F-737

IONOSPHERIC DATA IN JAPAN

FOR MAY 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

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

HOURLY VALUES OF fEs AT Wakkanai

MAY 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	G	G	G	G	G	29	36	44	48	G	G	G	40	G	G	G	G	39	28	G	G	G	G	G
2	G	G	G	G	G	G	31	G	G	50	G	G	G	G	40	G	G	G	27	G	G	G	G	G
3	G	G	G	G	24	28	40	53	38	52	72	81	59	G	G	G	35	G	33	G	27	G	G	26
4	G	29	G	24	32	36	47	45	53	G	50	59	49	54	66	52	41	G	46	36	29	35	G	G
5	G	G	G	G	G	G	33	43	G	G	40	G		G	G	G	40	51	50	G	G	26	25	26
6	25	G	G	G	G	G	G	45	54	61	51	57	49	51	70	40	40	40	34	60	48	48	40	70
7	25	28	26	G	G	G	37	35	104	G	G	G	G	50	G	G	G	38	36	38	26	39	60	53
8	33	39	G	G	G	40	44	63	59	74	55	63	52	G	G	G	38	39	38	36	38	69	73	52
9	73	32	25	27	28	31	56	51	52	50	60	66	51	G	40	52	57	41	38	51	26	36	34	70
10	70	69	53	40	50	56		48	G	G	G	G	G	40	50	40	40	36	38	29	25	28	G	G
11	G	G	G	G	G	30	36	40	G	40	G	40	G		G	38	43	44	34	30	33	G	33	27
12	28	25	G	G	G	29	33		G	G	G	G	G	N	G	G	G	G	33	28	23	G	G	G
13	G	G	G	G	G	36	40	49	62	G	G	G	G	G	G	G	35	41	40	36	46	30	G	32
14	G	G	25	G	26	G	36	42	48	G	G	G	G	G	G	G	38	G	35	27	G	G	G	29
15	G	24	G	G	G		38	40	50	39	48	G	G	G	G	G	G	41	36	34	29	24	G	G
16	24	G	G	G	G	32	42	54	38	68	66	63	54	44	43	40	40	42	40	36	35	28	G	G
17	G	G	G	G	G	29	40	51	50	61	50	70	54	57	57	86	69	G	39	43	41	27	25	33
18	G	33	26	G	G	32	33	48	66	G	64	G	G	G	58	53	60	46	64	37	35	70	50	39
19	53	54	50	54	38	70	49	86	74	75	70	143	101	96	128	103	89	52	62	36	27	36	28	25
20	25	G	G	G	G	30	40	62	70	68	52	G	G	G	G	G	60	35	43	72	71	38	56	48
21	36	33	24	25	G	37	45	52	55	58	48	64	54	43	66	G	G	54	57	51	32	G	37	27
22	50	G	27	26	27	30	38	43	40	53	56	69	52	G	G	G	48	55	60	53	59	49	69	46
23	38	30	G	G	33	42	48	58	70	97	87	79	60	64	58	60	56	58	41	56	69	72	79	58
24	50	38	G	G	G	34	38	50	64	62	72	98	77	53	58	60	58	38	34	52	54	59	41	38
25	30	27	40	34	32	33	43	53	57	66	53	42	58	42	74	51	60	70	83		40	34	68	34
26	44	50	38	35	32	45	60	55	91	76	65	98	69	76	72	59	50	61	78	78	114	72		33
27	32	28	34	36	36	40	70	103	94	86	75	67	53	G	54	57	60	49	60	58	60	45	54	40
28	G	30	29	25	36	40	40	60	50	53	G	67	56	65	66	55	48	41	50	30	43	33	28	26
29	G	G	G	G	29	44	41	52	52	54	52	41	65	67	G	G	G	G	G	G	26	G	G	G
30	29	29	G	G	26		39	40	54	65	51	G	G	43	G		G		50	40	49	26	53	26
31	25	28	25	G	31	44	69	112	96	67	63	G	68	40	61	G	39	62	86	28	38	34	28	39
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	29	30	30	31	31	31	31	30	29	31	30	31	30	31	30	31	31	30	31
MED	25	27	G	G	G	32	40	50	53	53	51	42	52	40	40	20	40	41	40	36	35	33	28	29
U Q	36	32	26	25	32	40	45	55	66	67	64	67	58	53	61	53	57	51	57	51	48	45	53	40
L Q	G	G	G	G	G	29	36	43	40	G	G	G	G	G	G	G	G	35	34	28	26	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

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

HOURLY VALUES OF foF2 AT Kokubunji

MAY 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	47	41	42	43	34	42	A	56	54	64	65	58	56	69	81	85	91	87	71	61	54	A	48	43
2	46	44	45	42	32	39	52	59	61	54	59	72	81	80	73	81	68	55	55	64	54	53	54	52
3	45	47	48	52	28	A	46	A	A	A	A		A		67	80	61	57	55	57	54	52	53	52
4	54	52		A	32	42	46	52	64	53	67	A	69	A	A	61	57	53	A	A	54	54	A	53
5	52	46	45	45	42	45		58	60	A	A	82	82		77	A	A	63	59	A	58	52	54	52
6	52	51	39		39	46	A	51	54	71	66	66		78	76	81	84	72	68	64	54	54	53	52
7	42	47	47	44	44	47	59	52	A	A	64	55		62	69	A	80	77	68	66	54	53	52	51
8	A	52	48	44		45	59	48	A	61	54	A	63	72	78	76		64	59	72	54	A	A	52
9	A	46	44	A	39	44	A	61	62		62	65	73	74	67	72	67	58	57	73	77	A	A	42
10	43	38	38	34	A	45	61	52	A	A	60		66		A	75		A	A	A	A	54	47	44
11	46	46	42	42	41	49	54	59	51	60	50	59	56	61	66	74	75	A	A		77	34	44	44
12	42	42	37	32	41	44	48	A	62	73	66		56	64	69	76	72	65	67	76	66	52	53	54
13	50	44	47	43	42	45	A	A	A	A	A	62	A	55	A	A	62	A	A	65	53	66	52	A
14	39	37	34	34	35	39	59	56	53			53		72	72	75			A	76	77	51	33	34
15	39	38	32	32	31	39		62	58	A	A	A	A	59		A	74	64	62	59	52	A	A	A
16	45	42	42	42	A	A	A	A	A	A	A	65	A	A		58	A		A	58	66	54	42	36
17	32	A	30	30		39	51	51	A	A	A	A	A	A	66	A	A	55	59	55	A	A	52	46
18		44	42		A	A	52	62	59	A		A		A	A	75	78	63	65		75	74	A	A
19	A	41	42	42	39	39	56	67	A	A	A	A	A	A	A		74	74	67	65	67	73	63	
20	39	39	36	32	32	38	A	A	A	A	A	A	A	A	58	A		A		71	67	53		42
21		A	A				A	A	A	A	A	A		A	A	A	96	A		A	A	A		A
22	A	A	A		A	38	59	A	A	A	A	65	59	64	A	A	A	A	73	82	77			A
23	A	A	A	34	35	A	56	A	A	A	A	A	A	A	A	A	A	68	58	52	A	A	A	A
24	A	39	37		37	43	59	59	A		A	A		A	A	A	66	55	51	58	66	52	49	A
25	A	A	A		A	44	51	A	A	A	A	A	A			68	76	A	74	67	41		A	A
26	A		A	A	A		54	48	51	A	57	51	46	A	A	80	A	A	108	A	A	A	A	A
27	A	42	39	39	34	41	A	67	A	A	A	A	A	A				A	A	A	66	65	A	A
28		42		A	35	44	A	A	A	A	A	A	A	A	A	59	59		A	A	76	A	A	52
29	52	44	44	44	41	A	A	A	A	A	A		A	A	A	84	86	82	77	74	74	64	76	77
30	77	76	21	53	43	46		48	A	A	A	A	A	A	A	A	A	A		A	54	A	52	46
31	A	A	A	A	A	42	A	54	A	A	A	A			A	A	46	A		66	A			A
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	18	24	23	20	21	24	17	20	12	7	11	12	11	12	13	17	19	17	19	21	25	18	17	19
MED	46	44	42	42	37	44	54	56	58	61	62	64	63	66	69	75	74	64	65	65	66	54	52	51
U Q	52	46	45	44	41	45	59	60	61	71	66	65	73	73	76	80	80	73	71	72	74	64	53	52
L Q	42	41	37	34	33	39	51	51	53	54	57	56	56	61	66	70	62	56	58	58	54	52	47	43

HOURLY VALUES OF fEs AT Kokubunji

MAY 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	G	G	G	G	G	G	65	43	51	G	G	G	42	41	G	47	G	34	32	27	35	38	G	G
2	G	G	G	G	26	G	G	40	45	53	53	49	46	52	48	48	42	52	40	48	27	28	25	G
3	G	G	G	G	G	43	59	114	116	86	138		74	52	43	G	G	41	29	26	29	G	28	36
4	35	23	34	37	22	26	36	52	53	53	57	82	65	82	83	39	46	45	70	140	59	46	58	G
5	40	25	G	G	G	29	47	50	67	120		68	G	68	54	72	107	91	47	91	49	60	51	46
6	39	40	46	40	33	29	76	50		53	58	56	68	53	61	57	52	74	45	43	G	G	29	43
7	53	32	26	26	G	27	37	45	62	62	G	G		46	59	74	50	34	41	48	31	26	24	49
8	59	G		61	51	G	45	50	62	60	53	51	61	65	58	79		G	41	42	53	83	71	46
9	47	39	48	80	40	43	59	43	53	57	44	43	51	G	G	G	G	G	G	83	69	78	59	G
10	30	G	G	G	53	39	33	43	68	73	53	53	G	68	82	81	101	172	151	105	80	69	26	G
11	G	G	G	G	G	G	34	G	G	G	G	G	G	G	61	59	56	67	67	48	45	35	45	45
12	25	G	G	G	G	G	35	72	44	48	G		47	G	G	40	42	59	50	32	27	G	G	G
13	G	G	G	G	G	30	81	73	65	71	62	76	124	59	90	90	57	61	81	68	60	59	38	49
14	23	28	G	G	G	29	50	G	57		G	G	71	86	52	64	95		130	80	74	G	28	G
15	G	G	G	G	G	G		53	53		56	67	57	52	60	122	55	35	51	44	40	79	109	70
16	48	37	29	35	71	59	57	102	90	61	60	71	52	61	61	61	63	62	61	50	34	39	G	G
17	33	33	G	34	33	31	46	52	68	64	68	58	59	59	51		133	39	G	58	81	126	57	
18	50	40	29	51	52	33	40	57	54	64	53	87	128	118	70	44	62	50	70	54	81	56	84	59
19	49	32	33	32	G	G	35	68	76	87	86	122	87	64	62	62	65	33	37	33	36	47	33	49
20	32	27	28	G	23	28	45	53	70	65	60	61	60	75	59	79	104	103	78	81	60	33	57	34
21	33	49	36	32	32	31	50	72	53	112	107	68	50	75	78	100	85	148		109	102	72	50	43
22	71	58	45	35	33	40	51	84	62	72	57	G	G	47	97	102	132	149	53	28	39	40	50	58
23	81	86	53	26	31	87	46	58	78	163	131	117	120	83	96	80	102	G	48	57	81	81	59	
24	84	27	G	34	24	G	37	53	83	90	86	97	105	75	78	79	50	39	34	29	59	39	49	58
25	82	60	58	49	59	26	52	82	80	104	173	113		64	48	G	37	70	47	72	29	30	72	59
26	46	43	49	59	41	33	34	49	70	60	G	G	G	53	95	59	87	139	151	126	93	104	58	
27	54	39	32	33	G	G	64	54	108	150	117	131	92	178	79	124		114	87	82	60	39	50	52
28	57	39	50	59	34	33	56	64	75	84	76	117	97	86	114	56	52	51	58	60	64	79	60	56
29	47	G	G	26	33	38	64	81	85	137	70	46	77	99	76	87	52	G	G	51	47	45	39	23
30	G	26	G	G	G	36	39	42	48	57	63	84	62	93	112	50	52	65	83	87	53	59	49	46
31	72	59	49	50	43	51	70	44	114	154	88	53			46	47	40	50	54	29	84	60	59	58
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	31	30	31	30	29	30	29	28	30	31	30	29	30	30	31	31	31	31	28
MED	40	28	27	32	26	29	46	53	66	65	59	61	60	64	61	62	55	52	50	54	53	46	50	46
U Q	54	40	45	40	40	38	59	72	78	97	86	85	82	82	82	80	91	74	70	82	74	72	59	54
L Q	23	G	G	G	G	G	37	44	53	57	53	44	46	52	51	47	44	35	40	42	35	33	28	G

HOURLY VALUES OF fmin AT Kokubunji

MAY 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	14	13	14	13	14	13	14	35	45	45	44	50	34	31	31	13	13	13	13	13	14	21	17
2	15	15	13	13	13	15	13	13	17	33	34	37	35	37	34	15	13	14	13	13	14	13	14	14
3	21	14	13	15	13	13	13	13	15	33	36		40	39	35	43	15	14	14	13	14	14	14	13
4	14	13	14	13	14	15	13	14	30	30	37	33	33	29	21	17	17	22	14	13	13	14	13	13
5	13	13	13	13	13	13	20	26	30	36	34	34	51	39	31	30	15	20	14	20	13	13	13	14
6	13	14	14	13	13	14	13	17	31	33	36	33	36	34	29	25	20	22	14	13	14	14	14	13
7	13	13	13	13	13	14	13	20	17	33	46	45		31	30	20	15	13	14	14	13	14	14	13
8	13	13	13	14	13	17	21	18	21	33	34	33	34	29	40	26		13	14	13	13	14	14	14
9	13	13	13	13	13	13	14	17	33	34	37	36	34	47	52	21	13	34	20	14	14	14	14	14
10	14	13	15	15	13	13	13	13	18	34	34	38	49	36	29	18	21	13	13	14	14	13	13	14
11	15	14	13	14	14	22	13	14	13	17	52	46	47	47	37	34	15	13	14	14	13	13	14	13
12	13	14	13	13	13	17	13	13	15	33	45		30	25	46	43	28	13	13	13	14	14	13	14
13	14	14	20	14	14	13	13	13	29	33	34	31	35	34	22	18	14	15	13	13	13	13	13	13
14	14	13	13	13	13	13	14	14	30		43	44	31	31	29	33	29	15	13	13	14	13	14	14
15	14	14	17	15	17	14		28	29	20	36	35	35	31	30	14	18	14	14	13	13	13	13	13
16	13	13	14	14	13	13	15	14	29	35	39	34	33	28	28	21	15	13	13	13	14	13	13	13
17	13	13	13	13	13	14	13	13	18	31	34	33	34	34	33	26	17	13	14	14	13	14	13	13
18	13	13	13	13	14	13	14	13	14	33	33	34	34	33	20	31	24	13	13	15	15	13	14	14
19	13	13	14	13	13	15	18	14	18	31	35	33	30	30	30	23	14	13	13	13	14	14	13	13
20	13	13	13	13	13	13	13	13	17	13	33	31	29	31	34	33	14	13	13	21	15	13	13	13
21	13	13	13	13	13	13	15	14	17	33	33	31	31	34	29	31	29	13	13	13	14	13	13	13
22	14	13	13	13	13	13	13	14	18	31	33	44	44	31	33	33	17	13	13	14	13	13	13	13
23	13	13	13	14	13	13	13	23	21	23	31	31	31	31	28	40	14	17	17	14	13	13	13	13
24	13	13	14	13	13	13	13	13	31	20	33	33	33	34	31	28	15	13	13	13	14	13	13	13
25	13	13	13	13	13	15	14	13	23	29	26	36	29	34	38	44	26	13	13	13	13	13	13	13
26	13	13	13	13	13	13	14	14	17	20	44	45	43	33	29	24	17	13	13	14	13	14	13	13
27	13	13	13	14	14	14	13	14	29	35	37	37	39	34	31	36		14	14	14	13	13	13	13
28	13	13	14	13	13	13	13	14	31	31	38	37	33	33	39	34	14	14	13	13	14	13	13	14
29	13	13	14	13	13	13	13	13	22	34	36	39	36	34	37	21	31	40	15	14	14	13	14	14
30	13	14	15	13	13	13	13	14	34	34	36	35	33	42	34	31	18	14	13	13	14	13	13	13
31	13	13	13	13	13	13	14	15	14	33	34	34			34	31	23	14	13	13	14	13	13	13
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	30	31	31	30	31	29	29	30	31	31	29	31	31	31	31	31	31	31
MED	13	13	13	13	13	13	13	14	21	33	36	35	34	34	31	30	17	13	13	13	14	13	13	13
U Q	14	14	14	14	13	14	14	15	30	34	38	38	39	34	35	33	22	15	14	14	14	14	14	14
L Q	13	13	13	13	13	13	13	13	17	30	34	33	32	31	29	21	14	13	13	13	13	13	13	13

HOURLY VALUES OF foF2 AT Yamagawa

MAY 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	40	40	34	42	40	36	47	39	62	61	68	72	67	77	97		114	88	81	66	54	52	51	52
2	50	53	47	42	37	34	48		58	62		67	87	107	100	91	78	72	58	67	54	52	52	62
3	52	53	53	54	59	28	45	60	70	68	58	82	90	80	91	95	87	64	72	72	A	58	53	52
4	54	53	51			32	43	54	A		A	A	A	74	75		65	66	A	A	76	67	47	
5	52	52	48	47	45	38	50	54		57		77		74	77	90	86	A	A	71	54	52	54	
6	52	52	52	51	42	42	47	52	63	A		65	78	87	85	81	85	74		74	74	66	50	50
7	52	47	45	44		45	61	67	68	66	72	71	72	83	83	95	90	80	80	81	71	52	51	50
8	50	47	44	42	37	37	46	60		62	A		69	81	82	88	90	81	71	71		A	51	A
9		47	45	42	34	37	52	62	A	57	63	72	78	77	A	78	80			78	84		A	A
10	A	A	A	40	35	34		60	58		60	58	65	68	67	77	85	88	91	89	72	54	54	
11	A	44	45	44	41	42	51	60	59	58	58	59	58	A	A	81	86	69	49		78	54	42	A
12	A	39	37	34		34	47	62	66	66	A	A	61	72	90	96	84	A	78	74	71	54	54	48
13	52	46	46	41	29		30	54	61		A	A	A	A	82	83	78	67	67	54	67	A	A	
14	37	37	31	32	30	29	51	A	A	A	A	57	71	78	84	A	A	89	A	A	A	A	A	A
15	34	A	A	28	28	32	51	68	A	A	56	A	A	A	A	A	91		66	43	50	A	A	A
16	A	A	A			32	A	A	52	61	A	58	64	67	72	77	67	57	A	A	77	52	34	32
17	34	37	36		32	30	46	A	A	A	A	A	A	72	A	A	81	72	74	A	A	66	71	A
18	A	42	44	A	A	A	39	A	A	A	A	A	A	A	63	68		74	A	76	78	A	A	A
19	45	A	A	A			55	66	A	A	A	A	68	A	A	87	95	A	60		64	66	A	A
20	47	34	34	32			A	A	A	A	A	A	A	A	58	A	A	A	54	A	86	54	A	A
21	A	A	A	28		A	45	A	A	A	A	A	A	A	A	A	66	A	A	A	A	A	A	A
22	A	A	A	A		A	44	55	60	A	A	A	A	A	A	A	75	78	81	66	72	54	44	
23	A	A		28	34	38	40	48	A	A	A	A	A	A	A	A	81	66	58	A	A	A	A	A
24	A	A		A	29	38	51	53	A	A	A	A	A	65	70	73	74	67	63	63		53	50	A
25	A	41	A	32	A	30	47	A	A	A	A		60		72	80		89	A	71	A	A	A	44
26	41				34	32	44	49	A	A	A	A	A	61		80	91	A	68	74	81	66	50	A
27	52	52	47	42	36	40	50	A	A	A	A	A	A	62	67	71	78	80	A	76	81	66	53	A
28	50		41	42	34	30	A	A	64	67	A	A	A	A	57	68	67	68	70	75		A	A	A
29	22	A	42	A	A	A	45	A	A			A	A	A	A	A	87	86	80		77	75	85	84
30	78		66	66	52	49	A	A	A	A	A	A	A	A	A	A	50	A	A	A	A	52	A	A
31	A	A	A	A	30	A	50	A	A	A	A	A	A	A	59	57	60	68	A	67	A	A	A	A
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	19	18	20	21	20	23	26	18	12	11	7	11	14	17	20	20	27	22	19	20	20	20	18	9
MED	50	46	45	42	34	34	47	58	62	62	60	67	68	74	76	80	81	73	70	72	73	54	51	50
U Q	52	52	47	44	40	38	51	62	65	66	68	72	78	80	84	89	87	81	80	75	78	66	54	57
L Q	40	40	39	32	31	32	45	53	58	58	58	58	64	67	67	75	74	67	60	66	65	52	50	46

HOURLY VALUES OF fEs AT Yamagawa

MAY 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	29	37	G	G	G	G	G	37	43	43	G	G	41	G	G		44	G	G	G	34	33	47	28
2	G	G	G	G	G	G	29	36	G	49	74	42	49	G		G	47	36	39	40	25	28	27	G
3	G	G	G	G	G	G	36	69	42	66	57	48	54	54	43	46	G	34	G	28	60	48	46	58
4	59	50	77	60	28	28	36	49	74	64	76	81	73	60	71	73	57	73	92	93	55	27	34	50
5	43	G	27	24	G	G	31	40	70	48	74	78	87	65	G	39	G	94	90	59	48	36	36	39
6	44	41	45	33	36	25	30	54	50	95	72	58	57	G	50	55	44	68	65	92	44	35	40	37
7	34	29	G	G	36	G	31	50	70	61	61	48	63	80	78	74	58	48	56	37	48	47	27	30
8	G	27	G	37	G	G	31	42	62	58	59	63	62	91	79	55	60	51	49	39	51	70	50	40
9	56	40	36	34	33	28	46	46	72	58	52	53	73	64	91	63	61	102	94	61		134	87	93
10	106	72	59	52	32	28	53	35	G	62	46	G	48	G	53	52	118	66	70	62	45	55	49	59
11	59	24	33	G	G	44	34	36	48	50	49	54	44	66	69	78	78	58	53	78		34	30	59
12	56	46	33	G	49	26	39	50	69	57	63	67	72	60	53	61	60	94	54	54	73	40	G	36
13	G	G	G	32	31	24	36	43	53	68	70	84	116	75	G	G	G	42	52	57	71	79	60	
14	31	25	28	G	G	G	39	68	78	79	67	G	G	G	58	118	101	76	81	116	85	82	90	57
15	G	54	51	27	G	G	36	56	83	133	54	103	114		140	94	55		61	84	55	60	59	59
16	53	56	58	38	30	28	53	56	51	77	64	56	57	56	61	76	61	54	138	112	82	40	46	31
17	G	G	G		G	G	39	68	56	61	58	84	74	70	118	106	73	49	116	91	89	57	58	90
18	92	72	49	58	60	51	43	69	84	54	91	60	79	85	61	67	117	78	108	39	73	93	93	80
19	59	57	67	53	36		30	57	88	84	71	64	74	91	73	63	65	90	62		44	90	65	59
20	48	39	46	G	34	59	47	90	87	85	104	70	92	76	48	84	77	82	66	74	70	72	72	50
21	81	34	48	31	35	34	33	60	116	64	124	88	78	80	81	101	86	68	106	84	134	84	82	51
22	58	73	47	49	37	40	34	50	60	99	108	96	156	86	107	72	G	50	36	60	59	54	58	50
23	46	53	34	27	G	28	G	40	69	152		147	114	104	91	83	53	34	59	95	87	84	73	52
24	59	81	48	54	32	G	40	58	64	94	114	150	115	86	47	52	61	43	54	41	32	28	46	50
25	58	49	50	34	43	33	44	73	81	96			52	54	56	54	58	80	107	85	73	73	49	27
26	27	46	40	39	50	49	40	48	60	92	64	70	57	54	49	74	76	142	77	49	84	60	48	59
27	58	53	45	28	33	G	44	94	94	83	92	79	90	54	49	50	93	66	149	51	70	38	41	51
28	37	49	58	41	28	30	52	51	63	71	105	116	74	62	46	62	72	51	43	48	79	78	82	82
29	114	58	44	60	37	54	59	90	94		125	169		85	119	90	49	37	35	77	79	60	50	52
30	24	24	G	G	40	30	93	63	84	71	49	84	61	96	43	44	47	74	125	86	129	80	112	82
31	73	50	50	49	34	51	47	60		80	61	82	78	104	53	52	49	G	62	29	91	93		57
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	30	31	30	31	31	30	30	29	30	30	30	30	30	31	30	31	30	29	31	30	30
MED	48	46	44	32	32	28	39	54	69	70	67	70	73	66	57	63	60	62	62	60	70	60	50	52
U Q	59	54	50	49	36	34	46	68	83	85	91	84	87	85	79	78	76	78	94	85	83	80	72	59
L Q	27	25	G	G	G	G	31	43	53	58	57	54	57	54	48	52	47	43	52	41	48	38	41	39

HOURLY VALUES OF fmin AT Yamagawa

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

HOURLY VALUES OF foF2 AT Okinawa

MAY 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	36		42	39			40	58	62	64	72	82	87	97	118	128	139	128	111	87	80	67	53	52
2	64	52	51		31		46	61	56	64	74	80	98	124	128	130	124	108	84	78	70	59	66	54
3	53	52		47	34		38	65	65	67	67	86	103	100	98	108	108	75	84	88	80		A	65
4	A	67	A	A	A		A	A	58	A	A	A	A	A	A	76	76	71	72	A	A	A		
5	A	A	46	45	44	32		55	61	66	74	74	85	96	104	114	109	101	92	87	86	76	74	A
6	52	48	51	42			50	61	57	A	A	A	A	102	108	102	98	84	A	85	75	A	52	A
7	42		41	31	30	38	51	60	A	A	74	80	86	101	107	111	111	107	111		86		48	45
8	50	46	34	40	31		46	63	56	61	A	A	77	90	103	107	107	102	85	78	A	72	40	A
9	A		42	A	A		45	62	A	A	68	80	85	90	A	103	A	105	108	A	A	A	A	A
10	A	A		A	45		46	62	54	57	61	65	76	77	78	84	94	104	117	102	80	62		54
11	A	42	44	43	41	32	46	62	68	A	A	49	A	169	76	90	96	84	77	91	81	A	30	32
12	A	A				29	A	63	69	58	61	A	74	A	107	118	109	101	A		A	A	A	
13	46	44	42	34			46	60	A	A	A	A	78	85	90	102	95	86	A	A	80	A	A	A
14			23	29	29		45	48	63	A	A	67	89	104	108	A	A	A	111	107	A	A	A	A
15	A	A	28				41	58	55	52	A	A	A	A	126	138	A	112	92	76	A	54	A	A
16	A	A	34	35	44		51	A	69	61	A	A	72	77	77	A	82	76	76	77	76	A	A	A
17	A	32	32	34	29		45	53	A	A	A		76	87	100	107	102	100	104	104	83	80		A
18	52	45	45	42	38		54	59	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
19	A	44	45	44	A		54	52	A	A	A	A	A	A	98	A	116	111	87	76	66	62	A	
20	A	A		A	24	31		58	A	A	A		A	A	76	77	A	A	A	A	88	A	A	A
21	A	A	29	A	A		43	50	A	A	A	A	A	A	A	76	78	66	A	A	67	A	A	A
22	A	A	A	A	A	A	A	A	A	A	A		69	A	78	84	90	90	80	73	68	50		44
23		A	39				42	58	A	A	A	A	A	A	90	98	A	64	A	A	A		42	A
24	A	A	A		A	A	43	A	A	A	A	A	A	A	A	A	A	87	76	60	A	44		43
25		A	A		A	28	45	A	A	A				A	84	97	95	A	A	A	A	A	A	A
26	A	A	A	A	31		A	60	49	A	A	A	A	A	A	A	102	88	92	90	87	54	53	53
27	53	42	44	42	44	42	60	57	55	A	A	A	A	74	80	87	98	101	97	88	78	53	53	
28	51	44	52	48	A	A			A	A	A	A	A	A	72	A	A	A	A	A	76	A	A	A
29	A	30	42	A	A	A	A	A	66	A		A	A	76	80	86	97	86	84	84	66	67	59	
30	66	67	64	66		A	A	43	A	A	A	A	A	A	A	A	A	52	A		54	53	A	A
31	A		A		29	29	49	A	A	53	A	A	A	76	81	78	82	85	A	86	77	47		A
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	11	14	21	16	15	8	22	23	16	10	8	9	14	17	24	23	22	26	20	19	21	15	11	9
MED	52	44	42	42	31	32	46	59	60	61	70	80	82	90	94	102	98	89	90	86	78	59	53	52
U Q	53	52	45	44	44	35	50	62	65	64	74	81	87	101	107	111	109	104	106	90	82	67	59	54
L Q	46	42	34	34	29	29	43	55	55	57	64	66	76	77	79	84	94	84	82	77	69	53	42	43

HOURLY VALUES OF fEs AT Okinawa

MAY 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	30	33	G	G			39	40	52	57	48	G	G	51	56	48	49	40	G	G	27	34	49	G
2	G	G	G		G		G	37	G	G	G	G	G	50	G	G	G	37	42	48	32	27	24	G
3	G	G		G	G		29	G	38	55	52	G	G	G	G	40	40	54	30	37	28	39		54
4	81	69	81	81	98	29	52	72	50	66	84	78	115	91	95	G	39	52	59	95	112			30
5	59	59	36	46	35	G		38	48	56	41	58	G	50	G	43	65	61	73	78	90	40	29	33
6	33	29	G	G	32		G	37	58	62	90	146	95	110	69	56	66	62	93	136	81	136	81	72
7	G		34	30	G	G	30	51	66	74	60	G	50	G	58	60	67	47	61	95	51	48	46	33
8	33	G	G	G	G	28	29	46	G	59	86	73	67	72	76	76	61	51	34	39		57	30	58
9	42	37	35	36	34		G	39	64	76	66	58	66	85	103	88	114	48	89	150	163	146	148	92
10	88	73	41	52	49	36	G	48	36	41	49	64	61	50	G	70	52	69	88	50	30	31	39	47
11	54	41	27	G	G	G	33	G	43	62	75	52	78	63	62	51	58	74	59	50	50	40	G	28
12	41	48	36			G	35	50	46	G	55	60	76	67	44	65	66	103	122		87	92	107	
13	G	G	G	G	G		29	48	102	88	103	83	60	83	G	48	48	72	120	92	60	73	60	58
14	39	28	G	G	24	G	34	44	59	63	60	G	42	89	84	136	164	149	95	74	88	92	79	62
15	66	49	G	25			29	43	58	G	67	73	96	137	110	80	121	54	G	44	70	46	81	66
16	59	59	G	G	27	35	42	72	81	66	54	86	50	61	79	92	49	34	45	86	83	70	71	32
17	33	G	G	G	G		29	56	90	54	74	48	67	68	58	47	64	61	72	60	59	58	58	84
18	56	35	35	33	29	40	25	38	54	66	86	89	82	76	145	149	175	150	108	172	114	124	83	72
19	72	72	28	27	39		36	49	69	66	66	66	85	92	104	133	132	90	65	46	52	28	56	49
20	84	72	G	52	G	G		47	50	96	125	60	52	85	60	50	96	122	178	91	58	81	57	81
21	72	46	30	56	30	28	30	50	92	138	80	87	163	153	127	72	136	79	80	116		104	91	82
22	72	72	72	62	50	48	62	64	77	136	96		55	86	84	82	42	38	36	47	52	41	37	35
23	37	36	32				34	35	69	90	90	125	107	96	82	72	90	61	65	151	57	36	40	68
24	49	54	46	32	43	39	38	69	101	102	123	109	96	86	92	90	96	80	74	85	60	48	28	32
25	47	58	52	30	50	28	36	54	73	115				76	60	51	62	107		116	134	113	57	58
26	47	59	58	36	G	32	43	49	48	72	91	136	115	96	173	114	61	G	50	36	27	G	G	49
27	49	35	36	29	G	38	35	42	58	104	112	103	91	48	67	53	57	68	73	46	37	28	G	
28	28	33	28	36	39	25	39	69	69	94	84	94	96	88	84			117		116	82	71	49	88
29	86	50	24	35	73	72	113	126	84	106	40	87	80	55	62	58	69	43	40	36	32	46	68	59
30	69	49	G	26	52	80	73	39	90	103	70	55	94	72	66	66	53	G	57	40	51	38	70	82
31	59	46	39		G	69	57	126	113	104	51	86	141	52	60	53	54	52	84	35	29	32	34	41
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	30	30	27	27	21	29	31	31	31	30	29	30	31	31	30	30	31	29	30	29	30	29	29
MED	49	46	29	30	29	29	34	48	59	66	72	73	77	76	67	62	63	61	65	67	58	47	56	58
U Q	69	59	36	36	43	39	40	56	81	102	90	88	96	89	92	82	96	80	88	95	85	81	75	72
L Q	33	33	G	G	G	G	29	39	48	57	54	53	52	52	58	50	52	47	43	44	34	36	32	33

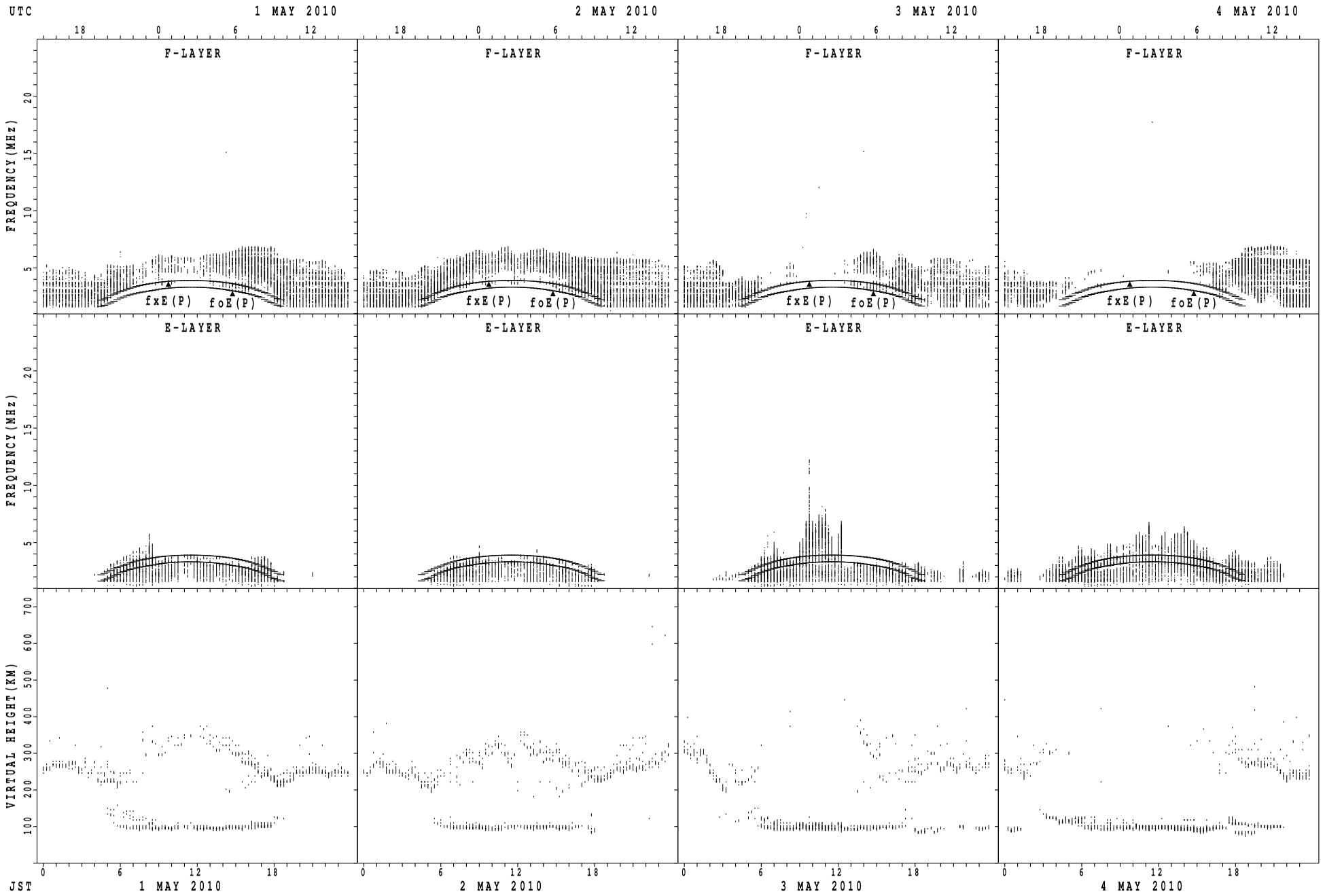
HOURLY VALUES OF fmin AT Okinawa

MAY 2010

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

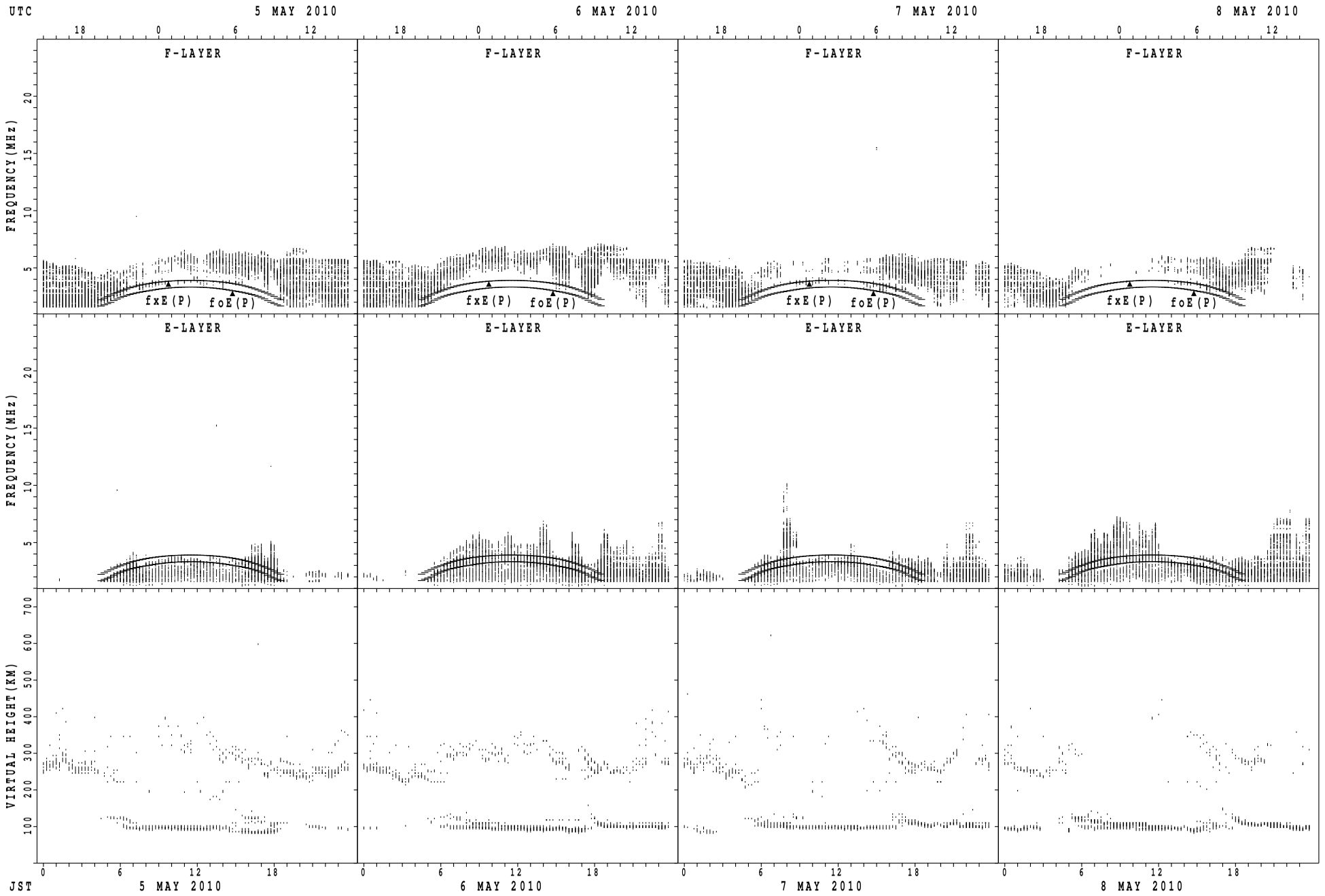
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	18	15	15	21			15	23	24	26	26	53	53	42	40	32	21	16	28	29	14	14	14	15
2	17	22	29		20		18	14	21	41	44	53	32	30	28	50	51	29	14	14	17	14	15	42
3	18	14		16	14		14	16	21	23	32	54	54	56	52	33	33	23	14	14	14	15	14	14
4	14	15	16	14	16	14	14	14	21	28	28	34	38	29	30	42	41	21	14	15	17	14	15	17
5	15	17	15	14	14	21		15	27	30	34	34	53	38	50	36	30	27	15	14	15	15	15	14
6	17	17	15	14	15		20	15	28	32	36	34	34	40	28	28	20	21	14	18	14	14	15	15
7	15		15	17	28	23	15	21	21	29	33	56	36	54	38	36	30	28	20	14	15	14	14	14
8	17	14	18	22	22	15	14	14	23	24	28	33	35	38	48	34	30	26	23	14	20	15	15	14
9	15	14	15	15	16		21	15	28	35	34	34	34	33	33	28	29	27	15	17	16	15	15	15
10	14	15	14	14	15	14	18	16	20	27	29	30	33	29	51	33	30	18	14	14	20	14	14	14
11	15	14	15	15	15	16	15	14	18	23	28	30	29	38	38	34	30	27	14	14	14	14	20	14
12	15	15	14			21	14	20	24	40	34	36	35	36	52	35	30	24	15		14	15	15	
13	15	14	16	17	23		15	14	18	27	33	34	35	33	53	35	30	28	14	16	14	16	23	14
14	14	16	17	17	21	15	14	14	26	29	33	52	35	35	35	34	33	24	15	14	21	15	15	14
15	15	14	15	16			15	15	23	40	33	35	34	33	29	26	28	20	33	14	14	14	15	17
16	16	14	14	14	15	15	14	14	16	23	33	35	32	30	29	24	26	27	17	14	14	17	15	14
17	14	16	16	16	15		14	22	18	29	32	34	35	36	35	34	29	24	21	20	14	15	14	17
18	15	15	14	14	14	14	15	22	21	26	30	38	38	36	38	35	30	26	14	17	15	16	16	15
19	14	14	14	14	15		16	15	21	23	33	35	35	35	29	28	26	17	14	14	15	15	17	14
20	14	14	15	14	20	14		15	21	26	28	40	30	29	30	34	22	18	17	14	15	15	14	16
21	15	14	15	16	15	16	14	15	24	28	27	30	32	29	28	24	30	29	18	15	14	15	15	15
22	15	16	14	16	15	14	14	20	28	28	33		38	35	34	33	30	21	14	14	14	15	15	15
23	15	15	14				14	14	23	28	30	30	34	29	28	26	22	20	14	14	15	15	14	14
24	14	15	14	14	15	15	14	14	15	29	30	32	33	29	29	24	23	21	18	14	14	16	15	15
25	14	15	15	14	14	18	14	14	16	28				36	35	36	34	29	14	15	14	15	15	14
26	14	15	15	14	15	15	15	14	20	23	28	36	35	34	35	36	34	23	14	15	41	21	17	14
27	14	14	15	14	16	14	14	17	17	29	30	32	32	34	32	29	24	21	14	14	18	18	17	
28	14	14	15	14	14	15	16	15	26	30	33	35	34	35	39	35	33	14	14	15	14	15	16	15
29	14	16	15	14	16	15	14	21	22	29	29	32	30	33	29	23	22	22	16	14	17	15	22	15
30	14	15	15	17	15	14	15	14	16	24	30	32	32	30	28	27	22	39	18	14	14	14	20	14
31	15	15	15		15	14	14	14	20	29	34	34	35	36	32	28	26	20	14	24	14	15	14	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	30	30	27	27	21	29	31	31	31	30	29	30	31	31	31	31	31	31	30	31	31	31	29
MED	15	15	15	14	15	15	14	15	21	28	32	34	34	35	34	33	30	23	14	14	14	15	15	14
U Q	15	15	15	16	16	16	15	17	24	29	33	37	35	36	39	35	30	27	18	15	17	15	16	15
L Q	14	14	14	14	15	14	14	14	18	26	29	32	32	30	29	28	24	20	14	14	14	14	14	14

SUMMARY PLOTS AT Wakkanai



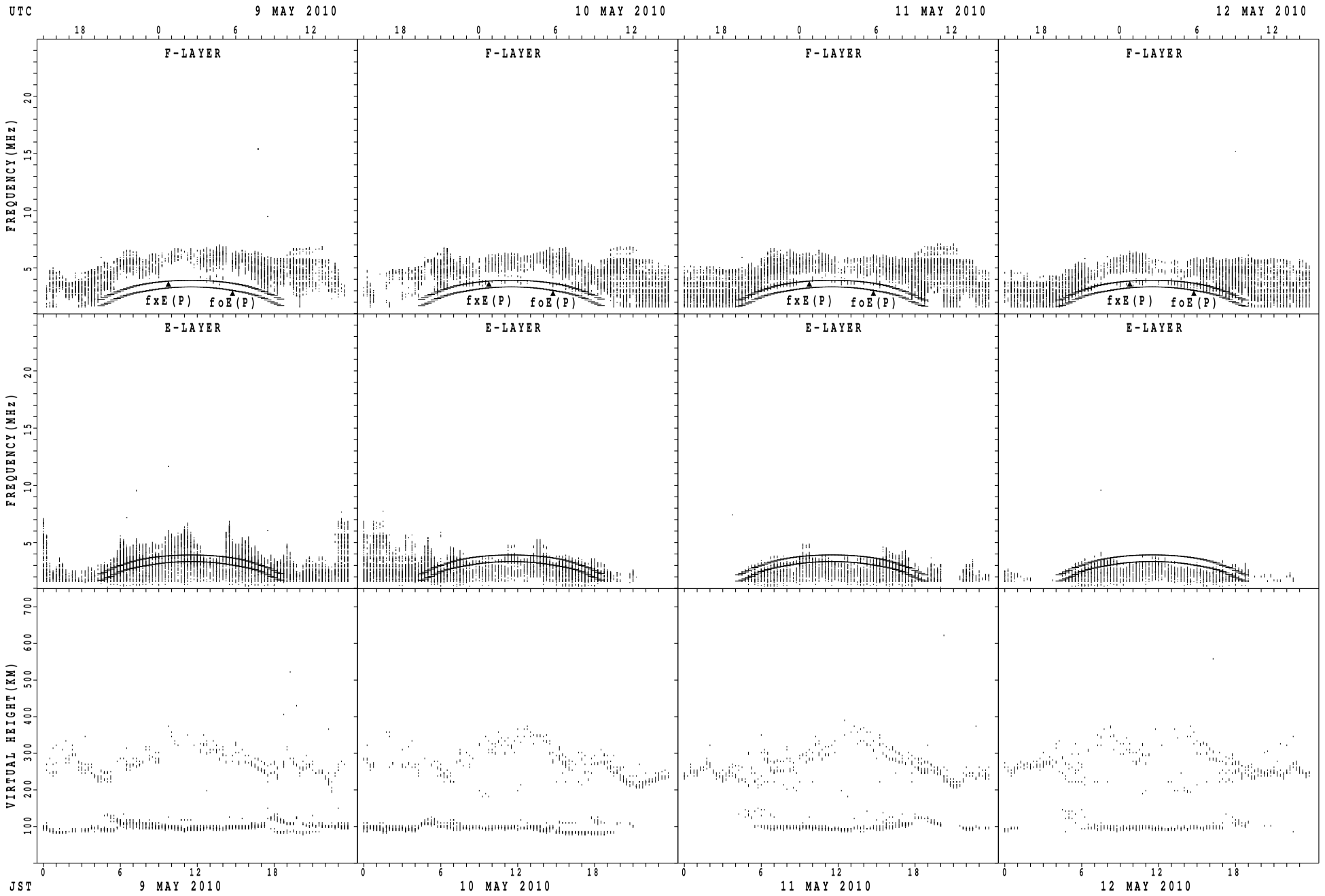
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



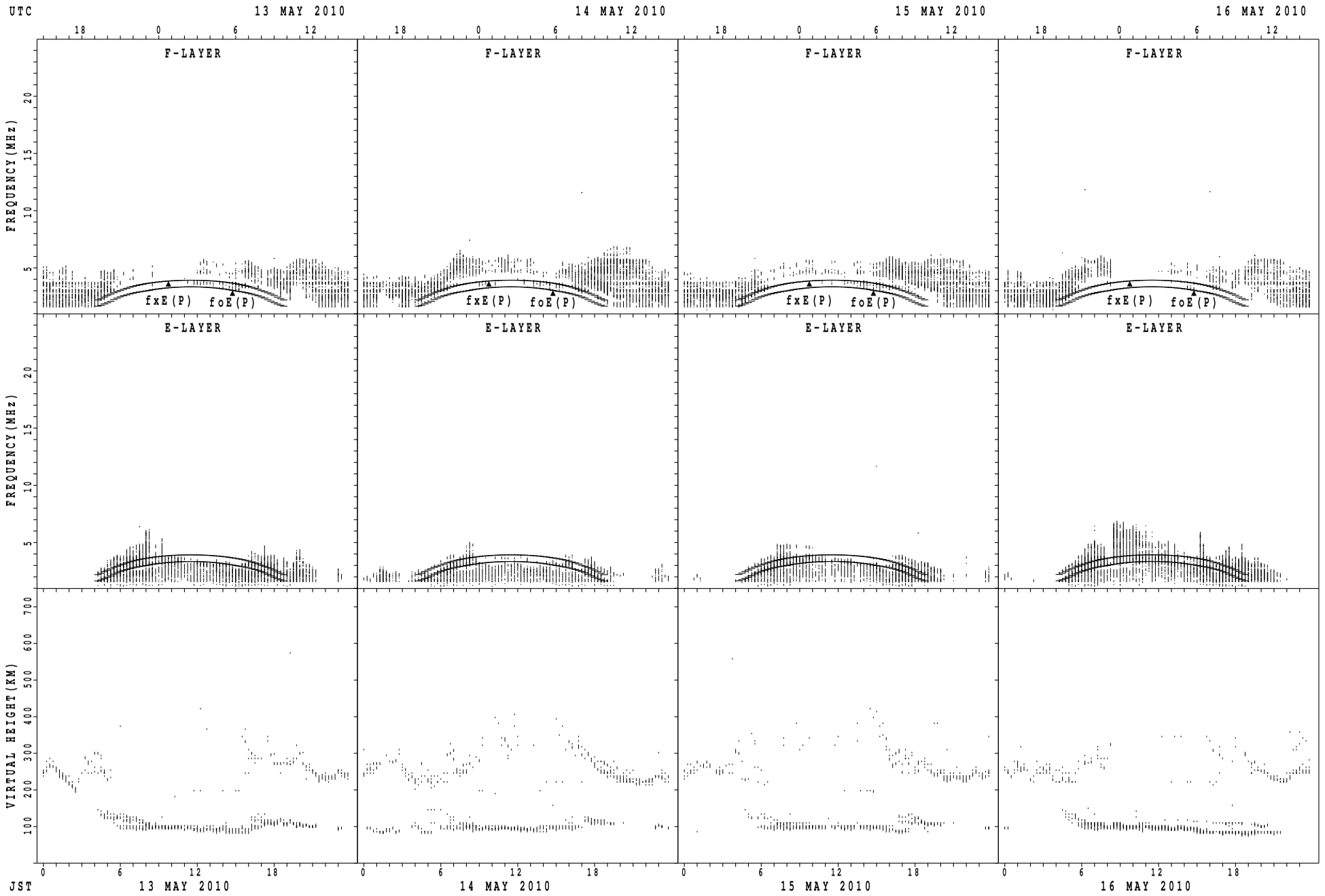
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



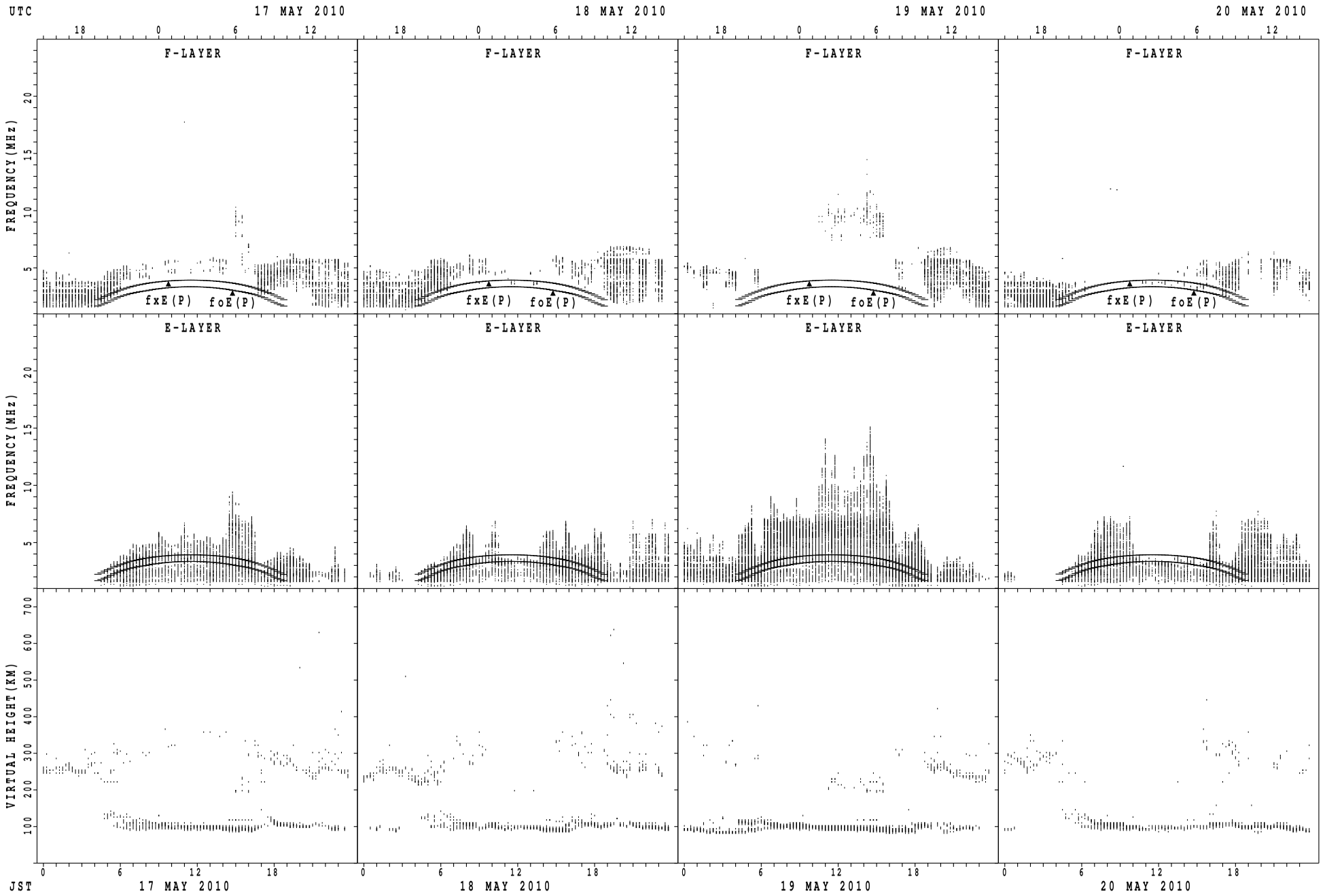
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



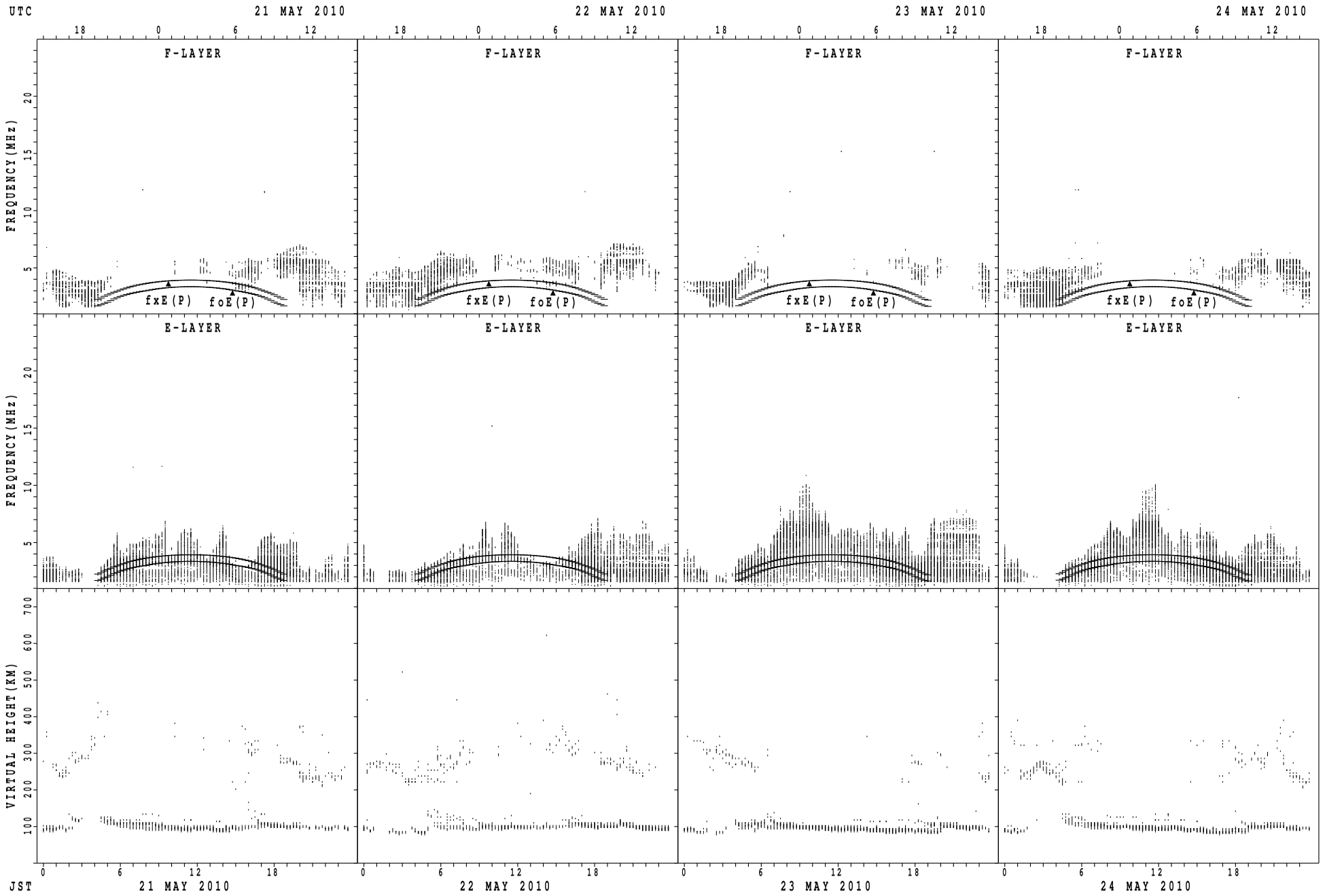
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



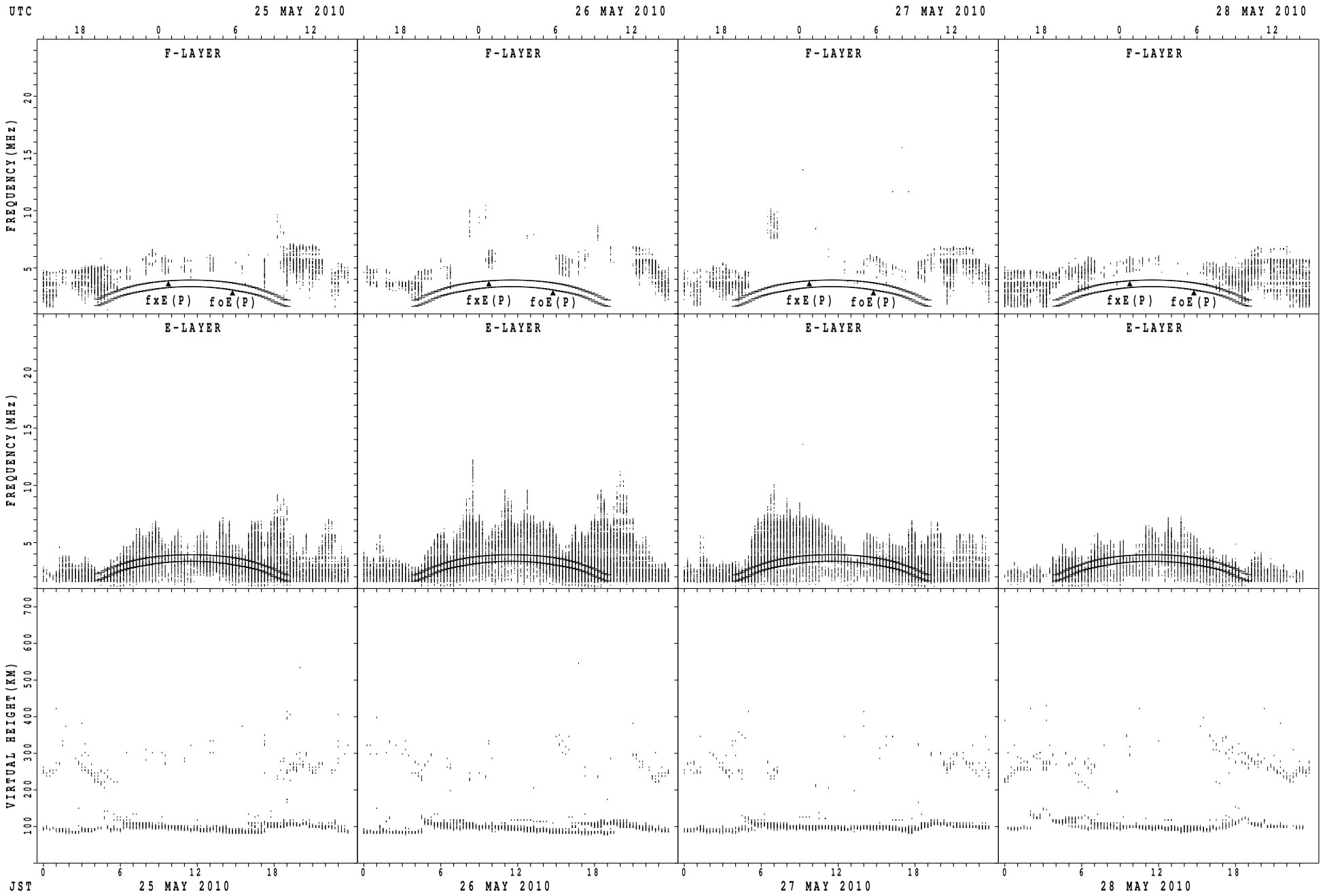
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



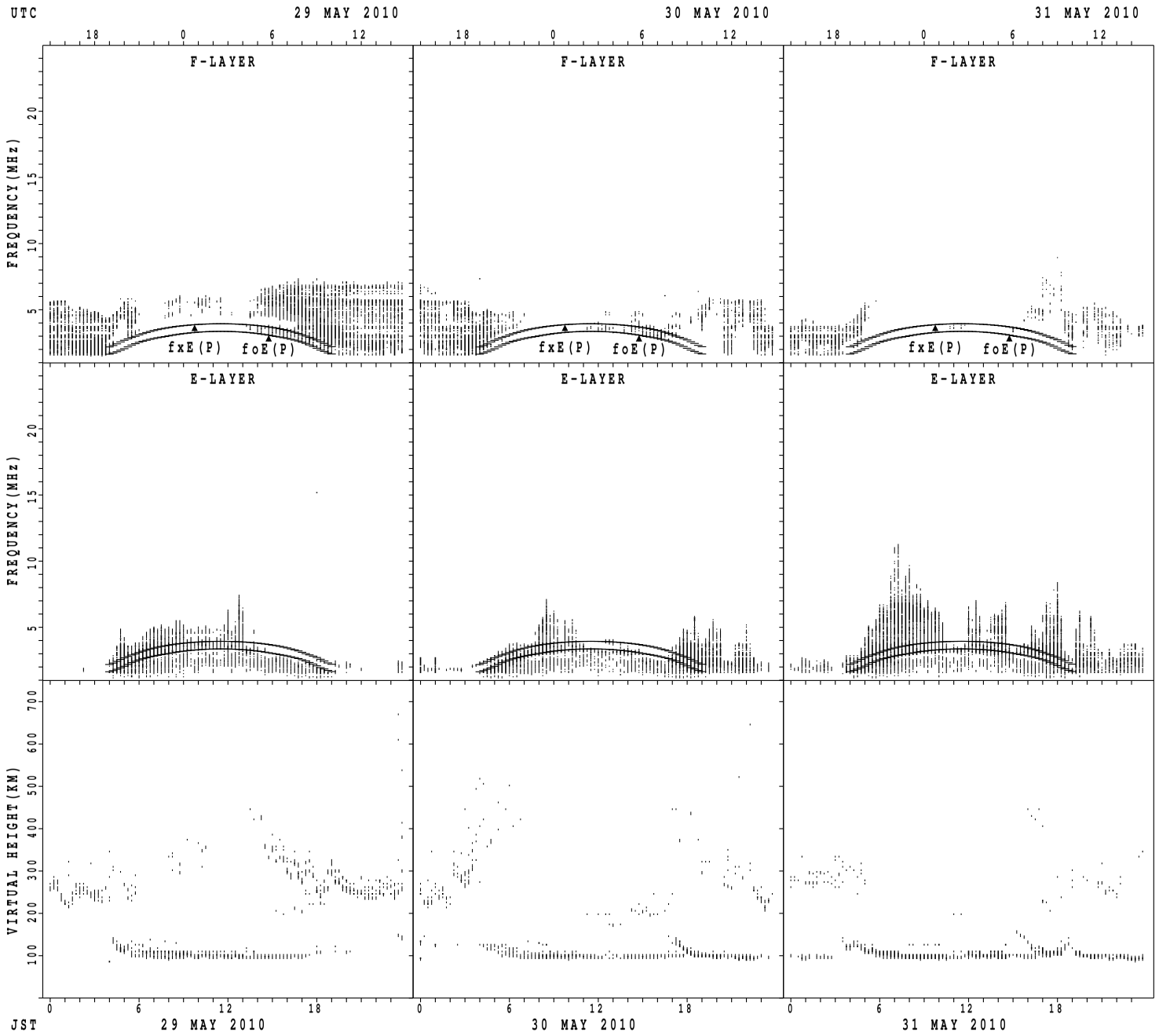
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



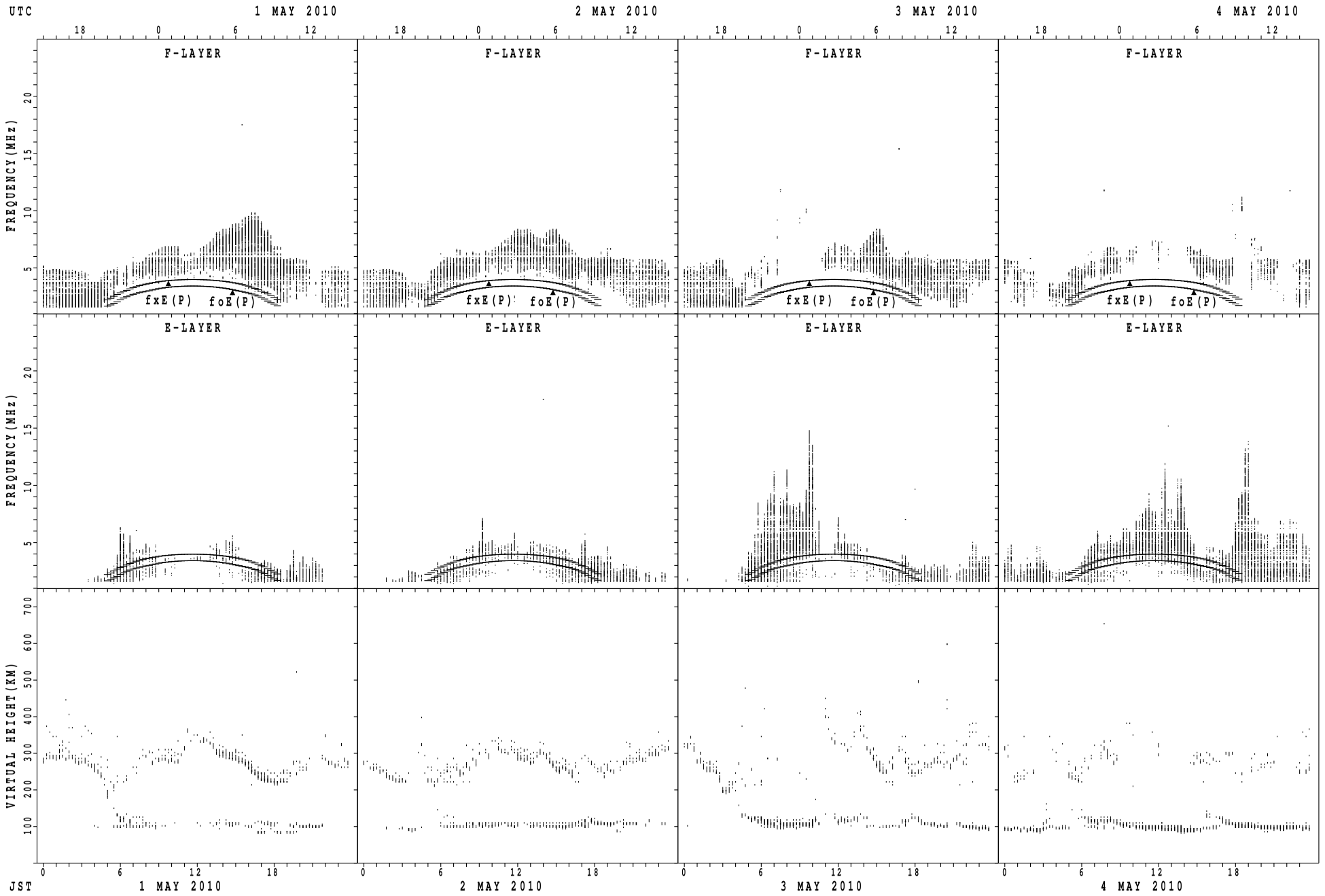
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



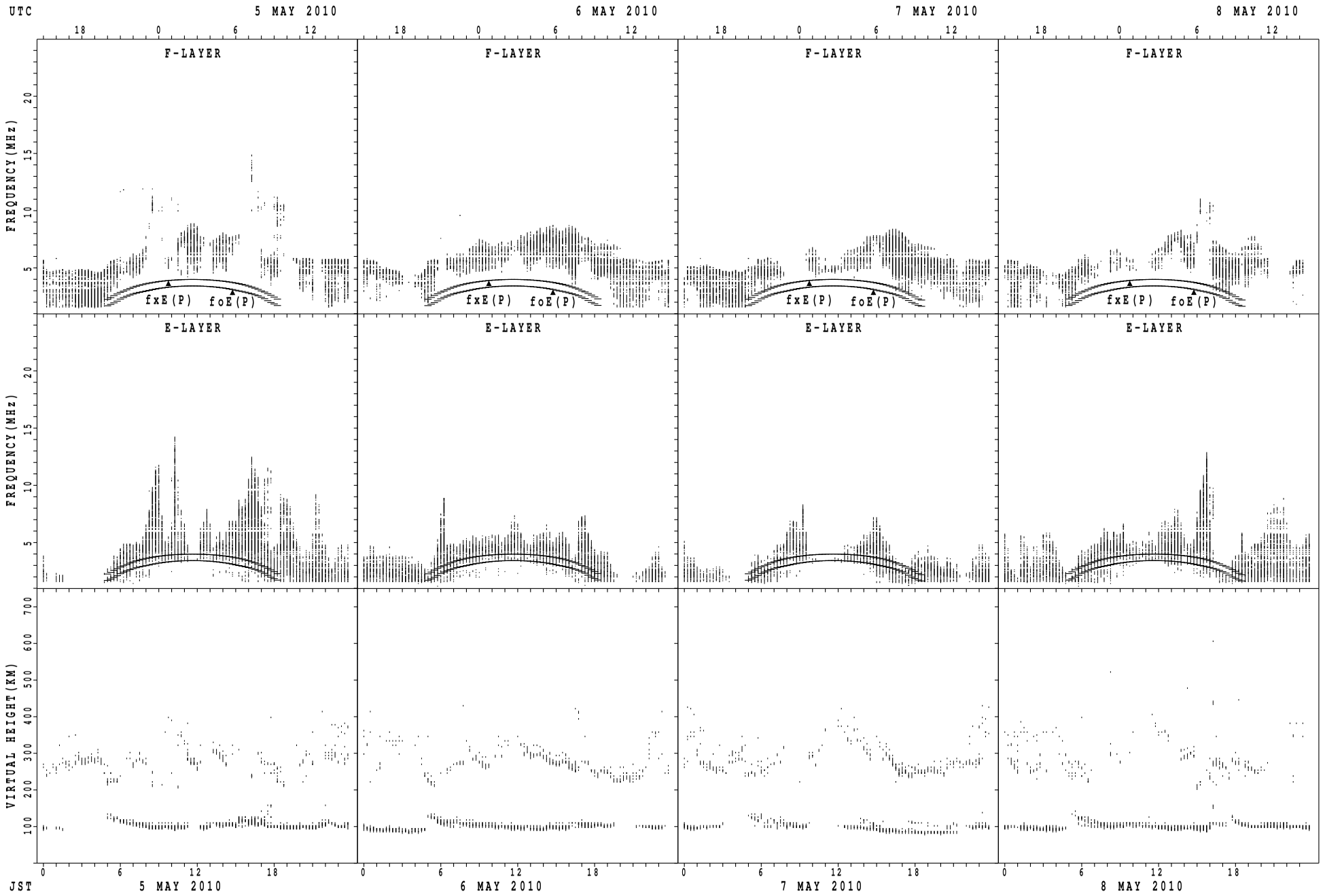
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



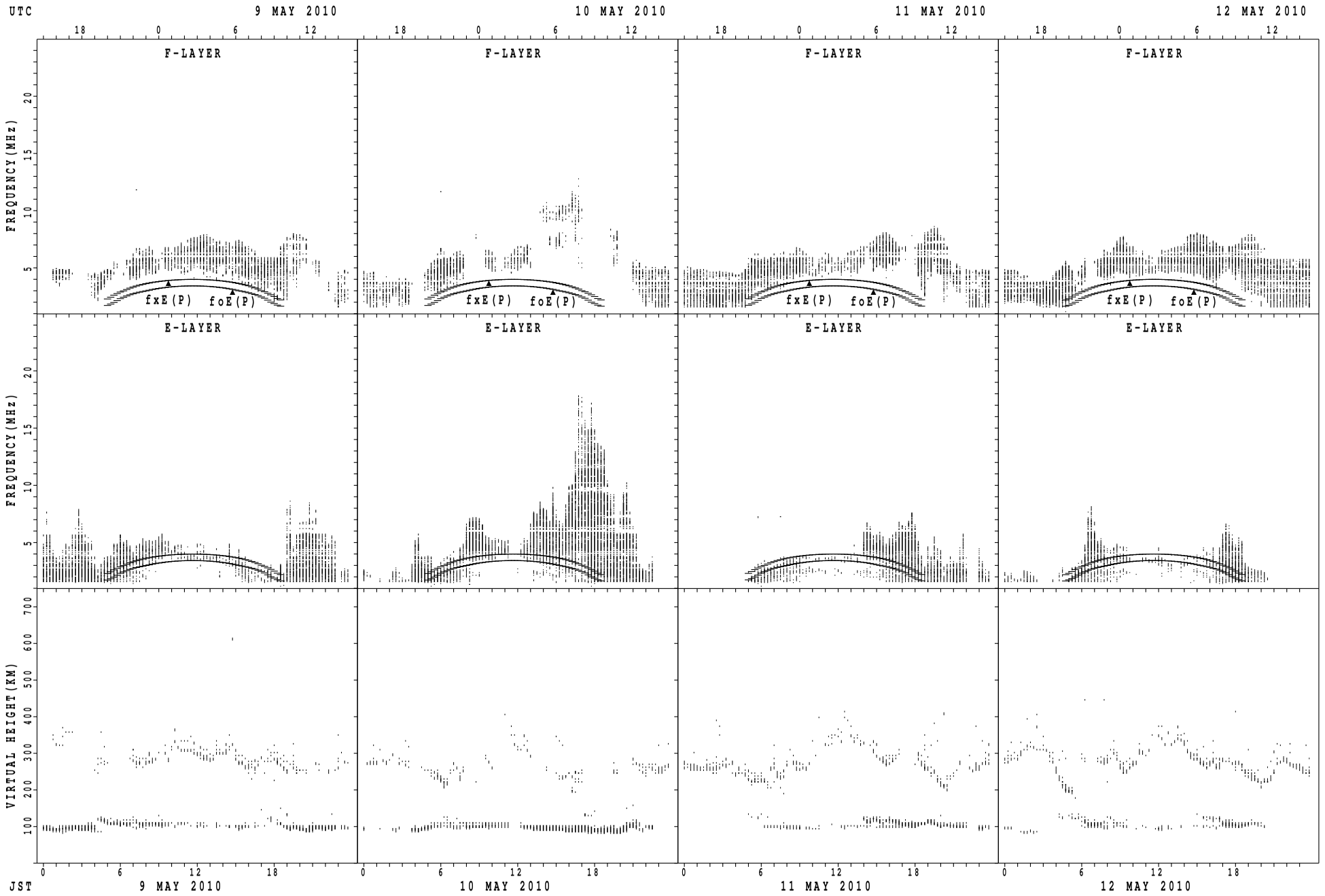
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



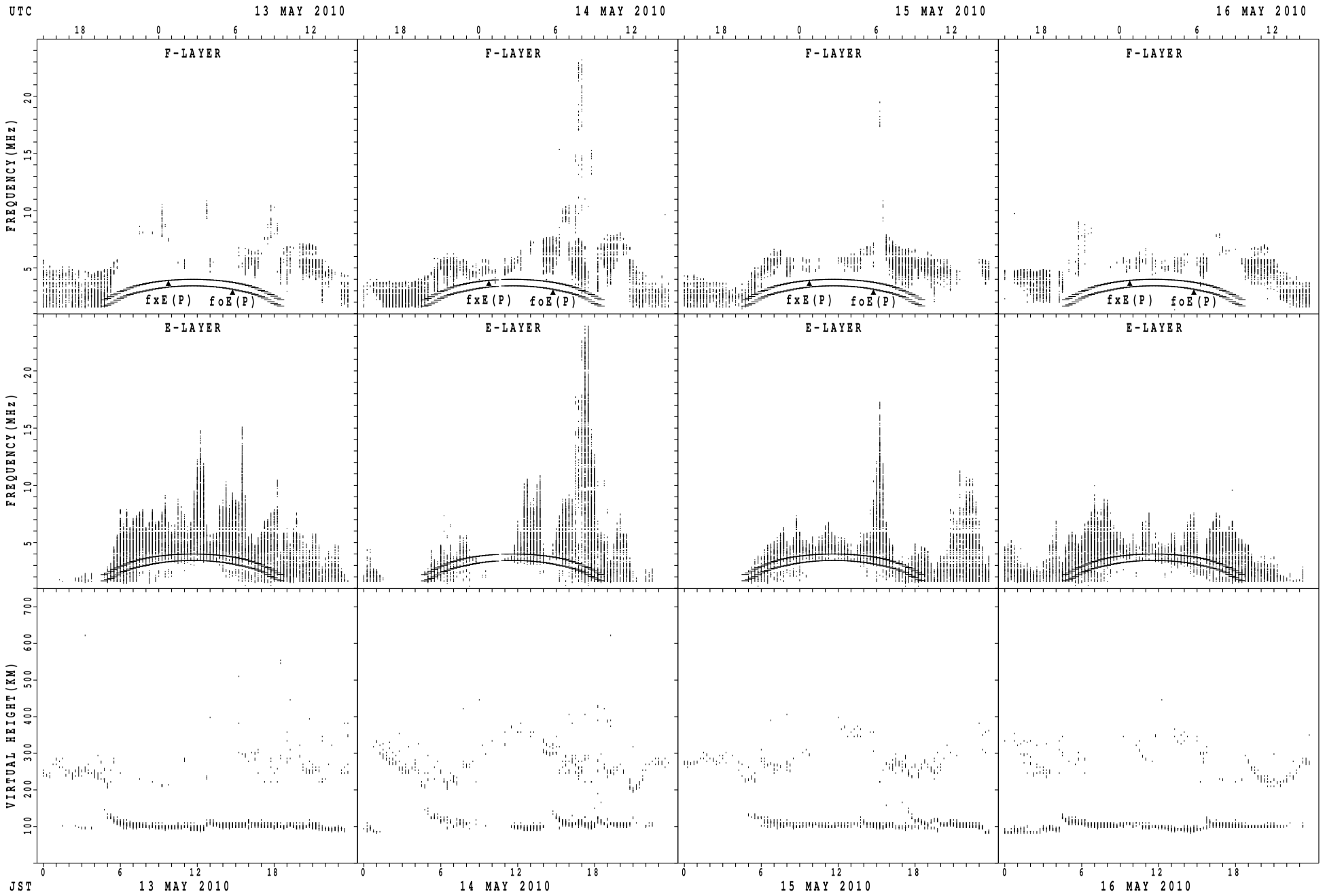
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



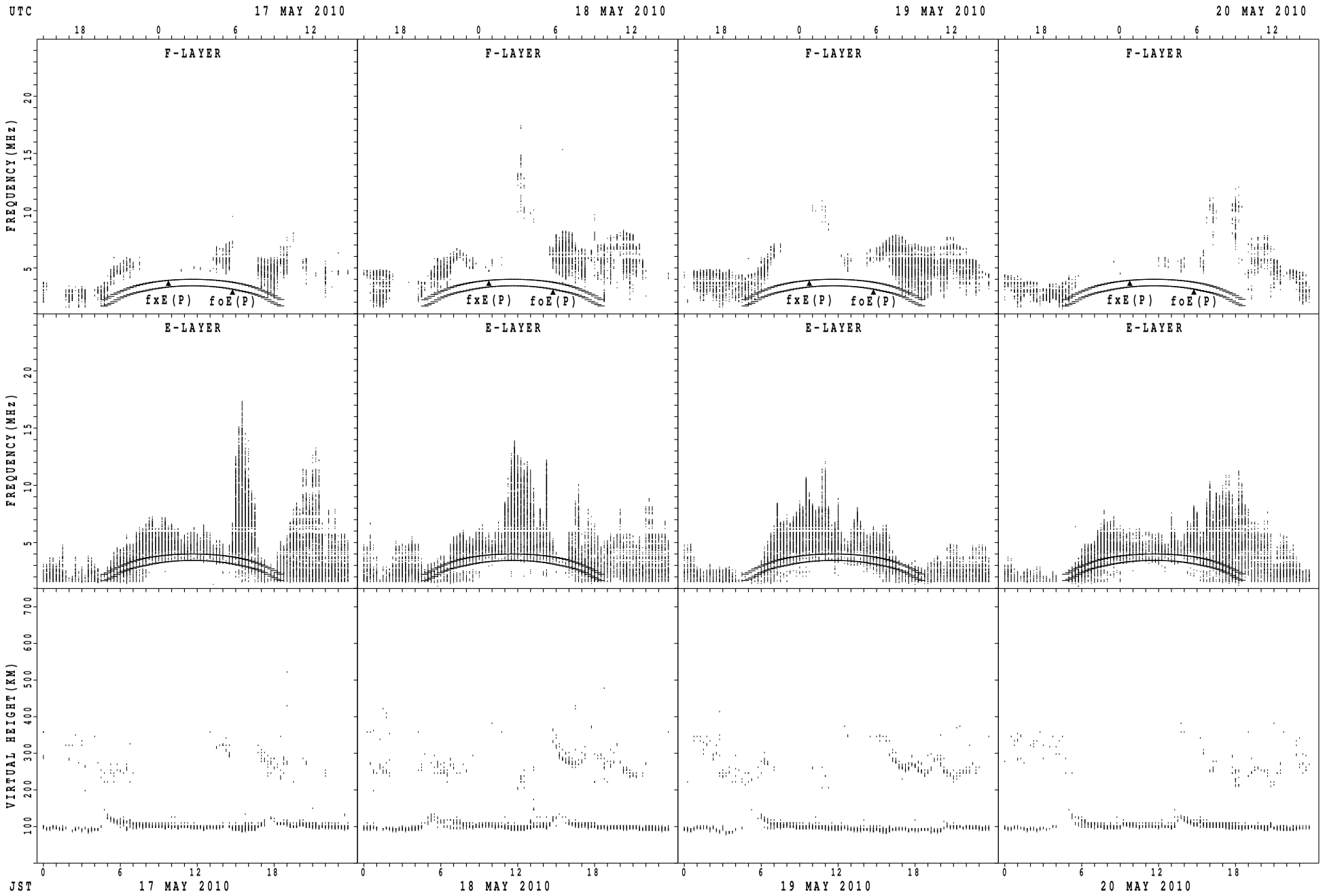
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



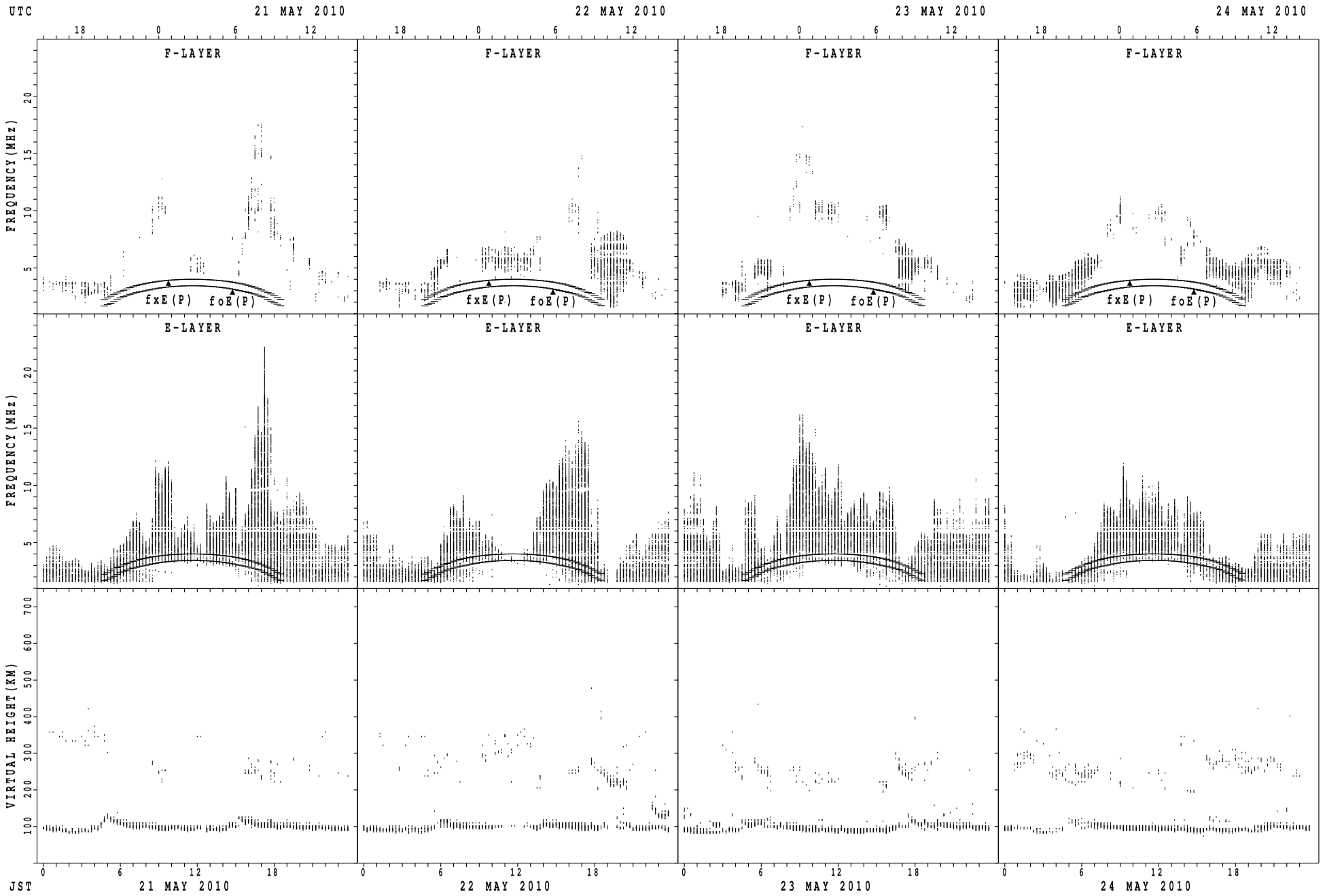
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



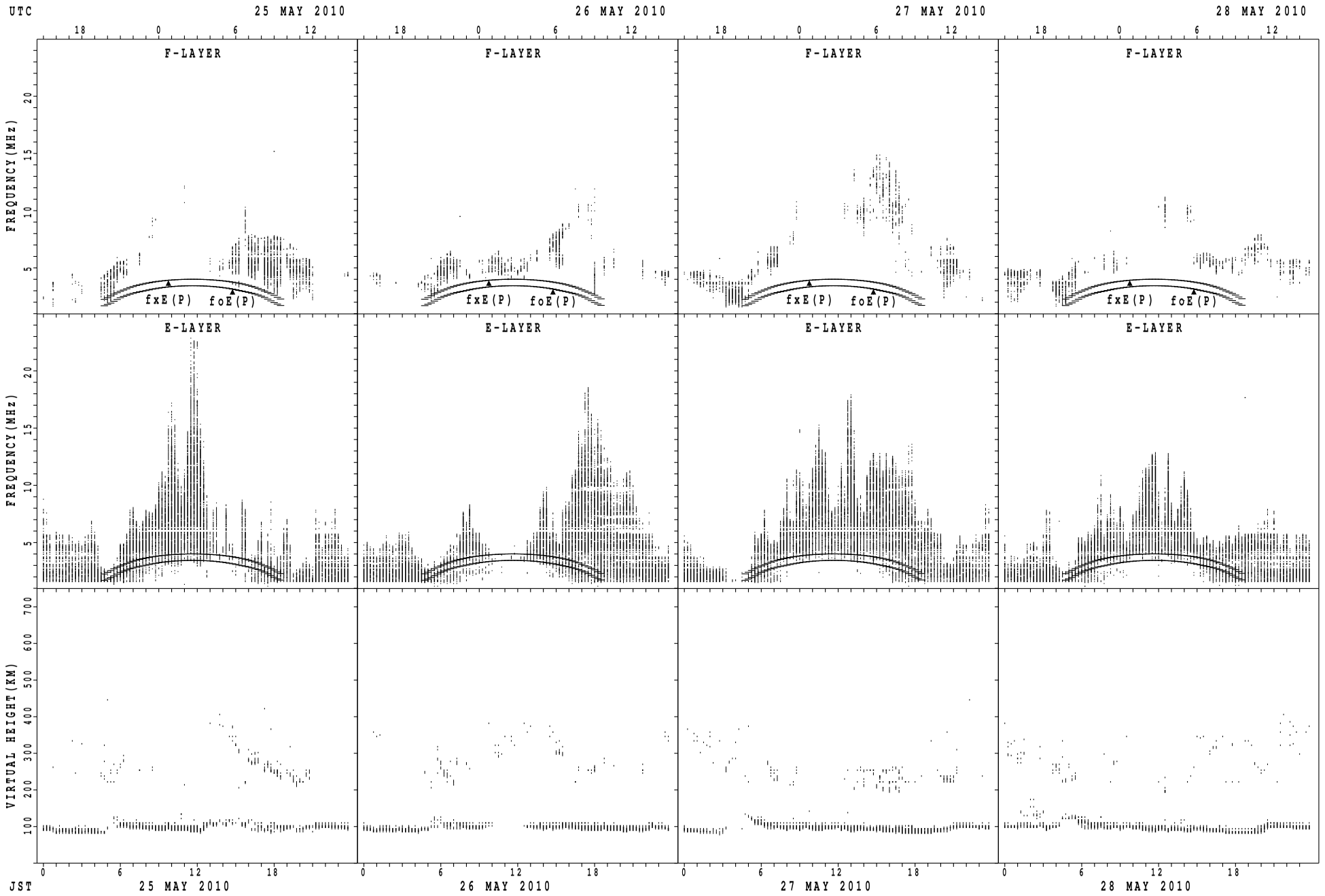
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



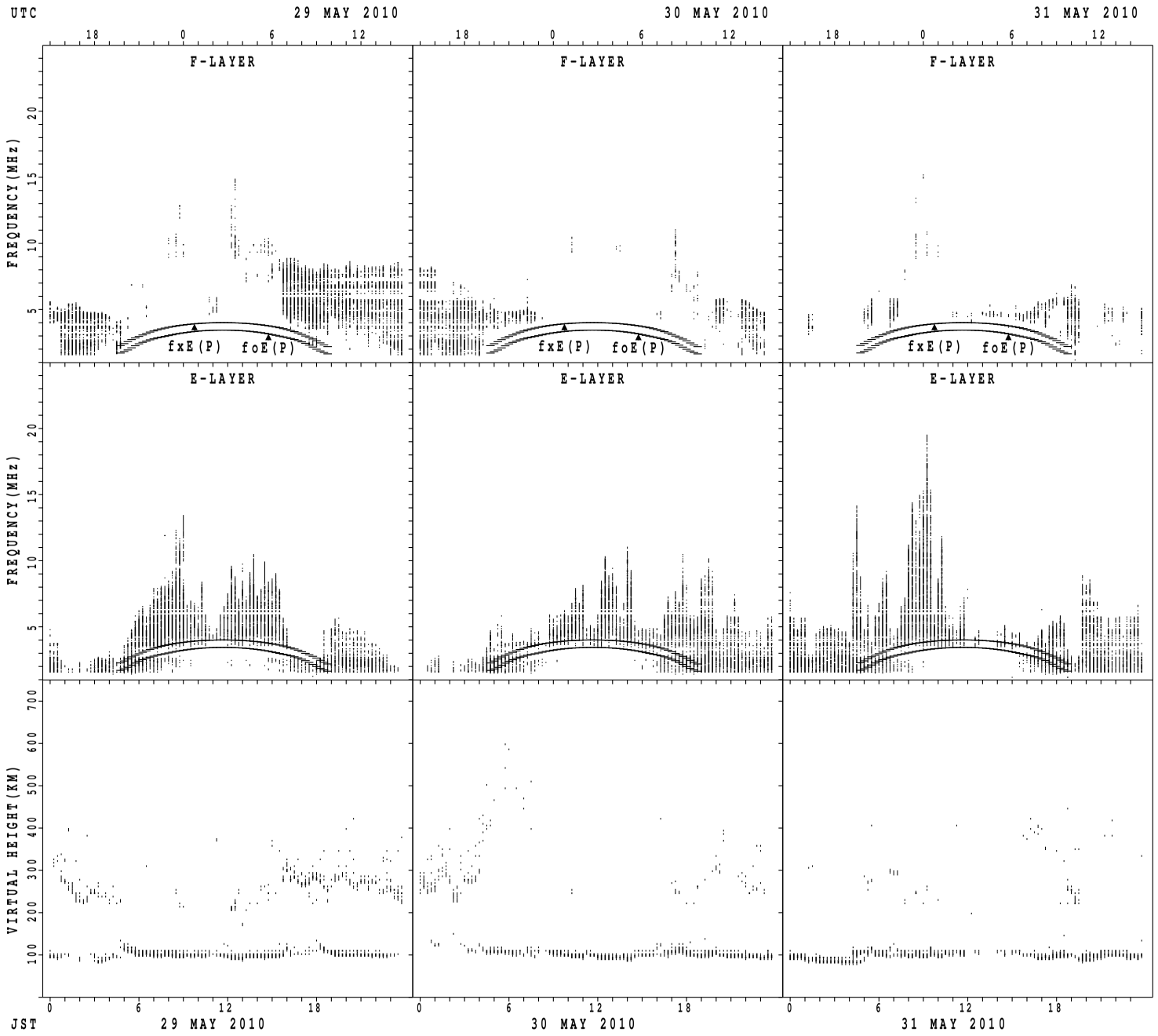
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



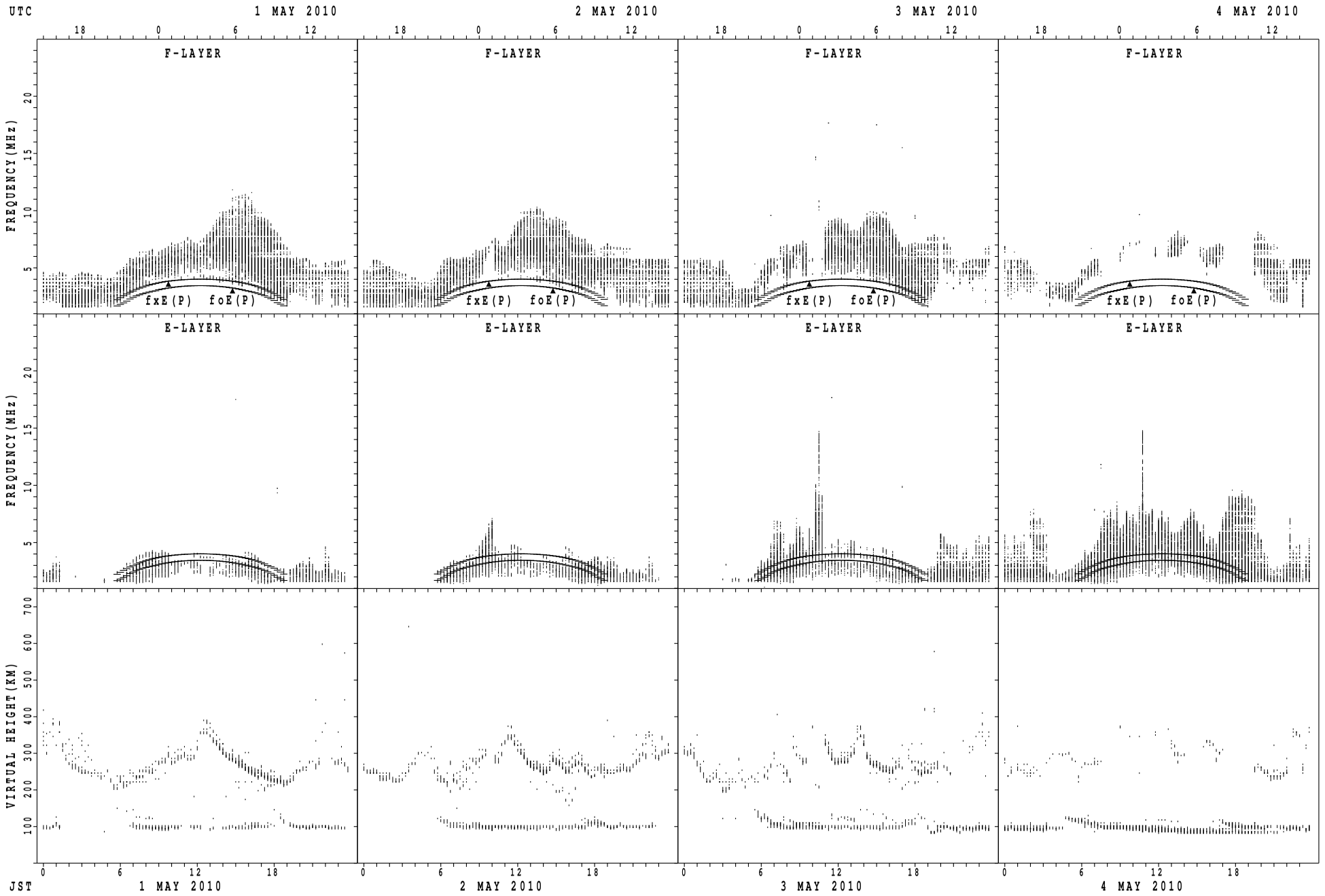
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



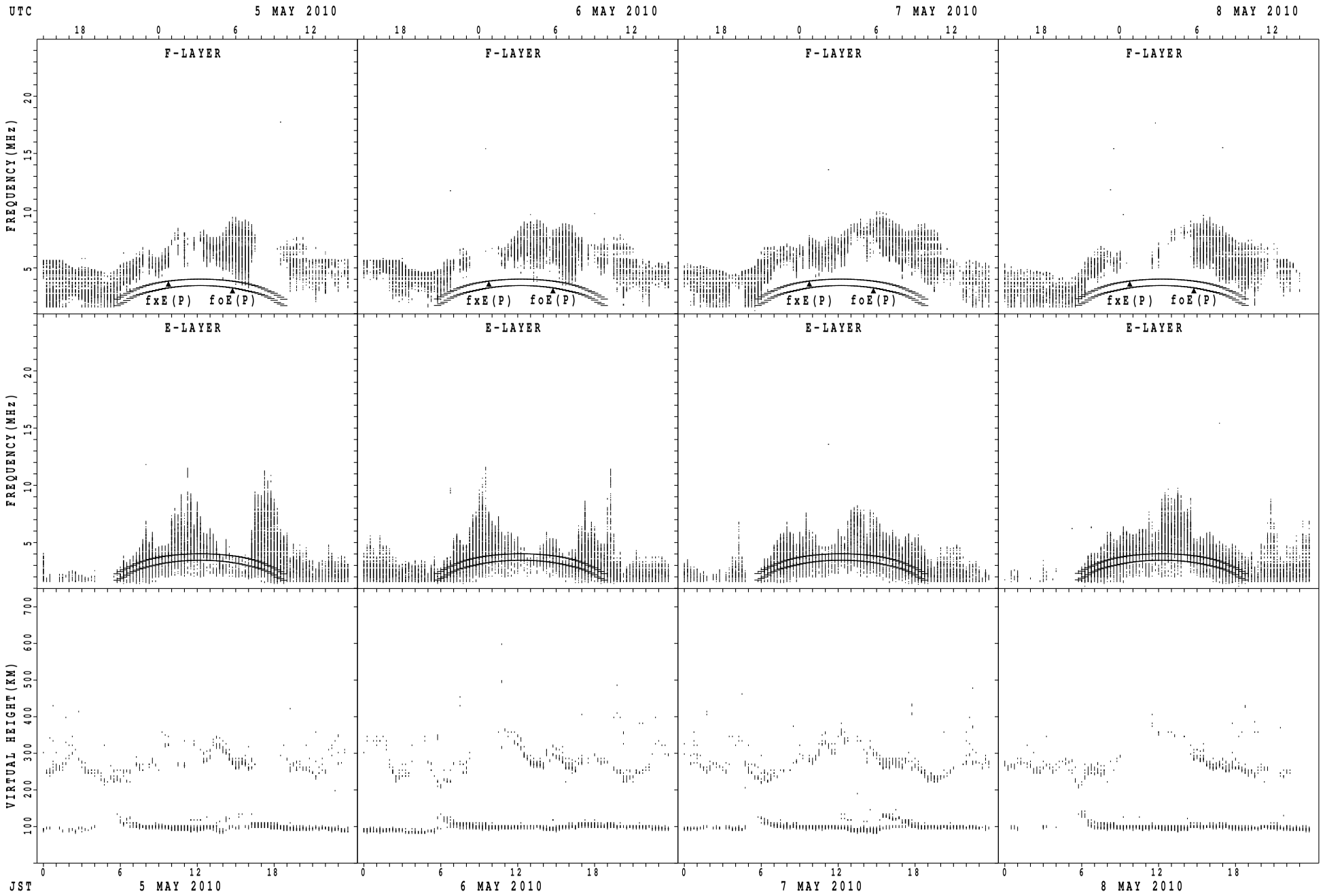
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



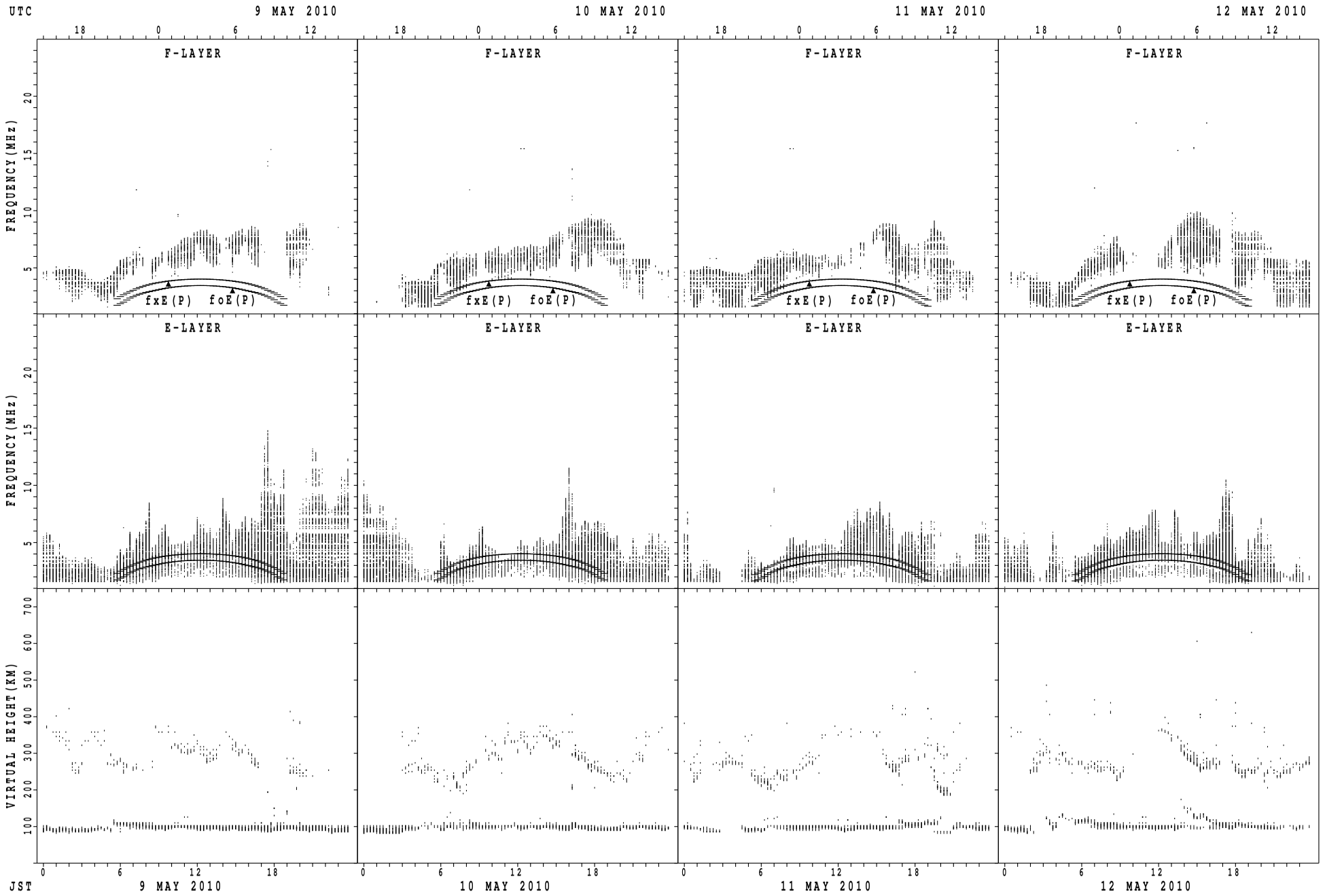
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



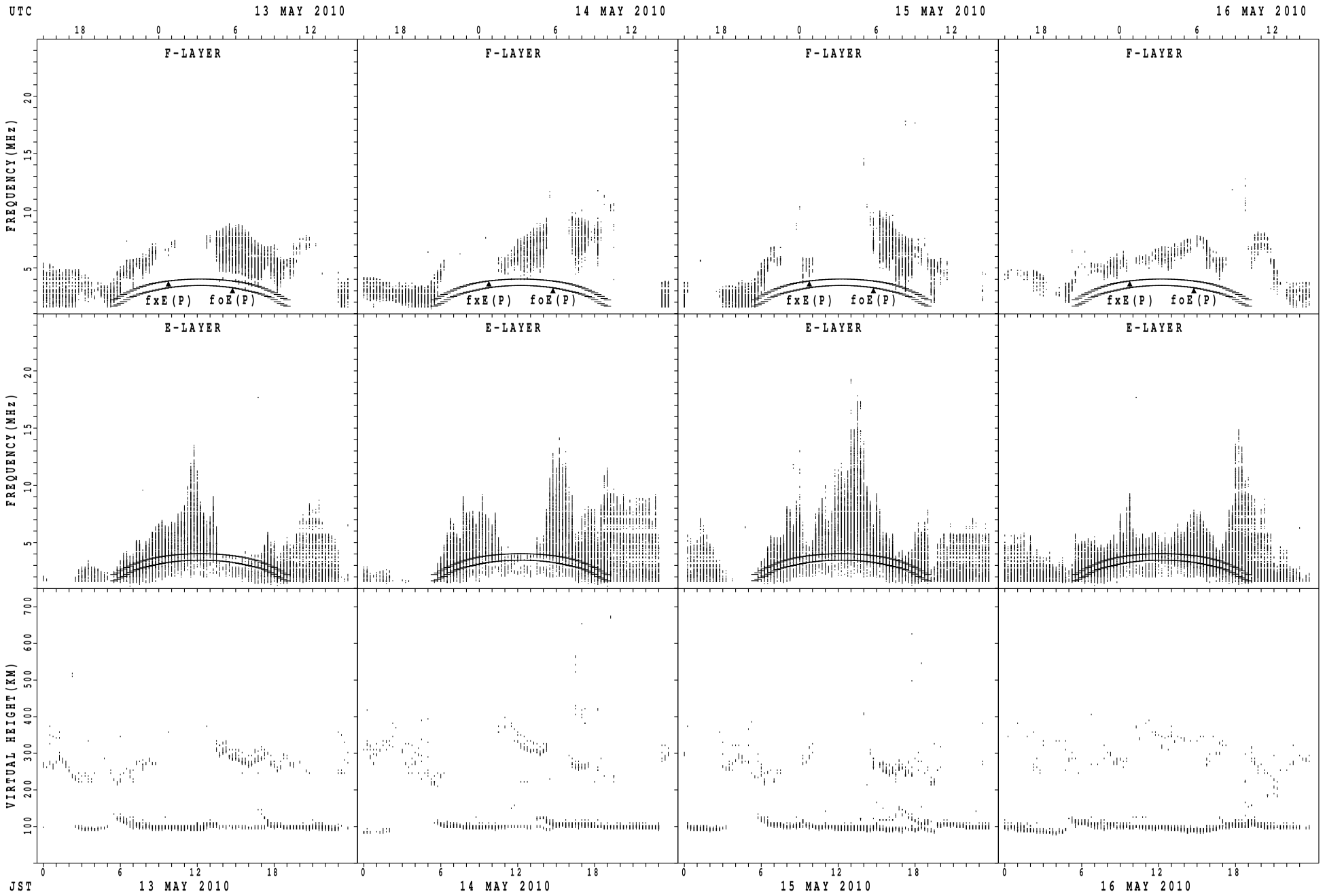
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



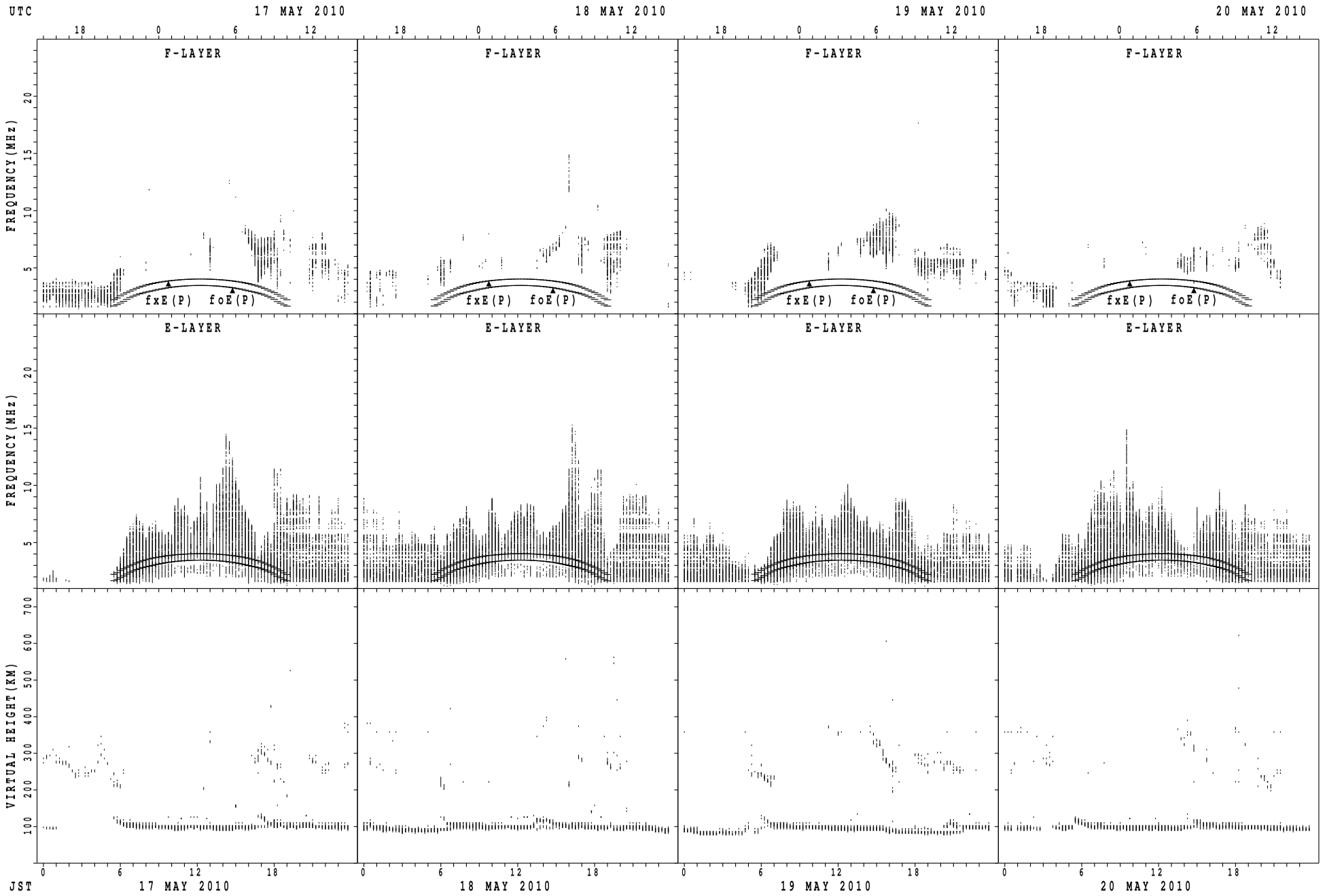
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



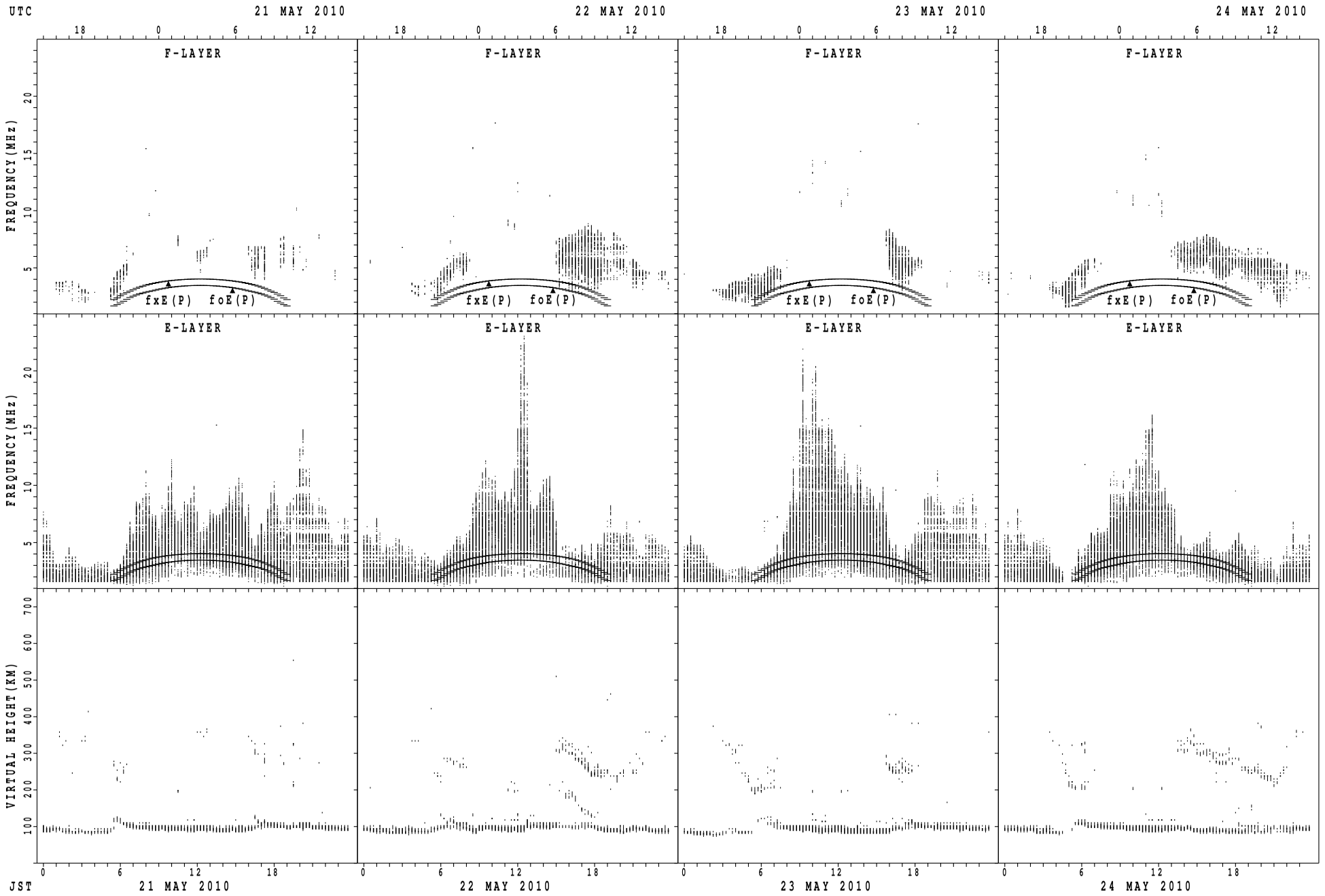
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



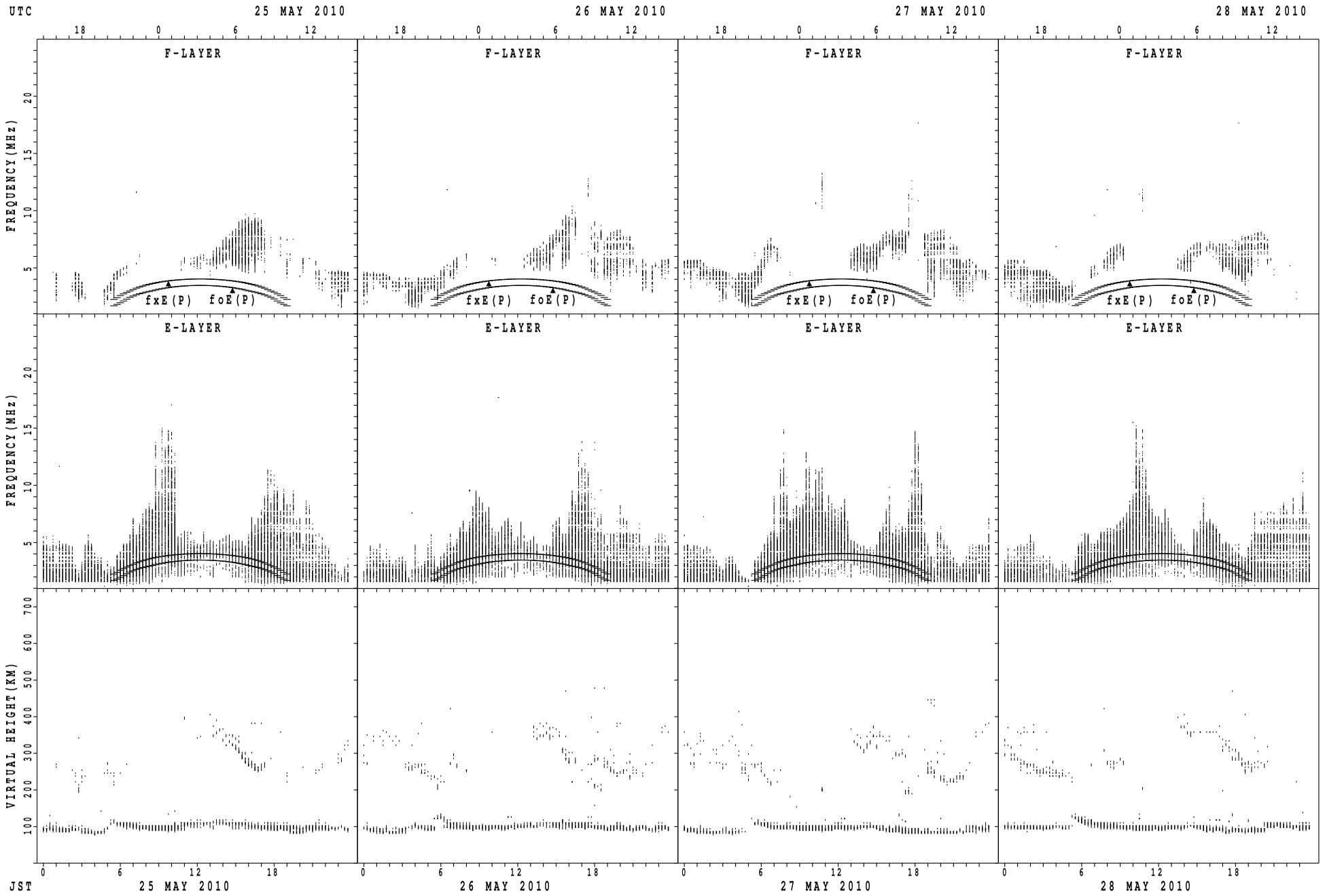
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



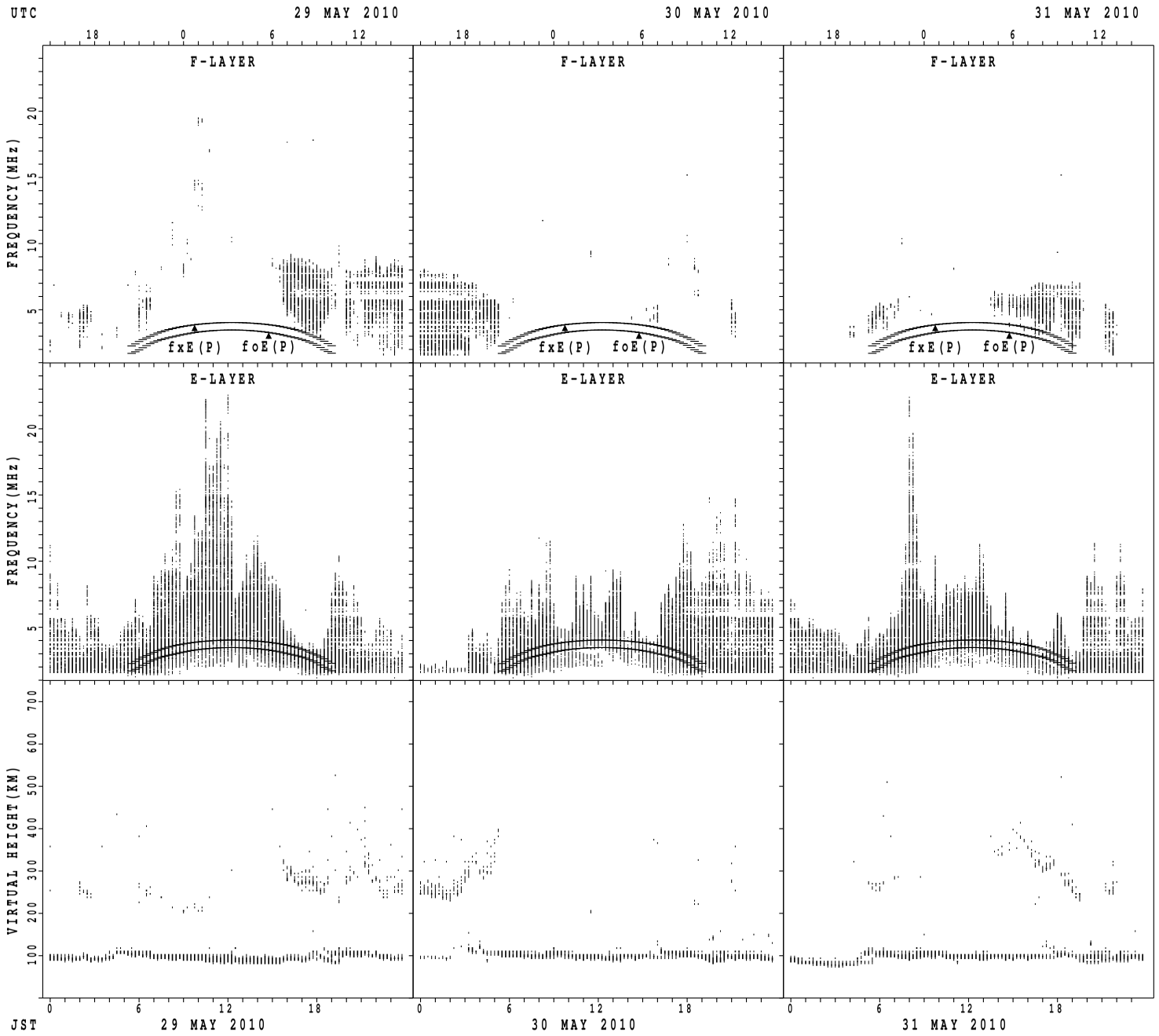
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



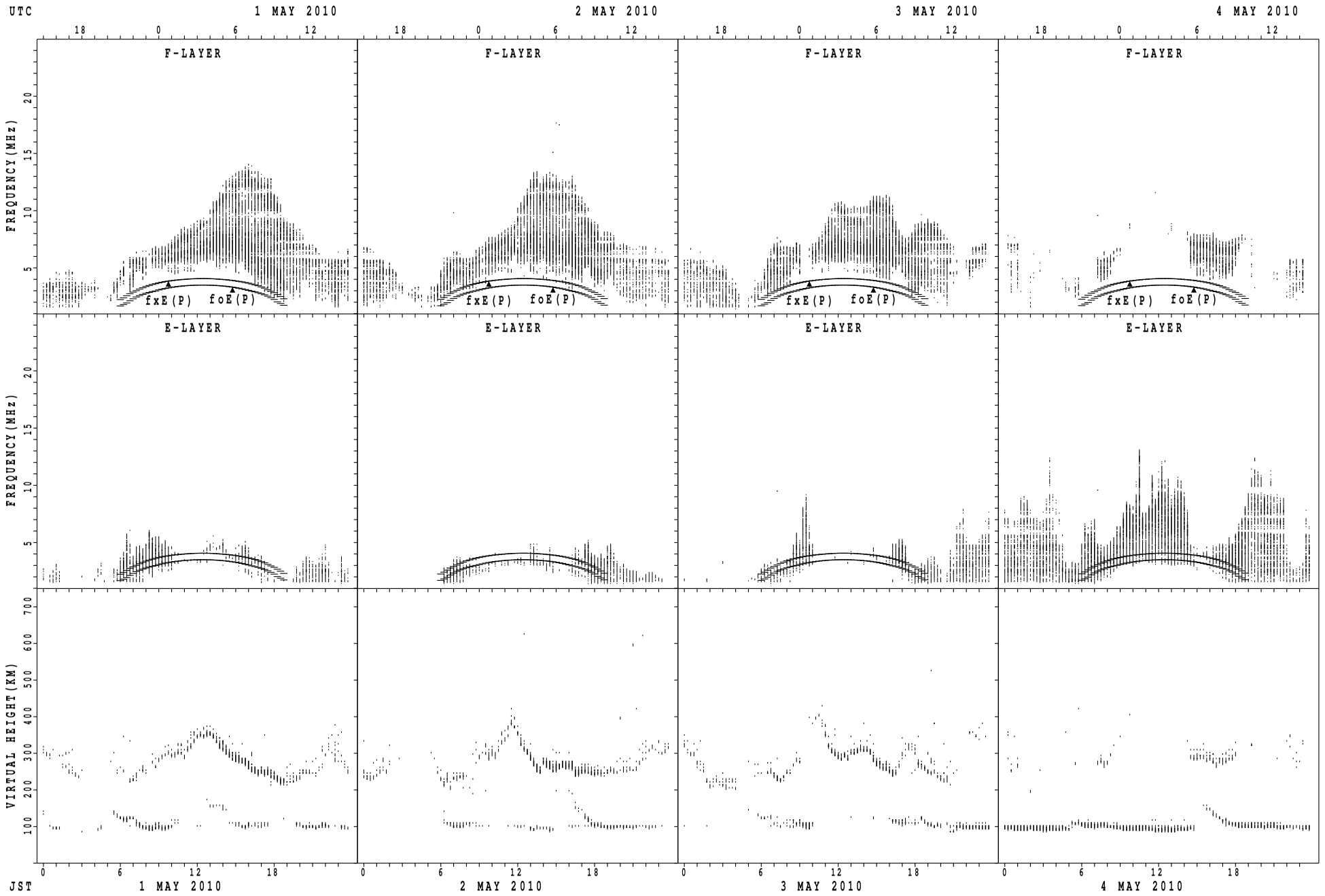
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



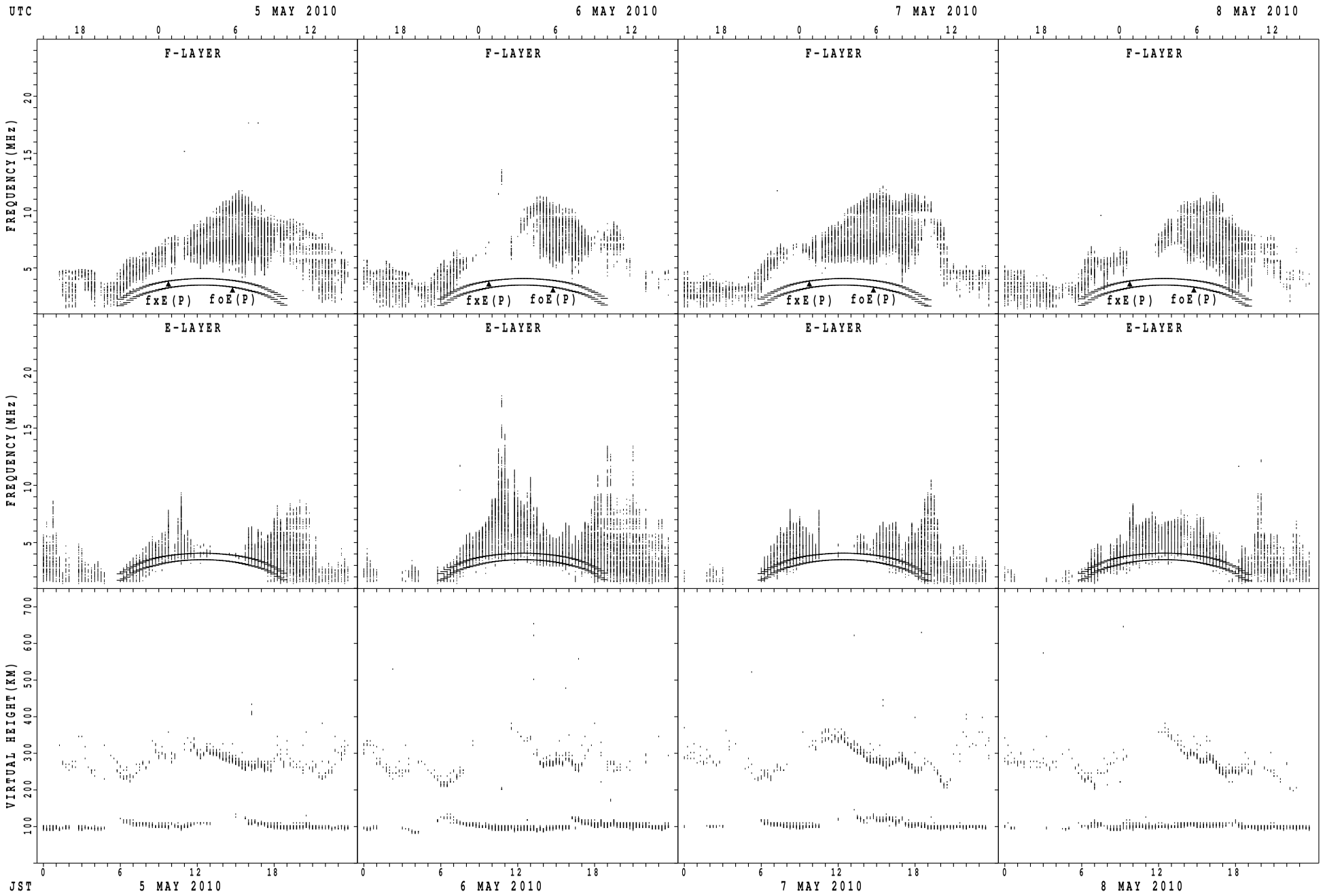
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



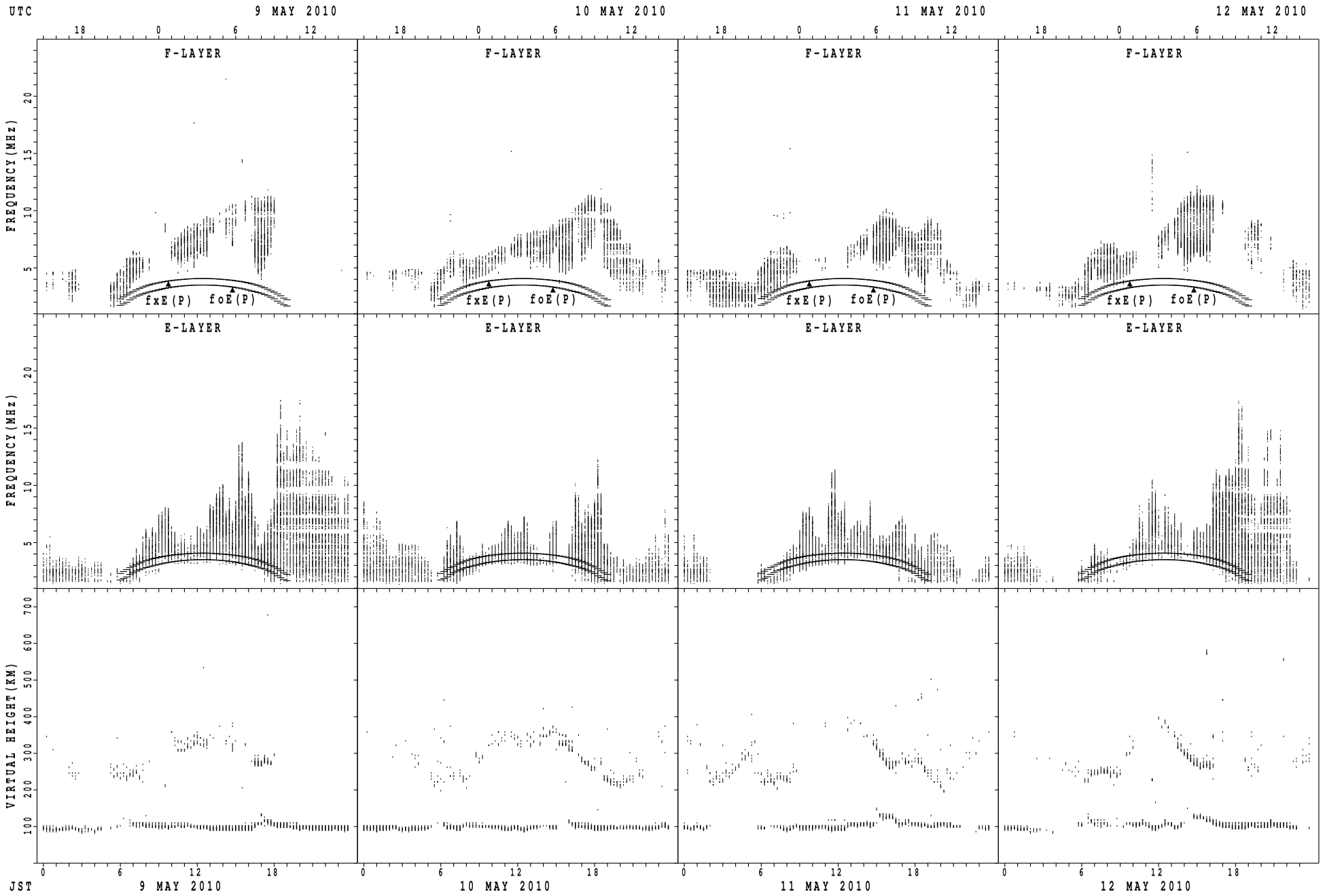
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



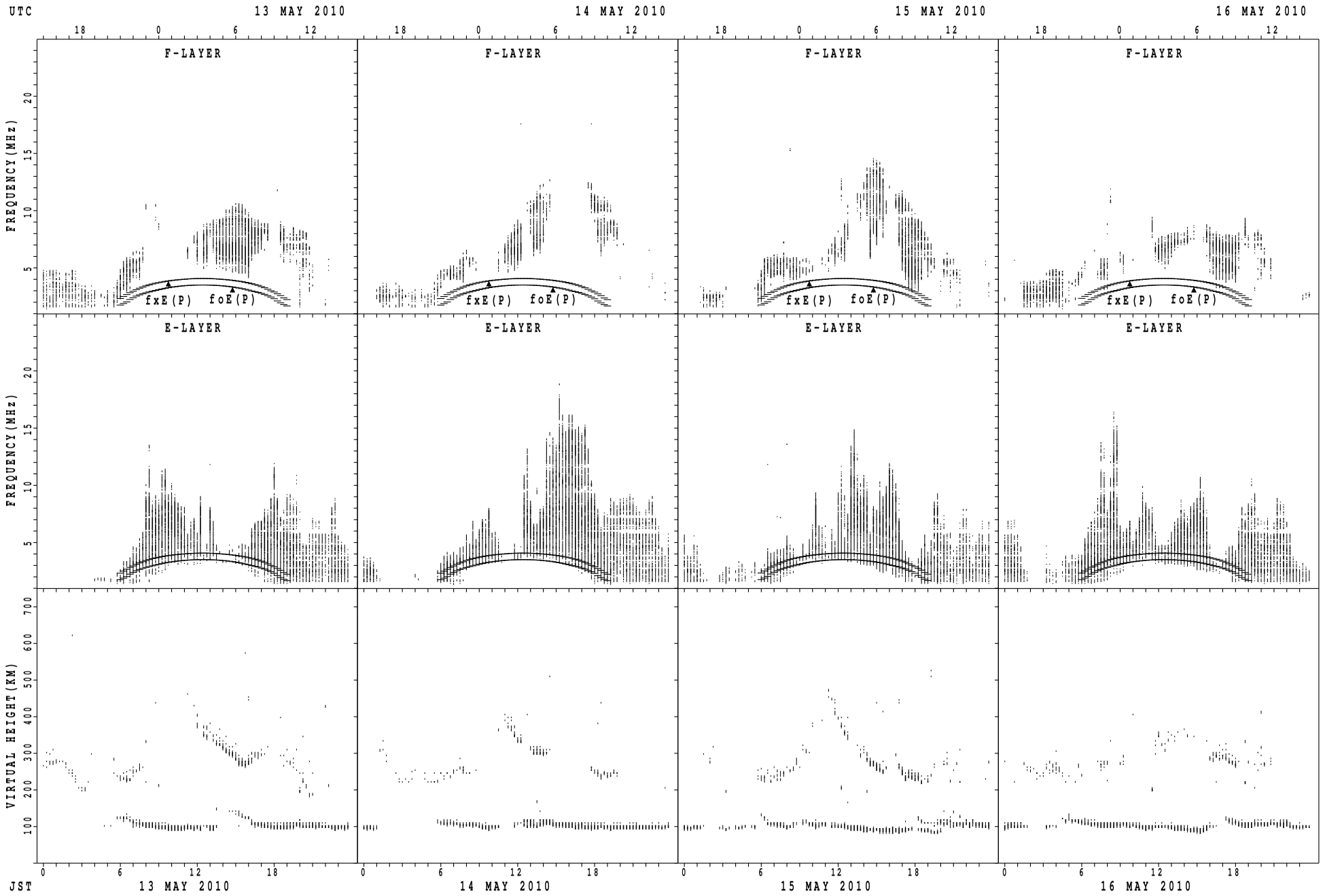
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



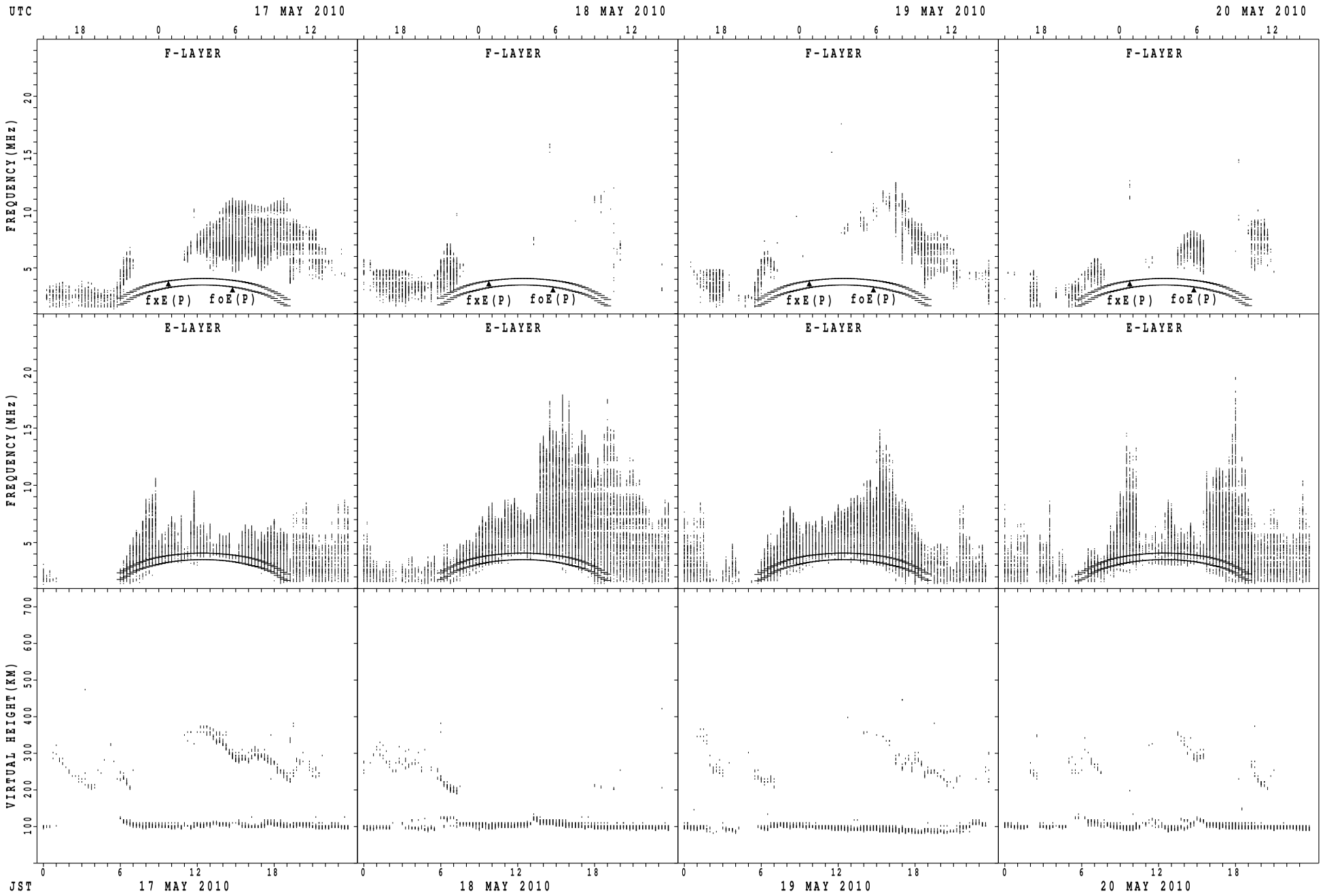
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



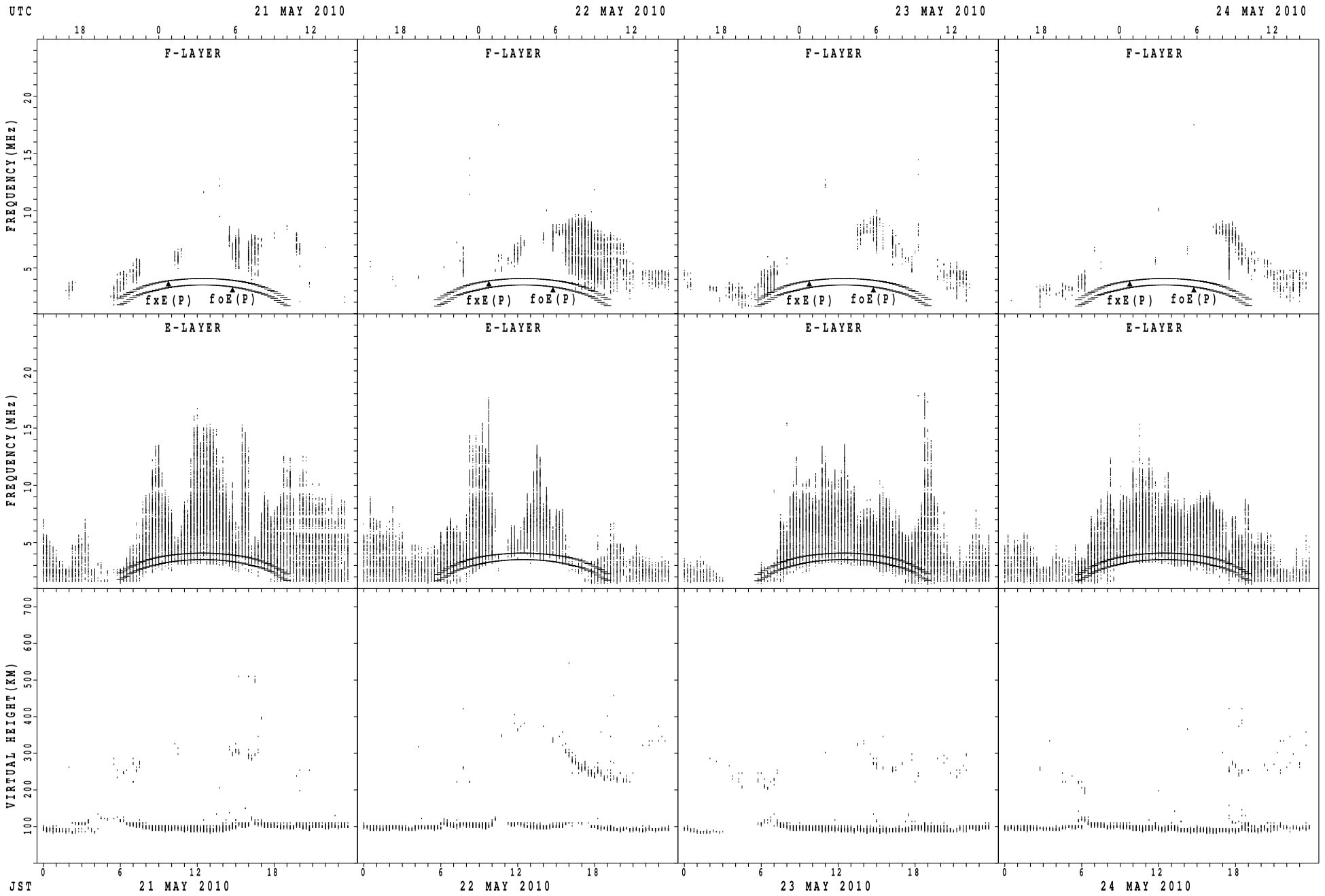
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



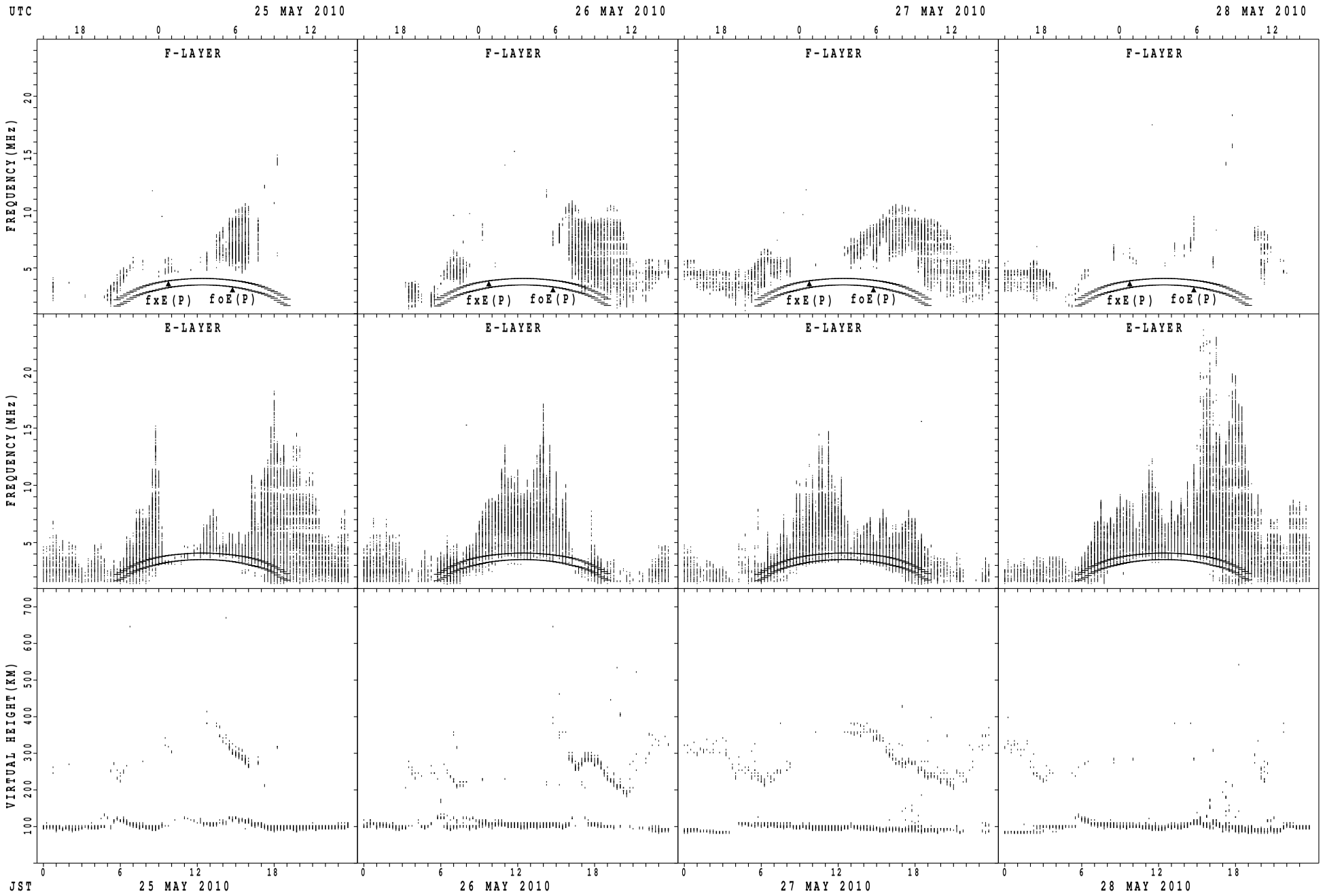
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



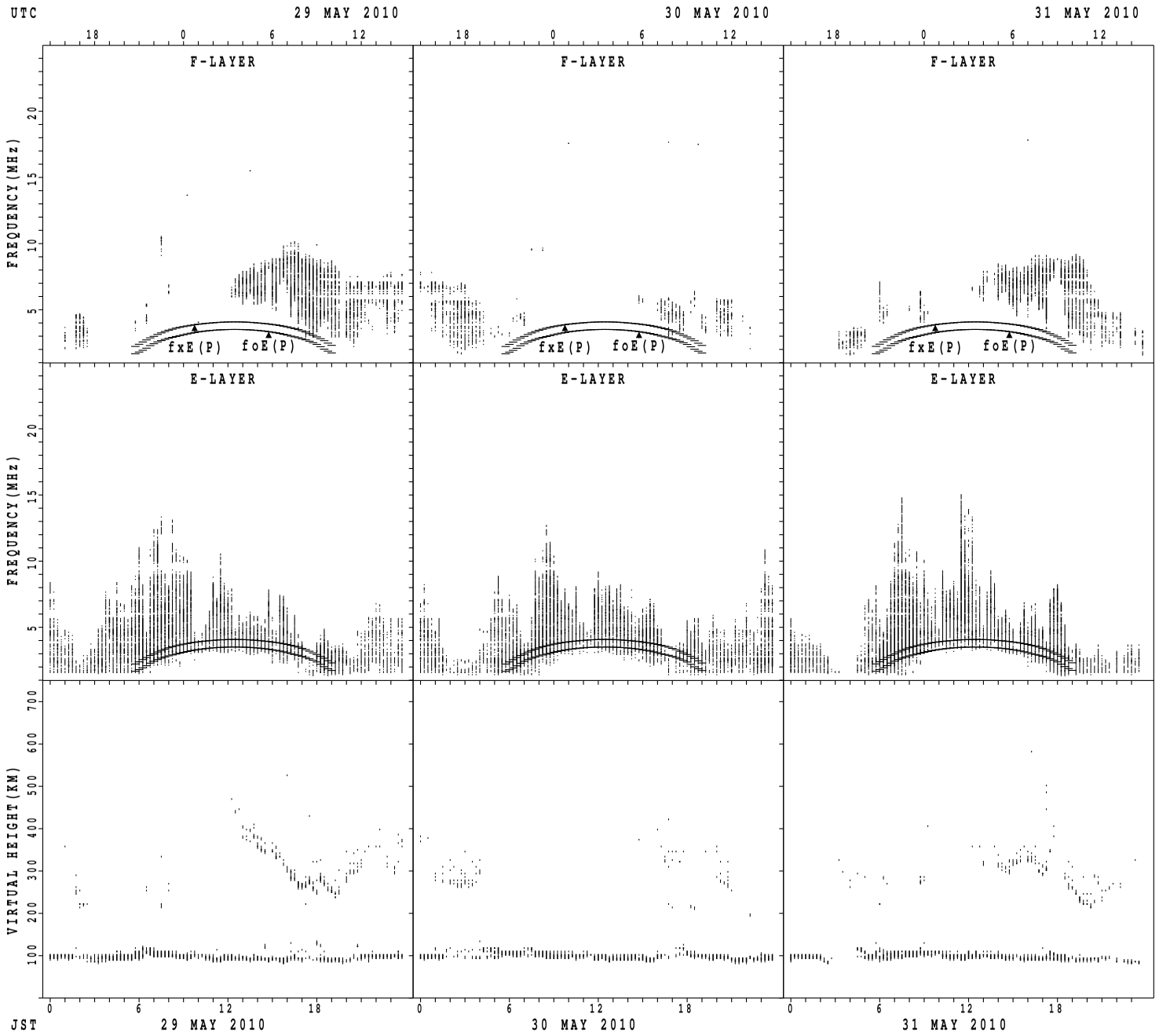
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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

MAY 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							1	1									5	4	3	1	2	3	1	
MED							280	274									288	267	270	264	286	258	302	
U Q							140	137									301	287	276	132	296	288	151	
L Q							140	137									276	245	250	132	276	252	151	

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	18	18	13	10	15	24	29	29	26	22	22	18	18	16	17	15	23	23	30	25	27	23	19	23
MED	96	95	95	94	99	116	115	111	107	104	103	101	99	97	95	95	103	107	108	105	107	103	103	97
U Q	97	97	102	127	119	130	123	113	111	107	107	105	105	101	97	97	113	113	113	111	111	105	105	101
L Q	93	91	89	87	91	111	111	110	105	103	101	97	95	95	94	89	95	95	105	101	103	103	97	97

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							1	8									15	12	10	7	7	4	1	1
MED							240	270									262	272	251	264	270	256	292	288
U Q							120	285									298	283	292	278	288	277	146	144
L Q							120	246									246	255	220	254	224	251	146	144

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	24	21	16	19	19	22	29	29	29	27	24	23	22	27	28	27	26	26	27	31	30	27	28	20
MED	97	95	95	95	95	115	113	111	103	103	103	101	99	103	101	103	108	105	105	103	103	105	103	99
U Q	99	97	98	97	95	127	119	113	108	105	105	105	101	105	107	107	117	111	111	107	105	107	105	103
L Q	95	91	90	89	91	107	111	105	103	101	100	97	97	95	95	95	103	97	97	97	97	99	100	97

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		1					1	5	9									14	13	9	14	2	1	1
MED		322					234	248	270									281	278	280	260	247	306	322
U Q		161					117	258	284									290	302	291	264	252	153	161
L Q		161					117	233	247									262	232	262	238	242	153	161

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	26	23	21	21	19	29	31	28	30	28	27	29	25	27	28	27	28	29	29	29	31	29	29
MED	97	95	93	93	95	99	113	107	103	103	99	99	99	97	99	101	101	108	103	103	103	103	101	99
U Q	101	97	95	95	99	111	119	111	109	103	103	103	103	104	105	110	111	113	107	103	105	105	104	101
L Q	95	91	89	89	87	91	108	103	103	99	97	97	96	95	95	95	95	102	100	98	96	97	97	97

MONTHLY MEDIANS OF h′F AND h′Es

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

h′F

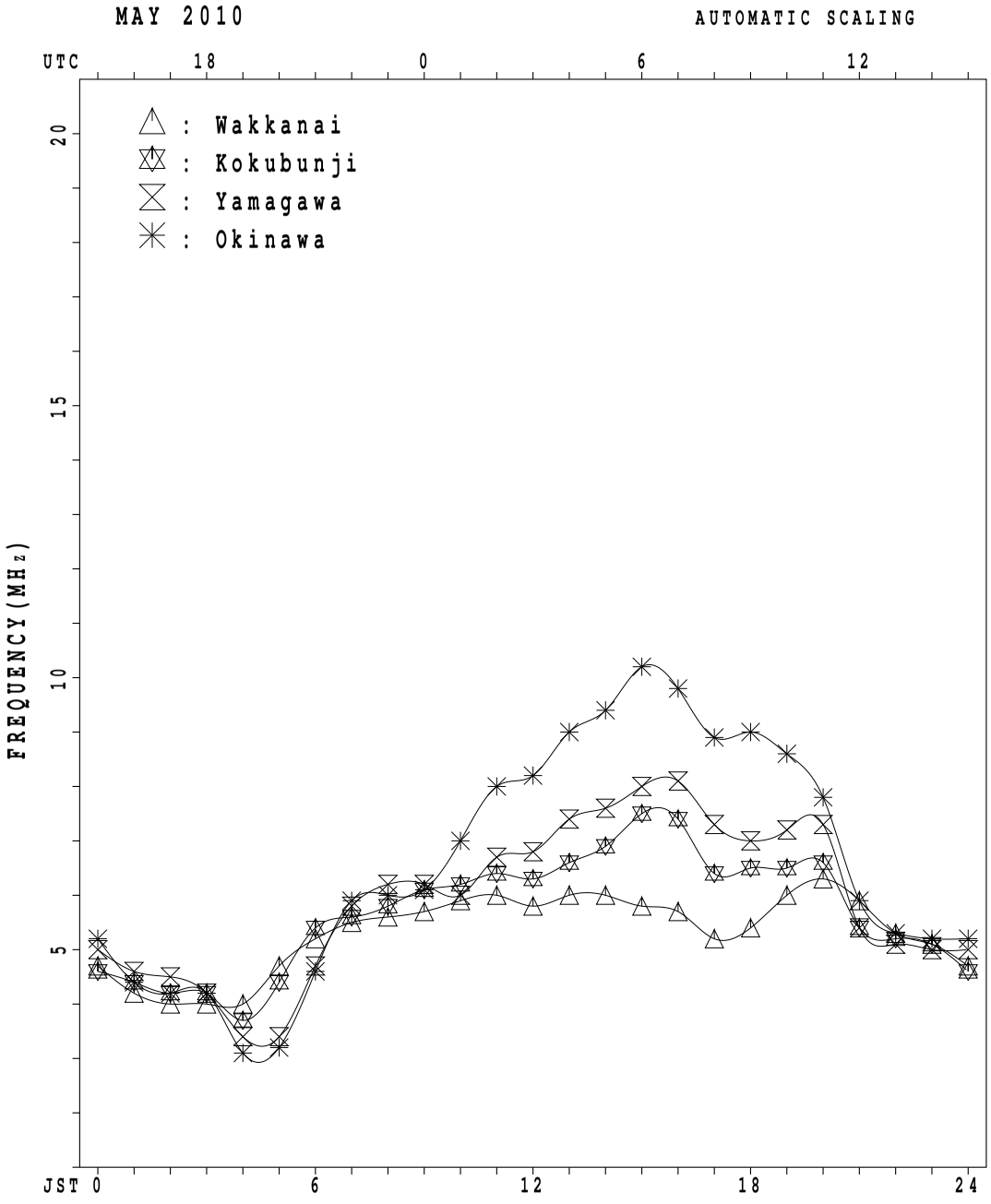
STATION Okinawa LAT. 26°41.0′N LON. 128°09.0′E

	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	1					1	7	9									23	19	18	16	3		1
MED	336	382					222	248	256									266	272	248	250	266		380
U Q	168	191					111	260	274									286	292	270	272	366		190
L Q	168	191					111	224	232									246	244	238	229	252		190

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	27	25	19	18	16	15	25	29	29	28	29	24	26	29	26	28	29	29	27	29	29	29	26	27
MED	99	99	97	97	96	105	113	111	105	103	103	99	100	101	102	107	105	105	105	103	103	103	102	101
U Q	103	102	101	103	100	119	124	113	107	105	107	103	105	106	107	120	115	111	109	104	105	105	105	103
L Q	97	96	91	95	92	97	107	105	103	99	99	97	95	95	95	96	97	102	103	97	97	97	99	97

MONTHLY MEDIANS PLOT OF foF2



IONOSPHERIC DATA STATION Kokubunji

MAY 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 54	X 52	52	52	49															X 68	X 64	X 59	X 56	X 57
2	X 53	X 52	X 50	X 48	X 39															X 70	X 64	X 63	X 63	X 60
3	X 57	X 55	X 56	X 64	X 33															X 63	X 66	X 61	X 60	X 60
4	X 60	X 57	X 50	X 39	X 39															A	X 71	X 66	X 61	X 59
5	X 58	X 53	X 50	X 50	X 47															A	X 65	X 62	62	63
6	X 58	X 57	X 48	X 46	X 44															X 78	X 71	X 65	X 60	X 57
7	X 56	X 54	X 54	X 50	X 48															X 73	X 66	X 61	X 60	66
8	60	58	56	X 49	X 46															X 78	X 72	A	A	X 57
9	54	57	54	X 46	48															X 79	X 83	X 68	A	X 47
10	X 50	X 48	X 44	X 43	X 41														A	A	X 80	X 61	X 55	X 54
11	X 54	X 52	X 47	X 49	X 47															X 87	X 84	X 60	X 54	X 54
12	54	X 49	49	46	50															X 81	X 72	X 64	X 62	X 63
13	X 61	X 54	X 54	X 48	X 48															X 70	X 74	X 72	X 60	X 50
14	X 45	X 44	43	43	43															X 81	X 83	X 64	X 49	X 47
15	X 47	X 44	X 42	X 39	X 38					C										X 67	X 64	X 62	A	65
16	61	54	53	52	X 48															X 66	X 72	X 60	X 48	X 44
17	42	42	41	X 34	X 34															X 73	A	68	65	56
18	55	52	52	X 43	X 41															X 80	X 86	X 80	X 57	52
19	51	X 48	55	52	46															X 71	X 74	X 80	X 68	X 55
20	X 46	X 45	X 41	X 39	X 37																X 78	X 68	54	X 48
21	X 43	X 43	46	X 40	X 39															X 77	X 74	X 62	X 47	X 47
22	A	X 44	X 41	X 40	X 40															X 82	X 84	X 58	X 50	A
23	A	A	A	X 39	X 38															X 64	X 54	X 51	A	A
24	46	46	45	X 43	46															X 65	X 72	64	64	A
25	X 41	X 39	X 44	X 40	A															X 74	X 67	X 56	54	53
26	52	51	48	50	X 39															X 74	X 79	A	X 57	C
27	56	52	50	X 46	42															A	X 76	X 69	X 49	X 54
28	60	55	X 49	51	X 40														X 62	X 72	X 80	A	66	64
29	62	58	X 54	X 49	X 46															X 88	X 87	X 86	X 88	X 90
30	85	84	66	X 69	X 60		52													A	68	X 58	X 57	X 52
31	A	50	A	A	A															X 70	A	X 53	59	X 57
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	30	29	30	29		1												1	25	29	28	27	27
MED	X 54	X 52	X 50	X 46	X 43		52												X 62	X 73	X 72	X 62	X 59	X 56
U Q	59	55	54	50	X 48															X 80	X 80	X 68	X 62	60
L Q	X 48	X 46	X 44	X 40	X 39															X 69	X 66	X 60	X 54	X 52

IONOSPHERIC DATA STATION Kokubunji

MAY 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	48	46	F	F	F	41	A	51	55	63	65	58	62	69	80	84	93	87	70	62	58	52	50	51
2	47	46	44	41	33	40	52	57	60	59	61	71	80	80	73	80	68	56	56	64	58	56	57	54
3	51	49	50	58	27	44	52	A	A	A	A	58	66	63	66	79	60	56	56	57	59	55	54	54
4	54	51	44	33	33	42	48	52	64	55	66	A	69	A	63	60	56	53	A	A	65	60	55	53
5	52	47	44	44	40	50	50	58	65	A	62	80	82	71	77	74	A	62	59	A	59	56	F	F
6	52	51	42	40	38	51	A	57	59	70	66	66	71	78	81	81	83	75	68	72	64	59	54	51
7	50	48	48	44	42	45	53	52	A	A	64	54	56	62	69	74	80	76	68	67	60	55	53	F
8	F	F	F	42	39	42	56	49	58	61	54	53	63	77	78	76	74	64	60	72	66	A	A	52
9	F	F	F	40	F	46	A	61	62	58	62	68	73	73	68	71	65	56	58	72	77	62	A	41
10	44	42	38	36	35	45	63	58	A	A	60	56	66	64	67	75	A	A	A	A	73	55	49	48
11	48	46	41	43	40	48	58	58	56	62	56	60	58	61	66	73	75	64	66	81	78	54	48	48
12	F	43	F	F	F	48	47	58	61	72	66	60	60	63	68	74	69	65	66	74	66	57	56	56
13	55	48	48	42	42	45	A	A	A	A	A	61	A	56	64	A	62	60	A	64	67	65	53	44
14	39	37	F	F	F	39	54	57	54	50	52	56	60	69	70	73	73	67	A	75	77	58	42	41
15	41	38	36	33	32	40	49	62	55	C	54	A	56	59	62	70	73	62	61	61	58	56	A	F
16	F	F	F	F	41	A	54	A	A	A	57	65	50	55	60	57	A	A	A	60	66	54	42	38
17	F	F	F	28	28	37	51	52	A	A	A	54	54	62	64	A	A	56	56	67	A	F	F	F
18	F	F	F	37	35	38	54	60	59	A	54	A	A	A	A	73	78	64	63	74	80	74	51	F
19	F	40	F	F	F	39	50	66	A	A	A	A	A	60	58	64	73	74	66	65	67	74	62	48
20	40	37	35	33	31	36	A	A	57	51	A	A	55	A	57	A	A	A	A	70	72	61	F	42
21	37	36	F	33	33	35	A	A	A	A	A	A	56	A	A	A	A	A	A	70	67	56	41	41
22	A	38	34	33	33	38	56	A	57	62	62	64	60	63	A	A	A	A	71	76	77	52	43	A
23	A	A	A	33	32	42	54	A	A	A	A	A	A	A	A	A	A	69	59	58	44	45	A	A
24	F	F	F	37	F	41	55	59	A	A	A	A	A	A	65	74	64	53	50	59	66	F	F	A
25	34	33	38	34	A	40	51	A	A	A	A	A	A	55	57	65	74	73	73	68	61	50	F	F
26	F	F	F	F	33	40	52	58	56	57	58	56	53	58	65	79	89	A	67	68	73	A	51	C
27	F	F	F	40	F	39	A	65	A	A	A	A	A	A	A	A	A	A	A	A	70	63	43	48
28	F	F	43	F	35	42	49	A	A	A	A	A	A	A	A	59	60	53	56	66	74	A	F	F
29	F	F	48	43	40	34	A	A	A	A	A	56	A	A	A	84	86	82	78	82	81	80	82	83
30	F	F	F	63	54	47	F	46	44	A	A	A	A	A	A	A	45	A	A	A	F	51	51	45
31	A	F	A	A	A	48	A	57	A	A	A	52	A	50	50	43	51	51	57	64	A	47	F	51
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	15	18	15	23	22	30	21	21	16	12	17	19	20	21	23	23	22	23	22	26	28	26	20	20
MED	48	44	43	40	35	42	52	58	58	60	61	58	60	63	66	74	73	64	62	68	66	56	51	48
U Q	52	48	48	43	40	45	54	60	60	62	64	65	68	70	70	79	78	73	68	72	74	61	54	52
L Q	40	38	38	33	33	39	50	52	56	56	55	56	56	58	62	65	62	56	57	64	60	54	46	43

IONOSPHERIC DATA STATION Kokubunji

MAY 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							A	A	A 444		456	472	460	U L 464	448	440	416	L						
2									U L 440	A	472	U L 460	468	A	456	U L 424	L	A						
3								A	A	A	A 464		A	A	A	432	L	L						
4								A	A	U L 444	A	A	A	A	A	444	A	A	A					
5								A	A	A	A	A	448	A	A	A	A	A						
6							A	A	A	A	A	A	A	464	A	A	A	A						
7							L	U L 412	A	A	448	476	468	U L 456		A	A	L						
8								A	A	A	A	468	A	A	A	A	A	L	A					
9						A	A	L	A	A	A	464	A	452	U L 448	420	L	U L 396	L					
10							A	A	A	A	A	U L 476	460	A	A	A	A	A						
11								U L 428	U L 420	440	516	464	U L 464	448	A	A	A	A	A					
12							U L 360	A	420	432	440	464	456	460	436	A	U L 400	A	A					
13							A	A	A	A	A	A	A	A	A	A	A	A	A					
14								L	A	U L 444	448	444	A	A	A	A	A	L	A					
15							L	A	A	C	A	A	A	A	A	A	A	A	A					
16						A	A	A	A	A	A	A	A	A	A	A	A	A	A					
17								A	A	A	A	A	A	A	A	A	A	356	L					
18							A	A	A	A	A	A	A	A	A	A	396	L	A					
19								A	A	A	A	A	A	A	A	A	A	L						
20							A	A	A	A	A	A	A	A	A	A	A	A	A	A				
21							A	A	A	A	A	A	A	A	A	A	A	A	A					
22							A	A	A	A	A	U L 468	452	464	A	A	A	A	A					
23							A	A	A	A	A	A	A	A	A	A	A	372						
24							L	A	A	A	A	A	A	A	A	A	A	A	L					
25							A	A	A	A	A	A	A	A	A	424	396	A	L					
26							A		A	A	448	460	U L 460	A	A	A	A	A	L					C
27							A	A	A	A	A	A	A	A	A	A	A	A	A					
28								A	A	A	A	A	A	A	A	A	A	A						
29							A	A	A	A	A	A	A	A	A	A	A	372	L					
30						A	A	A	A	A	A	A	A	A	A	A	A	A	A					
31						A	A	U L 420		A	A	444		A	U L 400	U L 400	400	A	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	3	3	5	7	13	9	8	4	7	5	4						
MED							U L 360	U L 420	U L 420	444	448	464	460	458	448	424	400	372						
U Q								U L 428	U L 440	U L 444	472	470	466	464	452	440	408	384						
L Q								U L 412	420	436	448	460	454	450	442	420	396	364						

MAY 2010 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 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	A	A	A	A	A	R	A	A	A	A	R	A	B					
2						B	224	A	A	A	A	A	A	A	A	A	A	A	B					
3						B	A	A	A	A	A	A	A	A	A	R	R	A	A					
4						B	224	A	A	A	A	A	A	A	A	332	A	A	B					
5						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
6						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
7						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
8						B	A	A	A	A	A	A	A	A	A	A	A	R	A					
9						B	A	A	A	A	A	A	A	A	A	R 352	A	U A 236	B					
10						B	A	A	A	A	A	A	A	A	A	A	A	A						
11						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
12						B	A	A	A	A	A	A	A	R	A	320	A	A	B					
13						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
14						B	A	A	A	A	R	A	A	A	A	A	A	A	B					
15						B	A	A	A	C	A	A	A	A	A	A	A	U A 284	A					
16						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
17						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
18						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
19						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
20						B	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
21						U A 180	A	A	A	A	A	A	A	A	A	A	A	A	A					
22						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
23						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
24						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
25						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
26						B	A	A	A	A	A	R	A	A	A	A	A	A	B					C
27						B	U A 240	A	A	A	A	A	A	A	A	A	A	A	A					
28						A	A	A	A	A	A	A	A	A	A	A	A	A						
29						A	A	A	A	A	A	A	A	A	A	A	A	R	A					
30						A	A	A	A	A	A	A	A	A	A	A	A	A	B					
31						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						1	3									3		2						
MED						U A 180	224									332		U A 260						
U Q							U A 240									R 352								
L Q							224									320								

MAY 2010 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 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	E B 15	E B 14	E B 14	E B 15	20	E B 14	J A 58	38	J A 47	37	41	G	38	43	39	40	G 23	J A 30	J A 27	J A 23	J A 30	J A 33	E B 15	E B 16
2	E B 15	E B 15	18	22	J A 20	E B 15	29	34	40	J A 47	J A 48	J A 44	J A 45	J A 48	J A 46	J A 43	35	J A 48	J A 34	J A 43	J A 27	J A 24	J A 21	20
3	21	E B 15	E B 14	E B 16	E B 15	J A 39	J A 57	J A 108	J A 110	J A 80	J A 131	40	J A 68	J A 49		G 26	G 22	36	25	J A 21	J A E B 27	15	J A 22	J A 33
4	J A 37	J A 18	J A 29	J A 31	J A 21	20	30	J A 49	J A 48	J A 48	J A 58	76	J A 61	78	J A 78	40	40	38	J A 63	J A 147	J A 74	J A 44	J A 60	J A 22
5	J A 33	J A 19	E B 15	E B 15	E B 15	22	J A 42	J A 44	J A 62	J A 116	J A 66	64	40	J A 63	J A 50	70	J A 102	J A 79	J A 42	J A 90	J A 43	J A 64	J A 58	J A 41
6	J A 40	J A 35	J A 44	J A 40	J A 29	23	J A 71	J A 45	J A 50	J A 50	J A 54	51	J A 62	48	J A 56	J A 53	J A 46	J A 68	J A 39	J A 38	20	22	J A 22	J A 44
7	J A 53	J A 26	J A 21	J A 24	E B 15	23	31	J A 39	J A 60	J A 58	38	40	40	40	J A 52	J A 68	J A 44	J A 31	J A 37	J A 44	J A 30	J A 26	J A 20	J A 48
8	J A 61	J A 21	J A 56	J A 58	J A 53	20	J A 38	J A 46	J A 56	J A 56	47	J A 45	J A 57	J A 60	J A 57	J A 74	J A 97	G 23	42	J A 36	J A 53	J A 80	J A 75	J A 44
9	J A 58	J A 34	J A 44	J A 81	J A 34	J A 38	J A 53	J A 38	J A 51	J A 52	J A 48	43	J A 46	41	38	G 34	33	31	22	J A 83	J A 76	J A 78	J A 71	22
10	J A 26	21	J A 22	J A 23	J A 53	J A 33	28	37	J A 63	J A 67	J A 48	J A 48	44	J A 62	J A 76	J A 76	J A 95	J A 174	J A 152	J A 107	J A 74	J A 78	J A 25	19
11	E B 16	E B 15	21	E B 16	E B 14	20	30	34	36	41	39	40	42	42	J A 56	J A 54	J A 50	J A 60	J A 62	J A 42	J A 40	J A 31	J A 43	J A 43
12	J A 20	21	J A 22	J A 21	J A 28	20	32	J A 66	J A 41	J A 43	40	42	J A 42	G 33	35	41	37	J A 53	J A 46	J A 27	J A E B 22	E B 15	E B 14	E B 14
13	E B 15	E B 14	E B 15	21	19	23	J A 76	J A 69	J A 60	J A 67	J A 60	76	J A 126	J A 60	J A 84	J A 86	J A 51	J A 56	J A 75	J A 62	J A 68	J A 64	J A 35	J A 42
14	23	J A 22	E B 15	E B 15	E B 15	24	J A 46	34	J A 52	39	G	38	J A 66	J A 82	J A 48	J A 58	J A 91	J A 256	J A 126	J A 82	J A 72	J A 29	J A 24	E B 14
15	18	20	E B 15	E B 14	E B 14	23	34	46	J A 48	C	J A 51	J A 61	J A 53	J A 47	J A 54	J A 117	J A 49	35	J A 46	J A 40	J A 40	J A 82	J A 110	J A 74
16	J A 46	J A 34	J A 29	J A 34	J A 67	J A 54	J A 52	J A 97	J A 83	J A 55	J A 56	J A 66	J A 48	J A 57	J A 58	J A 60	J A 58	J A 58	J A 66	J A 44	J A 32	J A 36	19	18
17	J A 42	J A 37	20	J A 29	J A 28	26	J A 40	J A 46	J A 62	J A 59	J A 62	J A 56	J A 57	J A 56	J A 45	J A 152	J A 149	J A 34	24	J A 52	J A 81	J A 132	J A 62	J A 74
18	J A 46	J A 39	J A 27	J A 47	J A 57	27	32	J A 52	J A 50	J A 59	J A 48	J A 81	J A 123	J A 114	J A 65	44	J A 58	J A 70	J A 66	J A 48	J A 76	J A 56	J A 80	J A 68
19	J A 56	J A 28	J A 29	J A 28	J A 24	G	31	J A 62	J A 72	J A 83	J A 81	J A 118	J A 84	J A 61	J A 57	J A 58	J A 58	J A 31	J A 32	J A 28	J A 36	J A 44	J A 32	J A 47
20	J A 32	J A 24	J A 26	J A 22	J A 21	22	36	J A 52	J A 64	J A 74	J A 58	J A 56	J A 55	J A 76	52	J A 74	J A 99	J A 99	J A 82	J A 76	J A 68	J A 28	60	J A 28
21	J A 27	J A 45	J A 32	J A 27	J A 26	25	J A 46	J A 65	J A 48	J A 107	J A 104	62	J A 46	70	J A 74	J A 94	J A 80	J A 143	J A 79	J A 113	97	69	47	45
22	J A 71	J A 59	J A 44	J A 47	J A 38	J A 36	J A 45	J A 79	J A 58	J A 67	56	42	37	41	J A 91	J A 97	J A 128	J A 154	J A 47	24	32	50	52	64
23	J A 81	J A 67	J A 59	J A 23	J A 40	80	J A 40	J A 54	J A 75	J A 159	J A 126	J A 111	J A 116	J A 77	J A 90	J A 74	J A 96	29	J A 42	J A 51	J A 80	J A 80	J A 58	J A 96
24	J A 81	J A 28	22	J A 44	24	21	30	J A 50	J A 78	J A 83	J A 80	94	J A 99	J A 69	J A 80	J A 72	J A 45	40	J A 29	J A 23	J A 62	J A 43	J A 53	J A 66
25	J A 98	J A 54	J A 56	J A 48	J A 64	J A 24	J A 46	J A 78	J A 74	J A 99	J A 174	J A 116	J A 227	J A 66	49	35	37	J A 66	J A 42	70	28	27	72	J A 64
26	J A 48	J A 38	J A 45	J A 53	J A 43	28	35	J A 43	J A 64	56	43	G 31	39	J A 48	J A 96	54	J A 82	J A 150	J A 170	J A 128	J A 110	J A 108	J A 62	C
27	J A 55	J A 35	J A 30	J A 30	21	24	J A 60	J A 50	J A 102	J A 146	J A 125	J A 124	J A 102	J A 176	J A 72	J A 120	J A 114	J A 115	J A 102	78	55	36	53	46
28	J A 59	J A 35	J A 57	J A 69	J A 30	27	J A 52	J A 62	J A 70	J A 78	J A 70	J A 110	J A 104	J A 80	J A 107	J A 50	J A 46	46	49	54	63	78	56	J A 62
29	J A 45	J A 21	J A 19	J A 21	J A 29	J A 34	J A 60	J A 75	J A 81	J A 134	J A 65	J A 45	J A 72	J A 82	J A 70	J A 82	J A 46	G 20	26	J A 46	J A 44	J A 46	J A 40	J A 20
30	E B 15	J A 23	J A 21	22	22	J A 31	J A 38	J A 39	J A 44	J A 51	J A 65	78	J A 57	J A 91	J A 110	J A 46	J A 47	68	J A 80	J A 83	J A 55	J A 62	J A 52	J A 44
31	J A 76	J A 54	J A 45	J A 51	J A 45	J A 54	J A 64	J A 40	J A 108	J A 151	J A 82	57	J A 85	41	43	J A 44	35	J A 43	J A 50	J A 24	J A 102	J A 62	J A 55	J A 54
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	30
MED	J A 42	J A 26	J A 26	J A 27	J A 26	24	J A 40	J A 49	J A 60	J A 63	J A 58	J A 56	J A 57	J A 60	J A 57	J A 58	J A 50	J A 53	J A 46	J A 48	J A 55	J A 46	J A 52	J A 44
U Q	J A 58	J A 37	J A 44	J A 47	J A 40	J A 33	J A 53	J A 65	J A 74	J A 83	J A 80	J A 78	J A 85	J A 77	J A 78	J A 76	J A 95	J A 79	J A 75	J A 82	J A 74	J A 78	J A 60	J A 62
L Q	E B 21	E B 20	E B 19	E B 21	E B 20	21	32	39	J A 48	J A 51	48	42	44	47	48	44	40	34	34	J A 36	J A 32	J A 29	J A 24	22

MAY 2010 foEs (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

MAY 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 14	E B 14	E B 15	E B 15	E B 14	A A 58	35	42	35	39	G	38	41	37	36	G 20	23	22	19	21	30	E B 15	E B 16
2	E B 15	E B 15	E B 15	E B 15	16	E B 15	26	32	37	45	42	39	40	44	37	35	33	40	30	41	18	17	16	E B 16
3	E B 16	E B 15	E B 14	E B 16	E B 15	36	31	A A 108	A A 110	A A 80	A A 131	40	58	45	42	G 24	G 20	33	22	16	21	E B 15	18	23
4	29	16	26	21	E B 15	17	28	42	42	38	52	A A 76	47	A A 78	56	38	36	36	A A 63	A A 147	28	28	34	E B 16
5	20	16	E B 15	E B 15	E B 15	20	38	41	56	A A 116	54	58	37	59	48	69	A A 102	53	41	A A 90	32	20	20	20
6	23	20	25	28	22	18	A A 71	39	44	44	48	48	52	38	52	45	42	49	36	34	E B 15	E B 15	21	18
7	E B 16	20	E B 15	E B 15	E B 15	19	29	34	A A 60	A A 58	37	38	39	39	49	61	40	28	31	39	24	21	E B 15	E B 15
8	30	E B 15	E B 15	21	23	18	35	40	52	50	44	42	45	48	46	67	63	G 22	34	30	40	A A 80	A A 75	35
9	36	24	20	20	20	35	A A 53	35	42	46	44	40	42	40	37	G 32	29	27	20	21	42	39	A A 71	E B 15
10	17	E B 15	E B 15	E B 15	19	18	27	34	A A 63	A A 67	44	42	39	46	61	58	A A 95	A A 174	A A 152	A A 107	51	23	E B 15	E B 16
11	E B 16	E B 15	E B 16	E B 16	E B 14	18	26	32	34	39	36	38	40	39	52	50	47	58	58	39	35	28	19	E B 15
12	E B 15	E B 15	17	E B 15	E B 15	17	29	54	36	38	37	38	38	G 31	33	39	35	43	36	20	E B 15	E B 15	E B 14	E B 14
13	E B 15	E B 14	E B 15	E B 14	E B 15	21	A A 76	A A 69	A A 60	A A 67	A A 60	44	A A 126	43	45	A A 86	44	54	A A 75	25	47	28	21	26
14	E B 16	E B 15	E B 15	E B 15	E B 15	20	41	31	40	36	G	36	43	46	42	50	52	26	A A 126	19	60	E B 15	18	E B 14
15	E B 16	E B 15	E B 15	E B 14	E B 14	21	31	44	40	C	46	A A 61	46	44	44	41	40	34	41	34	22	40	A A 110	37
16	30	28	18	17	30	A A 54	49	A A 97	A A 83	A A 55	53	52	44	47	43	42	A A 58	A A 58	A A 66	35	24	22	E B 15	E B 15
17	E B 15	18	E B 15	E B 15	21	23	38	38	A A 62	A A 59	A A 62	48	48	45	43	A A 152	A A 149	26	22	40	A A 81	24	16	18
18	36	E B 15	19	21	23	24	28	47	43	A A 59	45	A A 81	A A 123	A A 114	A A 65	42	33	29	31	22	48	20	30	21
19	28	E B 15	16	16	18	G	28	51	A A 72	A A 83	A A 81	A A 118	A A 84	46	52	53	40	26	28	24	28	34	22	19
20	E B 15	E B 15	16	E B 15	15	19	A A 36	A A 52	44	42	A A 58	A A 56	45	A A 76	48	A A 74	A A 99	A A 99	A A 82	60	43	21	34	20
21	22	23	22	17	20	22	A A 46	A A 65	A A 48	A A 107	A A 104	A A 62	43	A A 70	A A 74	A A 94	A A 80	A A 143	A A 79	22	55	43	29	32
22	A A 71	28	20	E B 15	20	20	42	A A 79	52	56	53	40	36	39	A A 91	A A 97	A A 128	A A 154	40	22	25	36	31	A A 64
23	A A 81	A A 67	A A 59	16	20	33	36	A A 54	A A 75	A A 159	A A 126	A A 111	A A 116	A A 77	A A 90	A A 74	A A 96	27	34	41	35	20	A A 58	A A 96
24	E B 15	E B 15	E B 15	20	17	20	28	40	A A 78	A A 83	A A 80	A A 94	A A 99	A A 69	52	65	41	35	24	20	47	28	38	A A 66
25	17	20	23	16	A A 64	18	34	A A 78	A A 74	A A 99	A A 174	A A 116	A A 227	44	47	32	34	58	21	40	E B 15	18	27	29
26	19	23	21	30	24	18	32	39	41	49	40	G 30	39	44	51	43	64	A A 150	23	44	45	A A 108	37	C
27	35	25	17	17	E B 15	23	A A 60	44	A A 102	A A 146	A A 125	A A 124	A A 102	A A 176	A A 72	A A 120	A A 114	A A 115	A A 102	A A 78	41	29	30	40
28	30	19	30	15	17	25	45	A A 62	A A 70	A A 78	A A 70	A A 110	A A 104	A A 80	A A 107	47	43	42	43	49	42	A A 78	38	33
29	24	E B 15	E B 15	E B 15	19	28	A A 60	A A 75	A A 81	A A 134	A A 65	41	A A 72	A A 82	A A 70	70	40	G 19	23	38	22	32	27	E B 15
30	E B 15	E B 15	E B 15	E B 15	E B 15	30	32	35	37	A A 51	A A 65	A A 78	A A 57	A A 91	A A 110	A A 46	40	A A 68	A A 80	A A 83	19	41	22	E B 16
31	A A 76	31	A A 45	A A 51	A A 45	34	A A 64	34	A A 108	A A 151	A A 82	39	A A 85	37	41	36	33	38	46	19	A A 102	20	40	32
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	30
MED	19	E B 15	16	E B 16	17	20	36	42	52	A A 58	53	48	46	46	49	50	42	40	36	35	35	28	27	20
U Q	30	23	21	20	21	25	A A 49	A A 62	A A 74	A A 83	A A 80	A A 78	A A 85	A A 76	A A 65	A A 70	A A 80	A A 58	A A 66	A A 44	47	36	37	32
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	18	29	35	42	45	44	39	40	41	43	39	35	27	24	22	22	20	E B 18	E B 16

MAY 2010 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

IONOSPHERIC DATA STATION Kokubunji

MAY 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	294	291	F	F	F	366	A	363	346	344	347	326	303	308	320	314	336	350	347	329	307	306	296	303
2	306	314	325	346	309	322	355	346	350	317	316	319	326	318	314	344	356	329	324	327	314	289	289	281
3	277	302	319	381	365	359	367	A	A	A	A	290	325	314	303	336	330	299	322	298	300	285	275	295
4	295	336	313	289	303	329	344	323	328	338	322	A	328	A	322	332	333	314	A	A	318	319	298	298
5	316	304	306	291	295	354	366	358	357	A	296	310	345	308	333	327	A	343	339	A	304	303	F	F
6	279	318	309	333	310	348	A	342	311	341	325	318	311	320	323	330	335	338	339	325	312	314	301	289
7	295	285	307	303	304	320	355	344	A	A	338	314	302	318	317	320	320	331	330	317	312	302	294	F
8	F	F	F	330	295	326	363	328	337	351	307	278	299	314	328	316	330	323	312	323	326	A	A	296
9	F	F	F	307	F	351	A	337	343	331	318	317	322	327	317	333	333	327	306	324	338	338	A	305
10	304	303	309	317	318	359	373	348	A	A	361	307	326	326	319	309	A	A	A	A	344	322	311	316
11	306	311	322	296	327	352	367	345	345	357	331	318	314	301	306	317	329	329	307	323	352	322	302	293
12	F	287	F	F	F	399	330	354	349	353	346	337	312	311	304	327	328	322	326	338	337	298	300	306
13	316	303	316	318	331	370	A	A	A	A	A	355	A	285	321	A	338	332	A	297	322	338	349	315
14	308	302	F	F	F	347	377	390	366	296	319	320	309	319	313	313	335	307	A	334	362	358	308	311
15	306	308	307	318	314	350	347	379	373	C	332	A	306	309	298	323	336	343	339	331	326	291	A	F
16	F	F	F	F	333	A	341	A	A	A	321	339	285	288	314	318	A	A	A	318	346	355	342	303
17	F	F	F	309	317	339	365	371	A	A	A	321	309	314	313	A	A	326	330	327	A	F	F	F
18	F	F	F	302	299	336	358	362	360	A	318	A	A	A	A	296	324	309	294	312	331	341	330	F
19	F	299	F	F	F	365	340	371	A	A	A	A	A	334	307	308	316	330	325	313	306	353	322	316
20	303	287	306	293	299	325	A	A	326	350	A	A	314	A	320	A	A	A	A	309	253	357	F	301
21	316	298	F	294	298	321	A	A	A	A	A	A	313	A	A	A	A	A	A	318	349	341	325	322
22	A	307	322	315	336	320	346	A	336	323	322	319	302	320	A	A	A	A	320	339	357	329	297	A
23	A	A	A	310	329	357	355	A	A	A	A	A	A	A	A	A	A	354	348	350	294	310	A	A
24	F	F	F	301	F	345	353	369	A	A	A	A	A	A	314	340	345	344	320	311	330	F	F	A
25	344	314	329	314	A	333	371	A	A	A	A	A	A	311	292	312	316	320	325	344	344	338	F	F
26	F	F	F	F	317	377	349	389	345	338	315	313	282	315	287	301	312	A	328	294	332	A	310	C
27	F	F	F	330	F	312	A	386	A	A	A	A	A	A	A	A	A	A	A	A	351	357	272	301
28	F	F	324	F	334	341	386	A	A	A	A	A	A	A	A	317	332	309	313	311	360	A	F	F
29	F	F	332	320	355	363	A	A	A	A	A	307	A	A	A	295	299	306	292	300	292	311	302	301
30	F	F	F	287	279	266	F	276	288	A	A	A	A	A	A	A	281	A	A	A	F	272	309	309
31	A	F	A	A	A	343	A	326	A	A	A	291	A	277	289	278	287	296	312	327	A	294	F	306
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	15	18	15	23	22	30	21	21	16	12	17	19	20	21	23	23	22	23	22	26	28	26	20	20
MED	306	303	316	310	316	346	355	354	345	340	322	318	312	314	314	317	330	327	324	323	328	320	302	303
U Q	316	311	324	320	331	359	367	371	354	350	335	321	324	320	320	330	335	338	330	329	345	341	316	310
L Q	295	298	307	296	299	326	346	340	332	327	317	307	302	308	304	309	316	309	312	311	310	302	296	297

IONOSPHERIC DATA STATION Kokubunji

MAY 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							A	A	A	386	407	397	423	UL 401	391	374	356	L						
2									UL 392	A	383	UL 345	383	A	393	UL 401	L	A						
3								A	A	A	A	387	A	A	A	377	L	L						
4								A	A	UL 394	A	A	A	A	A	385	A	A	A					
5								A	A	A	A	A	402	A	A	A	A	A						
6							A	A	A	A	A	A	A	342	A	A	A	A						
7							L	UL 375	A	A	397	399	377	UL 399		A	A	L						
8								A	A	A	A	409	A	A	A	A	A	L	A					
9						A	A	L	A	A	A	377	A	375	UL 396	393	L	UL 347	L					
10							A	A	A	A	A	UL 353	381	A	A	A	A	A						
11								UL 373	UL 414	406	346	412	UL 372	375	A	A	A	A	A					
12							UL 380	A	382	398	412	386	405	400	393	A	UL 376	A	A					
13							A	A	A	A	A	A	A	A	A	A	A	A	A					
14								L	A	UL 412	406	407	A	A	A	A	A	L	A					
15							L	A	A	C	A	A	A	A	A	A	A	A	A					
16						A	A	A	A	A	A	A	A	A	A	A	A	A	A					
17								A	A	A	A	A	A	A	A	A	A	378	L					
18							A	A	A	A	A	A	A	A	A	A	383	L	A					
19								A	A	A	A	A	A	A	A	A	A	L						
20							A	A	A	A	A	A	A	A	A	A	A	A	A	A				
21							A	A	A	A	A	A	A	A	A	A	A	A	A					
22							A	A	A	A	A	UL 350	409	359	A	A	A	A	A					
23							A	A	A	A	A	A	A	A	A	A	A	386						
24							L	A	A	A	A	A	A	A	A	A	A	A	L					
25							A	A	A	A	A	A	A	A	A	385	400	A	L					
26							A		A	A	380	402	UL 409	A	A	A	A	A	L					C
27							A	A	A	A	A	A	A	A	A	A	A	A	A					
28								A	A	A	A	A	A	A	A	A	A	A						
29							A	A	A	A	A	A	A	A	A	A	A	376	L					
30						A	A	A	A	A	A	A	A	A	A	A	A	A	A					
31						A	A	UL 357	A	A	A	397	A	UL 451	A	UL 387	366	A	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	3	3	5	7	13	9	8	4	7	5	4						
MED							UL 380	UL 373	UL 392	398	397	397	402	387	393	385	376	377						
U Q								UL 375	UL 414	409	407	404	409	UL 400	394	393	392	382						
L Q								UL 357	382	390	380	UL 365	379	367	392	377	361	362						

MAY 2010 M(3000)F1 (0.01)

IONOSPHERIC DATA STATION Kokubunji

MAY 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							A 230		286	282	282	308	346	328	292	286	262	248						
2									272	290	314	304	292	274	302	258	252	E A 262						
3								A	A	A	A	394	E A 324	304	346	272	272	324						
4								E A 296	286	292	E A 330	A	292	A	E A 320	288	266	E A 304	A					
5								256	E A 268	A	E A 374	306	260	E A 316	280	E A 332	A	E A 270						
6							A	246	E A 284	280	280	302	310	292	292	272	264	246						
7							268	282	A	A	290	354	368	328		E A 310	290	252						
8								E A 290	E A 304	272	E A 314	444	346	300	290	E A 326	E A 292	266	274					
9						E A 252	A	282	266	296	300	306	296	284	302	284	264	290	292					
10							232	248	A	A	258	366	308	288	E A 346	E A 308	A	A						
11								262	270	260	316	322	336	344	E A 324	296	268	E A 314	E A 344					
12							298	E A 280	274	268	266	292	344	326	322	286	270	E A 274	252					
13							A	A	A	A	A	284	A	376	310	A	280	E A 316	A					
14								236	248	324	326	322	326	304	304	288	E A 262	274	A					
15							280	242	248	C	E A 310	A	368	330	330	298	260	252	246					
16						A	E A 304	A	A	A	E A 348	E A 284	E A 390	E A 382	320	306	A	A	A					
17								228	A	A	A	342	E A 362	334	320	A	A	280	272					
18							246	E A 244	242	A	342	A	A	A	A	314	274	280	282					
19								242	A	A	A	A	A	304	E A 354	E A 326	286	264						
20							A	A	E A 292	278	A	A	346	A	328	A	A	A	A	E A 320				
21							A	A	A	A	A	A	E A 332	A	A	A	A	A	A					
22							248	A	E A 318	E A 336	E A 318	342	322	316	A	A	A	A	264					
23							242	A	A	A	A	A	A	A	A	A	A	246						
24							250	238	A	A	A	A	A	A	E A 320	E A 292	270	278	294					
25							248	A	A	A	A	A	A	348	372	322	280	E A 290	252					
26							266		264	E A 294	328	332	378	348	E A 366	306	E A 292	A	252					C
27							A	232	A	A	A	A	A	A	A	A	A	A	A					
28								A	A	A	A	A	A	A	A	312	286	308						
29							A	A	A	A	A	348	A	A	A	E A 346	298	274	284					
30						E A 384	E A 480	E A 408	E A 398	A	A	A	A	A	A	A	424	A	A					
31						E A 268	A	292	A	A	A	384	A	426	E A 394	422	376	340	E A 312					
	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	12	19	16	12	17	19	20	21	22	23	22	23	13	1				
MED						E A 268	253	245	264	282	U 302	322	330	321	312	296	272	270	269	E A 320				
U Q						E A 384	289	E A 282	E A 289	295	E A 329	354	354	346	E A 346	E A 322	290	304	293					
L Q						E A 252	247	238	265	275	286	304	309	302	302	286	264	262	252					

MAY 2010 h′F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 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 274	E B 280	E B 280	E B 266	E B 248	182	A	A	A	198	206	200	178	208	204	222	202	206	214	214	E A 234	E A 266	E B 276	E B 262
2	E B 260	E B 246	E B 230	216	E A 262	218	220	214	208	A	220	E A 232	220	A	208	200	208	A	E A 240	E A 250	E A 240	E A 270	E A 276	E B 288
3	E B 300	E B 274	E B 250	198	E B 202	E A 238	212	A	A	A	A	222	A	A	A	200	210	E A 256	E A 238	E A 246	E A 274	E B 274	E A 268	E A 310
4	E A 296	222	E A 254	E A 282	E B 276	234	214	A	A	218	A	A	A	A	A	220	A	A	A	A	E A 238	E A 260	E A 306	E B 242
5	E A 252	E A 242	E B 256	E B 270	E B 268	220	220	A	A	A	A	A	202	A	A	A	A	A	E A 242	A	E B 274	E A 258	E A 288	E A 270
6	E A 282	E A 250	E A 292	E A 260	E A 294	224	A	A	A	A	A	A	A	E A 240	A	A	A	A	230	E A 236	212	216	E A 250	E A 276
7	E B 244	E A 282	E B 250	E B 244	E B 274	232	226	214	A	A	206	196	204	208	310	A	A	220	228	E A 252	234	E A 256	E B 260	E B 260
8	E A 320	E B 248	E B 236	E B 248	E A 302	232	E A 238	A	A	A	A	208	A	A	A	A	A	216	A	E A 244	E A 232	A	A	320
9	E A 328	E A 286	E A 288	E A 282	E A 254	A	A	E A 244	A	A	A	200	A	216	200	194	200	200	224	E A 248	E A 242	E A 230	A	E B 242
10	E A 264	E B 264	E B 260	E B 250	E A 272	226	A	A	A	A	A	E A 280	E A 234	A	A	A	A	A	A	A	E A 254	E A 234	236	E B 246
11	E B 254	E B 254	E B 250	E B 250	E B 234	226	212	204	192	208	194	190	226	212	A	A	A	A	A	E A 246	216	218	E A 250	E B 250
12	E B 262	E B 274	E A 292	E B 292	E B 248	198	204	A	220	212	204	216	202	204	184	A	228	A	A	230	210	E B 240	E B 270	E B 262
13	E B 236	E B 256	230	E B 230	232	208	A	A	A	A	A	A	A	A	A	A	A	A	A	E A 270	E A 280	230	216	E A 266
14	E B 250	E B 278	E B 272	E B 250	E B 248	222	228	202	A	198	186	192	A	A	A	A	A	206	A	E A 230	E A 250	200	E A 240	E B 258
15	E B 258	E B 258	E B 272	E B 266	E B 266	220	E A 240	A	A	C	A	A	A	A	A	A	A	A	A	E A 254	234	E A 338	A	E A 292
16	E A 282	E A 288	E A 252	E A 238	E A 270	A	A	A	A	A	A	A	A	A	A	A	A	A	A	E A 272	218	208	214	E B 248
17	E B 272	E A 320	E B 274	E B 260	E A 302	212	E A 230	A	A	A	A	A	A	A	A	A	A	200	232	E A 260	A	E A 246	212	E A 314
18	E A 318	E B 234	E A 232	E A 278	E A 314	228	A	A	A	A	A	A	A	A	A	A	224	220	A	E A 258	E A 262	224	E A 242	E A 270
19	E A 318	E B 292	E A 300	230	218	212	E A 236	A	A	A	A	A	A	A	A	A	A	230	E A 260	E A 236	E A 264	218	E A 248	234
20	E B 262	E B 284	E B 276	E A 280	E B 292	E A 242	A	A	A	A	A	A	A	A	A	A	A	A	A	A	E A 380	208	E A 302	E A 260
21	E A 298	E A 316	E A 314	E A 300	E A 288	E A 260	A	A	A	A	A	A	A	A	A	A	A	A	A	E A 238	E A 262	E A 250	E A 282	E A 296
22	A	E A 304	E A 274	E B 246	E A 264	224	A	A	A	A	A	E A 240	184	E A 244	A	A	A	A	A	230	204	E A 258	E A 290	A
23	A	A	A	E A 278	E A 254	E A 266	A	A	A	A	A	A	A	A	A	A	A	208	E A 232	E A 228	E A 328	E A 246	A	A
24	E B 276	E B 256	E B 270	E A 260	E A 234	220	208	A	A	A	A	A	A	A	A	A	A	A	218	E A 254	E A 276	E A 258	E A 314	A
25	232	E A 272	E A 262	E A 266	A	216	A	A	A	A	A	A	A	A	A	196	210	A	212	224	202	214	E A 260	E A 322
26	E A 314	E A 314	E A 308	E A 308	E A 268	206	A	208	A	A	E A 256	188	184	A	A	A	A	A	218	E A 284	E A 246	A	E A 290	C
27	E A 304	E A 300	E A 268	E A 272	E B 266	212	A	A	A	A	A	A	A	A	A	A	A	A	A	A	E A 228	214	E A 342	E A 340
28	E A 314	E A 278	E A 286	214	E A 232	226	E A 238	A	A	A	A	A	A	A	A	A	A	A	E A 290	E A 298	224	A	E A 324	E A 272
29	E A 290	E B 266	222	E B 234	200	E A 246	A	A	A	A	A	A	A	A	A	A	A	222	228	E A 248	E A 270	E A 264	E A 262	E B 246
30	E B 242	E B 242	E B 256	E B 268	E B 288	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	E A 260	E A 368	E A 256	E B 252
31	A	E A 320	A	A	A	A	A	E A 240	A	A	A	214	A	196	A	210	212	A	A	232	A	E A 244	E A 398	E A 302
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	30	29	30	29	27	14	7	3	5	7	13	9	8	5	7	8	11	15	25	29	28	27	27
MED	E 275	E B 274	E 268	E 260	E A 266	221	216	209	208	208	205	202	202	208	204	200	210	212	222	E A 246	E A 242	E A 245	E A 268	E 266
U Q	E A 302	E A 288	E A 283	E A 278	E A 282	E A 232	E A 236	E A 240	220	215	220	E A 227	223	E A 228	259	220	218	222	E A 240	E A 256	E A 267	E A 259	E A 290	E A 296
L Q	E B 256	E B 254	E B 250	244	E 241	212	212	204	192	198	194	194	184	206	192	196	205	206	218	231	226	218	248	E B 250

MAY 2010 h'F (KM)

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

MAY 2010 h′E (KM)

IONOSPHERIC DATA STATION Kokubunji

MAY 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	B	B	B	B	104	B	126	116	106	114	114	G	110	114	116	104	98	94	110	84	104	104	B	B
2	B	B	98	98	96	B	136	116	116	104	102	104	104	106	106	104	100	106	114	112	112	112	106	102
3	102	B	B	B	B	128	122	104	104	108	106	122	118	118	118	100	100	114	120	112	106	B	104	104
4	100	100	92	92	102	100	126	120	118	116	104	100	100	100	94	152	122	116	106	106	102	100	100	100
5	100	100	B	B	B	124	122	110	106	100	100	100	108	100	106	104	122	110	102	102	102	102	106	110
6	104	96	92	96	96	130	114	116	104	102	104	104	104	100	96	100	100	106	104	104	110	110	106	102
7	102	102	102	106	B	126	124	120	104	104	104	104	100	100	120	112	90	88	114	108	108	106	98	104
8	104	104	104	98	96	158	124	108	104	104	104	104	104	104	100	100	98	106	118	104	104	102	102	100
9	100	100	98	98	94	114	106	122	104	104	104	104	104	104	104	104	102	114	120	104	98	98	98	98
10	98	94	94	92	92	100	128	116	104	104	104	104	104	102	100	100	96	96	96	94	92	104	100	100
11	B	B	90	B	B	128	124	126	114	102	100	102	106	104	124	124	120	104	104	108	108	108	108	104
12	102	90	90	90	130	132	120	106	120	106	106	104	104	98	98	134	118	108	106	108	106	B	B	B
13	B	B	B	98	98	128	108	104	104	102	100	100	98	108	106	104	116	100	100	102	102	102	94	96
14	92	90	B	B	B	132	120	114	106	104	G	108	102	98	104	132	106	106	104	106	106	116	106	B
15	96	96	B	B	B	130	122	116	106	C	104	104	104	104	110	104	104	160	120	110	108	108	104	102
16	90	92	86	90	92	108	108	102	106	108	110	102	102	100	98	94	120	104	104	102	102	106	106	104
17	104	100	98	96	94	122	116	116	106	106	106	106	106	102	102	102	96	104	118	116	112	106	106	104
18	102	96	98	98	98	120	120	116	104	102	102	102	100	100	106	126	108	104	104	102	98	98	98	98
19	98	100	94	94	88	G	124	116	106	106	106	102	102	102	98	96	96	94	116	94	94	104	102	98
20	100	100	98	96	98	144	120	104	100	102	106	106	104	104	120	106	106	100	98	96	100	98	98	96
21	100	100	94	90	96	118	114	102	100	98	98	98	96	98	94	102	116	106	106	106	106	102	100	98
22	96	96	94	94	94	94	122	104	102	100	100	102	104	106	106	104	106	102	102	102	116	98	98	146
23	96	94	120	90	112	110	108	100	104	100	96	96	94	94	90	90	94	98	118	108	106	106	106	102
24	100	100	100	94	92	114	114	108	104	100	100	98	98	98	98	96	124	90	98	98	96	104	104	100
25	98	90	88	88	88	94	108	104	104	98	96	96	94	108	106	108	116	102	98	100	98	94	106	106
26	96	96	94	96	96	100	124	110	106	104	104	108	108	102	100	102	106	102	102	96	96	96	96	C
27	98	92	92	90	90	124	114	102	100	100	102	102	100	94	100	100	92	92	88	92	90	98	106	98
28	102	106	106	104	98	122	108	104	100	104	100	96	94	96	96	96	94	108	90	88	112	100	102	102
29	102	102	92	98	94	120	102	106	104	104	104	104	104	96	100	100	116	106	136	108	106	106	104	104
30	B	130	140	122	120	114	106	106	106	106	104	100	106	98	94	108	122	114	106	104	106	102	102	96
31	96	102	96	90	90	108	104	120	104	104	106	112	110	110	112	106	106	102	102	102	98	102	102	98
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	26	25	25	25	28	31	31	31	30	30	30	31	31	31	31	31	31	31	31	31	29	29	27
MED	100	100	94	96	96	121	120	110	104	104	104	103	104	102	102	104	106	104	104	104	104	102	102	102
U Q	102	100	99	98	98	128	124	116	106	106	106	104	106	104	106	108	116	108	116	108	108	106	106	104
L Q	96	94	92	90	92	109	108	104	104	102	100	100	100	98	98	100	98	100	102	98	98	99	99	98

MAY 2010 h'Es (KM)

IONOSPHERIC DATA STATION Kokubunji

MAY 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					F1		CL42	CL22	L2	CL32	CL22		CL22	C2	CL22	L2	L2	L3	L3	F3	F3	F4		
2			F2	F2	F4		H2	CL22	CL22	L2	L2	L2	L2	L2	L2	L2	L3	L4	C3	F5	FF32	F3	F1	F2
3	F2					C5	C4	L4	L3	L3	L3	CL22	CL22	CL22	CL22	L2	L2	CL22	C2	F4	F3		F3	F5
4	F6	F3	F4	F3	F2	L2	C3	CL21	CL22	CL22	L2	L3	L2	L2	L3	HL22	CL22	CL22	L4	F4	F4	F3	F4	F3
5	F3	F2				C2	C2	L3	L2	L3	L2	L2	L2	L3	L2	L3	CL32	LC32	L2	F5	F3	F4	F5	F5
6	F4	F4	F4	F3	F4	HL22	C4	C2	L2	L2	L2	L2	L2	L2	L2	L2	F3	L4	L4	F5	F1	F1	F5	F4
7	F3	F4	F2	F3		C2	CL22	CL22	L2	L2	L2	L2	L2	L2	CL22	CL32	L3	L2	CL22	FF34	FF23	FF33	F2	F3
8	F5	F4	F3	F4	F5	H2	C2	L2	L3	L4	L2	L2	L2	L2	L2	L3	L3	L2	C3	F4	F6	F5	F5	F5
9	F4	F3	F3	F3	F2	C4	L3	C2	L3	L2	L2	L2	L2	L2	L2	L2	L2	CL11	C2	FF32	F4	F3	F4	F1
10	F3	F1	F1	F2	F2	L2	CL22	CL22	L3	L2	L2	L2	L2	L2	L3	L3	L3	L4	L4	F4	F4	F4	F2	F1
11			F1			C2	C2	CL22	CL22	L2	L2	L2	L2	L2	CL22	CL22	CL22	L3	L6	F4	F5	F6	F3	F3
12	F2	F2	F2	F1	FF12	C2	C2	L3	CL22	L2	L2	L2	L2	L2	L2	HL12	CL22	L3	L4	F3	F3			
13				F3	F1	C3	L8	L3	L3	L3	L3	L2	L3	L2	L2	L2	CL22	L3	L5	F4	F7	F5	F3	F5
14	F2	F3				C4	C3	CL21	L2	L2		L2	L2	L3	L2	CL22	L3	L2	L3	F2	F6	F2	F2	
15	F1	F1				C2	C2	CL22	L3		L2	L3	L2	L2	L2	L3	L3	CL22	CL32	F6	F4	F5	F5	F4
16	F4	F3	F3	F2	F3	L4	L3	L3	L3	L3	L2	L2	L2	L3	L2	L2	C2	L4	L4	F6	F4	F3	F1	F1
17	F2	F3	F2	F3	F6	C3	C3	CL21	L3	L3	L2	L2	L2	L2	L2	L3	L3	L2	C2	F4	F4	F3	F3	F3
18	F5	F4	F3	F4	F5	C2	CL22	CL22	L3	L3	L2	L3	L3	L3	L3	CL22	L2	L2	L3	F3	F5	F4	F4	F4
19	F6	F2	F4	F2	F1		C2	CL32	L3	L3	L3	L3	L2	L2	L3	L3	L2	L2	CL23	F3	F3	F4	F8	F4
20	F3	F3	F2	F2	F1	H3	C3	L3	L3	L2	L3	L2	L2	L2	CL21	L4	F4	F4	F4	F4	F7	F3	F4	F5
21	F4	F4	F4	F2	F2	C4	C3	L3	L3	L3	L3	L3	L2	L3	L3	L3	CL42	L3	L4	F3	F5	F5	F4	F4
22	F6	F4	F4	F4	F2	L2	CL22	L3	L3	L2	L2	L2	L2	L2	L2	L3	L3	L3	L3	F3	FF22	F5	F5	FF35
23	FF53	FF53	FF23	F2	FF23	L3	L2	L4	L3	L3	L3	L3	L2	L3	L3	L3	L3	L3	CL22	F4	F4	F3	F5	F4
24	F4	F2	F2	F3	F2	C2	CL22	L2	L3	L3	L3	L3	L3	L3	L2	L2	CL22	L2	L3	F2	F5	F5	F4	F5
25	F4	F4	F5	F3	F3	L2	L2	L3	L3	L3	L2	L3	L3	L2	L2	L2	CL22	L2	L3	F3	F2	F2	F4	F3
26	F4	F5	F3	F3	F3	L2	CL22	L2	L3	L3	L2	L2	L2	L2	L2	L2	L3	L3	L3	F3	F4	F4	F3	
27	F4	F3	F2	F2	F1	C2	C5	L3	L3	L3	L3	L3	L3	L3	L3	L3	L3	L4	L4	F4	F5	F4	F5	F5
28	F5	F3	F6	F3	F3	C2	L3	L4	L3	L3	L2	L3	L3	L3	L3	L2	L3	LL22	L5	F5	FF34	F5	F4	F4
29	F3	F1	F1	F2	F3	C4	L3	L4	L3	L3	L3	L2	L3	L2	L3	L3	L2	L2	CL22	F5	F3	F6	F6	F3
30		F2	F1	F2	F1	C3	L3	L2	L2	L2	L2	L3	L3	L3	L3	L3	CL22	CL42	L4	F5	F5	F5	F4	F3
31	F4	F5	F5	F4	F3	LL32	L3	CL22	L4	L3	L3	L2	L2	L2	CL11	L2	L2	L3	L4	F5	F3	F4	F7	F5
	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																								

MAY 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

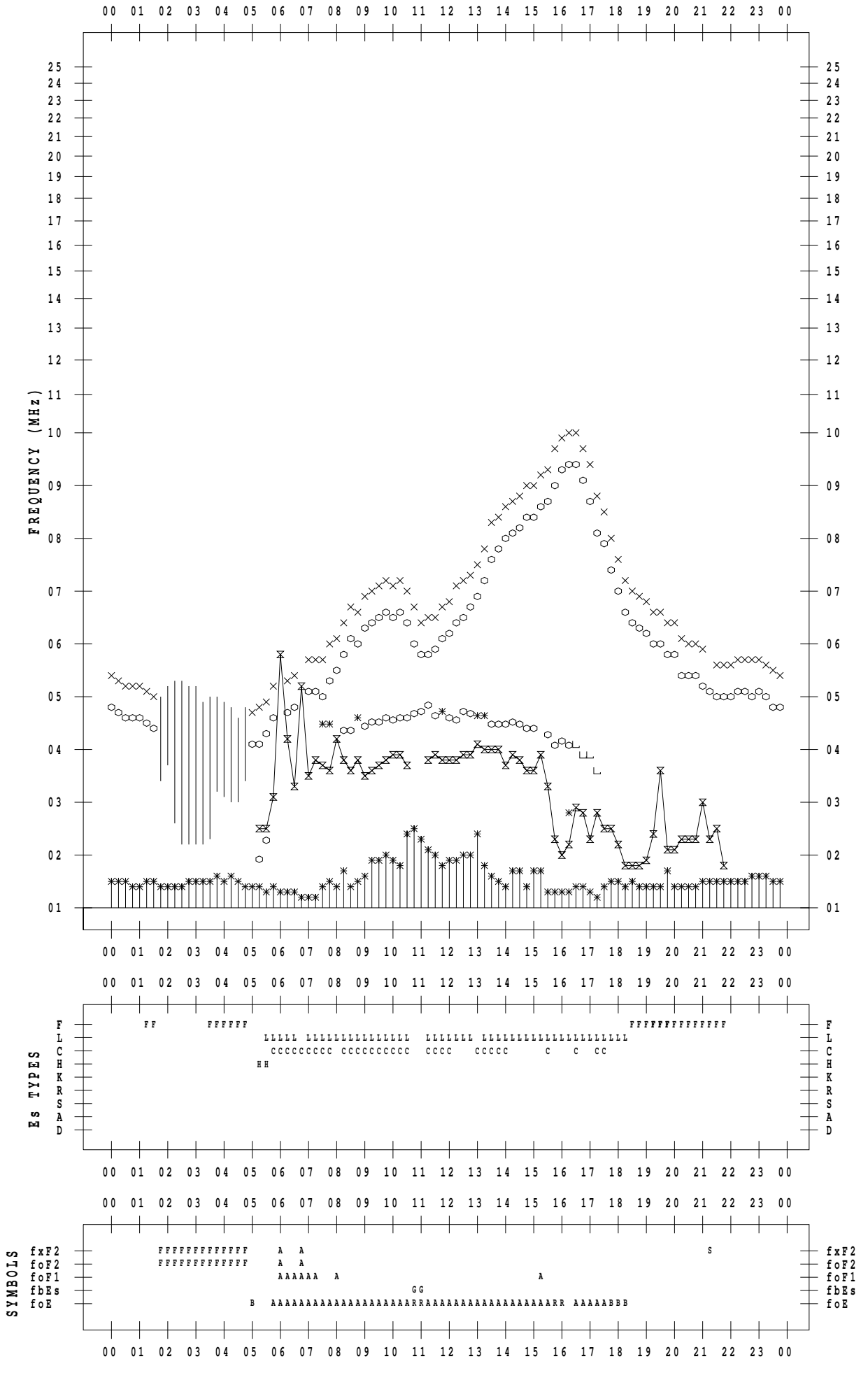
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/ 1

135 °E MEAN TIME



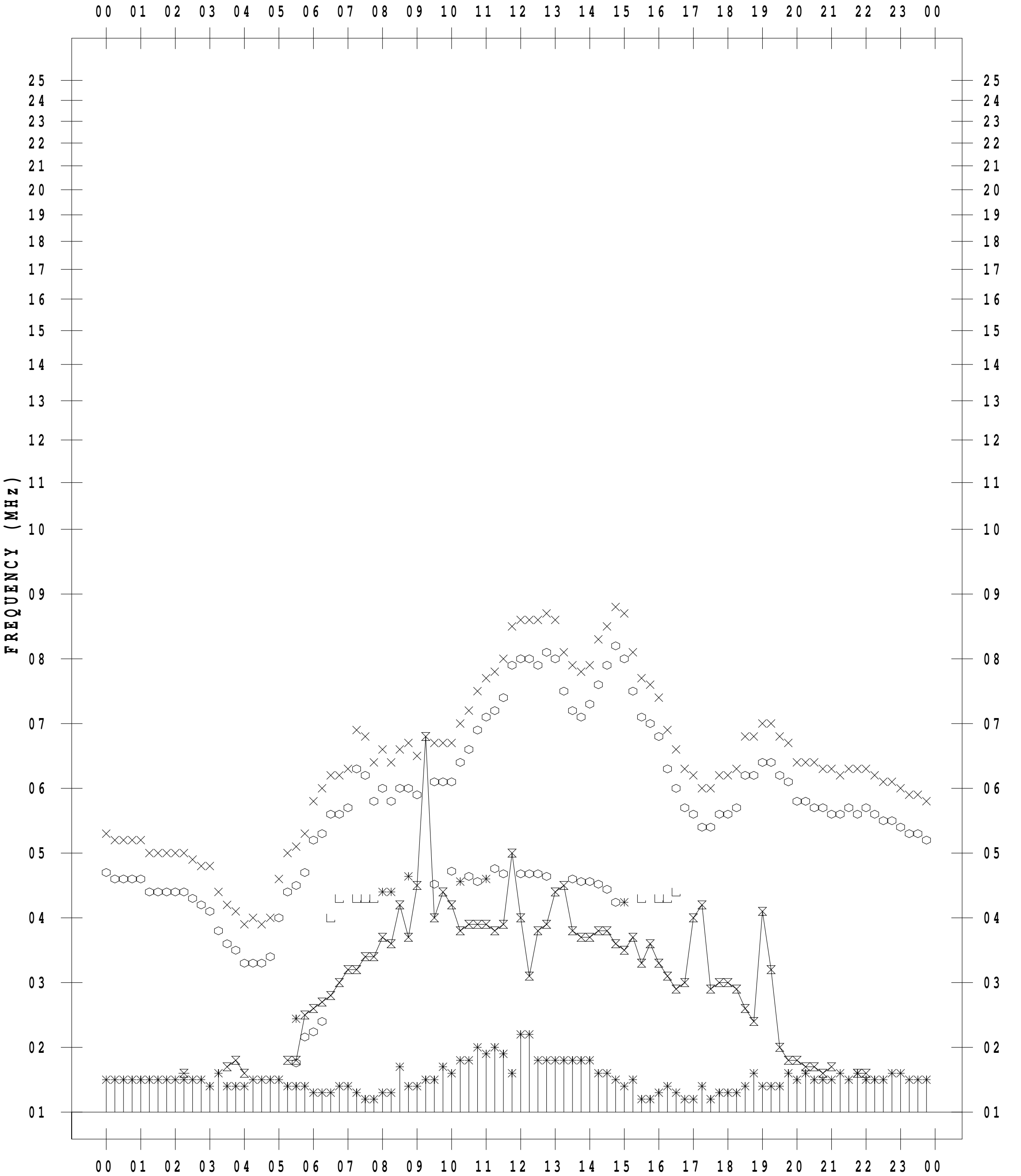
f-PLOT DATA

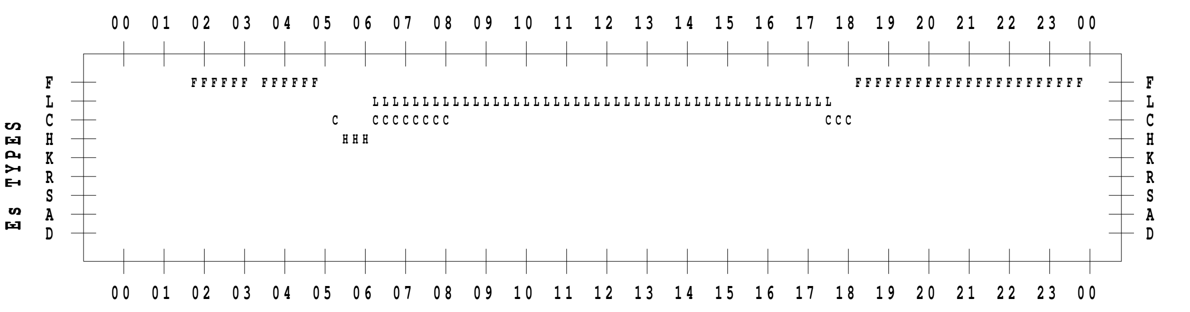
SCALER : I.NISHIMUTA

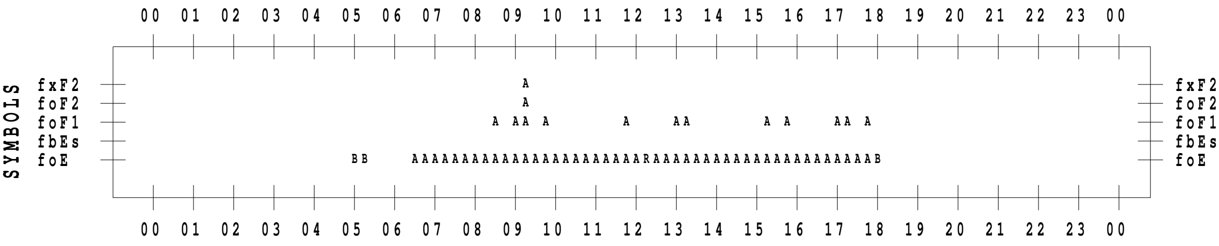
STATION : Kokubunji

DATE : 2010/ 5/ 2

135 °E MEAN TIME





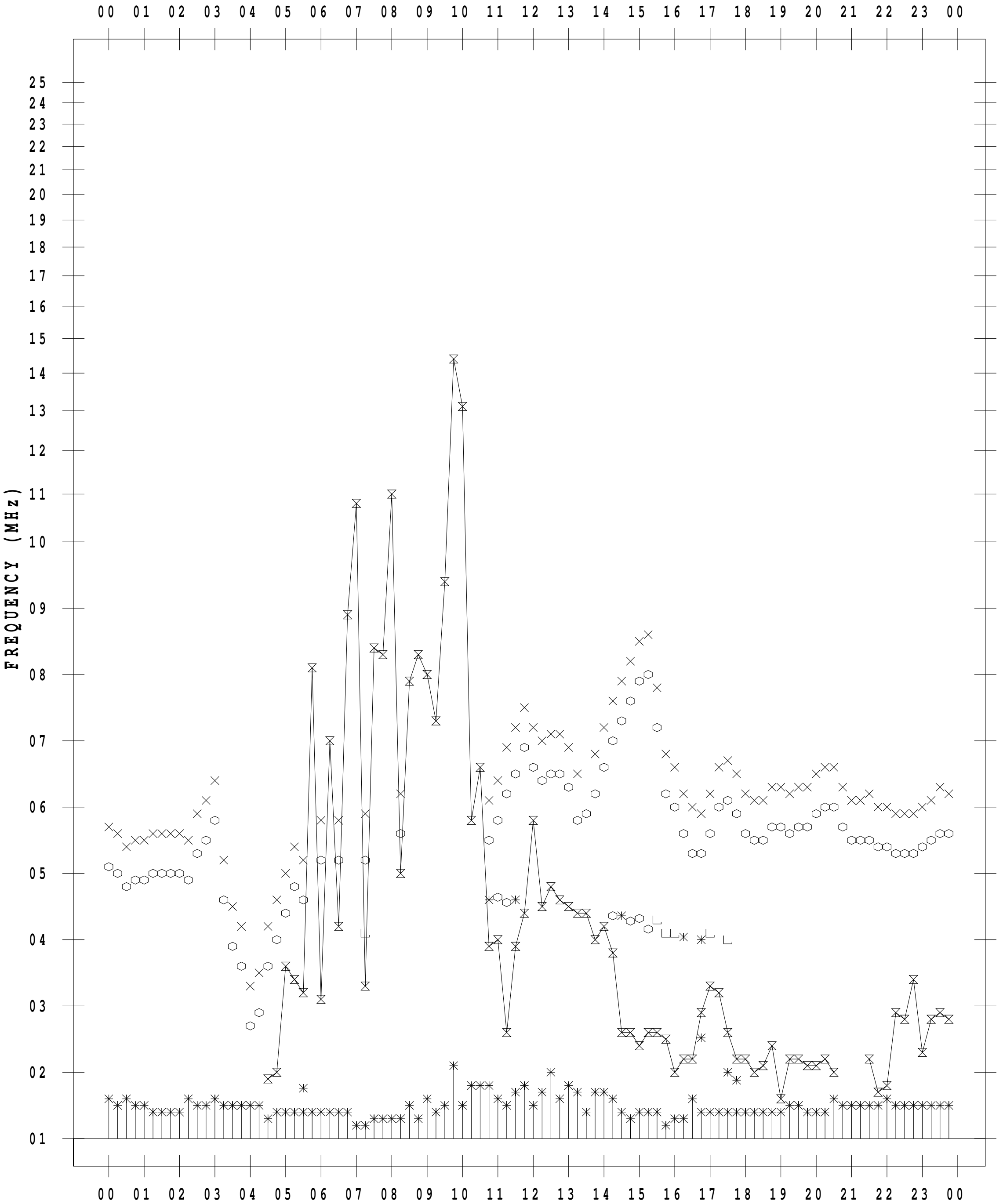


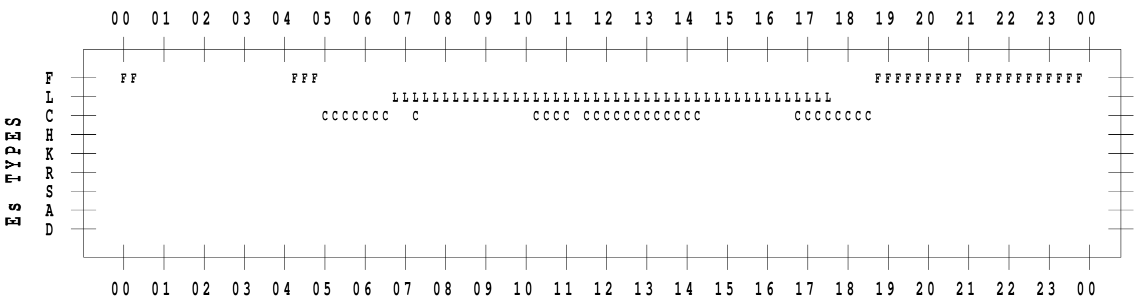
f-PLOT DATA

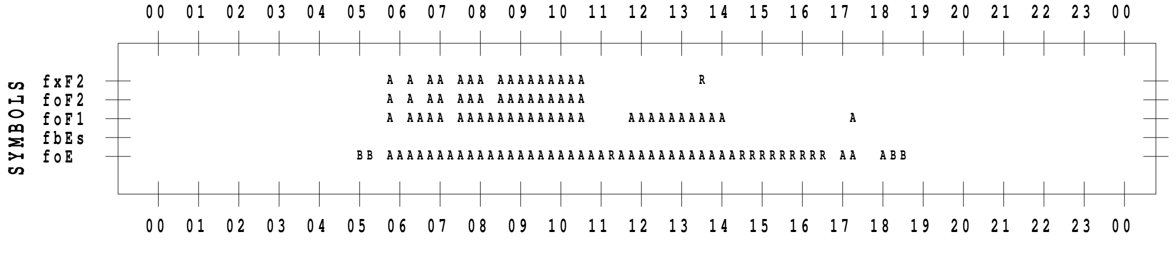
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2010/ 5/ 3

135 °E MEAN TIME







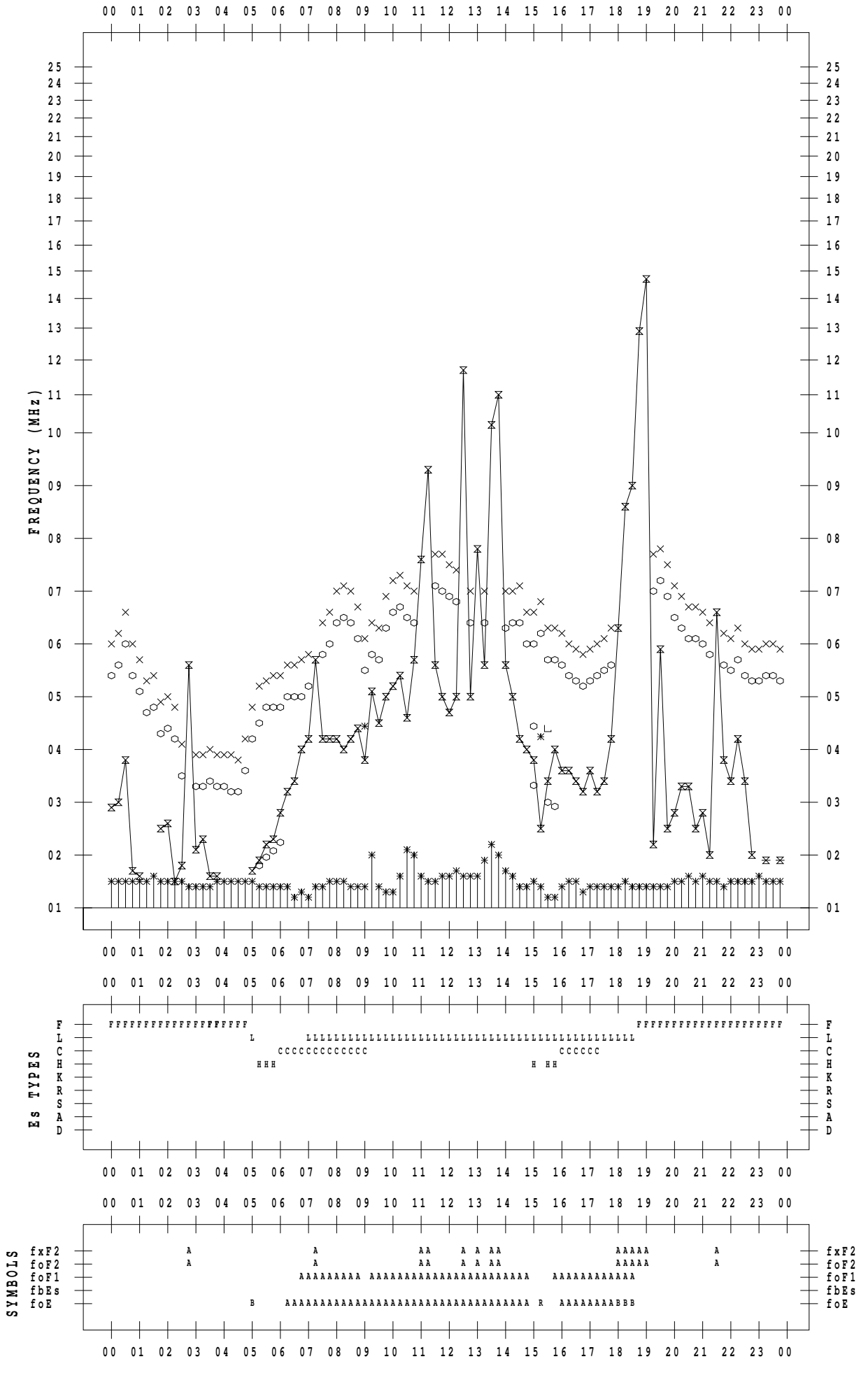
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/ 4

135 °E MEAN TIME



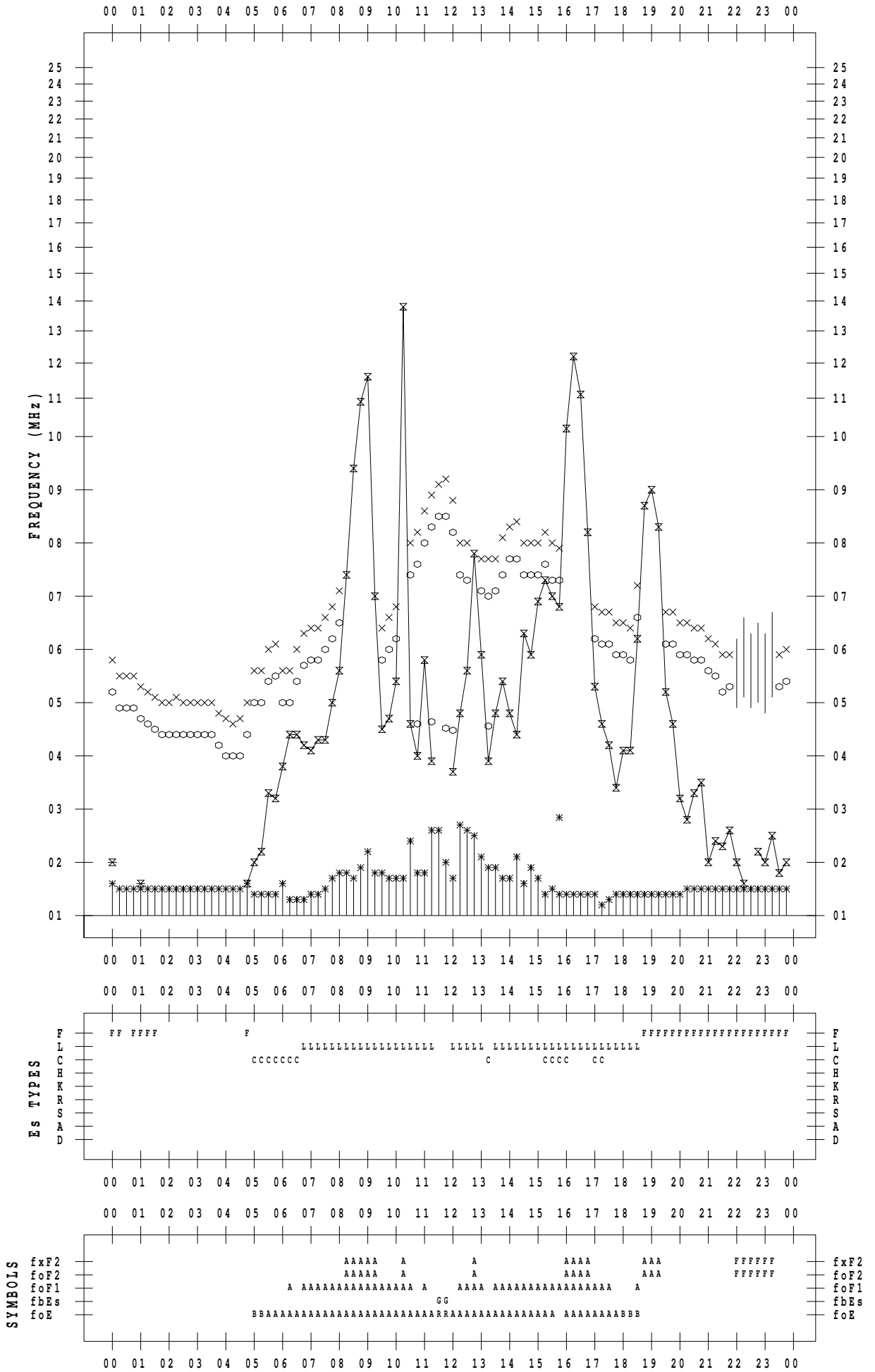
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/ 5

135 °E MEAN TIME

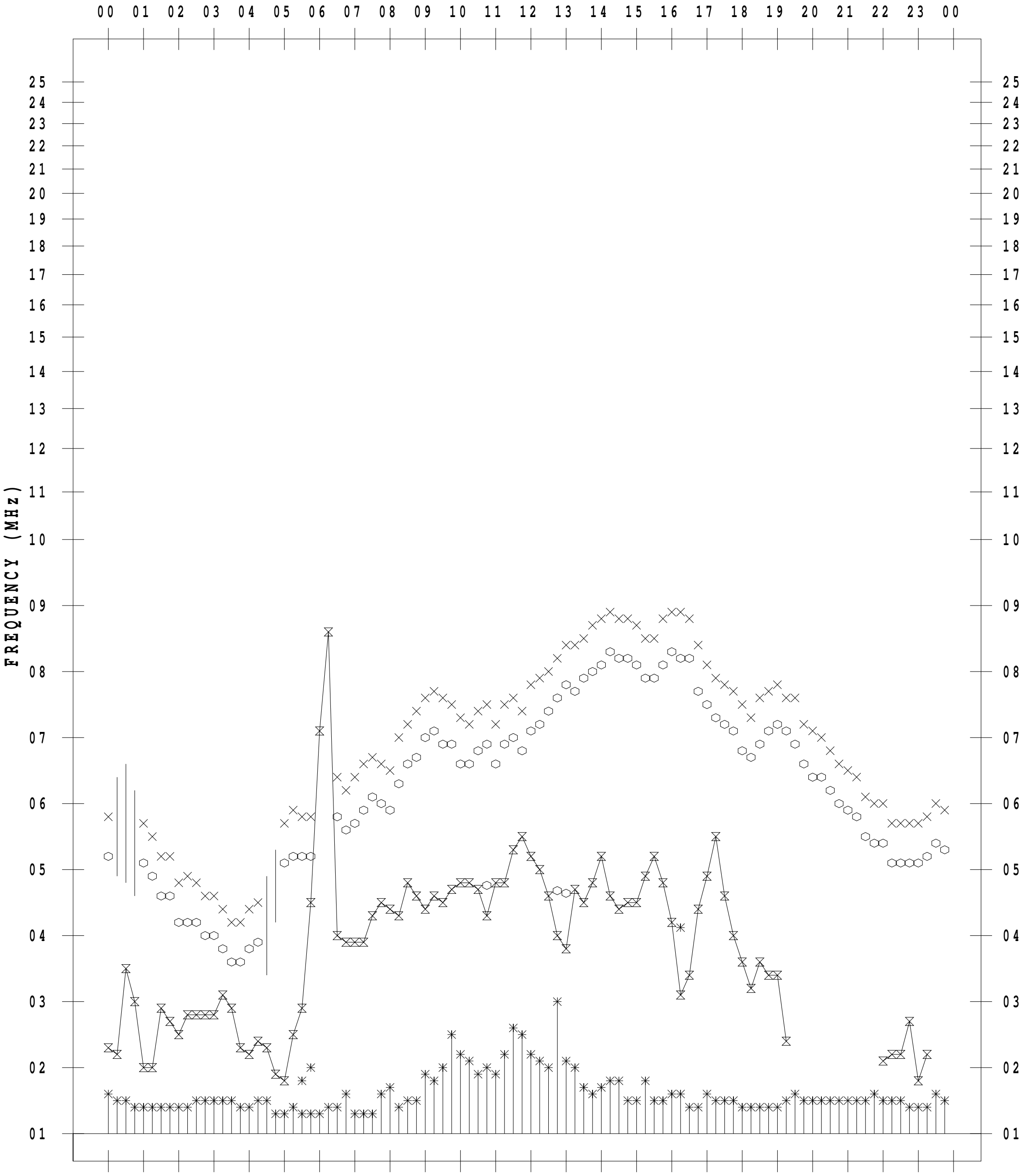


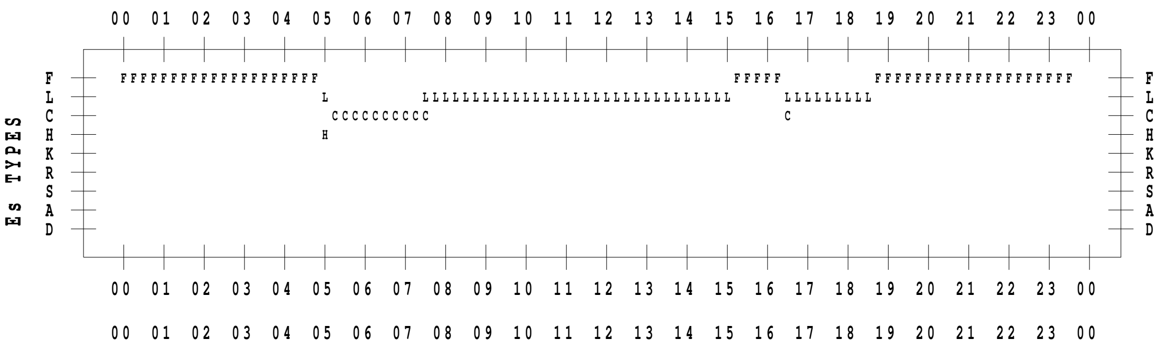
f-PLOT DATA

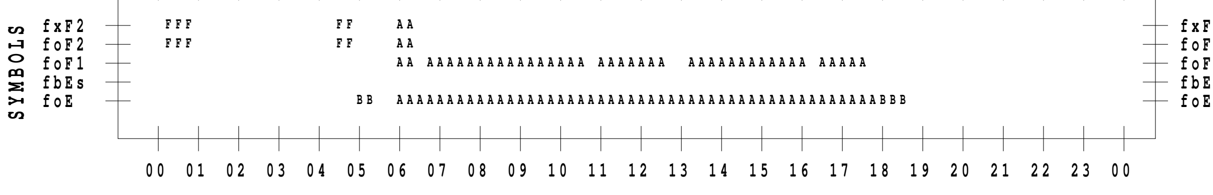
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2010/ 5/ 6

135 °E MEAN TIME







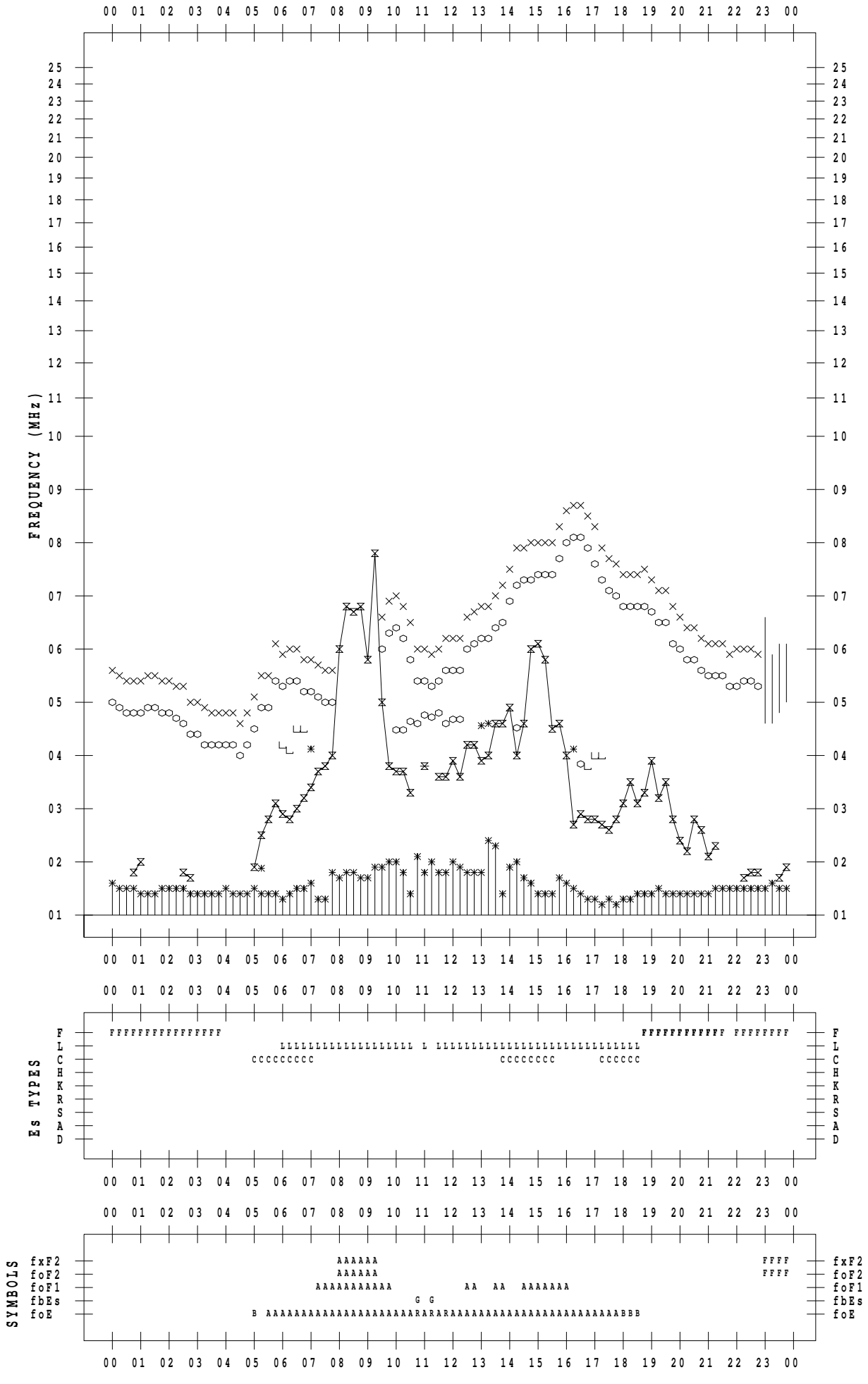
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/ 7

135 °E MEAN TIME



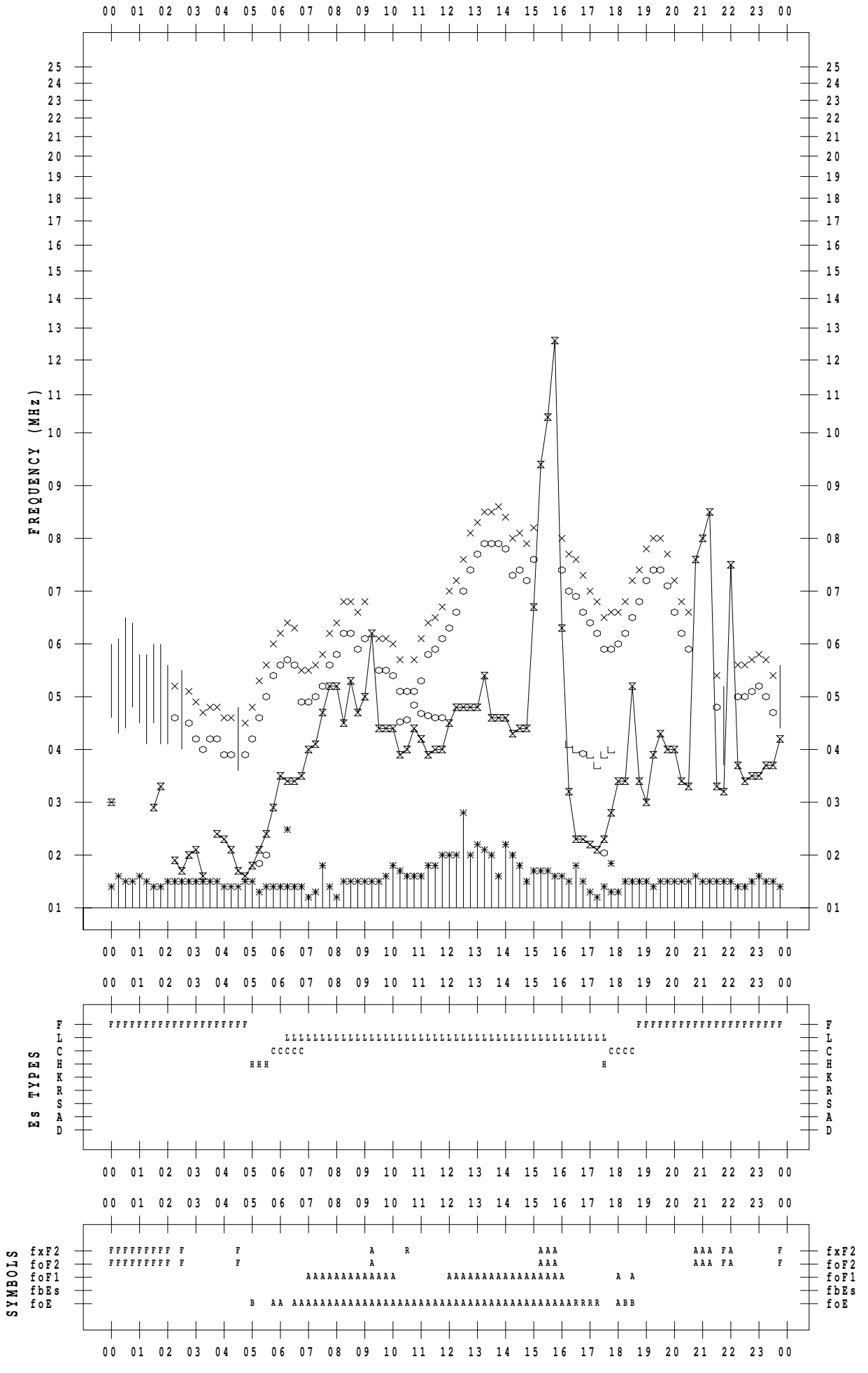
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/ 8

135 °E MEAN TIME



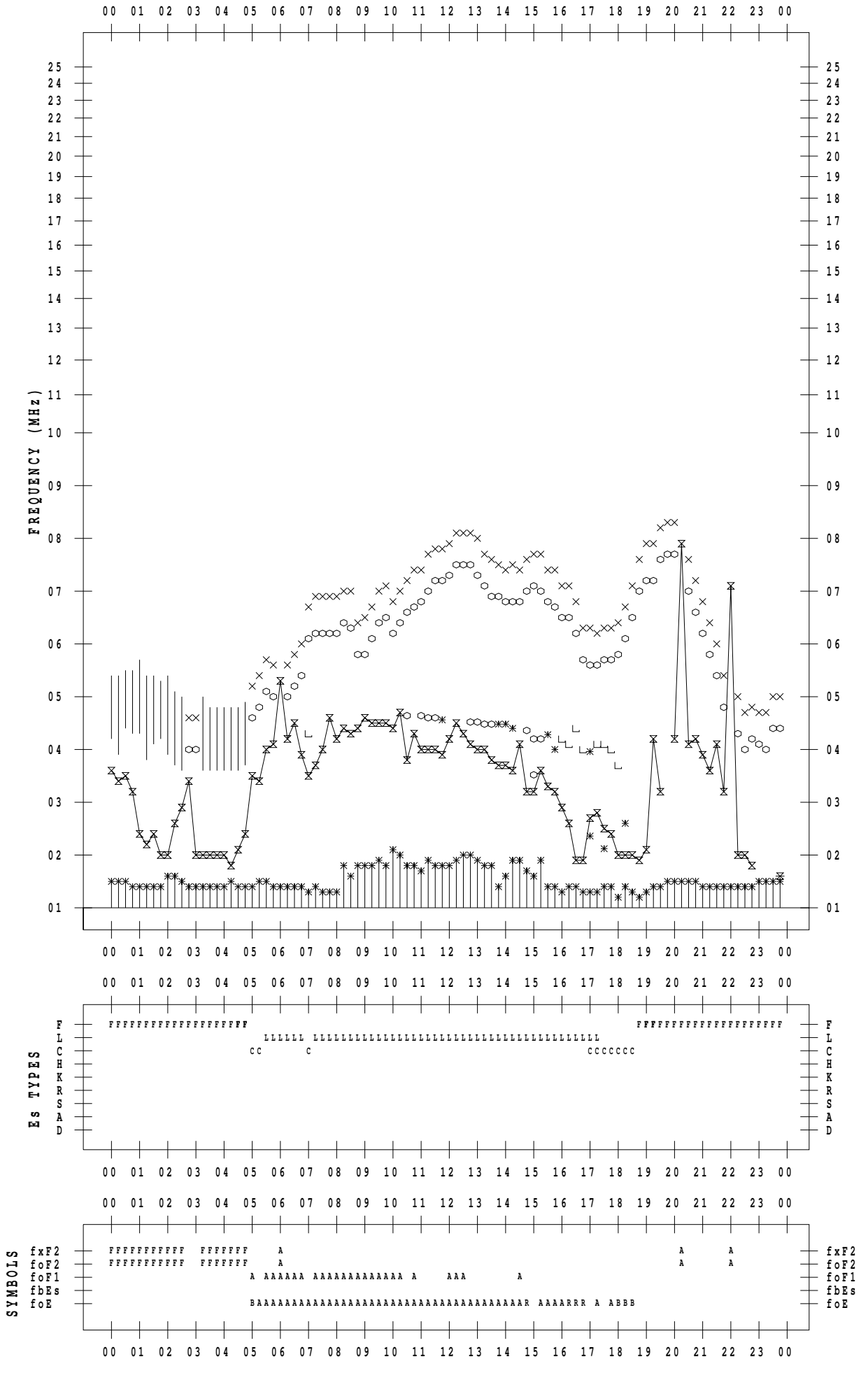
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/ 9

135 °E MEAN TIME



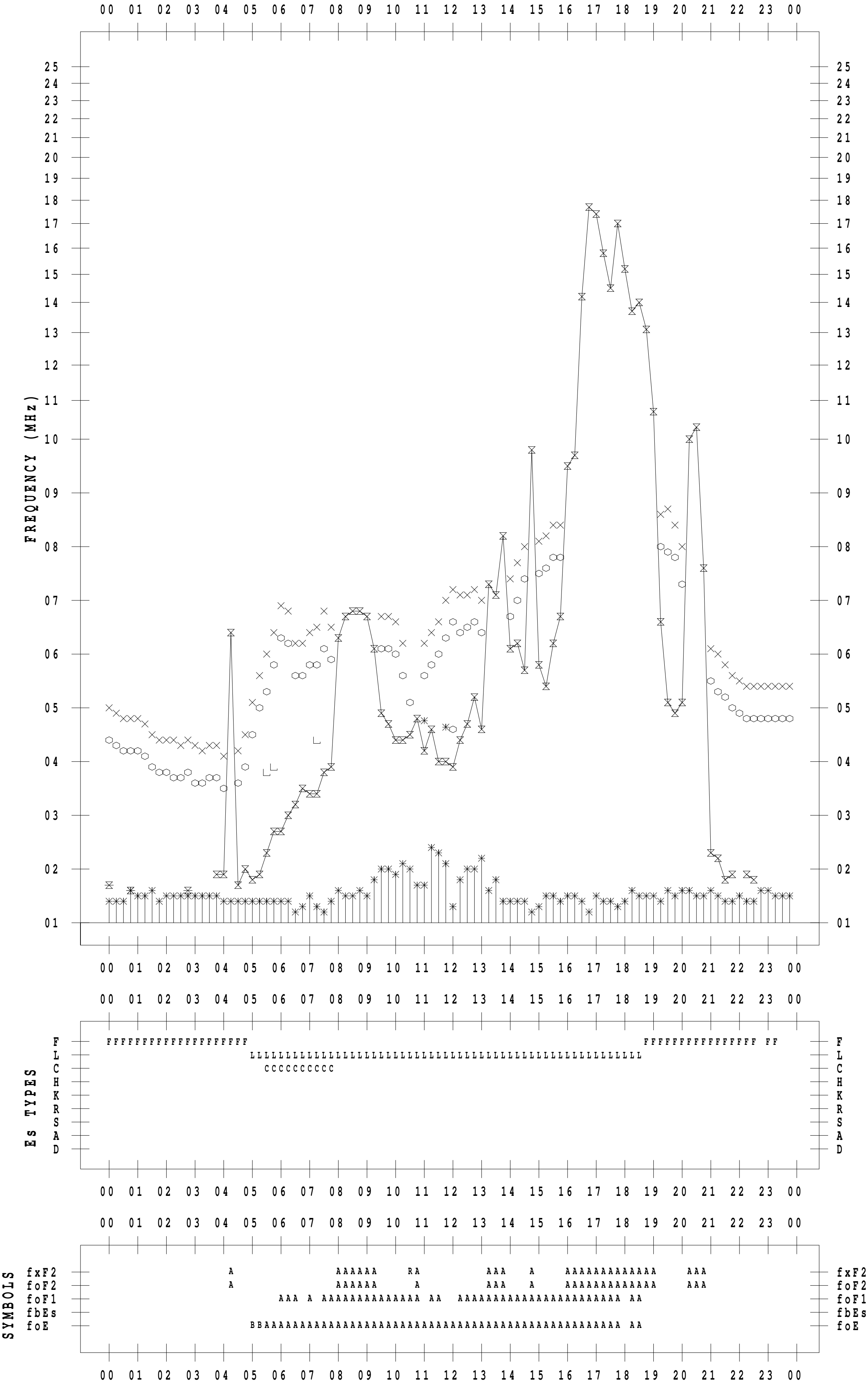
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/10

135 °E MEAN TIME



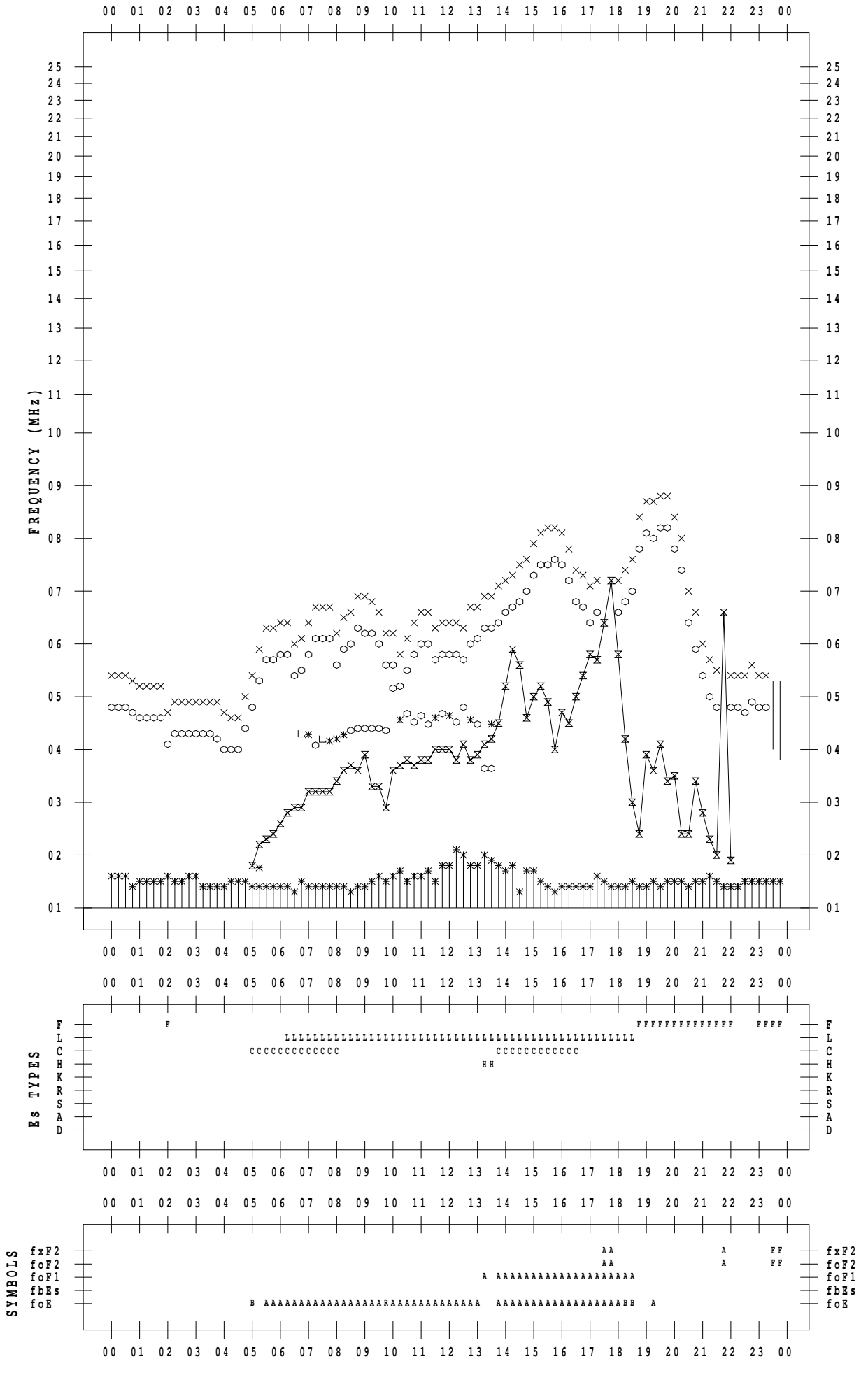
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/11

135 °E MEAN TIME



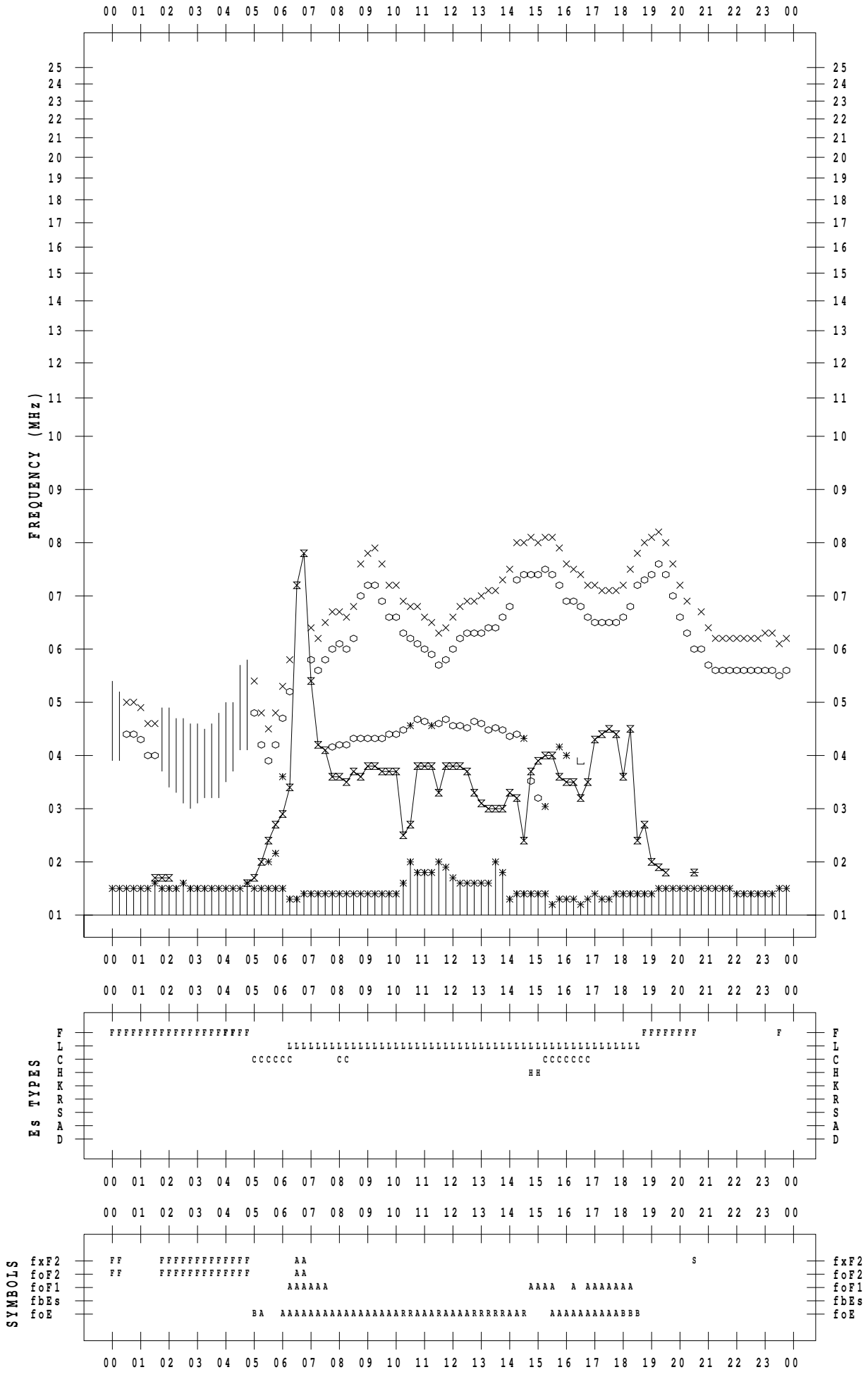
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/12

135 °E MEAN TIME

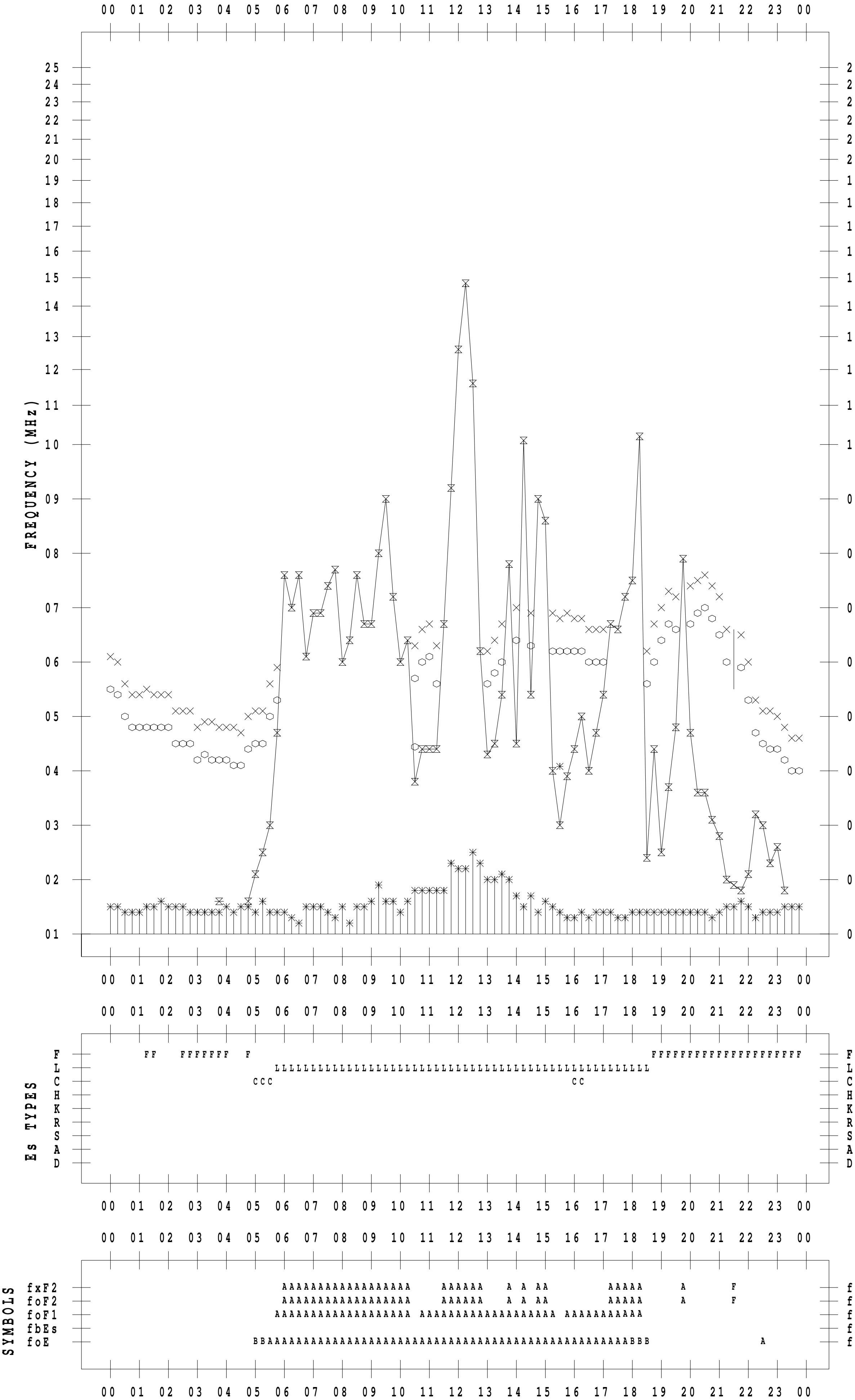


f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji   DATE : 2010/ 5/13

135 °E MEAN TIME



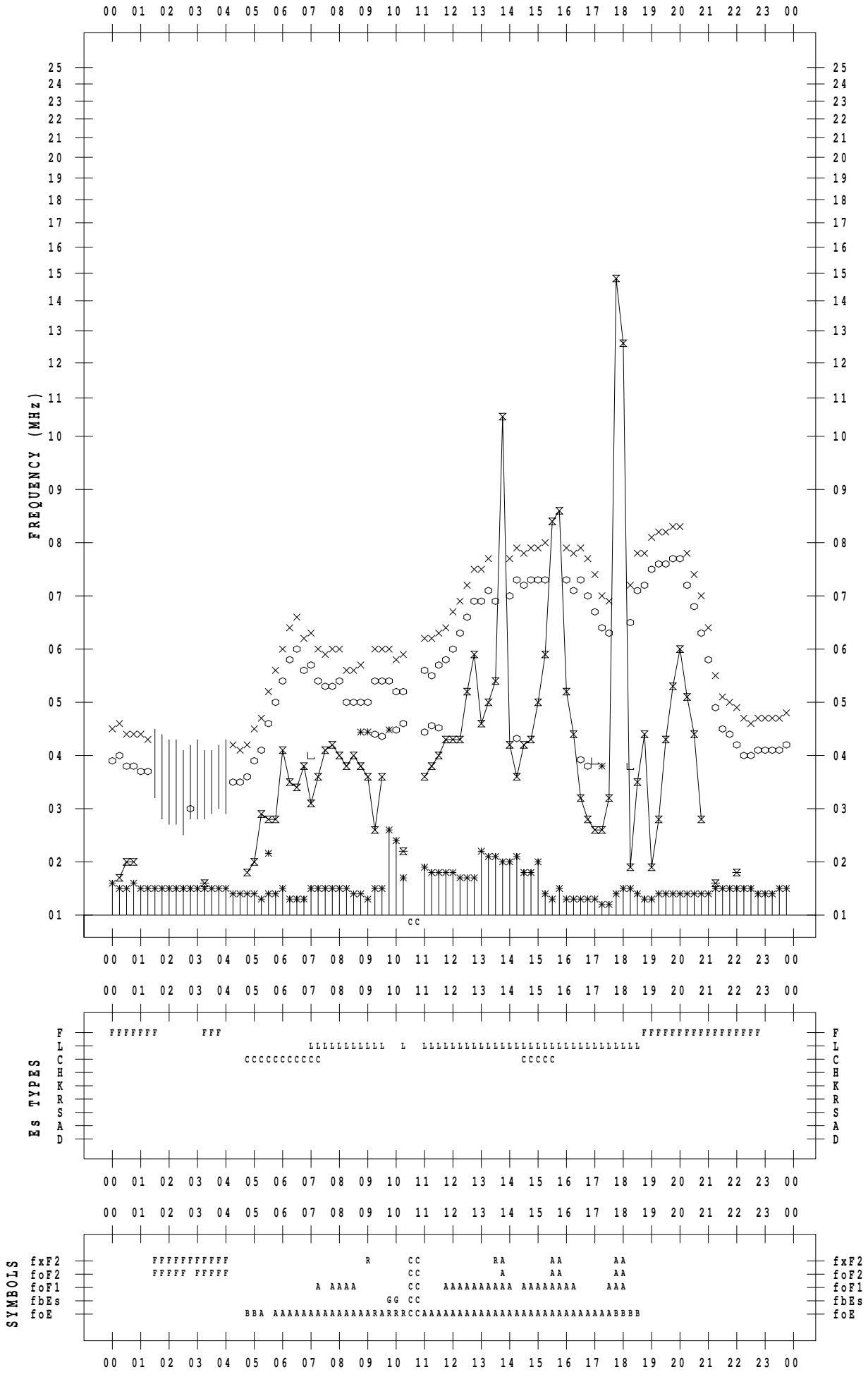
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/14

135 °E MEAN TIME



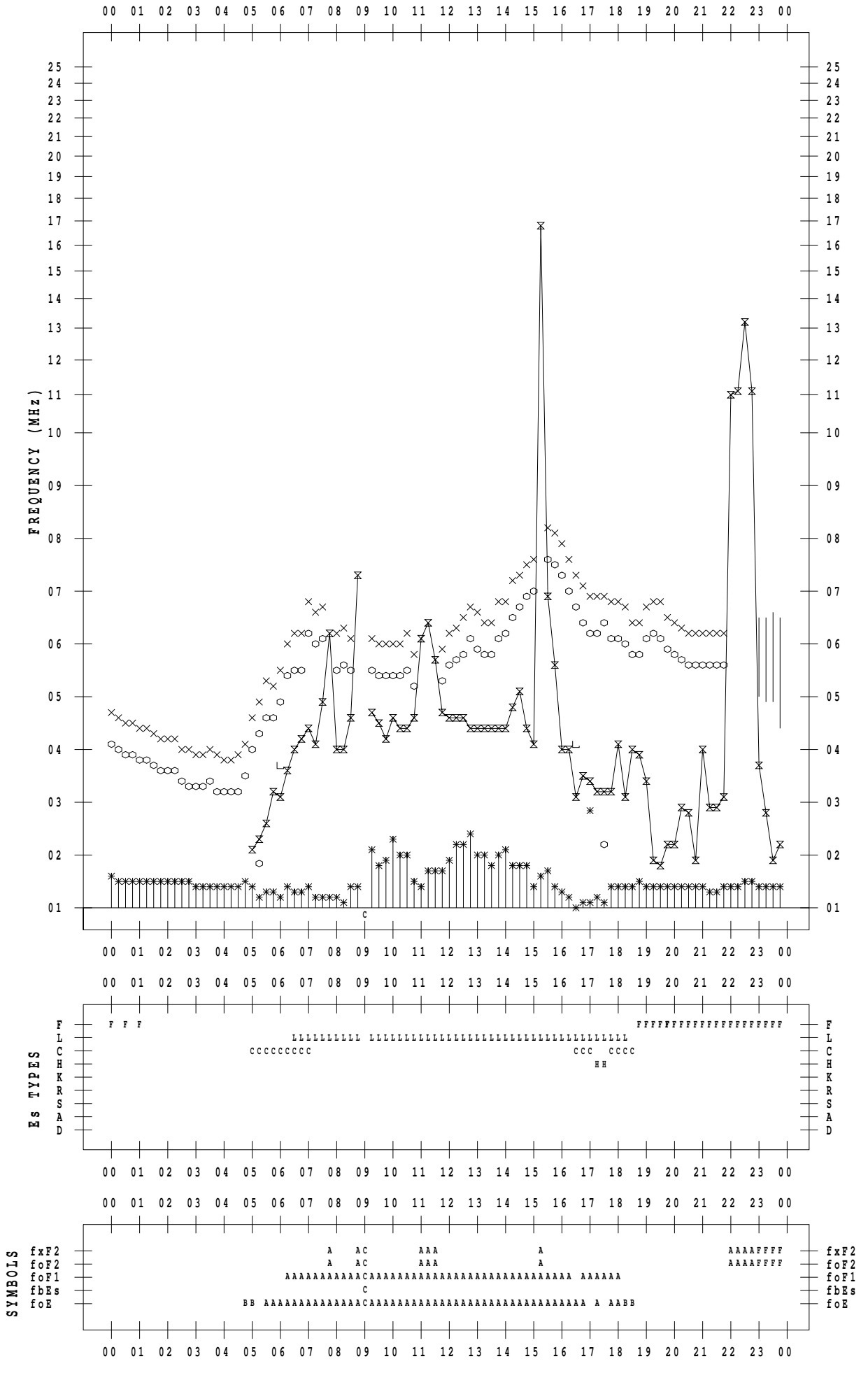
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/15

135 °E MEAN TIME



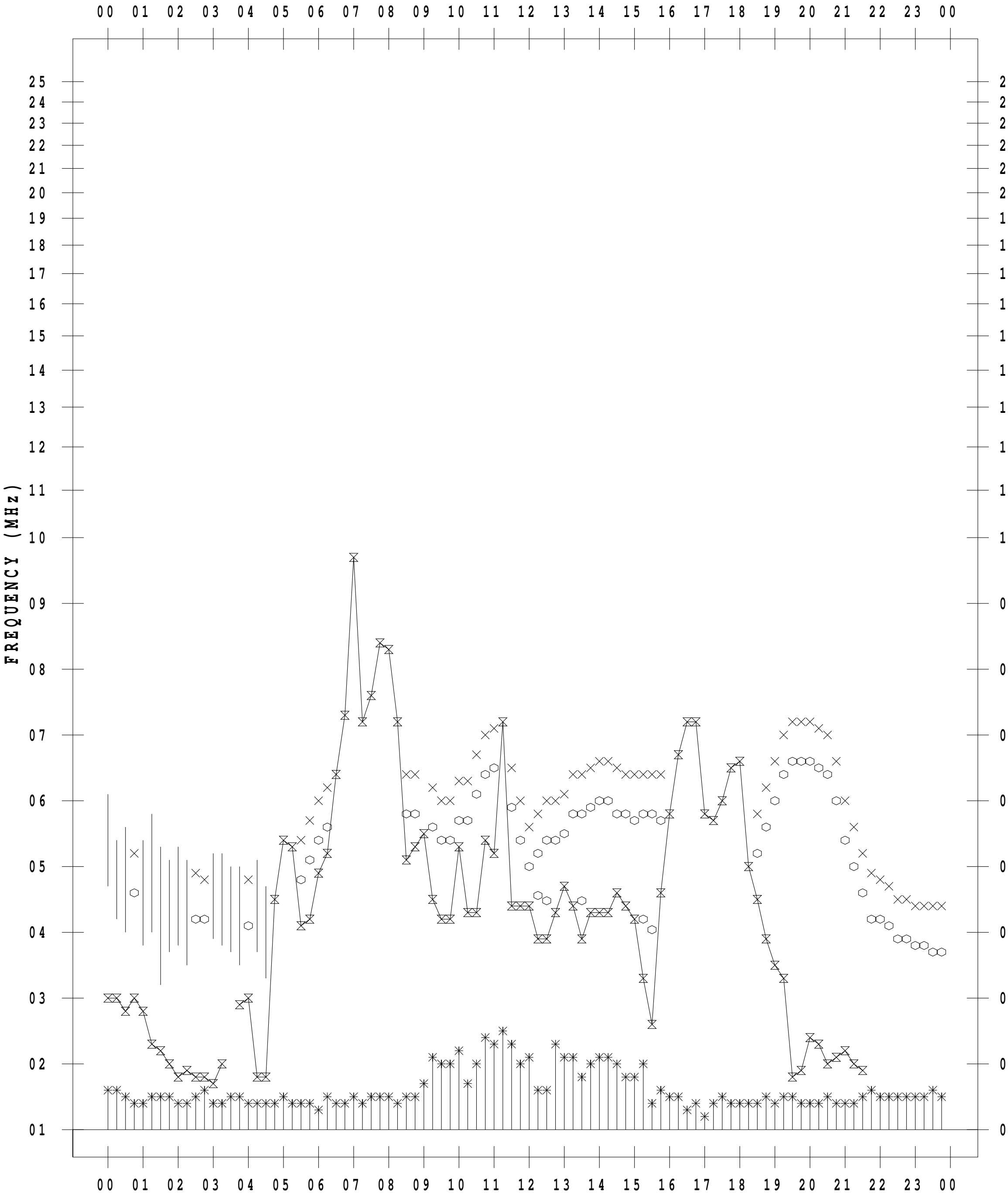
f-PLOT DATA

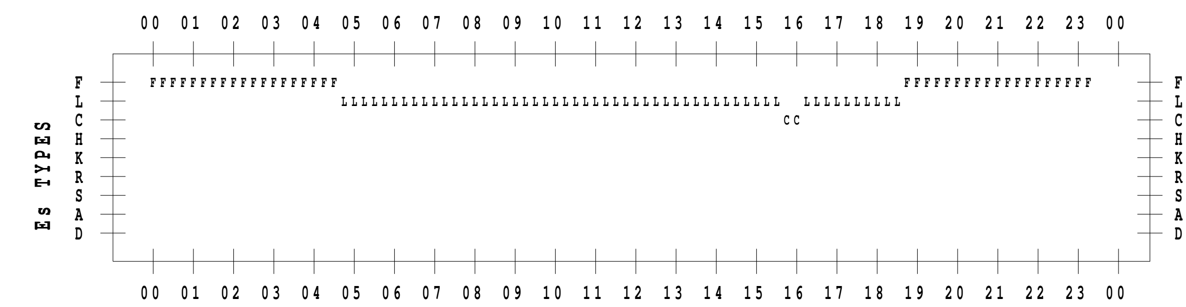
SCALER : I.NISHIMUTA

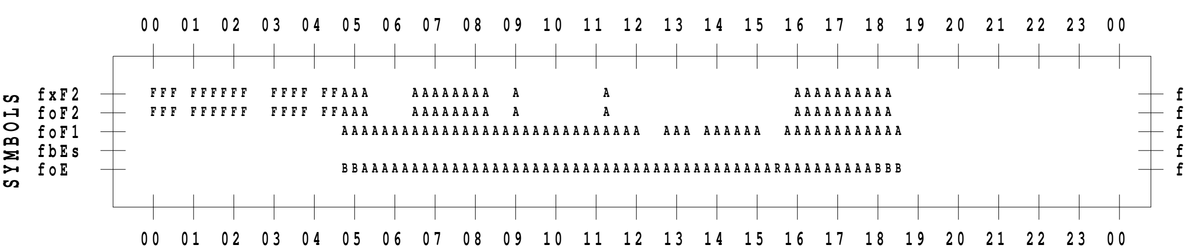
STATION : Kokubunji

DATE : 2010/ 5/16

135 °E MEAN TIME







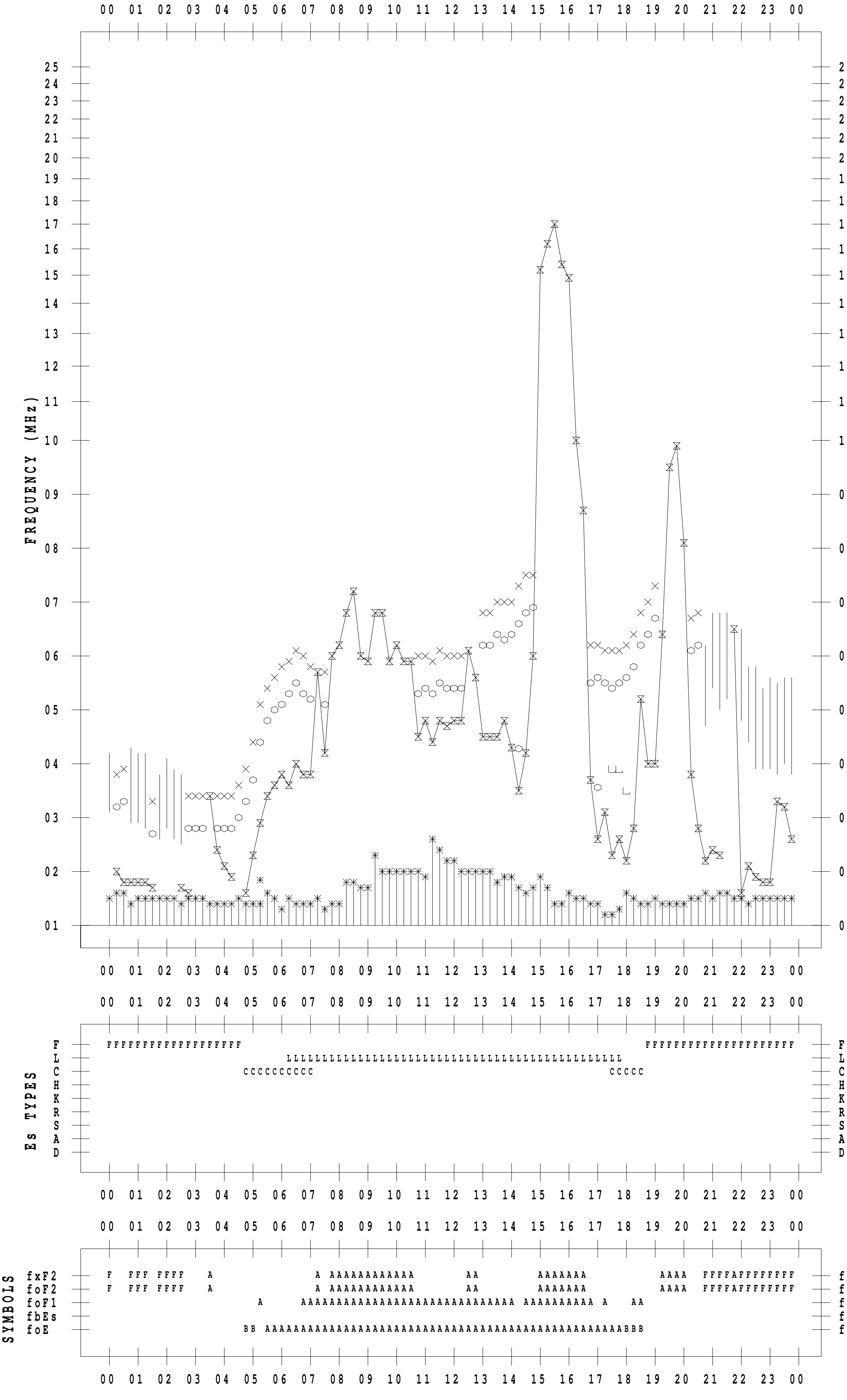
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/17

135 °E MEAN TIME



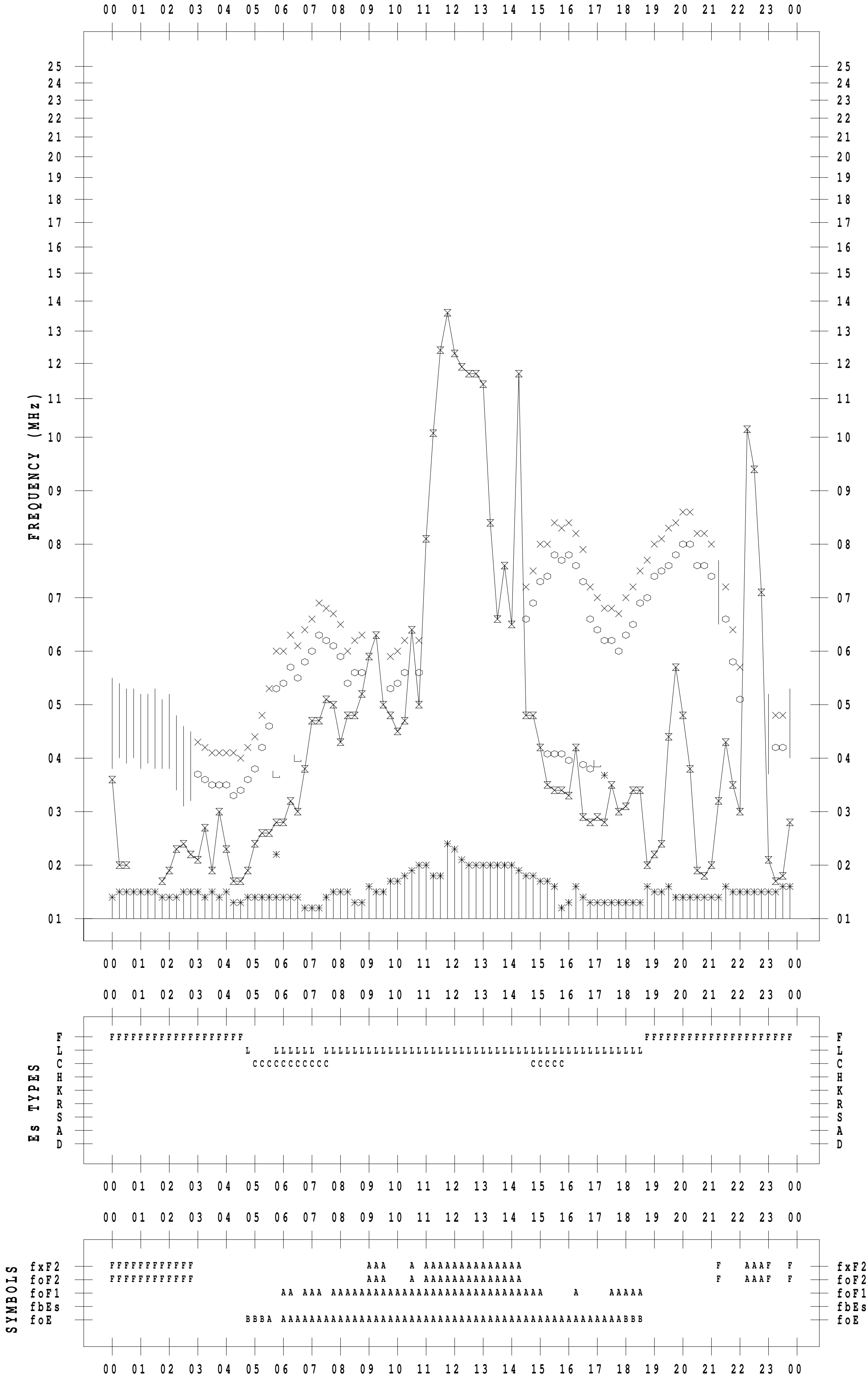
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/18

135 °E MEAN TIME



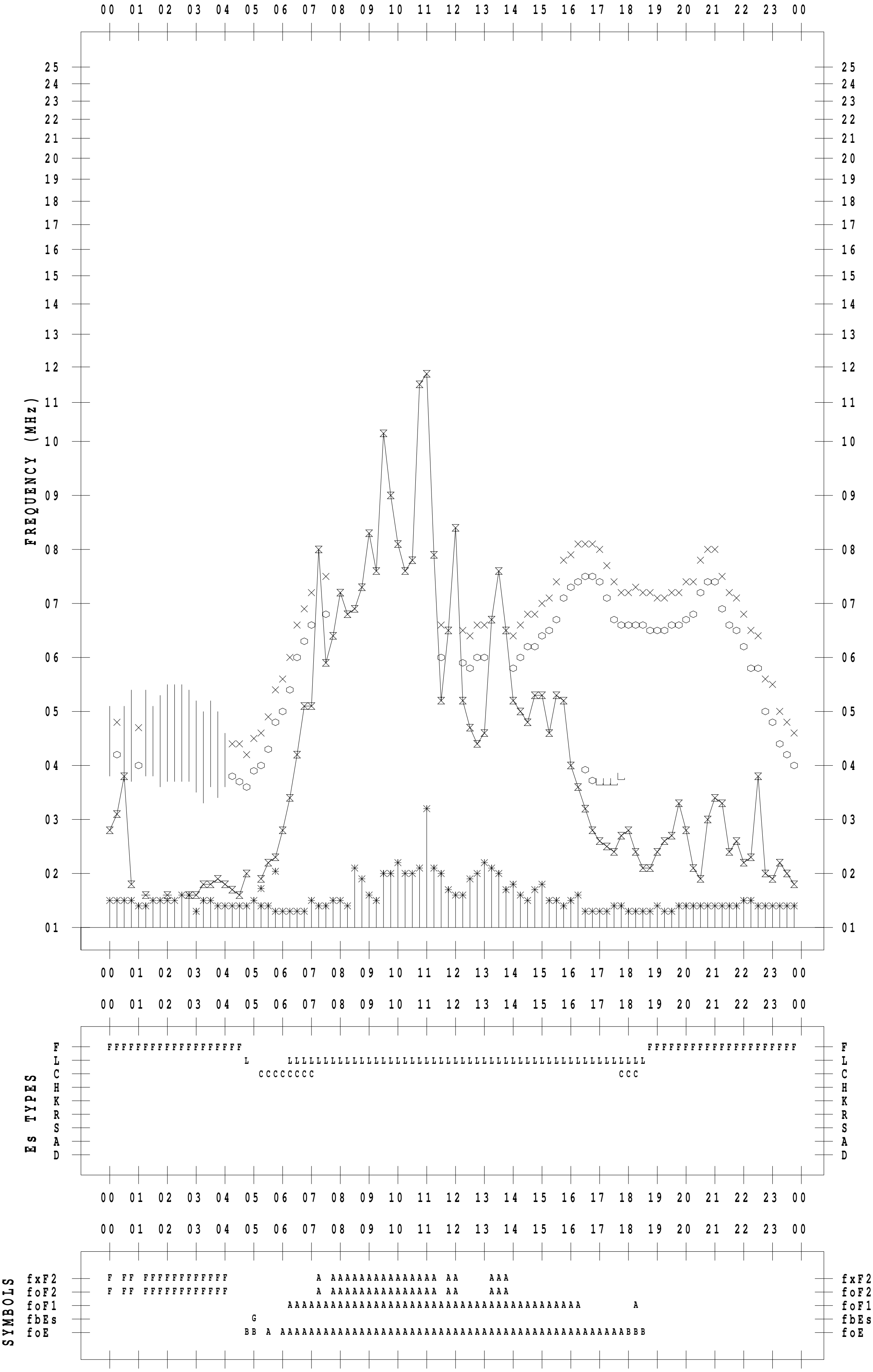
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/19

135 °E MEAN TIME



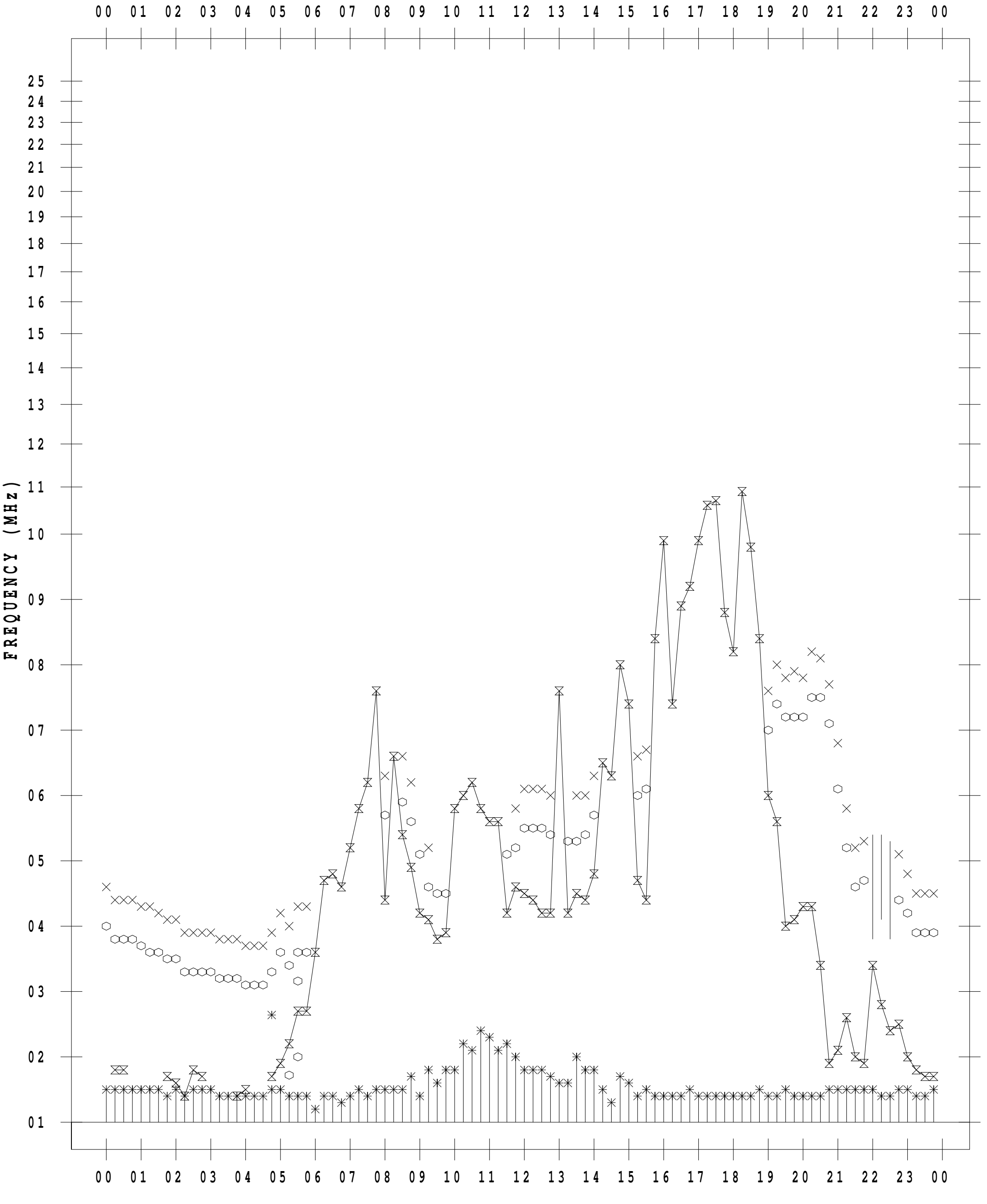
f-PLOT DATA

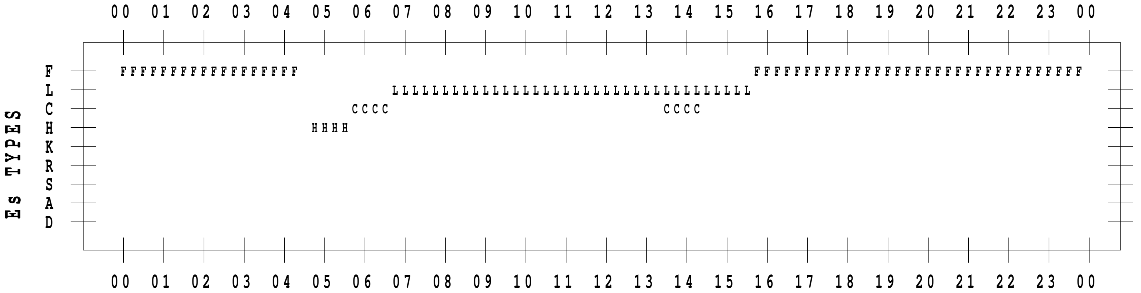
SCALER : I.NISHIMUTA

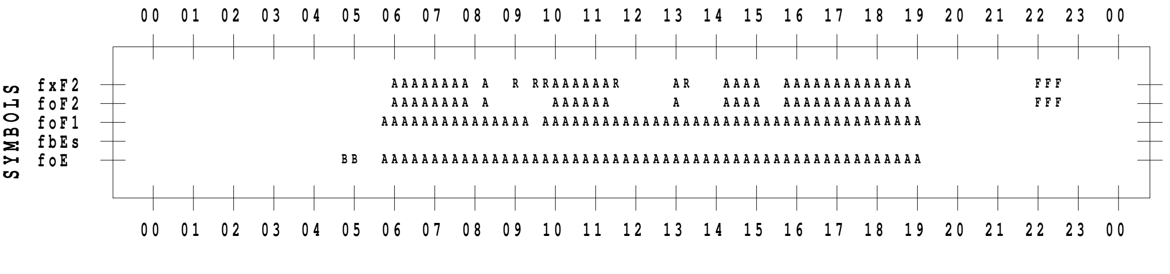
STATION : Kokubunji

DATE : 2010/ 5/20

135 °E MEAN TIME







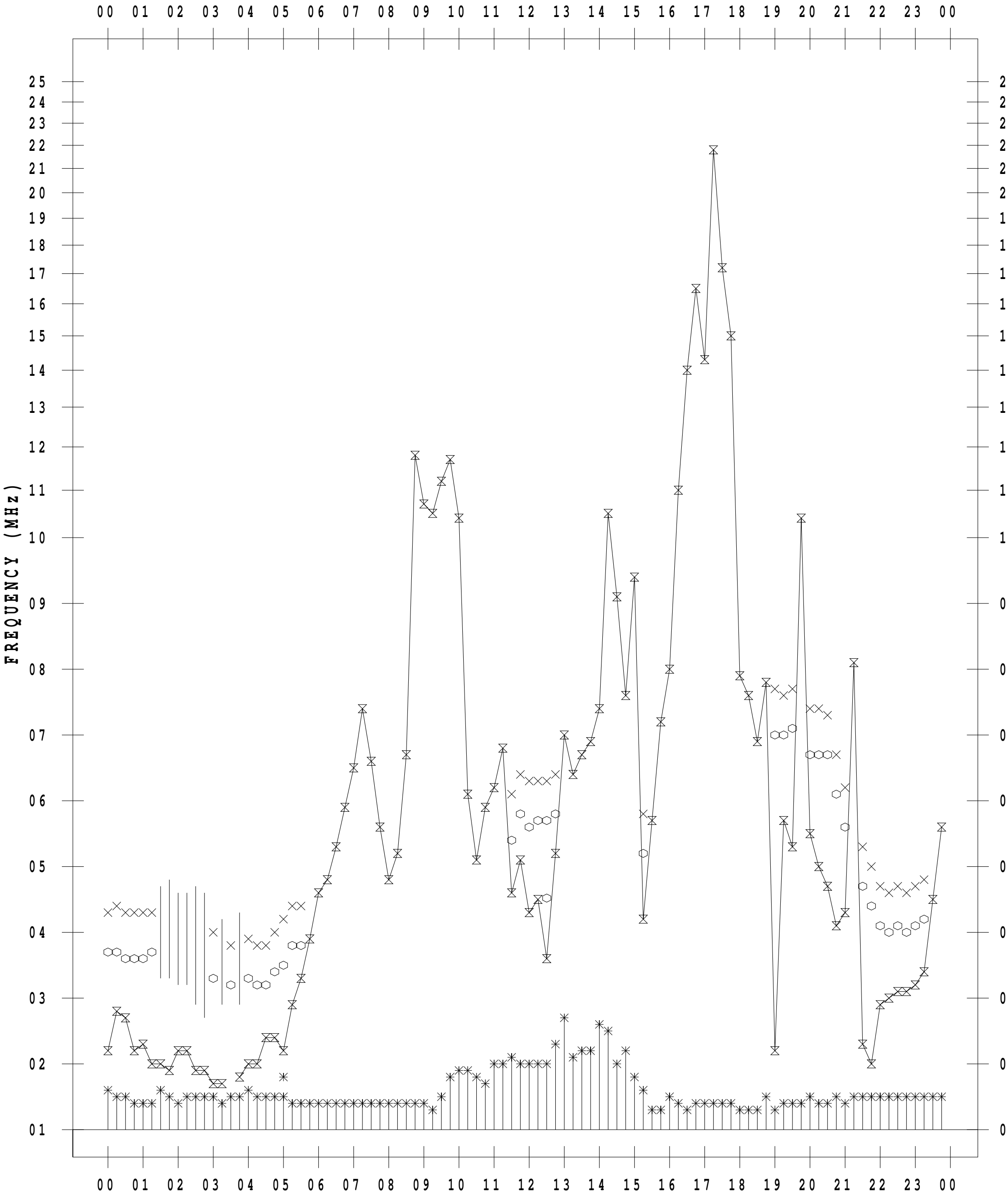
f-PLOT DATA

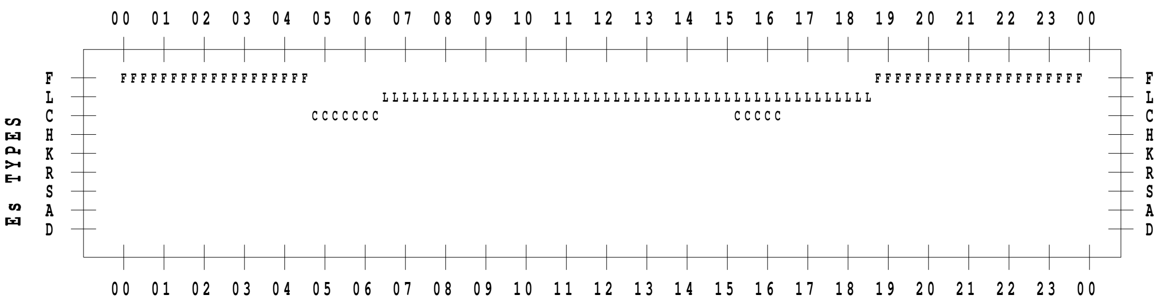
SCALER : I.NISHIMUTA

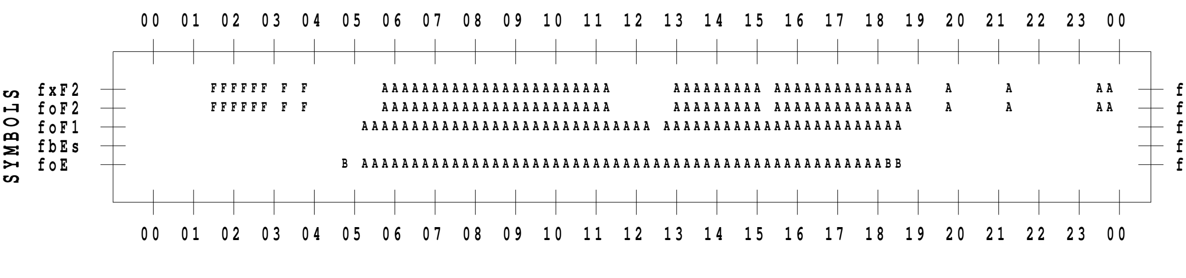
STATION : Kokubunji

DATE : 2010/ 5/21

135 °E MEAN TIME







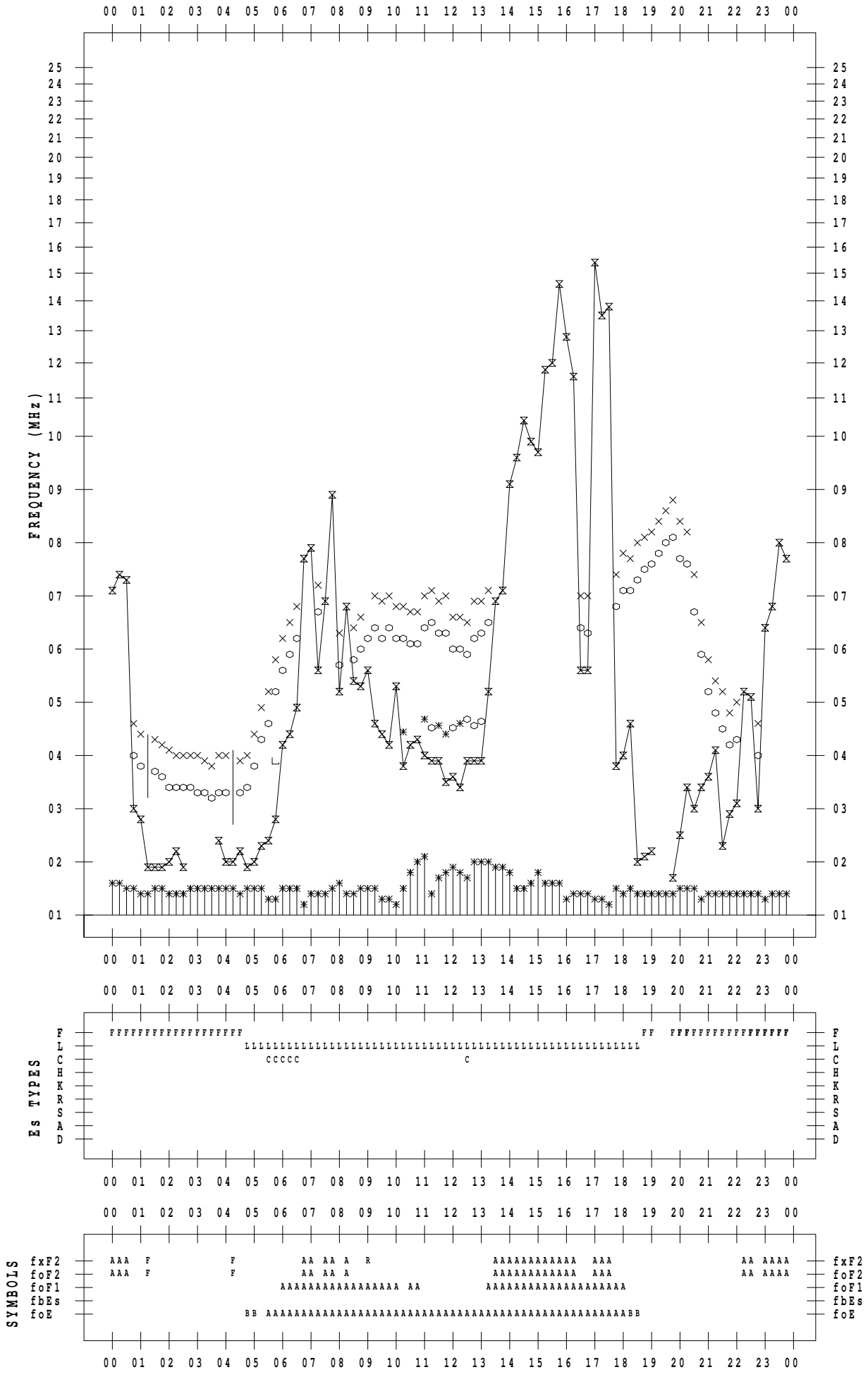
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/22

135 °E MEAN TIME



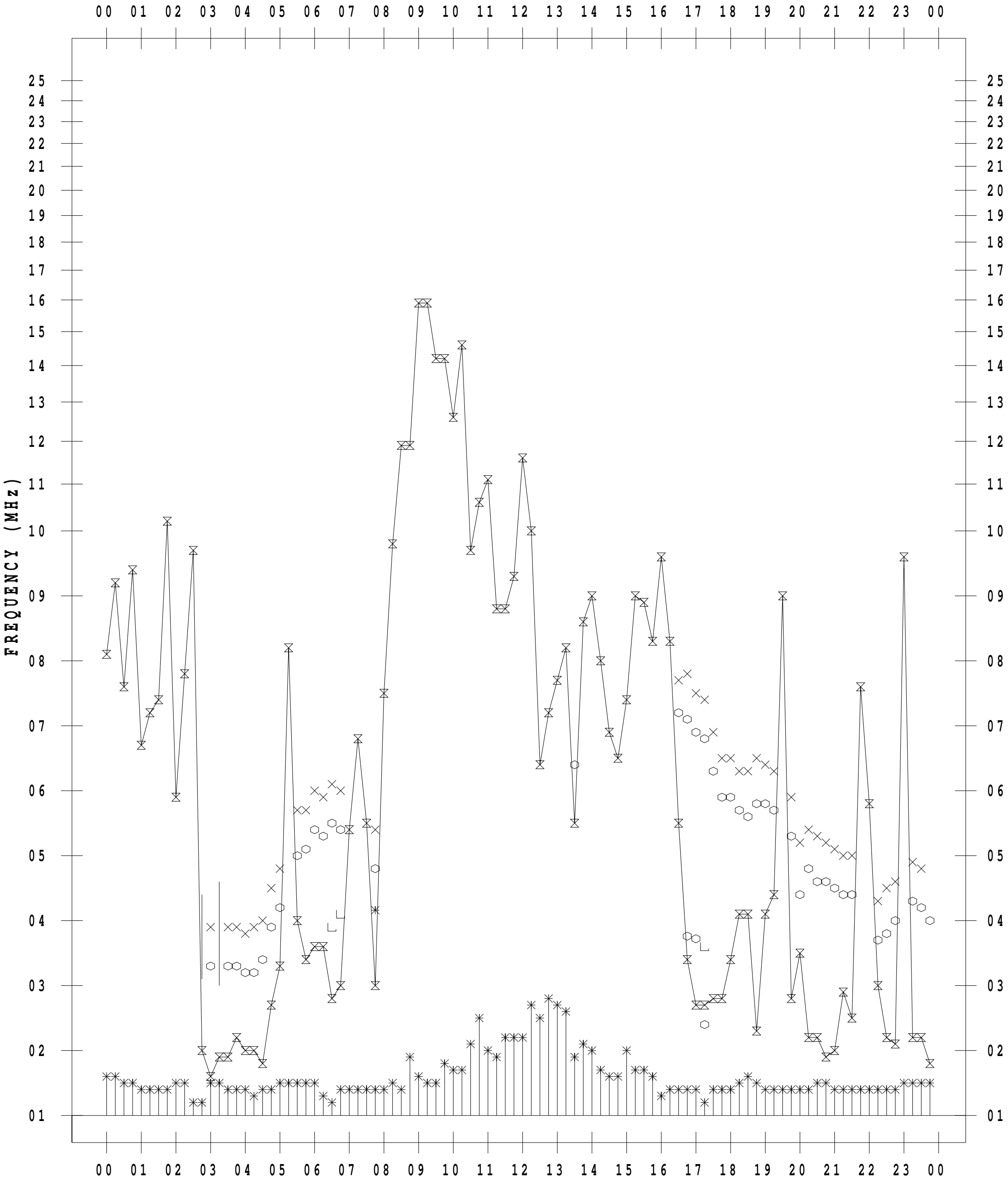
f-PLOT DATA

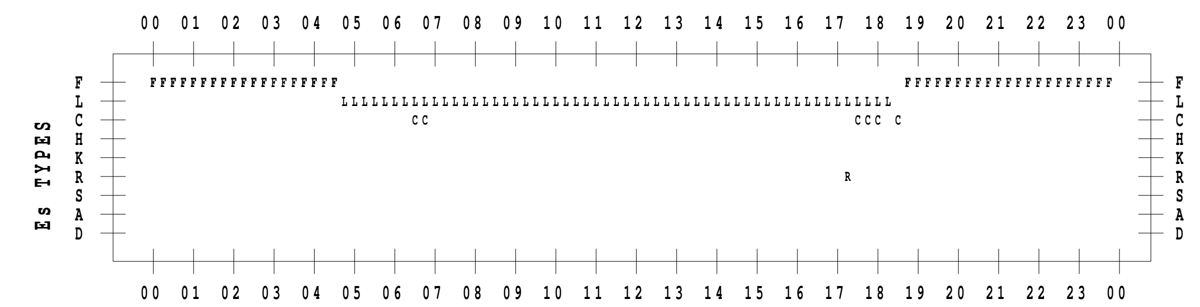
SCALER : I.NISHIMUTA

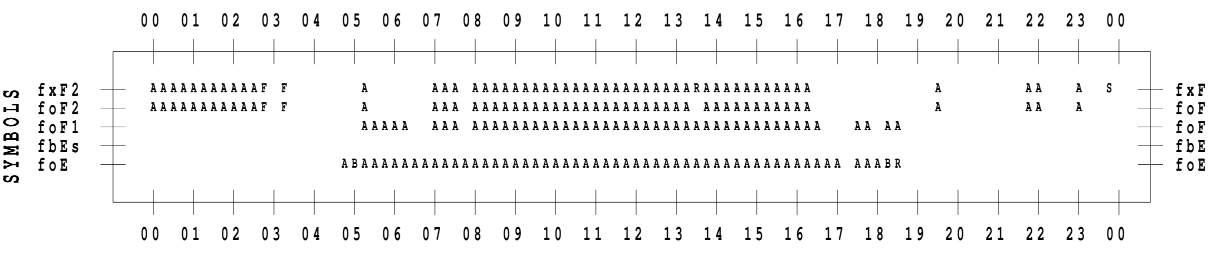
STATION : Kokubunji

DATE : 2010/ 5/23

135 °E MEAN TIME







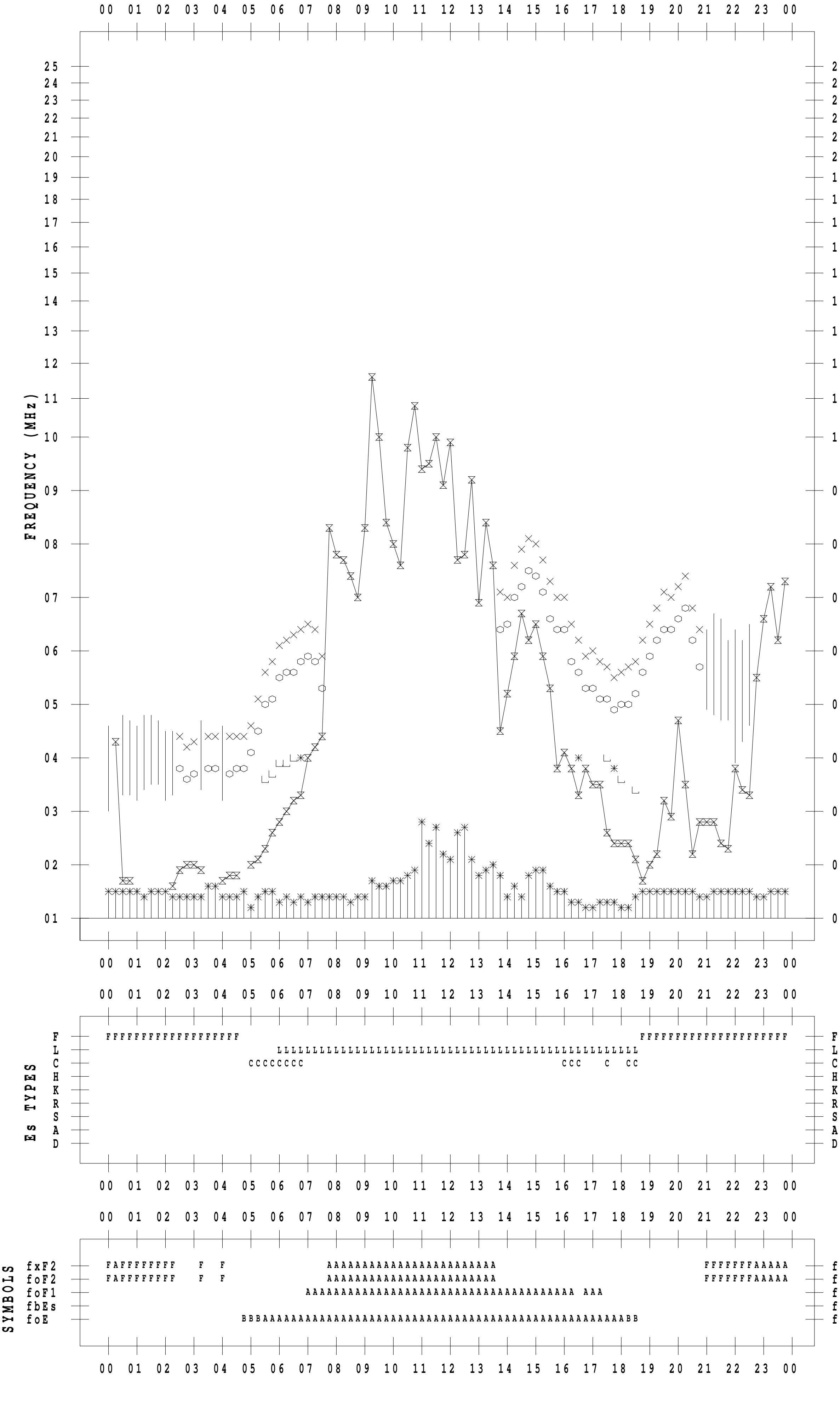
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/24

135 °E MEAN TIME



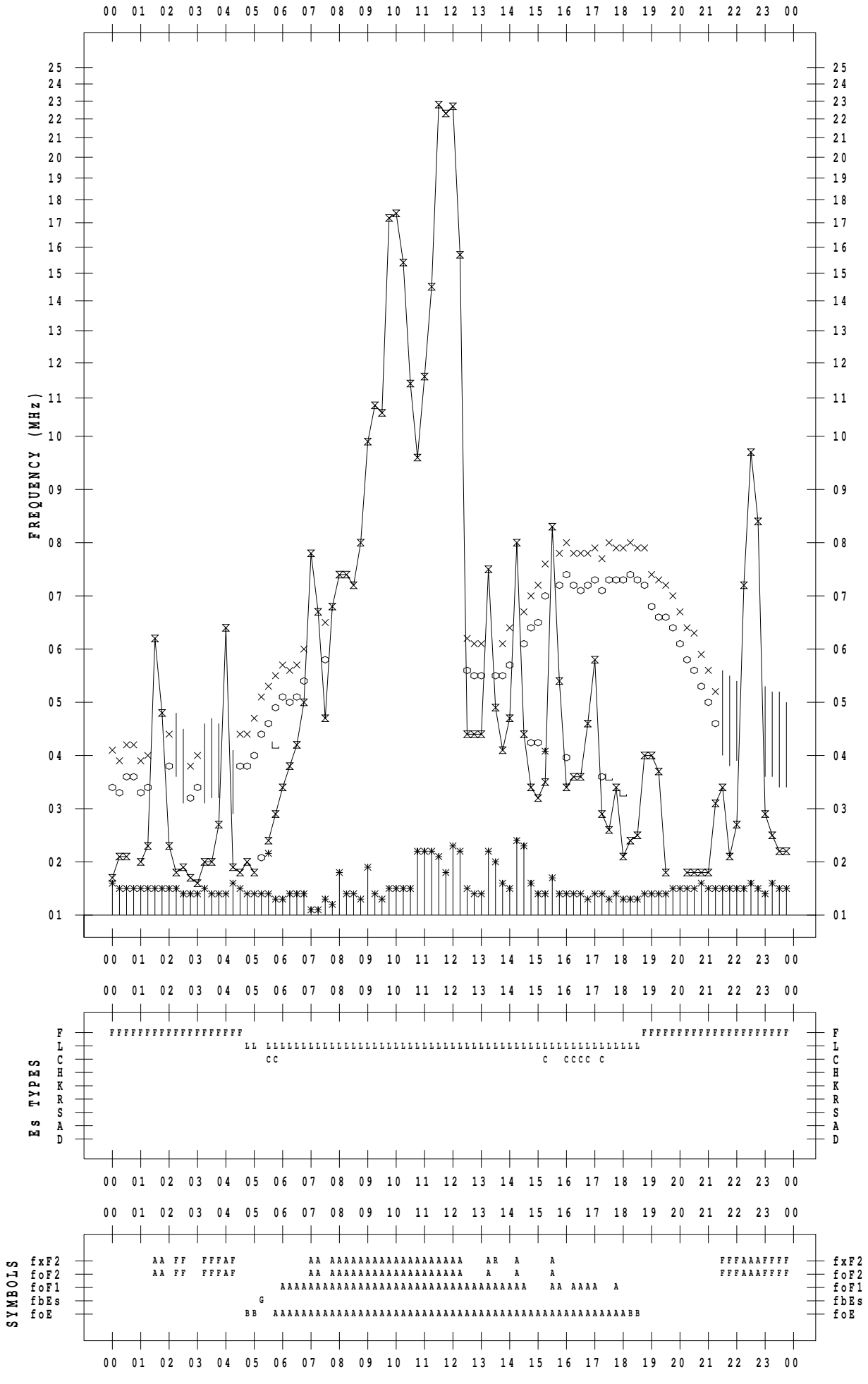
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/25

135 °E MEAN TIME



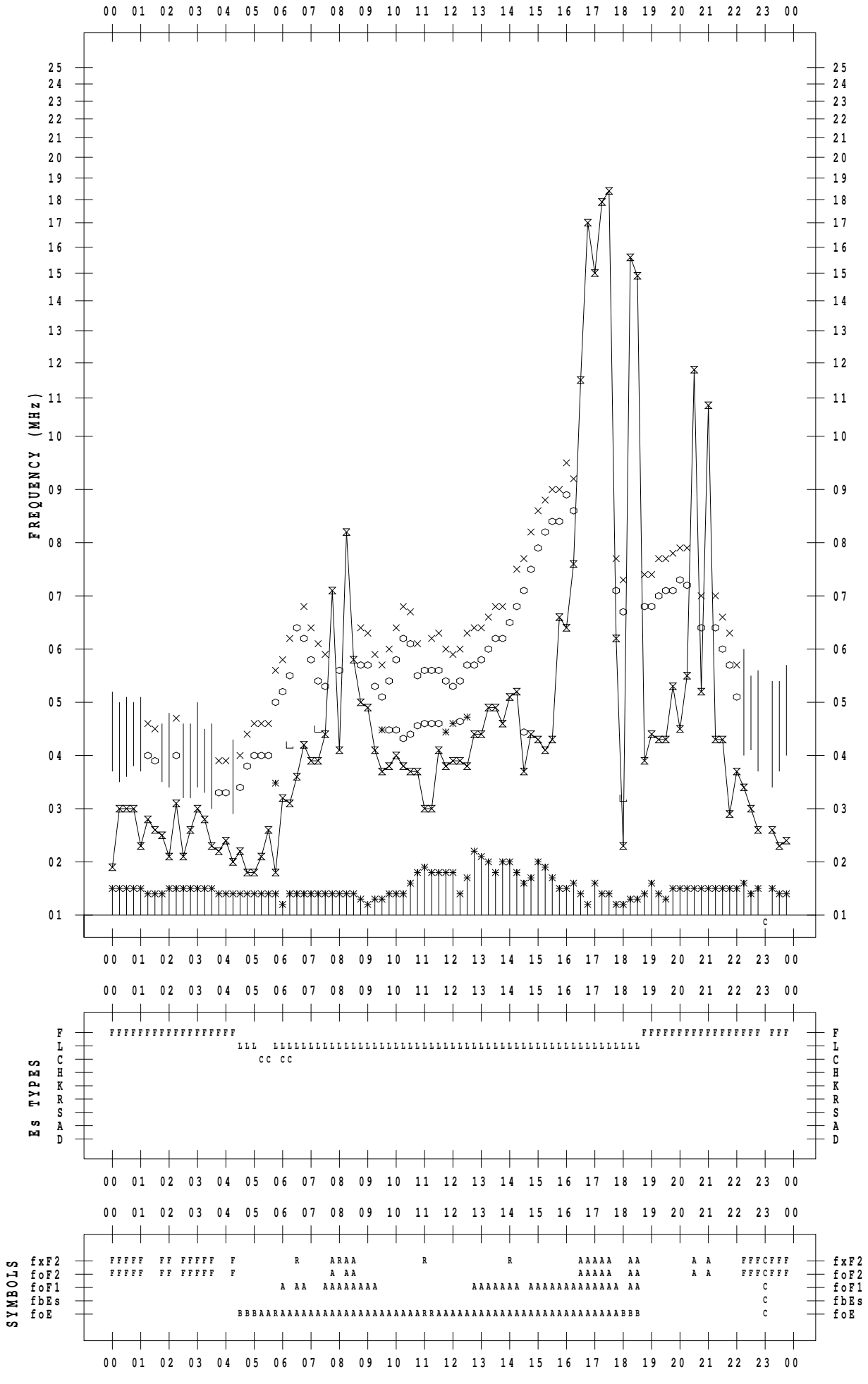
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/26

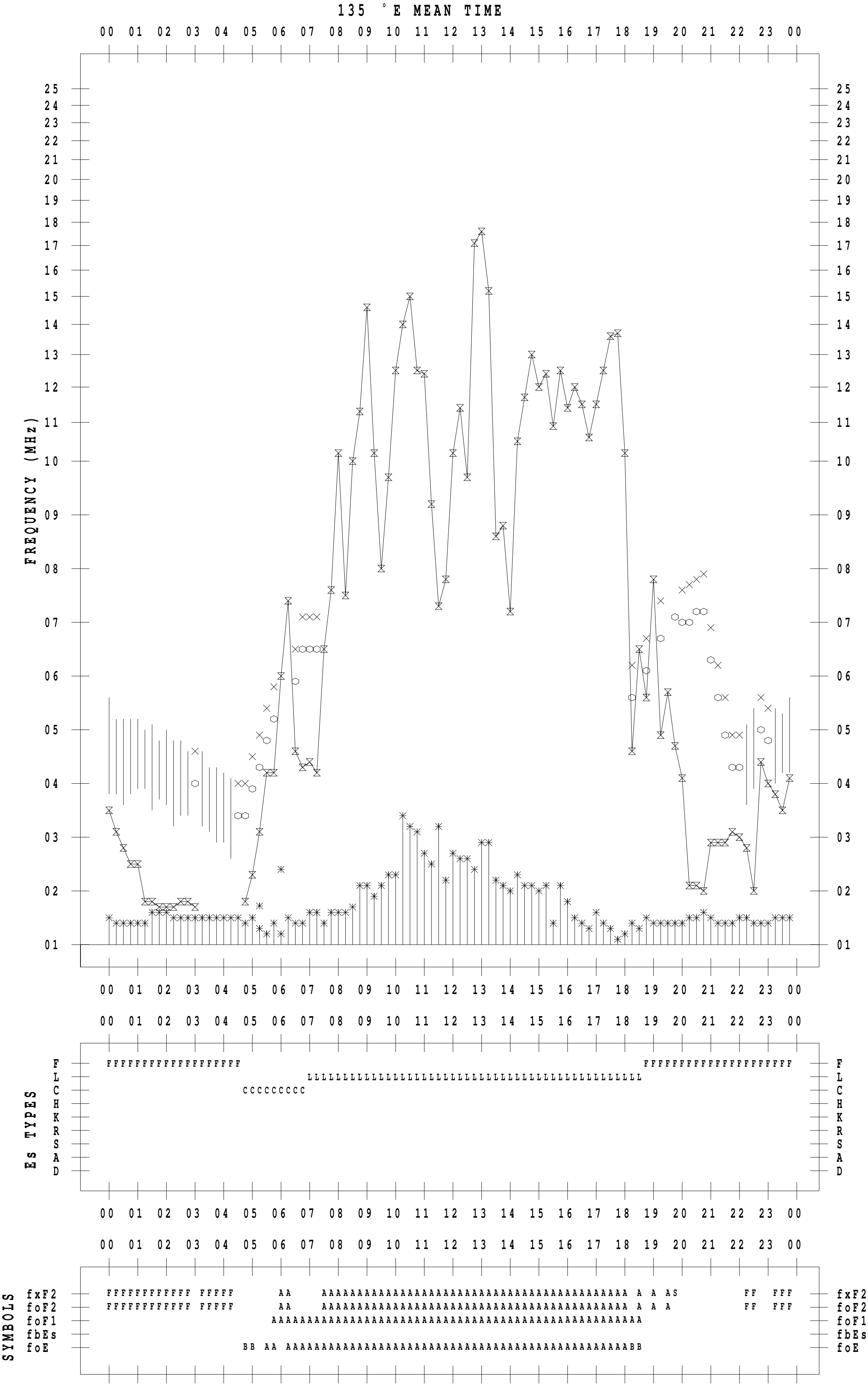
135 °E MEAN TIME



f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2010/ 5/27



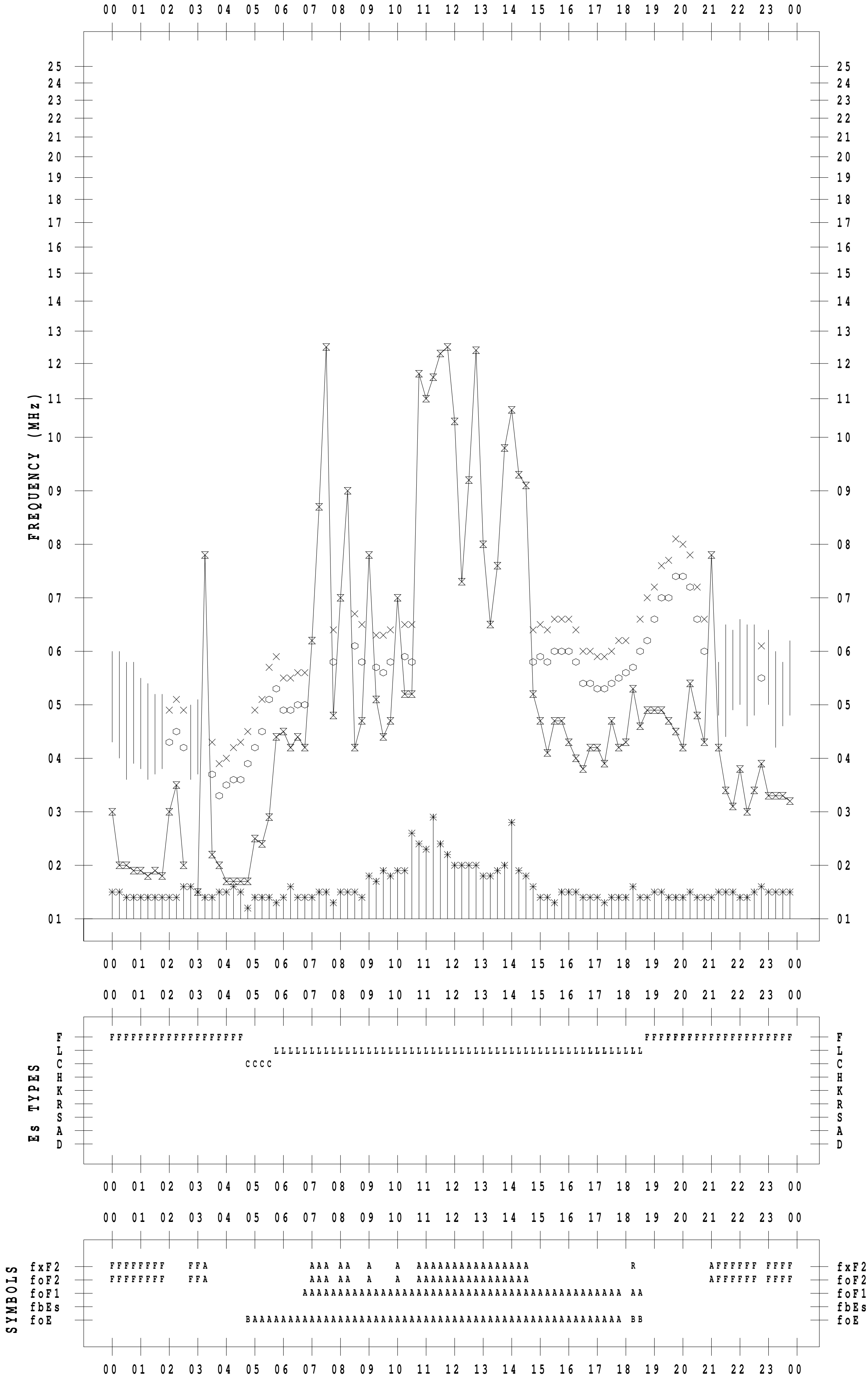
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/28

135 °E MEAN TIME

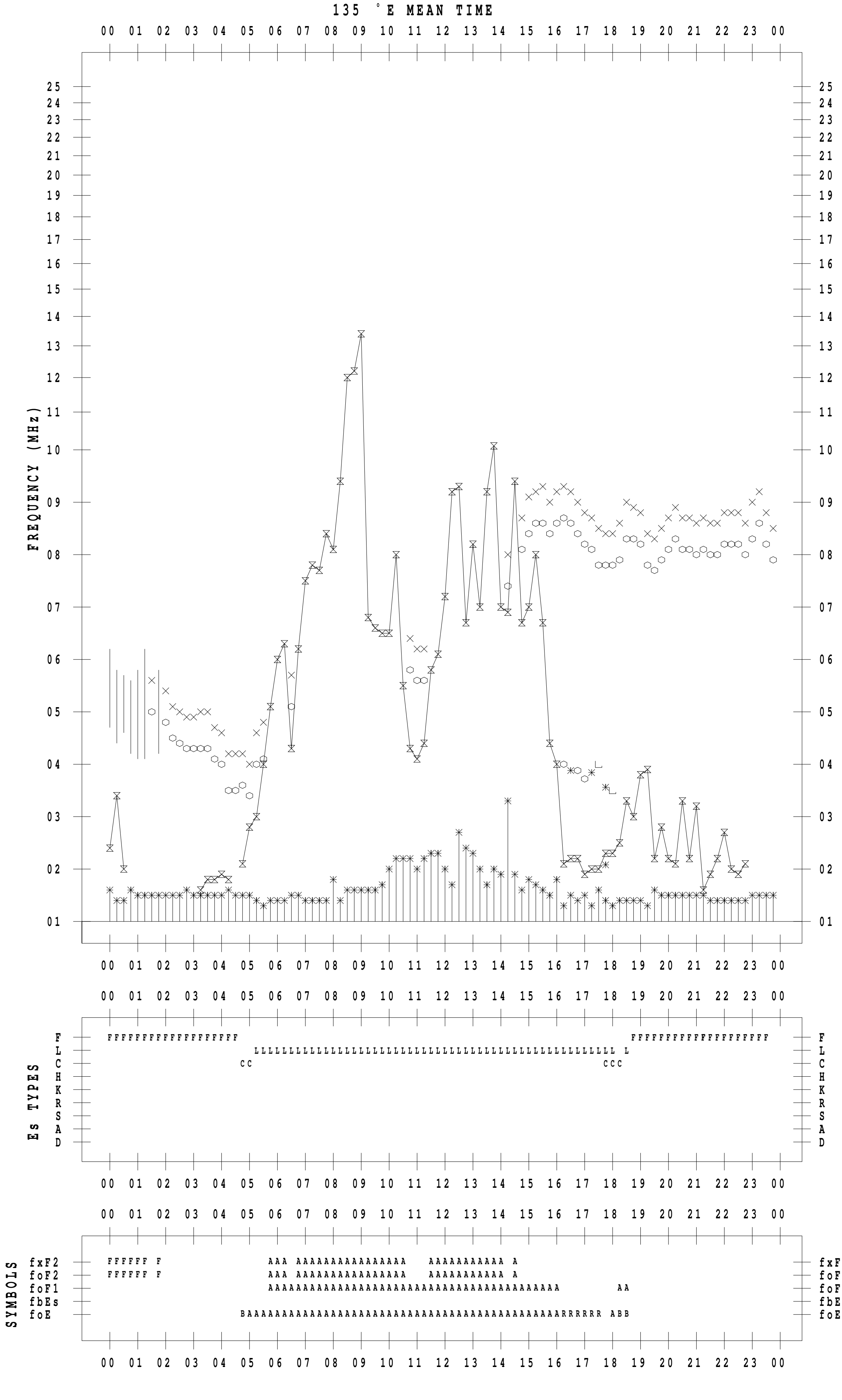


f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/29



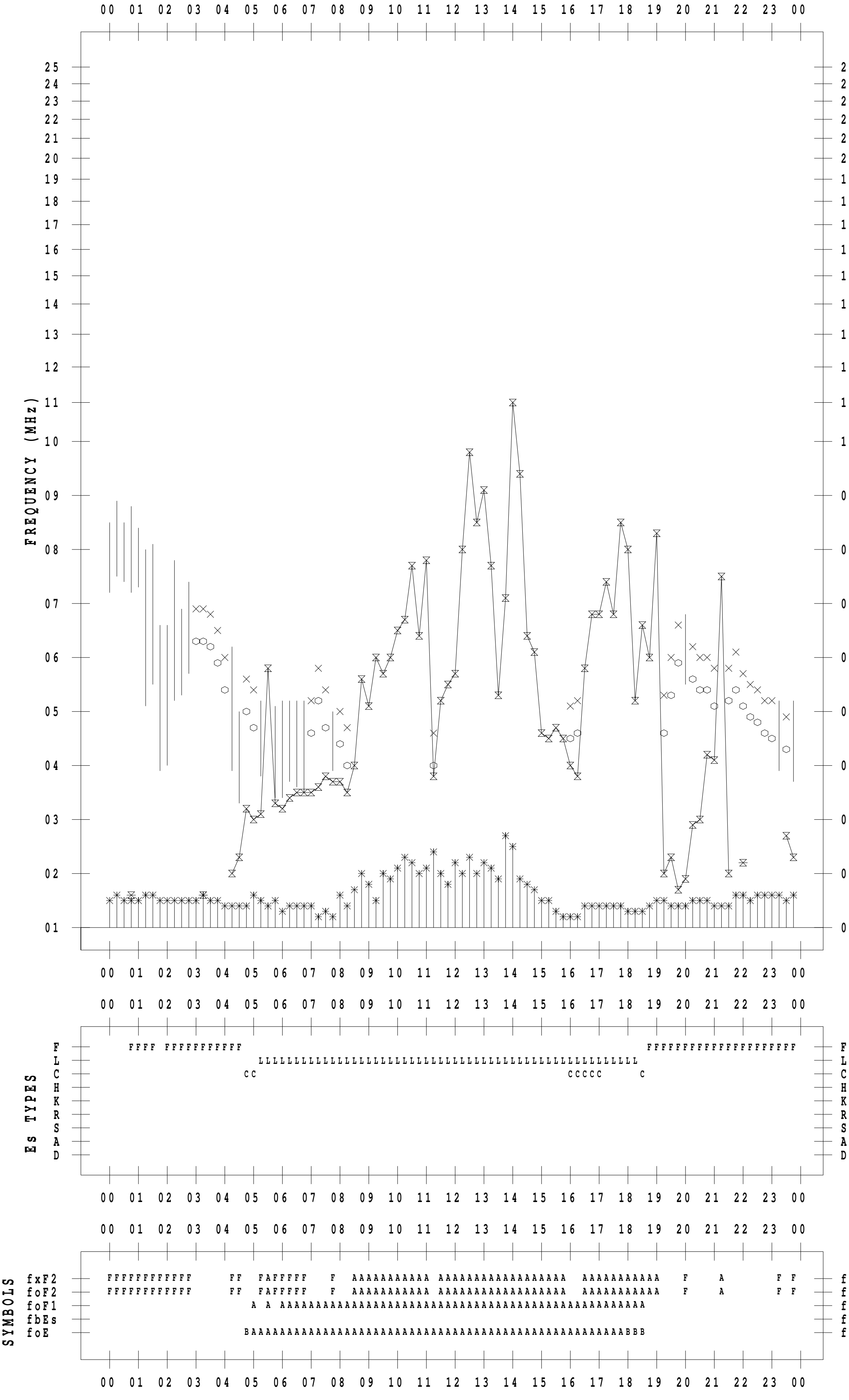
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/30

135 °E MEAN TIME



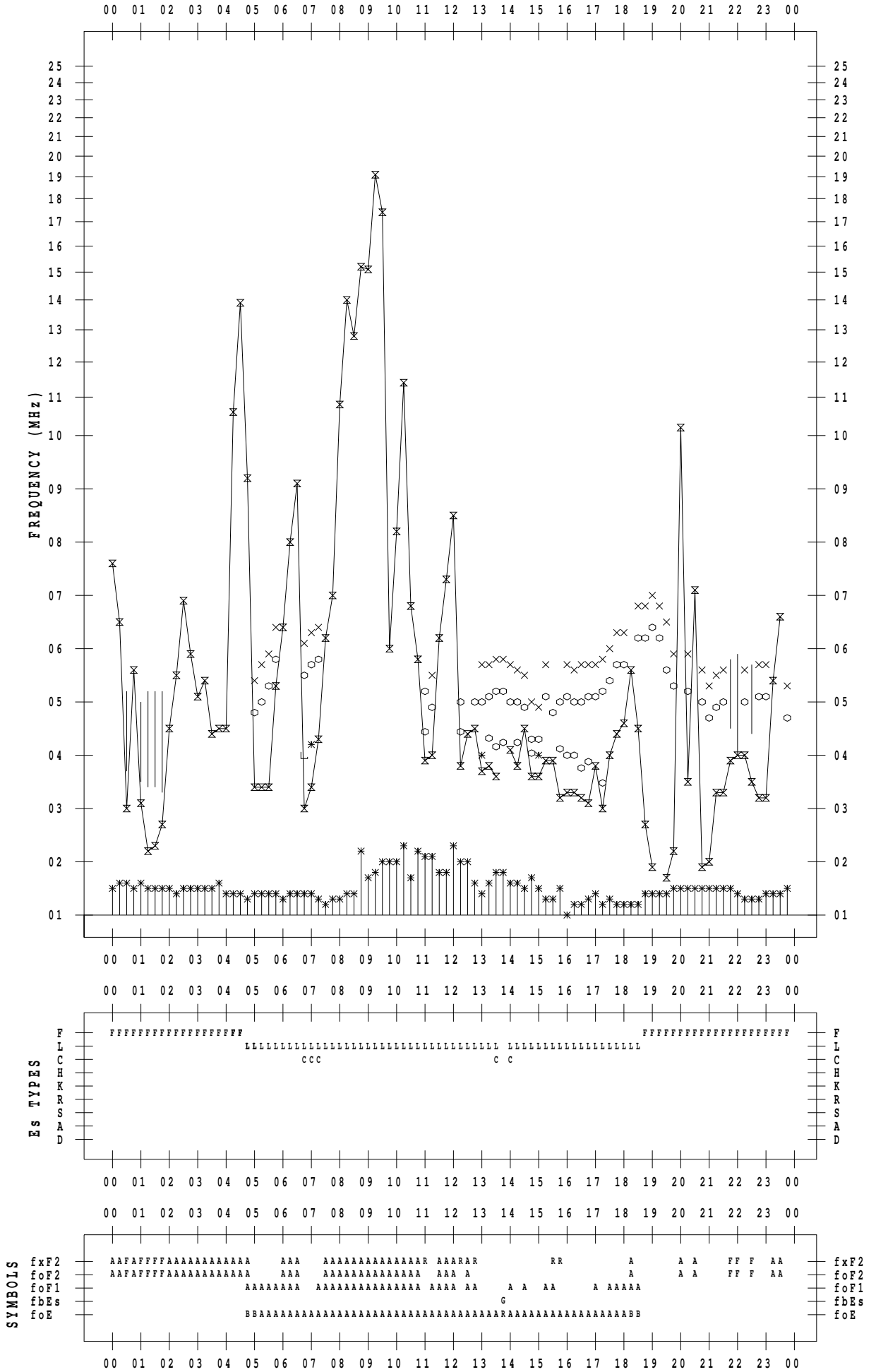
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 5/31

135 °E MEAN TIME



B. Solar Radio Emission

B1.Outstanding Occurrences at Hiraiso

Hiraiso May 2010

Single-frequency observations

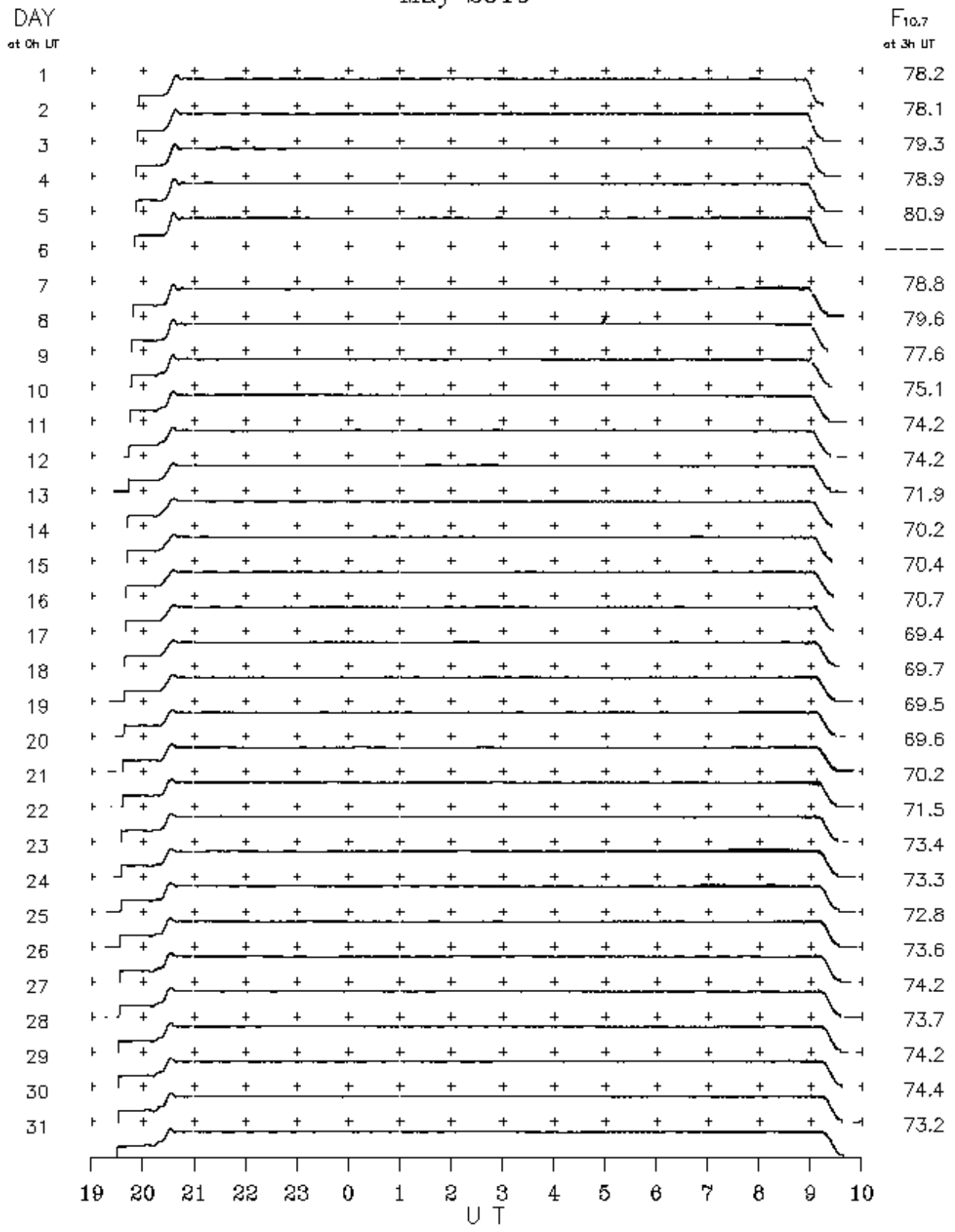
Normal observing period: 1925 - 0945 U.T. (sunrise to sunset)

MAY	FREQ.	TYPE	START TIME	TIME OF MAXIMUM	DUR.	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1})		POLARIZATION
2010	(MHz)		(U.T.)	(U.T.)	(MIN.)	PEAK	MEAN	REMARKS
8	2800	7 C	0454.0	0459.0	6.0	10	-	

B.Solar Radio Emission

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

May 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/2010/05/