F-759

IONOSPHERIC DATA IN JAPAN

FOR MARCH 2012

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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

MAR. 2012

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		34			32	34	35	63	68	74	91	59		92	88	83	84	67	66	53	34	A	52	34
2	53	52	42	50	34	34	35	54	64	80	70	91	90	84	92	83	69	67	54	34	34	32	32	34
3	34	52	54	54	49	32	51	61	70	68	67	90	91	90	79	83	68	65	62	59	55	54	53	53
4																								
5																	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	2	3	2	2	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	2	3	3
MED	44	52	48	52	34	34	35	61	68	74	70	90	90	90	88	83	69	67	62	53	34	43	52	34
U Q	53	52	54	54	49	34	51	63	70	80	91	91	91	92	92	83	84	67	66	59	55	54	53	53
L Q	34	34	42	50	32	32	35	54	64	68	67	59	90	84	79	83	68	65	54	34	34	32	32	34

HOURLY VALUES OF fEs AT Wakkanai

MAR.2012

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	25	G	G	52	56	G		G	G	37	44	30	34	25	26	40	35	G
2	G	24	28	25	G	G	G	31	40	38	G	G	G	47	39	39	G	G	29	G	G	G	G	27
3	30	29	39	38	35	27	G	G	G	G	G	G	G	G	G	G	45	34	G	G	G	32	24	G
4																								
5																	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
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18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	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	3	3	2	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3
MED	G	24	28	32	G	G	G	G	G	38	G	G	G	G	G	37	44	30	29	G	G	32	24	G
U Q	30	29	39	38	35	27	25	31	40	52	56	G	G	47	39	39	45	34	34	25	26	40	35	27
L Q	G	G	G	25	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

MAR. 2012

LAT. 45°10.0′N LON. 141°45.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

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

HOURLY VALUES OF foF2 AT Kokubunji

MAR. 2012

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	A	A		A	A	A	28	64	74	74	81	100	107	97	100	81	80	74	A	A	A	A	A	51
2	52	52	52	44			44	73	87	102	92	96	113	110	107	107	85	81	66			A		N
3	42	44	47	34			34	63	78	97	90	97	105	102	95	84	91	80	78	58		43		N
4	45	47						70	80	86	98	107	101	91	94	91	90	84	58	52	53	46	44	44
5		N	A	A	A		44	67	77	91	107	109	96		106	110	95	85	64		54	45	27	N
6	42						44	71	78	85	84	94	96	90	94	98	94	83	61	52	58	52	N	43
7				52	44		43	76	83	82		97	97	96	96	104	97	78	89	76	54	53	53	41
8							36	52	54							64	66	66	52	39	38	30	48	N
9	31	N						61	64	72	101	109	111		97	104	126	88	63	57		77		A
10		53		A	A	53	64	80	115	122	110	115	106	102	90	87	83	73	80	54	43		30	
11		38	N	N		30		63	83	91	90	111	108	98	92	87	80	78	76	54	53		42	
12	N	37		37		N	45	76	80	77	74	91	101	110	89	90	91	91	91	74	A			
13		44	42			N	53	72	85	90	74	91	92	108	103	90	87	84	78	52	51			30
14			A		28	32	52	80	79	83	N	C	C	C	C		C		C	54	53	52	43	44
15			43	44	28		54	66	78	76	89	C	C	C	C	C	C	84	76	63	54	53	53	
16	44		43	43			44	60	73	88	C	C	117	C	C	C	81	81	67	52	52	52	52	53
17	49	50	50	46	43	30	45	63	68	70	96	95	93	105	100	87	87	101	88	69	59	44		44
18	43		51	42	28	43	59	73	81	90	88	104	103	108	114	107	108	104	81	55	54	54	58	52
19	42	38	36	30	28	28	54	76	89	82	97	110	121	127	120	114	107	102	90	54		55	53	43
20	43	28	42	A		42	59	71	77	87	105	111	118	113	110	104	101	90	85	63	57	52		42
21	44	42	42	36	28	36	54	80	77	77	97	112	102	108	90	86	88	91	77	52	47		44	
22	A	44	47	44	38	31	49	72	81	86	92	100	102	106	101	93	85	81	67	52	44	44	44	44
23	52	45	52	43	44	N	52	75	75	84	92	88	94	94	91	88	95	85	83	52		47	58	
24		52	52	54	52	44	58	72	64	75	86	90	101	98	101	101	95	87	78	62	54	53	44	52
25	44	52	49	N	34	32	52	65	78	87	98	113	112	112	112	104	97	85	81	74	54	52	44	47
26	42	43	44	42	A	N	51	67	78	81	91	110	116	116	108	105	96	91	88	55	52	53	44	53
27	53	44	53	51	28	35	54	81	87	85	88	97	102	100	91	86	87	90	87	67	53		49	53
28	53	53	44	46	44	46	64	78	81	101	111	105	114	121	97	95	95	92	77	52	45	46	47	44
29	53	52	45	42		N	51	81	94	102	97	100	97	97	94	86	84	82	73	55	52	53	33	53
30		46	53	53	36		54	65	77	83	98	107	107	107	108	101	101	98	86	77	54	54	A	49
31	53	52		51	46	49	64	81	80	85	91	111	114	114	117	113	106	97	90	67	A	54	44	53
	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	21	19	19	15	14	28	31	31	30	27	27	28	25	27	28	29	30	29	28	23	23	21	20
MED	44	45	47	44	36	36	52	72	78	85	92	104	104	106	100	94	91	85	78	55	53	52	44	46
U Q	52	52	52	51	44	44	54	76	83	90	98	110	112	111	108	104	97	91	86	65	54	53	52	52
L Q	42	42	43	42	28	31	44	65	77	81	88	96	99	97	94	87	85	81	67	52	51	46	43	43

HOURLY VALUES OF fEs AT Kokubunji

MAR. 2012

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	58	31		35	34	35	26	G	G	G	65	66	70	47	G	G	43	39	33	49	48	33	33	G
2	27	28	G	29			G	G	G	44	60	G	G	G	G	G	G	G	G	G	G	30		G
3	G	G	G	G			G	G	G	G	G	G	G	G	G	G	G	G	29	G		G		G
4	G	G		G				G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
5	G	G	35	48	29		G	G	G	G	G	G	G		G	G	G	30	G		G	G	G	G
6	G						G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
7				G	G		G	G	G	G		G	G	G	G	G	G	G	G	G	G	G	G	G
8	G			G			G	G	G	G					G	G	G	G	35	G	G	G	G	G
9	G	G						G	G	G	G	G	G		G	G	G	G	G	G		G		30
10		G		33	41	33	24	G	44	60	47	87	G	G	G	68	G	G	G	G	G	G	G	
11		G	G	G	G	G		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
12	G	G		G		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	51			
13		G	G			G	G	G	G	G	51	G	G	G	G	G	G	G	G	G	G			G
14			29		G	G	G	G	G	G	G	C	C	C	C		C		C	G	G	G	G	G
15			G	G	G		G	G	G	G	G	C	C	C	C	C	C	G	G	G	G	G	G	G
16	G		G	G			G	G	G	G	C	C	G	C	C	C	36	G	G	G	G	G	G	G
17	G	G	G	27	31	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G		G
18	G		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
19	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G		27	34	34
20	27	G	G	25		G	27	G	G	G	50	G	45	G	G	G	G	G	G	G	25	G	G	G
21	G	G	G	G	G	G	G	G	G	G	48	G	G	G	G	G	G	G	G	G	28		G	
22	30	G	G	25	G	G	G	47	G	G	G	G	G	G	G	G	G	G	29	G	G	G	G	G
23	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
24		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	23	G	G	G	G
25	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
26	G	G	G	G	28	G	G	G	G	G	47	G	G	G	49	G	G	33	29	32	G	G	G	G
27	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G		G	G
28	G	24	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
29	29	33	G	G		G	29	G	G	G	G	G	G	G	G	G	G	G	G	30	G	29	32	G
30		G	G	G	G		G	G	G	G	G	G	G	50	G	G	G	G	G	G	42	G	34	29
31	35	G		G	G	G	30	G	G	G	53	45	71	G	61	G	G	40	31	61	79	50	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	24	22	27	20	20	28	31	31	31	28	27	28	25	28	28	29	30	30	30	28	27	25	27
MED	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
U Q	27	G	G	25	14	G	G	G	G	G	47	G	G	G	G	G	G	G	G	G	G	G	G	G
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Kokubunji

MAR. 2012

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	15		14	13	14	13	13	15	40	37	37	39	39	40	42	13	21	14	18	15	17	14	15
2	18	15	15	14			14	24	17	21	28	42	44	49	42	39	36	15	17	15	20	13		14
3	14	20	14	14			14	33	36	38	42	44	44	42	44	22	39	13	13	17		15		17
4	35	14		22				39	17	42	43	43	44	44	43	40	21	33	17	15	17	14	18	14
5	15	20	15	15	14		15	34	35	42	40	55	57		62	49	39	14	17		15	18	15	17
6	20						17	37	38	44	46	53	55	43	44	38	17	34	17	20	15	20	21	15
7				20	14		17	30	42	43		77	55	53	52	39	40	31	20	15	15	15	20	18
8	18			24			20	35	43	45					42	40	35	37	13	13	17	21	20	17
9	20	18						34	43	40	40	44	43		54	40	39	33	34	40		20		13
10		22		17	14	14	40	37	36	38	40	37	45	54	42	31	40	33	28	21	15	22	20	
11		21	20	18	18	18		33	40	43	42	57	44	45	43	17	36	36	23	15	34	20	14	21
12	21	20		17		20	20	30	18	40	43	55	50	46	47	39	38	14	17	17	31			
13		17	14			20	37	36	39	43	42	52	43	49	40	40	43	39	40	17	14			20
14			15		15	21	20	37	42	40	45	C	C	C	C		C		C	14	17	15	14	18
15			21	15	17		18	13	17	42	45	C	C	C	C	C	C	38	14	17	14	15	14	18
16	18		15	18			18	38	40	39	C	C	42	C	C	C	13	13	29	15	15	15	14	14
17	14	14	14	14	13	13	18	34	13	39	40	42	45	39	40	39	39	37	17	13	13	14		20
18	15		14	14	15	14	20	38	17	20	40	44	40	43	42	39	21	14	18	14	23	14	14	20
19	14	14	17	13	14	15	17	14	14	56	44	44	43	44	42	20	15	13	14	14		14	13	14
20	14	15	15	17		17	22	13	13	18	41	44	51	44	42	40	18	28	36	14	17	15	15	14
21	14	17	17	14	14	18	18	18	38	42	42	45	53	40	39	39	20	15	21	14	15		18	
22	15	17	14	13	14	14	21	33	18	40	43	44	55	45	43	40	39	26	14	17	14	14	21	20
23	14	14	14	13	14	14	21	14	21	42	43	45	46	44	40	38	39	13	18	17	43	17	20	
24		13	14	14	15	14	13	36	14	39	43	50	44	45	47	40	13	14	14	14	17	18	17	18
25	17	14	14	18	13	18	15	18	37	18	44	52	47	45	43	39	37	14	18	14	13	14	14	17
26	17	18	17	13	17	17	20	18	18	40	44	46	55	44	34	40	23	14	14	14	14	15	17	39
27	15	14	14	14	15	14	21	17	36	39	44	44	49	44	43	40	34	18	30	14	14		14	15
28	14	14	14	15	13	14	21	17	18	42	43	43	47	45	40	37	17	13	21	15	33	18	15	34
29	13	14	18	14		17	14	14	18	42	42	45	42	43	44	39	20	15	18	13	14	14	13	15
30		14	14	14	14		14	14	35	44	45	46	43	36	46	20	40	36	20	14	15	17	14	14
31	14	14		14	14	14	17	15	39	42	37	39	39	43	34	40	37	15	14	13	13	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	23	24	22	27	20	20	28	31	31	31	28	27	28	25	28	28	29	30	30	30	28	27	25	27
MED	15	15	14	14	14	14	18	30	35	40	42	44	44	44	42	39	36	16	18	15	15	15	15	17
U Q	18	18	17	17	15	18	20	36	39	42	44	52	50	45	44	40	39	33	21	17	17	18	19	20
L Q	14	14	14	14	14	14	15	15	17	39	40	43	43	43	40	38	19	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Yamagawa

MAR. 2012

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	38	37	36	40	38	30	59	54	71	74	74	77	89	73	66	79	86	A	78	67	46	48	47	52
2	52	44	50	37	28	B	32	52	86	N	82	87	69	N	96	106	79	91	86	66	53	53	A	54
3	37	51	52	37	28	29	30	53	71	76	N	84	77	69	91	69	76	78	78	67	53	52	N	44
4	46	48	42	44	41	B	N	52	63	76	78	88	64	77	78	97	N	79	76	55	55	52	54	52
5	52	47	34	34	34	34	35	51	71	77	69	A	79	B	B	N	69	86	87	48	52	N	52	43
6	43	44	37	38	40	29	28	62	74	86	80	73	77	72	65	N	93	82	72	54	54	51	43	42
7	43	42	43	50	45	B	29	62	78	80	B	B	74	N	69	79	80	N	72	45	52	54	53	43
8	89	40	38	43	29	28	32	67	83	59	69	76	69	78	69	80	76	88	76	54	51	44	34	34
9	34	50	44	59	44	37	26	58	59	72	69	95	79	B		65	72	84	48	58	62	53	53	50
10	48	52	54	34	48	52	51	57	N	73	69	A	A	56	79	77	84	45	77	74	53	43	40	41
11	44		44	40	29	A	38	66	72	78	78	69	69	69	N	69	N	N	75	53	54	53	42	37
12	40	41	41	37	37	34	37	47	77	73	74	77	88	69	59	75	76	83	70	58	54	43	52	52
13	53	49	52	34	29	43	38	54	77	78	77	76	76	86	78	102	92	94	79	54	54	30	44	A
14	42	38	34	37	37	34	42	54	77	N	76	74	69	76	60	85	69	89	78	76	62	51	A	42
15	42	40	42	36	37	40	40	N	N	77	77	69	69		86	64	69	88	86	54	52	52	52	53
16	51	44	43	46	46	32	29	58	76	N	78	77	113	69	69	87	76	86	76	60	53	A	53	52
17	43	44	48	47	37	32	32	59	94	94	76	69	77	97	79	96	95	59	49	74	67	54	52	44
18	50	44	44	A	41	32	36	64	71	86	90	N	N	95	N	66	95	99	90	52	N	N	44	42
19	48	38	40	37	34	31	29	66	77	85	83	70	N	148	69	140	92	N	29	49	54	54	53	43
20	47	44	47	36	31	32	38	64	72	77	77	79	77	69	69	N	59	78	N	66	53		43	42
21	41	43	42	43	34	30	38	60	67	76	77	69	N	N	N	N	N	N	C	74	53	47	43	43
22	43	44	47	52	40	28	69	58	75	77	76	N	79	69	94	91	93	78	77	67	50	47	43	42
23	52	49	52	51	46	N	34	66	80	77	77	80	87	59	69	80	88	87	85	68	53	47	52	53
24	52	46	42	53	44	36	41	52	65	68	76	77	N	74	79	N	78	75	82	73	54	51	52	42
25	51	52	54	42	26	32	37	60	67	77	76	69	69	69	89	N	82	79	79	73	55	50	50	44
26	46	47	46	52	40	28	34	55	72	74	78	69	69	N	N	79	N	92	93	76	55	53	53	51
27	52	52	52	50	34	32	37	65	66	76	69	69	90	79	N	82	87	90	88	74	54	54	44	53
28	53	52	53	51	44	42	46	72	74	84	78	76	69	69	76	90	94	89	N	66	40	47	53	52
29	52	52	53	52	36	34	37	73	91	91	78	87	79	N	N	A	77	81	86	74	54	52	52	55
30	53	53	53	61	41	31	37	69	76	78	62	76	69	91	71	95	N	89	81	54	49	53	51	45
31	A	A	44	47	44	42	47	67	71	76	87	50	69	77	94	A	89	72	89	47	54	53	47	53
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	29	31	30	31	26	30	30	29	28	29	26	26	23	23	23	26	26	28	31	30	27	28	30
MED	48	44	44	43	37	32	37	60	74	77	77	76	76	73	76	80	81	85	78	66	54	52	52	44
U Q	52	50	52	51	44	36	40	66	77	79	78	79	79	79	86	95	92	89	86	73	54	53	52	52
L Q	43	42	42	37	34	30	32	54	71	75	74	69	69	69	69	75	76	78	75	54	52	47	43	42

HOURLY VALUES OF fEs AT Yamagawa

MAR. 2012

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

HD \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	33	31	G	G	G	G	G	27	G	G	G	G	64	G	49	G	56	73	51	24	35	24	G	G
2	40	G	40	36	26	B	G	G	G	41	44	65	62	46	54	52	G	34	G	30	G	G	33	G
3	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
4	G	G	G	G	G	B	G	G	G	G	G	G	G	G	G	G	G	34	G	G	G	G	G	G
5	G	G	23	G	33	G	G	G	G	41	55	72	52	B	B	G	50	52	48	36	G	G	G	G
6	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	50	G	37	29	G	G	G	G	G
7	G	G	G	G	G	B	G	G	G	G	B	B	G	G	G	40	G	G	G	28	26	G	G	G
8	G	G	G	G	G	G	G	G	G	G	G	G	G	53	54	55	46	52	34	31	32	34	G	25
9	G	G	G	G	G	G	G	28	G	G	G	G	G	B	G	G	G	G	35	24	G	G	G	G
10	G	G	G	28	32	G	G	32	G	47	49	91	161	G	G	G	40	G	32	36	32	33	G	27
11	G	G	34	G	G	26	G	G	G	G	G	G	G	G	G	G	44	38	G	30	G	G	G	G
12	G	G	G	G	G	G	G	G	G	G	G	43	G	G	G	G	G	42	38	G	20	G	G	G
13	G	G	G	G	G	G	G	G	G	G	G	44	G	G	46	73	G	60	50	28	26	30	30	54
14	30	G	G	G	G	G	G	G	G	42	G	G	60	G	G	G	G	40	31	28	24	36	71	G
15	G	G	G	G	G	G	G	48	G	G	G	48	54		62	G	G	G	G	G	G	G	G	G
16	G	G	G	G	G	G	G	G	G	G	G	61	G	50	46	45	42	36	G	G	31	53	28	G
17	G	G	G	G	G	G	25	33	G	G	G	G	52	48	48	41	51	35	30	24	G	G	G	G
18	G	G	29	54	G	G	G	32	G	G	G	G	59	G	54	G	42	35	32	G	32	30	30	G
19	37	G	G	G	G	G	G	G	G	42	G	G	50	48	48	45	38	34	36	44	38	23	G	G
20	24	36	G	G	G	G	24	G	G	G	48	G	G	G	47	G	G	G	29	G	G	G	27	G
21	30	25	G	G	G	G	G	30	G	G	G	G	G	G	46	47	40	36	C	G	G	G	G	30
22	G	26	G	G	G	G	G	32	G	39	G	G	G	G	G	63	G	G	30	G	G	G	G	G
23	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
24	G	G	G	G	G	G	G	G	40	45	42	G	G	G	G	G	G	G	G	G	G	G	G	G
25	G	G	G	G	G	G	G	34	G	G	G	G	G	46	G	G	G	G	G	G	11	G	33	G
26	G	G	G	G	G	G	G	41	G	G	G	46	G	G	G	G	43	42	G	G	G	G	G	G
27	G	G	G	G	G	G	G	34	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
28	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	43	G	G	G	G
29	G	G	G	G	G	G	G	34	G	G	G	G	G	G	G	82	G	40	G	48	35	25	G	G
30	G	G	G	G	G	G	G	35	G	46	G	46	55	71	G	54	44	61	28	25	G	33	44	30
31	58	50	40	36	G	G	G	34	G	G	56	50	48	51	48	80	45	G	G	G	G	G	27	23
	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	28	31	31	31	31	30	30	31	28	30	31	31	31	30	31	31	31	31	31
MED	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	34	14	G	G	G	G	G
U Q	G	G	G	G	G	G	G	33	G	39	G	46	52	46	48	50	43	40	32	30	26	25	27	G
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Yamagawa

MAR. 2012

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	14	15	15	16	15	15	15	15	16	20	18	22	27	21	18	17	14	16	15	14	17	18	16
2	15	16	14	15	14	B	15	20	14	14	16	17	28	27	20	14	26	14	14	15	15	14	14	15
3	15	15	15	15	15	15	15	20	14	15	20	21	45	52	44	33	18	14	20	15	15	15	15	16
4	16	15	15	14	15	B	66	15	14	16	18	20	20	41	23	20	18	15	18	15	15	15	15	14
5	15	16	15	15	14	15	17	20	14	15	24	29	41	B	B	54	22	16	14	15	15	15	15	15
6	15	15	15	15	15	14	16	21	16	18	43	48	44	42	24	22	17	16	15	16	15	15	15	16
7	17	15	15	14	15	B	17	21	18	18	B	B	50	42	22	20	15	14	20	14	16	15	15	15
8	21	15	16	15	17	18	18	15	15	16	18	21	44	38	30	22	17	14	14	16	14	15	17	15
9	17	15	16	16	15	15	15	16	15	17	21	44	33	B	75	46	18	14	15	15	15	15	18	16
10	15	14	15	14	15	15	14	16	17	15	35	23	33	33	21	23	17	16	15	14	15	17	15	15
11	17	20	15	15	18	17	20	17	16	18	26	41	23	48	41	24	17	14	15	14	15	17	17	16
12	15	15	15	15	15	16	14	22	17	18	21	43	47	42	39	40	21	15	16	15	17	18	15	16
13	15	15	15	18	17	15	14	27	17	18	26	27	50	28	26	21	15	14	15	15	16	16	14	14
14	14	15	15	15	16	14	16	23	17	20	27	27	29	49	27	26	21	15	14	18	24	14	15	15
15	15	15	16	24	16	15	15	15	15	14	20	34	27		23	21	18	29	20	15	15	15	15	15
16	15	15	15	15	14	66	14	16	14	18	18	36	26	32	24	23	18	16	15	15	14	15	14	15
17	17	15	15	15	14	15	14	14	14	14	17	20	27	20	20	20	16	14	14	16	15	15	21	15
18	15	15	15	14	15	16	15	15	15	15	18	21	23	23	22	21	18	15	14	14	15	15	15	15
19	14	15	15	15	15	15	15	16	14	14	18	20	26	26	27	26	17	16	14	15	15	15	14	20
20	16	16	16	15	15	17	16	14	15	16	29	21	45	23	24	23	17	14	14	14	15	17	15	15
21	14	15	15	18	16	17	15	14	16	17	18	20	46	28	29	22	26	17	C	15	15	15	16	14
22	15	15	15	15	14	17	16	24	16	16	18	22	47	45	22	17	15	14	14	15	15	16	15	16
23	14	15	15	14	14	18	14	17	14	16	20	40	22	51	48	36	15	15	21	15	15	16	18	15
24	16	15	15	15	15	15	15	24	17	15	20	21	49	18	28	27	21	16	21	14	15	16	21	15
25	15	15	15	14	18	14	15	18	15	15	42	48	48	30	45	28	16	17	15	15	15	15	15	16
26	15	15	15	15	14	17	15	14	14	16	20	21	30	48	29	22	23	15	15	15	15	16	15	15
27	15	15	15	15	15	15	15	14	16	18	20	20	49	45	27	26	18	16	21	15	15	15	16	15
28	15	15	15	15	15	15	15	14	16	18	26	20	24	22	48	27	21	17	22	15	21	15	15	15
29	15	15	15	15	15	15	16	15	15	14	20	26	26	47	30	27	14	14	17	15	15	16	16	15
30	16	15	15	14	15	18	15	14	14	17	18	27	38	38	46	34	18	17	14	17	15	14	14	15
31	14	14	14	15	15	16	15	15	14	16	36	18	35	38	23	24	16	17	22	20	17	15	17	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	28	31	31	31	31	30	30	31	28	30	31	31	31	30	31	31	31	31	31
MED	15	15	15	15	15	15	15	16	15	16	20	22	33	38	27	23	18	15	15	15	15	15	15	15
U Q	16	15	15	15	16	17	16	20	16	18	26	34	46	45	39	27	21	16	20	15	15	16	17	16
L Q	15	15	15	15	15	15	15	15	14	15	18	20	26	27	23	21	16	14	14	15	15	15	15	15

HOURLY VALUES OF foF2 AT Okinawa

MAR. 2012

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	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	131	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	107	88	71	52	54
23	52	51	54	50	50	28	30	61	80	C	C	85	96	109	124	120	111	110	98	76	73	66	61	52
24	51	60	62	64	37	28	30	58	71	80	85	100	108	121	124	109	113	110	110	103	86	78	73	67
25	A	82	88	66	44	46	50	66	67	82	102	105	110	124	135	126	120	130	122	103	80	51	53	53
26	51	52	50	44	46	29	32	58	72	84	96	106	118	132	134	140	144	144	143	110	89	89	87	87
27	87	81	78	72	52	47	52	66	82	95	103	112	120	130	124	130	134	134	130	110	108	88	87	87
28	87	87	86	85	56	52	53	78	88	94	111	126	106	115	105	106	115	115	110	88	72	54	54	54
29	52	54	71	63	30	A	32	67	92	105	98	100	108	116	117	111	103	102	110	104	80	72	67	74
30	74	66	72	64	36	29	32	67	88	90	C	93	96	107	118	118	117	118	120	110	86	76	67	58
31	52	53	53	58	47	45	43	71	77	82	86	102	118	131	124	131	142	136	130	107	87	55	60	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	8	9	9	9	9	8	9	9	9	8	7	9	9	9	9	9	9	9	10	10	10	10	10	10
MED	52	60	71	64	46	37	32	66	80	87	98	102	108	121	124	120	117	118	121	106	86	72	64	56
U Q	80	81	82	69	51	46	51	69	88	94	103	109	118	130	129	130	138	135	130	110	88	78	73	74
L Q	51	52	53	54	36	28	31	59	71	82	86	96	101	112	117	110	112	110	110	103	80	55	54	54

HOURLY VALUES OF fEs AT Okinawa

MAR. 2012

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	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	G	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	24	G	30	G	G
23	G	G	G	G	G	G	G	31	G	C	C	G	G	G	G	G	G	G	G	G	G	38	G	G
24	G	G	G	G	G	G	G	32	41	44	G	52	53	50	G	G	G	G	G	G	25	24	33	34
25	58	G	G	11	G	G	G	31	39	44	G	G	G	G	G	48	45	38	G	23	G	G	G	G
26	G	G	G	G	19	G	G	G	G	G	G	G	G	G	G	G	45	G	G	G	G	G	G	G
27	G	G	G	G	26	25	24	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
28	G	G	G	G	G	G	G	G	G	G	G	G	49	53	50	63	59	56	32	28	G	G	27	26
29	G	G	29	G	G	27	G	36	G	G	G	G	G	G	48	55	G	G	G	26	39	25	G	G
30	G	G	G	G	G	G	G	33	44	44	C	G	G	G	G	58	47	45	35	G	G	G	38	34
31	24	G	G	G	G	G	G	G	G	47	54	G	49	G	G	G	G	G	G	G	G	G	26	28
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	9	9	9	9	9	9	9	9	9	8	7	9	9	9	9	9	9	9	10	10	10	10	10	10
MED	G	G	G	G	G	G	G	31	G	22	G	G	G	G	G	G	G	G	G	G	G	G	G	G
U Q	12	G	G	G	10	13	G	32	40	44	G	G	49	25	24	56	46	41	G	24	G	25	27	28
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

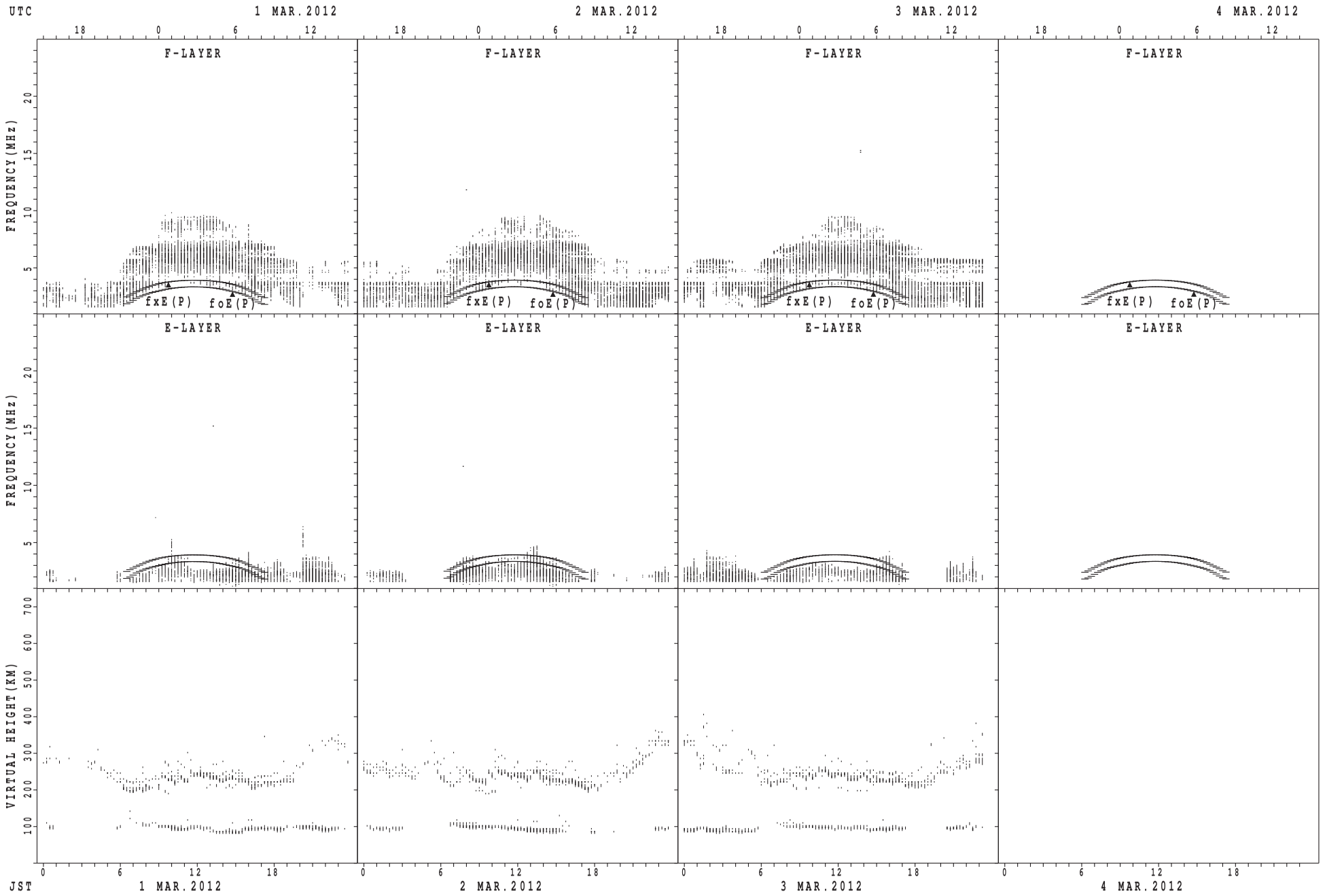
HOURLY VALUES OF fmin AT Okinawa

MAR. 2012

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

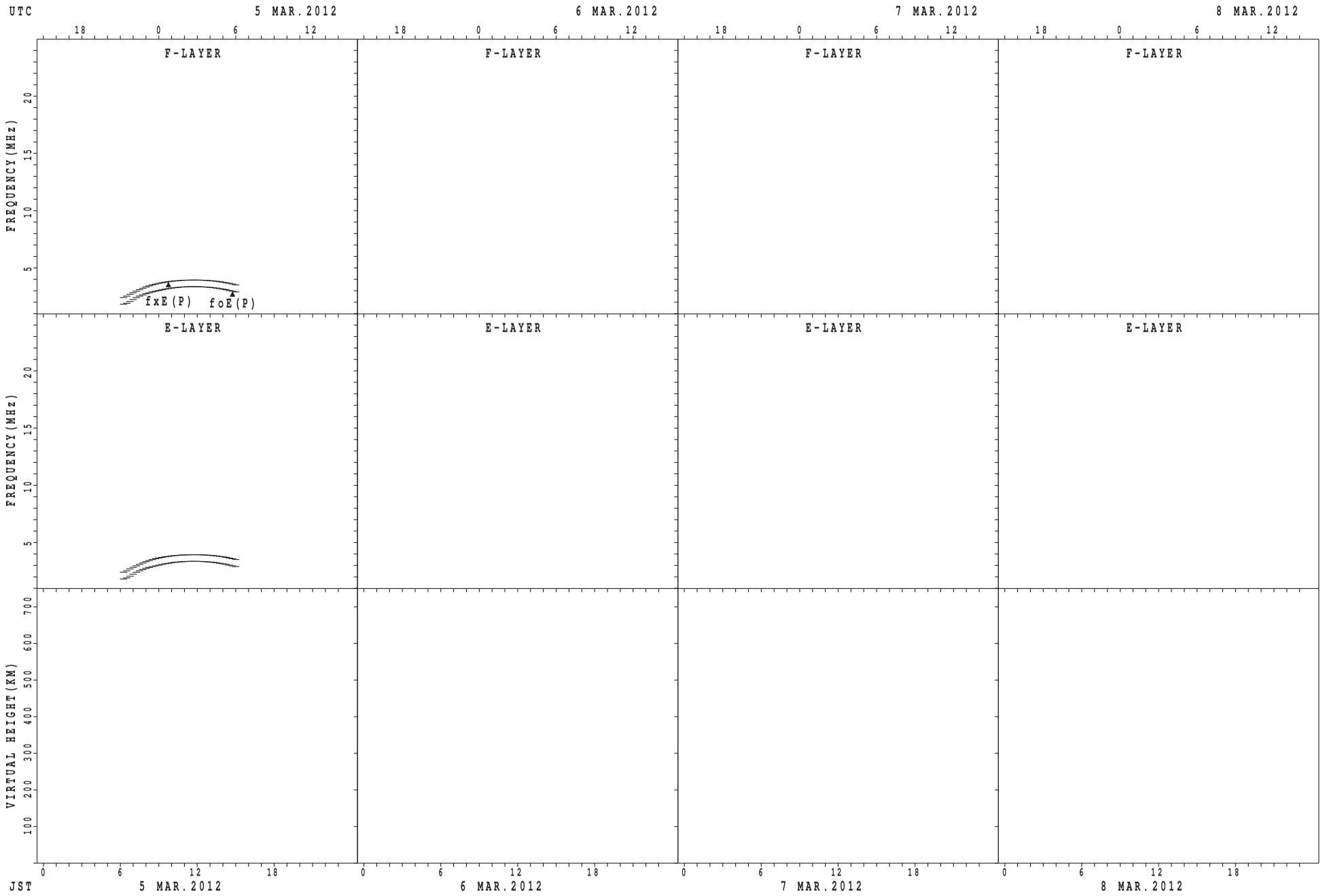
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	39	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	15	15	14	15	14
23	14	14	15	15	14	18	14	14	14	C	C	43	43	47	45	40	23	15	14	14	16	15	17	15
24	15	15	14	14	15	66	16	17	15	18	46	40	38	48	43	39	38	16	14	15	15	14	14	15
25	15	17	14	14	15	15	14	16	16	18	24	47	49	48	47	22	18	15	15	14	14	17	17	15
26	15	15	14	14	14	17	15	17	16	21	42	46	50	46	49	31	22	20	14	14	16	15	15	15
27	17	15	16	14	14	14	14	17	15	20	24	48	48	47	46	43	34	15	16	15	15	15	15	15
28	15	15	15	15	15	15	15	23	17	22	44	48	29	38	38	32	21	18	17	14	20	15	14	15
29	16	15	14	14	15	14	14	18	16	20	28	28	45	45	44	36	14	14	16	14	14	15	17	15
30	15	15	15	14	16	17	15	14	16	20	C	43	48	59	44	38	32	20	17	16	14	15	14	14
31	15	17	15	14	15	15	15	18	18	18	36	23	46	40	48	42	38	15	17	15	15	15	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	9	9	9	9	9	9	9	9	9	8	7	9	9	9	9	9	9	9	10	10	10	10	10	10
MED	15	15	15	14	15	15	15	17	16	20	36	43	46	47	45	38	23	15	16	14	15	15	15	15
U Q	15	16	15	14	15	17	15	18	16	20	44	47	48	48	47	41	36	19	17	15	16	15	17	15
L Q	15	15	14	14	14	14	14	15	15	18	24	34	40	42	43	31	19	15	14	14	14	15	14	15

SUMMARY PLOTS AT Wakkanai



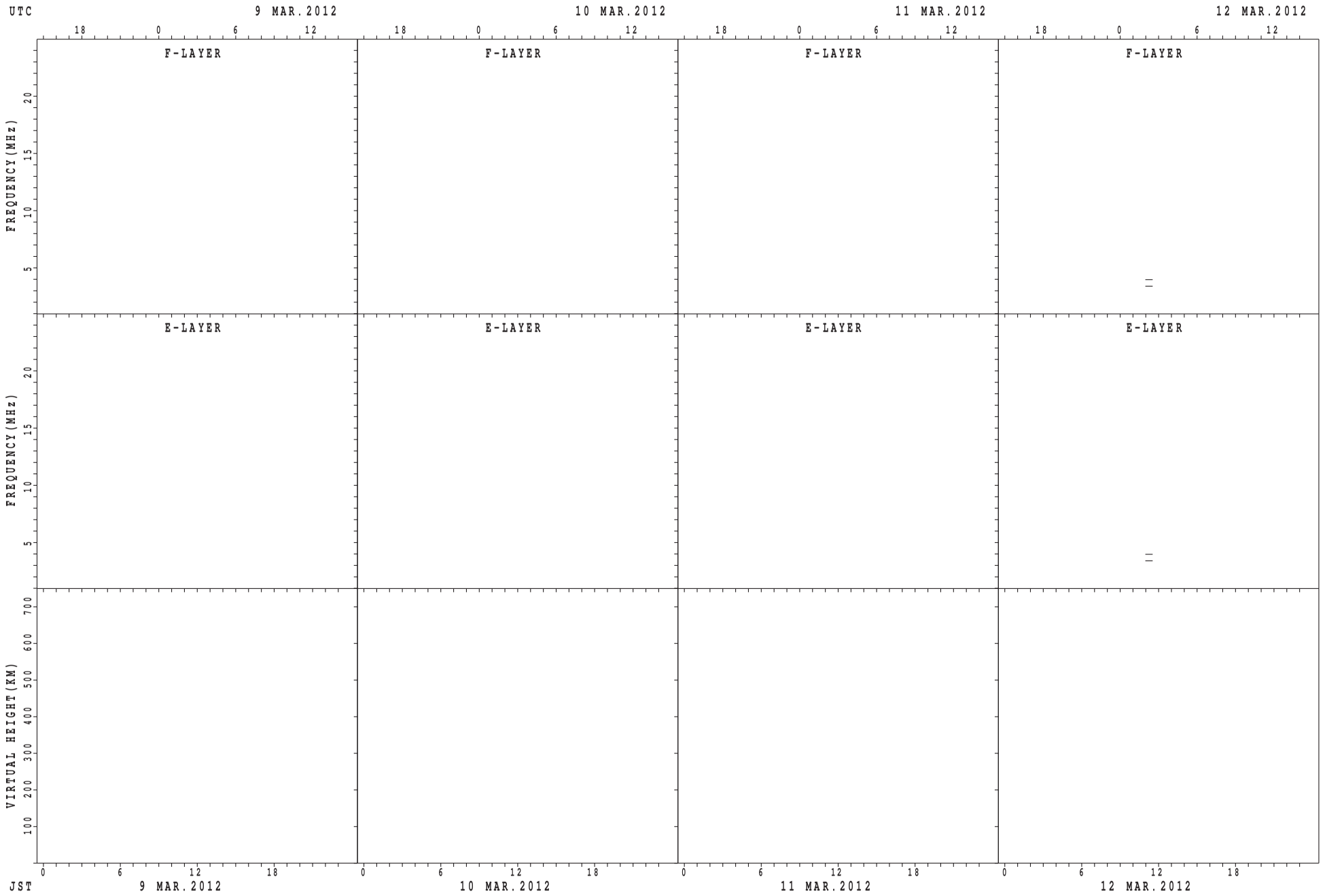
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



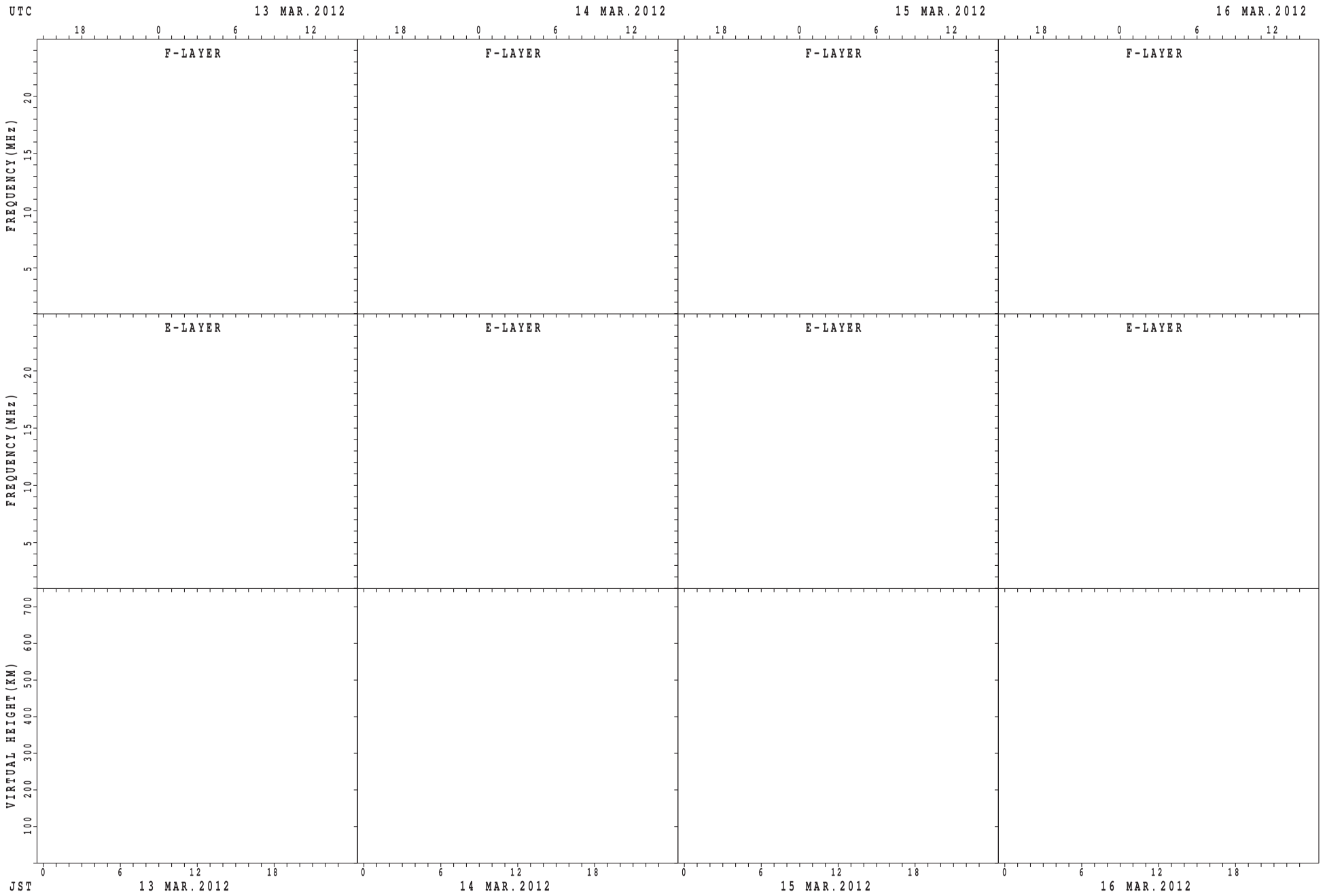
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



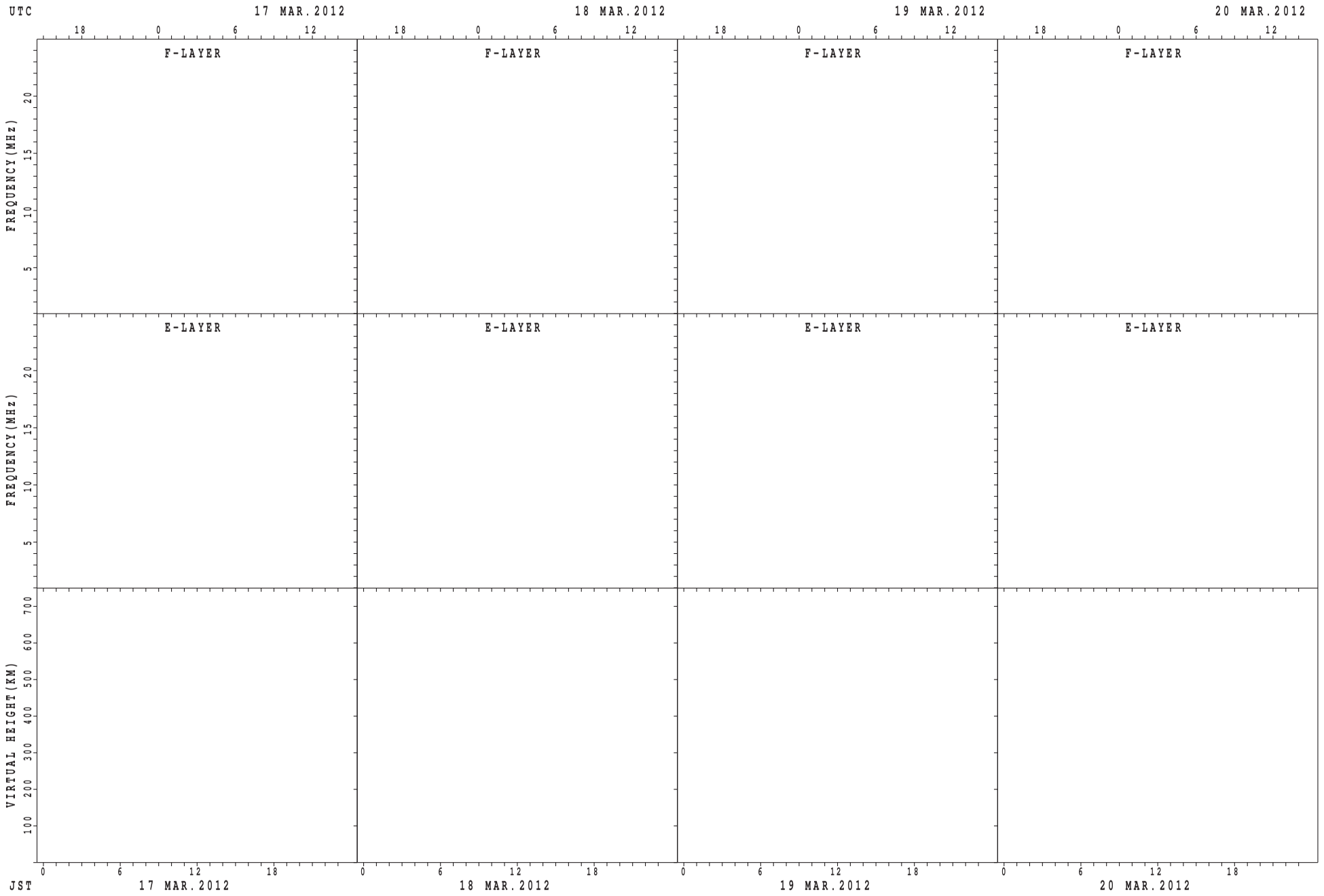
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



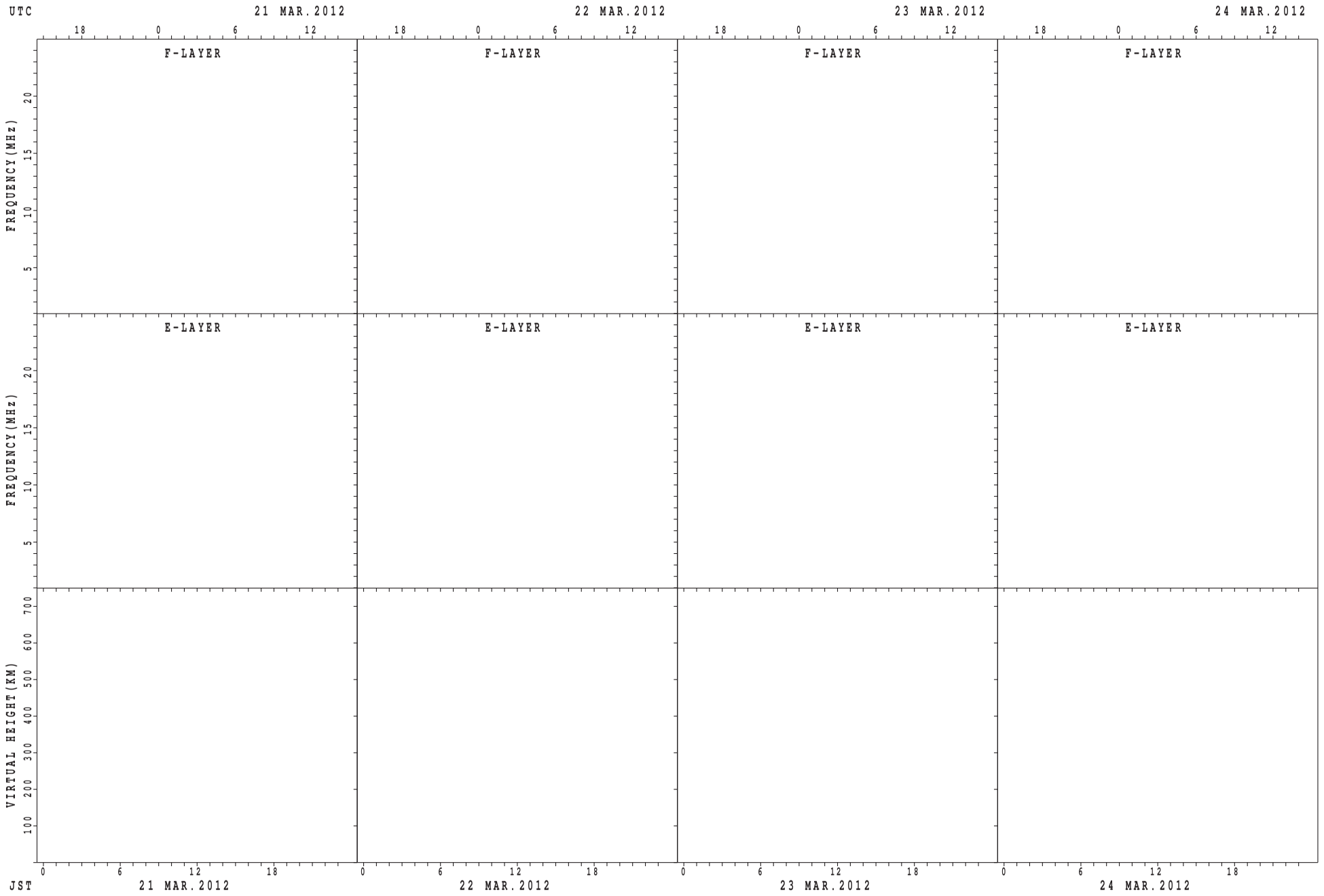
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



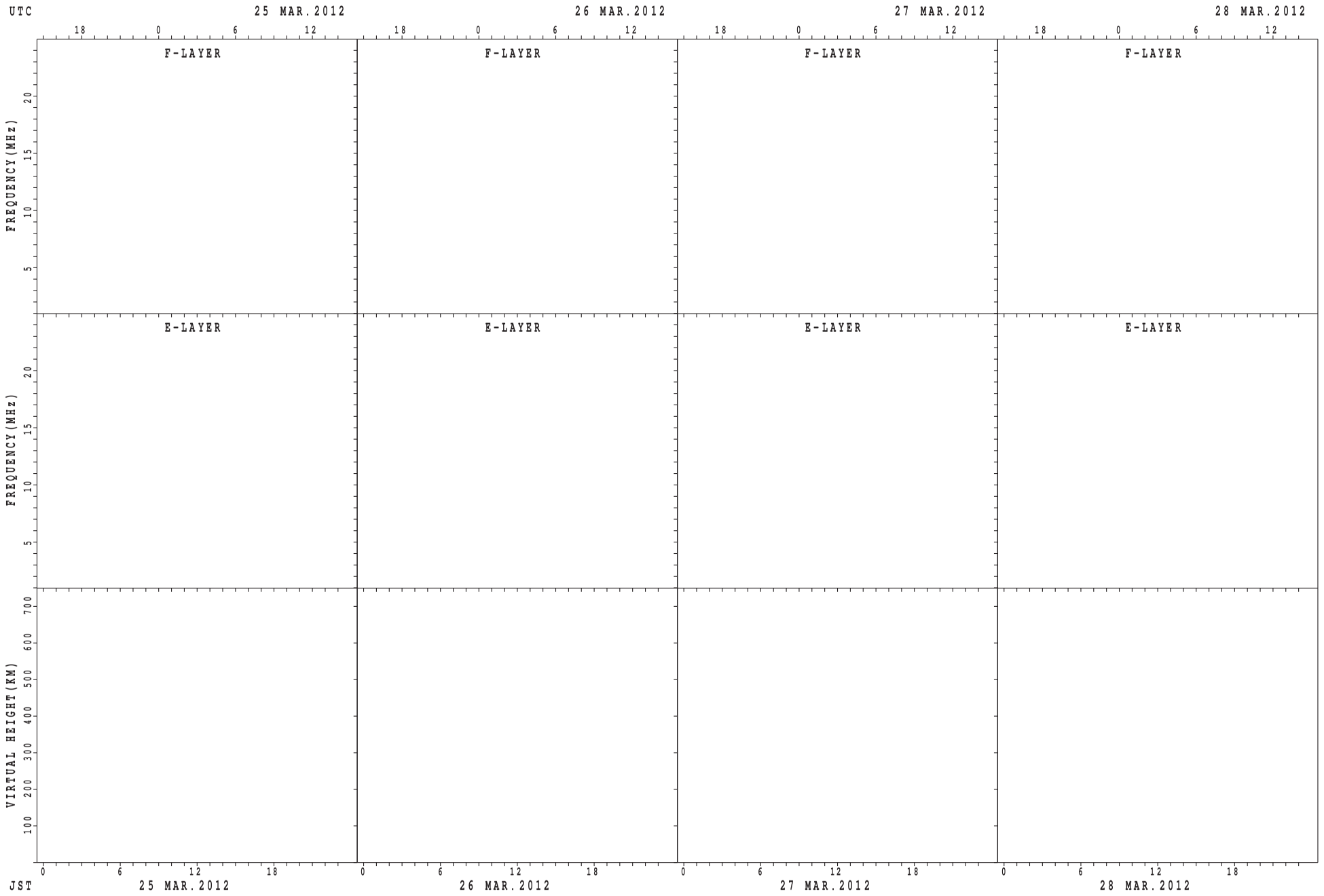
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



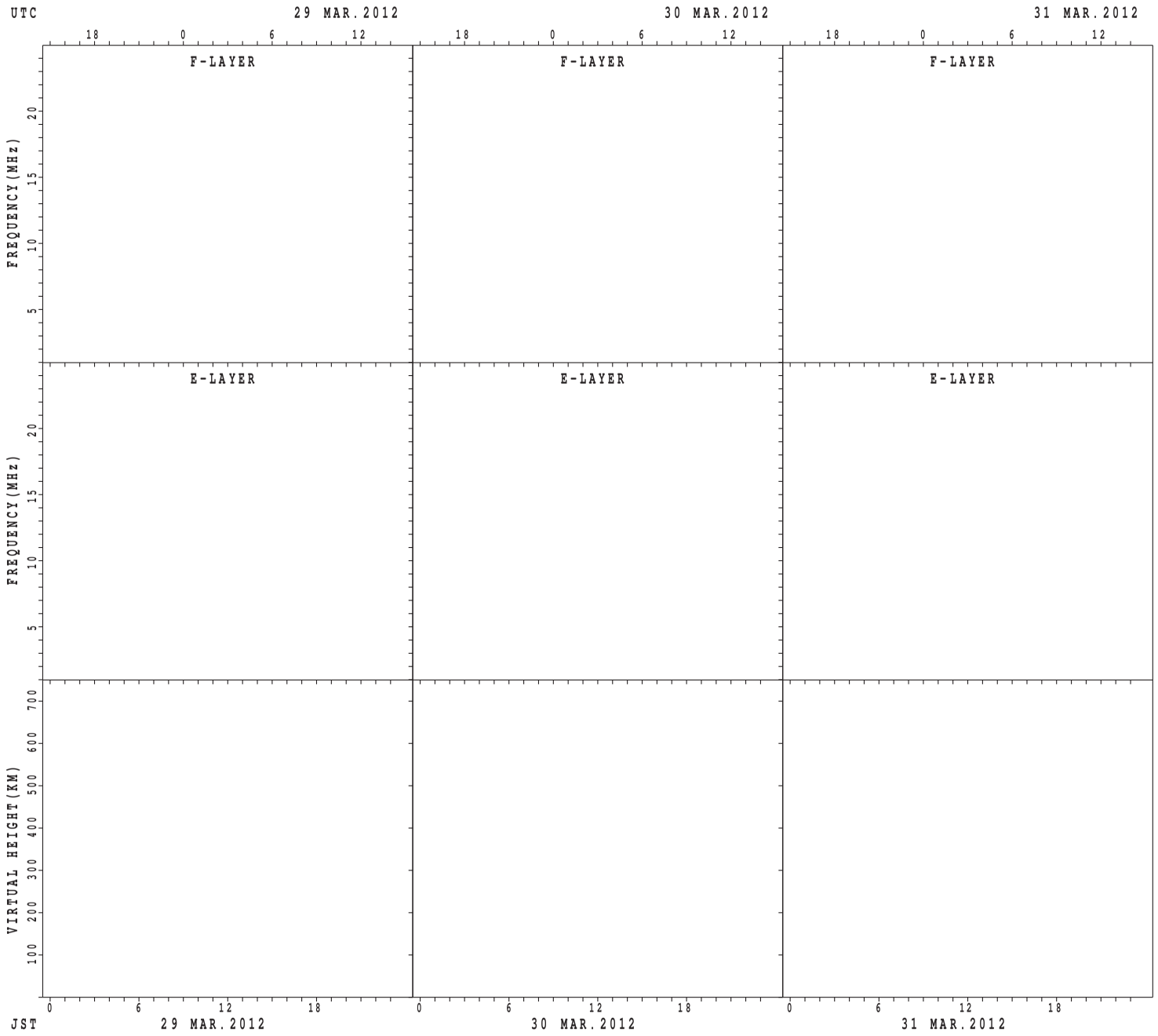
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



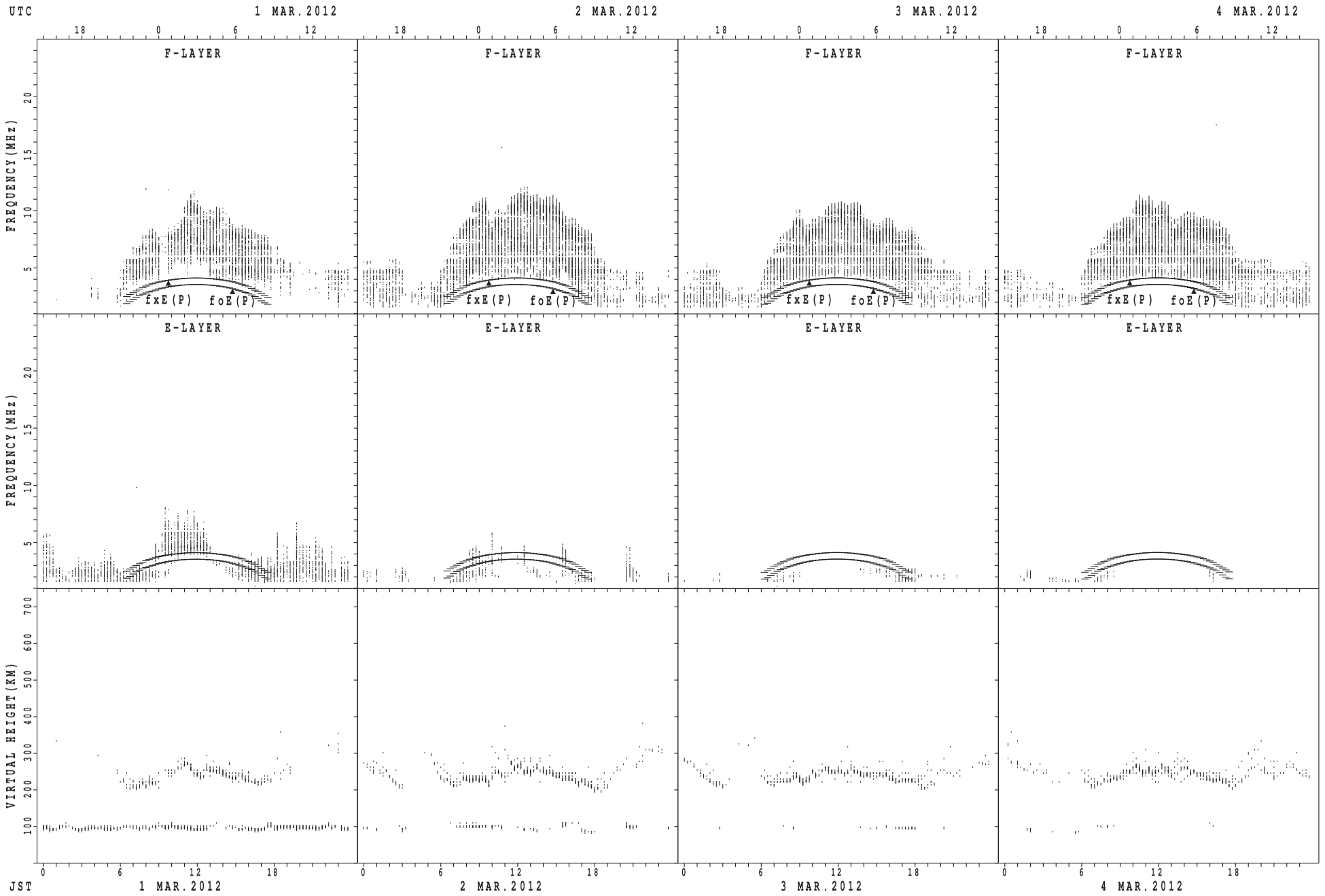
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



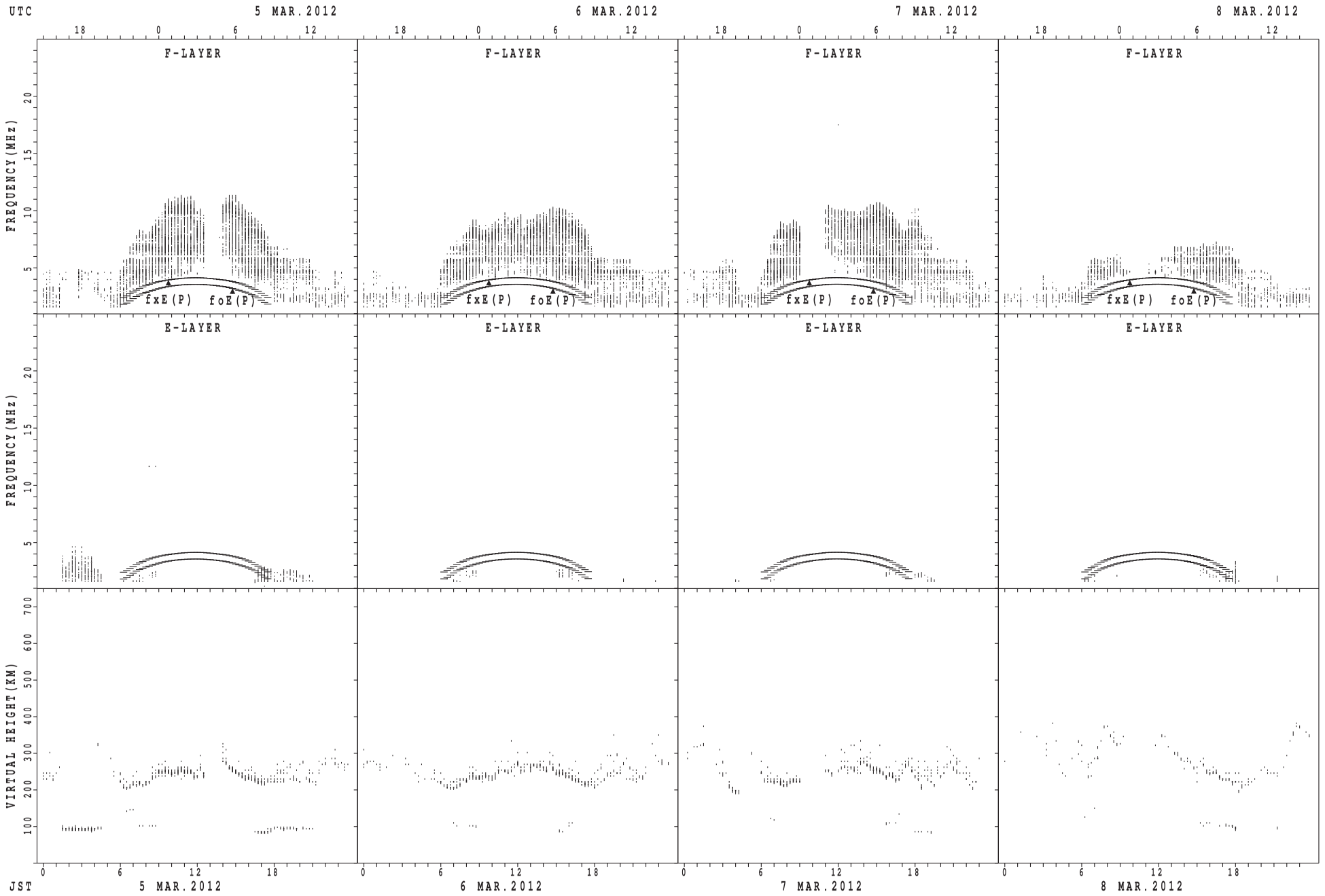
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



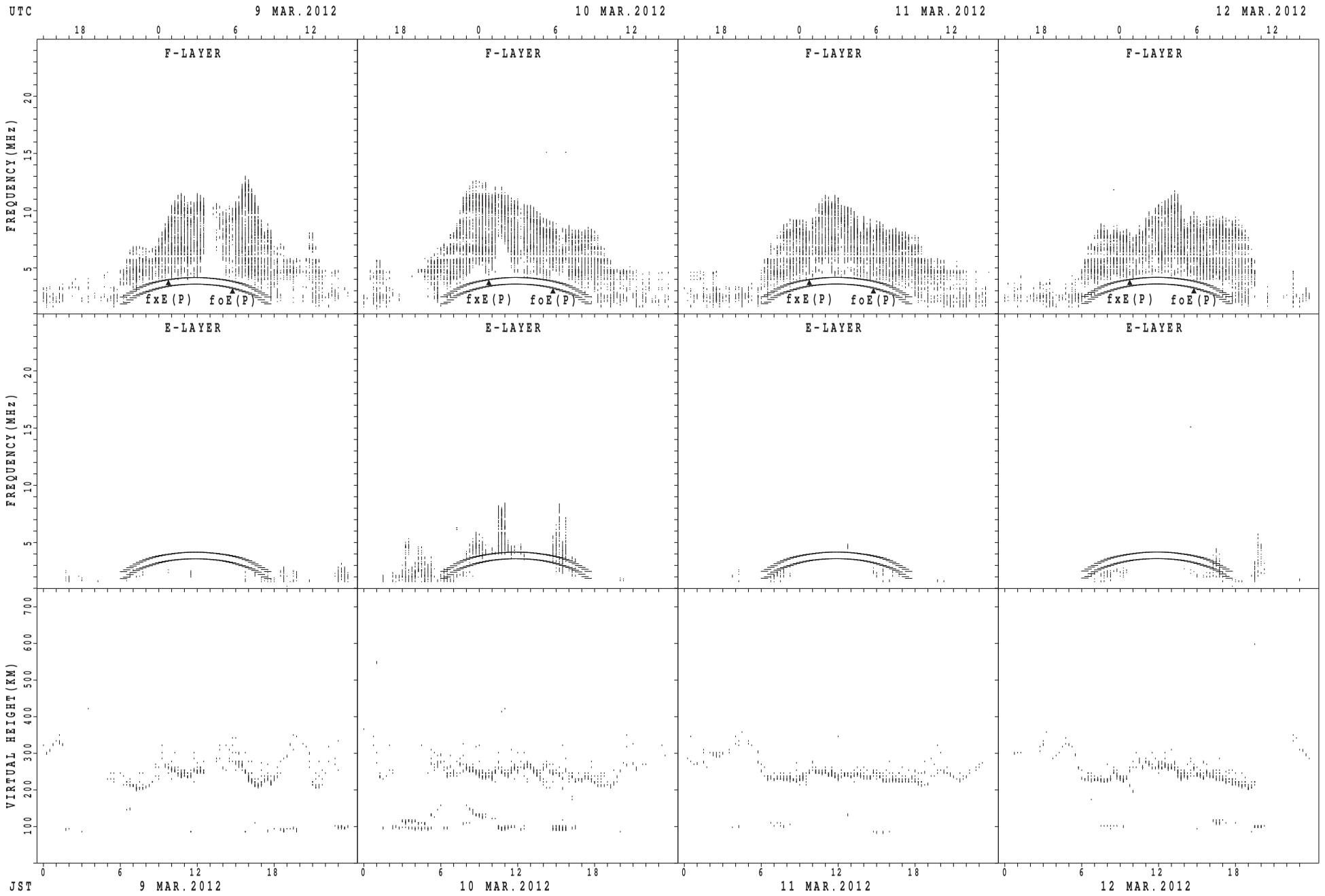
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



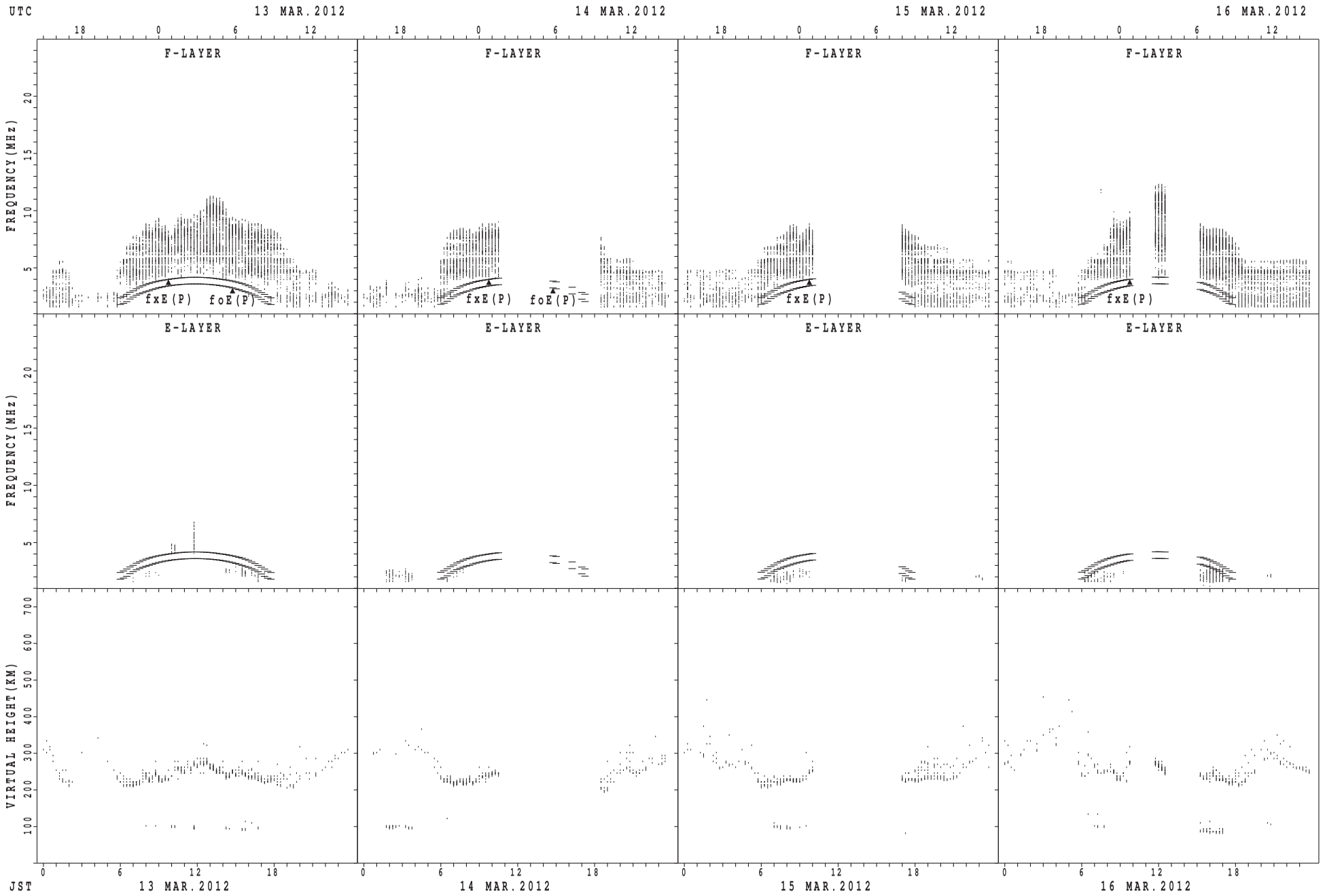
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



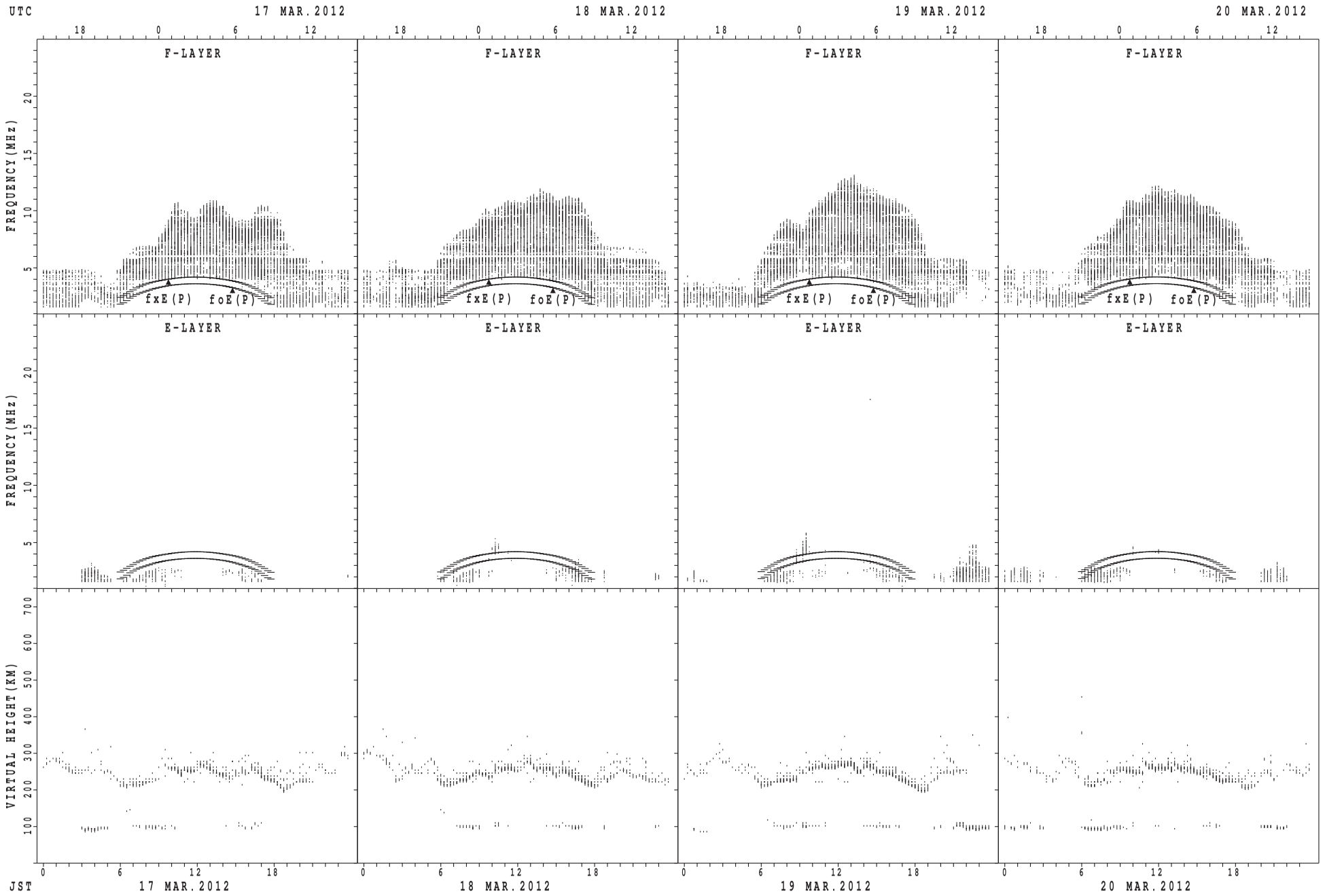
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



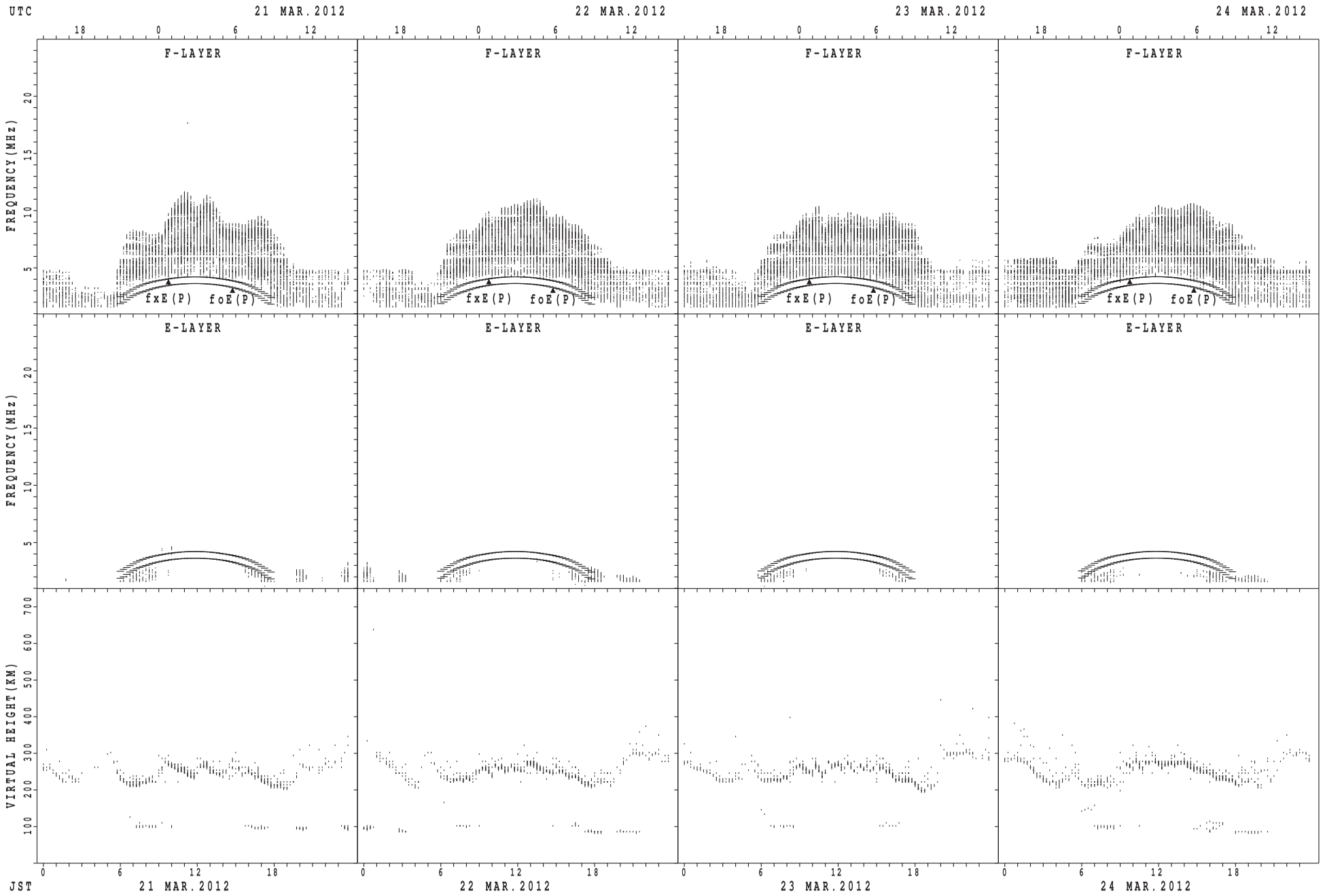
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



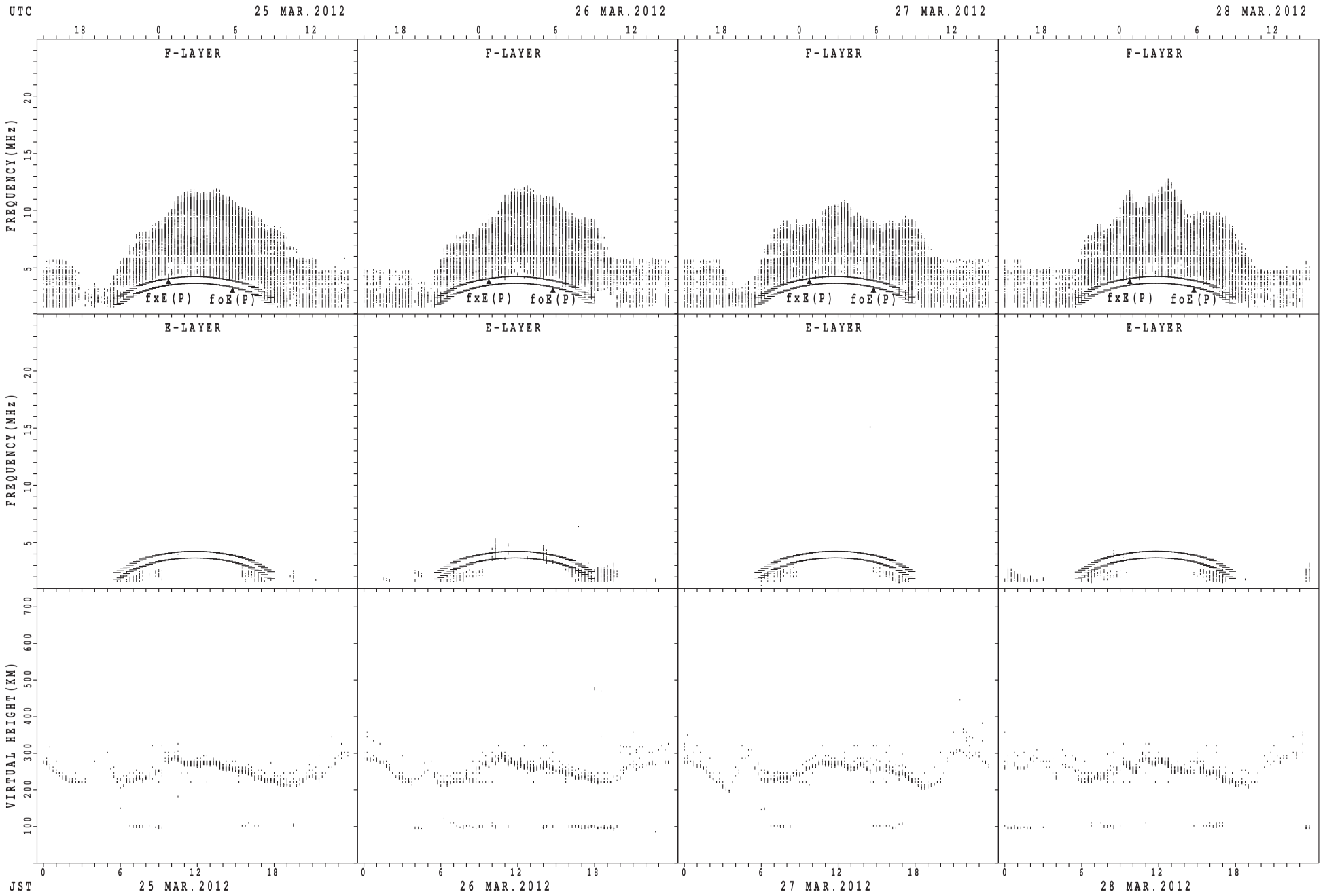
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



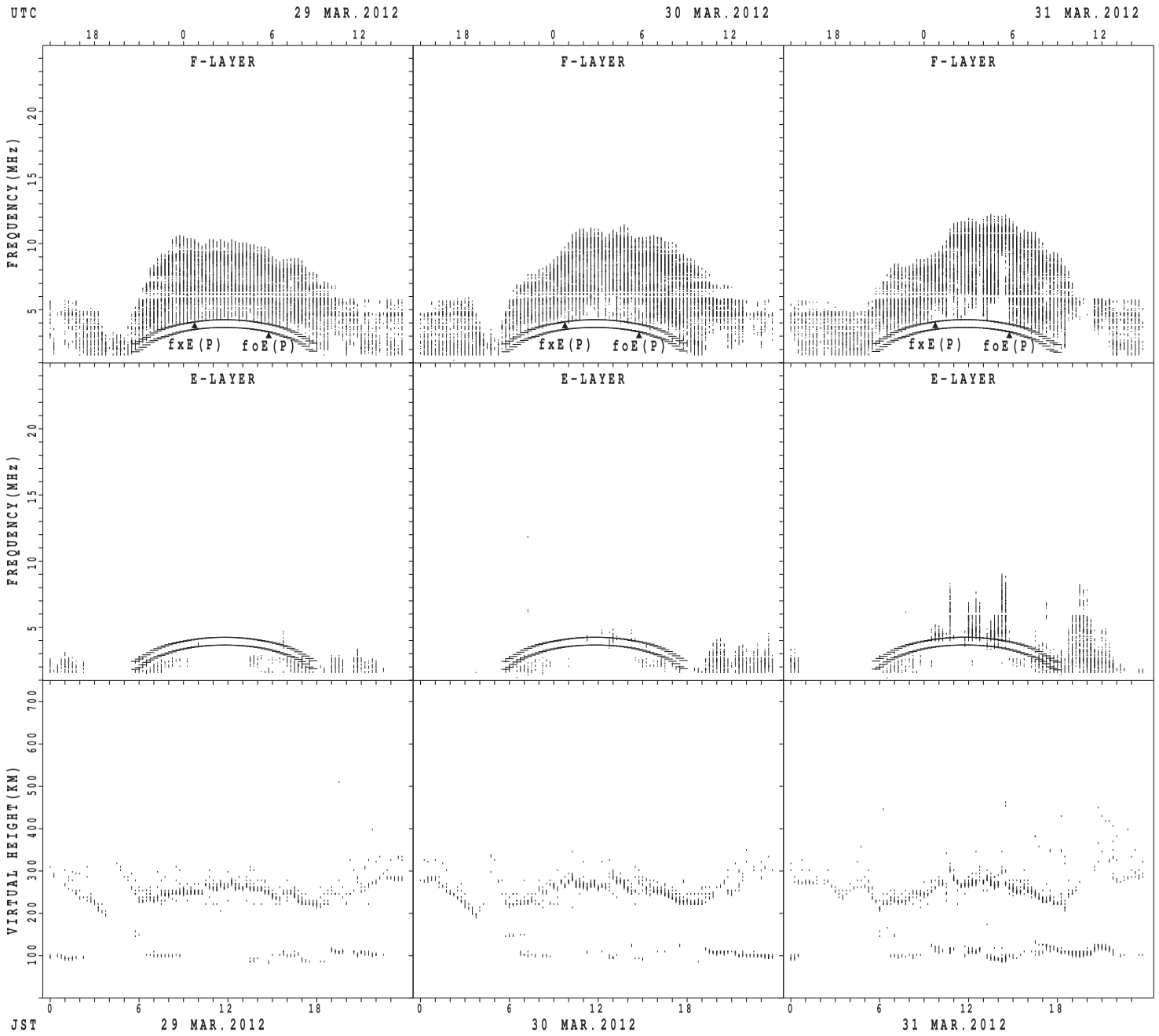
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



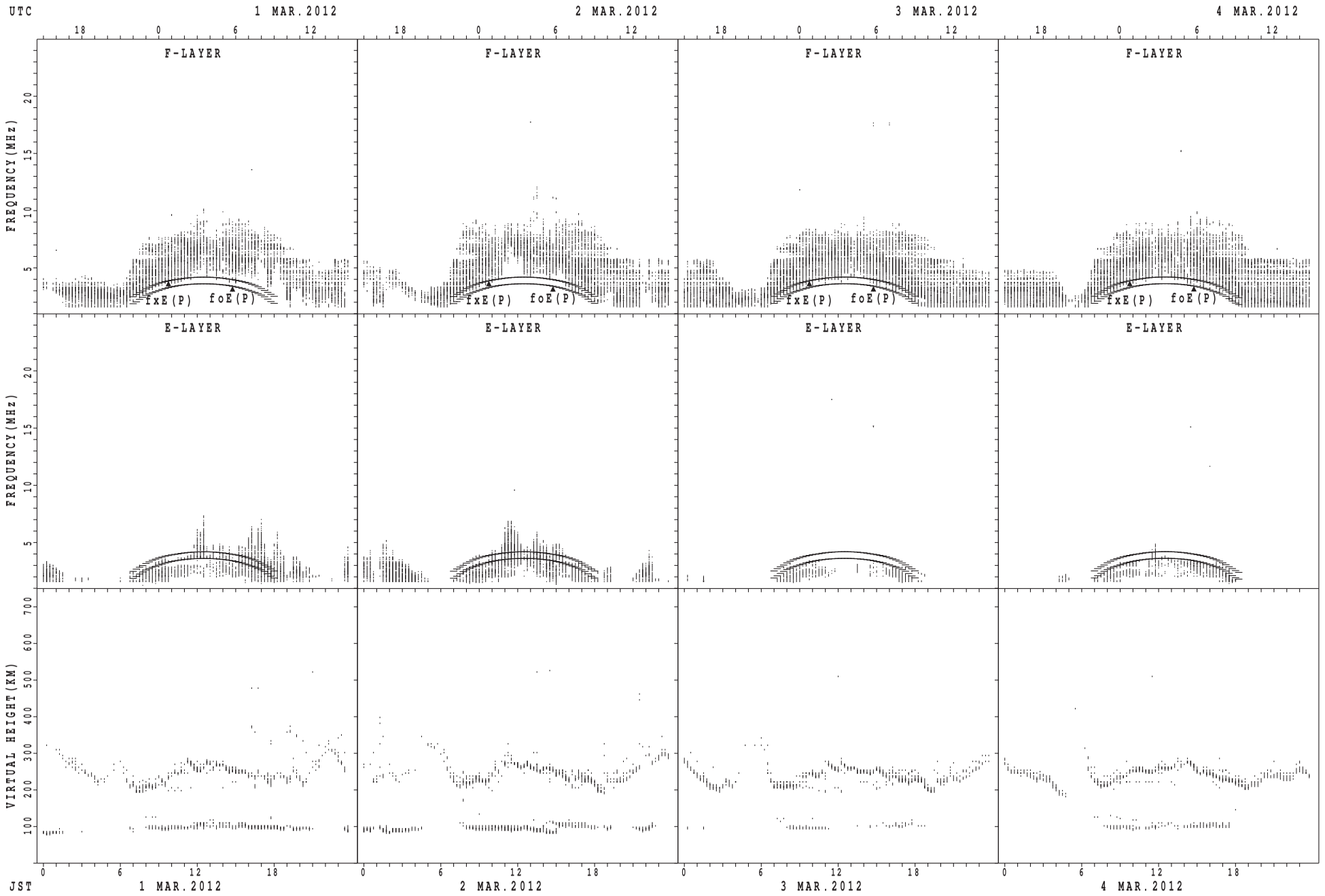
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



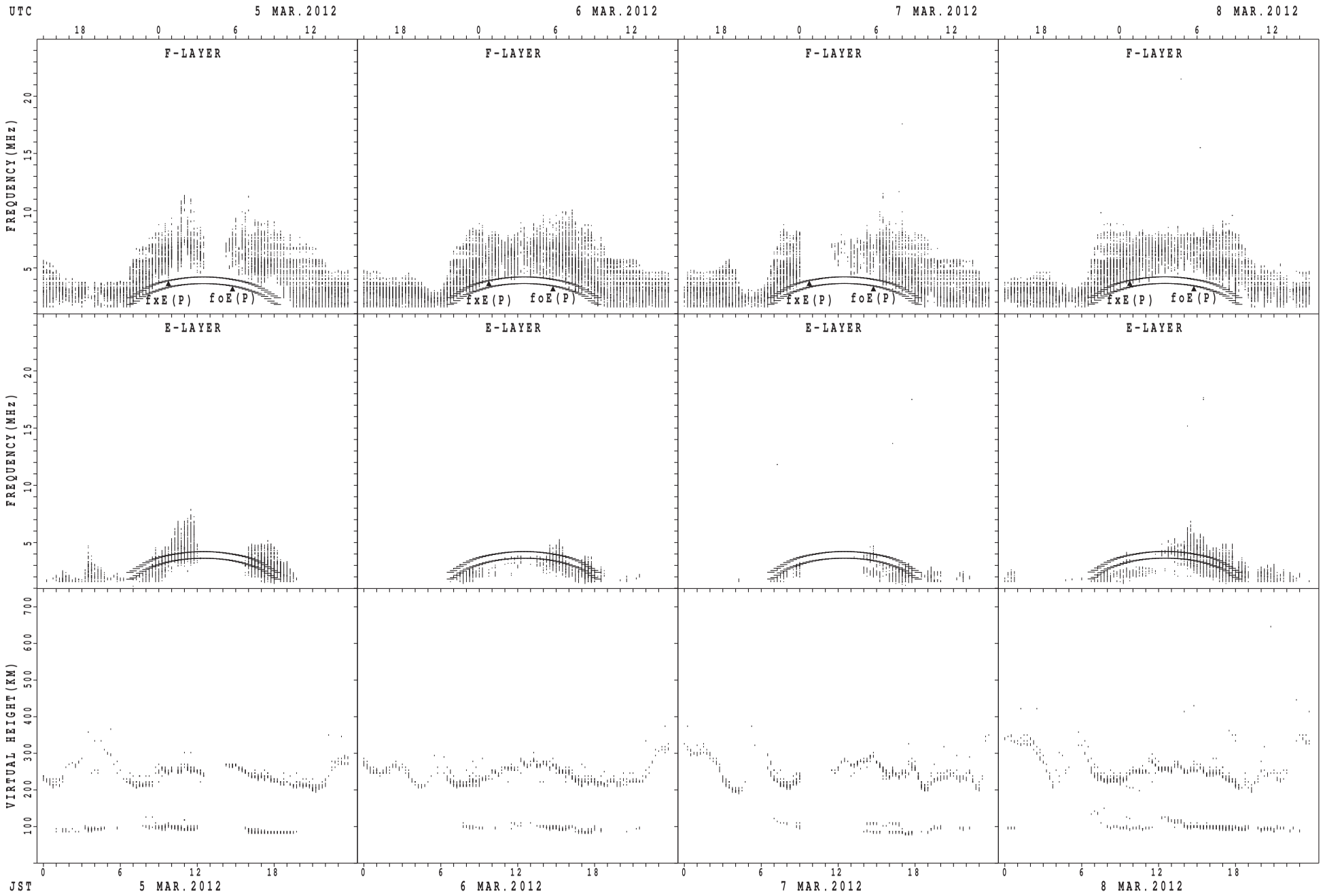
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



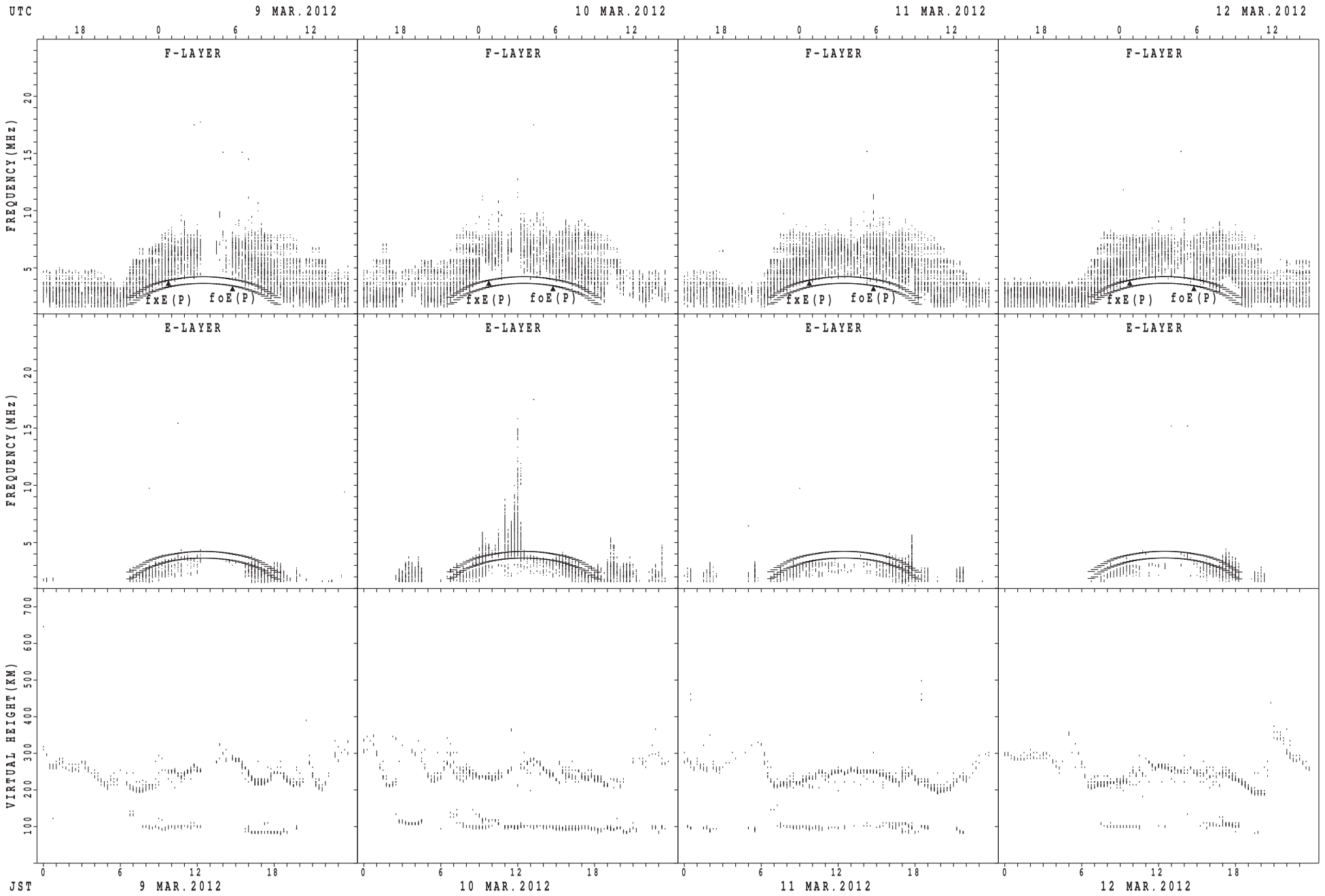
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



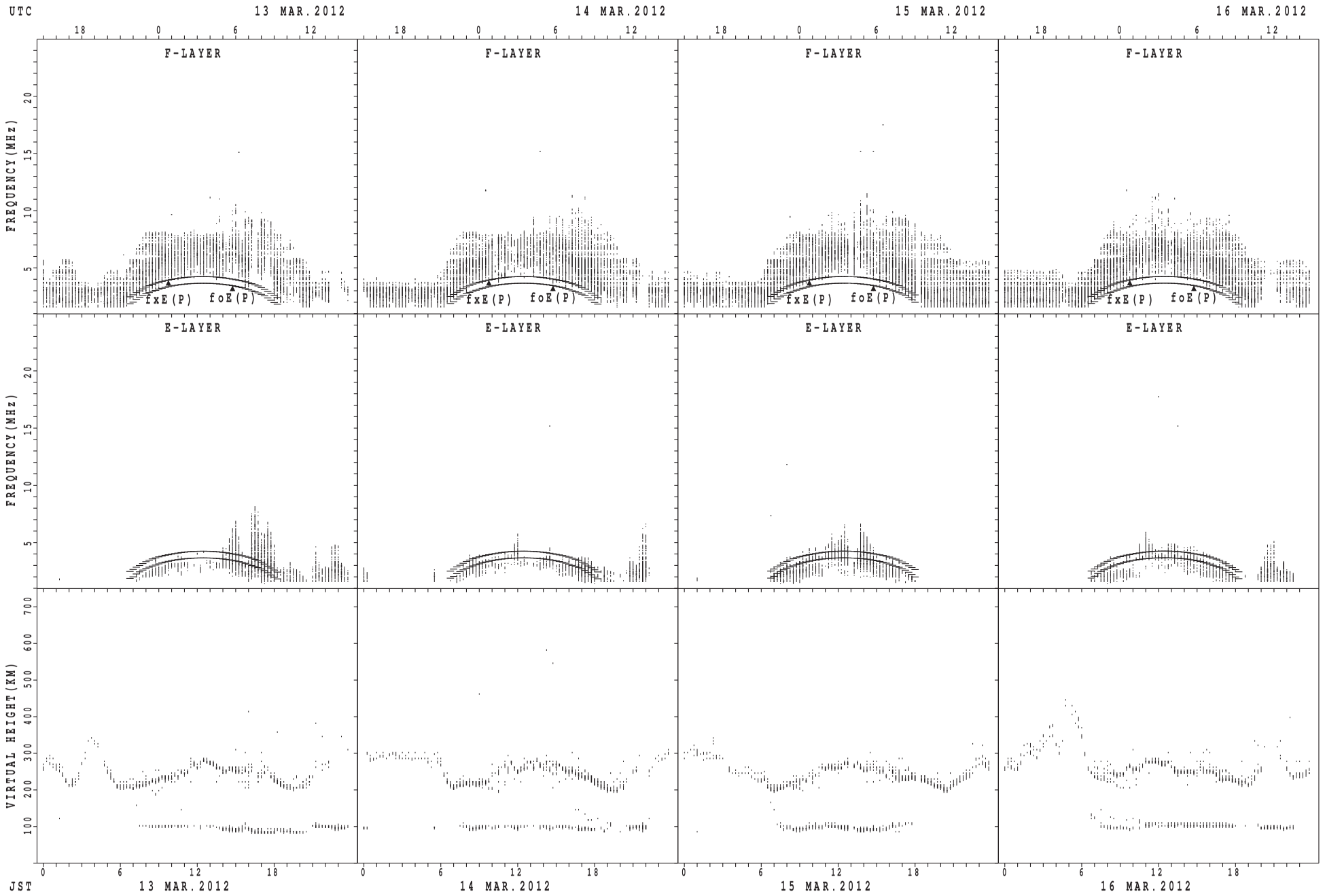
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



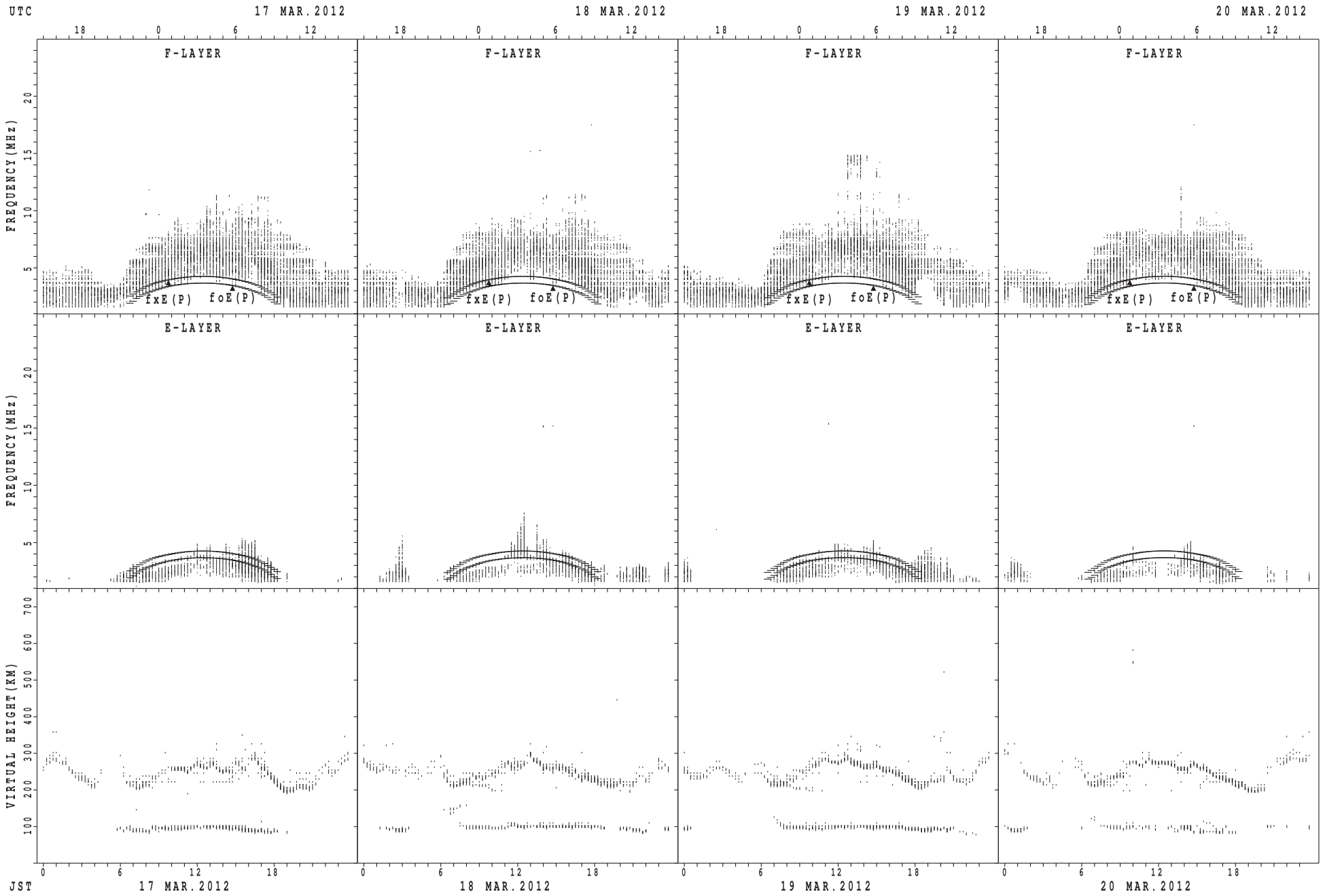
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



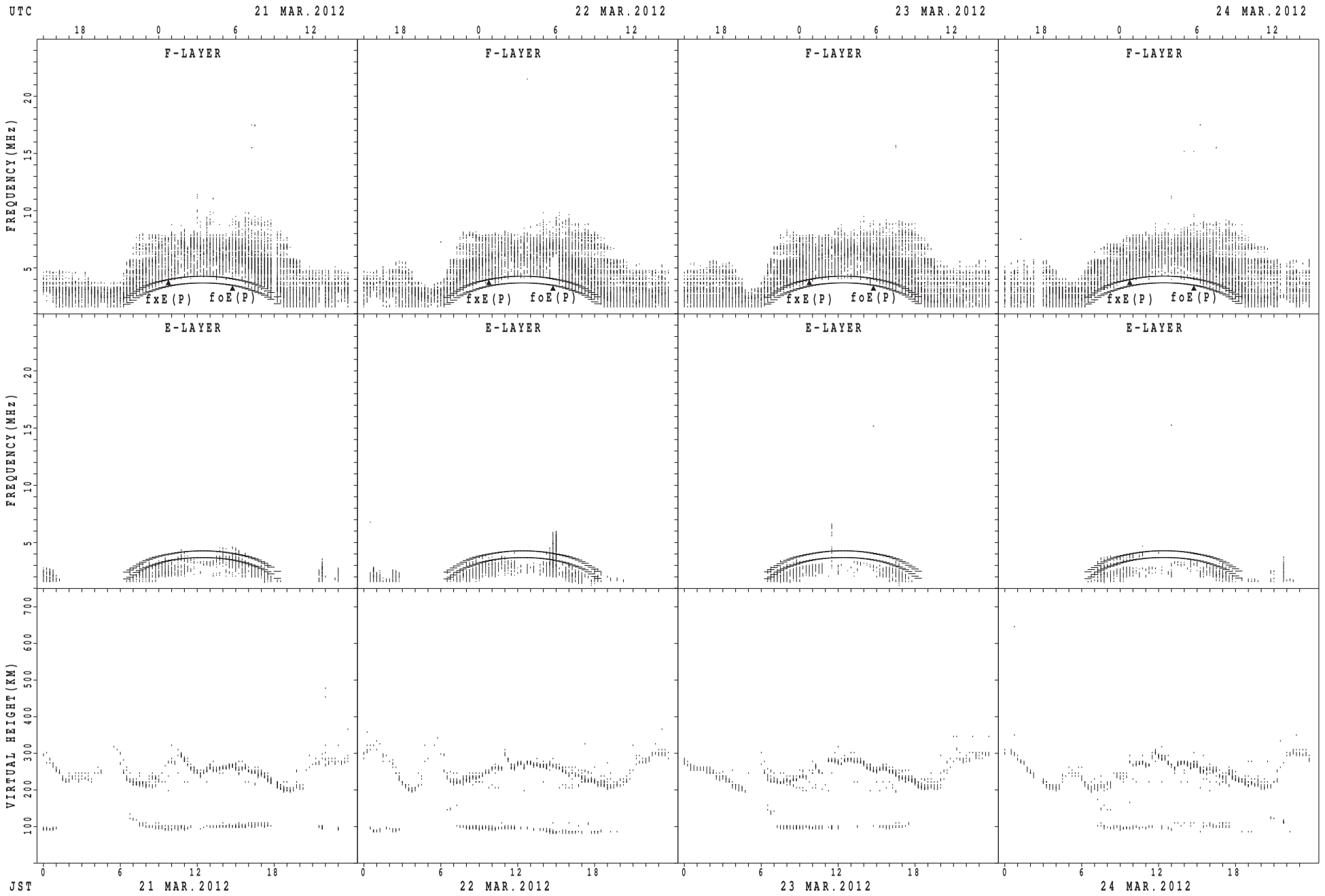
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



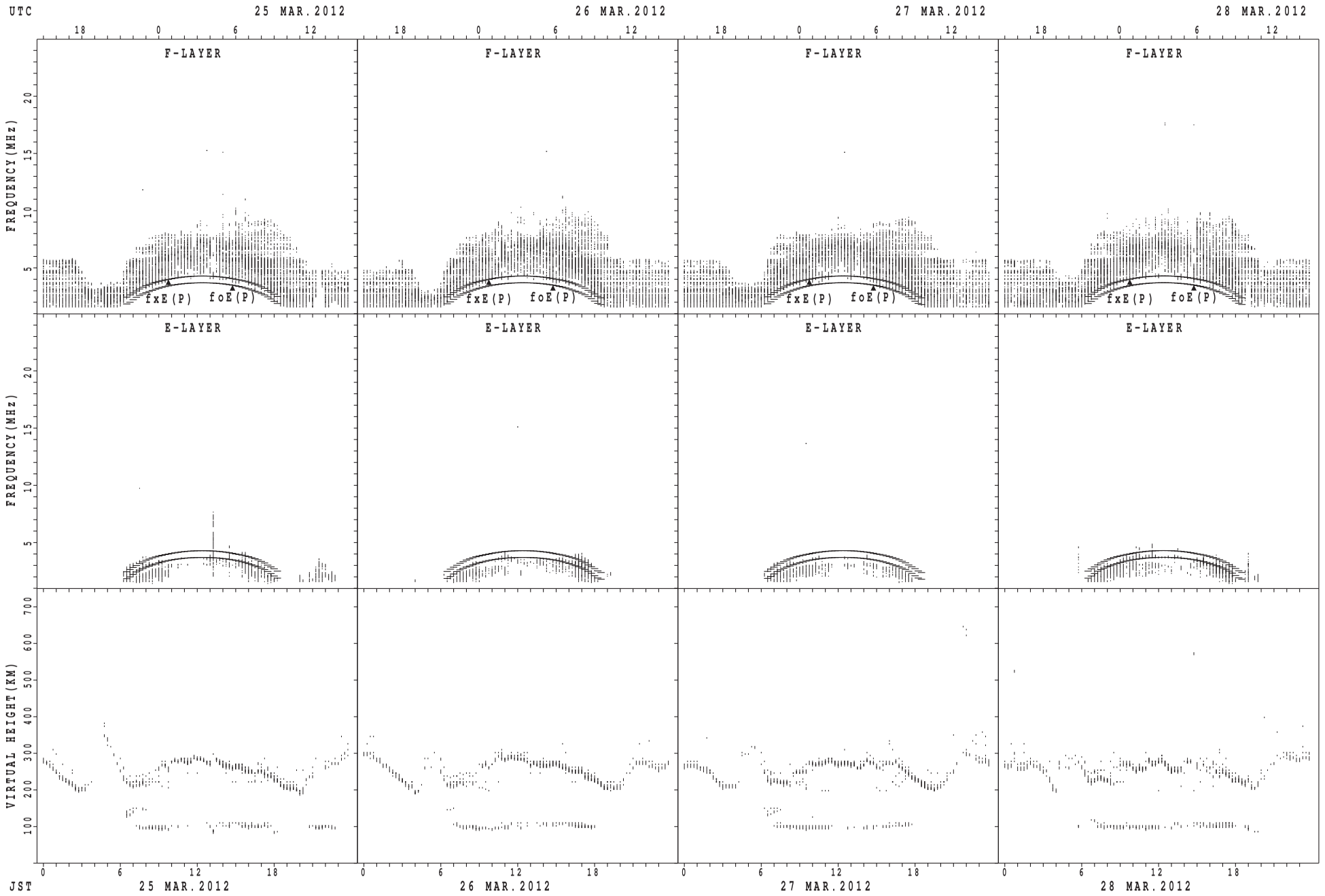
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



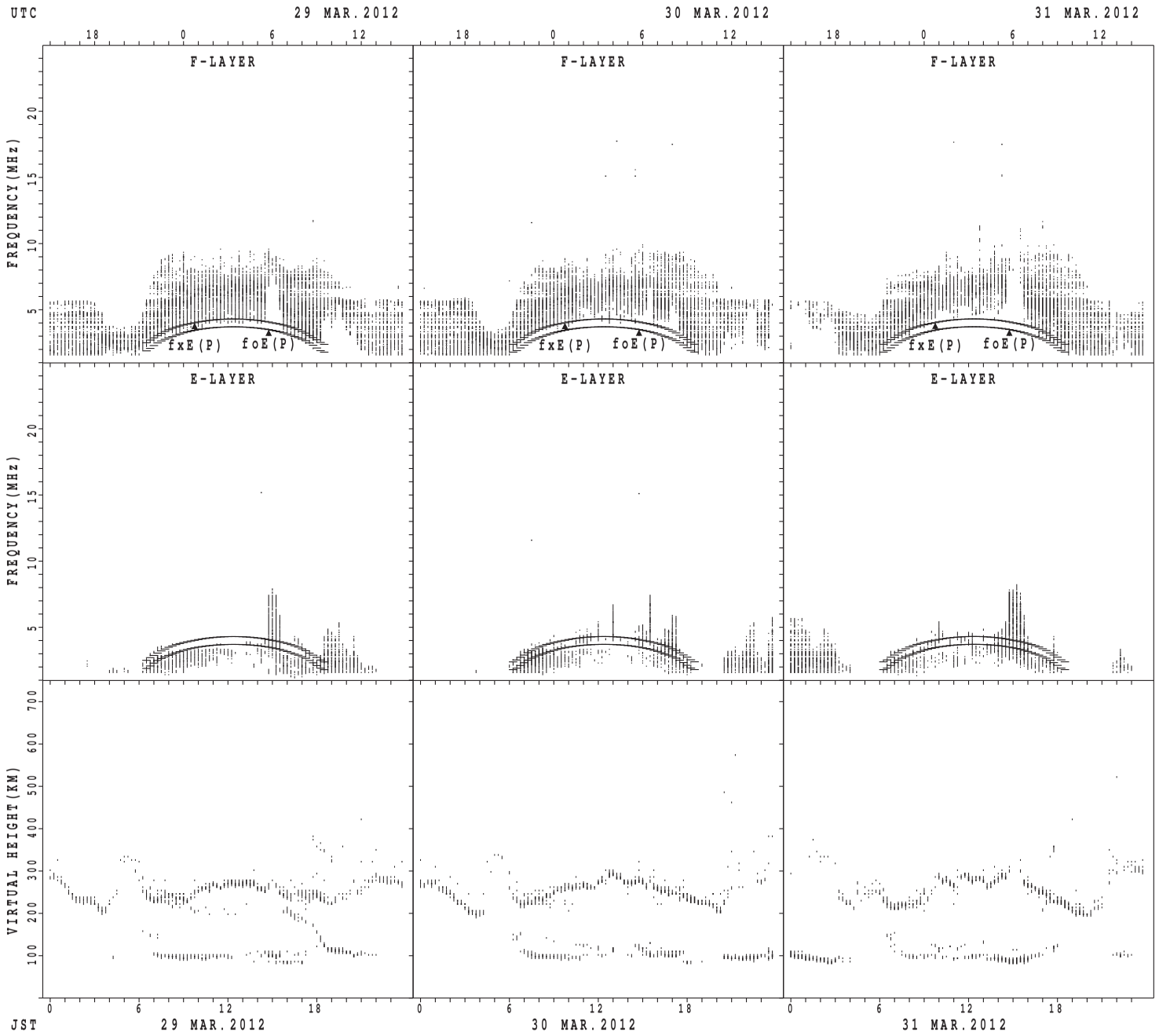
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



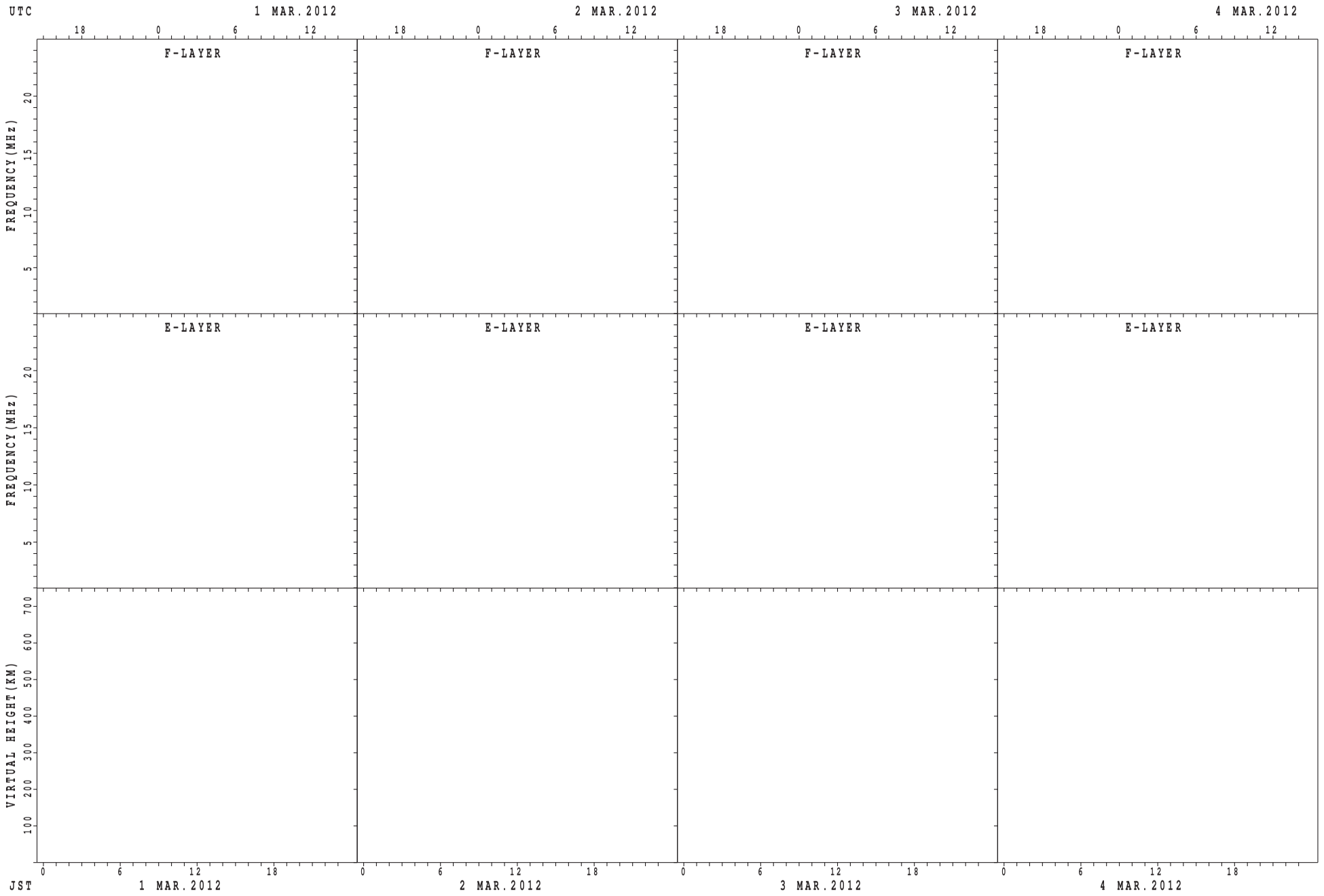
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



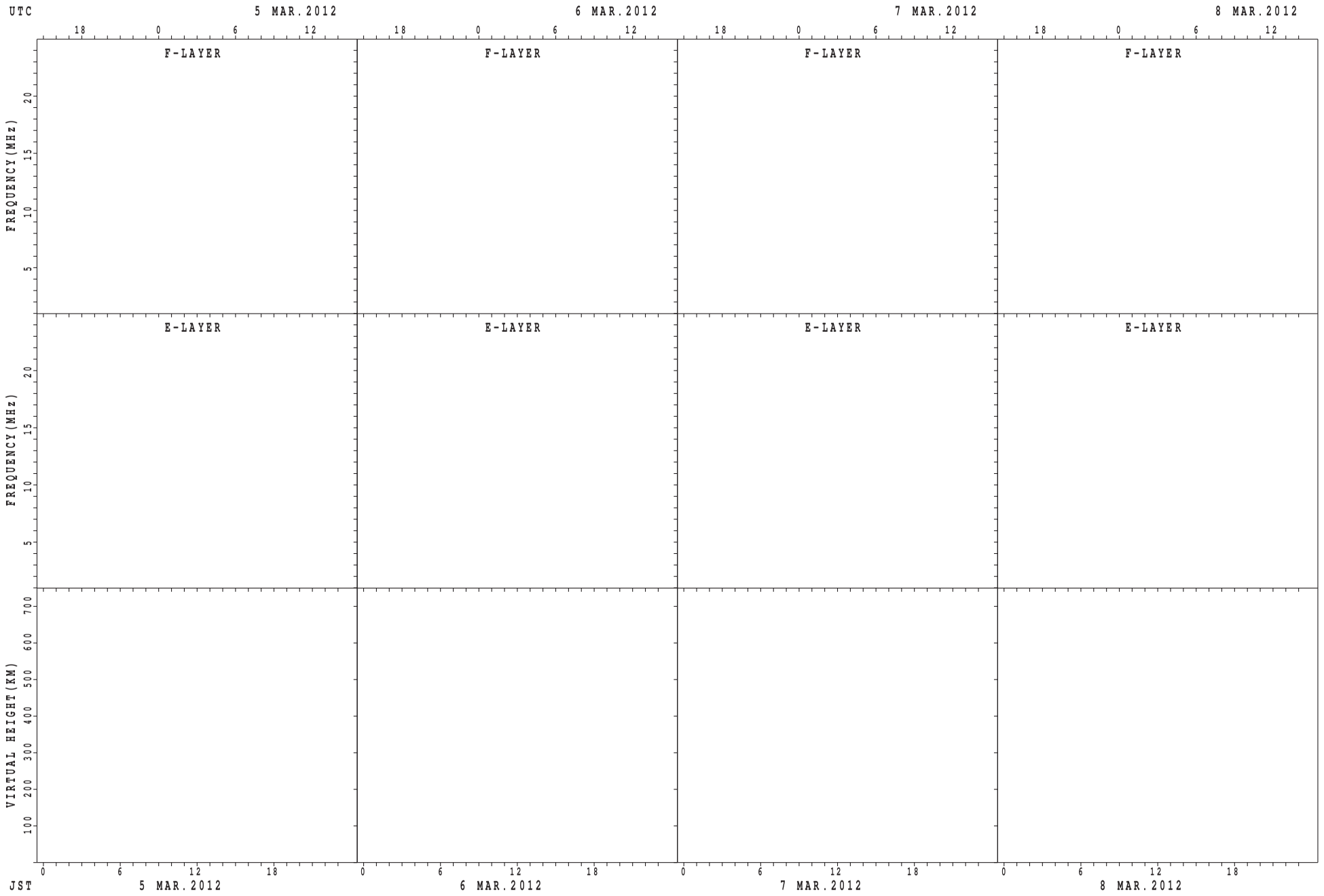
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



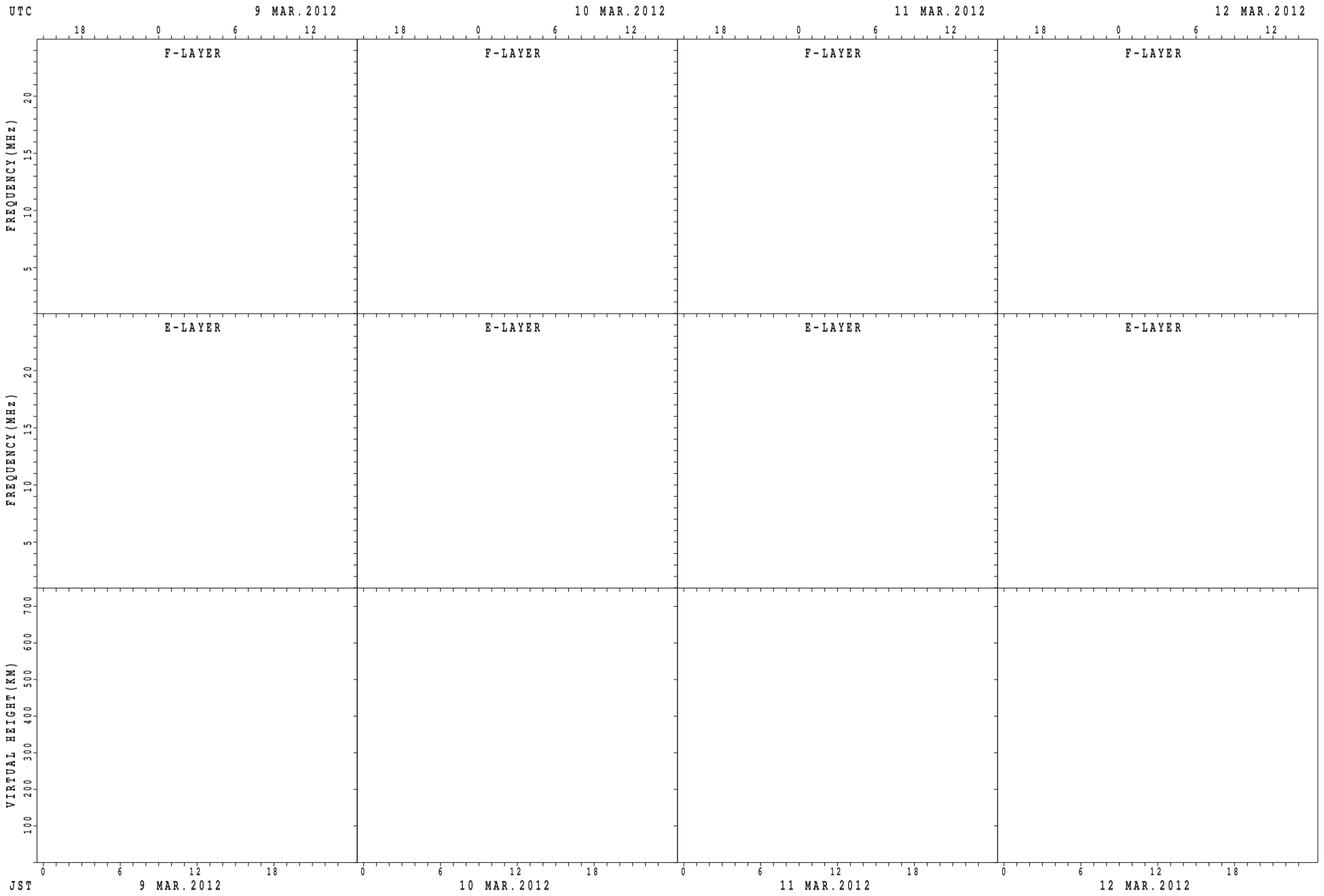
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



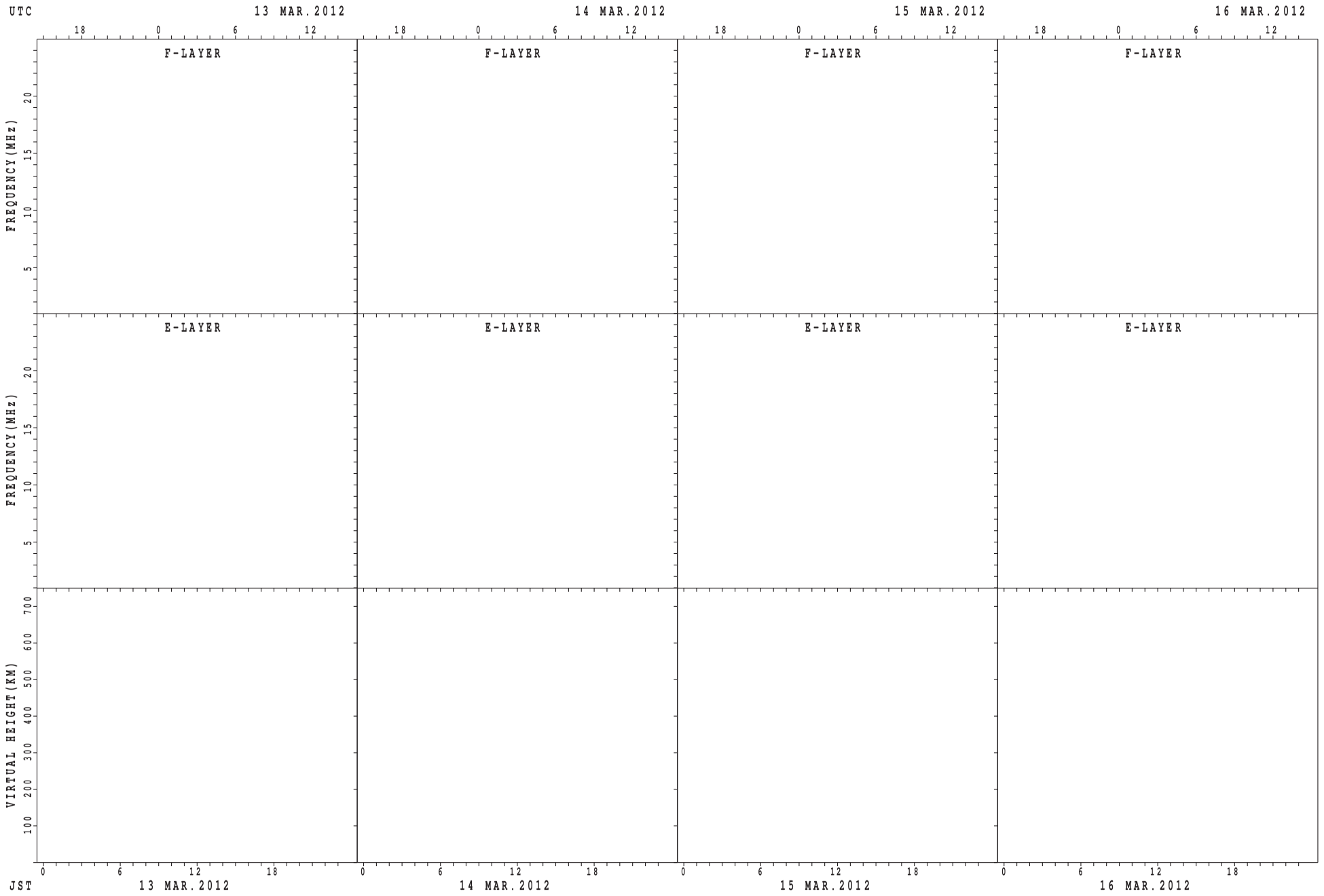
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



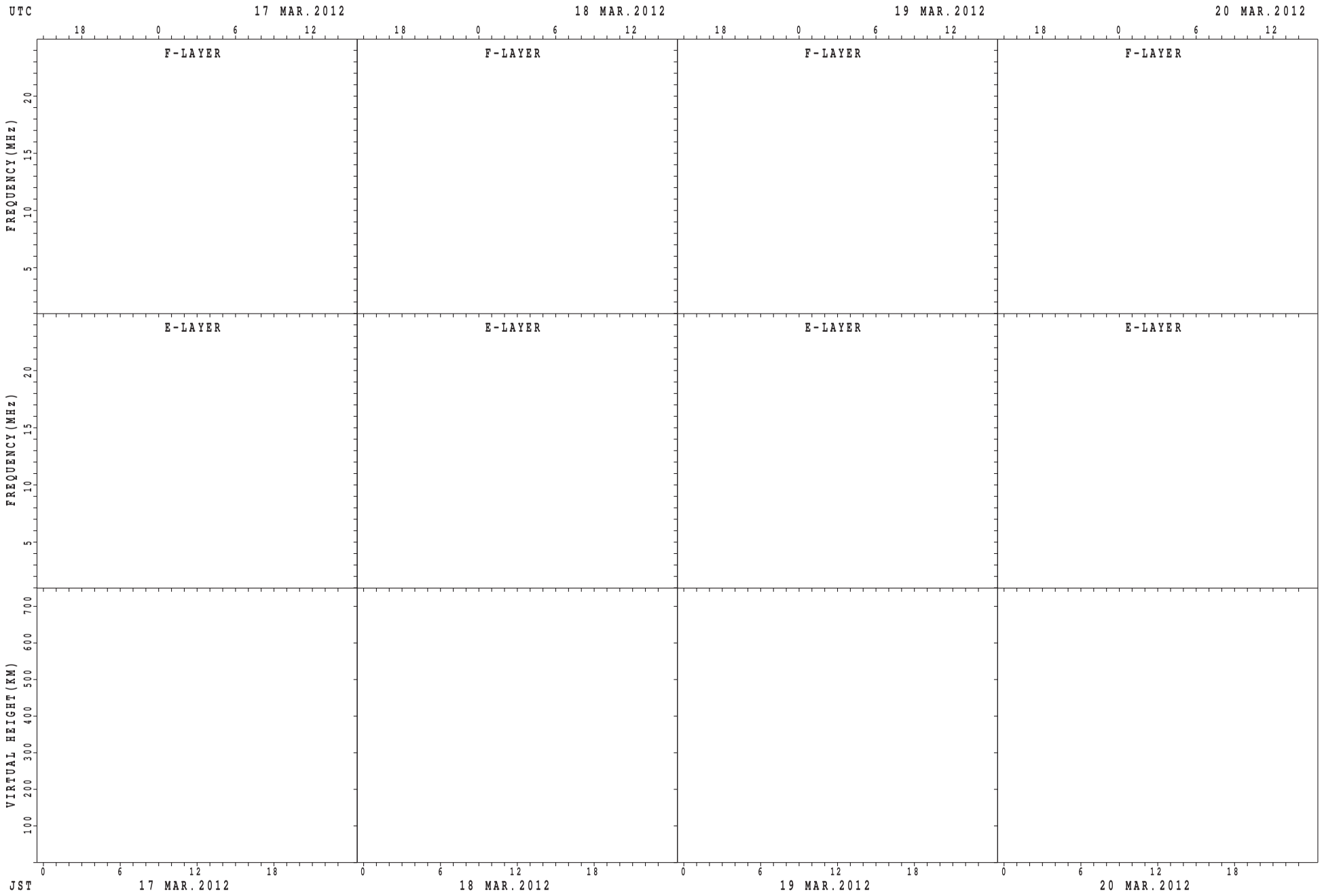
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



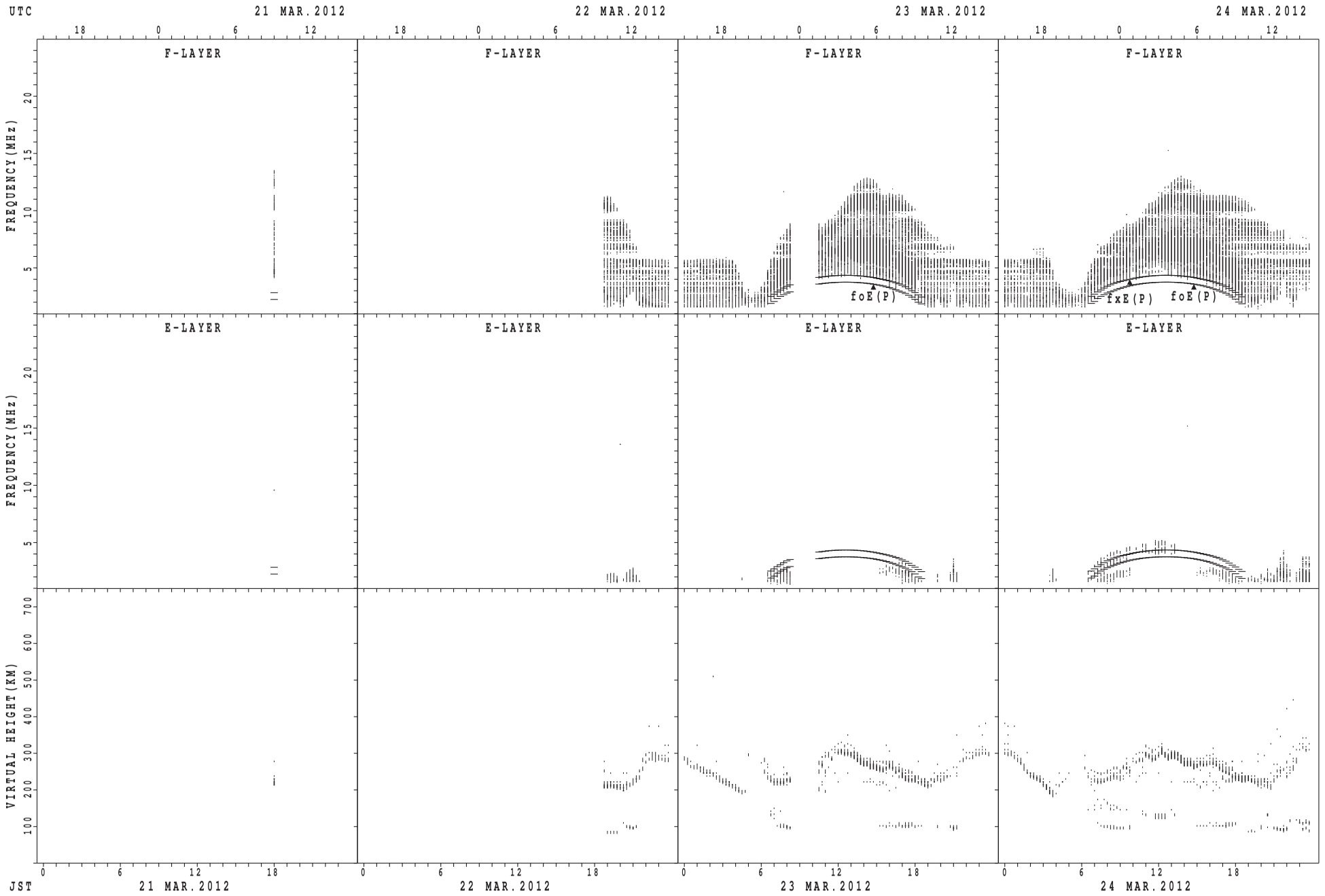
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



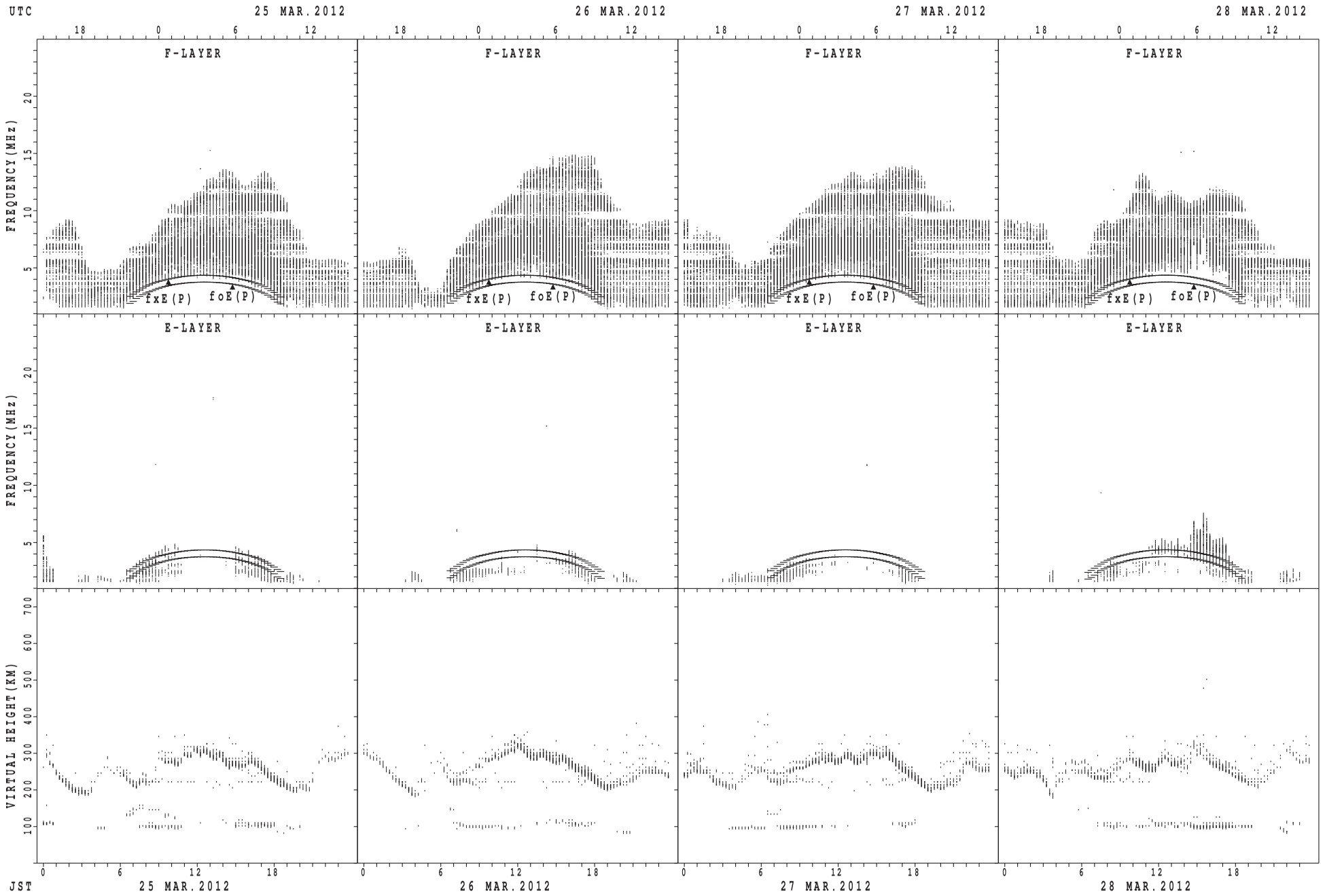
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



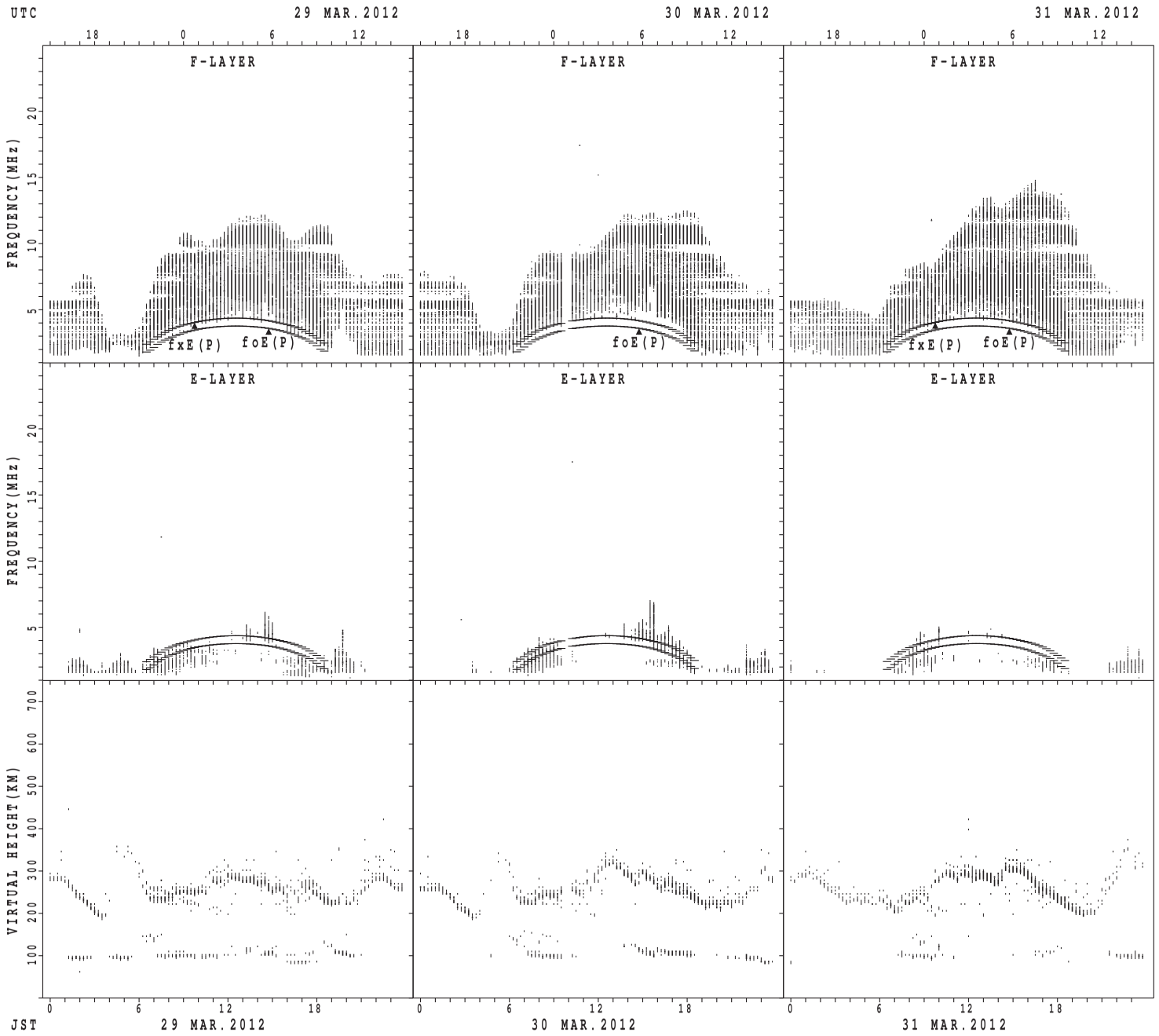
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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

MAR.2012 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	2	3	3				3	3	3	3						
MED								228	231	234	246				230	238	240	238						
U Q								114	246	248	248				246	238	242	240						
L Q								114	216	232	230				224	232	228	230						

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	1	2	2	2	1	1	1	1	1	2	1			1	1	2	2	2	2	1	1	2	2	1
MED	93	96	92	98	89	91	103	111	103	145	97			93	89	88	95	95	92	103	99	96	96	95
U Q	46	97	93	107	44	45	51	55	51	187	48			46	44	89	95	95	95	51	49	97	101	47
L Q	46	95	91	89	44	45	51	55	51	103	48			46	44	87	95	95	89	51	49	95	91	47

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								24	27	20					1	28	29	29	22	5		1		
MED								238	240	239					244	254	246	238	239	262		248		
U Q								249	248	249					122	264	254	248	252	278		124		
L Q								230	232	230					122	247	241	231	236	246		124		

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	6	4	2	7	5	2	5	1	1	2	8	3	3	2	2	1	2	4	6	5	6	5	4	3
MED	97	97	98	97	97	95	151	187	155	118	107	99	103	103	97	95	91	96	96	103	104	101	104	101
U Q	97	97	101	99	100	95	158	93	77	133	110	119	111	109	99	47	95	111	101	111	109	116	106	103
L Q	97	96	95	95	95	95	100	93	77	103	105	97	97	97	95	47	87	91	95	92	101	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								11	27	30	9					14	31	30	30	19	8	1		
MED								242	238	239	254					256	252	246	234	226	236	232		
U Q								248	248	250	254					270	256	256	246	238	250	116		
L Q								230	230	234	246					246	244	238	230	224	230	116		

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	7	5	5	4	3	1	2	14	1	8	6	10	11	8	12	13	13	18	15	15	11	10	9	6
MED	95	91	91	94	95	97	97	143	151	111	106	105	103	106	103	101	101	102	95	93	95	97	103	96
U Q	105	96	94	106	107	48	97	153	75	133	113	113	107	116	105	104	107	105	95	99	99	101	105	103
L Q	91	89	89	90	93	48	97	131	75	99	99	99	99	103	96	94	94	95	87	89	91	95	96	93

MONTHLY MEDIANS OF h′F AND h′Es

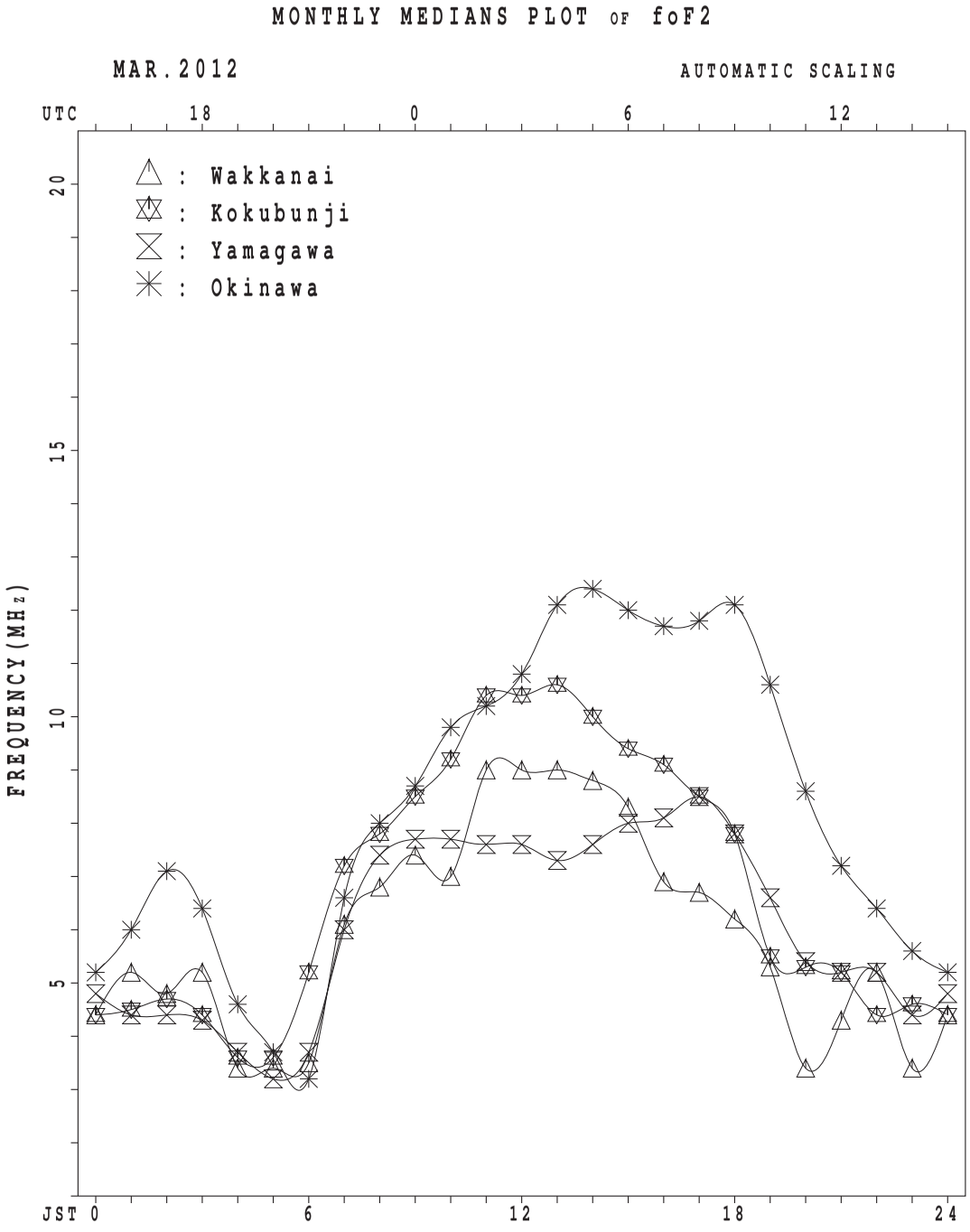
MAR.2012 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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	3	4	1				6	9	8							9	9	10	9	7	1	2	2
MED	268	272	270	254				249	242	258							270	254	230	230	246	246	305	281
U Q	134	304	285	127				262	259	264							280	262	246	239	250	123	322	286
L Q	134	272	243	127				234	236	250							263	250	224	220	230	123	288	276

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	2		1		1	2	1	5	3	4	1	1	3	2	2	4	4	3	2	4	2	4	4	4
MED	100		95		95	97	95	141	155	145	121	135	129	130	115	109	112	105	104	98	103	102	95	106
U Q	111		47		47	97	47	150	167	149	60	67	147	149	123	111	116	107	105	113	107	138	99	114
L Q	89		47		47	97	47	137	131	131	60	67	107	111	107	104	105	97	103	91	99	97	91	94


MONTHLY MEDIANS PLOT OF foF2
MAR.2012
AUTOMATIC SCALING
UTC
18
0
6
12
: Wakkanai
: Kokubunji
: Yamagawa
: Okinawa
FREQUENCY(MHz)
20
15
10
5
JST 0
6
12
18
24

IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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	A	X 46	X 46	A	X 43	X 44	X 50												X 75	X 63	X 62	X 52	X 56	X 56
2	X 58	X 58	X 58	X 52	X 43	X 43	X 54												X 74	X 56	X 56	X 54	X 52	X 52
3	X 52	X 55	X 57	X 47	X 37	X 38	X 44												X 87	X 68	X 59	X 56	X 52	X 50
4	X 53	X 53	X 52	X 47	X 42	X 39	X 48												X 70	X 62	X 65	X 62	X 59	X 60
5	X 56	X 49	X 48	X 52	X 48	X 49	X 55												X 75	X 71	X 64	X 58	X 50	X 51
6	X 49	X 51	X 47	X 47	X 46	X 42	X 52												X 72	X 64	X 66	X 63	X 55	X 56
7	X 56	X 52	X 55	X 60	X 51	X 39	X 49												X 104	X 83	X 71	X 68	X 63	X 47
8	X 48	X 46	X 46	X 48	X 46	X 38	X 41												X 64	X 54	X 51	X 48	X 44	X 41
9	X 44	X 44	X 46	X 47	X 45	X 48	X 50												X 75	X 72	X 70	X 84	X 54	X 54
10	X 49	X 65	X 52	X 45	X 52	X 63	73												X 87	X 68	X 55	X 55	X 51	X 50
11	X 51	X 51	51	50	X 45	X 46	X 54												X 82	X 64	X 61	X 61	X 54	X 49
12	X 49	X 49	X 46	X 45	X 48	X 44	X 58												X 98	X 81	A	X 48	X 51	X 51
13	X 51	X 58	X 50	X 36	X 42	X 42	X 60												X 88	X 71	X 58	X 54	X 47	X 44
14	X 42	X 43	X 45	X 46	X 45	X 46	X 61					C	C	C	C	C	C	C	C	X 68	X 60	X 60	X 55	X 55
15	X 50	X 54	X 54	X 53	X 50	X 51	X 64					C	C	C	C	C	C		X 82	X 75	X 74	X 66	X 63	X 61
16	X 60	X 57	X 56	X 52	X 54	X 42	X 53				C	C		C	C	C			X 74	X 58	X 59	X 60	X 62	X 61
17	X 56	X 56	X 57	X 53	X 48	X 44	X 56												X 102	X 77	X 67	X 58	X 59	X 53
18	X 53	X 51	X 55	X 53	X 51	X 48														X 72	X 71	X 71	X 70	X 59
19	X 48	X 47	X 42	X 44	X 45	X 42														X 69	X 63	X 64	X 59	X 54
20	X 54	X 55	X 53	X 51	X 49	X 47														X 70	X 61	X 59	X 53	X 54
21	X 53	X 54	X 51	X 44	X 41	X 43														X 66	X 56	X 56	X 55	X 55
22	X 52	X 54	X 56	X 55	X 47	X 43														X 65	X 56	X 56	X 57	X 57
23	X 59	X 58	X 59	X 55	X 50	X 45														X 64	X 55	X 58	X 61	X 62
24	X 63	66	67	68	61	52														X 77	X 66	X 59	X 58	X 58
25	X 59	X 60	X 57	X 44	X 40	X 40														X 80	X 68	X 65	X 57	X 54
26	X 54	X 54	X 56	X 54	X 48	X 42														X 73	X 63	X 64	X 64	X 63
27	X 60	X 61	X 60	X 58	X 41	X 42														X 73	X 62	X 61	X 61	X 64
28	X 62	X 61	X 56	X 56	X 52	X 53														X 65	X 58	X 58	X 57	X 56
29	X 58	X 60	X 57	X 55	X 41	X 41														X 72	X 65	X 65	X 64	X 65
30	X 64	X 61	X 64	X 64	X 44	X 42														X 84	X 73	X 70	X 65	X 65
31	X 63	X 60	X 59	X 60	X 55	X 56														X 77	X 63	X 64	65	X 62
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	30	31	31	17												16	31	30	31	31	31
MED	X 54	X 54	X 55	X 52	X 46	X 43	X 54												X 78	X 70	X 62	X 60	X 57	X 55
U Q	X 59	X 60	X 57	X 55	X 50	X 48	X 59												X 88	X 75	X 66	X 64	X 62	X 61
L Q	X 50	X 51	X 48	X 47	X 43	X 42	X 50												X 74	X 64	X 58	X 56	X 53	X 51

MAR. 2012 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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	A	40	40	A	37	37	44	63	76	74	82	99	107	97	99	84	80	74	69	57	56	44	50	50
2	52	52	52	46	37	37	48	73	95	104	91	95	114	113	108	107	91	83	68	50	50	47	46	46
3	46	49	51	40	31	32	38	62	78	96	90	97	104	103	94	84	90	79	81	62	53	50	46	44
4	46	47	46	41	36	33	42	65	79	87	98	107	101	93	94	92	91	86	64	56	59	56	53	54
5	50	43	42	46	41	43	49	70	76	94	106	110	95	B	108	109	94	85	69	64	58	52	44	45
6	43	45	41	41	40	36	46	65	78	85	86	94	96	88	94	98	95	82	66	57	59	57	49	50
7	50	46	48	54	45	33	43	75	84	83	B	104	97	96	96	102	98	80	96	77	65	62	57	41
8	42	40	40	41	40	32	35	59	56	56	50	55	56	63	63	64	65	66	58	48	45	42	38	35
9	38	38	40	41	38	42	44	67	63	72	101	108	110	104	95	104	127	90	68	66	64	78	48	48
10	43	58	46	38	45	57	F	78	116	122	115	115	110	101	90	88	83	80	81	62	49	49	45	44
11	45	45	F	F	39	40	48	69	86	91	93	111	106	97	91	88	82	79	75	58	55	55	48	43
12	43	43	40	39	42	37	52	76	80	84	78	90	102	110	94	94	91	93	92	75	A	42	44	45
13	45	52	43	31	36	37	54	74	86	90	81	90	93	108	104	91	87	86	82	65	52	48	40	38
14	36	37	39	40	39	40	55	78	79	83	84	C	C	C	C	C	C	C	C	61	54	54	49	49
15	44	48	48	47	44	45	58	68	78	76	90	C	C	C	C	C	C	84	76	69	68	60	56	55
16	54	51	49	46	48	36	47	61	72	88	C	C	119	C	C	C	80	80	68	52	53	54	55	55
17	50	50	51	46	42	38	50	61	68	73	96	96	91	104	99	88	87	100	96	71	61	52	52	47
18	46	45	49	47	44	42	60	70	80	89	94	102	103	112	113	106	108	103	78	66	65	65	64	53
19	42	41	36	38	38	36	55	75	89	85	96	109	121	127	118	112	106	101	91	63	57	58	53	48
20	48	49	46	45	42	41	60	71	76	94	105	110	118	113	109	103	99	90	86	64	54	52	47	48
21	47	48	45	38	35	36	55	80	76	79	100	112	101	108	91	86	87	92	77	59	50	50	49	49
22	46	48	50	49	41	37	51	71	80	86	91	98	102	105	101	92	85	80	66	59	50	50	51	51
23	53	52	53	48	44	39	55	74	76	90	94	89	93	94	91	88	94	85	84	58	49	52	54	56
24	57	F	F	F	F	F	58	70	69	75	87	92	101	97	101	101	93	87	80	71	60	53	52	52
25	53	54	51	38	34	34	52	70	78	87	98	112	112	111	112	103	98	88	83	73	62	58	51	48
26	48	48	50	48	42	36	57	70	78	82	92	110	116	116	108	104	95	90	88	67	57	58	57	57
27	54	55	54	51	35	36	55	79	87	84	88	97	101	98	91	86	87	89	87	67	56	55	55	58
28	56	55	50	50	46	46	64	76	80	100	111	103	113	120	97	95	95	92	78	60	52	52	51	50
29	52	54	51	49	35	35	57	81	94	102	97	99	97	96	93	87	84	83	73	66	59	58	58	58
30	58	54	57	58	38	36	56	71	77	84	98	107	107	108	109	101	100	96	86	78	66	64	58	58
31	57	54	53	53	49	50	64	81	80	84	92	112	113	114	117	113	106	96	90	70	57	58	F	56
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	29	28	30	30	30	31	31	31	29	28	29	27	28	28	29	30	30	31	30	31	30	31
MED	48	48	48	46	40	37	53	71	78	85	93	102	103	104	98	94	91	86	79	64	56	54	51	49
U Q	53	52	51	48	44	41	57	76	84	91	98	110	112	112	108	104	98	92	86	69	60	58	55	55
L Q	44	45	42	40	37	36	47	67	76	82	88	96	97	97	94	88	86	80	69	58	52	50	47	45

IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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	L	A	A	A							
2													L	L	L									
3											L	L	L	L	L	L								
4										L	L	L	L	L	L	L								
5										A	L	L	L	B	E B	L	L							
6										L	L	L	L	L	L	L	L							
7										L	B	E B	L	E B	L	L								
8								A	404	U L 432	U L 392	U L 428	U L 476	U L 492	L	L	L							
9											L	L	L	L	L	L								
10									A	A	A	A		L	L	A	400							
11										L	L	L	L	A	L	L								
12									L	L	L	L	L	L	L	L	L							
13									L	L		L	U L 512	L	L	A	L							
14											L	C	C	C	C	C	C	C						
15											L	C	C	C	C	C	C							
16									L	L	C	C	L	C	C	C								
17										L	L	L	L	L		L								
18										L	L	L	L	L	L	L								
19										L	L	L	L	L	L	L	L							
20										L	L	L	L	L	L	L	L							
21										L	A	L	L	L	L	L	L							
22									L	L	L	L	U L 528	L	L	L	L							
23										L	L	L	L	U L 512	L	L	L							
24										L	U L 488	L	L	L	U L 512	L	L							
25										L	L	L	U L 508	L	L	L	L							
26									L	L	L	U L 504	U L 504	U L 500	L	L	L							
27									L	L	U L 524	U L 524	U L 524	L	L	L	L							
28										L	L	L	U L 556	U L 504	L	L	L							
29									L	L	L	L	L	L	L	L								
30									L	L	L	U L 516	A	L	L	L	L							
31											L	U L 540	U L 520	L	A	L	L							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									1	1	3	5	8	4	1		1							
MED									404	U L 432	U L 488	U L 516	U L 516	U L 502	U L 512		400							
U Q											U L 524	U L 532	U L 526	U L 508										
L Q											U L 392	U L 466	U L 506	U L 496										

MAR. 2012 foF1 (0.01MHz)

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IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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								U R 220	R	A	A	A	A	A	A	A	A	A						
2								U R 224	A	A	A	R	A	R	R	A	A	A						
3								216	R	R	R	R	R	R	R	R	A	A						
4								U R 232	A	A	R	R	R	R	R	R	R	R						
5								212	R	A	R	A	R	B	B	R	R	A						
6								216	R	R	R	R	R	R	R	R	A	R						
7								U R 240	R	R	B	B	R	B	R	A	R	R						
8								212	R	R	R	R	R	R	R	R	R	A						
9								236	R	A	R	A	R	R	R	R	R	R						
10								R 268	316		A	A	A	R	R	R	A	R	228						
11								R	R	R	R	R	R	A	R	R	A	A						
12								220	R	A	R	R	R	R	R	R	R	A						
13								R	R	R	R	A	R	R	R	A	A	R	A						
14								R	R	R	A	A	C	C	C	C	C	C	C						
15								244	A	R	R	C	C	C	C	C	C	C	R						
16								R	R	R	C	C	A	C	C	C	A	B						
17								220	R	R	R	A	A	R	A	R	R	R						
18							B	224	R	R	A	A	A	R	R	A	A	A	B						
19							B	A	A	R	A	A	R	A	A	A	A	R	B						
20							B	A	R	R	A	A	A	R	R	A	A	U R 200	B						
21							B	R	R	A	A	R	R	A	R	R	A	A	B						
22							B	248	R	R	R	R	R	R	R	R	R	U R 216	B						
23							200	276	R	R	R	R	R	R	R	R	A	R	B						
24							B	244	R	R	R	A	A	R	R	R	R	R	B						
25							188	256	A	R	R	R	R	R	R	A	R	U R 224	B						
26							B	R	R	R	A	A	A	A	A	A	A	A	B						
27							B	256	R	R	R	R	R	R	R	A	R	U R 224	B						
28							B	A	A	A	A	A	A	A	A	R	R	U R 220	B						
29							B	R	R	R	A	R	R	R	A	R	A	A	B						
30							164	256	R	R	R	R	A	A	A	R	R	R	B						
31							B	272	R	A	A	A	A	R	A	A	312	A	B						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							3	21	1								1	6						
MED							188	236	316								312	U R 222						
U Q							200	256										224						
L Q							164	220										U R 216						

MAR. 2012 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 88	J A 51	J A 28	J A 43	J A 36	J A 36	J A 22	J A 26	G 26	J A 42	J A 67	J A 64	J A 69	J A 44	41	38	J A 41	J A 35	J A 43	J A 50	J A 59	J A 35	J A 31	J A 40
2	J A 23	J A 33	E B 14	J A 28	J A 21	21	20	G	34	J A 41	J A 60	G 34	J A 44	G 33	G 25	37	38	J A 25	J A 23	E B 15	E B 15	J A 25	E B 15	20
3	18	E B 14	E B 15	J A 20	E B 15	E B 15	E B 15	G 22	G 25	G	G	G	G	G	G 31	G 29	J A 34	J A 24	J A 23	J A 20	J A 18	J A 19	E B 15	E B 15
4	E B 15	E B 15	J A 27	J A 22	J A 22	21	20	G 34	37	G 29	G	G	G	G	G	G 30	G 26	G	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15
5	E B 15	E B 15	J A 43	J A 45	J A 30	21	E B 16	26	G 25	42	G	42	G	B	E B 52	G	G	37	J A 26	J A 24	J A 19	20	E B 15	E B 15
6	E B 15	E B 15	E B 15	E B 14	E B 15	E B 15	E B 14	27	G 24	G	G	G	G	G	G	G 29	G	G	J A 24	20	20	E B 15	E B 15	E B 15
7	E B 15	E B 15	E B 15	E B 14	E B 15	E B 14	E B 14	G	G	G	B	E B 56	G	E B 50	G	36	G 28	G	J A 22	22	E B 15	E B 15	E B 15	E B 15
8	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	E B 16	28	G 23	G 31	G	G	G	G	G	G 25	G 25	26	J A 31	E B 15	20	20	E B 14	J A 19
9	E B 15	E B 15	J A 25	J A 21	J A 30	E B 15	E B 14	30	G	37	G 30	40	G 24	G	G	G	G 23	G 20	J A 28	J A 26	J A 23	J A 20	21	J A 25
10	20	E B 16	20	J A 36	J A 39	J A 27	23	34	43	J A 57	47	J A 83	G	G 37	G	J A 62	G 32	33	J A 21	E B 15	21	J A 24	E B 14	E B 15
11	E B 15	E B 14	E B 15	E B 14	J A 20	20	E B 16	G	G 28	G 27	G 31	G	G	46	G	G 24	37	25	E B 15	19	20	E B 16	E B 15	E B 16
12	E B 16	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	27	G 26	35	G 36	G	G	G	G 35	G 24	G	26	J A 22	A J 21	J A 48	E B 18	E B 15	20
13	E B 15	E B 15	E B 14	20	E B 14	E B 14	E B 16	G 20	G 30	G 26	J A 48	G	G	G	42	38	G 24	29	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15
14	E B 15	J A 21	J A 35	J A 22	21	E B 15	E B 14	G 24	G 27	40	42	C	C	C	C	C	C	C	C	E B 15	22	E B 14	E B 15	E B 13
15	E B 14	E B 14	E B 14	E B 15	E B 14	E B 15	E B 15	32	38	G 29	G	C	C	C	C	C	C	G 22	E B 15	E B 15	E B 14	E B 14	E B 14	23
16	20	E B 15	E B 16	E B 15	E B 14	E B 13	E B 14	G	G 22	G 26	C	C	41	C	C	C	J A 34	J A 28	J A 21	E B 15	E B 15	21	E B 15	E B 14
17	20	E B 15	E B 15	J A 26	J A 28	J A 20	E B 15	28	G 25	G 28	G 29	J A 44	39	G	J A 34	G 28	G	G 19	E B 14	E B 15	E B 14	E B 14	E B 15	18
18	E B 15	E B 15	E B 14	E B 15	E B 14	E B 14	20	28	G 26	G 28	42	40	J A 43	G	G	36	J A 36	J A 31	J A 23	E B 14	E B 14	E B 14	21	J A 18
19	E B 14	21	E B 15	20	E B 14	E B 15	E B 16	28	36	G 30	J A 38	J A 45	G	43	J A 41	36	33	G	E B 15	E B 14	J A 22	J A 24	J A 28	J A 47
20	J A 23	J A 23	J A 26	J A 26	J A 20	E B 15	J A 29	J A 32	G 26	G 30	J A 45	42	J A 44	G	G	38	38	G	E B 16	E B 16	J A 22	J A 20	J A 24	E B 14
21	19	E B 14	21	E B 15	E B 15	E B 15	19	G	G 28	38	43	G	G	40	G	G	32	26	20	J A 23	J A 25	E B 14	E B 15	E B 15
22	J A 29	19	E B 15	J A 20	E B 15	E B 14	21	32	G 27	G 30	G	G	G	G	G	G	G	G	J A 23	J A 19	J A 17	21	E B 15	E B 15
23	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	25	35	G 26	G	G 36	G	G	G	G	G 30	36	G	E B 15	20	E B 14	E B 14	E B 15	E B 15
24	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	21	29	G 24	G 31	G	42	41	G	G 30	G 27	G 26	G	22	22	21	20	E B 15	E B 15
25	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	24	32	36	G 28	G	G	G	G	G	37	G	G 21	E B 16	B J 15	A 20	E B 15	E B 14	E B 15
26	E B 15	E B 15	20	E B 15	B J 23	A E 14	B E 14	G 22	G 25	G 27	41	40	41	J A 43	J A 43	J A 39	36	28	J A 23	J A 27	J A 20	J A 17	20	20
27	E B 15	E B 15	E B 15	E B 15	E B 14	E B 14	22	30	G 28	G	G	G	G	G	G	37	G 26	G	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14
28	20	J A 18	22	22	E B 15	E B 15	21	35	36	41	41	41	42	42	36	G	G 27	G 22	E B 14	19	E B 15	E B 15	E B 14	E B 16
29	J A 26	J A 31	A E 14	B E 15	E B 14	E B 14	23	G 23	G 26	G 32	41	G	G	G	38	G 28	J A 32	J A 34	J A 23	A E 24	E B 15	B J 26	A E 30	E B 15
30	E B 14	E B 14	E B 15	E B 15	E B 15	E B 15	24	34	G 26	G 28	G 30	G	45	J A 45	38	G 26	G 25	G	E B 14	21	J A 40	J A 20	J A 31	J A 33
31	J A 30	E B 15	E B 15	E B 15	E B 15	E B 15	24	34	G 27	41	47	46	J A 65	G	J A 55	40	36	33	J A 30	J A 60	J A 78	J A 43	20	E B 15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	29	28	29	27	28	28	29	30	30	31	31	31	31	31
MED	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	19	28	G 27	G 32	G	G	G	G	G	G	G	G	J A 22	19	20	18	E B 15	E B 15
U Q	J A 20	J A 18	J A 21	J A 22	J A 21	15	22	32	G	38	42	42	J A 42	42	38	37	36	28	J A 23	J A 22	J A 22	J A 21	J A 20	20
L Q	E B 15	E B 15	E B 15	E B 15	E B 14	E B 14	15	G	G 25	G 28	G	G	G	G	G	G 28	G 26	G	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

MAR. 2012 foEs (0.1MHz)

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IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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	A A 88	E B 14	18	A A 43	26	23	17	G 18	G 24	37	42	46	56	38	36	35	32	31	18	37	34	20	22	E B 15
2	E B 15	20	E B 14	19	E B 15	E B 15	15	G	30	37	38	G 33	33	G 30	G 22	32	33	19	19	E B 15	E B 15	20	E B 15	E B 14
3	E B 14	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15	G	G 20	G 24	G	G	G	G	G 29	G 27	32	21	20	16	E B 15	E B 15	E B 15	E B 15
4	E B 15	E B 15	20	E B 15	E B 15	E B 15	E B 15	G	32	36	G 27	G	G	G	G	G 27	G 26	G	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15
5	E B 15	E B 15	24	24	21	17	E B 16	24	G 24	41	G	36	G	B	E B 52	G	G	32	18	19	E B 15	E B 15	E B 15	E B 15
6	E B 15	E B 15	E B 15	E B 14	E B 15	E B 15	E B 14	25	G 24	G	G	G	G	G	G	G 27	G	G	18	E B 15	E B 15	E B 15	E B 15	E B 15
7	E B 15	E B 15	E B 15	E B 14	E B 15	E B 14	E B 14	G	G	G	B	E B 56	G	E B 50	G	34	G 27	G	17	E B 15	E B 15	E B 15	E B 15	E B 15
8	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	E B 16	24	G 22	G 26	G	G	G	G	G	G 23	G 25	24	26	E B 15	E B 15	E B 14	E B 14	E B 15
9	E B 15	E B 15	20	17	18	E B 15	E B 14	26	G	34	G 29	36	G 24	G	G	G	G 22	G 20	20	23	19	17	E B 15	22
10	E B 15	E B 16	E B 14	E B 14	28	24	22	28	41	52	45	69	G	G 35	G	44	G 29	30	18	E B 15	E B 16	20	E B 14	E B 15
11	E B 15	E B 14	E B 15	E B 14	E B 15	E B 16	E B 16	G	G 27	G 27	G 27	G	G	43	G	G 23	34	25	E B 15	E B 15	E B 15	E B 16	E B 15	E B 16
12	E B 16	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	25	G 24	33	G 32	G	G	G	G 33	G 23	G	23	E B 18	E B 15	A A 48	E B 18	E B 15	E B 15
13	E B 15	E B 15	E B 14	E B 14	E B 14	E B 14	E B 16	G 20	G 27	G 24	G 41	G	G	G	G 38	G 32	G 22	G 25	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15
14	E B 15	E B 15	22	E B 14	E B 16	E B 15	E B 14	G 21	G 25	37	37	C	C	C	C	C	C	C	C	E B 15	E B 15	E B 14	E B 15	E B 13
15	E B 14	E B 14	E B 14	E B 15	E B 14	E B 15	E B 15	31	32	G 27	G	C	C	C	C	C	C	G 20	E B 15	E B 15	E B 14	E B 14	E B 14	E B 15
16	E B 15	E B 15	E B 16	E B 15	E B 14	E B 13	E B 14	G	G 21	G 24	C	C	38	C	C	C	30	24	15	E B 15	E B 15	E B 15	E B 15	E B 14
17	15	E B 15	E B 15	E B 15	16	E B 15	E B 15	23	G 24	G 27	G 28	38	37	G	31	G 25	G	G 19	E B 14	E B 15	E B 14	E B 14	E B 15	E B 15
18	E B 15	E B 15	E B 14	E B 15	E B 14	E B 14	19	26	G 25	G 26	37	36	38	G	G	31	31	22	E B 15	E B 14	E B 14	E B 14	E B 15	E B 15
19	E B 14	E B 15	E B 15	E B 15	E B 14	E B 15	E B 16	25	32	G 30	36	37	G	39	36	33	30	G	E B 15	E B 14	E B 15	E B 16	20	29
20	18	E B 15	E B 14	E B 15	E B 14	E B 15	E B 19	28	G 24	G 30	35	40	39	G	G	34	31	G	E B 16	E B 16	18	E B 15	18	E B 14
21	E B 15	E B 14	E B 16	E B 15	E B 15	E B 15	18	G	G 25	36	40	G	G	38	G	G	29	24	19	E B 15	19	E B 14	E B 15	E B 15
22	19	16	E B 15	E B 15	E B 15	E B 14	20	30	G 25	G 27	G	G	G	G	G	G	G	G	20	E B 15	E B 15	E B 15	E B 15	E B 15
23	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	22	30	G 26	G	G 33	G	G	G	G	G 30	32	G	E B 15	E B 14	E B 14	E B 14	E B 15	E B 15
24	E B 15	E B 15	E B 15	E B 14	E B 14	E B 15	20	26	G 22	G 29	G	36	38	G	G 29	G 26	G 23	G	17	E B 16	E B 15	E B 15	E B 15	E B 15
25	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	22	30	35	G 26	G	G	G	G	G	34	G	G E 19	B E 16	B E 15	E B 16	E B 15	E B 14	E B 15
26	E B 15	E B 15	E B 16	E B 15	17	E B 14	E B 14	G 20	G 22	G 26	39	37	40	40	39	34	32	26	20	18	E B 15	E B 15	E B 16	18
27	E B 15	E B 15	E B 15	E B 15	E B 14	E B 14	21	28	G 26	G	G	G	G	G	G	34	G 24	G	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14
28	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	20	31	34	37	36	38	40	38	35	G	G 25	G 21	E B 14	E B 15	E B 15	E B 15	E B 14	E B 16
29	E B 15	22	E B 14	E B 15	E B 14	E B 14	20	G 22	G 25	G 29	38	G	G	G	35	G 28	31	25	17	22	E B 15	17	17	E B 15
30	E B 14	E B 14	E B 15	E B 15	E B 15	E B 15	22	30	G 24	G 25	G 29	G	43	40	37	G 26	G 25	G	E B 14	E B 15	32	19	20	21
31	19	E B 15	E B 15	E B 15	E B 15	E B 15	22	32	G 26	38	45	44	40	G	51	36	33	33	22	28	34	30	E B 15	E B 15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	29	28	29	27	28	28	29	30	30	31	31	31	31	31
MED	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	25	G 25	G 30	G	G	G	G	G	G	G	G	17	E B 15	E B 15	E B 15	E B 15	E B 15
U Q	15	E B 15	16	15	15	E B 15	20	28	G	36	38	38	38	38	36	34	32	25	19	16	16	17	15	15
L Q	E B 15	E B 15	E B 15	E B 14	E B 14	E B 14	E B 15	G	G 24	G 26	G	G	G	G	G	G 27	G 26	G	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

MAR. 2012 fbEs (0.1MHz)

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IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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	15	14	15	14	15	15	14	13	16	19	20	17	16	15	14	14	14	14	13	16	15	15
2	15	14	14	14	15	15	14	15	14	14	15	14	15	16	15	12	14	13	15	15	15	14	15	14
3	14	14	15	15	15	15	15	14	14	14	18	19	17	20	18	16	18	14	15	15	15	16	15	15
4	15	15	14	15	15	15	15	15	14	19	18	20	21	20	17	17	15	14	14	15	15	15	15	15
5	15	15	14	15	15	14	16	14	14	16	16	16	21	BE	B 52	22	18	11	14	15	15	15	15	15
6	15	15	15	14	15	15	14	14	14	21	16	20	20	19	18	17	14	14	15	15	15	15	15	15
7	15	15	15	14	15	14	14	15	15	18	BE	B 56	23	50	20	18	15	17	16	15	15	15	15	15
8	15	15	15	15	14	15	16	14	11	12	18	16	17	17	18	17	14	14	14	15	15	14	14	15
9	15	15	14	15	14	15	14	16	18	19	20	20	14	29	17	15	14	14	14	14	15	14	15	15
10	15	16	14	14	14	14	15	14	15	23	18	26	21	18	18	18	18	14	16	15	16	15	14	15
11	15	14	15	14	15	16	16	13	14	16	15	18	23	16	18	14	13	15	15	15	15	16	15	16
12	16	15	15	14	14	15	15	14	14	15	18	22	20	22	18	17	17	13	15	15	16	18	15	15
13	15	15	14	14	14	14	16	14	14	17	16	17	23	18	18	17	12	13	16	15	15	15	15	15
14	15	15	14	14	16	15	14	14	16	18	17	C	C	C	C	C	C	C	C	15	15	14	15	13
15	14	14	14	15	14	15	15	14	14	13	15	C	C	C	C	C	C	11	15	15	14	14	14	15
16	15	15	16	15	14	13	14	15	14	14	C	C	19	C	C	C	14	15	14	15	15	15	15	14
17	15	15	15	15	14	15	15	14	12	12	16	16	16	20	13	17	15	14	14	15	14	14	15	14
18	15	15	14	15	14	14	15	14	13	18	16	17	22	22	20	15	13	14	15	14	14	14	15	15
19	14	15	15	15	14	15	16	15	14	15	18	19	20	16	18	14	12	14	15	14	15	16	14	14
20	14	15	14	15	14	15	14	14	12	14	19	19	20	19	21	18	16	14	16	16	14	15	14	14
21	15	14	16	15	15	15	16	15	15	14	18	18	19	20	20	17	13	13	15	14	15	14	15	15
22	14	14	15	15	15	14	15	14	16	19	20	22	18	20	20	17	19	14	14	15	15	15	15	15
23	16	16	15	15	15	15	14	13	13	19	18	21	22	20	20	17	16	13	15	14	14	14	15	15
24	15	15	15	14	14	15	14	14	12	15	16	15	20	20	18	17	14	14	15	16	15	15	15	15
25	15	16	15	15	14	15	15	14	14	14	20	22	18	19	20	18	14	15	16	15	15	15	14	15
26	15	15	16	15	15	14	14	14	14	13	15	18	18	20	21	17	14	15	13	15	15	15	16	16
27	15	15	15	15	14	14	15	13	14	18	22	23	22	25	22	15	15	14	15	15	15	15	15	14
28	15	15	16	15	15	15	14	16	13	15	17	14	20	18	19	14	16	14	14	15	15	15	14	16
29	15	15	14	15	14	14	15	14	13	17	16	16	19	19	17	15	15	14	14	14	15	16	14	15
30	14	14	15	15	15	15	14	14	14	14	16	21	22	20	23	17	16	14	14	15	14	15	14	16
31	15	15	15	15	15	15	15	15	14	21	16	20	20	20	17	15	16	14	14	14	15	15	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	30	28	29	28	28	28	29	30	30	31	31	31	31	31
MED	15	15	15	15	15	15	15	14	14	15	17	19	20	20	18	17	15	14	15	15	15	15	15	15
U Q	15	15	15	15	15	15	15	15	14	18	18	21	22	20	20	17	16	14	15	15	15	15	15	15
L Q	15	14	14	14	14	14	14	14	13	14	16	16	18	18	18	15	14	14	14	14	15	14	14	15

IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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	A	285	307	A	314	306	347	379	356	356	348	321	347	331	350	340	353	341	339	326	321	292	277	284
2	303	319	329	381	308	305	314	353	348	345	324	313	319	324	334	344	348	355	345	315	294	308	293	285
3	304	312	340	359	303	284	330	362	355	370	339	329	331	327	339	333	345	339	347	331	316	316	305	307
4	291	306	327	321	352	308	340	364	348	334	325	331	319	336	325	330	338	347	337	305	312	318	298	311
5	315	325	302	331	290	296	340	359	351	336	337	336	334	B	315	337	336	349	332	320	316	335	298	312
6	302	310	306	314	327	326	348	373	349	356	324	338	334	328	326	329	336	359	339	305	317	322	305	294
7	295	293	290	331	383	295	320	356	361	347	B	331	328	324	318	321	325	307	339	314	301	310	331	292
8	296	277	279	276	292	321	323	307	289	321	257	293	298	323	338	332	344	358	350	327	309	327	277	267
9	290	282	301	278	294	344	351	379	362	311	331	337	330	328	310	299	331	335	326	292	249	341	271	298
10	269	309	311	273	302	311	F	308	330	335	334	337	324	338	332	339	337	334	342	345	305	304	295	292
11	304	309	F	F	283	280	326	348	343	358	333	343	346	349	344	340	339	342	335	326	314	320	320	299
12	292	288	301	281	296	298	333	350	357	358	322	325	326	328	336	327	340	342	348	361	A	266	275	284
13	284	318	348	293	257	310	346	364	354	369	333	335	321	326	335	335	335	342	337	342	307	331	324	299
14	289	296	288	283	283	296	340	368	372	350	356	C	C	C	C	C	C	C	C	331	305	308	302	305
15	299	290	288	301	292	301	354	356	355	361	338	C	C	C	C	C	C	340	326	323	314	322	295	288
16	297	288	269	259	274	252	326	327	311	325	C	C	324	C	C	C	335	343	339	298	284	284	297	305
17	296	294	312	315	301	311	344	379	362	334	325	324	319	325	325	322	310	331	332	332	323	303	312	306
18	284	298	311	316	303	297	352	368	358	335	318	323	313	313	317	316	325	348	342	315	301	312	316	329
19	307	310	303	305	317	314	357	357	361	333	318	320	314	323	314	321	323	339	349	329	310	322	318	307
20	297	302	327	306	318	306	349	364	341	332	334	325	322	313	319	329	333	345	353	331	306	320	308	307
21	317	321	323	317	309	302	347	377	366	335	330	343	314	335	325	328	334	343	335	334	293	308	302	295
22	292	289	307	325	353	303	335	356	358	334	340	336	325	321	329	321	336	356	334	338	302	286	286	288
23	298	302	314	328	314	307	342	358	346	329	319	317	328	329	319	318	335	341	355	334	281	291	277	283
24	297	F	F	F	F	F	360	370	359	323	309	321	327	320	319	324	336	332	337	315	303	303	286	288
25	293	324	342	344	288	311	351	344	343	322	301	321	319	315	318	324	329	342	332	344	317	314	292	293
26	294	293	322	329	317	314	348	361	345	323	317	318	317	320	318	320	324	328	346	336	300	298	297	301
27	300	298	325	360	319	299	339	349	356	337	332	326	321	332	322	317	321	326	351	329	301	280	283	282
28	299	305	288	283	303	300	344	346	320	309	335	307	311	331	318	317	321	332	335	318	281	283	282	287
29	292	309	324	330	294	307	331	337	330	338	336	327	319	329	329	342	330	347	332	315	309	303	286	295
30	291	299	315	331	339	299	355	346	338	334	310	319	313	309	320	315	320	323	327	320	304	301	303	298
31	299	302	294	298	299	303	347	362	342	335	319	316	317	308	311	315	321	329	340	331	323	267	F	288
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	29	28	30	30	30	31	31	31	29	28	29	27	28	28	29	30	30	31	30	31	30	31
MED	296	302	311	316	303	304	344	358	351	335	330	325	321	326	324	326	335	342	339	327	306	308	297	295
U Q	300	310	324	330	317	311	349	368	358	350	336	336	328	331	333	334	338	347	346	334	314	320	305	305
L Q	292	293	298	288	292	298	333	348	342	329	318	320	317	320	318	319	324	332	334	315	301	292	286	288

IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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	L	A	A	A							
2													L	L	L									
3											L	L	L	L	L	L								
4										L	L	L	L	L	L	L								
5										A	L	L	L	B	E B	L	L							
6										L	L	L	L	L	L	L	L							
7										L	B	E B	L	E B	L	L								
8								A	339	U L 325	U L 316	U L 298	U L 390	U L 353	L	L	L							
9											L	L	L	L	L	L								
10									A	A	A	A		L	L	A	406							
11										L	L	L	L	A	L	L								
12									L	L	L	L	L	L	L	L	L							
13									L	L		L	U L 373	L	L	A	L							
14											L	C	C	C	C	C	C	C						
15											L	C	C	C	C	C	C							
16									L	L	C	C	L	C	C	C								
17										L	L	L	L	L		L								
18										L	L	L	L	L	L	L								
19										L	L	L	L	L	L	L	L							
20										L	L	L	L	L	L	L	L							
21										L	A	L	L	L	L	L	L							
22									L	L	L	L	U L 365	L	L	L	L							
23										L	L	L	L	U L 370	L	L	L							
24										L	U L 395	L	L	L	U L 352	L	L							
25										L	L	L	U L 375	L	L	L	L							
26									L	L	L	U L 367	U L 380	U L 373	L	L	L							
27									L	L	U L 364	U L 360	U L 368	L	L	L	L							
28										L	L	L	U L 341	U L 380	L	L	L							
29									L	L	L	L	L	L	L	L								
30									L	L	L	U L 377	A	L	L	L	L							
31											L	U L 355	U L 375	L	A	L	L							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									1	1	3	5	8	4	1		1							
MED									339	U L 325	U L 364	U L 360	U L 374	U L 372	U L 352		406							
U Q											U L 395	U L 372	U L 378	U L 376										
L Q											U L 316	U L 326	U L 366	U L 362										

MAR. 2012 M(3000)F1 (0.01)

IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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											236	268	248	254	248	236	234							
2													270	250	258									
3											254	258	260	260	242	250								
4										240	260	254	258	252	264	252								
5										256	252	256	238	B	278	258	238							
6										238	230	254	270	266	268	250	252							
7										234	B	254	258	260	278	264								
8								252	372	330	454	400	362	316	280	274	254							
9											266	246	258	264	266	282								
10									270	244	238	246		266	252	250	250							
11										232	262	252	238	238	266	252								
12									236	236	266	272	268	266	242	250	248							
13									244	230		250	266	266	254	246	248							
14											244	C	C	C	C	C	C	C						
15											256	C	C	C	C	C	C							
16									266	236	C	C	274	C	C	C								
17										260	270	264	266	268		262								
18										250	242	262	266	280	270	254								
19										248	266	270	270	268	268	264	254							
20										260	256	268	264	262	264	260	254							
21										260	268	250	254	264	258	264	264							
22									242	260	244	256	260	274	254	266	252							
23										272	260	252	266	264	266	276	258							
24										264	268	276	276	274	280	258	254							
25										254	292	270	272	272	268	262	254							
26									254	264	282	290	270	266	264	260	252							
27									240	250	270	274	272	258	268	270	268							
28										278	252	284	278	254	252	276	258							
29									254	256	254	260	268	264	264	248								
30									260	272	278	268	264	290	262	274	260							
31											282	282	272	278	270	270	262							
	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	10	24	27	27	28	27	27	27	19							
MED								252	254	255	260	262	266	266	264	260	254							
U Q									266	262	270	272	271	272	268	270	258							
L Q									242	239	252	254	259	260	254	250	250							

MAR. 2012 h′F2 (KM)

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IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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	A	E B 312	E A 286	A	E A 280	E A 300	220	210	210	210	A	A	A	212	A	A	A	214	214	E A 260	E A 258	E A 274	E A 320	E B 296
2	E B 266	E A 248	230	208	E B 270	E B 276	228	214	228	224	214	212	200	200	202	212	224	220	196	204	E B 246	E A 244	E B 284	E B 298
3	E B 272	E B 242	222	208	E B 236	E B 290	E B 238	216	220	220	202	200	194	200	200	198	226	224	216	208	238	232	E B 234	E B 264
4	E B 286	E B 260	E A 250	E B 230	E B 216	E B 238	224	212	216	194	204	198	194	190	204	206	230	226	206	E B 234	E B 250	230	E B 242	E B 242
5	224	220	E A 292	E A 254	E A 274	E A 274	216	208	214	A	198	206	186	B	B	208	208	222	218	226	214	214	E B 258	E B 252
6	E B 256	E B 256	E B 260	E B 258	E B 232	226	216	208	222	204	194	204	218	212	204	202	216	210	210	222	E B 236	218	E B 230	E B 266
7	E B 264	E B 292	E B 290	E B 230	194	E B 274	238	218	210	204	B	B	186	B	204	214	230	234	232	218	230	E B 252	222	E B 242
8	E B 268	E B 302	E B 332	E B 302	E B 274	226	E B 276	A	226	230	234	270	208	210	200	212	208	226	216	208	230	228	E B 270	E B 350
9	E B 304	E B 298	E A 294	E A 312	E A 304	222	214	212	200	210	210	196	204	216	216	220	228	214	218	E A 264	E A 328	214	206	E A 250
10	E B 318	E B 270	E B 236	E B 342	E B 342	E A 250	E A 260	232	A	A	A	A	230	222	202	A	194	220	220	208	E B 242	E A 262	E B 250	E B 260
11	E B 274	E B 252	E B 276	E B 278	E B 294	E B 312	244	222	222	206	210	202	194	A	200	206	222	222	212	210	E B 234	E B 230	228	E B 254
12	E B 282	E B 280	E B 280	E B 294	E B 274	E B 302	228	220	202	198	184	196	196	202	202	204	204	226	220	202	A	E B 346	E B 334	E B 298
13	E B 268	E B 252	206	E B 266	E B 322	E B 262	216	210	202	206	208	190	190	222	202	A	202	228	216	204	224	226	228	E B 260
14	E B 294	E B 292	E A 316	E B 286	E B 292	E B 282	230	218	216	216	202	C	C	C	C	C	C	C	C	E B 198	E B 240	240	E B 252	E B 260
15	E B 288	E B 300	E B 292	E B 260	E B 250	E B 248	208	212	220	204	204	C	C	C	C	C	C	226	222	226	226	224	E B 260	E B 266
16	E B 258	E B 260	E B 300	E B 328	E B 318	E B 410	238	244	214	204	C	C	204	C	C	C	218	228	214	222	E B 268	E B 282	E B 262	E B 254
17	E B 248	E B 278	E B 248	E B 236	240	232	212	208	216	208	210	202	202	204	200	204	226	236	220	198	218	210	E B 246	E B 240
18	E B 280	E B 292	E B 264	226	E B 238	E B 242	222	214	222	206	200	198	210	200	196	208	228	224	206	220	E B 236	E B 234	228	210
19	224	E B 234	E B 254	E B 270	E B 252	E B 242	208	214	212	210	208	186	206	216	204	212	204	226	208	200	E B 238	238	232	E A 292
20	E A 276	E B 262	E B 252	228	224	E B 266	228	212	216	208	190	198	204	198	200	202	220	226	216	204	E A 236	230	E A E 246	E B 236
21	E B 246	E B 240	E B 230	224	E B 254	E B 268	232	218	214	198	A	198	196	200	200	198	224	228	212	E B 202	E B A 246	E B 250	E B 258	E B 262
22	E A 304	E A 290	E B 260	E B 232	210	E B 260	236	220	208	212	194	198	200	202	194	204	210	220	212	216	236	E B 280	E B 280	E B 278
23	E B 268	E B 254	E B 242	218	E B 222	E B 236	224	226	214	204	192	204	204	192	214	212	216	228	216	200	E B 244	E B 282	E B 286	E B 282
24	E B 280	E B 278	E B 260	224	208	E B 226	216	214	206	186	194	202	216	192	196	206	210	228	220	218	206	224	E B 284	E B 284
25	E B 270	E B 242	224	210	E B 262	E B 280	212	218	222	210	234	210	210	200	200	198	212	230	224	216	212	232	E B 230	E B 270
26	E B 286	E B 270	E B 254	226	218	232	214	222	212	194	208	202	212	210	208	206	216	230	222	214	230	E B 252	E B 256	E A 262
27	E B 272	E B 264	E B 242	210	232	E B 282	224	222	212	210	210	196	212	206	200	200	214	234	224	E B 204	214	E B 292	E B 290	E B 284
28	E B 266	E B 262	E B 262	E B 274	224	E B 254	224	232	224	220	206	206	206	200	200	212	210	226	212	208	E B 234	E B 264	E B 268	E B 296
29	E B 292	E B 264	E A 234	E B 216	E B 252	E B 274	230	230	212	208	204	222	212	202	202	200	216	228	218	230	220	E A 254	E A 270	E B 284
30	E B 272	E B 274	E B 250	216	200	E B 282	214	222	214	202	198	198	A	210	198	204	208	228	224	220	E A 242	E A 240	E A 266	E A 280
31	E A 284	E B 268	E B 268	E B 252	E B 244	E B 252	212	228	218	218	232	E A 238	208	202	A	212	222	232	228	220	E A 240	E A 338	E B 274	E B 280
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	30	31	31	31	30	30	29	26	25	27	25	25	25	28	30	30	31	30	31	31	31
MED	E B 272	E B 264	E B 260	E B 234	E B 250	E B 262	222	218	214	208	204	201	204	202	200	206	216	226	216	211	E 236	E 240	E B 258	E B 266
U Q	E B 286	E B 290	E 286	E B 274	E B 274	E B 282	232	222	220	211	210	206	210	211	204	212	224	228	220	222	E B 242	E B 264	E B 274	E B 284
L Q	E B 266	E B 252	242	224	224	238	214	212	212	204	198	198	196	200	200	202	209	222	212	204	226	228	232	E B 254

MAR. 2012 h′F (KM)

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IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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								124	116	A	A	A	A	A	A	A	A	A						
2								116	A	A	A	120	A	116	114	114	A	A						
3								118	120	118	118	118	122	120	116	116	110	A						
4								114	A	118	120	120	120	122	118	124	120	114						
5								116	116	116	116	A	122	B	B	124	124	A						
6								114	118	118	120	120	116	122	118	116	114	122						
7								126	118	112	B	B	116	B	122	A	122	122						
8								116	116	112	124	126	128	122	120	116	118	A						
9								114	114	114	116	A	112	122	122	128	114	114						
10								116	122	124	128	A	128	128	126	A	116	118						
11								122	122	122	122	122	134	124	116	114	110	114						
12								118	118	A	120	120	120	122	118	118	120	A						
13								118	114	116	A	116	116	118	A	A	118	A						
14								118	120	120	A	C	C	C	C	C	C	C						
15								124	A	116	118	C	C	C	C	C	C	112						
16								126	120	118	C	C	A	C	C	C	A	B						
17								120	118	118	118	118	122	118	A	118	118	124						
18							B	116	116	116	A	A	A	122	124	A	A	A	B					
19							B	114	116	116	A	A	114	A	A	A	A	112	B					
20							B	A	114	118	A	A	A	122	122	A	A	118	B					
21							B	124	116	A	A	118	118	A	120	122	A	A	B					
22							B	112	116	118	120	124	116	116	122	112	114	120	B					
23							128	124	120	120	120	120	120	122	122	122	122	122	B					
24							B	116	116	116	116	A	A	122	122	122	120	114	B					
25							124	120	A	118	124	124	126	126	124	A	118	120	B					
26							B	120	120	120	A	A	A	A	A	A	A	A	B					
27							B	110	120	120	120	120	128	130	124	A	122	116	B					
28							B	124	122	122	122	122	A	A	A	122	122	126	B					
29							B	116	116	116	118	118	118	118	A	114	A	A	B					
30							124	114	116	116	116	116	116	A	116	116	122	124	B					
31							B	118	122	118	122	116	120	120	A	A	120	126	B					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							3	30	27	27	20	18	21	20	19	17	20	18						
MED							124	118	118	118	120	120	120	122	122	118	119	119						
U Q							128	122	120	120	122	122	124	122	122	122	122	122						
L Q							124	116	116	116	118	118	116	119	118	115	115	114						

MAR. 2012 h′E (KM)

IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 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	98	98	102	98	100	98	98	100	100	106	104	104	100	102	102	102	100	94	100	98	98	98	102	106
2	100	96	B	100	98	98	102	G	106	104	100	100	100	96	96	120	104	94	92	B	B	102	B	106
3	102	B	B	104	B	B	B	G	106	106	G	G	G	G	100	96	112	102	98	98	98	100	B	B
4	B	B	96	96	94	94	90	G	100	116	104	G	G	G	G	106	106	G	B	B	B	B	B	B
5	B	B	96	96	96	94	B	138	104	112	G	100	G	B	B	G	G	92	94	94	92	94	B	B
6	B	B	B	B	B	B	B	126	104	G	G	G	G	G	G	104	G	G	96	94	92	B	B	B
7	B	B	B	B	B	B	B	G	G	G	B	B	G	B	G	102	106	G	90	92	B	B	B	B
8	B	B	B	B	B	B	B	142	102	102	G	G	G	G	G	102	104	106	104	B	98	98	B	98
9	B	B	96	92	92	B	B	138	G	114	102	100	94	G	G	G	92	96	94	96	94	92	92	98
10	102	B	102	108	118	94	100	146	158	128	126	100	G	98	G	98	98	164	96	B	94	116	B	B
11	B	B	B	B	102	98	B	G	108	108	108	G	G	128	G	90	118	118	B	92	92	B	B	B
12	B	B	B	B	B	B	B	160	104	104	102	G	G	G	98	98	G	112	110	98	104	B	B	132
13	B	B	B	118	B	B	B	104	104	104	104	G	G	G	102	102	96	96	B	B	B	B	B	B
14	B	100	100	102	96	B	B	108	108	116	102	C	C	C	C	C	C	C	C	B	96	B	B	B
15	B	B	B	B	B	B	B	148	108	104	G	C	C	C	C	C	C	90	B	B	B	B	B	94
16	94	B	B	B	B	B	B	G	100	100	C	C	106	C	C	C	90	90	92	B	B	106	B	B
17	100	B	B	104	94	92	B	144	106	102	98	112	108	G	102	106	G	104	B	B	B	B	B	104
18	B	B	B	B	B	B	150	146	104	102	104	106	108	G	G	106	102	102	104	B	B	B	106	106
19	B	96	B	96	B	B	B	120	120	100	102	104	G	104	106	102	108	G	B	B	102	102	106	104
20	104	102	104	102	102	B	96	94	94	100	104	106	106	G	G	102	104	G	B	B	98	102	106	B
21	102	B	98	B	B	B	152	G	102	104	108	G	G	104	G	G	108	102	98	98	98	B	B	B
22	98	98	B	92	B	B	160	166	104	104	G	G	G	G	G	G	G	G	94	92	90	88	B	B
23	B	B	B	B	B	B	150	164	102	G	104	G	G	G	G	102	120	G	B	94	B	B	B	B
24	B	B	B	B	B	B	148	150	98	102	G	106	106	G	106	104	94	G	88	88	88	88	B	B
25	B	B	B	B	B	B	152	160	108	100	G	G	G	G	G	106	G	106	B	B	108	B	B	B
26	B	B	98	B	94	B	B	104	102	100	102	102	102	104	104	104	100	102	102	100	102	102	102	94
27	B	B	B	B	B	B	142	156	104	G	G	G	G	G	G	104	104	G	B	B	B	B	B	B
28	100	100	98	96	B	B	130	126	124	114	120	114	104	108	104	G	102	104	B	96	B	B	B	B
29	98	102	B	B	B	B	146	106	102	102	122	G	G	G	92	98	106	100	94	118	B	110	110	B
30	B	B	B	B	B	B	144	146	104	104	102	G	116	102	122	96	110	G	B	86	110	110	110	104
31	98	B	B	B	B	B	146	134	104	124	116	120	116	G	98	98	148	126	120	110	108	120	110	B
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	12	8	10	14	11	7	16	24	29	27	20	13	12	9	13	23	23	20	18	17	19	16	9	11
MED	100	99	98	99	96	94	145	140	104	104	104	104	106	104	102	102	104	102	96	96	98	102	106	104
U Q	102	101	102	104	102	98	150	149	107	112	108	109	108	106	105	104	108	106	102	98	102	108	110	106
L Q	98	97	96	96	94	94	101	114	102	102	102	100	101	100	98	98	100	95	94	92	92	96	102	98

MAR. 2012 h'Es (KM)

IONOSPHERIC DATA STATION Kokubunji

MAR. 2012 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F3	F3	F2	F3	F3	F4	F3	L3	L2	L2	L2	L2	L2	L2	L2	L2	L2	L3	F2	F3	F3	F3	F2	F1
2	F2	F3		F2	F1	F1	F1		L2	L2	L2	L2	L2	L2	L2	CL22	L2	L1	F2			F6		F2
3	F2			F1					L2	L2					L1	L2	CL11	L3	F3	F1	F1	F1		
4			F3	F1	F2	F1	F1		L2	CL11	L2					L2	L1							
5			F3	F3	F4	F1		H2	L2	CL22		L2						L2	F2	F3	F2	F2		
6								H2	L1							L2			F2	F2	F2			
7																L2	L1		F2	F2				
8								H2	L1	L1						L2	L2	L2	F5		F1	F1		F2
9			F2	F1	F2			H1		C1	L2	L2	L2				L1	L2	F2	F2	F2	F2	F2	F3
10	F1		F2	F2	FF24	FF32	FF32	H1	HL11	C2	CL22	L2		L2		L2	L3	H1	F2		F2	F2		
11					F1	F2			L2	L1	L2			CL21		L2	CL11	CL11		F1	F2			
12								HL11	L2	L2	L2				L2	L2		L2	F3	F2	F3			F1
13				F1				L2	L2	L2	L2				L2	L2	L2	L2						
14		F1	F2	F2	F2			L2	L2	C2	L2										F2			
15								H2	L2	L2								L2						F2
16	F2								L2	L2			L2				L3	L2	F1			F1		
17	F1			F2	F3	F2		H2	L2	L2	L2	CL12	CL22		L2	L2		L2						F1
18							H2	H2	L2	L1	L2	L2	L2			L2	L2	L2	L2				F1	F2
19		F1		F1				C2	CL22	L2	L2	L2		L2	L2	L2	L2				F2	F2	F3	F2
20	F2	F2	F1	F2	F1		L2	L3	L2	L2	L2	L2	L2			L2	L1				F3	F2	F3	
21	F1		F1				H2		L1	L2	L2			L2			L2	L2	L3	F2	F3			
22	F4	F1		F3			H2	H2	L2	L2									L3	F2	F2	F2		
23							H2	HL11	L1		L2					L2	CL22			F1				
24							H2	HL21	L2	L2		L2	L2		L2	L2	L2		L2	F2	F2	F1		
25							H2	HL22	L2	L2						L2		L2			F3			
26			F1		F1			L2	L2	L2	L2	L2	L2	L2	L2	L2	L2	L2	L2	F4	F2	F1	F1	F1
27							H2	H2	L2							L2	L2							
28	F2	F3	F2	F3			H2	CL21	CL22	CL22	CL22	CL11	L2	L2	L1		L2	L2		F2				
29	F2	F3					H2	L2	L2	L2	C1				L2	L2	L2	L2	L2	F2		F3	F3	
30							H2	H2	L2	L2	L1		C1	L2	CL11	L2	L2			F2	F5	F5	F3	F4
31	F3						H3	HL11	L2	CL12	CL22	CL22	C2		L2	L3	HL11	CL21	C3	F4	F4	F5	F1	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

MAR. 2012 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

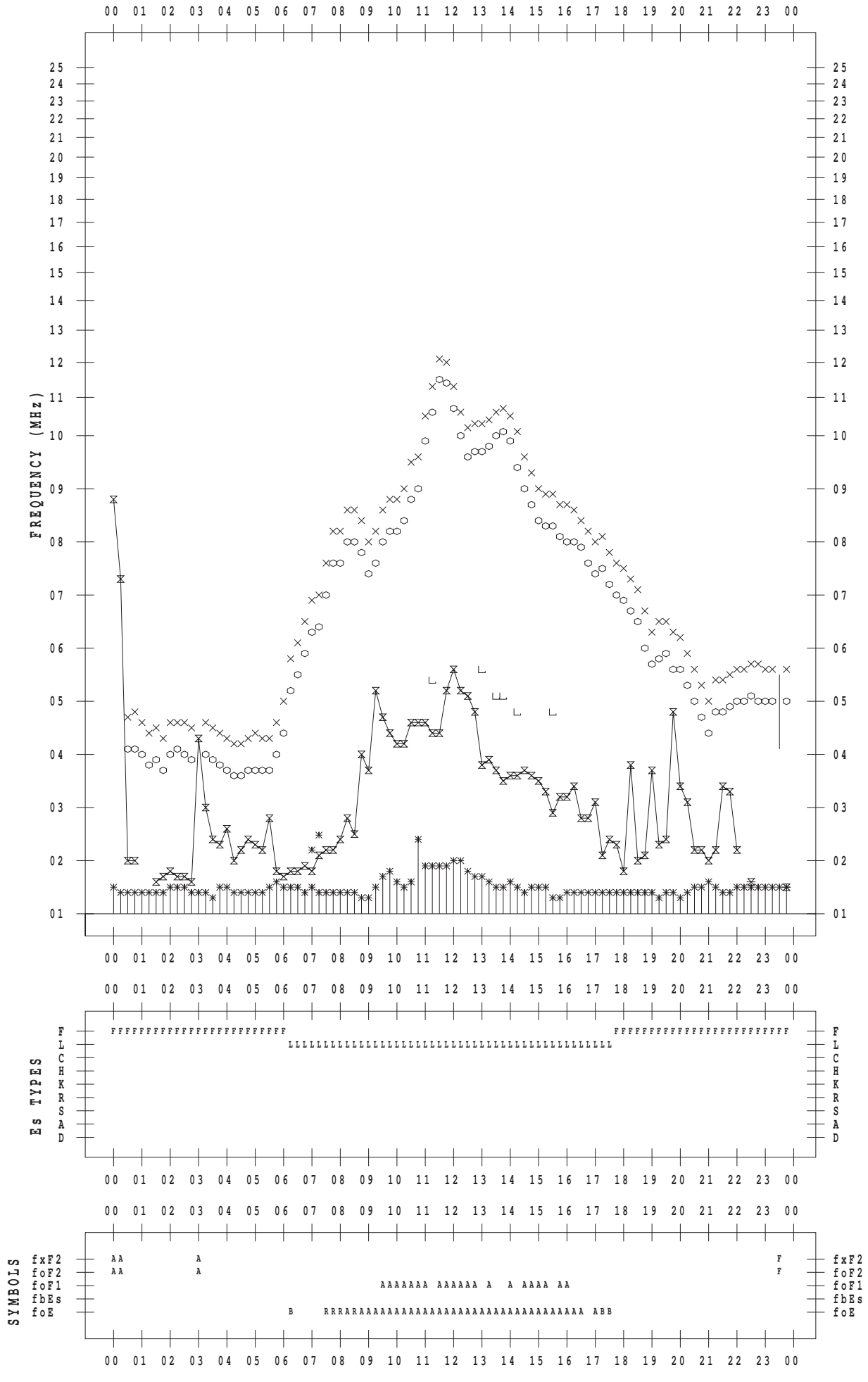
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/ 1

135 °E MEAN TIME



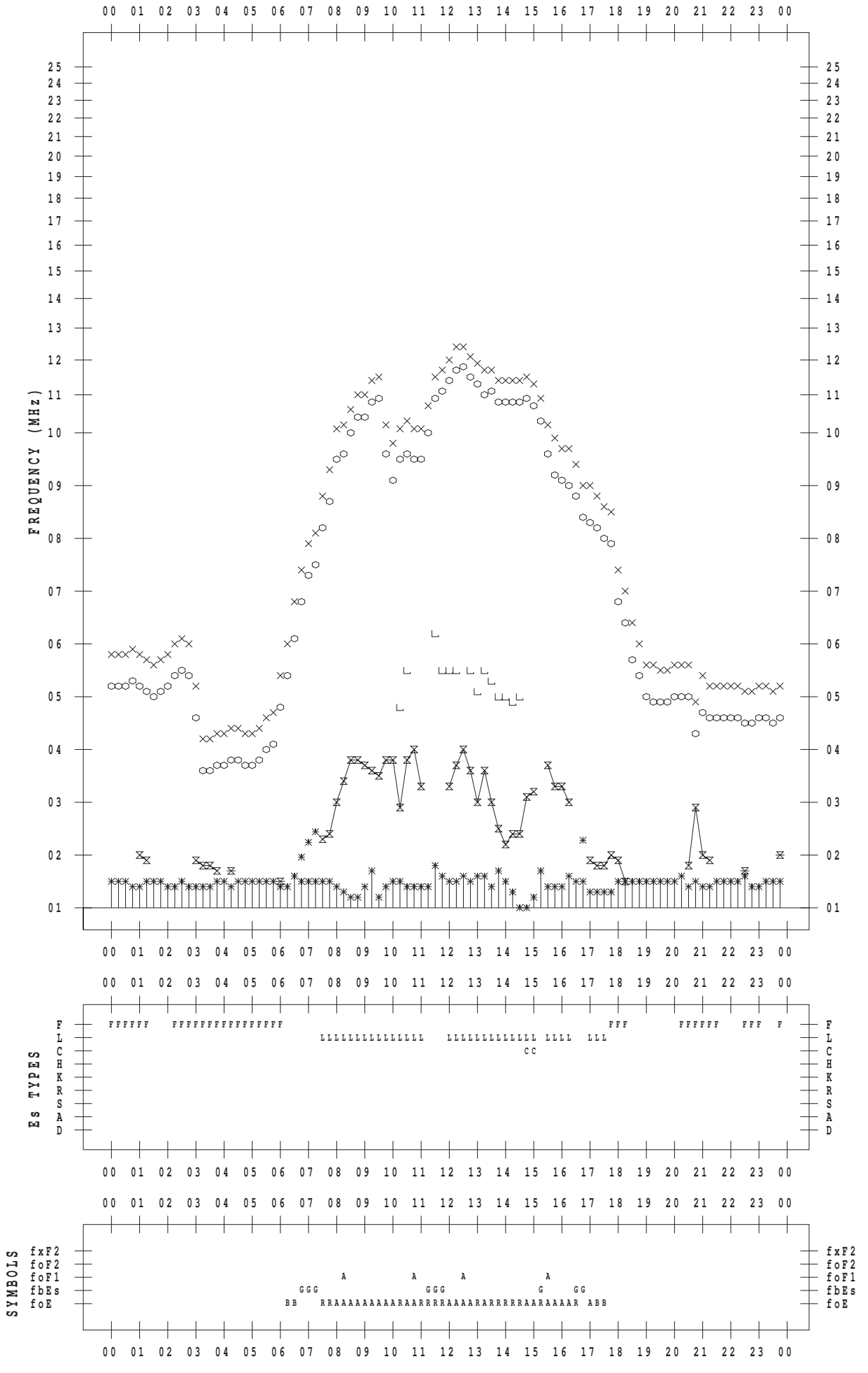
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/ 2

135 °E MEAN TIME

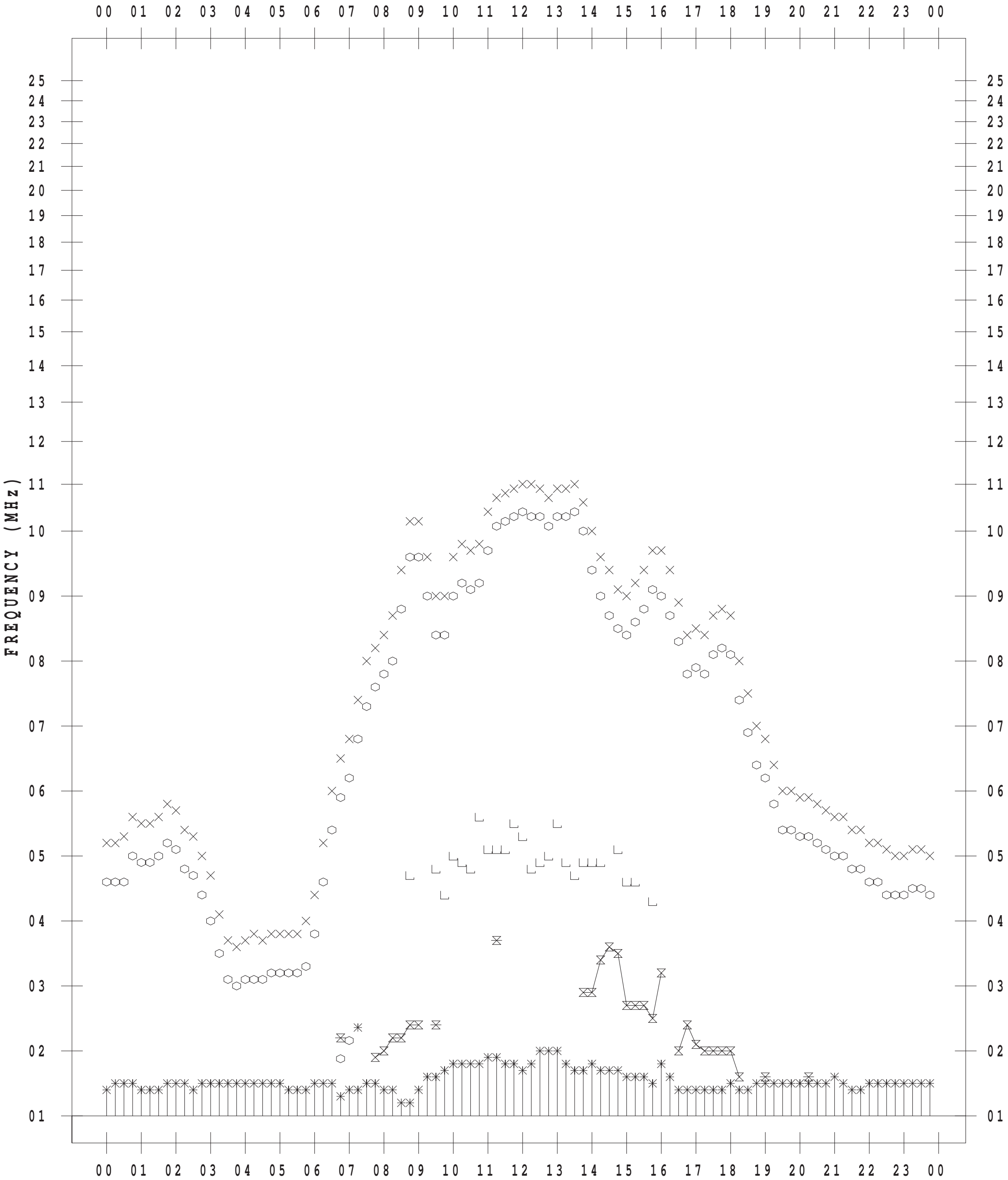


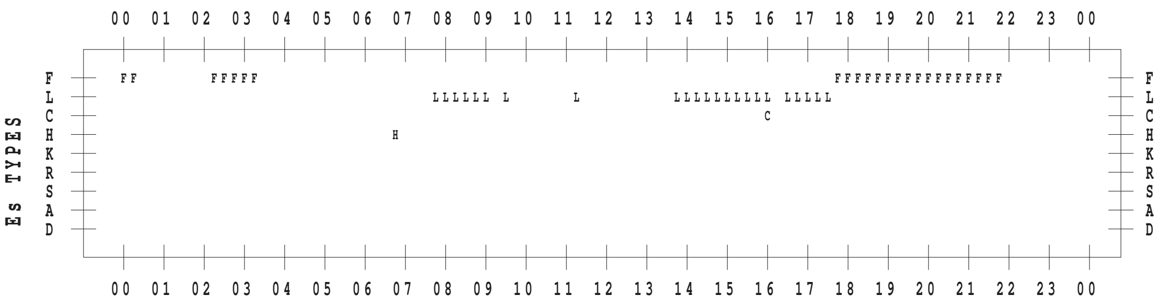
f-PLOT DATA

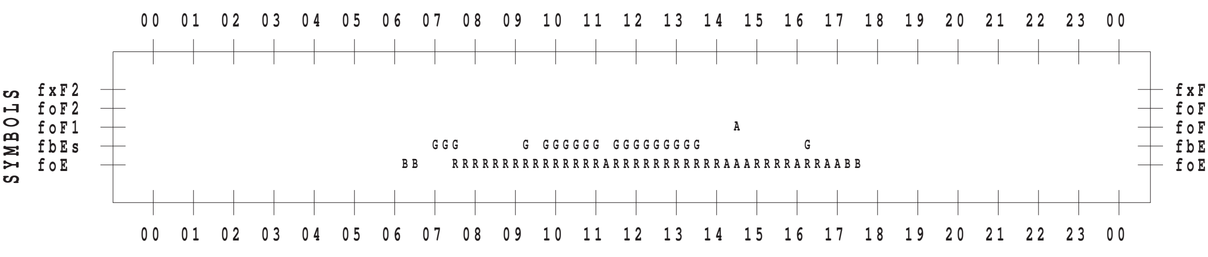
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2012/ 3/ 3

135 °E MEAN TIME







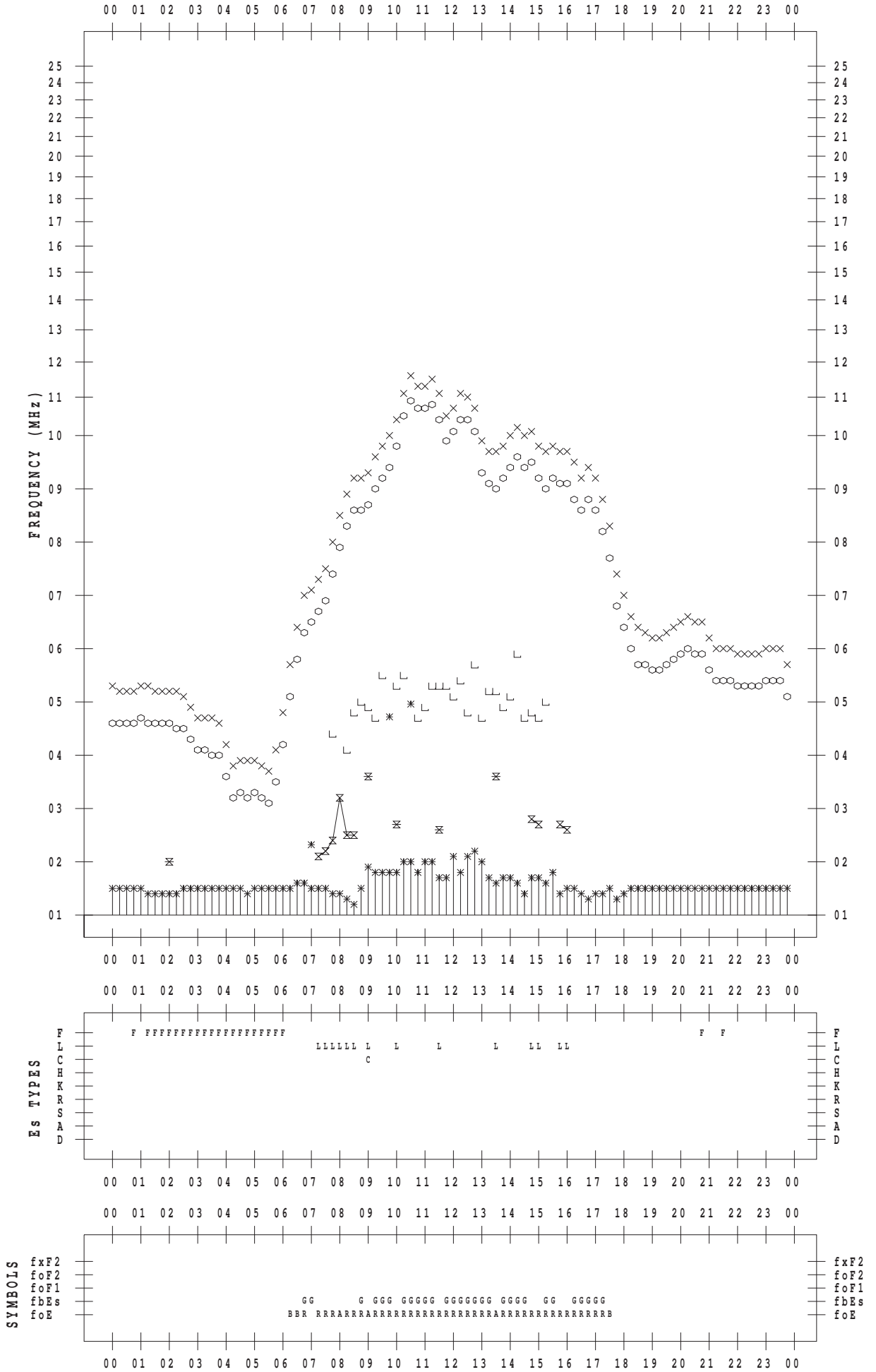
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/ 4

135 °E MEAN TIME



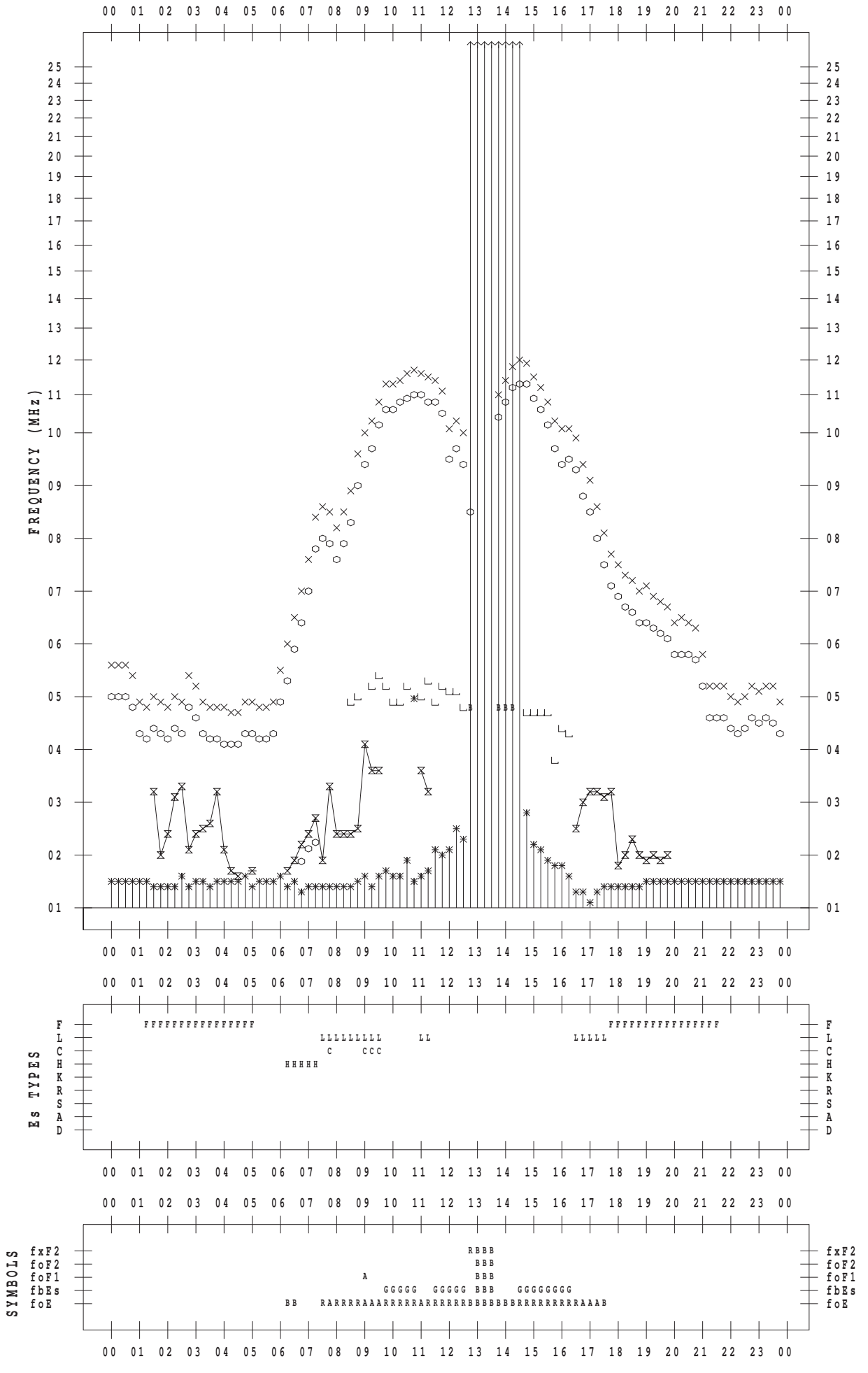
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/ 5

135 °E MEAN TIME

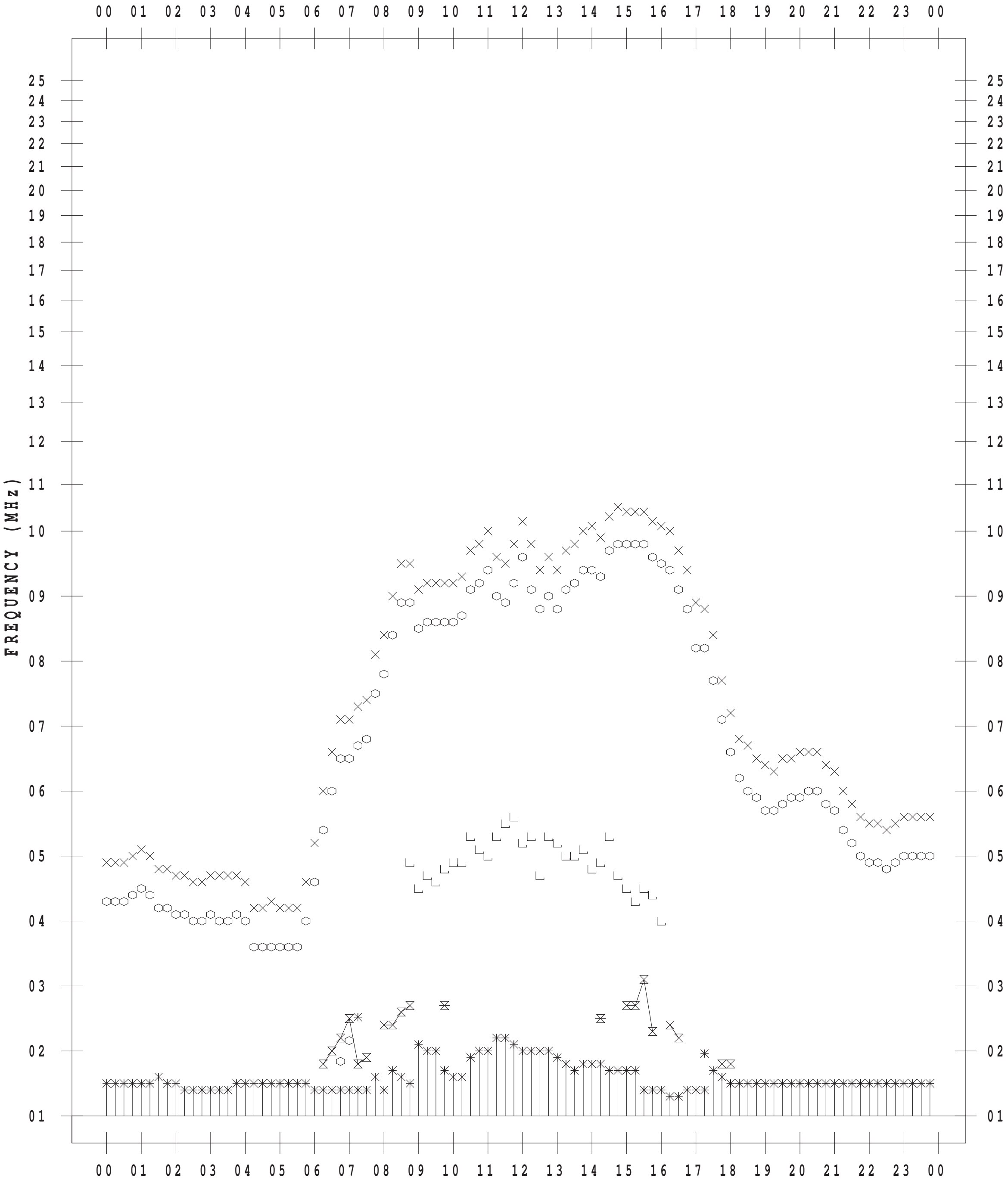


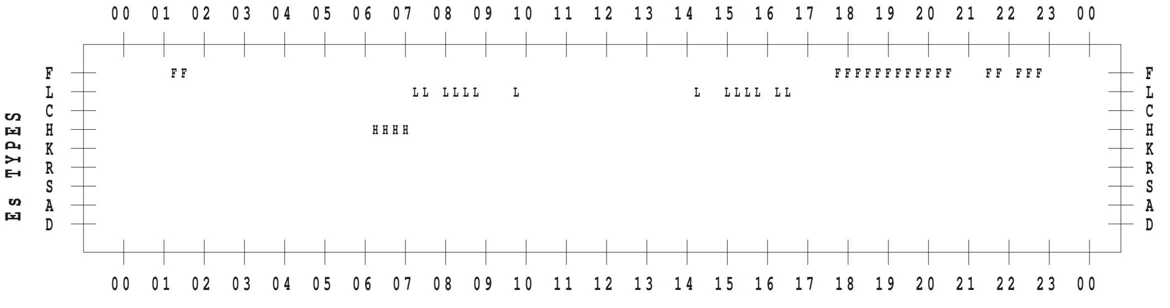
f-PLOT DATA

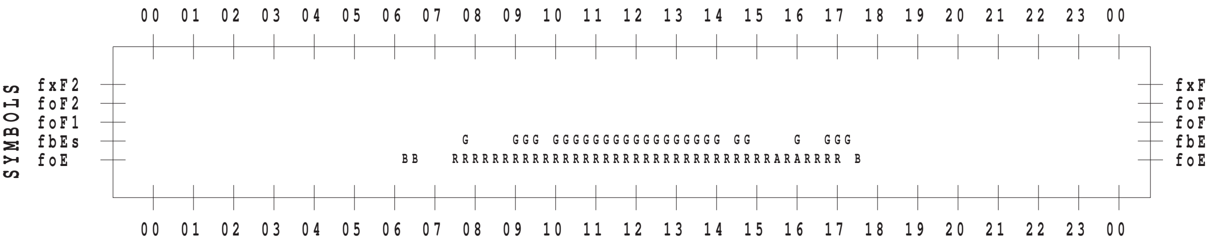
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2012/ 3/ 6

135 °E MEAN TIME







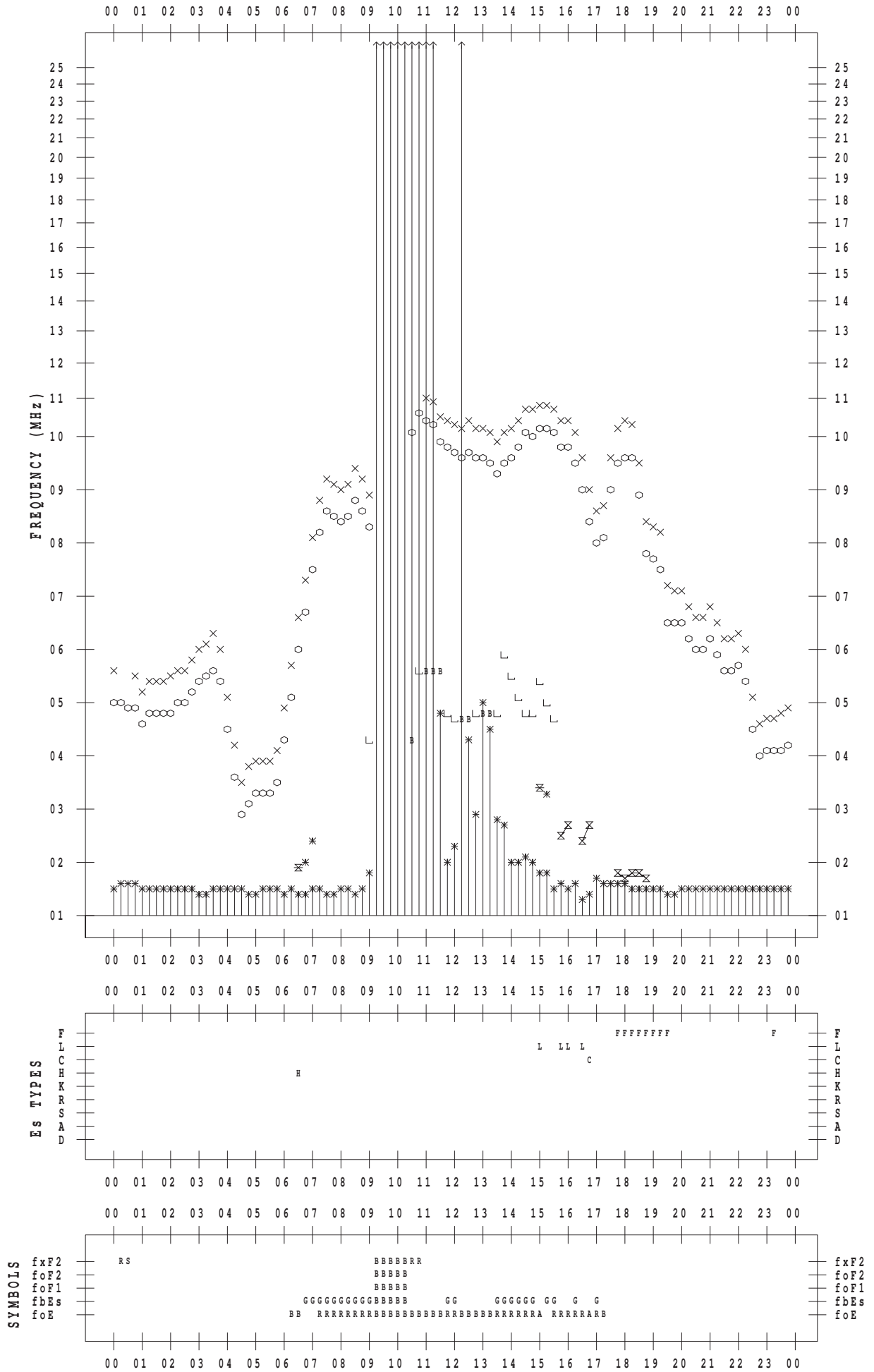
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/ 7

135 °E MEAN TIME



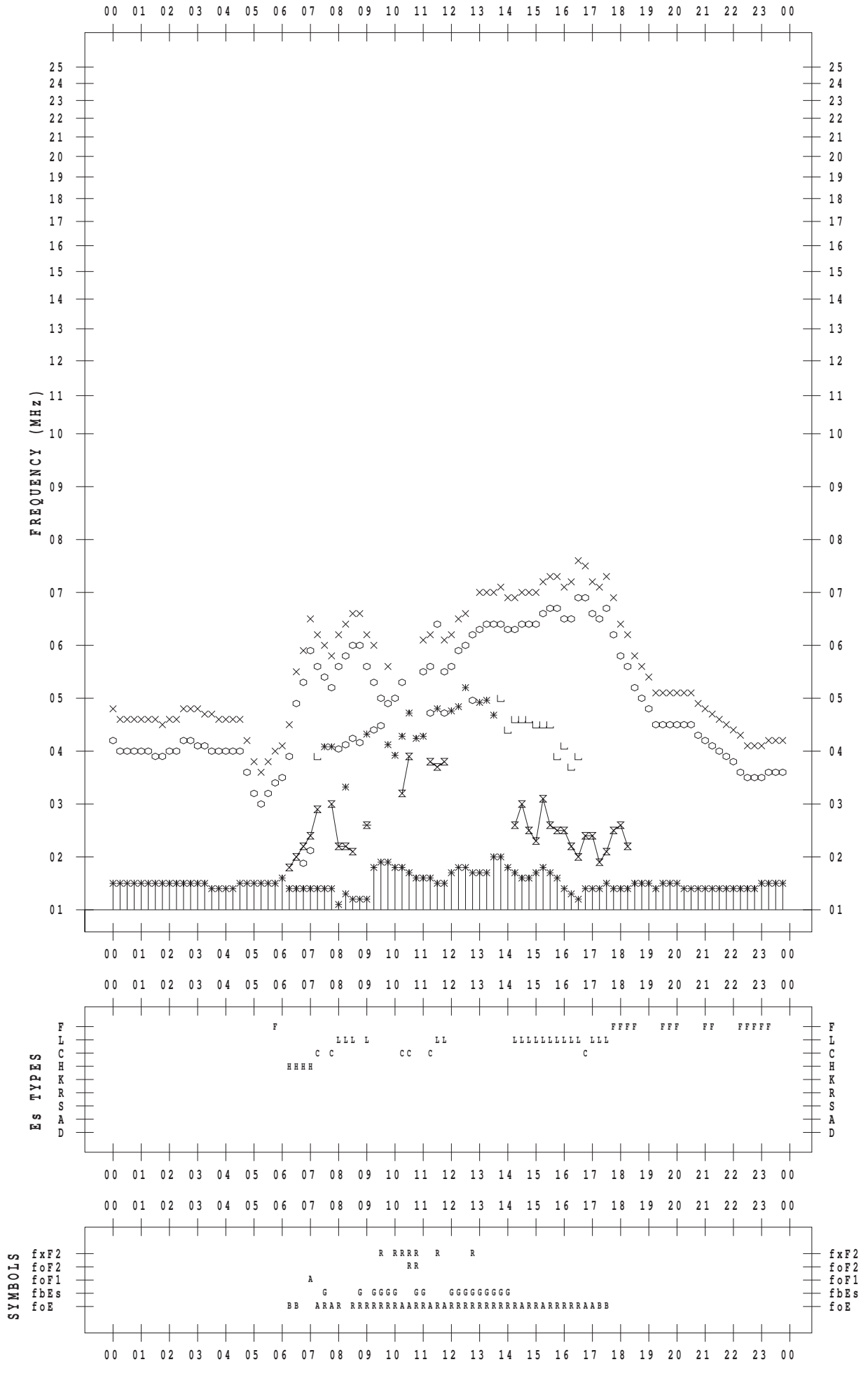
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/ 8

135 °E MEAN TIME



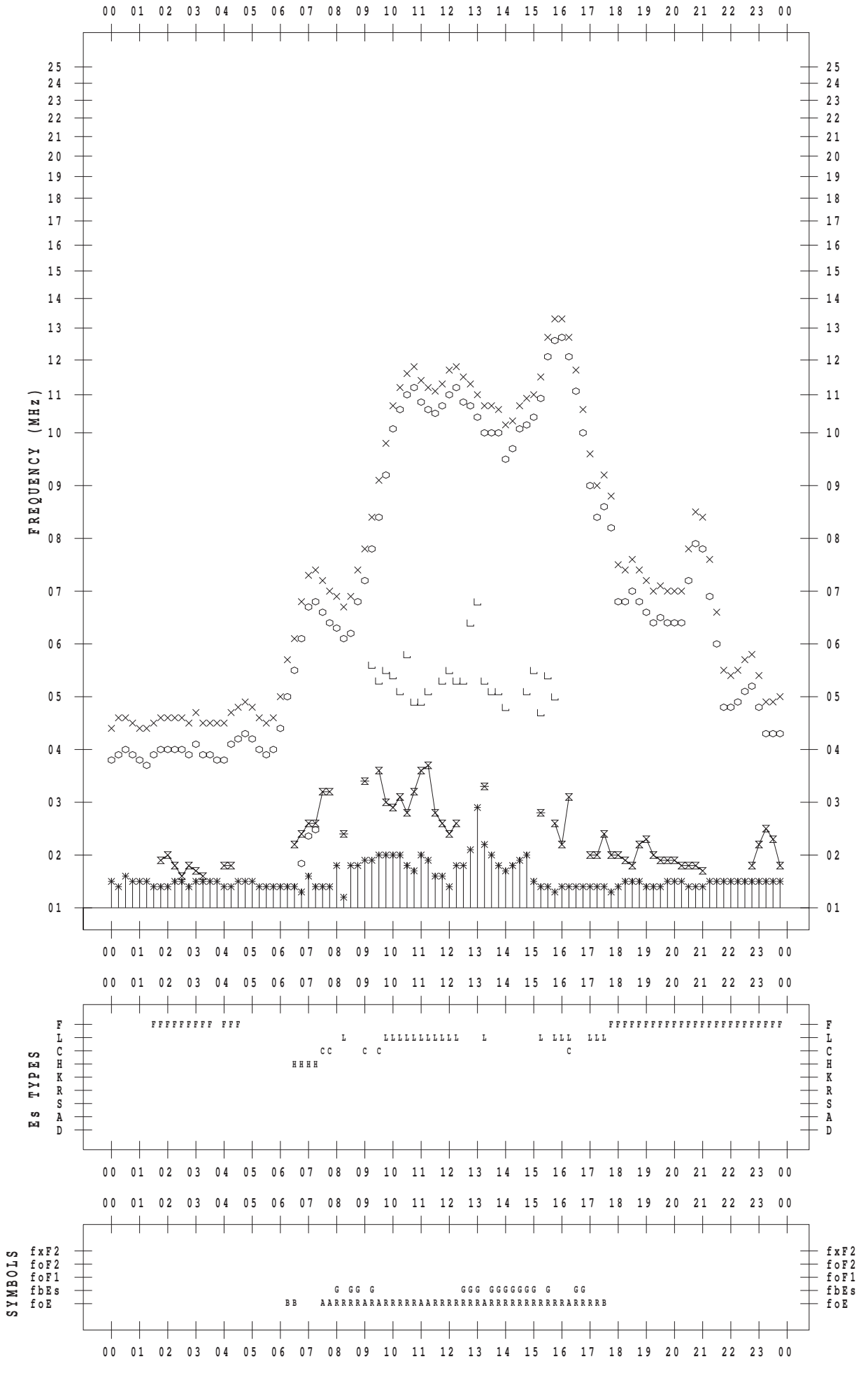
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/ 9

135 °E MEAN TIME



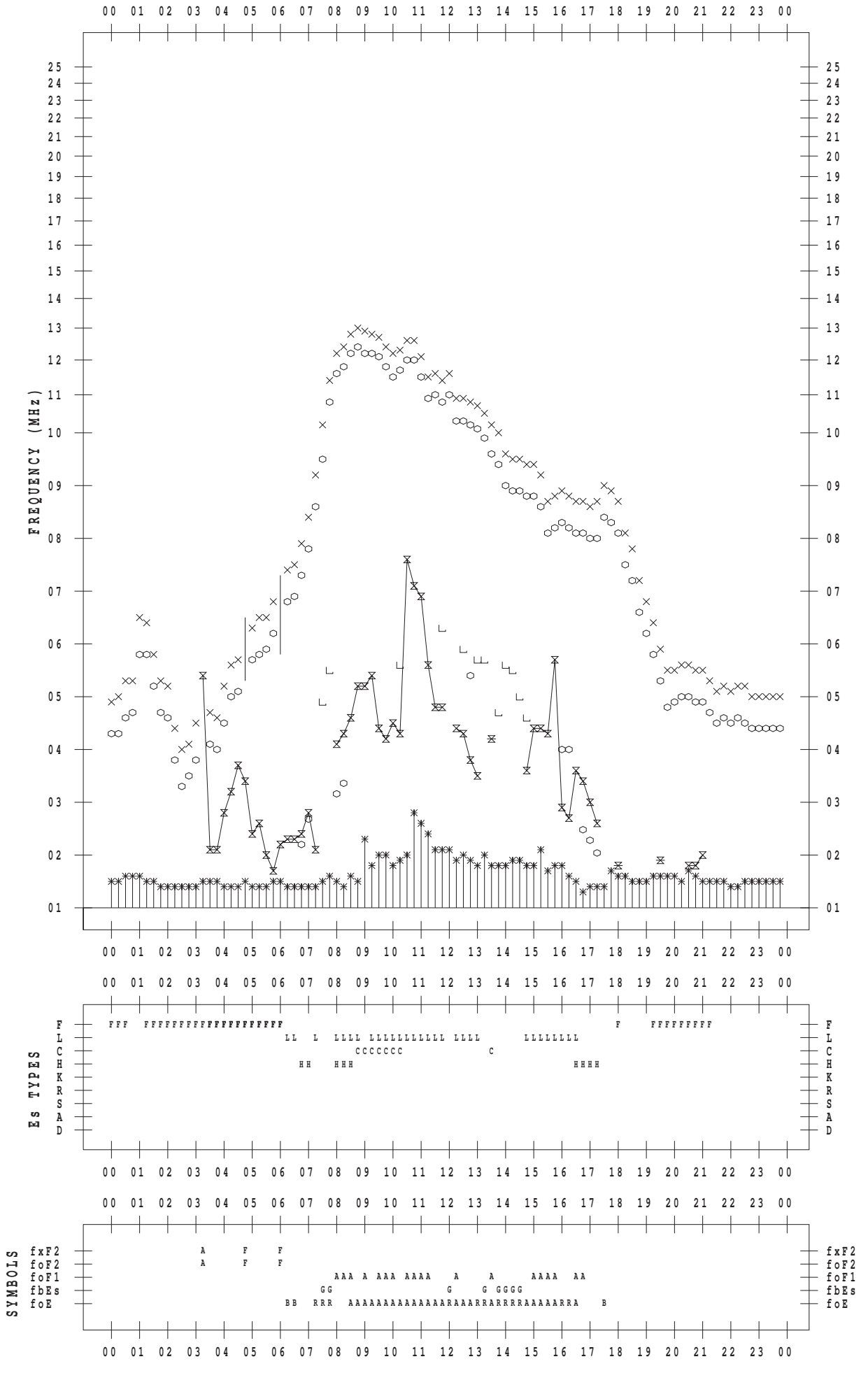
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/10

135 °E MEAN TIME



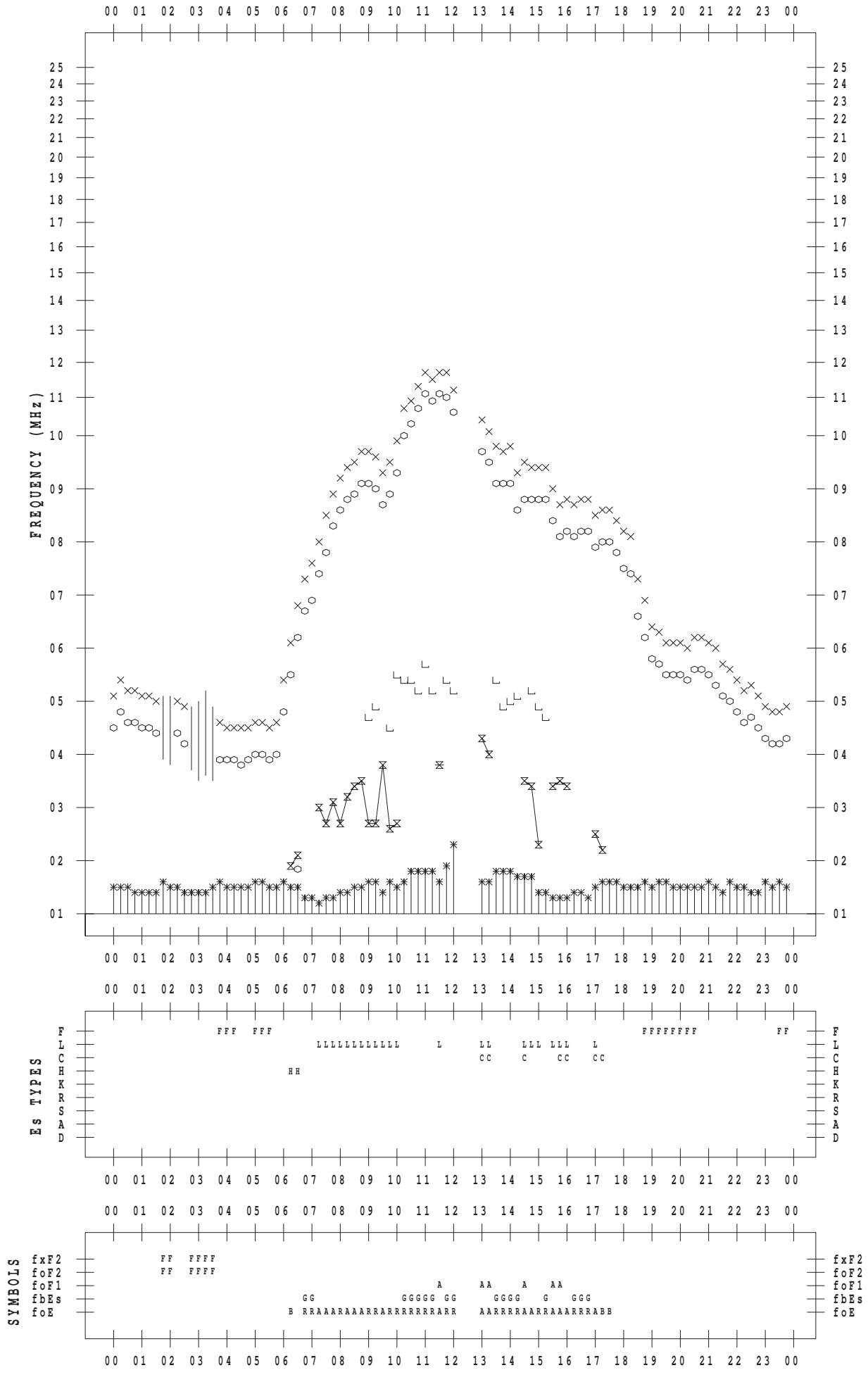
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/11

135 °E MEAN TIME



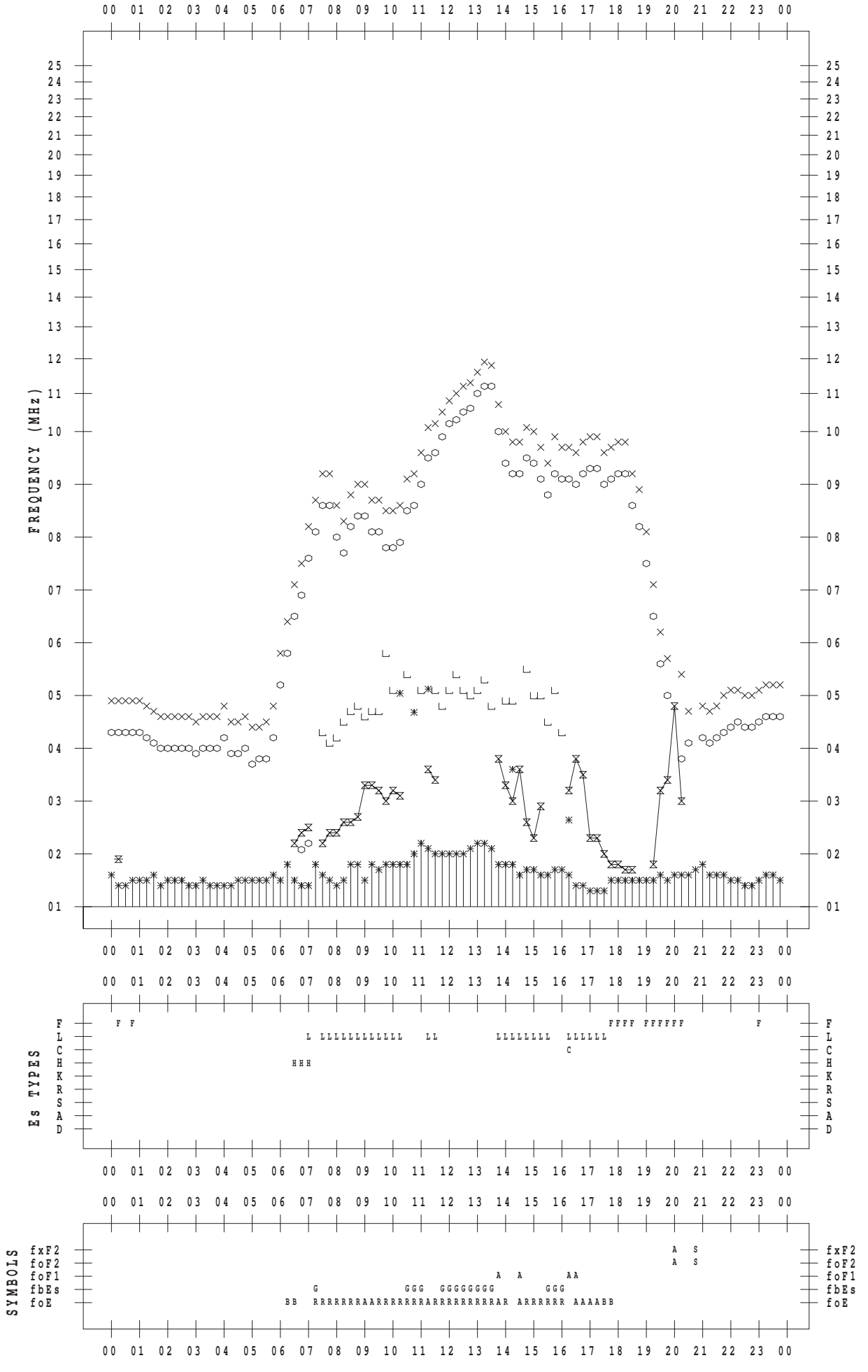
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/12

135 °E MEAN TIME



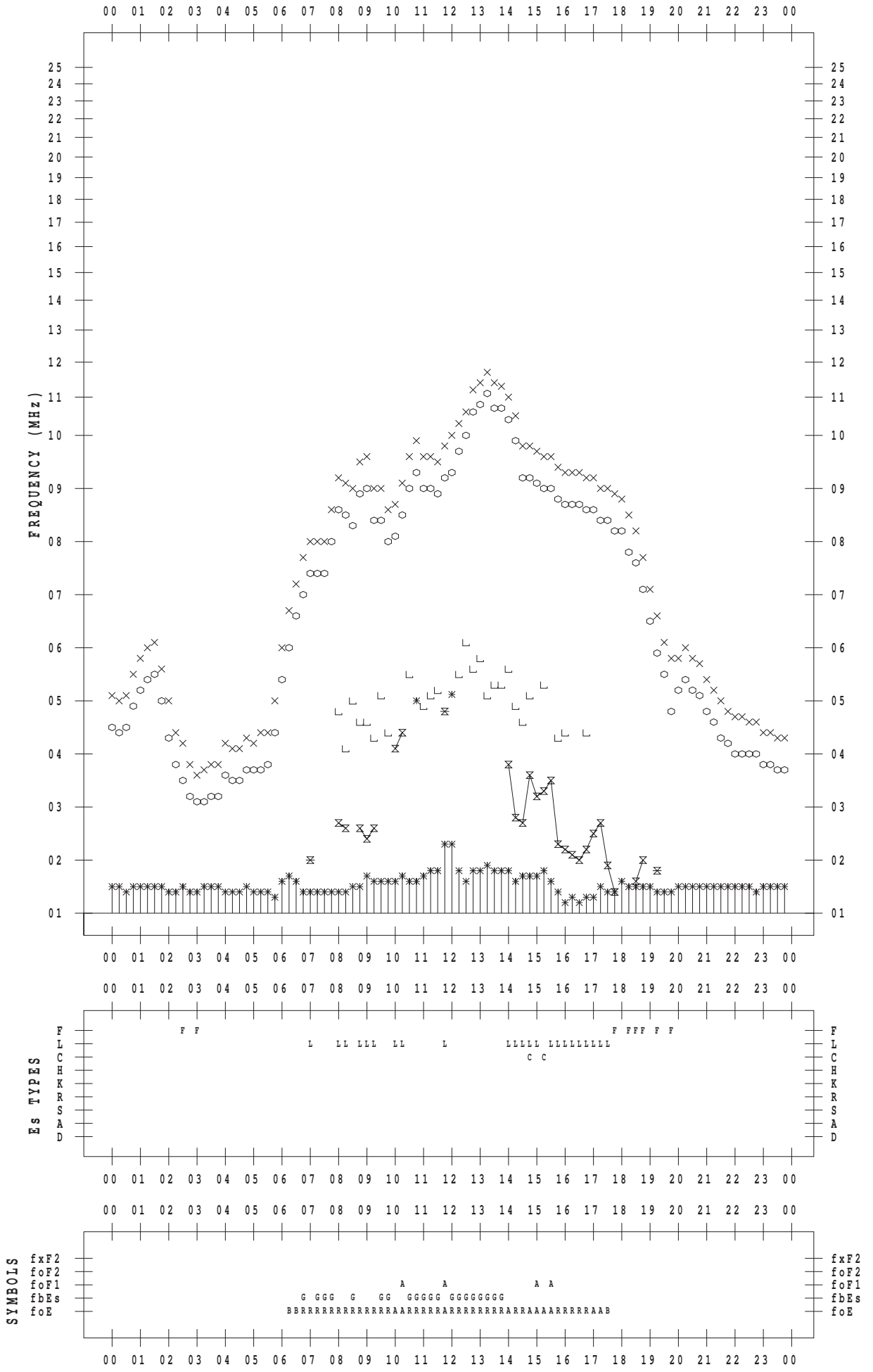
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/13

135 °E MEAN TIME



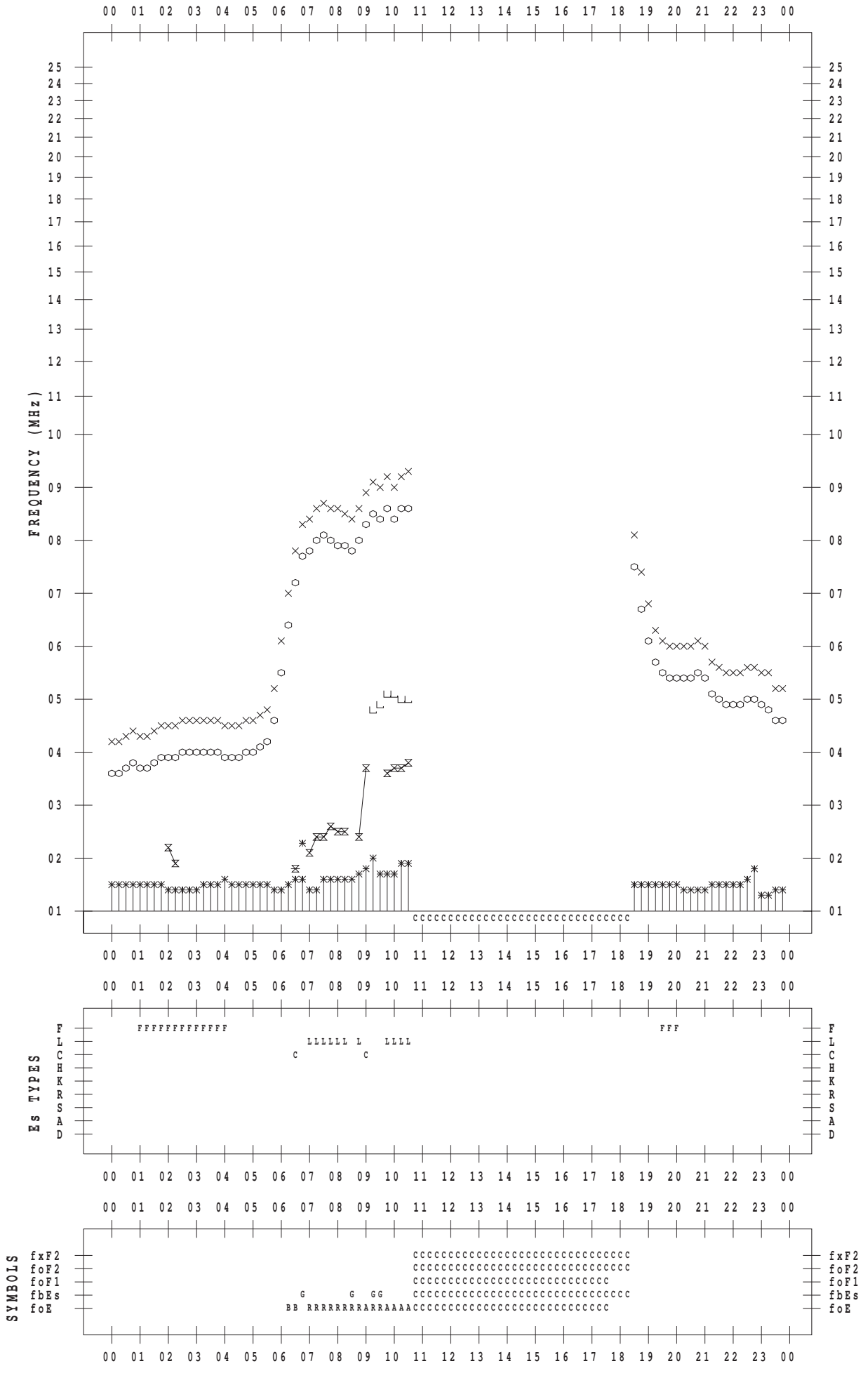
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/14

135 °E MEAN TIME



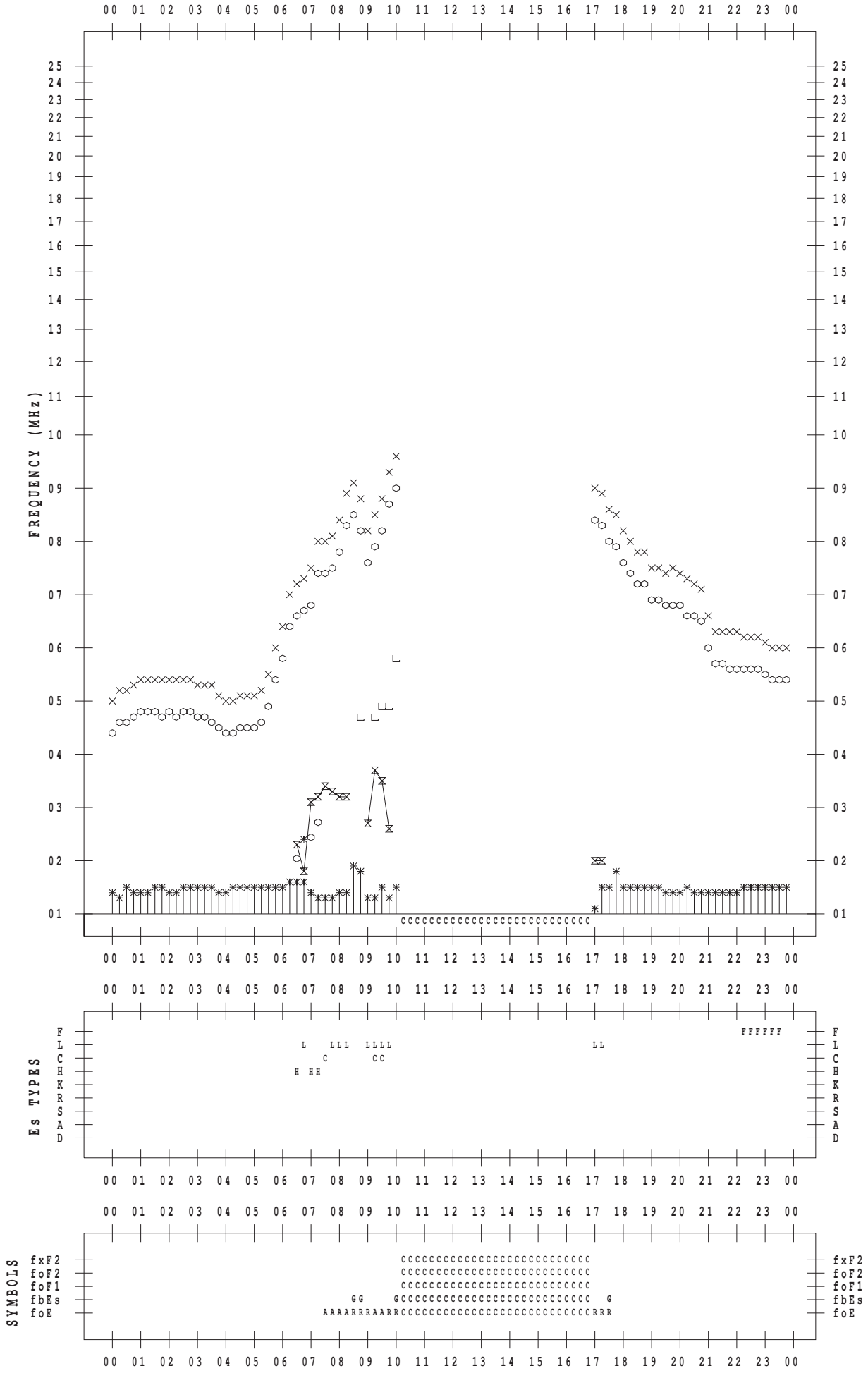
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/15

135 °E MEAN TIME



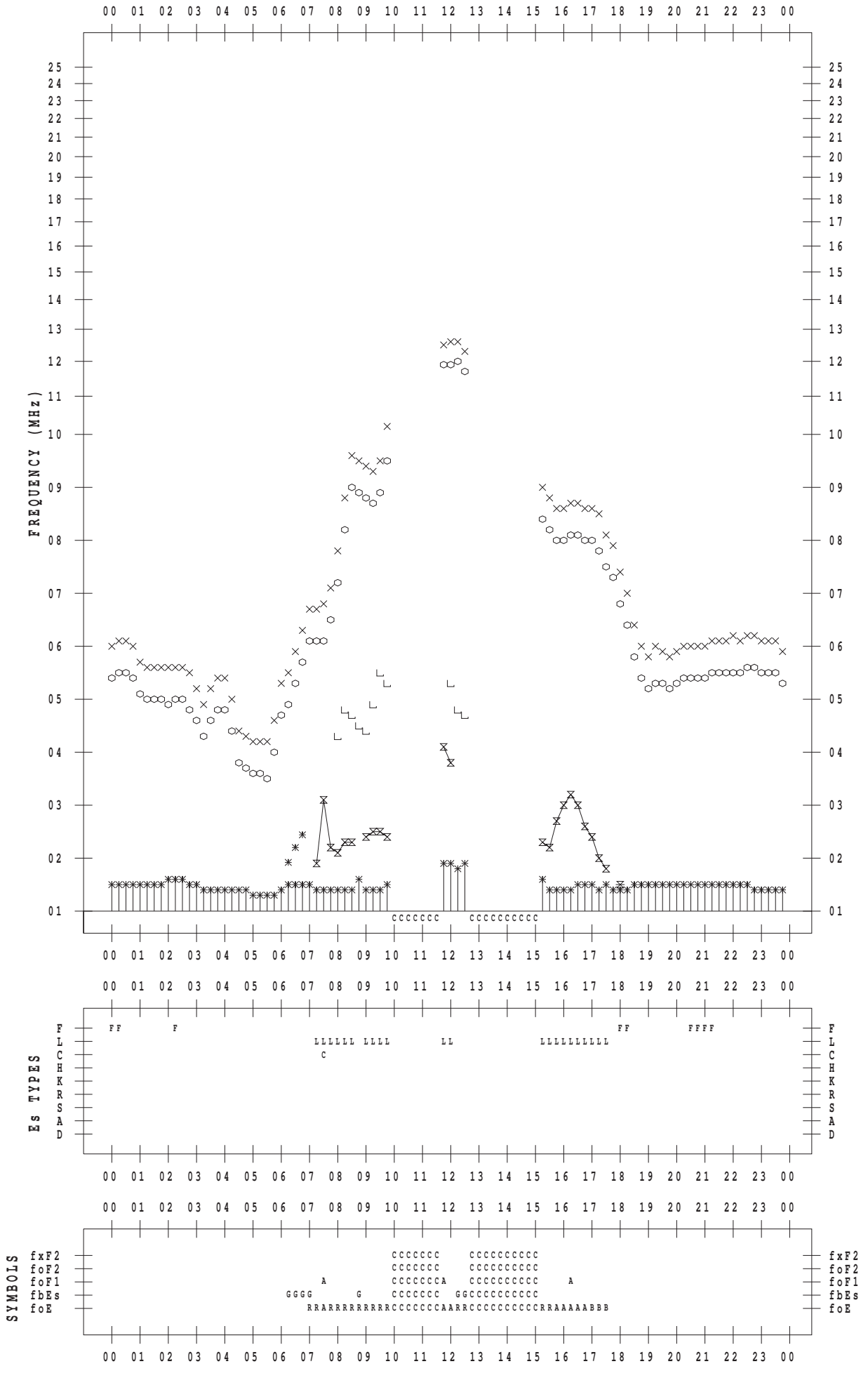
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/16

135 °E MEAN TIME



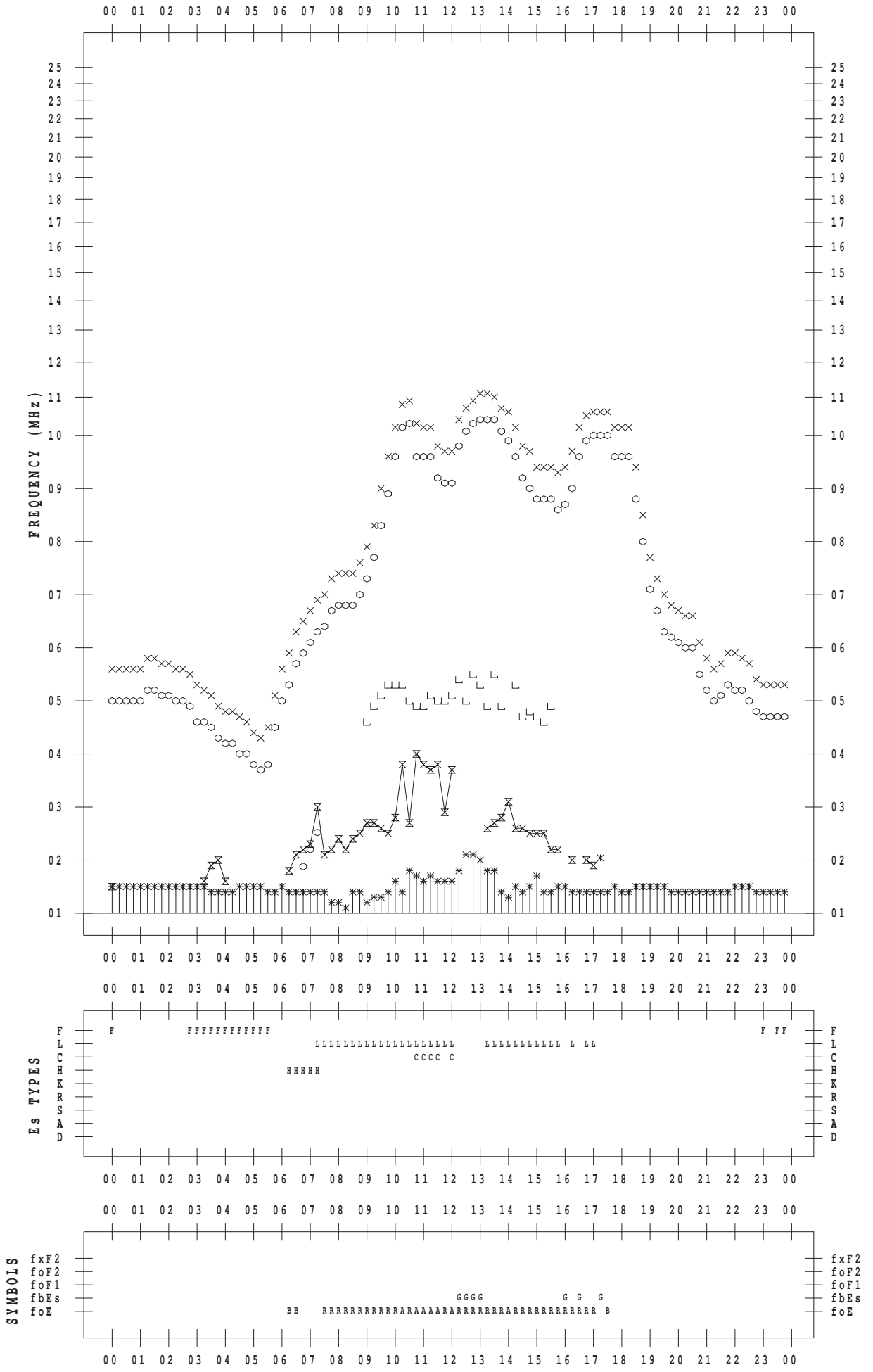
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/17

135 °E MEAN TIME



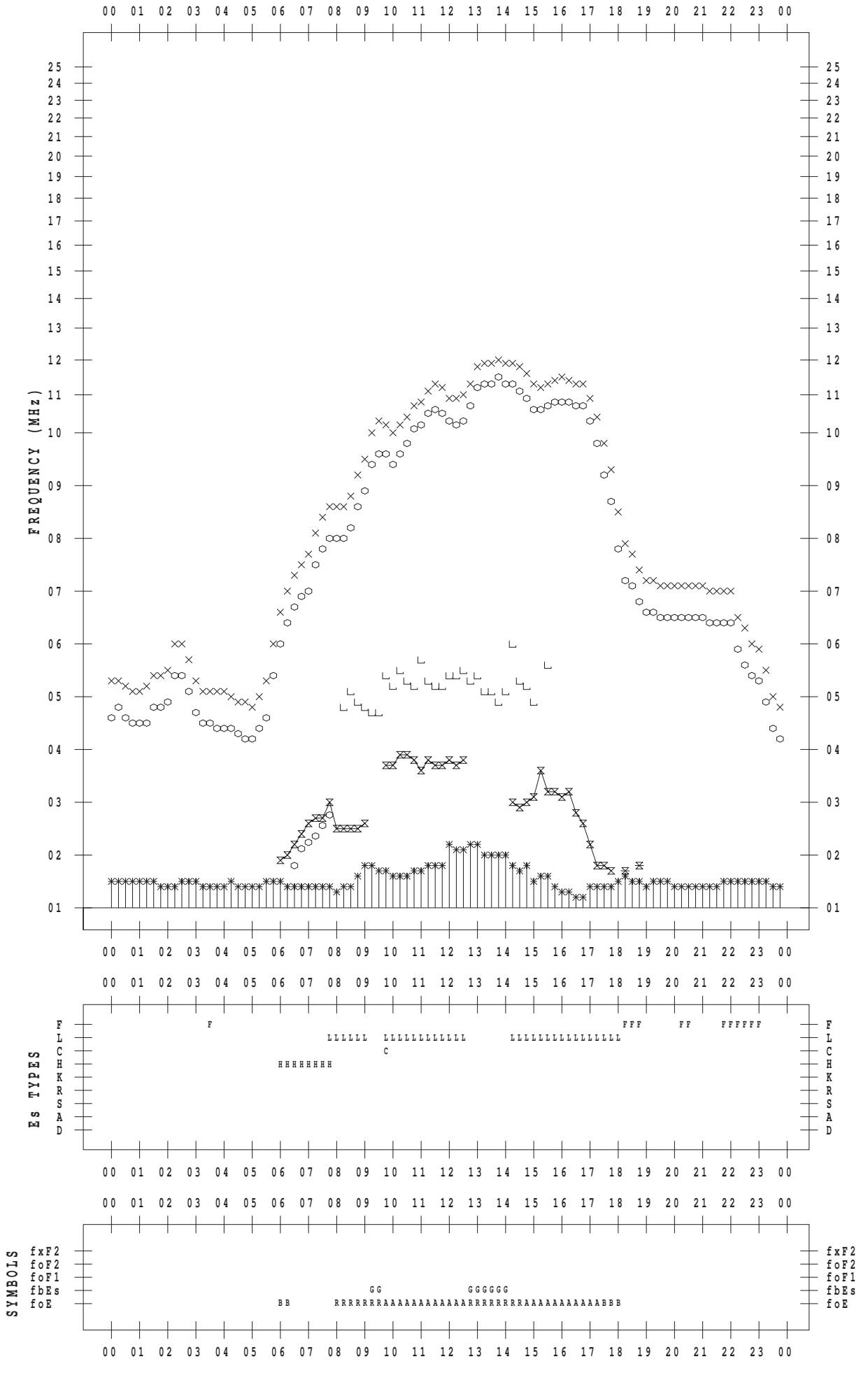
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/18

135 °E MEAN TIME



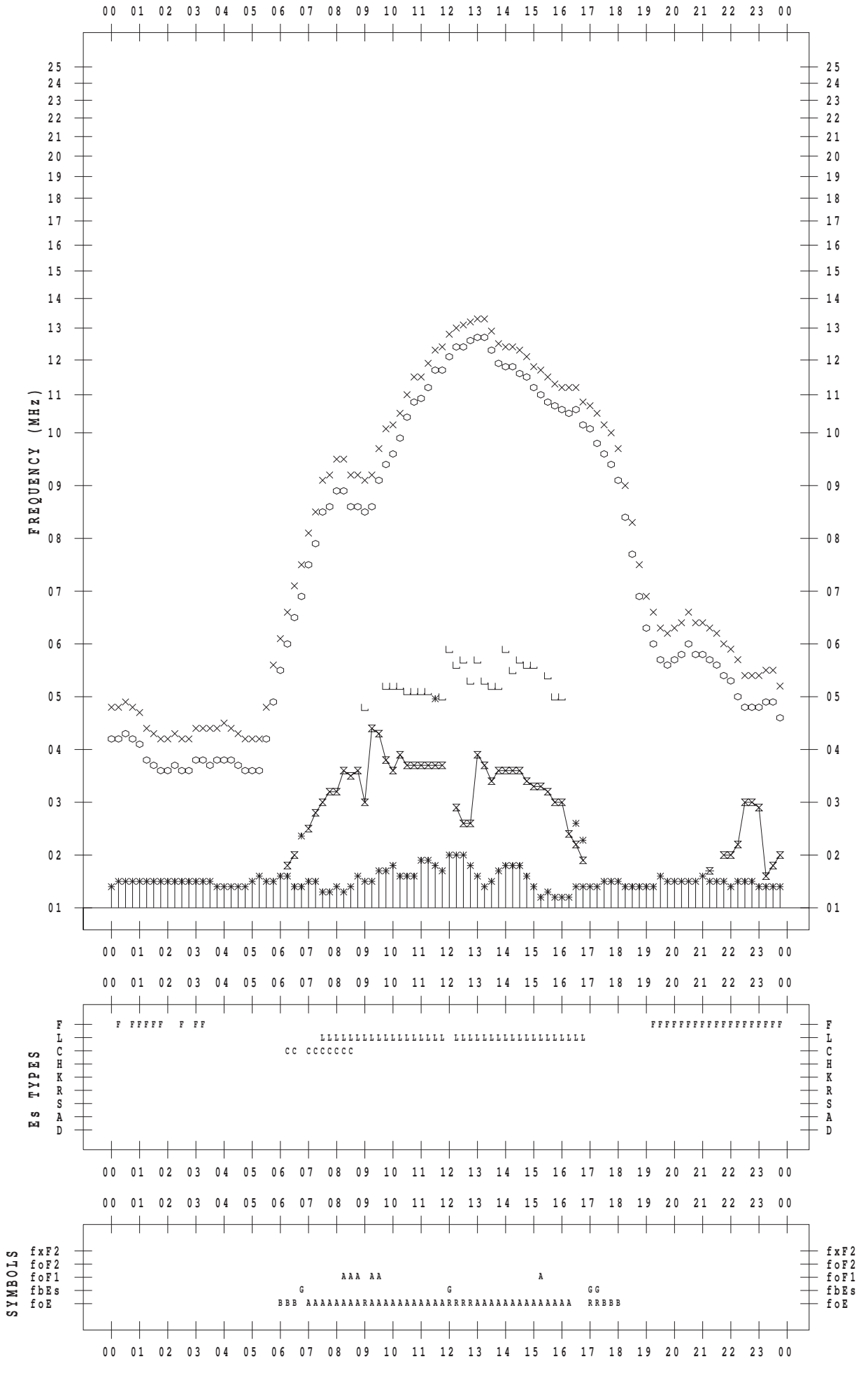
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/19

135 °E MEAN TIME



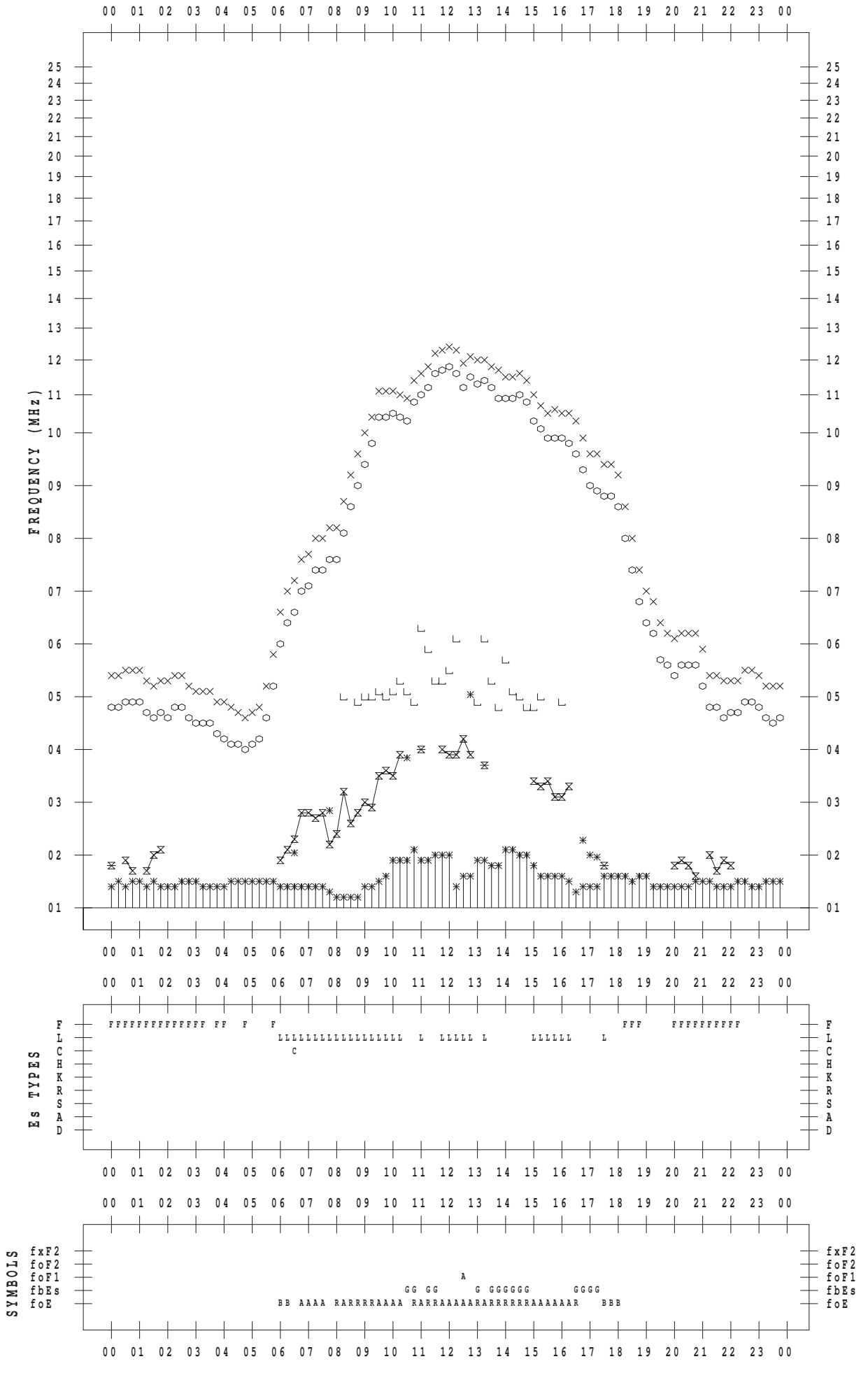
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/20

135 °E MEAN TIME



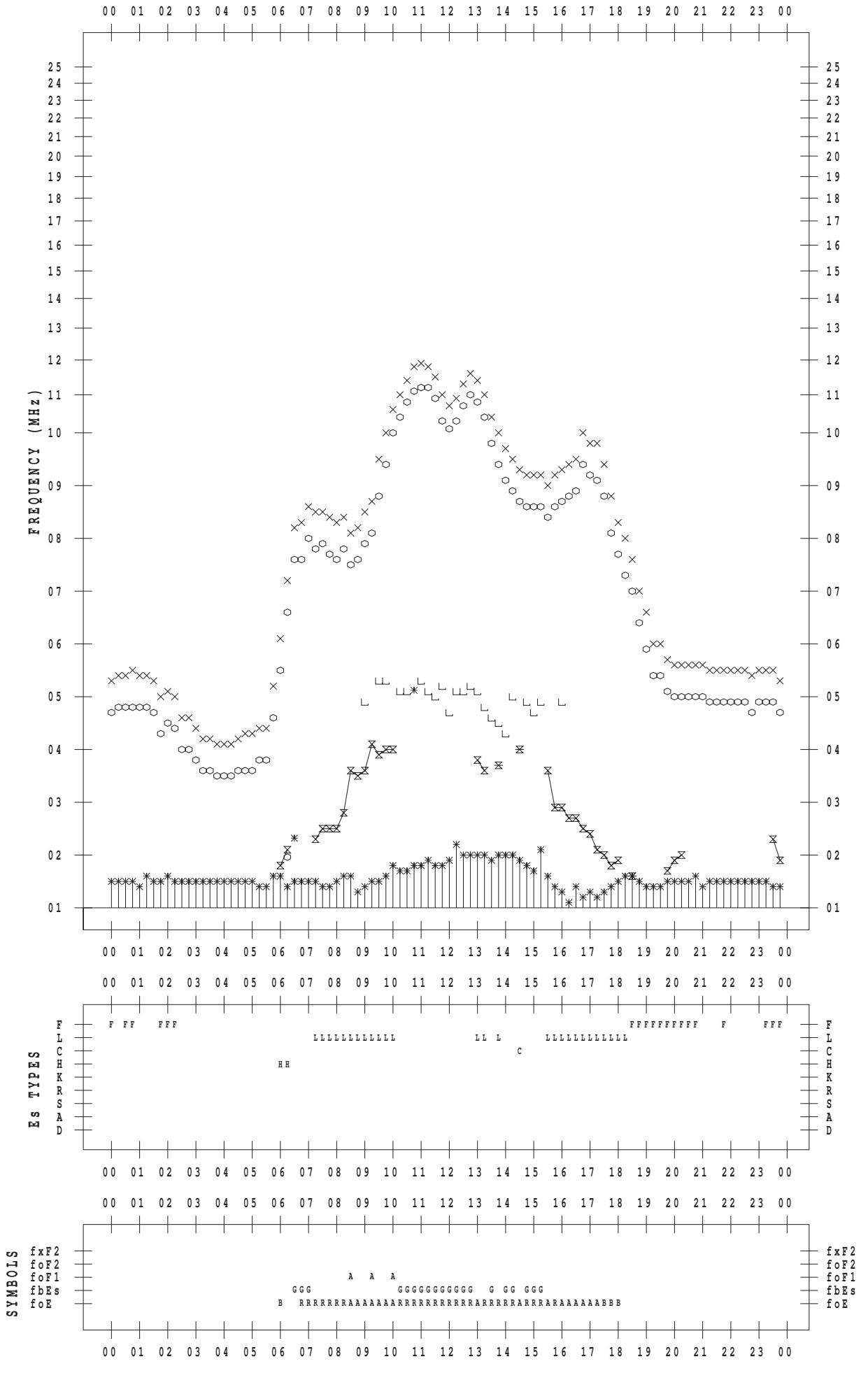
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/21

135 °E MEAN TIME



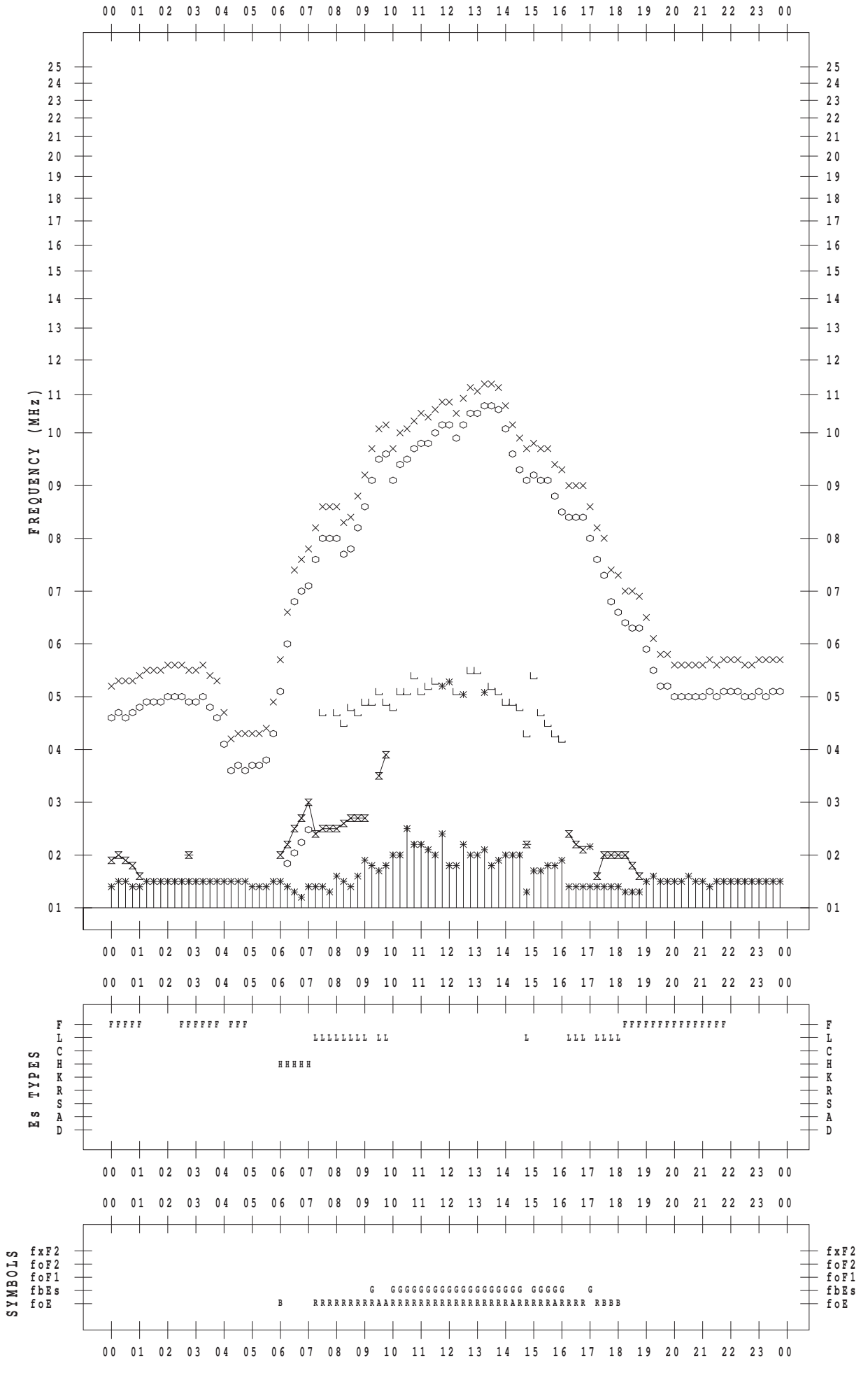
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/22

135 °E MEAN TIME



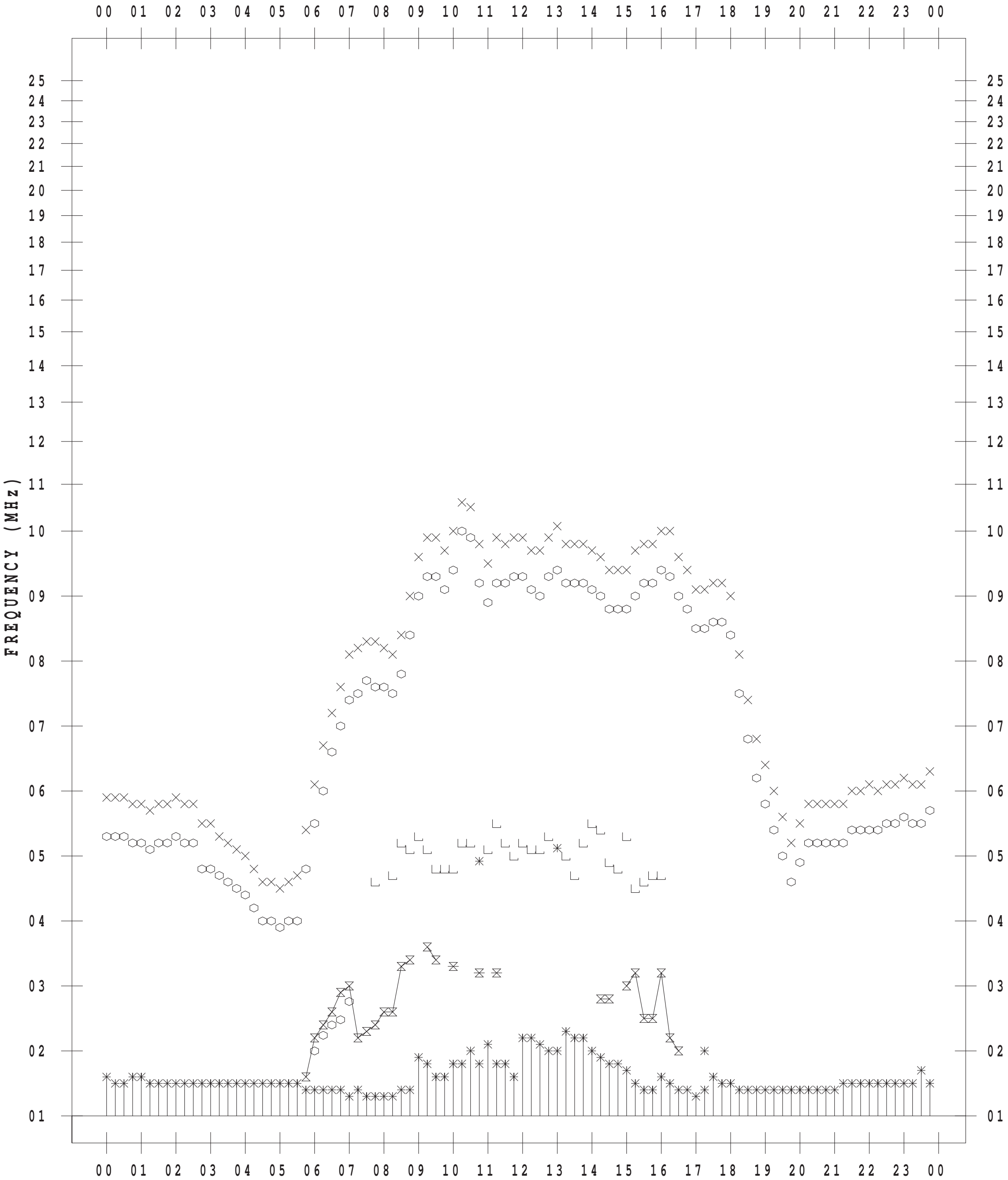
f-PLOT DATA

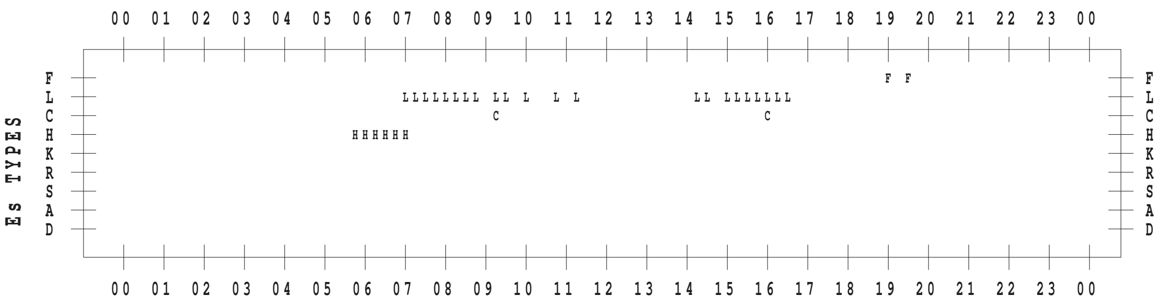
SCALER : I.NISHIMUTA

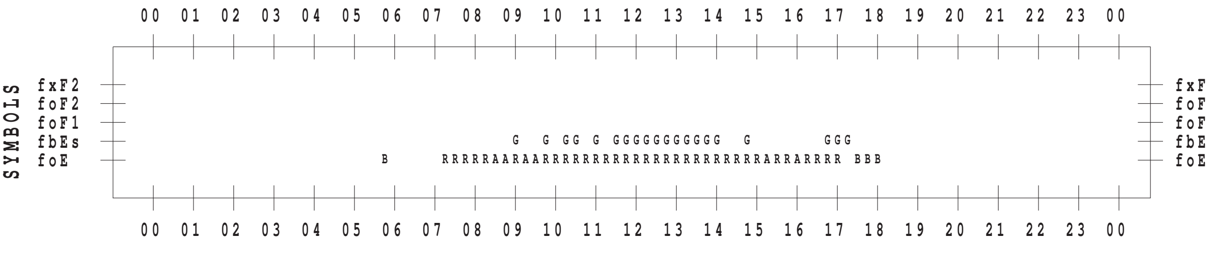
STATION : Kokubunji

DATE : 2012/ 3/23

135 °E MEAN TIME







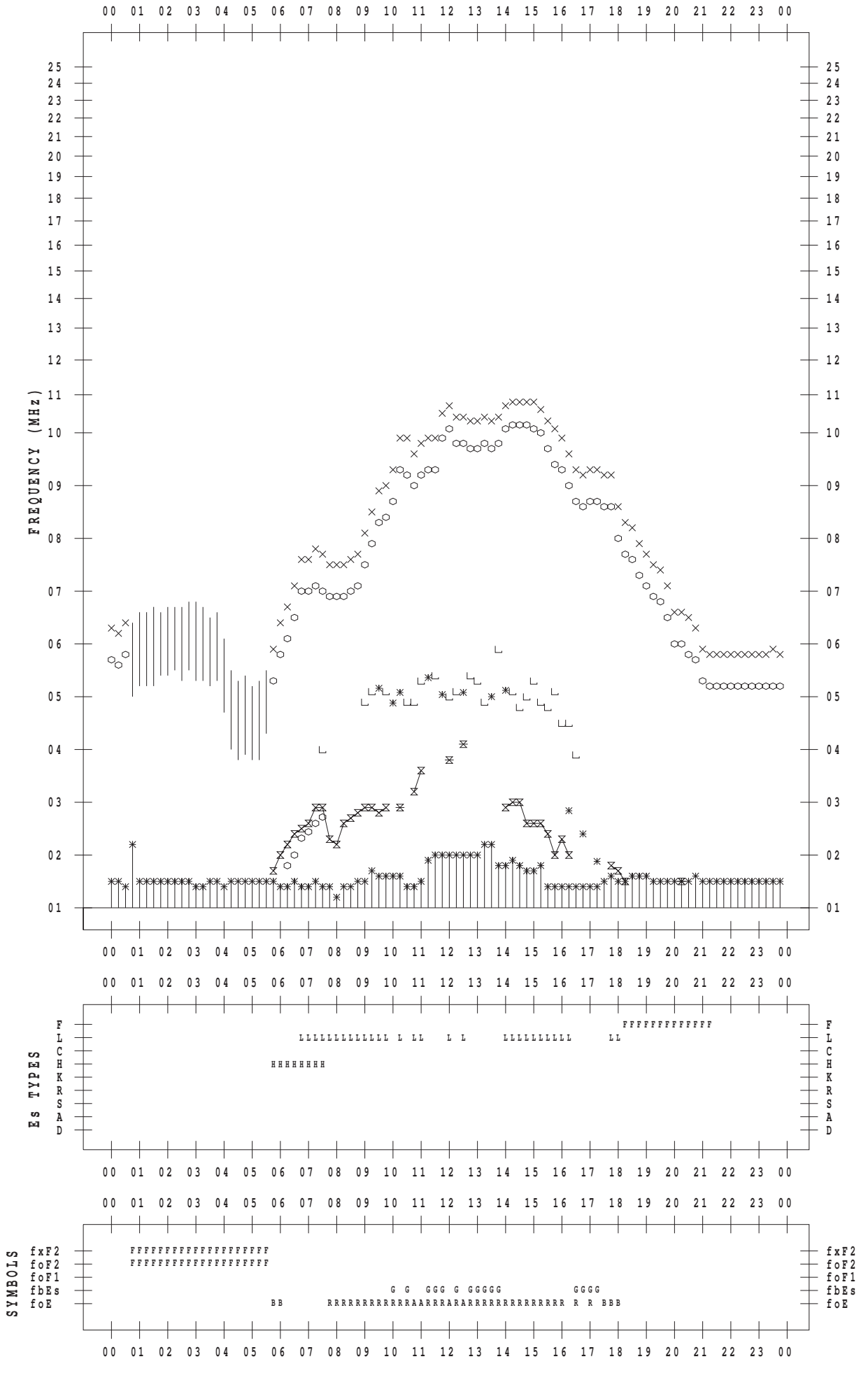
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/24

135 °E MEAN TIME



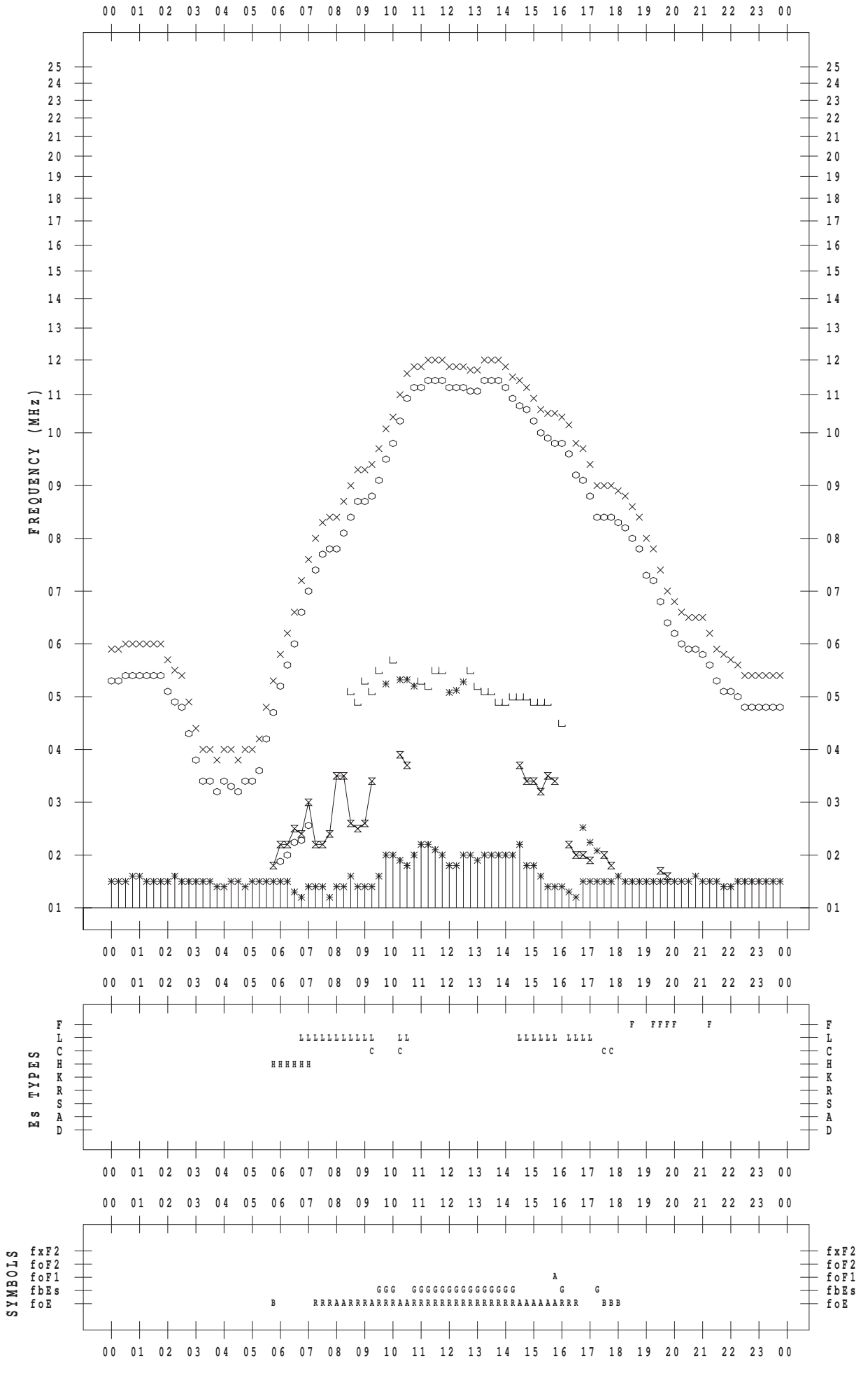
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/25

135 °E MEAN TIME



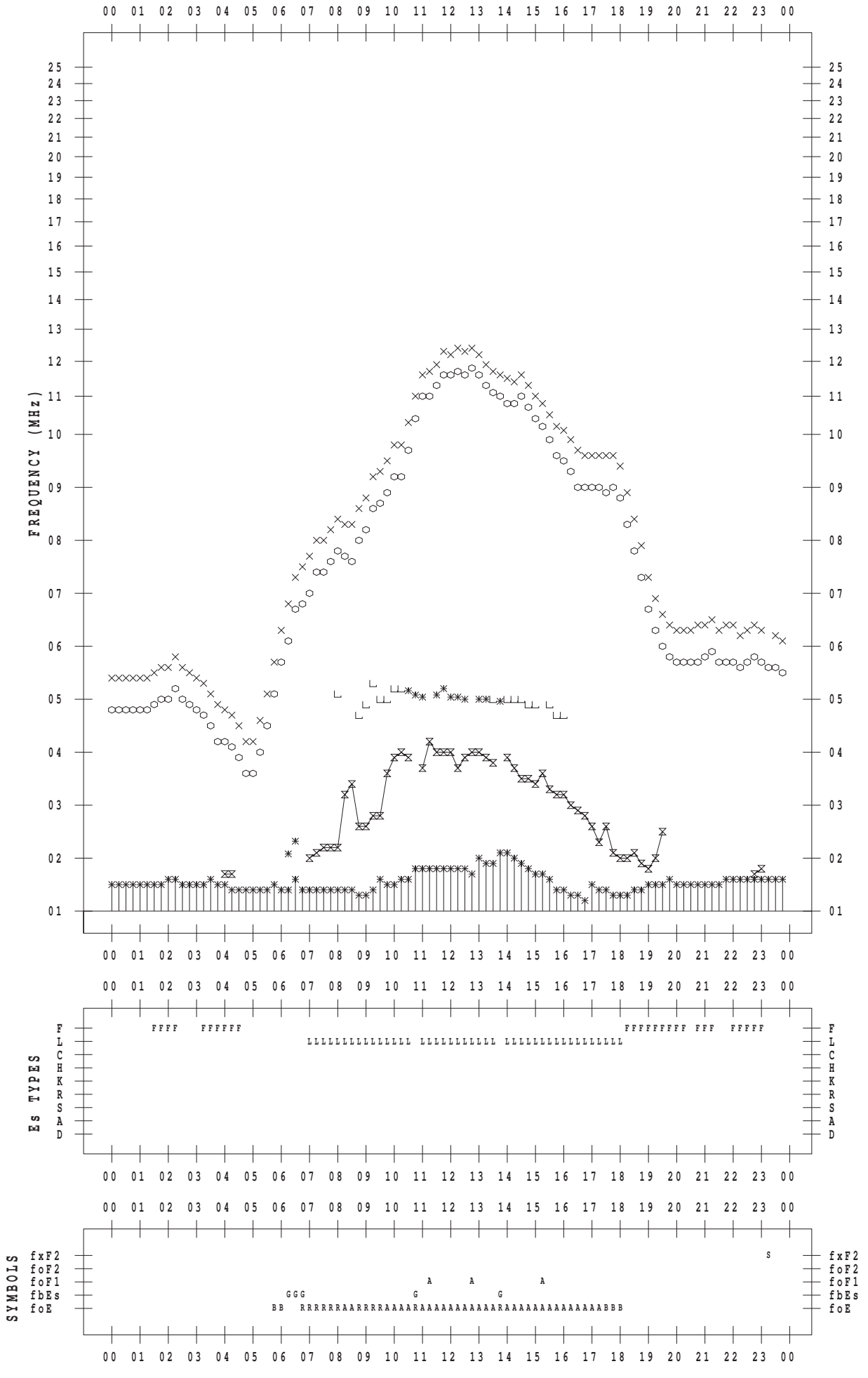
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/26

135 °E MEAN TIME



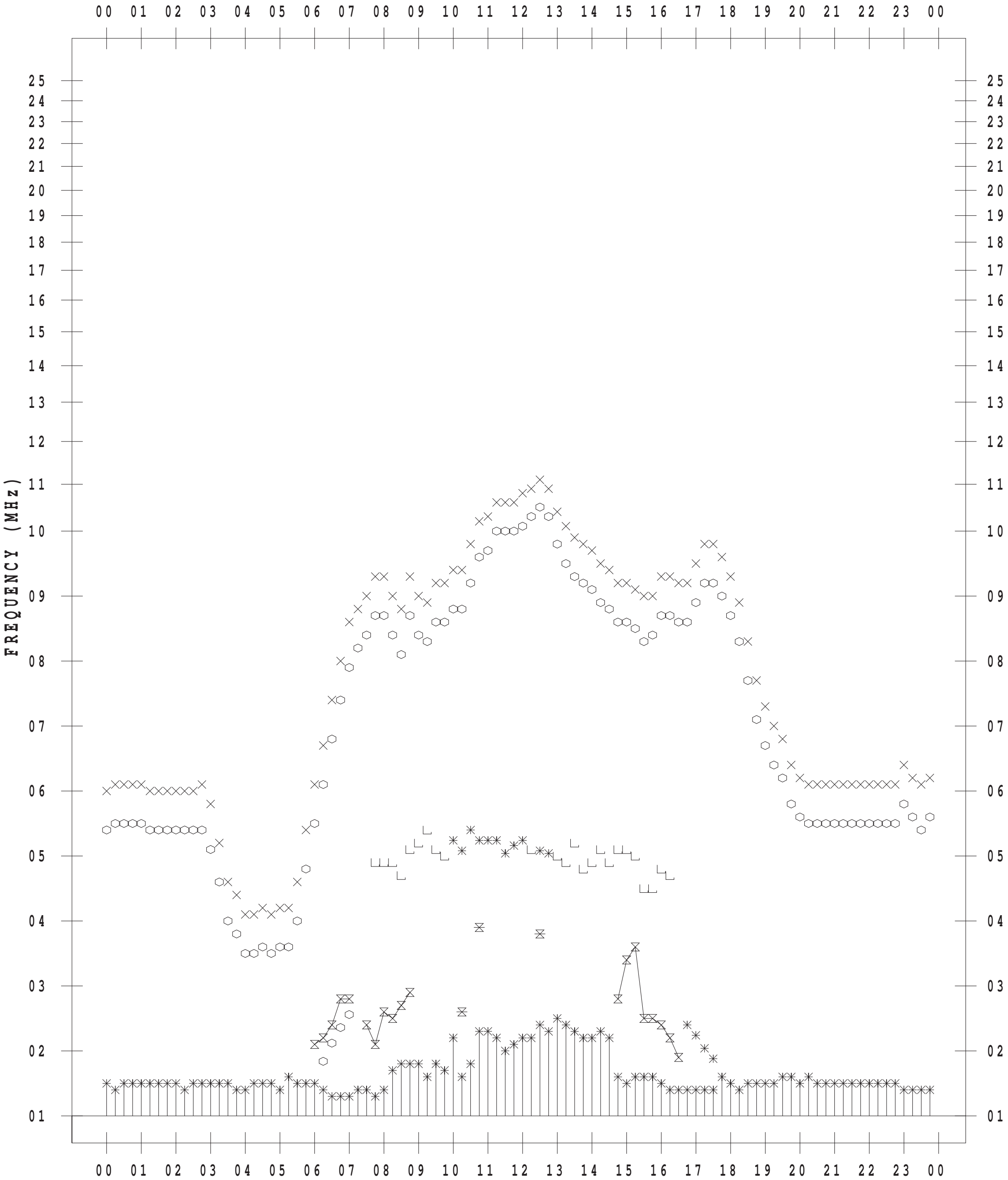
f-PLOT DATA

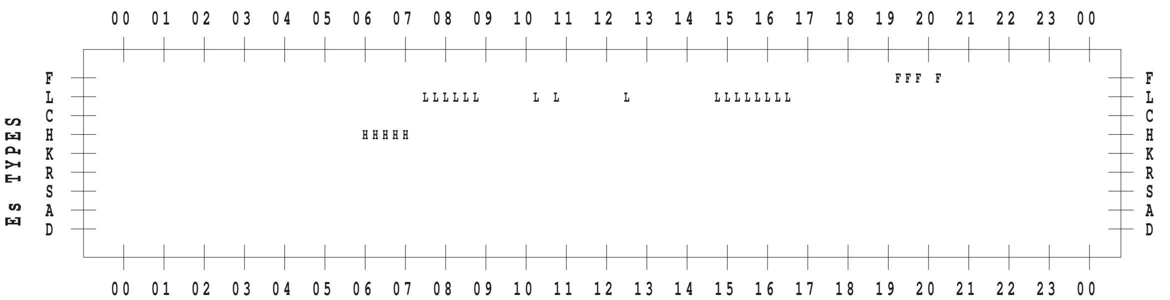
SCALER : I.NISHIMUTA

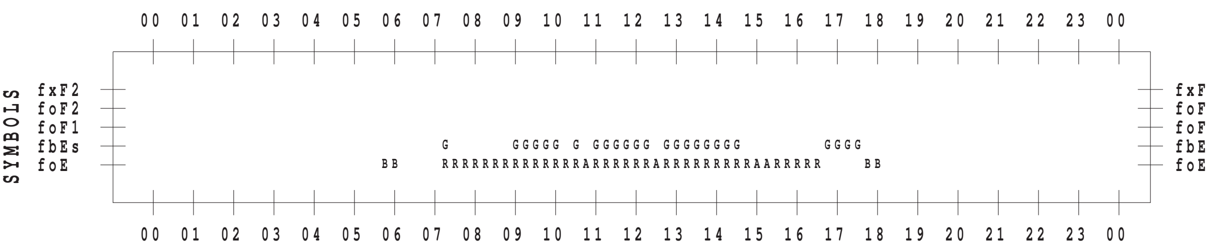
STATION : Kokubunji

DATE : 2012/ 3/27

135 °E MEAN TIME







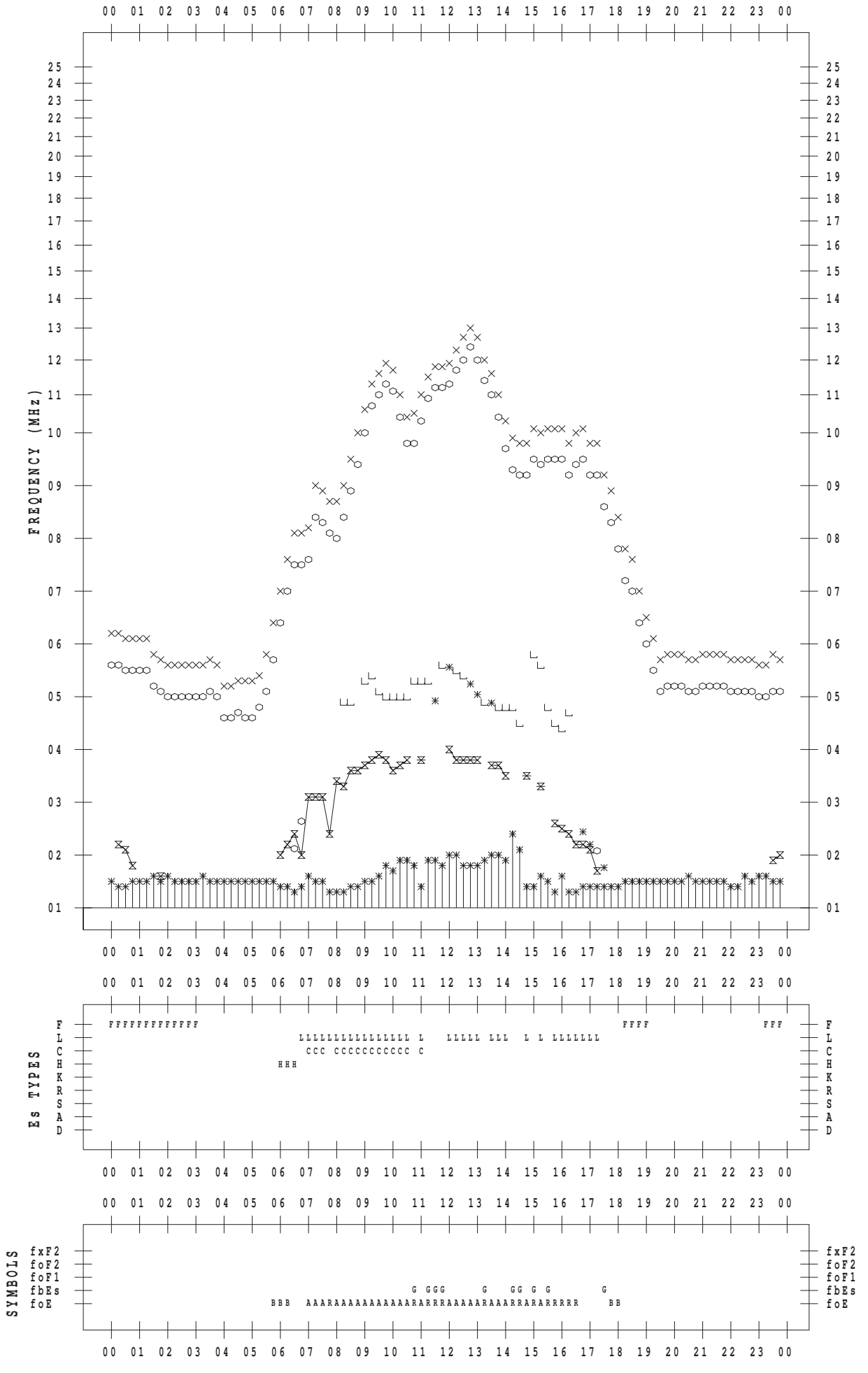
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/28

135 °E MEAN TIME



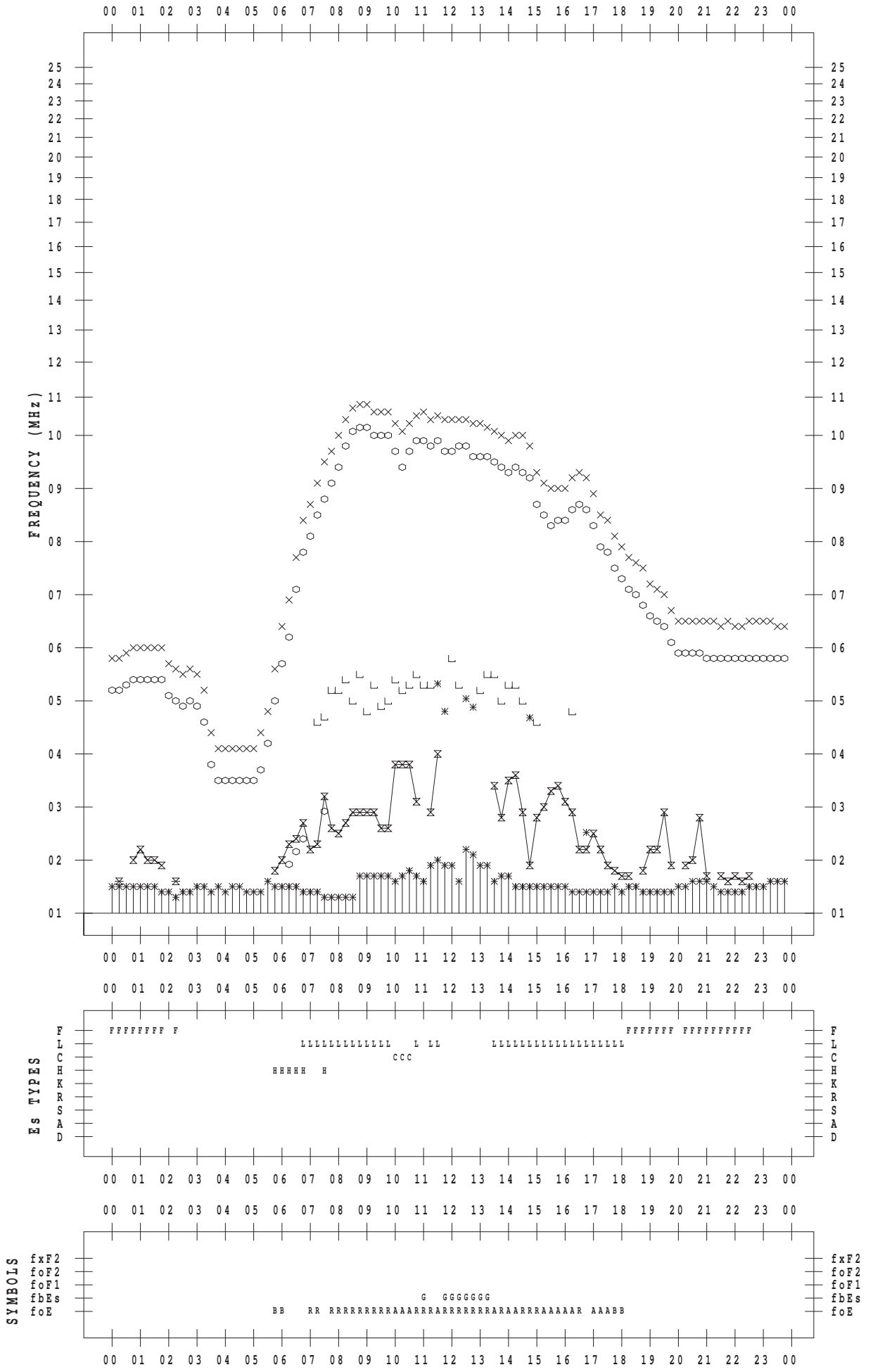
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/29

135 °E MEAN TIME



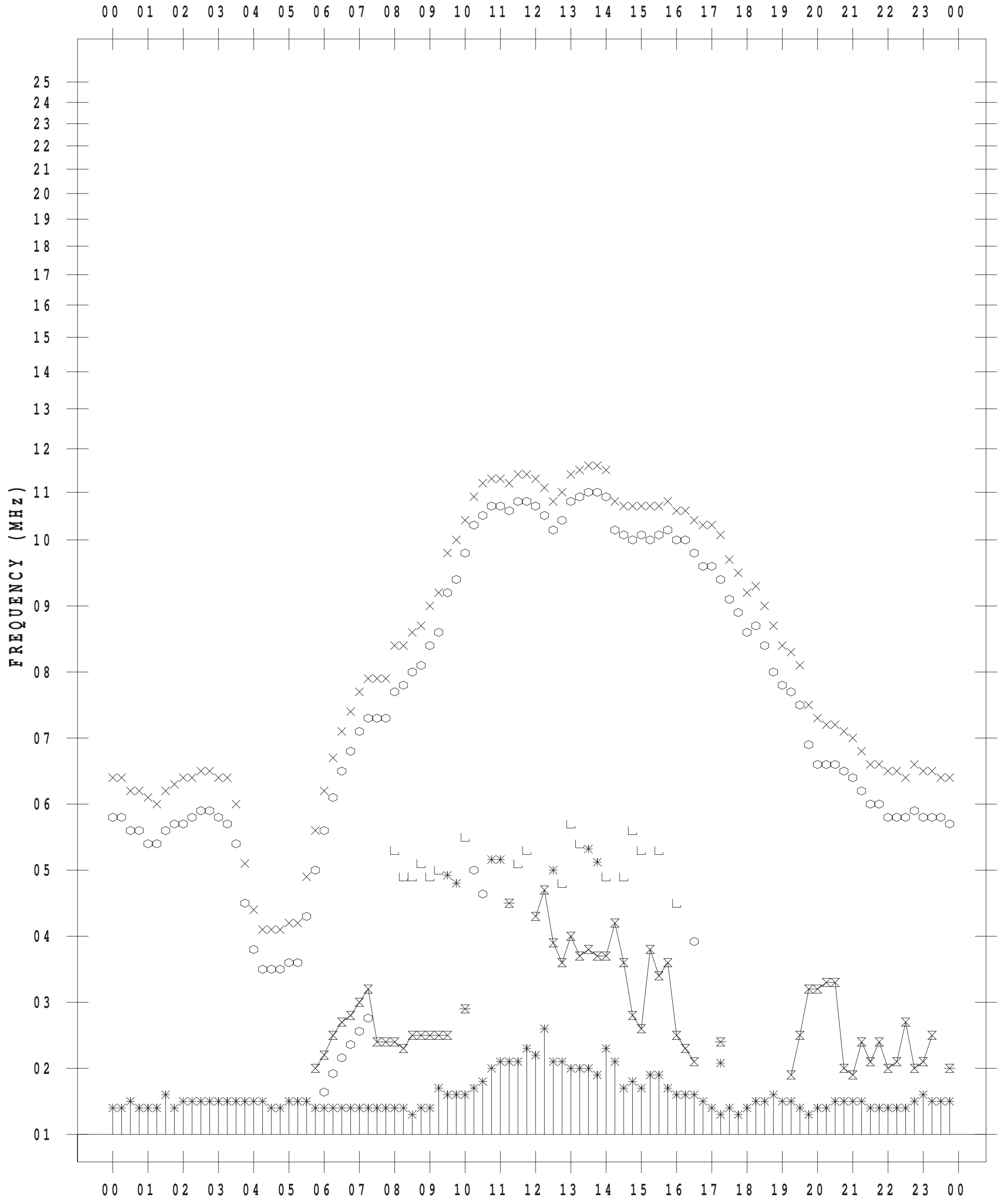
f-PLOT DATA

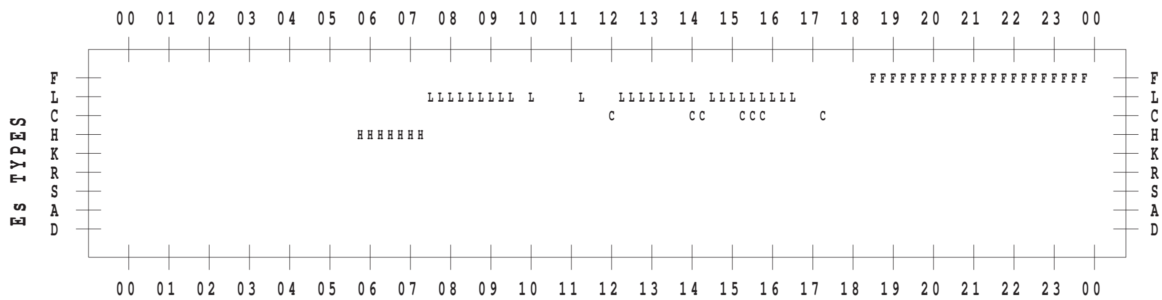
SCALER : I.NISHIMUTA

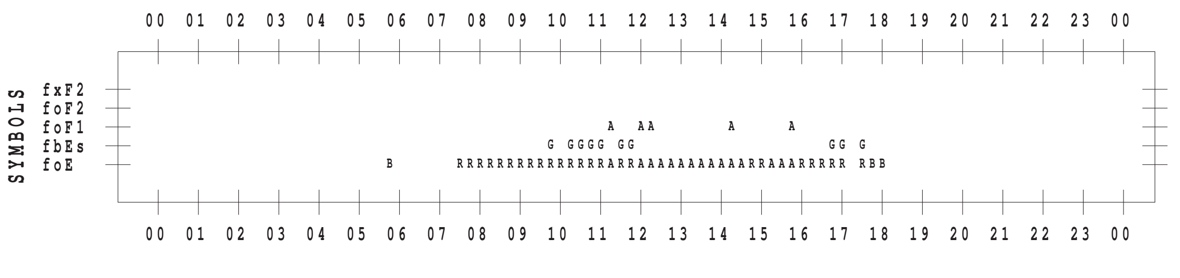
STATION : Kokubunji

DATE : 2012/ 3/30

135 °E MEAN TIME







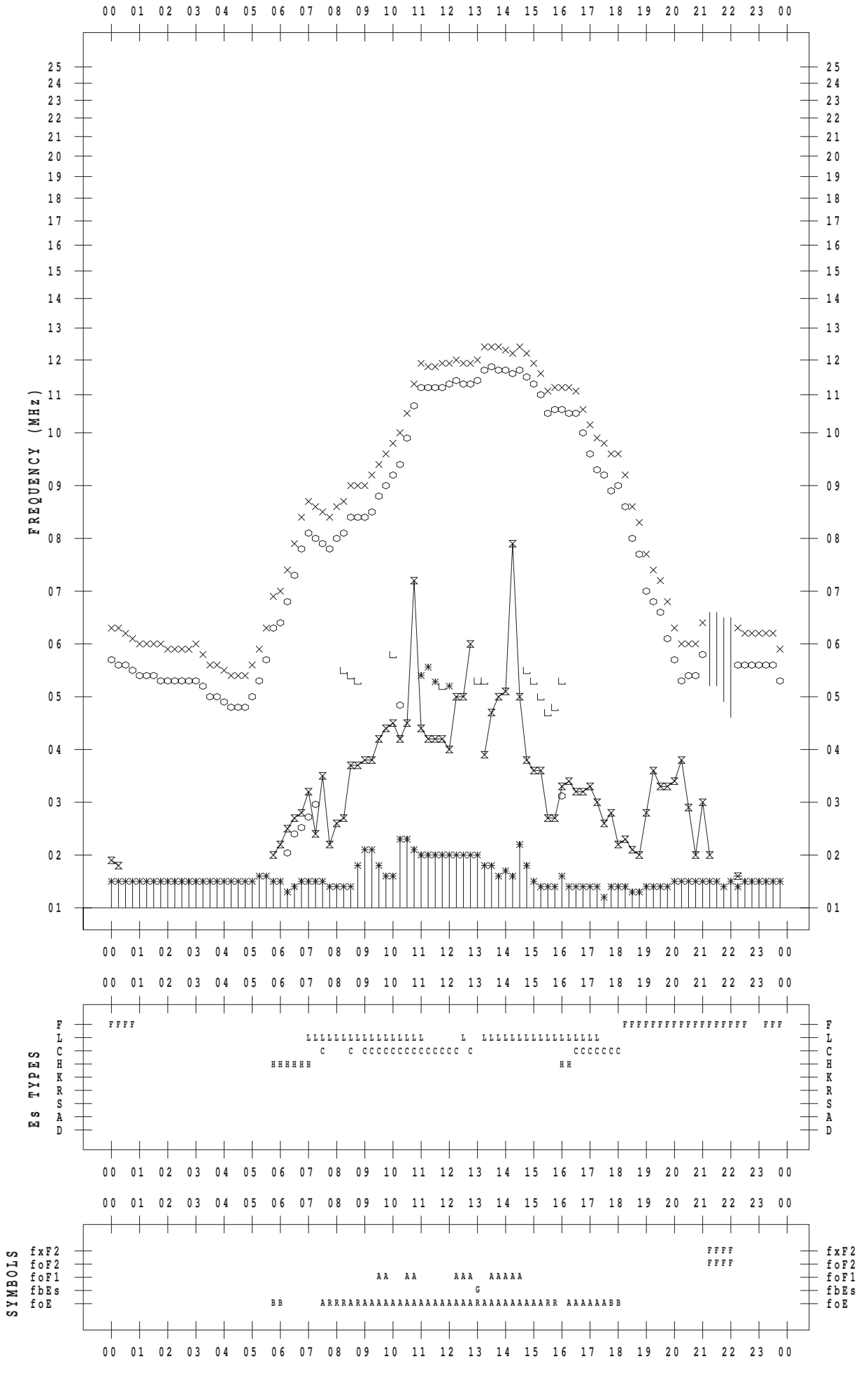
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2012/ 3/31

135 °E MEAN TIME



B. Solar Radio Emission

B1.Outstanding Occurrences at Hiraiso

Hiraiso March 2012

Single-frequency observations

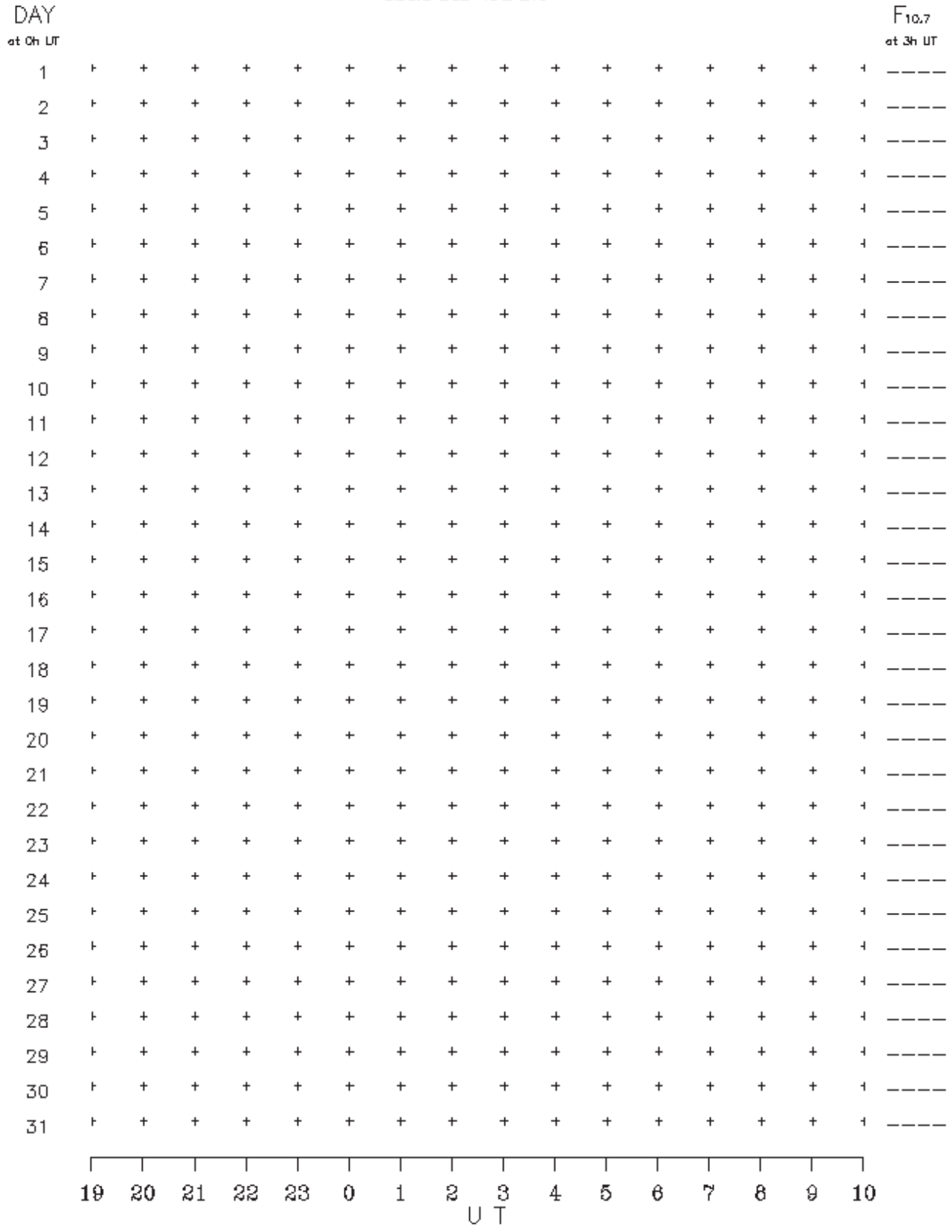
Normal observing period: 2045 - 0850 U.T. (sunrise to sunset)

MAR. 2012	FREQ. (MHz)	TYPE	START TIME (U.T.)	TIME OF MAXIMUM (U.T.)	DUR. (MIN.)	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) PEAK	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) MEAN	POLARIZATION REMARKS

B.Solar Radio Emission

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

March 2012



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/2012/03/