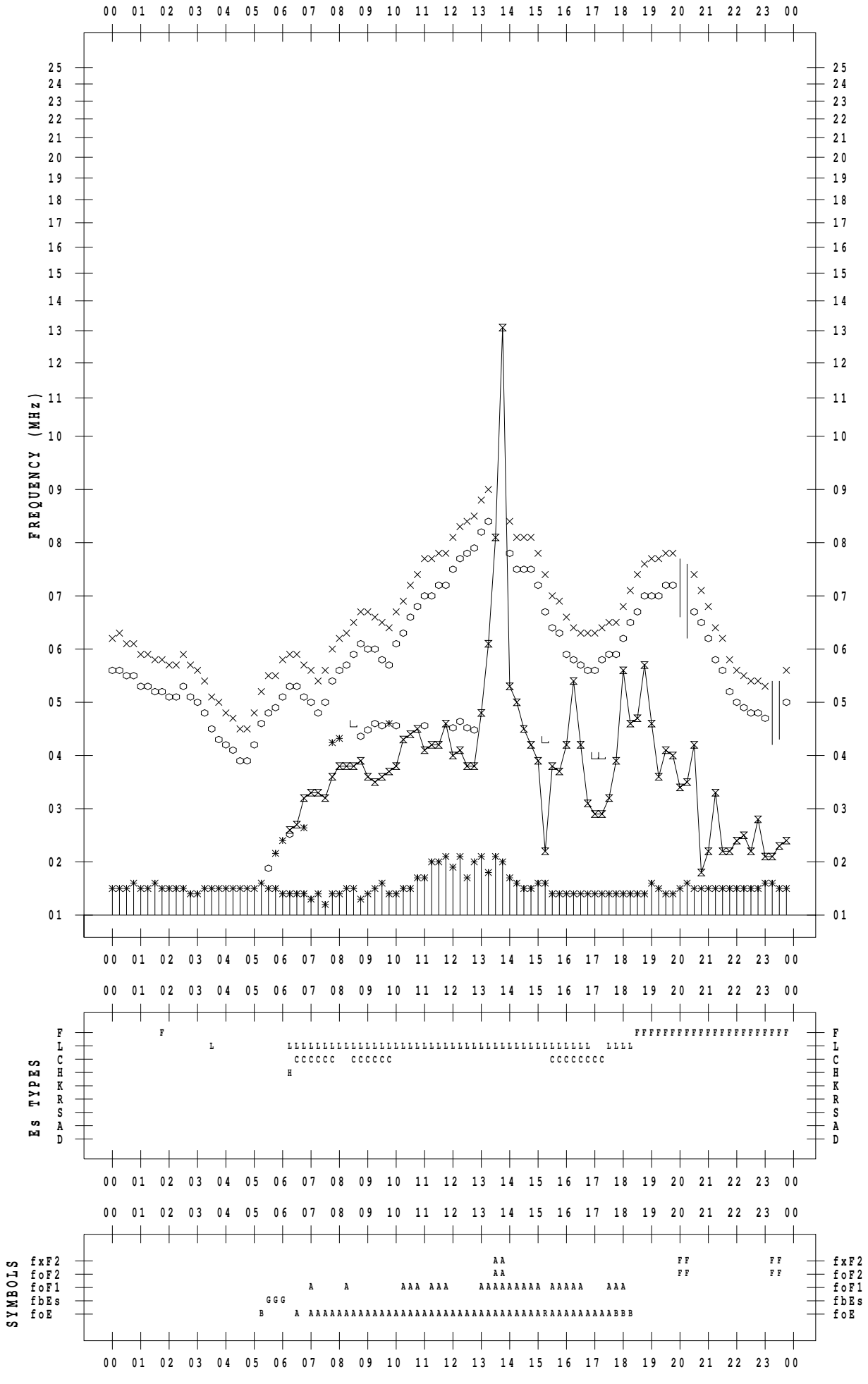
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/24

135 °E MEAN TIME



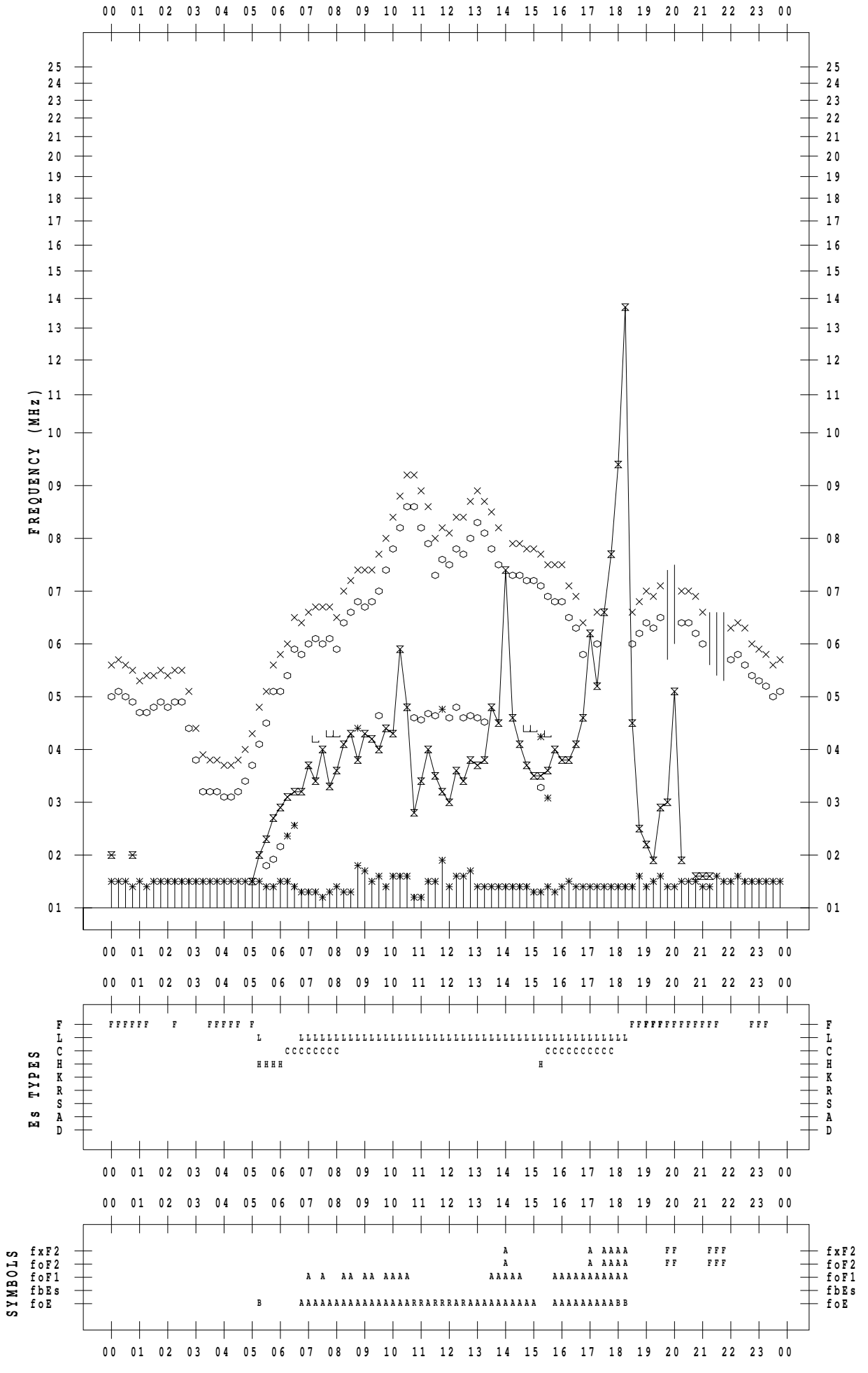
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/25

135 °E MEAN TIME



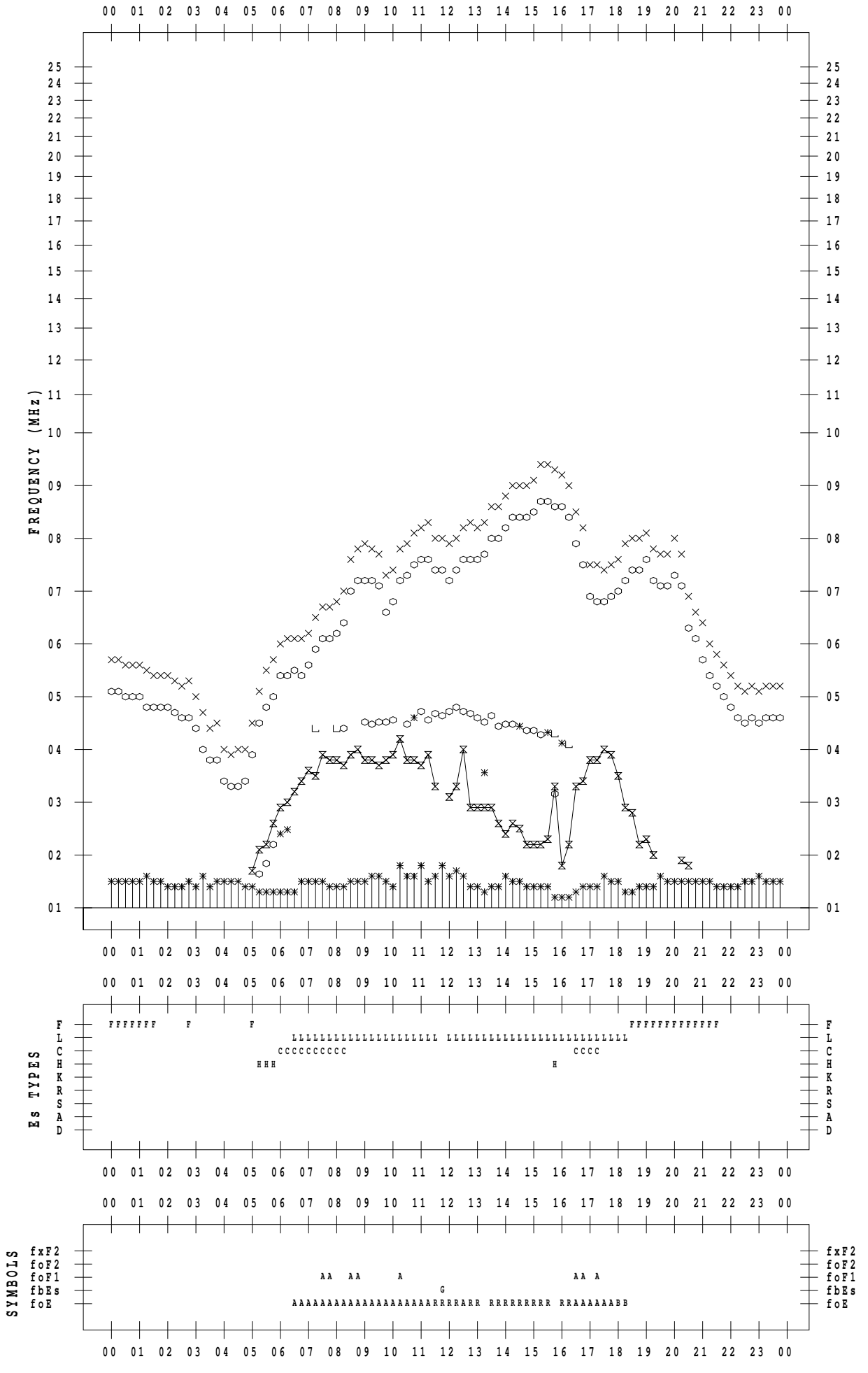
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/26

135 °E MEAN TIME



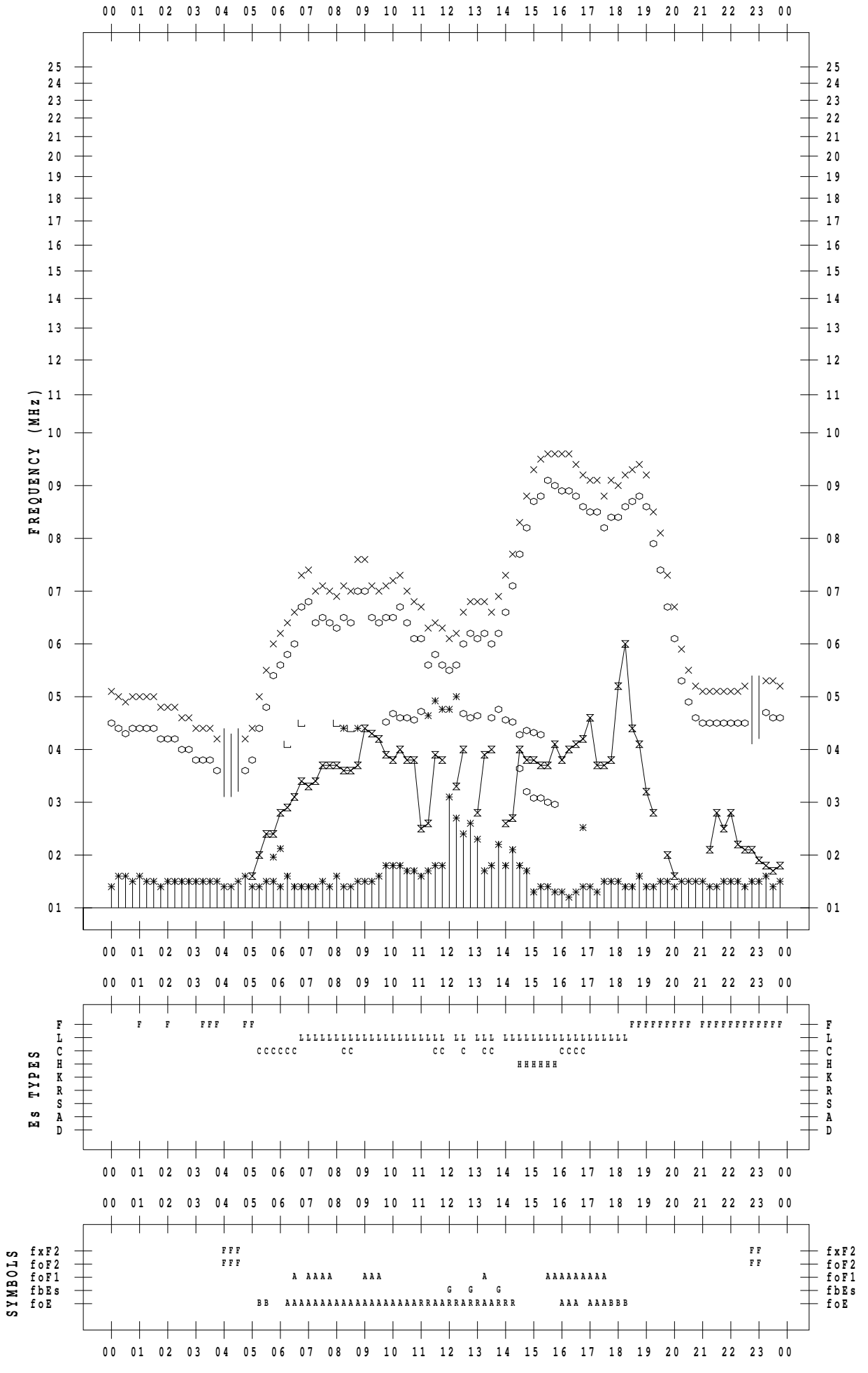
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/27

135 °E MEAN TIME



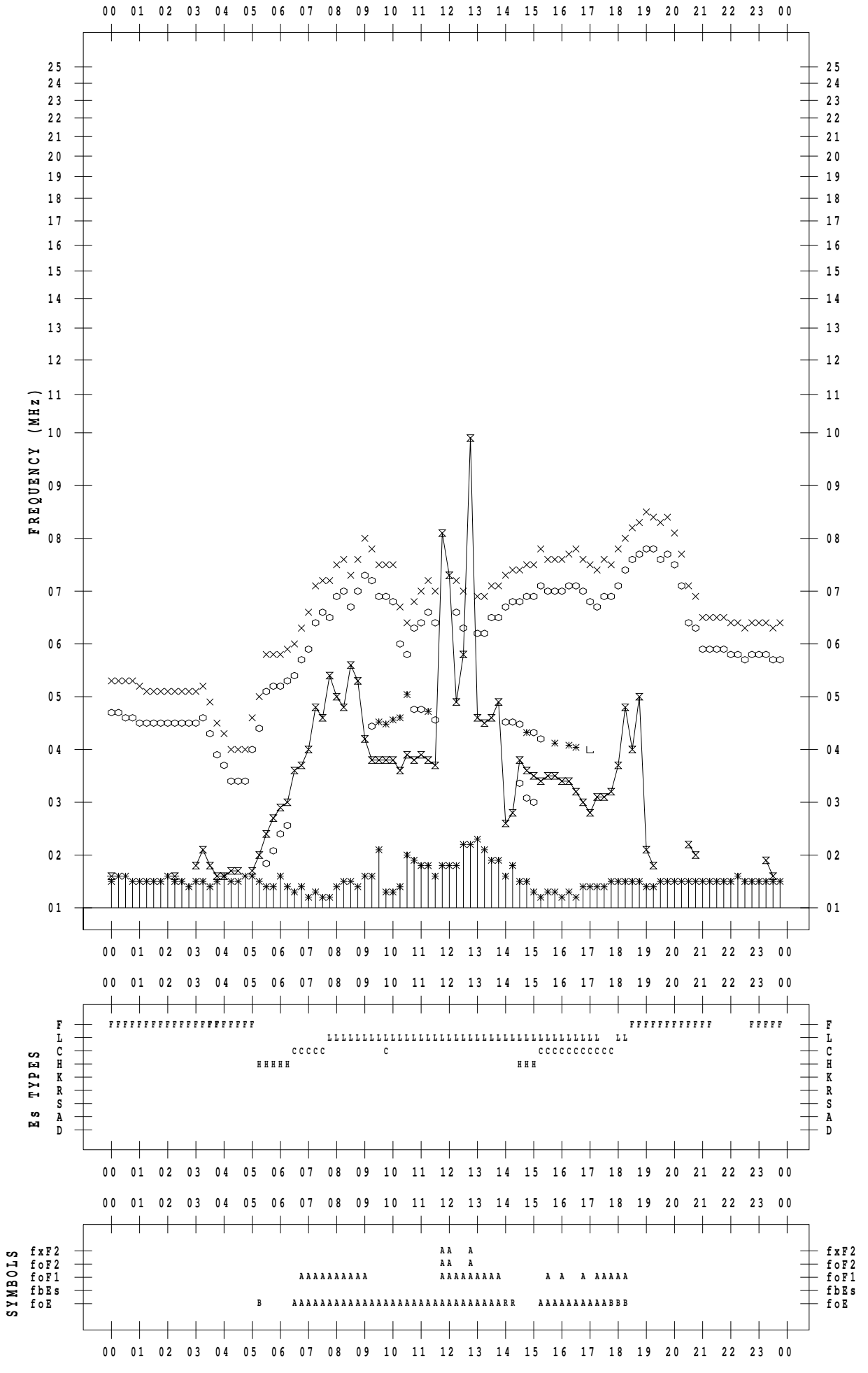
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/28

135 °E MEAN TIME



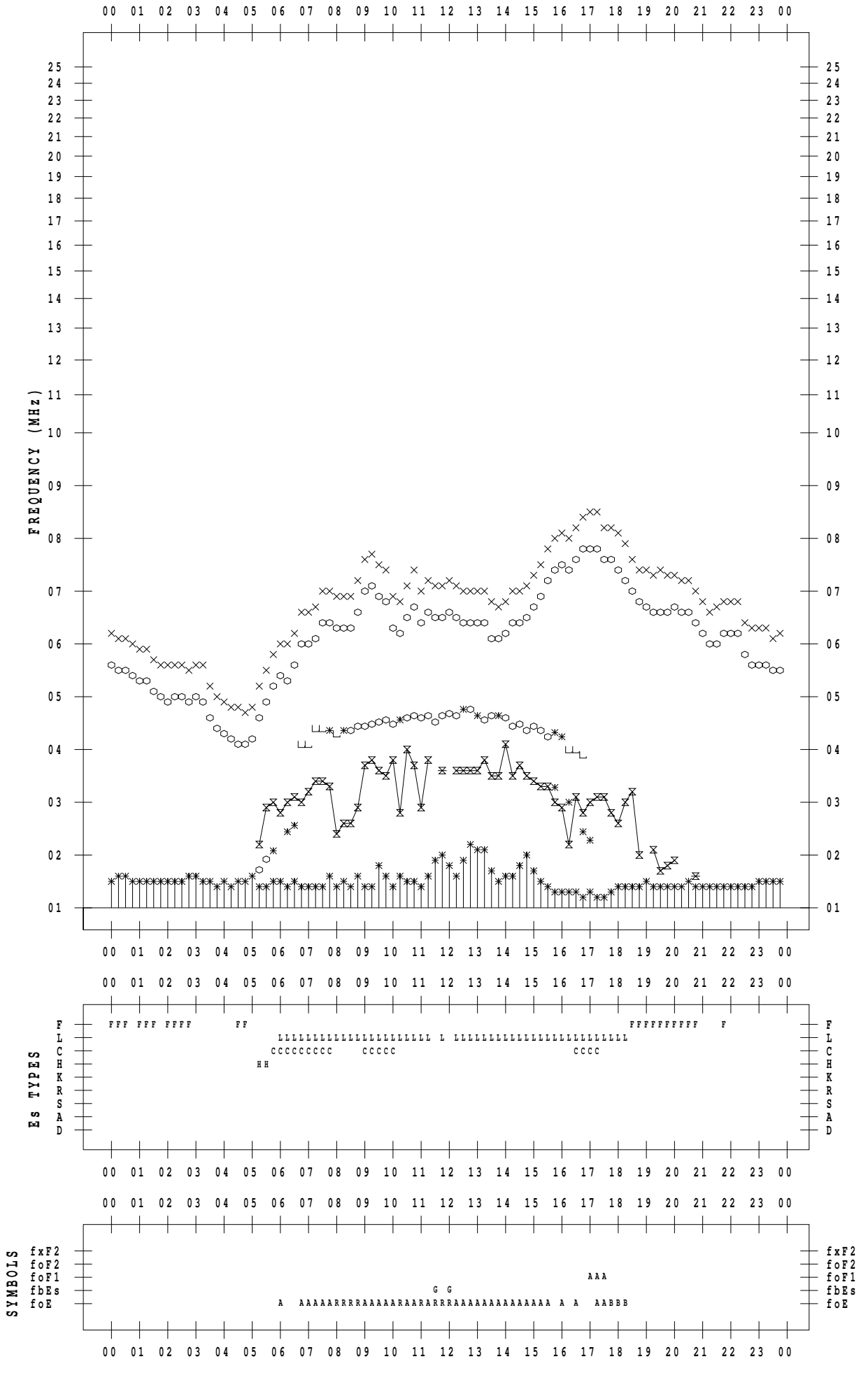
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 4/29

135 °E MEAN TIME

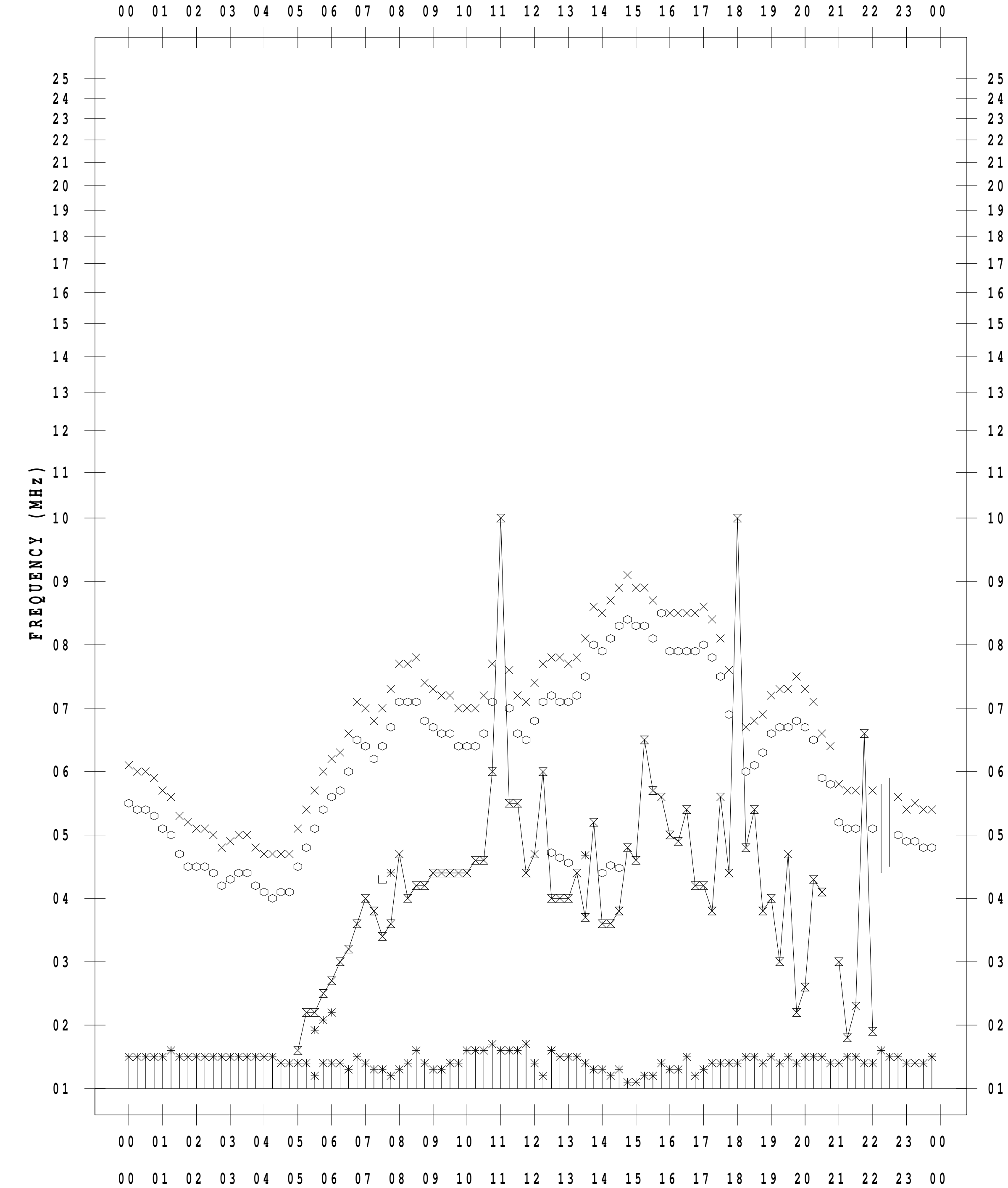


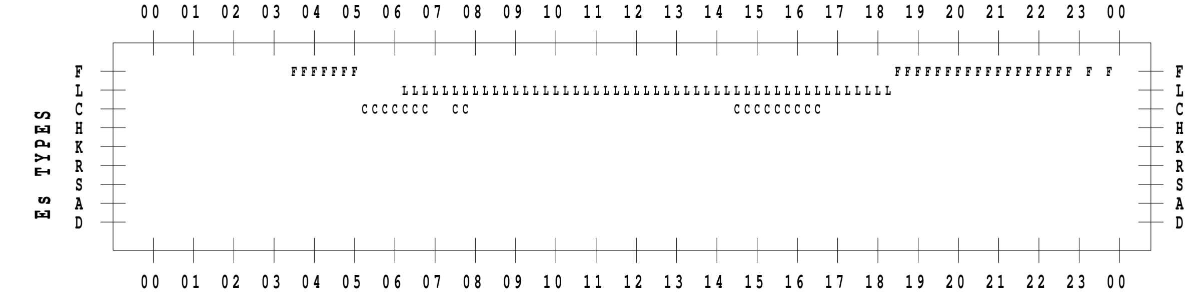
f-PLOT DATA

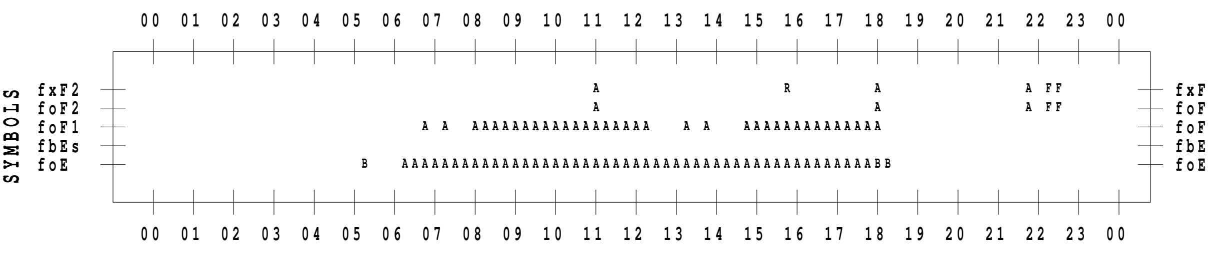
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2010/ 4/30

135 °E MEAN TIME







B. Solar Radio Emission

B1.Outstanding Occurrences at Hiraiso

Hiraiso April 2010

Single-frequency observations

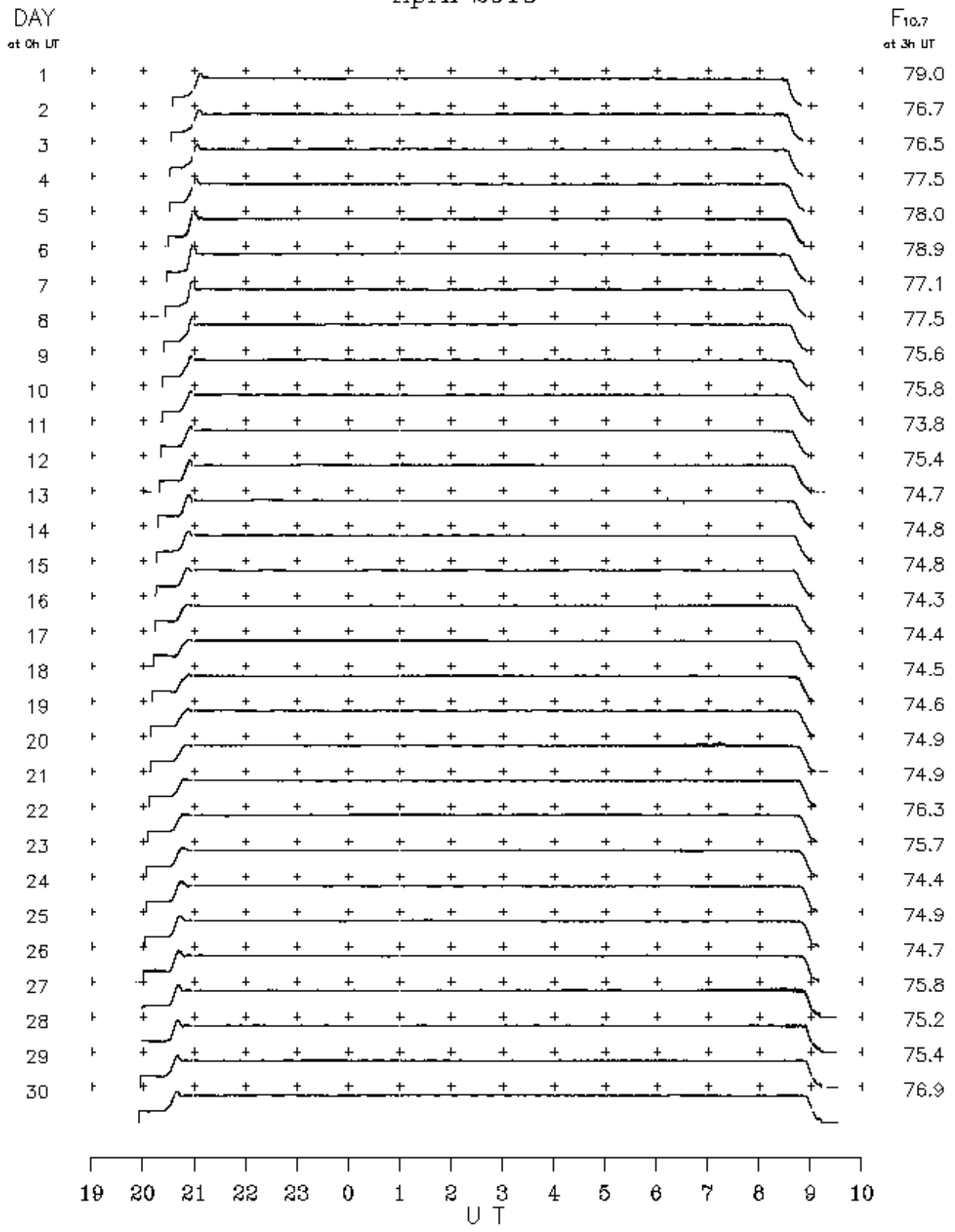
Normal observing period: 2000 - 0915 U.T. (sunrise to sunset)

APR. 2010	FREQ. (MHz)	TYPE	START TIME (U.T.)	TIME OF MAXIMUM (U.T.)	DUR. (MIN.)	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) PEAK	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) MEAN	POLARIZATION REMARKS

B.Solar Radio Emission

B2. Summary Plots of $F_{10.7}$ at Hiraiso

April 2010



Note: A vertical grid space corresponds to a 100 sfu.
Elevation angle range ≧ 6°
A link to the daily plot data directory : http://sunbase.nict.go.jp/solar/denpa/hirasDB/2010/04/