F-747

IONOSPHERIC DATA IN JAPAN

FOR MARCH 2011

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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. 2011

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

HOURLY VALUES OF fEs AT Wakkanai

MAR. 2011

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	G	G	G		G	38	39	G	G	G	G	G	34	G	G	G	G	G	G
2	G	G	G	G	G	G		G	34	37	G	38	G	G	G	33	32	G	G	G	G	G	G	G
3	G	G	G	G	G	G	G	27	32	G	G	G	G	G	G	35	31	G	G	G	G	G	G	G
4	G	G	G	G	G	G	G	28	33	G	G	G	G	G	G	G	32	G	G	28	34	30	G	28
5	G	G	G	G	G	G	G	34	32	34	G	G	38	G	G	34	32	G	31	30	27	G	G	G
6	G	G	G	G	G	G	G	30	N	35	40	G	G	G	G	G	G	G	G	G	G	G	G	G
7	G	G	G	G	G	G	G	29	36	35	G	38	G		G	34	G	G	G	G	G	G	G	G
8	G	G	G	G	G	G	G	34	G	35	G	G	G	G	G	G	G	G	31	G	G	G	G	G
9	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
10	G	G	G	G	G	G	26	G	34	G	G	38	G	G	G	G	G	G	G	G	G	G	G	G
11	G	G	G	G	G	G		G	G	36	38	G	G	G	G	G	36	G	G	G	G	G	G	G
12	G	G	G	G	G	G	G	46	38	G	G	G	G	G	G	35	38	41	33	G	G	G	G	G
13	G	G	G	G	G	G	G	G	G	G	G	38	G	G	G	34	32	G	G	G	G	G	G	G
14	G	G	G	G	G	G	G	45	G	43	G	G	G	G	G	G	G	G	G	G	G	G	G	G
15	G	G	G	G	G	G	G	G	G	G	G	38	38	G	G	G	G	G	G	G	G	G	G	G
16	G	G	G	G	G	G	G	35	G	G	G	42	39	G	G	G	G	28	30	G	G	G	G	G
17	G	G	G	G	G	G	37	G	35	G	G	G	G	G	G	G	32	G	G	G	G	G	G	G
18	G	G	G	G	G	G	26	N	34	40	G	G	G	G	G	G	G	G	G	G	G	G	G	G
19	G	G	G	G	G	G	28	29	36	G	G	G	G	G	G	34	33	G	G	G	G	G	G	G
20	G	G	G	G	G	G	28	34	34	G	G	39	G	G	G	36	33	G	G	G	G	G	G	G
21	G	G	G	G	G	G	48	30	35	38	G	G	G	G	G	37	34	G	G	G	G	G	G	G
22	G	G	G	G	G	G	40	33	35	36	G	G	G	G	G	36	34	G	G	G	G	G	G	G
23	G	33	G	G	G	G	40	32	G	G	38	G	G	G	G	G	34	G	25	G	G	G	G	G
24	G	G	G	G	G	G	28	30	34	G	G	G	G	G	G	G	33	G	G	G	G	G	G	G
25	G	G	G	G	G	G	G	34	34	G	G	G	39	40	G	35	G	27	25	G	G	G	G	G
26	G	G	G	G	G	G	39	32	36	44	G	39	G	40	G	G	34	G	G	G	G	G	G	G
27	G	G	G	G	G	G	G	32	35	37	38	43	40	G	G	G	33	G	G	G	G	G	G	G
28	G	G	G	G	G	G	30	33	36	38	G	40	39	G	G	36	33	29	G	G	G	G	G	G
29	G	G	G	G	G	G	46	33	36	G	G	G	G	G	40	G	33	32	G	G	G	G	G	G
30	G	G	G	G	G	G	40	32	G	G	G	G	G	G		37	35	28	G	G	G	G	G	G
31	G	G	G	G	G	G	32	33	38	40	G	41	G	G	G	36	35	29	G	G	G	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	29	30	29	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31
MED	G	G	G	G	G	G	G	31	34	G	G	G	G	G	G	G	32	G	G	G	G	G	G	G
U Q	G	G	G	G	G	G	34	33	35	37	G	38	G	G	G	35	34	27	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 Wakkanai

MAR. 2011

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	15	14	15	15	14	14	14	14		18	15	21	23	28	15	15	14	14	15	14	15	14	15	15
2	15	15	15	14	18	16		23	14	14	14	14	15	15	14	14	14	18	14	14	15	15	15	15
3	15	14	14	14	15	14	14	16	14	14	14	15	14	15	17	14	14	17	14	14	14	14	14	14
4	14	14	14	14	14	14	14	14	14	14	14	14	14	15	15	14	14	14	15	14	15	14	14	14
5	14	14	14	14	14	14	14	14	14	14	14	15	15	14	14	14	14	14	15	14	14	14	14	14
6	14	15	14	14	14	14	15	14	14	14	14	20	14	15	17	16	15	18	14	15	14	14	14	15
7	14	14	14	14	14	14	15	14	14	14	15	16	18		15	15	14	14	15	15	15	15	14	14
8	14	14	14	14	14	14	17	14	15	17	15	23	21	44	17	14	14	14	15	14	14	14	15	14
9	15	14	14	14	15	14	18	26	17	15	22	40	50	18	21	20	15	20	14	14	14	15	15	15
10	14	15	14	14	14	14	17	14	14	39	20	40	18	21	18	16	14	18	14	15	14	15	14	14
11	14	14	14	14	14	15		23	15	14	18	18	17	17	15	14	14	14	14	14	14	15	15	15
12	16	15	14	14	14	14	16	14	14	14	14	14	15	15	17	15	14	15	14	15	14	15	14	15
13	15	14	14	14	14	14	16	14	14	14	14	15	18	15	14	14	14	18	14	14	14	14	14	14
14	15	14	14	14	14	14	18	14	14	14	15	20	20	18	17	15	15	17	15	14	15	15	15	15
15	15	15	15	14	15	15	18	14	14	15	15	18	16	15	14	16	16	21	14	14	14	14	15	14
16	14	14	14	14	14	14	17	14	14	16	14	16	20	20	21	14	14	14	14	14	14	16	15	14
17	14	15	14	15	15	14	14	14	14	15	16	17	20	15	16	14	14	20	14	15	14	15	14	14
18	14	14	14	14	14	14	18	14	14	14	14	14	16	18	15	14	14	20	14	14	14	14	14	16
19	15	16	14	14	14	14	14	14	14	14	14	16	15	15	14	14	14	17	14	14	14	15	15	14
20	15	14	15	15	15	15	14	15	14	14	15	15	16	15	14	15	14	14	14	14	15	15	15	14
21	14	15	14	14	14	14	14	14	14	15	15	14	15	14	15	15	14	14	15	15	15	15	14	14
22	14	20	14	14	14	14	14	14	14	14	15	18	15	15	16	14	14	21	14	14	14	14	15	15
23	15	15	14	15	14	14	14	14	14	14	15	15	15	14	14	14	14	15	14	15	15	14	15	14
24	15	15	15	14	14	15	15	14	14	14	15	15	16	17	14	14	14	14	14	14	14	14	14	15
25	14	15	15	14	14	15	21	14	14	14	15	17	16	18	14	14	14	14	15	14	14	15	14	15
26	15	15	14	14	15	15	16	14	14	15	17	15	16	16	15	15	14	14	15	16	14	14	14	15
27	14	15	14	14	15	14	20	14	14	14	16	15	20	15	15	14	14	15	15	14	14	15	15	14
28	14	14	15	14	14	14	15	14	14	14	15	18	17	16	14	14	14	14	15	15	14	15	15	15
29	15	15	14	14	14	15	16	14	14	14	17	18	18	20	15	15	14	14	16	15	14	14	14	14
30	15	14	14	14	15	14	17	14	14	14	15	15	15	15		15	14	22	15	15	14	15	14	14
31	15	14	14	14	14	14	15	14	14	14	14	15	17	20	14	14	14	14	16	14	14	14	14	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	29	31	30	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31
MED	15	14	14	14	14	14	15	14	14	14	15	16	16	15	15	14	14	15	14	14	14	15	14	14
U Q	15	15	14	14	15	15	17	14	14	15	15	18	18	18	17	15	14	18	15	15	15	15	15	15
L Q	14	14	14	14	14	14	14	14	14	14	14	15	15	15	14	14	14	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Kokubunji

MAR. 2011

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	32	31	32	32	31		30	51	59	69	62	66	64	77	76	74	66	55	53	53	46	28	31	28
2	32	27	36	N		N	34	58	73	67	75	62	78	97	81	72	72	67	52	44	43	48	32	37
3	34		42	42	32	32	36	54	59	76	74	87	C	C	C	C	C	81	54	36	N	A		42
4	44	44	46	52	43	36	44	63	69	72	C	C	C	C	C	78	68	67	51	44	44	43	43	46
5	42	44	44	44	42	32	51	66	74	73	90	95	94	101	105	91	76	67	51	43	43	39	39	A
6	38	38	41	39	38	38	52	58	69	76	C	C	C	C	C	C	C	C	C	C	C	43	43	44
7	39	43	42	44	46	28	42	64	61	72	77	82	106	112	91	80	74	71	58	52	A	A		43
8	39	44	47	44	41	36	46	65	73	75	80	98	112	101	104	100	94	81		57	47	50	44	43
9	40	N	43	46	26	30	44	65	67	75	86	107	96	91	86	95	91	76	57	44	43	44	43	34
10	42	43	43	39	37	28	43	67	80	78	77	91	102	111	87	74	76	90	67	53	54	52	52	52
11	44	42	51		46	44	52	75	64	84	74	81	96	100	98	102	88	77	63	51	43	43	N	52
12	52	52	52	52	45	44	40	59	76	92	84	90	101	104	81	76	75	72	73	53	42	46	42	44
13	44	44	47	47	42	34	44	61	73	80	88	97	112	111	92	80	74	62	59	47		45	43	44
14	47	42	42	51	30	32	44	63	64	68	85	111	110	97	92	76	74	76	68	54	44	42	47	44
15	41	44	40	44	37	30	42	64	74	78	83	100	106	97	87	81	77	74	66	43	44	47	27	44
16		18	44	43	34	N	44	66	71	65	66	80	90	98	76	81	70	65	62	C	C	44	41	42
17	47	44	48	51	36	26	44	64	69	75	85	91	95	100	76	71	C	C	C	41	32	A	38	38
18	38	35	38	30	N	27	43	54	76	81	84	95	101	C	C	C	66	61	67	53	42	27	21	N
19	N	27	31	39		28	42	61	67	74	76	96	100	95	75	61	55	58	62	47	46	46		A
20		36	31	34	34	30	47	64	69	76	84	80	86	90	82	73	62	67	66	53	42		44	43
21	43	41	42	39	36	34	52	61	64	65	71	83	78	78	74	61	67	76	73	53			47	44
22	42	43	44	44	34	30	51	62	72	68	67	82	96	96	76	73	C	C	C	C	45	44	38	43
23		34	42	43	32	28	51	58	64	64	67	88	104	110	90	84	78	74	71	52	42	42	44	44
24	42	42	42	41	32	31	54	62	69	82	81	95	105	98	88	82	80	74	72	54	A	47	45	A
25	47	41	44		43	37	53	67	73	76	83	87	87	91	90	74	75	73	78	52		47	44	
26	44	42	A	43	37	N	53	63	78	78	76	83	85	77	75	77	80	77	80	72	45	44	42	43
27	44	46	44	44	37	41	54	67	76	72	78	80	82	82	80	84	85	91	81	44	49		43	28
28	44	44	46	44	38	37	55	77	75	69	78	91	84	94	91	78	78	75	80	64	53	53	53	53
29		49	53	52	43	42	51	66	71	75	85	98	95	86	87	86	82	88	90	85	54	52	52	52
30	53	52	53	52	30	38	53	72	72	78	90	96	100	90	91	84	77	85	83	65	52	54	51	51
31	52	53	53	47	44	42	58	78	80	80	80	87	92	97	102	90	85	81	81	55	54	53	53	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	26	29	30	28	28	27	31	31	31	31	29	29	28	27	27	28	27	28	27	28	23	25	27	26
MED	42	43	44	44	37	32	46	64	71	75	80	90	96	97	87	79	76	74	67	52	44	45	43	44
U Q	44	44	47	47	42	38	52	66	74	78	84	96	103	101	91	84	80	79	78	54	49	49	47	46
L Q	39	37	42	40	33	30	43	61	67	69	74	82	86	90	76	74	70	67	58	44	43	43	39	42

HOURLY VALUES OF fEs AT Kokubunji

MAR. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G	G	G	G		G	G	G	G	G	G	G	G	G	G	49	34	G	G	G	G	G	22
2	G	G	G	G		G	G	G	G	G	47	52	56	G	G	G	G	G	G	G	G	G	G	G
3	G	G	G	G	G	G	G	G	G	G	G	G	C	C	C	C	C	G	G	G	G	26		G
4	G	G	G	G	G	G	G	29	G	G	C	C	C	C	C	G	G	G	G	G	G	G	G	G
5	32	G	29	G	G	G	G	G	G	G	G	G	G	G	51	60	43	33	G	G	G	25	G	33
6	27	G	G	G	G	G	G	G	G	G	C	C	C	C	C	C	C	C	C	C	C	29	26	29
7	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	27	37	44	33		G
8	G	G	G	G	G	G	25	G	G	G	G	G	G	G	G	G	G	30	G	25	G	G	G	G
9	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	34	G	26	28	G	G
10	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
11	G	G	G		G	G	G	G	G	G	G	G	G	G	G	48	G	32	G	G	G	G	G	G
12	G	G	G	G	G	G	G	37	G	G	G	G	G	G	G	G	38	29	31	G	G	G	27	G
13	24	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	23	G
14	G	G	G	G	G	G	G	47	G	G	G	G	G	G	G	G	40	37	26	G	G	G	G	G
15	G	G	G	G	G	G	G	29	G	G	G	G	G	G	G	G	G	29	41	G	G	29	G	G
16		G	G	G	G	G	26	G	G	G	48	G	G	G	G	G	G	29	G	C	C	G	G	G
17	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	C	C	C	G	G	23	G	G
18	G	G	G	G	G	G	26	G	G	G	G	G	G	C	C	C	G	G	G	G	23	G	G	G
19	G	G	G	G		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G		28
20		G	G	G	G	G	G	G	G	G	G	G	G	G	G	39	G	G	G	G	G	G	G	G
21	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	28	G	G			G	G
22	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	C	C	C	C	G	G	G	G
23		G	G	G	G	G	29	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	24
24	G	G	G	G	G	G	28	G	G	G	47	G	G	G	G	G	33	61	67	31	28	29	G	58
25	26	G	G		G	G	G	G	G	G	G	40	G	G	G	G	G	G	G	G		G	G	
26	G	25	25	G	G	G	G	G	G	50	50	G	G	G	G	G	G	G	26	G	G	G	G	G
27	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	42	G	G	23	38	24		G	G
28	27	G	G	G	G	G	G	G	G	G	G	G	45	G	G	G	G	G	G	G	G	G	G	G
29		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	11	G	G	G
30	G	G	G	G	G	G	29	31	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
31	G	G	G	G	G	G	27	G	G	G	41	G	G	G	G	G	G	G	G	G	G	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	31	31	29	29	30	31	31	31	31	29	29	28	27	27	28	27	28	28	28	27	29	28	30
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	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	29	24	G	G	24	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. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	14	14	14	13		14	14	14	37	17	41	52	43	40	39	15	14	17	13	14	15	14	13
2	13	14	13	14		17	14	25	30	13	33	36	35	40	21	14	14	21	14	13	14	15	14	14
3	17	14	13	17	14	14	14	17	14	13	39	40	C	C	C	C	C	13	14	14	13	17		14
4	13	15	15	13	14	14	14	14	15	36	C	C	C	C	C	21	13	22	13	14	14	14	14	14
5	13	13	13	14	14	13	14	17	15	14	21	45	40	44	22	14	13	13	14	14	14	14	14	13
6	13	14	14	14	14	14	14	14	14	15	C	C	C	C	C	C	C	C	C	C	C	14	13	14
7	14	14	17	14	13	14	14	13	17	18	42	47	44	43	40	41	39	22	13	13	15	14		14
8	17	14	14	14	14	14	17	18	17	40	40	44	44	44	43	42	17	13	14	15	15	15	14	15
9	14	20	14	14	14	14	17	23	39	39	42	44	45	45	42	42	20	22	14	15	13	14	14	14
10	14	14	14	13	13	14	15	34	17	40	41	49	44	42	43	21	15	21	14	14	14	17	14	14
11	14	14	14		14	14	15	14	35	40	40	42	43	42	40	21	14	14	14	14	14	14	17	17
12	15	17	13	14	13	13	15	31	14	17	39	42	43	22	40	40	13	13	13	14	14	14	13	14
13	14	18	14	14	14	14	17	26	17	20	43	41	43	43	38	38	13	13	14	14	17	14	14	13
14	14	13	14	15	14	15	17	21	37	38	22	43	43	44	42	18	24	14	14	14	14	14	14	13
15	13	18	14	15	14	15	17	13	13	15	44	42	44	44	39	38	21	13	14	14	18	14	13	15
16		17	14	14	13	18	15	14	14	42	21	45	38	43	43	39	21	13	13	C	C	14	14	13
17	14	17	14	14	13	17	18	30	17	40	44	43	43	43	42	21	C	C	C	14	14	15	20	14
18	13	14	15	13	14	17	15	13	13	15	17	43	52	C	C	C	18	13	14	14	14	13	17	14
19	14	14	14	14		14	17	14	14	18	40	44	50	44	42	36	15	23	15	13	17	14		14
20		14	15	20	13	15	17	13	14	41	44	44	44	44	42	20	14	14	18	36	14	15	14	14
21	20	14	14	14	14	14	18	14	15	38	43	45	42	43	42	40	15	15	18	14			14	17
22	17	15	13	14	14	14	20	13	15	21	44	43	46	49	44	40	C	C	C	C	14	14	21	14
23		14	14	17	18	14	13	28	15	43	18	43	46	44	42	21	35	13	15	14	18	14	18	14
24	14	14	14	14	13	14	14	13	14	22	37	44	45	43	43	18	18	13	17	13	14	14	13	14
25	13	13	14		17	14	20	35	17	41	44	46	54	43	44	39	15	14	22	14		14	14	
26	15	15	14	14	14	14	21	17	36	40	37	43	44	43	44	38	18	13	14	13	14	14	20	17
27	14	14	17	15	13	15	21	13	17	20	43	44	45	43	44	15	39	14	15	14	14		17	21
28	14	14	15	14	13	14	14	14	17	39	48	46	44	47	42	40	34	15	15	14	14	15	39	14
29		14	14	13	14	13	14	13	14	40	43	50	45	45	44	38	18	14	14	14	14	14	14	18
30	13	14	14	14	15	13	15	14	35	43	45	40	39	45	44	35	34	18	17	14	14	15	15	15
31	13	17	13	14	14	14	22	15	15	40	59	55	42	45	40	41	14	13	15	14	14	14	31	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	27	31	31	29	29	30	31	31	31	31	29	29	28	27	27	28	27	28	28	28	27	29	28	30
MED	14	14	14	14	14	14	15	14	15	38	41	44	44	43	42	38	17	14	14	14	14	14	14	14
U Q	14	15	14	14	14	15	17	23	17	40	44	45	45	44	43	40	21	16	15	14	14	15	17	15
L Q	13	14	14	14	13	14	14	13	14	18	35	42	43	43	40	21	14	13	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Yamagawa

MAR. 2011

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	37	37	36	36	37	26		45	52	67	72	75	66	77	79	92	78	63	58	52	53	52	A	45
2	42	53	47	31	25	N	32	42	78	71		67	70	86	90	71	80	76	67	52	44	32	N	32
3	34	32	37	34	30			45	52	68	78	78	87	60	92	88	93	84	78	47	34	34	34	34
4	34	32	32	38	41	29	30	52	55	66	77	84	85	79		87	82	71	67	47	47	48	37	37
5	34	41	36	31	45	30	34	54	64	74	77	80	59	69		97	90	83	73	51	44	48	44	44
6	43	44	47	47	53	45	39	47	60	72	78	92	90	94	90	86	78	81	70	51	47	43	38	36
7		40	40	41	43	29		50	64	74	86	76	79	69	88	81	82	77	66	54	53	44	44	37
8	37	36	43	43	42	34	32	51	67	72	80	78	79	79	69	96	114	73	92	54	53	53	51	42
9	42	44	44	43	38	30	28	50	64	72	86	85	69	79	56			87	82	52	48	51	47	42
10	35	36	42	43	44	29	28	52	72	74	77	88	88	69	58	88	86	89	76	53	53	53	52	48
11	44	44	48	47	43	34	34	52	76	78	77	74	69	88	111	94	90	81	80	53	48	51	52	52
12	31	52	53	57	36	34	34	47	66	114		78	102	111	90	78	77	80	85	52	47	48	42	45
13	42	46	42	45	49		26	52	65	80	84	87	69	99	91	90	76	75	76	55	44	42	47	47
14	48	50	42	46	40	32	32	58	61	66	87		69	88	90	94	86	78	80	44	48	43	43	40
15	41	44	46	50	38		C	52	67	92	80	87			69	89	93	81	76	67	50	43	46	48
16	45	47	47	48	34		26	52	67	78	78	87	86	69	96	84	77	66	67	47	43	44	42	45
17	37	40	44	45	34	49	26	45	68	78	84	69	90	69	69	86	71	76	65	51	38	36	A	37
18	37	42	42		32	N	N	54	67	77	80	83	98	97	94	81	67	61	76	59	44	34	30	34
19	38	37	36	40	34	N	N	50	70	80	84	87		69	91	87	77	71	74	54	54	40	40	37
20	40	38	38	38	42	34	32	58	67	80	88	92	92	69	100	84	72	72	82	71	46	37	40	34
21	41	41	42	43	42	40	34	53	38	69	78	90	88	86	77	72	71	81	76	44	46	34	38	42
22	40	34	42	44	37	30	30	52	61	69	68	75	88	96	84	73	93	73	74	54	48	43	A	42
23	44	44	47	44	38	N	29	53	51	68	72	78	88	89		87	87	80	80	76	44	40	43	42
24	42	42	32	41	34	26	34	58	62	78	80	86	69	69	88	86	86	86	84	67	46	47	46	47
25	47	47	47	46	42	36	38	62	62	76	85	76	84	59	60	88	73	72	84	53	44	43	44	
26	43	42	42	42	36	30	36	53	72	78	77	77	84	81	77	78	80	82	86	78	53	42	42	45
27	44	34	53	52	46	40	42	63	76	75	71	76	85	94	88	80	86	88	86	74	51	54	48	53
28	42	52	53	51	44	36	42	64	76	76	76	79	92	86	90	77	78	86	86	78	66	53	52	53
29	51	53	52	54	44	32	40		67	78	78	83	88	88	87	86	82	90	89	85	71	52	52	52
30	52	54	53	53	34	37	40	60	72	80	82	85	60	88	86	90	87	88	88	76	53	51	53	54
31	52	52	53	54	50	42	46	69	80	81	82	86	86	79	93	94	90	N	90	78	52	50	54	52
	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	23	25	30	31	31	29	30	29	30	28	30	30	30	31	31	31	31	27	30
MED	42	42	43	44	40	34	34	52	67	76	78	82	85	80	88	86	82	80	78	54	48	44	44	43
U Q	44	47	47	48	44	37	38	58	72	78	84	87	88	88	91	90	87	84	85	71	53	51	51	48
L Q	37	37	40	41	34	30	29	50	61	71	77	76	69	69	77	81	77	73	73	51	44	40	40	37

HOURLY VALUES OF fEs AT Yamagawa

MAR. 2011

LAT. 31°12.0′N LON. 130°37.0′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	G	G	G	G	G	G		G	N	G	G	46	40	G	54	49	36	36	G	26	G	G	30	G
2	27	24	G	G	G	G	G	26	32	40		52	50	47	G	G	G	34	G	27	30	26	G	G
3	G	G	G	G	G		G	29	46	41	G	G	G	G	G	G	38	32	G	20	G	G	G	G
4	G	G	G	G	G	G	G	G	32	G	G	G	G	47		57	51	73	26	G	G	G	G	G
5	G	27	G	32	G	G	G	G	34	G	G	49	57	G		42	36	32	26	29	27	G	G	G
6	36	33	30	33	G	G	19	G	33	G	G	G	41	G	87	59	G	39	32	G	40	G	G	G
7	G	G	G	G	G	G		G	G	35	G	47	47	G	G	43	43	42	28	26	G	G	28	G
8	G	G	G	G	G	G	G	29	G	35	59	41	42	G	51	38	36	34	39	27	29	G	G	G
9	G	G	G	G	G	G	G	41	N	36	49	54	54	G	G			35	44	30	G	G	G	G
10	26	G	G	G	G	G	G	40	G	G	G	G	G	G	G	G	G	48	27	G	G	G	G	G
11	G	G	G	G	G	G	G	29	32	35	G	G	G	54	G	42	52	34	29	G	G	G	G	G
12	G	G	G	G	G	G	G	30	G	G		50	G	40	G	G	43	45	41	32	30	29	32	28
13	G	29	28	G	G		G	G	G	36	G	G	43	47	46	G	G	36	G	G	G	33	G	G
14	G	G	G	G	G	G	G	29	32	35	G		G	G	41	44	49	41	32	28	34	29	28	25
15	26	G	G	G	11	G	C	27	35	G	40	41			53	48	G	35	G	34	30	G	G	24
16	G	G	G	G	G		G	32	38	36	44	41	48	43	54	39	51	40	G	G	G	G	G	G
17	G	G	G	G	11	G	G	33	N	36	G	G	42	G	46	41	49	34	G	G	G	G	32	26
18	G	G	G		G	G	G	30	G	G	G	46	G	G	G	G	35	38	28	G	G	36	G	G
19	G	G	G	G	G	G	G	29	G	G	41	G		G	G	43	G	G	G	G	27	G	G	G
20	G	G	G	G	G	G	G	G	41	37	G	G	G	G	45	G	G	39	G	G	11	G	G	G
21	G	G	G	G	G	G	G	28	G	36	G	G	G	G	G	41	G	37	34	30	24	G	G	G
22	G	G	G	G	27	G	G	32	34	G	46	G	41	G	G	G	G	38	31	34	G	33	36	G
23	G	G	G	G	38	G	G	32	33	G	G	41	48	47		G	40	33	30	G	G	G	G	G
24	G	G	G	G	G	G	G	32	34	G	39	44	50	G	G	G	36	45	38	26	G	G	G	G
25	34	G	G	G	G	G	G	G	34	36	G	42	G	G	41	44	43	37	28	11	G	G	G	
26	G	G	G	G	G	G	G	G	34	G	G	40	51	48	G	G	G	G	32	25	20	G	G	G
27	G	G	G	G	G	G	G	27	35	39	G	40	44	40	G	49	46	34	39	45	G	27	G	G
28	G	G	G	G	G	G	G	G	34	38	G	G	G	49	41	G	G	G	G	33	G	G	G	G
29	G	G	G	G	G	G	G		36	G	G	G	G	G	40	47	G	G	35	30	11	24	27	G
30	G	G	G	G	G	G	G	35	35	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
31	G	G	G	G	G	G	G	50	34	G	G	G	G	G	G	G	G	34	G	28	32	35	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	30	31	28	28	30	28	31	29	30	29	30	28	30	30	31	31	31	31	31	31	30
MED	G	G	G	G	G	G	G	29	34	G	G	20	40	G	G	38	36	35	28	26	G	G	G	G
U Q	G	G	G	G	G	G	G	32	34	36	20	44	47	43	45	44	43	39	32	30	27	26	G	G
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	33	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Yamagawa

MAR. 2011

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	16	15	20	15	15	15		18	14	14	15	17	43	50	27	20	18	14	18	15	15	15	15	15
2	15	14	15	15	17	17	15	17	14	14		16	24	18	20	17	17	14	17	14	14	15	23	15
3	14	15	14	14	15		17	14	14	16	18	21	20	22	22	17	17	14	17	15	15	15	18	16
4	17	15	14	14	14	15	15	18	15	18	18	29	24	23		20	17	14	17	15	15	15	15	15
5	15	16	15	14	15	15	17	20	14	16	18	20	27	28		18	17	15	14	14	15	15	15	15
6	14	14	14	14	17	15	17	20	15	15	20	21	23	46	21	33	16	14	14	14	15	14	15	15
7	17	15	14	15	14	14		21	14	17	20	27	26	27	28	22	18	22	15	15	15	15	17	21
8	18	14	14	15	14	15	16	16	16	17	24	22	22	69	32	28	20	16	14	15	15	14	15	15
9	15	15	15	14	14	15	16	16	15	17	18	39	35	51	44			16	14	15	15	15	15	15
10	16	15	15	14	15	15	17	22	16	20	20	21	21	46	27	21	18	14	14	15	15	15	15	15
11	15	15	14	15	15	15	15	14	16	16	20	20	48	29	27	21	18	14	14	15	16	14	15	15
12	15	16	15	15	15	15	14	15	15	16		34	40	26	22	22	20	14	14	14	14	14	15	14
13	14	14	15	14	16		18	21	14	15	20	18	27	27	24	18	17	16	20	14	15	14	15	15
14	14	15	15	15	15	15	14	22	14	14	18		46	32	18	22	17	14	15	14	14	14	14	15
15	14	14	16	14	15	17	C	22	14	15	17	22			21	18	15	14	14	14	14	15	24	14
16	15	17	15	14	15		17	16	15	17	17	22	20	18	20	16	17	17	20	14	15	17	15	15
17	16	17	18	15	14	18	18	14	15	17	20	26	27	28	27	23	16	16	18	15	15	16	14	14
18	16	17	15		15	15	17	15	14	16	16	18	27	28	20	22	18	14	15	16	15	15	16	15
19	15	15	14	15	15	15	17	15	14	16	16	17		24	20	17	16	14	14	14	15	17	15	21
20	15	15	15	16	15	15	15	21	14	16	17	18	22	21	18	44	14	14	17	15	14	15	15	15
21	15	15	14	14	14	14	15	16	14	17	18	24	24	26	24	20	16	15	14	14	15	17	16	15
22	15	15	15	15	14	15	15	16	14	14	18	21	23	22	20	18	14	14	14	15	15	14	14	15
23	14	15	15	15	14	17	15	18	14	17	18	23	20	24		20	17	15	15	15	15	15	16	15
24	14	15	16	17	21	18	14	16	14	17	18	20	26	21	22	20	16	15	15	14	15	14	17	14
25	14	18	16	15	15	15	15	22	15	17	20	20	24	22	20	18	16	14	14	14	15	17	15	
26	15	17	14	15	14	16	15	14	16	21	20	45	23	27	45	21	16	14	14	15	15	15	15	15
27	14	15	15	14	15	15	15	23	14	17	18	23	20	27	18	18	15	15	14	14	15	17	15	18
28	15	14	15	14	14	14	14	14	16	16	20	24	26	22	18	17	14	14	14	14	16	15	15	15
29	16	17	15	15	15	15	15		15	18	22	27	22	48	21	18	15	15	14	14	15	15	14	18
30	15	15	15	15	15	15	14	14	14	17	20	27	24	40	22	18	18	15	21	15	15	15	16	15
31	15	14	14	14	15	15	15	14	14	16	17	18	48	48	27	16	14	14	17	14	14	14	14	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	30	31	28	28	30	31	31	29	30	29	30	28	30	30	31	31	31	31	31	31	30
MED	15	15	15	15	15	15	15	16	14	16	18	22	24	27	22	20	17	14	14	14	15	15	15	15
U Q	16	16	15	15	15	15	17	21	15	17	20	26	27	40	27	22	18	15	17	15	15	15	16	15
L Q	14	15	14	14	14	15	15	15	14	16	17	20	22	22	20	18	16	14	14	14	15	14	15	15

HOURLY VALUES OF foF2 AT Okinawa

MAR. 2011

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		51	44	42	43	29	N	38	64	72	85	88	90	86	107	121	111	88	67	66	78		59	67
2		84	52	45	32	28	28	34	80	77	85	76	81	87	101	88	81	80	79	64	50	A		
3			44	36				40	54	71	87	C	C	C	C	C	C	131	122	88	76	52	31	28
4			30	32	31		N	48	66	62	80	90	104	107	108	104	92	82	80	52	53	37		
5		42	34		24			51	63	73	96	107	106	132	143	147	143	132	124	108	87	85	87	83
6	83	77	77	66	77	67		44	60	73	93	98	106	120	126	124	114	106	88	67		63	53	44
7	52	53	52	42	53	29		50	64	78	88	97	100	123	120	108	107	107	88	79	81	62		43
8	47	53	53	53	52	N	N	53	71	71	86	107	110	130	145	152	157	156	146	131	110	102	87	86
9	77	77	67	67	73	44		53	67	80	90	104	104	111	130	133	133	122	105	87	84	67	67	N
10		44	42	50	42	N		53	67	80	84	104	113	132	140	116	117	116	109	84	67	52	52	52
11	47	46	47	46	34		N	52	93	76	76	78	108	122	127	122	104	107	86	61	54	53		53
12		58	67	67		28	N	46	65	111	107	84	98	131	110	90	91	97	88	70	53	53		40
13		43	47	A	39			49	67	86	102	102	126	142	130	130	108	98	88	77	52		54	52
14	43	43	49	52	41		N	51	63	70	97	112	125	122	124	130	113	104	94	83	64			50
15	52	53	54	67				51	67	78	97	112	130	146	152	149	147	131	121	122	85	80	67	59
16	69	67	81	84	A		N	N	67	82	101	118	107	101	117	107	97	76	78	67	54		53	50
17	43		53	52				51	72	78	97	110	113	112	110	116	107	91	89	78	76	A	38	37
18	38	44	52	53	31			48	72	76	88	96	107	126	110	111	84	75	76	54	52	48	29	
19		34	34	43	32			47	68	80	96	109	124	N	146	141	142	129	106	88	78	53		53
20		48	50	N	52	30	N	48	61	76	98	107	121	140	130	121	118	116	110	102	67	53	53	53
21	67	66	54	66	60	46	29	58	58	70	86	110	108	105	105	104	88	84	82	72	50	41		
22				39	29			47	58	72	80	88	102	121	106	103	100	90	78	66	53	47		41
23	48	43	52	54	34		N	51	62	70	82	90	98	118	110	108	102	101	106	80	53	44		42
24	50	43	34	34	N	N	29	58	70	78	85	90	108	118	121	107	102	106	103	78	53	63	52	53
25	44	54	54	53	37	32	31	52	67	77	87	94	101	110	118	107	91	86	88	76	54	53	59	67
26		53	34	53	29		32	62	67	84	96	84	90	96	90	88	90	90	107	86	54	70		66
27	74	75	88	88	67	52	42	67	67	87	87	94	90	108	110	101	104	100	102	88	78	78	66	75
28		76	78	85	53	A	34	69	67	82	85	84	90	112	108	97	101	102	110	88	83	86	77	76
29	67	85	88	N	44		32	54	65	85	86	84	108	110	112	110	116	117	122	121	87	66	84	86
30	81	78	77	82	29	34	34	62	74	87	96	108	111	120	106	116	120	118	108	88	78	76	83	83
31	77	67	62	67	47	42	46	66	77	86	88	107	110	123	131	133	140	N	146	130	107	86	66	87
	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	27	30	27	25	12	10	30	31	31	31	30	30	29	30	30	30	30	31	31	30	25	20	26
MED	52	53	52	53	41	33	32	51	67	78	88	98	107	120	118	114	107	103	102	80	67	62	59	53
U Q	74	75	67	67	52	45	34	54	70	82	96	107	111	128	130	130	118	117	110	88	81	77	72	75
L Q	47	44	44	43	31	29	29	48	63	72	85	88	100	109	108	104	97	90	86	67	53	52	52	44

HOURLY VALUES OF fEs AT Okinawa

MAR. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	36	G	G	G	G		G	31
2		G	29	28	G	G	G	G	G	G	39	48	G	44	48	48	G	36	G	30	39	33		
3		G	G	G				G	G	G	G	C	C	C	C	C	C	38	26	48	G	G	G	G
4			G	G	G		G	G	G	G	G	G	G	G	G	G	48	36	50	32	G	G		
5		G	G		G	G		G	G	G	G	G	G	G	42	G	45	34	49	26	G	28	30	G
6	G	G	32	G	G	G		G	G	G	G	G	G	49	G	G	G	G	G	G		G	G	G
7	G	G	G	G	G	G		G	G	G	G	G	G	G	47	59	55	43	39	35	38	G		G
8	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	59	51	41	39	28	G	G	40	G
9	G	G	G	G	G	G		G	G	G	G	G	65	58	G	G	G	G	G	24	G	G	G	G
10		G	G	G	G	G		G	G	G	G	G	44	G	G	G	G	34	G	G	G	G	G	G
11	G	G	G	G	G		G	G	G	G	G	56	G	46	G	G	G	G	28	G	G	G		G
12		G	24	G		G	G	30	G	35	42	49	G	48	51	G	40	G	29	G	G	G		G
13	G	G	35	26	43			G	G	G	G	G	G	48	G	G	G	G	G	G	G		34	39
14	G	G	G	G	11		G	G	G	G	G	G	G	G	G	G	G	42	34	28	G	G		G
15	G	G	G	G				G	G	G	G	G	48	66	G	G	G	39	33	28	28	32	G	G
16	G	G	G	G	35		G	G	G	37	G	G	G	70	G	G	G	G	G	G	G		G	G
17	G		G	G				G	G	G	G	G	54	51	G	39	G	41	G	G	G	50	G	G
18	G	G	G	G	33			G	G	G	G	G	G	G	G	G	G	37	G	G	G	G	G	
19	G	G	G	G	G			G	G	G	G	G	G	G	G	G	G	G	34	38	G	G		G
20		G	G	G	G	G	G	G	G	37	G	G	G	G	G	G	G	G	38	43	30	G	48	G
21	G	G	G	G	G	G	G	G	G	G	G	G	47	G	G	G	39	G	40	27	33	G		
22				G	G			G	33	G	G	65	G	45	G	G	G	G	32	G	G	G	G	G
23	G	G	G	G	G		G	G	G	G	G	45	G	60	46	G	G	G	G	24	G	G	G	G
24	G	G	G	G	G	G	G	31	G	G	G	G	G	58	46	G	48	38	38	36	30	G	G	G
25	G	G	G	G	G	G	G	G	G	G	G	G	43	G	G	G	G	G	G	G	G	G	G	G
26	G	G	G	G	G		G	G	G	G	G	G	G	G	G	G	48	43	43	43	34	28		G
27	G	G	G	G	G	G	G	G	G	36	G	50	48	55	G	G	G	G	G	G	G	67	36	37
28		G	G	G	32	26	G	G	33	G	G	G	G	G	G	G	G	33	37	32	G	G	G	G
29	G	G	G	G	G		G	31	G	G	G	G	G	G	G	G	46	49	49	50	46	G	G	G
30	G	G	G	G	G	G	G	G	35	37	G	G	G	G	G	G	G	G	30	G	G	G	G	G
31	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	29	G	G	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	21	28	30	30	27	17	19	31	31	31	31	30	30	30	30	30	30	31	31	31	30	28	22	27
MED	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	29	24	G	G	G	G
U Q	G	G	G	G	G	G	G	G	G	G	G	G	G	49	G	G	40	38	38	32	28	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

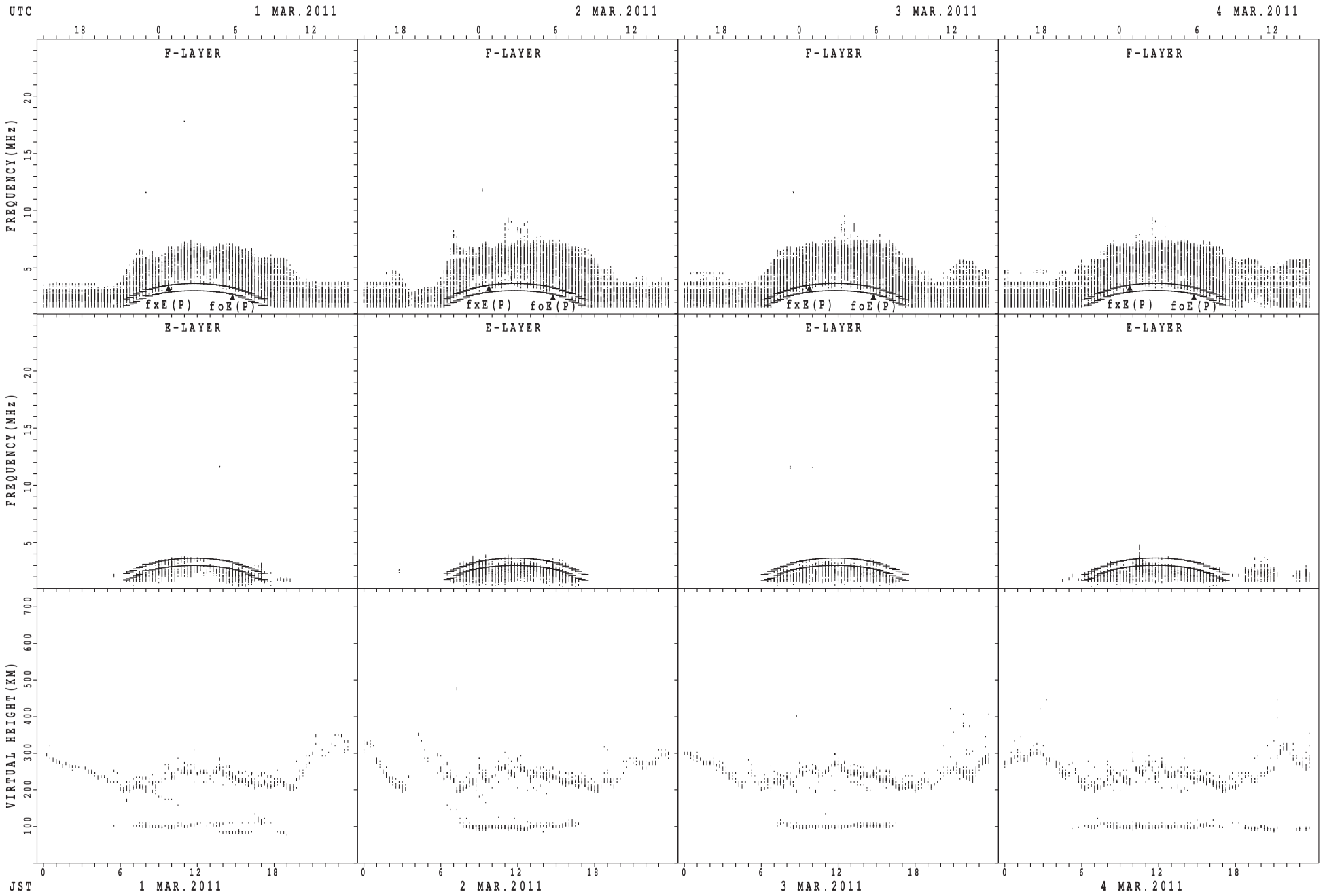
HOURLY VALUES OF fmin AT Okinawa

MAR. 2011

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

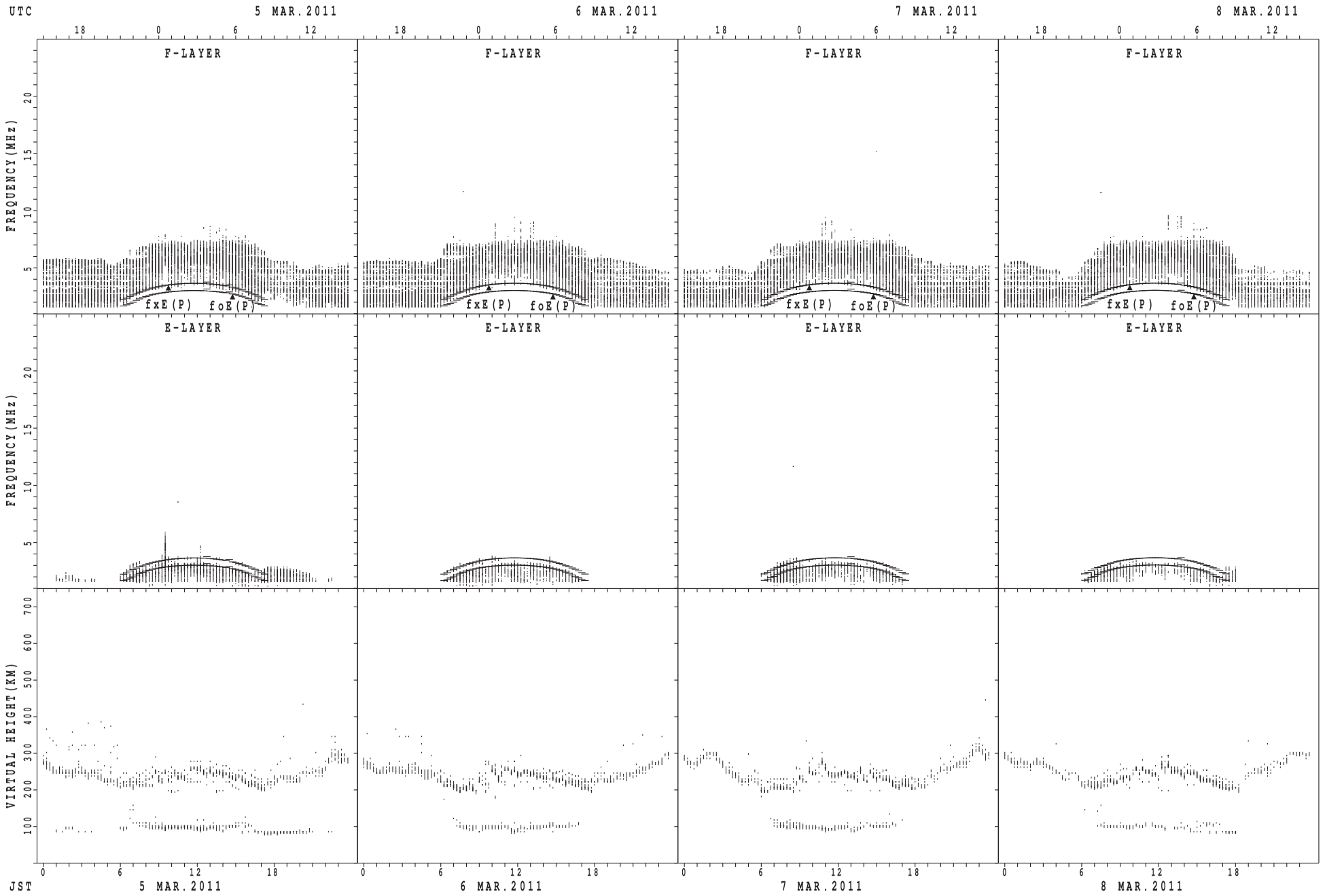
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1		16	22	15	16	15	15	18	26	32	35	44	54	54	44	44	39	17	22	22	21		21	18
2		18	15	14	15	14	18	20	14	15	41	34	49	35	34	32	28	15	17	14	15	15		
3		22	15	15				17	27	30	40	C	C	C	C	C	C	20	14	15	15	24	28	16
4			23	20	15		16	22	24	34	40	44	46	45	46	42	27	17	15	14	28	15		
5		17	15		21	16		20	15	21	36	49	47	44	35	29	23	17	14	20	15	16	15	23
6	15	21	14	17	16	15		21	16	34	26	56	50	42	46	44	39	23	22	15		26	15	15
7	17	17	20	17	14	15		23	28	34	46	45	55	56	40	39	30	28	14	14	14	18		17
8	15	15	16	16	15	16	22	23	29	23	44	48	45	63	55	34	29	21	14	14	23	41	17	17
9	18	15	15	15	15	14		23	29	33	42	56	42	40	54	44	40	22	27	16	20	20	17	16
10		20	22	15	15	16		22	15	36	42	53	50	54	49	43	44	21	22	15	41	16	15	15
11	17	18	16	16	15		21	14	29	35	40	36	46	38	48	47	37	18	15	16	27	15		15
12		17	15	15		17	20	15	28	33	35	38	44	40	36	42	32	27	23	15	21	15		16
13	28	17	17	15	15			22	27	35	44	44	48	30	28	29	36	23	22	15	15		16	15
14	17	21	17	15	14		16	22	15	34	44	44	49	46	50	43	33	24	17	14	23	26		17
15	18	42	21	15				22	28	33	43	45	48	40	43	44	42	22	15	14	14	17	23	16
16	29	17	17	15	14		21	22	18	34	43	53	45	36	45	44	40	21	28	15	29		21	16
17	14		18	15				22	18	39	44	45	35	36	44	43	28	20	14	22	15	18	22	17
18	15	24	18	15	17			22	14	20	37	44	46	54	45	43	26	21	14	22	15	16	17	
19	18	15	26	15	16			23	15	18	44	50	44	45	44	48	22	33	21	17	15	22		15
20		16	21	17	16	15	16	22	18	22	44	46	45	54	44	44	39	37	17	20	18	21	16	24
21	20	15	15	15	17	16	20	22	15	43	23	45	35	46	48	52	23	29	15	16	14	16		
22				14	14			23	15	37	44	37	53	55	45	44	32	30	15	17	15	21	15	18
23	20	15	15	14	15		18	23	28	39	24	38	55	34	46	29	27	15	24	14	18	28	20	16
24	15	15	18	15	22	21	21	15	18	34	44	52	46	36	35	31	24	17	14	14	15	43	15	21
25	18	15	15	14	14	15	15	23	15	44	44	52	52	54	51	44	34	29	23	15	17	20	20	22
26	21	15	20	16	15		16	24	20	36	44	48	55	45	48	46	34	29	14	15	17	20		40
27	17	15	15	15	15	15	15	28	15	40	45	43	51	41	48	47	42	29	23	21	15	15	16	14
28		26	15	15	14	15	15	22	15	24	44	57	58	56	54	45	18	15	14	16	15	22	15	41
29	15	16	15	16	15		15	24	15	24	46	50	53	54	54	52	21	21	21	15	18	15	20	23
30	16	15	15	14	16	21	21	24	21	22	43	52	55	55	55	44	42	29	14	15	27	22	14	16
31	17	17	15	15	15	15	20	26	30	23	53	52	58	54	52	44	39	22	26	17	14	15	42	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	21	28	30	30	27	17	19	31	31	31	31	30	30	30	30	30	30	31	31	31	30	28	22	27
MED	17	17	16	15	15	15	18	22	18	34	43	46	48	45	46	44	32	22	17	15	16	19	17	16
U Q	19	19	20	16	16	16	21	23	28	36	44	52	53	54	50	44	39	29	22	17	21	22	21	21
L Q	15	15	15	15	15	15	15	21	15	23	40	44	45	40	44	42	27	18	14	14	15	15	15	15

SUMMARY PLOTS AT Wakkanai



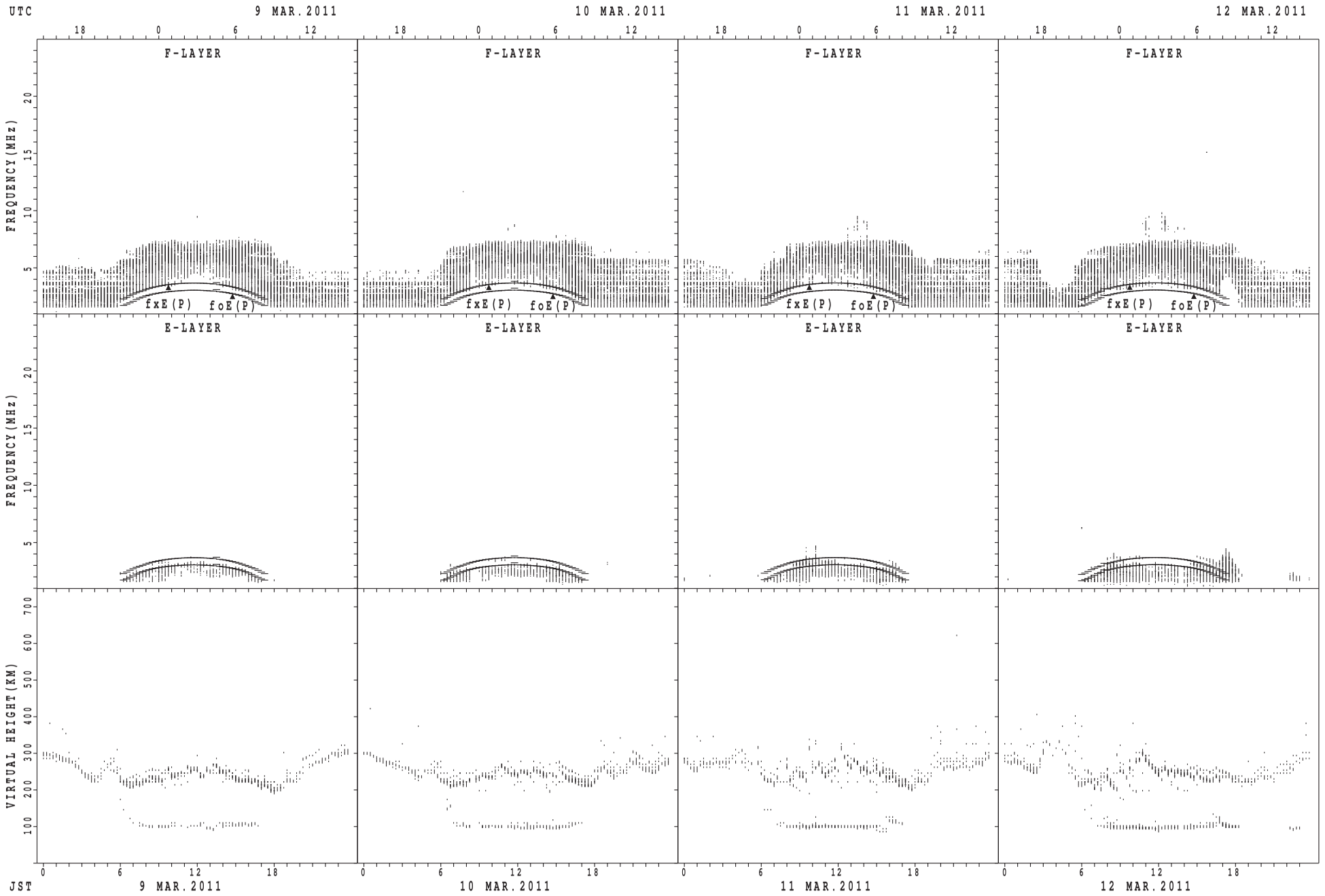
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



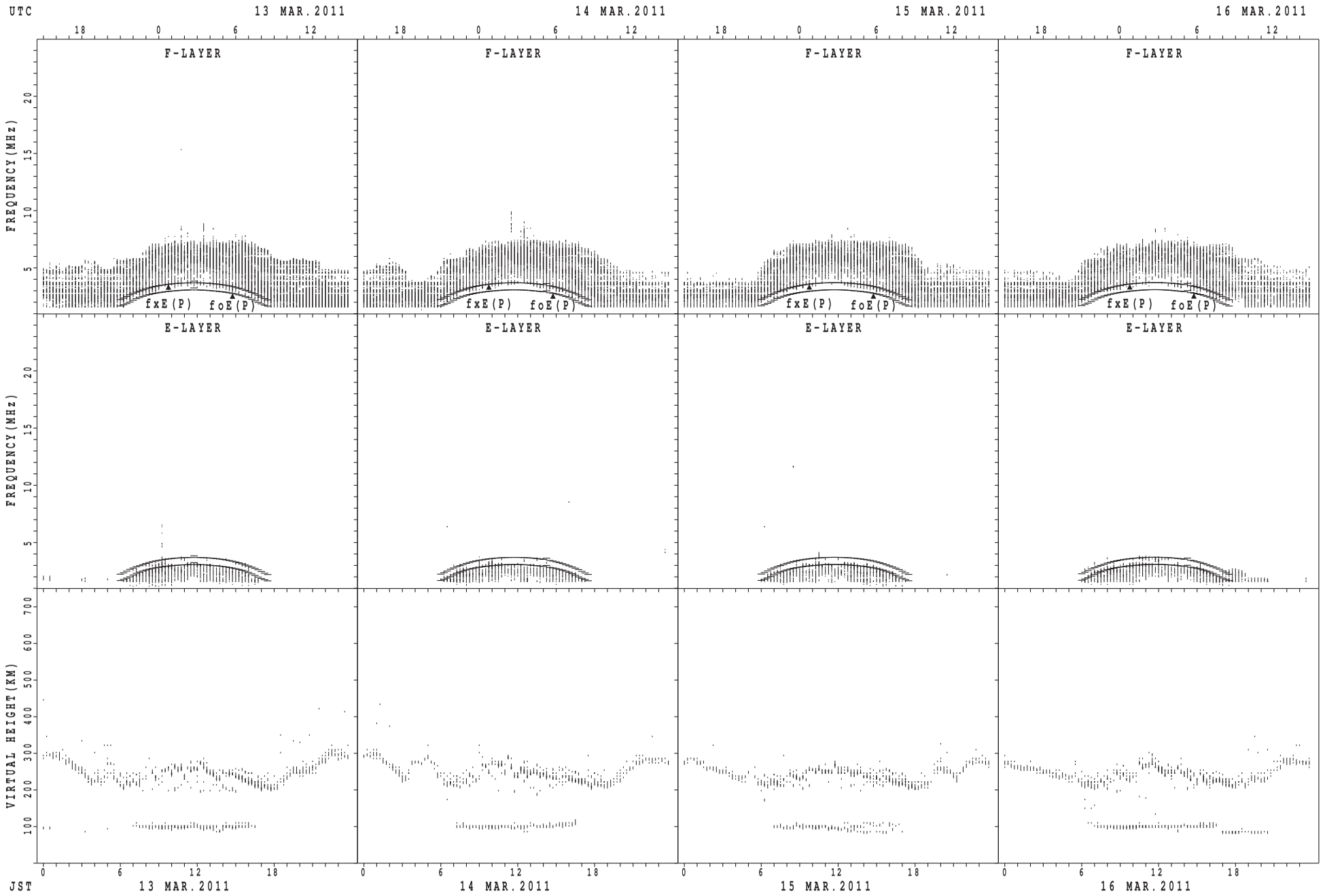
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



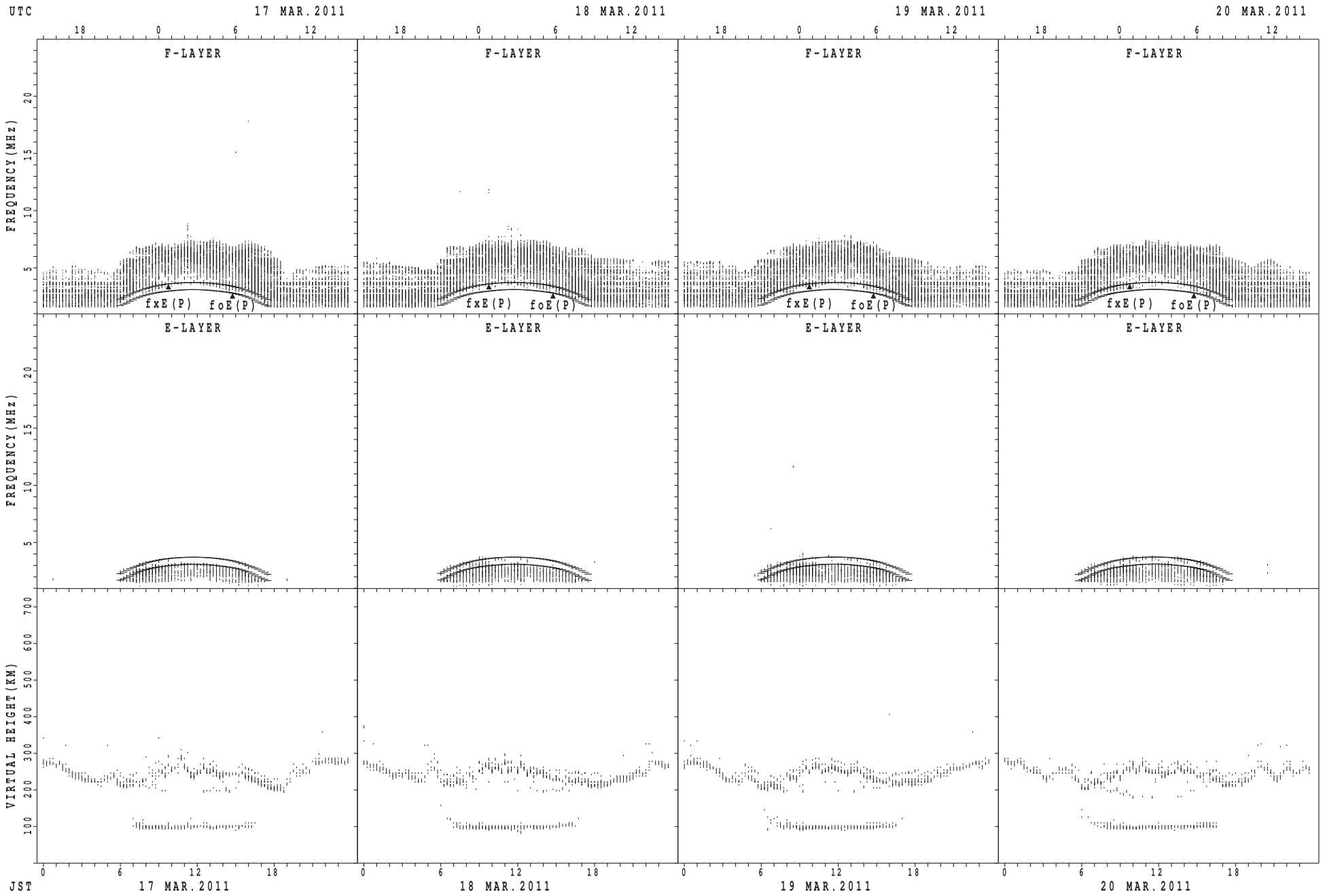
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



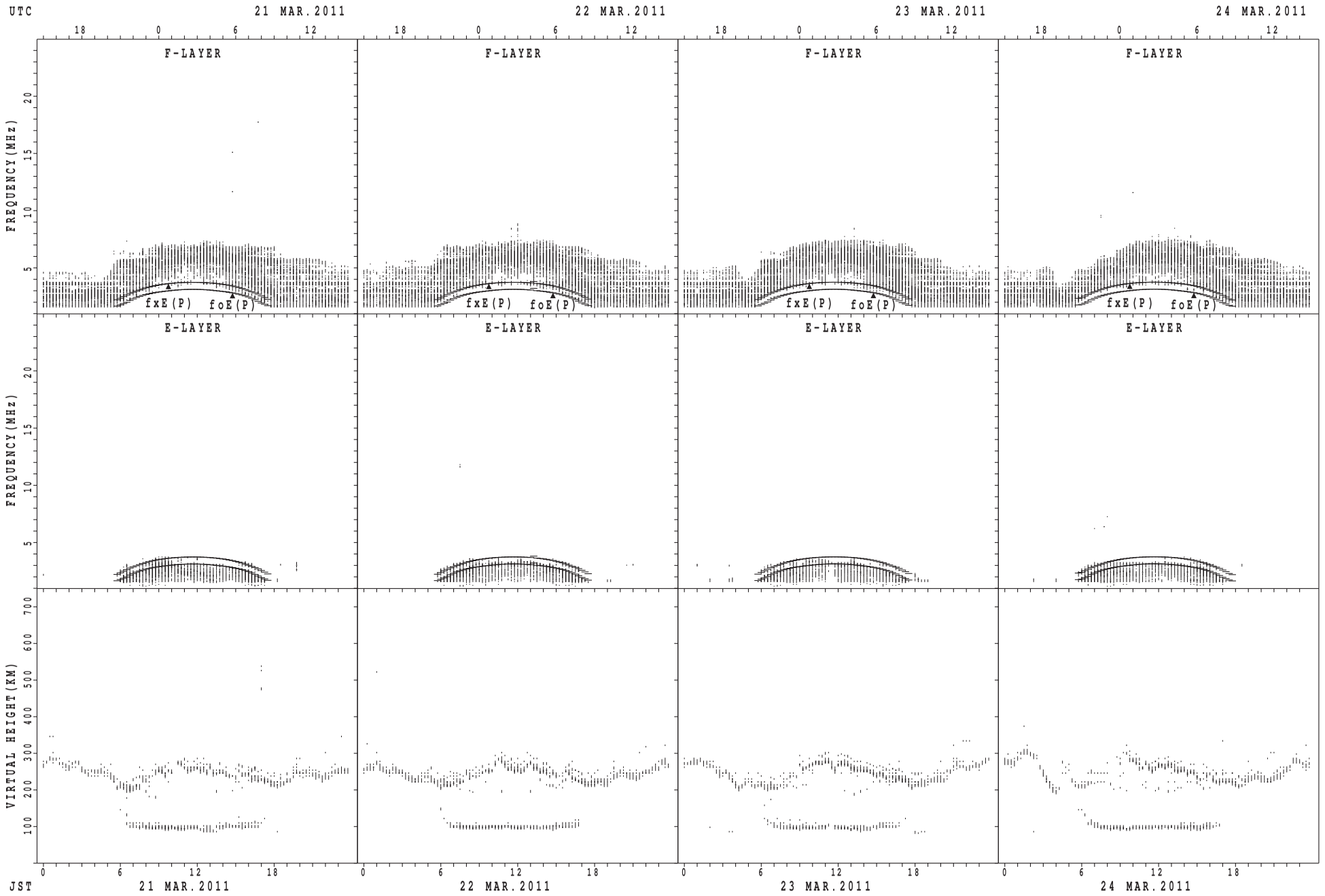
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



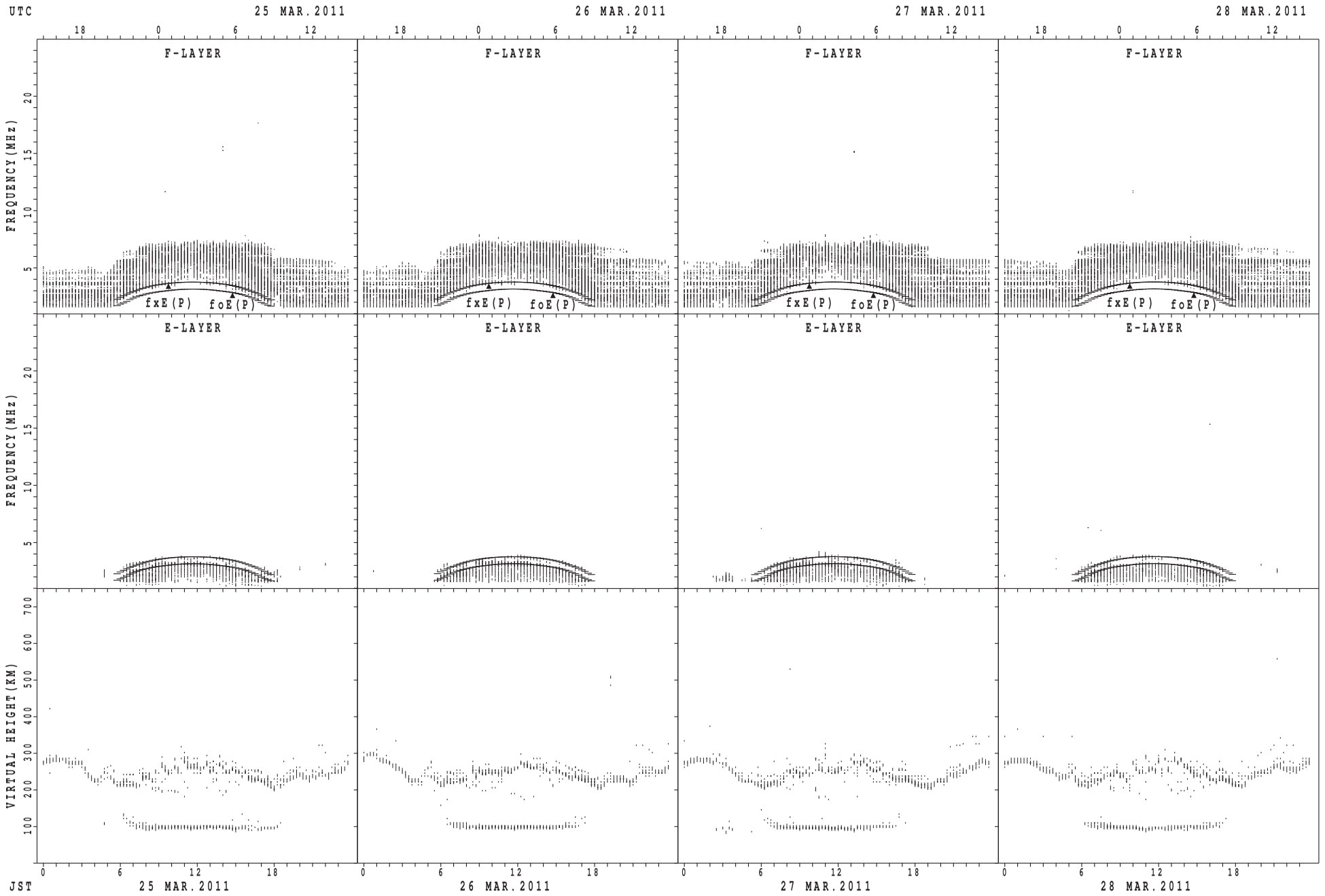
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



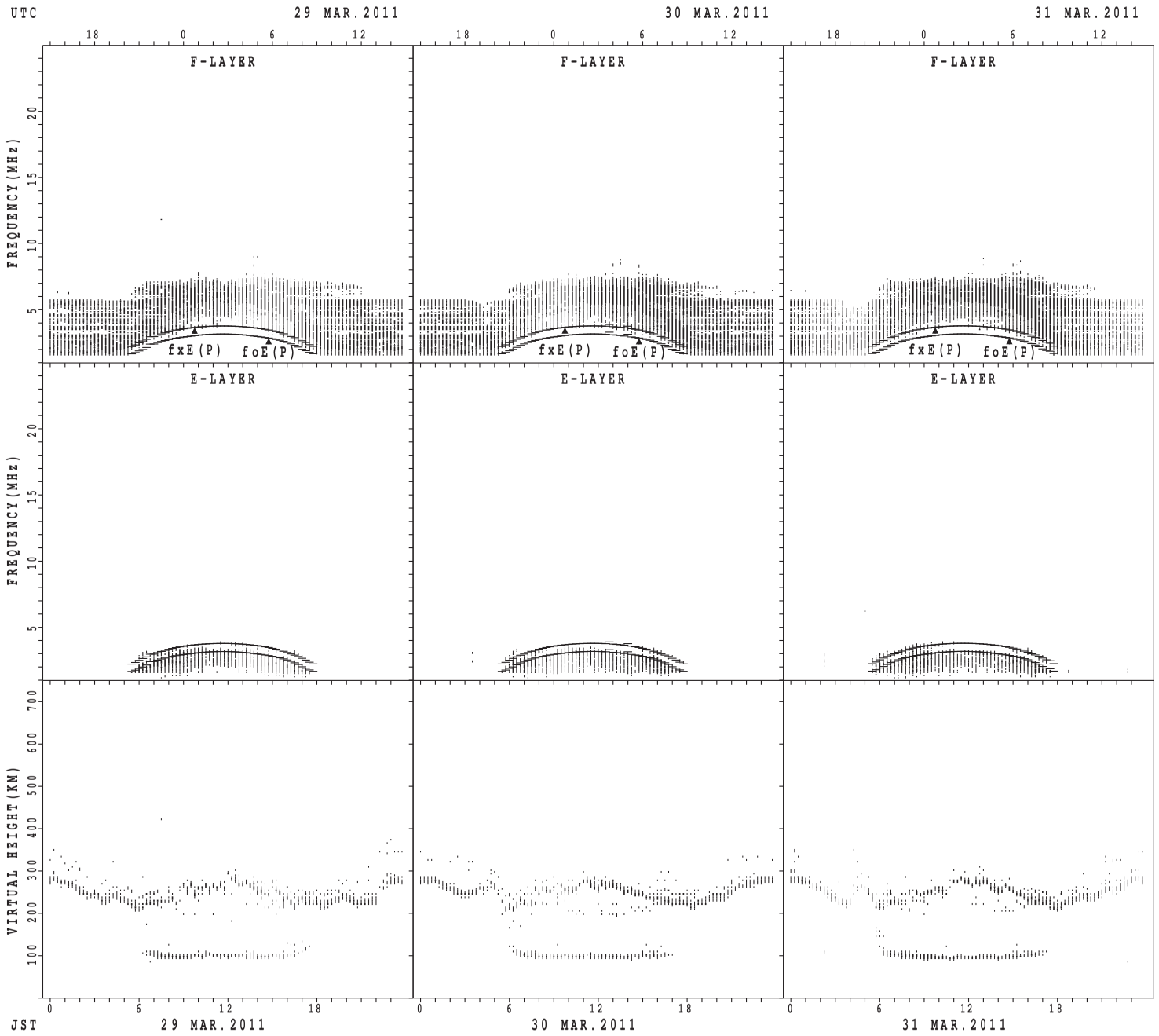
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



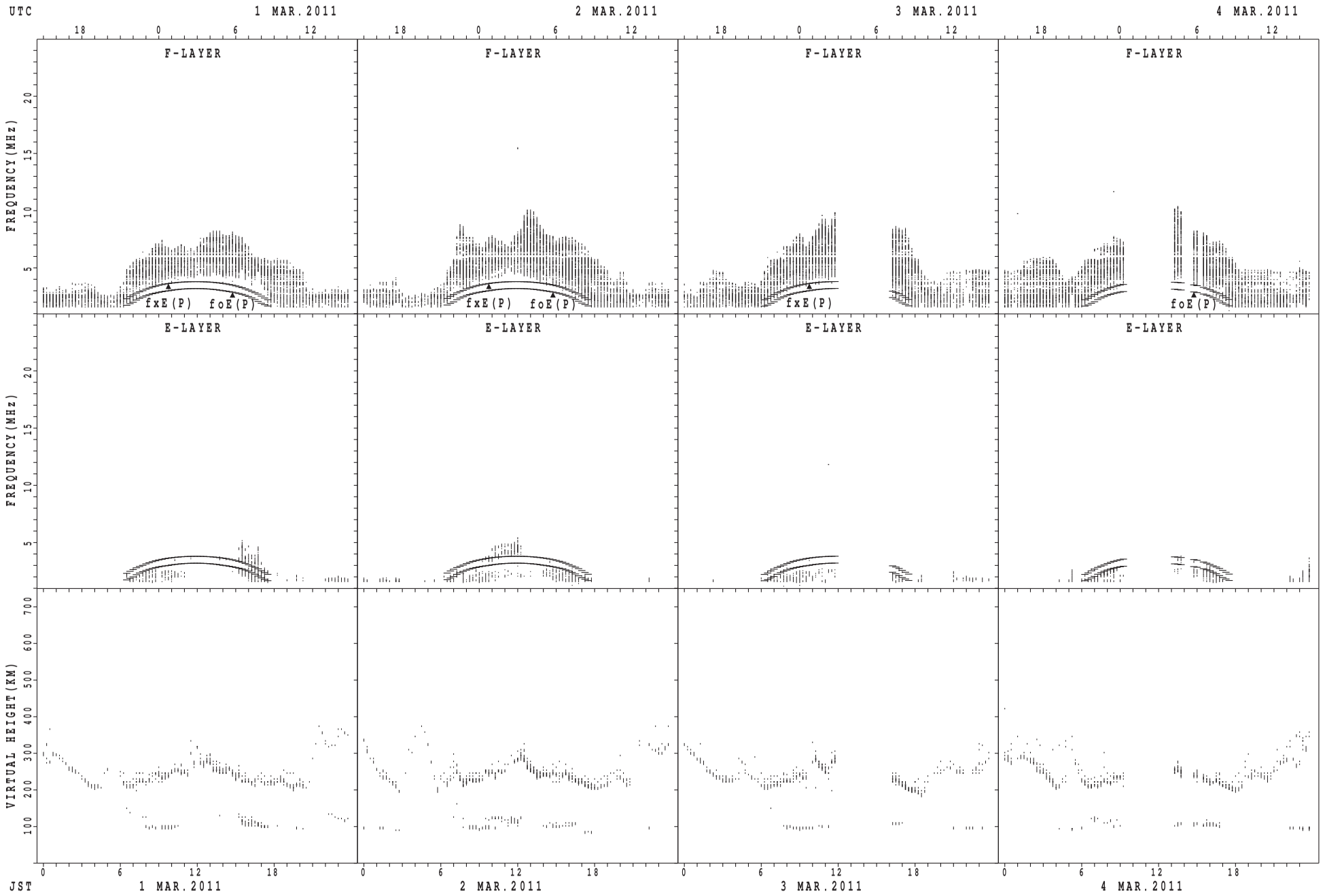
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



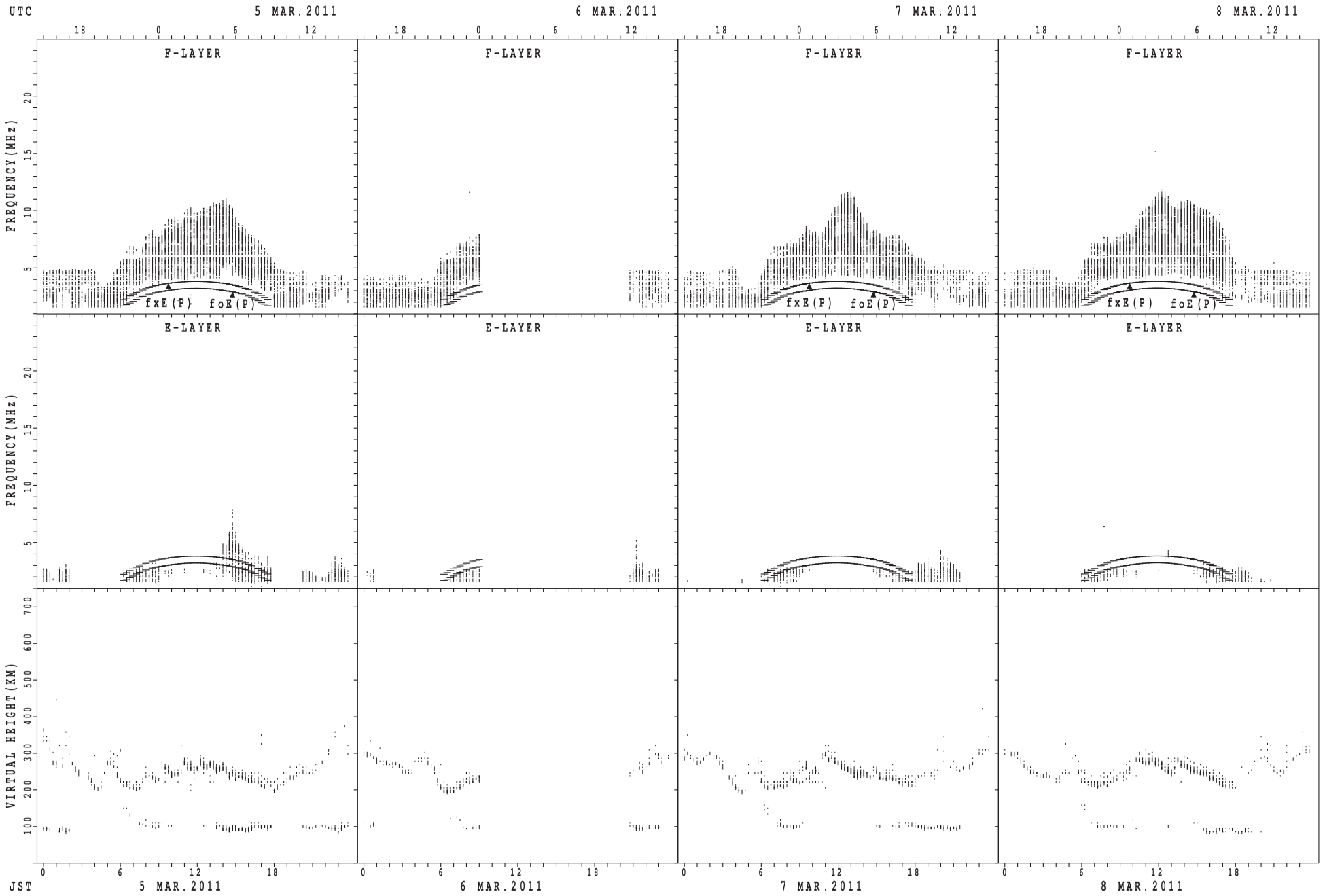
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



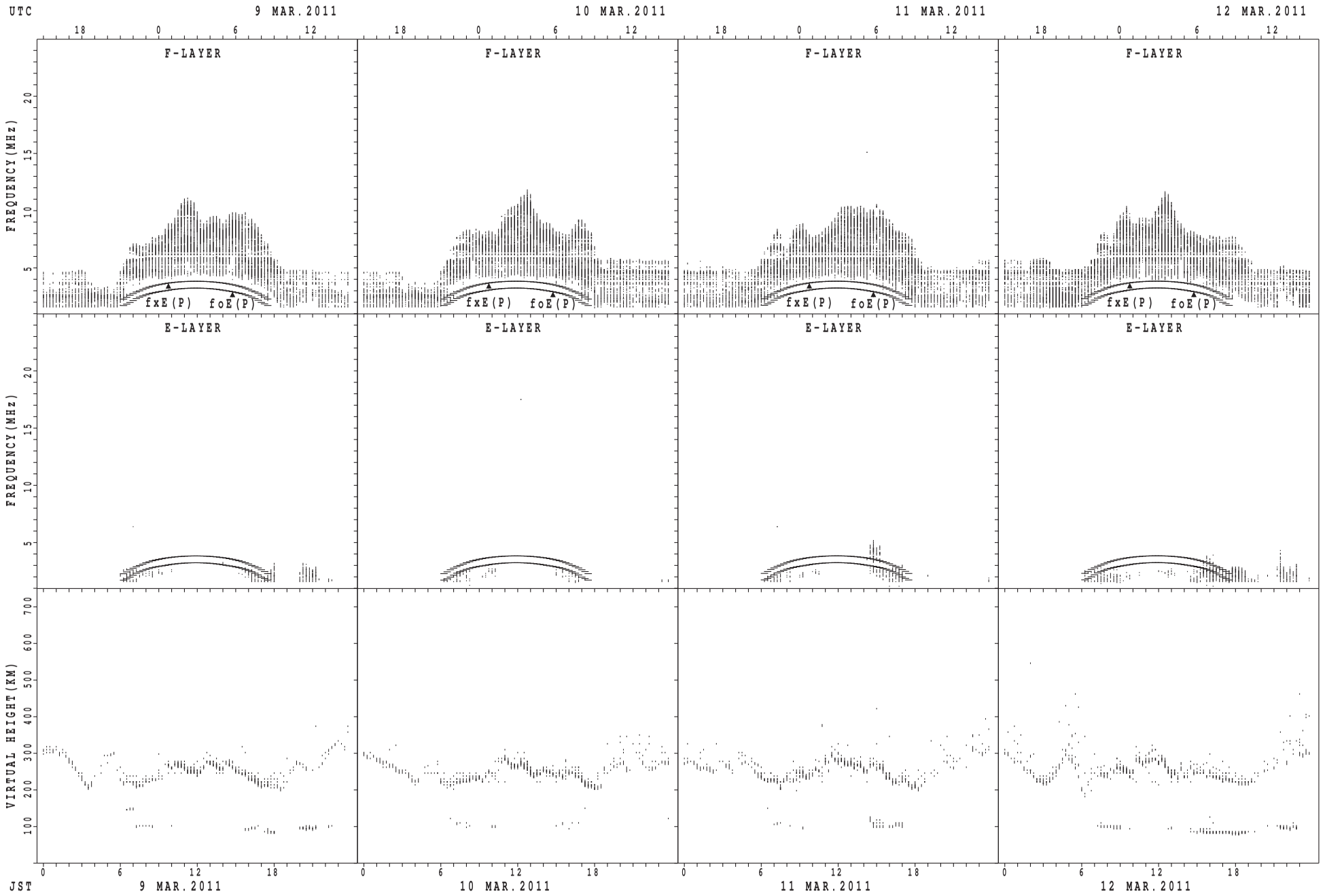
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



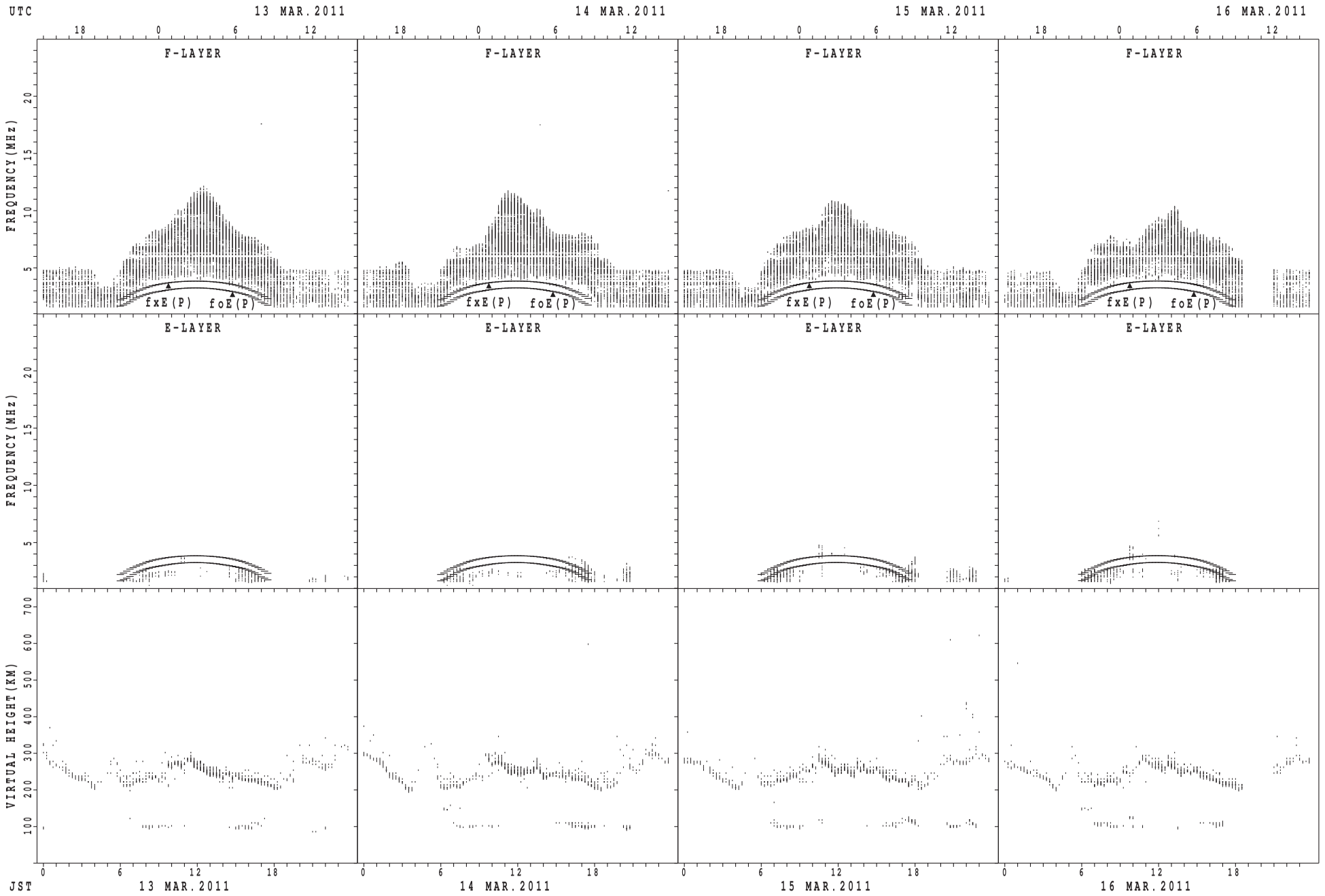
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



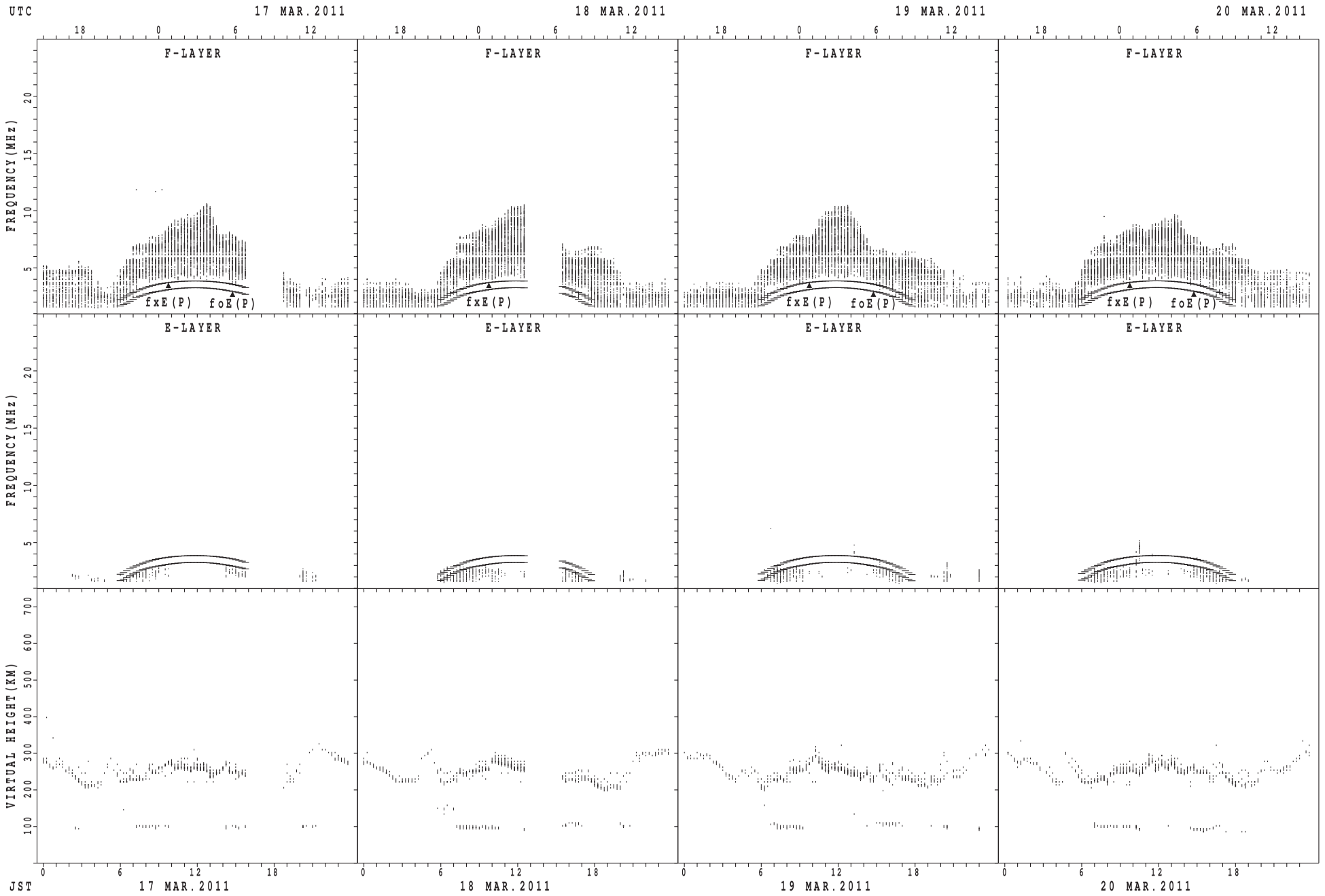
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



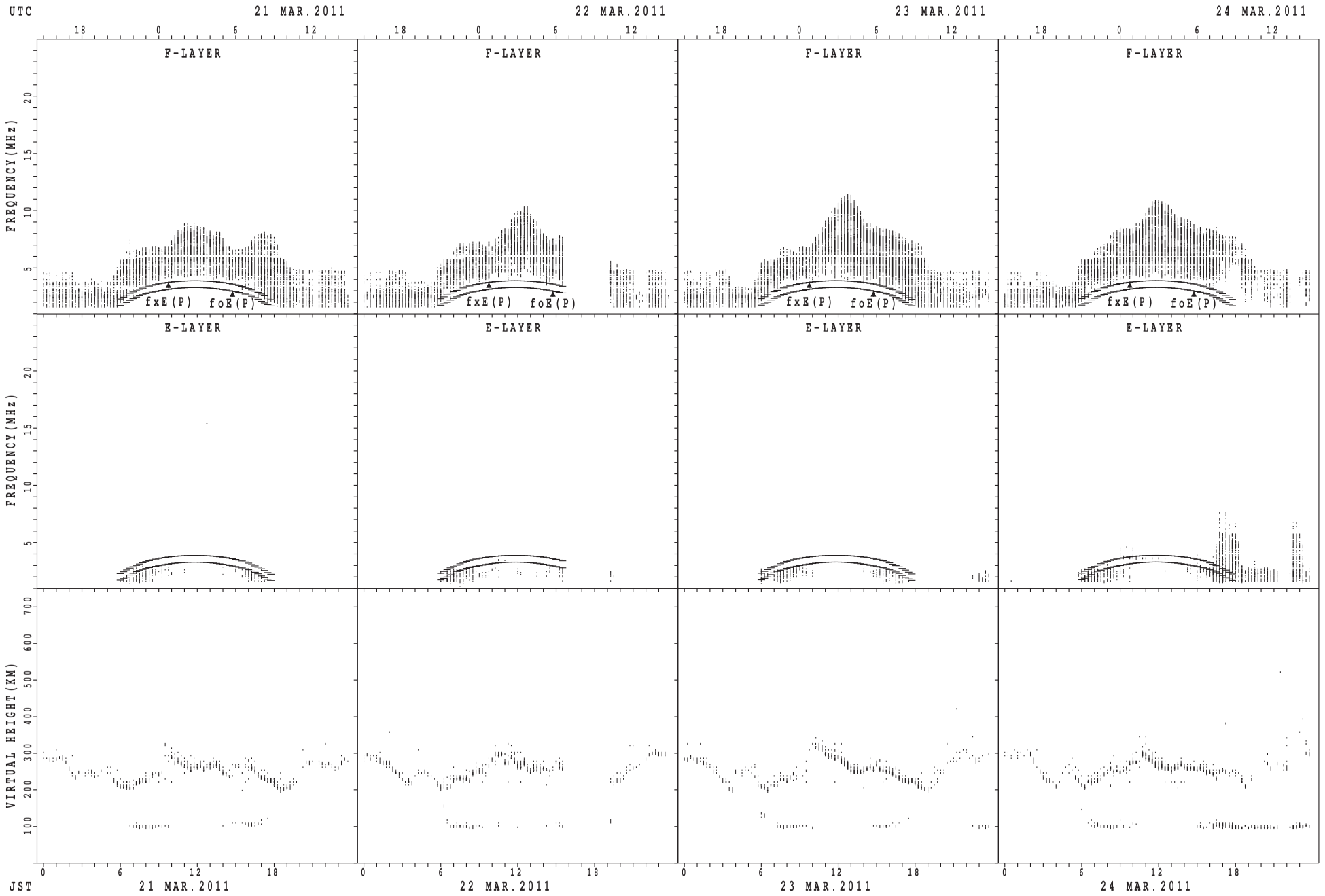
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



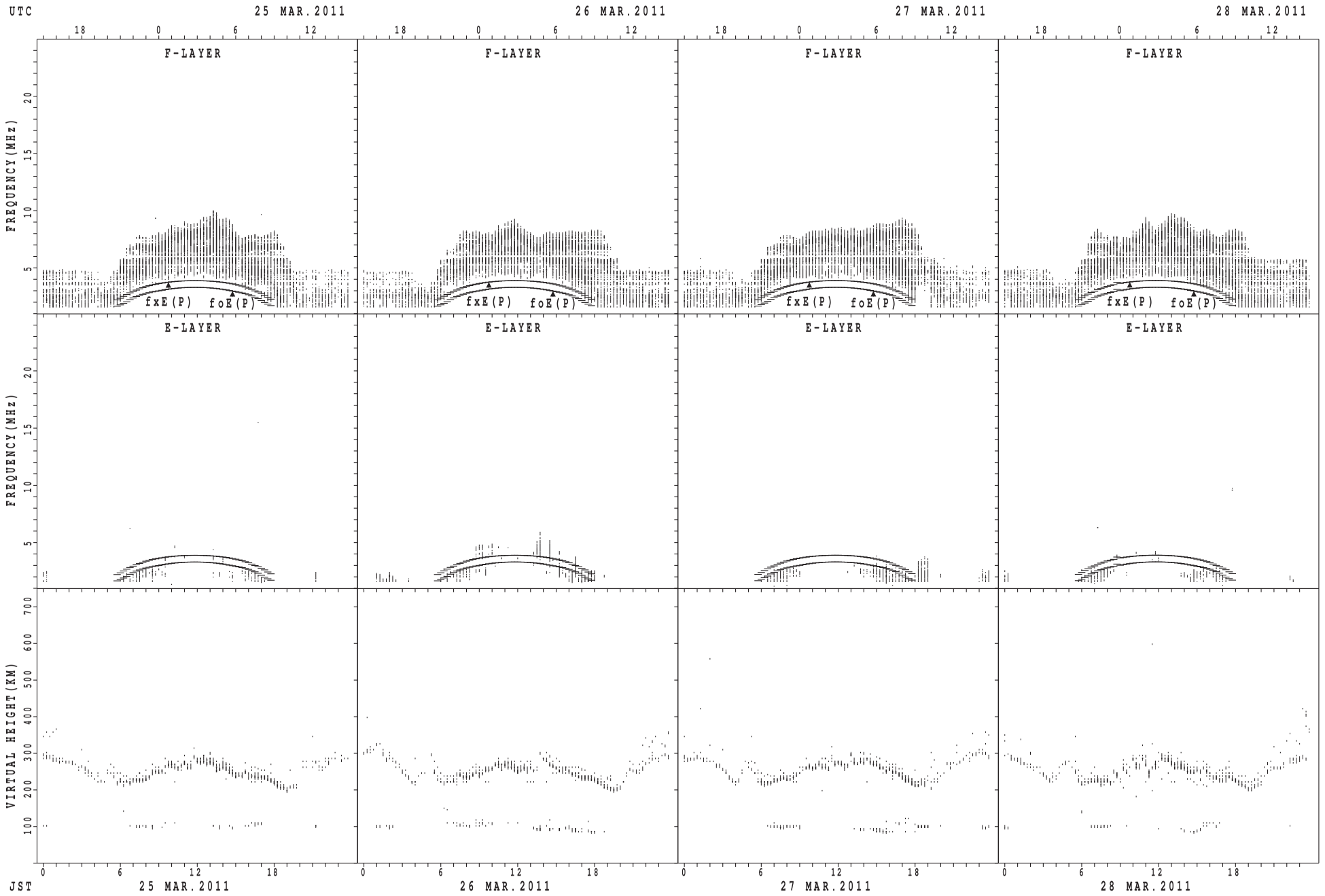
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



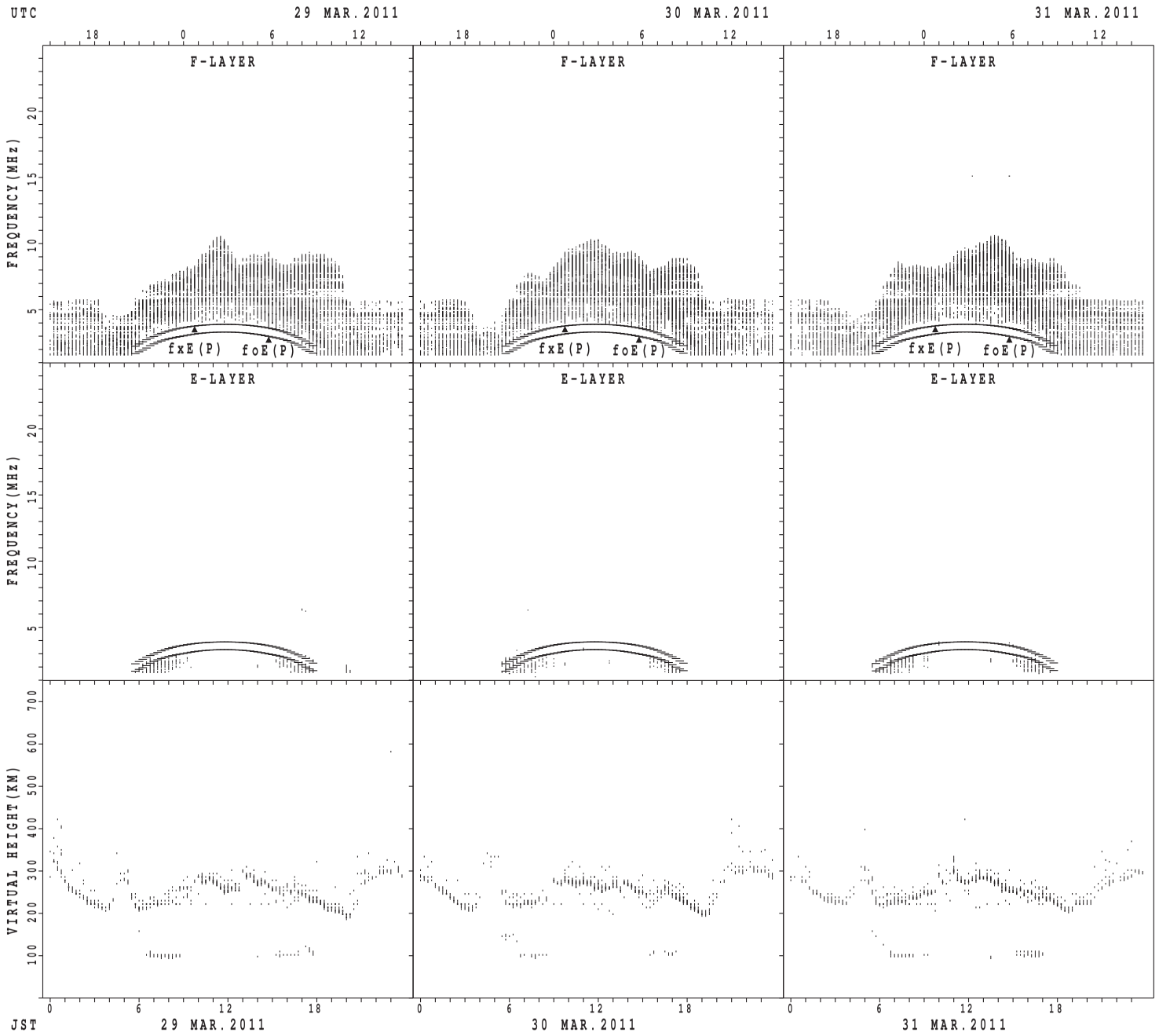
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



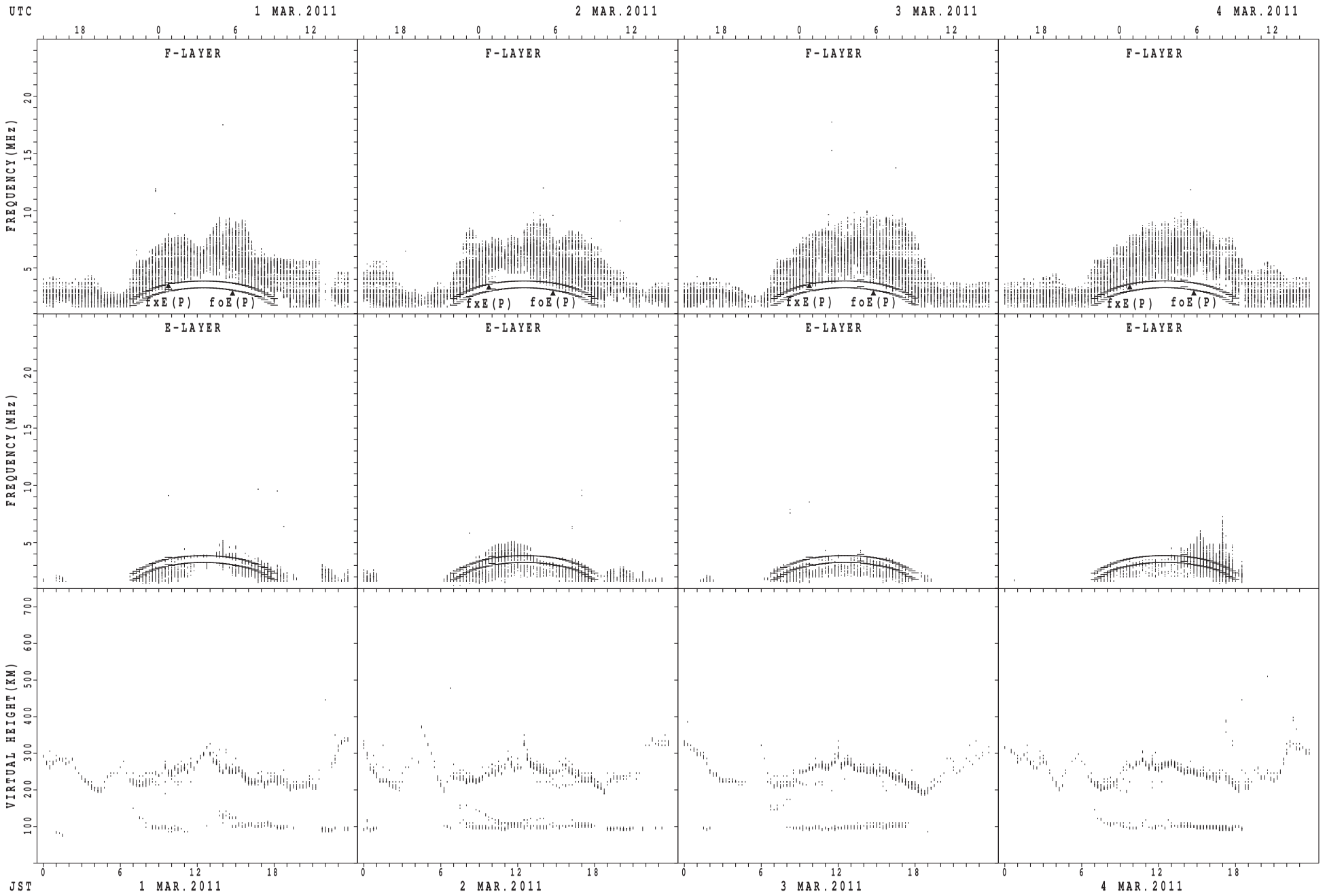
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



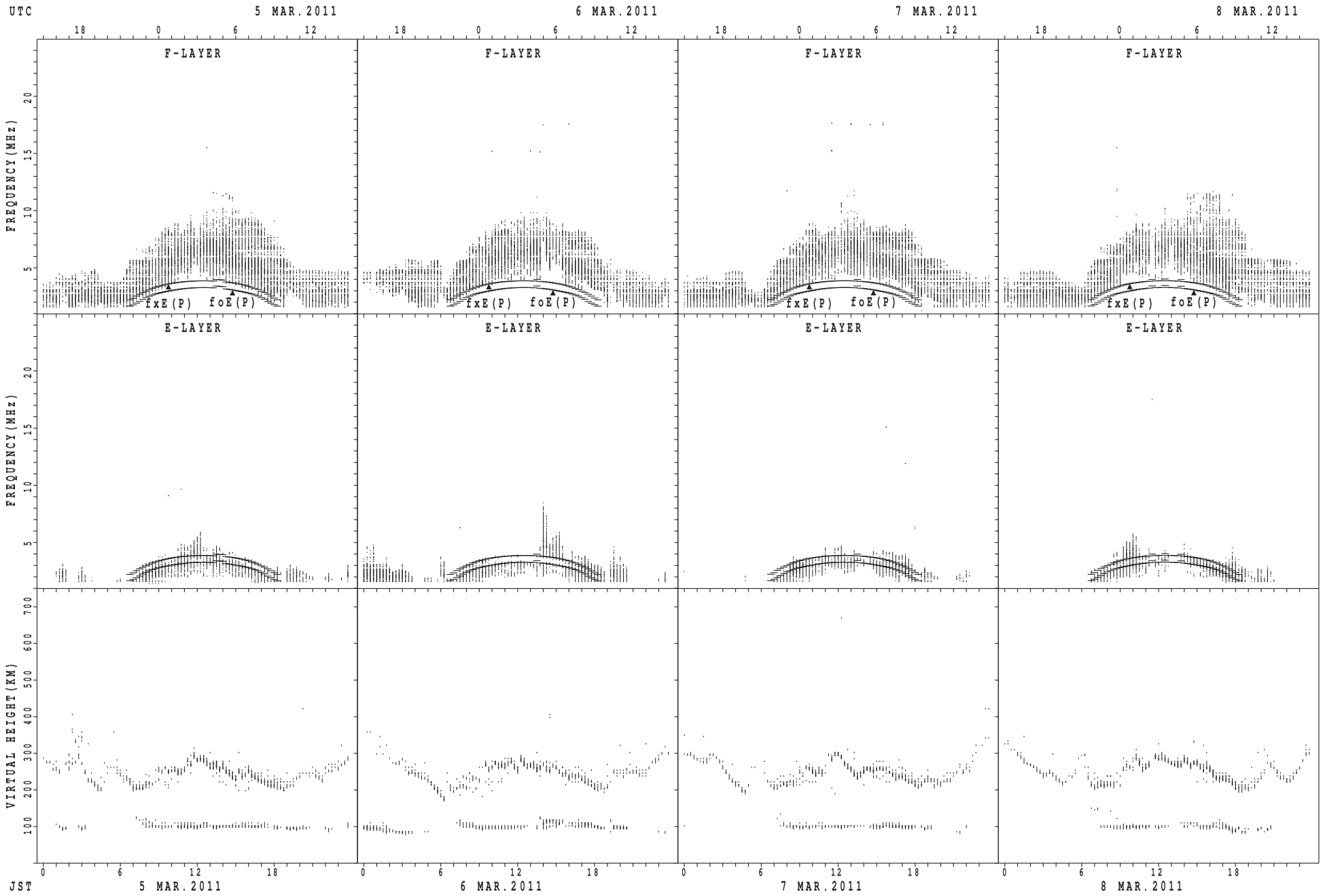
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



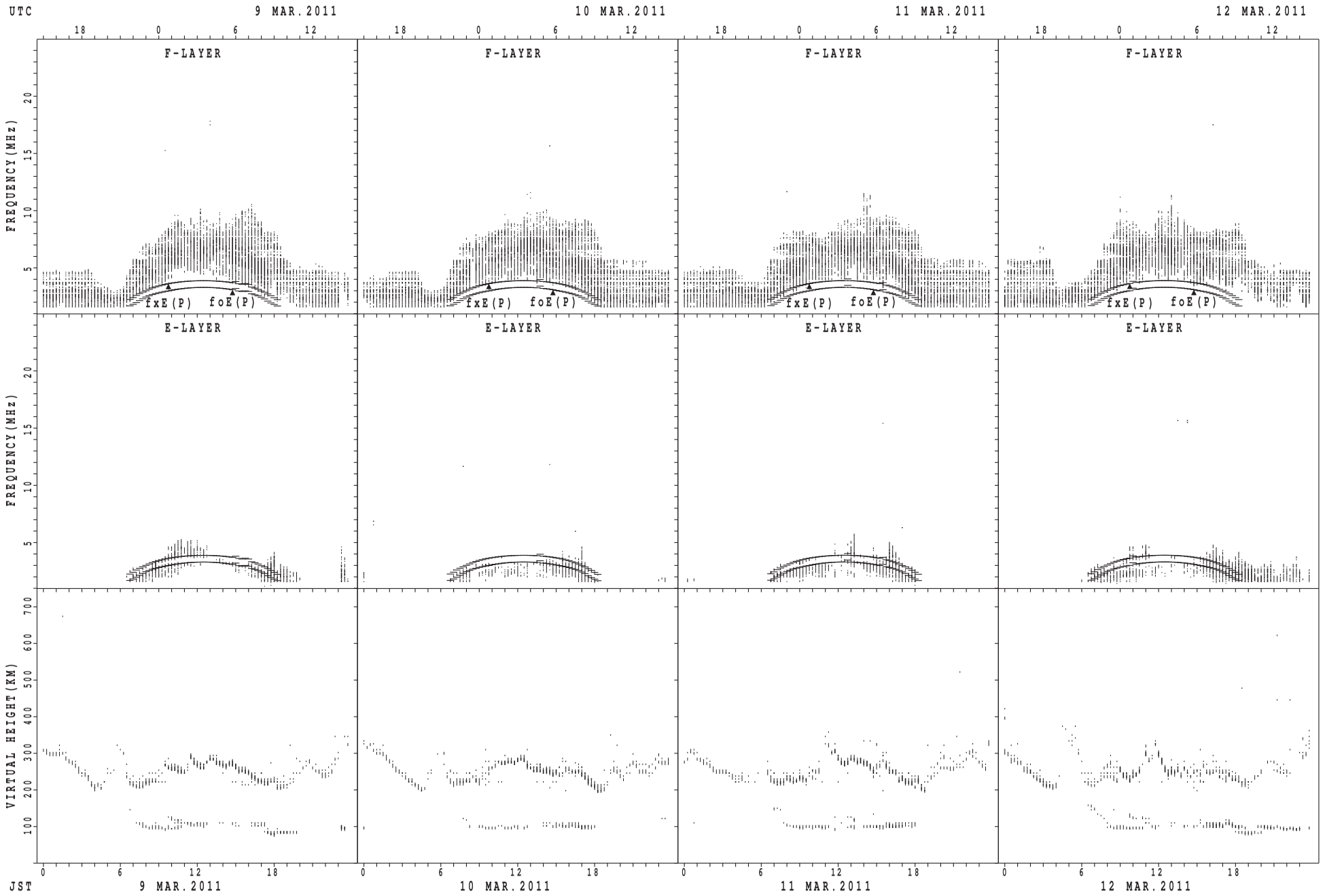
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



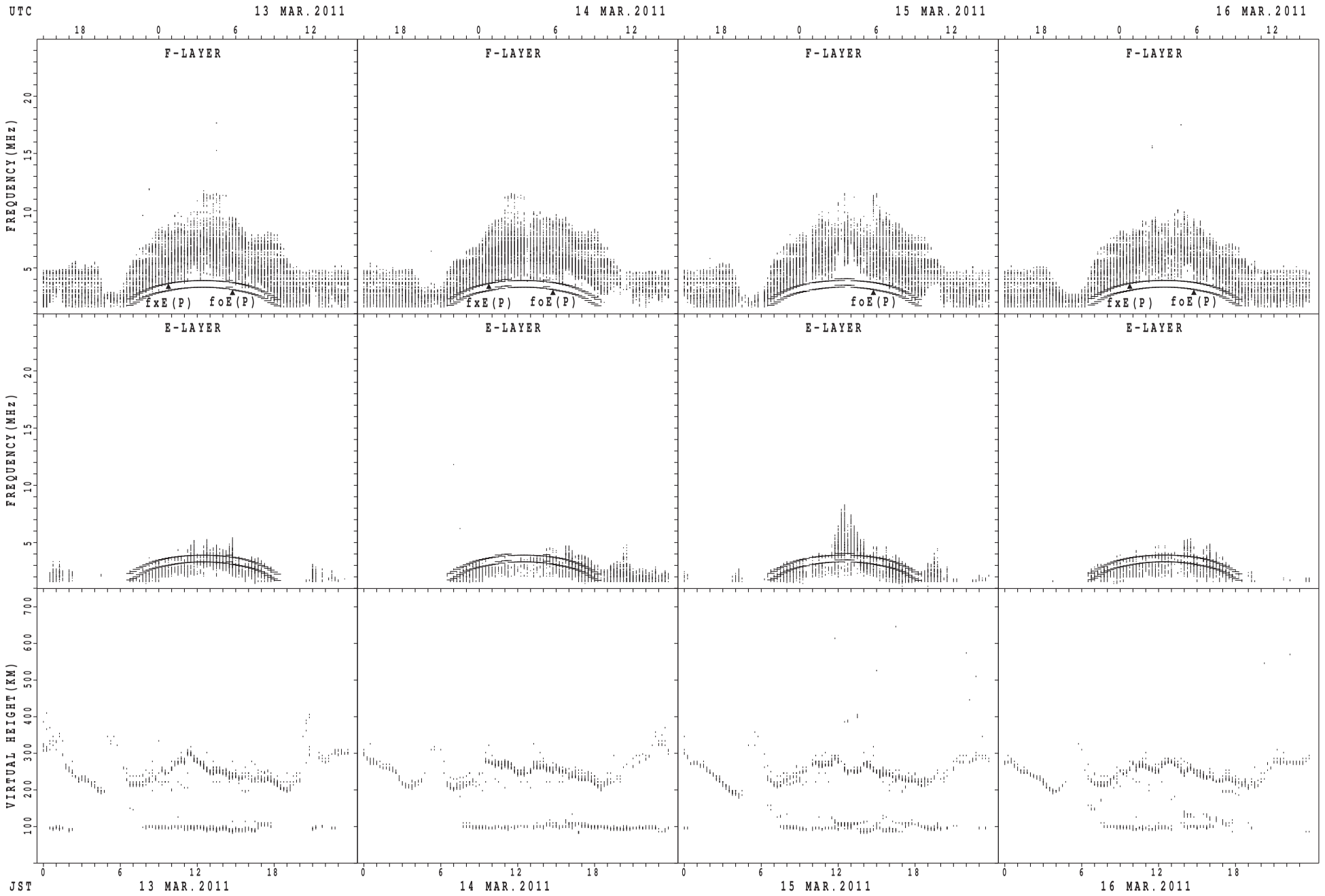
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



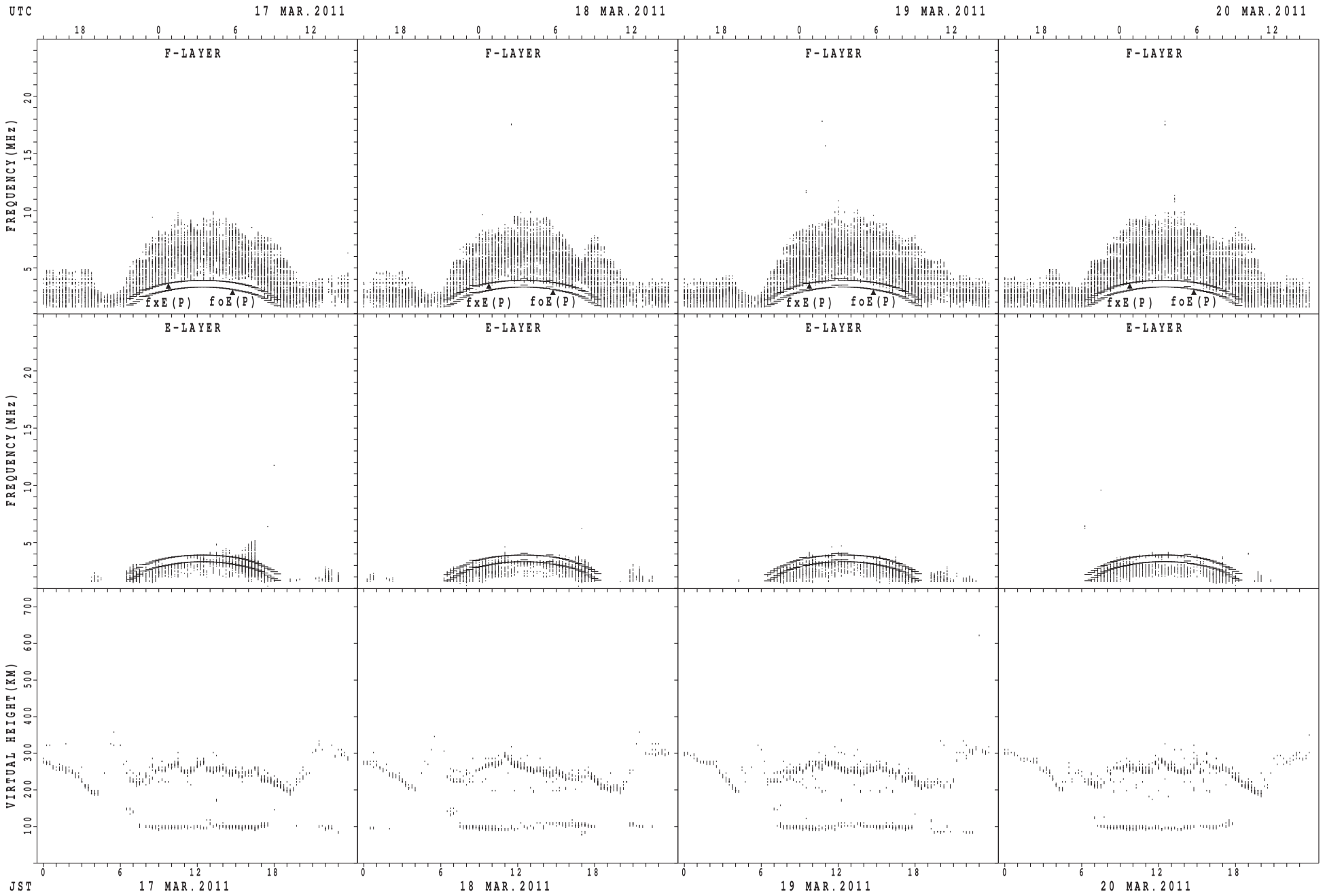
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



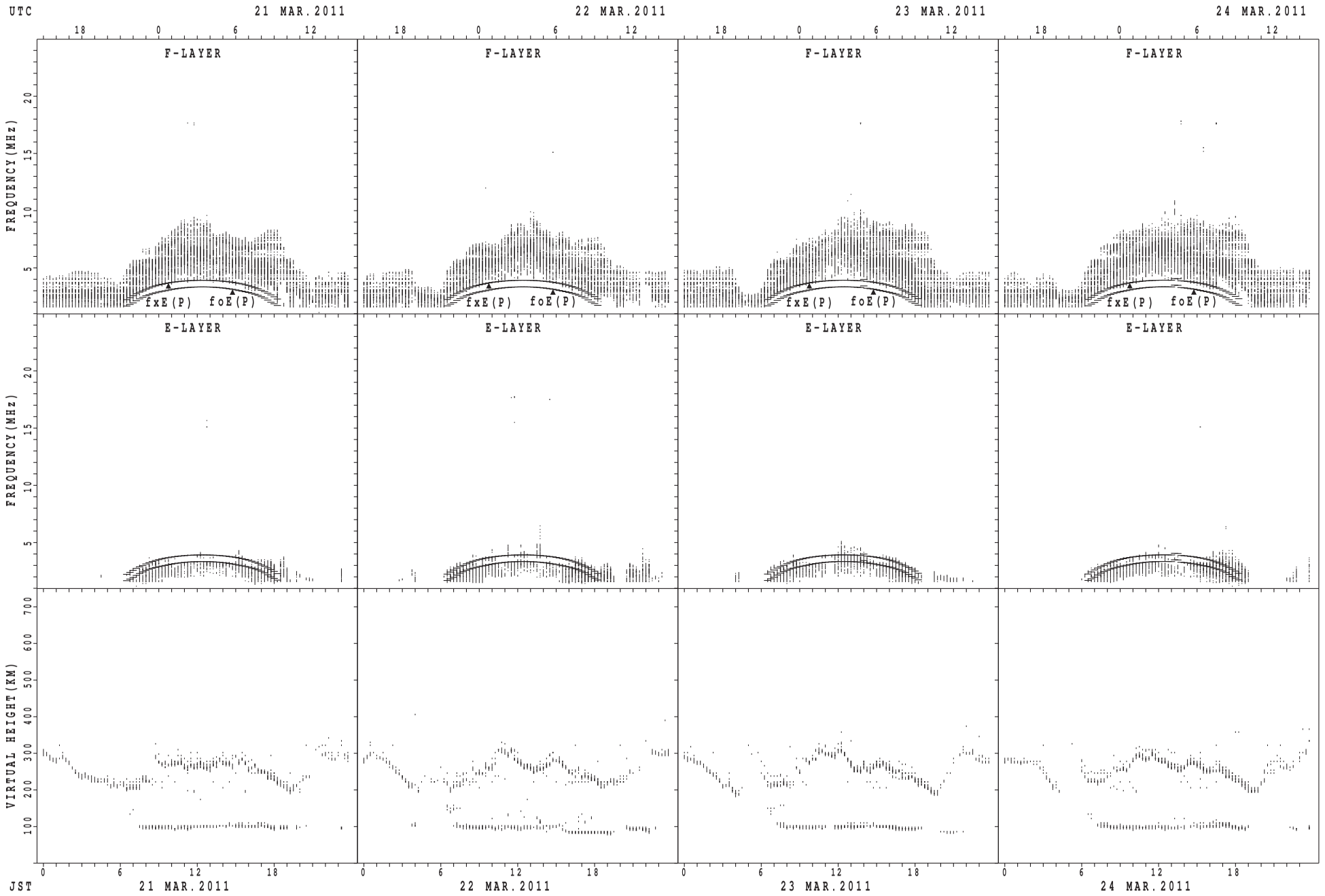
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



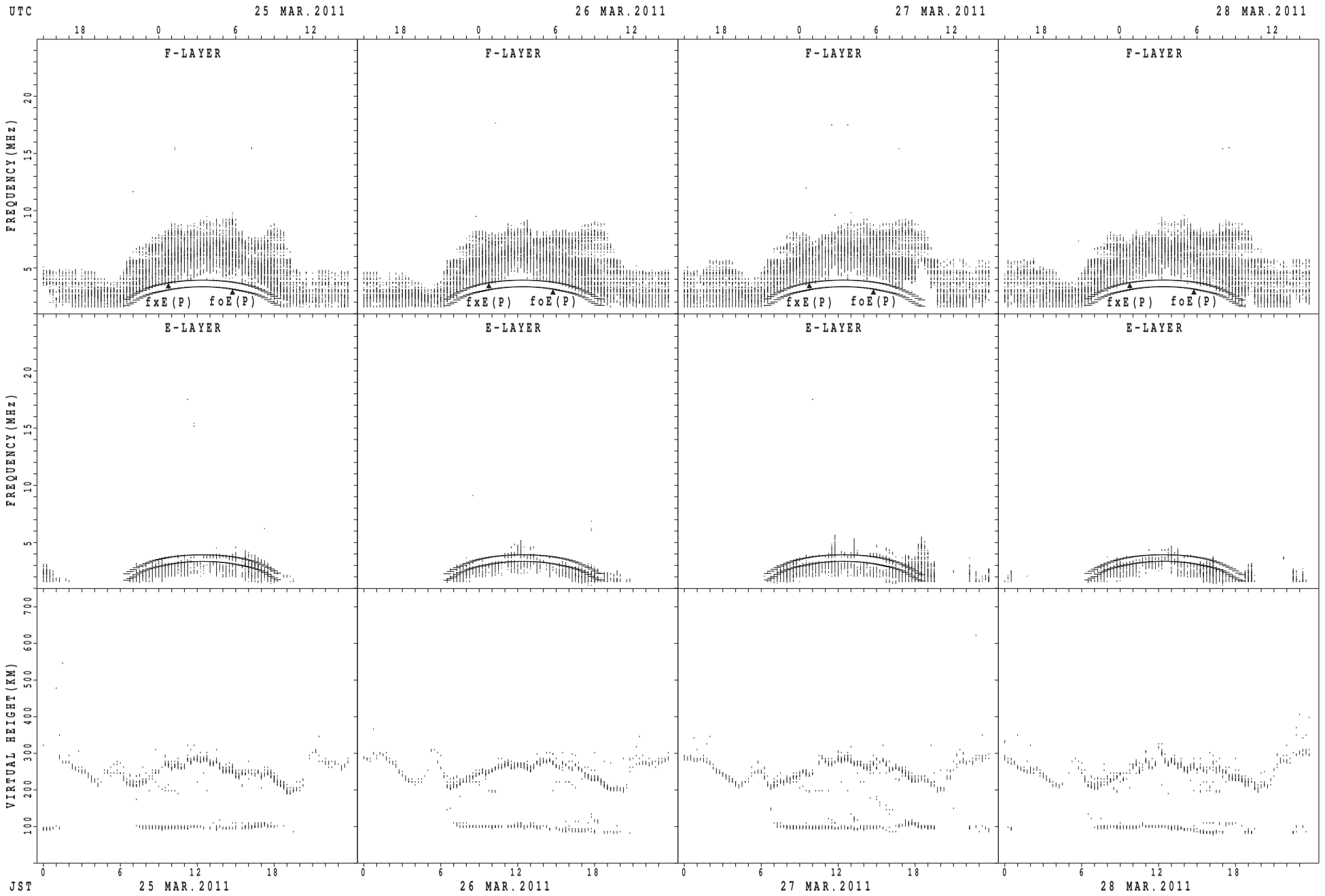
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



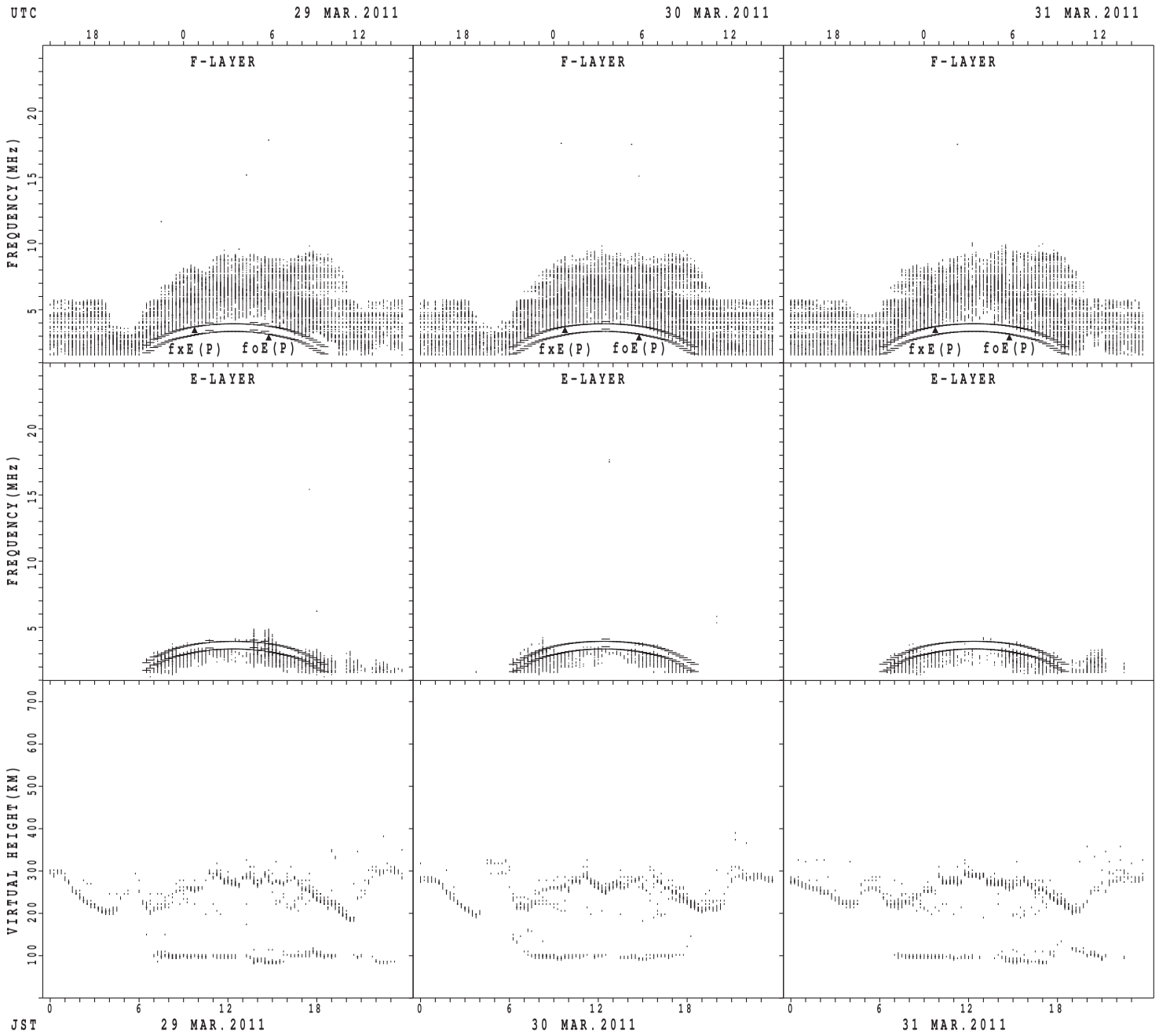
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



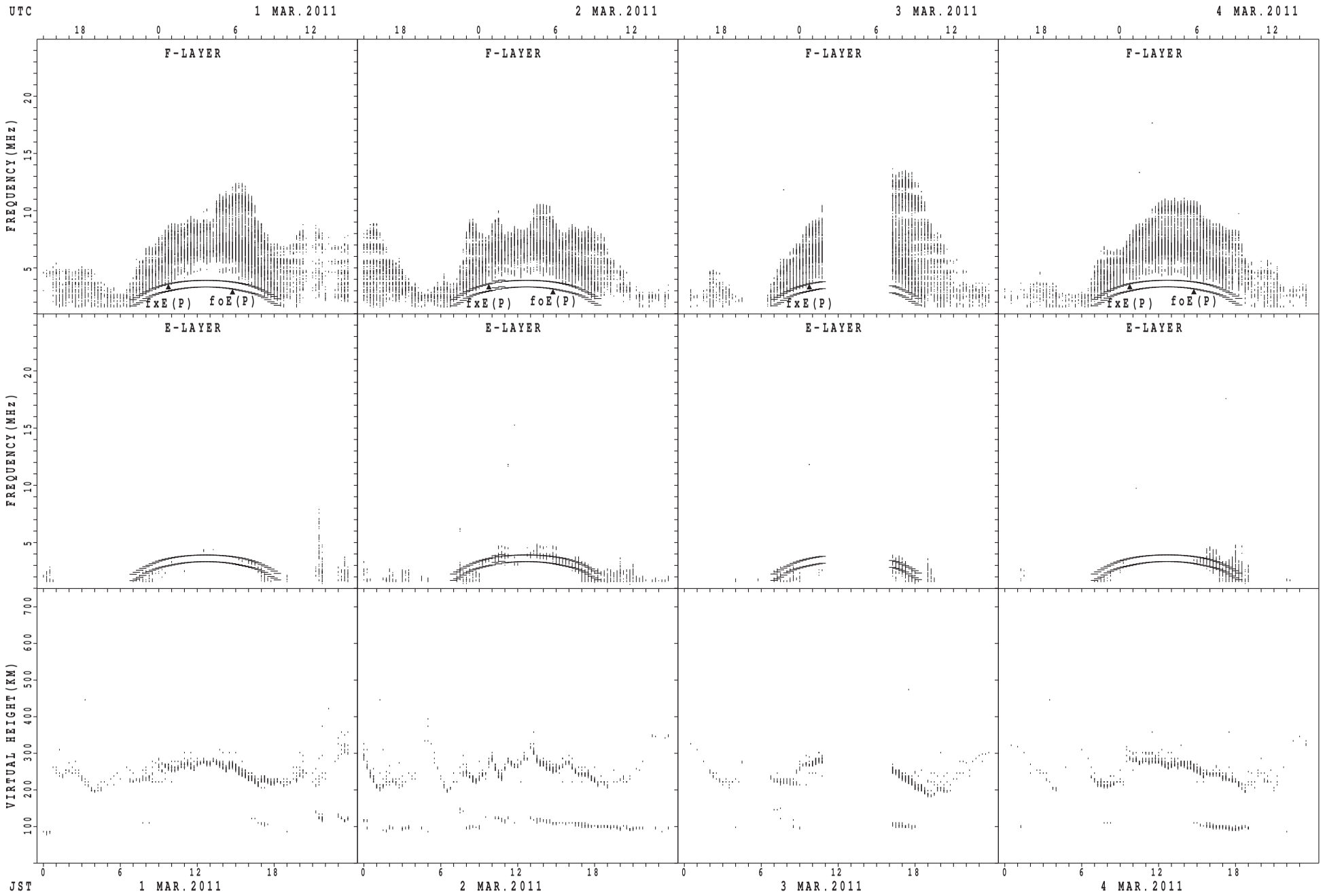
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



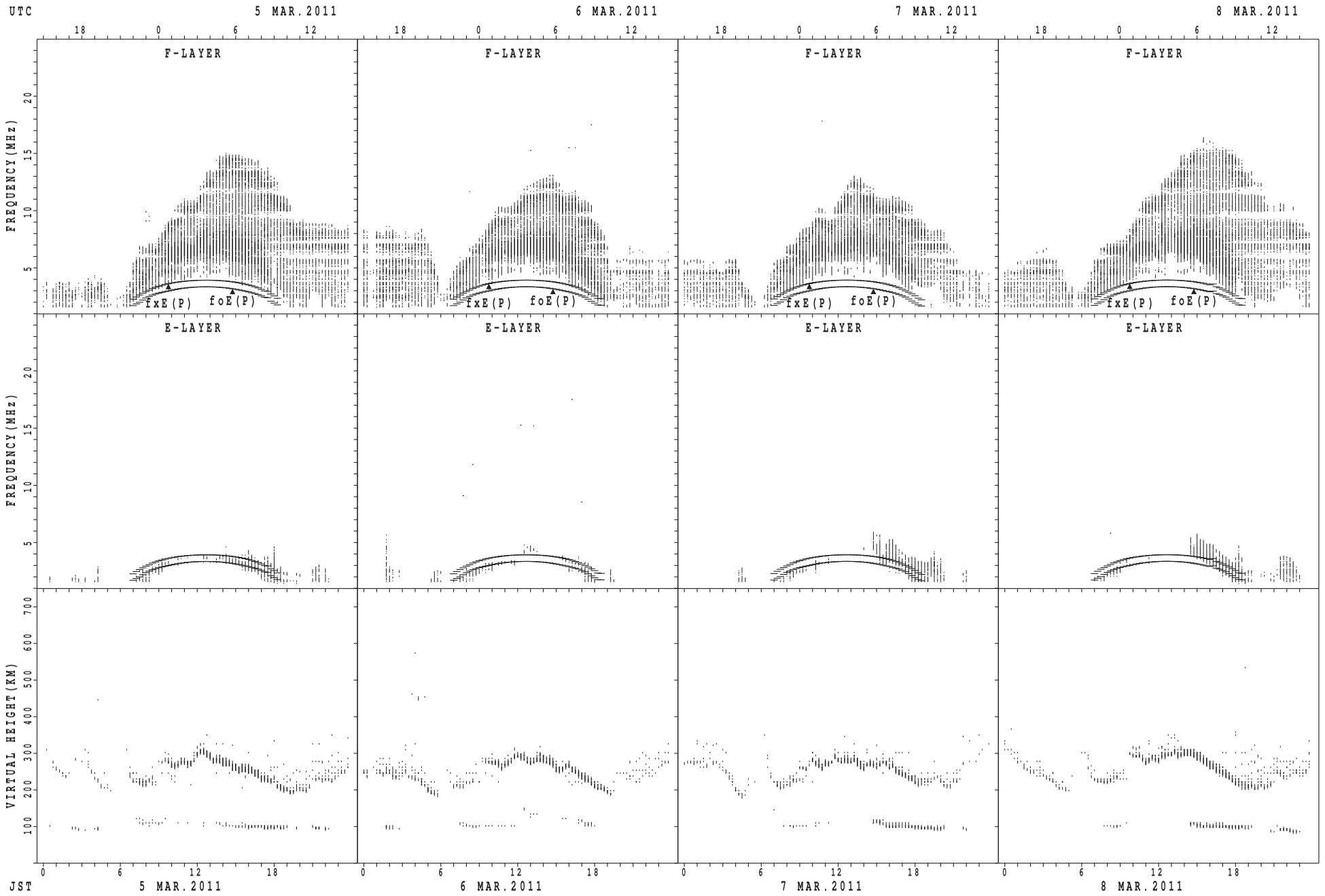
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



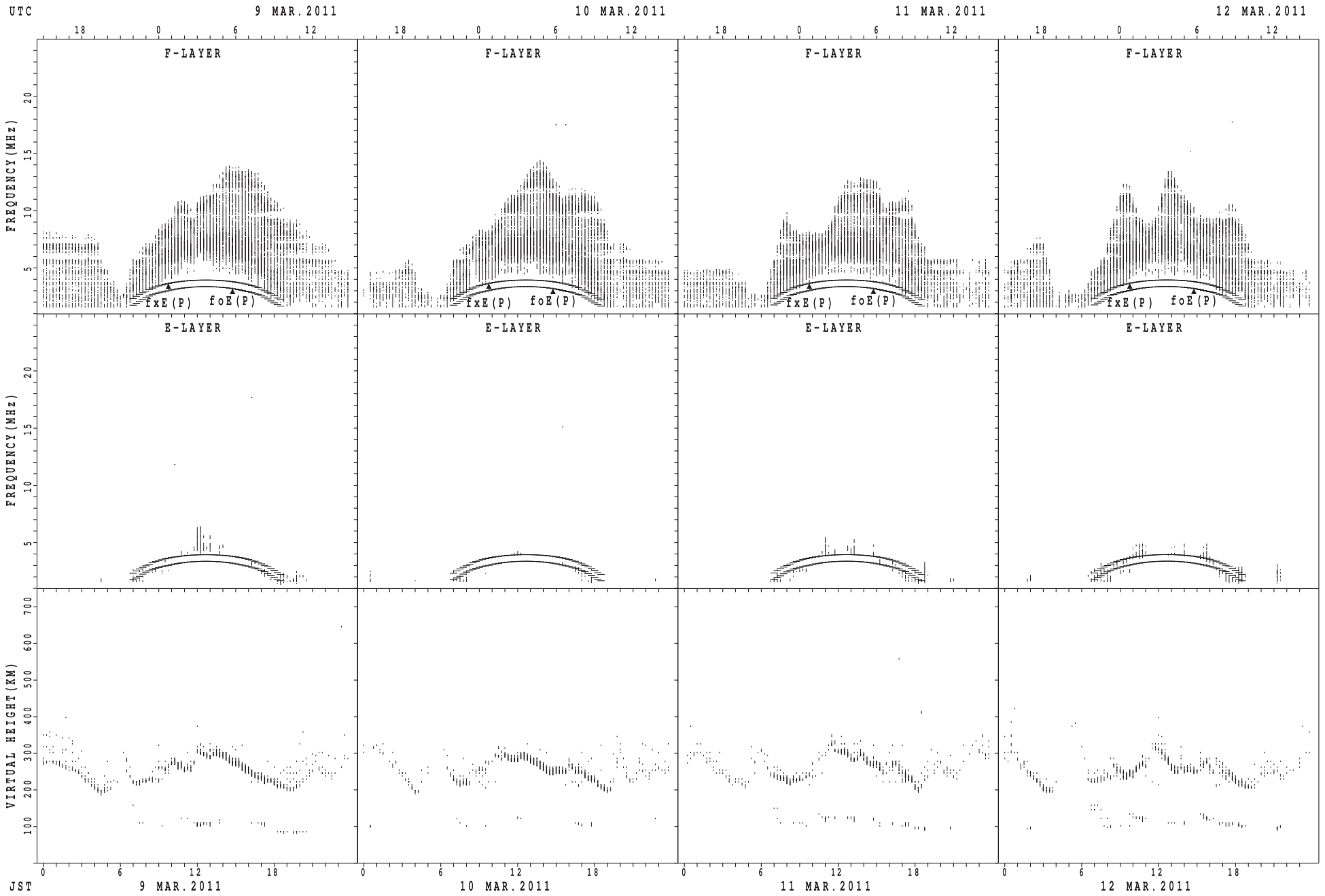
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



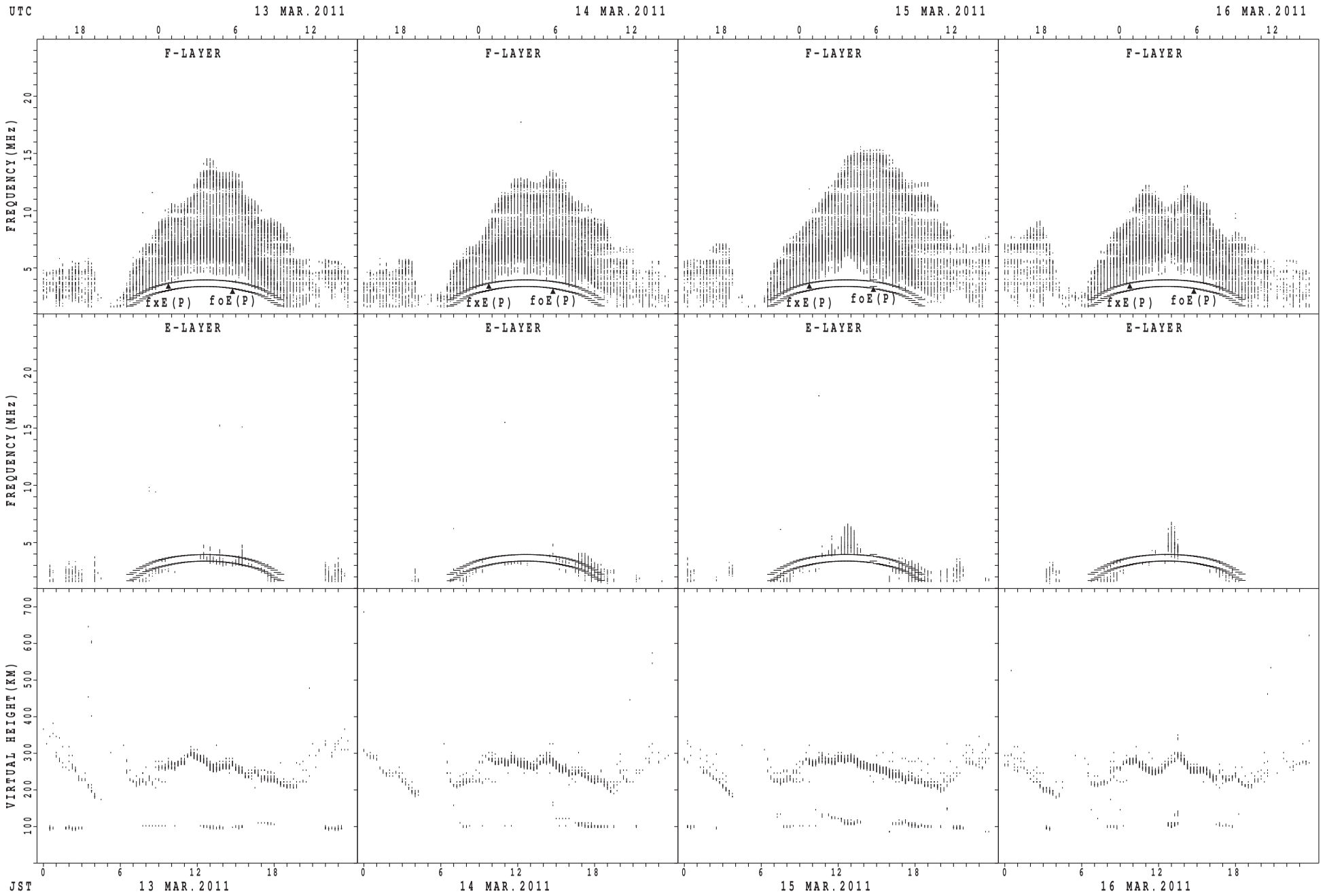
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



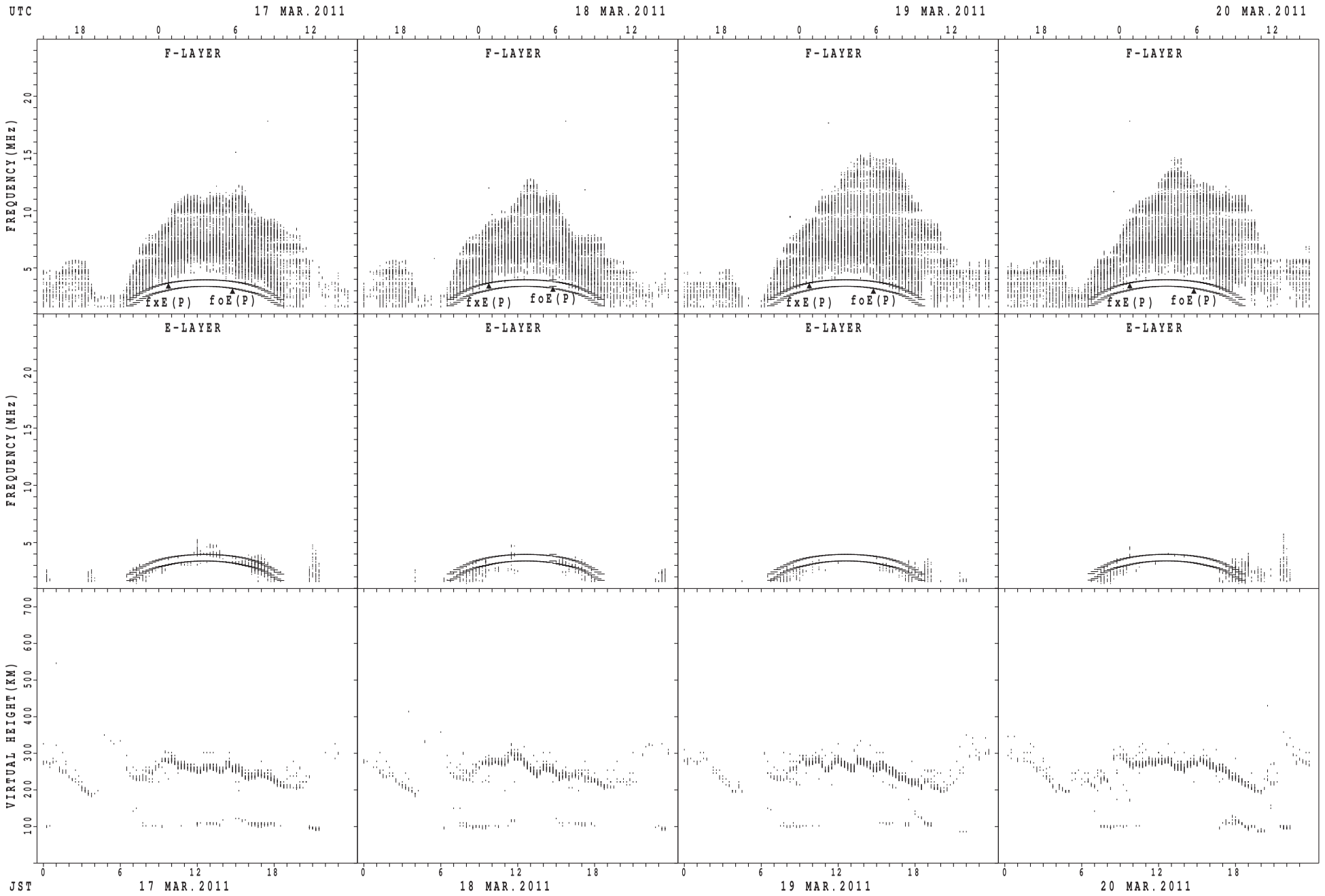
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



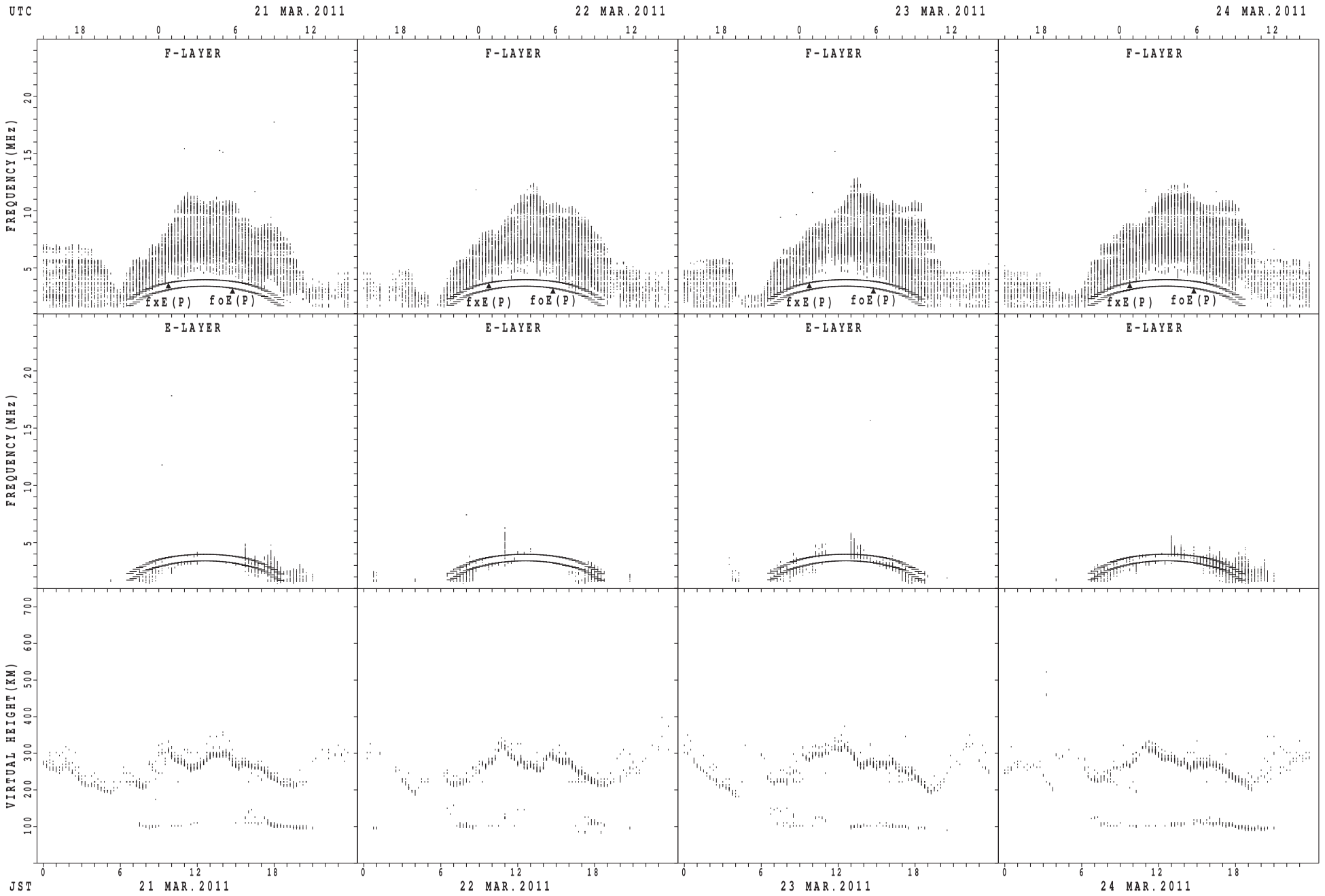
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



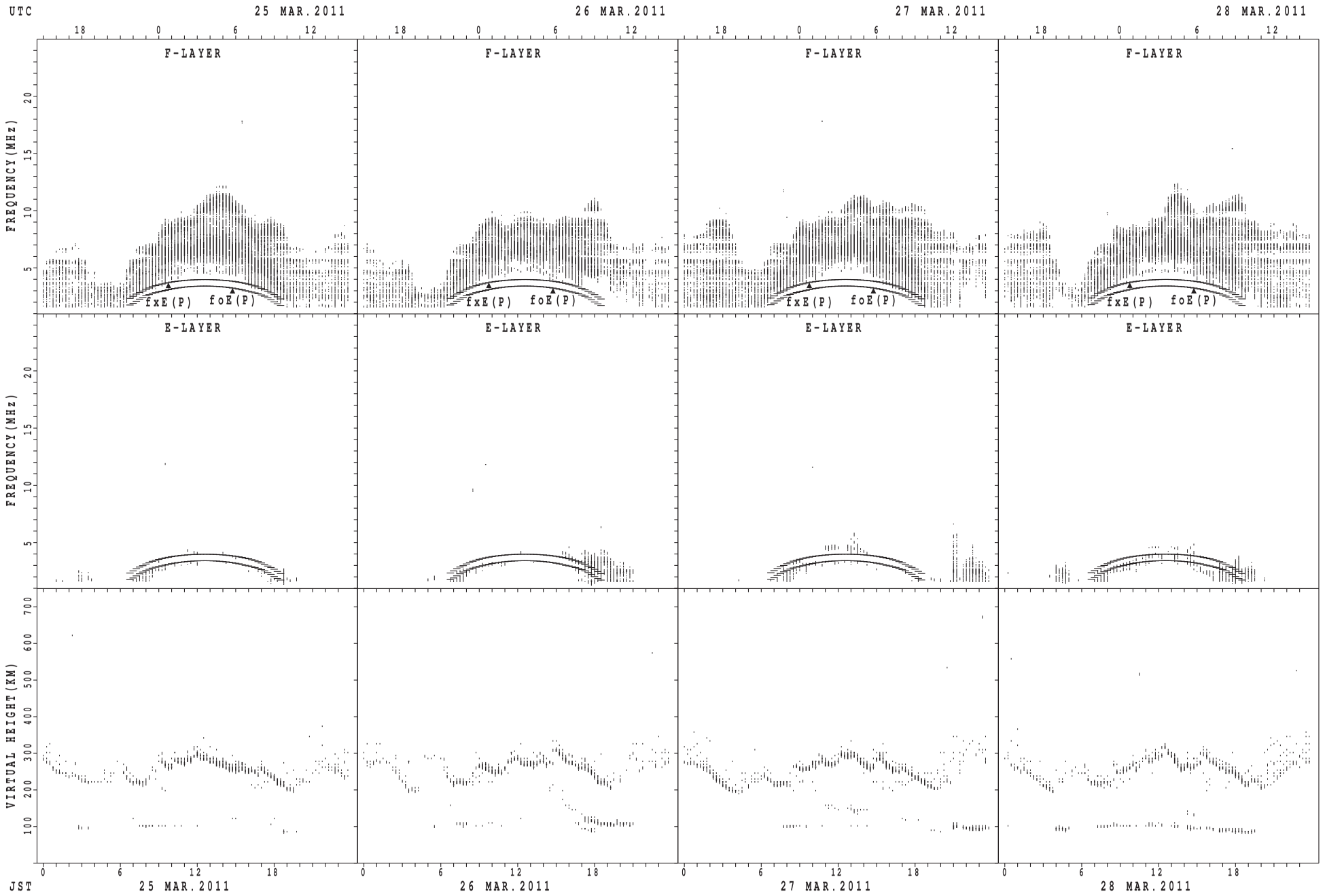
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



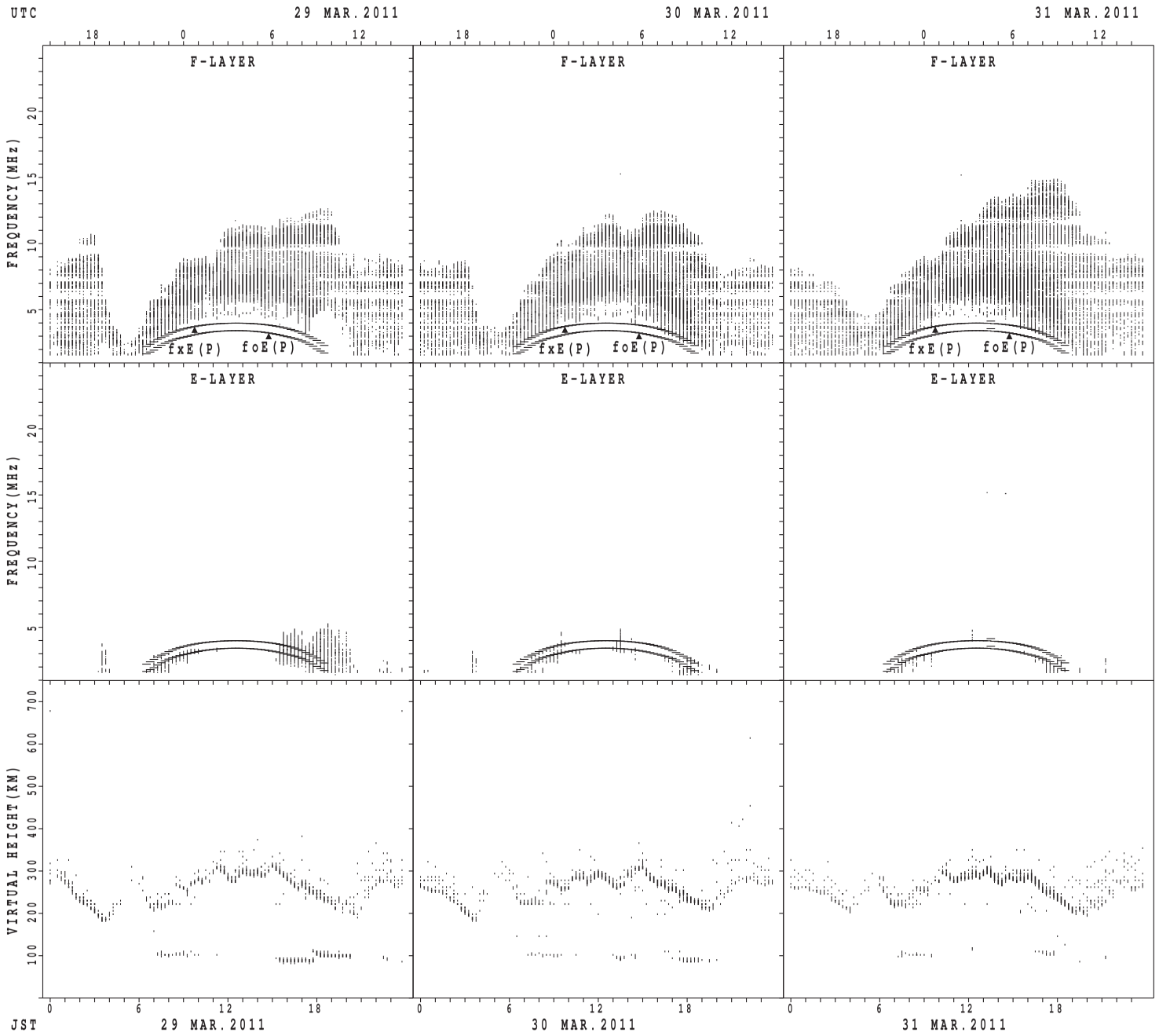
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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.2011 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							2	13	23	8						24	29	17	3	2	1			
MED							249	238	254	242						246	244	246	260	274	292			
U Q							250	246	258	255						254	257	254	262	300	146			
L Q							248	227	248	228						238	238	241	258	248	146			

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					14	22	20	14	5	11	5	2	1	14	20	8	6	2	2	1		1
MED		75					161	112	101	99	103	179	183	145	189	103	105	108	88	92	94	93		95
U Q		37					167	143	103	105	171	185	187	187	94	103	107	112	97	97	99	46		47
L Q		37					155	105	99	97	98	99	139	103	94	99	103	101	87	87	89	46		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								13	24	6						13	23	25	14	2				
MED								244	240	246						248	254	240	239	239				
U Q								254	249	250						256	260	252	244	240				
L Q								232	231	240						246	238	231	234	238				

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	5	1	2				7	4		1	5	2	2		1	4	5	10	8	4	5	8	3	6
MED	99	105	97				145	144		115	113	114	105		97	96	107	104	102	99	99	99	99	99
U Q	110	52	101				151	176		57	126	115	111		48	106	113	109	109	101	108	103	99	105
L Q	96	52	93				139	114		57	110	113	99		48	92	91	101	88	95	98	99	97	95

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	16	23							29	30	28	8	1			
MED								232	246	258							254	248	238	232	216			
U Q								116	250	266							260	258	247	240	108			
L Q								116	238	254							245	242	230	230	108			

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	5	4	2	2	2			20	20	15	7	15	15	10	12	16	16	26	19	18	11	9	7	4
MED	95	98	92	92	147			149	103	101	107	111	105	106	103	106	105	103	101	97	95	97	95	94
U Q	97	104	93	97	189			155	134	143	125	123	111	113	119	112	109	107	103	101	97	105	99	96
L Q	94	96	91	87	105			143	101	97	101	101	101	101	95	100	102	101	97	89	95	95	91	90

MONTHLY MEDIANS OF h'F AND h'Es

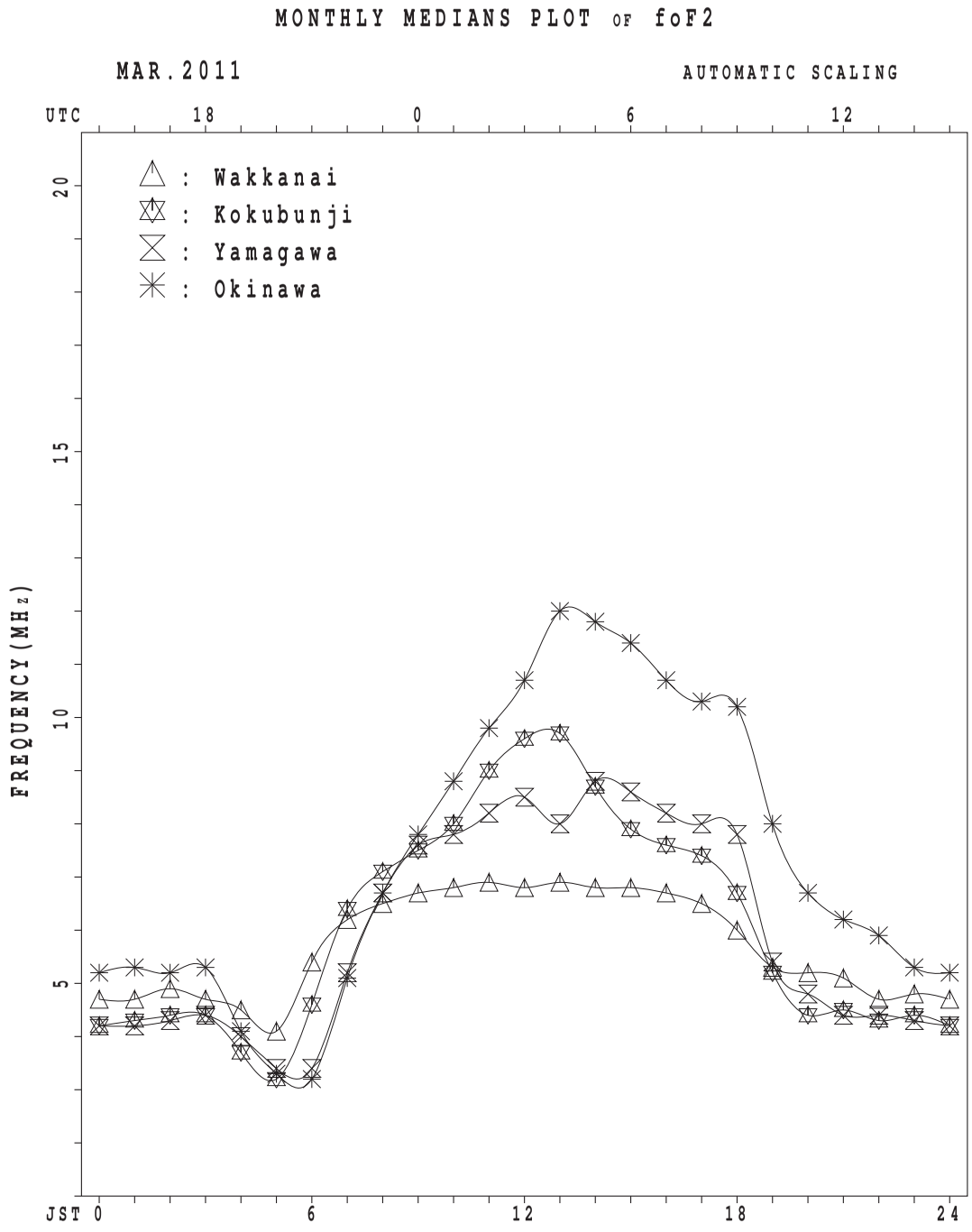
MAR.2011 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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	3	9	6	8	3	1		2	15	29							28	31	30	20	12	6	5	8
MED	304	314	294	232	260	222		235	256	266							262	248	231	224	243	259	300	299
U Q	320	324	300	236	264	111		238	270	280							270	256	238	232	260	330	318	311
L Q	304	299	268	224	234	111		232	240	260							243	238	230	219	234	256	260	286

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			4	2	4	1		3	3	5	2	6	7	13	6	4	10	15	19	17	8	6	5	3
MED			97	96	182	99		147	103	145	130	121	125	113	110	112	108	105	103	103	98	102	97	95
U Q			98	97	185	49		161	109	146	131	127	151	129	117	118	125	109	113	105	103	105	98	131
L Q			96	95	138	49		127	103	109	129	119	109	105	107	107	103	103	99	97	95	99	96	95


MONTHLY MEDIANS PLOT OF foF2
MAR.2011
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. 2011 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 37	X 38	X 40	X 40	X 38	X 30													X 59	X 59	X 52	X 38	X 38	X 37
2	X 40	X 42	X 43	X 32	X 29	X 33													X 64	X 52	X 50	X 37	X 39	X 42
3	X 42	X 45	X 47	X 47	X 39	44							C	C	C	C	C		X 67	X 44	X 46	X 50	X 50	X 51
4	X 51	X 52	64	62	X 54	X 42					C	C	C	C	C				X 58	X 52	X 55	X 49	X 46	X 50
5	52	X 50	X 48	X 49	X 49	42	57												X 58	X 49	X 49	X 45	X 46	X 44
6	X 46	X 45	X 46	X 47	X 43	X 44					C	C	C	C	C	C	C	C	C	C	C	X 53	X 50	X 50
7	X 48	X 49	X 48	X 51	X 53	X 37													X 65	X 59	X 56	X 54	X 53	X 50
8	X 50	X 52	X 53	X 52	X 47	X 44													X 65	X 54	X 55	X 58	X 52	X 50
9	X 49	X 48	X 49	X 52	X 41	X 38													X 65	X 50	X 55	X 52	X 49	X 49
10	X 50	X 50	X 48	X 48	X 43	X 41													X 74	X 59	X 64	X 61	X 61	X 60
11	X 58	X 60	X 58	X 56	X 52	X 50													X 70	X 57	X 54	X 55	X 57	X 56
12	X 58	X 59	X 59	68	58	52	55												X 79	X 62	X 55	X 54	X 50	52
13	X 51	X 54	X 53	X 54	X 47	X 41													X 65	X 54	X 52	X 54	X 53	X 52
14	X 54	X 53	X 53	X 57	X 38	X 42							C	C	C	C	C	C	C	C	C	C	C	C
15	X 52	X 50	X 51	X 51	X 44	X 35													X 72	X 55	X 52	X 54	X 51	X 49
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	X 54	X 53	X 54	X 57	X 47	X 41											C	C	C	X 46	X 40	X 42	X 44	X 45
18	X 46	X 46	X 46	X 42	X 36	X 35								C	C	C			X 72	X 62	X 49	X 44	X 45	X 45
19	X 45	X 45	X 44	X 46	X 41	X 37													X 68	X 60	X 54	X 51	X 47	X 44
20	X 44	X 46	X 45	X 46	X 43	X 38													X 72	X 60	X 50	X 53	X 52	X 49
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	X 50	X 50	X 50	X 51	X 44	X 44											C	C	C	C	X 54	X 52	X 51	X 51
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	X 49	X 50	X 47	X 49	X 40	X 40													X 79	X 62	X 54	X 55	X 53	X 52
25	X 54	X 52	X 51	X 50	X 49	X 44													X 84	X 64	X 50	X 53	X 52	X 52
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	X 55	X 54	X 54	X 53	X 47	X 46													X 88	X 64	X 55	X 56	X 55	X 52
28	X 56	X 55	X 53	X 52	X 46	X 46													X 86	X 71	X 60	X 62	X 61	X 62
29	X 60	X 58	X 64	X 62	X 48	X 47													X 97	X 92	X 66	X 60	X 60	X 61
30	X 60	X 61	X 62	X 59	X 43	X 45													X 91	X 71	X 58	X 60	X 61	X 64
31	X 63	X 63	X 63	X 58	X 51	X 49													X 89	X 73	X 68	X 63	X 61	X 61
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	27	27	27	27	27	2												23	24	25	26	26	26
MED	X 51	X 50	X 51	X 51	X 44	X 42	56												X 72	X 59	X 54	X 54	X 52	X 50
U Q	X 55	X 54	X 54	X 57	X 49	X 45													X 84	X 63	X 56	X 56	X 55	X 52
L Q	X 46	X 46	X 47	X 47	X 41	X 38													X 65	X 53	X 50	X 50	X 47	X 49

MAR. 2011 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 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	31	32	34	34	32	24	30	51	59	68	62	65	68	79	75	74	66	55	53	53	46	32	31	31
2	34	36	37	26	23	27	32	60	72	67	74	68	78	96	80	71	71	67	58	46	44	31	33	36
3	36	39	41	41	33	F	34	56	65	76	73	90	C	C	C	C	C	80	61	38	40	44	44	45
4	45	46	F	F	48	35	48	61	69	71	C	C	C	C	C	78	69	66	52	46	49	43	40	44
5	F	43	42	43	43	F	F	66	72	73	88	94	94	100	105	90	76	67	52	43	43	39	39	38
6	40	39	40	40	37	38	51	57	70	73	C	C	C	C	C	C	C	C	C	C	C	47	44	44
7	42	43	42	45	47	31	42	63	68	72	78	82	106	113	90	80	73	71	59	53	50	48	47	44
8	44	46	46	46	41	37	46	70	72	74	80	98	112	100	104	99	95	81	58	48	49	52	46	44
9	43	42	43	46	35	32	44	70	68	73	86	107	95	91	86	94	91	76	58	44	49	46	43	43
10	43	43	42	42	37	35	44	67	79	78	77	92	102	111	86	79	77	90	68	53	58	55	55	54
11	52	53	52	50	46	44	54	75	63	84	73	82	96	100	97	98	89	76	64	51	48	49	51	50
12	52	53	53	F	F	F	F	58	74	93	84	90	100	104	81	76	75	71	73	56	49	48	44	F
13	45	48	47	48	41	35	48	66	73	79	88	98	114	111	92	80	74	68	59	48	46	48	47	46
14	47	47	47	50	32	36	45	62	63	67	85	113	C	C	C	C	C	C	C	C	C	C	C	C
15	46	44	44	44	38	28	45	62	74	78	84	99	103	97	87	81	77	74	66	49	46	48	44	43
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	48	47	48	51	41	35	45	63	70	74	85	90	95	99	76	73	C	C	C	40	34	36	38	39
18	40	40	40	36	30	29	43	60	74	80	84	95	100	C	C	C	62	61	66	56	43	38	39	39
19	39	39	38	40	34	31	48	61	66	74	75	95	99	96	76	62	60	60	62	53	48	45	41	38
20	38	40	39	40	37	32	46	64	69	76	84	79	86	89	82	71	60	66	66	54	44	46	46	43
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	44	44	44	45	38	38	51	60	71	68	68	82	96	94	76	73	C	C	C	C	47	46	45	45
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	43	44	41	43	34	33	56	62	69	83	83	94	105	97	90	81	79	74	73	56	47	49	46	46
25	48	46	45	44	43	38	56	69	73	76	83	87	86	93	89	78	74	73	78	58	44	47	46	46
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	49	48	48	47	41	40	56	68	75	72	80	81	82	81	79	86	84	90	81	58	49	50	49	48
28	49	49	47	46	40	40	56	77	74	70	80	92	84	94	89	80	78	74	80	65	54	55	55	56
29	54	52	57	55	42	41	57	67	71	76	84	98	94	85	87	86	82	88	90	86	60	54	54	54
30	54	55	56	53	37	39	55	71	72	79	92	96	99	91	90	83	77	84	85	65	52	54	55	57
31	57	57	57	52	45	43	60	78	80	79	79	86	92	96	102	90	85	82	82	67	61	57	55	55
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	27	26	25	26	24	25	27	27	27	25	25	23	22	22	23	22	23	23	24	25	26	26	25
MED	44	44	44	45	38	35	48	63	71	74	83	92	96	96	87	80	76	74	66	53	48	48	46	44
U Q	49	48	48	49	42	38	56	69	74	79	84	97	102	100	90	86	82	81	78	57	50	50	49	49
L Q	40	40	41	40	34	32	44	60	68	72	76	82	86	91	80	74	71	67	58	47	44	44	41	41

IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										L	L	L	L	A	L	A								
2											A	A	A	424	L	L	L							
3										L		U L 440	C	C	C	C	C							
4										L	C	C	C	C	C	L	A							
5											L	U L 504	L	L	L	A								
6										L	C	C	C	C	C	C	C	C						
7											L	U L 524	U L 492	L	L	L								
8											L	L	L	L	L	L								
9											L	L	L	L	L	L								
10										L	L	L	L	L	L	L								
11									L	L	L	L	U L 480	L	L	L	L							
12										L	L	L	456	L	L	L								
13											444		460	L	L	L								
14											L	U L 480	C	C	C	C	C	C						
15										L	L	U L 488	L	U L 476	U L 468	U L 476								
16							C	C	C	C	C	C	C	C	C	C	C	C						
17										L	U L 472	472	472	U L 468	L	L	C	C						
18									L	L	476	476	L	C	C	C								
19										L	U L 484	464	468	452	A	L								
20										444	476	460	464	L	L	L	L							
21							C	C	C	C	C	C	C	C	C	C	C	C						
22									L	L	U L 488	A	464	U L 460	L	L	C	C						
23							C	C	C	C	C	C	C	C	C	C	C	C						
24									L	L	U L 492	U L 504	L	L	L	A	L	A						
25									L	L	L	U L 516	504	U L 496	472	L	L							
26							C	C	C	C	C	C	C	C	C	C	C	C						
27									L	L	U L 480	U L 500	U L 496	L	U L 492	L	L							
28											U L 512	504	U L 496	504	L	L								
29										L	L	U L 516	U L 508	L	U L 480	L	L							
30									L	L	L	L	U L 500	U L 500	L	L								
31										L	L	U L 532	L	U L 488	484	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	9	15	13	9	5	1								
MED										444	U L 480	U L 500	480	U L 476	U L 480	U L 476								
U Q											U L 490	U L 516	U L 498	U L 498	488									
L Q											474	472	464	456	470									

MAR. 2011 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							B	212	R	R	R	352	364	A	296	A	A	B						
2							B	208	260		A	A	A	A	A	R	R	R	U R 196						
3							B	200	268		R	R	R	C	C	C	C	C	U R 204						
4							B	R	R	R	C	C	C	C	C	A	A	196						
5							B	224	A	A	R	R	R	R	A	A	A	B						
6							B	U R 228	U R 300	R	C	C	C	C	C	C	C	C						
7							B	U R 252	R	R	R	R	R	R	R	R	R	R						
8							B	252	R	R	A	R	R	R	B	R	A	A						
9							B	240	R	R	R	R	R	R	R	A	A	U R 220						
10							B	U R 240	R	R	R	R	R	R	R	R	R	R						
11							B	208	R	R	R	R	R	R	R	A	A	A						
12							B	A	R	R	R	R	R	R	R	R	A	A						
13							B	228	R	R	R	A	R	R	R	R	R	U R 188						
14							B	232	R	R	R	R	C	C	C	C	C	C						
15							B	236	R	A	R	A	R	336	R	R	R	U R 220						
16							C	C	C	C	C	C	C	C	C	C	C	C						
17							B	244	R	R	R	R	R	R	R	R	C	C						
18							B	232	R	R	R	R	R	C	C	C	R	U R 200						
19							B	236	A	A	R	R	R	R	A	R	R	208						
20							B	A	R	R	R	A	A	R	R	A	U A 276	U A 196						
21							C	C	C	C	C	C	C	C	C	C	C	C						
22							B	256	R	R	A	A	R	R	R	R	C	C						
23							C	C	C	C	C	C	C	C	C	C	C	C						
24							B	R	R	A	A	A	A	R	R	A	A	A						
25							B	U R 264	R	A	A	A	R	A	A	A	R	U R 232						
26							C	C	C	C	C	C	C	C	C	C	C	C						
27							184	R	R	R	R	R	R	R	R	A	R	A						
28							B	R	A	R	R	R	A	R	R	R	R	R						
29							B	R	R	R	R	R	R	R	R	R	R	A						
30							B	268	R	R	R	R	R	R	R	A	R	U R 228						
31							184	A	R	R	A	R	R	R	R	A	R	U R 236						
	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	19	3			1	1	1	1		1	12						
MED							184	236	268			352	364	336	296		U A 276	U R 206						
U Q								252	U R 300									U R 224						
L Q								224	260									U 196						

MAR. 2011 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

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

MAR. 2011 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 14	E B 16	E B 15	E B 15	E B 15	E B 14	E B 14	G	G 21	G 24	G 23	38	41	41	36	35	39	25	E B 14	E B 15	E B 15	E B 14	E B 15	E B 15
2	16	E B 15	E B 15	16	E B 16	E B 16	E B 15	24	29	34	38	44	46	36	G 26	G 22	G 23	G	E B 16	E B 13	E B 15	E B 16	E B 15	E B 16
3	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	E B 16	23	G 19	G 22	G 22	G 27	C	C	C	C	C	G 18	E B 15	E B 15	E B 15	18	17	E B 15
4	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	G	G 20	G 24	C	C	C	C	C	32	30	22	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15
5	19	E B 15	E B 15	E B 14	E B 14	E B 15	E B 14	24	30	35	G 26	G 30	G	G 28	39	39	29	24	E B 16	E B 15	E B 16	16	E B 15	17
6	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15	G	G 18	G 24	C	C	C	C	C	C	C	C	C	C	C	E B 16	E B 14	E B 16
7	E B 15	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	G 20	G 24	G 26	G 28	G 30	G	G 32	G	G 28	G 22	G 18	18	28	22	24	E B 15	E B 15
8	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15	18	27	G 22	G 26	40	G	G 26	G	E B 23	G 28	36	24	23	17	16	E B 15	E B 15	E B 15
9	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	17	28	G 24	G 26	G 28	G	G	G	G	33	31	G	22	E B 14	19	18	E B 14	E B 15
10	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	G	G 21	G	G 28	G 25	G 30	G	G 29	G 27	G 19	G 19	E B 14	E B 14	E B 15	E B 15	E B 16	E B 15
11	E B 15	E B 14	E B 15	E B 15	E B 15	E B 15	E B 16	23	G	G 24	G 26	G 31	G	G	G	36	31	23	E B 15	E B 15	E B 14	E B 15	E B 15	E B 15
12	E B 14	E B 15	E B 15	E B 14	E B 15	E B 15	E B 15	22	G 21	G 23	G	G	G 24	G 26	G	G 21	30	22	20	19	E B 15	E B 15	19	E B 15
13	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	G	G 22	G 24	G 25	38	G 32	G 27	G 27	G 22	G 19	G	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15
14	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	26	G	G 24	G 29	G 27	C	C	C	C	C	C	C	C	C	C	C	C
15	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	17	27	G 24	35	G	40	G	38	G 27	G 26	G 24	G	27	E B 15	E B 15	E B 15	E B 16	E B 15
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	E B 15	E B 16	E B 15	E B 15	E B 15	E B 16	18	G	G 26	G 26	G	G	G	G	G	G 27	C	C	C	E B 16	E B 16	E B 16	E B 16	E B 16
18	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	20	26	G 24	G 26	G 27	G 26	G	C	C	C	G 25	G 19	E B 14	E B 14	E B 15	E B 15	E B 15	E B 15
19	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	17	27	30	36	G 21	G 27	G	G 28	39	G 26	G 25	24	E B 15	E B 15	16	E B 15	E B 15	17
20	E B 15	E B 16	E B 15	E B 16	E B 15	E B 15	17	24	G 24	G 26	G 27	38	36	G	G 26	33	30	20	17	E B 15	E B 15	E B 15	E B 15	E B 15
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	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	18	27	G 28	G 26	39	42	G 28	G	G 26	G 28	C	C	C	C	E B 16	E B 15	E B 15	E B 15
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	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15	20	G 22	G 26	38	39	37	37	G	G	38	32	34	43	29	19	18	E B 14	19
25	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	20	G 22	G 24	36	38	38	G 24	38	37	32	G 23	G 20	E B 19	E B 15	E B 14	E B 15	E B 15	E B 16
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	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	20	G 22	G 24	G 25	G 32	G 29	G	G 27	G 26	33	G 20	26	18	27	15	E B 15	E B 14	E B 15
28	E B 15	E B 15	E B 15	E B 15	E B 13	E B 15	20	G 23	32	G	G	G	38	G	G 22	G 24	G 25	G 18	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15
29	E B 14	E B 14	E B 15	E B 14	E B 15	E B 14	21	G 20	G 25	G 27	G	G	G	G 26	G 24	G 22	G 21	25	E B 16	E B 15	E B 16	E B 15	E B 15	E B 16
30	E B 16	E B 15	E B 15	E B 15	E B 15	E B 14	23	29	G 23	G 25	G	G 34	G 33	G	G 24	36	G 25	G 21	E B 14	E B 15	E B 15	E B 14	E B 14	E B 15
31	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15	20	30	G 21	G 27	39	G	G	G	G 24	37	G 25	G 22	E B 15	E B 14	E B 15	E B 15	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	27	27	27	27	27	27	27	27	27	27	25	25	23	22	22	23	22	23	23	24	25	26	26	26
MED	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	17	23	G 24	G 26	G 32	G	G	G	G 28	G 28	G 25	G	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15
U Q	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	20	27	28	G	G	38	G	G	G	35	30	24	19	16	16	16	E B 15	E B 16
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	G 23	G 21	G 24	G 26	G 30	G 32	G 28	G 26	G 26	G 23	G 20	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

MAR. 2011 fbEs (0.1MHz)

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IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 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	14	16	15	15	15	14	14	14	13	14	14	15	19	19	18	17	12	14	14	15	15	14	15	15
2	15	15	15	14	16	16	15	14	14	14	15	13	15	16	18	14	14	15	16	13	15	16	15	16
3	15	15	16	15	15	15	16	14	14	14	15	14	C	C	C	C	C	14	15	15	15	14	15	15
4	16	15	15	15	15	15	15	14	15	15	C	C	C	C	C	18	14	14	14	15	15	15	15	15
5	16	15	15	14	14	15	14	14	16	15	19	16	19	18	16	13	15	15	16	15	16	15	15	15
6	15	15	16	15	15	15	15	14	13	13	C	C	C	C	C	C	C	C	C	C	C	16	14	16
7	15	15	15	16	15	15	15	15	14	14	15	16	20	23	20	18	13	13	15	15	16	14	15	15
8	15	16	15	15	15	15	15	15	15	15	19	19	20	18	23	21	12	14	15	15	15	15	15	15
9	15	15	15	15	15	15	14	14	15	15	15	25	23	18	20	18	15	15	14	14	15	14	14	15
10	15	15	15	15	15	15	16	14	14	17	16	17	17	21	18	18	15	13	14	14	15	15	16	15
11	15	14	15	15	15	15	16	14	17	13	17	16	24	23	23	18	12	13	15	15	14	15	15	15
12	14	15	15	14	15	15	15	14	13	13	16	25	18	18	22	13	15	14	15	16	15	15	15	15
13	16	16	15	15	15	15	15	14	14	15	16	18	18	18	20	15	14	14	15	15	15	15	15	15
14	15	15	15	15	15	15	16	15	18	16	18	16	C	C	C	C	C	C	C	C	C	C	C	C
15	15	15	16	15	15	15	14	14	14	15	20	16	20	20	16	13	14	14	14	15	15	15	16	15
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	15	16	15	15	15	15	14	14	16	15	18	17	24	26	18	14	C	C	C	16	16	15	16	16
18	15	15	15	15	15	15	15	14	15	14	14	15	21	C	C	C	13	14	14	14	15	15	15	15
19	16	15	15	15	15	15	15	14	15	14	16	18	21	18	16	12	14	12	15	15	16	15	15	15
20	15	16	15	16	15	15	14	13	12	14	18	21	18	20	15	16	13	14	15	15	15	15	15	15
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	16	15	15	15	15	15	15	14	14	12	18	20	18	19	18	14	C	C	C	C	16	15	15	15
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	15	16	15	15	15	15	14	16	15	16	11	17	18	18	18	14	15	14	15	15	15	15	14	15
25	15	15	15	15	15	15	16	15	13	14	20	18	14	19	15	12	14	13	19	15	14	15	15	16
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	15	15	15	15	15	15	15	14	13	14	17	16	29	18	18	14	12	14	15	14	15	15	14	15
28	15	15	15	15	13	15	15	13	14	18	23	21	23	18	18	14	14	13	15	15	15	15	15	15
29	14	14	15	14	15	14	16	13	14	14	16	20	21	20	17	14	14	15	16	15	16	15	15	16
30	16	15	15	15	15	14	15	14	14	16	22	18	20	18	17	18	14	16	14	15	15	14	14	15
31	14	15	15	15	15	15	14	13	14	14	17	22	23	18	15	17	14	14	15	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	27	27	27	27	27	27	27	27	27	27	25	25	23	22	22	23	22	23	23	24	25	26	26	26
MED	15	15	15	15	15	15	15	14	14	14	17	17	20	18	18	14	14	14	15	15	15	15	15	15
U Q	15	15	15	15	15	15	15	14	15	15	18	20	23	20	20	18	14	14	15	15	16	15	15	15
L Q	15	15	15	15	15	15	14	14	14	14	15	16	18	18	16	14	13	13	14	14	15	15	15	15

IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 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	304	294	319	341	366	322	348	372	358	372	361	366	314	336	351	362	376	362	337	330	344	293	301	282
2	285	323	349	375	279	307	336	326	375	368	365	351	324	345	353	352	361	358	342	341	322	318	295	295
3	292	307	326	351	313	F	335	368	367	358	321	339	C	C	C	C	C	364	356	335	311	313	311	313
4	294	292	F	F	362	297	336	366	367	360	C	C	C	C	C	355	356	375	346	317	327	300	298	314
5	F	300	297	331	349	F	F	384	344	321	343	330	323	322	329	350	353	367	355	311	316	314	303	281
6	281	301	310	317	306	312	371	395	365	378	C	C	C	C	C	C	C	C	C	C	C	314	300	294
7	298	305	296	311	374	318	341	375	358	345	329	317	322	348	357	347	342	350	338	320	307	308	308	283
8	289	293	321	326	324	302	345	368	367	345	316	321	325	329	320	328	336	361	341	303	286	312	302	284
9	287	298	306	342	330	309	337	376	358	345	330	339	341	327	319	337	348	365	340	300	299	300	291	278
10	297	296	314	317	338	324	343	359	358	353	345	321	313	345	336	339	335	358	360	295	288	285	291	295
11	298	305	306	297	293	293	340	366	336	348	341	331	307	323	330	299	328	344	350	298	279	296	306	287
12	281	303	321	F	F	F	F	314	334	341	336	319	306	353	346	345	337	349	338	334	286	300	306	F
13	292	307	323	334	338	305	329	352	340	330	323	313	331	341	346	345	349	358	350	312	297	305	303	292
14	289	294	309	350	310	283	364	369	356	329	318	338	C	C	C	C	C	C	C	C	C	C	C	C
15	298	306	326	336	374	311	342	354	354	337	329	327	338	344	340	340	347	354	350	317	293	297	310	299
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	296	309	324	344	353	298	338	354	343	341	340	346	329	356	340	352	C	C	C	336	302	306	292	301
18	309	308	324	340	327	301	347	337	339	336	319	324	324	C	C	C	354	349	350	345	350	300	295	290
19	301	305	301	320	334	354	349	362	352	346	314	337	341	349	352	343	347	349	352	339	326	318	307	298
20	295	311	301	317	351	301	363	364	361	351	351	330	322	329	349	350	357	343	357	338	307	319	315	300
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	291	301	309	341	323	332	364	367	374	353	332	329	330	338	336	332	C	C	C	C	324	305	294	287
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	290	293	292	315	345	303	359	361	335	340	326	310	327	332	327	330	336	347	349	340	302	293	306	289
25	289	295	295	309	325	310	351	362	345	340	331	334	330	324	340	361	346	342	353	354	295	300	306	300
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	291	294	300	306	327	309	363	361	364	343	343	341	329	323	327	329	335	352	365	337	291	296	294	295
28	296	289	304	320	320	312	355	362	366	337	327	342	317	335	335	326	335	326	340	344	308	296	294	284
29	293	307	323	341	323	299	361	355	335	332	320	325	333	314	322	329	320	324	334	337	359	282	282	293
30	294	296	328	338	292	276	354	360	357	323	330	324	329	327	323	336	323	332	342	350	283	274	282	286
31	292	302	322	321	305	303	333	348	342	351	335	323	314	312	327	331	322	336	341	313	309	290	284	287
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	27	26	25	26	24	25	27	27	27	25	25	23	22	22	23	22	23	23	24	25	26	26	25
MED	292	301	312	331	327	306	347	362	357	345	330	330	325	334	336	340	344	350	349	334	307	300	300	292
U Q	297	307	323	341	349	312	360	368	365	353	342	339	330	345	346	350	353	361	353	340	323	312	306	298
L Q	289	294	301	317	313	300	338	354	342	337	322	322	317	324	327	330	335	343	340	312	292	296	294	285

IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										L	L	L	L	A	L	A								
2											A	A	A	387	L	L	L							
3										L		U L 420	C	C	C	C	C							
4										L	C	C	C	C	C	L	A							
5											L	U L 376	L	L	L	A								
6										L	C	C	C	C	C	C	C	C						
7											L	U L 373	U L 384	L	L	L								
8											L	L	L	L	L	L								
9											L	L	L	L	L	L								
10										L	L	L	L	L	L	L								
11									L	L	L	L	U L 394	L	L	L	L							
12										L	L	L	404	L	L	L								
13											421		416	L	L	L								
14											L	U L 364	C	C	C	C	C	C						
15										L	L	U L 377	L	U L 371	U L 378	U L 350								
16							C	C	C	C	C	C	C	C	C	C	C	C						
17										L	U L 388	380	387	U L 388	L	L	C	C						
18									L	L	390	380	L	C	C	C								
19										L	U L 379	400	394	386	A	L								
20										395	376	401	397	L	L	L	L							
21							C	C	C	C	C	C	C	C	C	C	C	C						
22									L	L	U L 364	A	375	U L 370	L	L	C	C						
23							C	C	C	C	C	C	C	C	C	C	C	C						
24									L	L	U L 378	U L 367	L	L	L	A	L	A						
25									L	L	L	U L 384	384	U L 366	384	L	L							
26							C	C	C	C	C	C	C	C	C	C	C	C						
27									L	L	U L 396	U L 376	U L 394	L	U L 373	L	L							
28											U L 393	384	U L 385	379	L	L								
29										L	L	U L 371	U L 387	L	U L 385	L	L							
30									L	L	L	L	U L 390	U L 392	L	L								
31										L	L	U L 384	L	U L 400	408	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	9	15	13	9	5	1								
MED										395	U L 388	U L 380	390	U L 386	U L 384	U L 350								
U Q											U L 394	384	396	U L 390	396									
L Q											U L 377	U L 373	384	U L 370	U L 376									

MAR. 2011 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 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										244	248	246	320	276	252	236								
2											250	252	282	254	244	250	248							
3										248		252	C	C	C	C	C							
4										244	C	C	C	C	C	244	224							
5											238	274	262	268	260	236								
6										230	C	C	C	C	C	C	C	C						
7											252	300	282	248	238	254								
8											270	274	274	244	270	256								
9											266	262	246	276	262	258								
10										240	256	284	270	250	258	238								
11									236	244	254	280	288	272	254	278	242							
12										264	252	280	280	242	246	254								
13											266		262	244	238	246								
14											272	260	C	C	C	C	C	C						
15										262	268	276	250	244	260	258								
16							C	C	C	C	C	C	C	C	C	C	C	C						
17										266	270	258	262	236	264	258	C	C						
18									252	262	284	270	260	C	C	C								
19										254	284	260	256	244	234	252								
20										244	250	260	260	270	250	258	248							
21							C	C	C	C	C	C	C	C	C	C	C	C						
22									236	252	288	278	266	250	262	288	C	C						
23							C	C	C	C	C	C	C	C	C	C	C	C						
24									260	256	276	294	262	258	268	260	262	236						
25									244	254	268	274	280	276	260	240	254							
26							C	C	C	C	C	C	C	C	C	C	C	C						
27									242	252	264	262	274	292	276	270	260							
28											284	274	276	274	266	260								
29										262	288	278	254	292	272	260	270							
30									246	278	280	274	264	262	272	256								
31										254	292	300	278	284	272	258								
	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	19	24	24	23	22	22	23	8	1						
MED									244	254	268	274	266	260	260	256	251	236						
U Q									252	262	282	279	280	276	268	260	261							
L Q									236	244	253	260	260	244	250	246	245							

MAR. 2011 h'F2 (KM)

IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 h′F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 286	E B 284	E B 248	E B 230	202	E B 242	222	208	212	212	208	210	214	A	220	A	220	218	212	216	208	E B 232	E B 318	E B 332
2	E A 318	E B 248	E B 222	208	E B 310	E B 298	208	234	216	222	A	A	A	202	204	210	218	220	204	212	228	222	E B 298	E B 292
3	E B 310	E B 284	E B 244	224	218	E B 234	208	212	218	208	210	192	C	C	C	C	C	218	200	E B 206	E B 234	E A 262	E A 242	E B 240
4	E B 278	E B 274	E B 274	E B 246	204	E B 246	226	212	216	210	C	C	C	C	C	200	A	214	196	E B 224	E B 232	E B 234	E B 270	E B 252
5	E A 324	E B 266	E B 274	E B 230	210	E B 240	222	206	206	208	196	192	196	208	208	A	226	214	200	E B 214	E B 236	E B 238	E A 274	E B 312
6	E B 294	E B 266	E B 262	E B 248	E B 252	E B 270	204	196	212	212	C	C	C	C	C	C	C	C	C	C	C	E B 232	E B 246	E B 284
7	E B 278	E B 276	E B 290	E B 258	206	E B 242	220	202	210	206	204	202	208	208	200	196	208	218	212	E A 242	E A 236	E A 258	E B 248	E B 288
8	E B 288	E B 282	E B 246	E B 232	E B 220	E B 234	222	214	214	230	212	212	212	212	214	214	228	212	206	E A 240	E A 274	E B 246	E B 250	E B 284
9	E B 296	E B 300	E B 270	224	210	E B 262	228	216	218	212	210	206	196	202	200	198	230	210	204	214	E A 266	E A 238	E B 270	E B 310
10	E B 290	E B 278	E B 262	E B 242	218	E B 234	218	204	220	206	212	210	212	202	200	210	222	224	204	232	E B 258	E B 252	E B 258	E B 256
11	E B 258	E B 260	E B 246	E B 260	E B 244	E B 270	232	226	212	192	200	208	196	220	208	216	220	202	208	226	E B 252	E B 260	E B 262	E B 284
12	E B 298	E B 268	E B 244	216	E B 236	E B 278	204	184	226	228	218	234	212	214	192	202	234	222	218	212	216	E B 242	E A 280	E B 290
13	E B 292	E B 258	E B 240	E B 230	206	E B 234	224	H 192	218	214	180	240	192	210	204	200	212	218	206	222	E B 264	E B 264	E B 254	E B 286
14	E B 292	E B 274	E B 240	218	210	E B 294	214	214	208	216	214	206	C	C	C	C	C	C	C	C	C	C	C	C
15	E B 274	E B 264	E B 246	216	204	E B 254	218	216	222	208	206	222	200	210	202	188	222	224	214	204	E B 232	E B 274	E B 266	E B 282
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	E B 278	E B 256	E B 248	216	206	E B 232	222	226	218	204	212	206	206	200	208	204	C	C	C	198	E B 236	E B 292	E B 296	E B 282
18	E B 268	E B 260	E B 240	222	216	E B 266	222	226	222	206	192	200	212	C	C	C	214	224	220	202	202	E B 250	E B 276	E B 290
19	E B 290	E B 284	E B 282	E B 254	218	226	208	222	208	210	198	190	206	206	A	194	222	230	216	208	214	E B 232	E B 244	E A 288
20	E B 286	E B 260	E B 262	E B 246	214	E B 262	220	216	212	196	212	198	190	222	208	204	200	E A 236	212	208	E B 224	E B 246	E B 250	E B 266
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	E B 280	E B 276	E B 260	220	214	E B 232	204	206	212	194	204	A	220	206	202	218	C	C	C	C	218	E B 248	E B 264	E B 288
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	E B 284	E B 280	E B 290	228	208	E B 230	216	220	200	210	202	196	208	200	210	A	204	A	230	214	220	E A 260	E B 250	E A 322
25	E B 288	E B 278	E B 270	E B 252	220	228	224	218	210	200	192	192	206	202	214	204	190	222	218	202	222	E B 254	E B 256	E B 278
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	E B 276	E B 278	E B 272	E B 252	208	E B 254	216	226	208	204	202	208	198	196	202	192	214	232	210	216	218	E B 256	E B 268	E B 286
28	E B 282	E B 280	E B 258	E B 234	220	E B 256	214	216	208	204	200	H 180	182	218	194	204	230	222	224	202	212	E B 250	E B 276	E B 280
29	E B 284	E B 274	E B 242	214	206	E B 268	208	212	214	196	208	200	196	188	186	224	210	232	228	208	198	E B 254	E B 276	E B 288
30	E B 282	E B 262	E B 234	210	218	E B 304	214	218	206	208	206	208	206	196	198	210	212	222	222	198	E B 234	E B 286	E B 296	E B 292
31	E B 278	E B 266	E B 240	224	222	E B 274	214	220	212	204	188	192	234	208	212	204	222	212	224	208	220	E B 250	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	27	27	27	27	27	27	27	27	27	27	24	23	22	21	21	20	21	22	23	24	25	26	26	26
MED	E B 286	E B 274	E B 248	E B 230	211	E B 254	218	216	212	208	205	206	206	206	204	204	220	220	212	210	E 228	E B 250	E B 267	E B 286
U Q	E B 292	E B 280	E B 270	E B 246	E B 220	E B 270	222	220	218	212	211	210	212	211	209	210	224	224	220	219	E B 236	E B 260	E B 276	E B 290
L Q	E B 278	E B 262	E B 242	218	206	E B 234	208	206	208	204	199	192	196	201	200	199	211	214	204	205	217	E B 238	E B 250	E B 280

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IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 h′E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							B	124	120	122	112	120	122	128	116	110	A	B						
2							B	126	124	120	118	118	A	122	114	120	120	122						
3							B	122	122	114	114	116	C	C	C	C	C	122						
4							B	126	118	124	C	C	C	C	C	A	A	120						
5							B	126	124	A	124	124	132	118	A	A	A	B						
6							B	124	114	118	C	C	C	C	C	C	C	C						
7							B	126	122	120	120	122	122	118	130	118	120	120						
8							B	116	118	118	122	122	124	128	B	122	A	A						
9							B	112	124	116	120	122	126	124	124	A	A	120						
10							B	120	122	120	120	120	114	116	120	120	114	114						
11							B	112	114	114	118	118	122	114	122	118	118	A						
12							B	116	122	120	126	124	120	112	118	112	A	A						
13							B	118	118	122	122	A	120	112	116	116	114	114						
14							B	116	116	122	126	122	C	C	C	C	C	C						
15							B	122	122	120	124	124	128	120	120	122	122	120						
16							C	C	C	C	C	C	C	C	C	C	C	C						
17							B	118	118	118	116	118	120	110	116	118	C	C						
18							B	116	118	118	118	118	124	C	C	C	124	122						
19							B	120	114	116	118	120	122	118	120	120	128	122						
20							B	116	120	120	116	A	116	122	114	A	114	118						
21							C	C	C	C	C	C	C	C	C	C	C	C						
22							B	116	124	118	A	A	120	118	120	120	C	C						
23							C	C	C	C	C	C	C	C	C	C	C	C						
24							B	128	128	116	A	A	A	118	126	A	120	A						
25							B	120	114	118	120	A	108	A	A	116	116	124						
26							C	C	C	C	C	C	C	C	C	C	C	C						
27							116	126	118	118	118	118	124	124	114	A	112	118						
28							B	114	A	116	118	116	A	114	116	110	118	120						
29							B	120	120	120	126	126	118	122	116	118	118	124						
30							B	120	112	116	126	118	120	120	120	118	120	124						
31							118	A	118	118	116	116	122	116	114	116	122	122						
	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	26	26	26	23	20	20	21	19	17	16	17						
MED							117	120	119	118	120	120	122	118	118	118	119	120						
U Q								124	122	120	124	122	124	122	120	120	121	122						
L Q								116	118	116	118	118	120	115	116	116	115	119						

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MAR. 2011 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	B	B	B	B	B	B	G	96	102	102	154	130	132	124	122	110	106	102	102	96	96	104	120
2	96	96	94	94	B	100	B	158	158	124	122	118	110	124	110	104	102	G	86	B	B	B	100	B
3	B	B	96	B	B	96	B	150	102	102	100	96	C	C	C	C	C	108	B	B	B	96	98	94
4	B	B	102	102	B	94	94	G	98	102	C	C	C	C	C	108	106	164	B	B	B	B	B	94
5	98	94	94	B	B	B	B	128	126	108	104	104	G	104	100	96	96	102	B	B	106	100	100	94
6	106	112	B	B	B	B	B	G	104	98	C	C	C	C	C	C	C	C	C	C	C	106	98	98
7	102	104	B	B	B	B	B	104	104	102	102	102	G	106	G	106	106	100	106	96	102	98	B	B
8	B	B	B	B	B	B	148	156	104	104	116	G	104	G	B	106	94	96	90	90	94	B	B	B
9	B	B	B	B	B	B	156	140	102	100	100	G	G	G	G	104	96	G	88	B	96	100	B	B
10	B	B	B	B	B	B	B	G	106	G	106	102	104	G	104	102	98	98	B	B	B	B	B	B
11	B	96	B	B	B	B	B	160	G	100	104	102	G	G	G	116	122	106	B	96	B	B	B	B
12	B	B	B	B	B	B	B	128	102	100	G	G	94	94	G	94	90	90	86	88	90	B	100	114
13	96	B	B	B	B	B	B	G	98	98	100	106	102	98	100	98	96	G	B	B	94	92	96	96
14	B	B	B	B	B	B	B	160	G	102	102	98	C	C	C	C	C	C	C	C	C	C	C	C
15	B	B	B	B	B	B	162	162	96	130	G	114	G	156	102	102	104	G	116	B	B	106	108	110
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	B	100	98	94	94	98	156	G	104	102	G	G	G	G	G	102	C	C	C	102	106	108	B	B
18	B	B	B	B	B	B	134	148	104	102	100	100	G	C	C	C	104	108	B	B	108	104	104	B
19	B	B	B	B	B	B	148	150	130	114	102	104	G	104	128	102	108	176	100	108	106	B	102	94
20	B	B	B	B	B	B	162	132	100	104	104	102	124	G	100	94	128	124	92	90	B	B	B	B
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	B	B	B	B	B	B	156	166	106	102	102	104	102	G	104	104	C	C	C	C	B	B	B	B
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	108	B	B	B	B	B	136	104	106	114	102	106	100	G	G	104	120	108	102	100	100	100	96	98
25	104	B	B	B	B	B	138	108	104	116	112	102	100	106	104	112	108	108	B	B	B	98	B	B
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	B	B	B	B	B	B	162	104	102	102	102	102	G	98	94	94	90	124	114	106	104	B	B	104
28	98	B	B	B	B	B	138	104	108	G	G	G	98	G	96	94	104	110	B	B	B	B	B	B
29	B	B	B	B	B	B	158	106	106	100	G	G	G	100	98	102	106	126	B	B	B	B	B	B
30	B	B	B	B	B	B	138	142	100	100	G	100	104	G	104	120	108	106	B	B	B	B	B	B
31	B	B	B	B	B	B	144	108	102	100	110	G	G	G	98	126	108	102	B	B	B	B	134	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	8	6	5	3	1	4	16	21	25	25	19	18	12	11	15	23	22	19	11	10	12	12	12	11
MED	100	98	96	94	94	97	148	140	104	102	102	102	103	104	102	104	105	108	100	98	101	100	100	98
U Q	105	104	100	102		99	157	157	106	106	106	106	107	124	104	108	108	124	106	102	106	105	104	110
L Q	97	96	94	94		95	138	107	101	100	102	102	100	98	98	98	96	102	88	90	95	97	98	94

IONOSPHERIC DATA STATION Kokubunji

MAR. 2011 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									L 2	L 2	L 2	HL 12	HL 22	CL 12	CL 12	CL 12	L 2	L 3	F 1	F 1	F 2	F 1	F 1	F 3
2	F 4	F 2	F 2	F 2		F 1		H 2	HL 11	CL 12	CL 22	CL 12	L 2	CL 11	L 2	L 2	L 2		F 1				F 2	
3			F 2			F 1		H 3	L 2	L 2	L 2	L 2						L 2				F 2	F 2	F 1
4			F 1	F 1		F 4	L 2		L 2	L 2						L 2	L 2	HL 22						F 1
5	F 3	F 2	F 2					C 2	C 1	L 1	L 2	L 2		L 2	L 2	L 2	L 3	L 3			F 1	F 3	F 2	F 3
6	F 1	F 1							L 2	L 2												F 1	F 3	F 2
7	F 1	F 1						L 2	L 2	L 2	L 2	L 2		L 2		L 2	L 1	L 2	F 3	F 6	F 4	F 4		
8							H 2	H 2	L 2	L 2	CL 11		L 2			L 2	L 2	L 2	F 2	F 1	F 2			
9							H 2	H 2	L 2	L 2	L 2					L 2	L 2		F 2		F 2	F 3		
10									L 2		L 2	L 2	L 2		L 2	L 2	L 2	L 2						
11		F 2						H 2		L 2	L 2	L 2				CL 22	CL 12	L 2		F 2				
12								C 2	L 2	L 1			L 1	L 2		L 2	L 2	L 3	F 4	F 3	F 2		F 4	F 2
13	F 2								L 2	L 1	L 2	L 1	L 2	L 2	L 2	L 2	L 1				F 1	F 2	F 1	F 1
14								H 2		L 2	L 2	L 2												
15							H 2	HL 22	L 2	CL 12		CL 12		HL 12	L 2	L 2	L 2		F 4			F 3	F 2	F 1
16																								
17		F 2	F 1	F 1	F 2	F 1	H 2		L 2	L 2						L 2				F 2	F 1	F 2		
18							H 3	H 2	L 2	L 2	L 2	L 2					L 2	L 2			F 1	F 2	F 1	
19							H 2	HL 22	CL 12	CL 12	L 2	L 1		L 2	CL 12	L 2	L 2	HL 12	F 1	F 1	F 3		F 1	F 2
20							H 3	CL 12	L 2	L 2	L 2	L 2	CL 12		L 2	L 2	CL 12	C 1	F 2	F 1				
21																								
22							H 2	HL 22	L 2	L 2	L 2	L 2	L 2		L 2	L 2								
23																								
24	F 2						H 2	L 2	L 2	CL 12	L 2	L 2	L 2			L 2	CL 22	L 3	F 3	F 4	F 3	F 2	F 2	F 3
25	F 2						H 2	L 2	L 2	CL 22	CL 22	L 2	L 2	L 2	L 2	CL 22	L 2	L 2				F 1		
26																								
27							H 1	L 3	L 2	L 2	L 2	L 2		L 2	L 2	L 2	L 2	C 2	F 4	F 4	F 2			F 2
28	F 2						H 2	L 2	L 2				L 2		L 2	L 2	L 2	L 2						
29							H 2	L 2	L 2	L 2				L 2	L 2	L 2	L 2	CL 11						
30							H 3	HL 22	L 2	L 2		L 2	L 2		L 2	CL 22	L 2	L 2						
31							H 2	L 2	L 2	L 2	CL 22				L 2	CL 22	L 2	L 2					F 1	
	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. 2011 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

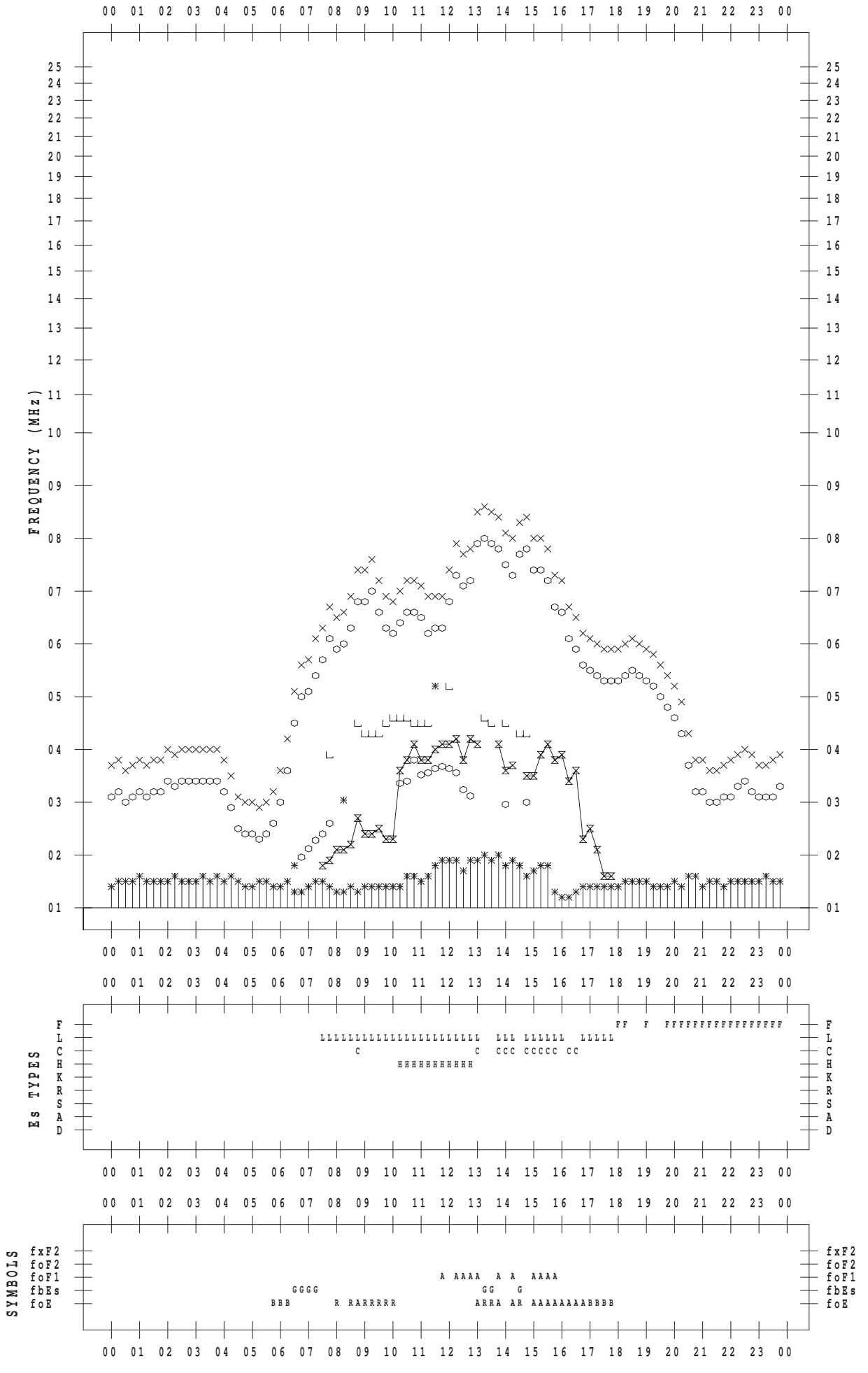
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/ 1

135 °E MEAN TIME



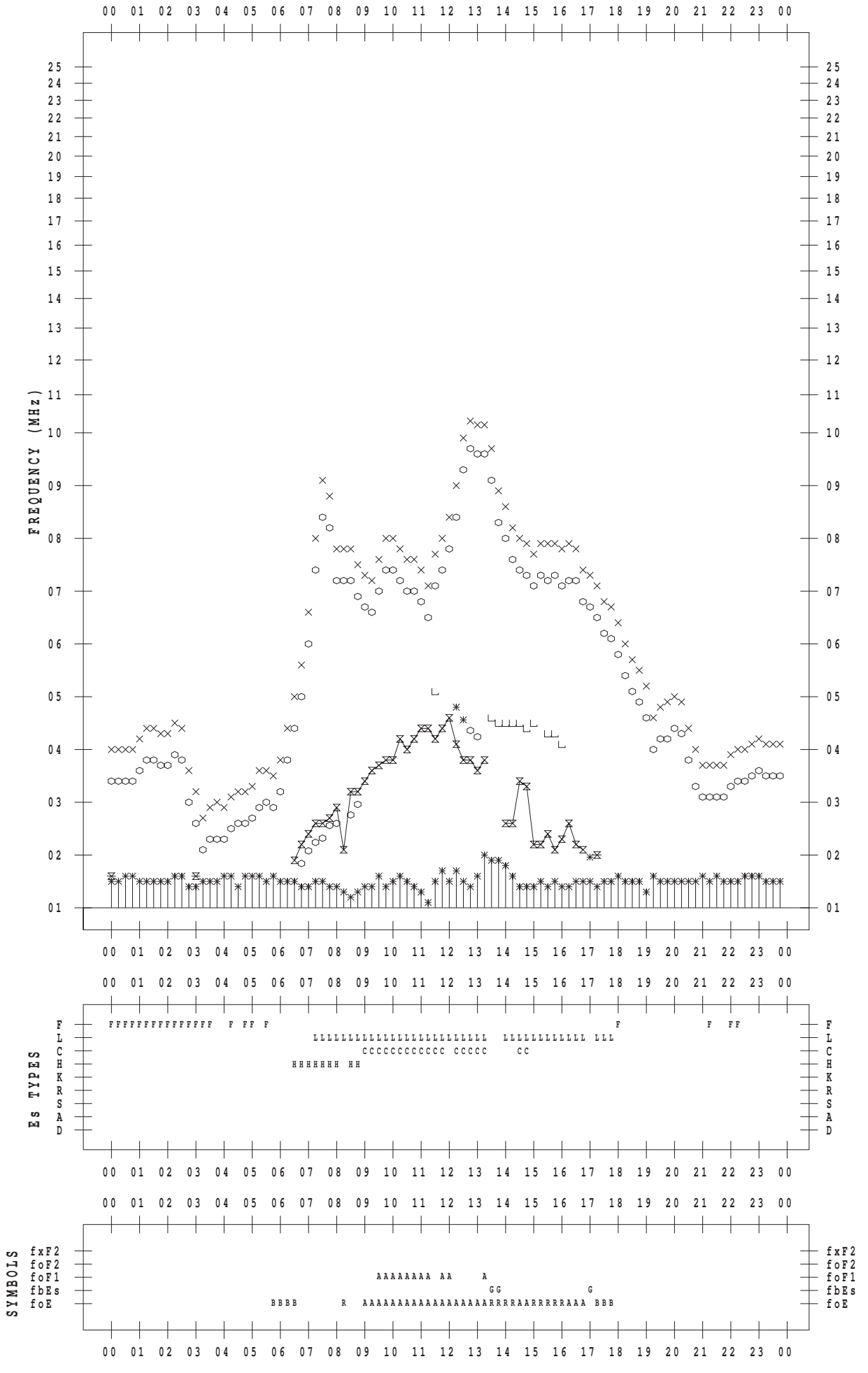
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/ 2

135 °E MEAN TIME



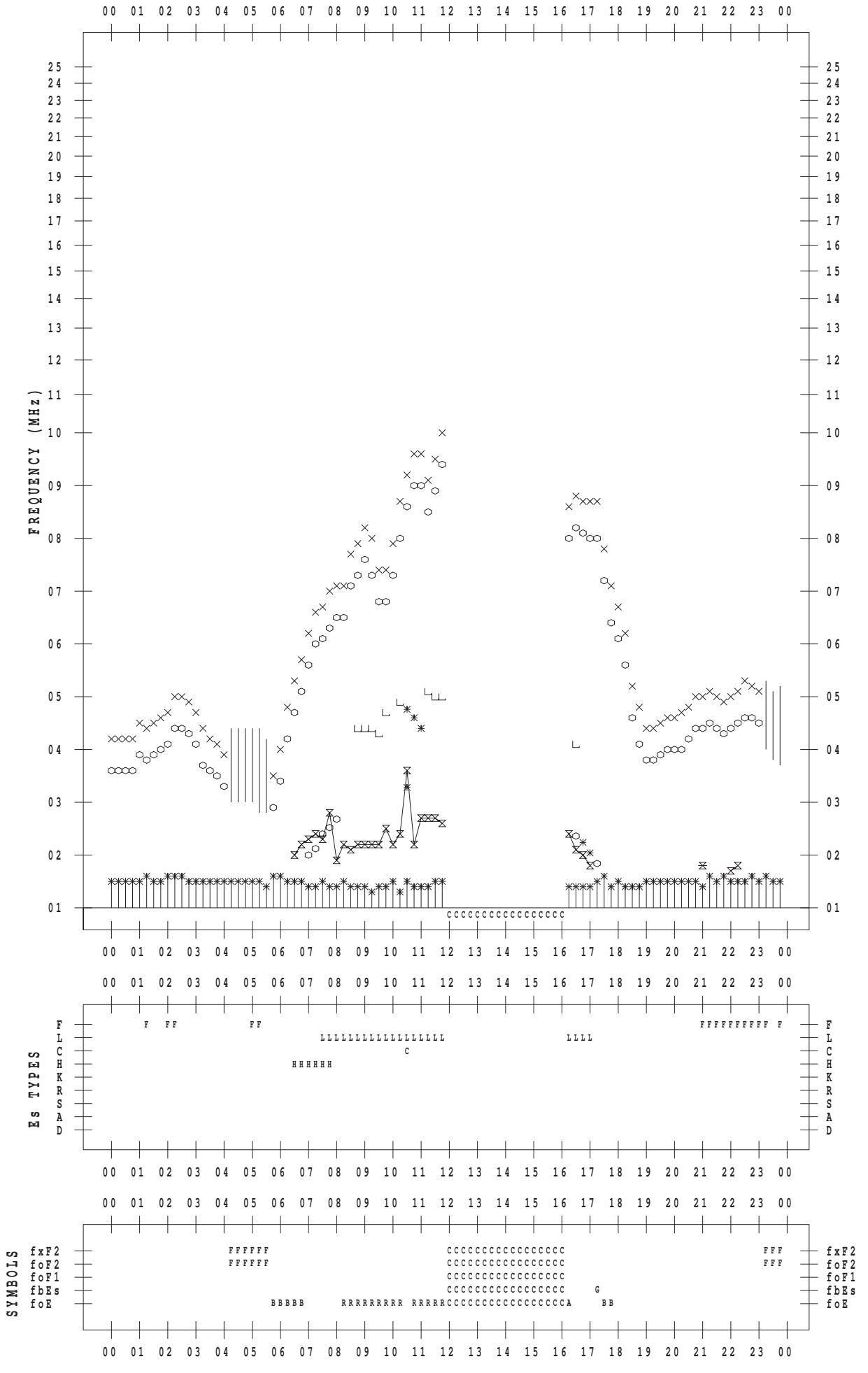
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/ 3

135 °E MEAN TIME



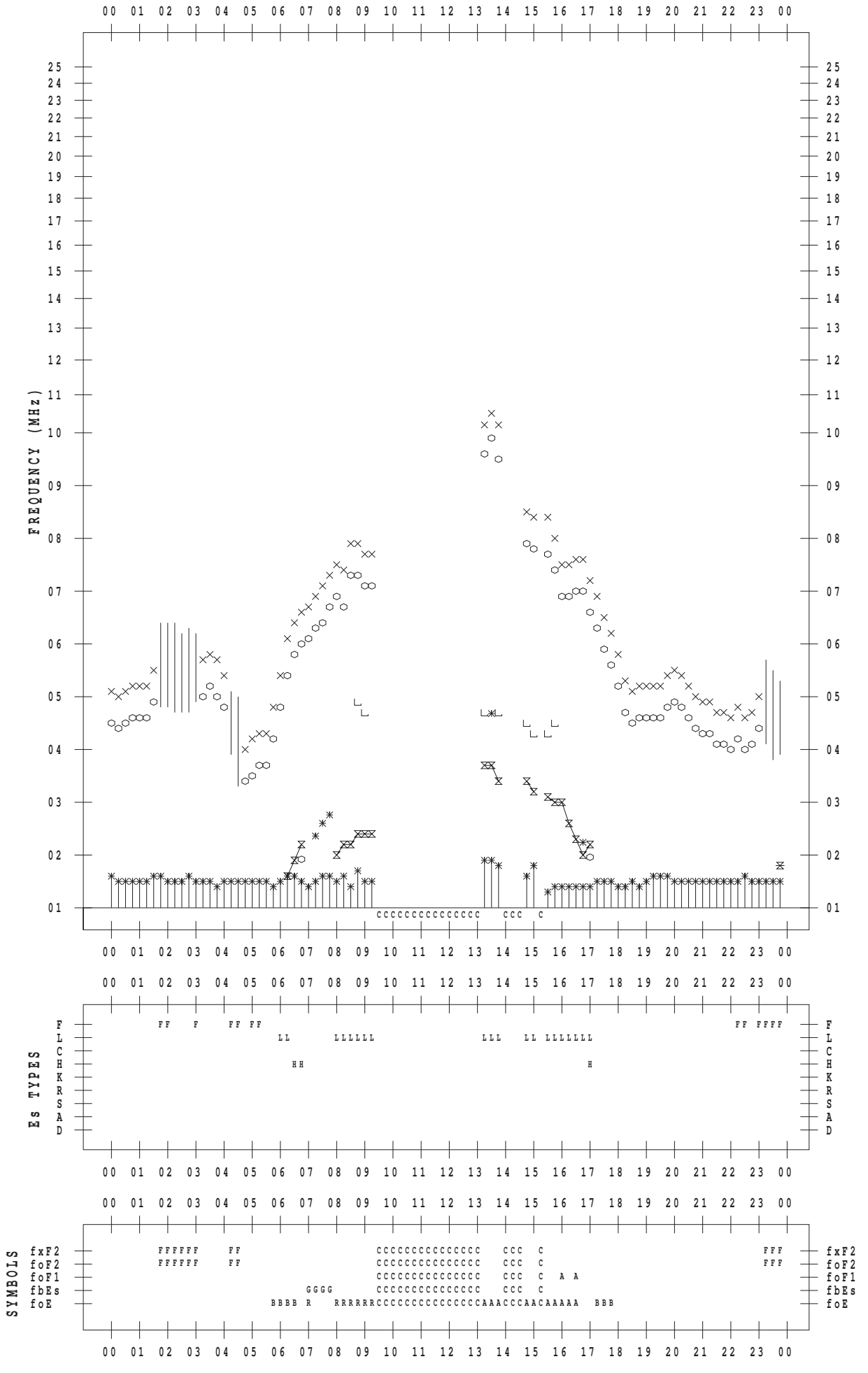
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/ 4

135 °E MEAN TIME



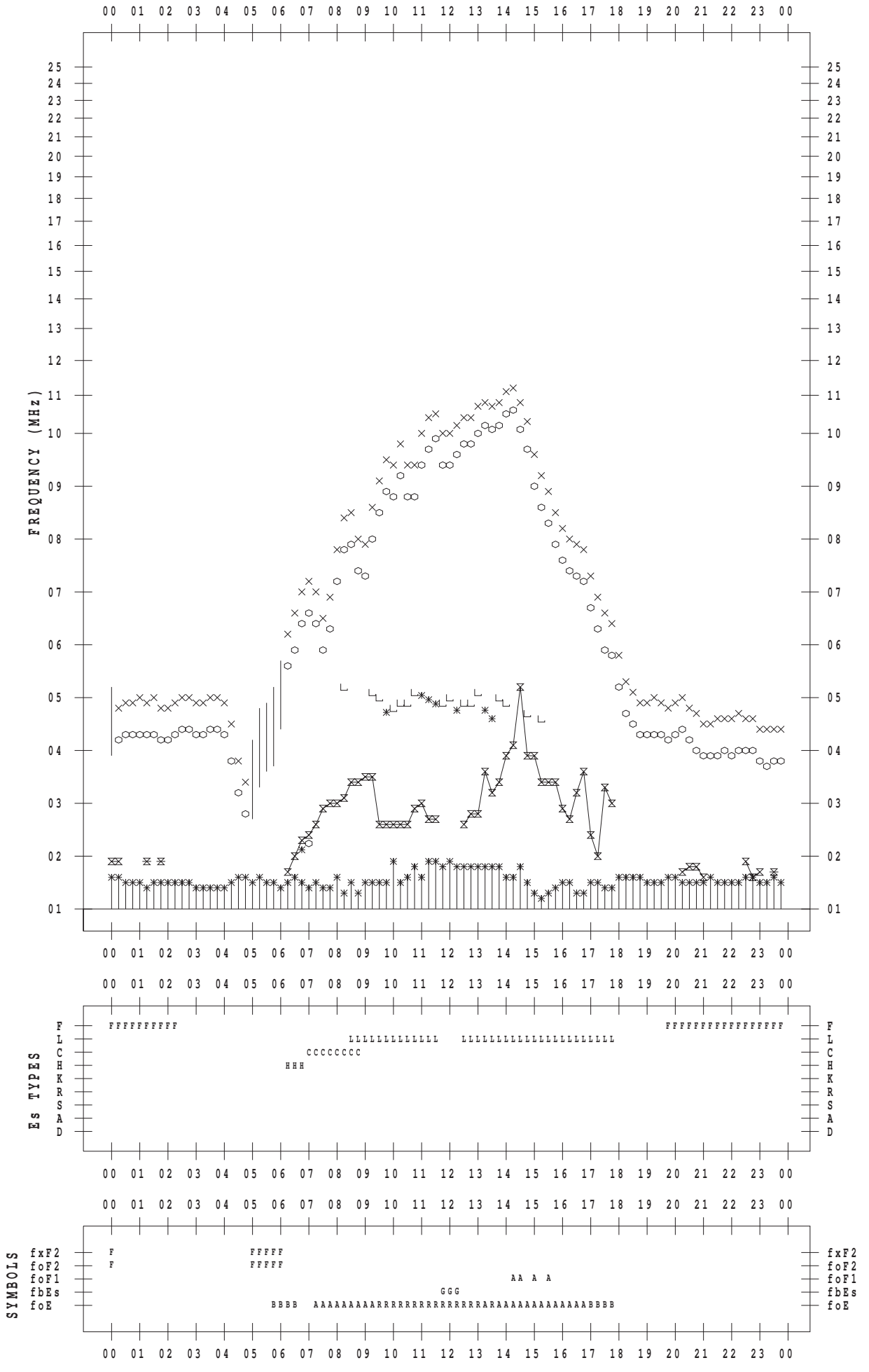
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/ 5

135 °E MEAN TIME



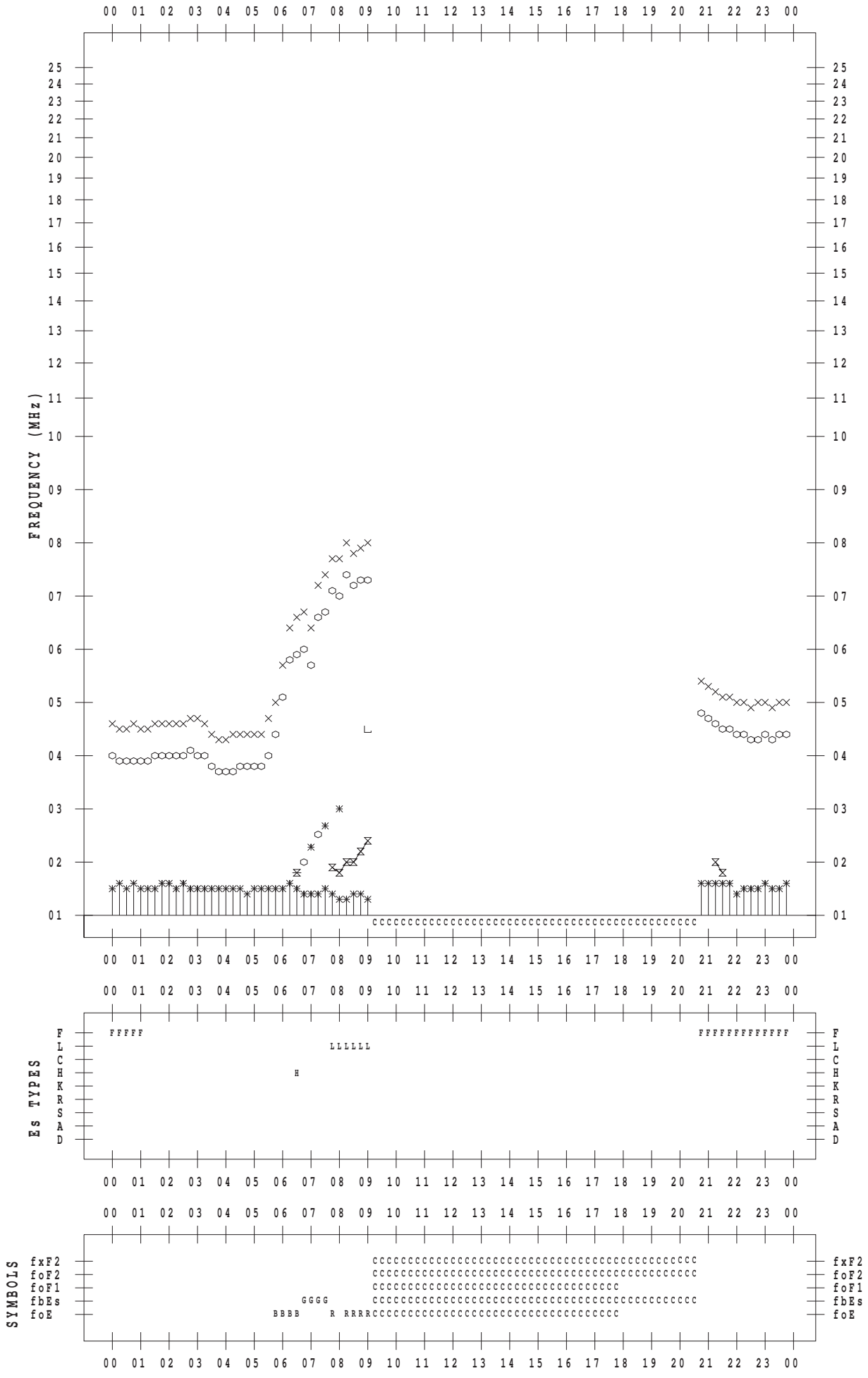
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/ 6

135 °E MEAN TIME



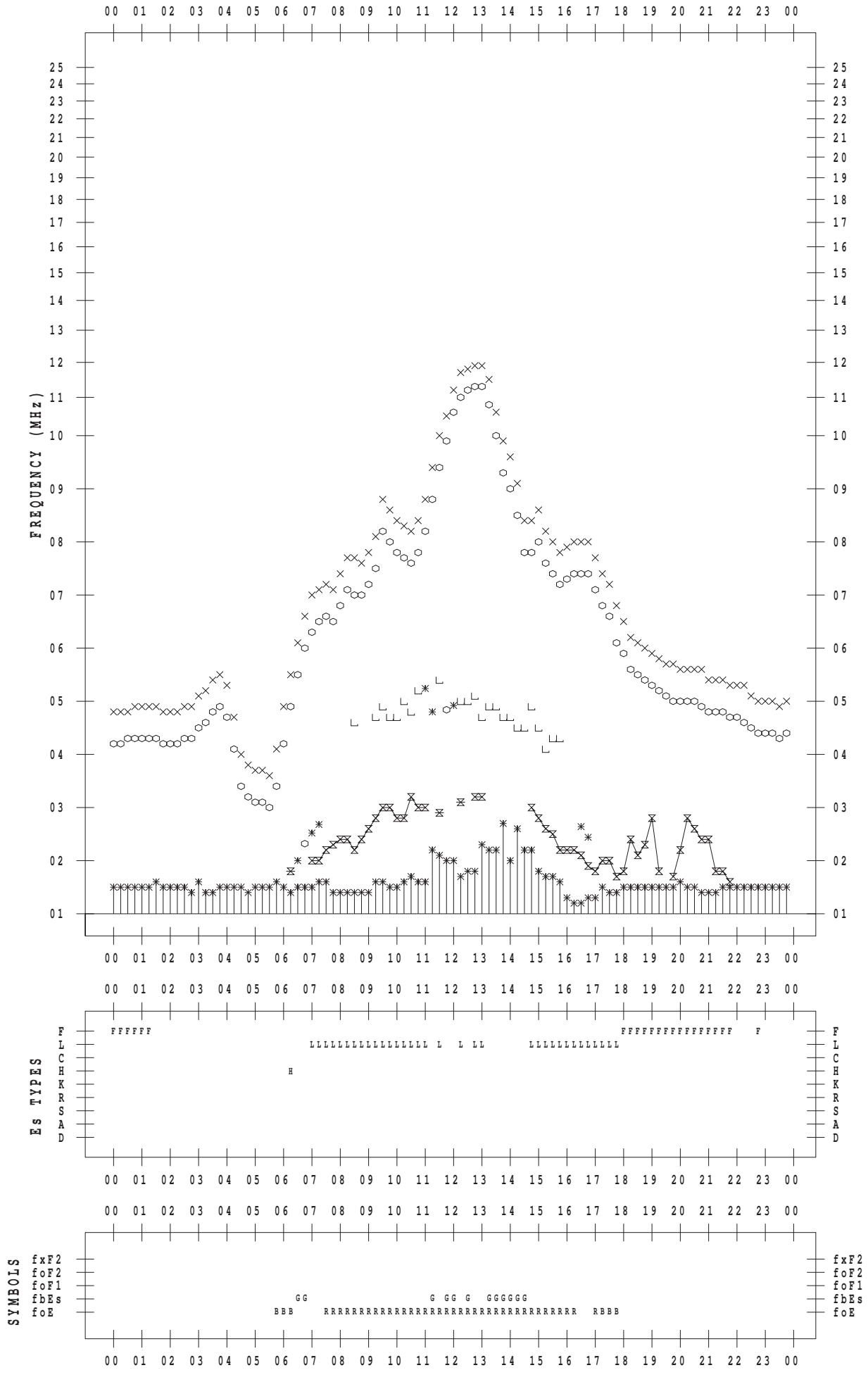
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/ 7

135 °E MEAN TIME



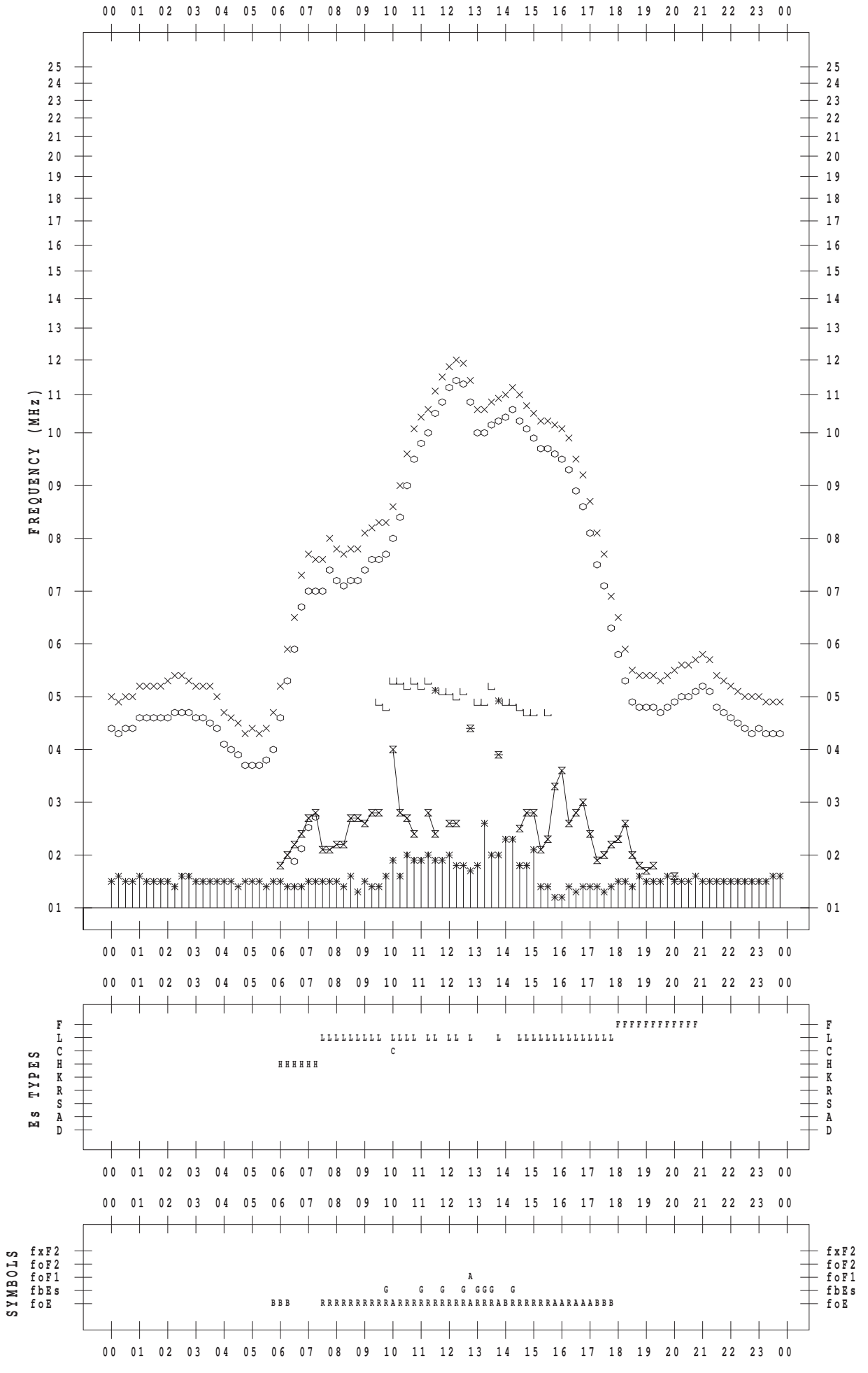
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/ 8

135 °E MEAN TIME

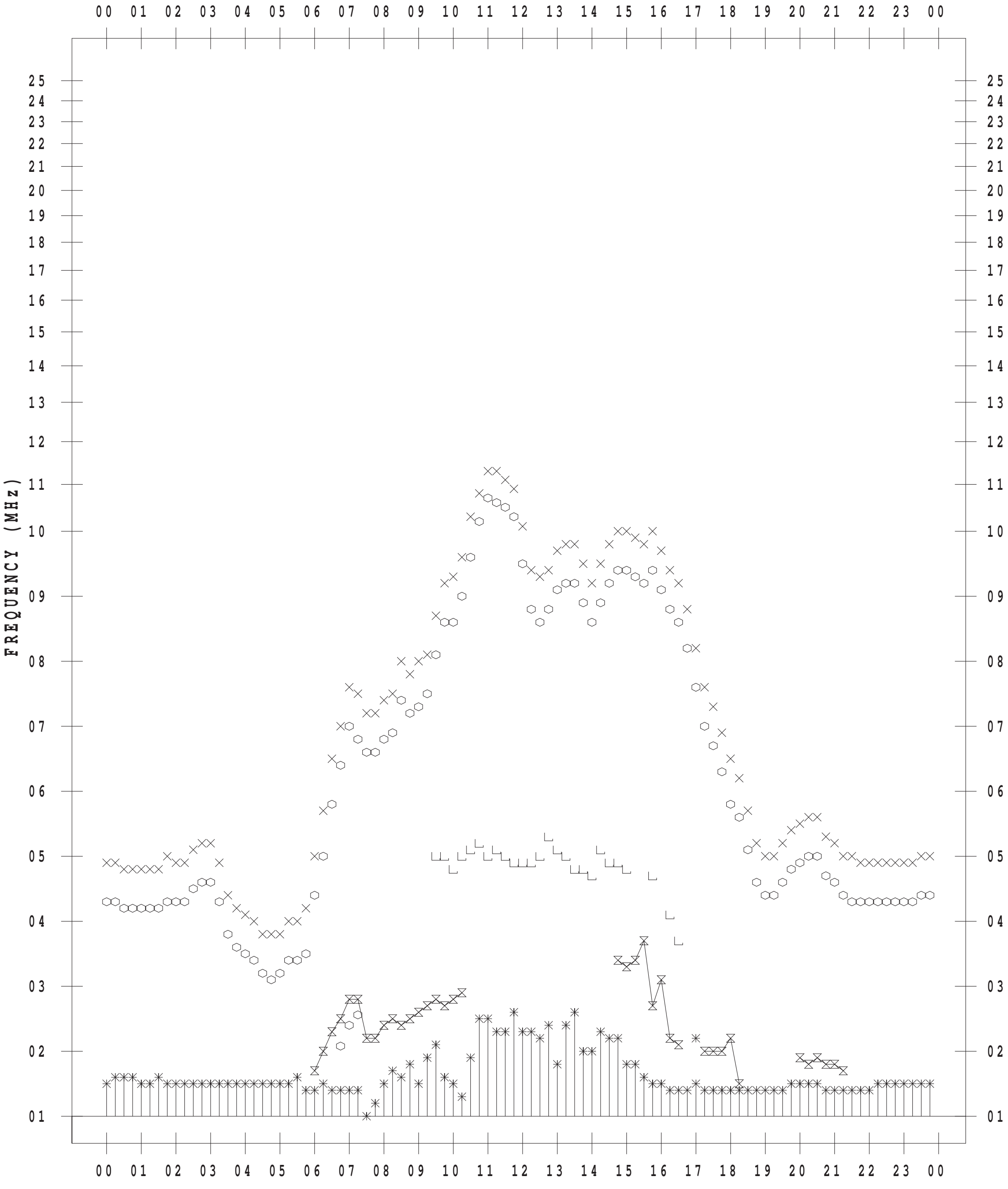


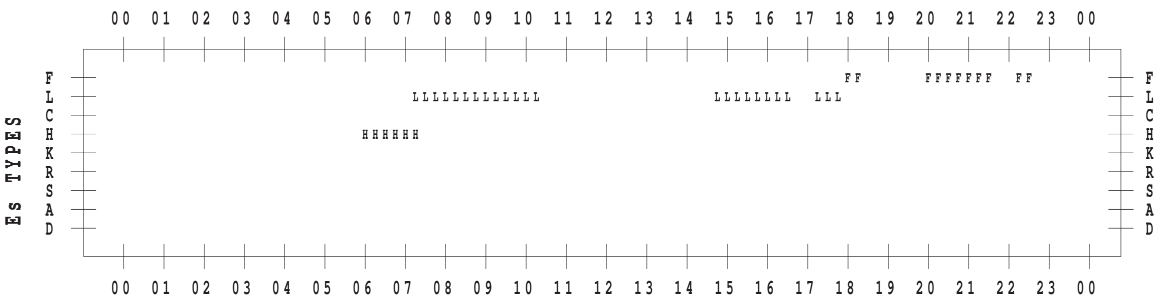
f-PLOT DATA

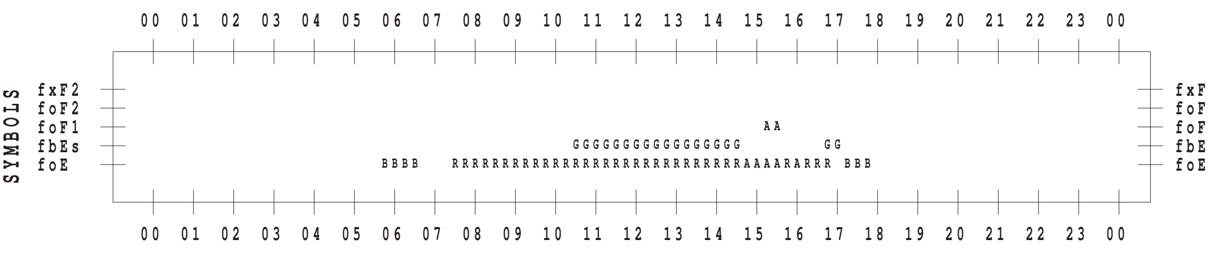
SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/ 9







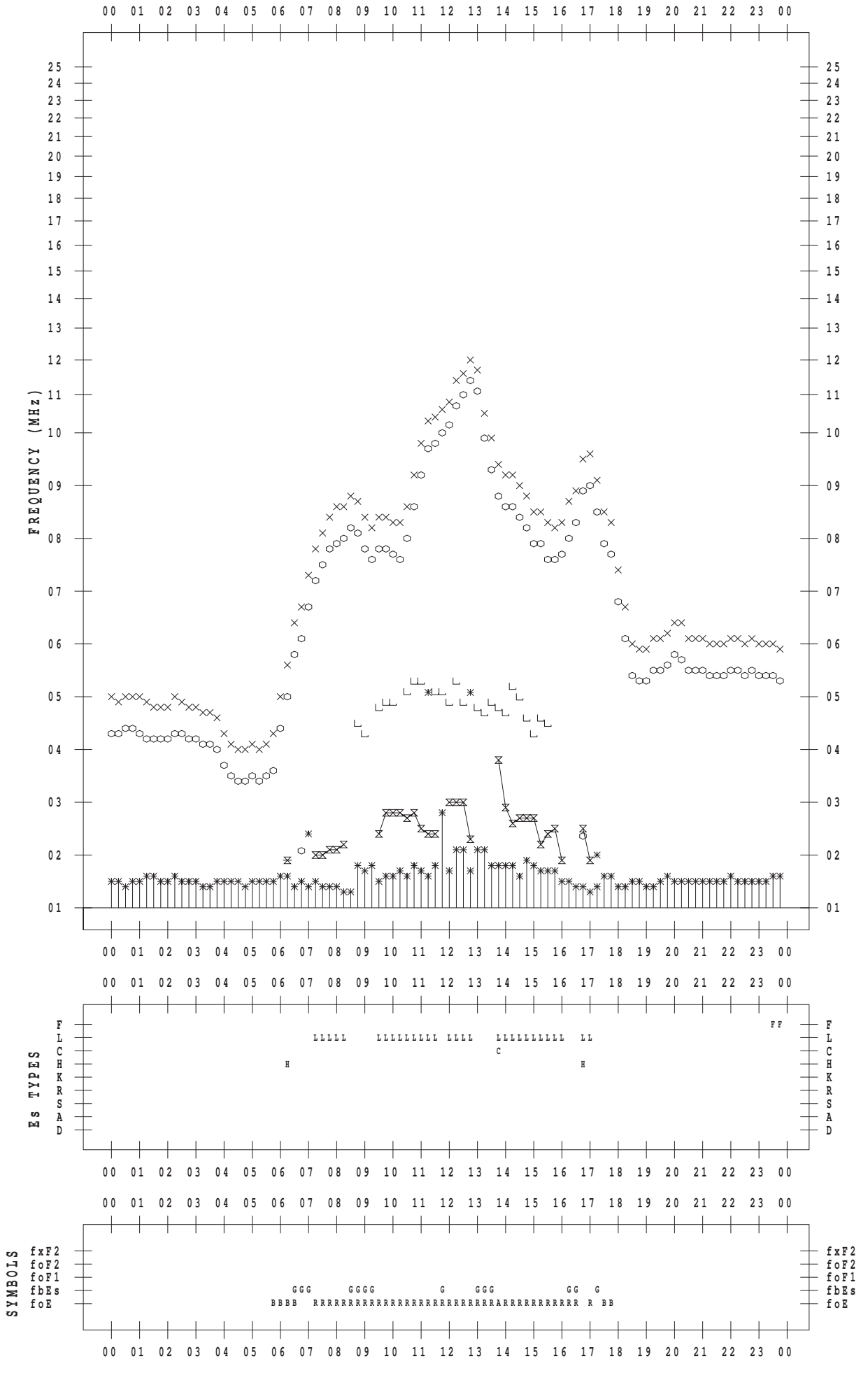
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/10

135 °E MEAN TIME

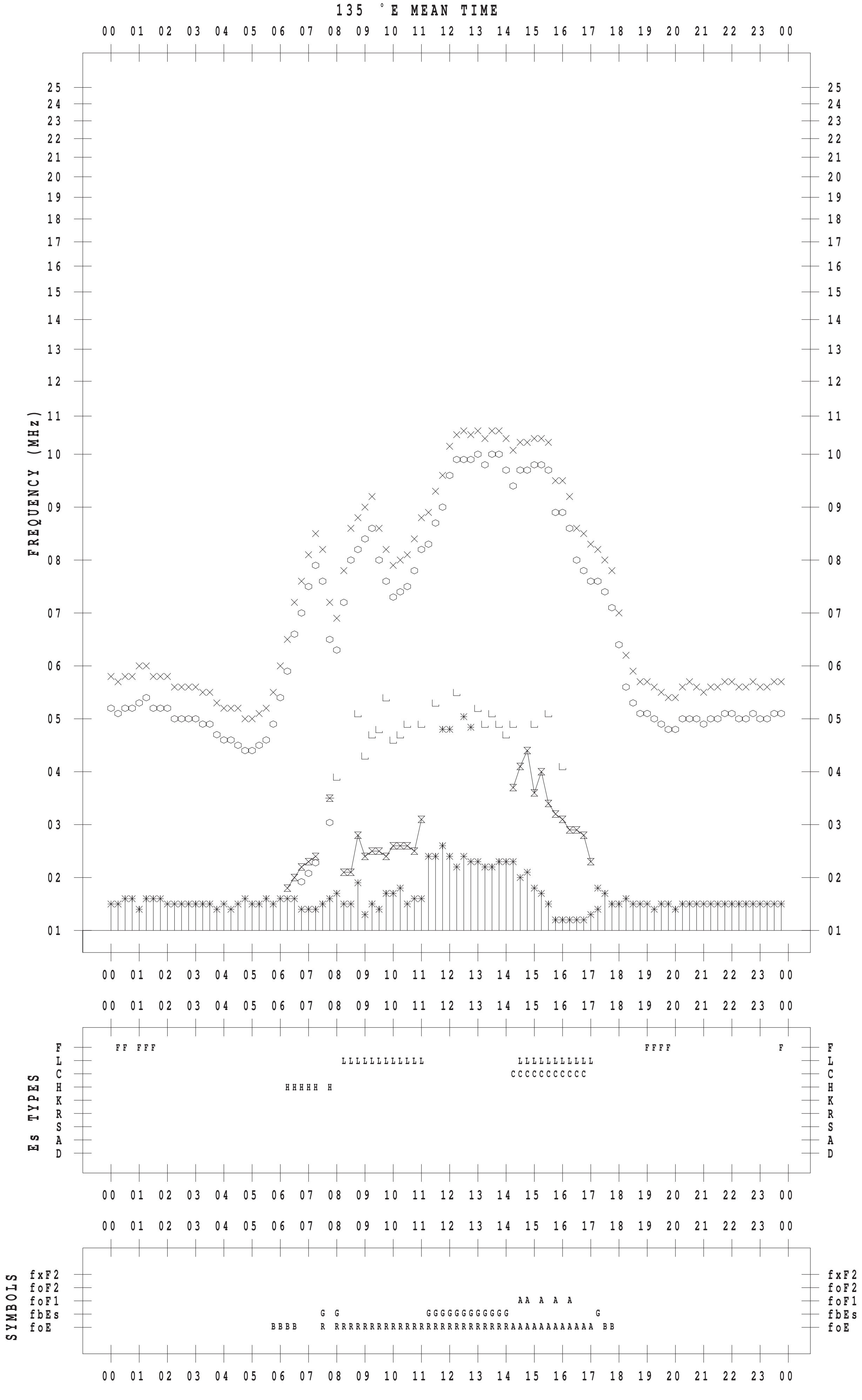


f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/11



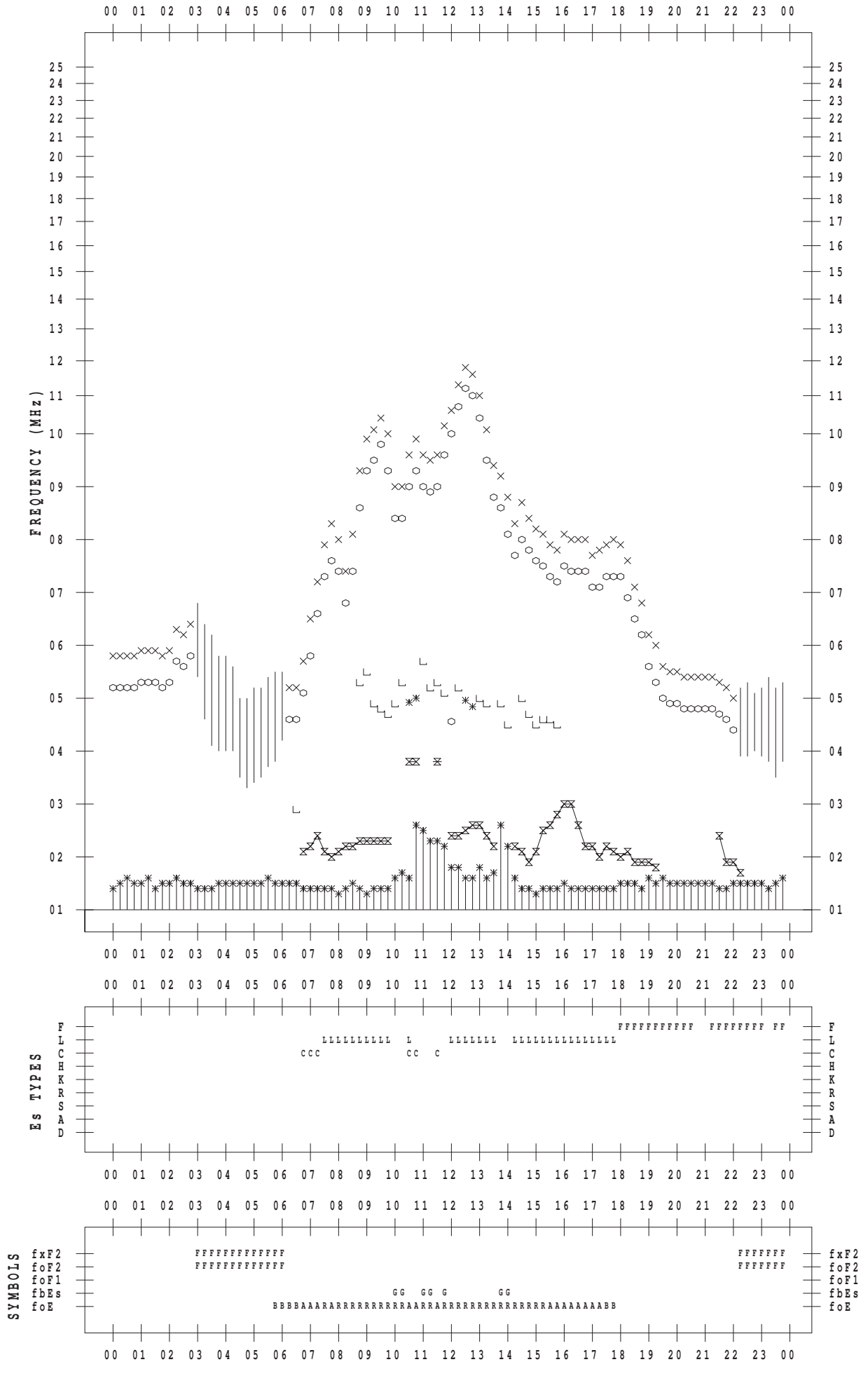
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/12

135 °E MEAN TIME



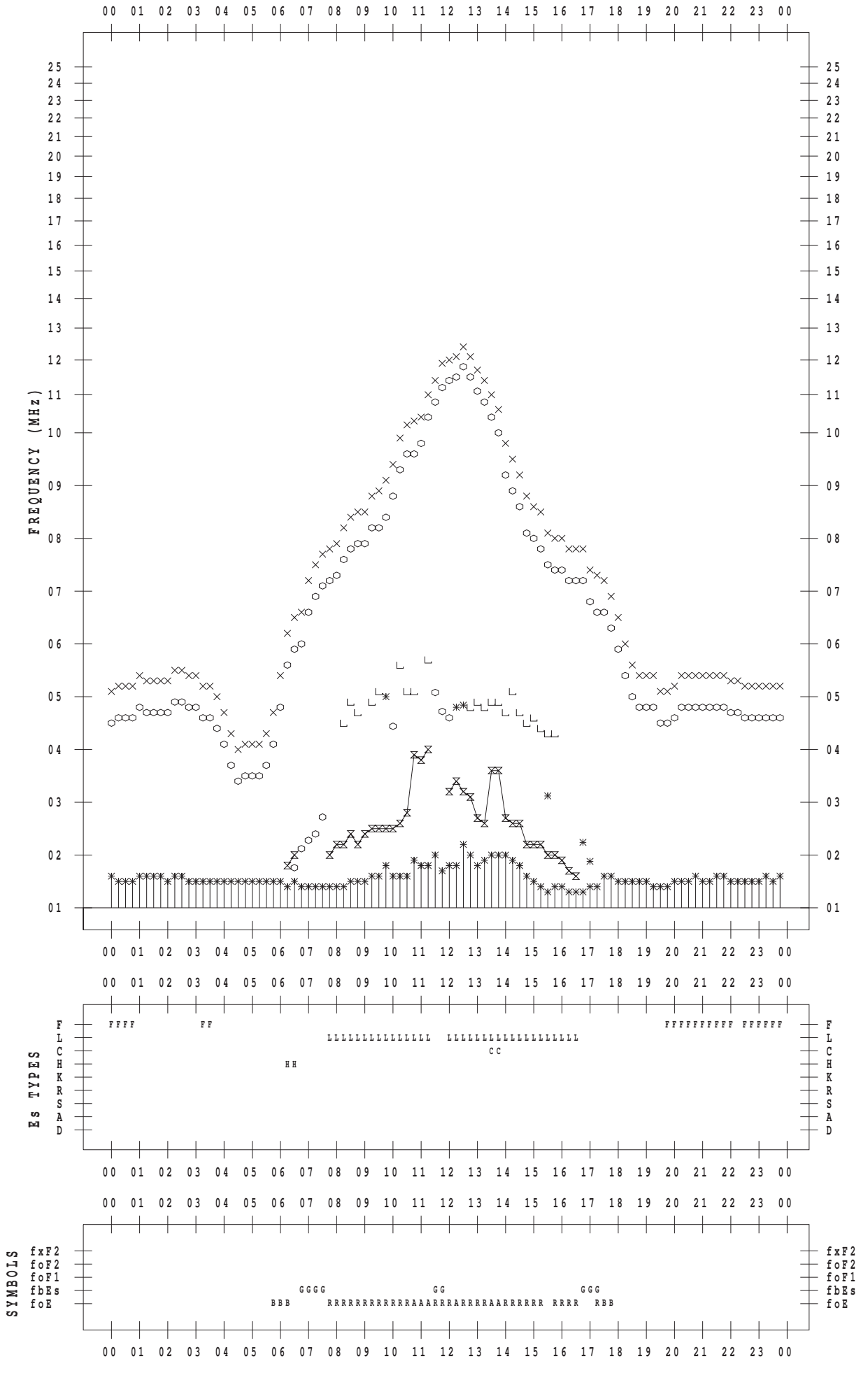
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/13

135 °E MEAN TIME



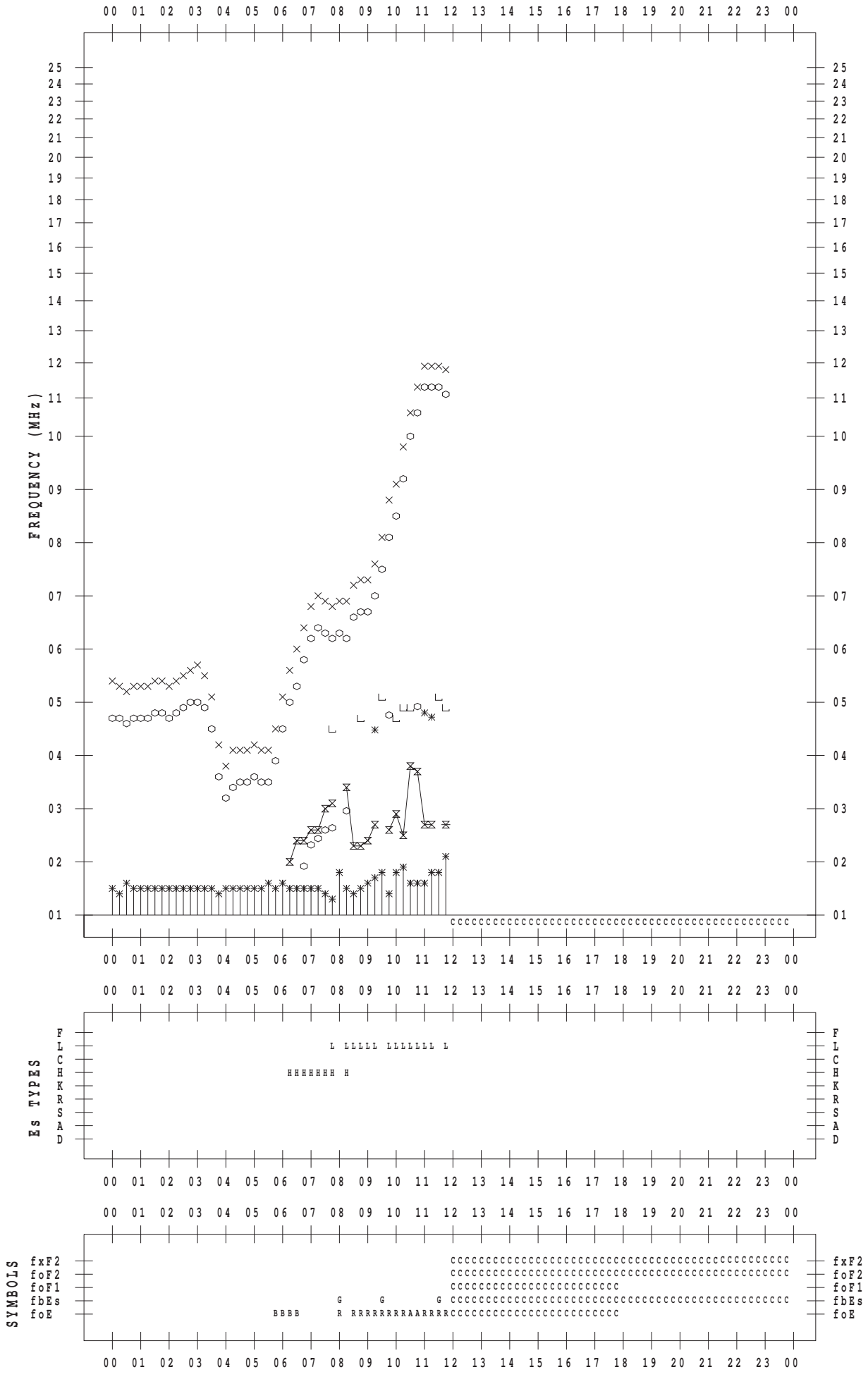
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/14

135 °E MEAN TIME



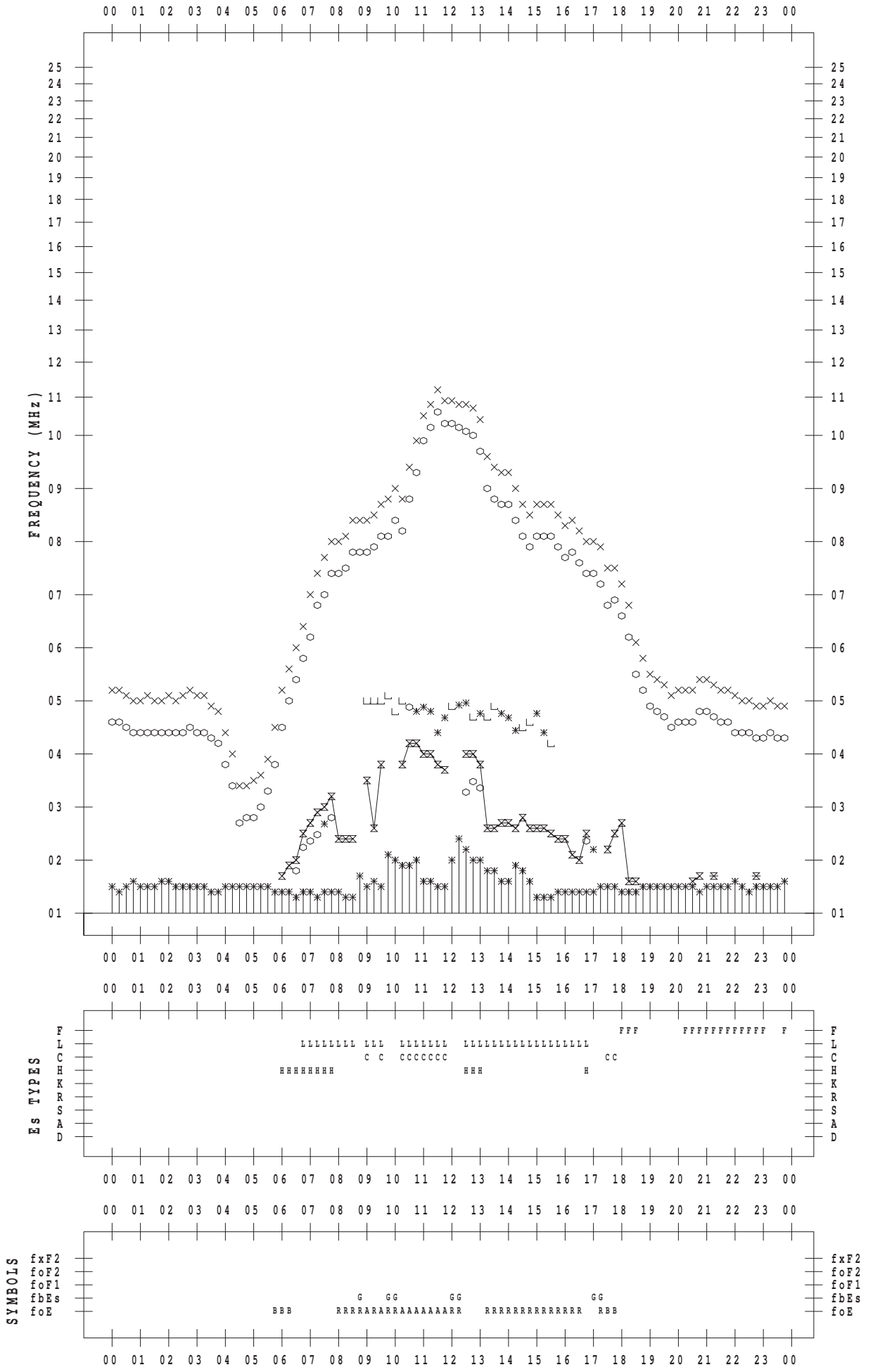
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/15

135 °E MEAN TIME



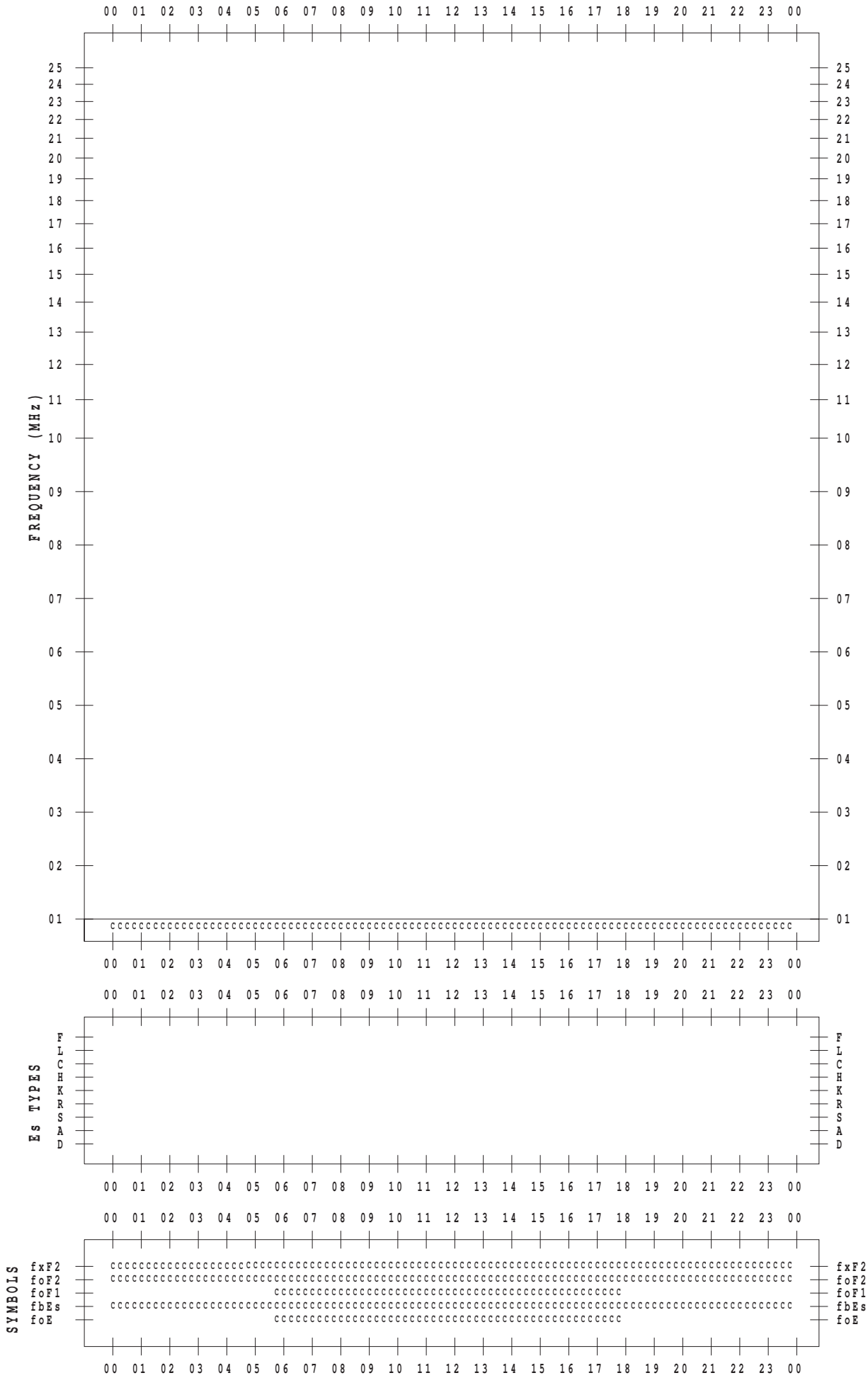
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/16

135 °E MEAN TIME



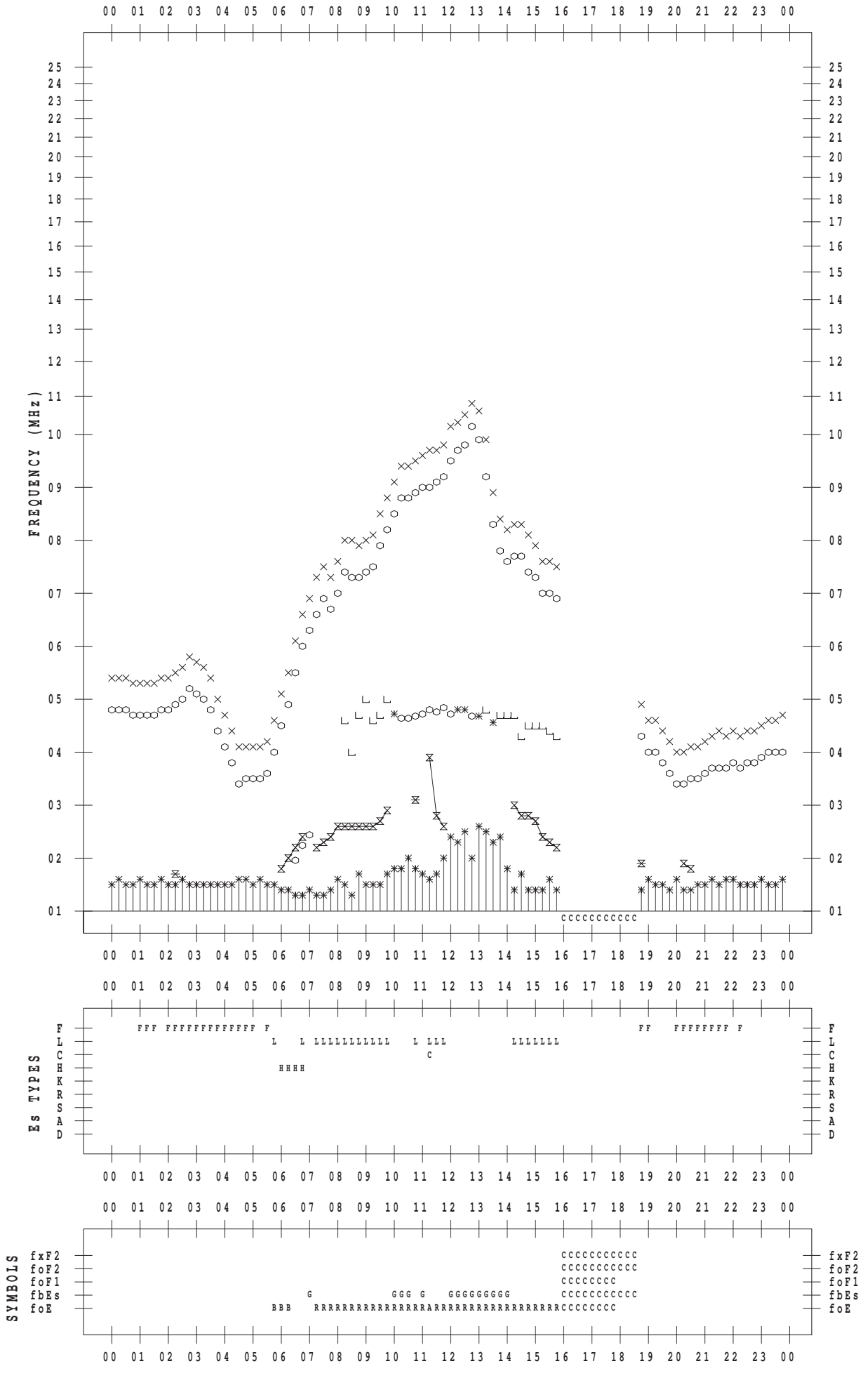
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/17

135 °E MEAN TIME



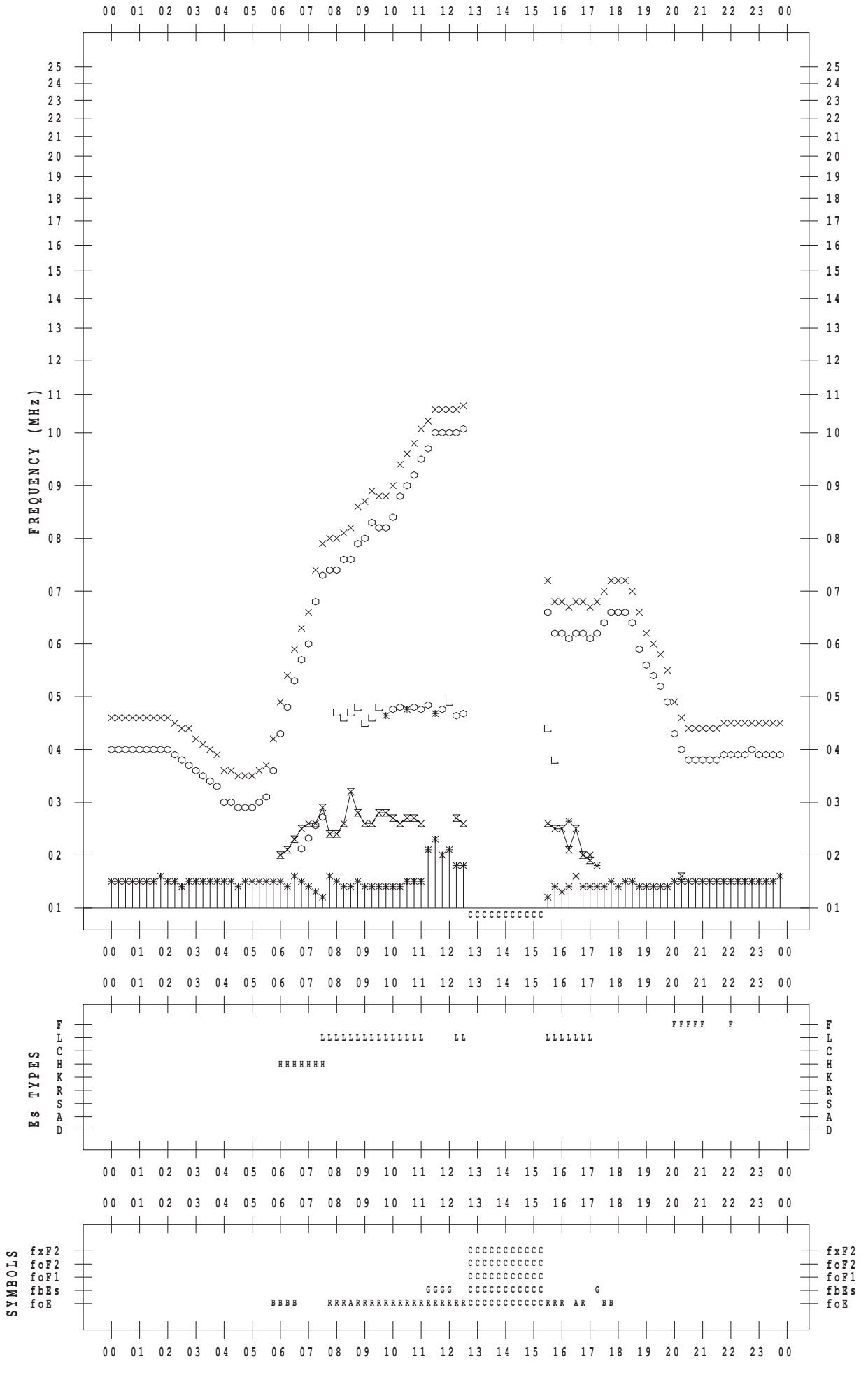
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/18

135 °E MEAN TIME



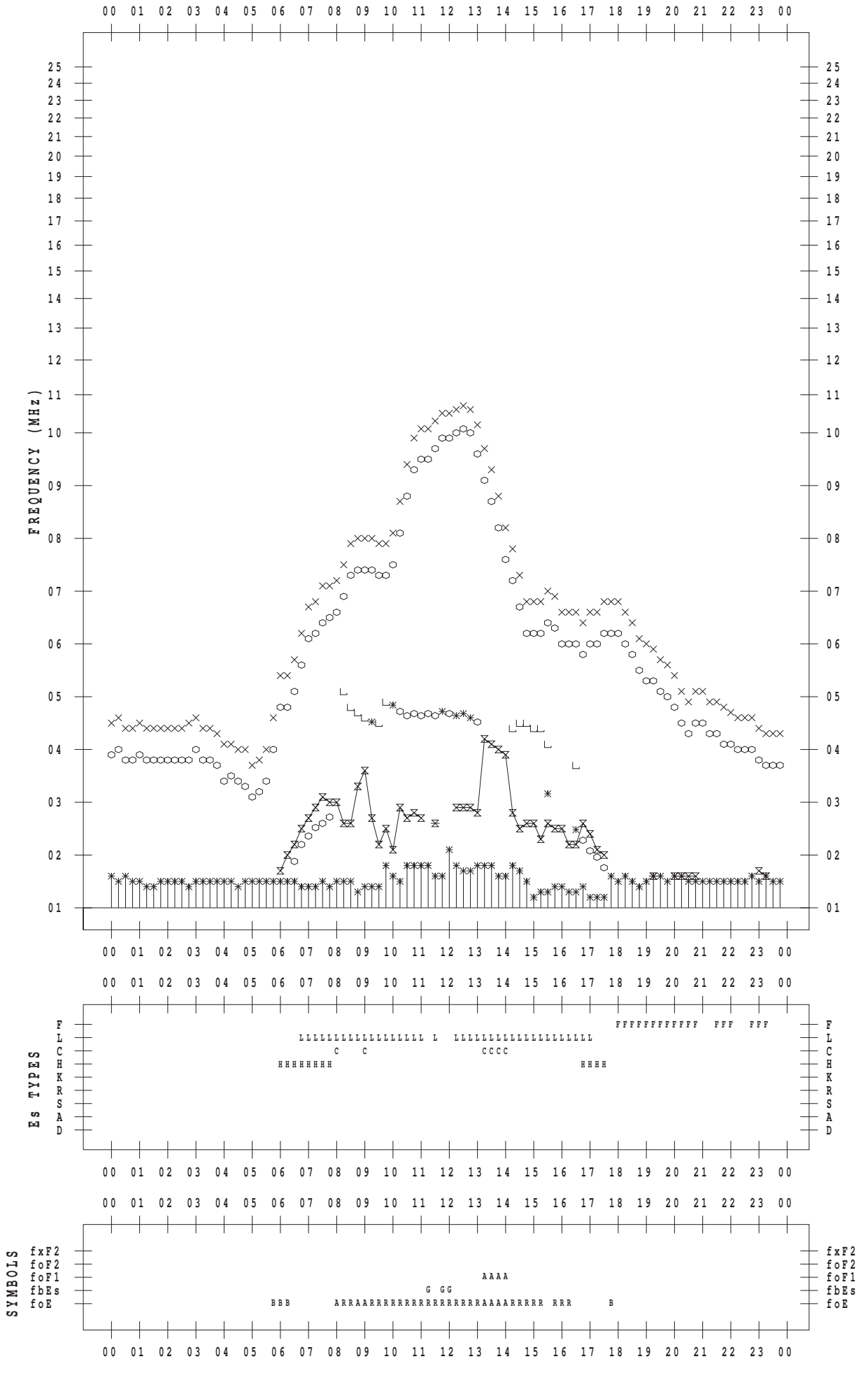
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/19

135 °E MEAN TIME



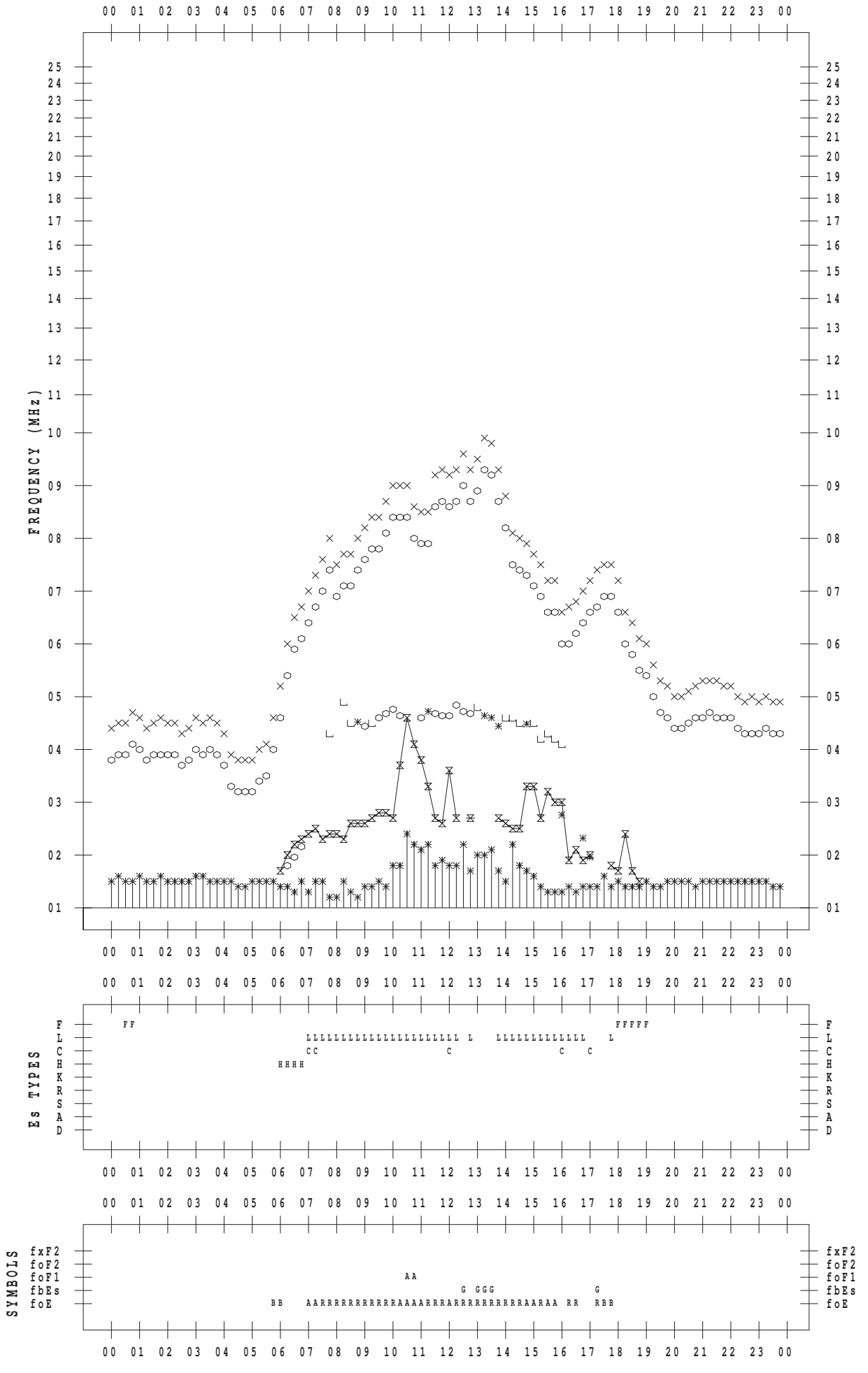
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/20

135 °E MEAN TIME



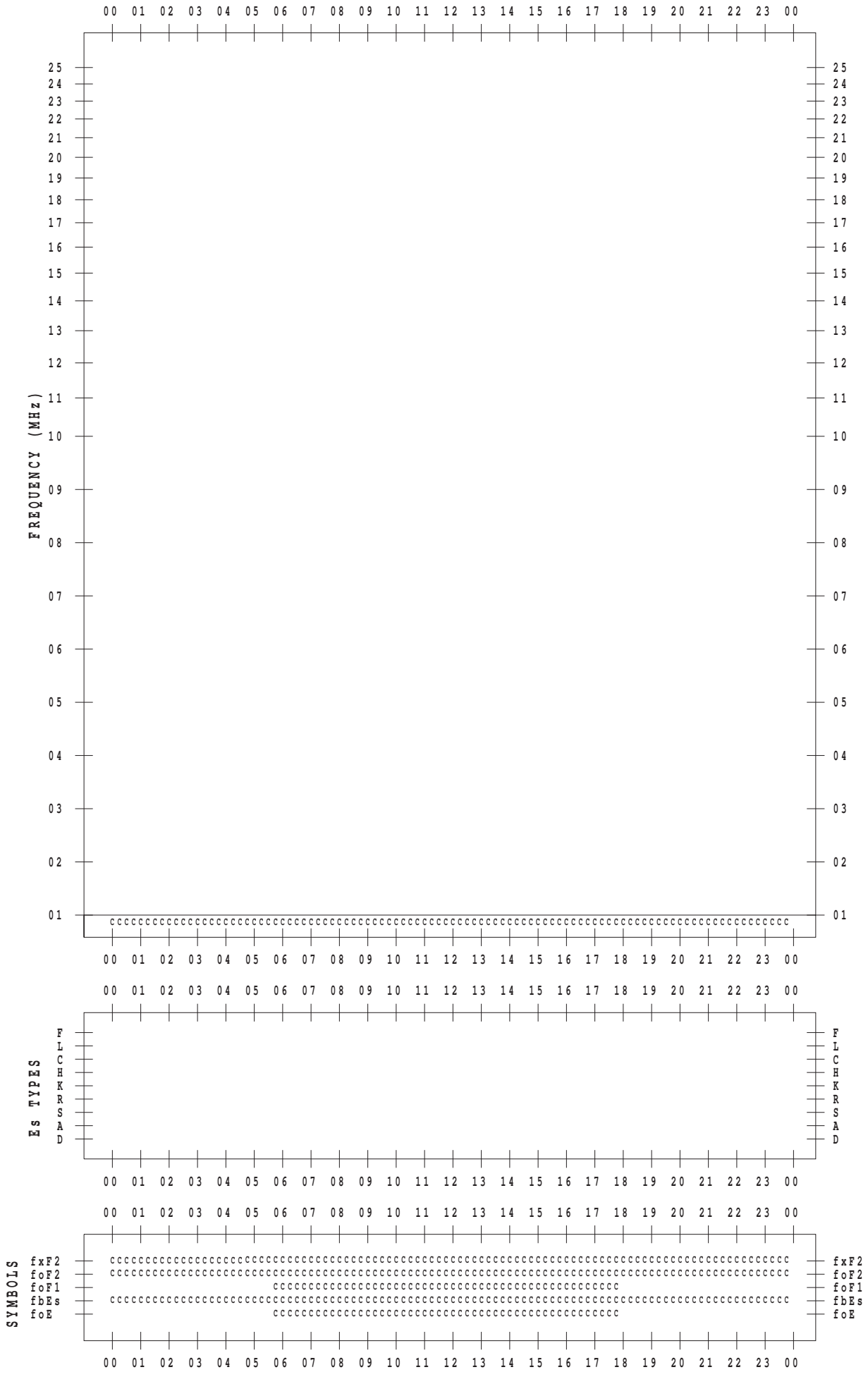
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/21

135 °E MEAN TIME



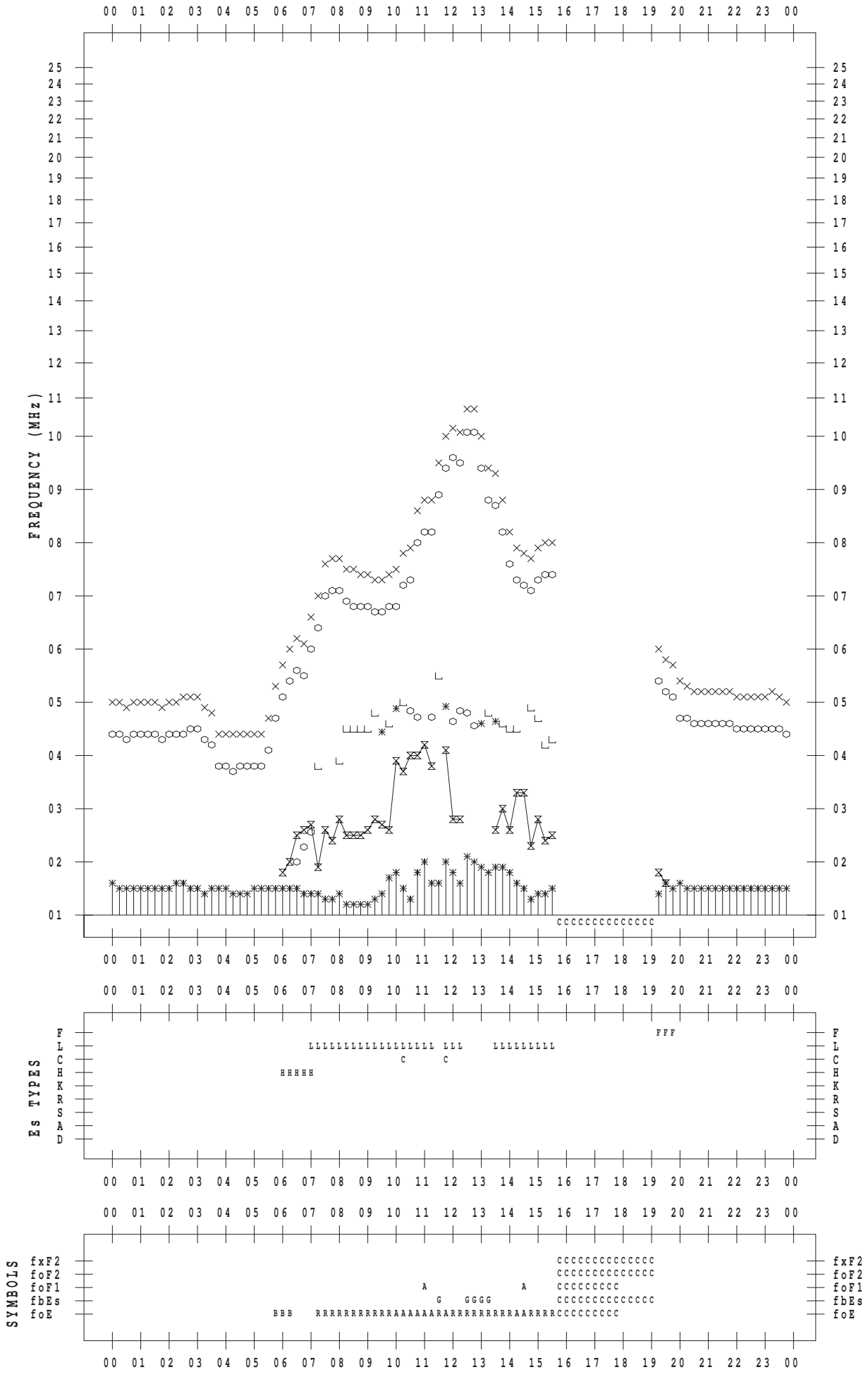
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/22

135 °E MEAN TIME



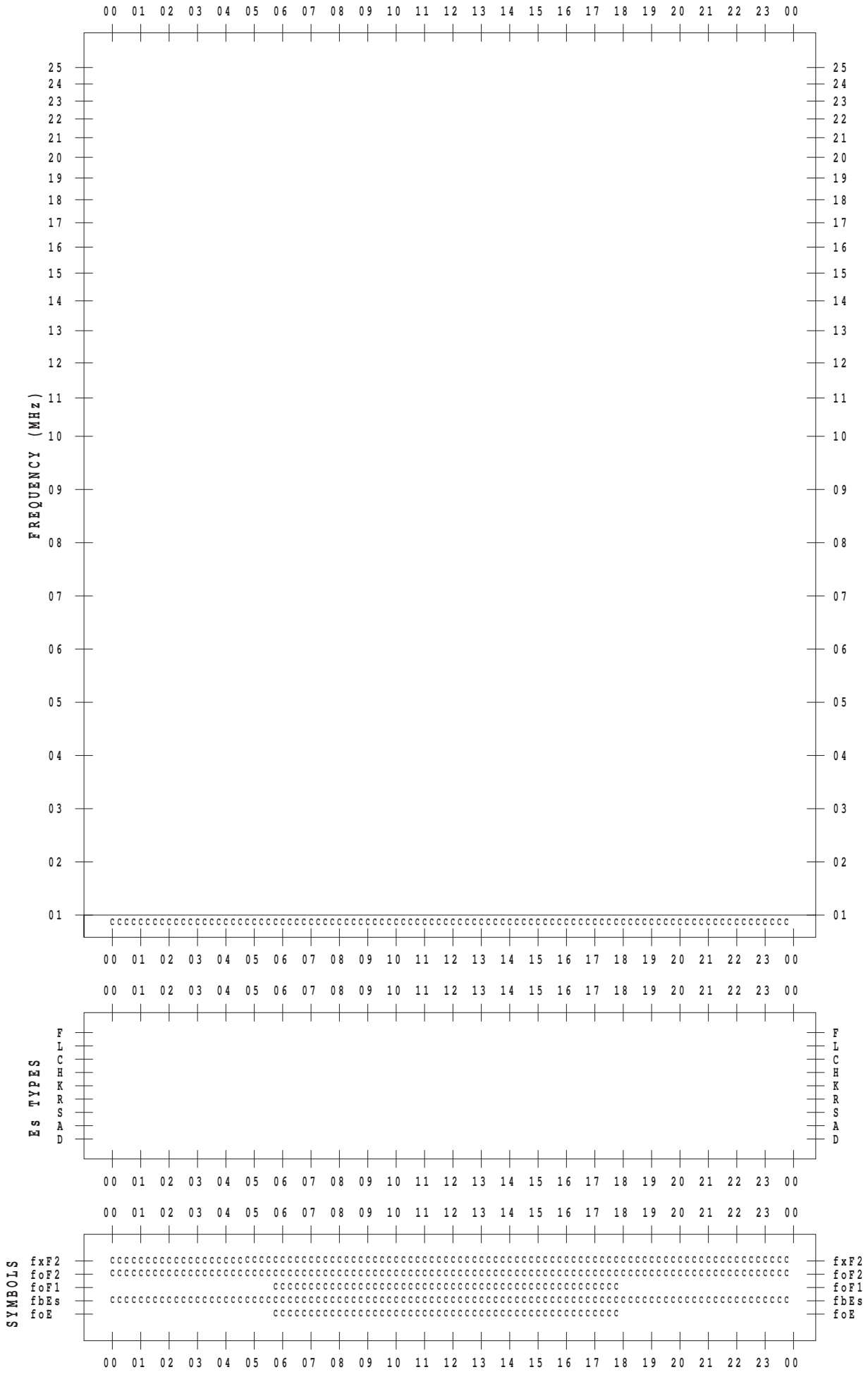
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/23

135 °E MEAN TIME



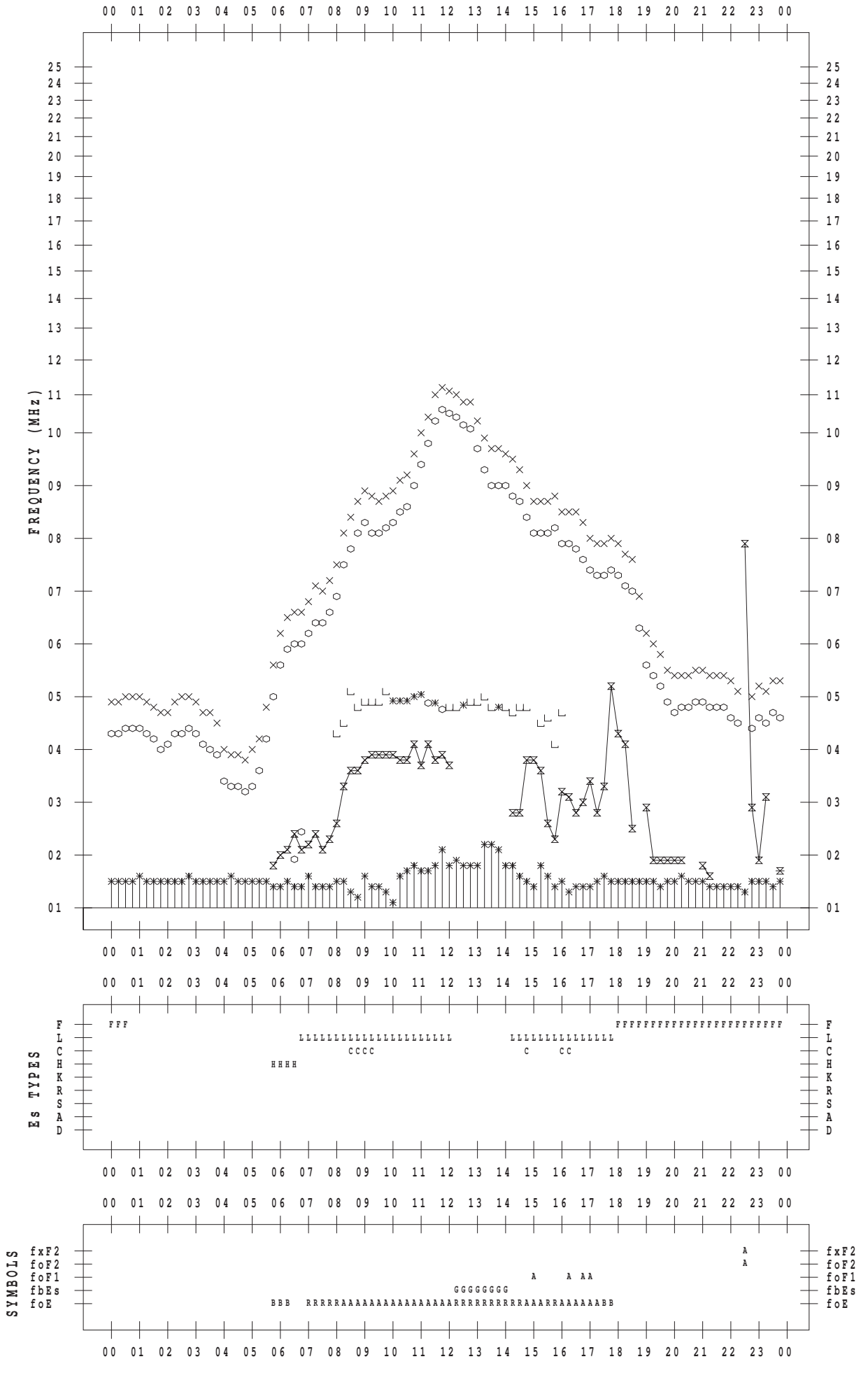
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/24

135 °E MEAN TIME



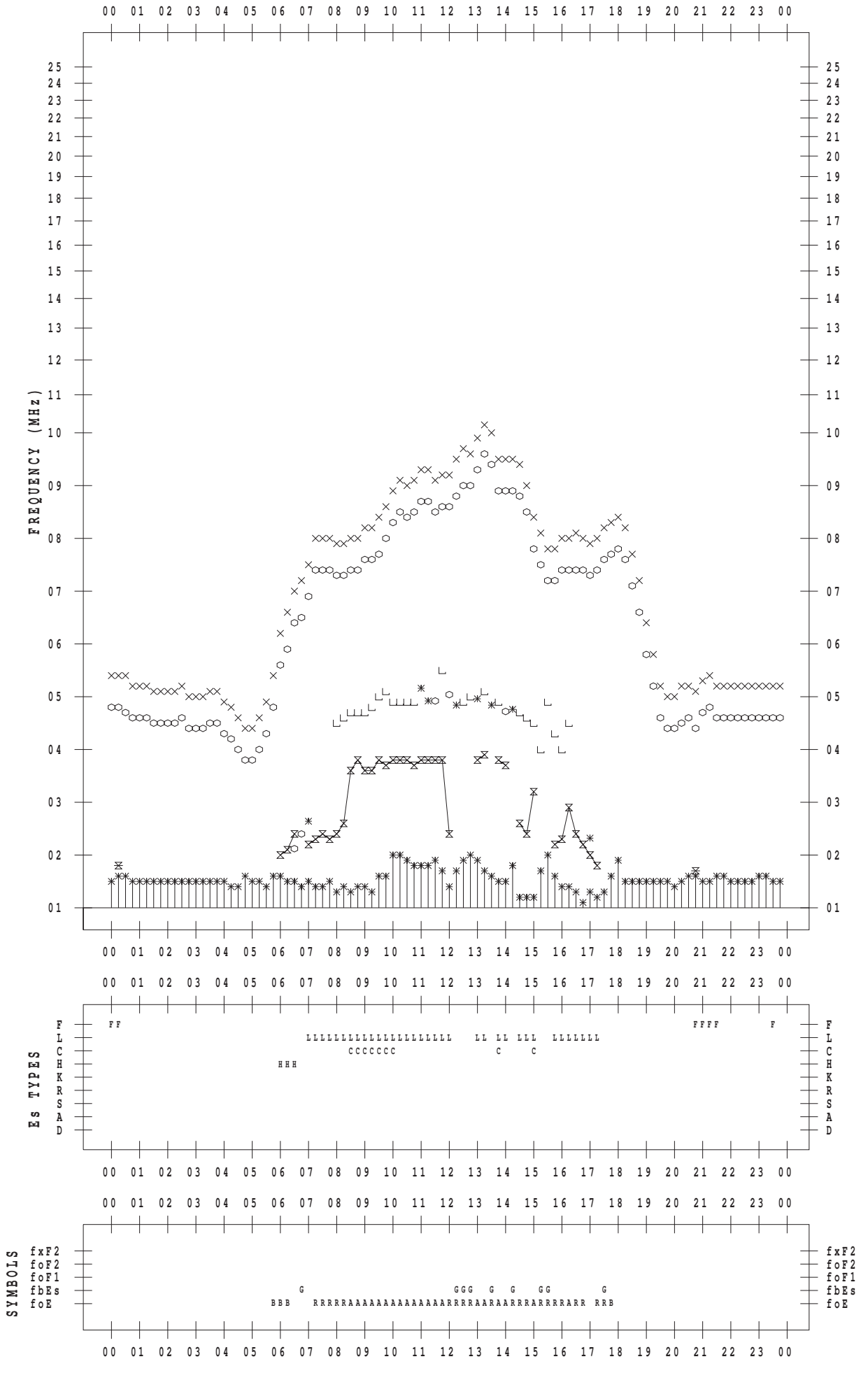
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/25

135 °E MEAN TIME



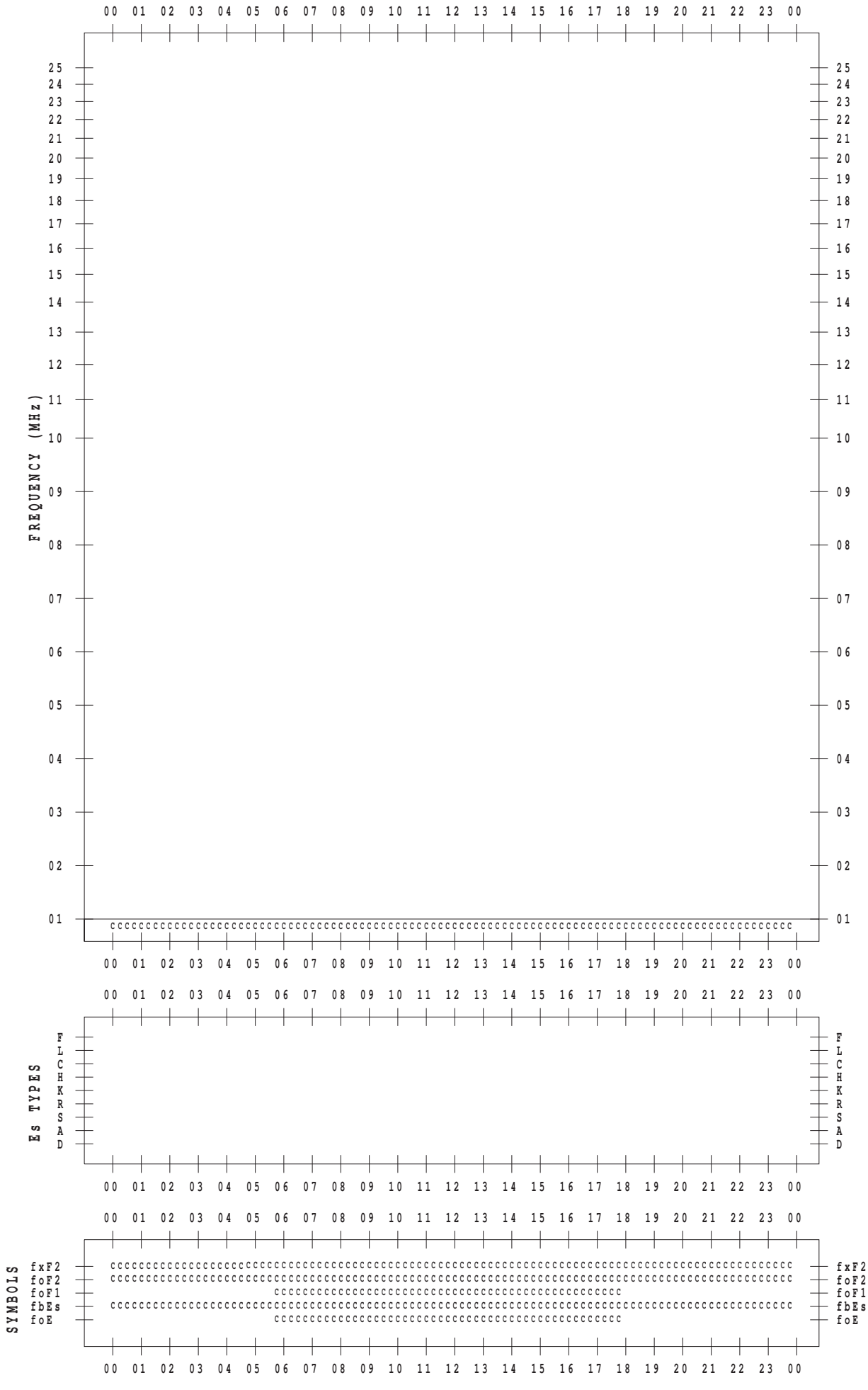
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/26

135 °E MEAN TIME



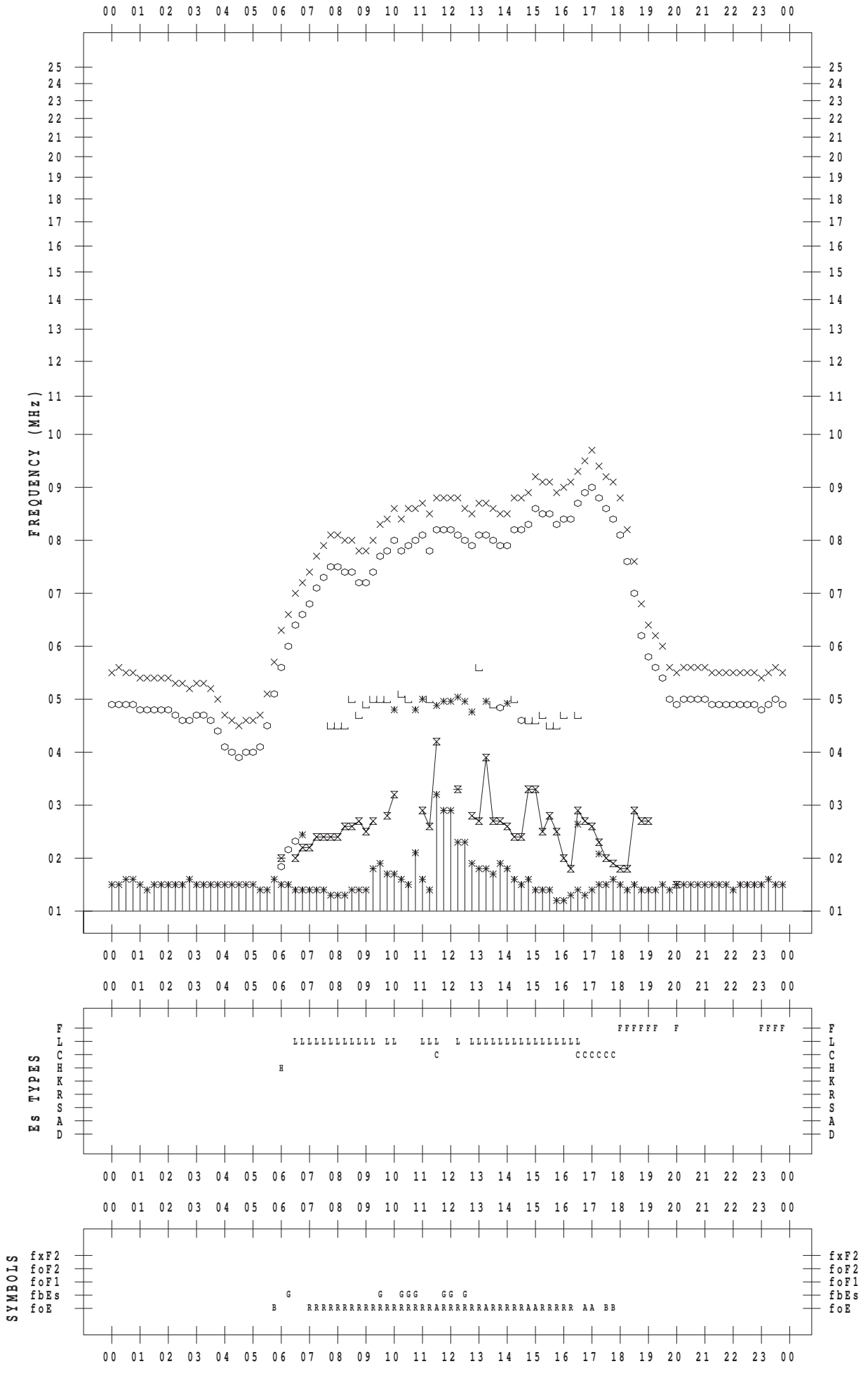
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/27

135 °E MEAN TIME



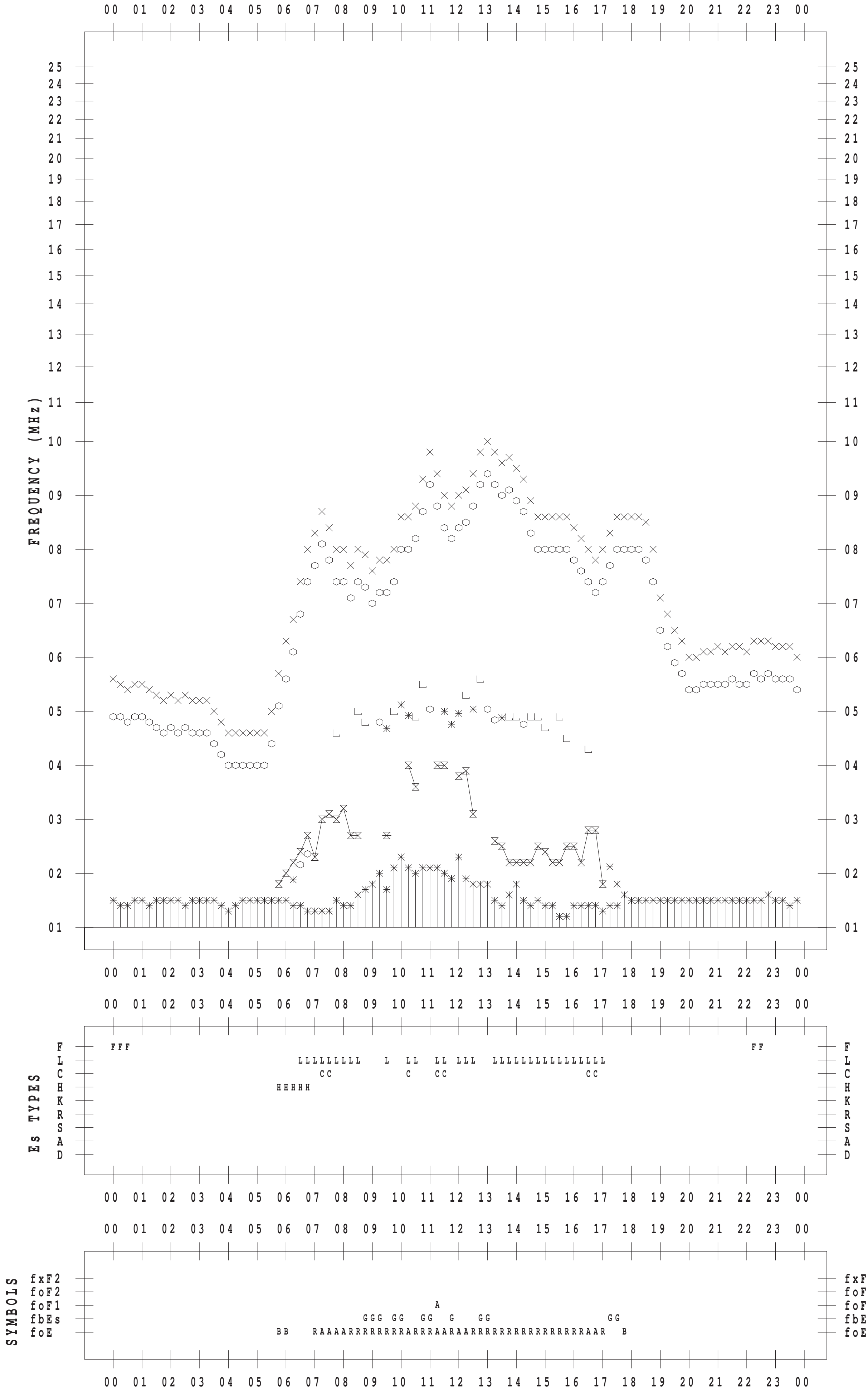
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/28

135 °E MEAN TIME



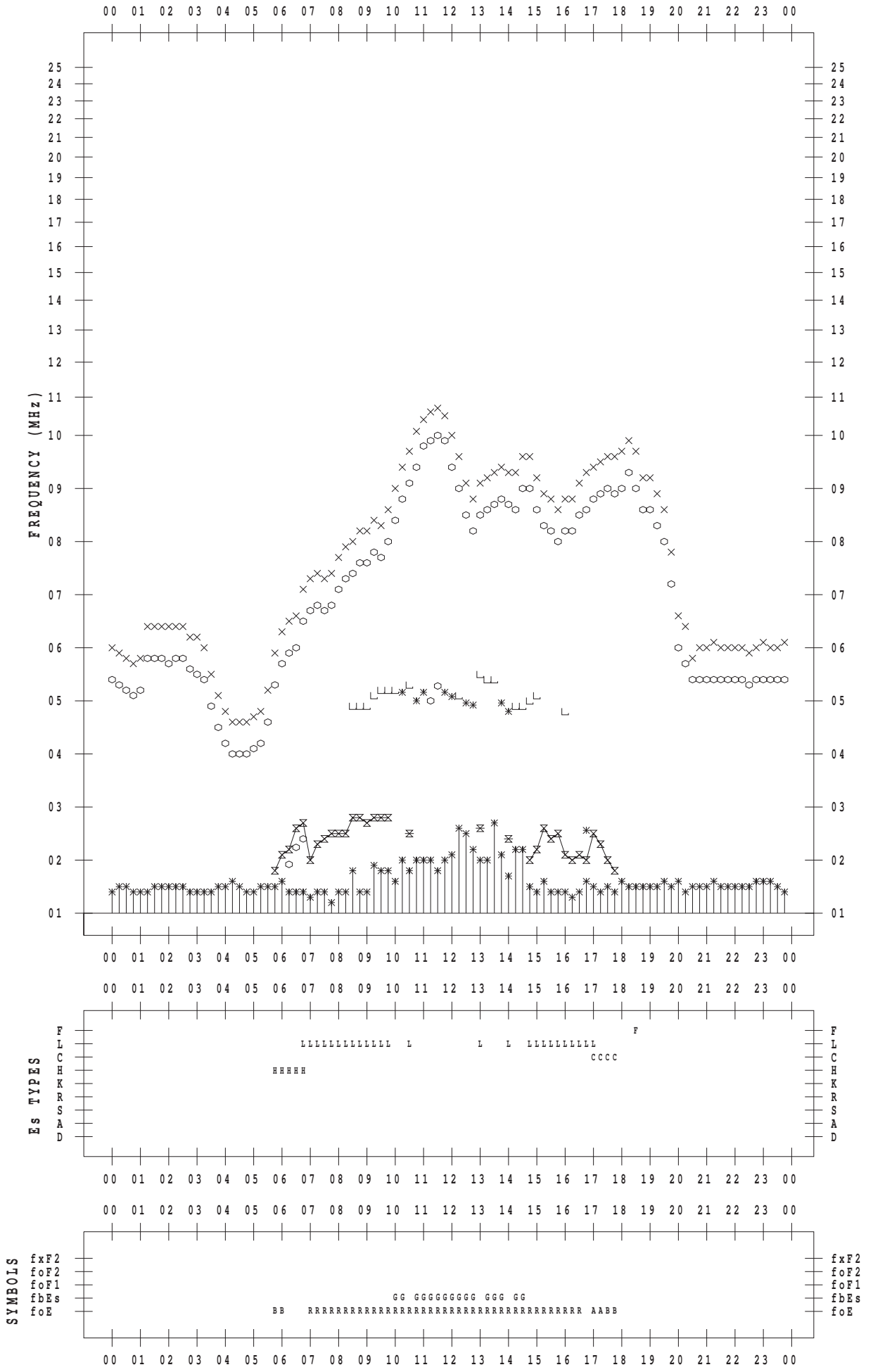
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/29

135 °E MEAN TIME



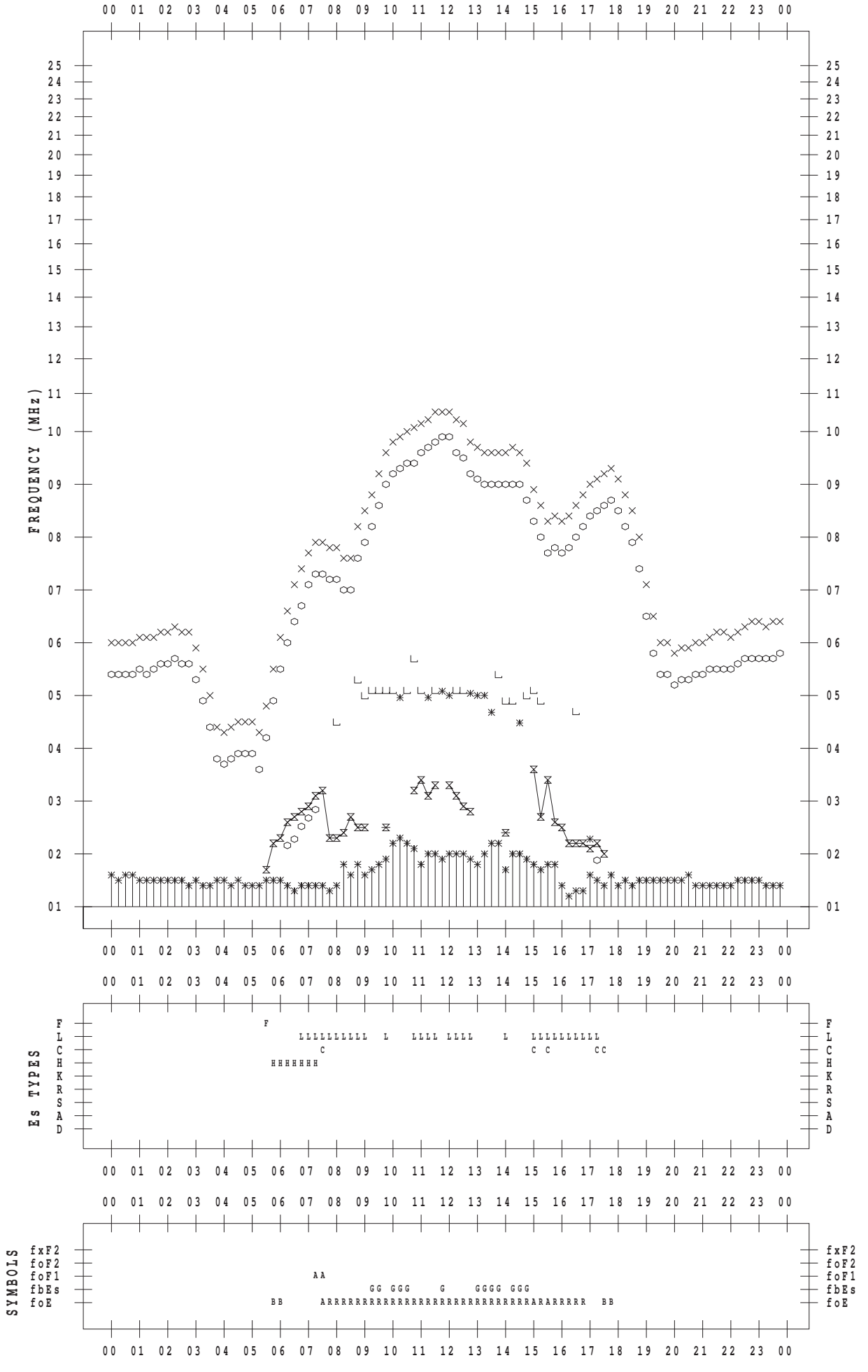
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/30

135 °E MEAN TIME



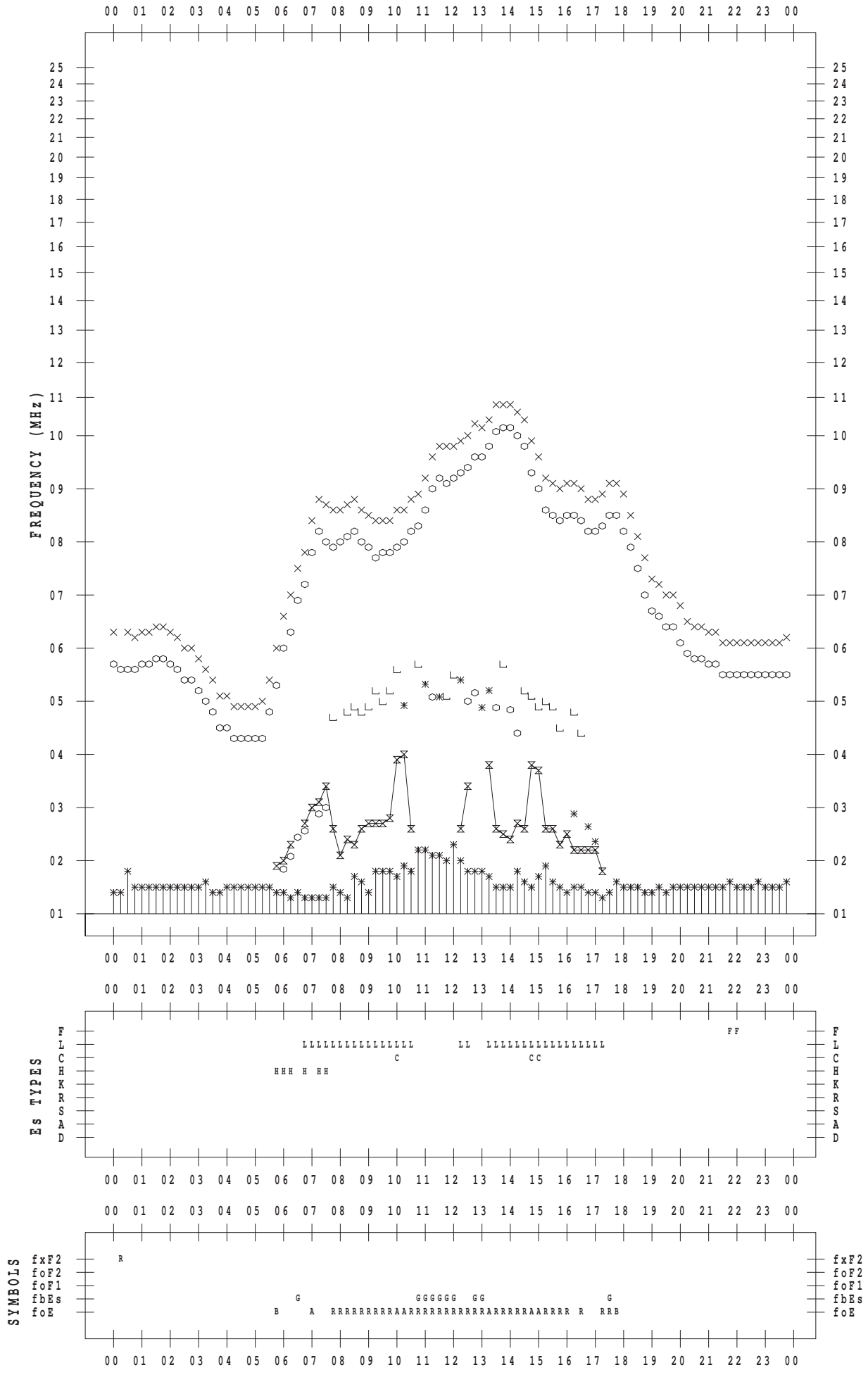
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 3/31

135 °E MEAN TIME



B. Solar Radio Emission

B1.Outstanding Occurrences at Hiraiso

Hiraiso March 2011

Single-frequency observations

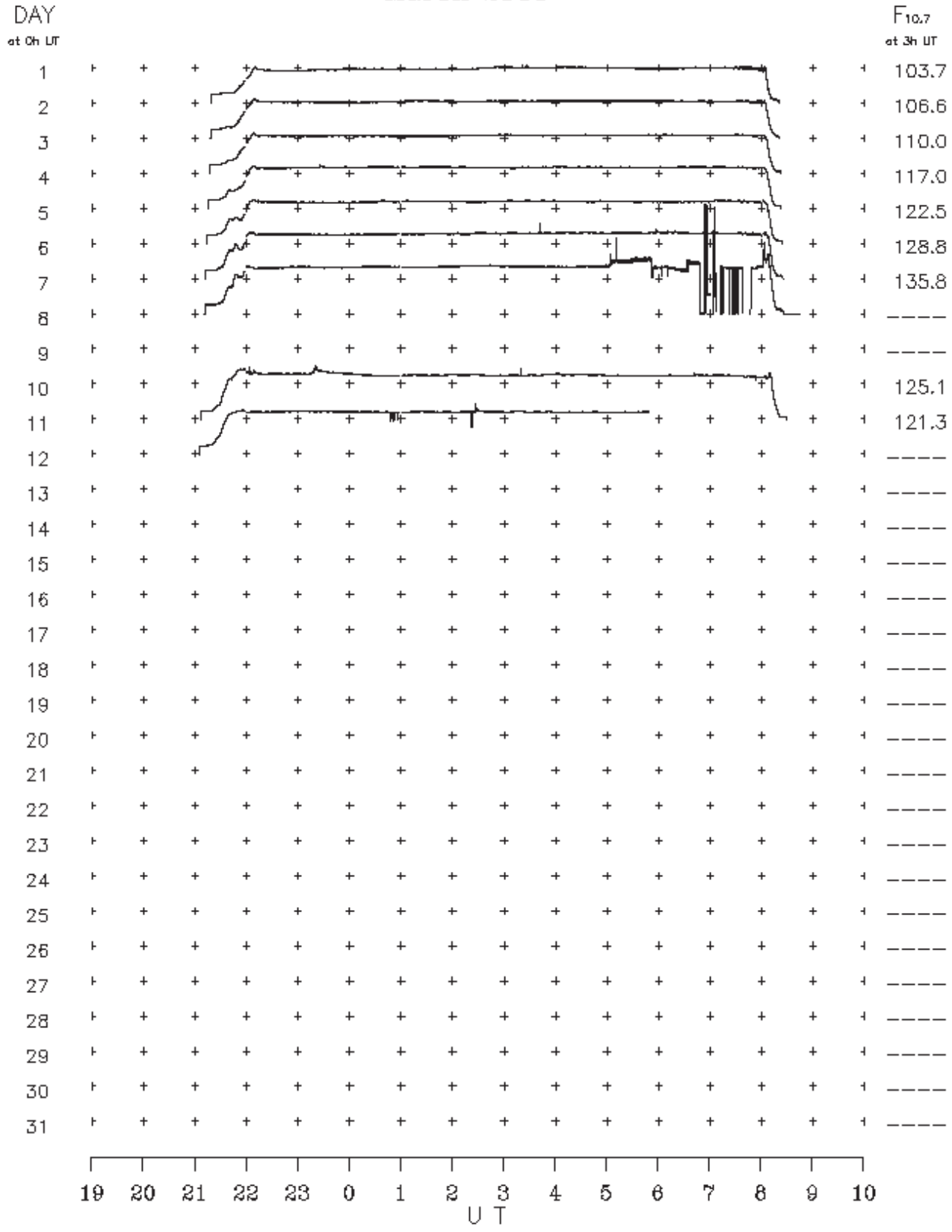
Normal observing period: 2050 - 0845 U.T. (sunrise to sunset)

MAR.	FREQ.	TYPE	START TIME	TIME OF MAXIMUM	DUR.	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1})		POLARIZATION
2011	(MHz)		(U.T.)	(U.T.)	(MIN.)	PEAK	MEAN	REMARKS
3	2800	1 S	2325.0	2326.0	3.0	5	-	
3	2800	1 S	2355.0	2356.0	2.0	5	-	
6	2800	1 S	0205.0	0206.0	2.0	5	-	
6	2800	7 C	0342.0	0342.0	1.0	15	-	
9	2800	7 C	2205.0	2205.0	2.0	5	-	
9	2800	7 C	2315.0	2322.0	30.0	20	-	
10	2800	1 S	0639.0	0640.0	4.0	10	-	
11	2800	7 C	0227.0	0228.0	4.0	10	-	

B.Solar Radio Emission

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

March 2011



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/2011/03/