F-723

IONOSPHERIC DATA IN JAPAN

FOR MARCH 2009

VOL. 61 NO. 3

CONTENTS

≪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. 2009

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

HOURLY VALUES OF fEs AT Wakkanai

MAR. 2009

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	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	33	57	31	33	25	26	G	G	G
7	G	G	G	G	G	G	G		36	37	36	G	44	38	G	39	G		11	G	G	G	G	G
8	G	G	G	G	G	G		40	34	35	38	G	37	G	G	38	34	G	G	G	G	G	G	G
9	G	G	G	G	G	G	G		33	37	38	38	38	G	36	G	33	28	G	G	G	G	G	G
10	24	23	G	G	G	G	G	39	35	39	39	39	G	G	35		G	G	G	G	G	G	G	G
11	G	G	G	G	G	G	G	32		40	38	G	38	37	39	35	G	26	33		29	45	G	G
12	G	G	G	G	G	G		29		40	39	39	39	G	36		32	26	G	G	G	G	G	G
13	G	G	G	G	G	G		35	37	40	39	G	G	37	G		34	29	G	24	G	G	G	G
14	G	G	G	G	28	32	34			G	40	41	G	G	36	35	G	28	28	G	G	G	G	G
15	G	G	G	G	G	G		35	36		40	38	40	G	36	34	32	53	35	30	G	G	G	G
16	G	G	G	G	G	G		29	G		35	38	G	G	G	G	G	G	G	G	G	G	G	G
17	G	G	G	G	G	G	23	33	35	38	38	38	G	G	N	G		30	G	G	G	G	G	G
18	G	G	G	G	23	G		34	36	G	G	G	G	G	G	G	G	G	G	26	32	G	G	G
19	G	G	G	G	G	G	G	39	37	35	G	44	39	G	G	34	G	G	G	G	G	G	G	G
20	G	G	G	G	G	G	G	32	38	39	38	G	39	G	G	G	G	G	G	G	G	G	G	G
21	G	G	G	G	G	G		34	34	40	50	55	G	38	G	G	G	G	G	G	G	G	G	G
22	28	41	G	G	G	G		30		44	40	39	G	G	G	34	G	30	G	27	G	G	G	33
23	G	G	G	G	26	29	G	45	34	G	38	39	G	G	G	35	G	G	G	G	G	G	G	G
24	G	G	26	24	26	G	33	30	33	G	39	40	38	G	G	G	32	G	G	G	G	G	G	G
25	G	G	G	G	25	G	40	35	G	38	40	G	G	38	G	34		G	G	G	G	G	G	G
26	G	33	G	G	G	37	G	G	40	44	G	G	40	G	G	G	G	G	G	G	23	G	G	G
27	G	G	G	G	G	G		G	G	44	38	G	G	G	G	40	31	35	G	G	G	G	G	G
28	G	G	G	G	G	G		32	34	38	G	G	G	N	G	G	32	34	27	27	25	G	G	G
29	G	G	24	G	G	G	G	35	G	37	38	39	G	G	G	G	G	G	G	G	G	G	G	G
30	G	G	G	G	G	G	43	41	G	G	G	G	38	43	38	35	33	27	27	G	G	G	G	G
31	G	G	G	G	G	G		G	40	G	G	G	52	40	G	34	34	G	26	24	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	25	25	25	25	25	25	14	22	21	24	25	25	25	24	24	23	24	25	26	25	26	26	26	26
MED	G	G	G	G	G	G	G	34	34	38	38	G	G	G	G	34	G	G	G	G	G	G	G	G
U Q	G	G	G	G	G	G	33	35	36	40	39	39	39	37	35	35	32	29	26	24	G	G	G	G
L Q	G	G	G	G	G	G	G	30	17	18	18	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

MAR. 2009

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

HOURLY VALUES OF foF2 AT Kokubunji

MAR. 2009

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	30	30	27	30	34		30	47	53	56	54	53	61	62	64	55	54	A	A	A			34	C
2	C	C	C	C	C	C	C	C	C	C	59	49	60	55	55	45	51	48	51	39	30	34	32	32
3	34	34			24		27	46	59	64	52	60			54	52	44	49	47	38	32	43	32	
4	34	34	34	30	30	30	39	53	60	59	56			68	67	58	41	52	52	35	27	34	31	32
5	32	32	30	28	27		32	43	47	54	60	59	61	70	57	59	64	62	55	36	28	29	30	30
6	30	27	30	30	27	27	34	52	55	C	55	53	56	59	65	61	38	50	57	42			A	
7		30	28	28	30	26	34	47	56	45	50	53	62	63	57	69	59	58	61	49				
8	28	30	30	28	28		32	42	47	56	45	56	54	68	58	58	55	54	42	32		A		
9	26	25		30	30	26	34	47	54	59	58	53	67	76	58	54	51	51	54	43		19		30
10	31	30	24	32	32	30	35	44	51	51	58	58	62	50	56	58	45	53	49	A	A	A		30
11	32	30	31	30	30	30	38	45	63	47		55	62	66	57	57	56	57	54	38	A	A	A	A
12	30	30		27	31	26	34	41	52	52	A	A	60	71	75	69	59	56	44	39	34	36	38	38
13	41	39	39	37	36	30	38	46	51	52		65	82	91	87	77	55	A		54	44	49		36
14	37	36	27	31	42	30	38	48	59	42	52	60	77	64	65	55	52	52	55	54	32	A	A	32
15	32	32	30	30	30		36	49	59	51	56	65	77	72	70	57	62	58	65	54				30
16	32	30	30	27	30	27	42	49	55	53	53	63	68	76	72	54	56	49	57	54	36	A		34
17		41	36	39	41	36	44	51		54	56	48	76	92	78	56	55	56	62	47	36	30		31
18	30	32	32	36	34	32	43	47	54	45	55	62	68	65	A	51	55	55	62	46		31		31
19	31	30	30	32	31	27	39	44	54	54	54	61	72	68	62	52	52	55	58	53	45	36		30
20	32	34	32	31	30		34	47	56	53	56	59	58	62	58	52	54	48	A	46	A	39	39	31
21	32	37	32	31	27	30	43	47	56	52	52	62	70	75	78	56	52	55	55	54	45	39	36	
22	34	37	32		26		33	54	72	68	59	63	60	40	65	65	65	61	64	51	45	42	34	30
23	30	34	34	34	36	32	41	47	56	53	54	64	67	67	64	62	58	56	55	47		36	37	27
24	34	38	34	34	30	27	44	57	59	56	54	56	61	67	66	56	59	63	64	63	46	42	34	38
25	36	36	34	36	27	28	42	45	58	54	57	62	78	72	68	52	57	58	63	54	30	A	42	39
26	32	35	35	34	27	28	52	59	55	52	58	72	88	62	63	58	61	59	66	44	41	39		38
27	34	32	36	34	30	26	42	49	51	64	62	72	78	76	58	52	62	66	66	61	54	39	34	37
28	34	32	36	36	28		38	49	58	45	57	61	77	75	74	62	52	59	59	53	43	39	32	38
29	39	41	37	34	37		39	59	52	55	58	58	65	77	76	72	66	58	54	49	38	31	32	31
30	30	32	34	34	31	28	42	47	42	47	52	58	64	60	64	57	55	55	56	53	46	34	34	32
31	34	30	28	32	32		31	43	48	48	49	56	60	72	65	67	63	61	55	54	51	31	34	34
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	30	27	28	30	20	30	30	29	29	28	29	29	30	30	31	31	29	28	29	20	21	17	24
MED	32	32	32	32	30	28	38	47	55	53	56	59	65	68	64	57	55	56	56	49	40	36	34	32
U Q	34	36	34	34	32	30	42	49	58	56	58	62	76	75	70	62	59	58	62	54	45	39	36	36
L Q	30	30	30	30	28	27	34	45	51	49	52	55	60	62	58	54	52	52	54	40	32	31	32	30

HOURLY VALUES OF fEs AT Kokubunji

MAR. 2009

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	28	G	G	G	G	49	45	54	G	60	114	151	42	29	30	G	C
2	C	C	C	C	C	C	C	C	C	C	40	G		G	G	35	G	26		G	G	G	G	G
3	G	G	G	G	G	G	G	G	G	G	G				G	G	G	31	G	29	G	35	G	G
4	G	G	G	G	G	G	G	G	G	G	G	42		39	G	G	37	26	28	19	G	29	G	G
5	G	27	G	G	G		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
6	G	G	G	G	G	G	G	44	G	C	G	G	40	40	G	G	G	27	23	24	28	28	34	33
7	26	G	G	G	G	G	G	32	N	G	G	39		G	G	40	G	34	30	25	29	29	28	G
8	G	G	G	G	G	G	G	N	G	G	G	40	G	G	G	G	G	29	G	G	24	29	35	
9	G	28		G	G	G	G	29	G	G	G	G	40	G	G	G	34	29	28	11		33		29
10	G	G	G	G	24	G	G	29	35	G	39	46	45	50	G	40	39	49	27	56	77	35	24	G
11	G	G	G	G	G	G	G	29		G		G	40	G	G	48	48	35	34	21	40	29	36	47
12	25	G	29	23	G	G	G	43	34	47	52	68	39	60	G	40	36	27	G	G	G	G	G	G
13	G	G	G	G	G	G	24	33	G	G	G	G	G	G	G	G	32	72	45	34	28	29	30	23
14	G	24	G	G	G	G	34	45	G	G	G	G	40	53	45	53	35	35	36	39	22	39	70	31
15	34	29	G	G	G	G	25	34	G	G	G	39	G	G	45	G	G	27	35	G			G	G
16	G	G	G	G	G	G	G	G	G	42	G	G	G	G	G	40	G	29	24	G	29	30	26	G
17	G	G	G	G	G	G	24	G	G	40	G	39	40	G	48	G	50	45	40	28	22	G		G
18	G	G	G	G	G	G	24	G	34	G	47	47	44	53	73	53	50	35	29	30	26	G	28	G
19	G	G	G	G	G	G	23	G	G	G	G	G	G	G	38	43	G	G	G	G	G	G	26	23
20	G	G	G	G	G	G	24	G	G	G	43	G	G	40	G	36		35	49	29	30	31	G	G
21	G	G	G	G	G	G	26	34	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
22	G	G	G	G	G		27	33	G	G	G	G	G	G	G	G	G	34	23	G	32	G	G	G
23	G	G	G	G	G	G		41	34	G	43	46	G	G	G	G	G	33	G	G		G	G	G
24	G	G	G	G	G	G	29	34	G	G	G	43	G	G	G	G	G	G	G	G	G	G	G	G
25	G	G	G	G	G	G	28	G	G	G	G	43	G	45	G	G	40	40	29	G	40	34	29	24
26	G	G	G	24	G	G	25	G	G	G	G	47	94	40	39	G	40	37	G	G	31	G	32	G
27	G	G	G	G	G	G	G	N	40	G	G	G	52	G	G	36	G	G	G	G	G	G	G	G
28	G	G	G	G	G	G	38	G	G	G	44	44	50	G	39	43	G	G	G	G	G	24	G	G
29	G	G	G	G	G	G	31	37	G	G	G	G	G	41	G	G	G	G	G	G	G	G	G	G
30	G	G	G	G	G	G	G	G	G	G	G	G	G	39	G	G	G	G	G	G	G	G	G	G
31	G	G	G	G	G	G	28	G	G	G	G	G	G	59	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	30	30	29	30	30	28	29	28	28	29	30	30	27	30	31	31	30	31	30	31	28	30	29	29
MED	G	G	G	G	G	G	23	28	G	G	G	G	G	G	G	G	G	29	23	G	22	12	G	G
U Q	G	G	G	G	G	G	26	34	G	G	G	43	40	41	38	40	37	35	30	28	29	30	28	12
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. 2009

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

HOURLY VALUES OF foF2 AT Yamagawa

MAR. 2009

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

HOURLY VALUES OF fEs AT Yamagawa

MAR. 2009

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	23	G	24	G	G	G	G	G	G	41	G	53	52	138	48	66	50	60	57	50	66	39	G	24
2	40	27	G	23	G	G	G	26	G	G	G	G	G	46	40	43	39	42	44	50	33	G	G	G
3	G	G	G	G	G		G		32	34	G	G	41	40	50	50	58	43	40	40	47	40	C	31
4	G	G	G	G	G	G	G	G	G	G	G	40	G	40	G	44	41	36	33	G	G	28	46	G
5	G	G	G	G	G	G	G			G	G	G	43	51	G	46	44	G	G	24	34	32	28	G
6	23	G	G	G	28	23	G		32	G	41	G	41	42	G		59	70	59	72	53	59	46	32
7	24	G	G	G	G	11				40	G	40	42	43	46	45	52	40	40	33	35	28	33	33
8	33	24	34	G	G	G	G	G	34	35	G	39	40	48	G	48	42	G	33	23	29	40	24	G
9	G	G	G	G	G	G		29	G	42	G	G	G	G	G	G	G	31	32	32	29		G	G
10	27	30	23	G	G	G	G	34	G	G	G	G	G	40	46	37	G		G	G	G	29	30	33
11	G	33	G	G	G	G	G	G	32	36	G	45	51	46	56	48	43	46	44	41	40	G	G	G
12	33	36	28	G	G	G	G	29	40	46		40	78	56	57	G		G	G	G	G	G	G	G
13	G	G	G	G	G	G	G		40	35	41	G	G	G	G	40	36	43	29	25	25	24	G	
14	32	32	G	G	G	G	G		G	40	50	43	51	53	56	63	50	G	40	32	54	49	49	32
15	G	50	46	G	G		G	29	G	G	G	G	G	G	G	G	79	63	52	43	32	32	39	36
16	G	29	G	28	G		G	G	G	G	40	40	42	G	62	47	57	C	44	43	43	39	C	28
17	G	G	G	G	G	G	G		32	G	38	G	42	40	39	G	G	G	G	31	43	33	30	G
18	28	G	G	G	G	G	G	40	G	36	44	53	47	49	55	C	C	42	40	27	34	34	26	33
19	34	26	G	G	G	27	G	31	33	C	C	C		G	C	C	C	C	30	29	20	29	32	26
20	31	G	G	G	G		G		G	G	G	42	G	41	G	39	40	40	30	32	30	26	G	G
21	G	G	G	G	G	G	G			G	G	G	G	46	G	G	G	G	27	26	19		G	G
22	G	G	G	G			G	G	32	G	60	G	40	G	G	G	43	42	43	34	G	G	G	30
23	G	G	G	G	28	G	G	38	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	C	C	G	G	G	40	G	28	G	20	G		G
31	G	G	G	G	G	G	G	33	G	G	G	G	G	G	G	G	G	34	32	38	23	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	24	24	24	24	23	19	22	15	21	22	21	22	22	24	23	21	21	21	24	24	24	22	21	23
MED	G	G	G	G	G	G	G	29	G	G	G	G	40	40	G	40	42	40	33	32	31	29	24	G
U Q	29	28	G	G	G	G	G	33	32	36	40	40	43	47	50	47	51	43	43	40	41	39	32	32
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	18	G	28	24	20	G	G	G

HOURLY VALUES OF fmin AT Yamagawa

MAR. 2009

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	15	14	15	15	16	15	16	14	14	14	16	18	17	15	14	14	14	15	14	14	15	15	14
2	14	14	15	14	14	15	15	16	14	14	15	14	15	18	17	15	14	14	14	14	14	16	15	15
3	14	14	15	15	15		14	16	14	14	15	16	16	18	14	14	14	14	15	15	16	14	C	14
4	15	15	16	16	15	16	15	20	14	16	14	15	18	21	14	15	16	14	14	16	15	14	14	14
5	15	15	15	16	22	15	16	18	14	21	15	14	15	18	17	15	15	14	16	15	15	14	14	16
6	15	15	14	14	15	15	15	17	14	14	15	18	17	15	22		14	14	14	15	14	15	14	15
7	15	15	15	17	14	15		18		15	14	20	22	16	17	16	16	15	14	15	14	15	14	15
8	14	14	14	14	14	16	16	18	14	14	20	16	18	16	16	14	15	14	14	16	15	15	15	16
9	14	14	15	14	14	16		14	14	14	14	16	16	17	20	39	15	14	14	15	15		14	15
10	15	15	14	14	14	17	14	18	14	14	17	14	18	16	17	29	14		20	17	14	15	14	14
11	15	14	15	14	14	15	14	18	14	14	17	15	17	16	17	16	16	16	15	14	14	17	14	15
12	14	21	15	14	15	14	15	14	14	14		17	17	16	18	16		14	18	16	15	17	16	14
13	15	14	14	14	14	14	15	15	14	15	14	18	18	18	21	21	15	14	14	14	16	15	15	
14	14	14	15	15	14	15	15	15	14	15	17	17	17	27	18	18	14	16	14	14	15	15	15	15
15	14	14	14	15	15		17	15	14	14	15	18	18	20	17	14	21	16	15	14	15	15	15	14
16	15	15	14	15	15		15	16	15	15	17	18	20	21	18	17	15	C	14	22	22	14	C	14
17	16	15	18	16	14	17	15	15	14	14	15	15	17	15	15	39	15	14	22	15	14	14	15	15
18	15	14	14	14	14	14	15	15	14	15	15	16	21	18	17	C	C	14	14	15	14	14	17	15
19	15	14	14	14	15	15	14	16	14	C	C	C	20	16	C	C	C	C	14	14	14	15	14	15
20	15	14	15	15	15		16	16	14	16	16	14	15	17	20	14	16	15	14	14	14	15	14	15
21	15	14	15	16	15	15	15	15	14	14	14	15	17	15	14	14	16	15	14	15	14		17	14
22	17	14	15	15			17	15	14	14	14	44	20	18	21	17	14	14	15	15	18	16	16	17
23	14	15	14	14	15	14	15	15	15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	C	C	20	18	14	14	14	14	14	15	15		14
31	14	14	14	14	15	16	15	18	15	17	18	18	18	16	23	17	17	14	14	15	14	16	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	24	24	24	24	23	19	22	24	23	22	21	22	23	24	23	21	21	21	24	24	24	22	21	23
MED	15	14	15	14	15	15	15	16	14	14	15	16	18	17	17	16	15	14	14	15	14	15	15	15
U Q	15	15	15	15	15	16	15	18	14	15	17	18	18	18	20	17	16	15	15	15	15	15	15	15
L Q	14	14	14	14	14	15	15	15	14	14	14	15	17	16	16	14	14	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Okinawa

MAR. 2009

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								36	41	48	A	61	60	A	77	86	78	67	A	42	A	A	30	
2	26	31	A					47	52	51		58	64	69	74	69	72	60	52	36	32		A	A
3	A	28		A				38	50	50		70	75	81	98	77	63	56	56	50	A	A	A	28
4		30	29					42	55	42	51	68	82	88	114	113	98	84	66	42	37	31	30	A
5	30	30	29	34	36			36	56	51	61	83	82	81	90	84	87	72	59	41	30			
6		26							58	53	44	A	73	78	87	82	77	62	61	45			A	A
7	A	30		28	34			35				68	74	75		75	84	86	61		34			A
8	A	30						38	52	50	50	69	76	76	82	84	67	56	61	45	26	31	A	A
9	31	32		28		26		41	48	46	61	74	88	104	96	96	86	102		54	36	A		
10		29	30	26	29			37	50	52	56	75	88	90	110	118	118	85	75	62	42			A
11				A				42	47	A	53	63		80	86	91	86	96	78	A	A	A		A
12	A	A		29	34			42	47	A	52	57	68	81	85	101	100	90	58	43	43	28		28
13	30		31	29	28			44	46	52	58	64	72	90	98	101	67	57	55	64	54	A		
14	A	29	30	28	43			44	54	67	72	74	70	103	128	137	113	104	102	77	76	51	40	32
15	A	A	A		A			45	58	62	78	95	86	98	103	110	118	131	131	101	34	A	A	A
16	A	A		41	44			51		52	62	72	67	84	91	90	83	65	61	A	53	A		A
17		30	30		30			46	50	55	62	63	70	90	116	100	86	98	96	61	37	A		
18		28			30			44	54	52	56	61	70	86	A	104	106	102	102	73	38		A	A
19			29	A	A			44	47	58	65	77	82	107	92	90	77	77	95	92	54		A	
20	32	35	32	44	32			42		51	62	62	67	85	96	92	77	73	68		52	42	A	30
21	A	30						42		52	62	74	76	90		118	88	86	88	86	83			
22			31					50	58	58	67	62	67	88		86	82	74	76	67	48			
23					26			42		56	67	67	81	99	107	126	119	94	86	87	77			
24			28	31	27			44	40	46	59	62	71	88	100	87	88	92	78	72	52	34	30	
25	29	30		29	31			46	48	53	63	56	74	88	100	86	76	70	76	60	50		30	32
26	30	25		26	29			45	50	56	67	78	88	106	130	110	103	84	73		57	43	32	34
27		44	43		29			45	54	65	78	72	88	106	102	78	66	71	82	78	52	30		
28		29		32	30			42	50	46	58		72	94	103	88	88	78	76	66	43			
29	29	22	30					47	51	59	71	61	78	100	124	102	86	85	85	73	50	31	26	
30	29		29	31	29			40	43	56	62		72	81	82	76	66	66	72	77	48			
31			26	29				41	44		60		68	82	93	87	77	80	71	66	53	38	30	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	9	19	14	15	17	1		30	26	27	27	27	30	30	27	31	31	31	29	26	27	10	8	6
MED	30	30	30	29	30	26		42	50	52	62	68	74	88	98	90	86	80	75	65	48	32	30	31
U Q	30	30	31	32	34	13		45	54	56	67	74	82	98	107	104	98	92	85	77	53	42	31	32
L Q	29	28	29	28	29	13		41	47	50	56	62	70	81	87	84	77	67	61	45	37	31	30	28

HOURLY VALUES OF fEs AT Okinawa

MAR. 2009

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	44	52	50	50	59	42	75	48	51	71	34	47	37	28	32
2	30	G	29		G	G	G	G	G	G		G	G	G	G	39	G	G	G	G	G	32	68	38
3	38	G		37	G			G	G	G		G	G	55	59	57	54	40	36	33	36	36	48	32
4	27	G	G		G	G	G	G	G	G		G	G	G	40	G	G	34	48	G	G	G	28	37
5	G	G	G	G	G				G	G	G	G	G	G	G	G	36	G	G	G	G			G
6	29	G				G	G	33	G	G	G	66	56	55	G	51	51	42	44	39	28	28	52	36
7	48	G	G	G	G					G	G	G	G	G	G	46	36	38	31	29	G		27	29
8	33	27	G	32	G			G	G	G	G	G	G	G	48	48	G	G	G	G	G	G	39	50
9	G	G		G	G	G	G	28	G	G	G	G	G	G	G	G	G	33	G	40	G	25		25
10	G	G	G	G	G			27	G	G	G	G	G	48	G	G	G	G	G	11		G		29
11		G	39	30				G	G	57	G	G	G	G	66	48	47	44	44	38	41	48	26	33
12	37	39	30	G	G				44	47	38	G	42	G	42	49	61	44	38	G	G	G	24	G
13	G	G	G	G	G	G			G	G	G	G	G	G	G	G	G	39	34	32	27	34	24	24
14	35	24	G	G	G		G	G	G	42	39	50	54	44	50	51	65	39	33	27	25	G	27	G
15	31	67	60	28	34	38		40	G	G	G	50	G	G	40	50	53	45	37	35	G	39	30	50
16	38	72	46	G	G	G	G	G		G	G	G	G	56	62	50	68	70	106	93	34	29		59
17	30	G	G		G	G			G	G	G	G	G	G	G	G	G	48	42	28		31		
18	G	G		25	G	G		29	G	G	G	G	G	52	126	47	50	38	34	31	G		35	38
19		G	G	34	28				35	G	G	G	G	G	G	G	G	G	29	G	65	G	41	38
20	36	28	G	29	G			G		G	G	G	G	G	G	G	38	43	30	35	32	30	34	28
21	29	25				G	G	G		G	G	G	G	G	G	G	G	G	G	26	28			
22			G	G				32	43	49	G	G	G	G		G	G	G	33	G	G			
23	28		G	G	G					G	G	G	G	G	47	G	G	41	37	39	36	30	32	
24			G	G	G		G	G	G	G	G	G	G	G	G	50	53	40	34	G	G	G	G	26
25	G	G	G	G	G				G	G	38	G	G	G	49	48	48	42	34	35	G		G	G
26	G	24	29	G	26			G	G	G	G	G	50	G	G	G	G	44	37	34	40	G	G	36
27	34	31	G		G		G	28	G	G	G	G	G	G	G	G	37	38	36	G	G	G		
28		G		G	G			G	G	G	G	G	G	G	G	G	G	G	42	40	G			
29	G	G	G	G	G			30	G	G	G	G	G	G	40	G	G	G	G	G	G	G	G	G
30	G	G	G	G	G		G		G	G	G		G	G	G	G	G	G	G	G	11	G		
31	G	G	G	G	G			G	G		G	G	G	G	50	48	48	50	39	35	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	26	28	24	24	27	10	10	22	26	30	28	30	31	31	30	31	31	31	31	31	29	24	21	23
MED	28	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	36	39	34	29	G	13	28	32
U Q	34	24	15	26	G	G	G	28	G	G	G	G	G	G	48	49	50	44	39	35	33	31	37	38
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	12	24

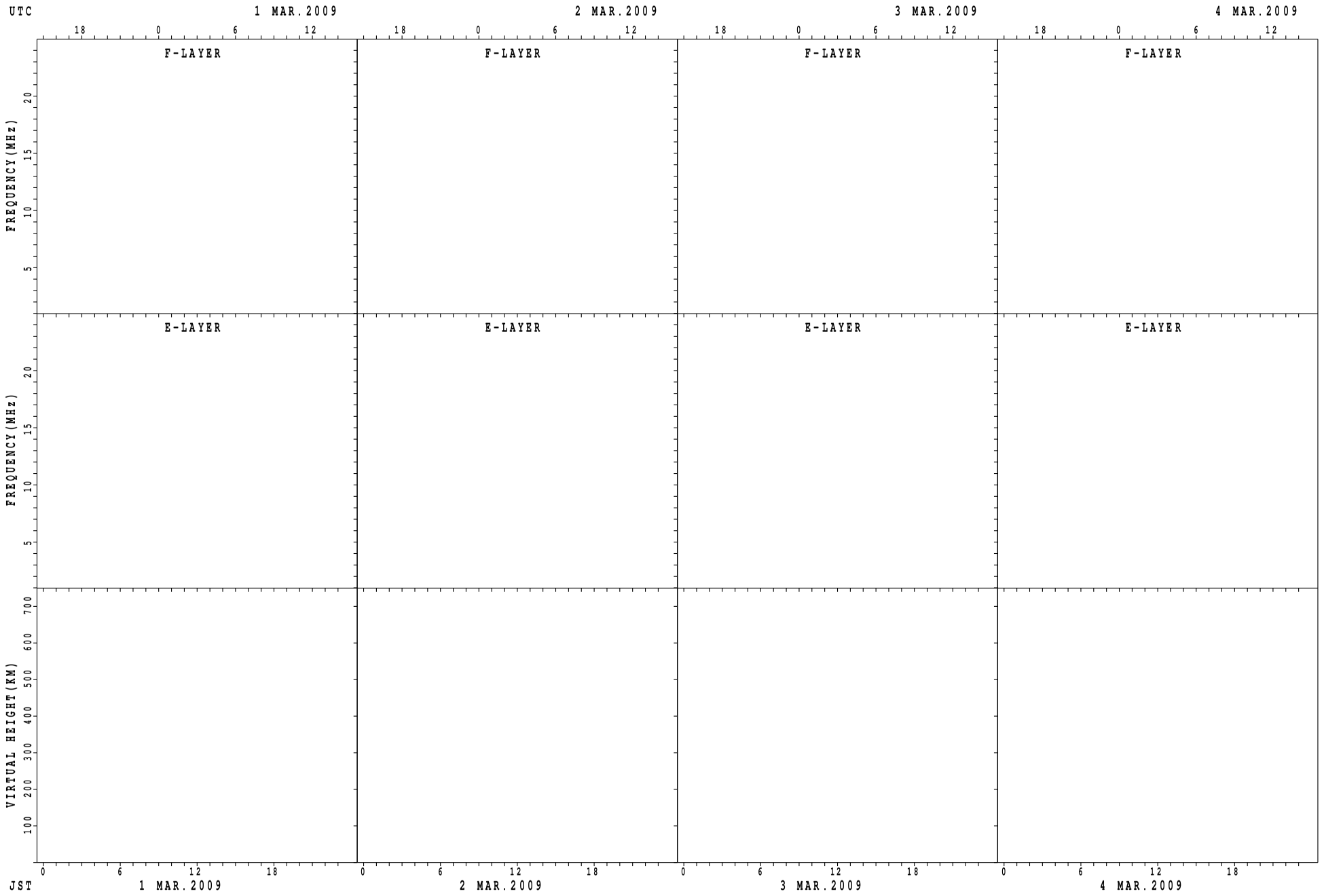
HOURLY VALUES OF fmin AT Okinawa

MAR. 2009

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

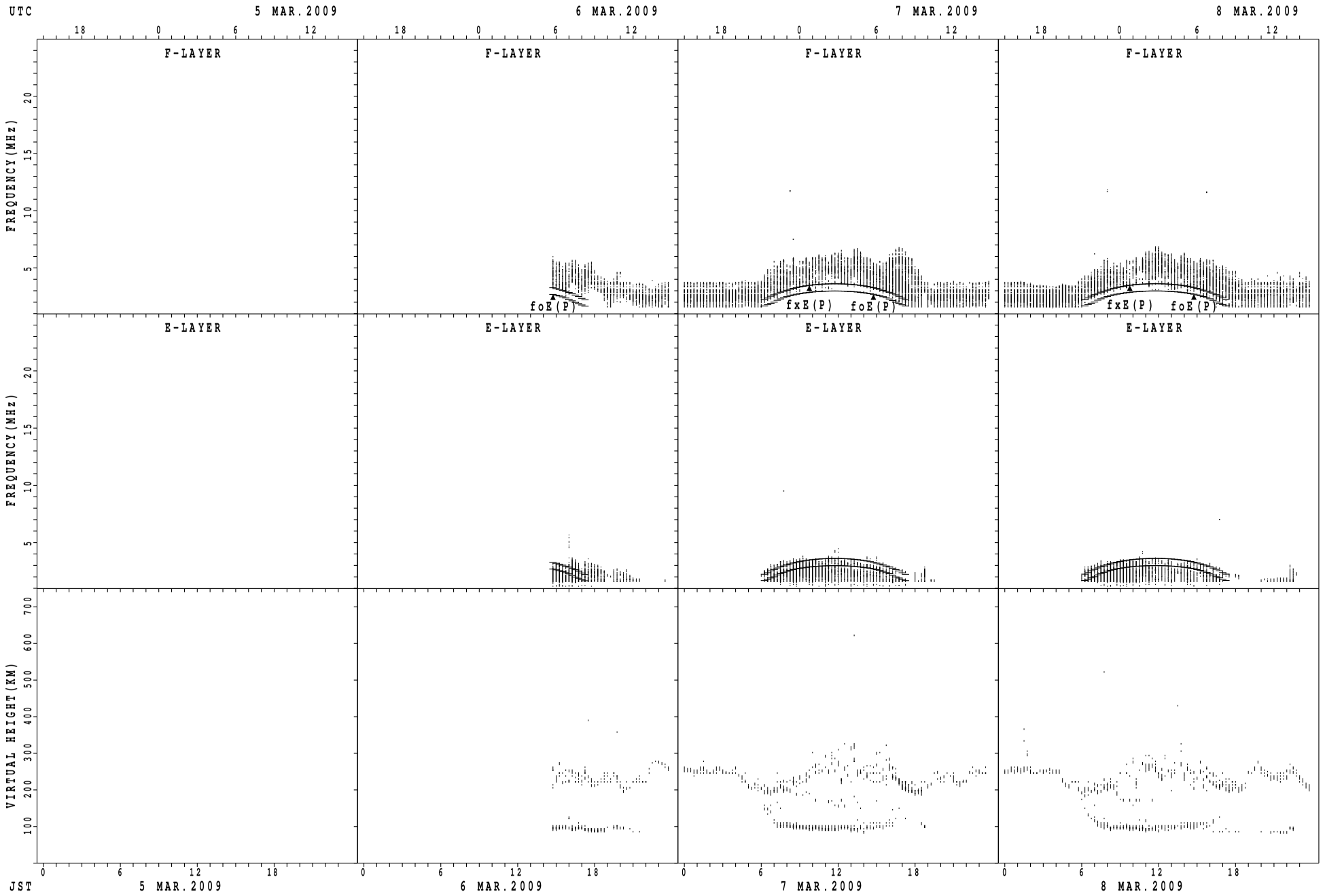
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	15			14			15	14	30	33	34	34	33	20	30	18	17	14	15	15	16	15	15
2	15	15	14		15	16	15	16	14	29		44	49	49	44	32	40	14	18	14	15	15	15	15
3	14	14		20	16			23	15	17		50	48	39	36	35	28	14	15	15	14	15	15	16
4	15	15	15		17	16	16	15	26	16	17	44	45		46	44	18	14	14	15	15	17	15	14
5	16	17	15	20	15			20	29	16	41	45	45	45	50	17	26	17	18	15	18			15
6	14	18				15	14	14	26	15	20	33	35	40	45	29	29	16	14	15	15	16	14	15
7	15	14	17	15	16			17		17	20	45			45	27	18	16	14	15	15		15	15
8	15	17	16	18	15			20	15	35	21	46	45	45	33	21	16	27	21	27	17	16	14	15
9	18	16		17	22	15	17	14	14	18	44	45	50		46	44	39	18	21	15	14	16		15
10	17	15	16	15	18			20	14	16	21	45		33		44	18	15	18	16	21	21		15
11		17	17	15				20	14	14			55	55	32	30	17	20	14	14	15	15	15	15
12	16	15	16	20	22			21	14	17	42	44	26	51	27	26	21	18	14	18	15	18	17	15
13	17	21	15	16	21	15		14	14	16	43	54	45	52	42	39	28	21	14	15	15	22	16	17
14	15	15	17	15	14		15	21	28	14	21	30	32	54	30	28	21	17	15	16	16	15	15	16
15	15	20	17	20	17	14		14	14	27	29	32	49	53	43	32	21	17	15	14	16	15	15	16
16	14	15	16	29	21	16	16	20		15	40			33	32	29	23	17	14	20	15	15		17
17	15	15	20		21	15		15	14	17	40	50			21	41	16	14	14	14	15	17		
18	17	16		14	15	15		15	28	18	44	45	30	29	29	24	22	14	14	15	17		14	15
19		16	16	14	17			17	14	16	43	47	52	47	46	45	42	18	14	16	14	15	17	16
20	15	15	21	15	15			22		17	44	44	43	48	46	43	29	18	14	15	18	15	17	15
21	16	18				21	15	22		38	51	45	53	55	50	17	40	38	14	15	15			
22			16	18				16	14	29	50	45	52	52		42	42	33	14	15	15			
23	15		16	16	18			15		21	44	52			27	50	42	15	14	24	15	14	14	
24			15	14	16		15	23	15	41	42	45				26	18	14	14	15	22	17	21	17
25	17	20	17	20	15			15	15	45	30	44	52	54	33	28	21	18	14	15	18		15	15
26	16	16	15	16	15			22	28	39	44	46	34	53	46	46	28	20	14	15	15	20	22	17
27	16	16	16		15		15	14	15	41	40	46	55	59	30	42	18	14	14	20	21	15		
28		15		16	15			23	21	18	44	48	51	52	46	45	34	29	21	14	16			
29	15	16	20	24	17			15	16	21	22	44	53	53	28	46	43	29	22	17	16	18	20	15
30	15	18	17	15	16		16	17	29	40	24		50	47	48	45	18	36	14	22	21	17		
31	15	17	15	15	17			23	15		44	54			47	29	26	20	15	14	16	16	20	
	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	28	24	24	27	10	10	31	26	30	28	28	24	24	28	31	31	31	31	31	31	24	21	23
MED	15	16	16	16	16	15	15	17	15	18	40	45	48	50	42	32	23	17	14	15	15	16	15	15
U Q	16	17	17	20	18	16	16	21	26	30	44	46	52	53	46	44	34	20	15	16	17	17	17	16
L Q	15	15	15	15	15	15	15	15	14	16	23	44	39	42	30	28	18	15	14	15	15	15	15	15

SUMMARY PLOTS AT Wakkanai



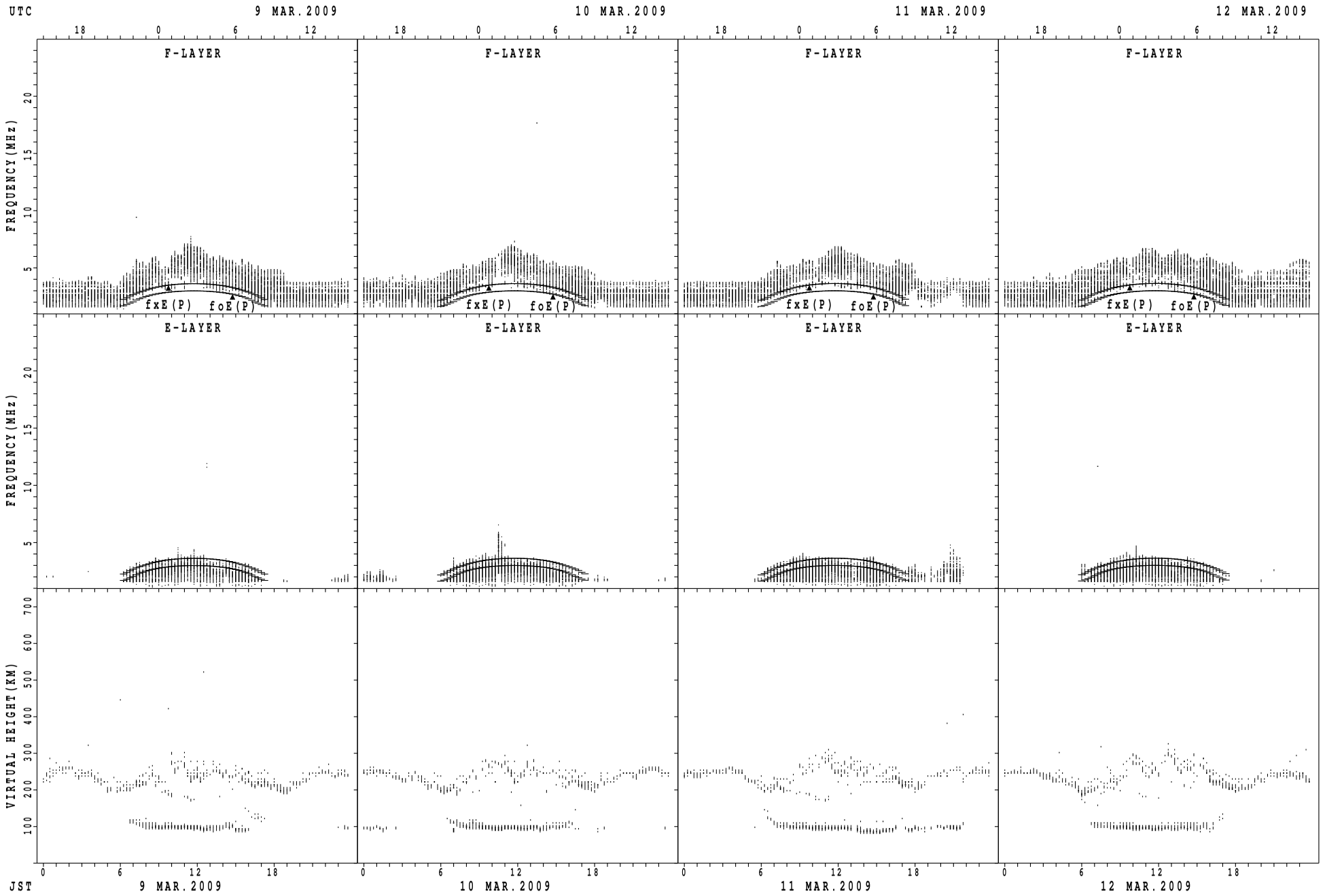
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



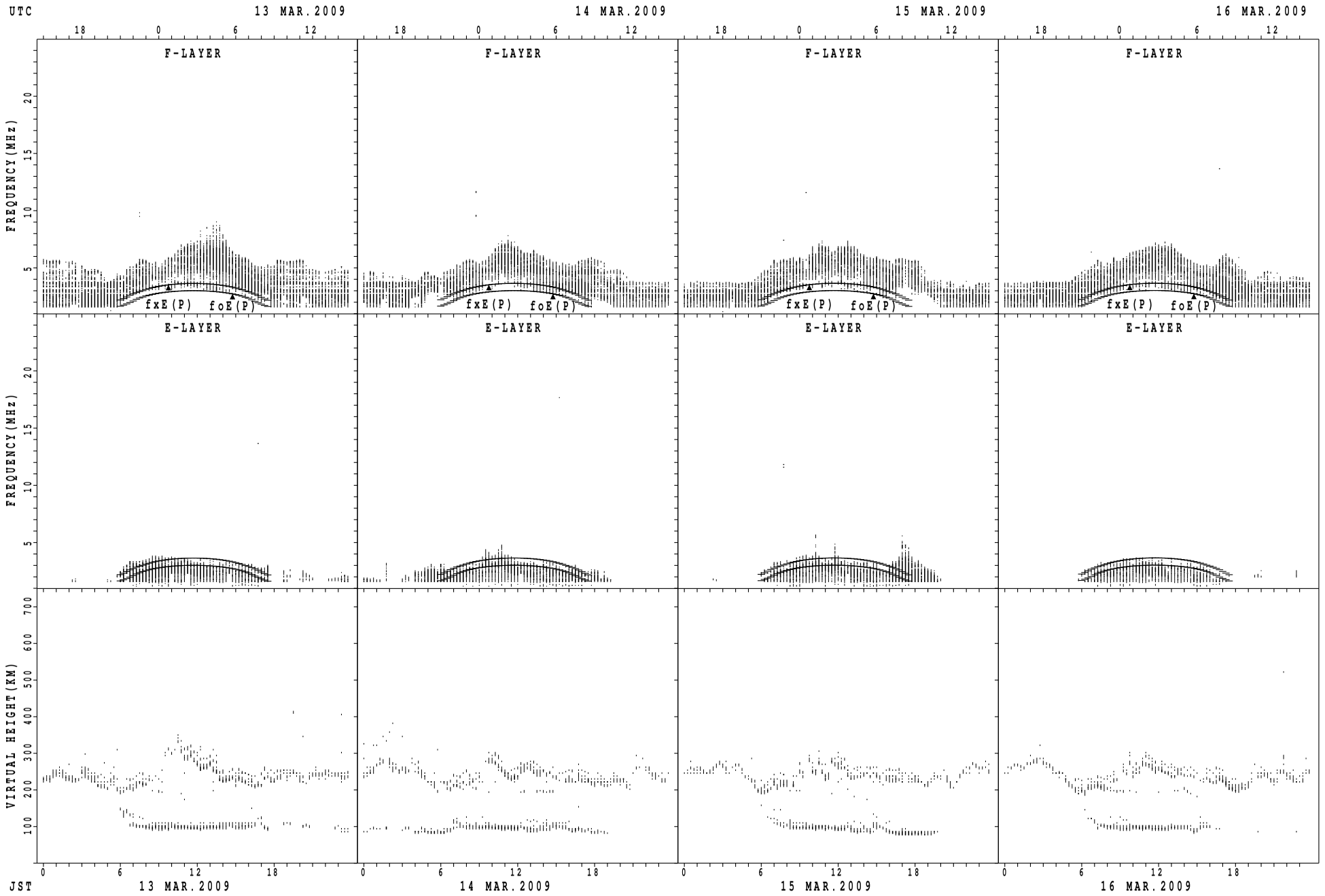
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



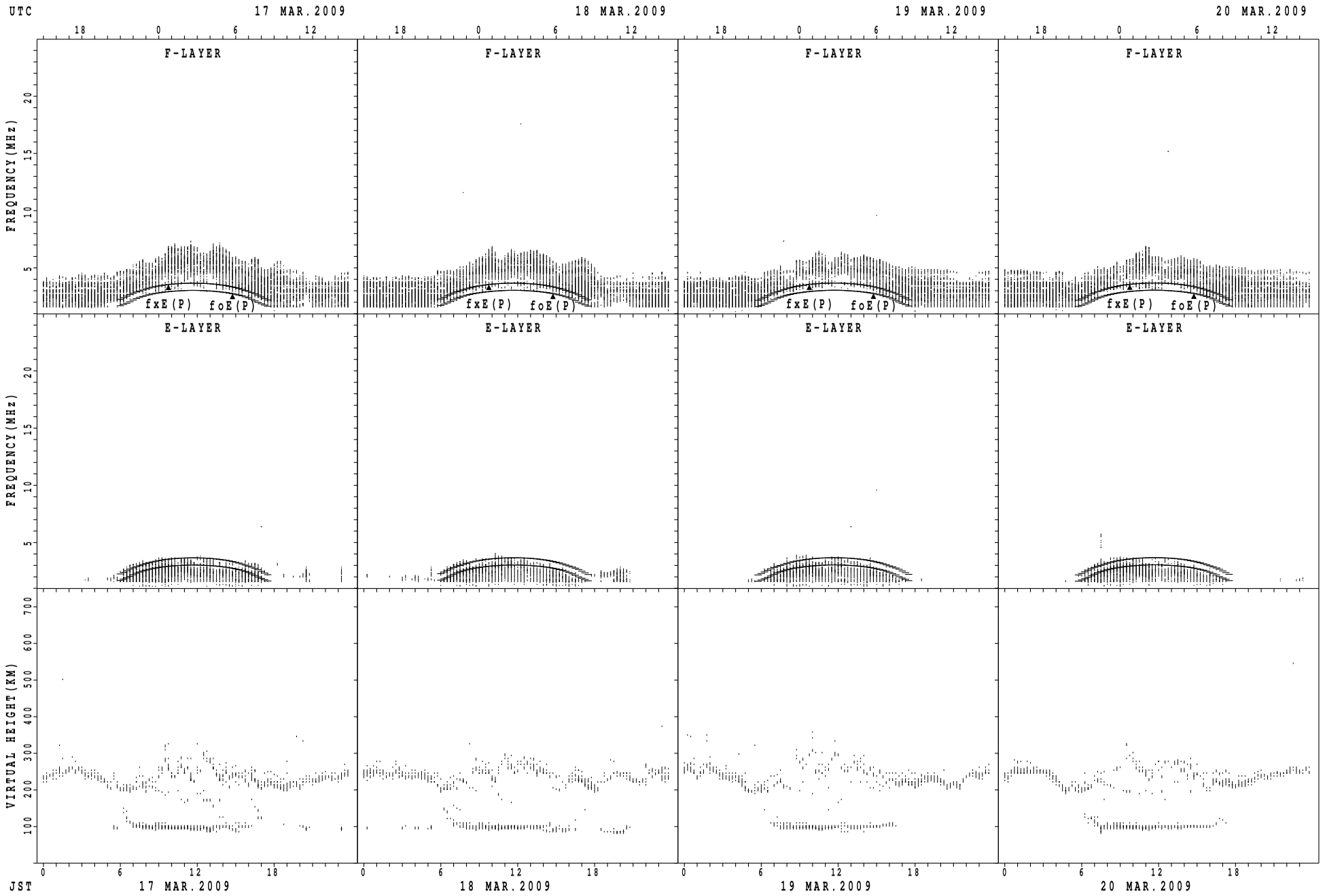
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



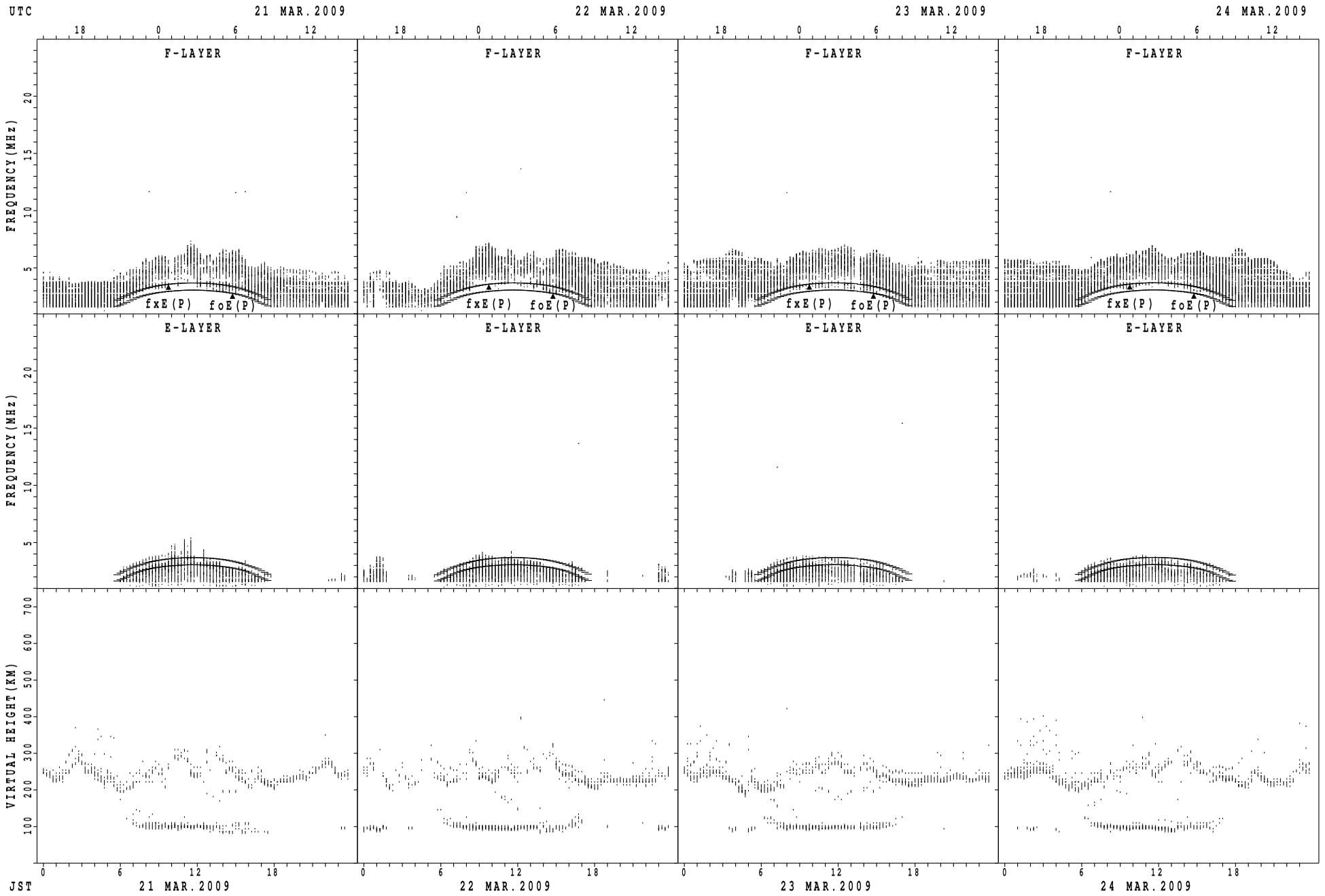
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



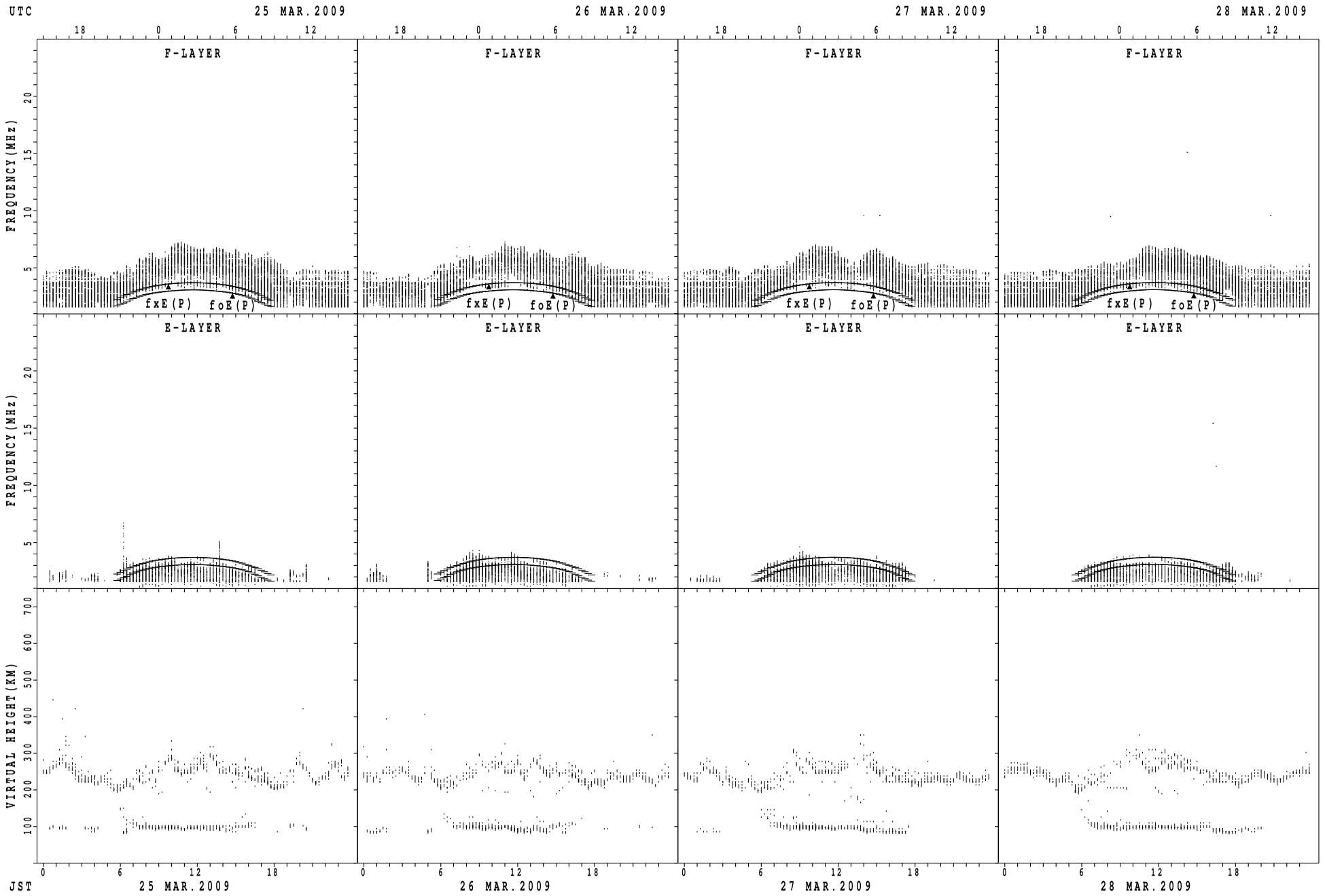
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



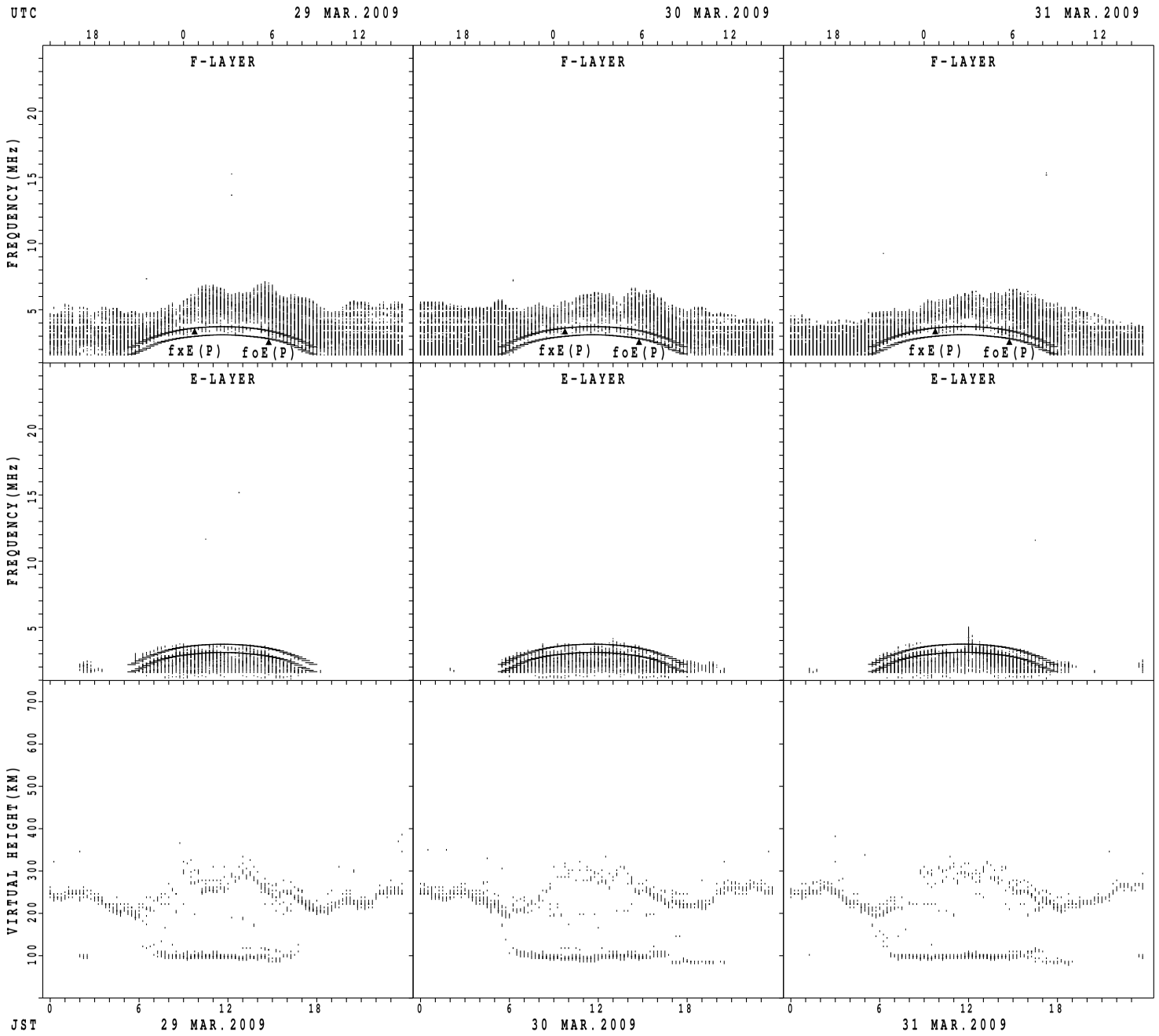
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



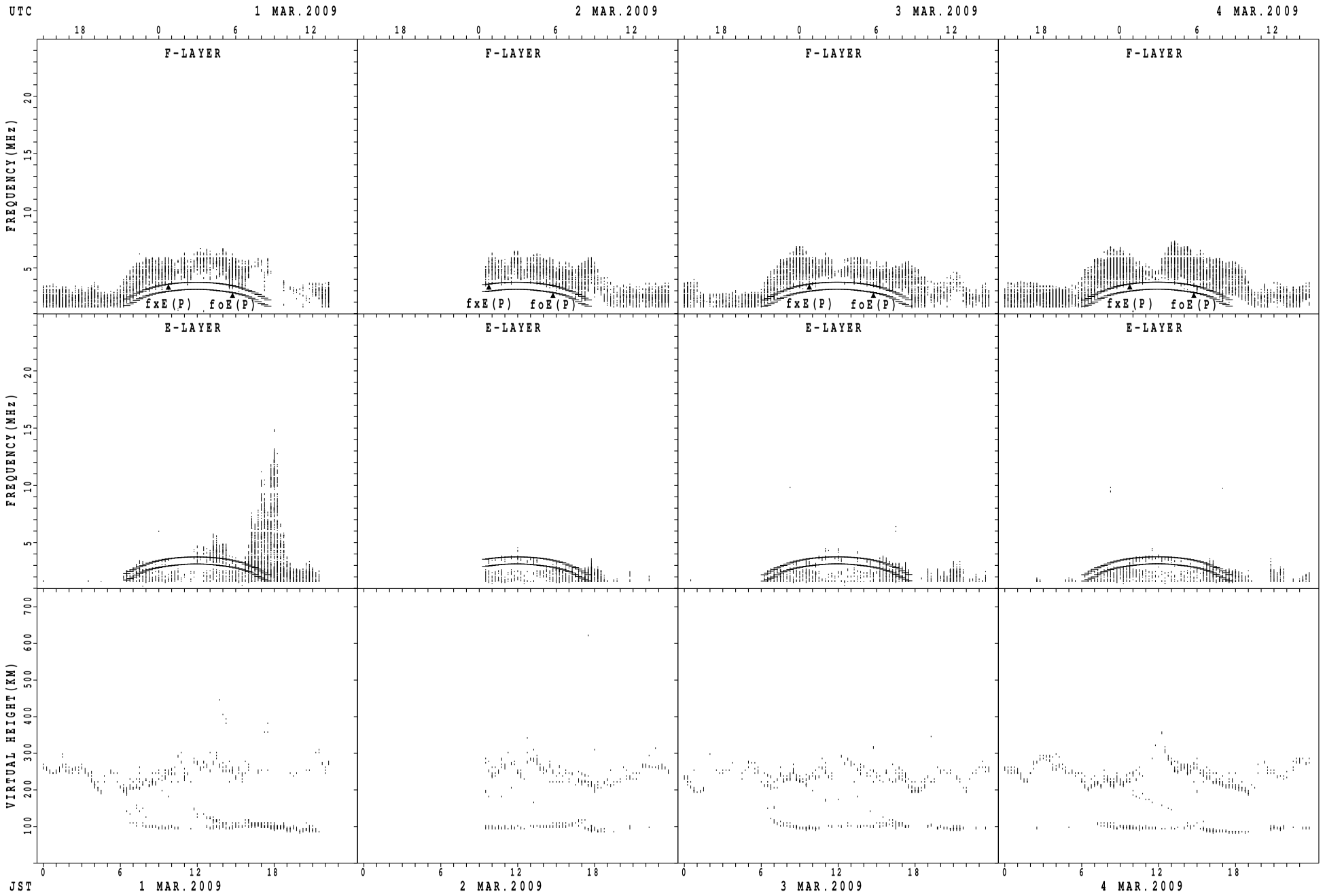
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



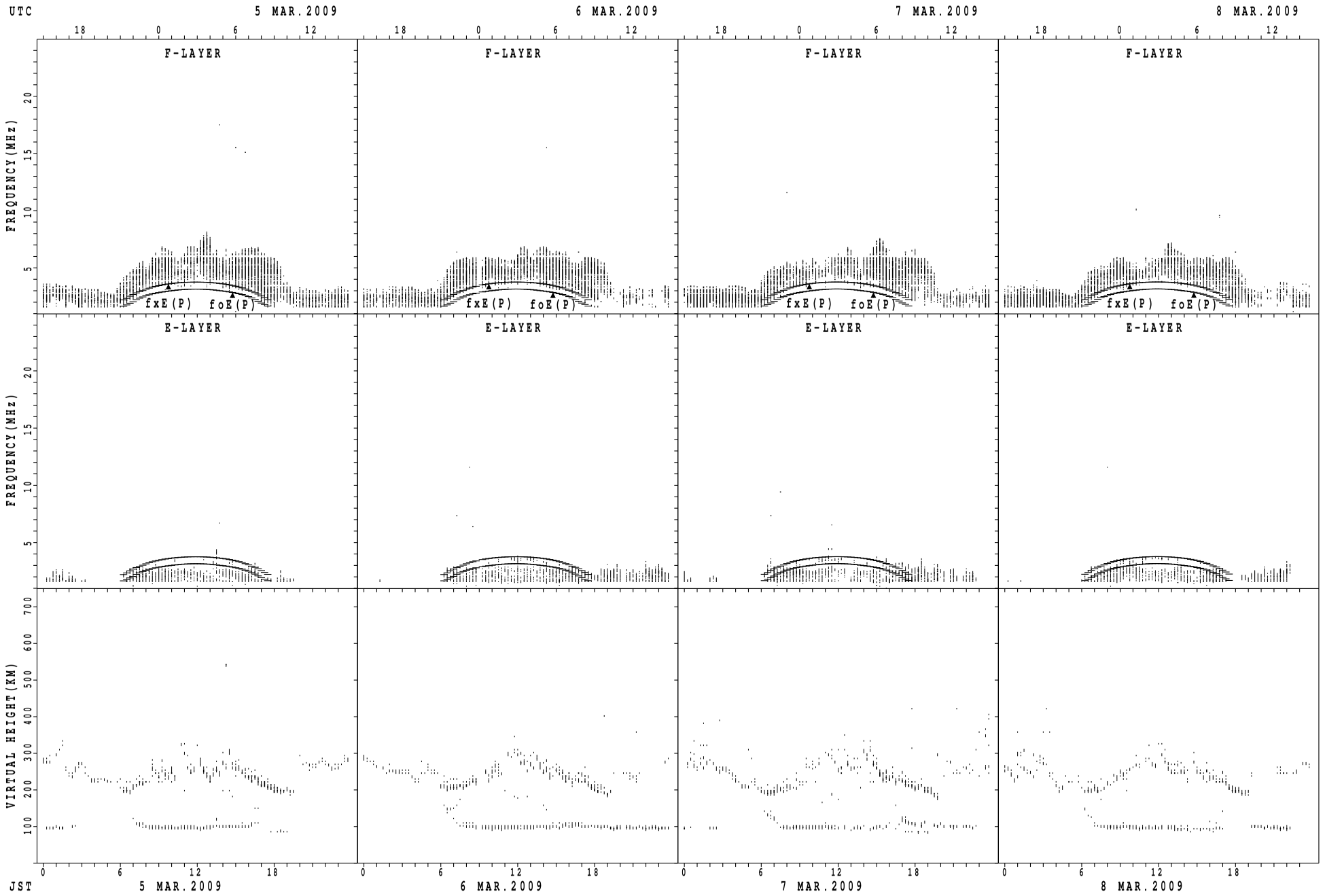
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



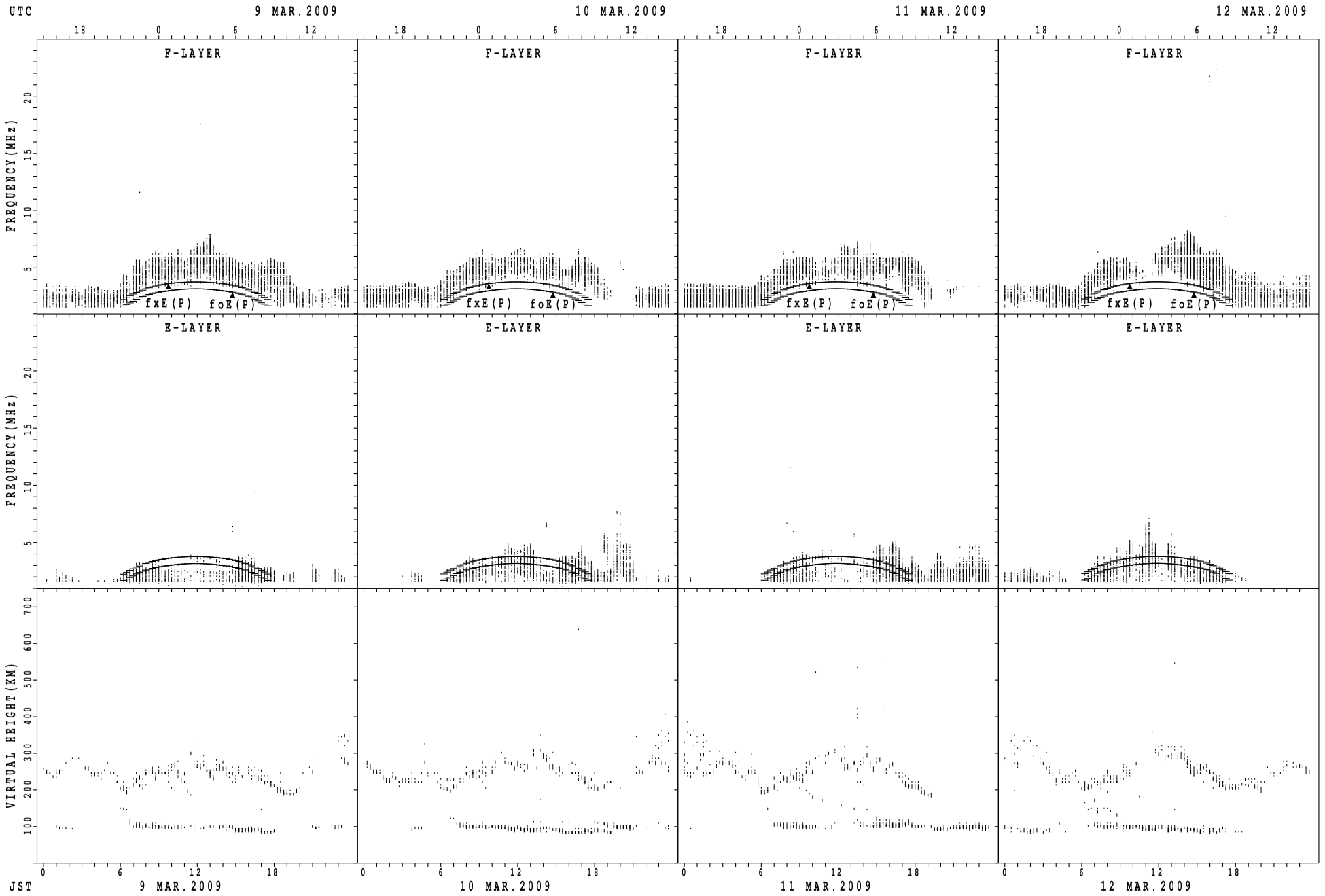
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



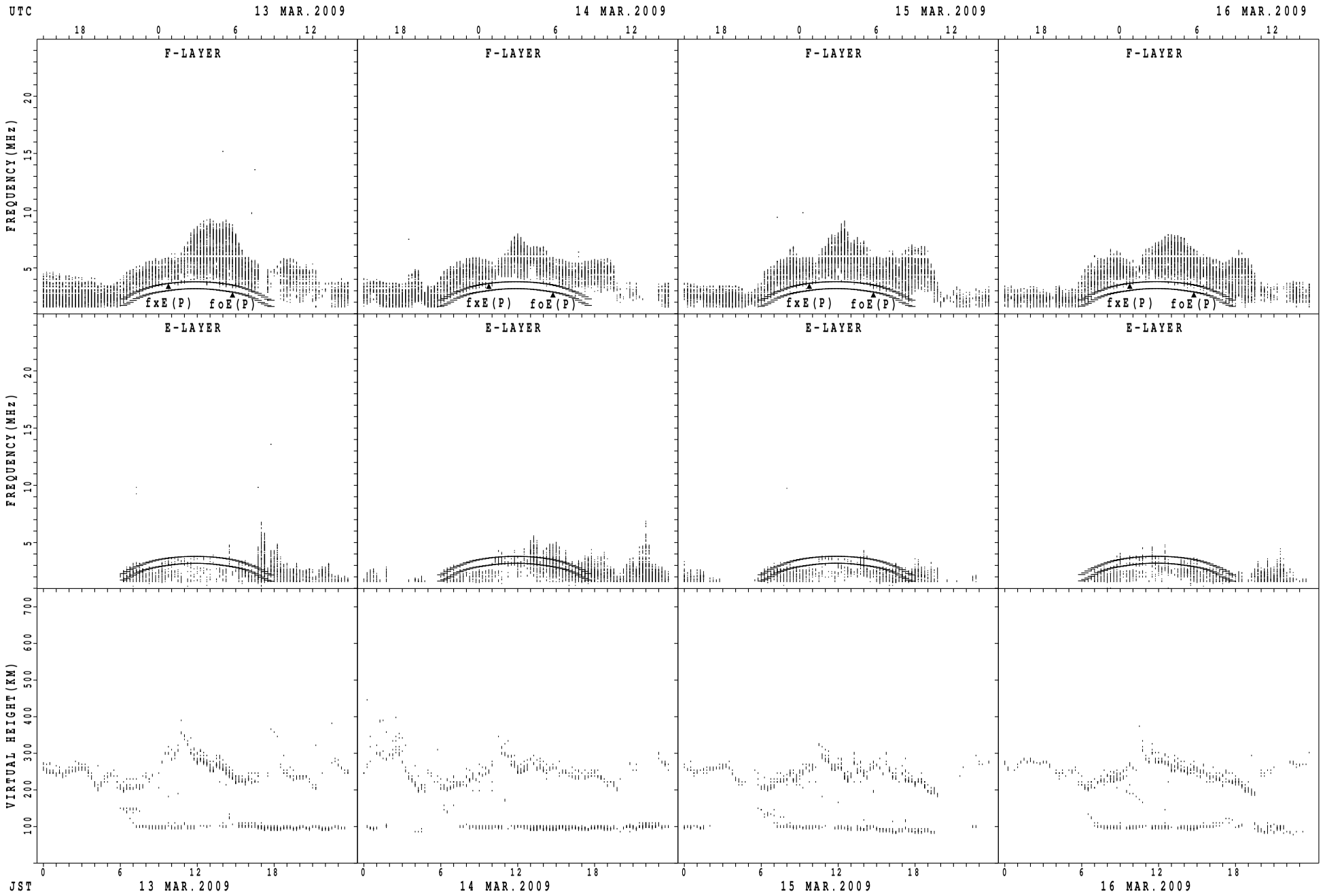
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



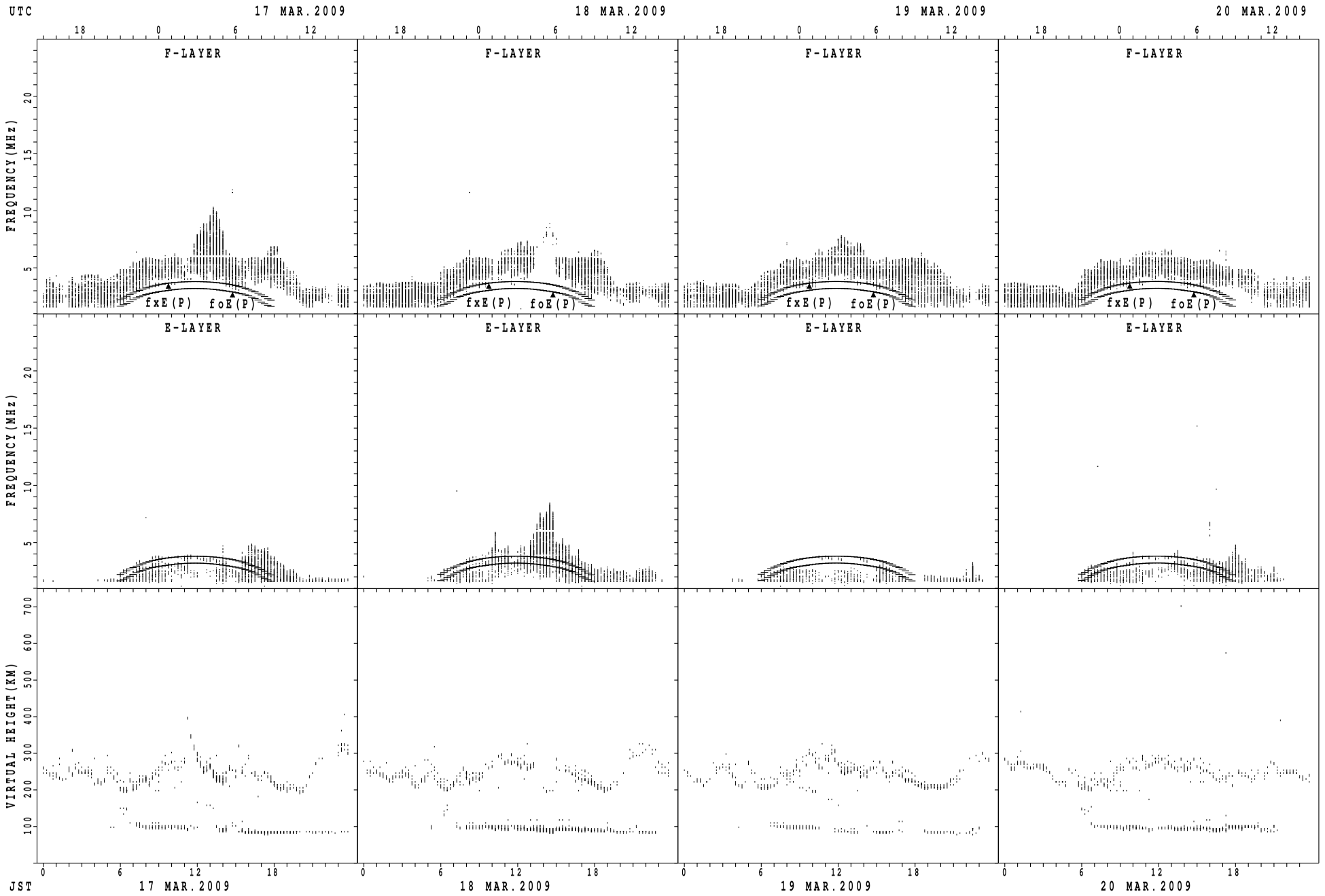
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



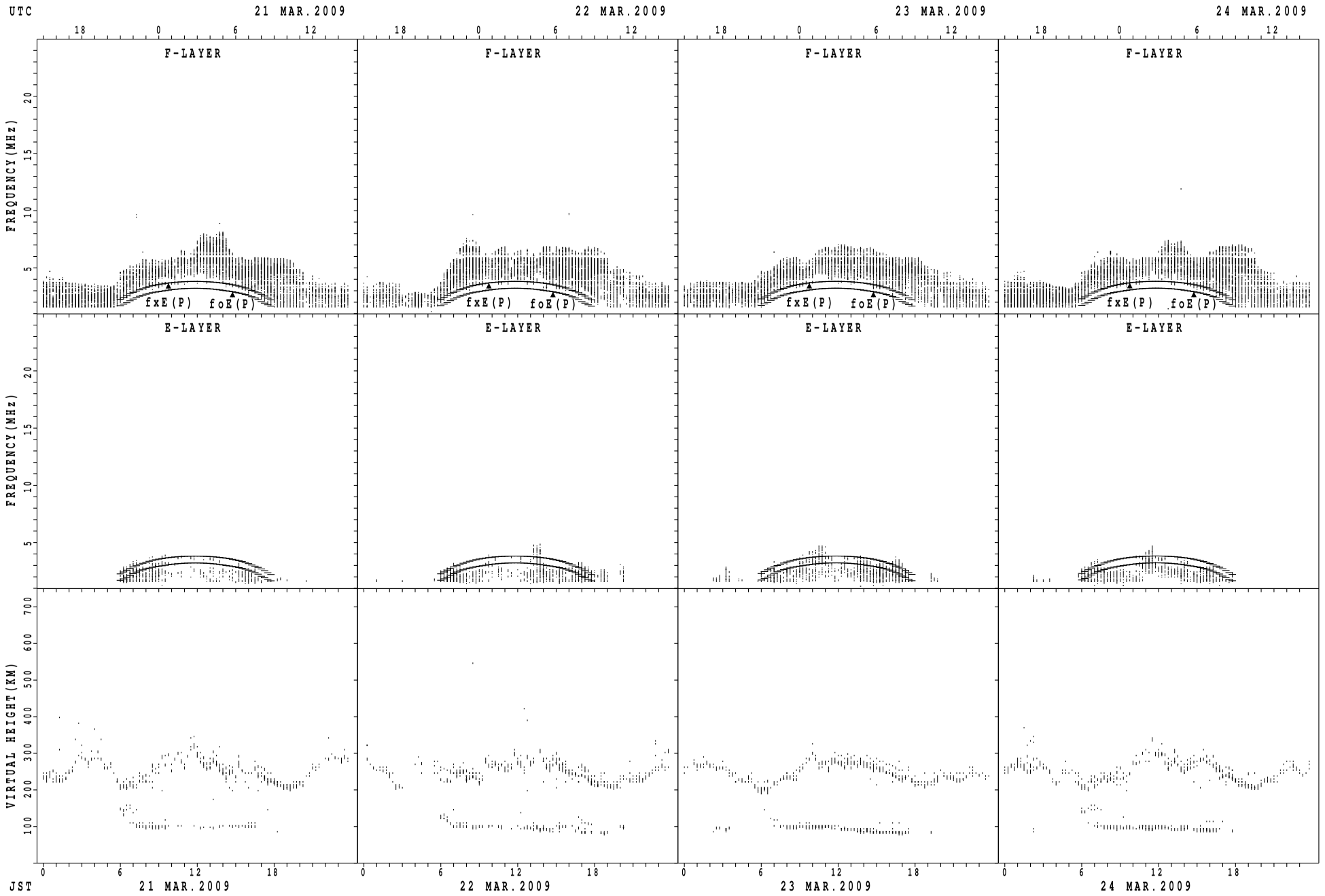
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



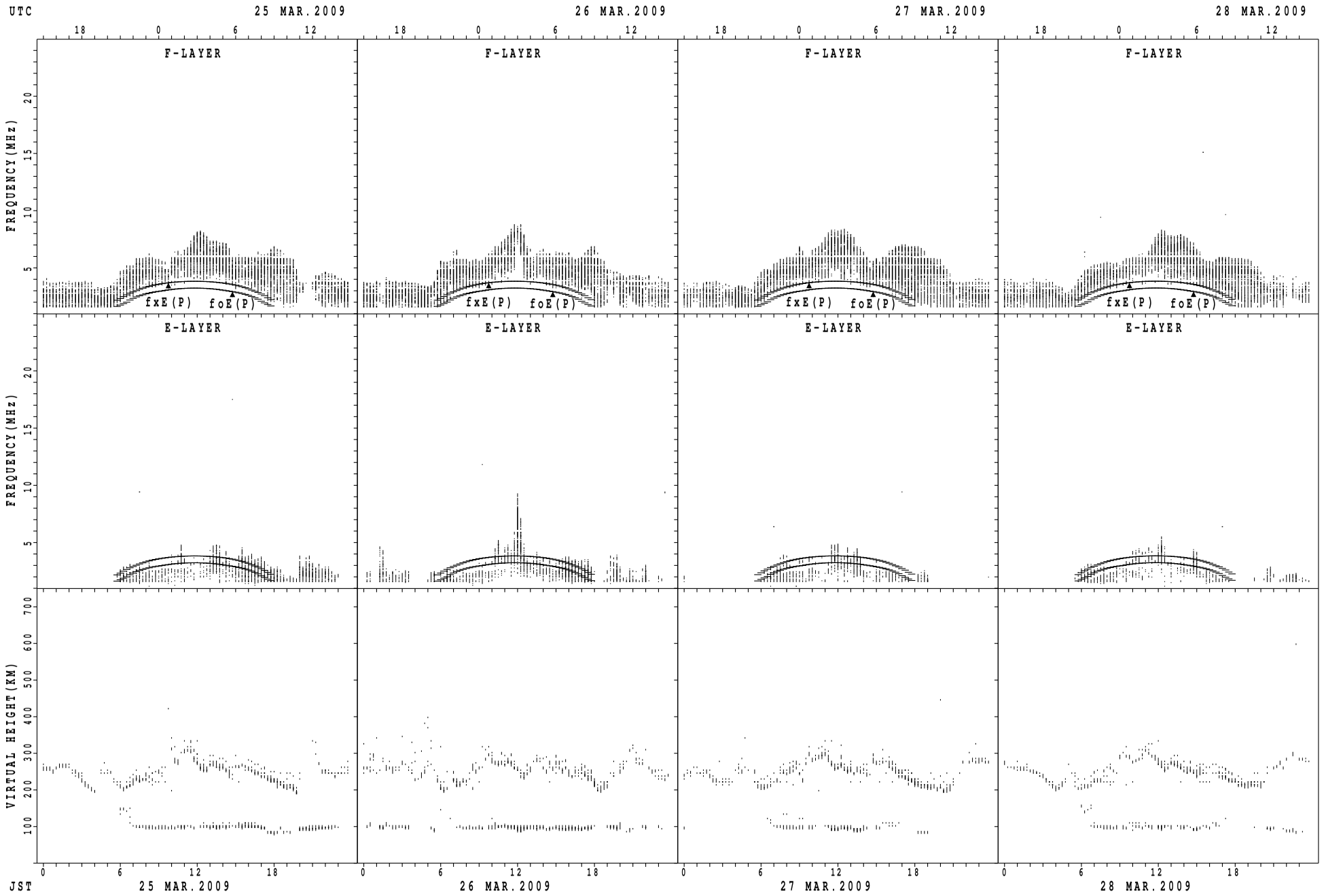
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



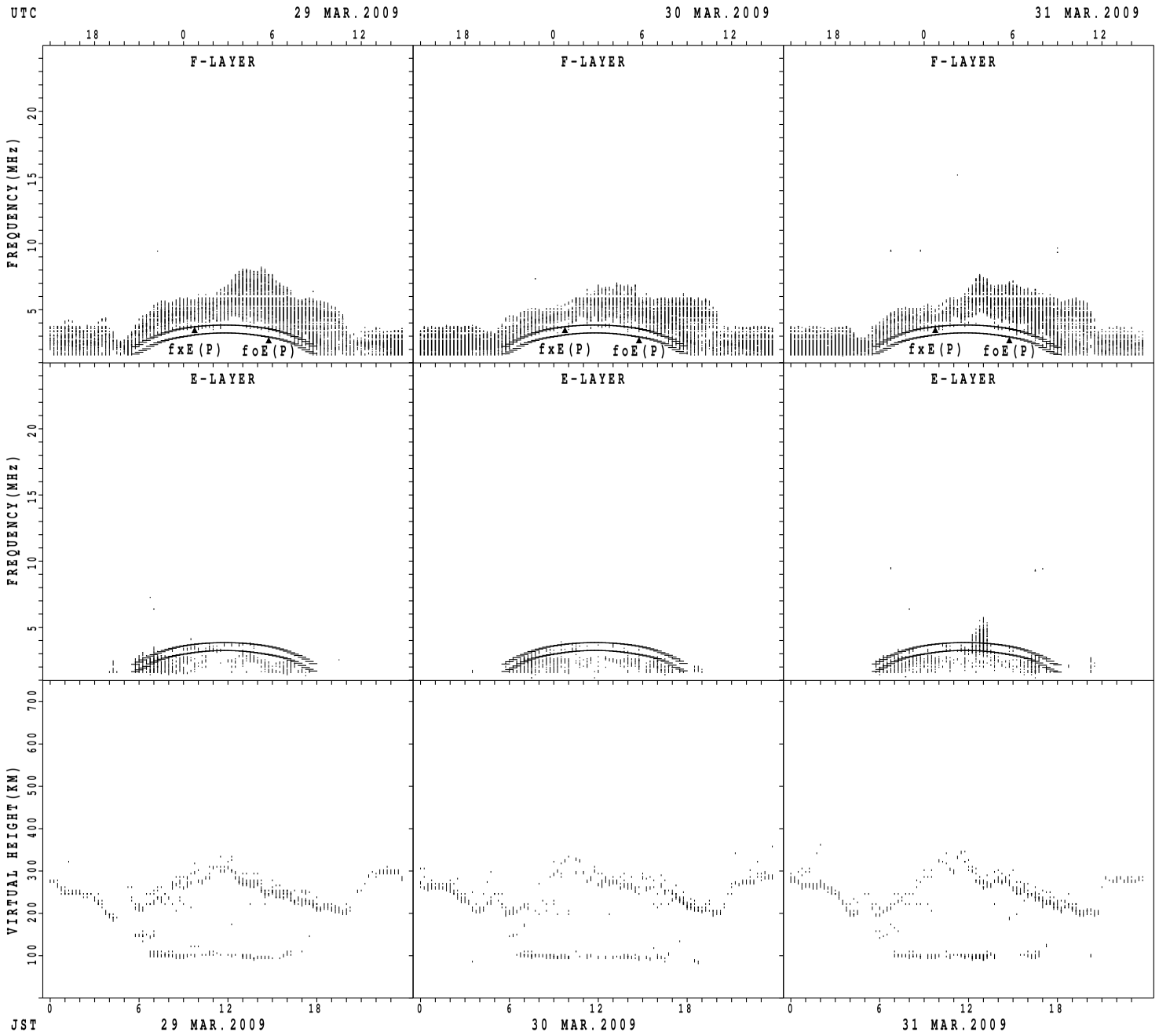
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



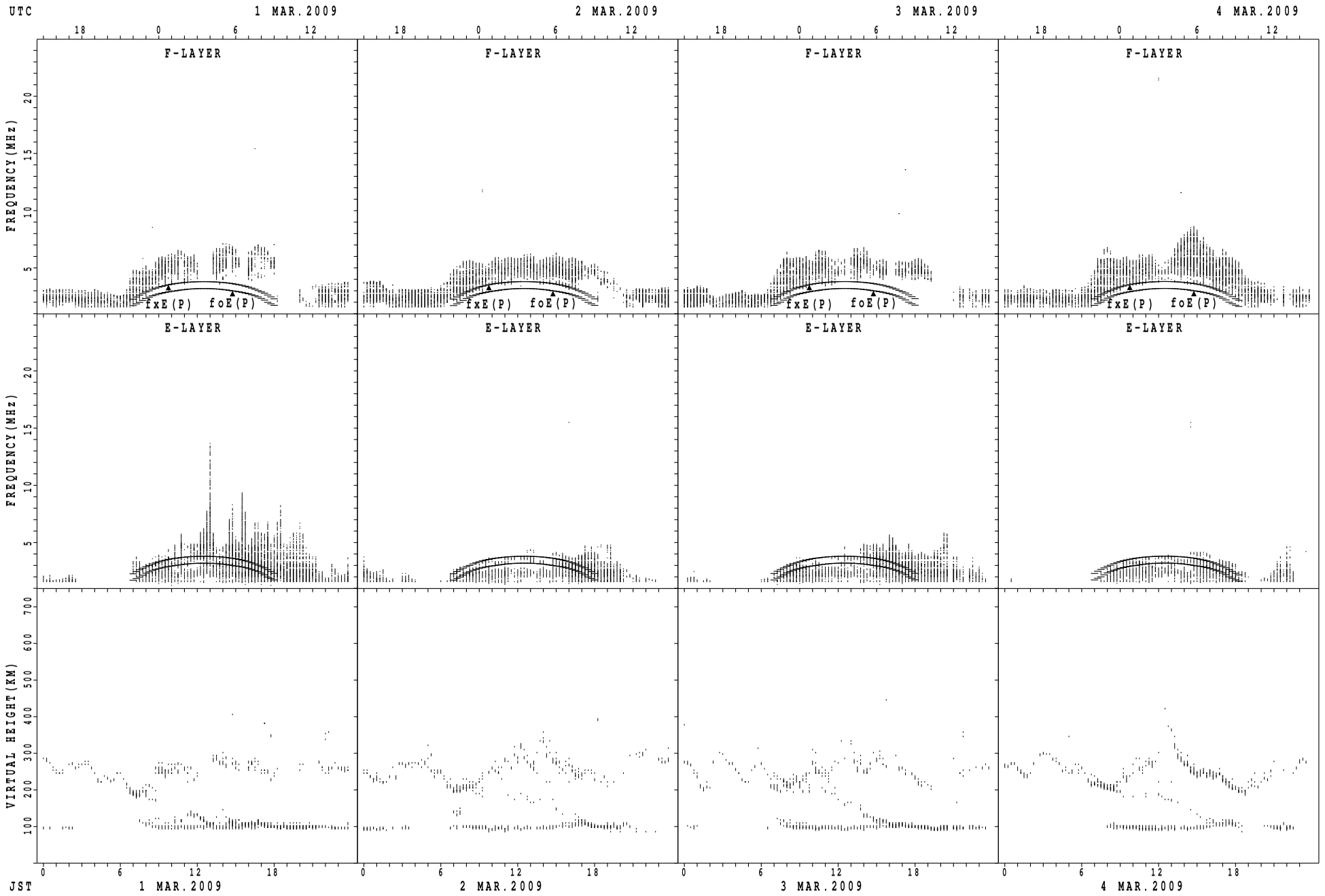
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



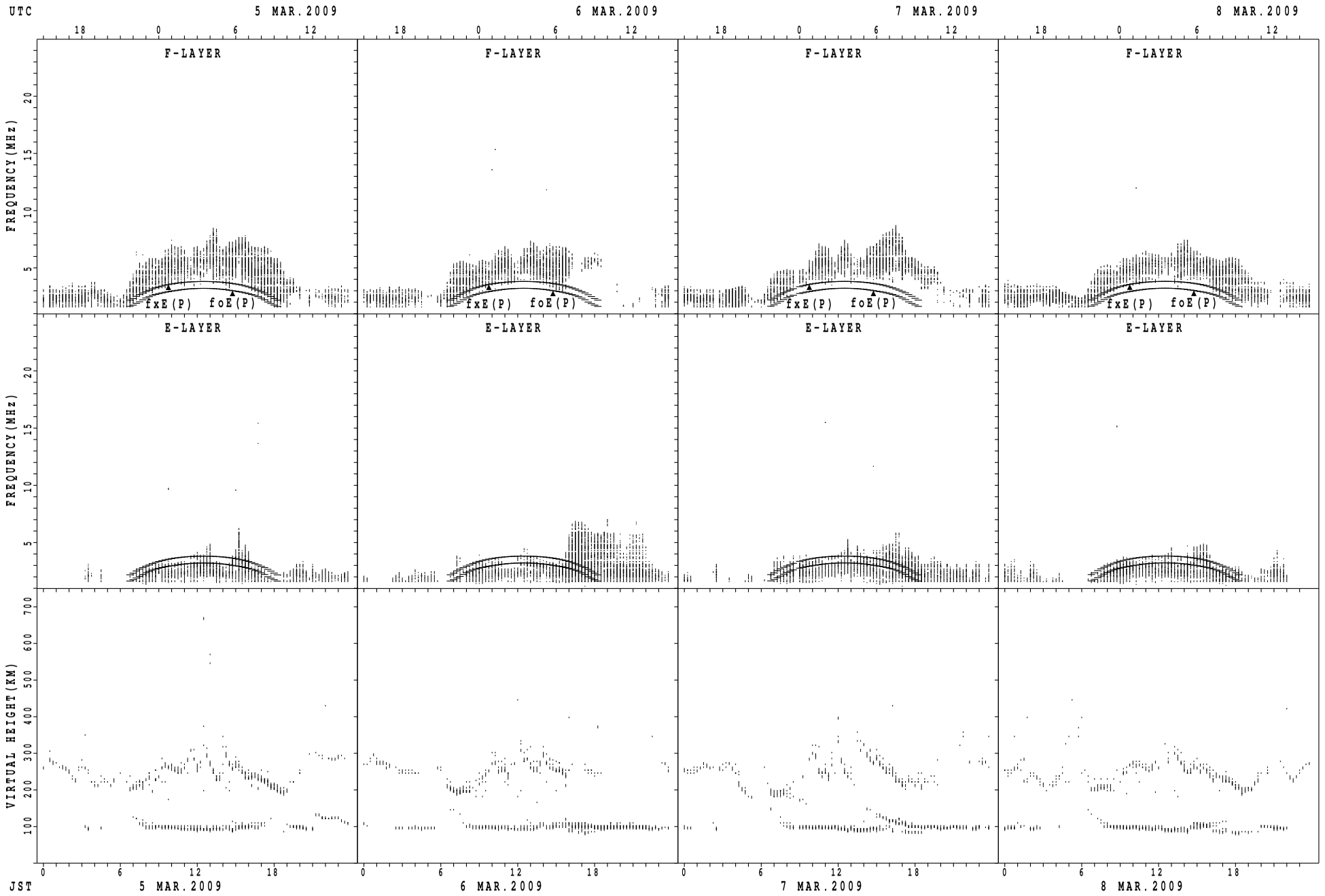
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



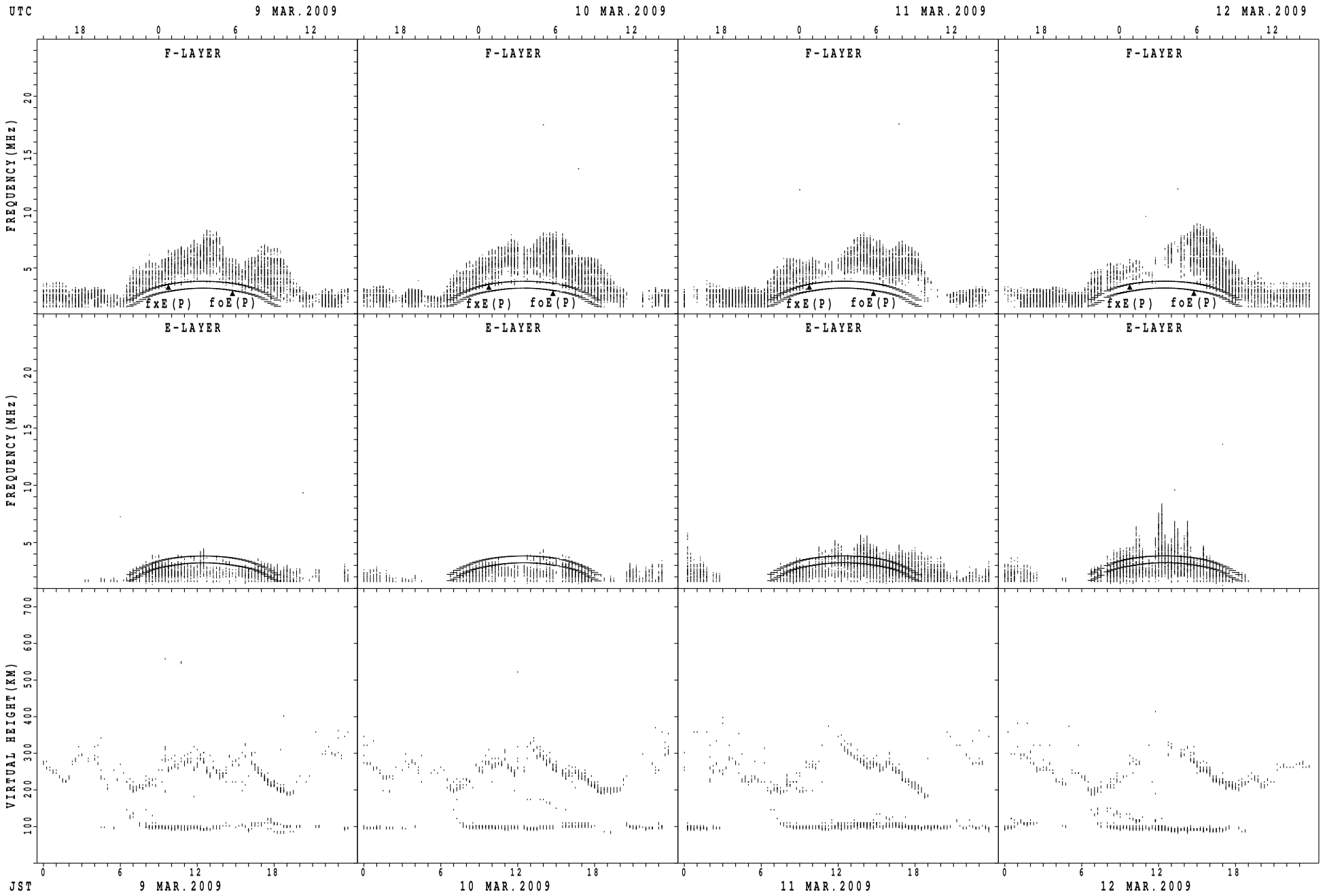
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



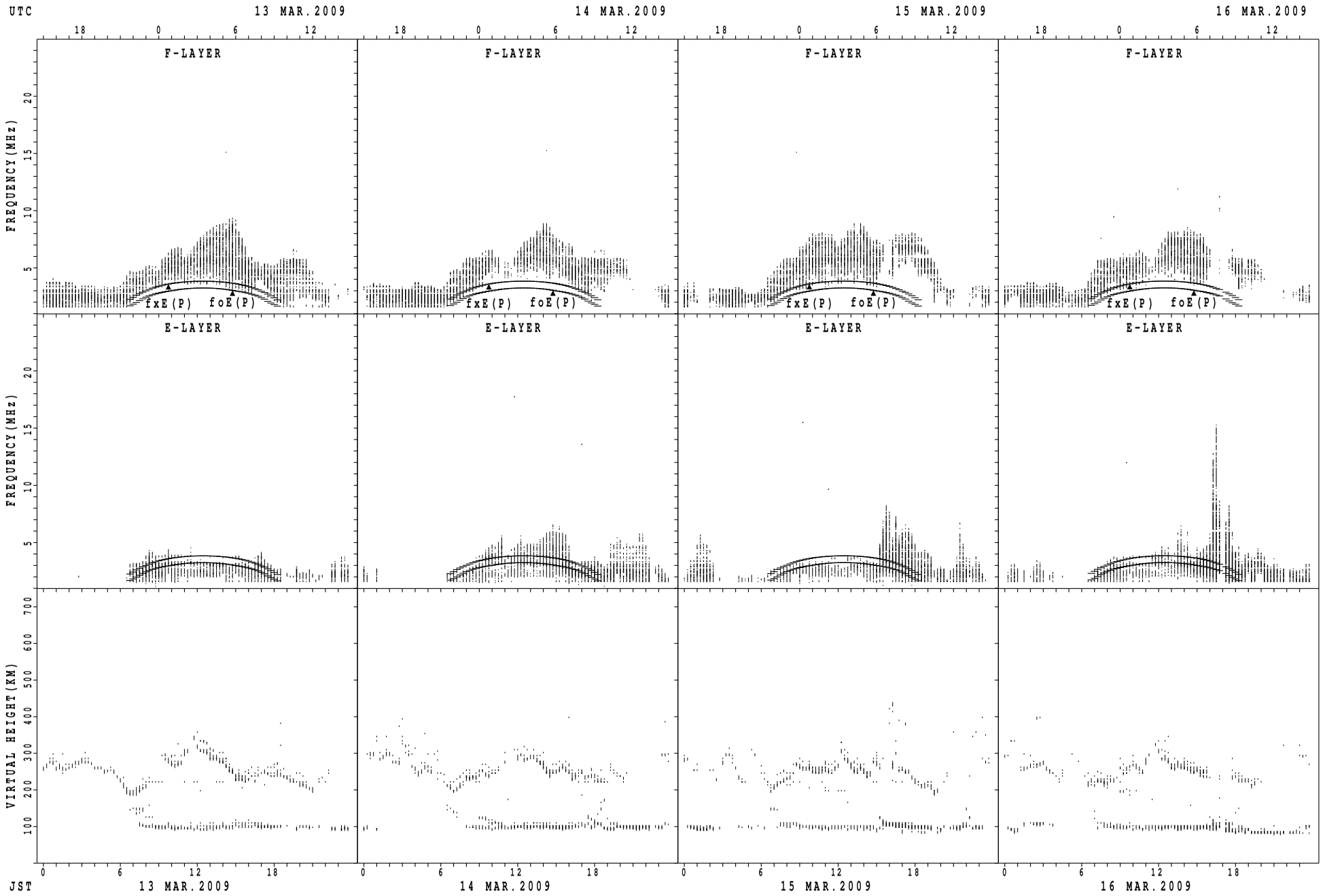
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



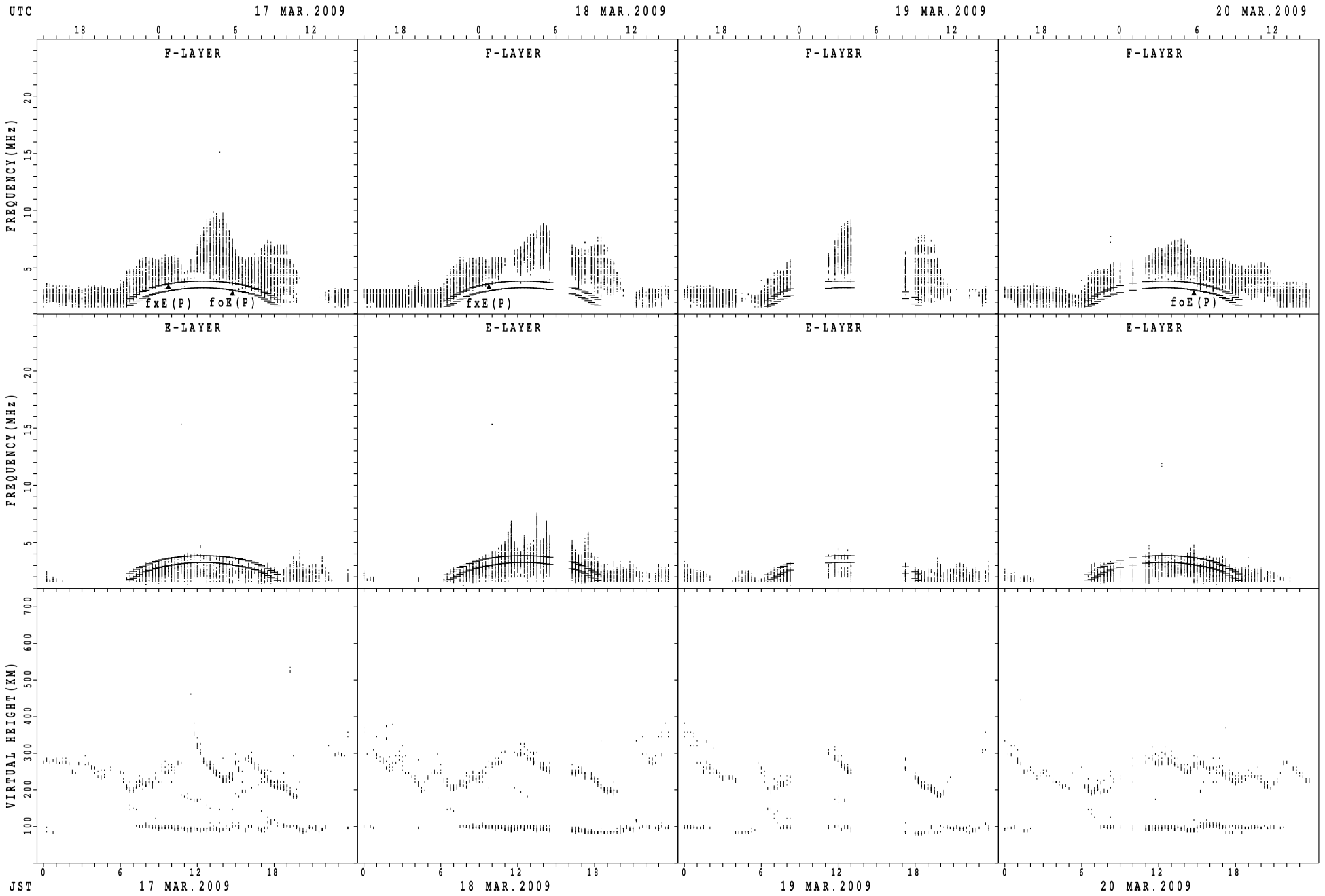
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



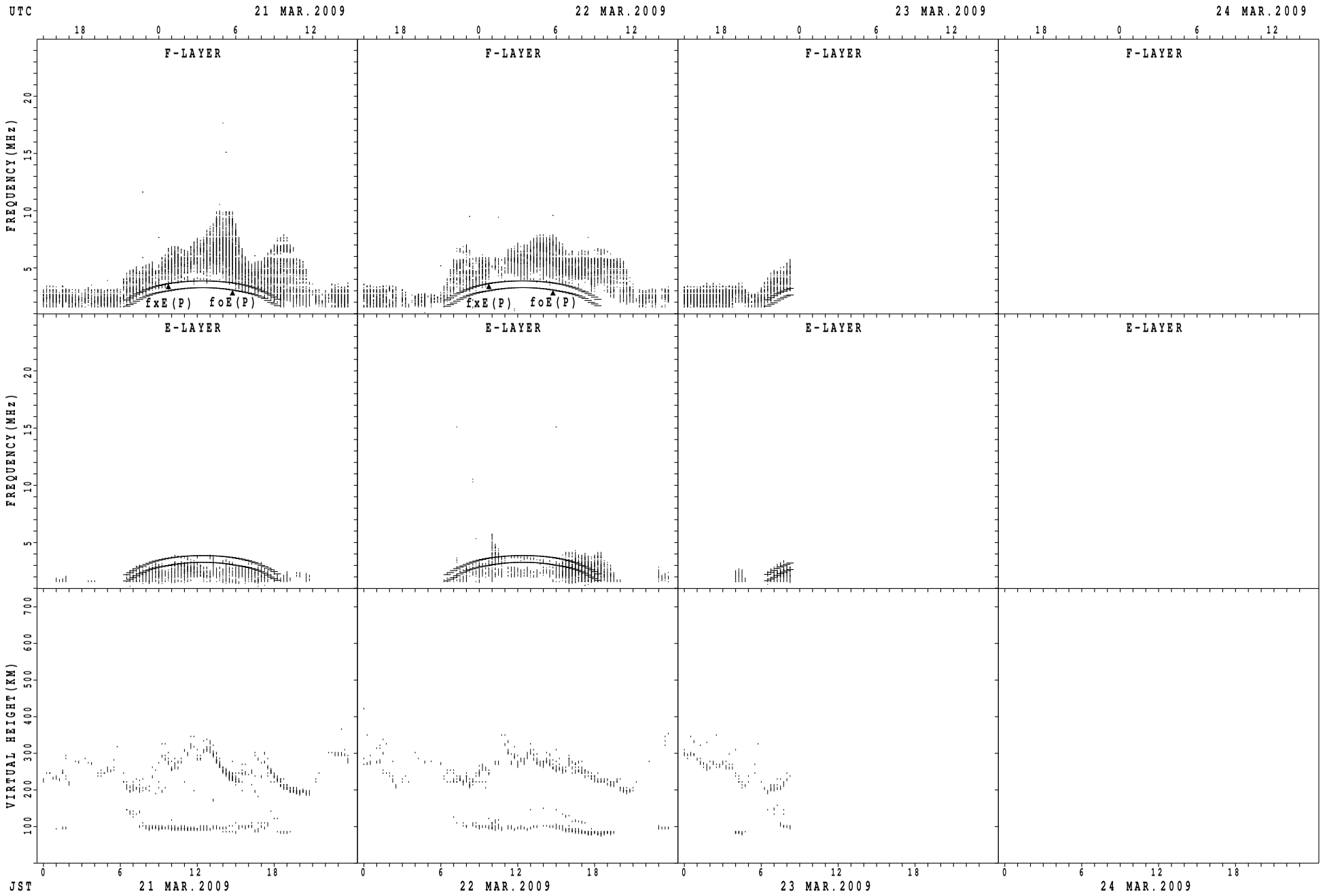
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



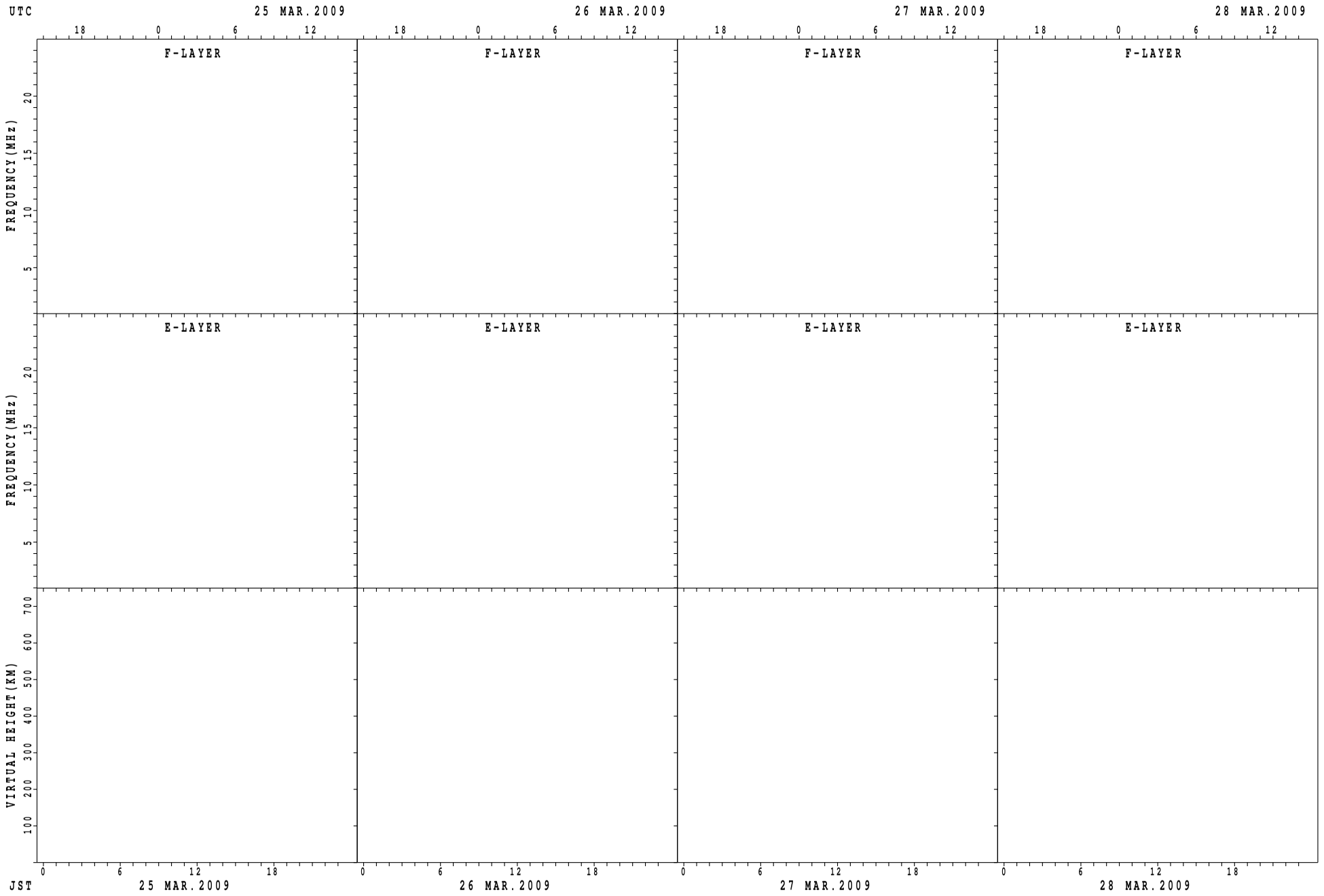
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



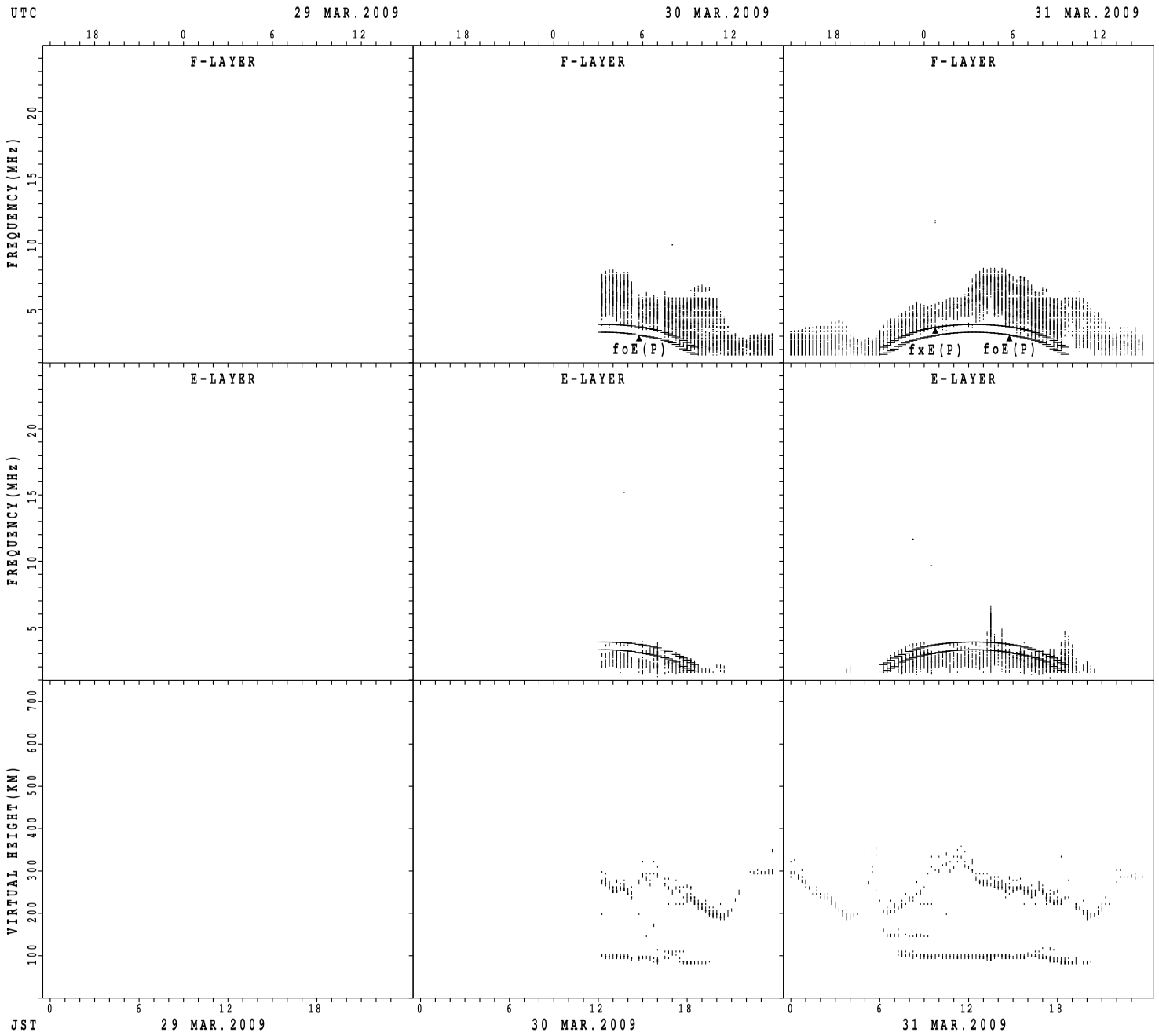
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



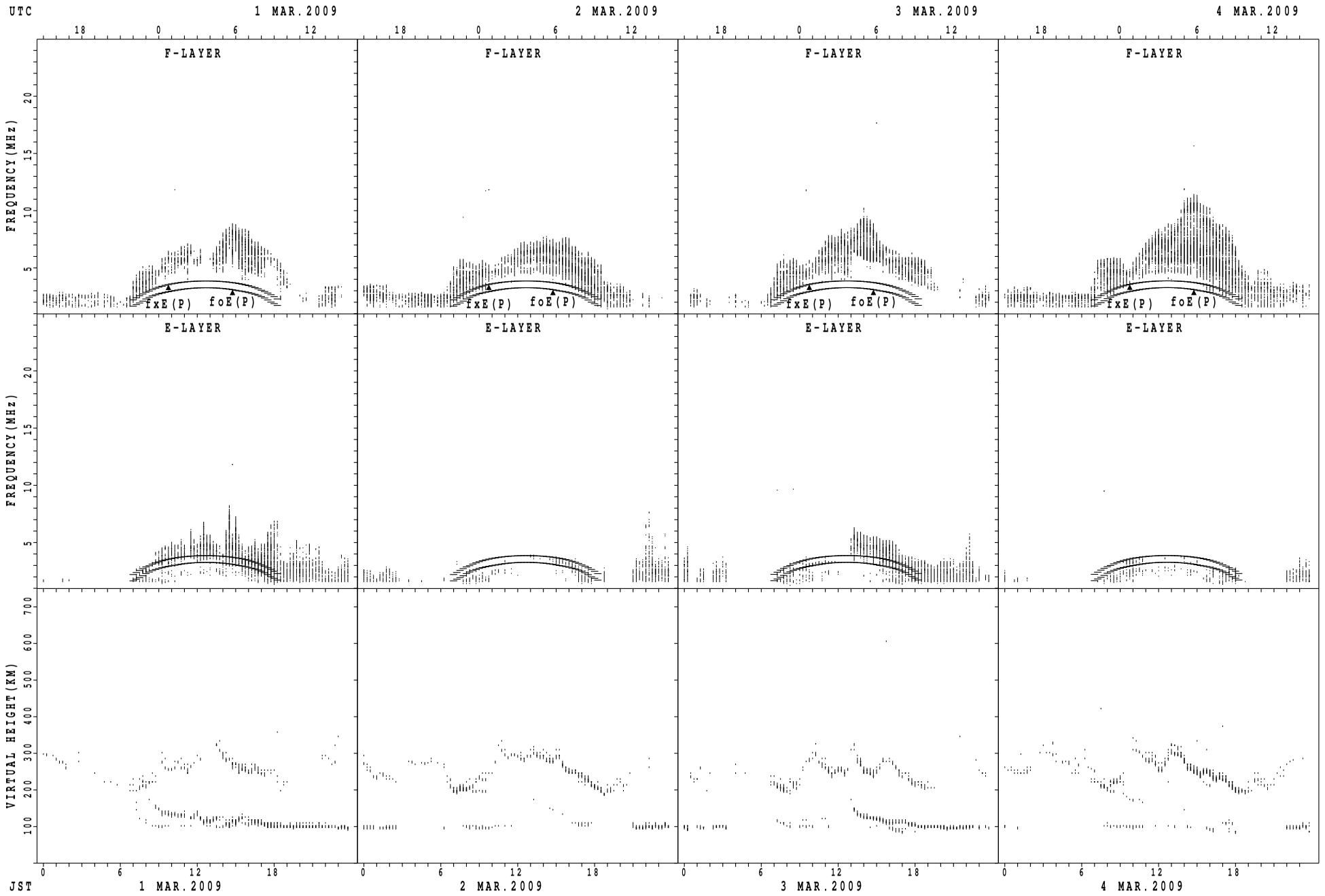
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



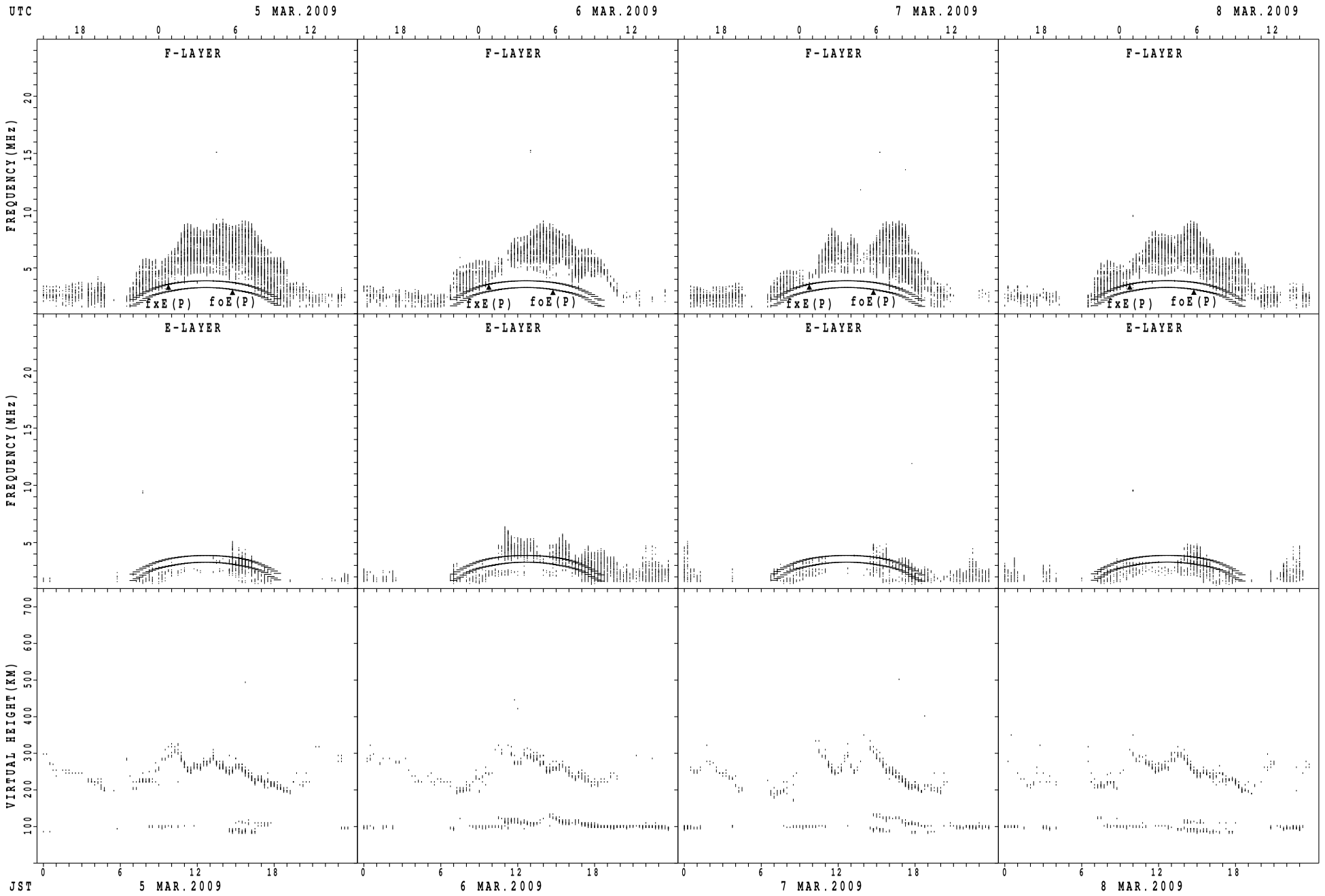
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



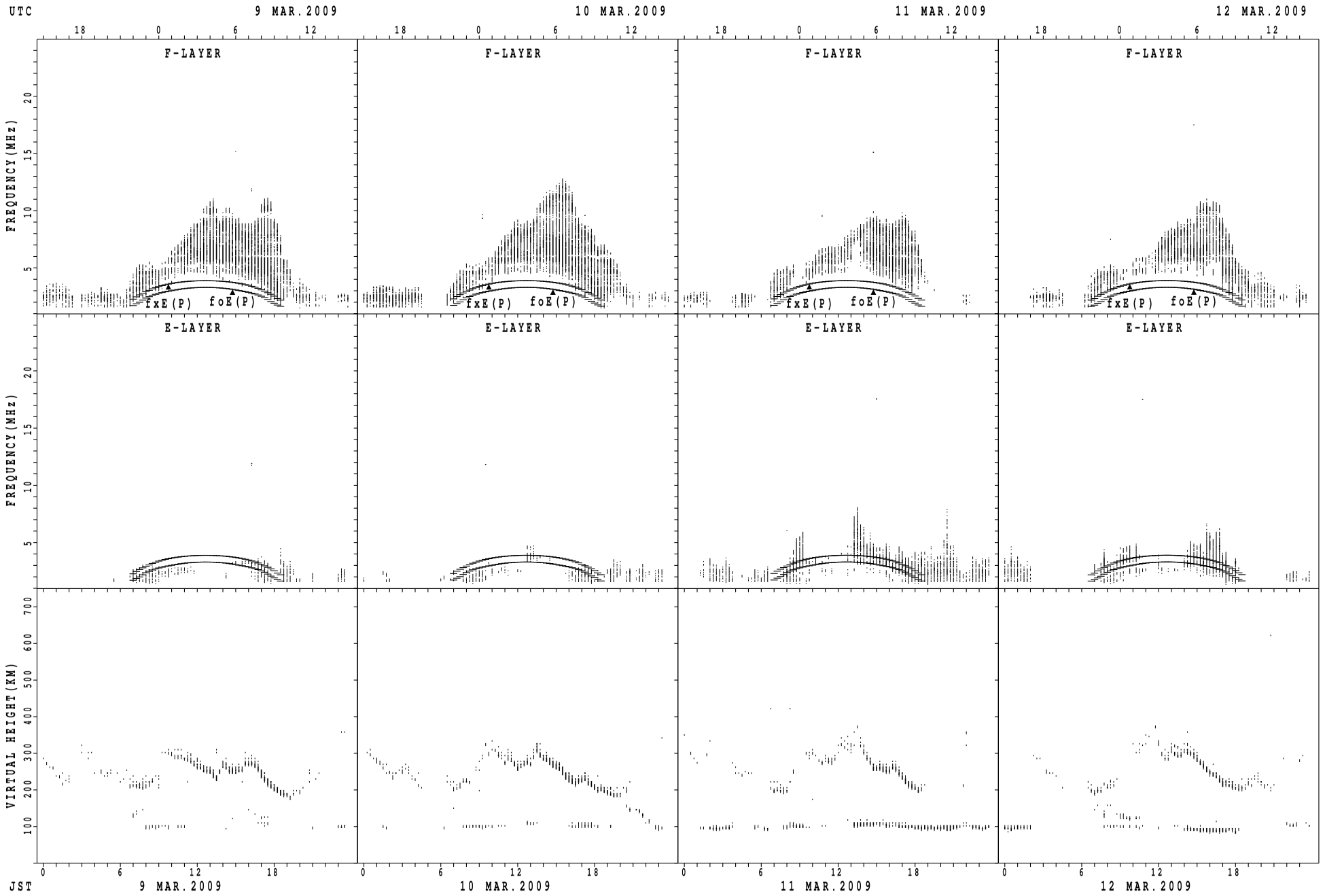
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



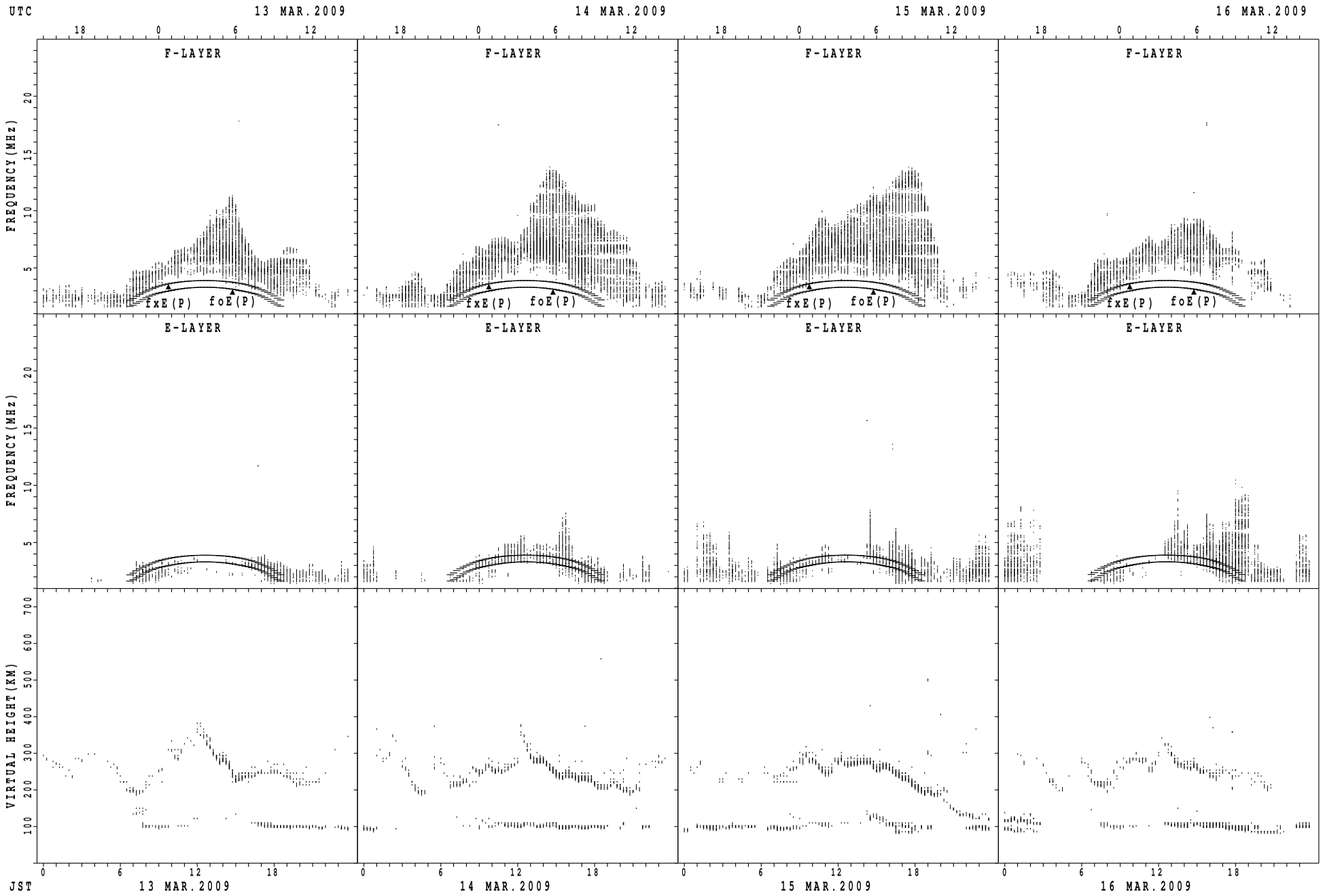
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



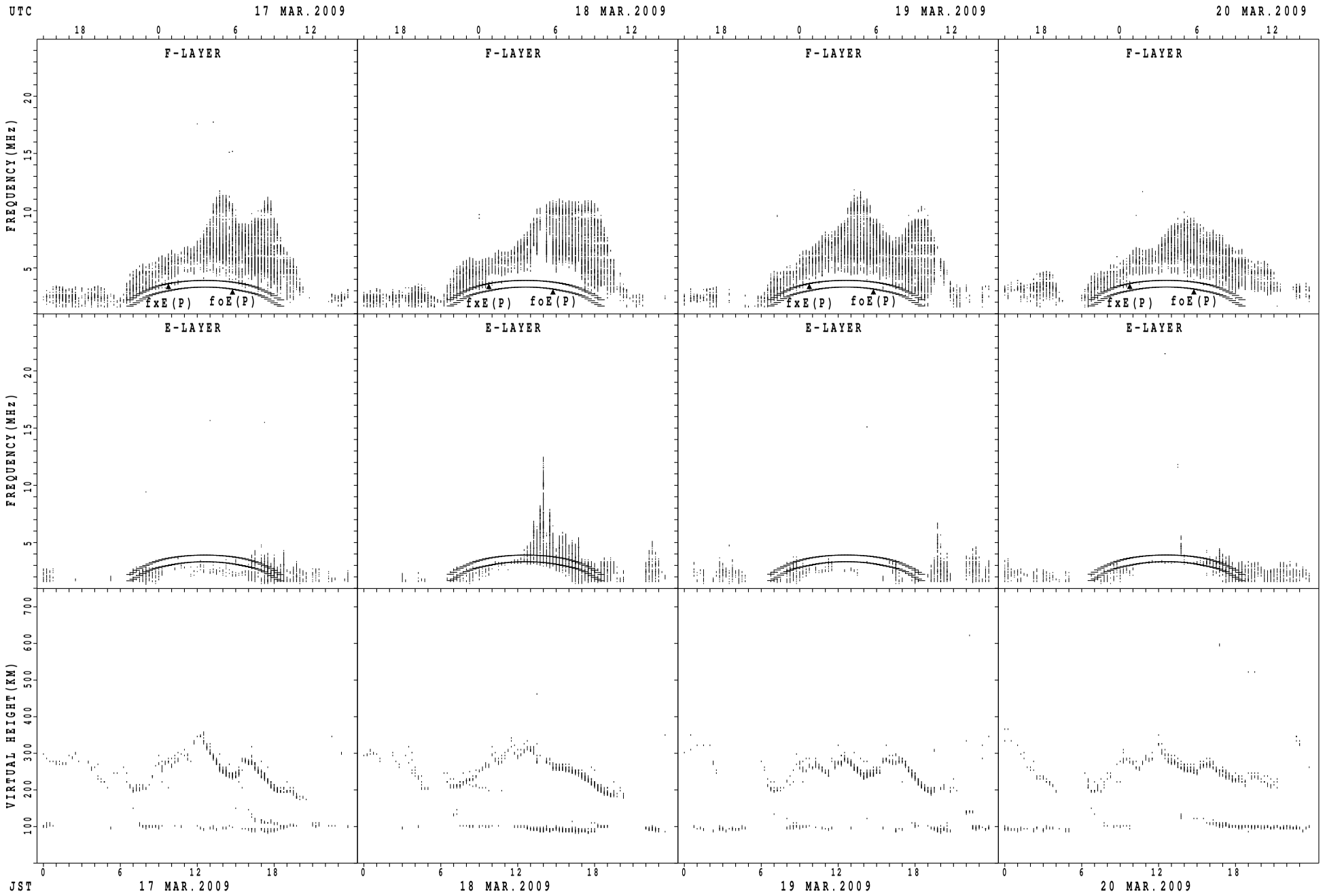
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



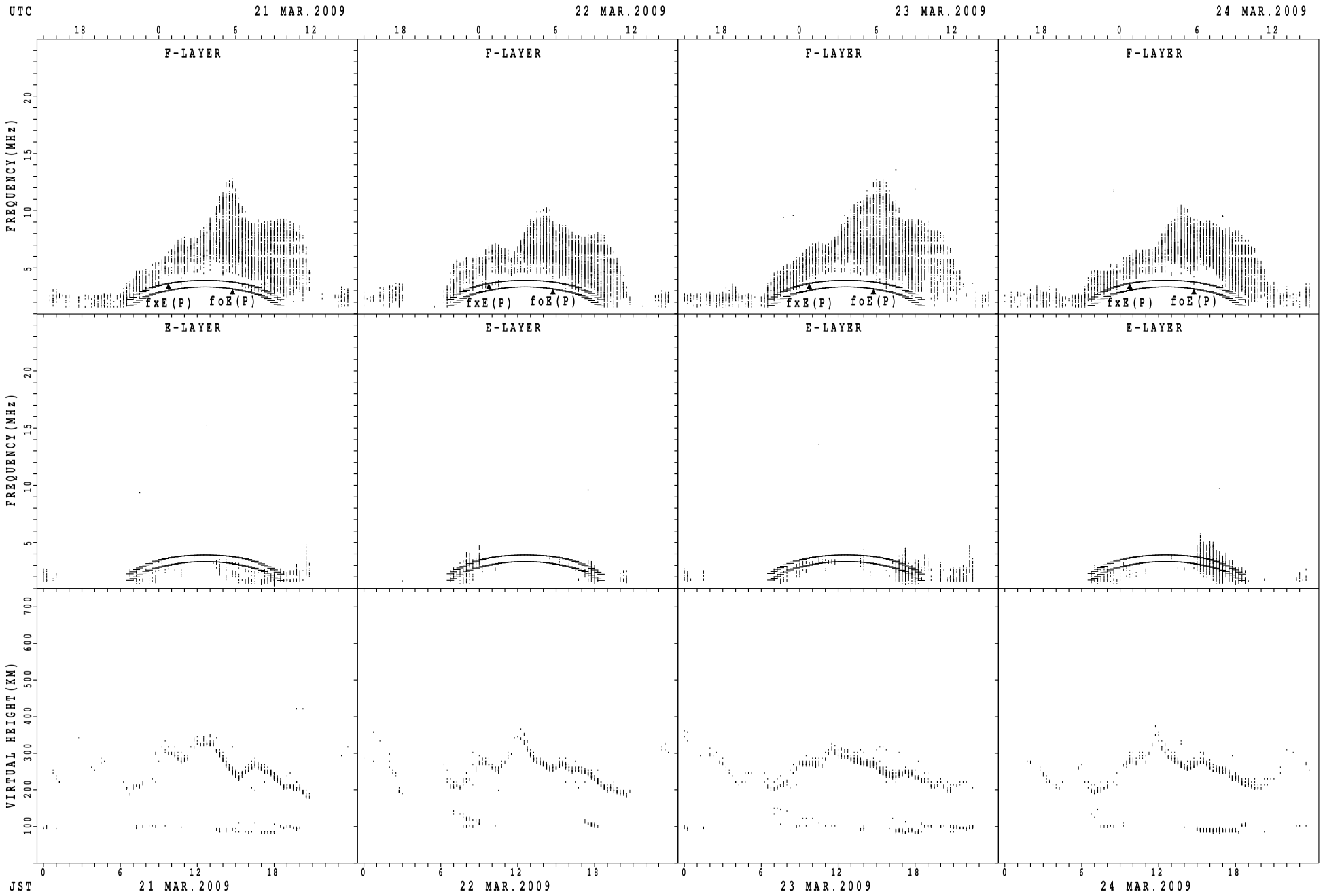
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



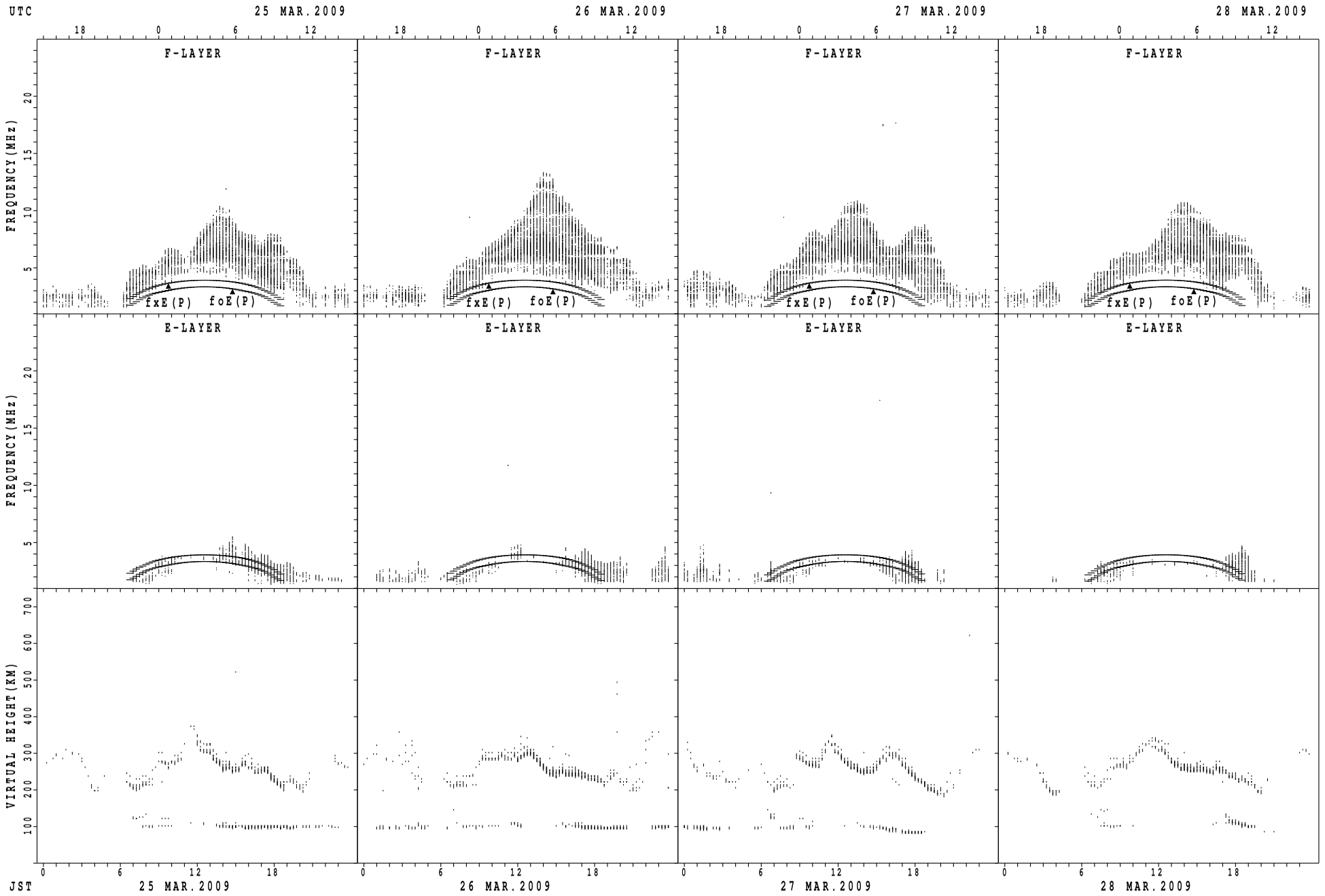
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



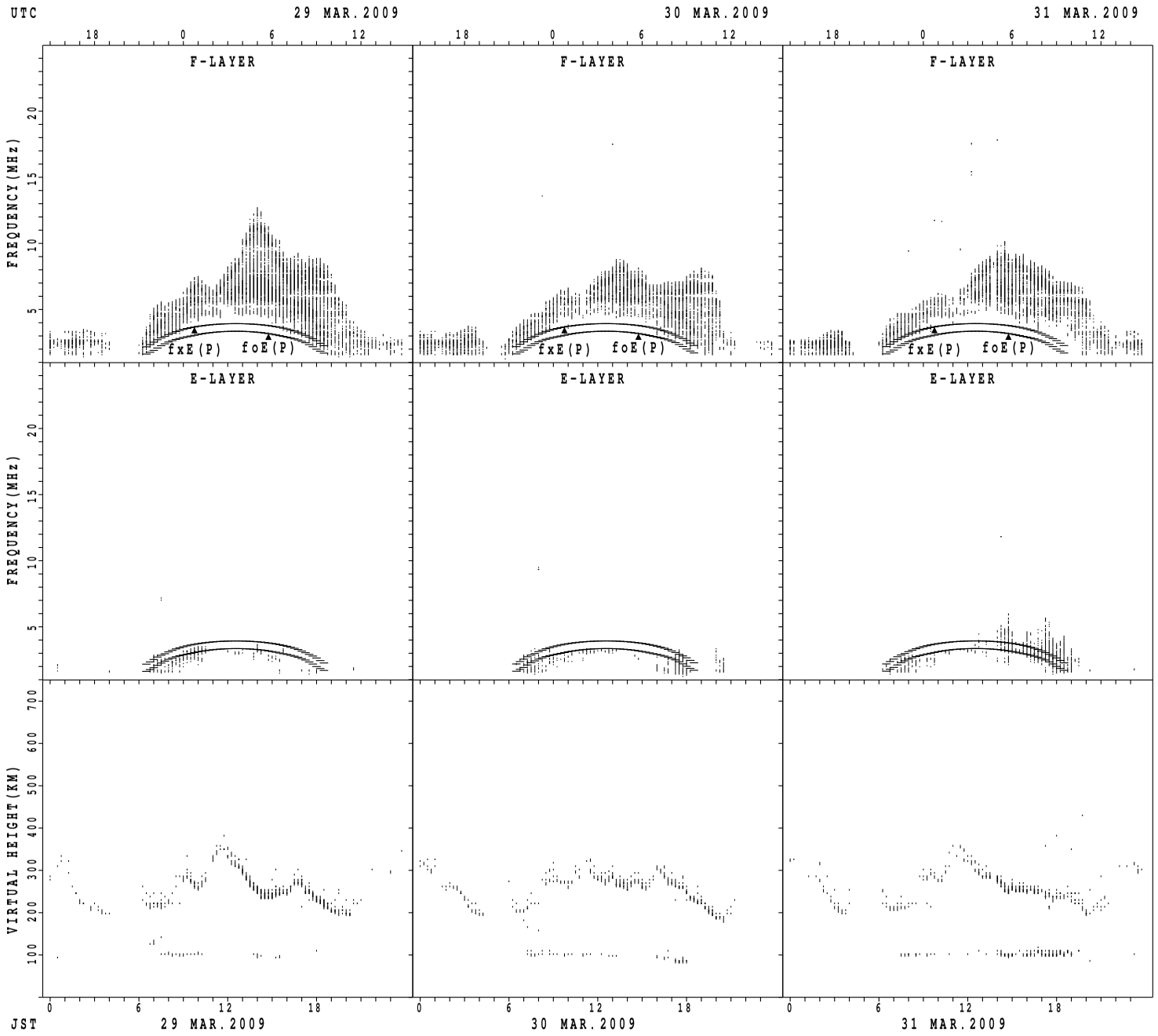
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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.2009 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																5	3	1						
MED																264	260	222						
U Q																286	282	111						
L Q																256	248	111						

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	2	3	2	1	5	3	5	19	16	18	19	12	12	7	7	13	11	12	7	7	5	1		1
MED	94	91	98	99	93	89	155	137	128	103	99	99	133	101	101	101	107	107	89	93	97	101		95
U Q	97	103	101	49	95	91	158	149	149	107	101	105	169	105	101	122	137	126	91	97	107	50		47
L Q	91	87	95	49	90	87	91	111	119	101	97	97	97	97	95	99	101	89	87	89	93	50		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									10	3						6	9	2	6	1				
MED									249	232						262	260	255	233	248				
U Q									254	256						274	269	256	246	124				
L Q									240	224						254	256	254	232	124				

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	3	4	1	2	1		15	15	5	3	7	13	12	13	8	11	12	22	16	12	15	15	12	7
MED	97	101	87	95	97		145	141	101	111	103	105	103	99	98	95	95	96	94	97	95	97	97	99
U Q	101	101	43	101	48		159	155	122	121	107	176	168	136	105	113	104	107	101	103	103	101	100	103
L Q	97	99	43	89	48		143	125	100	101	99	97	97	95	93	93	89	91	89	93	91	95	93	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									3	5							10	10	8	6				
MED									222	266							256	246	237	221				
U Q									252	282							258	264	250	248				
L Q									214	241							248	232	233	220				

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	11	9	5	2	2	2		9	9	10	7	10	13	16	11	13	16	14	20	20	18	16	11	11
MED	97	97	97	106	93	93		145	113	116	107	104	107	103	129	111	111	102	99	100	97	98	99	97
U Q	99	102	107	113	99	97		149	131	123	111	123	178	169	167	125	113	111	104	103	103	102	105	99
L Q	97	95	95	99	87	89		134	105	101	101	97	96	96	99	103	106	101	87	89	91	96	97	97

MONTHLY MEDIANS OF h′F AND h′Es

MAR.2009 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

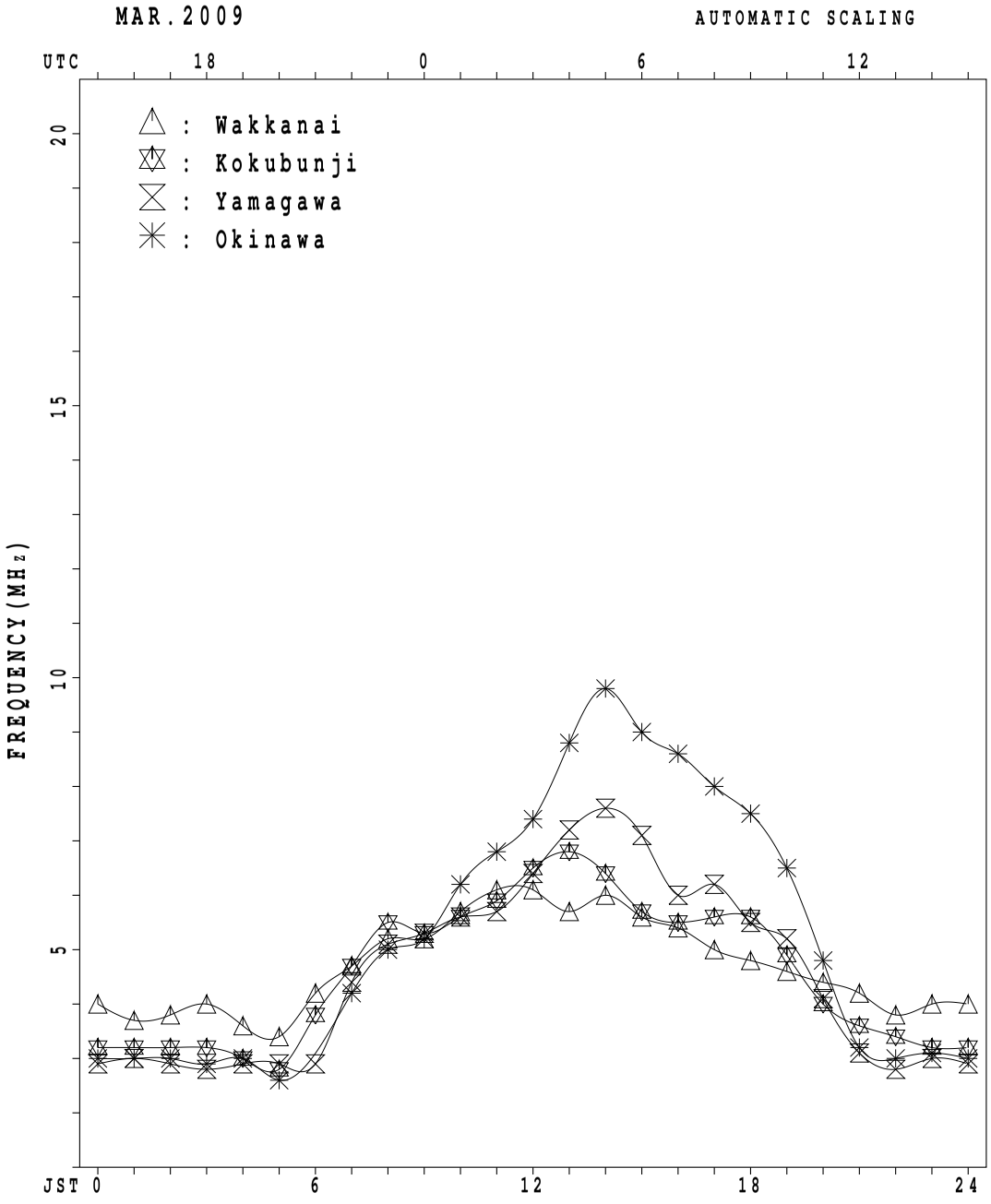
h′F STATION Okinawa LAT. 26°41.0′N LON. 128°09.0′E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									1	7							26	28	22	14	4			
MED									252	292							251	248	238	224	216			
U Q									126	296							262	263	244	232	229			
L Q									126	278							242	232	214	220	211			

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	15	9	6	7	3	1		8	3	5	4	4	5	7	14	15	16	21	23	19	12	12	16	18
MED	99	99	98	97	97	103		130	119	111	119	111	113	111	105	111	105	103	103	103	100	102	104	100
U Q	103	106	103	103	103	51		137	161	137	132	123	158	113	115	121	111	110	105	103	103	105	107	103
L Q	97	97	97	95	97	51		114	107	105	103	106	105	105	101	97	95	94	95	97	97	99	99	97

MONTHLY MEDIANS PLOT OF foF2



IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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 35	X 35	X 36	X 38	X 40	X 31	X 38												A	A	X 36	X 40	X 40	C
2	C	C	C	C	C	C	C	C	C	C										X 44	X 41	X 40	X 39	X 39
3	X 39	X 40	X 28	X 31	X 32	X 29	X 34												X 54	X 45	X 43	X 48	X 39	X 38
4	X 41	X 41	X 40	X 37	38	X 35	X 44												X 58	X 42	X 37	X 40	X 38	X 39
5	X 40	40	X 37	X 34	X 34	X 30	X 38												X 62	X 42	X 35	X 36	X 37	X 37
6	X 36	X 35	X 36	X 36	X 34	X 32	X 38			C									X 64	X 48	X 34	X 36	X 34	X 35
7	X 36	39	38	37	X 35	X 33	X 42												X 68	X 58	X 33	X 34	X 35	X 37
8	X 36	X 38	X 36	35	X 32	X 27	X 37												X 55	X 37	X 36	X 40	X 42	X 37
9	X 39	X 38	X 36	X 36	X 36	X 32	X 40												X 60	X 52	X 32	X 33	X 34	X 35
10	X 36	X 37	X 37	44	X 38	36	X 43												X 55	X 39	A	X 38	X 38	37
11	40	44	44	39	39	37	X 46												X 62	X 47	A	X 34	X 36	42
12	41	40	39	38	X 36	X 32	X 40												X 50	X 47	X 43	X 42	X 44	X 45
13	49	48	X 45	42	X 43	X 36	X 44												X 51	X 60	X 56	X 56	X 39	X 42
14	X 43	46	43	43	X 47	X 34	X 44												X 60	X 62	X 42	X 42	X 36	41
15	X 38	X 37	X 36	X 36	X 36	X 30	X 42												X 71	X 67	X 30	X 35	X 34	X 36
16	X 38	X 37	X 36	X 36	X 36	X 33	X 47												X 64	X 61	X 42	X 42	X 40	X 41
17	X 40	X 44	X 42	X 43	X 45	X 42	X 51												X 74	X 53	X 42	X 36	X 36	X 38
18	X 36	42	X 38	43	46	40													X 67	X 52	X 36	39	44	X 38
19	X 38	X 40	X 38	X 38	X 37	X 32													X 64	X 59	X 52	X 42	X 37	X 38
20	X 38	X 40	X 38	X 37	X 37	X 32													X 51	X 52	X 45	X 44	X 44	X 44
21	X 44	46	X 39	42	X 40	36													X 63	X 62	X 53	X 46	X 43	X 42
22	X 40	X 39	X 40	X 31	X 31	X 29													X 69	X 62	X 51	X 47	X 44	X 42
23	X 40	X 40	X 42	X 40	X 41	X 38													X 62	X 55	X 50	X 48	X 44	X 43
24	X 41	50	50	X 39	X 35	X 33													X 75	X 70	X 52	X 49	X 44	X 46
25	X 42	X 41	X 41	X 41	X 34	X 34													X 71	X 62	X 41	X 43	X 48	X 45
26	43	X 44	X 41	X 40	40	36													X 72	X 56	X 46	X 45	X 44	X 45
27	X 41	X 40	X 41	X 41	X 36	X 34													X 71	X 66	X 60	X 46	X 43	X 43
28	X 41	X 42	X 42	X 42	X 41	X 33													X 62	X 60	X 50	X 47	X 46	X 45
29	X 46	X 46	X 44	X 43	X 43	X 31													X 59	X 57	X 44	X 38	X 39	X 38
30	42	42	43	46	38	37													X 64	X 59	X 50	X 40	X 40	X 39
31	X 38	43	41	40	41	34													X 62	X 62	X 58	X 40	X 40	X 40
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	16												29	30	29	31	31	30
MED	X 40	X 40	X 40	X 39	X 38	X 33	X 42												X 62	X 56	X 43	X 40	X 40	X 40
U Q	X 41	44	42	42	X 41	36	X 44												X 68	X 62	X 50	X 46	X 44	X 43
L Q	X 38	X 39	X 37	X 36	X 35	X 32	X 38												X 58	X 47	X 36	X 38	X 37	X 38

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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	29	29	30	32	34	25	32	47	58	55	54	60	61	62	62	54	53	54	A	A	30	34	34	C
2	C	C	C	C	C	C	C	C	C	C	60	54	60	56	53	49	50	50		38	35	34	33	33
3	33	33	22	25	26	23	28	45	58	65	58	59	50	57	54	51	48	50	48	39	36	42	33	32
4	35	35	34	31	F	29	38	52	62	64	55	50	50	69	66	58	56	53	52	36	31	34	32	33
5	34	F	31	28	28	24	32	44	47	60	58	61	60	73	56	58	63	59	56	36	29	30	30	31
6	30	29	30	30	28	26	32	51	56	C	54	51	59	61	65	60	55	51	58	42	28	30	28	29
7	30	F	F	F	29	26	36	46	52	51	54	54	60	62	57	69	59	58	62	52	26	28	29	30
8	30	32	30	F	26	21	31	46	48	56	50	53	56	68	58	58	55	53	49	31	30	34	36	30
9	33	32	30	30	30	26	34	46	51	60	59	52	66	75	58	53	51	51	54	46	26	27	28	29
10	30	30	30	F	32	F	37	45	51	56	57	58	61	55	56	56	50	54	49	33	A	31	32	F
11	F	F	F	F	F	F	37	43	52	58	56	54	62	63	57	57	55	57	55	41	A	28	30	F
12	F	F	F	F	29	26	33	45	52	51	48	A	60	68	74	69	60	54	43	41	36	36	38	39
13	F	F	39	F	36	30	37	45	51	53	58	65	82	91	87	76	56	48	45	54	50	50	33	36
14	37	F	F	F	41	28	38	48	55	55	52	61	76	64	64	54	52	50	53	56	36	36	30	F
15	32	31	30	30	30	24	36	49	55	56	57	66	77	70	70	56	61	58	65	61	24	29	28	30
16	32	31	30	30	30	27	41	49	56	59	53	63	68	76	71	58	55	50	58	54	36	35	34	35
17	34	38	36	37	39	35	45	50	57	54	57	49	75	92	78	54	56	54	68	47	36	30	30	32
18	30	F	32	F	F	F	42	47	59	58	54	61	68	65	A	57	55	55	61	46	30	F	F	32
19	32	34	32	32	31	26	38	44	52	54	55	61	70	68	61	51	52	54	58	53	46	36	30	32
20	32	34	32	31	30	25	40	45	52	53	56	61	58	60	58	52	54	49	45	46	39	38	38	38
21	38	F	33	F	34	F	41	48	54	51	57	61	70	73	77	55	53	55	57	56	46	40	37	36
22	34	33	34	25	25	23	35	54	71	67	58	66	60	60	65	64	64	60	63	56	45	41	38	35
23	34	34	36	34	35	32	43	46	56	52	54	64	66	64	63	61	58	55	56	49	44	42	38	37
24	35	F	F	33	29	27	40	50	58	58	54	56	60	67	65	56	58	66	69	64	46	43	38	40
25	36	35	34	35	28	28	42	50	58	54	56	62	78	70	67	56	56	58	64	56	35	37	41	38
26	F	38	35	34	F	F	49	58	54	52	61	71	89	62	62	60	59	56	66	50	40	39	38	39
27	35	34	35	35	30	27	42	50	56	64	62	72	78	75	60	54	61	66	64	60	54	40	37	37
28	35	36	36	36	35	26	40	48	51	50	57	61	76	73	74	62	52	56	56	54	44	40	40	39
29	40	40	38	37	37	25	40	49	52	55	58	58	64	77	76	71	63	54	53	51	38	32	33	32
30	F	F	F	F	F	F	40	46	46	49	52	59	64	62	64	58	54	55	58	53	44	34	34	33
31	32	F	F	F	F	F	37	45	48	49	49	55	61	70	64	67	62	59	55	56	52	34	34	34
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	19	23	19	24	23	30	30	30	29	31	30	31	31	30	31	31	31	29	30	29	30	30	27
MED	33	34	32	32	30	26	38	47	54	55	56	60	64	68	64	57	55	54	56	50	36	34	34	33
U Q	35	35	35	35	34	28	41	50	57	58	58	62	75	73	70	61	59	58	62	56	44	40	38	37
L Q	31	31	30	30	28	25	35	45	51	52	54	54	60	62	58	54	53	51	52	41	30	31	30	32

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									L	U L 392	U L 420	408	A	A	A	A	A							
2								C	C	C	404	U L 408	416	424	U L 408	L								
3									L	U L 392	412	U L 424	U L 428	U L 404	A	A								
4									L	U L 396	L	U L 448	U L 444	A	U L 416	U L 396	A							
5										L	U L 420	432	U L 464		U L 420	L								
6									L	C	L	U L 416	U L 420	U L 420	L	L								
7									L	L	L	U L 436	416	424	416	384								
8										L	U L 428	416	U L 464	U L 404	L	L	L							
9									L	L	428	L	U L 420	U L 412	U L 408	L	L							
10									L	L	416	420	420	U L 420	U L 396	U L 384								
11									L	U L 400	416	424	A	U L 416	U L 424	A	A							
12									L	A	420	A	432	U L 428	U L 436	U L 396	L							
13									L	L	416	420	U L 428	U L 408	U L 420		L							
14									L	U L 400	U L 424	424	420	L	L	A	L							
15										L	U L 432	436	U L 440		L	L	U L 360	L						
16									L	U L 416	U L 428	420	U L 440	432	412	L	L							
17									L	L	U L 420	U L 444	U L 416	U L 428	A	L	A							
18									L	U L 404	U L 432	U L 432	440	A	A	A	A	A						
19									L	L	428	428	420	424	U L 400	L	A							
20									L	U L 432	U L 432	420	U L 440	432	L	L	L							
21									L	L	408	432	424	428	420	L	L							
22										U L 408	U L 428	444	U L 432	U L 420	404	396	A							
23									L	L	U L 432	432	U L 432	432	416	L	L							
24									L	L	U L 428	U L 412	U L 436	436	412	U L 408	L							
25									L	L	432	440	U L 432	U L 444	U L 412	L	L	A						
26										L	416	U L 440	A	U L 432	416	U L 412	L	L						
27									L	412	U L 420	U L 440	A	432	420	U L 384	L	L						
28										U L 424	420	428	A	U L 436	420	U L 396	L	L						
29										U L 408	420	436	444	424	404	U L 404	L							
30										U L 420	U L 436	U L 428	420	432	412	U L 404	L							
31									L	U L 420	U L 424	424	428	A	416	408	L	L						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										14	28	29	26	24	22	12	1							
MED										U L 408	U L 422	428	U L 430	U L 426	416	U L 396	U L 360							
U Q										U L 420	U L 428	U L 436	U L 440	432	U L 420	U L 406								
L Q										U L 400	418	420	420	U L 420	U L 408	390								

MAR. 2009 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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								172	256	A	R	R	A	A	A	A	A	B						
2								C	C	C	R	R	R	R	308	A	A	A						
3								192	R	R	R	R	R	R	292	U A 284	A	B						
4								192	256	R	R	R	R	324	296	U R 288	A	B						
5								200	260	A	U R 340	308	R	A	R	R	R	U R 188						
6								188	R	C	R	R	R	R	296	R	U R 256	B						
7								U A 204	R	R	R	336	336	R	R	292	236	A						
8								204	R	R	A	R	R	R	R	R	U R 264	U A 172						
9								212	R	U R 312	R	R	U R 328	R	R	A	A	U A 184						
10								212	U R 292	A	A	A	A	A	R	A	A	A						
11								212	A	A	A	A	324	A	A	A	A	A						
12								236	272	U A 296	A	A	A	A	288	A	A	176						
13								208	256	R	A	A	A	R	A	R	R	A						
14								208	268	A	A	A	R	A	A	A	A	B						
15								216	A	A	R	R	328	316	A	U R 292	R	B						
16								U A 216	A	A	A	A	344	R	312	A	U A 244	U A 196						
17								220	276	A	A	A	R	R	A	R	A	A						
18							B	220	A	A	A	A	A	A	A	A	A	A						
19							B	236	R	A	R	R	R	R	R	R	252	200						
20							B	220	R	R	A	R	A	324	R	R	U A 252	A						
21							B	U A 232	R	A	R	R	R	U R 344	R	R	U R 260	188						
22							B	240	U A 260	A	A	R	R	R	R	U R 308	U A 244	A						
23							B	240	284	A	A	A	R	R	316	R	R	A						
24							B	220	284	R	A	A	A	R	A	R	R	U R 212						
25							B	232	276	A	A	A	R	A	A	A	A	A						
26							B	R	R	R	A	A	A	A	A	R	A	A						
27							B	A	U A 276	A	R	A	A	R	R	R	R	U R 216						
28							184	256	276	R	A	A	A	A	A	A	R	U A 192						
29							B	248	284	A	A	A	R	A	A	R	U R 260	U R 208						
30							B	228	R	284	R	R	R	R	A	R	R	200						
31							B	240	280	R	A	A	A	A	A	U R 296	R	U A 200						
	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	28	16	3	1	2	5	4	7	6	9	13						
MED							184	218	276	U 296	U R 340	322	328	324	296	U R 292	U 252	U 196						
U Q								234	282	U R 312			340	334	312	U R 296	U R 260	U R 204						
L Q								206	260	284			326	320	292	U 288	U A 244	186						

MAR. 2009 foE (0.01MHz)

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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	18	18	E B 14	E B 14	E B 15	E B 14	E B 15	23	30	37	G 23	G 24	43	45	J A 52	39	J A 43	J A 114	J A 156	J A 40	J A 30	J A 28	J A 18	C
2	C	C	C	C	C	C	C	C	C	C	G 23	G 25	G 22	G 24	36	34	29	21	23		18	E B 14	E B 15	E B 14
3	E B 15	19	E B 13	E B 15	E B 15	E B 14	E B 15	23	G 18	G 26	G 25	G 22	G 23	G 24	38	34	30	J A 25	E B 15	J A 24	J A 18	J A 30	J A 26	20
4	E B 15	E B 15	19	E B 15	E B 15	19	E B 15	23	30	G 26	G 28	G 27	G 25	40	36	G 24	J A 33	J A 22	J A 22	20	E B 14	J A 34	J A 22	20
5	19	J A 22	J A 21	19	E B 14	E B 15	E B 15	24	30	35	G 25	36	G 25	36	G 28	G 23	G 22	G	J A 18	21	E B 15	E B 15	E B 15	E B 16
6	E B 15	J A 20	E B 15	E B 15	E B 15	E B 14	E B 15	26	G 22	C	G 21	G 25	G 29	G 23	35	G 25	G 22	28	J A 17	J A 19	J A 22	J A 22	J A 44	J A 28
7	J A 24	E B 15	20	E B 15	E B 15	E B 15	E B 15	26	G 22	G 27	G 25	37	38	G 25	G 24	34	31	26	J A 25	J A 24	J A 26	J A 27	J A 24	E B 14
8	E B 15	E B 16	E B 15	19	E B 14	E B 14	E B 15	24	G 22	G 27	36	G 21	G 25	G 26	G 24	G 22	G 21	22	19	19	J A 18	J A 27	J A 30	E B 15
9	E B 16	J A 22	20	E B 15	E B 15	18	E B 15	25	G 23	G 23	G 27	G 24	G 26	G 26	G 26	33	J A 30	22	J A 23	E B 15	E B 15	J A 27	E B 15	J A 23
10	E B 16	E B 15	E B 14	J A 19	J A 21	20	E B 14	G 20	G 26	35	J A 34	J A 43	J A 42	J A 44	G 24	J A 37	J A 34	J A 45	J A 22	J A 70	J A 78	J A 45	23	J A 23
11	18	E B 15	E B 14	E B 15	E B 14	E B 13	19	25	30	35	32	J A 36	42	36	37	J A 42	J A 43	J A 33	J A 32	21	J A 39	J A 23	J A 34	J A 62
12	J A 21	J A 22	J A 25	22	21	19	E B 16	27	33	40	J A 46	J A 61	39	J A 53	35	J A 34	J A 30	21	J A 19	E B 19	E B 15	E B 14	E B 15	E B 14
13	E B 15	E B 16	E B 14	E B 15	E B 14	E B 14	E B 16	27	32	G 23	37	37	40	G 29	36	G 27	G 23	J A 68	J A 40	J A 30	J A 22	J A 24	J A 26	J A 19
14	J A 22	J A 22	E B 15	E B 14	20	E B 14	E B 16	26	30	34	34	34	G 33	J A 48	J A 40	J A 48	J A 38	34	J A 44	J A 37	J A 24	J A 33	J A 72	J A 28
15	J A 30	J A 24	22	E B 14	E B 15	E B 14	E B 15	27	32	36	G 28	G 32	38	36	J A 39	G 26	J G 23	24	J A 32	J A 29	J A 19	J A 20	E B 15	21
16	E B 15	E B 15	E B 13	E B 15	E B 15	E B 15	E B 14	25	30	36	36	36	38	G 27	34	J A 37	28	22	21	20	J A 28	J A 31	J A 29	18
17	19	E B 15	E B 15	E B 16	E B 15	20	18	27	32	J A 36	36	34	G 28	G 26	J A 44	G 20	J A 45	J A 39	J A 34	J A 22	20	20	20	20
18	J A 16	E B 16	20	E B 14	E B 14	20	18	25	31	36	J A 41	J A 40	J A 39	J A 48	J A 67	J A 46	J A 44	29	J A 22	J A 26	J A 22	19	J A 27	22
19	E B 16	E B 14	18	E B 15	20	E B 14	E B 14	27	G 23	34	G 24	G 23	G 28	G 27	G 19	G 25	30	23	J A 20	J A 17	20	21	J A 22	J A 18
20	E B 15	E B 15	E B 16	E B 14	E B 16	E B 15	19	26	G 24	G 26	37	G 30	34	36	G 28	G 26	32	J A 30	J A 43	J A 26	J A 25	J A 28	E B 16	19
21	E B 16	E B 15	E B 14	E B 15	E B 15	E B 15	20	29	G 25	36	G 26	G 30	G 26	G 26	G 28	G 25	G 22	23	E B 15	19	21	E B 16	E B 15	E B 15
22	E B 14	19	E B 16	18	E B 15	E B 15	19	27	32	34	38	G 26	G 25	G 28	G 30	G 20	30	27	19	J A 26	J A 28	J A E B 15	E B 14	E B 14
23	E B 15	E B 14	20	20	20	E B 14	E B 14	29	32	35	38	J A 44	G 32	G 30	36	26	G 24	J A 27	21	21	20	E B 15	E B 15	E B 14
24	E B 15	E B 15	E B 16	18	17	E B 15	22	29	33	G 26	35	J A 37	33	G 28	J A 33	G 24	G 24	18	E B 16	21	E B 15	E B 14	E B 16	E B 15
25	E B 16	E B 15	E B 15	E B 15	E B 15	18	22	28	33	34	36	38	G J A 32	41	36	35	J A J 34	A J 34	A J 26	A 22	J A 41	J A 31	J A 24	J A 19
26	20	21	21	J A 20	E B 15	19	19	G 20	G 23	G 27	36	J A 42	J A J 92	A J 38	A J 35	A 27	G J 35	A J 30	A J 21	A J 23	J A 30	J A 23	28	22
27	22	20	E B 15	E B 15	21	19	20	26	35	37	G 29	36	J A J 47	A J 38	A G 26	G 22	G 24	20	G E 15	B J 19	A 20	E B 15	E B 16	E B 15
28	E B 16	E B 15	E B 16	E B 15	E B 15	E B 14	24	29	33	G 27	37	38	J A 44	38	J A 38	J A 37	G 21	23	E B 14	E B 15	22	J A 18	J A 17	J A 17
29	20	E B 15	E B 15	E B 15	E B 14	E B 15	B J A 25	31	34	36	37	38	G J A 28	36	G 29	G 24	G 22	G 20	G E 15	B E 15	20	E B 15	E B 14	E B 15
30	E B 15	E B 16	E B 15	E B 14	E B 15	20	21	29	G 25	34	G 27	G 28	G 31	G 28	35	G 27	G 22	24	21	21	E B 14	E B 15	E B 16	E B 15
31	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	22	30	32	G 29	36	38	36	J A 55	36	G 25	G 23	24	E B 14	E B 15	E B 15	18	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	30	30	30	30	30	30	30	30	30	29	31	31	31	31	31	31	31	31	30	31	31	31	31	30
MED	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	E B 16	26	30	34	34	36	G 33	36	35	G 27	30	24	J A 21	21	J A 20	J A 21	18	18
U Q	19	J A 20	20	18	16	19	20	28	32	36	37	J A 38	J A J 39	A J 40	A J 37	A J 35	A J 34	A J 30	A J 26	A 26	J A 26	J A 28	J A 26	J A 21
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	25	G 24	G 27	G 26	G 26	G 26	G 26	G 28	G 24	G 23	22	E B 17	19	E B 18	E B 15	E B 15	E B 15

MAR. 2009 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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 16	E B 15	E B 14	E B 14	E B 15	E B 14	E B 15	22	28	32	G 22	G 22	41	38	43	36	32	34	A A 156	A A 40	E B 15	16	E B 15	C
2	C	C	C	C	C	C	C	C	C	C	G 23	G 23	G 22	G 23	34	30	28	19		E B 15	E B 15	E B 14	E B 15	E B 14
3	E B 15	E B 16	E B 13	E B 15	E B 15	E B 14	E B 15	23	G 18	G 25	G 24	G 20	G 22	G 22	35	32	28	22	E B 15	E B 15	16	18	E B 15	E B 15
4	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	22	28	G 24	G 27	G 25	G 24	38	34	G 22	28	20	16	16	E B 14	E B 15	E B 15	E B 15
5	16	E B 15	E B 15	E B 15	E B 14	E B 15	E B 15	22	28	35	G 25	35	G 23	34	G 27	G 22	G 21	G	E B 14	E B 15	E B 15	E B 15	E B 15	E B 16
6	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	24	G 21	C	G 19	G 23	G 28	G 22	34	G 23	G 22	19	E B 15	16	17	16	18	17
7	16	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	22	G 20	G 26	G 24	36	38	G 22	G 22	32	27	24	20	E B 15	E B 15	16	E B 15	E B 14
8	E B 15	E B 16	E B 15	E B 14	E B 14	E B 14	E B 15	22	G 21	G 26	34	G 20	G 25	G 26	G 23	G 20	G 19	20	E B 15	E B 15	E B 15	E B 15	18	E B 15
9	E B 16	16	E B 15	E B 15	E B 15	E B 14	E B 15	23	G 22	G 23	G 25	G 22	G 26	G 26	G 20	31	28	21	20	E B 15	E B 15	16	E B 15	15
10	E B 16	E B 15	E B 14	E B 15	16	E B 15	E B 14	G 19	G 23	30	32	34	35	34	G 24	30	31	38	19	20	A A 78	18	15	E B 16
11	E B 16	E B 15	E B 14	E B 15	E B 14	E B 13	E B 15	23	29	31	32	34	41	34	34	37	35	19	23	E B 15	A A 39	19	20	19
12	E B 15	E B 15	17	E B 14	E B 16	E B 15	E B 16	25	31	40	36	A A 61	38	36	34	33	25	20	E B 15	E B 15	E B 15	E B 14	E B 15	E B 14
13	E B 15	E B 16	14	E B 15	14	14	16	25	30	G 22	35	36	35	G 28	34	G 25	G 22	42	36	20	19	17	20	E B 15
14	E B 15	16	E B 15	14	15	14	16	24	28	31	32	33	G 32	36	34	39	26	30	E B 16	20	E B 16	18	19	E B 16
15	E B 16	E B 16	E B 15	E B 14	E B 15	E B 14	E B 15	24	30	32	G 28	G 31	37	36	34	G 24	G 20	22	23	22	E B 16	E B 15	E B 15	E B 15
16	E B 15	E B 15	E B 13	E B 15	E B 15	E B 15	E B 14	24	28	34	35	34	37	G 26	33	30	26	20	E B 15	E B 15	E B 15	E B 15	16	E B 14
17	E B 15	E B 15	E B 15	E B 16	E B 15	E B 15	17	26	31	34	34	34	G 26	G 24	37	G 17	37	34	30	20	17	E B 15	E B 15	E B 15
18	15	E B 16	E B 14	E B 14	E B 14	E B 15	17	24	29	32	38	38	36	44	A A 67	44	41	26	20	18	17	E B 15	16	16
19	E B 16	E B 14	E B 15	E B 15	E B 15	E B 14	E B 14	26	G 22	32	G 21	G 21	G 26	G 24	G 18	G 22	28	22	E B 15	E B 15	E B 15	16	19	E B 15
20	E B 15	E B 15	E B 16	E B 14	E B 16	E B 15	18	25	G 23	G 26	34	G 28	33	35	G 28	G 24	30	20	40	20	17	22	E B 16	E B 15
21	E B 16	E B 15	E B 14	E B 15	E B 15	E B 15	19	27	G 24	32	G 26	G 29	G 26	G 25	G 27	G 22	G 20	22	E B 15	E B 15	E B 15	E B 16	E B 15	E B 15
22	E B 14	E B 14	E B 16	E B 15	E B 15	E B 15	18	25	30	31	36	G 26	G 24	G 26	G 29	G 19	28	22	18	E B 15	16	E B 15	E B 14	E B 14
23	E B 15	E B 14	E B 15	E B 15	E B 16	E B 14	E B 14	28	30	33	37	37	G 30	G 26	34	G 24	G 24	23	18	E B 15	E B 15	E B 15	E B 15	E B 14
24	E B 15	E B 15	E B 16	E B 16	E B 15	E B 15	20	28	32	G 26	34	36	32	G 27	32	G 23	G 22	G 17	E B 16	E B 16	E B 15	E B 14	E B 16	E B 15
25	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	20	25	30	31	34	36	G 31	35	34	31	30	30	18	E B 15	20	22	E B 15	E B 15
26	15	16	E B 15	E B 16	E B 15	E B 16	17	G 19	G 22	G 25	35	37	70	34	32	G 25	29	23	15	16	16	18	18	E B 15
27	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	18	25	32	35	G 28	32	41	28	G 24	G 20	G 21	G 18	E B 15	E B 16	E B 16	E B 15	E B 16	E B 15
28	E B 16	E B 15	E B 16	E B 15	E B 15	E B 14	21	27	31	G 27	36	35	40	35	34	34	G 20	21	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15
29	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	22	28	32	35	34	36	G 28	35	G 28	G 20	G 21	G 19	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15
30	E B 15	E B 16	E B 15	E B 14	E B 15	E B 15	19	27	G 24	33	G 27	G 27	G 30	G 27	33	G 24	G 20	22	E B 15	E B 16	E B 14	E B 15	E B 16	E B 15
31	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	20	27	30	G 29	35	36	36	41	33	G 23	G 22	22	E B 14	E B 15	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	30	30	30	30	30	30	30	30	30	29	31	31	31	31	31	31	31	31	30	31	31	31	31	30
MED	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	24	28	31	32	34	G 32	28	33	G 24	26	22	16	E B 15	E B 15	E B 15	E B 15	E B 15
U Q	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	18	26	30	33	35	36	37	35	34	32	29	24	20	18	17	17	16	15
L Q	E B 15	E B 15	E B 14	E B 14	E B 15	E B 14	E B 15	23	G 23	G 26	G 25	G 25	G 26	G 26	G 27	G 22	G 21	20	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

MAR. 2009 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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	16	15	14	14	15	14	15	14	14	14	15	14	14	15	14	14	13	14	16	14	14	15	15	C
2	C	C	C	C	C	C	C	C	C	C	14	14	13	13	17	14	14	14		15	15	14	15	14
3	15	16	13	15	15	14	15	15	14	15	13	14	14	14	15	22	15	14	15	15	15	15	15	15
4	15	15	15	15	15	14	15	14	14	14	15	15	14	14	13	13	14	16	14	16	14	15	15	15
5	16	15	15	15	14	15	15	14	13	14	13	14	15	15	16	16	14	15	14	15	15	15	15	16
6	15	15	15	15	15	14	15	14	14	C	13	15	14	12	14	13	15	15	15	14	15	14	15	15
7	15	15	15	15	15	15	15	14	15	16	15	15	14	15	15	13	15	13	15	15	15	15	15	14
8	15	16	15	14	14	14	15	14	14	14	13	12	13	15	15	13	15	14	15	15	15	15	15	15
9	16	14	15	15	15	14	15	15	13	13	15	13	21	13	13	13	14	14	14	15	15	15	15	14
10	16	15	14	15	15	15	14	14	14	15	18	14	15	16	16	12	14	14	14	14	16	14	14	16
11	15	15	14	15	14	13	15	14	15	14	12	17	14	15	16	16	14	14	15	15	14	15	14	14
12	15	15	15	14	16	15	16	14	14	14	14	14	19	13	15	16	13	14	15	15	15	14	15	14
13	15	16	14	15	14	14	16	14	14	14	15	20	14	12	13	15	14	14	14	14	16	15	15	15
14	15	15	15	14	15	14	16	15	14	14	14	14	15	17	16	13	14	14	16	15	16	15	16	16
15	16	16	15	14	15	14	15	14	13	14	14	13	16	15	14	15	13	14	14	15	14	15	15	15
16	15	15	13	15	15	15	14	15	14	15	12	14	16	14	14	12	11	12	15	15	15	15	14	14
17	15	15	15	16	15	15	14	15	13	12	13	14	13	16	12	13	14	14	14	16	14	15	15	15
18	14	16	14	14	14	15	15	15	14	13	15	13	15	22	15	14	13	15	14	14	15	16	16	16
19	16	14	15	15	15	14	14	15	14	14	12	14	12	12	14	13	12	15	15	15	15	15	14	15
20	15	15	16	14	16	15	15	14	14	13	12	13	18	18	14	14	14	13	15	14	14	14	16	15
21	16	15	14	15	15	15	15	14	13	14	11	16	14	14	14	13	14	14	15	15	15	16	15	15
22	14	14	16	15	15	15	14	14	12	13	14	17	14	12	14	14	13	13	15	15	15	15	14	14
23	15	14	15	15	16	14	14	14	14	13	14	14	15	14	13	13	14	14	15	15	15	15	15	14
24	15	15	16	16	15	15	15	14	14	14	15	13	16	12	14	14	14	14	16	16	15	14	16	15
25	16	15	15	15	15	15	14	15	14	10	11	13	17	14	15	13	15	16	14	15	15	14	15	16
26	14	14	15	16	15	16	14	15	13	15	14	19	21	17	14	15	13	12	14	15	15	15	15	15
27	16	15	15	15	15	15	14	14	13	14	14	15	14	20	14	14	14	12	15	16	16	15	16	15
28	16	15	16	15	15	14	15	14	14	13	15	15	12	13	14	18	14	13	14	15	15	15	15	15
29	15	15	15	15	14	15	15	13	12	13	12	19	15	18	16	14	14	15	15	15	15	15	14	15
30	15	16	15	14	15	15	15	15	14	14	12	13	14	16	13	14	14	16	15	16	14	15	16	15
31	15	15	15	15	15	14	14	14	13	14	14	20	14	18	19	12	14	14	14	15	15	15	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	30	30	29	31	31	31	31	31	31	31	31	30	31	31	31	31	30
MED	15	15	15	15	15	15	15	14	14	14	14	14	14	15	14	14	14	14	15	15	15	15	15	15
U Q	16	15	15	15	15	15	15	15	14	14	15	15	16	16	15	15	14	15	15	15	15	15	15	15
L Q	15	15	14	14	15	14	14	14	13	13	12	13	14	13	14	13	13	14	14	15	15	15	15	14

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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	336	346	332	323	374	336	362	392	380	386	380	388	346	366	370	375	363	356	A	A	317	316	329	C
2	C	C	C	C	C	C	C	C	C	C	387	347	374	349	368	341	355	365		367	325	344	327	324
3	343	403	352	338	345	344	355	374	373	392	376	371	336	350	361	388	367	361	366	354	329	348	345	324
4	326	339	322	315	F	336	346	374	377	399	388	339	320	346	358	348	376	366	381	390	313	342	326	310
5	305	F	338	323	356	351	372	386	375	354	372	330	317	382	362	356	366	379	381	374	317	318	334	313
6	311	332	347	328	346	343	374	386	394	C	380	361	325	338	363	357	380	364	379	417	320	369	318	323
7	326	F	F	F	351	356	373	415	378	364	366	314	370	357	332	355	383	363	380	380	318	337	328	353
8	337	330	343	F	353	384	376	411	380	375	367	350	330	368	368	366	368	375	380	374	305	309	345	318
9	324	331	315	331	342	332	374	381	375	359	356	378	349	373	356	371	357	367	368	381	337	338	308	305
10	330	327	338	F	368	F	368	400	362	361	372	348	343	333	343	373	345	368	381	385	A	342	321	F
11	F	F	F	F	F	F	397	402	393	386	382	356	342	356	341	354	360	372	384	400	A	308	311	F
12	F	F	F	F	359	349	391	395	386	389	332	A	314	318	324	354	362	387	377	360	367	336	319	313
13	F	F	319	F	359	339	375	394	371	355	344	293	317	340	332	376	371	366	324	319	331	353	314	320
14	322	F	F	F	378	346	366	382	379	377	352	317	357	335	358	356	358	352	347	366	327	338	324	F
15	341	340	327	333	344	311	380	384	377	373	365	334	334	337	359	352	360	347	360	402	352	341	317	319
16	322	312	320	311	332	319	372	390	369	382	366	337	341	348	354	354	374	371	358	364	336	323	330	314
17	312	332	307	334	343	337	381	401	396	380	354	360	329	347	373	380	342	354	374	381	389	323	321	325
18	321	F	352	F	F	F	363	392	377	383	352	355	346	345	A	351	349	366	380	386	324	F	F	320
19	328	354	318	317	377	327	384	384	370	380	341	333	350	357	374	349	358	360	359	357	361	342	324	309
20	315	317	313	318	357	361	376	377	400	383	362	351	345	360	371	346	368	367	365	345	311	320	321	340
21	326	F	333	F	292	F	374	398	384	384	366	360	325	335	357	356	338	363	355	361	342	321	307	309
22	310	330	345	389	341	340	354	342	381	386	357	355	347	358	349	346	353	357	351	362	348	342	330	322
23	323	324	322	328	353	346	391	380	386	371	334	345	346	349	347	344	358	354	361	339	339	339	322	323
24	329	F	F	324	344	323	388	386	386	375	353	349	321	328	361	346	337	347	349	351	340	328	316	321
25	327	322	315	354	364	328	371	366	378	374	333	324	340	340	346	333	356	349	354	349	347	310	321	316
26	F	325	325	320	F	F	382	374	380	356	347	337	352	356	361	349	356	355	375	352	326	297	313	327
27	338	342	346	350	314	343	382	361	366	372	337	318	335	352	361	341	341	356	361	361	358	335	309	310
28	324	323	328	340	372	324	380	386	374	351	347	322	341	326	351	363	349	363	358	347	340	315	318	306
29	308	328	333	345	395	320	382	368	373	359	350	325	320	335	334	357	361	362	356	355	364	321	300	300
30	F	F	F	F	F	F	404	379	349	348	330	342	355	344	356	344	337	354	355	352	373	325	312	303
31	314	F	F	F	F	F	390	371	373	354	325	343	331	344	342	343	361	365	369	359	358	314	298	319
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	19	23	19	24	23	30	30	30	29	31	30	31	31	30	31	31	31	29	30	29	30	30	27
MED	324	330	328	328	353	339	376	385	378	375	356	344	341	347	358	354	358	363	365	362	337	332	321	319
U Q	330	340	343	340	366	346	382	394	384	384	372	355	347	357	362	363	367	367	380	381	355	342	327	323
L Q	314	324	319	320	344	327	371	374	373	359	344	330	325	337	346	346	349	355	356	352	322	318	313	310

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									L	U L 420	U L 421	434	A	A	A	A	A							
2								C	C	C	424	U L 427	454	398	U L 378	L								
3									L	U L 391	425	U L 448	U L 428	U L 443	A	A								
4									L	U L 403	L	U L 420	U L 415	A	U L 372	U L 377	A							
5										L	U L 390	409	U L 396		U L 391	L								
6									L	C	L	U L 421	U L 437	U L 417	L	L								
7									L	L	L	U L 412	399	394	386	374								
8										L	U L 403	441	U L 381	U L 428	L	L	L							
9									L	L	401	L	U L 447	U L 427	U L 386	L	L							
10									L	L	402	431	428	U L 405	U L 423	U L 382								
11									L	U L 401	432	451	A	U L 415	U L 386	A	A							
12									L	A	418	A	433	U L 413	U L 358	U L 368	L							
13									L	L	413	409	U L 434	U L 426	U L 374		L							
14									L	U L 414	U L 411	424	389	L	L	A	L							
15										L	U L 401	411	U L 380		L	L	U L 381	L						
16									L	U L 400	U L 422	432	U L 382	388	398	L	L							
17									L	L	U L 413	U L 410	U L 452	U L 425	A	L	A							
18									L	U L 402	U L 401	U L 399	388	A	A	A	A	A						
19									L	L	413	436	449	394	U L 424	L	A							
20									L	U L 391	U L 391	429	U L 410	398	L	L	L							
21									L	L	414	401	410	411	380	L	L							
22										U L 394	U L 411	389	U L 384	U L 422	402	405	A							
23									L	L	U L 407	402	U L 401	403	400	L	L							
24									L	L	U L 408	U L 439	U L 418	389	400	U L 382	L							
25									L	L	398	386	U L 400	U L 380	U L 393	L	L	A						
26										L	411	U L 399	A	U L 400	408	U L 377	L	L						
27									L	400	U L 419	U L 394	A	390	397	U L 434	L	L						
28										U L 380	393	409	A	U L 393	387	U L 391	L	L						
29										U L 399	407	402	406	383	417	U L 383	L							
30										U L 393	U L 409	U L 400	434	425	421	U L 377	L							
31									L	U L 390	U L 399	406	419	A	399	382	L	L						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										14	28	29	26	24	22	12	1							
MED										U L 400	U L 410	411	U L 412	U L 404	395	U L 382	U L 381							
U Q										U L 402	416	432	U L 434	U L 424	402	U L 387								
L Q										U L 391	U L 401	402	U L 396	394	U L 386	U L 377								

MAR. 2009 M(3000)F1 (0.01)

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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									230	236	246	232	274	250	256	234	248							
2								C	C	C	240	264	246	280	260	254								
3									234	228	240	244	276	268	260	236								
4									230	220	242	308	332	274	264	266	238							
5										246	248	294	308		274	262								
6									222	C	240	256	296	268	254	254								
7									218	248	262	302	258	254	302	262								
8										246	254	278	320	246	246	252	238							
9									242	246	258	242	266	242	258	252	266							
10									252	244	246	278	266	276	290	246								
11									238	232	244	274	282	258	276	260	248							
12									242	236	276	A	296	290	290	250	250							
13									238	254	286	340	284	256	264		240							
14									238	248	268	302	246	284	258	256	254							
15										246	254	290	262		248	270	254	248						
16									242	230	262	286	274	258	254	258	238							
17									230	240	276	274	284	260	224	244	266							
18									238	234	264	272	276	266	A	254	248	230						
19									244	242	296	282	270	250	240	268	238							
20									224	254	260	266	278	266	252	266	256							
21									226	248	258	260	296	260	250	240	260							
22										228	264	254	276	274	284	276	246							
23									242	252	298	270	276	264	266	262	250							
24									236	236	276	278	302	270	252	270	272							
25									240	250	308	304	276	268	266	266	264	242						
26										264	280	270	256	254	264	270	252	252						
27									248	244	278	300	264	258	248	284	268	254						
28										288	276	306	272	270	258	242	262	246						
29										260	272	304	310	270	268	250	242							
30										290	328	292	266	272	264	284	272							
31									260	282	328	298	308	266	278	258	252	242						
	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									22	29	31	30	31	29	30	30	25	7						
MED									238	246	264	278	276	266	260	258	252	246						
U Q									242	253	278	300	296	271	268	266	263	252						
L Q									230	236	248	266	266	257	252	250	244	242						

MAR. 2009 h′F2 (KM)

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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 256	E B 238	E B 244	E B 242	210	224	208	202	202	198	H 176	190	A	A	A	A	A	216	A	A	212	E A 238	E B 250	C
2	C	C	C	C	C	C	C	C	C	C	184	182	H 164	190	206	206	214	210		206	218	216	E B 250	E B 248
3	228	194	E B 254	E B 240	E B 234	E B 246	218	200	202	196	192	178	168	176	A	A	220	220	200	208	E A 246	226	192	E B 248
4	E B 246	E B 240	E B 230	E B 276	E B 250	236	216	214	202	196	190	180	174	A	E A 232	202	A	216	196	192	224	228	E B 232	E B 270
5	E B 270	E B 272	228	E B 258	212	216	204	198	214	208	214	190	190	220	196	194	232	216	200	188	E B 254	E B 244	E B 258	E B 246
6	E B 274	E B 256	E B 242	E B 234	216	E B 244	204	208	188	C	202	198	192	184	224	202	214	218	202	186	E A 260	224	E A 274	E A 260
7	E A 264	E B 252	E B 268	E B 246	216	202	194	188	180	188	186	196	224	184	186	220	224	220	204	190	180	E A 238	E B 242	226
8	E B 244	228	E B 234	E B 270	206	206	200	198	216	202	192	180	172	H 164	230	210	H 174	222	196	188	E B 282	E B 256	224	E B 252
9	E B 250	E A 232	E B 260	E B 258	228	E B 244	208	206	194	210	208	202	H 176	176	214	216	202	224	204	188	196	E A 234	E B 266	E A 292
10	E B 258	E B 240	216	210	212	E B 234	206	206	196	206	194	190	196	172	188	206	E A 228	218	196	200	A	E A 246	E A 258	E B 272
11	E B 244	E B 258	214	E B 264	E B 252	E B 240	196	206	210	204	180	180	A	200	210	A	A	218	204	182	A	E A 286	E A 316	E A 314
12	E B 276	E B 262	E A 262	E B 256	218	212	200	214	196	A	198	A	186	206	222	226	206	212	204	208	198	228	E B 256	E B 252
13	E B 248	E B 238	E B 236	E B 250	216	210	208	206	200	202	182	182	168	180	196	218	208	220	E A 266	E A 244	226	212	E A 244	E B 262
14	E B 234	E A 286	E B 272	E B 264	210	210	206	210	204	198	200	182	222	E A 246	222	A	210	E A 230	218	212	194	E A 240	E A 262	E B 268
15	E B 242	224	E B 246	E B 254	224	204	202	202	210	206	198	180	206	226	216	194	208	214	216	196	194	E B 238	E B 244	E B 260
16	E B 262	E B 248	E B 268	E B 262	E B 244	E B 238	216	206	198	200	192	174	210	202	188	220	216	212	216	200	206	228	E A 254	E B 254
17	E B 252	E B 230	E B 236	E B 244	214	E B 234	202	202	204	190	194	186	172	168	A	204	A	214	208	200	192	222	E B 266	E B 274
18	E A 256	E B 238	216	226	204	214	212	214	210	198	210	214	204	A	A	A	A	A	210	194	210	E B 274	E B 270	E B 238
19	E B 230	214	216	E B 254	212	E B 240	208	202	214	208	194	184	H 170	198	188	208	A	228	216	200	204	208	E A 268	E B 272
20	E B 262	E B 252	E B 258	E B 252	218	E B 232	208	208	200	210	198	188	H 160	218	206	198	214	222	E A 270	220	228	E A 266	E B 240	E B 232
21	222	218	E B 230	E B 268	E B 266	E B 246	208	208	196	198	196	192	186	172	E A 234	210	204	216	224	206	210	E B 252	E B 262	E B 272
22	E B 272	E B 252	E B 236	198	E B 238	E B 238	224	232	224	204	200	224	164	H 168	212	206	A	E A 232	216	210	208	E B 220	218	E B 242
23	E B 240	E B 246	E B 256	E B 246	218	212	H 170	212	208	208	198	198	196	190	188	212	198	218	214	208	218	220	E B 216	228
24	E B 230	E B 258	E B 246	E B 256	210	E B 228	206	212	210	204	196	180	170	H 204	184	204	218	232	224	206	204	214	E B 254	E B 248
25	E B 250	E B 242	E B 250	218	200	226	210	212	214	200	196	200	206	202	204	196	214	A	224	202	204	E A 302	E B 230	220
26	E A 242	E A 234	E B 246	E B 258	220	E B 250	208	H 190	210	200	188	220	A	186	184	200	222	214	214	208	E A 246	E A 280	E A 264	E B 228
27	224	E B 234	E B 234	E B 214	E B 234	E B 236	204	212	214	200	184	200	A	212	210	186	226	226	216	200	206	210	E B 248	E B 270
28	E B 264	E B 252	E B 248	E B 236	208	E B 244	202	224	216	210	216	204	A	194	210	E A 226	206	196	224	206	204	E B 246	E B 256	E B 270
29	E B 264	E B 244	E B 234	E B 232	196	E B 266	206	220	220	210	194	200	194	212	204	194	H 184	218	212	204	198	E B 246	E B 270	E B 284
30	E B 262	E B 252	E B 252	214	204	226	198	210	200	200	182	188	178	178	192	190	208	228	216	202	198	E B 238	E B 258	E B 270
31	E B 270	E B 258	E B 256	E B 242	200	226	200	216	206	208	198	194	188	A	206	188	234	210	210	206	194	E B 232	E B 264	E B 268
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	30	30	28	31	30	26	27	27	26	24	29	29	30	29	31	31	30
MED	E B 251	E B 243	E B 245	E B 248	213	E B 233	206	208	205	202	194	190	186	190	205	204	213	218	212	202	205	E 238	E B 256	E B 260
U Q	E B 264	E B 252	E B 256	E B 258	E B 228	E B 240	208	212	214	208	198	200	196	206	216	212	221	223	217	208	E 225	E 246	E B 264	E B 270
L Q	E 242	234	234	234	210	214	202	202	200	198	188	182	170	176	188	196	206	214	204	194	198	222	E B 242	E B 246

MAR. 2009 h′F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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								118	122	116	118	112	116	116	116	118	120	B						
2								C	C	C	114	114	112	112	118	118	122	120						
3								128	126	122	118	112	116	114	114	114	120	B						
4								118	120	118	118	114	118	114	114	116	A	B						
5								124	124	120	124	116	120	124	122	118	118	118						
6								118	120	C	114	114	114	114	116	118	122	B						
7								118	116	118	118	122	124	116	112	120	118	124						
8								126	126	124	A	114	118	116	118	114	116	116						
9								116	122	122	118	118	116	114	116	114	A	116						
10								126	128	A	A	A	A	A	116	A	A	A						
11								120	118	A	A	A	116	A	114	120	120	A						
12								120	120	120	A	A	A	A	120	A	A	118						
13								118	114	114	114	116	A	120	118	120	120	A						
14								126	116	116	114	A	114	A	A	A	A	B						
15								112	122	A	112	112	116	120	A	112	112	B						
16								120	122	A	A	A	118	114	118	A	120	118						
17								114	118	A	A	A	116	114	A	120	A	A						
18							B	120	120	A	A	A	A	A	A	A	A	A						
19							B	126	124	118	116	112	110	112	108	114	114	110						
20							B	118	122	118	A	114	A	114	118	116	112	A						
21							B	128	124	A	118	128	128	120	118	120	120	126						
22							B	128	124	110	A	118	114	116	116	120	122	114						
23							B	120	120	126	A	A	118	114	114	112	112	A						
24							B	122	120	118	118	A	A	116	A	114	110	112						
25							B	122	122	118	116	A	116	A	A	120	A	A						
26							B	120	126	122	118	A	A	A	A	118	A	A						
27							B	118	124	116	116	120	A	118	116	118	120	126						
28							E B 130	116	118	116	116	A	A	A	A	A	118	118						
29							B	126	126	120	120	116	116	A	116	116	122	128						
30							B	118	120	120	116	114	116	118	A	114	116	118						
31							B	110	116	120	118	114	A	A	A	118	116	126						
	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	30	30	22	21	19	21	21	21	25	22	16						
MED							E B 130	120	122	118	118	114	116	116	116	118	119	118						
U Q								126	124	120	118	118	118	118	118	120	120	125						
L Q								118	120	116	115	114	115	114	114	114	116	116						

MAR. 2009 h′E (KM)

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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	96	94	B	B	B	B	B	140	130	122	102	106	128	122	114	124	120	106	100	94	96	94	96	C
2	C	C	C	C	C	C	C	C	C	C	96	100	104	104	134	118	140	128		96	90	B	B	B
3	B	98	B	B	B	B	B	142	104	102	98	96	98	98	144	130	120	110	B	100	100	100	98	100
4	B	B	102	B	B	102	B	152	160	100	98	94	100	136	144	102	92	94	92	88	B	100	102	104
5	104	98	102	102	B	B	B	152	158	120	98	132	98	120	102	100	104	G	90	90	B	B	B	B
6	B	114	B	B	B	B	B	152	104	C	100	100	104	102	164	104	110	104	100	102	96	96	102	96
7	100	B	100	B	B	B	B	120	98	98	94	160	152	98	98	138	128	122	112	110	112	104	102	B
8	B	B	B	94	B	B	B	152	102	98	102	98	100	100	100	98	100	130	94	102	102	102	96	B
9	B	96	94	B	B	96	B	154	100	102	102	98	96	98	104	144	94	122	88	B	B	104	B	102
10	B	B	B	102	102	98	B	108	102	100	102	98	94	94	90	90	90	88	88	102	102	98	96	118
11	96	B	B	B	B	B	94	142	110	102	100	100	154	94	112	122	118	108	108	106	96	98	102	102
12	102	96	90	90	92	92	B	162	138	126	102	102	102	96	146	92	92	122	94	92	B	B	B	B
13	B	B	B	B	B	B	B	136	146	100	112	116	104	106	130	108	108	100	100	100	100	98	98	98
14	100	96	B	B	88	B	B	156	158	132	122	104	102	102	98	94	98	100	98	96	94	100	104	102
15	100	104	104	B	B	B	B	132	116	100	98	98	152	150	96	96	92	110	96	92	92	94	B	104
16	B	B	B	B	B	B	B	138	120	106	104	102	154	104	138	96	130	112	104	106	98	92	96	84
17	90	B	B	B	B	98	148	150	136	106	100	100	94	98	94	100	88	88	86	86	90	90	98	90
18	90	B	94	B	B	98	142	146	122	104	104	102	102	96	92	94	94	92	90	110	90	92	88	84
19	B	B	96	B	104	B	B	148	104	118	102	104	106	90	88	92	130	126	92	92	88	90	102	102
20	B	B	B	B	B	B	134	148	104	100	104	98	98	152	96	116	114	100	102	100	92	94	B	92
21	B	B	B	B	B	B	140	126	102	106	102	104	102	98	102	100	108	148	B	92	98	B	B	B
22	B	88	B	92	B	B	126	134	138	116	102	104	100	98	96	94	130	116	110	86	102	B	B	B
23	B	B	100	100	98	B	B	162	144	122	104	102	102	98	142	94	88	84	86	92	90	B	B	B
24	B	B	B	90	100	B	140	144	150	104	114	98	98	100	96	94	98	118	B	94	B	B	B	B
25	B	B	B	B	B	94	138	142	124	112	110	106	102	106	102	112	102	102	88	92	92	94	100	98
26	102	106	102	102	B	98	132	106	100	102	118	104	94	98	102	100	96	92	104	104	100	94	98	102
27	96	98	B	B	96	100	126	122	126	126	104	112	98	100	94	96	108	102	B	90	94	B	B	B
28	B	B	B	B	B	B	154	158	156	104	112	106	102	102	98	98	98	124	B	B	98	96	90	90
29	92	B	B	B	B	B	146	150	148	124	120	110	102	100	96	96	102	106	B	B	94	B	B	B
30	B	B	B	B	B	96	138	162	106	140	100	106	100	98	98	98	98	136	92	90	B	B	B	B
31	B	B	B	B	B	B	146	150	154	108	116	116	108	100	104	104	108	132	B	B	B	116	B	B
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	12	11	10	8	7	10	14	30	30	29	31	31	31	31	31	31	31	30	23	27	24	21	17	17
MED	98	98	100	97	98	98	139	147	123	106	102	102	102	100	102	100	102	109	94	94	96	96	98	100
U Q	101	104	102	102	102	98	146	152	146	121	110	106	104	104	130	112	118	122	102	102	100	100	102	102
L Q	94	96	94	91	92	96	132	136	104	101	100	98	98	98	96	94	94	100	90	92	92	94	96	91

IONOSPHERIC DATA STATION Kokubunji

MAR. 2009 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	F 2	F 2						HL 21	HL 22	CL 12	L 2	L 1	CL 11	CL 11	CL 21	CL 21	CL 22	L 3	F 4	F 3	F 2	F 2	F 2	
2											L 1	L 2	L 2	L 2	HL 11	CL 11	HL 11	C 2		F 1	F 1			
3		F 1						H 3	L 2	L 2	L 2	L 2	L 2	L 2	HL 11	CL 11	CL 11	C 3		F 1	F 2	F 4	F 2	F 2
4			F 1			F 2		H 2	HL 12	L 2	L 2	L 1	L 1	HL 12	HL 12	L 1	L 3	L 2	F 3	F 1		F 3	F 2	F 2
5	F 3	F 2	F 2	F 1				H 2	HL 22	CL 12	L 2	HL 12	L 1	CL 11	L 2	L 2	L 2		F 1	F 1				
6		F 2						H 2	L 2		L 2	L 2	L 2	L 2	HL 12	L 2	L 2	L 2	F 2	F 2	F 3	F 2	F 3	F 3
7	F 5		F 2					C 2	L 2	L 2	L 2	HL 12	HL 12	L 1	L 1	HL 12	CL 22	C 2	FF 32	FF 32	F 2	F 3	F 3	
8				F 1				H 2	L 2	L 2	L 2	L 2	L 1	L 1	L 2	L 2	L 2	CL 21	F 1	F 2	F 2	F 3	F 3	
9		F 2	F 2			F 1		H 2	L 2	L 2	L 2	L 1	L 1	L 2	L 2	HL 11	L 2	CL 12	F 3			F 2		F 2
10				F 1	F 2	F 1		L 3	L 2	L 2	L 2	L 2	L 2	L 2	L 2	L 2	L 3	L 3	F 3	FF 23	F 4	F 4	F 2	F 1
11	F 1						F 1	H 1	CL 22	L 2	L 2	L 2	HL 11	L 2	CL 11	CL 21	CL 22	L 3	F 5	F 1	F 6	F 5	F 4	F 3
12	F 3	F 2	F 4	F 2	F 2	F 1		HL 21	HL 22	CL 22	L 2	L 2	L 2	L 2	HL 12	L 2	L 2	CL 11	F 1	F 2				
13								H 2	HL 12	L 2	CL 11	CL 11	L 2	L 2	CL 11	L 2	L 2	L 4	F 4	F 3	F 5	F 3	F 5	F 2
14	F 3	F 2			F 3			HL 22	HL 22	CL 22	CL 12	L 2	L 2	L 2	L 2	L 2	L 2	L 3	F 3	F 3	F 1	F 2	F 2	F 2
15	F 2	F 2	F 1					H 2	CL 22	L 2	L 2	L 2	HL 12	HL 12	L 2	L 2	L 2	CL 22	F 3	F 2	F 2	F 2		F 1
16								C 2	CL 22	L 2	L 2	L 2	HL 12	L 2	HL 12	L 2	CL 12	C 2	F 1	F 1	F 2	F 2	F 2	F 2
17	F 2					F 1	F 2	H 2	HL 12	L 2	L 2	L 2	L 2	L 2	L 2	L 2	L 3	L 3	F 4	F 5	F 3	F 3	F 2	F 2
18	F 2		F 1			F 1	HL 21	HL 21	CL 22	L 2	L 2	L 2	L 2	L 2	L 3	L 3	L 3	L 2	F 4	FF 23	F 3	F 2	F 2	F 2
19			F 2		F 1			HL 12	L 2	CL 12	L 1	L 2	L 2	L 2	L 2	L 2	HL 12	CL 12	F 1	F 1	F 2	F 2	FF 23	FF 21
20							H 2	HL 22	L 2	L 2	L 2	L 2	L 1	HL 11	L 2	L 2	CL 22	L 3	F 4	F 3	F 3	F 3		F 1
21							H 3	CL 22	L 2	L 2	L 2	L 2	L 2	L 2	L 3	L 2	L 2	HL 12		F 2	F 1			
22		F 1		F 1			C 3	C 2	CL 22	CL 11	L 2	L 2	L 2	L 2	L 2	L 2	CL 11	CL 23	FF 22	F 2	F 3			
23			F 1	F 1	F 1			HL 21	HL 12	CL 12	L 2	L 2	L 2	L 1	HL 12	L 2	L 3	L 3	F 2	F 1	F 1			
24				F 2	F 1		H 3	HL 22	HL 12	L 2	CL 12	L 2	L 2	L 2	L 2	L 2	L 2	L 1		F 1				
25						F 1	H 3	H 2	CL 12	CL 22	CL 12	L 2	L 2	L 2	L 2	CL 12	L 2	L 3	F 2	F 2	F 4	F 4	F 2	F 2
26	F 2	F 2	F 2	F 2		F 2	HL 21	L 2	L 2	L 2	CL 11	L 2	L 2	L 2	L 2	L 2	L 2	L 2	F 2	F 2	F 2	F 2	F 3	F 2
27	F 2	F 2			F 1	F 1	C 2	CL 22	CL 22	CL 12	L 2	CL 12	L 2	L 2	L 3	L 2	L 2	L 2		F 2	F 1			
28							H 3	HL 22	HL 22	L 2	CL 12	L 2	L 2	L 2	L 2	L 2	L 2	C 1			F 1	F 2	F 2	F 2
29	F 2						H 3	HL 22	HL 12	CL 12	CL 12	CL 12	L 2	L 2	L 1	L 1	L 2	L 2			F 1			
30						F 1	H 2	HL 22	L 2	HL 12	L 2	L 2	L 2	L 2	L 2	L 2	L 2	H 2	F 1	F 1				
31							H 3	H 2	HL 22	L 2	CL 11	CL 11	L 2	L 2	L 2	L 2	L 2	CL 12				F 2		
	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. 2009 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

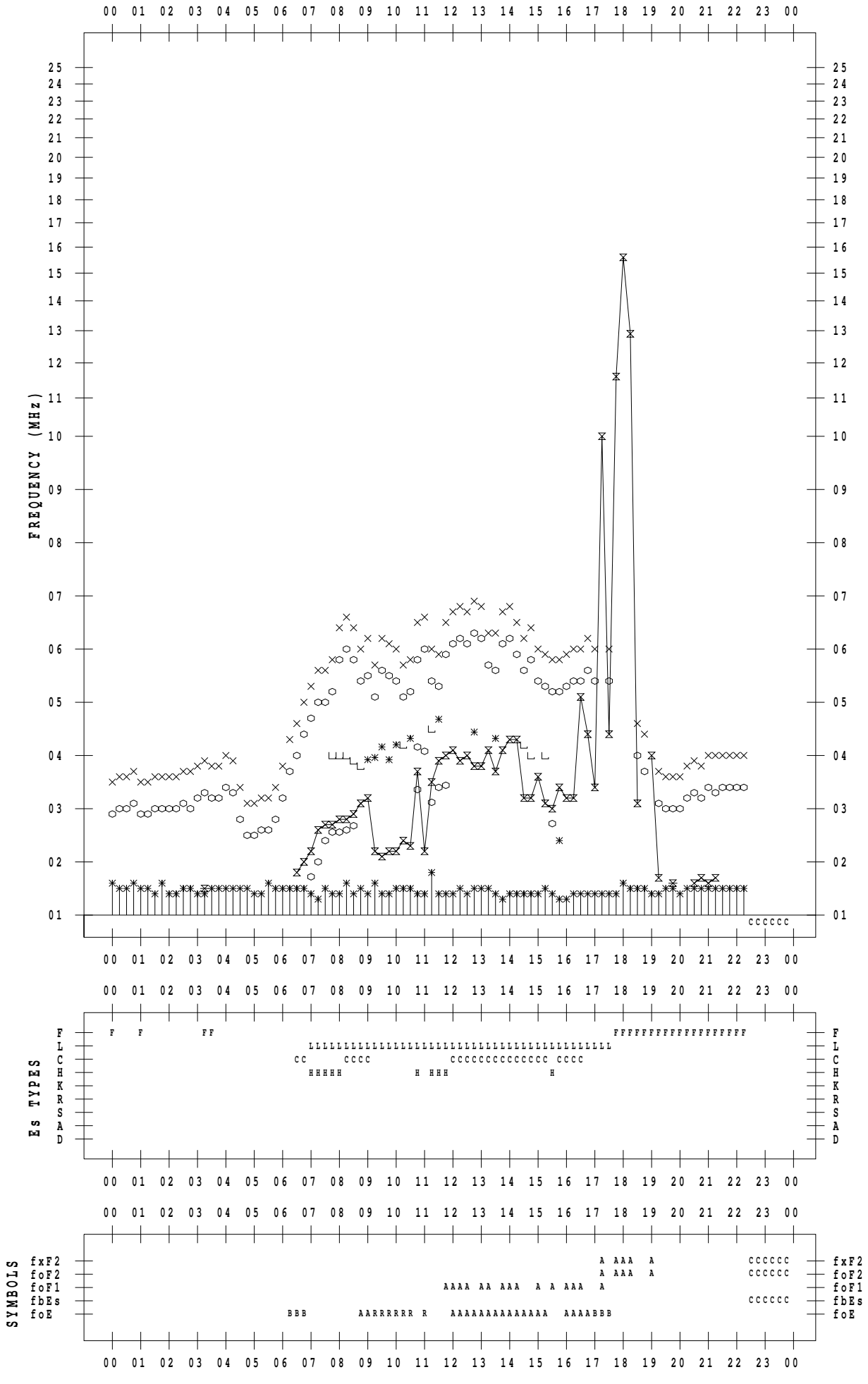
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/ 1

135 °E MEAN TIME



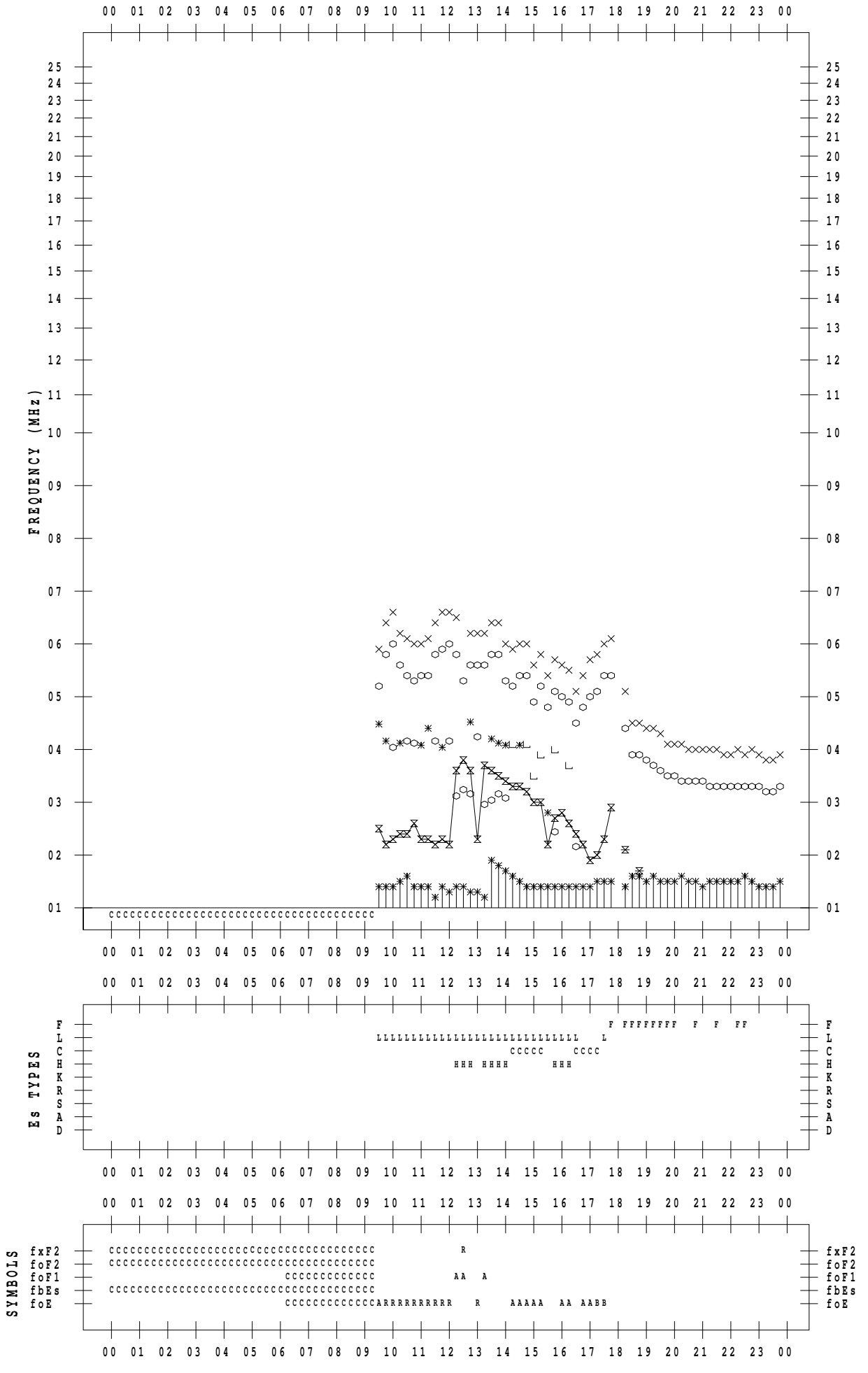
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/ 2

135 °E MEAN TIME



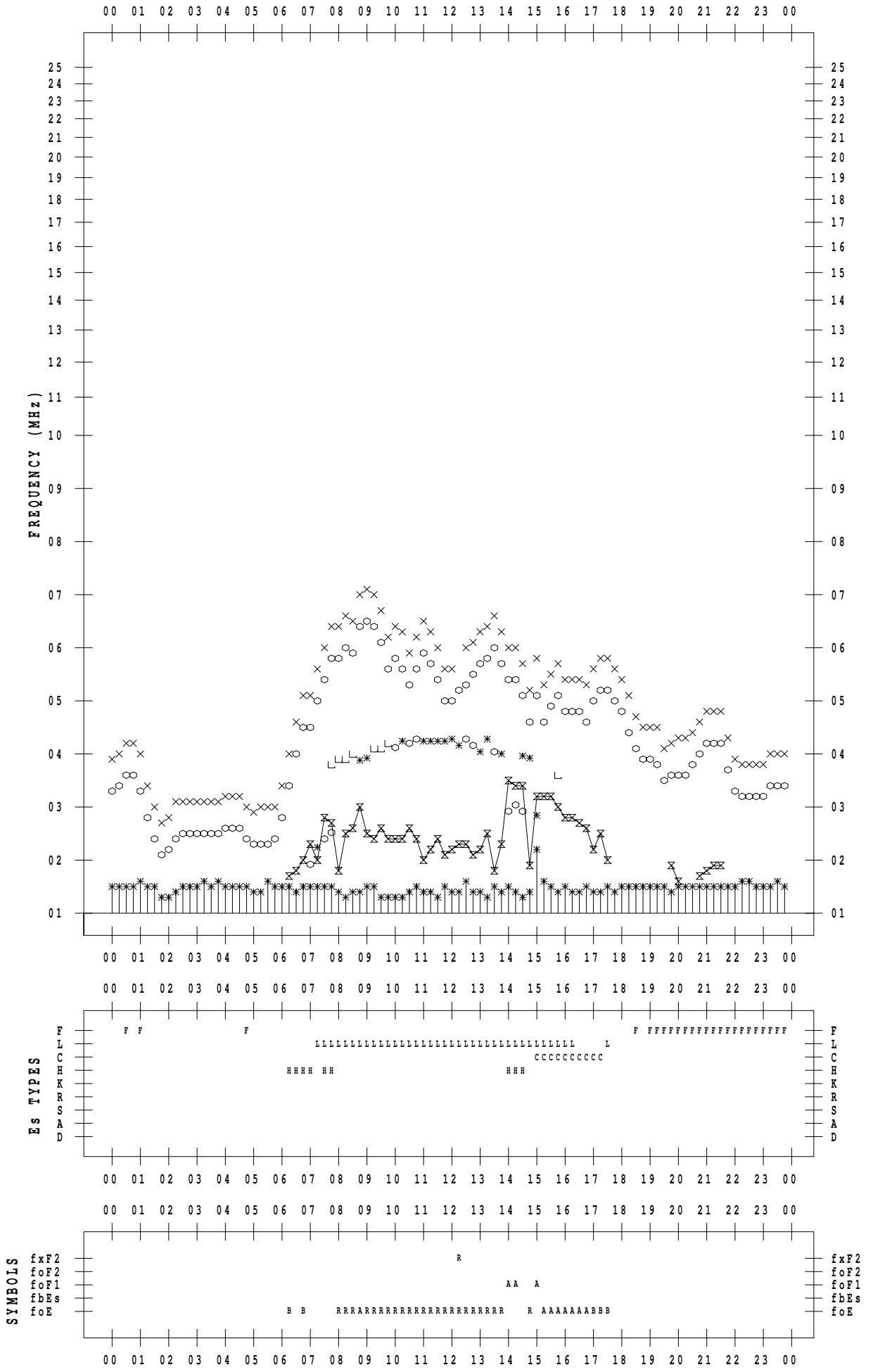
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/ 3

135 °E MEAN TIME



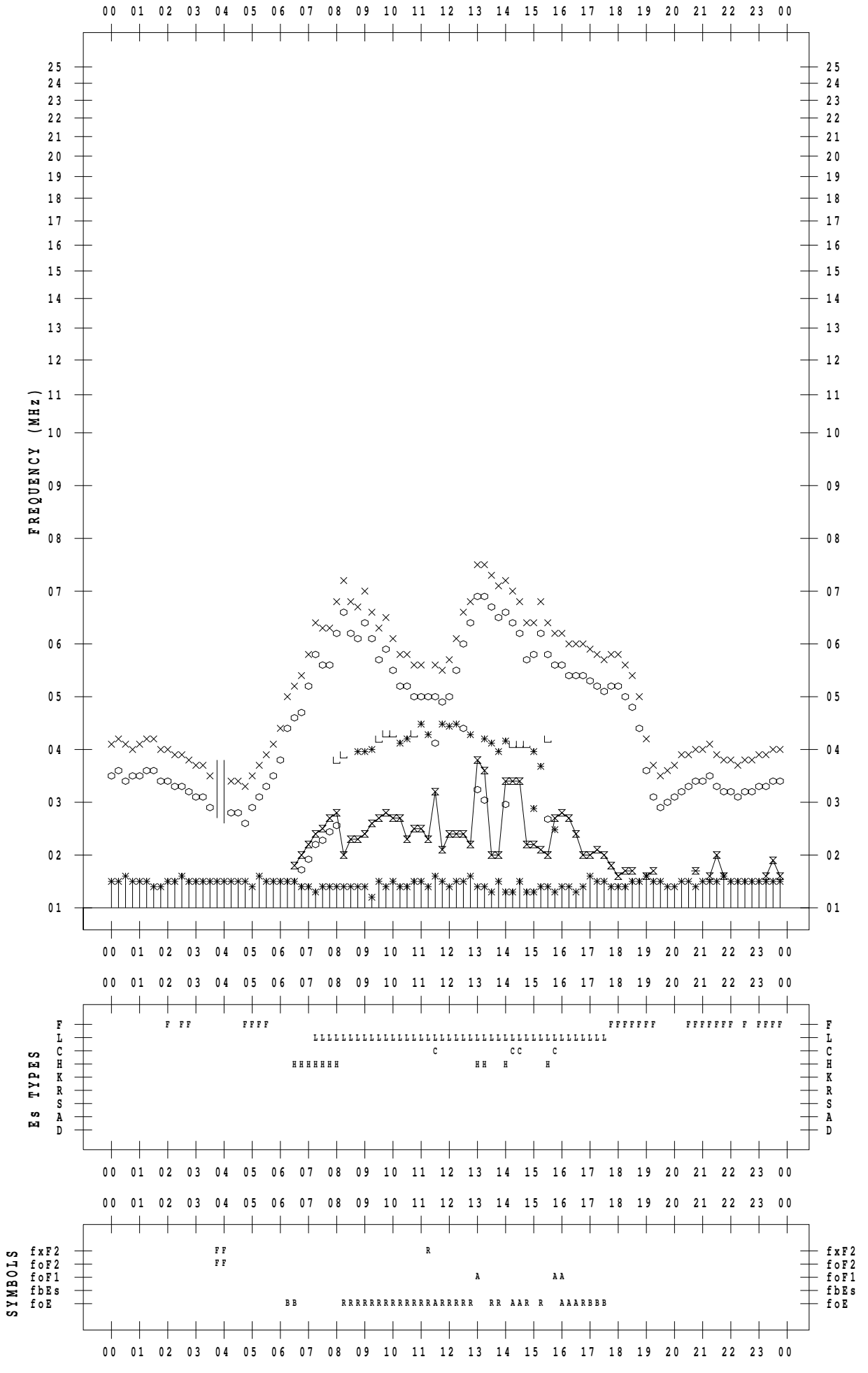
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/ 4

135 °E MEAN TIME



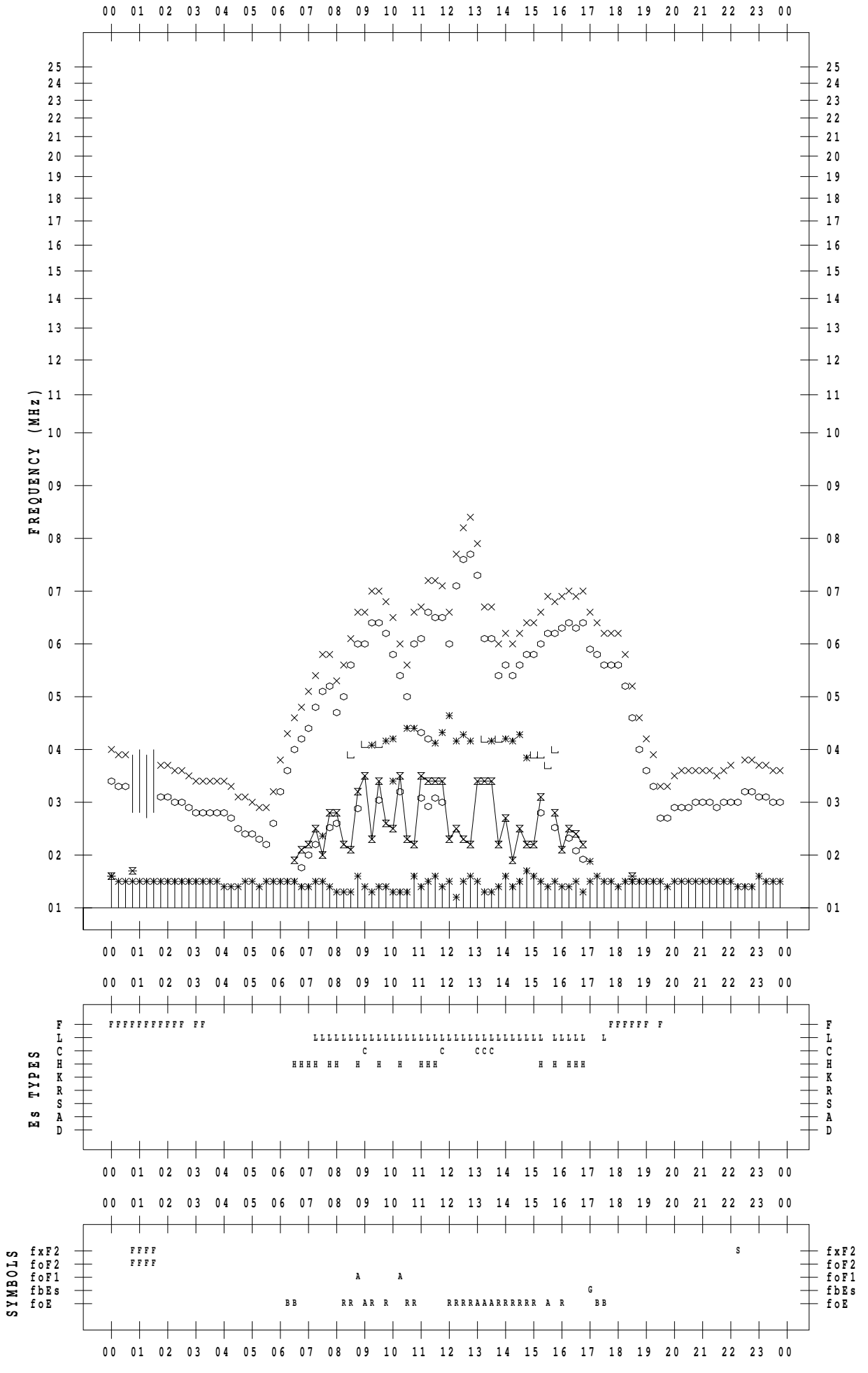
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/ 5

135 °E MEAN TIME



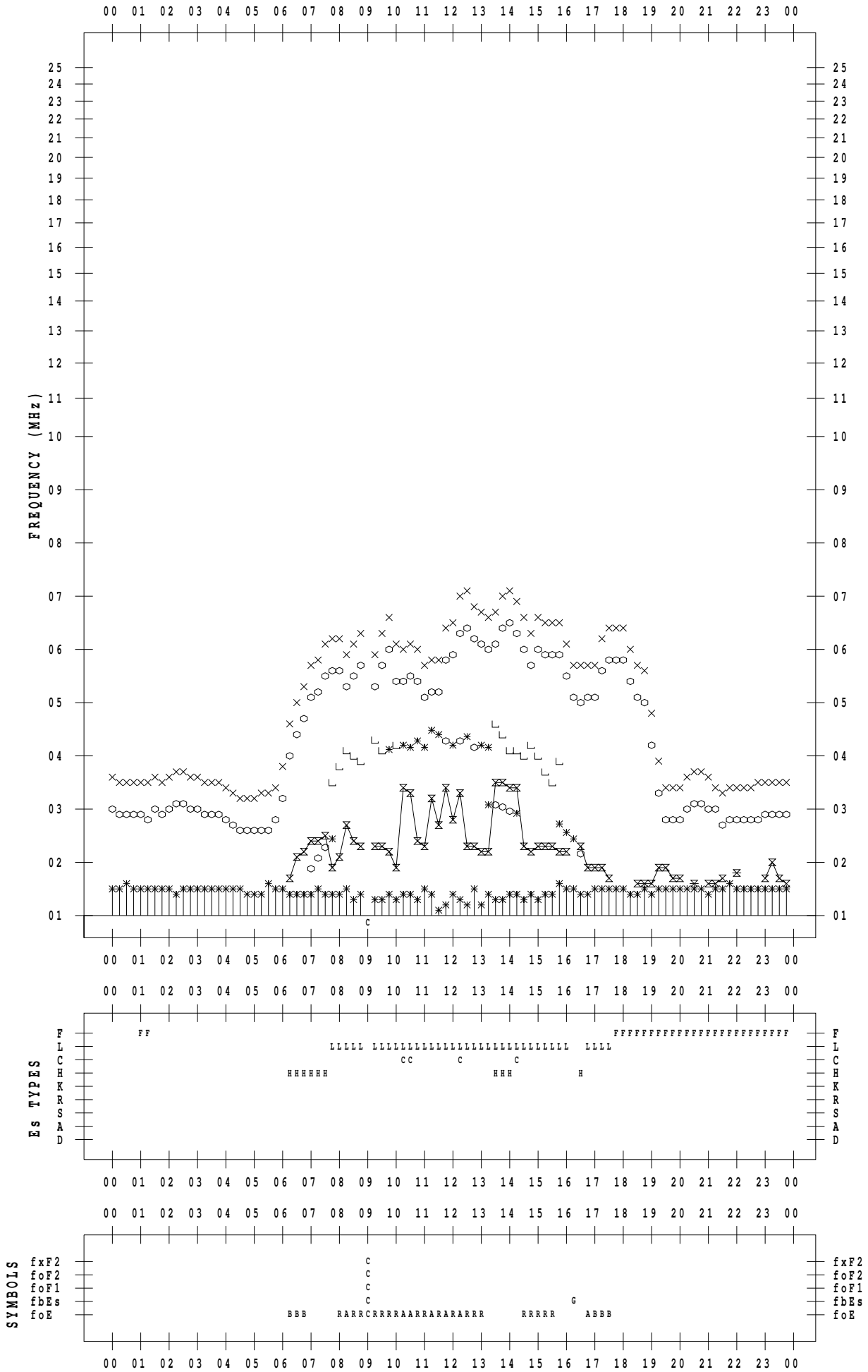
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/ 6

135 °E MEAN TIME



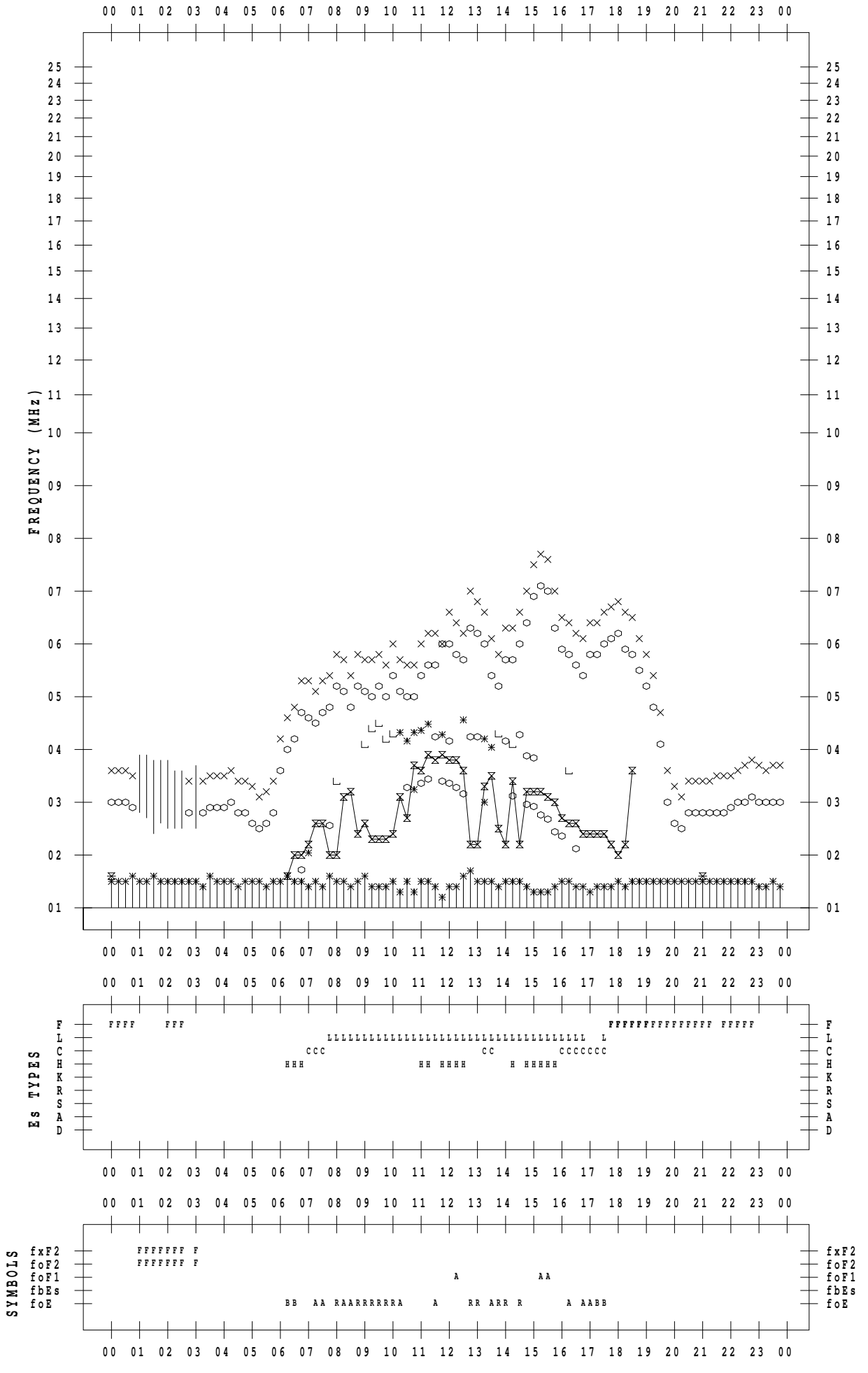
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/ 7

135 °E MEAN TIME



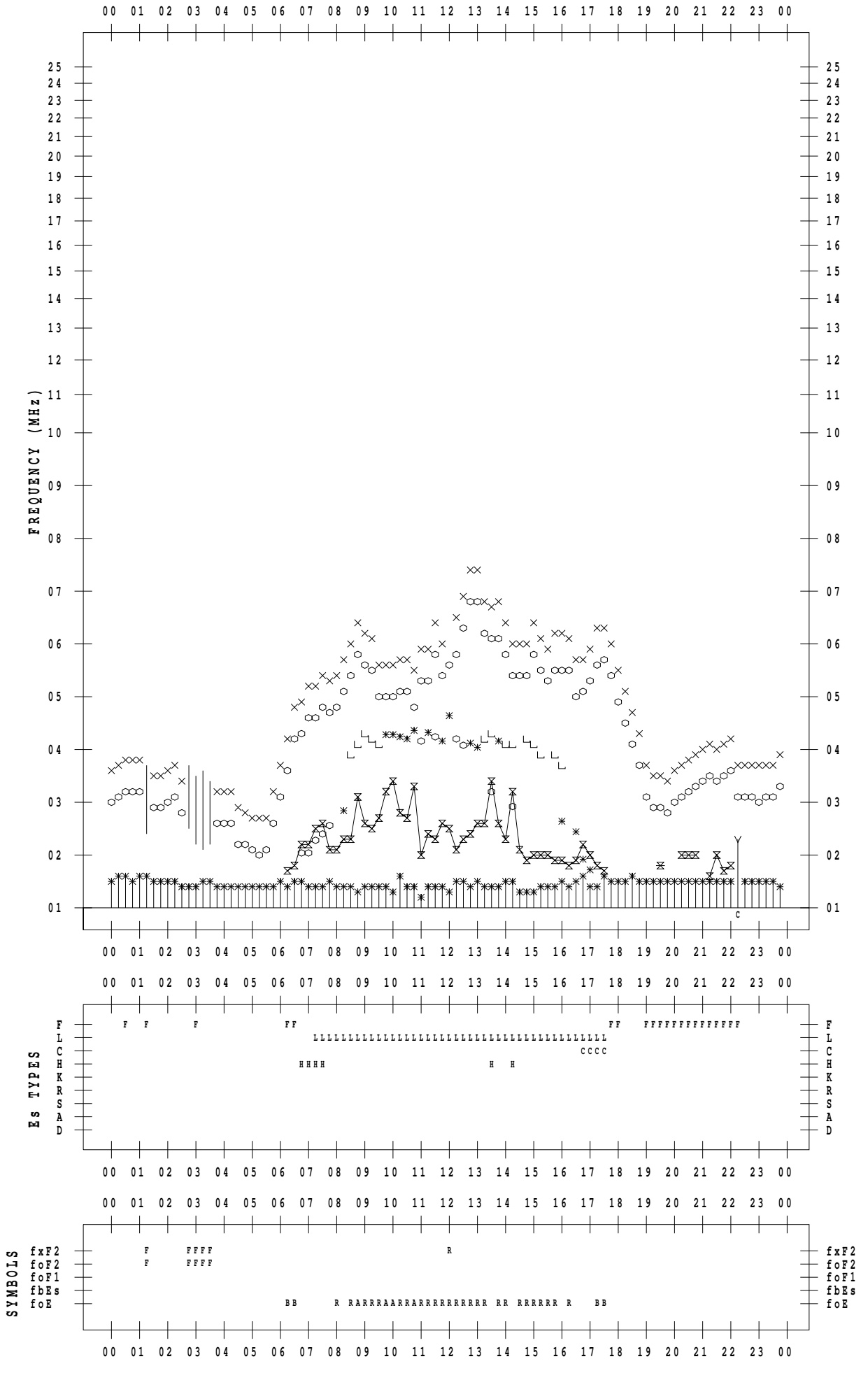
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/ 8

135 °E MEAN TIME



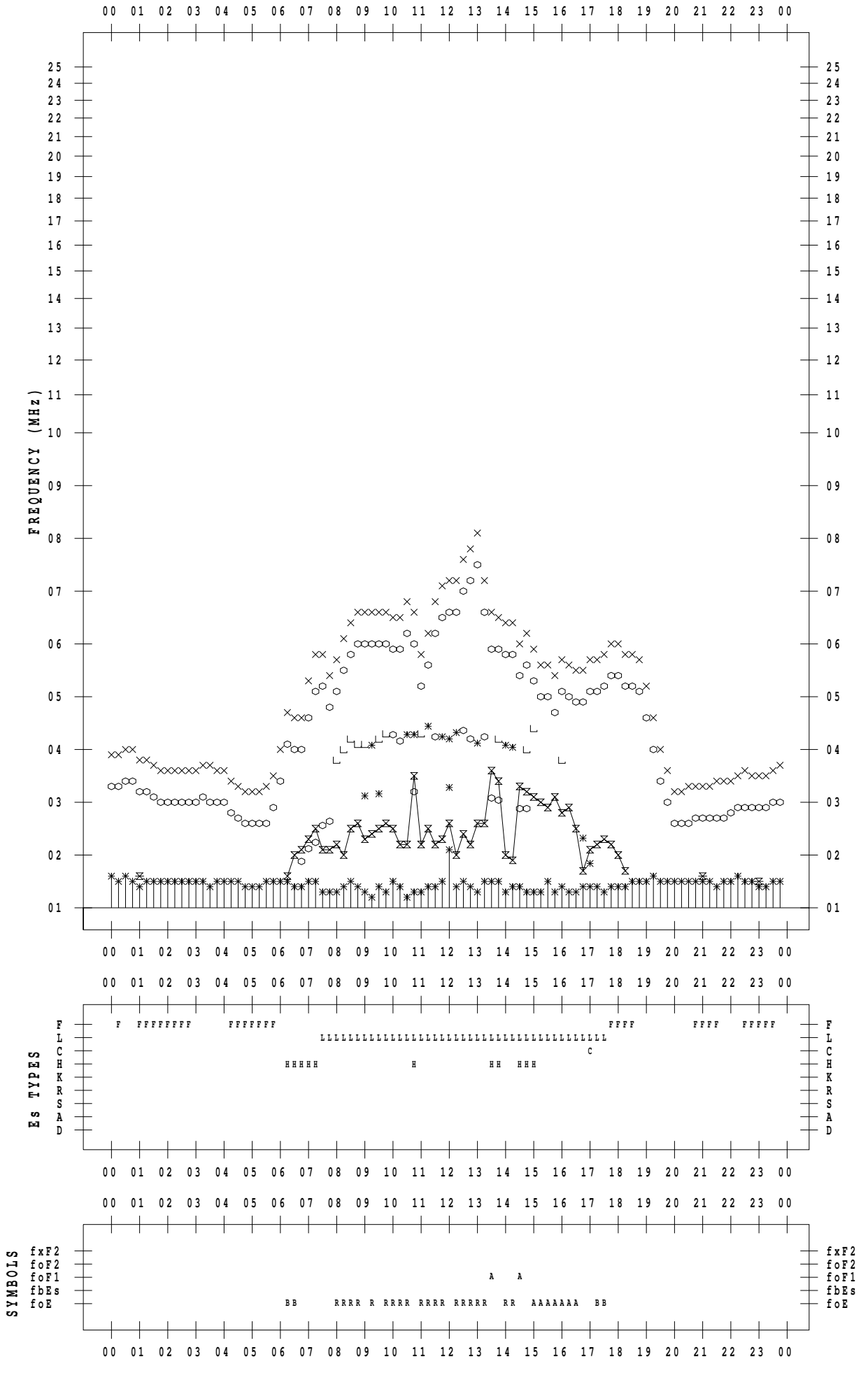
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/ 9

135 °E MEAN TIME



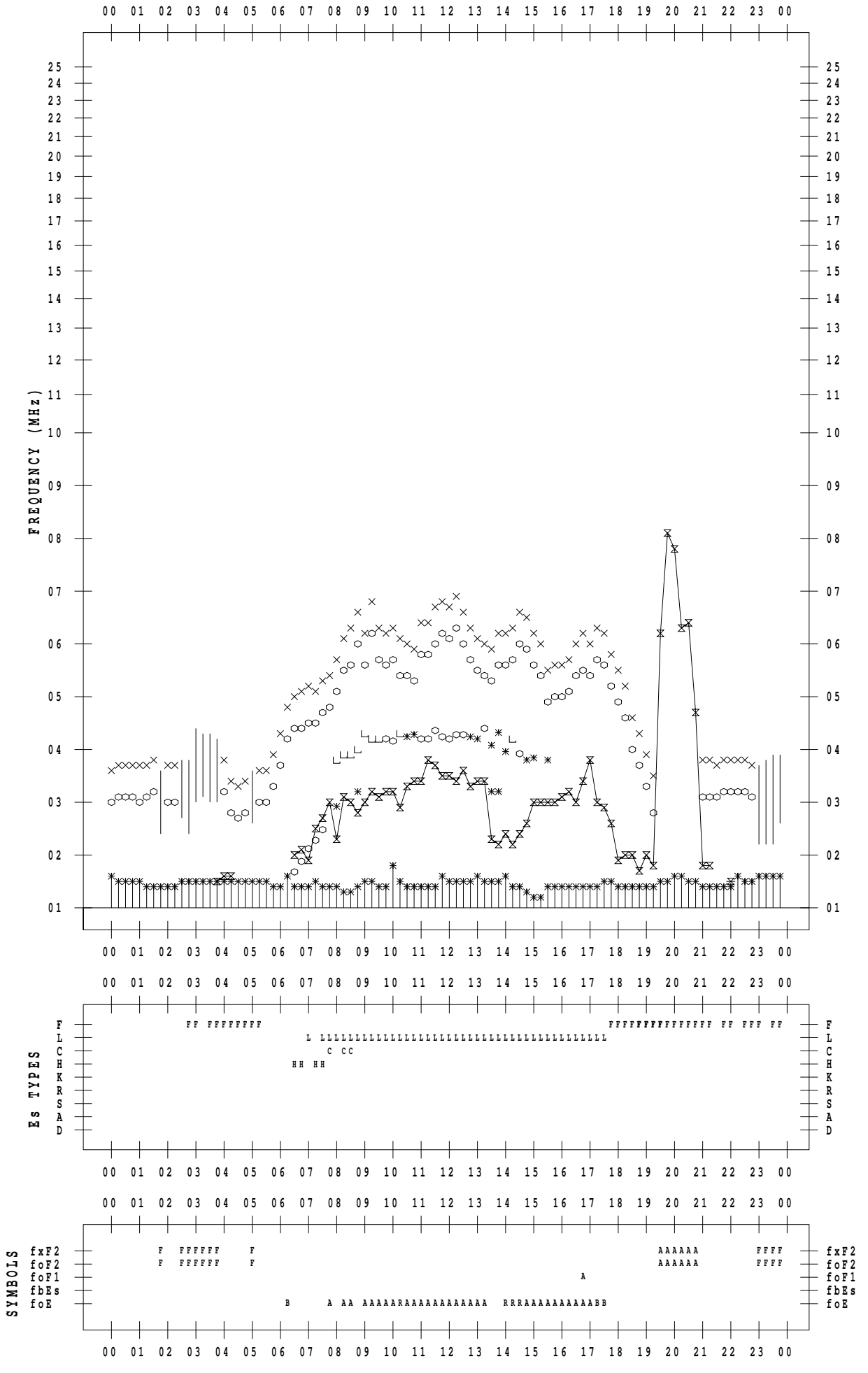
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/10

135 °E MEAN TIME



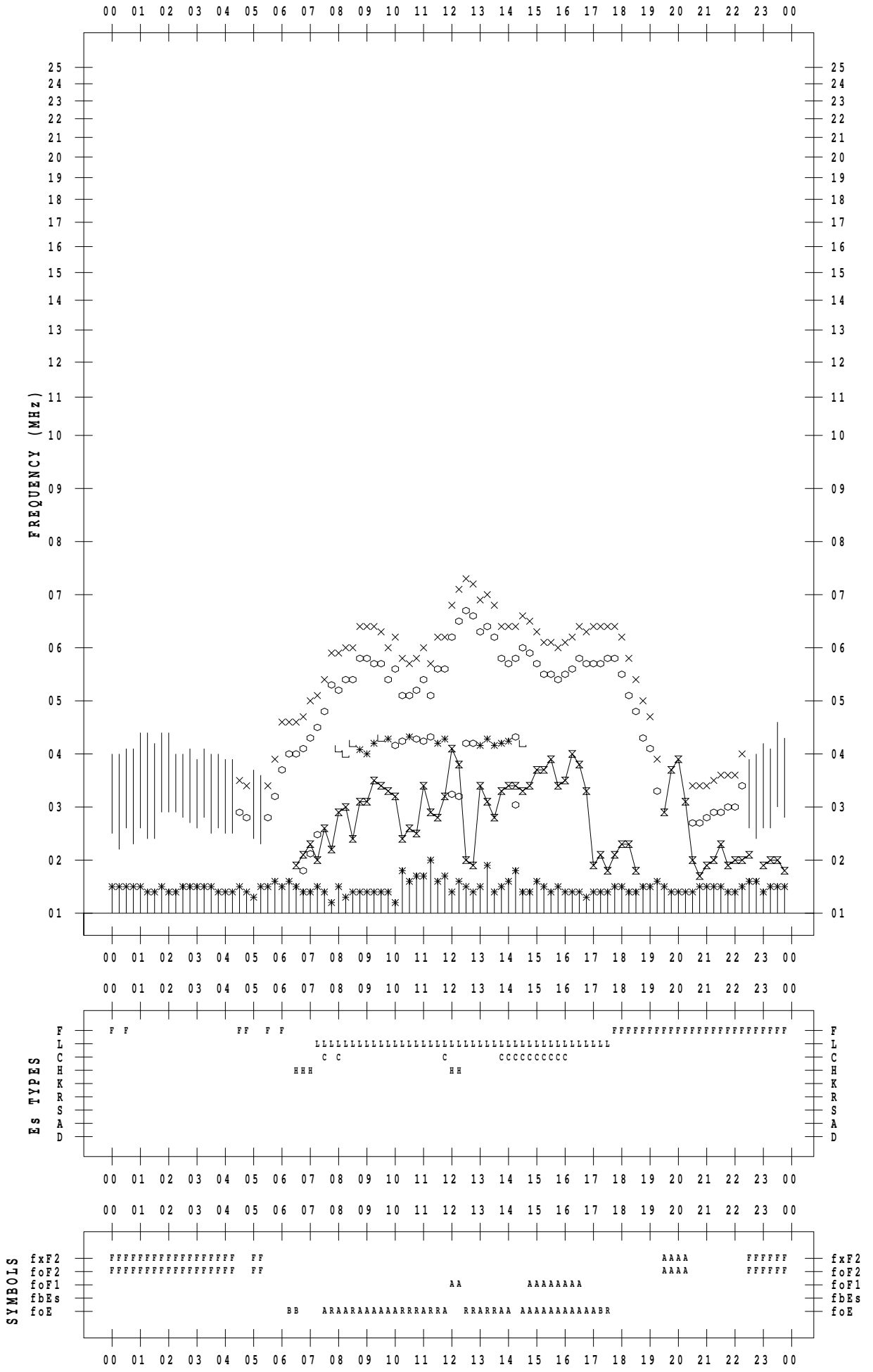
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/11

135 °E MEAN TIME



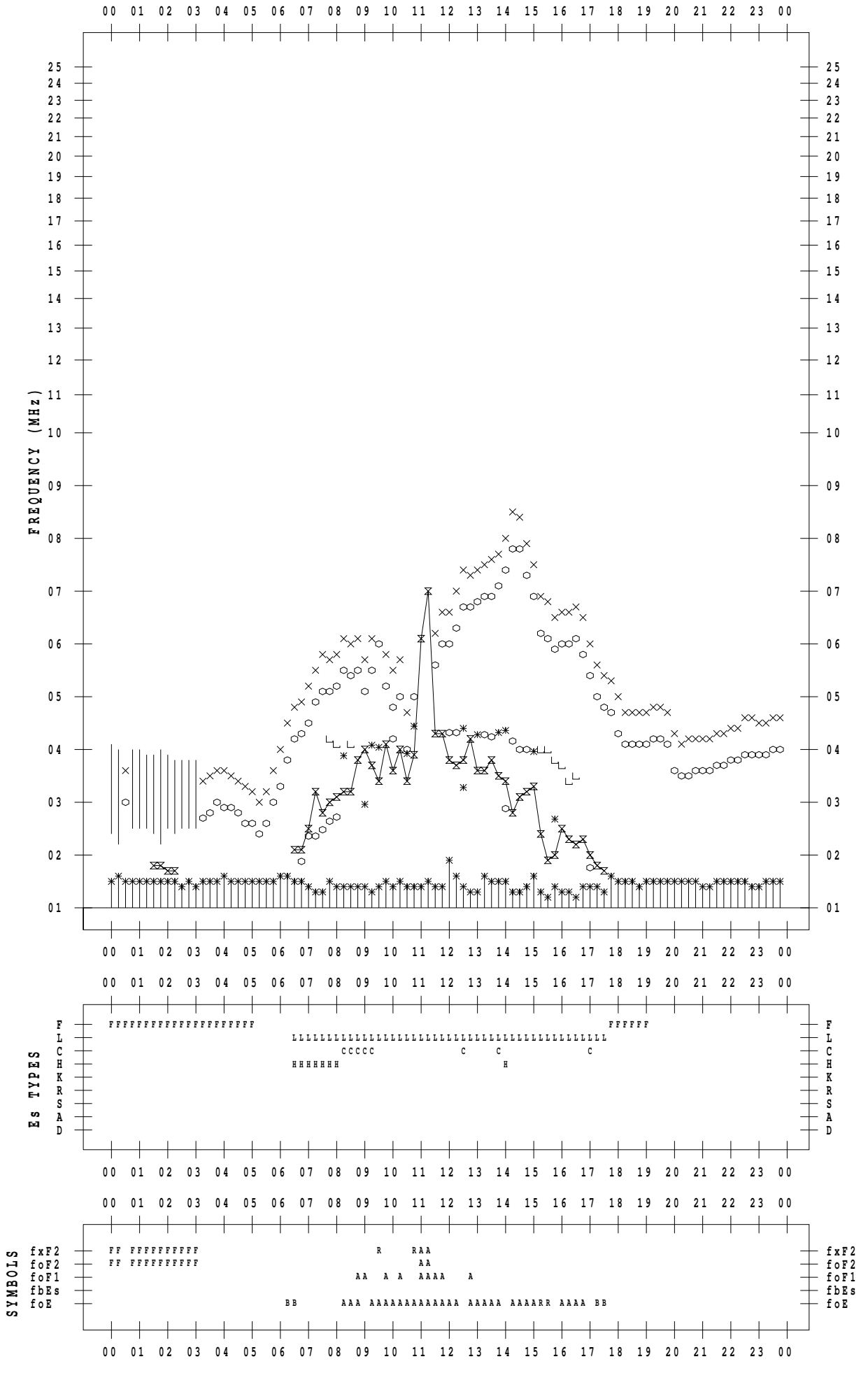
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/12

135 °E MEAN TIME



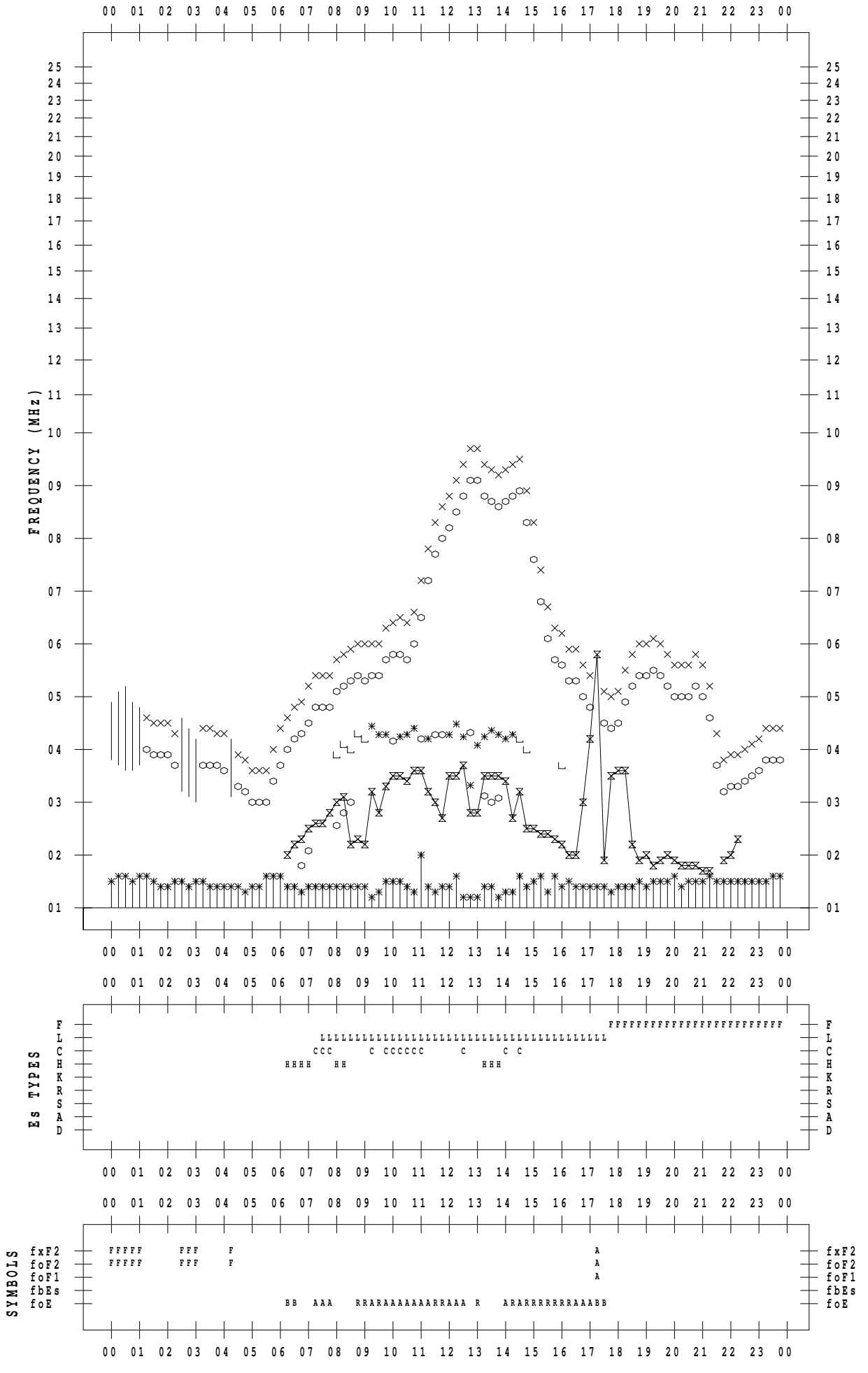
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/13

135 °E MEAN TIME



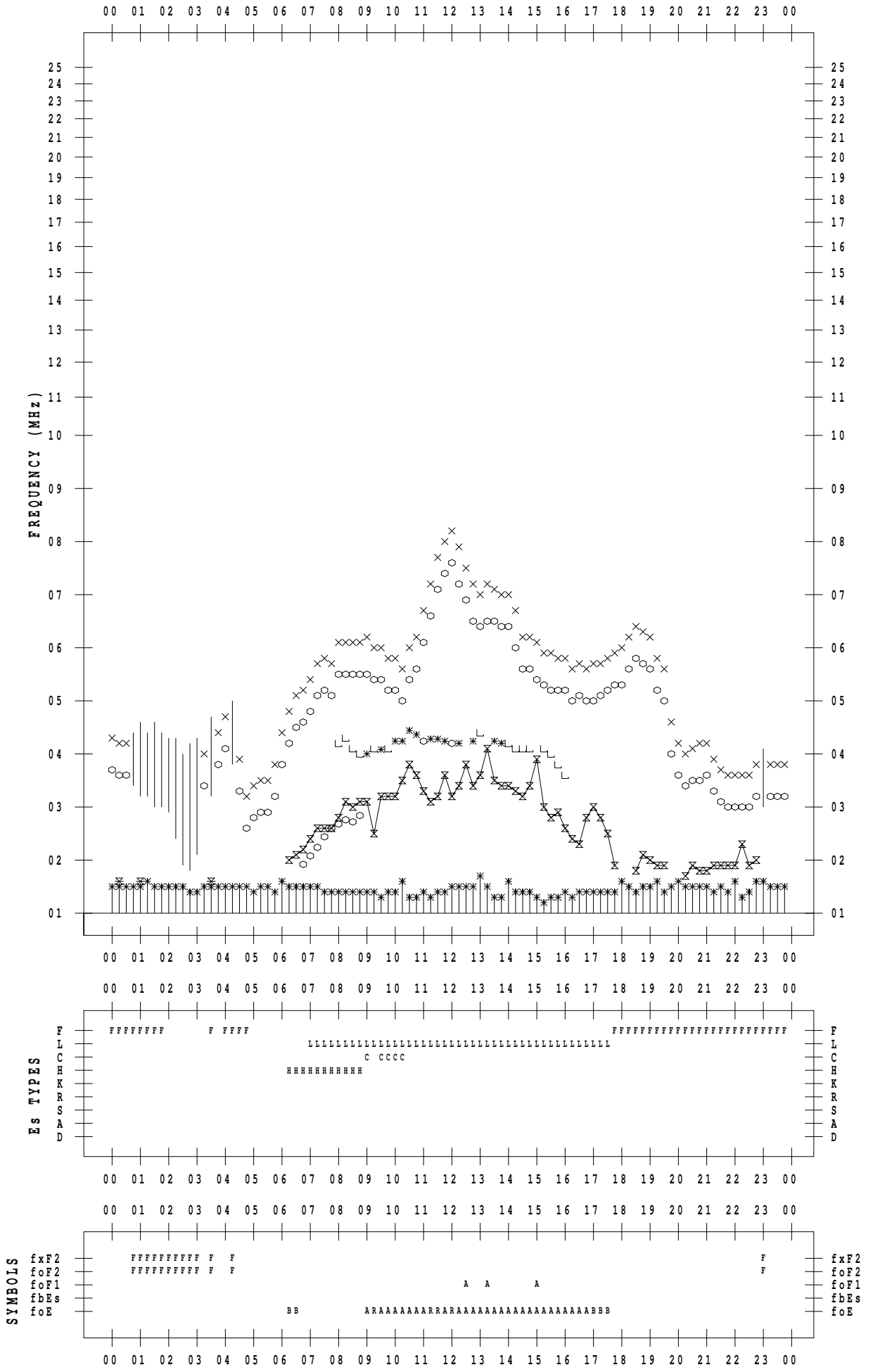
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/14

135 °E MEAN TIME



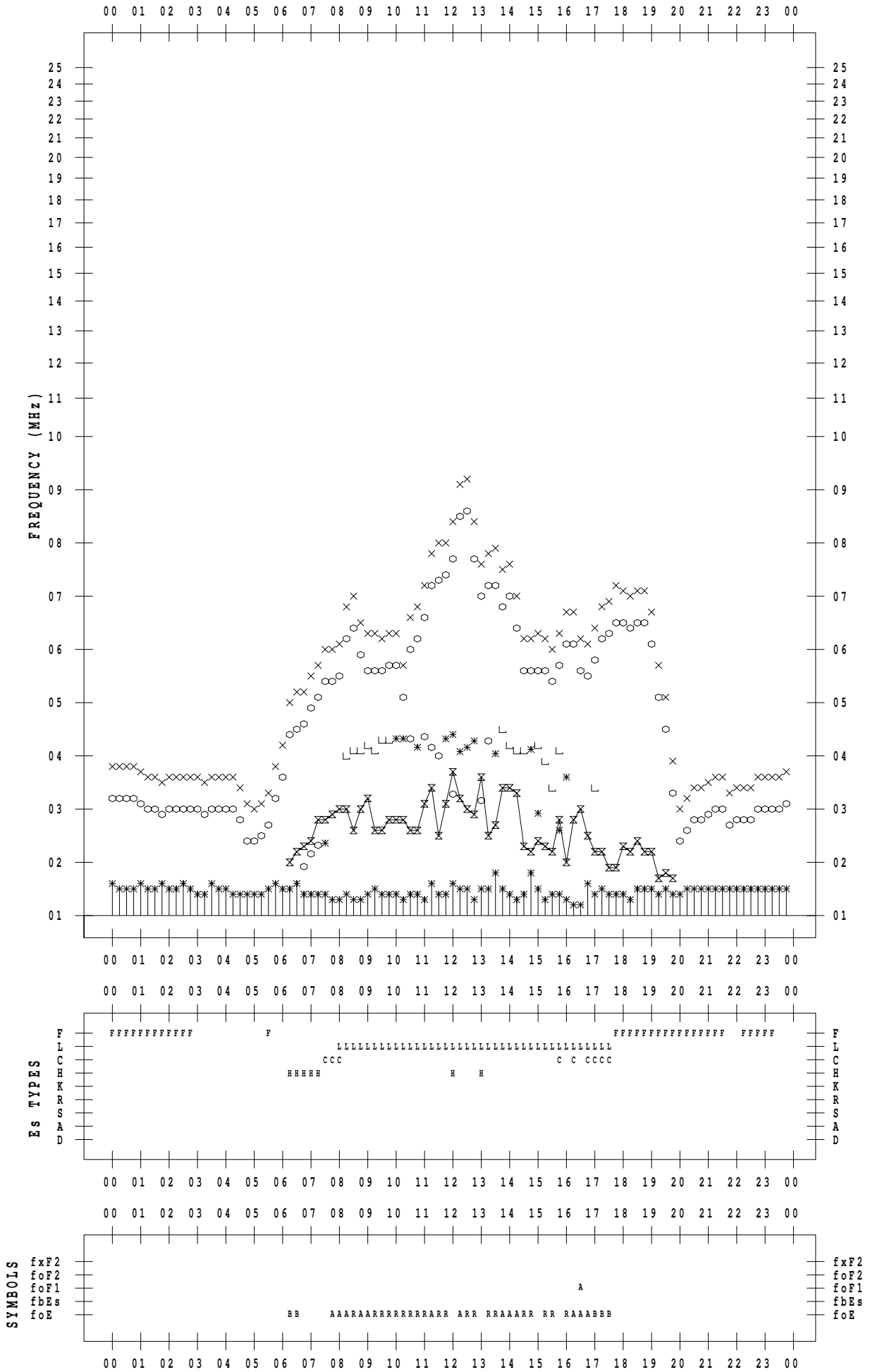
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/15

135 °E MEAN TIME



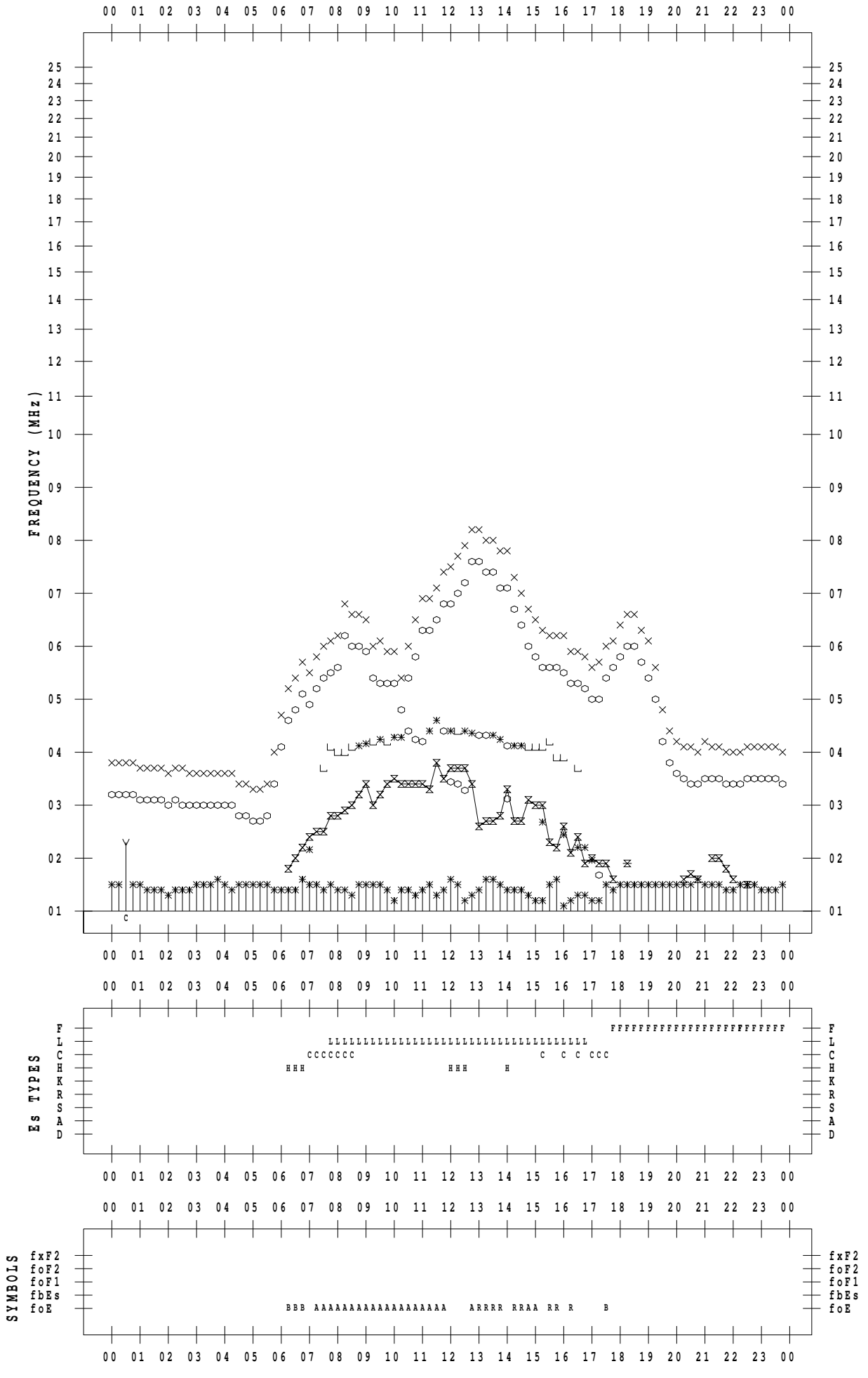
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/16

135 °E MEAN TIME



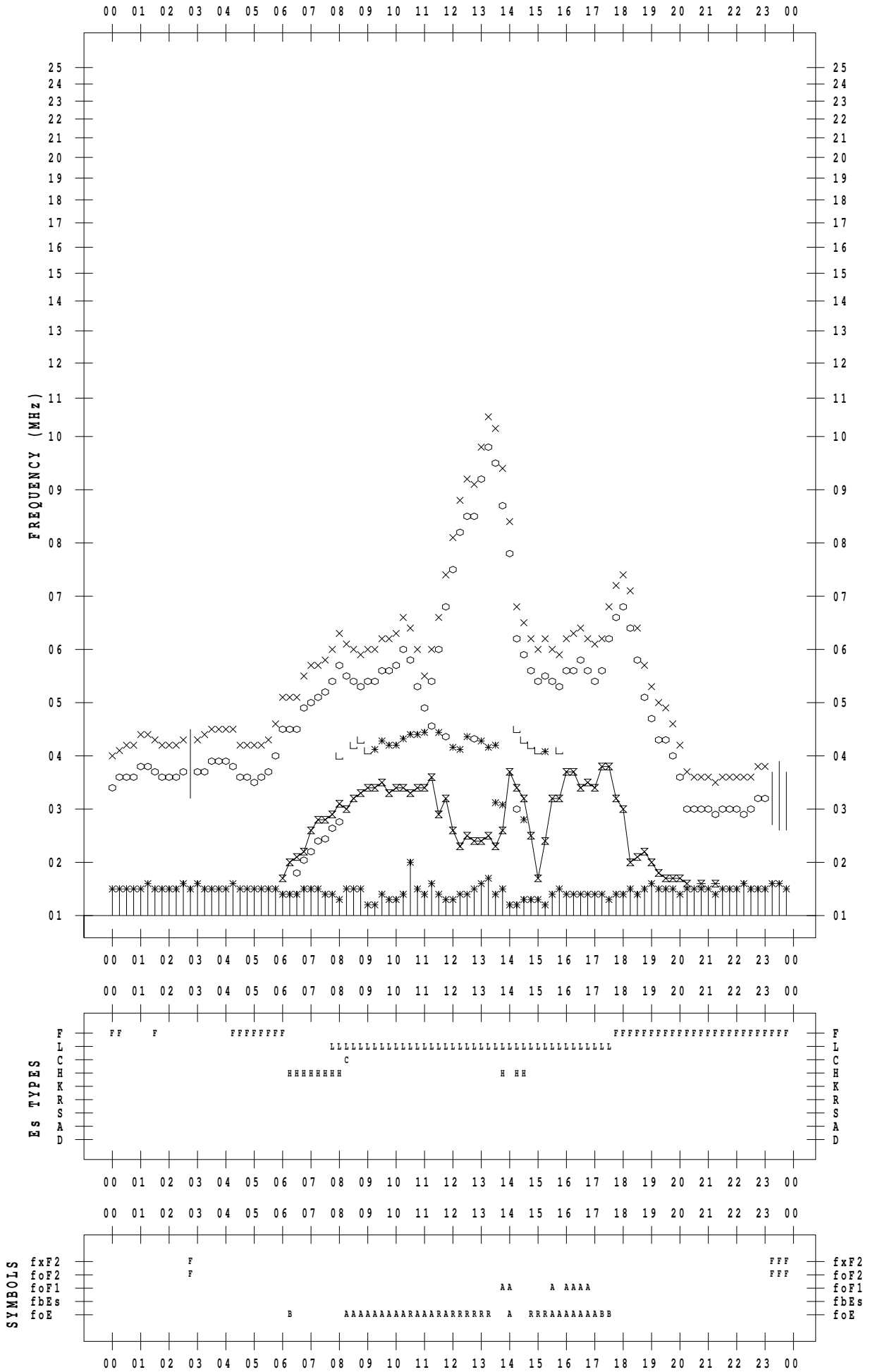
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/17

135 °E MEAN TIME



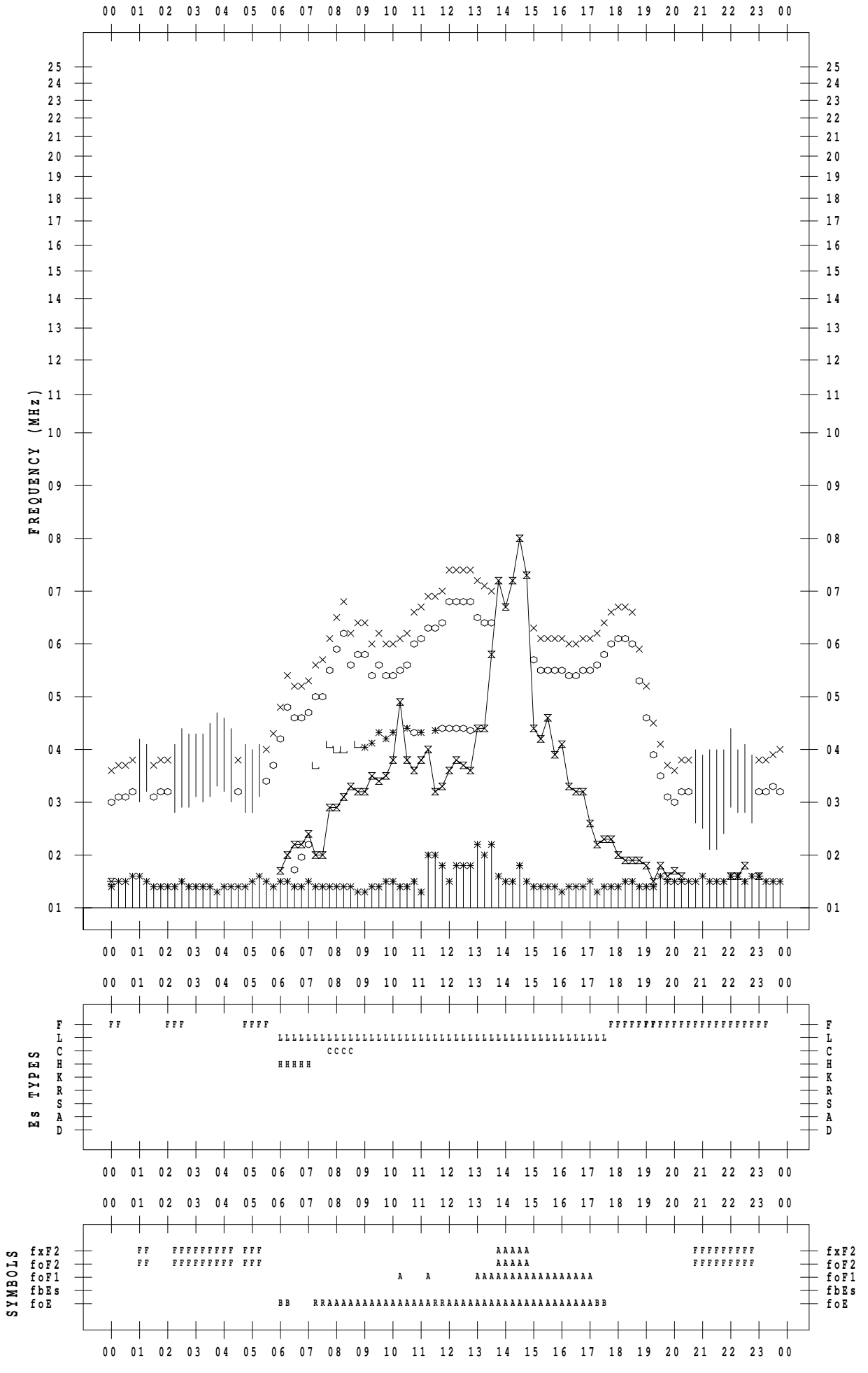
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/18

135 °E MEAN TIME



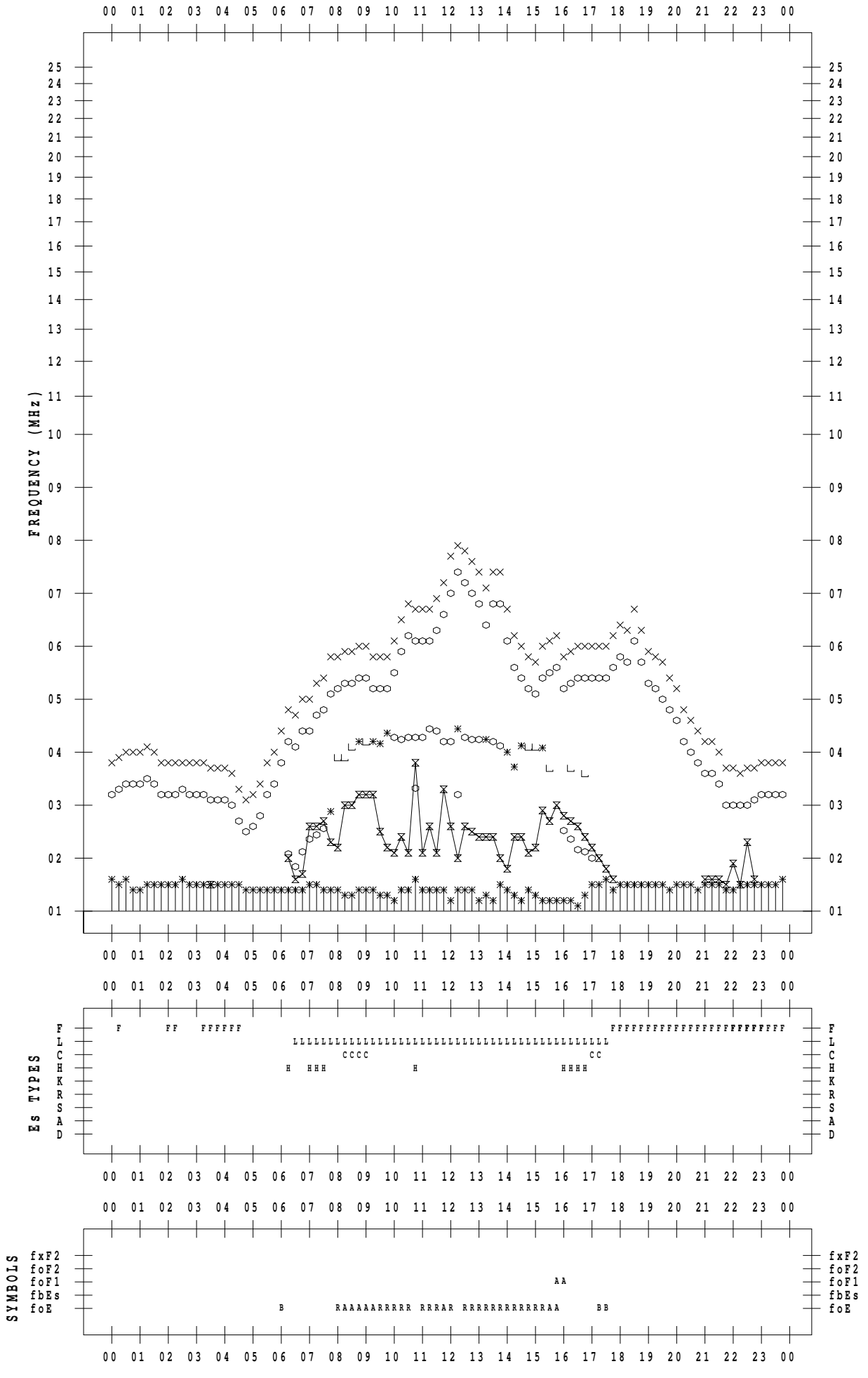
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/19

135 °E MEAN TIME



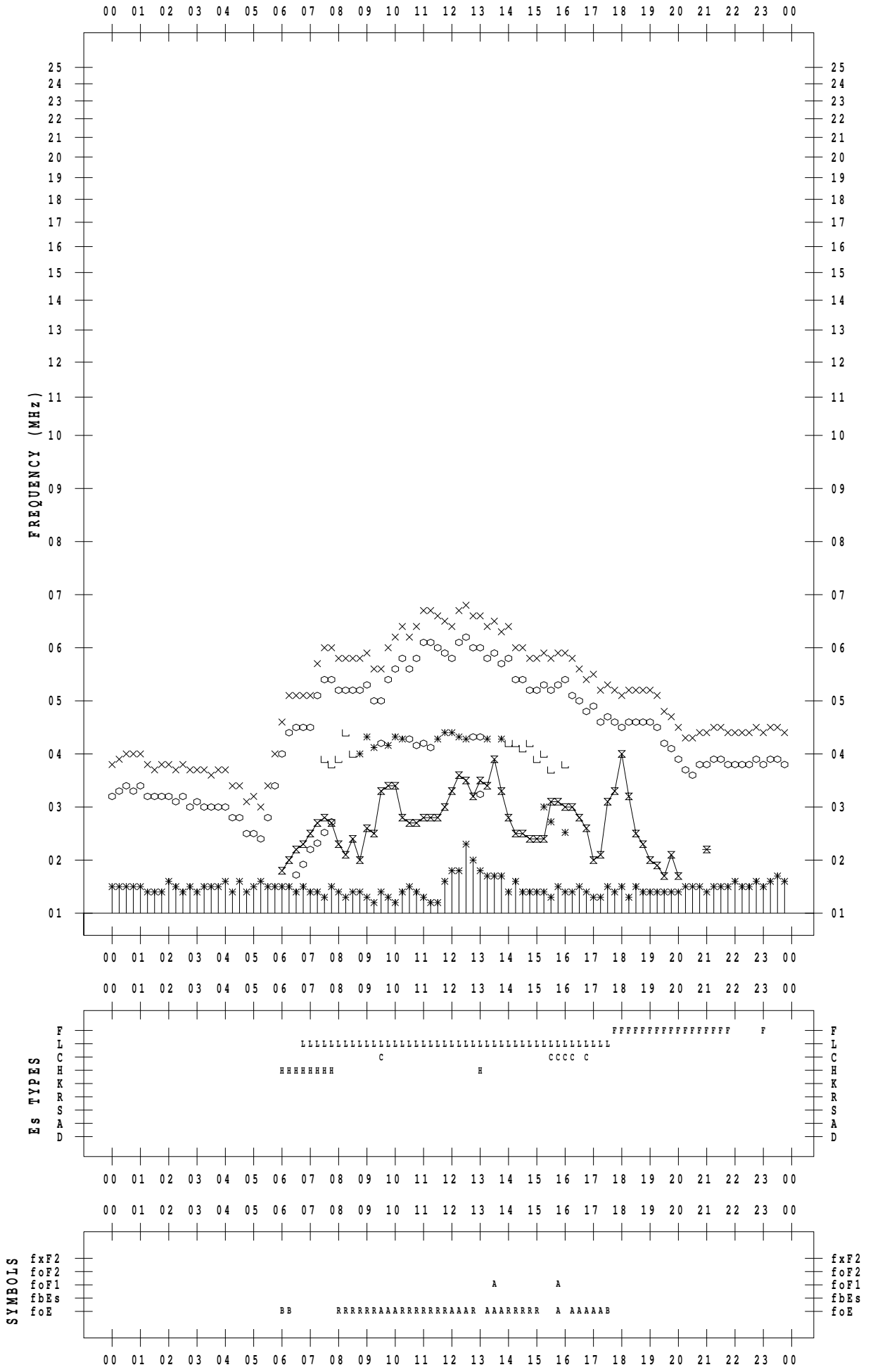
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/20

135 °E MEAN TIME



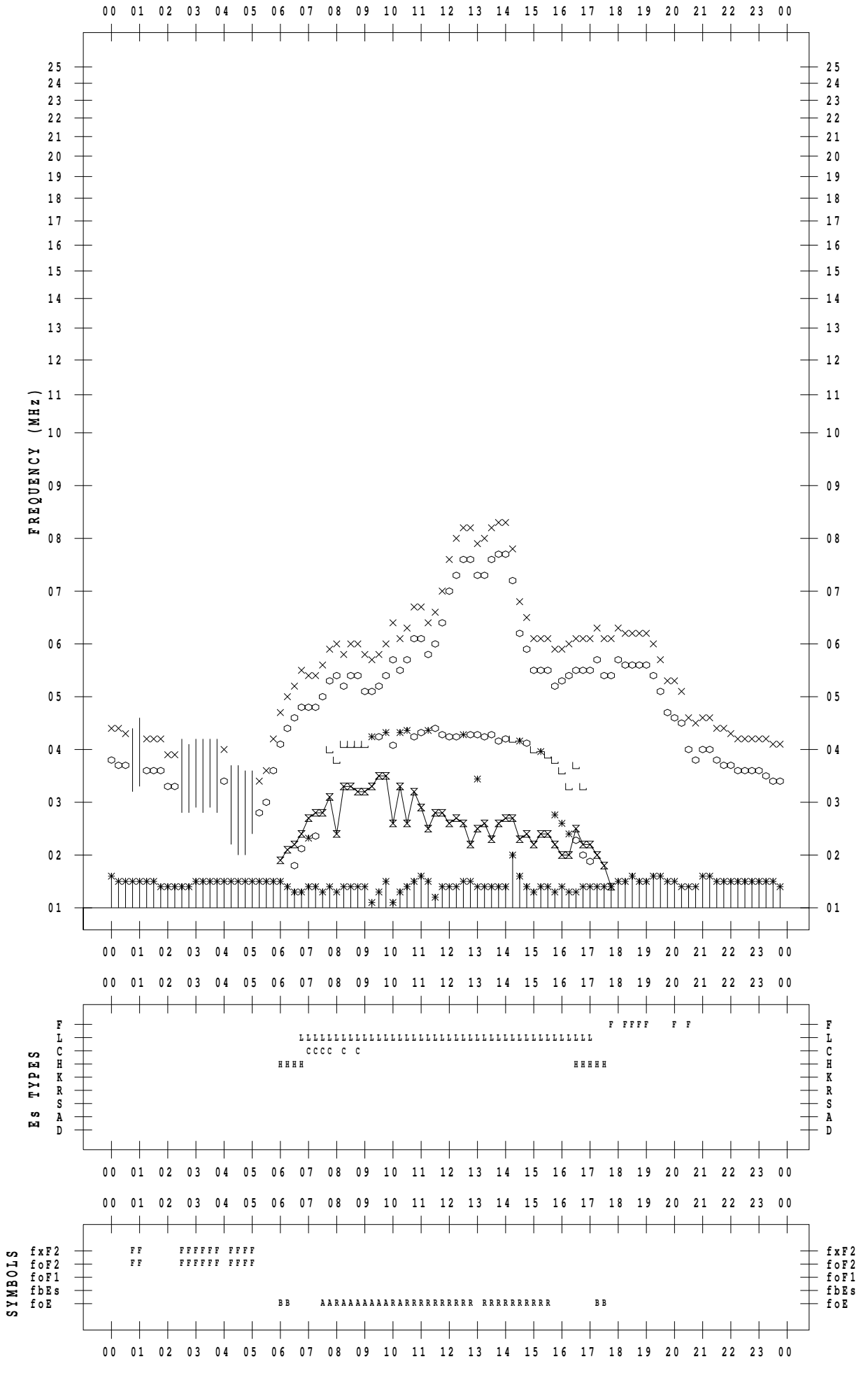
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/21

135 °E MEAN TIME



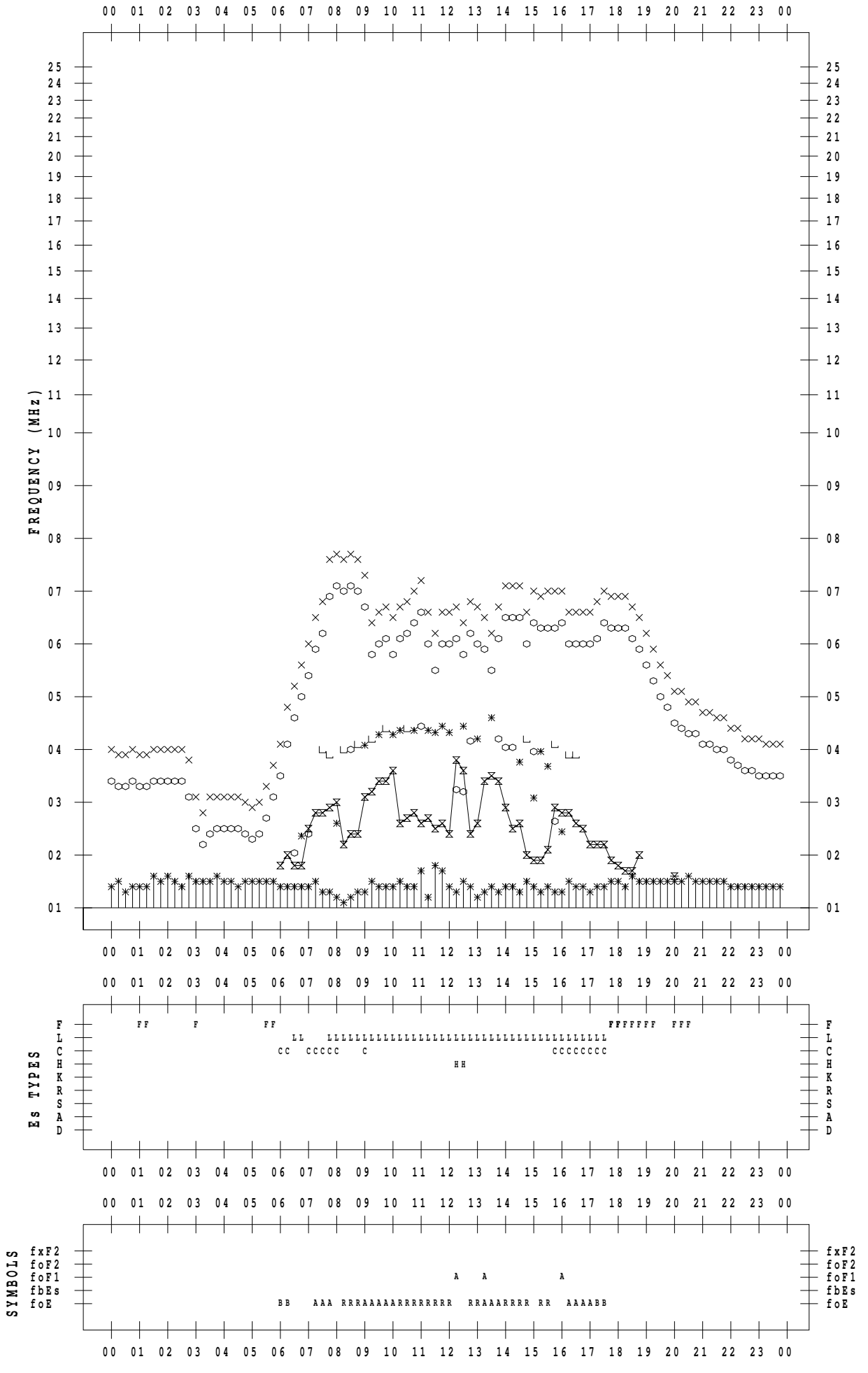
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/22

135 °E MEAN TIME



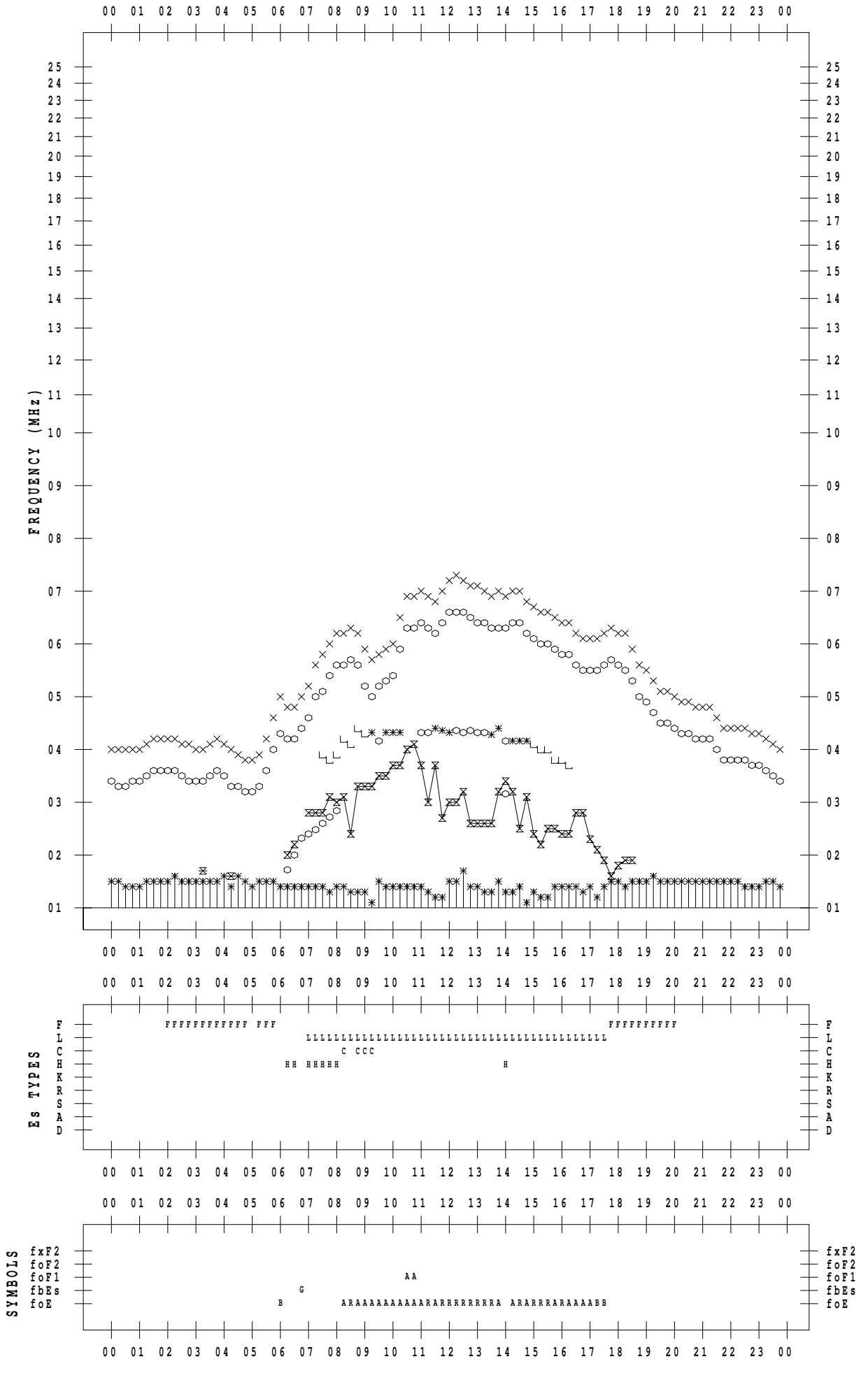
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/23

135 °E MEAN TIME



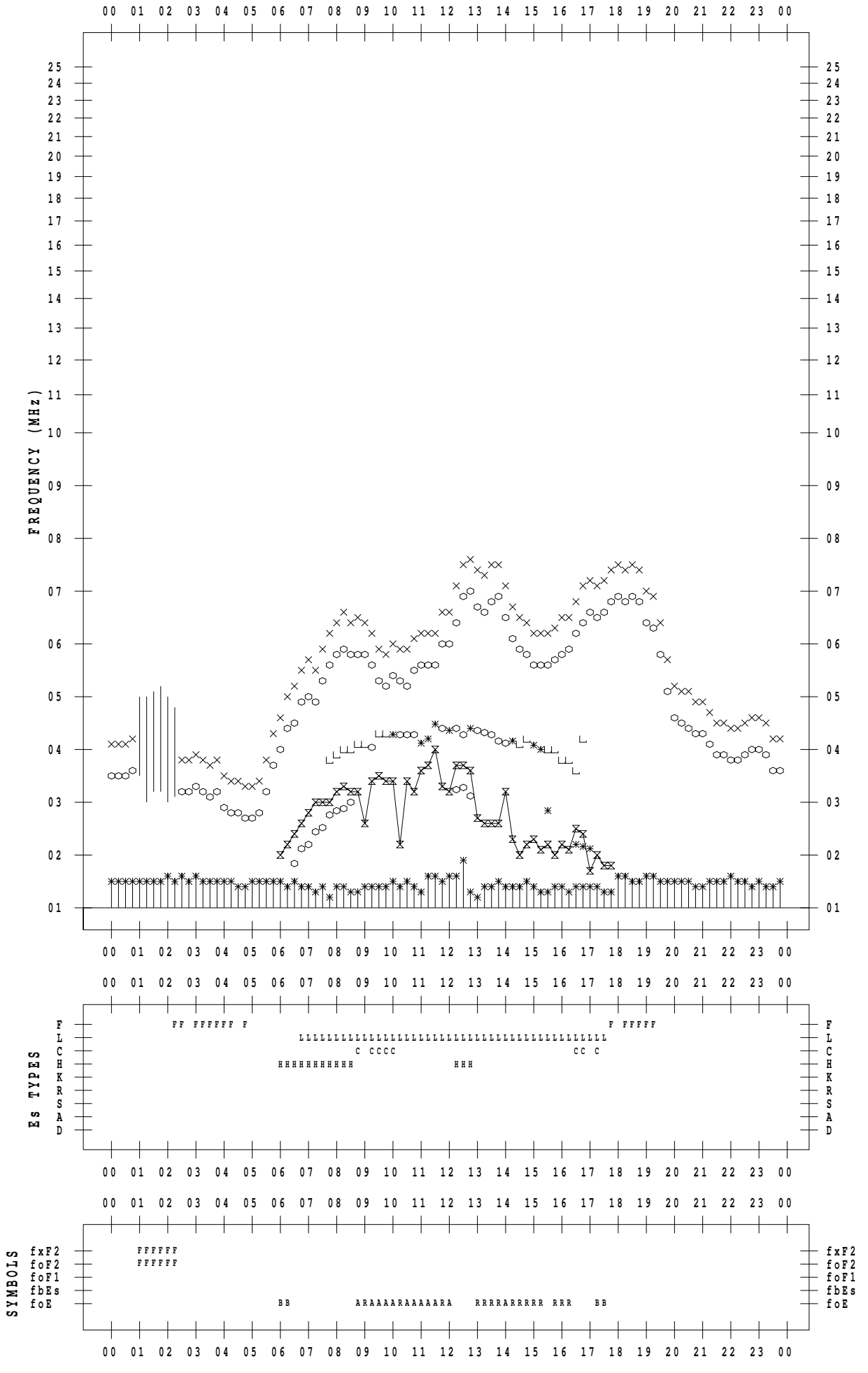
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/24

135 °E MEAN TIME



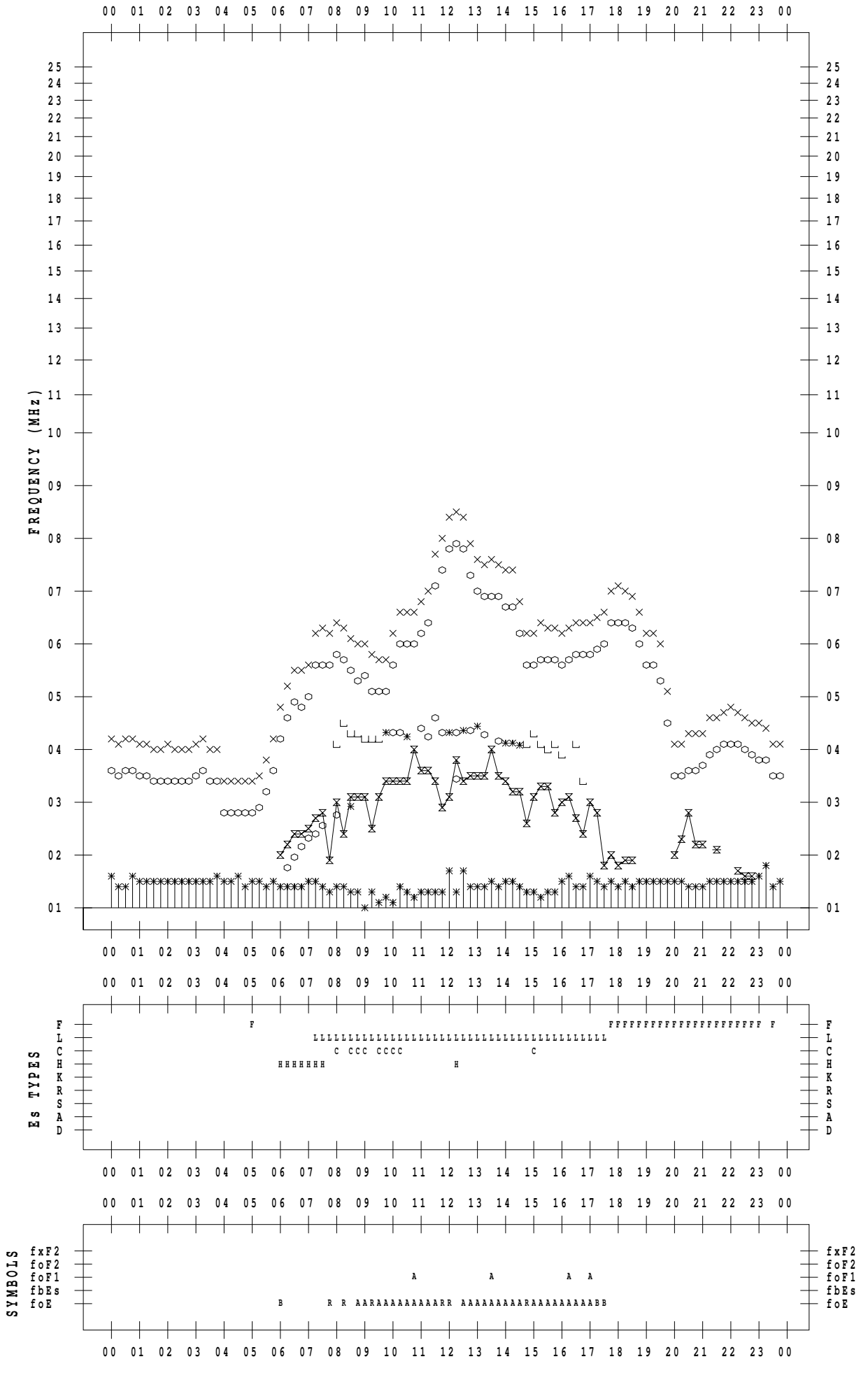
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/25

135 °E MEAN TIME



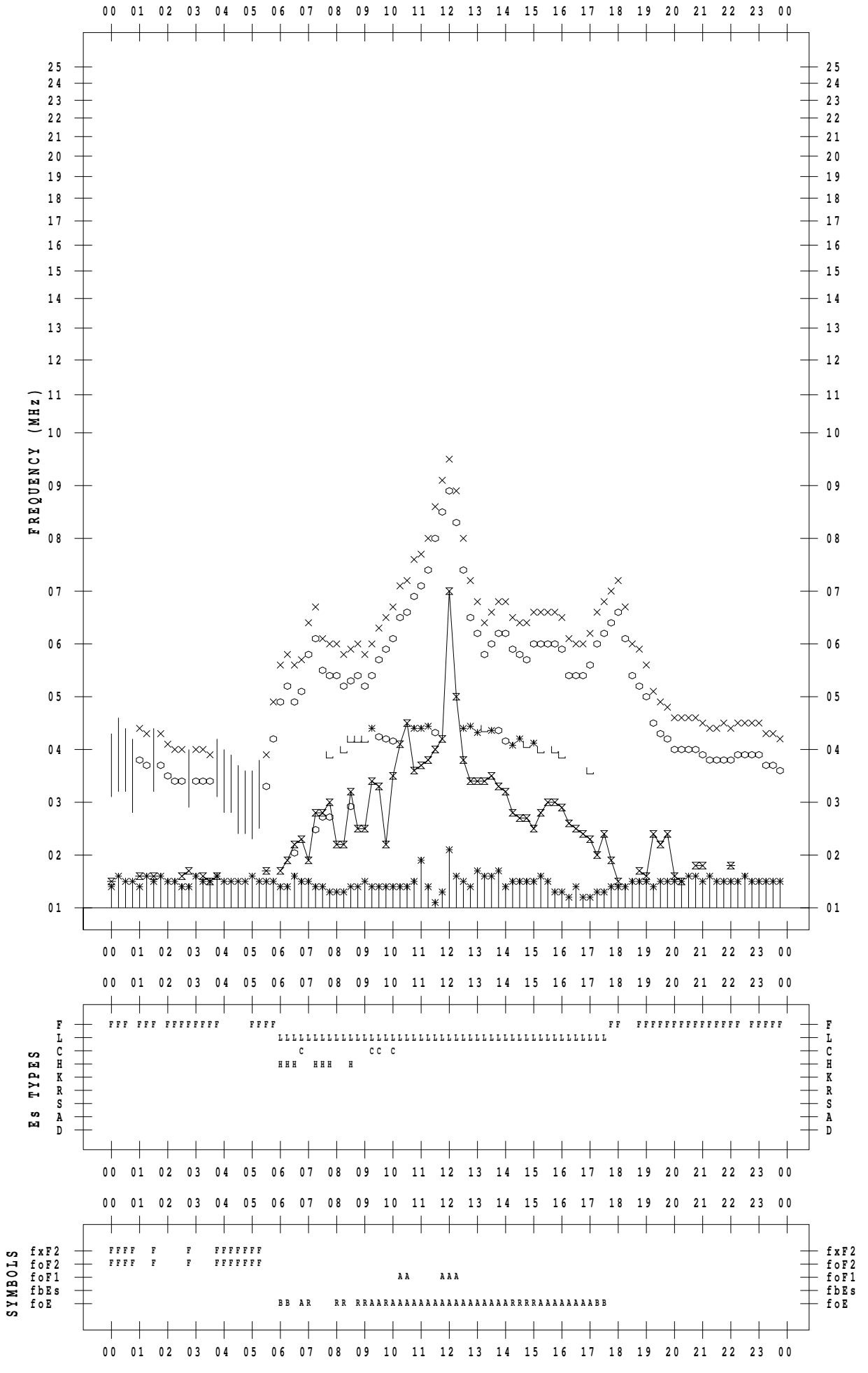
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/26

135 °E MEAN TIME



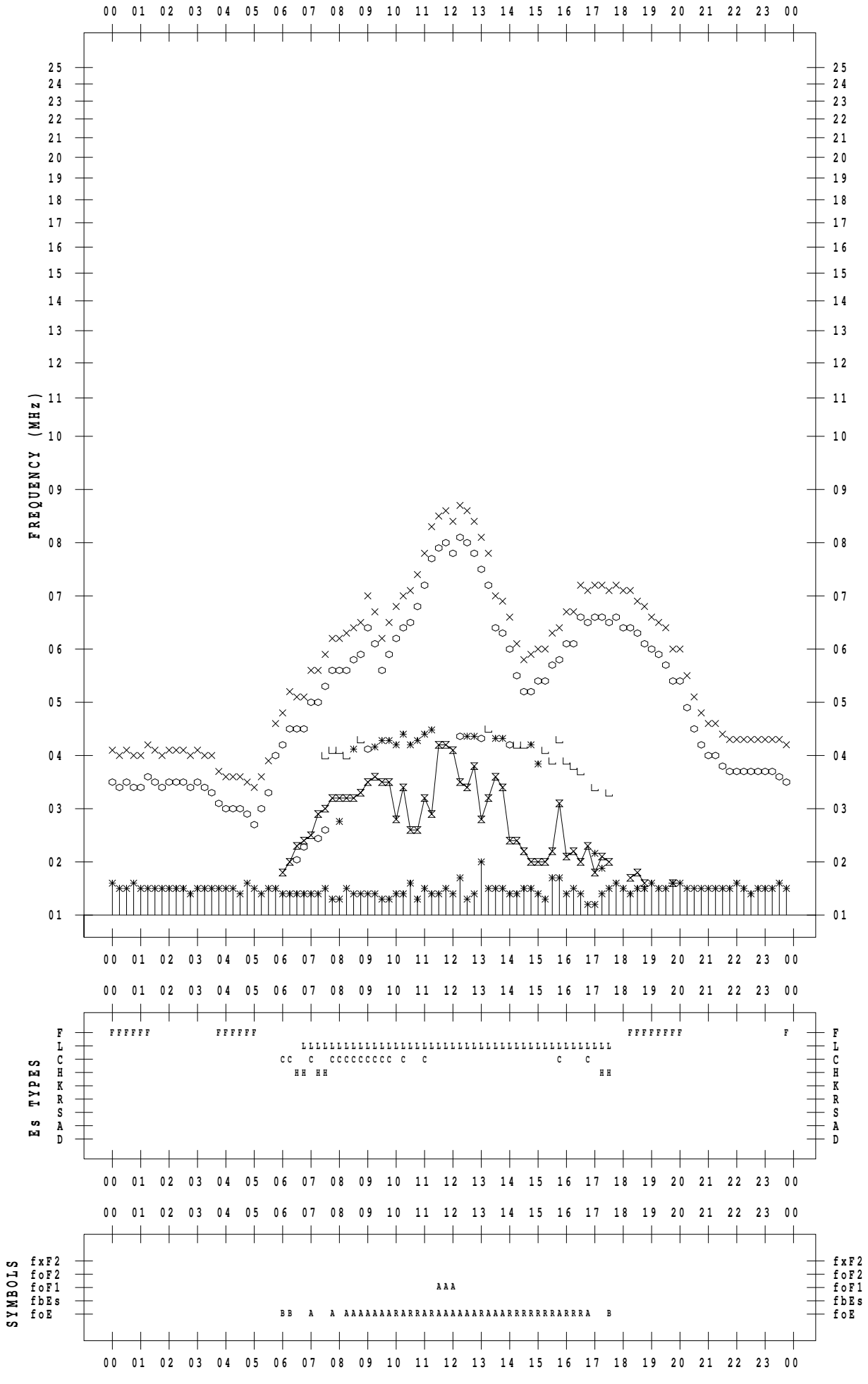
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/27

135 °E MEAN TIME

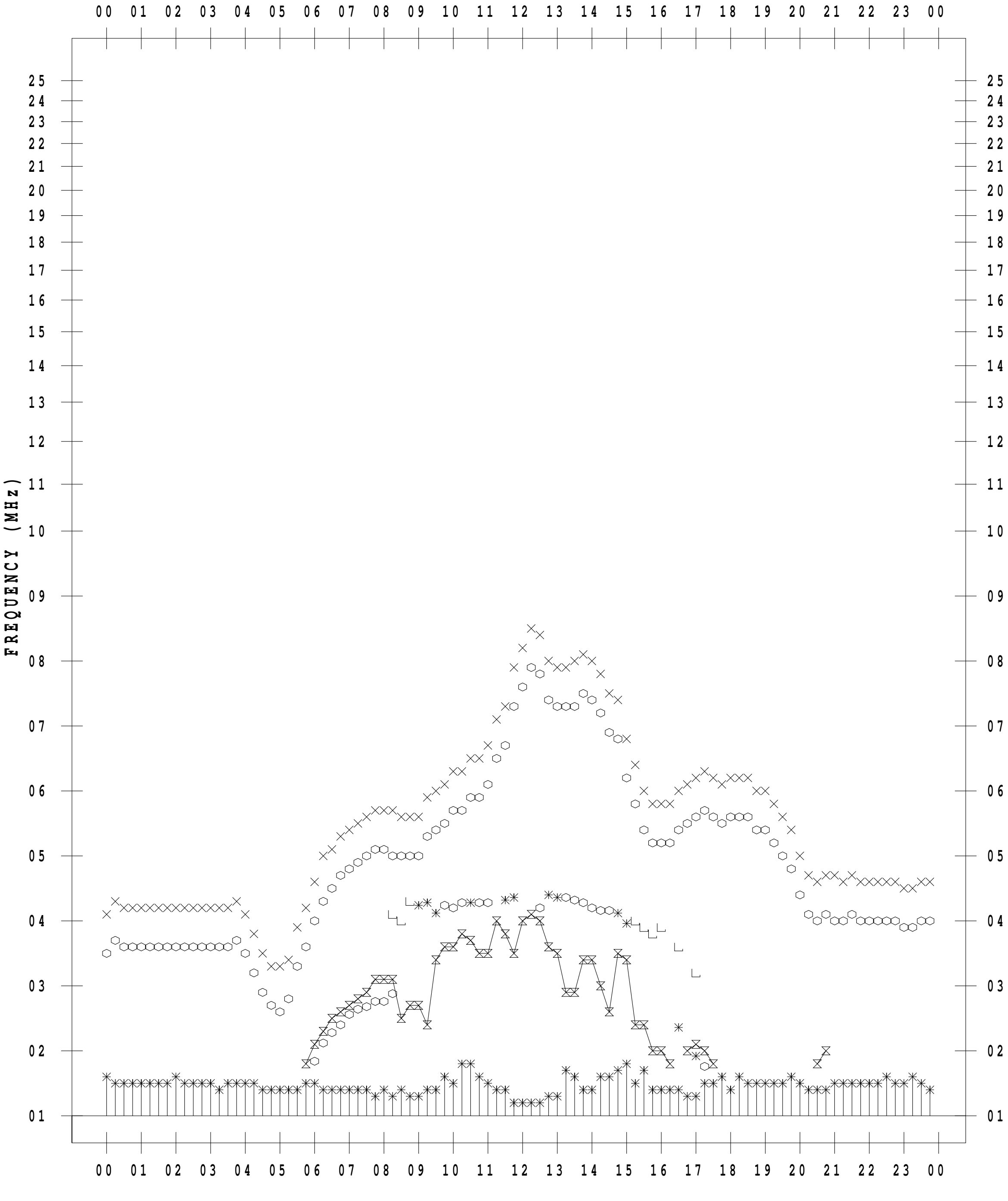


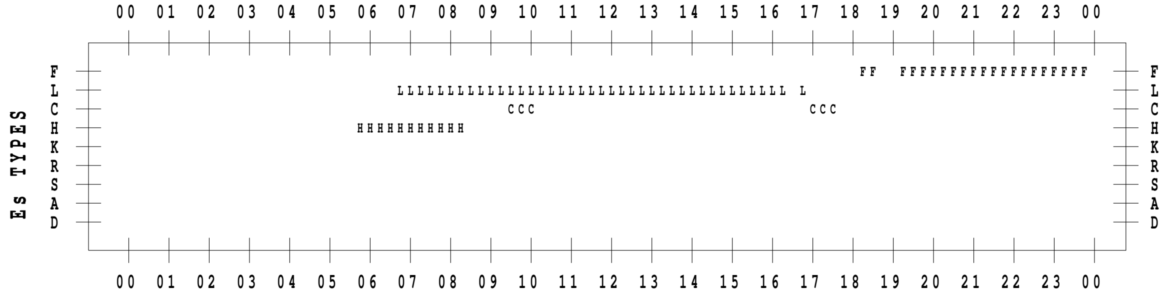
f-PLOT DATA

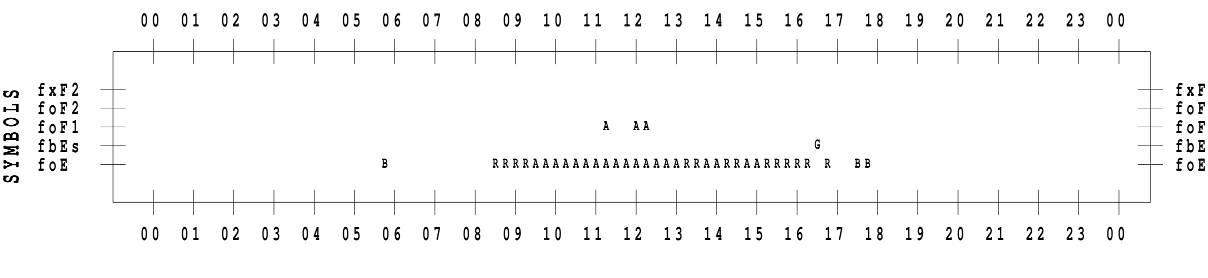
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2009/ 3/28

135 °E MEAN TIME







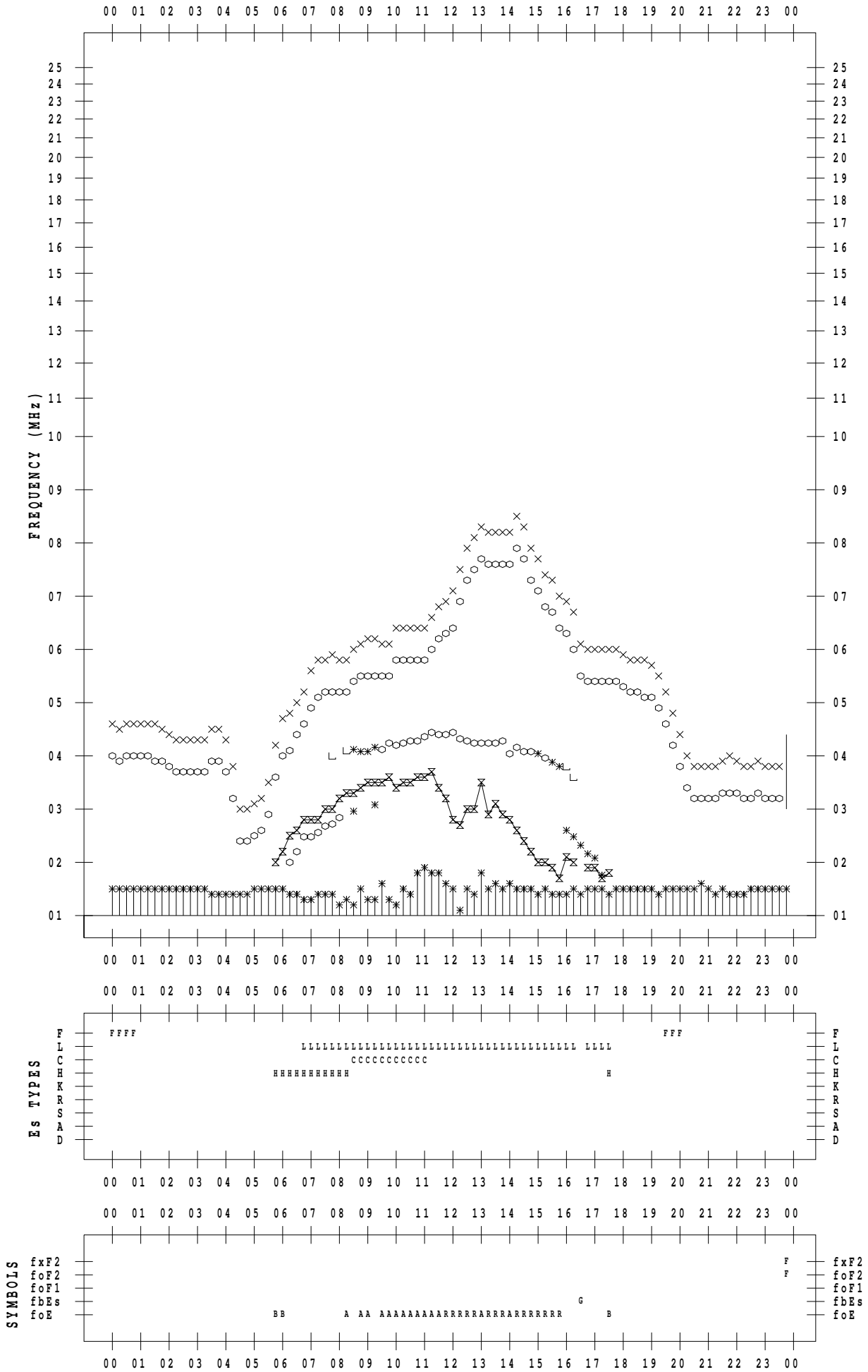
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/29

135 °E MEAN TIME



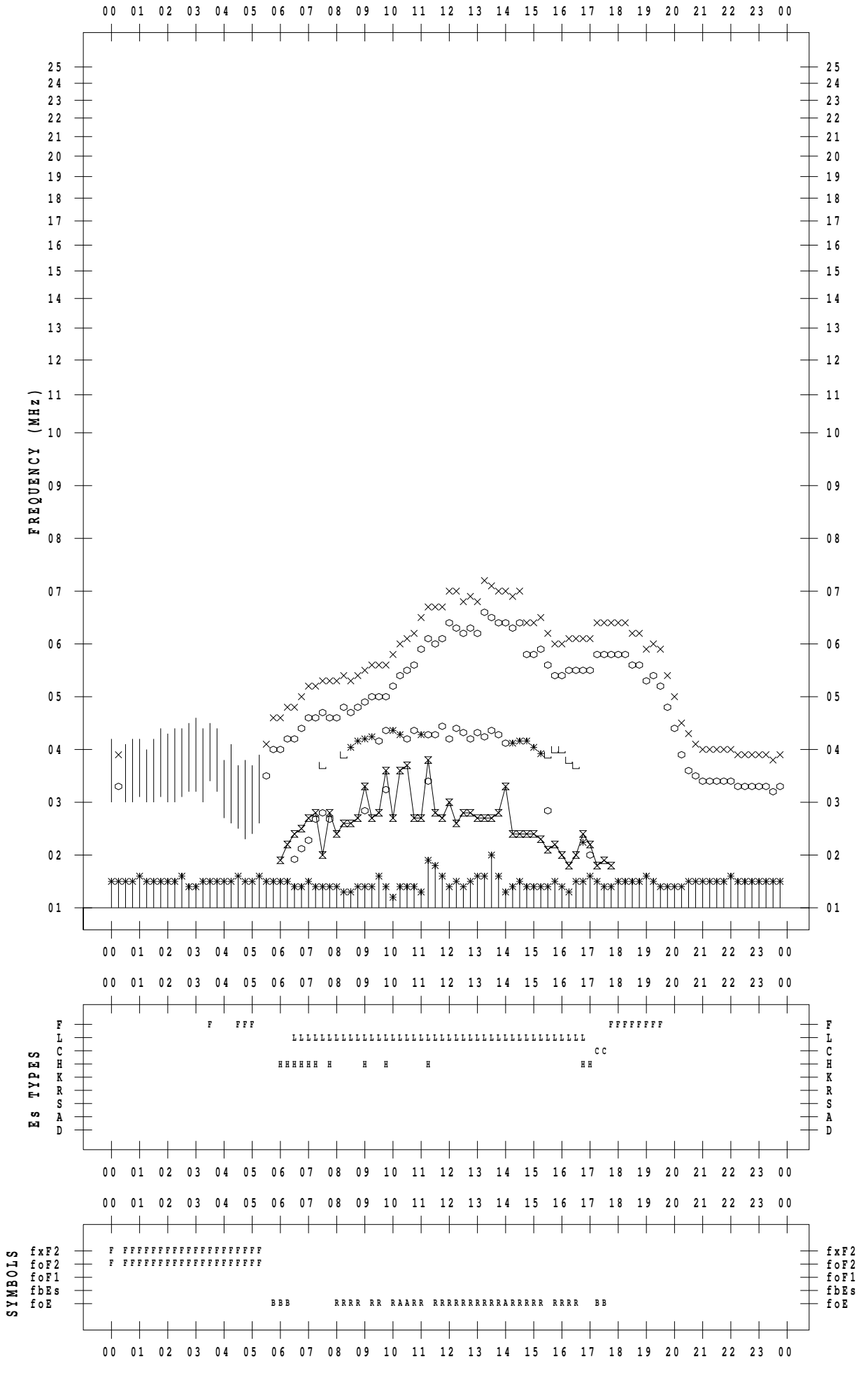
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/30

135 °E MEAN TIME



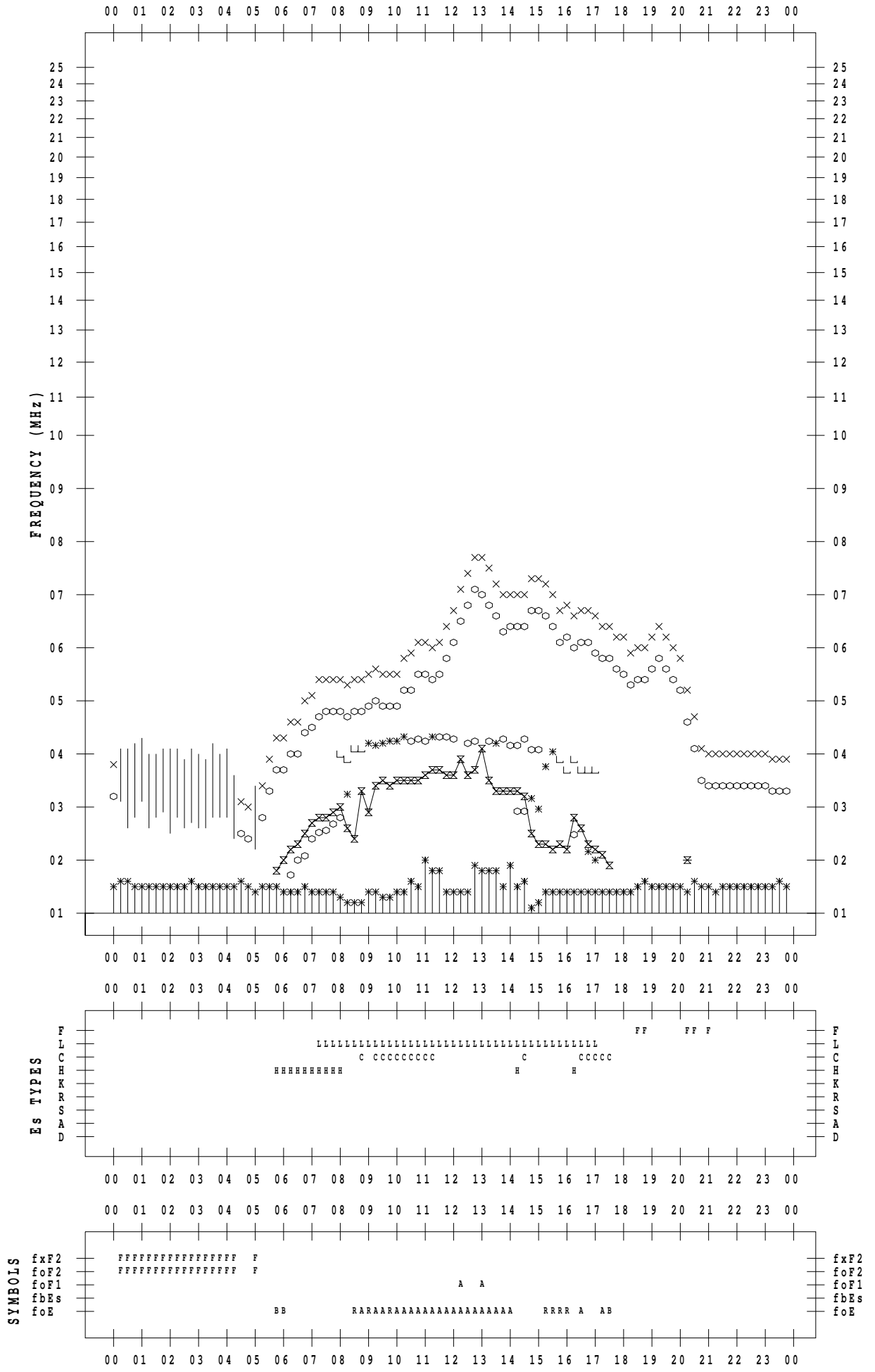
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 3/31

135 °E MEAN TIME



B. Solar Radio Emission
B1.Outstanding Occurrences at Hiraiso

Hiraiso March 2009

Single-frequency observations
Normal observing period: **** - **** U.T. (sunrise to sunset)

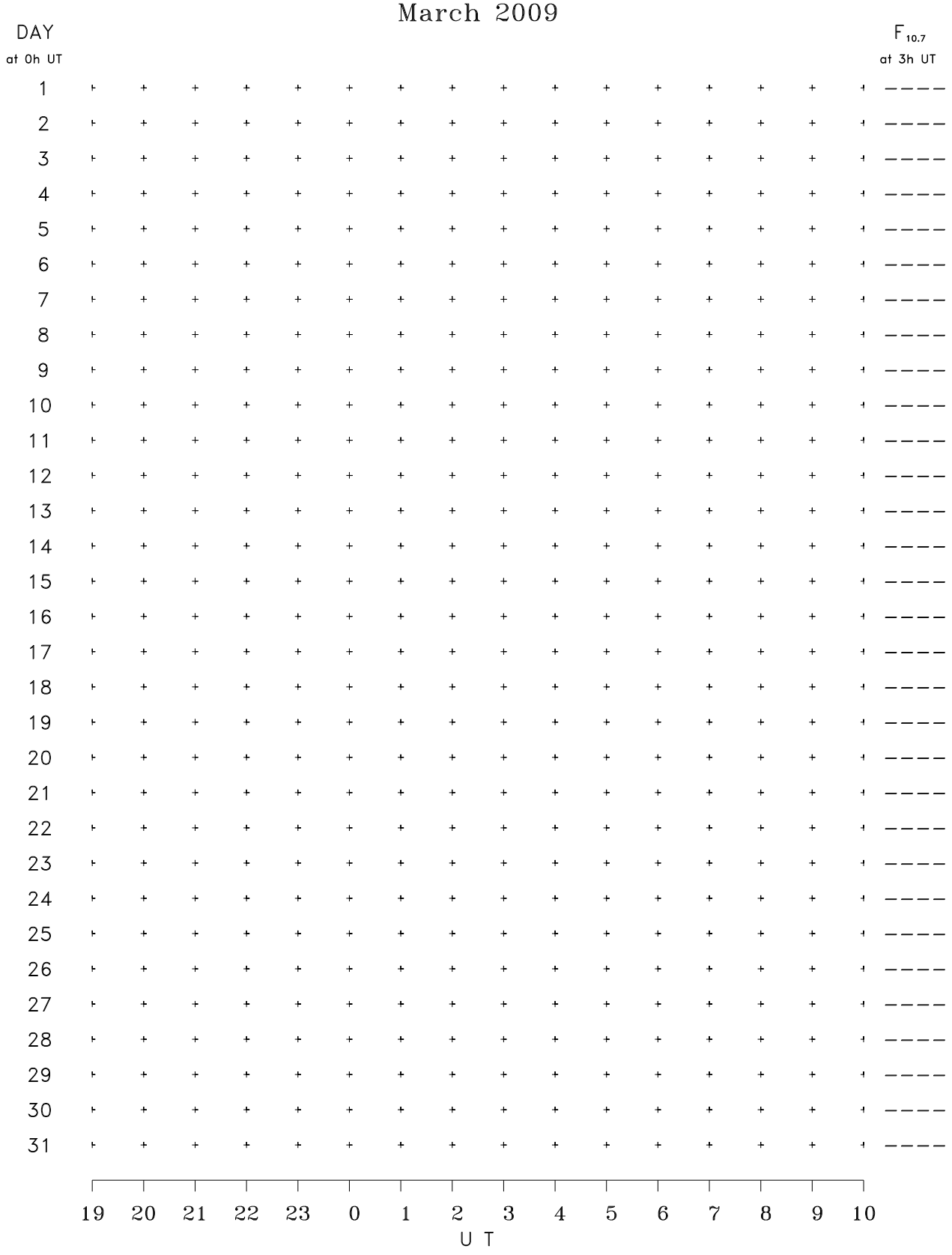
MAR. 2009	FREQ. (MHz)	TYPE	START TIME (U.T.)	TIME OF MAXIMUM (U.T.)	DUR. (MIN.)	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) PEAK	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) MEAN	POLARIZATION REMARKS

No data for the 2800MHz fixed-frequency observation are available due to system maintenance.

B. Solar Radio Emission

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

March 2009



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