F-741

IONOSPHERIC DATA IN JAPAN

FOR SEPTEMBER 2010

VOL. 62 NO. 9

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

NATIONAL INSTITUTE OF INFORMATION
AND COMMUNICATIONS TECHNOLOGY
TOKYO, JAPAN

INTRODUCTION

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

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

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

A. IONOSPHERE

Ionospheric observations are carried out at the above four stations in Japan by means of vertical sounding using ionosondes. The ionosonde produces ionograms, which are recorded digitally on a computer storage medium. The digitally-recorded ionograms are collected from each station by the central computer and reduced to numerical values and Summary Plots by the automatic processing system. The ionograms obtained at Kokubunji are manually scaled by experienced specialists to supplement automatically-scaled parameters.

A1. Automatic Scaling

Digital ionograms are automatically scaled by the pattern recognition method. The following five characteristics of the ionospheric are listed below. The reliability of these factors has been ascertained by comparison of the automatically-scaled parameters with the manually-scaled values of large amounts of test ionograms.

The published data consist of tabulations of hourly values of three factors (*foF2, fEs*, *fmin*) and monthly medians of two factors (*h'Es* ,*h'F*), daily Summary Plots and monthly medians plot of *foF2*.

a. Characteristics of Ionosphere

foF2	Ordinary wave critical frequency for the ***F2*** layer
fEs	Highest frequency of the ***Es*** layer whether it may be ordinary or extraordinary
fmin	Lowest frequency which shows vertical iono-spheric reflections
h'Es ***h'F***	Minimum virtual height on the ordinary wave for the ***Es*** and ***F*** layers, respectively

b. Descriptive Letters

The following descriptive letters are used in the tables.

A Impossible measurement because of the presence of a lower thin layer, for example *Es* (for *foF2*).

C Impossible measurement because of any failure in observation.

G Impossible automatic scaling because of very small ionization density of the layer (for *fEs*).

N Impossible automatic scaling because of complex echoes.

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

c. Definitions of CNT, MED, UQ ,and LQ

Median count (**CNT**) is the number of numerical values from which the median has been computed. In addition to numerical values, the count may include a descriptive letter G.

Median (**MED**) is defined as the middle value when the numerical values are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (**UQ**) is the median value of the upper half of the values when they are ranked according to magnitude; the ***lower quartile*** (**LQ**) is the median value of the lower half.

If CNT is less than 10, there are blank spaces left.

d. Reliability of Automatic Scaling

The results of the comparison between automatically-scaled values and manually-scaled ones showed that hourly values of *foF2 , fEs* and *fmin* were scaled within a difference of 1 MHz from about 90, 90 and 99%, respectively of the test ionograms.

e. Summary Plot

Daily Summary Plots which are made from quarter-hourly digital ionograms are published to present general ionosphere conditions. The upper and middle parts of a Summary Plot show the diurnal variation of the frequency range of the echoes reflected from the *F* and *E* regions, respectively. The two solid arcing lines indicate the predicted values of *fxE* and *foE* calculated by the method described in the CCIR report 340. The lower part shows the diurnal variation of the virtual height where the echo traces become horizontal.

A2. Manual Scaling

The published data consist of tabulations of hourly values of the ionospheric characteristics and figures of daily *f*-plot.

All symbols and terminology in the tables or figures of ionospheric data are used in accordance with the "URSI Hand-book of Ionogram Interpretation and Reduction (Second Edition) 1972 " and its revision of chapters I-4, published in July 1978.

a. Characteristics of Ionosphere

fxI	Top frequency of spread ***F*** trace
foF2 ***foF1*** ***foE*** ***foEs***	Ordinary wave critical frequency for the ***F2***, ***F1***, ***E,*** and ***Es*** (including particle type ***E)*** layers, respectively
fbEs	Blanketing frequency of the ***Es*** layer, e.g. the lowest ordinary wave frequency visible through ***Es***
fmin	Lowest frequency that shows vertical ionospheric reflections
M(3000)F2 ***M(3000)F1***	Maximum usable frequency factor for a path of 3000 km for transmission by the ***F2*** and ***F1*** layers, respectively
h'F2 ***h'F*** ***h'E*** ***h'Es***	Minimum virtual height on the ordinary wave for the ***F2,*** whole ***F, E*** and ***Es*** layers, respectively
Types of ***Es***	See below b. (iii)

b. Symbols

(i) Descriptive Letters

The following letters are entered after, or used to replaced a numerical value on the monthly tabulation sheets, if necessary.

A Measurement influenced by, or impossible because of, the presence of a lower thin layer, for example *Es*.
B Measurement influenced by, or impossible because of, absorption in the vicinity of *fmin*.
C Measurement influenced by, or impossible because of, any non-ionospheric reason.
D Measurement influenced by, or impossible because of, the upper limit of the normal frequency range in use.
E Measurement influenced by, or impossible because of, the lower limit of the normal frequency range in use.
F Measurement influenced by, or impossible because of, the presence of spread echoes.
G Measurement influenced by, or impossible because the ionization density of the layer is too small to enable it to be made accurately.
H Measurement influenced by, or impossible because of, the presence of a stratification.
K Presence of particle *E* layer.
L Measurement influenced or impossible because the trace has no sufficiently definite cusp between layers.
M Interpretation of measurement questionable because the ordinary and extraordinary components are not distinguishable.
N Conditions are such that the measurement cannot be interpreted.
O Measurement refers to the ordinary component.
P Man-made perturbations of the observed parameter; or spur type spread *F* present.
Q Range spread present.
R Measurement influenced by, or impossible because of, attenuation in the vicinity of a critical frequency.
S Measurement influenced by, or impossible because of, interference or atmospherics.
T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.
V Forked trace which may influence the measurement.
W Measurement influenced or impossible because the echo lies outside the height range recorded.
X Measurement refers to the extraordinary component.
Y Lacuna phenomena, severe layer tilt.
Z Third magneto-electronic component present.

(ii) Qualifying Letters

The following letters are entered in the first column before a numerical value on the monthly tabulation sheets, if necessary.

A Less than. Used only when *fbEs* is deduced from *foEs* because total blanketing of higher layer is present.
D Greater than.
E Less than.
I Missing value has been replaced by an interpolated value.
J Ordinary component characteristic deduced from the extraordinary component.
M Mode interpretation uncertain.
O Extraordinary component characteristic deduced from the ordinary component. (Used for x-characteristics only.)
T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.
U Uncertain or doubtful numerical value.
Z Measurement deduced from the third magneto-electronic component.

(iii) Description of Types of *Es*

When more than one type of *Es* trace are present on the ionogram, the type for the trace used to determine *foEs* must be written first. The number of multiple trace is indicated after the type letter.

The types are:

f An *Es* trace which shows no appreciable increase of height with frequency.
l A flat *Es* trace at or below the normal *E* layer minimum virtual height or below the part *E* layer minimum virtual height.
c An *Es* trace showing a relatively symmetrical cusp at or below *foE*. (Usually a daytime type.)
h An *Es* trace showing a discontinuity in height with the normal *E* layer trace at or above *foE*. The cusp is not symmetrical, the low frequency end of the *Es* trace lying clearly above the high frequency end of the normal *E* trace. (Usually a daytime type.)
q An *Es* trace which is diffuse and non-blanketing over a wide frequency range.
r An *Es* trace showing an increase in virtual height at the high frequency end similar to group retardation.
a An *Es* trace having a well-defined flat or gradually rising lower edge with stratified and diffuse traces present above it.
s A diffuse *Es* trace which rises steadily with frequency and usually emerges from another type *Es* trace.
d A weak diffuse trace at heights below 95 km as-sociated with high absorption and large *fmin.*
n The designation 'n' is used to denote an *Es* trace which cannot be classified into one of the standard types.
k The designation 'k' is used to show the presence of particle *E*. When *foEs* > *foE* (particle *E*) the *Es* type precedes k.

c. Definitions of the CNT, MED, UQ and LQ

Median count (**CND**) is the number of values from which the median has been computed. In addition to numerical values, the count may include certain descriptive letters.

Median (**MED**) is the middle value when the numerical values are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (**UQ**) is the median value of the upper half of the values when they are ranked according to magnitude; the ***lower quartile*** (**LQ**) is the median value of the lower half.

B. SOLAR RADIO EMISSION

Solar radio observations at 200, 500 and 2800 MHz are carried out at Hiraiso. The observation equipment consists of three parabolic antennas, one with 10-meter diameter for 200 MHz Measurement, one with 6-meter diameter for 500 MHz measurements and one with 2-meter diameter for 2800 MHz measurements, each being equipped with a pair of crossed doublet antennas as a primary radiator, and three appropriate receivers. Each pair of the crossed doublet antennas is used as a polarimeter. Observations are continuously carried out almost from sunrise to sunset.

B1. Outstanding Occurrences at Hiraiso

The table is a list of outstanding occurrences of solar radio emission bursts observed at 200, 500 and 2800 MHz during a month.

Listed in the table are the date, frequencies, the type of event, the start time and the time of maximum, both in U.T. expressed in hours, minutes and tenths of a minute, the duration in minutes, the peak and mean flux densities in 10^{-22} Wm^{-2} Hz^{-1} unit, and the polarization.

The type of event is expressed by a combination of a numerical code and a letter symbol in accordance with the "Descriptive Text of Solar Geophysical Data, NOAA" as defined by H. Tanaka in the "Instruction Manual for Monthly Report of Solar Radio Emission, WDC-C2" in January 1975:

SGD Code	Letter Symbol	Morphological Classification
1	S	Simple 1
2	S/F	Simple 1F
3	S	Simple 2
4	S/F	Simple 2F
5	S	Simple
6	S	Minor
7	C	Minor+
8	S	Spike
20	GRF	Simple 3
21	GRF	Simple 3A
22	GRF	Simple 3F
23	GRF	Simple 3AF
24	R	Rise
25	R	Rise A
26	FAL	Fall
27	RF	Rise and Fall
28	PRE	Precursor
29	PBI	Post Burst Increase
30	PBI	Post Burst Increase A
31	ABS	Post Burst Decrease
32	ABS	Absorption
40	F	Fluctuations
41	F	Group of Bursts
42	SER	Series of Bursts
43	NS	Onset of Noise Storm
44	NS	Noise Storm in progress
SGD Code	Letter Symbol	Morphological Classification
45	C	Complex
46	C	Complex F
47	GB	Great Burst
48	C	Major
49	GB	Major+

The polarization is expressed by the polarization degree and sense as follows:

R or L	right or left-handed polarization,
W, M or S	weak, moderate or strong polarization,
0	almost zero or unable to detect polarization due to small increase of flux,
00	polarization degree of less than 1

One of the following symbols may be attached after numerical values, if necessary.

D	greater than, or later than,
E	less than or earlier than,
U	approximate, or uncertain.

B2. Summary Plots of F10.7 at Hiraiso

The 10.7 cm solar radio flux at Hiraiso is plotted over a one month period. The 10.7 cm flux ($F_{10.7}$) is determined by adjusting the 10.7 cm radio flux measured at Hiraiso to the Pentincton 10.7 cm radio flux. The figure on the right-hand side shows the $F_{10.7}$ index estimated at Hiraiso.

The following symbols are used in the $F_{10.7}$ index:

*	Measurement made not at 3h U.T..
B	Measurement affected by bursts.

HOURLY VALUES OF foF2 AT Wakkanai

SEP. 2010

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

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

HOURLY VALUES OF fEs AT Wakkanai

SEP. 2010

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	34	37	33	31	32	26	28	42	47	43	40	G	G	40	G	G	38	40	G	34	33	39	33	28
2	G		G	G	G	24	34	71	71	72	47	67	41	G	G	G	34	32	G	G	G	G	29	39
3	40	G	G	26	G	G	34	34	G	39	G	G	G	G	G	G	34	31	28	G	G	G	G	G
4	G	G	G	27	26	32	G	G	38	G	G		G	G	G	G		N	G	G	G	G	G	G
5	G	G	26	27	G	G	31	36	43	73	40	G	G	G	G	54	41	34	34	G	24	G	G	24
6	24	G	33	33	27	32		50	G	G	50	G	G	G	G	G	G	40	50	40	54	69	38	33
7	34	40	36	32	G	G	30	38	43		39	G	G	44	44	G	54		69	60	40	34	G	G
8	G	G	G	27	G	G	G	34	G	52	60	40	G	G	G	48	44	40	32	64	52	38	27	28
9	G	G	G	G	G	G	32	38	46		63	47	41	G	40	36	50	43	39	40	47	25	28	28
10	G	G	G	26	28	28	29	37	40	G	46	43	G	39	39	G	33	38	30	29	28	G	28	29
11	G	G	G	G	G	G	35	G	G	G	G	40	G	G	G	G	35	34	30	27	G	G	30	G
12	G	G	G	G	G	G			40	G	G	G	G	39	G	G	G	33	G	G	39	G	25	G
13	29	G		G	G	G	32	33	46	40	G	41	G	G	G	38	G	29	32	G	G	G	G	G
14	G	G	G	G	24	G	28	G	G	38	G	40	G	39	G	G	33	G	33	G	G	G	G	G
15	G	G	24	G	G	G	33	33	41	G	G	47	G	39	G	36	34	68	54	29	27	59	67	59
16	32	26	G	34	40	34	G	G	G	G	47	50	40	G	46	38	32	69	50	28	38	33	G	24
17	26	27	26	37	30	28	30	32		G	G	40	N	G	G	52	59	30	29	28	G	24	G	G
18	G	G	G	G	23	25	G		G	G	46	45	G	N	G	36	33	G	39	29	26	36	33	36
19	29	28	26	G	33	33	28	36	G	G	G	G	G	G	G	42	33	G	G	G	G	G	G	G
20	G	G	G	G	G	28		32	G	G	G	G	G	G	G	39	38	40	40	72	40	40	34	G
21	26	32	31	29	28	23		32	G	G	52	52	58	39	G	38	G	35	37	36	30	25	24	G
22	33	G	G	28	G	G	29	34	42	40	G	G	40	38	G	G		G	G	G	G	G	54	G
23	G	33	27	35	32	30	G	33	G	40	G	G	G	G	G	G	G	G	43	39	35	36	32	G
24	G	G	G	G	G	26	G	34	G	G	G	40	G	G	G	36	31	G	G	28	42	30	30	33
25	26	24	G	40	38	59	40	35	G	37	G	G	G	G	G	G	G	G	G	33	39	32	23	27
26	G	G	G	G	G	31	38	G	G	G	G	G	39	G	39	42	G	43	36	28	26	28	28	29
27	G	G	G	G	G	40	34	38	39	G	G	G	G	39	42	52	34	28	30	33	G	27	G	G
28	G	G	G	G	37	31		40	43	45	48	61	G	G	G	34	G	G	G	G	38	G	33	29
29	G	G	G	G	G	G	28		G	G	G	40	45	G	G		G	G	G	G	40	32	39	G
30	G	G	25	26	G	G	28	34	41	G	G	G	G	G	G	G	G	G	G	G	G	39	G	28
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	29	29	30	30	30	25	27	29	28	30	29	29	29	30	29	28	28	30	30	30	30	30	30
MED	G	G	G	14	G	24	29	34	G	G	G	40	G	G	G	34	33	32	30	28	28	26	28	12
U Q	26	25	26	29	28	31	33	38	42	40	46	44	20	39	G	38	36	40	39	34	39	36	33	29
L Q	G	G	G	G	G	G	14	32	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

SEP. 2010

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

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

SEP. 2010

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

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

HOURLY VALUES OF fEs AT Kokubunji

SEP. 2010

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	31	G	G	39	G	G	28	G	G	59	94	78		67	50	55	76	59	82	56	33	G	G	33
2	34	29	27	G	G	G	G	41	49	56	71	102	49	G	G	G	G	36	28	40	34	84	G	25
3	23	26	26	G	G	G	G	G	G	G	G	72	G	G	G	G	G	G	G	G	G	G	G	33
4	G	G	G		G	G	34	G	43	G	G	G	G	G	G	G	G	G	G	G	G	G	G	26
5	G	G	G	G	G	G	G	G	G	G	G	G		G	G		41	34	35	45	72	33	49	29
6	47	G	G	G	G	G	31	G	G	G	G		G	G	G	G	35	35	29	30	32	60		73
7	58	34	29	27	29	G	G	G	G	G	G	G	54	48	G	G	49	52	53	55	54	70	36	54
8	29	29	G	26	24	42	28	G	45	G	G	G	G	G	G	G	G	40	35	39	36	43	37	30
9	34	29	28	G	G	G	29	G	G	G	G	G		G	G	51	G	39	36	47	37	28	34	59
10	43	24	G	23	29	G	G	42	48	G	G	G	G		47	48	52	42	43	25		43	26	G
11	27	26	G	G	27	31	27	G	G	G	G	74	63	G	G	G	G	34	38	37	24	27		G
12	G	G	G	G		G	G	G	G	G	G	G	G	G		G	G	G	G	28	G	26	G	G
13	G	23	G	G	G	G	31	G	G	G	G	G	G		45	43	46	52	51	34	G	G	G	G
14	23	G	G	G	G	G	G	G	G	53	42	G	G	G	G	G	G	G	44	G	29	24	G	G
15	G	G	G	G	G	G	33	45	50	48	55	G	G	G	G	65	G	46	34	35	43	G		37
16	23	G	G	G	G	G	G	G	G	G	G	51	57	58	50	44	35	31	34	33	35	34	G	G
17	G	29	G	G	G		G	37	G	G	G	G	G	G	G	G	G	30	28	27	30	G	G	G
18	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	38	G	G	G	27	23	G	G
19	G	G	G	G	G	G	32	33	G	51	G	G	G	G	G	G	G	31	31	G	G	G	G	G
20	G	G	G	G	G	G	G	42	G	G	G	G	G	G	48	52	46	28	57	49	34	G	37	34
21	32	37	27	27	30	25	G	G	G	G	G	G	G	G	G	G		G	G	G	G	G	29	29
22	29	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	33	31	G	G	G		
23		G	G	G	29	24	G	G	G	67	G	G	G	G	44	G	G	31	29	28	29	G	26	G
24	G	29	25	G	G	G	29	G	G	G	G	G	G	G	G	G	G	37	31	26	G	G		38
25	32	26	24	G	G	24		G	G	42	G	G	G	G	G	G	33	G	G	G	G	G	G	G
26	G	G	G	G	G	G	28	G	G	G	G	G	G	G	G	G	39	28	27	26	G	G	G	27
27	28	G	G	G	G	G	27	G	G	G	47	40	G	G	G	G	G	G	60	70	46	23	G	G
28	29	G			G	G	G	48	54	64	G	G	G	G	G	G	G	26	G	G	29	G	G	G
29	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	11	G	G	24	G
30	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	27	38	G	26	G
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	30	29	28	29	29	29	30	30	30	30	29	27	28	29	29	29	30	30	30	29	30	25	29
MED	23	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	31	31	28	29	G	G	G
U Q	31	26	12	G	G	G	28	G	G	42	G	G	G	G	G	22	38	37	38	39	35	28	27	33
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

SEP. 2010

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

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

HOURLY VALUES OF foF2 AT Yamagawa

SEP. 2010

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	36	34	37	37	40		37	57	63	61	A	A	56	56	62	70	75	71	71	82		67	A	42
2		37	37	36	34	32	47	53	67	57	56	62			A	80	68	72	78	86	A	60	44	44
3	41	42	38	37	34		42	60	62	60	66	70	76	65	77	84	72	67	67	73	73	47	32	34
4	34	32	34	34	28	29	38	57	63	62	67	74	76	71	72	87	71	63	63	73		58	43	41
5	40	36	34	31	29	28	42		64	61	54	56	68	75	62	52	69	77	81	72	78	54	54	50
6	40	40	32	34	34	31	38	56	67	67	62	63	60	66	71	67	71	80	94	89	84	32	A	A
7	A	A	36	37	37	36	58	64	68	57	57	71	74	67	70	71	76	88	88	77	73	40	A	A
8	A	42	40	37	37	36	48	59	71	66	56	58	64	77	85	87	90	85	84	81	72	44	40	38
9	A	36	36	36	36	37	48	66	64	56	A	54	58	67	71	77	66	70	70	54	50	A	47	
10	40	A	44	40	41	43	43	54	72	71	61	57	60	60	57	60	70	82	83	75	45	34	36	36
11	36	34	36	36	29		38	55	65	67	67	55	56	52	65	72	67	67	76	A	73			36
12	34	34	34	34	34	30	37	55	57	58	60	62	70	68	72	62	54	60	72	85	80	52	44	42
13	42	44	43	36	32	31	40	64		62	62	59	69	82	77	68	67	72	73	78	73	50	48	50
14	48	46	43	43	29	28		54	68	65	56	68	76	70	67	64	76	86	86	86	51	36	49	47
15	47	47	41	40	40	36	44	57	54	76	62	A	A	76	74	81	70	70	69	77	78	54	48	44
16	42	43	44	41	37	34	37		64	68	57	61	69	74	76	72	68	78	81	74	54	51	48	
17	46	43	43	37	34	34	40	55	64	58	61	64	68	68	68	70	72	76	64	54	53	53	50	52
18	48	42	40	40	34	32	38	58	67	67	65	67	72	66	71	76	75	66	77	77	74	50	40	40
19	38		37	38	34	34	41	58	64	68	64	53	64	64	68	74	71	71	78	71		42	44	46
20	46	44	44	42	34	32	42	59	67	67	64		65	71	71	65	77	88		74	47	36	33	37
21	40		40	38	37	32	43	59	62	67	67	69	78	83	83	78	78	85	88	76	50	37	34	34
22	36	34	34	34	34	31	44		68	64	68	A	66	67	66	65	74	81	88	85	55	40	38	36
23	C	43	41	42	41	30	36	52	71	70	71	74	78	74	84	86	76	82	85	76	53			39
24	41	41	40	42	36	30		55	74	80	62	63	72	80	76	85	88	88	88	74	42	37	36	32
25	36	37	37		37	38	46	70	63	68	71	73	68	75	75	80	78	82	93	67	52	47	38	42
26	41	38	34	37	36	37	42	67	77	67	64	67	72	81	71	77	76	77	86	87	47	35	A	32
27	32	32	32	32			35	56	67	72	67	72	77	81	75	71	76	82	81	78	54	40	A	40
28	40	40	37	37	37	36	37		77	98	74	67	73	88	90	88	84	83	83	78	54	63	54	40
29	34	34	34	37			34	69	77	82	68	68	70	81	81	76	86	97	89	81	43	34	32	32
30	32	35	36	37	31		34	63	70	81	70	65	87	83	77	77	81		88	85	54	44	A	34
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	26	30	29	28	24	28	26	29	30	28	26	28	29	29	30	30	29	29	29	26	27	22	26
MED	40	39	37	37	34	32	40	58	67	67	64	64	70	71	72	75	74	78	81	77	54	44	44	40
U Q	42	43	41	40	37	36	43	63	70	70	67	69	75	80	77	80	77	84	88	83	73	53	48	44
L Q	36	34	34	36	34	30	37	55	63	61	60	59	64	66	68	68	70	70	72	73	50	37	36	36

HOURLY VALUES OF fEs AT Yamagawa

SEP. 2010

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G	G	G	G		G	54	46	68	50	77	52	G	G	G	50	60	68	33		46	56	33
2	47	39	45	40	40	G	G	42	44	46	47	42	45	97	90	76	65	68	50	49		33	G	31
3	35	34	G	26	G	31	G	G	G	G	45	48	G	G	G	G	44	G	G	G	G	11	G	G
4	G	G	G	G	G	G	27	31	G	G	G	G	43	G	G	G	42	43	40	78	32	11	G	G
5	43	G	G	G	G	G	G		G	G	G	43	G	42	46	G	44	43	32	27	32	35	33	34
6	G	G	G	G	G	G	G	33	40	G	42	G	G	G	G	G	45	45	34	43	36	50	58	58
7	56	58	39	33	32	28	30	33	G	43	44	45	G	G	G	G	G	39	31	G	G	28	54	52
8	56	G	34	28	G	41	G	50	49	49	G	42	G	G	41	G	G	40	38	40	43	23	G	G
9	59	28	31	26	G	G	23	34	G	G	56	52	54	53	45	51	55	52	49	26	41	33	40	54
10	47	59	48	31	G	G	G	35	G	46	42	44	G	G	G	G	G	38	39	24	11	G	G	33
11	27	43	34	32	27		G	32	42	44	N	44	G	44	G	49	G	53	38	85	49	32	G	25
12	G	30	32	28	25	G	G	40	G	G	G	G	G	G	40	G	G	G	28	25	46	41	25	49
13	G	25	G	G	G	G	24	35		43	G	46	G	G	G	42	45	41	45	45	30	35	G	G
14	G	G	G	G	G	G		33	35	G	G	G	G	G	G	50	40	34	27	26	38	38	26	G
15	G	G	G	G	G	G	24	36	G	51	62	91	84	G	G	45	47	G	G	32	36	40	34	40
16	28	G	G	G	G	G	G	G	G	G	46	48	G	51	53	50	50	52	36	32	27	30	29	55
17	35	G	G	G	G	G	G	35	52	G	G	G	G	G	G	G	G	G	G	G	G	G	25	24
18	G	G	G	G	G	G	G	32	G	G	G	G	G	45	46	G	42	G	G	G	23	G	G	G
19	32	34	G	G	G	G	G		G	G	G		42		G	G	40	32	28	24	32	G	G	G
20	G	G	G	G	G	G	G	34	45	46	50		G	G	52	51	46	37	31		40	23	G	32
21	23	34	G	G	G	G	G		G	43	G	51	G		G	G	G	G	27	23		G	G	G
22	G	G	G	G	G	G	G	40	51	68	48	104	48	G	49	47	46	66	38	49	37	30	G	G
23	C	G	G	G	G	G	G	49	G	G	40	G	G	48	43	G	35	40	40	G	G	46	38	29
24	39	32	G	30	G	G		G	36		43	G	43	G	G	G	35	33	G	11	11	G	G	G
25	G	G	G	28	29	29	26	35	36	G	56	G	G	G	46	G	43	40	29	G	28	32	G	27
26	G	G	G	G	G	G	G	30	G	G	G			G	G	G	G	G	G	G	41	32	39	G
27	G	G	G	G		G	G	32	G	43	G	48	46	G	G	G	G	G	G	G	26	27	44	28
28	26	G	G	G	G	G	G	30	G	42	44	41	43	G	G	G	G	G	G	G	G	G	G	G
29	G	G	G	G		G	G	33	G	G	G	42	41	41	G	38	G	35	41	23	33	29	25	G
30	G	G	G	G	G	G	G		38	43	G	42	42	41	40	40	43	30	36	32	26	G	38	27
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	30	30	30	28	28	28	26	29	29	29	27	29	28	30	30	30	30	30	29	27	30	30	30
MED	G	G	G	G	G	G	G	34	G	G	40	42	G	G	G	G	41	38	32	25	32	30	13	26
U Q	37	32	G	28	G	G	G	36	41	45	46	48	43	41	45	45	45	43	39	36	38	35	38	33
L Q	G	G	G	G	G	G	G	32	G	G	G	G	G	G	G	G	G	G	G	G	11	G	G	G

HOURLY VALUES OF fmin AT Yamagawa

SEP. 2010

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

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

HOURLY VALUES OF foF2 AT Okinawa

SEP. 2010

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A		29	26	A	31	58	62	64	A	65		67	68	78	85	80	92	100		A	A	
2	34	34		32	A		41	58	64	61	A	61		71	85	88	A	88	106	108	110	A		44
3	45	47		38	34		49	65	72	58	70	78	90	90	90	93	86	90	72	82	78			
4	29			31			29	56		71	68	84	97	90	100	90	84	86	78	85				40
5			34					64	64	62		62	68	68	75	78	82	88	82	76	78	76	44	
6	34	42	34	31	43	26		58	70	58	65	66	66	68	76	86	81	83	102	110	82	37	A	A
7	29	A		34	29	31	34	58	65	64	63	77	67	78	85	92	96	105	102	88	77	43		34
8	42			44	31		36	58	61	59	68		78	90	110	128	128	130	131	121	87			
9		32				29	43	73		53		75	68	77	86	86	84	90	98	67	54	43		A
10	A	A	A			43		57	82	76	56	65	66	62	64	64	80	105	113	67	A	A	44	
11			A		A			54	64	68	54	A			67	81	87	86	81	76	A	A		32
12	36	32		36	37			52	73	71			77	80	72	65	58	66	83	88	80	40		A
13	32	38		37			29	67	70	65	66		87	116	105	100	102	88	103	87	A	67	64	62
14	50	42		34			30	70	60			70	77	82	67	70	88	100	106	86	65	54	47	
15						30	31	60	70	66	65	A	84	A	85	94	90	88	87	87	69	53		43
16				34	34			64	69	66		62	68	82	87	83	88	90	90	84	83	63	67	54
17	53	50	44	34				69	63	62		60	74	77	74	76	87	76	70	63		54	47	45
18	41	44	44	34	32	28	32	62	71	71	66	73	82	72	82	90	85	83	90	86	77			
19	34			34	29		31	56	68	68		58	61	74	77	80	78	73	84	76	34	30	37	
20	37	34	34	32				55	67	68	68		72		74	77	89	102	90	77	50		30	31
21		37	31	A			32	63	52	75	66	66	87	105	105	107	108	113	111	86	74	59	52	
22			34	37	29		30	65	66	72	62	66	78	82	77	80	84	94	104	87	53	44	44	
23	42		38	44	48			59	72	77	78	88	108	107	117	124	117	120	110	82	74	52	62	53
24	59	52	51	44	43		32	65	66	76	64		88	106	100	96	100	110	88	77	42			
25				28		29	35		62	66	77	74	75	78	86	90	100	100	88	58	34		43	
26	32	32	32			32	31	67	70	71	64	77	84	88	82	82	98	104	120	107	81	44		
27				32			28	61	66	76	68	76	86	87	90	93		99	101	77	60		32	36
28	A	A		30		30	29	58	82	96	72	66	78	101	114	127	128	136	130	108	84	81	66	49
29	34			30				58	90	81	72	64	70	80	91	90	101	112	114	77	42			
30	42		35	34			29	63	71	70	76	74	96	106	105	110	118	118	120	89	89	53	32	
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	18	13	11	23	12	9	20	29	28	29	21	23	27	27	30	30	28	30	30	30	24	17	15	12
MED	36	38	34	34	33	30	31	60	68	68	66	66	78	82	85	89	88	92	100	86	76	53	44	44
U Q	42	45	44	37	40	31	34	65	71	73	71	76	87	90	100	94	100	105	110	88	81	61	62	51
L Q	34	33	34	31	29	28	29	58	64	63	64	64	68	74	75	80	84	86	87	77	53	43	37	35

HOURLY VALUES OF fEs AT Okinawa

SEP. 2010

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	58	49	G	26	31	28	26	33	36	50	91	50		49	50	40	46	43	44	39	30	32	60	36
2	32	28	28	G	39		30	32	58	50	52	51	G	G	49	54	128	50	49	41	34	43	28	G
3	G	G	32	G	G		24	33	G	G	G	G	G	G	G	G	G	G	28	G	G	24		
4	G	G	G	G			G	33		N	G	G	G	G	G	G	G	38	35	G	32			G
5			G						G	G		G	G	G	G	G	G	G	29	G	G	G	G	
6	33	40	G	G	G	G		G	38	G	G	G	G	G	G	42	48	47	32	29	28	30	38	43
7	G	38	36	30	G	28	29	G	42	47	42	G	G	G	G	G	44	41	44	27	29	24		G
8	48	40	36	G	G	G	G	38	39	49	53		G	G	G	47	G	40	43	34	43	56	28	
9		29				G	G	G	39	43		G	G	58	57	67	70	86	73	34	34	31	39	40
10	39	50	38	30		G		29	G	42	43	G	G	G	G	G	71	66	49	52	69	59	32	
11			43		31		26	31	40	46	G	68	58	G	G	66	52	57	45	59	73	67	48	G
12	G	G		G	G		G	G	35	G	G	G	G	G	G	G	G	G	G	G	11	G	29	58
13	G	28		G			G	33	G	G	G		G	G	G	54	52	56	28	45	60	50	34	G
14	G	G	G	G			G	28	G		G	G	G	G	G	G	44	36	27	G	G	G	30	29
15	25			G		G	G	37	45	47	G	58	G	102	G	G	G	G	34	28	32	29		G
16				G	G	G	G	G	G	G	G	G	G	G	G	G	42	37	29	G	G	G	G	G
17	G	G	G	G	G			G	G	G		G	G	G	G	G	G	G	G	G	28	G	G	G
18	G	G	G	G	G	G	G	G	G	G	G	G	42	G	G	G	G	G	44	49	28			
19	G	G		G	G		G	G	G	G		G	G	G	G	G	G	G	G	G	G	G	G	
20	G	G	G	G				30	G	50	50	G	G		G	42	75	53	40	59	29	24	28	G
21	G	G	G	27		G	G	G	G	G	G	G	G	G	G	G	G	33	G	G	G	G	G	G
22			G	G	G	G	G	34	44	G	74	50	67	G	G	G	48	50	30	35	40	30	G	G
23	G	G	G	G	G		G	35	G	39	G	G	G	G	G	G	G	33	28	G	33	G	G	28
24	27	G	G	G	G		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G			G
25				G	G	G	G		39	G	G	G	G	G	G	46	52	41	G	G	G		G	
26	G	G	G	G	G	G	G	31	36	G	G	G	G	G	G	G	G	G	G	G	27	G		
27			G	G			G	32	38	G	G	G	G	G	G	G	G	36	30	71	37		G	G
28	43	32	G	G		G	G	G	G	G	G	G	G	G	G	G	G	G	38	G	G	G	G	G
29	G			G	G			G	G	G	G	G	G	G	G	G	G	G	29	G	G	G		
30	G	G	G	G	G		G	G	G	37	G	50	G	G	G	G	G	G	28	G	G	27	G	
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	22	22	27	19	14	24	28	29	28	26	28	29	29	30	30	30	30	30	30	30	25	22	20
MED	G	G	G	G	G	G	G	28	G	G	G	G	G	G	G	G	G	36	30	G	28	24	14	G
U Q	32	32	28	G	G	G	G	33	39	44	42	G	G	G	G	42	48	47	43	39	34	31	32	28
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	27	G	G	G	G	G

HOURLY VALUES OF fmin AT Okinawa

SEP. 2010

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

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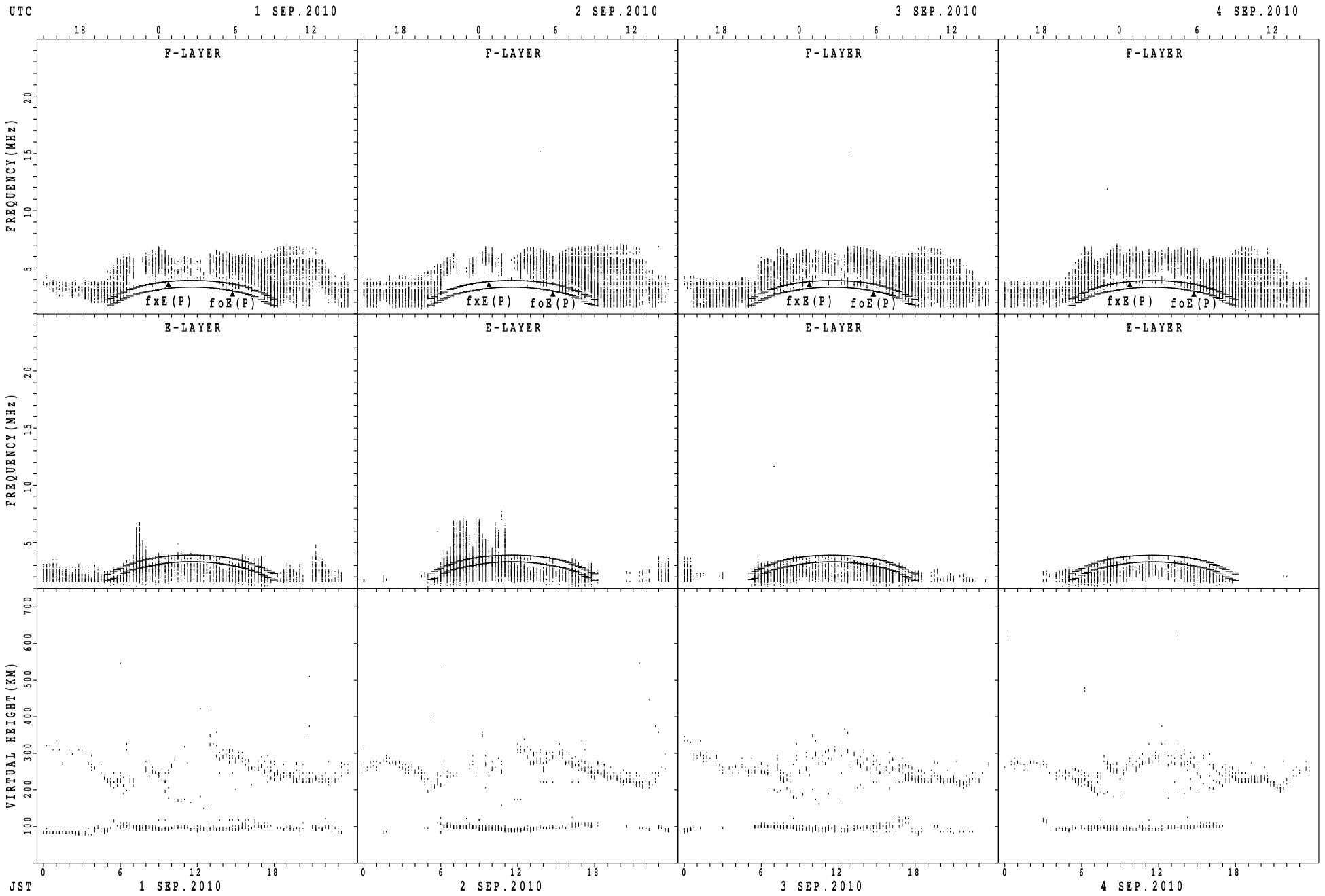
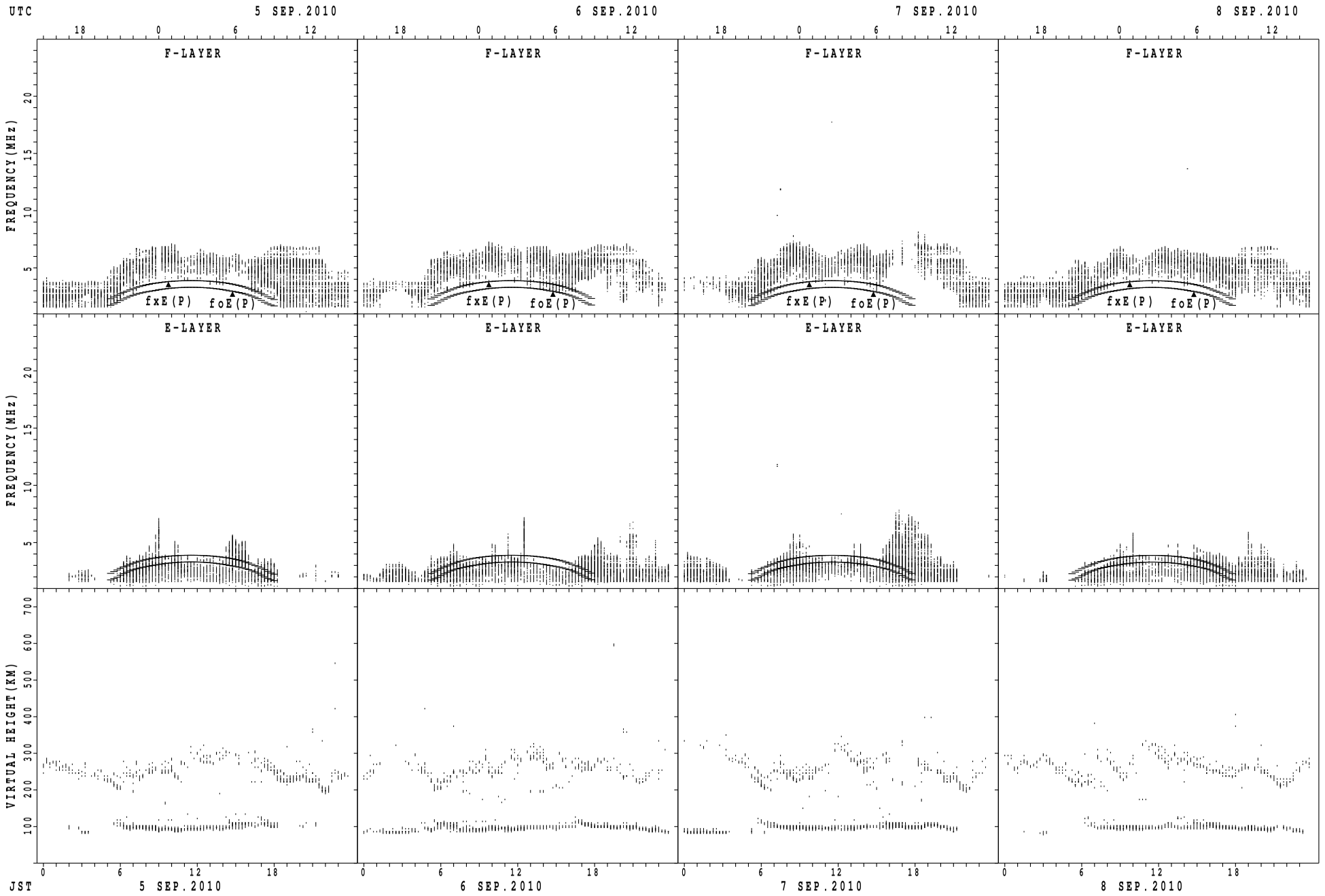
25				17	20	15	14		14	44	45	55	52	56	43	33	22	15	21	21	22		21	
26	16	16	24	17	16	22	15	15	20	34	54	46	53	53	43	45	40	24	20	20	24	15		
27			20	17			15	18	29	23	42	45	58	45	45	43	42	16	16	21	15		22	21
28	14	15	18	14		14	17	23	28	39	43	44	55	52	23	21	38	28	14	23	26	15	16	15
29	15			18	18			24	22	28	43	52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

SUMMARY PLOTS AT Wakkanai



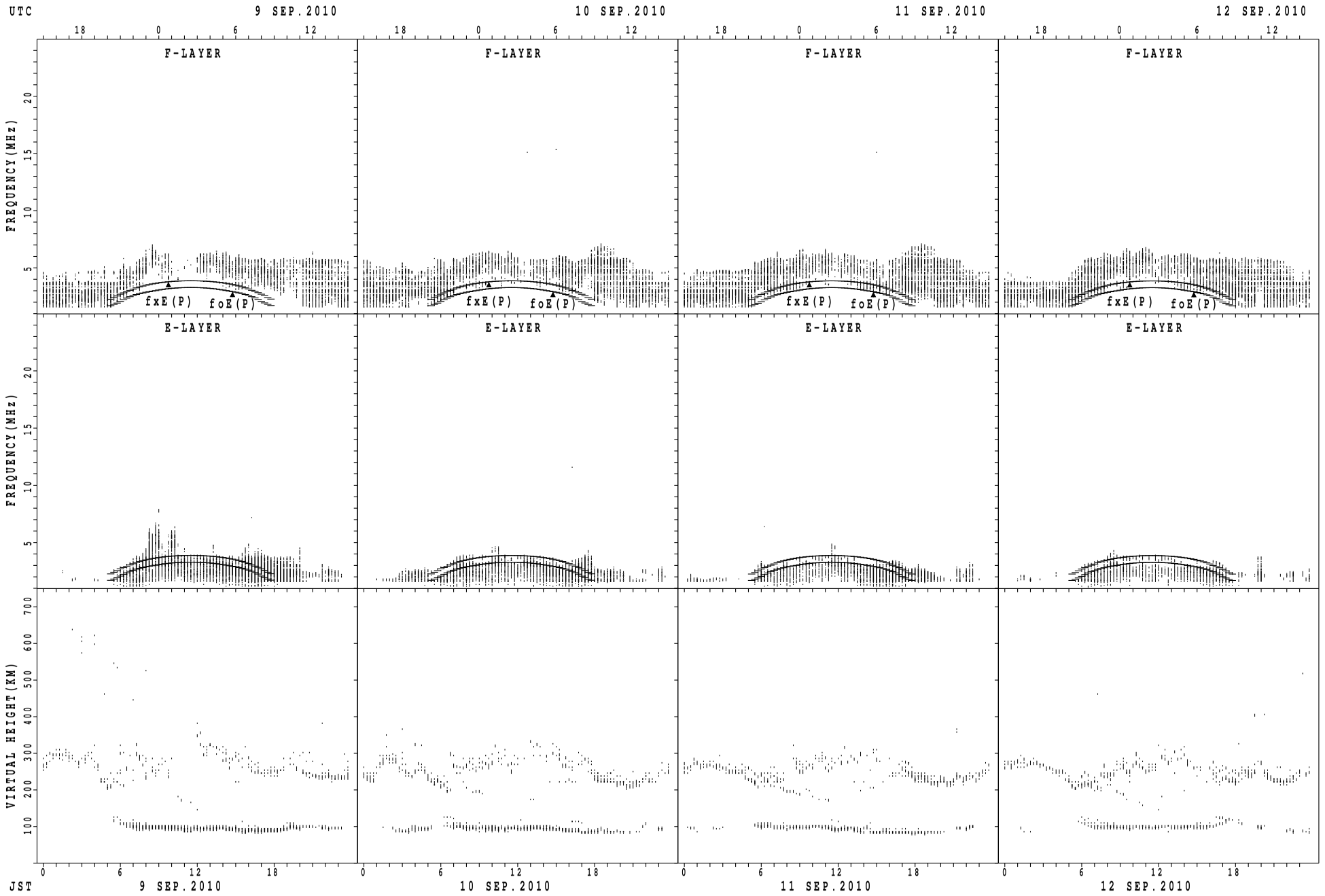
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



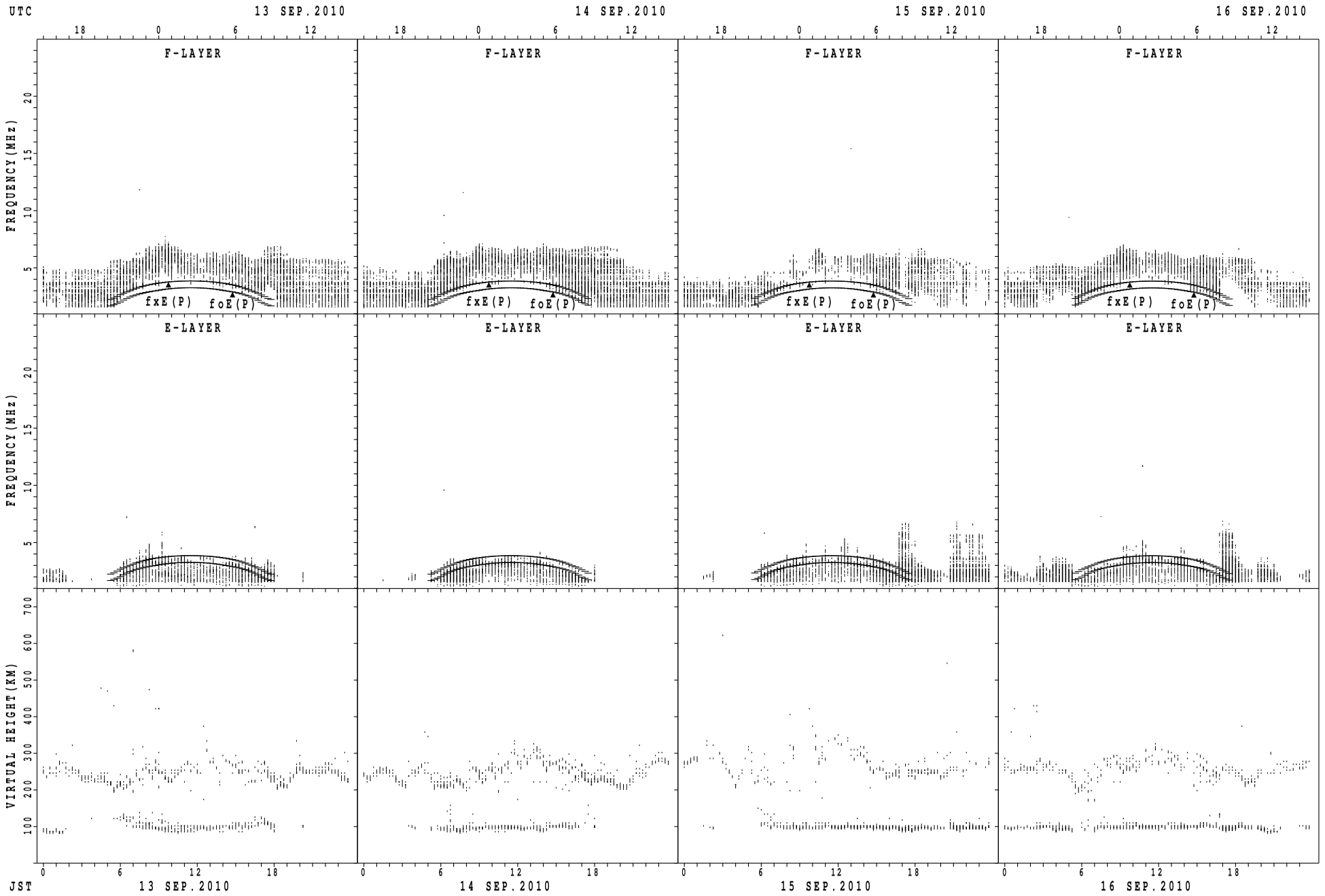
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



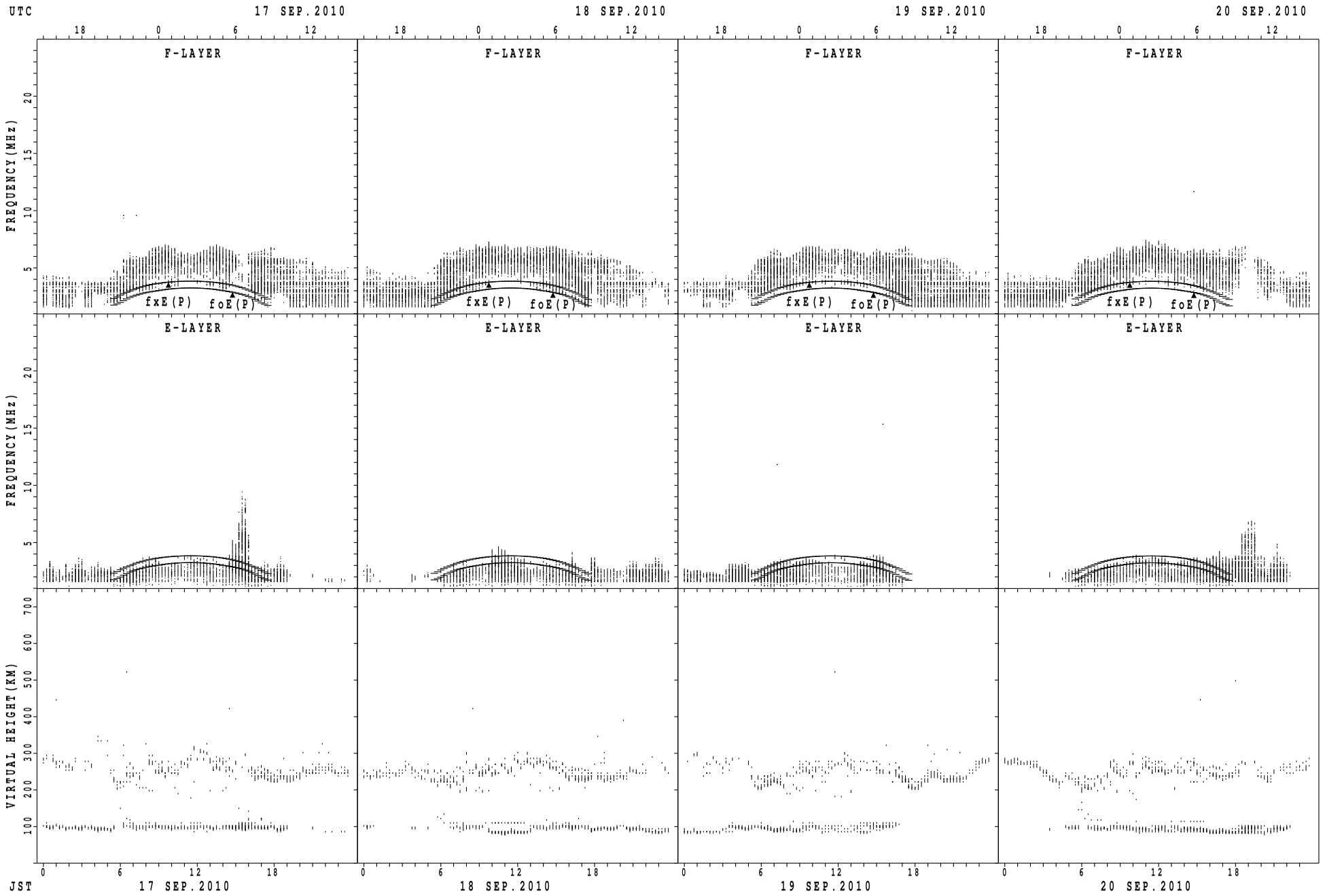
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



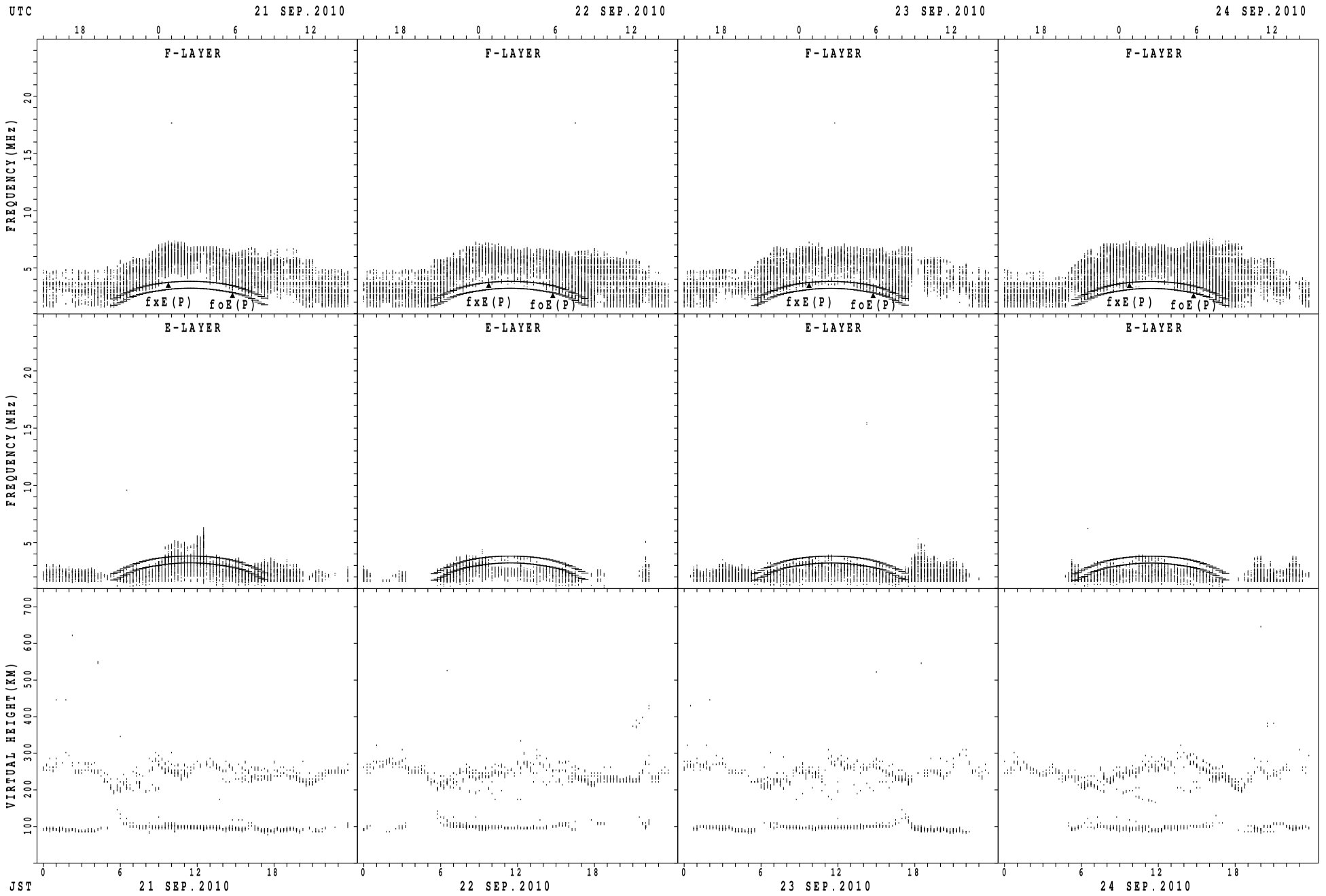
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



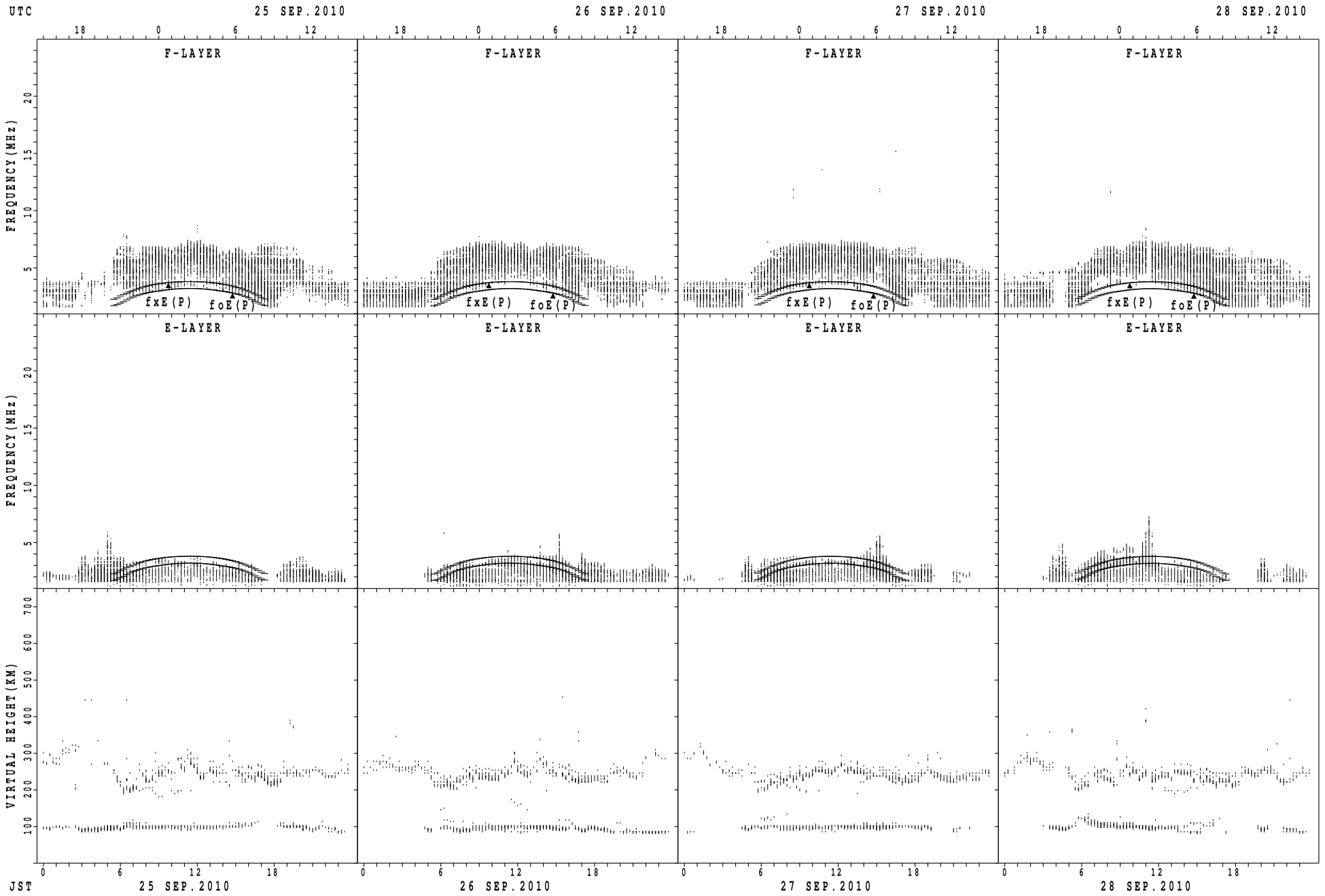
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



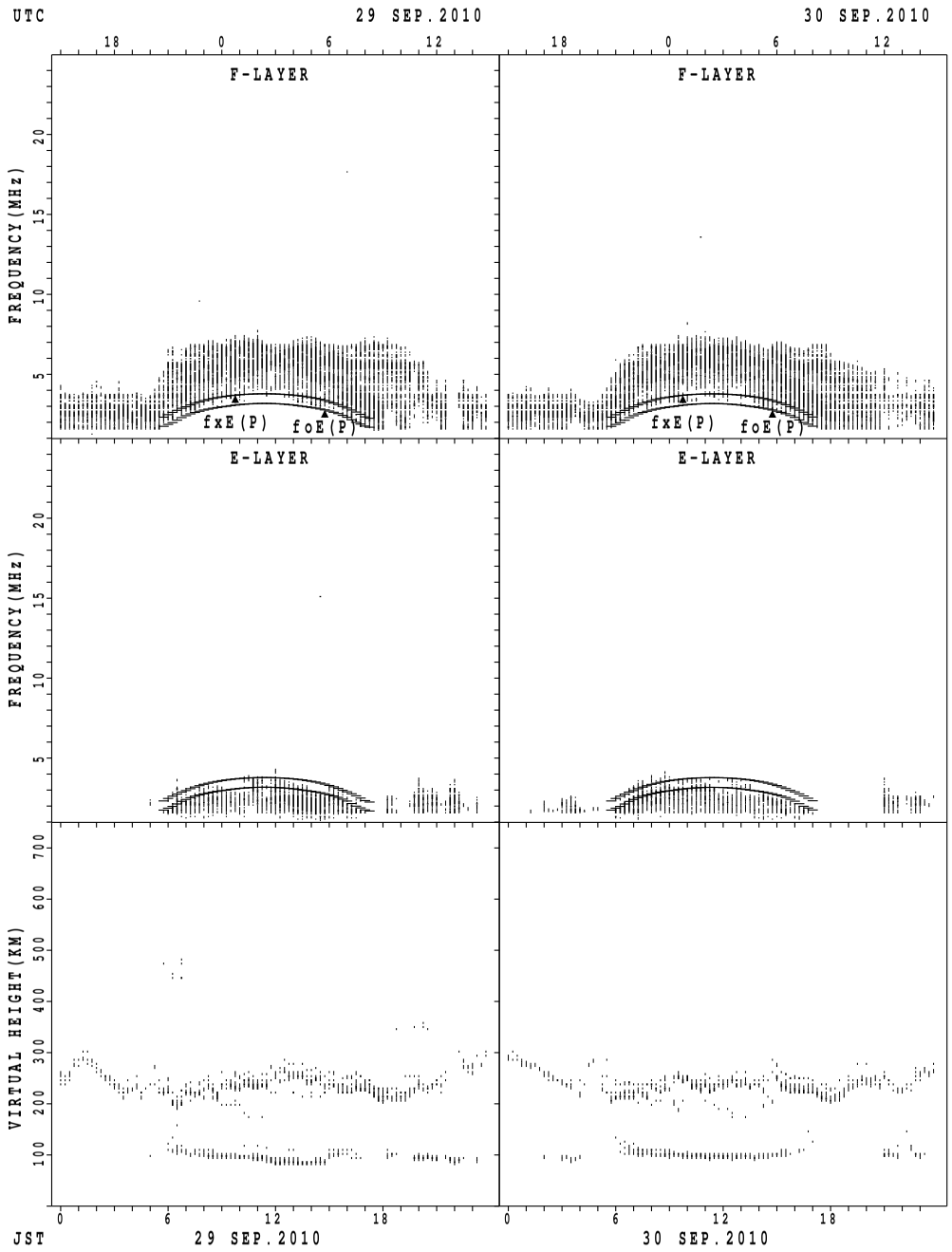
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



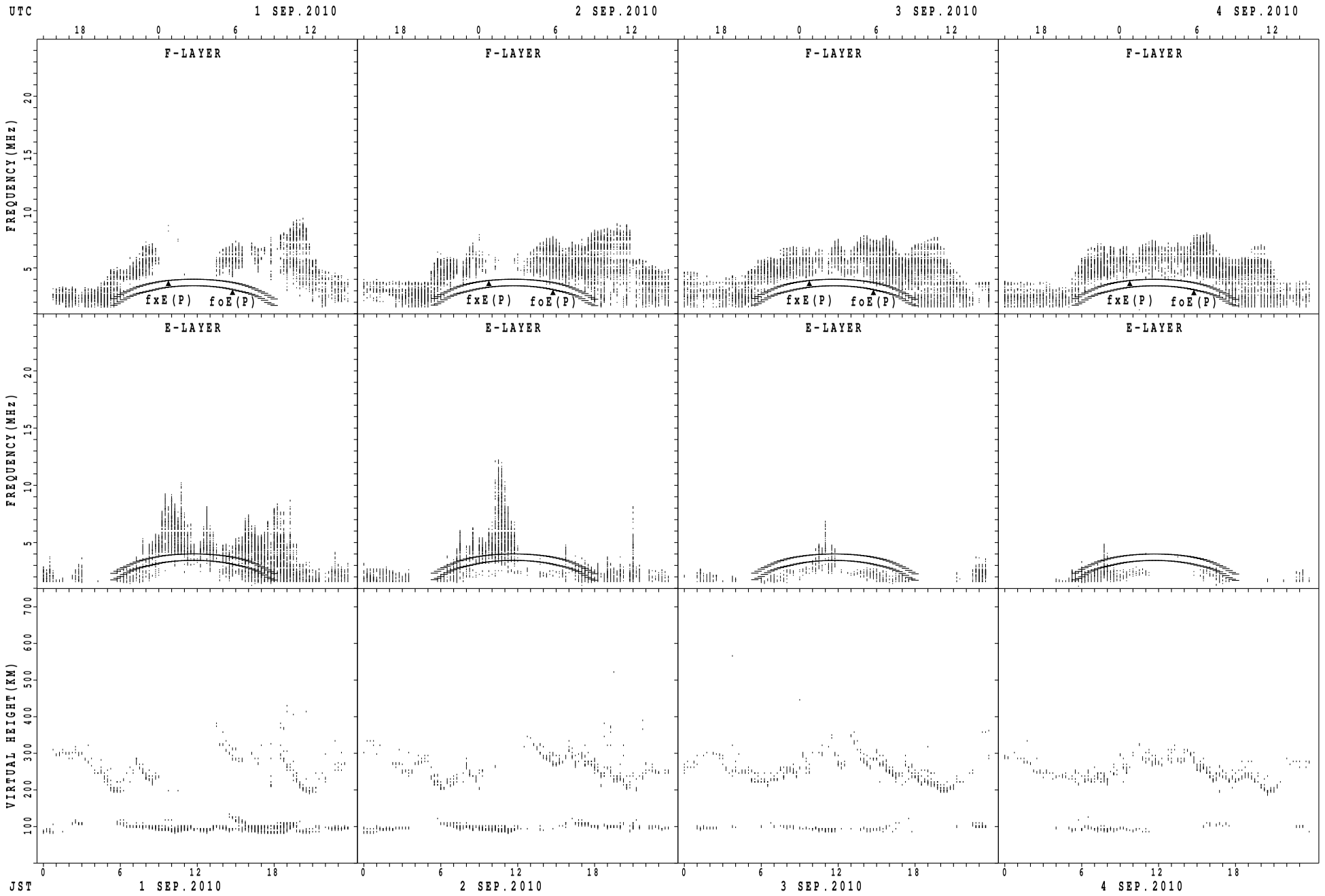
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



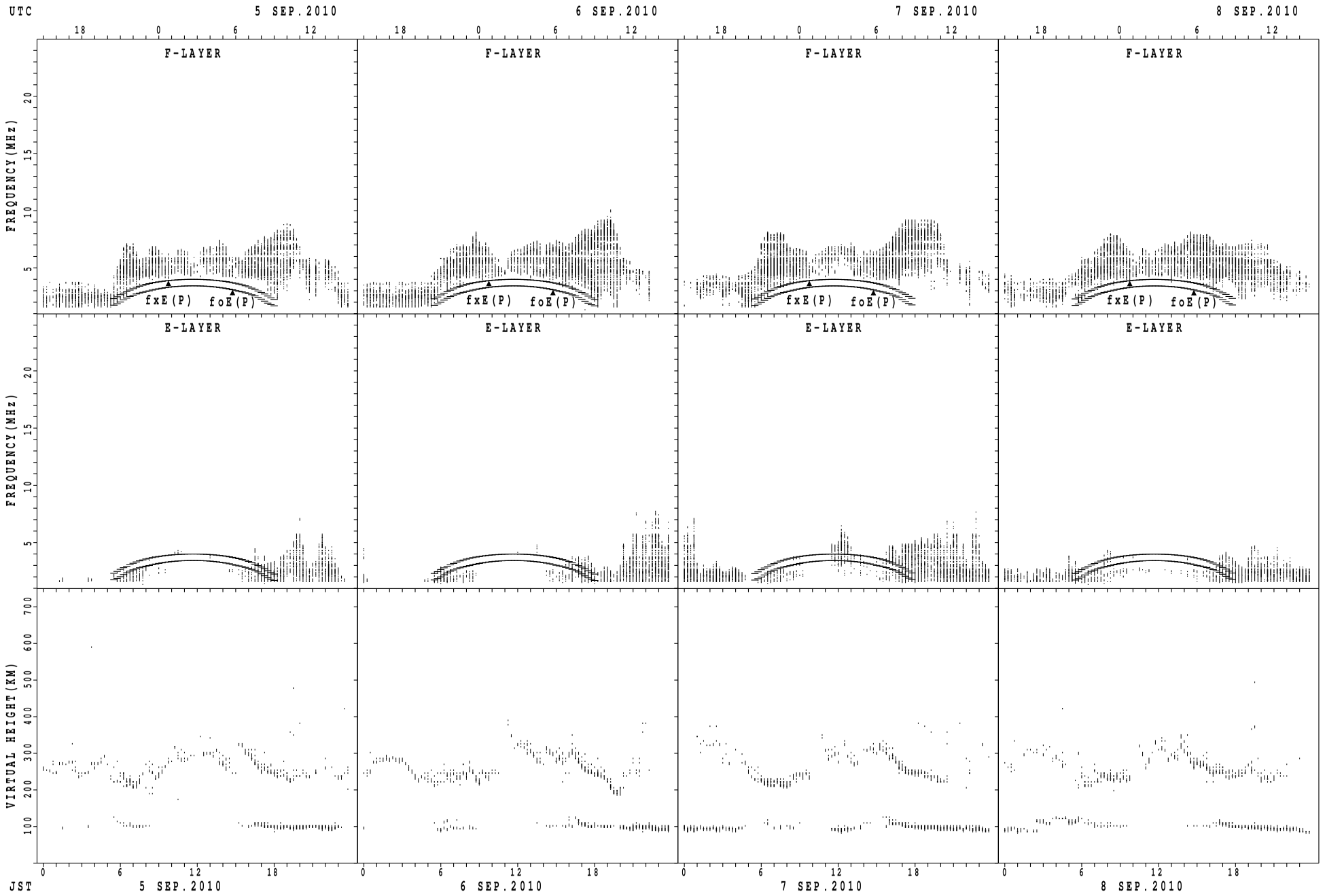
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



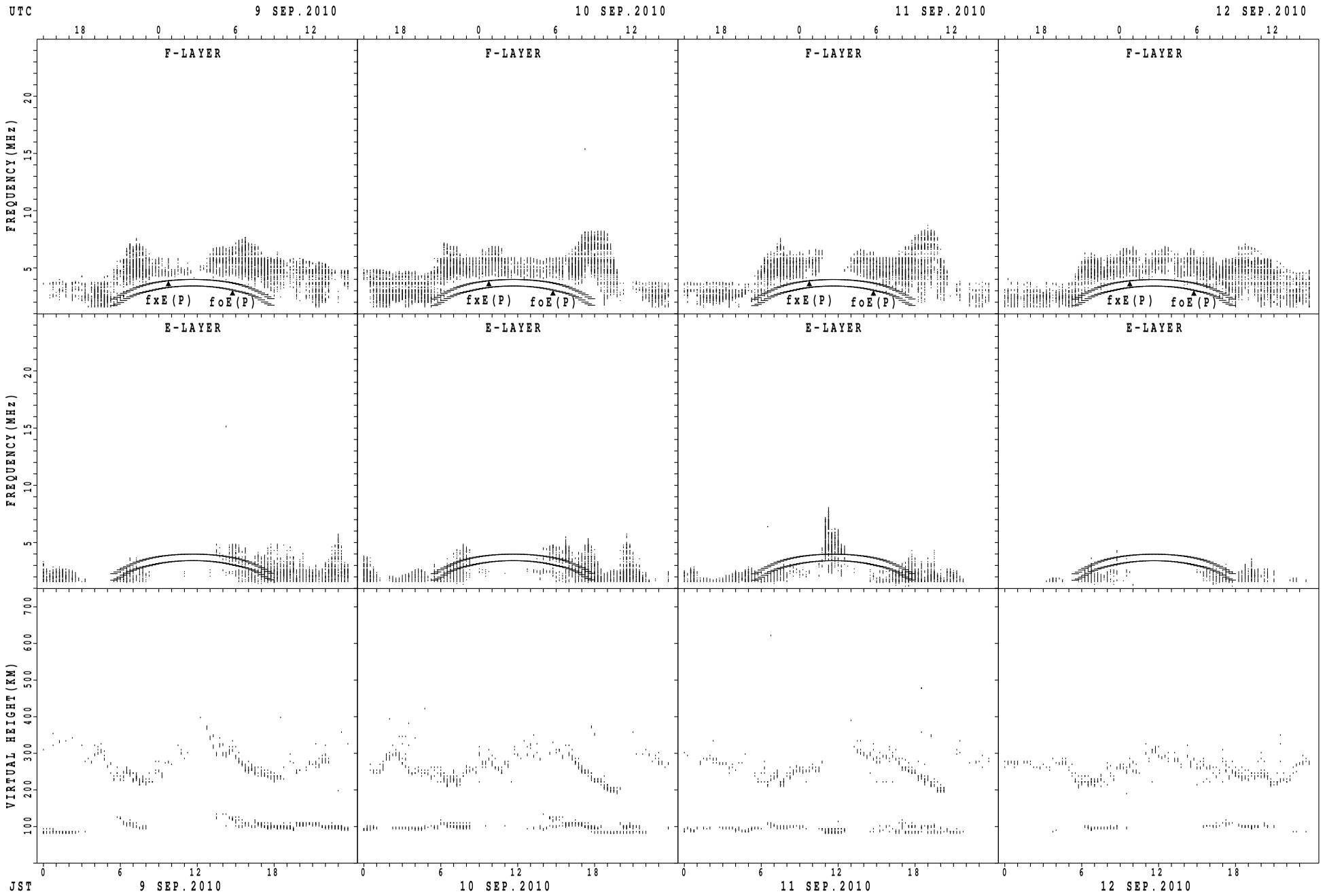
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



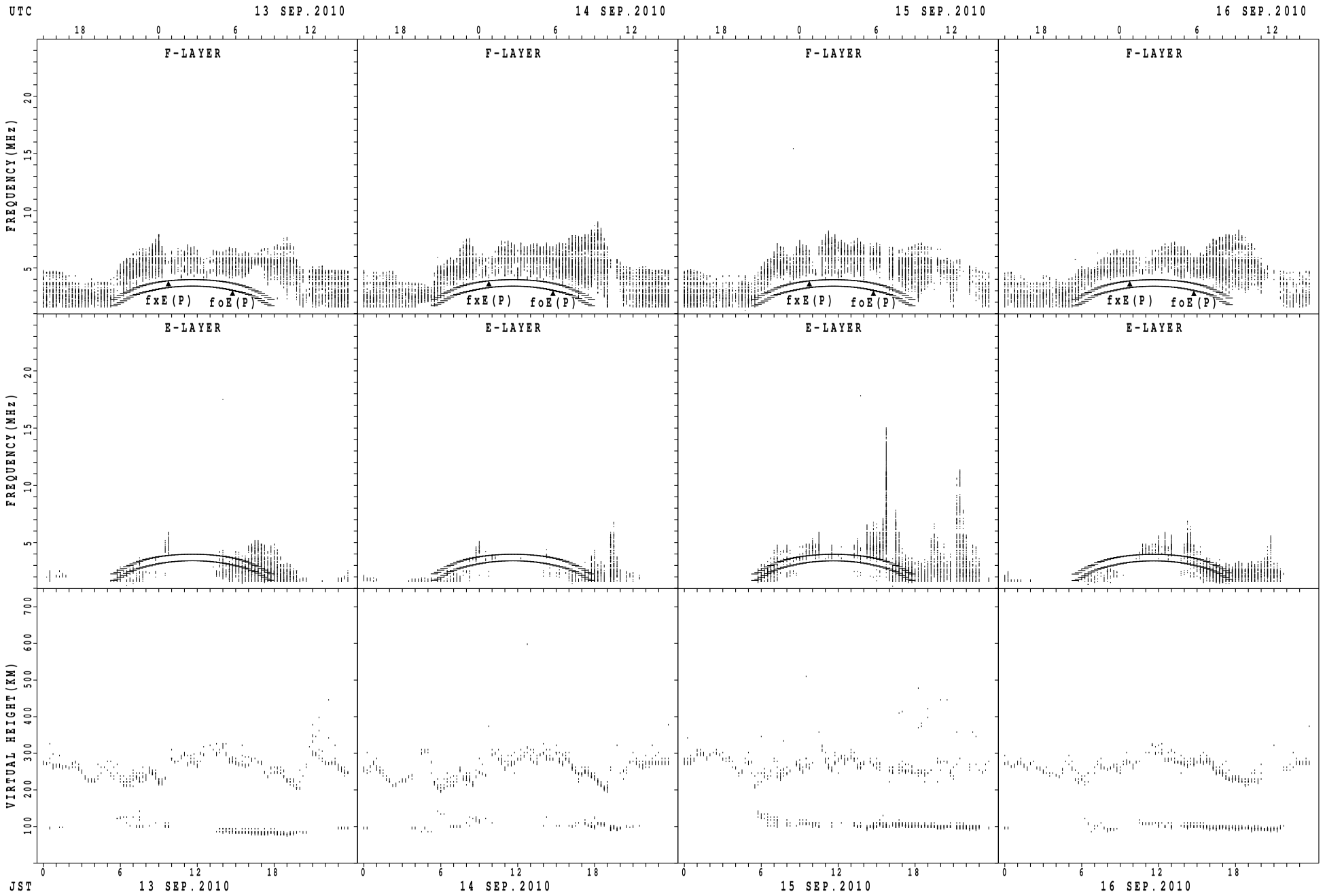
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



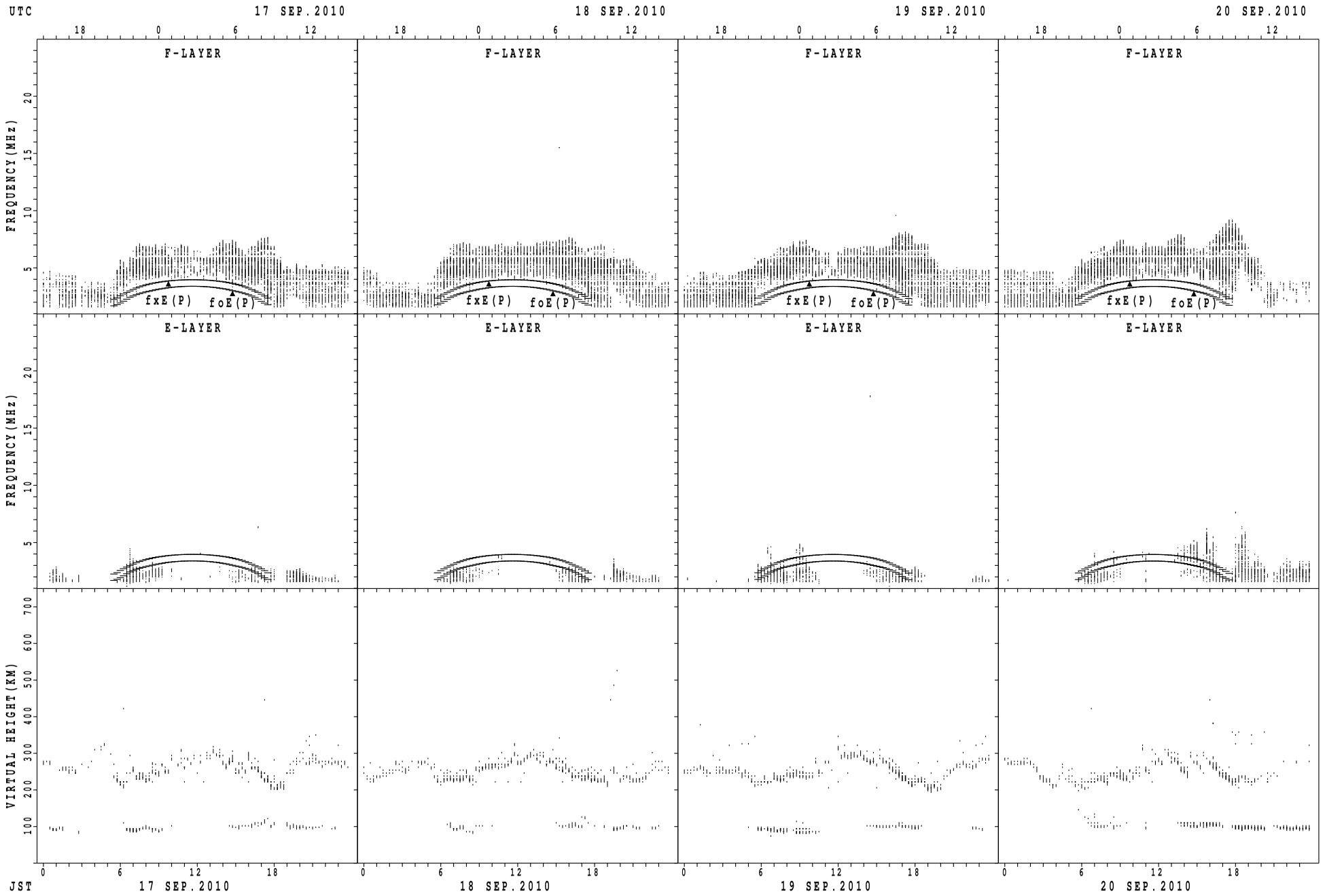
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



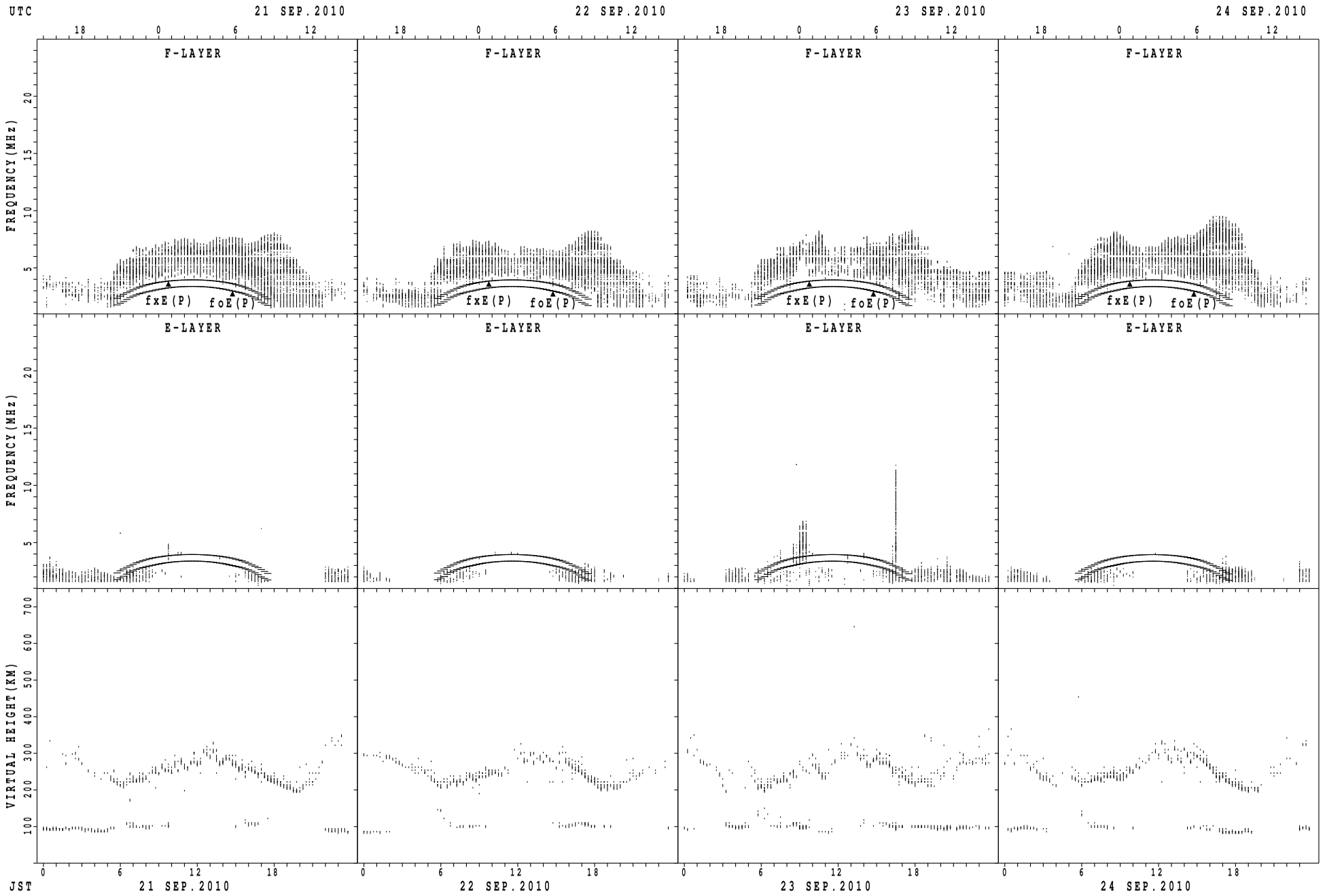
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



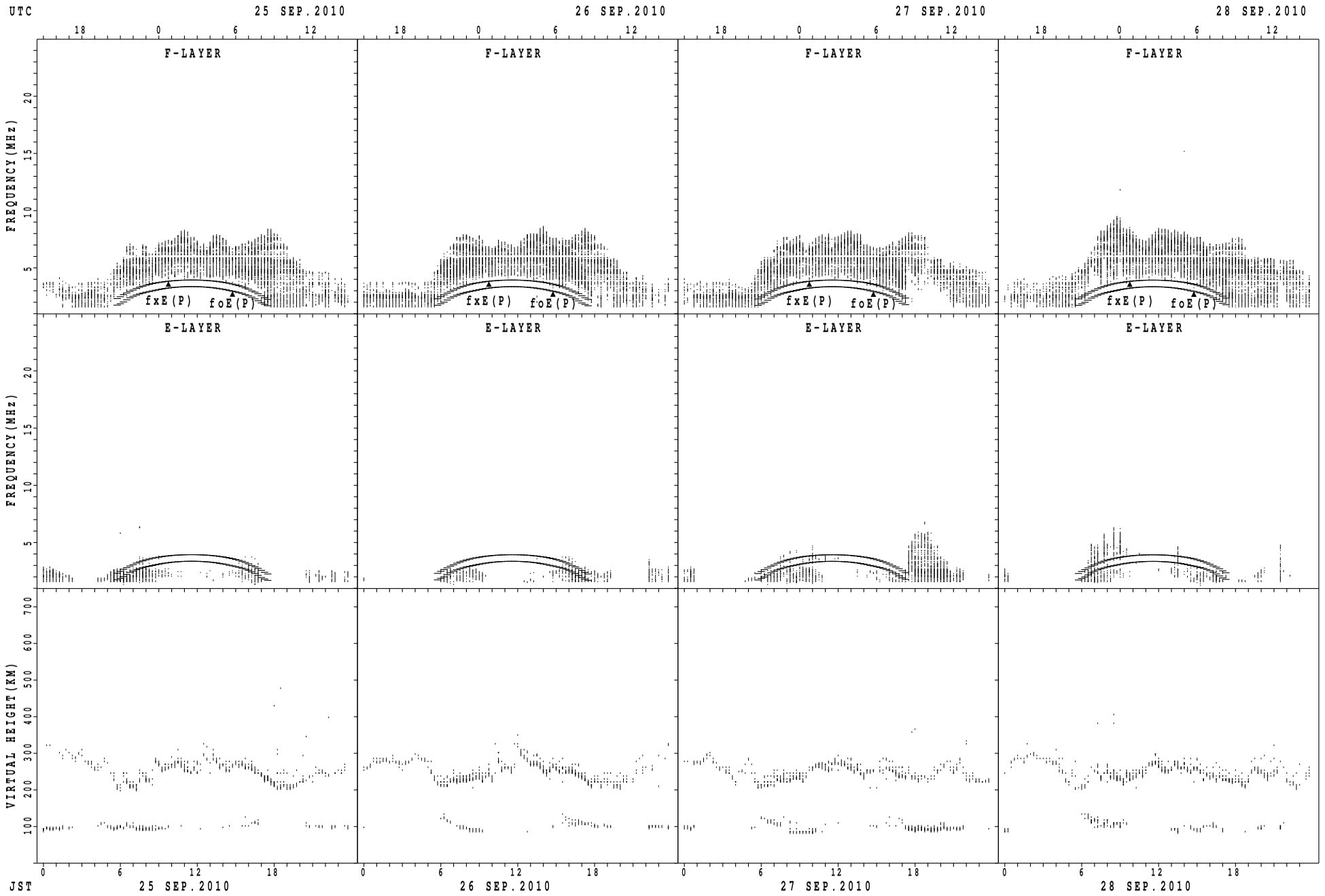
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



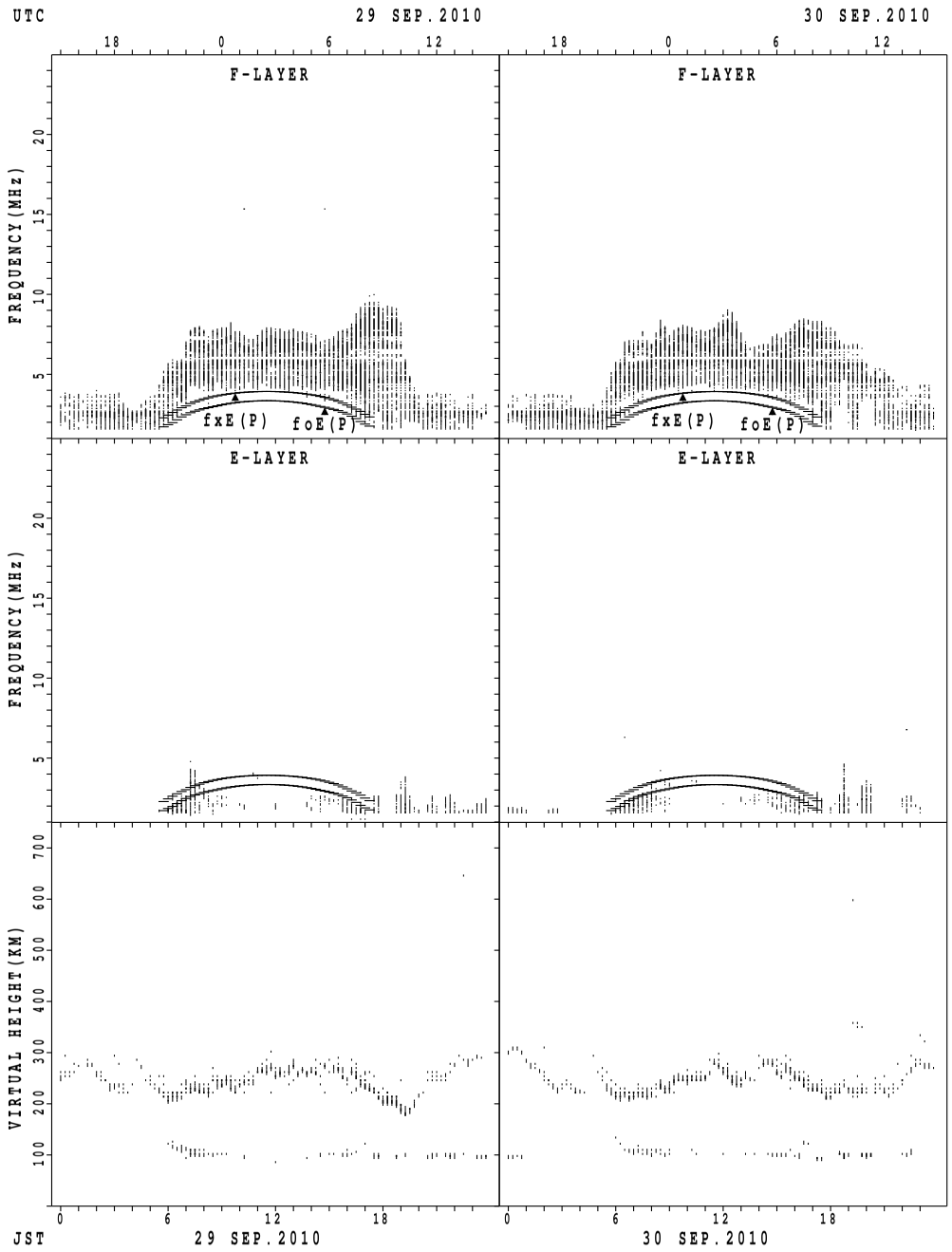
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



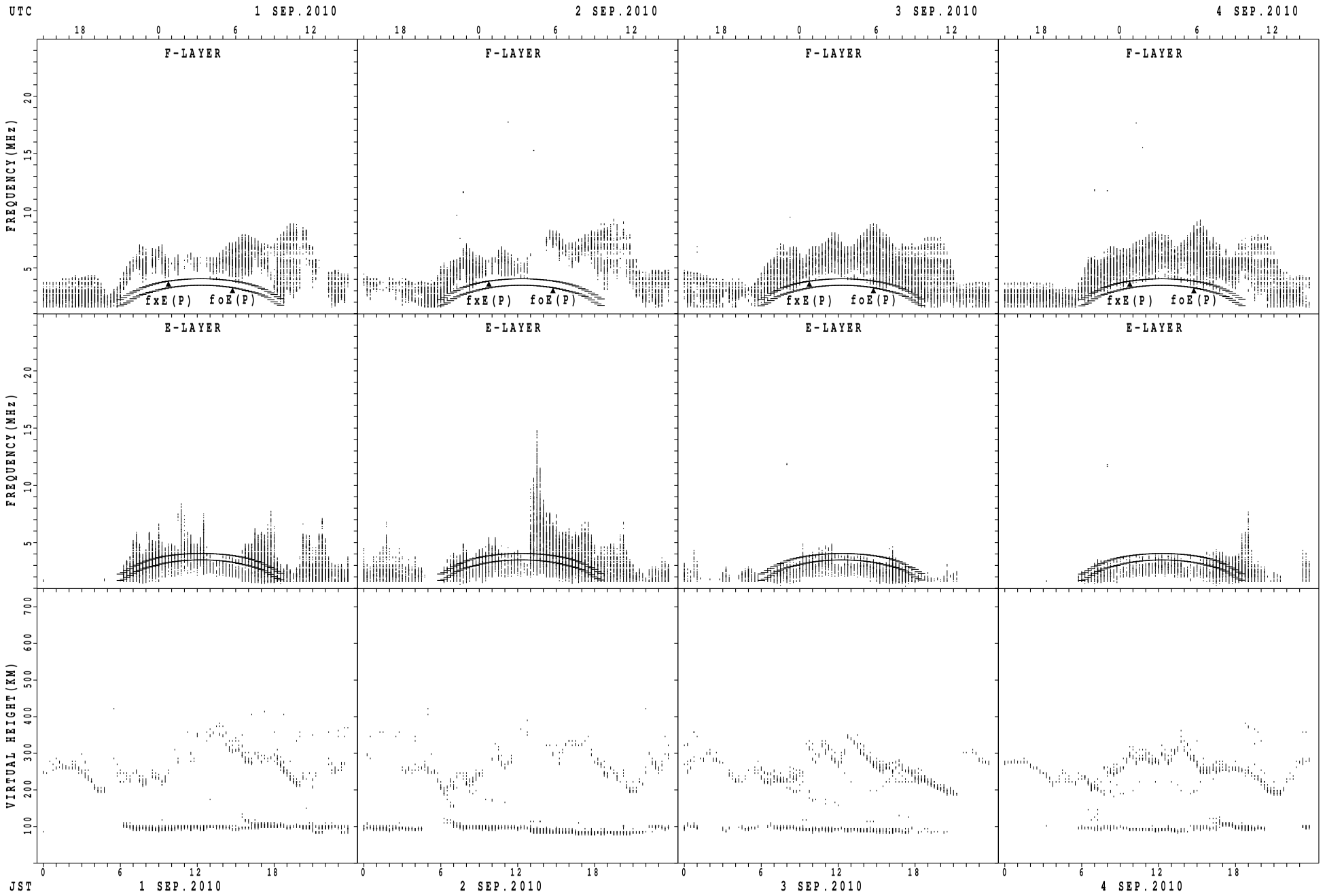
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



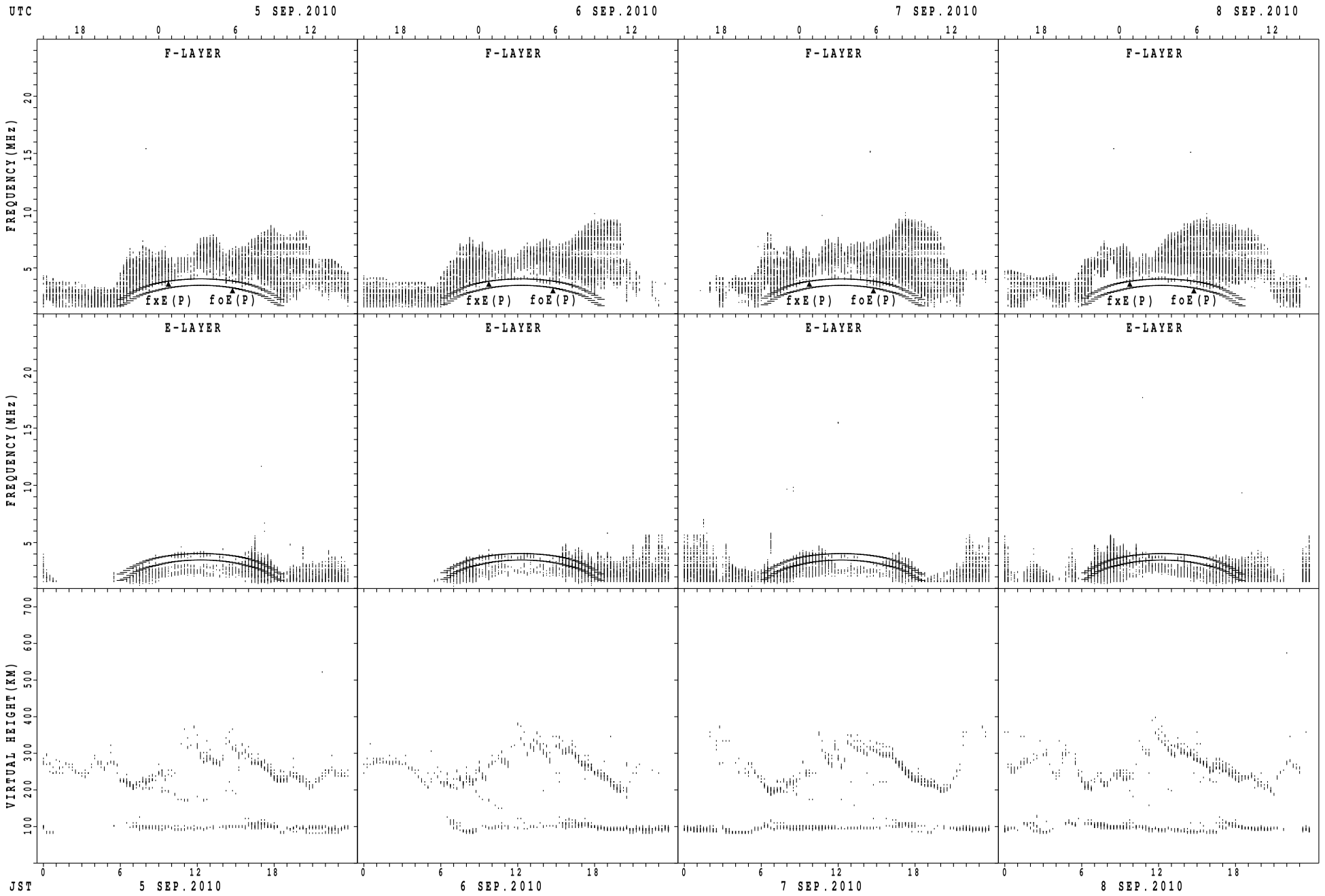
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



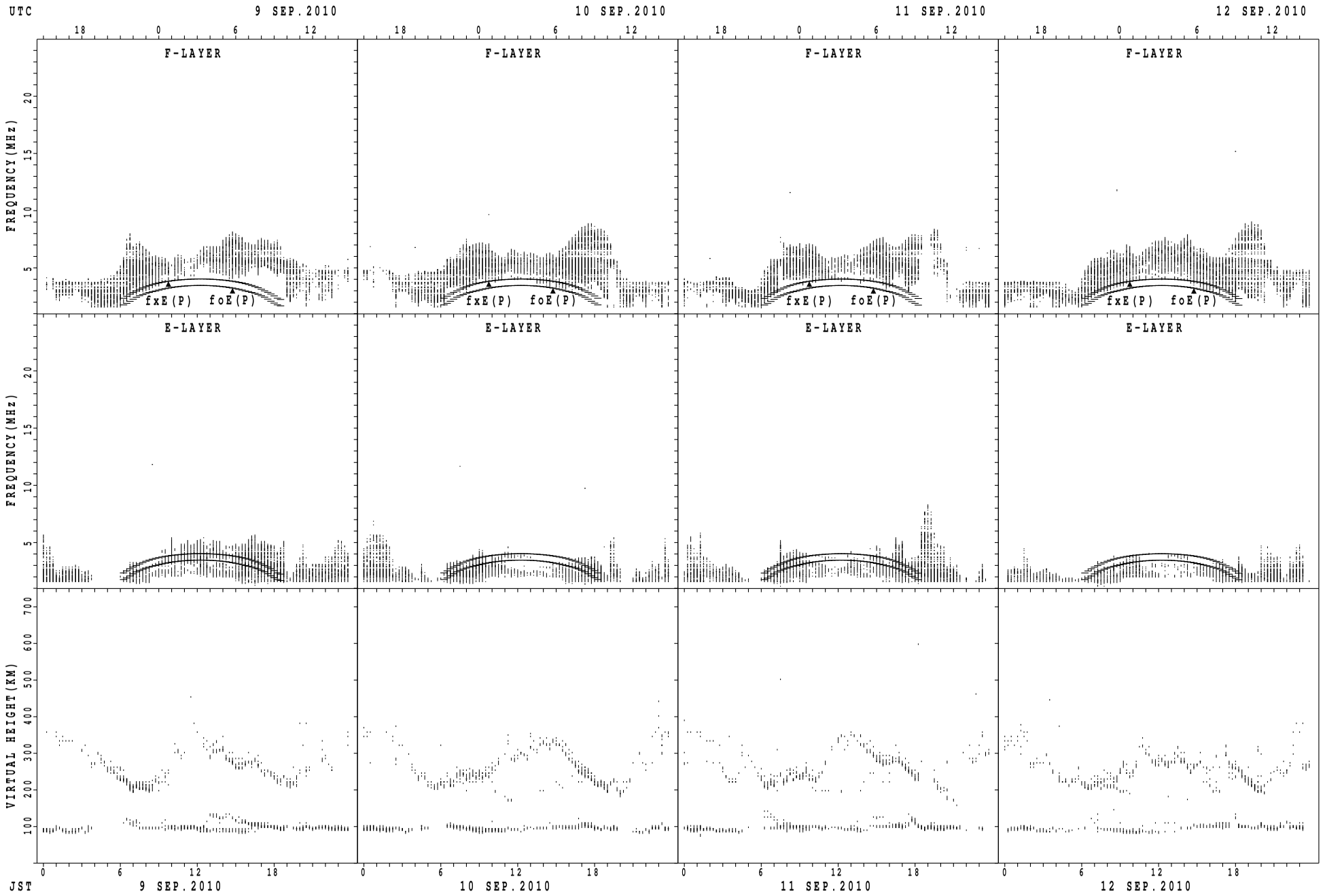
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



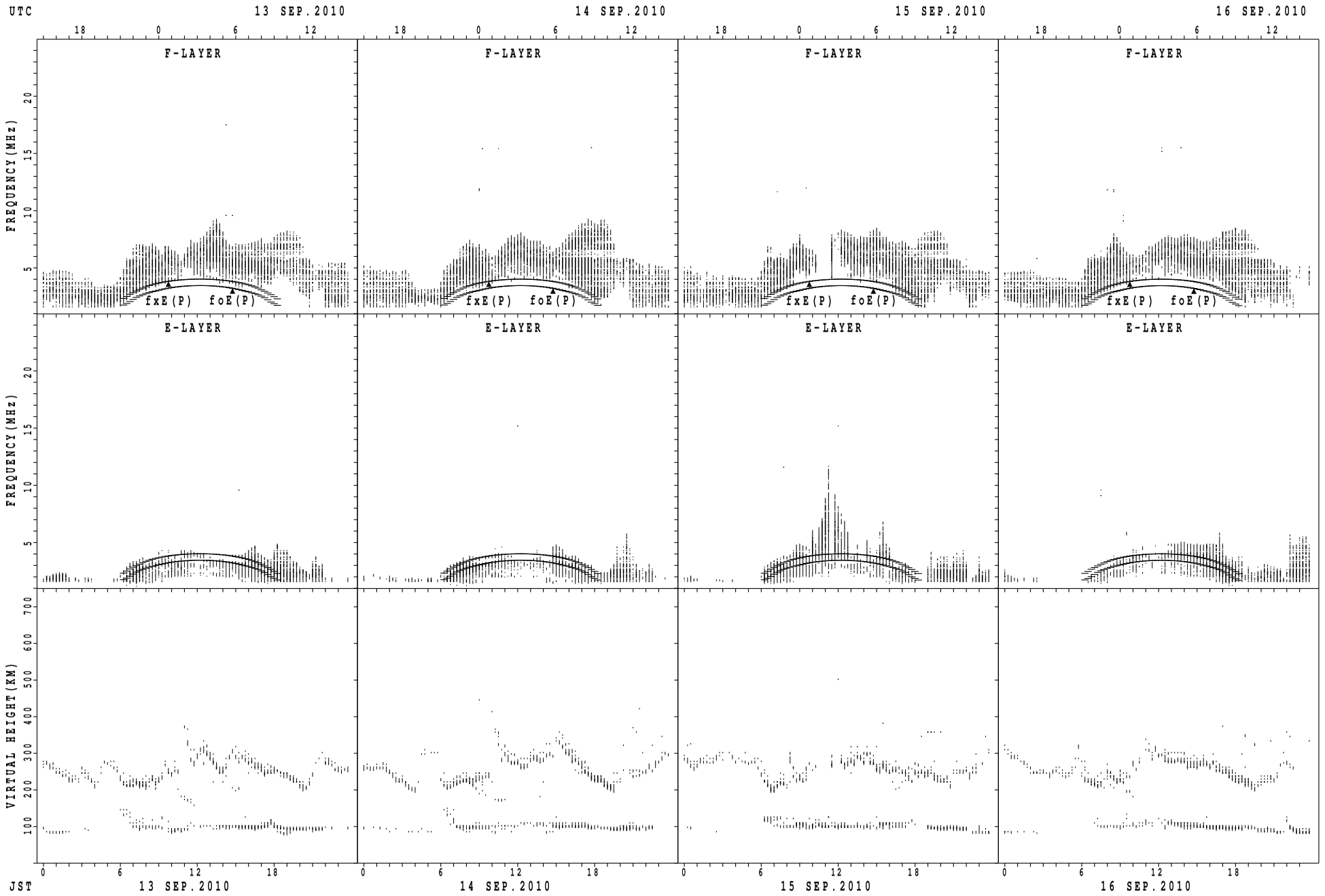
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



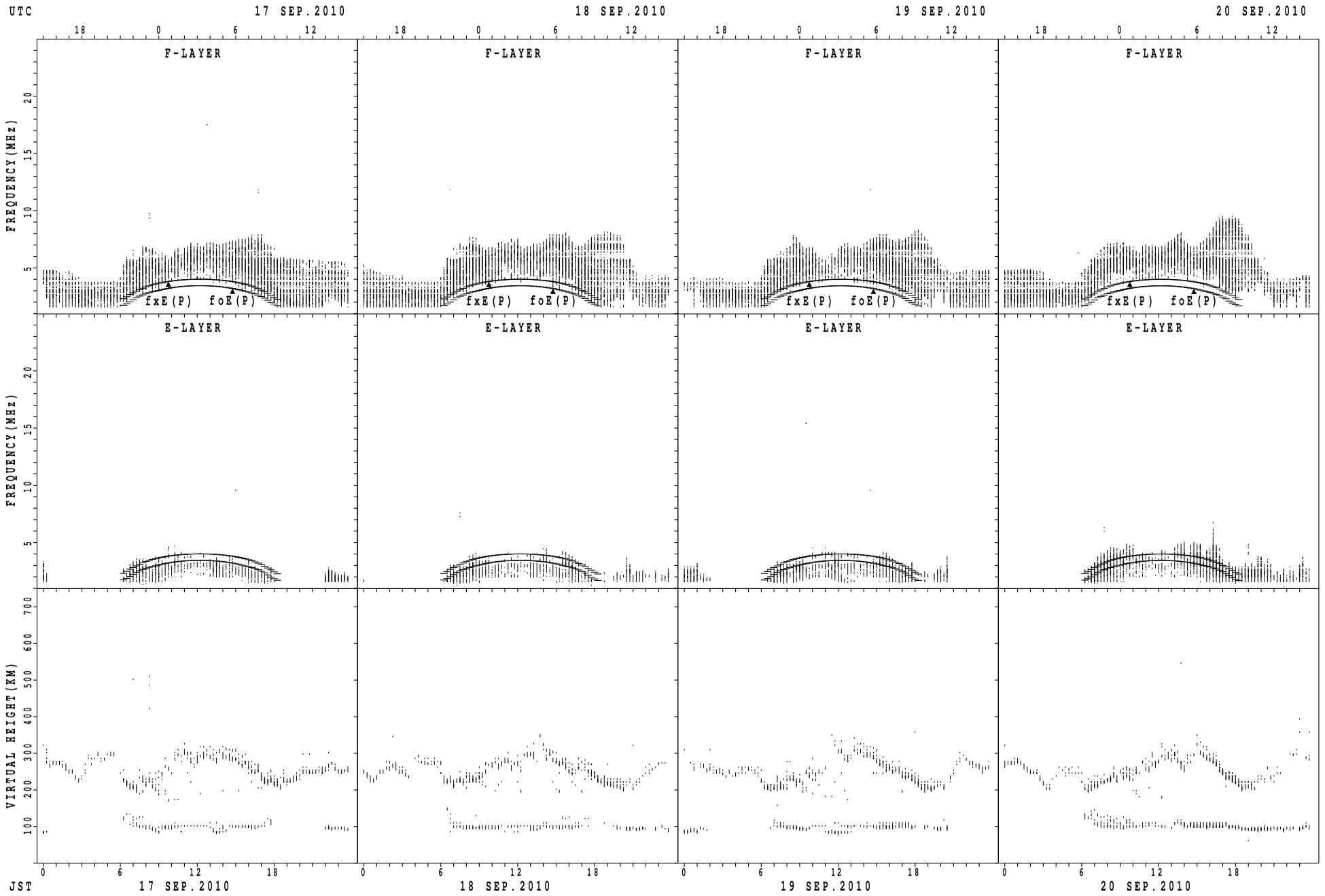
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



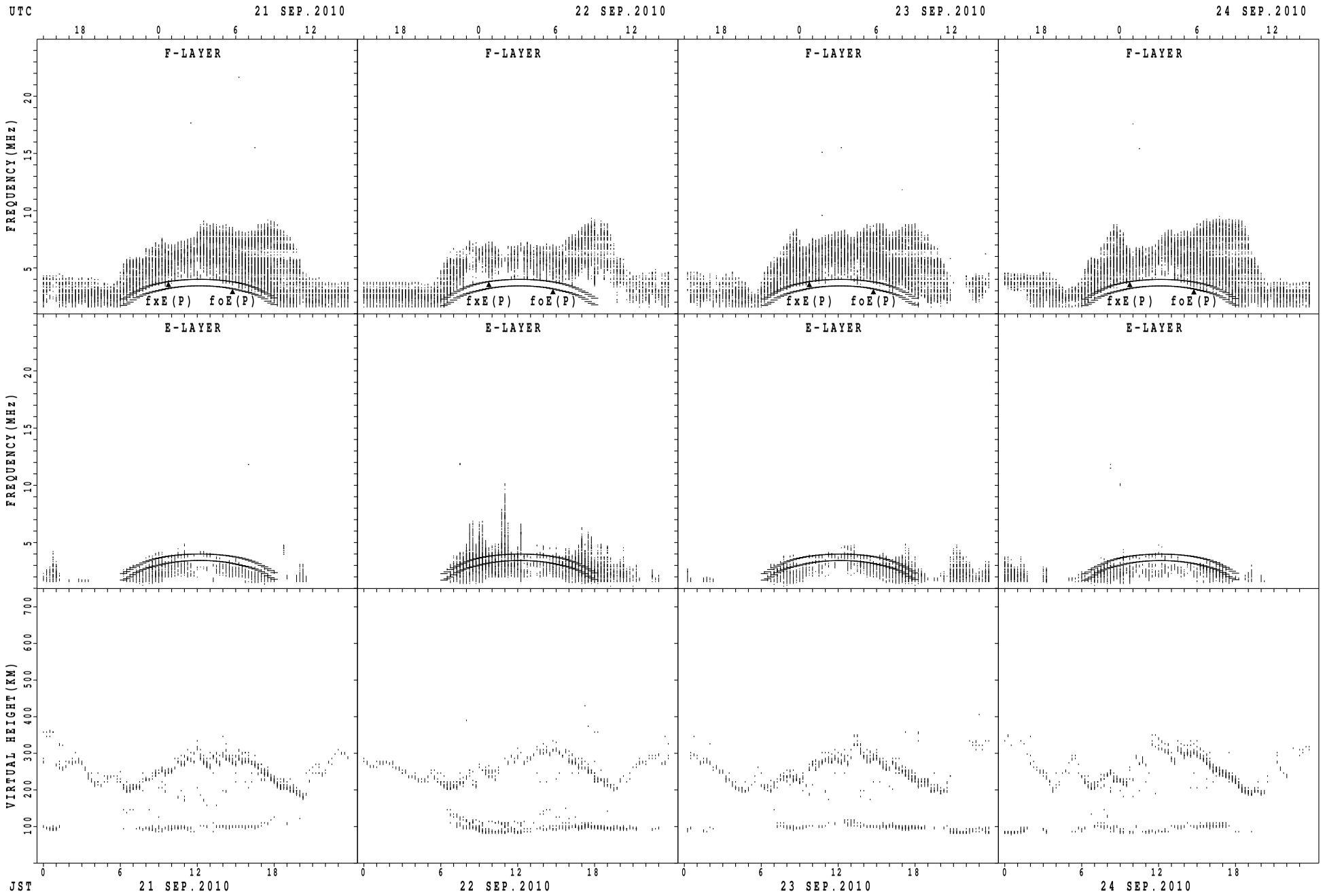
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



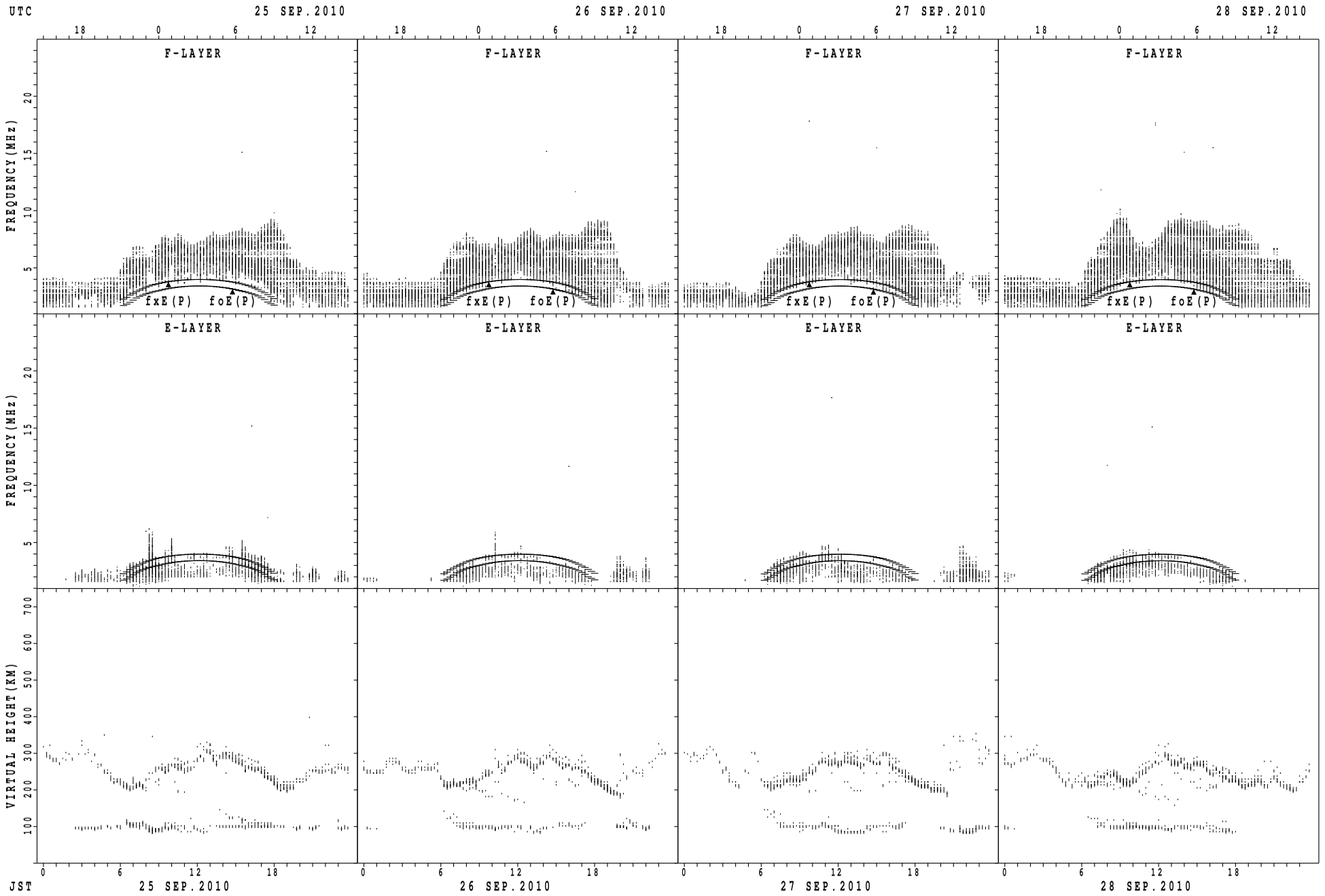
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



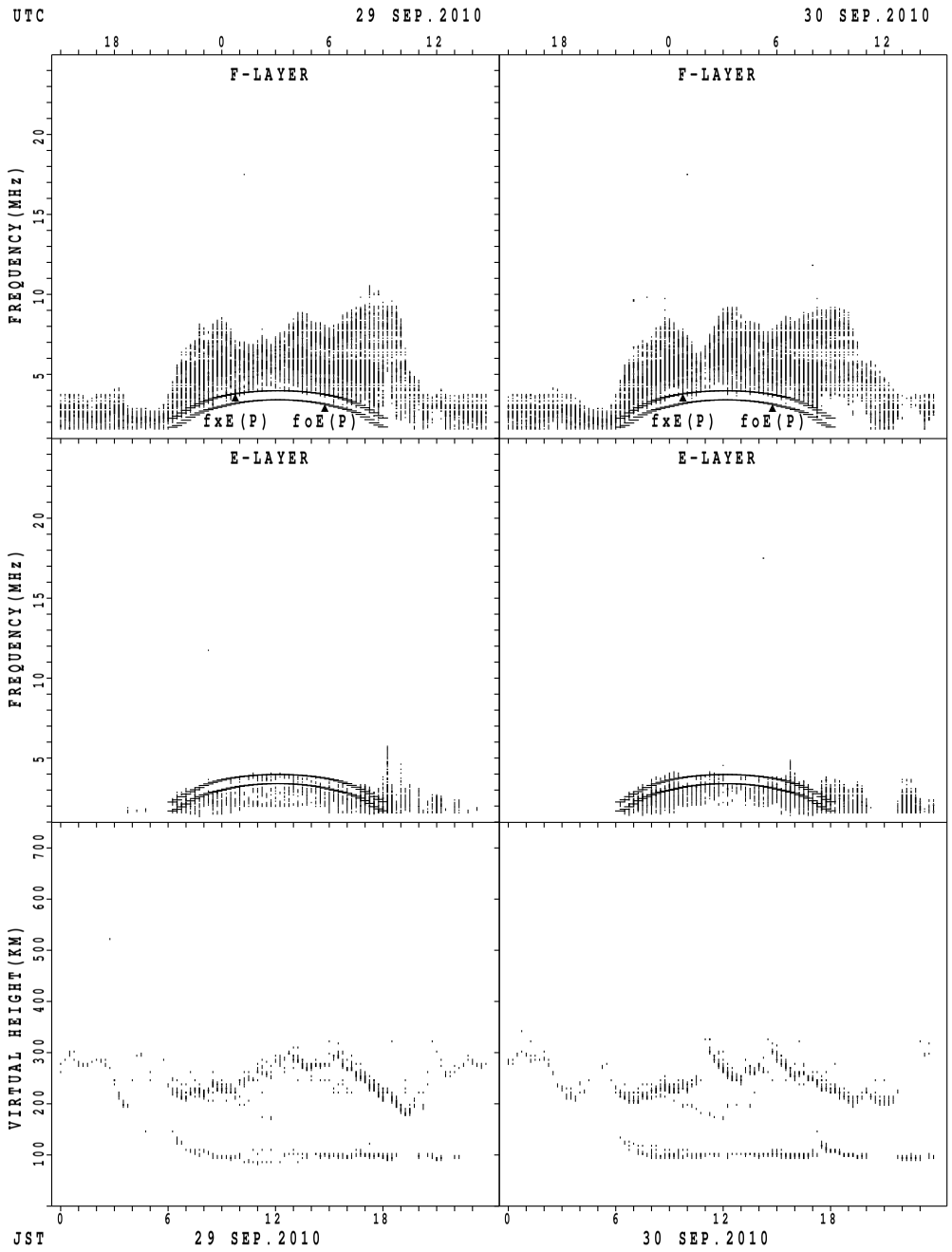
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



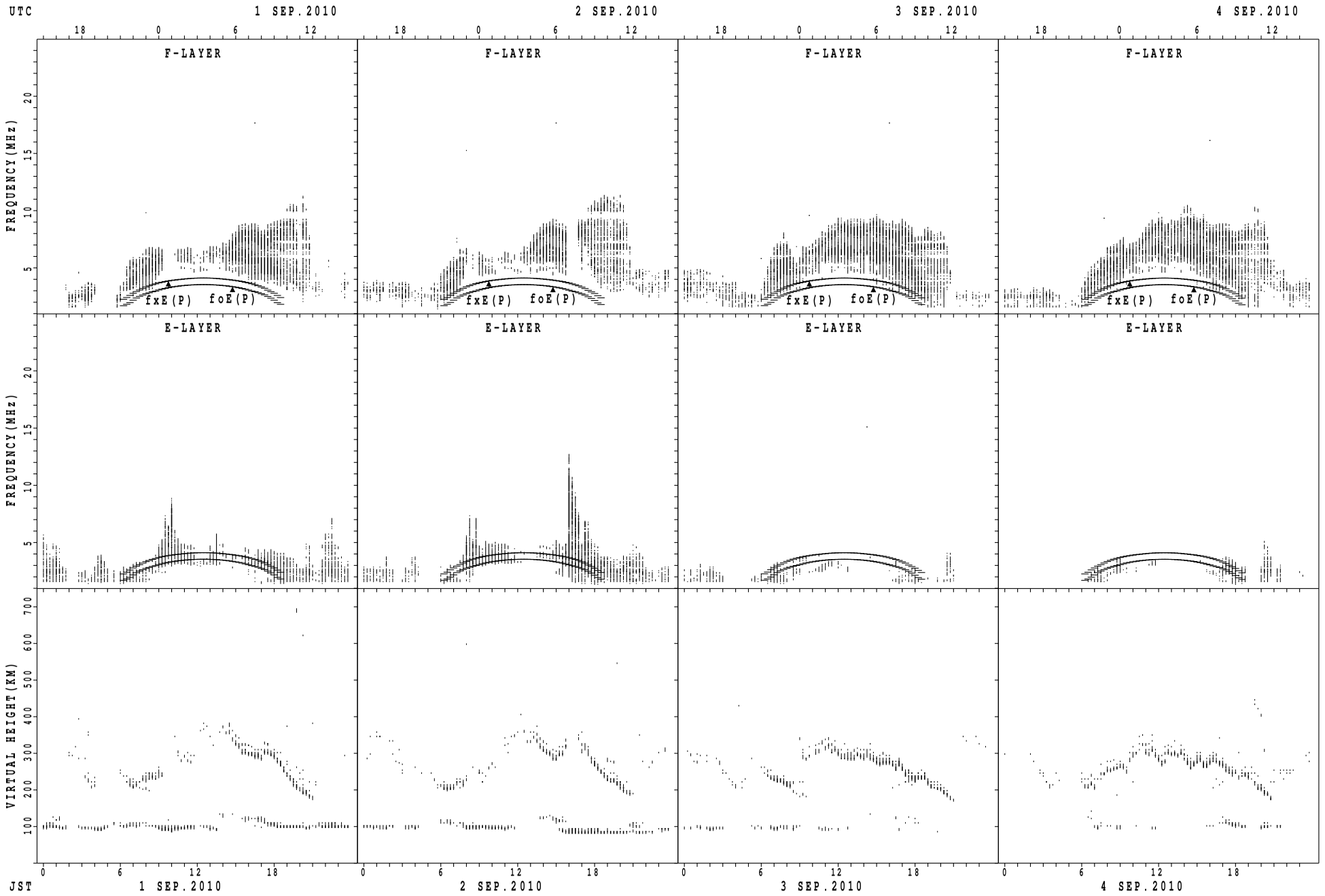
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



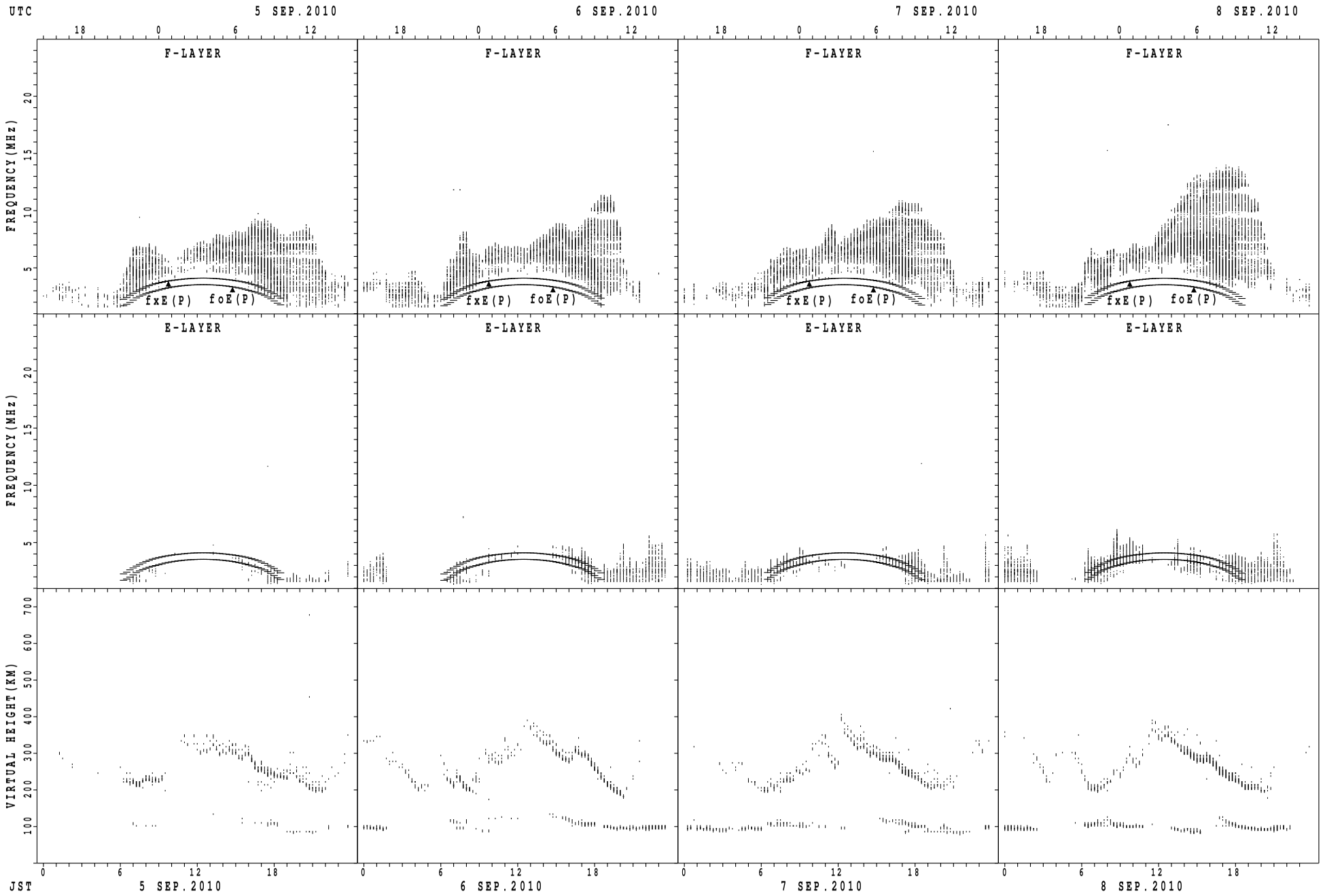
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



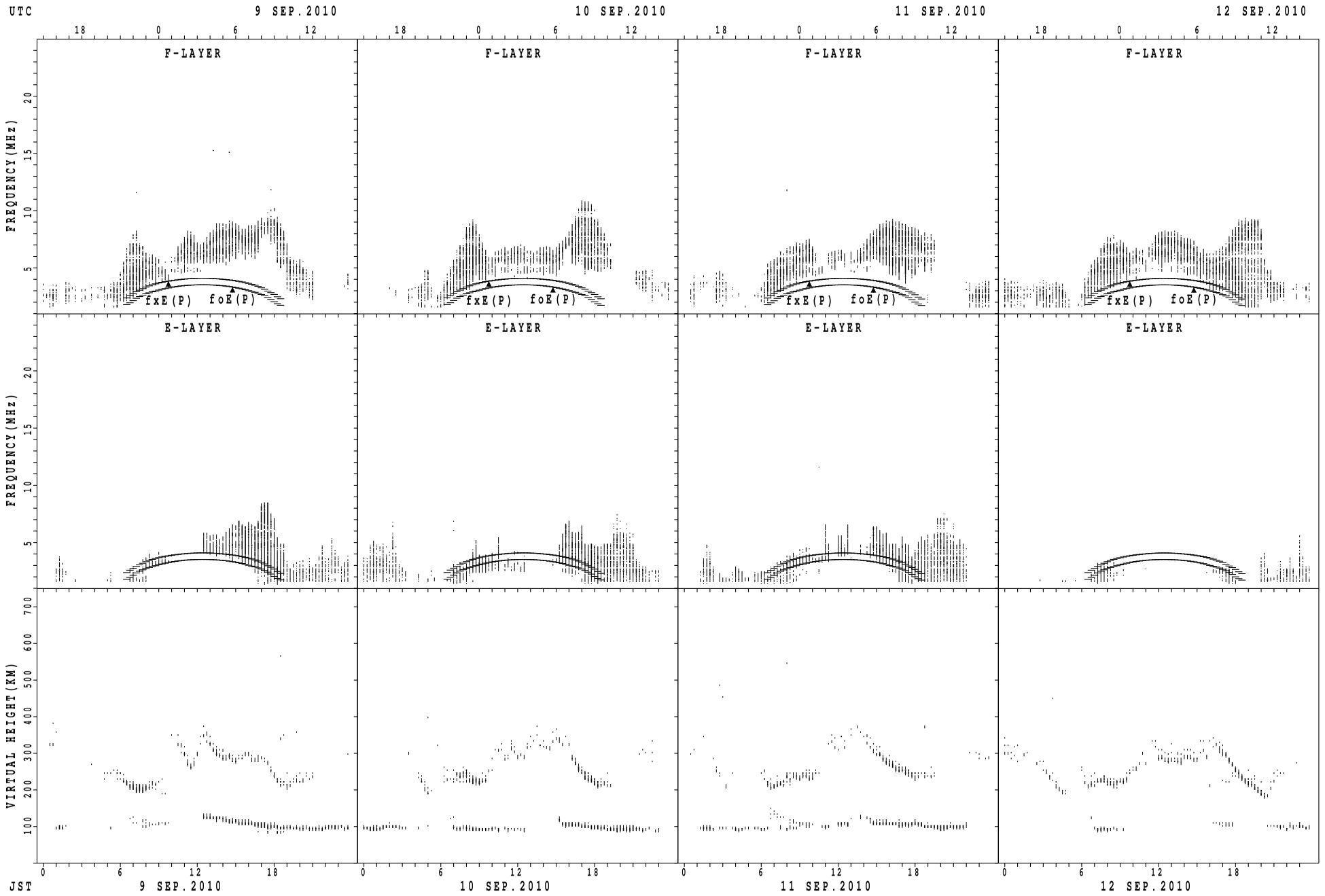
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



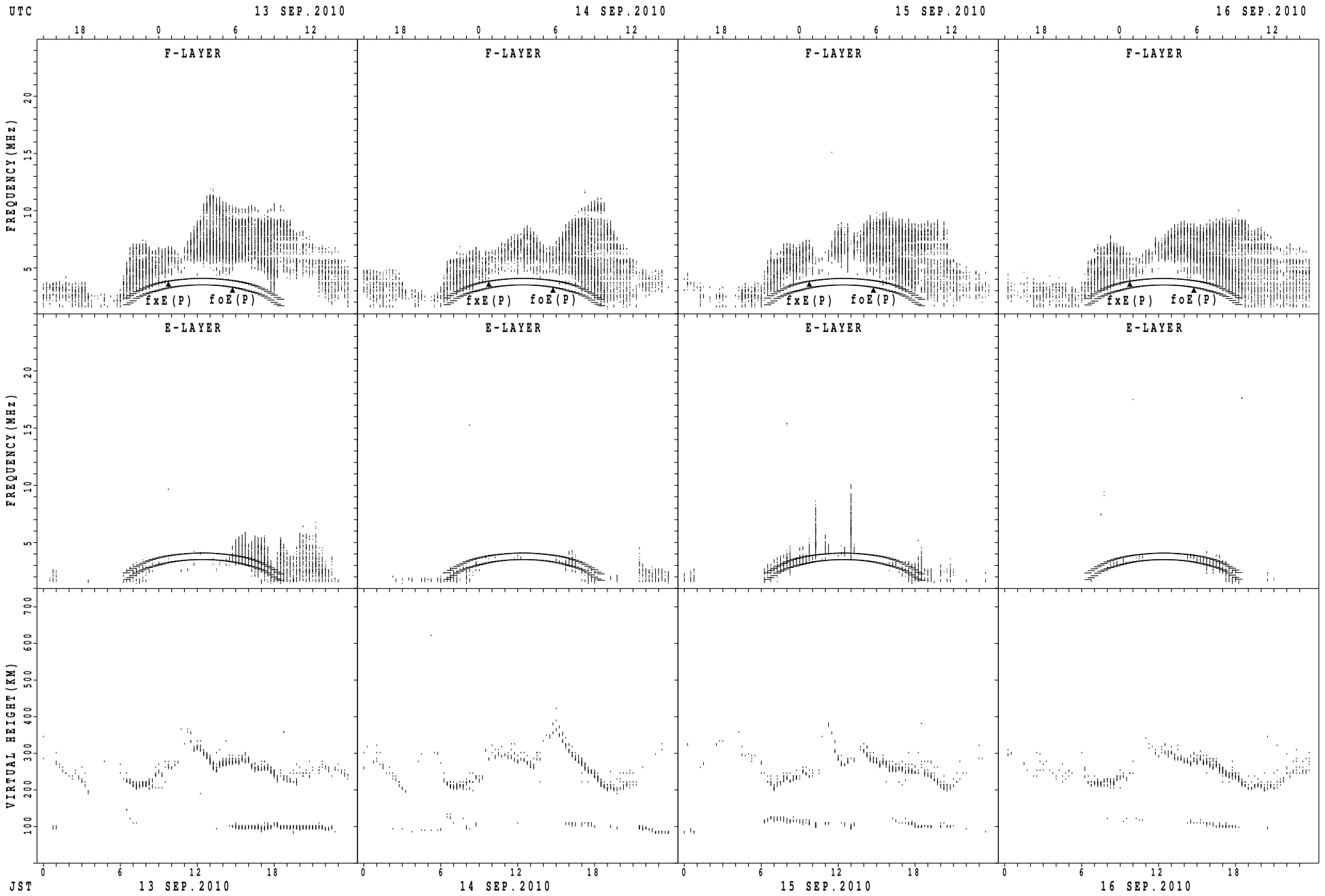
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



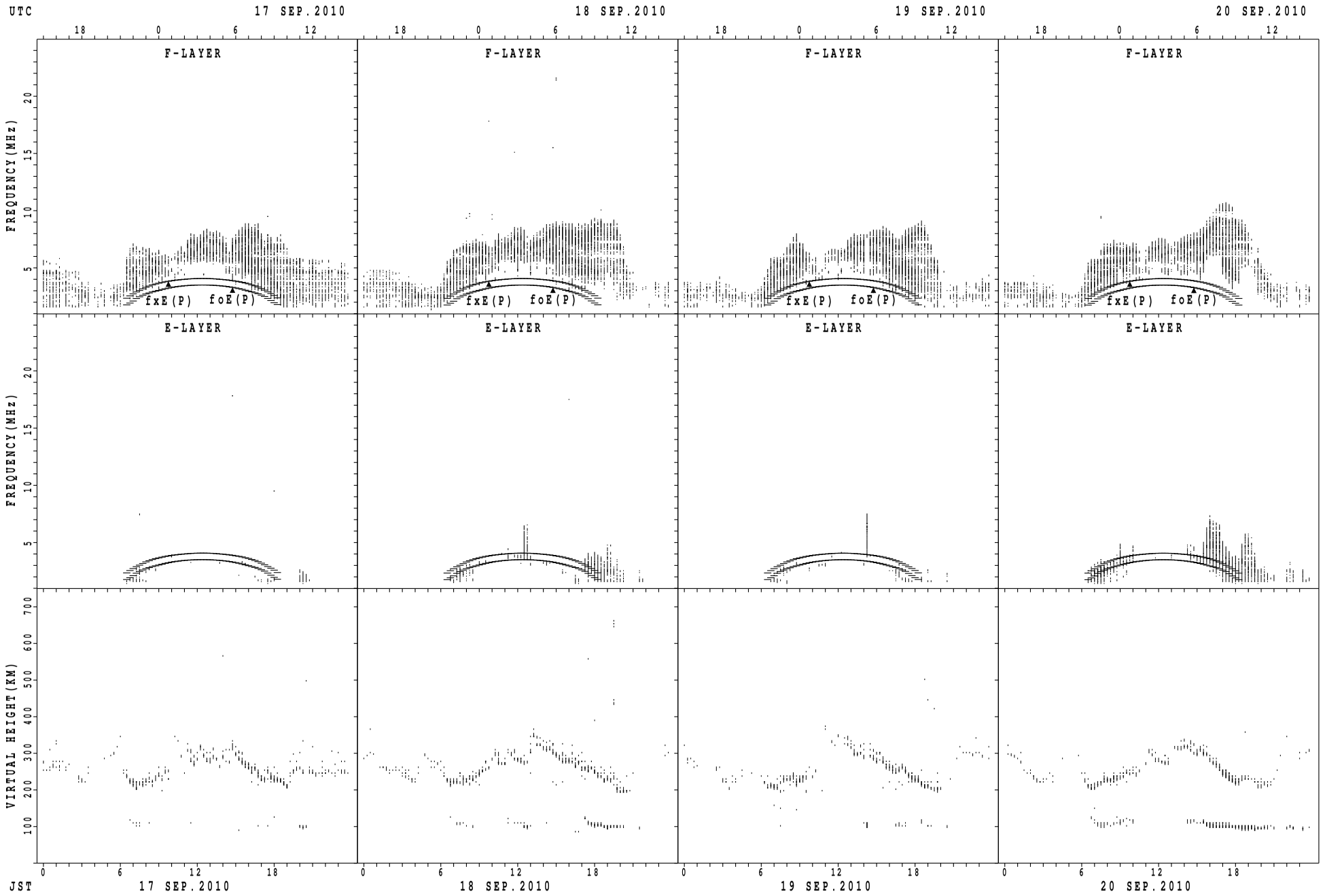
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



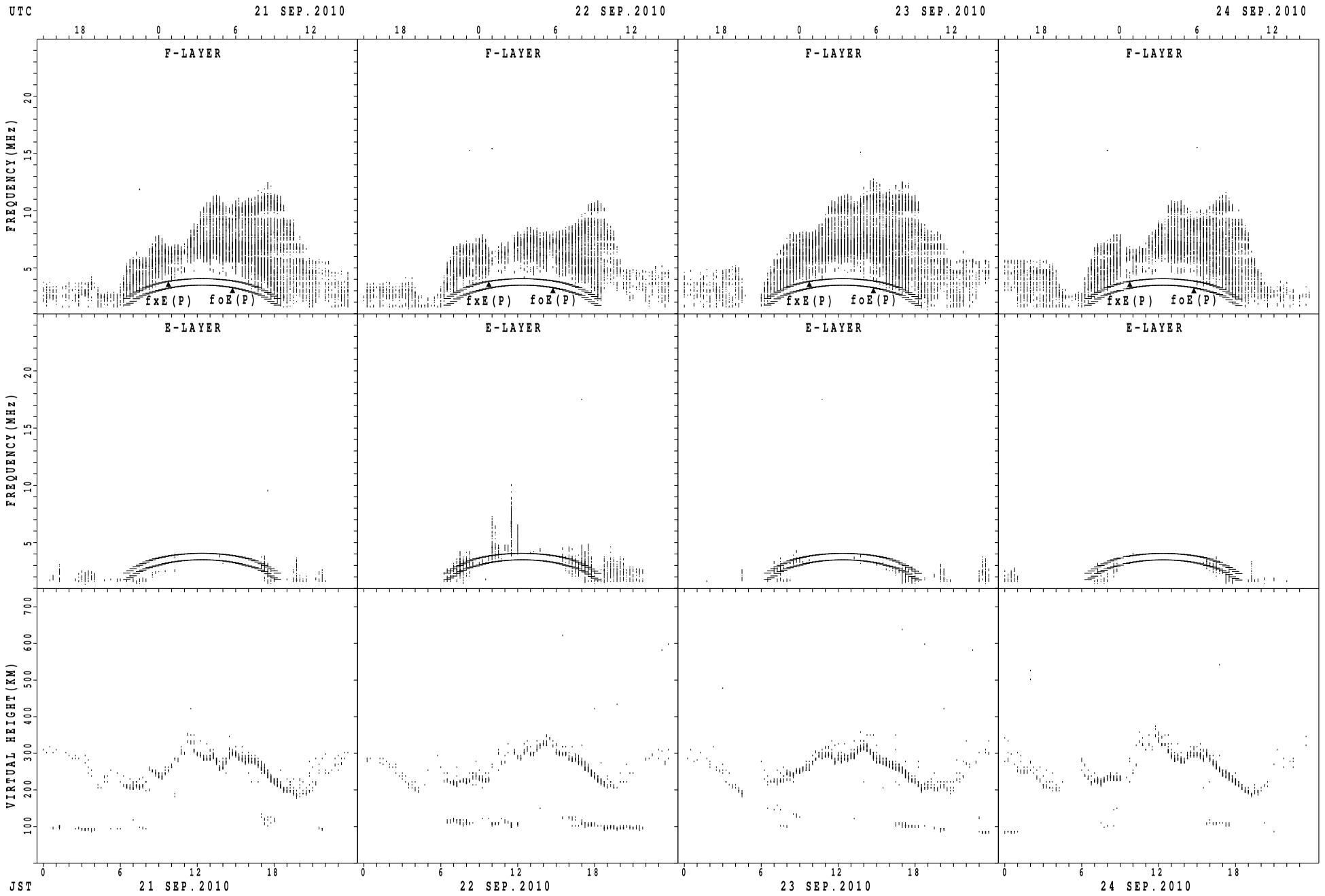
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



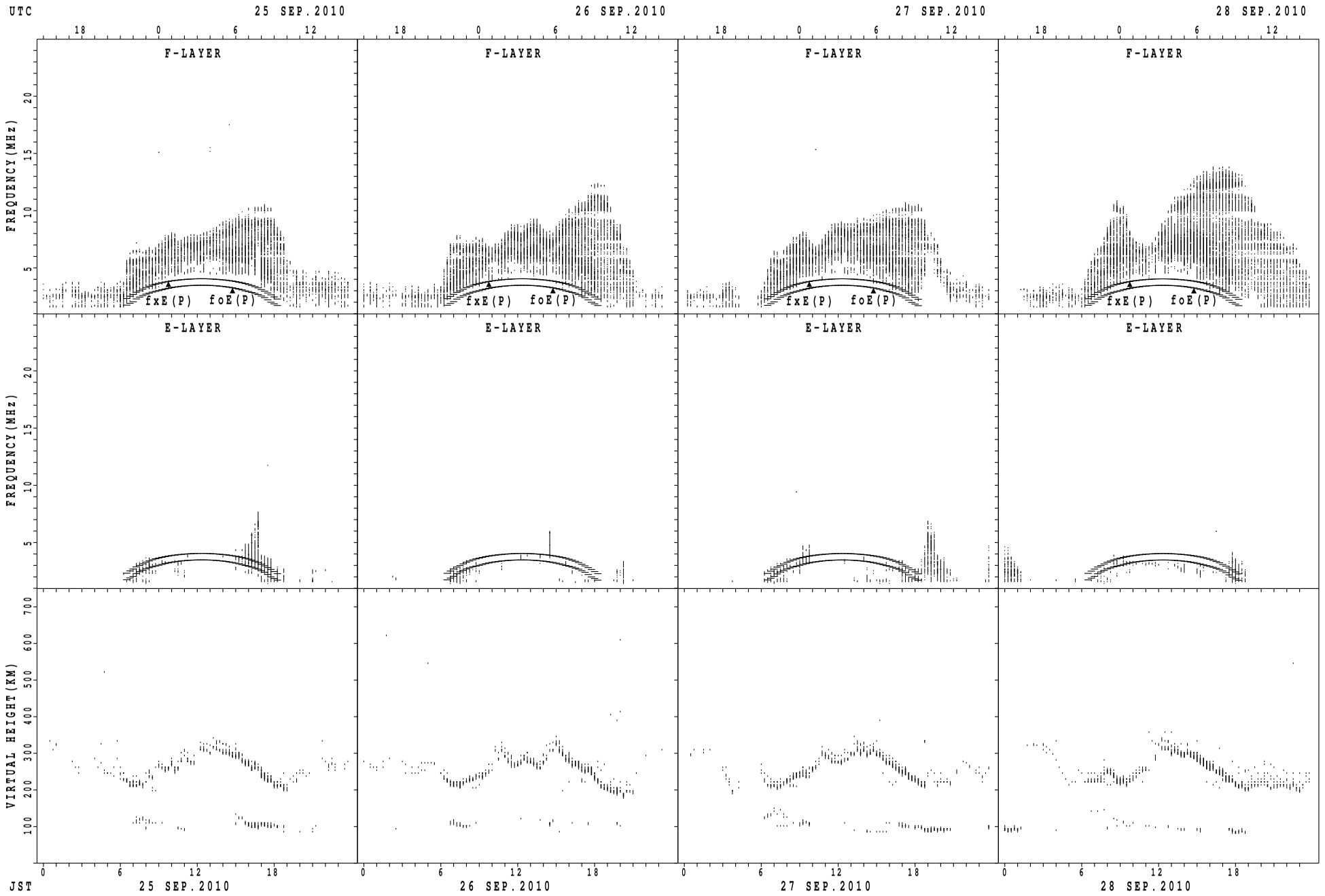
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



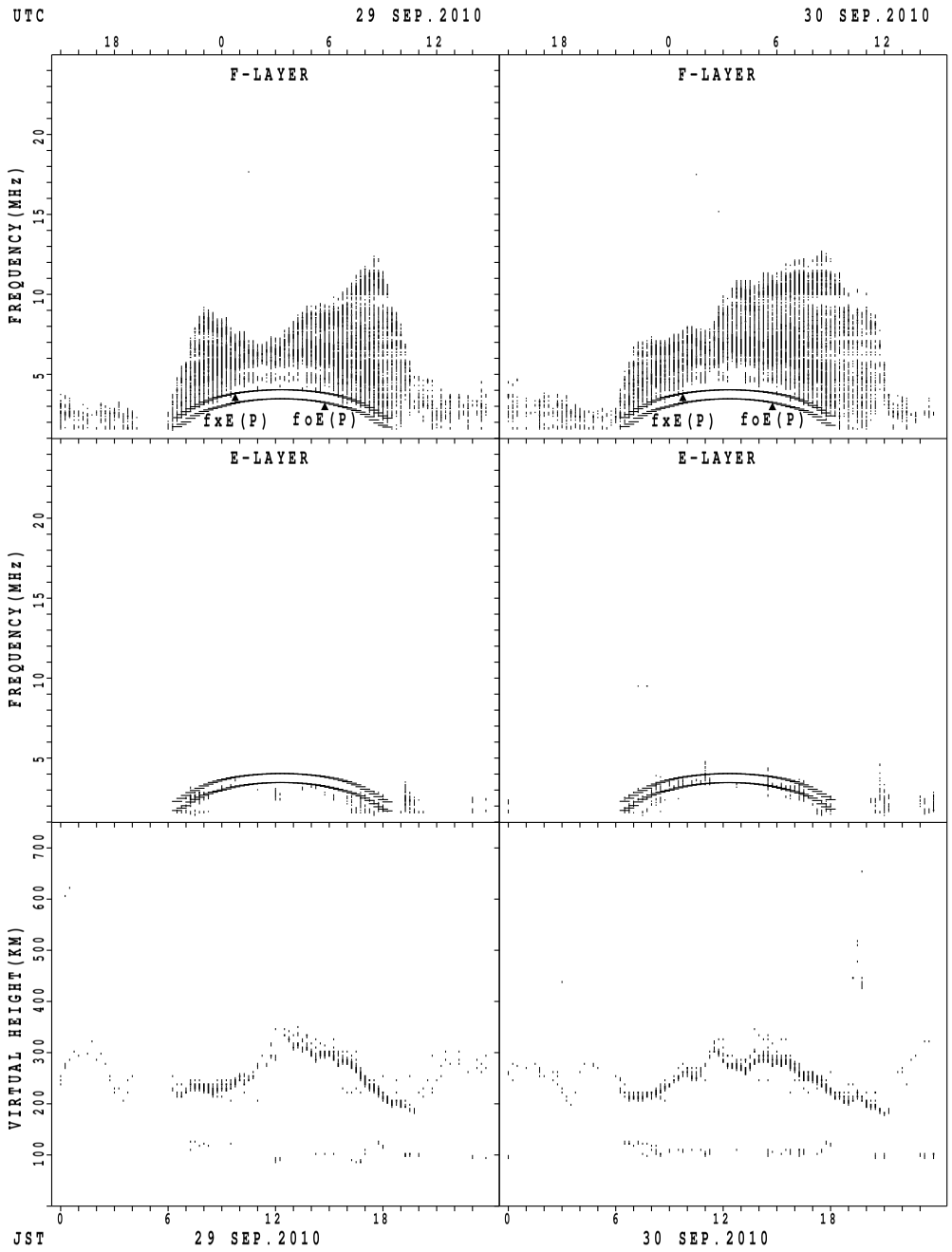
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



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

SUMMARY PLOTS AT Okinawa



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

MONTHLY MEDIANS OF h′F AND h′Es

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

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							2	12	13							11	6	6	8	3	2	2		
MED							242	247	254							272	268	262	260	276	260	258		
U Q							256	259	275							280	274	272	269	282	264	266		
L Q							228	238	241							262	260	260	247	256	256	250		

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	8	10	15	13	17	19	22	14	11	12	15	7	9	6	15	18	18	19	18	19	18	19	15
MED	89	95	94	91	95	97	113	106	104	99	99	101	155	169	100	101	103	100	97	97	95	95	95	95
U Q	97	100	99	97	97	97	131	113	107	103	107	171	175	186	103	103	111	113	101	101	101	101	101	99
L Q	89	87	87	87	91	93	99	99	97	95	95	95	97	99	97	95	99	91	89	93	91	91	91	89

h′F STATION Kokubunji LAT. 35°43.0′N LON. 139°29.0′E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	15	22							8	16	21	22	16	8			
MED							250	244	236							266	268	256	246	241	235			
U Q							125	256	246							282	287	263	262	255	254			
L Q							125	236	230							263	255	248	236	238	225			

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	16	12	7	5	6	5	12	7	6	8	5	6	4	3	6	7	11	20	21	20	18	13	10	14
MED	95	95	95	97	94	105	120	107	105	98	95	101	98	97	106	103	107	106	101	101	97	99	100	97
U Q	99	97	95	113	99	109	125	121	115	108	108	111	103	101	115	117	113	108	103	103	101	103	101	103
L Q	89	91	95	95	91	91	99	91	101	96	92	93	90	97	97	103	105	100	97	95	95	95	97	95

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								10	25	5							26	26	23	25	12			
MED								231	238	226							276	255	238	238	230			
U Q								236	247	236							288	270	244	247	236			
L Q								220	225	223							264	252	230	229	218			

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	14	11	7	10	5	4	6	23	12	14	15	18	12	9	11	11	19	21	22	19	20	20	15	17
MED	95	95	95	95	91	99	115	125	105	104	103	164	101	113	109	105	107	103	101	99	97	95	97	95
U Q	97	97	95	95	95	109	137	143	118	111	111	177	177	178	179	115	111	106	103	103	98	97	101	98
L Q	89	89	93	93	88	91	97	105	99	101	97	105	94	108	105	103	99	101	99	97	95	91	95	94

MONTHLY MEDIANS OF h′F AND h′Es

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

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								12	25	19							26	30	30	26	16	2		
MED								230	232	238							278	254	238	228	220	244		
U Q								238	240	248							284	268	248	240	232	264		
L Q								222	224	230							266	244	226	218	216	224		

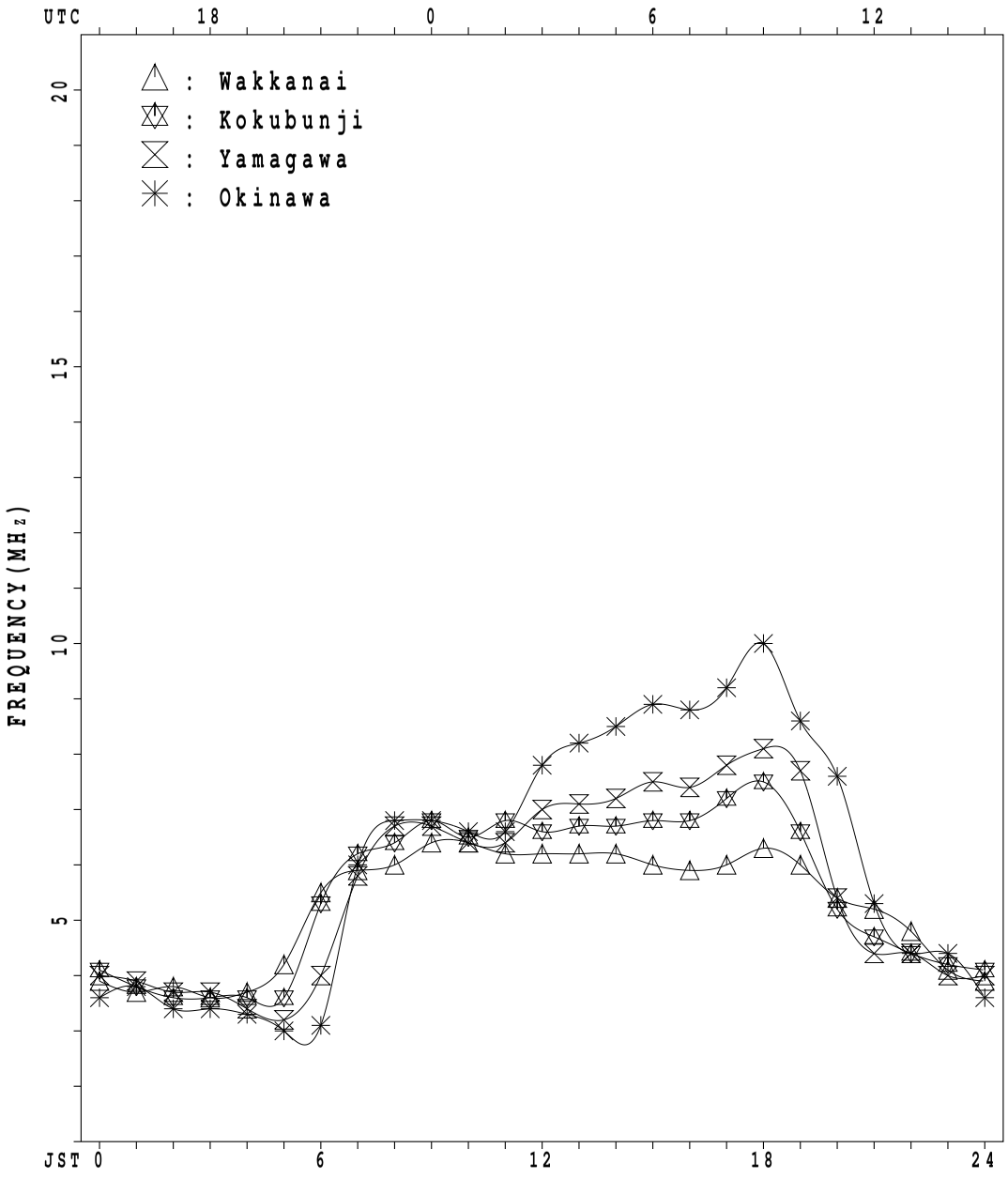
h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	8	9	6	4	3	2	5	15	13	11	7	6	3	3	3	9	13	18	23	14	18	14	11	6
MED	99	97	96	97	97	103	101	121	107	107	103	104	109	103	125	117	111	108	105	99	97	99	97	102
U Q	102	102	103	99	99	103	110	139	115	113	113	111	113	125	129	131	119	113	111	101	103	105	99	113
L Q	92	96	95	94	95	103	95	109	104	99	95	97	107	97	119	106	104	103	101	95	95	97	95	97

MONTHLY MEDIANS PLOT OF foF2

SEP.2010

AUTOMATIC SCALING



IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	38	X 36	X 36	X 33	X 35	45													A	O X 84	X 97	X 67	X 50	X 46
2	X 43	X 43	X 42	X 41	X 40														X 86	X 89	X 89	77	X 58	X 55
3	X 51	X 48	X 44	X 44	X 45														X 73	X 77	X 76	X 54	X 43	X 42
4	X 41	X 41	X 41	X 40	X 38														X 60	X 68	X 74	X 54	X 43	X 43
5	X 42	X 41	X 41	X 40	X 39														X 84	X 92	X 74	X 60	X 60	X 52
6	X 47	X 43	X 42	X 42	X 42														X 90	X 101	X 71	X 56	X 49	A
7	X 44	47	X 45	X 43	X 45														X 94	X 96	X 83	A	61	X 50
8	X 45	X 42	X 42	X 42	X 42														X 73	X 75	X 75	X 63	X 55	X 50
9	X 46	X 43	X 45	X 44	X 43														X 66	X 64	X 60	X 57	X 55	56
10	53	X 50	49	50	X 48	48													X 86	X 83	X 49	X 42	X 41	X 41
11	X 41	X 41	X 40	X 39	X 38														X 81	X 89	X 70	X 45	X 43	X 44
12	X 44	X 44	X 42	X 41	X 39														X 68	X 74	X 66	X 61	X 53	X 48
13	X 50	X 49	X 46	X 44	X 41														X 70	X 81	X 56	X 53	54	52
14	51	X 50	X 51	X 42	X 40														X 89	X 74	X 58	X 55	X 55	X 52
15	52	50	50	X 45	X 47														X 74	X 72	X 68	X 64	X 55	X 50
16	X 49	X 49	X 46	X 47	X 45														X 84	X 77	X 58	X 52	X 50	X 50
17	X 50	X 49	X 47	X 44	X 41														X 72	X 59	X 55	X 56	X 54	X 54
18	X 55	X 49	X 44	X 42	X 41														X 72	X 68	X 63	X 59	X 50	X 48
19	X 48	X 47	X 47	X 46	X 47														X 77	X 74	X 54	X 54	X 53	X 53
20	X 52	X 51	X 51	X 50	X 45														X 92	X 72	X 56	X 49	X 44	X 42
21	X 44	X 45	X 44	X 44	X 45														X 84	X 75	X 57	X 46	X 41	O X 44
22	X 45	X 43	X 44	X 42	X 42														X 86	X 73	X 60	X 52	X 48	X 41
23	X 46	X 46	X 45	X 46	X 39														X 84	X 73	X 56	X 52	X 49	X 49
24	X 48	X 47	X 47	X 48	X 41														X 91	X 66	X 48	X 46	X 44	X 44
25	X 45	X 44	X 44	X 43	X 46														X 84	X 74	X 60	X 50	X 49	X 46
26	X 44	X 42	X 42	X 42	X 42														X 80	X 68	X 54	X 45	X 45	X 41
27	X 43	X 42	X 41	X 42	X 38														X 82	X 74	X 60	X 57	X 55	X 52
28	X 46	X 46	X 45	X 46	X 45														X 77	X 66	X 66	X 62	X 59	X 51
29	X 47	X 45	X 44	X 44	X 38														X 95	X 86	X 43	X 42	X 41	X 42
30	X 41	X 42	X 42	X 40	X 37														X 80	X 70	X 61	X 58	X 48	X 46
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	2													29	30	30	29	30	29
MED	X 46	X 45	X 44	X 43	X 42	46													X 82	X 74	X 60	X 54	X 50	X 48
U Q	X 50	X 49	X 46	X 45	X 45														X 86	X 83	X 71	X 60	X 55	X 52
L Q	X 44	X 42	X 42	X 42	X 39														X 73	X 70	X 56	X 50	X 44	X 44

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F	30	29	27	29	F	45	50	68	58	A	51	53	54	62	68	69	61	A	78	91	61	44	40
2	37	37	36	35	34	34	60	58	60	61	61	62	58	60	70	71	66	72	80	83	83	F	52	49
3	45	42	38	38	39	43	55	60	62	58	59	64	70	62	74	70	71	57	67	71	69	48	37	36
4	35	35	35	34	32	33	54	62	61	63	59	69	69	65	64	74	75	58	54	62	68	48	37	37
5	36	35	35	34	33	32	54	66	57	62	58	61	54	65	68	56	61	70	78	86	68	54	54	45
6	41	37	36	35	36	36	49	64	65	70	61	57	63	68	65	71	66	79	83	94	65	50	43	A
7	38	F	39	37	38	41	66	75	69	62	56	65	68	69	61	62	69	86	88	90	77	A	F	44
8	39	36	36	36	36	38	52	60	73	71	57	62	63	67	72	75	74	68	66	69	69	57	49	44
9	40	37	39	38	37	39	54	68	63	59	54	53	48	60	64	68	68	60	60	57	54	51	49	F
10	F	44	F	F	42	F	59	65	57	58	66	60	58	57	55	55	60	74	80	77	43	36	35	35
11	35	35	34	32	32	32	49	61	60	60	61	A	A	56	61	58	55	61	74	83	64	39	37	37
12	38	38	36	35	33	34	52	60	58	61	64	59	62	62	59	60	56	53	62	68	60	55	46	42
13	43	43	40	38	34	34	50	58	64	76	62	67	63	58	60	64	60	62	64	75	49	47	F	F
14	F	44	45	36	34	30	51	54	72	60	59	70	64	68	67	66	72	73	83	68	52	49	49	46
15	F	F	F	39	41	39	V 48	59	59	70	58	78	71	68	66	68	63	62	68	66	62	58	49	44
16	43	42	40	41	39	36	47	51	57	62	62	59	64	67	66	59	66	74	78	71	52	46	44	43
17	44	43	41	37	35	33	52	62	69	62	63	65	63	61	70	69	62	71	66	53	49	50	48	48
18	49	42	38	36	35	36	52	66	68	64	69	68	69	65	68	68	73	63	66	62	57	53	44	42
19	41	41	40	40	40	44	54	58	64	68	62	61	60	62	66	62	68	76	71	68	48	48	47	47
20	46	45	45	44	39	37	53	59	63	70	66	69	66	72	73	61	69	82	86	65	50	43	38	36
21	38	39	38	38	39	36	54	61	62	65	68	72	69	70	71	73	67	72	77	68	50	40	35	38
22	39	37	38	36	36	40	58	64	66	69	66	62	62	64	63	61	67	75	79	67	54	46	42	34
23	39	40	39	40	33	31	56	61	60	70	71	68	62	65	72	68	73	76	78	67	50	46	42	43
24	42	41	40	42	35	32	51	65	72	74	65	65	66	72	73	78	88	94	85	60	42	40	38	38
25	39	38	38	37	40	38	54	64	65	69	70	79	69	71	72	64	70	75	78	68	54	44	43	39
26	38	36	36	36	36	36	55	68	75	74	64	69	66	76	82	72	71	79	74	62	48	39	39	35
27	37	36	35	36	34	30	52	61	72	74	70	76	73	80	68	63	67	71	76	67	54	51	49	46
28	40	40	39	39	39	37	51	64	84	88	78	70	82	78	78	72	67	69	71	60	60	56	53	45
29	41	39	38	37	32	34	54	68	75	74	73	72	75	74	71	68	73	91	89	80	37	36	35	36
30	34	36	36	34	30	30	56	68	64	71	77	72	84	72	64	71	77	79	74	64	54	51	42	40
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	28	28	29	30	28	30	30	30	30	29	29	29	30	30	30	30	30	29	30	30	28	28	27
MED	39	38	38	37	36	36	54	62	64	66	63	65	64	66	68	68	68	72	76	68	54	48	44	42
U Q	42	42	40	38	39	38	55	65	69	71	68	70	69	71	72	71	72	76	80	77	65	52	49	45
L Q	38	36	36	35	33	32	51	59	60	61	59	61	62	62	64	62	66	62	66	64	50	44	38	37

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									420	A	A	UL464	UL460	A	A	A	A	A						
2								A	UL424	A	A	A	448	452	440	UL428	UL428	L						
3									L	L	A	A	460	UL480	440	428	L							
4									L	468	UL456	460	UL464	UL464	UL460	UL428	UL396	L						
5								L	UL452	L	UL468	464	UL456	464	UL444	UL464	420	A						
6								L	L	A	460	UL468	456	472	L	UL448	UL428	L						
7								L	L	L	UL484	472	A	UL464	452	UL444	A	A						
8								L	UL420	448	L	UL440	UL464	472	440	UL440	L	A						
9								L	L	428	UL452	UL464	UL436	448	UL440	A	L	A						
10							L	A	A	444	452	448	452	UL464	A	A	A	A						
11								L	L	UL456	436	A	A	464	UL448	UL436	UL400	L						
12									L	UL440	L	456	456	444	UL500	L	L	L						
13									L	UL444	460	476	460	460	468	L	A	A						
14									L	A	452	452	472	440	456	L	UL400							
15									A	UL460	A	464	UL480	UL468	A	A	L	A						
16								L	UL420	432	436	A	A	A	UL444	L	L	L						
17								L	412	L	456	460	UL464	460	UL444	420	UL404							
18									L	UL444	UL472	UL472	UL468	472	L	UL420	L							
19								L	L	L	UL460	UL476	480	UL468	UL460	L	L							
20									L	L	448	452	UL452	UL464	L	A	A							
21									L	448	UL456	464	UL444	UL484	UL452	L	L							
22									L	UL464	460	464	460	464	L		L							
23									A	A	464	L	UL468	L	UL464	L	L							
24									L	UL444	L	UL468	UL472	452	L	L	L							
25									L	UL448	UL480	UL460	UL464	UL456	L	A	L							
26								L	L	UL444	L	UL456	UL500	460	UL436	L	L							
27									L	L	UL468	432	A	460	L	L	L							
28									L	A	460	L	UL464	L	L	L	L							
29								L	A	L	464	UL456	UL476	L	L	L								
30										L	UL448	UL452	460	A	L	L	L							
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									6	15	22	24	26	24	17	10	7							
MED									UL420	UL444	460	462	UL462	464	UL448	UL432	UL404							
U Q									UL424	UL456	UL464	UL466	UL468	UL468	UL460	UL444	UL428							
L Q									420	444	452	454	456	458	440	428	UL400							

SEP. 2010 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						B	B	A	A	A	A	A	A	A	A	A	A	A						
2						B	UA 188	A	A	A	A	A	A	R	A	R	A	A						
3						B	A	UR 264	R	R	A	A	R	R	R	R	R	A						
4						B	A	A	A	R	R	R	R	R	R	R	A	R						
5						B	UR 216	R	A	R	R	R	R	R	R	R	A	A						
6						B	A	R	A	A	R	R	R	A	A	A	A	A						
7						B	UR 216	R	R	A	A	R	A	A	A	A	A	A						
8						B	A	R	A	R	R	R	A	R	R	R	264	A						
9						B	A	A	A	A	R	R	R	R	A	A	A	A						
10						B	R	A	A	R	R	A	R	R	316	A	A	A						
11						B	A	R	R	R	R	A	A	A	A	R	R	A						
12						B	192	R	R	A	R	A	R	R	UR 336	R	R	A						
13						B	A	A	A	R	A	A	R	A	A	A	A	A						
14						B	160	268	A	A	A	A	R	R	R	R	R	A						
15						B	172	A	A	A	A	A	A	A	A	A	A	A						
16						B	180	UR 256	R	A	A	A	A	A	A	A	A	A						
17						B	B	A	A	R	R	R	R	R	R	R	R	A						
18						B	188	UR 280	R	A	R	A	R	R	A	A	A	A						
19						B	A	A	R	A	A	R	R	R	A	R	R	A						
20						B	184	A	A	A	R	A	R	R	A	A	A	B						
21						B	B	256	A	R	R	R	R	A	R	UR 328	R	192						
22						B	184	UR 272	R	UR 336	R	R	R	R	R	A	R	A						
23						B	176	A	A	A	A	R	A	R	A	R	R	B						
24						B	B	R	R	R	R	R	R	R	R	R	UR 292	A						
25						B	A	R	A	A	R	R	A	R	A	A	A	B						
26						B	B	A	A	R	A	R	R	A	R	R	A	B						
27						B	B	268	A	A	A	A	A	A	R	A	A	A						
28						B	A	A	A	A	A	R	R	R	R	A	R	B						
29						B	184	A	A	R	R	R	A	R	R	A	A	B						
30						B	B	R	A	A	R	A	A	A	R	A	R	A						
31																								

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							12	7		1					2	1	2	1						
MED							184	UR 268		UR 336					326	UR 328	278	192						
U Q							U 190	UR 272																
L Q							178	256																

SEP.2010 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	JA 26	23	JA 20	JA 34	19	JA 20	23	34	JA 40	JA 52	JA 90	JA 78	JA 45	JA 62	JA 52	JA 51	JA 70	JA 54	JA 76	JA 61	JA 28	JA 26	JA 24	JA 33
2	JA 31	JA 25	JA 21	JA 20	19	EB 14	24	JA 38	JA 43	JA 56	JA 64	JA 105	JA 46	G 32	41	G 25	36	JA 36	JA 23	JA 35	JA 41	JA 95	JA 19	JA 22
3	23	JA 23	JA 20	19	22	EB 14	21	G 24	G 28	G 28	44	JA 68	G 28	G 26	G 27	G 26	G 21	25	21	EB 15	EB 15	EB 15	EB 14	JA 39
4	EB 14	EB 15	EB 14	EB 15	JA 19	20	JA 30	33	JA 39	G 28	G 29	G 28	G	G	G	G 28	33	G 20	EB 16	EB 14	EB 15	21	JA 30	JA 23
5	EB 14	21	EB 14	18	EB 14	EB 16	G	G 26	34	G 29	G	G	G	G	G	G 28	37	JA 36	JA 30	JA 41	JA 68	JA 30	JA 53	JA 28
6	JA 43	20	EB 15	EB 16	EB 14	20	JA 27	G 20	36	42	G 26	G 24	G	41	41	40	36	JA 34	JA 25	JA 25	JA 26	JA 64	JA 102	JA 74
7	JA 62	JA 28	JA 25	JA 24	JA 25	19	G	G 22	G 24	40	38	G	JA 58	JA 45	37	36	JA 42	JA 46	JA 48	JA 49	JA 61	JA 66	JA 31	JA 58
8	JA 36	JA 24	20	JA 20	JA 22	JA 37	24	G 26	JA 39	G 28	G 30	G 31	42	G 31	G 26	G 27	32	JA 36	JA 31	JA 40	JA 37	JA 40	JA 37	JA 30
9	JA 30	JA 26	JA 27	21	18	EB 15	24	32	34	40	G	G 26	G 25	G 28	40	JA 45	34	JA 33	JA 44	JA 63	JA 35	JA 25	JA 28	JA 59
10	JA 39	JA 20	21	23	JA 23	20	G	JA 37	JA 43	G 32	G 34	36	G	G	40	JA 42	JA 49	JA 38	JA 37	JA 19	JA 73	JA 39	JA 20	22
11	JA 22	JA 28	19	22	JA 23	JA 29	23	G	G 30	G 28	G	JA 67	JA 58	39	41	22	G 20	26	JA 37	JA 34	JA 24	JA 23	22	EB 15
12	EB 16	EB 15	EB 15	EB 15	20	EB 15	22	G 24	G 26	41	G 31	G	G	G	G 31	G 30	G 26	26	EB 15	BJ 24	JA 22	JA 22	20	20
13	JA 16	JA 21	19	EB 15	EB 15	EB 15	26	32	38	G 23	38	40	G	41	JA 39	JA 38	JA 40	JA 46	JA 46	30	20	21	EB 16	21
14	JA 18	20	EB 15	EB 14	20	21	24	32	36	JA 48	42	41	G	G	G 27	G 25	G 24	24	JA 43	JA 23	JA 35	JA 19	EB 15	EB 14
15	EB 15	EB 15	EB 16	EB 15	EB 15	EB 15	26	38	JA 45	JA 43	JA 50	41	41	43	40	JA 62	JA 42	JA 44	JA 38	JA 33	JA 40	JA 108	JA 79	JA 33
16	JA 18	19	19	EB 16	EB 14	EB 15	23	G 20	G 29	40	41	JA 46	JA 52	JA 52	JA 44	JA 42	JA 37	JA 29	JA 31	JA 28	JA 31	JA 38	20	EB 16
17	EB 15	JA 28	EB 16	21	18	22	20	JA 35	35	G 29	G 29	G	G	G 30	G	G 25	G 22	JA 27	JA 25	JA 22	JA 28	19	21	22
18	19	EB 16	EB 14	18	EB 15	EB 15	22	JA 34	G 25	35	G 30	42	G	G	39	JA 40	35	24	22	EB 15	BJ 21	JA 20	20	21
19	EB 15	EB 16	20	EB 14	EB 14	20	JA 29	JA 35	G 25	JA 46	39	G 30	G	G 27	40	G 23	G 23	JA 32	JA 29	EB 14	EB 15	EB 15	EB 15	22
20	20	EB 15	EB 15	EB 15	EB 14	EB 15	25	35	35	37	G	40	G	G	JA 43	JA 46	JA 40	23	JA 74	JA 44	JA 30	JA 22	JA 32	JA 30
21	JA 35	JA 31	JA 21	JA 22	JA 24	JA 18	21	29	38	G 30	G 29	G	G	41	G	G 24	G	22	EB 14	EB 15	EB 16	EB 15	BJ 28	JA 25
22	JA 26	JA 18	20	EB 15	EB 14	EB 15	23	G 22	G 26	G 28	G 27	G	G	G	G	36	G 24	JA 29	JA 28	20	EB 15	BJ 20	20	21
23	JA 20	EB 16	EB 15	18	JA 24	JA 22	25	36	36	JA 62	41	G 26	42	G	42	G 26	G 26	JA 30	JA 22	JA 45	JA 38	21	JA 24	22
24	22	JA 34	JA 22	20	EB 15	EB 15	22	G	G 24	G 28	G 26	G	G	G	G	G 20	G 22	JA 31	JA 30	JA 24	21	EB 16	19	JA 38
25	JA 30	JA 22	22	EB 15	EB 15	BJ 18	JA 27	GJ 23	JA 37	JA 40	G 25	G 26	40	G 22	38	38	35	20	EB 15	EB 15	EB 15	20	21	20
26	22	EB 15	EB 15	EB 16	EB 15	EB 14	21	32	36	G 26	38	G	G	35	G	G	32	JA 29	JA 21	JA 20	EB 14	21	JA 26	JA 24
27	JA 25	EB 15	EB 14	EB 15	EB 14	22	22	G	JA 38	36	JA 44	38	41	38	G	33	30	23	JA 55	JA 68	JA 44	JA 20	20	21
28	JA 25	19	EB 15	EB 15	EB 15	EB 14	21	JA 44	JA 50	JA 60	40	G 32	G 31	G 28	G 26	36	G 23	20	20	18	JA 23	JA 16	JA 23	22
29	EB 14	EB 15	EB 15	EB 14	EB 15	EB 14	21	29	41	G 28	G	G	40	G	G 20	37	30	20	EB 14	22	19	JA 21	JA 18	21
30	20	20	EB 15	EB 15	EB 14	EB 15	21	G	JA 39	36	41	42	43	41	G 29	JA 36	G 20	22	JA 18	JA 21	JA 32	EB 16	BJ 36	22
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MED	JA 22	20	18	EB 16	EB 15	EB 16	23	30	36	36	G	G	G	G	G	34	32	JA 29	JA 28	JA 24	JA 27	JA 21	JA 22	22
U Q	JA 30	JA 24	JA 20	20	JA 20	20	25	JA 35	JA 39	JA 42	41	JA 41	JA 42	41	40	J 40	JA 37	JA 36	JA 38	JA 40	JA 37	30	30	30
L Q	EB 16	EB 16	EB 15	EB 15	EB 14	EB 15	21	G 26	G 29	G 28	G 30	G 32	G	G 32	G	G 26	G 24	23	EB 21	EB 19	EB 19	EB 19	20	21

SEP.2010 foEs (0.1MHz)

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IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	20	E B 15	E B 15	16	E B 15	E B 16	21	30	34	48	A A 90	41	40	44	43	48	62	49	A A 76	17	20	19	16	19
2	19	19	18	E B 15	E B 15	E B 14	20	30	36	47	50	54	39	G 29	37	G 24	32	30	18	25	19	34	E B 15	16
3	E B 15	E B 15	17	E B 15	E B 15	E B 14	20	G 22	G 27	G 27	42	60	G 27	G 24	G 26	G 25	G 19	24	16	E B 15	E B 15	E B 15	E B 14	16
4	E B 14	E B 15	E B 14	E B 15	E B 15	E B 15	26	28	32	G 26	G 26	G 27	G	G	G	G 23	32	G 20	E B 16	E B 14	E B 15	E B 15	E B 15	16
5	E B 14	E B 15	E B 14	E B 15	E B 14	E B 16	G	G 25	33	G 28	G	G	G	G	G	G 26	32	30	26	30	30	24	30	E B 14
6	E B 14	E B 15	E B 15	E B 16	E B 14	E B 15	22	G 19	33	39	G 25	G 21	G	38	36	32	33	26	20	20	20	34	22	A A 74
7	16	16	16	E B 15	17	14	G	G 20	G 22	35	36	G	42	40	36	34	40	41	45	46	34	A A 66	26	29
8	19	18	18	16	15	29	21	G 26	32	G 26	G 29	G 28	39	G 30	G 25	G 26	29	32	26	30	20	21	17	17
9	20	20	20	E B 15	E B 14	E B 15	20	28	32	35	G	G 25	G 24	G 27	39	41	32	29	16	18	21	18	18	36
10	32	16	15	E B 16	19	18	G	33	40	G 30	G 29	35	G	G	39	39	38	34	35	16	20	20	E B 16	E B 15
11	16	E B 15	E B 14	E B 15	E B 15	20	21	G	G 28	G 27	G	A A 67	A A 58	38	38	G 20	G 18	24	33	19	E B 16	18	E B 16	E B 15
12	E B 16	E B 15	E B 15	E B 15	16	E B 15	21	G 22	G 24	38	G 28	G	G	G	G 30	G 28	G 24	22	E B 15	20	E B 15	15	E B 15	E B 15
13	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	24	29	34	G 21	37	38	G	38	34	36	37	44	33	23	E B 15	E B 15	E B 16	E B 15
14	E B 16	E B 15	E B 15	E B 14	E B 15	E B 15	22	29	34	40	39	37	G	G	G 26	G 25	G 23	24	37	E B 14	16	16	E B 15	E B 14
15	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	23	34	39	36	44	40	39	40	38	44	30	33	19	22	34	16	32	20
16	E B 15	E B 15	E B 16	E B 16	E B 14	E B 15	22	G 18	G 27	37	39	44	48	45	36	35	29	21	19	20	20	20	E B 15	E B 16
17	E B 15	20	E B 16	E B 15	E B 15	19	19	28	32	G 28	G 28	G	G	G 29	G	G 22	G 21	24	20	E B 15	17	E B 15	E B 15	E B 15
18	E B 15	E B 16	E B 14	E B 15	E B 15	E B 15	20	G 22	G 21	35	G 30	39	G	G	38	33	30	23	E B 15	E B 15	17	16	E B 15	E B 14
19	E B 15	E B 16	E B 15	E B 14	E B 14	E B 16	21	30	G 24	36	37	G 28	G	G 26	37	G 22	G 22	22	23	E B 14	E B 15	E B 15	E B 15	E B 15
20	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	23	34	34	36	G	39	G	G	34	44	35	22	22	30	21	16	23	20
21	20	22	16	16	20	16	20	29	33	G 28	G 28	G	G	39	G	G 23	G	22	E B 14	E B 15	E B 16	E B 15	E B 15	21
22	19	16	E B 15	E B 15	E B 14	E B 15	21	G 20	G 24	G 25	G 25	G	G	G	G	35	G 23	21	E B 15	E B 14	E B 15	E B 15	E B 16	19
23	17	E B 16	E B 15	E B 15	20	18	21	34	34	56	38	G 25	34	G	40	G 26	G 25	20	18	16	17	E B 16	E B 16	E B 16
24	16	19	E B 16	E B 15	E B 15	E B 15	21	G	G 24	G 26	G 26	G	G	G	G	G 18	G 20	27	20	18	E B 15	E B 16	E B 15	24
25	22	18	E B 15	E B 15	E B 15	E B 15	19	G 22	30	37	G 22	G 25	36	G 22	37	36	32	18	E B 15	E B 15	E B 15	E B 15	E B 15	17
26	E B 15	E B 15	E B 15	E B 16	E B 15	E B 14	20	28	30	G 24	37	G	G	34	G	G	30	22	19	E B 15	E B 14	E B 15	18	20
27	18	E B 15	E B 14	E B 15	E B 14	E B 15	21	G	33	34	38	36	39	36	G	32	28	21	28	21	19	E B 15	E B 15	E B 15
28	17	E B 15	E B 15	E B 15	E B 15	E B 14	20	37	34	39	36	G 31	G 28	G 28	G 24	34	G 21	18	E B 16	E B 15	17	15	17	E B 15
29	E B 14	E B 15	E B 15	E B 14	E B 15	E B 14	20	26	37	G 27	G	G	38	G	G 20	32	28	18	E B 14	E B 15	E B 14	E B 14	E B 15	E B 15
30	E B 14	E B 15	E B 15	E B 15	E B 14	E B 15	19	G	33	34	38	37	40	40	G 28	29	G 19	18	16	18	30	E B 16	E B 15	E B 15
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MED	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	21	27	32	34	G	G	G	G	G	30	29	24	19	18	17	16	E B 16	16
U Q	19	16	16	E B 15	15	16	21	30	34	37	38	39	39	38	37	35	32	30	26	21	20	19	17	20
L Q	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	20	G 22	G 27	G 27	G 28	G 31	G	G 30	G	G 25	G 23	21	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15

IONOSPHERIC DATA STATION Kokubunji

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

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

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

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F	310	313	317	345	F	387	347	383	386	A	359	279	330	319	333	308	324	A	317	360	364	322	319
2	308	303	304	327	314	326	393	378	361	366	356	343	357	311	328	342	310	305	312	321	341	F	305	312
3	299	300	299	309	306	339	362	368	359	353	318	322	356	306	338	336	353	339	336	342	365	334	320	308
4	304	308	317	327	331	351	359	348	381	333	329	341	342	333	336	350	360	359	332	327	358	344	324	311
5	320	329	314	312	317	320	369	396	348	371	349	345	273	336	345	307	331	325	328	348	353	311	326	330
6	319	314	315	312	346	344	337	330	361	391	362	263	320	327	315	334	314	321	316	356	369	326	279	A
7	315	F	292	311	309	323	367	384	400	367	344	328	344	339	327	313	319	330	336	348	366	A	F	301
8	311	296	316	304	311	327	359	368	374	390	353	363	320	314	311	332	352	340	335	320	345	331	323	311
9	310	293	295	316	301	318	368	371	384	350	346	344	341	309	334	335	349	352	347	329	311	307	296	F
10	F	318	F	F	329	F	362	388	373	326	355	355	338	328	324	335	330	336	352	371	352	317	308	309
11	310	309	312	325	327	316	355	366	352	360	355	A	A	310	330	349	331	346	332	357	383	311	302	312
12	309	316	322	317	309	323	374	384	350	358	369	341	337	355	286	339	345	321	328	336	322	328	325	298
13	304	307	310	324	347	334	370	362	366	399	344	326	352	333	326	343	346	340	338	350	322	291	F	F
14	F	313	348	339	323	305	377	368	379	372	335	356	335	335	332	325	327	330	352	345	311	298	302	296
15	F	F	F	303	329	307	V 315	345	365	354	341	324	353	338	335	352	340	337	324	315	328	320	334	317
16	305	300	306	313	328	316	373	365	355	358	360	335	326	343	355	326	332	339	341	355	331	317	313	305
17	297	309	319	324	302	289	366	360	382	374	337	355	345	331	341	365	338	355	341	323	305	297	305	304
18	316	321	315	319	315	308	347	369	376	363	358	350	347	329	328	352	358	344	331	335	330	334	319	304
19	319	315	319	321	321	317	366	370	361	368	368	351	333	337	327	329	342	361	349	358	320	292	311	301
20	291	309	298	334	328	337	382	367	376	375	378	361	329	335	362	356	334	344	357	356	344	328	307	319
21	310	308	302	317	347	325	386	385	369	351	360	348	338	326	332	341	336	340	336	353	347	329	304	302
22	308	306	303	325	324	326	372	371	376	370	367	348	304	328	345	327	335	341	351	358	341	322	315	339
23	297	304	319	347	330	322	389	361	365	342	342	365	333	308	331	331	334	341	342	346	317	318	304	289
24	298	310	314	337	350	337	369	368	354	366	365	340	317	327	317	310	331	349	344	366	324	318	307	305
25	306	307	300	290	314	324	345	379	380	347	334	349	353	315	339	329	331	336	348	346	331	314	315	315
26	319	308	300	309	310	319	377	370	376	376	372	344	316	340	356	339	340	345	337	360	343	317	319	324
27	314	319	304	304	331	326	368	365	371	370	351	351	332	340	357	336	335	340	345	355	308	324	327	341
28	318	295	298	294	313	339	373	353	352	371	366	335	341	326	344	338	340	343	335	317	308	313	322	338
29	330	316	314	322	309	334	369	364	361	374	365	335	347	333	337	322	317	343	356	387	335	324	311	306
30	304	299	319	324	338	318	370	370	368	358	364	343	341	364	332	346	340	343	350	334	354	344	314	296
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	28	28	29	30	28	30	30	30	30	29	29	29	30	30	30	30	30	29	30	30	28	28	27
MED	310	308	312	317	324	324	369	368	368	366	355	344	338	330	332	336	335	340	338	347	338	319	314	309
U Q	316	314	316	325	331	334	374	371	376	374	365	353	346	337	341	343	342	344	348	356	353	328	322	319
L Q	304	304	301	310	311	318	362	362	361	354	343	335	323	326	327	329	331	336	332	329	322	312	305	302

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									399	A	A	UL418	UL420	A	A	A	A	A						
2								A	UL385	A	A	A	402	414	386	UL374	UL347	L						
3									L	L	A	A	407	UL363	387	382	L							
4									L	391	UL397	420	UL386	UL387	UL367	UL349	UL383	L						
5								L	UL396	L	UL407	442	UL429	414	UL360	UL362	369	A						
6								L	L	A	419	UL434	438	353	L	UL347	UL354	L						
7								L	L	L	UL398	408	A	UL373	379	UL357	A	A						
8								L	UL387	401	L	UL392	UL395	372	391	UL362	L	A						
9								L	L	409	UL406	UL382	UL447	375	UL352	A	L	A						
10							L	A	A	404	414	412	414	UL387	A	A	A	A						
11								L	L	UL379	438	A	A	384	UL371	UL371	UL373	L						
12									L	UL411	L	416	425	395	UL345	L	L	L						
13									L	UL393	436	405	378	409	363	L	A	A						
14									L	A	428	387	398	428	379	L	UL368							
15									A	UL385	A	409	UL376	UL387	A	A	L	A						
16								L	UL387	420	430	A	A	A	UL386	L	L	L						
17								L	395	L	420	403	UL405	396	UL397	380	UL379							
18									L	UL409	UL386	UL364	UL402	388	L	UL377	L							
19								L	L	L	UL422	UL395	393	UL387	UL374	L	L							
20									L	L	410	429	UL409	UL379	L	A	A							
21									L	405	UL405	418	UL438	UL365	UL380	L	L							
22									L	UL404	417	418	421	395	L		L							
23									A	A	417	L	UL412	L	UL372	L	L							
24									L	UL397	L	UL399	UL396	403	L	L	L							
25									L	UL379	UL375	UL388	UL392	UL393	L	A	L							
26								L	L	UL396	L	UL422	UL361	400	UL366	L	L							
27									L	L	UL397	442	A	396	L	L	L							
28									L	A	408	L	UL408	L	L	L	L							
29								L	A	L	410	UL422	UL378	L	L	L								
30										L	UL419	UL399	384	A	L	L	L							
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									6	15	22	24	26	24	17	10	7							
MED									UL391	UL401	412	410	UL404	388	UL374	UL366	UL369							
U Q									396	409	420	421	UL420	398	386	377	UL379							
L Q									UL387	UL391	UL405	UL397	UL392	UL377	UL364	UL357	UL354							

SEP. 2010 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

SEP. 2010 h′F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									232	226	A	282	410	316	320	280	E A 318	E A 302						
2								218	260	246	278	E A 292	280	340	288	270	306	290						
3									252	264	262	E A 364	276	348	280	284	256							
4									226	294	298	276	272	286	282	264	240	246						
5								220	276	242	274	282	444	300	270	358	298	256						
6								248	244	222	246	306	320	300	274	282	300	264						
7								224	208	240	264	304	280	286	312	310	282	258						
8								250	236	226	256	264	314	298	306	274	256	252						
9								236	228	256	274	296	310	338	296	292	256	238						
10							252	226	248	294	276	264	298	314	284	296	294	252						
11								250	250	254	260	A	A	362	298	276	290	268						
12									262	264	254	298	292	270	378	262	268	276						
13									236	224	282	294	268	314	318	272	264	250						
14									228	240	288	260	280	290	300	304	280							
15									238	262	E A 266	280	260	292	270	262	258	250						
16								254	260	248	264	296	294	278	272	276	282	244						
17								256	228	244	280	264	290	286	278	252	284							
18									236	256	262	264	276	290	294	258	264							
19								238	242	240	238	278	312	292	286	270	260							
20									230	242	240	252	278	284	250	270	272							
21									242	244	252	262	274	296	276	274	270							
22									228	242	244	266	288	290	288		274							
23									232	E A 264	272	234	276	318	288	288	270							
24									238	232	246	278	298	272	308	294	266							
25									234	268	268	252	250	290	270	274	268							
26								240	234	232	234	262	322	268	258	264	260							
27									230	236	260	260	274	260	238	270	260							
28									250	230	232	252	272	258	264	258	254							
29								250	224	238	238	266	256	276	270	294								
30										236	248	250	264	242	274	262	258							
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	13	29	30	29	29	29	30	30	29	29	14						
MED							252	240	236	242	261	265	280	290	283	274	268	253						
U Q								250	249	256	274	293	304	314	298	290	283	268						
L Q								225	229	236	246	261	273	278	270	264	259	250						

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E A 288	E B 280	E B 284	E A 280	E B 234	216	198	206	210	A	A	204	210	A	A	A	A	A	A	E A 242	210	200	220	E A 254
2	E A 274	E A 286	E A 278	E A 242	E B 250	E B 250	204	A	214	A	A	A	216	200	216	198	230	226	E A 238	E A 240	220	214	E B 236	E A 238
3	E B 244	E B 262	E A 284	E B 262	240	230	218	210	206	196	A	A	214	186	198	206	228	214	230	216	202	200	214	E A 276
4	E B 280	E B 274	E B 262	E B 234	224	220	216	202	200	196	188	188	202	194	206	206	206	212	220	226	208	194	E B 248	E A 256
5	E B 256	E B 234	E B 258	228	E B 258	E B 260	222	196	192	184	198	174	192	180	210	206	220	A	238	226	216	230	E A 256	214
6	E B 244	E B 260	E B 276	E B 274	E B 230	218	204	210	202	A	208	204	180	220	206	220	230	234	232	220	186	E A 262	E A 294	A
7	E A 244	E A 306	E A 284	E B 276	E A 268	244	218	200	192	184	186	174	A	218	204	212	A	A	E A 236	228	208	A	E A 274	E A 298
8	E A 258	E A 300	E A 280	E A 284	E A 282	E A 272	232	212	200	204	186	192	196	200	200	200	222	A	220	E A 264	222	216	230	E A 262
9	E A 274	E A 312	E A 314	E B 272	E B 268	E B 252	228	204	196	196	200	200	198	224	E A 238	A	218	A	220	214	E A 240	E A 258	E A 274	E A 322
10	E A 304	E A 244	E B 272	E B 264	E A 238	E A 238	216	A	A	202	204	168	198	206	A	A	A	A	216	200	188	E A 288	E B 276	E B 268
11	E A 270	E B 260	E B 266	E B 264	E B 244	E A 294	214	218	204	206	200	A	A	212	216	210	204	228	E A 242	220	196	E A 242	E B 266	E B 258
12	E B 256	E B 260	E B 260	E B 248	E A 254	E B 250	218	208	196	200	202	206	202	212	200	208	214	204	236	222	232	210	214	E B 254
13	E B 264	E B 252	E B 254	E B 250	212	E B 250	214	208	204	190	184	188	206	208	218	218	A	A	234	222	202	E B 280	E B 268	E B 256
14	E B 252	E B 256	216	220	E B 234	E B 278	196	208	202	A	190	204	196	200	202	216	218	236	224	200	226	E A 262	E B 256	E B 266
15	E B 264	E B 280	E B 284	E B 282	E B 246	E B 262	212	226	A	200	A	204	E A 232	212	A	A	212	A	230	228	E A 250	234	E A 246	E A 252
16	E B 266	E B 256	E B 252	E B 240	226	E B 256	226	208	212	198	204	A	A	A	206	210	212	212	220	210	212	E A 252	E B 248	E B 270
17	E B 260	E A 268	E B 248	E B 244	E B 280	E A 304	212	206	196	202	196	202	208	180	206	208	214	232	210	216	E A 262	E B 270	E B 258	E B 262
18	E B 238	224	E B 234	E B 242	E B 258	E B 256	218	216	212	198	200	212	186	200	236	204	218	224	224	210	214	216	224	E B 248
19	E B 246	E B 246	E B 238	E B 238	E B 244	230	204	198	202	214	188	194	212	204	206	208	208	228	216	202	202	E B 248	E B 254	E B 256
20	E B 270	E B 262	E B 262	226	206	220	206	222	198	204	196	184	188	202	200	A	A	228	212	214	216	E B 232	E A 272	E A 274
21	E A 274	E A 276	E A 278	E A 260	232	228	216	222	210	200	192	194	184	196	186	216	218	224	222	206	196	E B 210	E B 284	E A 302
22	E A 278	E A 274	E A 272	E B 256	E B 246	232	206	216	198	190	184	202	192	204	224	228	204	234	214	206	204	220	232	E A 242
23	E A 292	E B 286	E B 252	210	232	E A 256	208	224	A	A	184	196	188	210	218	210	208	216	204	206	218	226	E B 264	E B 268
24	E B 262	E A 272	E B 258	224	210	218	212	224	196	180	182	190	182	192	200	220	220	232	208	198	E B 198	E B 232	E B 262	E A 296
25	E A 290	E A 282	E B 286	E B 280	E B 252	E B 252	198	210	204	206	206	206	196	190	224	A	212	232	212	206	E B 208	216	234	234
26	E B 246	E B 258	E B 270	E B 256	E B 276	E B 254	214	192	202	206	192	184	210	198	208	214	220	232	210	208	204	E B 214	E A 254	E A 282
27	E A 280	E B 254	E B 278	E B 250	E B 216	E B 252	206	212	208	198	198	180	A	192	196	198	210	230	218	216	224	E B 240	224	218
28	230	E B 270	E B 278	E B 272	E B 266	214	204	E A 248	216	A	196	184	170	208	208	218	210	226	218	216	E A 242	226	220	208
29	E B 238	E B 256	E B 254	E B 226	E B 218	232	208	216	A	196	196	176	196	196	200	228	224	234	204	188	E B 198	E B 244	E B 260	E B 270
30	E B 280	E B 278	E B 244	E B 218	E B 216	E B 252	216	216	206	196	184	184	208	A	202	232	222	228	212	218	212	218	228	E B 274
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	30	28	26	24	26	26	26	27	27	24	25	22	29	30	30	29	30	29
MED	E B 264	E B 265	E B 268	E B 250	E B 242	E B 250	213	210	202	198	196	193	196	200	206	210	218	228	219	214	208	E 230	E 254	E 262
U Q	E A 278	E A 280	E 278	E B 272	E B 258	E B 256	218	217	208	203	200	204	208	210	216	218	221	232	231	222	222	E A 250	E 266	E A 274
L Q	E B 246	E B 256	E B 254	234	226	230	206	206	198	196	186	184	188	194	200	206	210	224	212	206	202	215	230	250

SEP. 2010 h′F (KM)

IONOSPHERIC DATA STATION Kokubunji

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

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

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

SEP. 2010 h′E (KM)

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	92	94	116	112	100	114	112	106	100	98	96	96	100	96	98	124	104	96	92	92	96	92	94	98
2	94	94	96	96	100	B	114	104	102	100	98	98	98	98	94	98	116	104	100	98	96	100	106	100
3	102	102	96	96	100	B	100	100	104	104	98	94	94	96	96	96	94	126	94	B	B	B	B	104
4	B	B	B	B	104	94	92	120	94	98	98	92	G	G	G	110	110	108	B	B	B	96	104	104
5	B	94	B	102	B	B	G	104	102	102	G	G	G	G	G	102	118	104	104	100	100	100	100	100
6	106	104	B	B	B	100	92	96	118	110	100	98	G	106	114	106	116	106	100	102	98	98	100	98
7	96	98	96	94	90	100	G	102	104	104	102	G	94	94	112	128	116	110	104	100	92	92	96	98
8	96	96	90	118	122	118	116	104	102	104	104	100	104	100	100	104	130	114	106	100	98	96	94	94
9	88	86	88	88	94	B	114	104	106	118	G	96	92	98	122	118	106	106	100	100	104	108	100	102
10	98	98	100	96	94	98	G	106	98	104	102	100	G	G	132	118	104	106	102	84	106	102	90	94
11	96	94	92	94	92	92	100	G	100	102	G	92	90	96	96	98	98	106	106	98	92	90	92	B
12	B	B	B	B	92	B	134	94	94	102	100	G	G	G	104	106	104	108	B	104	104	100	92	90
13	96	104	100	B	B	B	126	122	126	94	104	104	G	94	90	90	90	88	86	78	82	92	B	92
14	96	98	B	B	98	92	132	152	130	120	112	116	G	G	104	104	104	124	94	112	102	102	B	B
15	B	B	B	B	B	B	126	118	108	106	102	102	108	104	106	102	120	106	108	106	102	110	104	98
16	100	98	98	B	B	B	152	96	92	108	112	106	106	104	104	104	102	100	98	100	100	98	104	B
17	B	96	B	90	90	94	136	92	116	92	108	G	G	98	G	100	104	104	106	110	104	104	100	98
18	88	B	B	96	B	B	166	96	98	106	106	118	G	G	134	116	114	124	104	B	94	100	98	98
19	B	B	96	B	B	96	96	96	96	94	92	98	G	104	104	104	104	104	104	B	B	B	B	96
20	96	B	B	B	B	B	140	124	124	118	G	116	G	G	106	104	106	106	100	98	98	102	100	98
21	98	96	96	94	92	92	152	160	106	102	104	G	G	102	G	104	G	140	B	B	B	B	100	94
22	90	90	90	B	B	B	136	106	108	102	102	G	G	G	G	118	106	108	104	104	B	104	104	100
23	100	B	B	118	104	102	138	126	120	106	108	92	118	G	116	102	108	102	104	100	98	100	98	96
24	94	94	94	92	B	B	132	G	100	98	98	G	G	G	G	100	96	88	88	86	90	B	100	100
25	98	96	96	B	B	102	100	102	94	96	100	98	114	94	130	118	120	104	B	B	B	104	106	102
26	100	B	B	B	B	B	116	120	124	92	116	G	G	108	G	G	116	112	106	106	B	96	102	102
27	100	B	B	B	B	96	120	G	116	90	94	114	110	114	G	126	120	112	94	90	100	98	96	92
28	92	96	B	B	B	B	134	120	118	106	106	106	100	98	100	96	102	90	90	90	98	98	104	94
29	B	B	B	B	B	B	130	112	104	98	G	G	112	G	96	106	120	118	B	100	98	98	102	102
30	98	98	B	B	B	B	132	G	106	104	106	106	124	120	106	106	102	122	96	100	100	B	106	104
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	20	15	14	14	14	27	26	30	30	25	21	15	19	22	29	29	30	25	24	23	25	26	27
MED	96	96	96	96	96	97	126	105	104	102	102	100	104	98	104	104	106	106	100	100	98	100	100	98
U Q	100	98	98	102	100	102	136	120	116	106	106	106	112	104	114	117	116	112	104	103	102	102	104	102
L Q	94	94	92	94	92	94	112	100	100	98	98	96	94	96	98	101	103	104	94	95	96	96	96	94

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F3	F2	F2	F2	F1	C1	C2	L2	L2	L3	L3	L2	L3	L2	L2	CL31	LL32	L3	FF43	F3	F4	F3	F2	F3
2	F2	F3	F3	F3	F2		C2	L2	L2	L2	L2	L2	L2	L2	L2	L2	CL11	L2	F3	F6	F2	F3	F2	F2
3	F2	F2	F2	F1	F2		L2	L1	L1	L2	L2	L2	L2	L2	L2	L2	L2	CL11	F1					F3
4					F3	L2	L3	CL12	L2	L2	L2	L2				L2	CL11	L2				F1	F1	F2
5		F1		F1				L2	L2	L2						L2	CL11	L2	F3	F4	F3	F4	F4	F3
6	FF24	F1				L2	L3	L2	CL22	CL22	L2	L2		L2	C2	L2	CL22	L2	F3	F3	F5	F5	F4	F4
7	F3	F4	F3	F2	F3	L1		L1	L2	L2	L2		L3	L2	CL21	CL11	CL31	L3	F3	F6	F3	F5	F5	F4
8	F4	F4	F4	F3	F2	C4	C2	L2	L2	L2	L2	L2	L2	L2	L2	L2	HL11	C2	F3	F5	F3	F4	F2	F2
9	F3	F3	F4	F2	F1		C2	L2	L2	C2		L2	L2	L2	C2	CL22	L2	L3	F2	F3	F6	F5	F3	F4
10	F4	F2	F2	F2	F4	L2		L2	L2	L2	L2	L2			HL12	CL22	L3	L3	F3	F5	FF24	FF23	F2	F1
11	F3	F3	F2	F2	F2	L6	L2		L2	L2		L2	L3	L2	L2	L2	L2	CL22	FF22	F3	F2	F2	F1	
12					F4		H2	L2	L2	L2	L2				L2	L2	L2	L2		F4	F1	F2	F1	F1
13	F2	F2	F1				C2	C2	CL21	L2	L2	L2		L2	L2	L2	L3	L4	F3	F4	F2	F1		F2
14	F2	F2			F2	L2	H2	HL22	CL22	CL22	CL12	C1			L2	L2	L1	CL22	F3	F2	F3	F3		
15							C2	C2	C2	L2	L2	L1	L1	L1	L2	L2	C2	L3	F3	F4	F4	F2	F3	F4
16	F3	F2	F2				H1	L1	L2	L2	CL11	L2	L2	L2	L2	L2	L2	L2	F2	F3	F3	F3	F1	
17		F3		F1	F1	L2	H2	L2	CL22	L2	L2			L2		L2	L2	L3	F3	F3	F2	F1	F2	F2
18	F2			F1			H2	L2	L2	L2	L2	CL12			CL22	CL22	CL12	CL22	F1		F3	F2	F2	F2
19			F1			L1	L3	L3	L2	L2	L2	L2		L2	L2	L2	L2	L2	F3					F2
20	F1						H2	C2	CL22	CL22		CL11			L2	L3	L3	L2	F3	F4	F3	F2	F3	F4
21	F3	F3	F3	F3	F4	L4	H2	H2	L2	L2	L2			L2		L2		H1					F2	F4
22	F3	F2	F1				H2	L2	L2	L2	L2					CL12	L2	L2	F3	F2		F2	F1	F2
23	F2			F2	F2	L3	H2	C2	C2	L3	L2	L2	CL22		CL22	L2	L2	L2	F3	F2	F3	F2	F2	F1
24	F2	F2	F2	F2			H2		L2	L2	L2					L1	L2	L3	F3	F3	F2		F1	F2
25	F3	F5	F2			L2	L2	L2	L2	L2	L2	L2	CL22	L2	CL12	CL22	C2	L2				F1	F2	F1
26	F2						C3	CL22	CL22	L2	CL12			CL12			CL22	C3	F3	F3		F2	F3	F4
27	F3					L2	C2		C2	L2	L2	CL12	CL12	CL12		CL11	CL11	C2	F3	F3	F2	F1	F1	F1
28	F2	F1					C2	CL21	CL21	L2	L2	L2	L2	L2	L2	L2	L2	L2	F1	F1	F3	F1	F1	F1
29							HL21	CL21	L2	L2			CL12		L2	L2	CL22	C2		F3	F1	F2	F2	F2
30	F2	F2					C2		L2	L2	L2	L2	CL22	CL22	L2	L2	L2	C1	F2	F3	F5		F2	F2
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

SEP. 2010 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

f-PLOTS OF IONOSPHERIC DATA

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

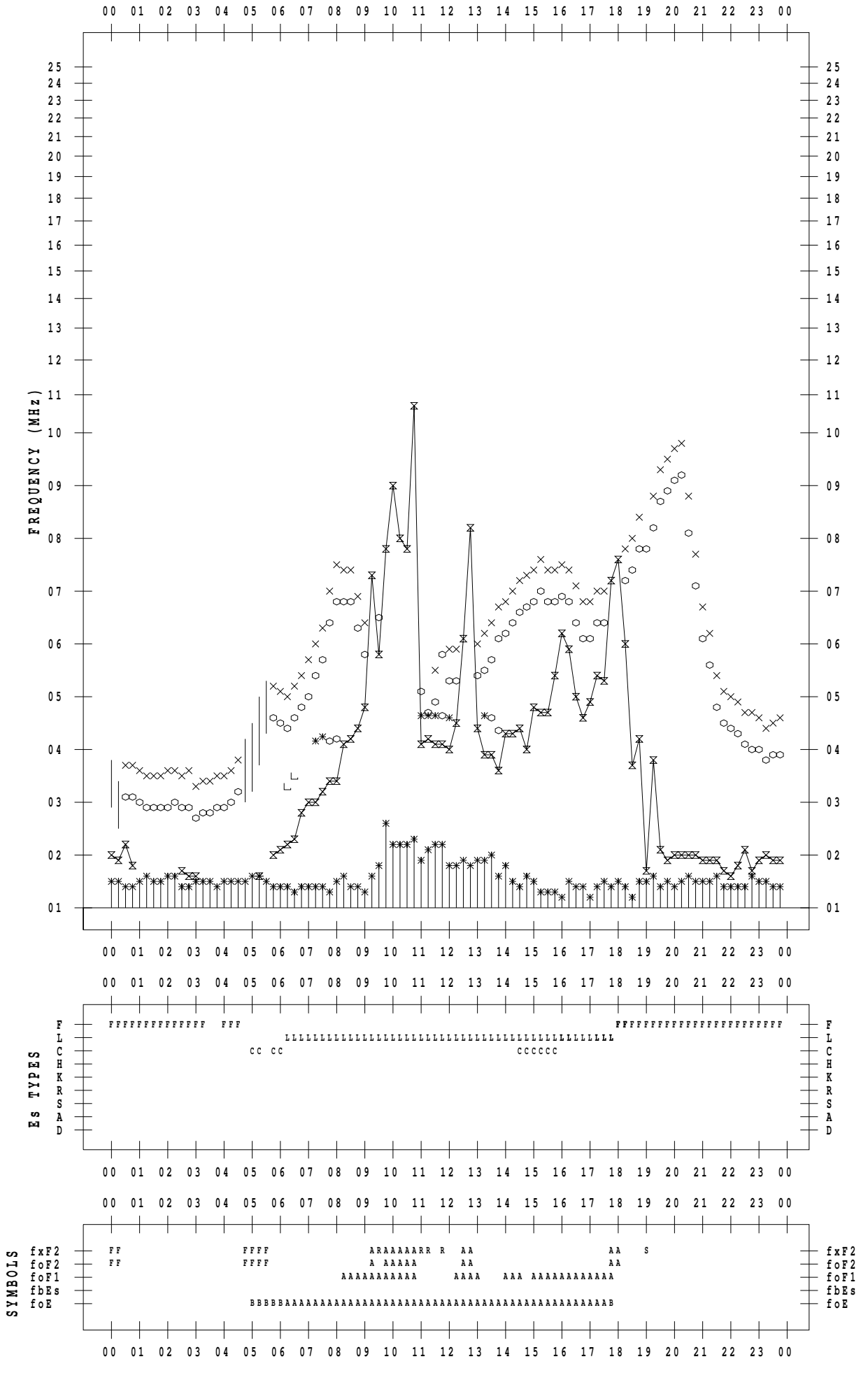
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/ 1

135 °E MEAN TIME



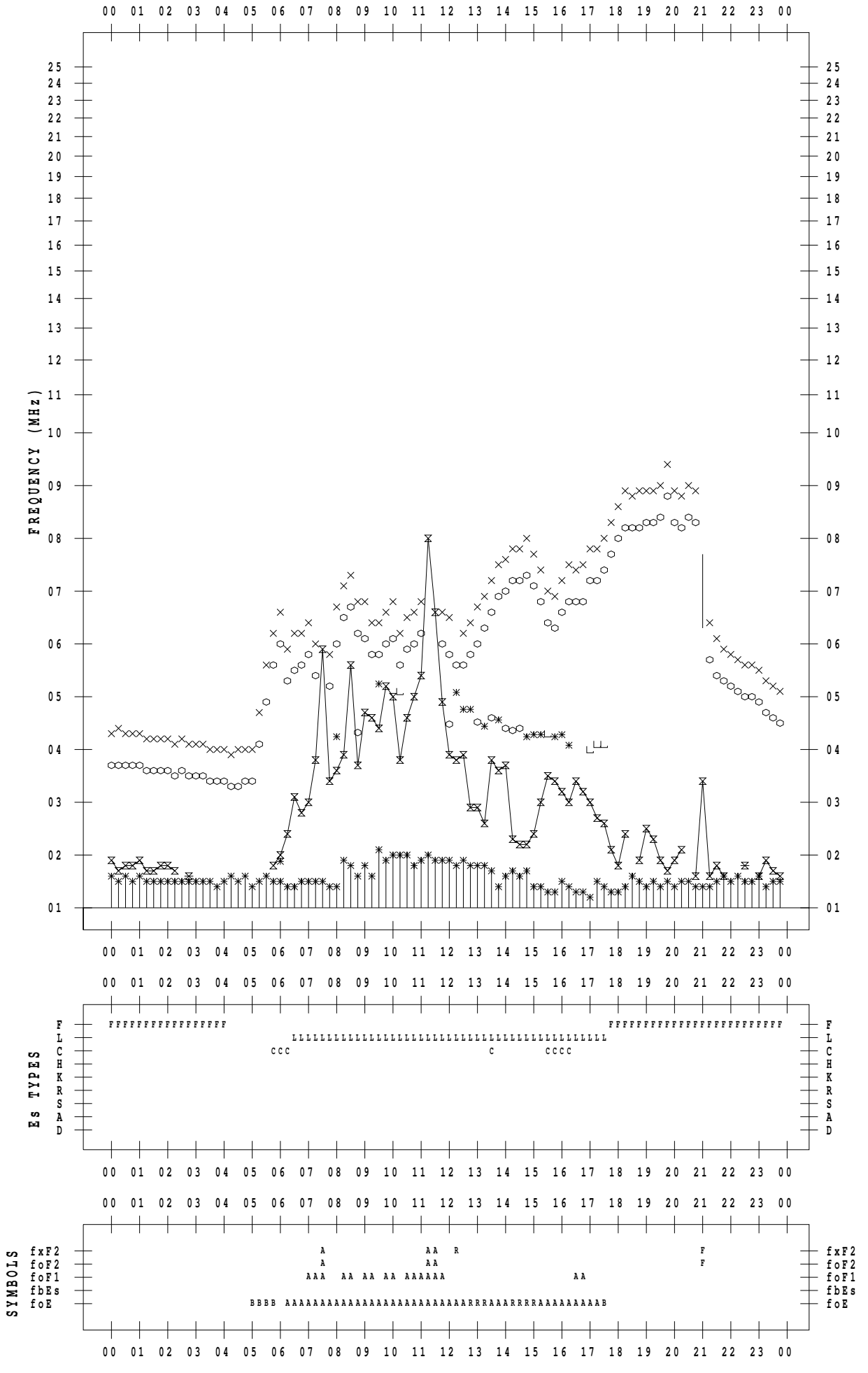
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/ 2

135 °E MEAN TIME



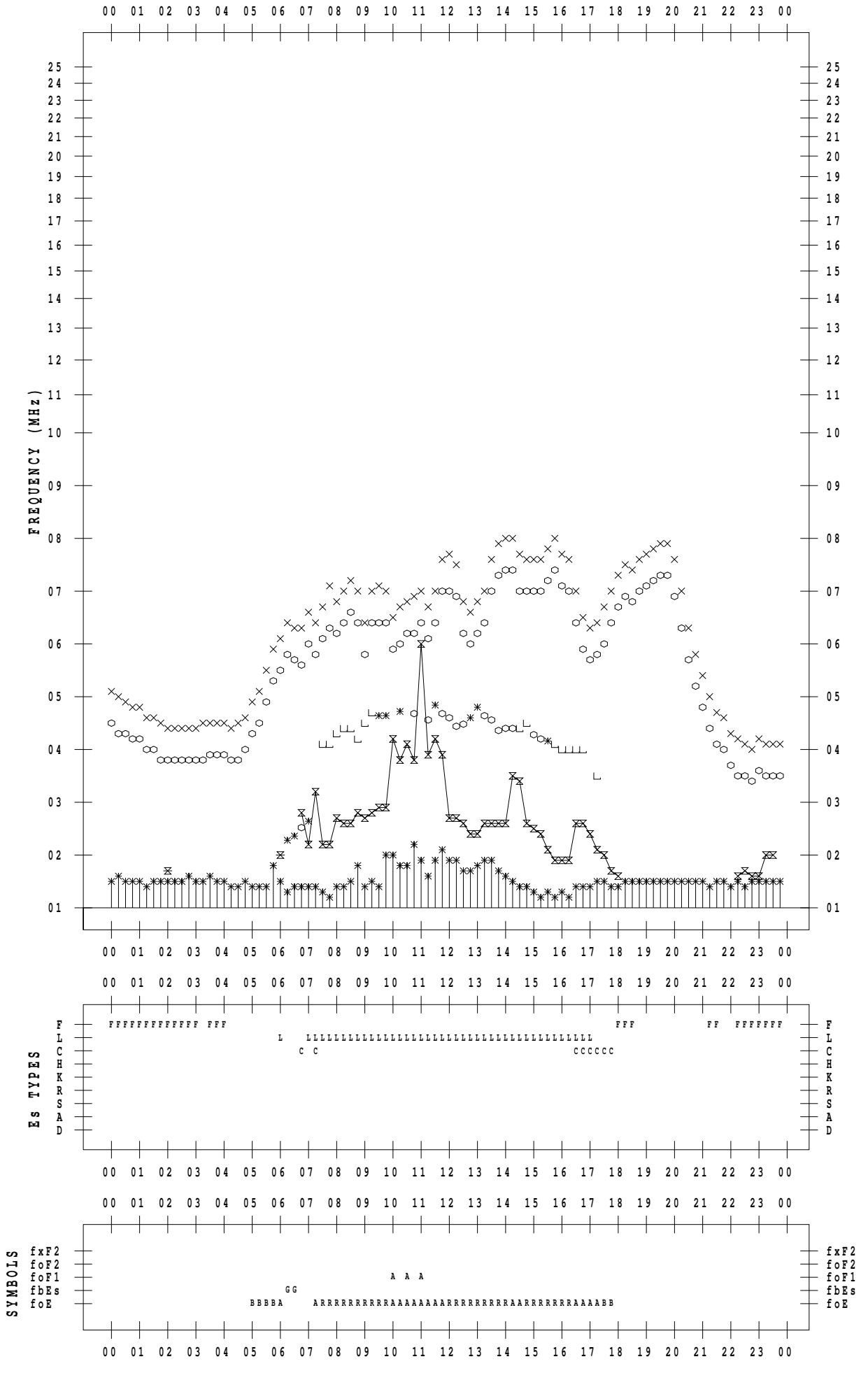
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/ 3

135 °E MEAN TIME



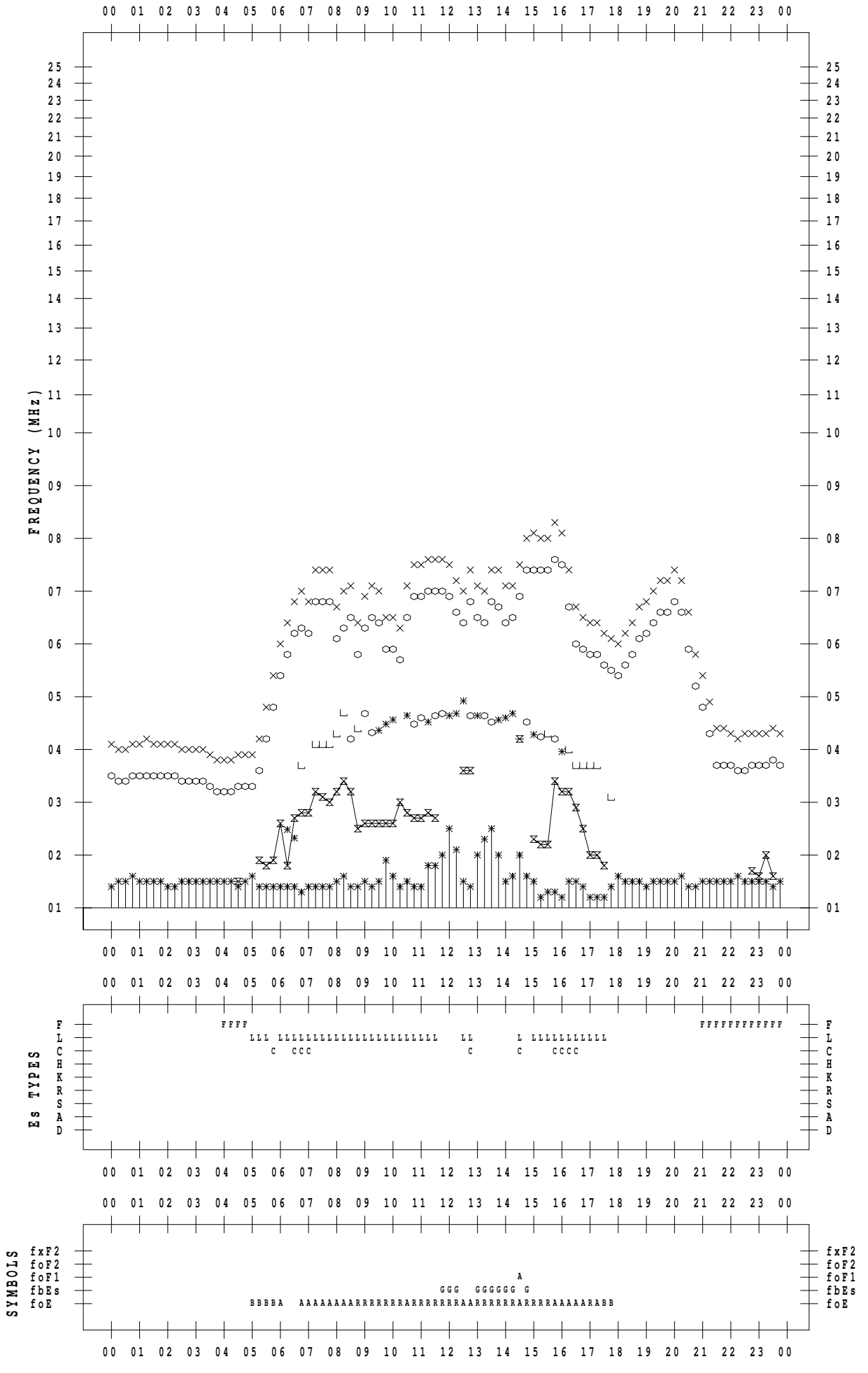
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/ 4

135 °E MEAN TIME



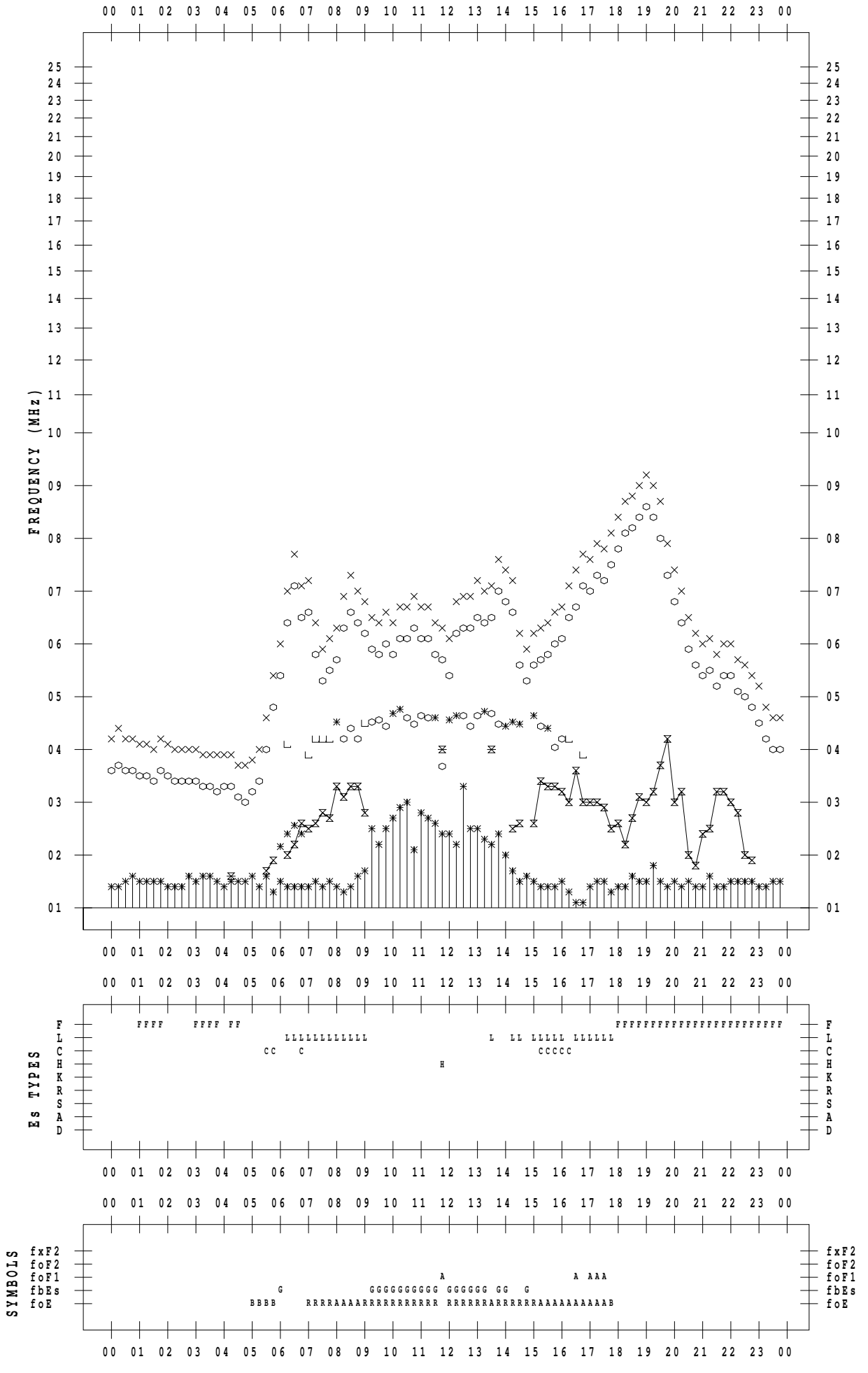
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/ 5

135 °E MEAN TIME



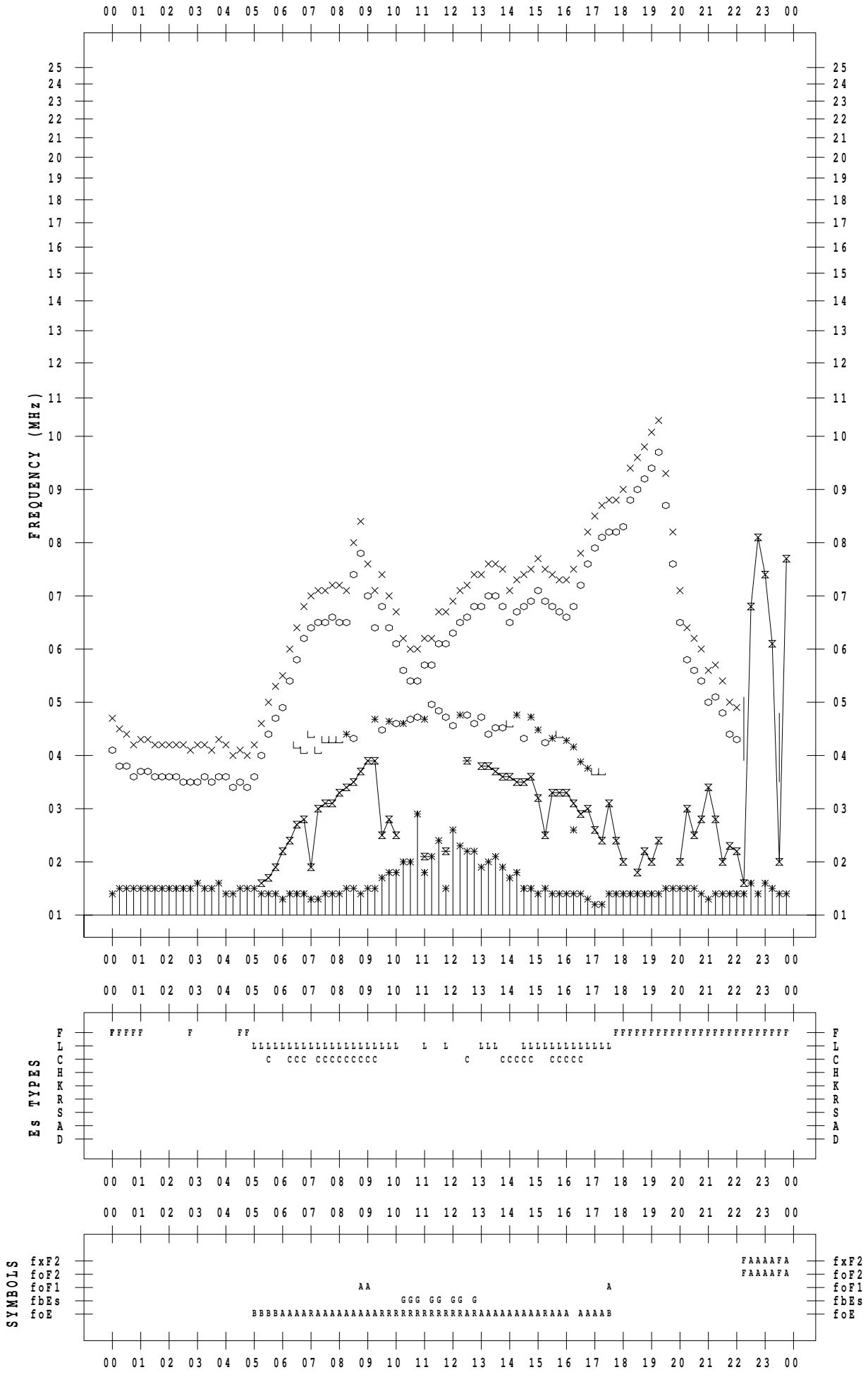
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/ 6

135 °E MEAN TIME



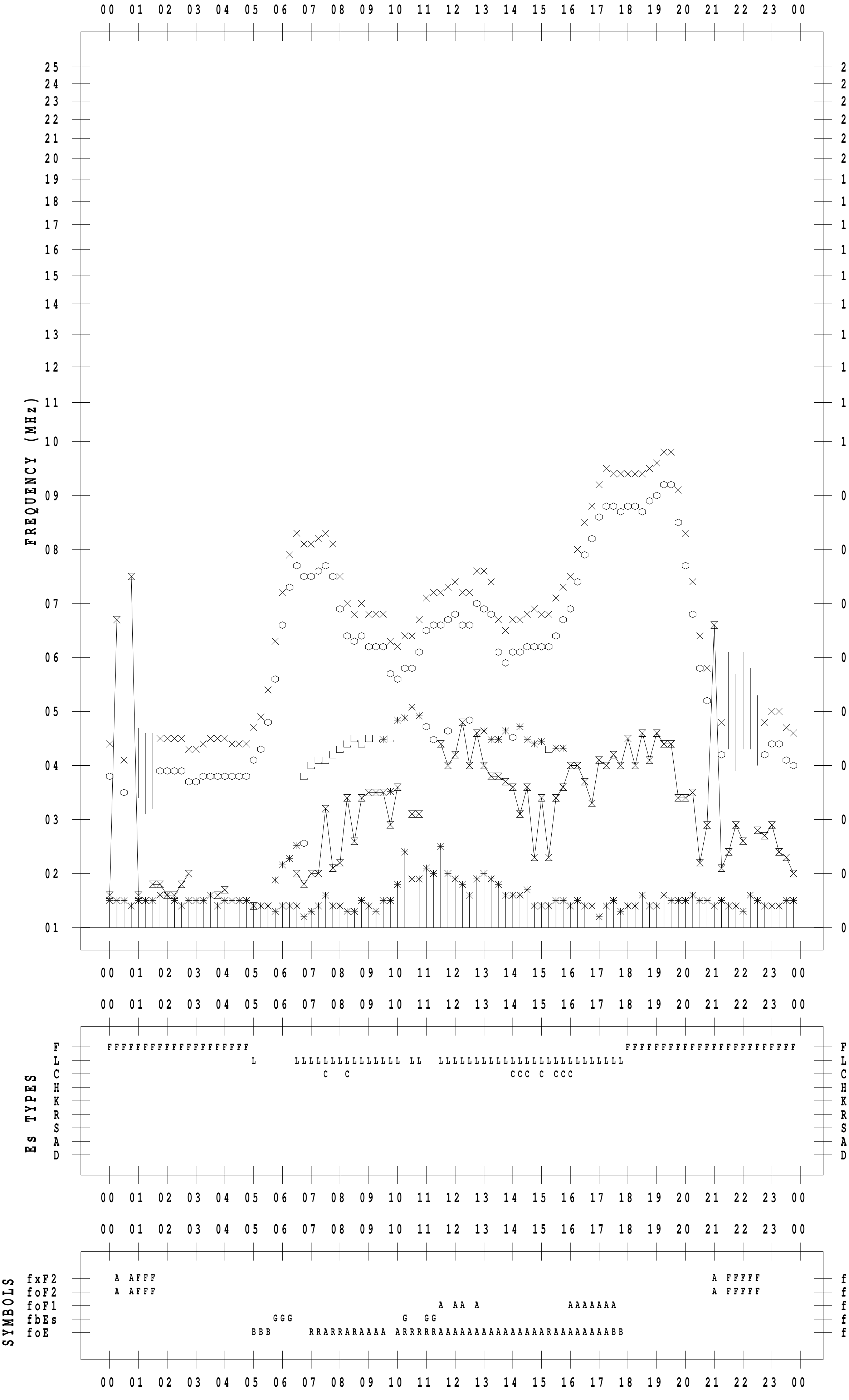
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/ 7

135 ° E MEAN TIME



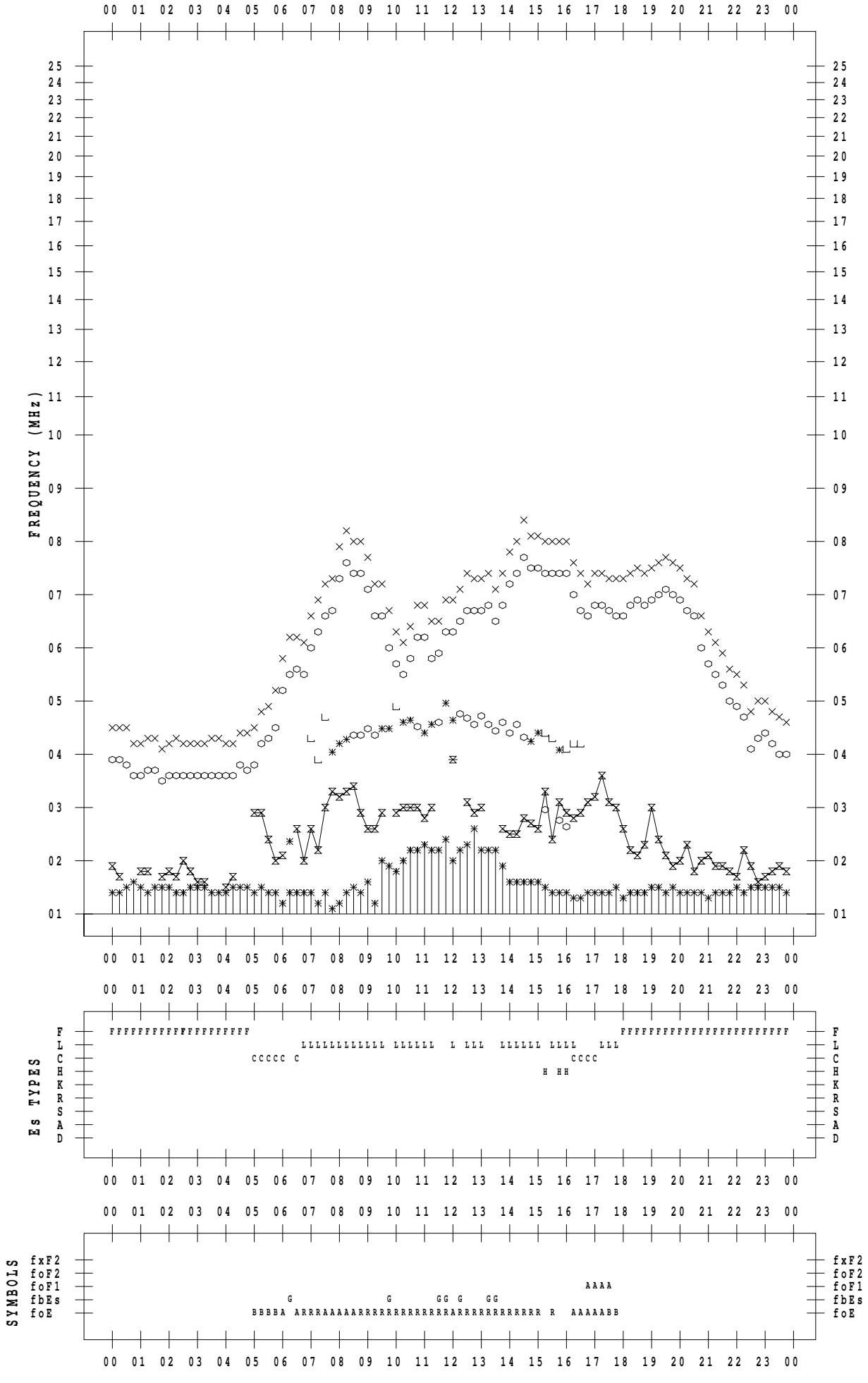
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/ 8

135 °E MEAN TIME



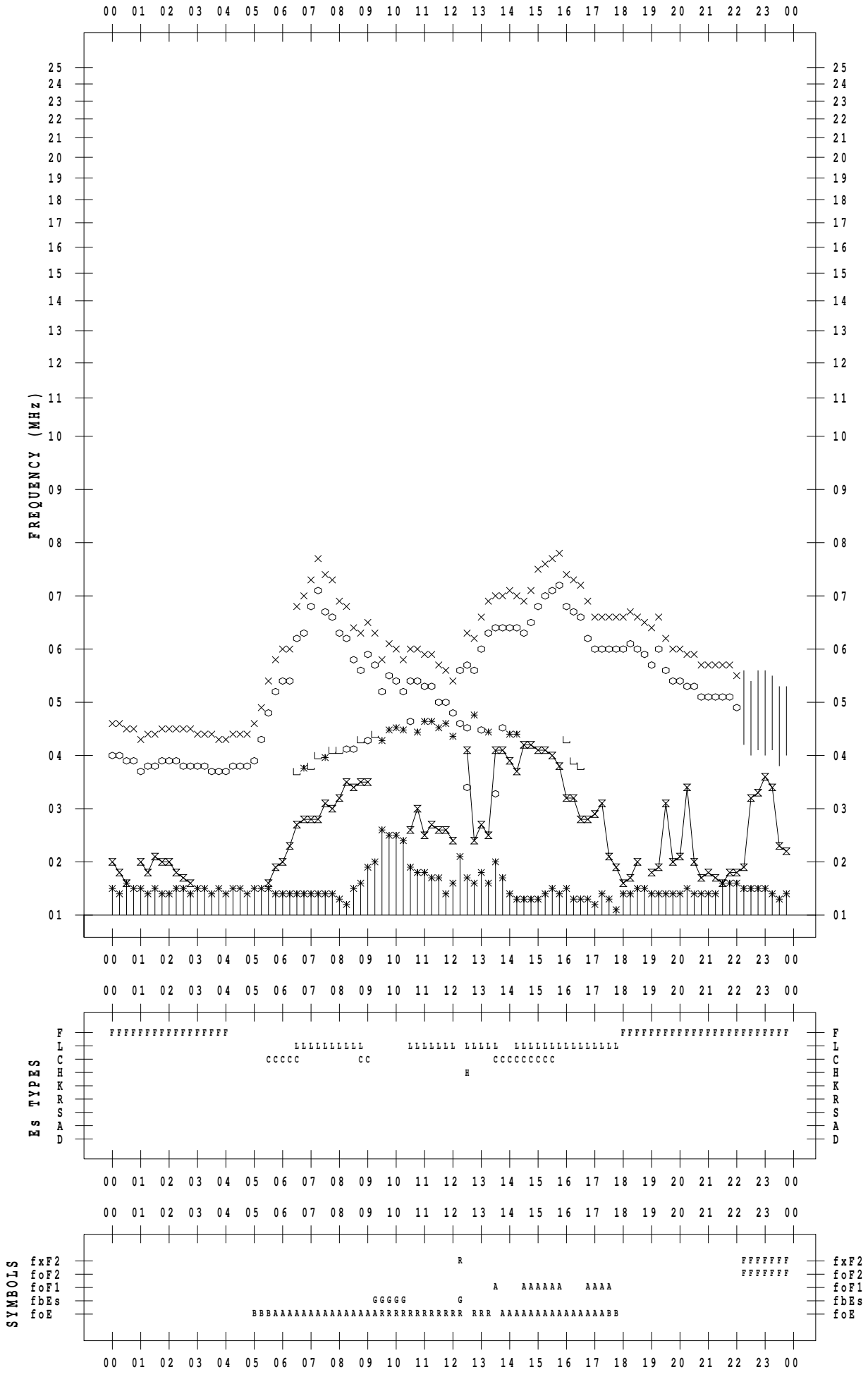
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/ 9

135 °E MEAN TIME



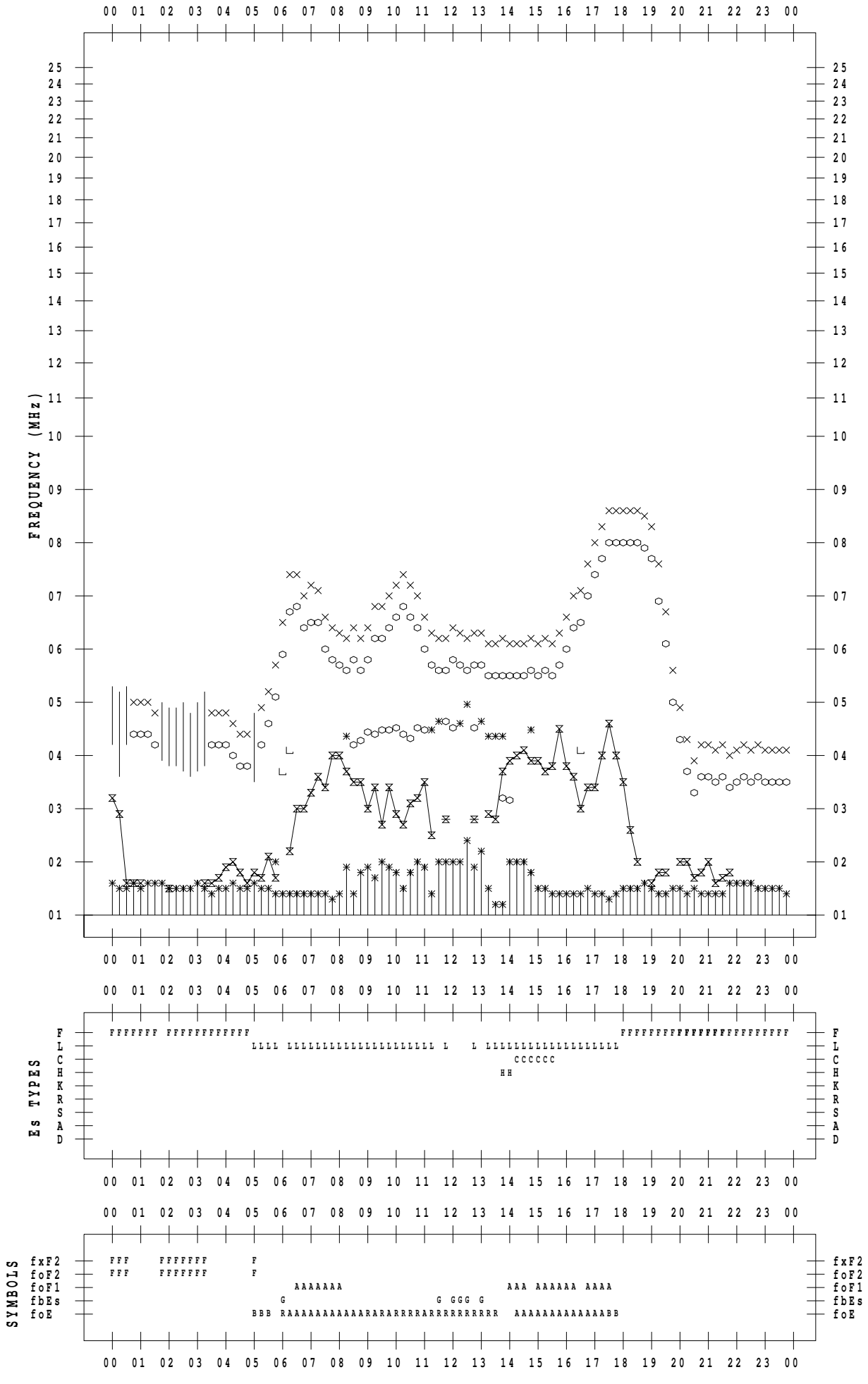
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/10

135 °E MEAN TIME



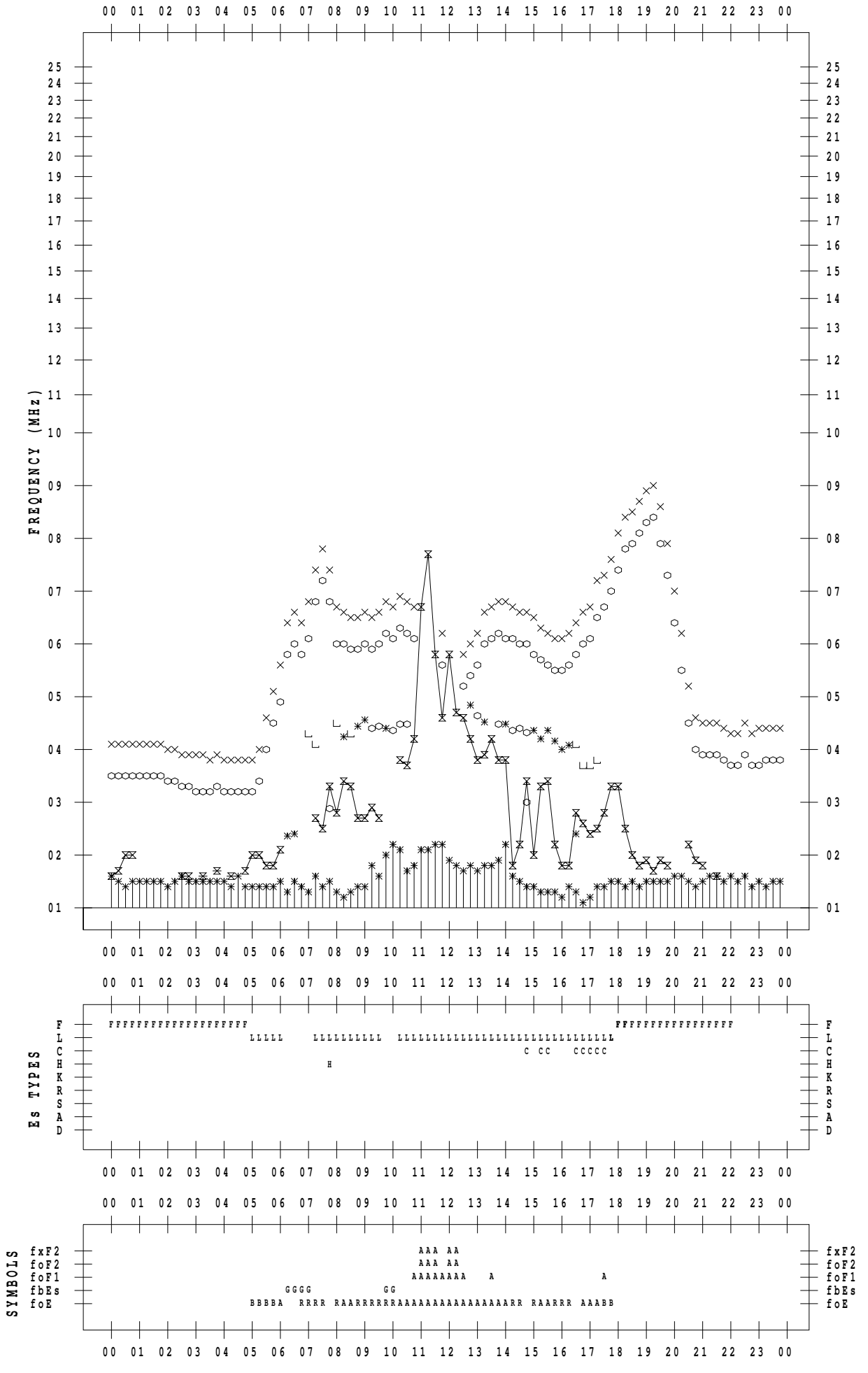
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/11

135 °E MEAN TIME



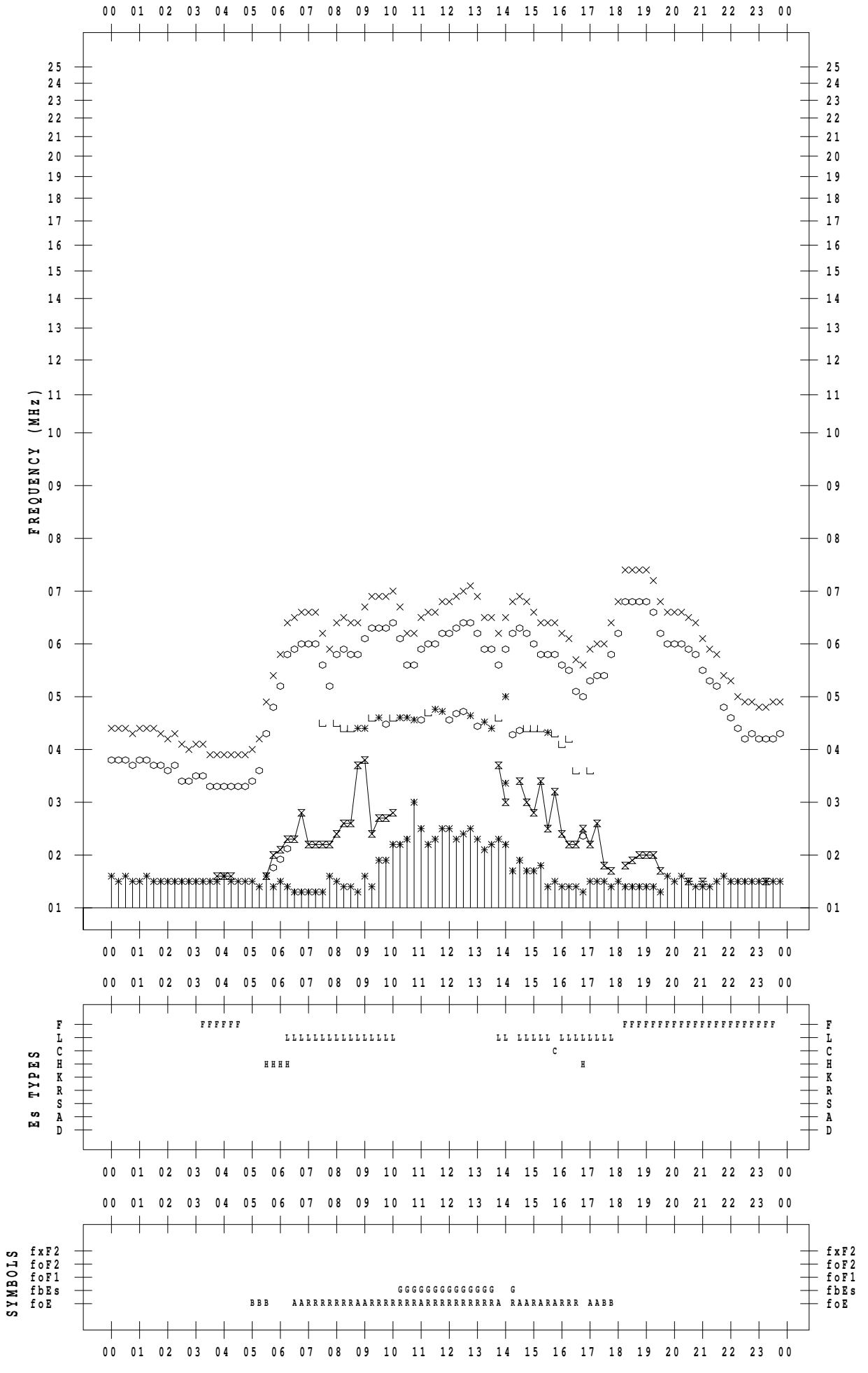
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/12

135 °E MEAN TIME



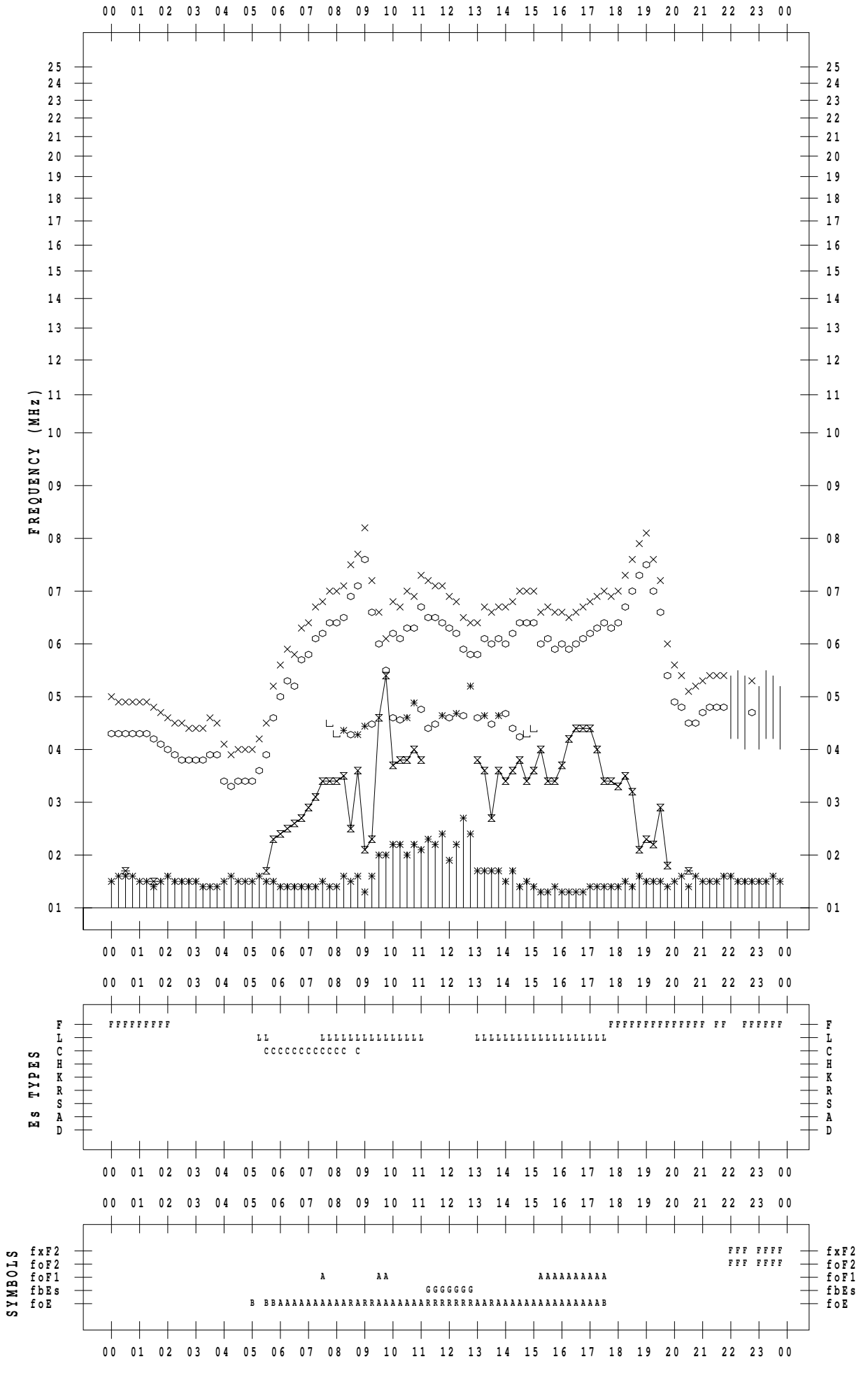
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/13

135 °E MEAN TIME



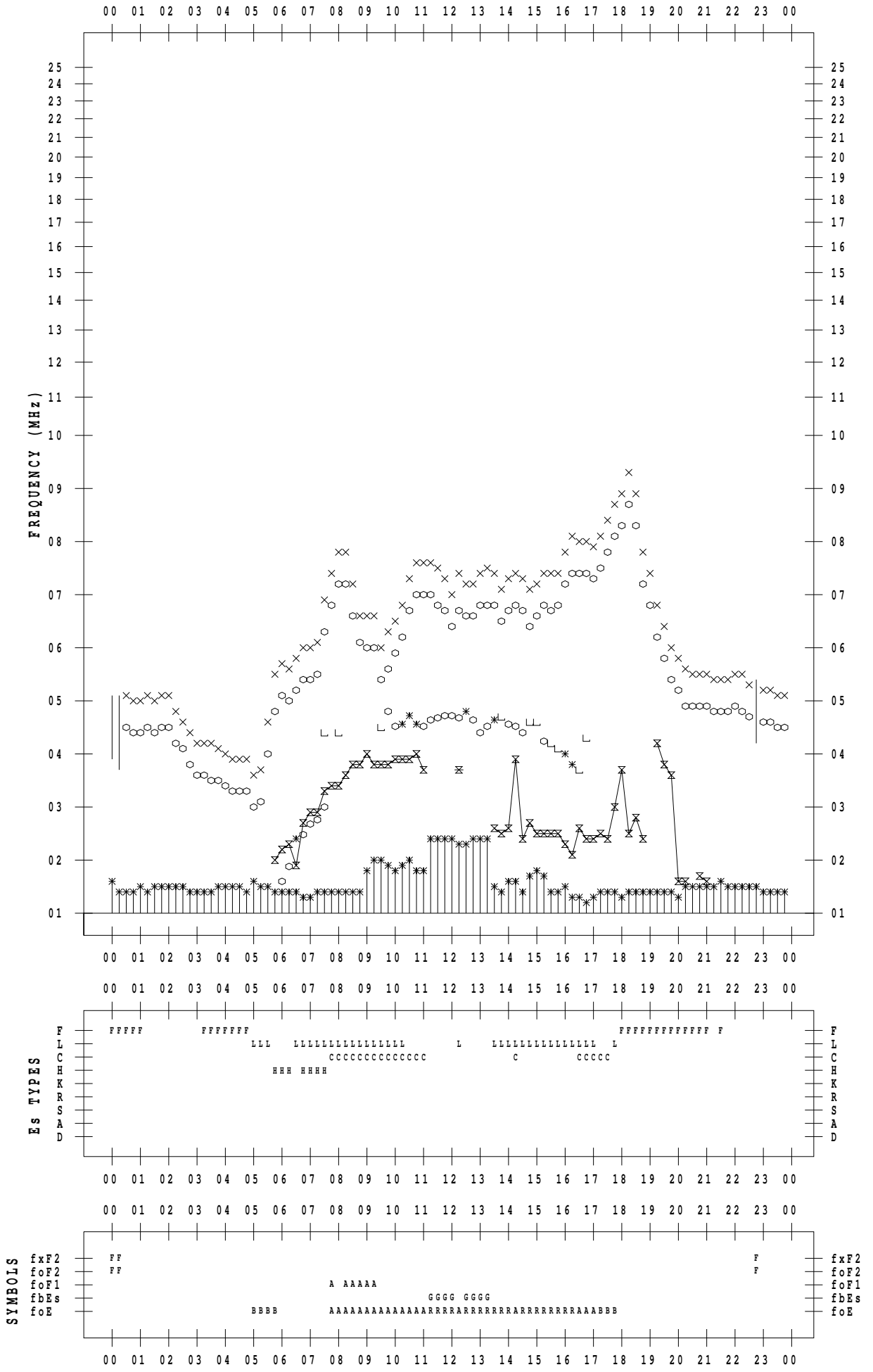
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/14

135 °E MEAN TIME



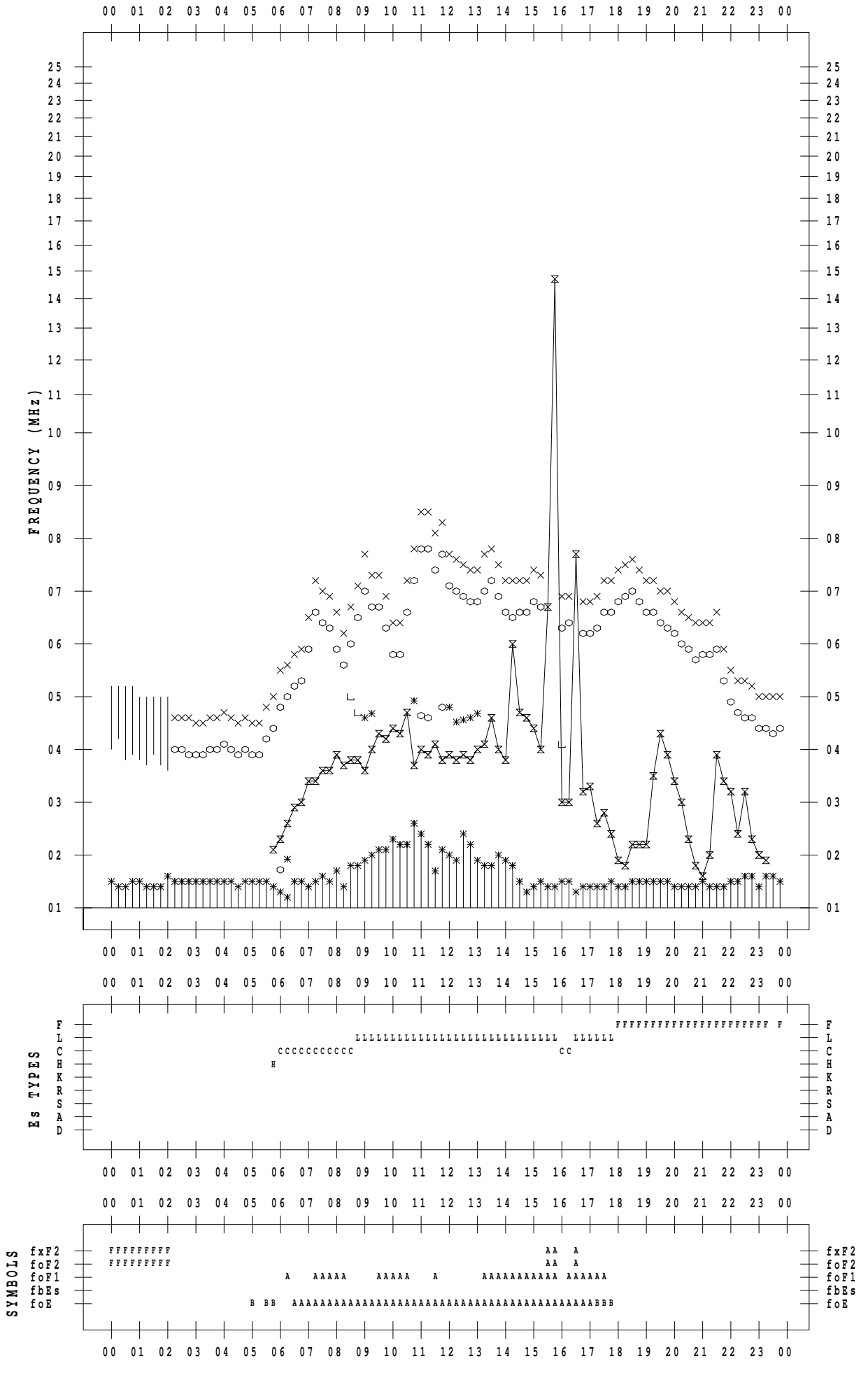
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/15

135 °E MEAN TIME



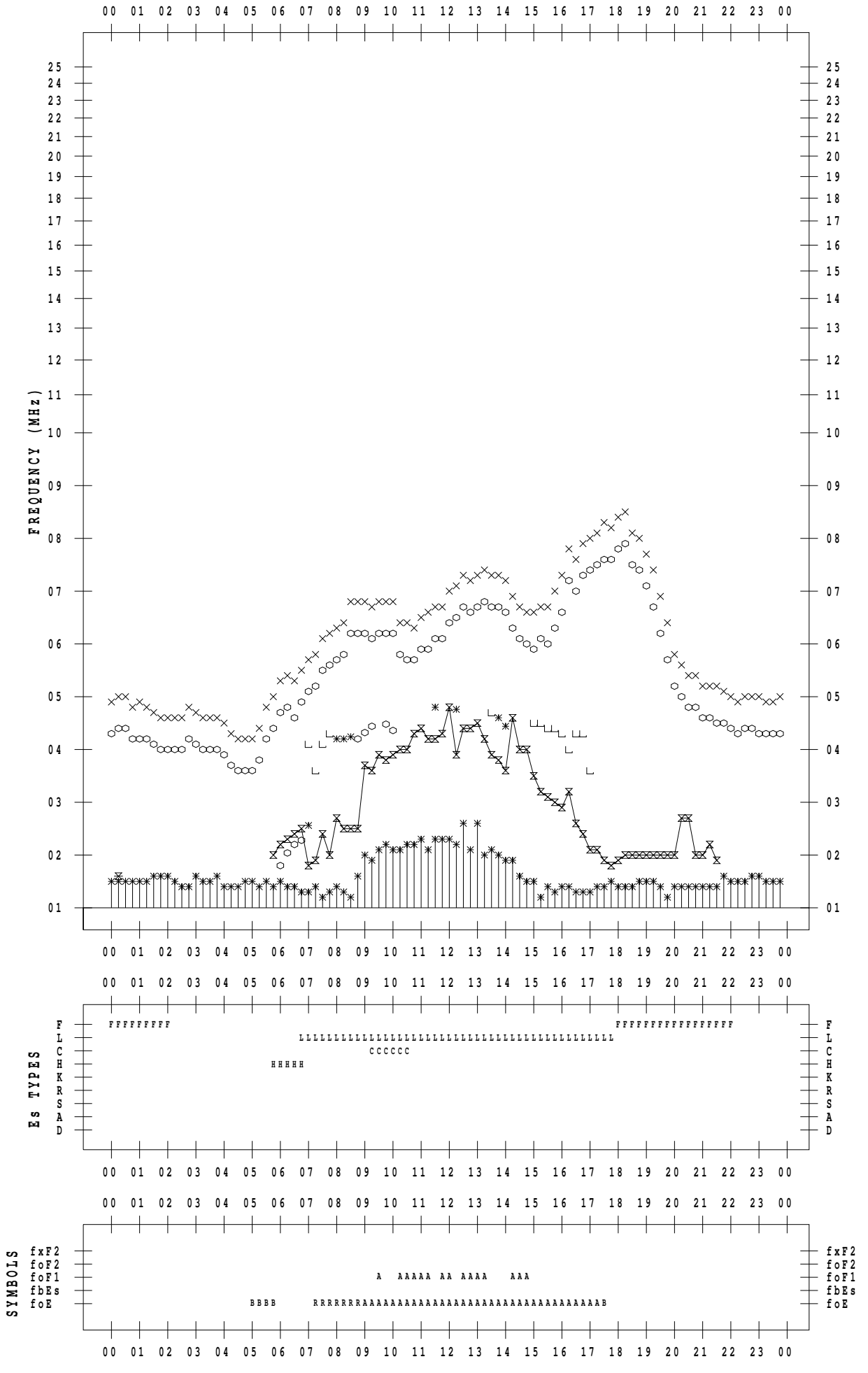
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/16

135 °E MEAN TIME



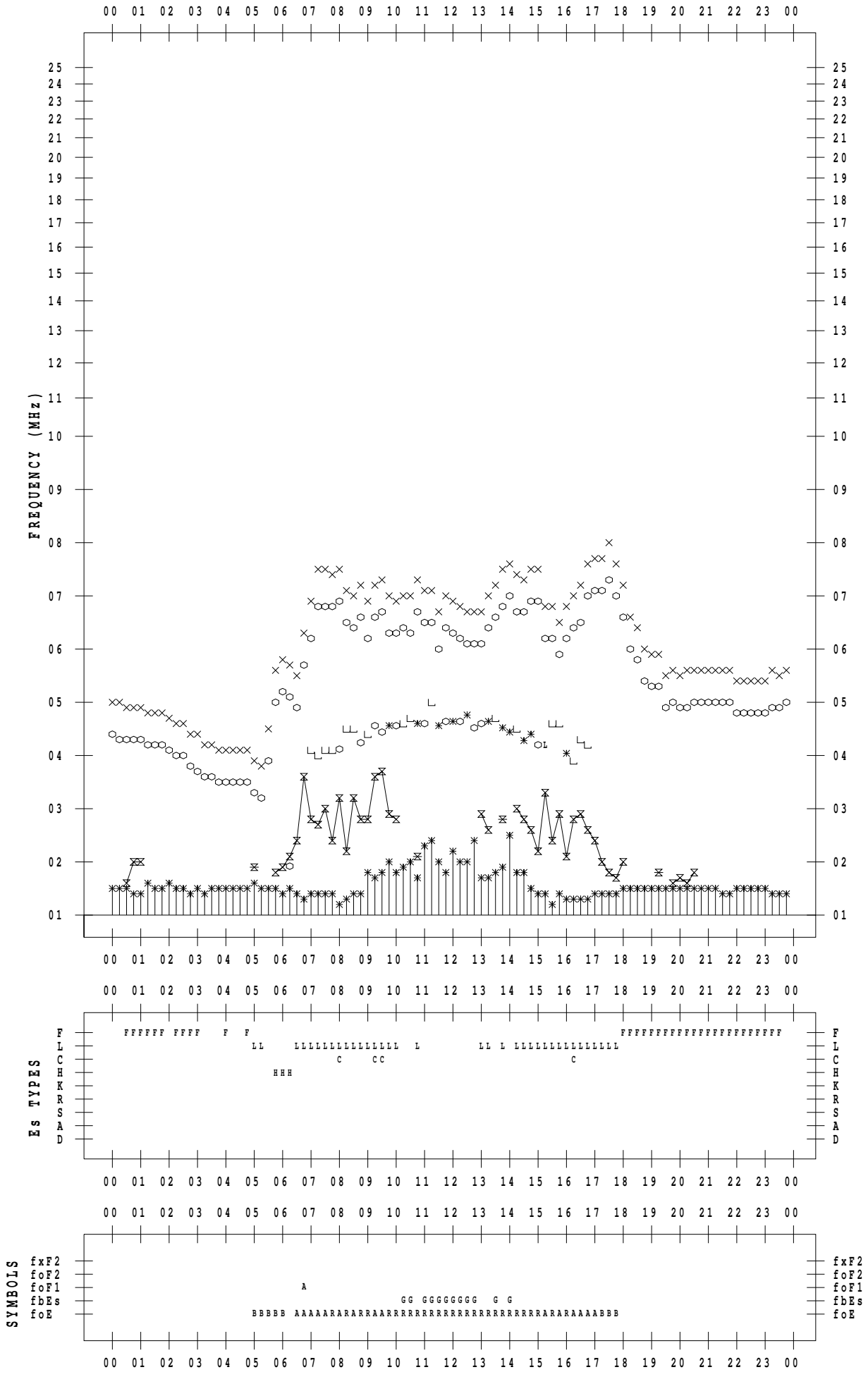
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/17

135 °E MEAN TIME



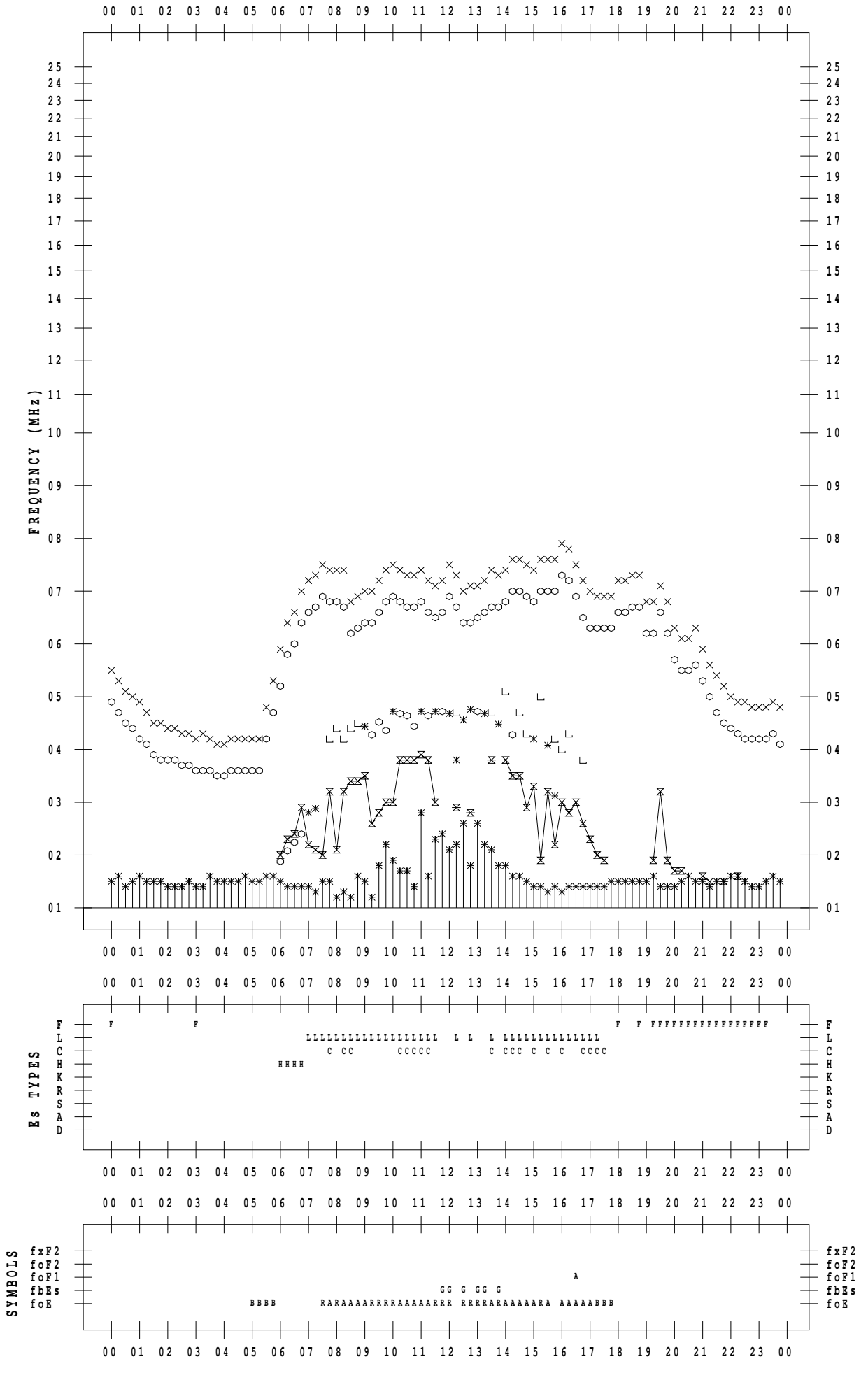
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/18

135 °E MEAN TIME



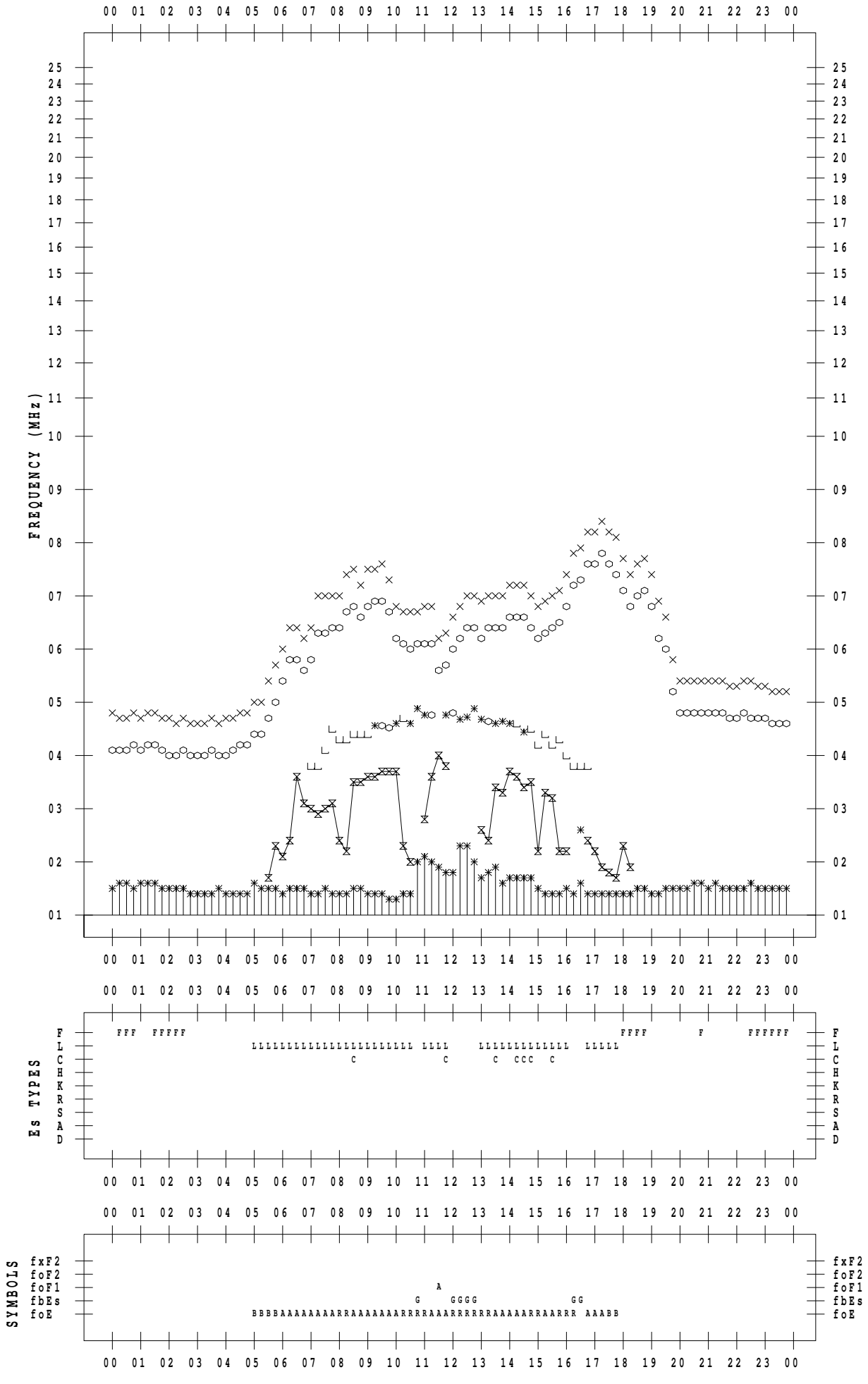
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/19

135 °E MEAN TIME



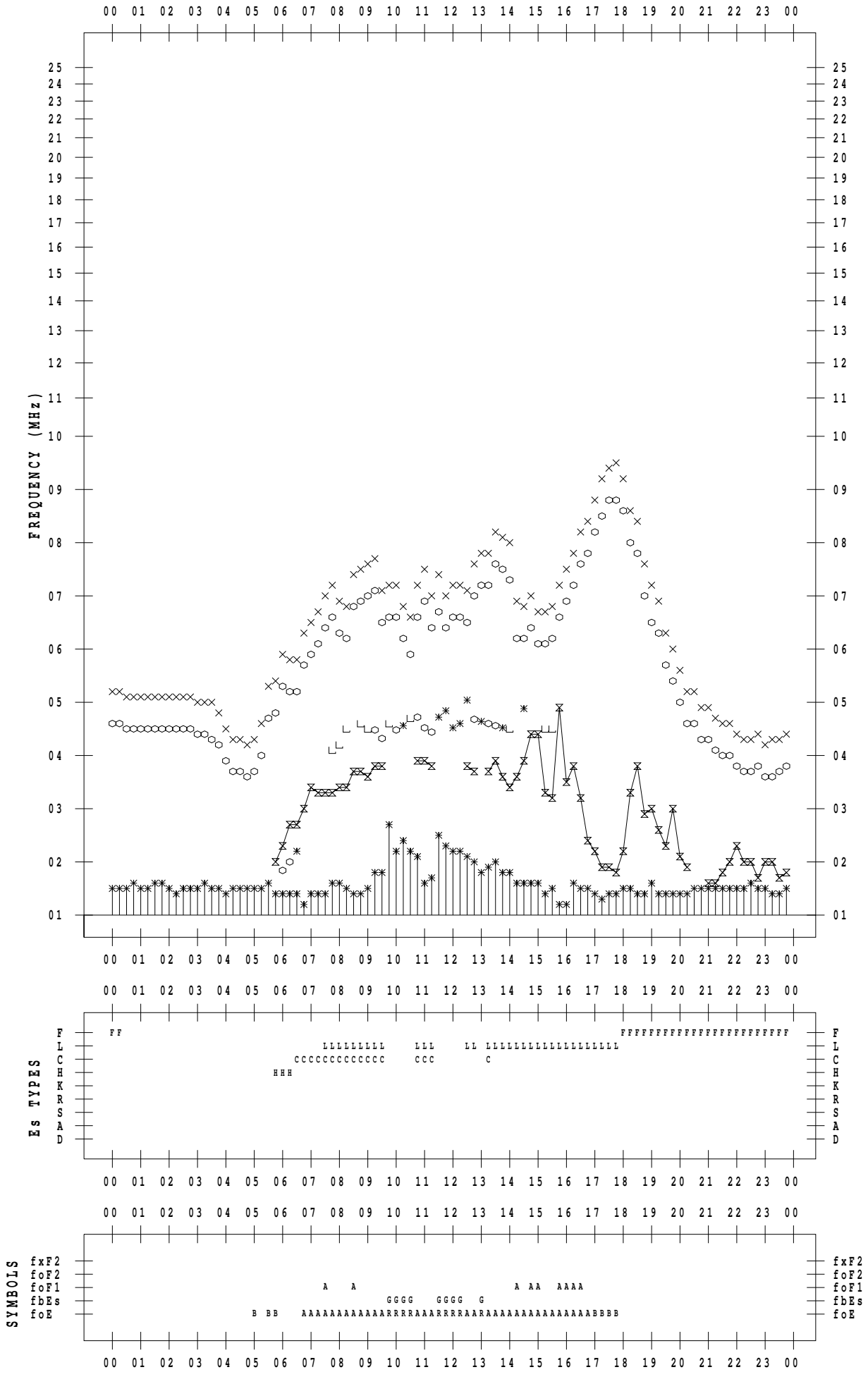
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/20

135 °E MEAN TIME



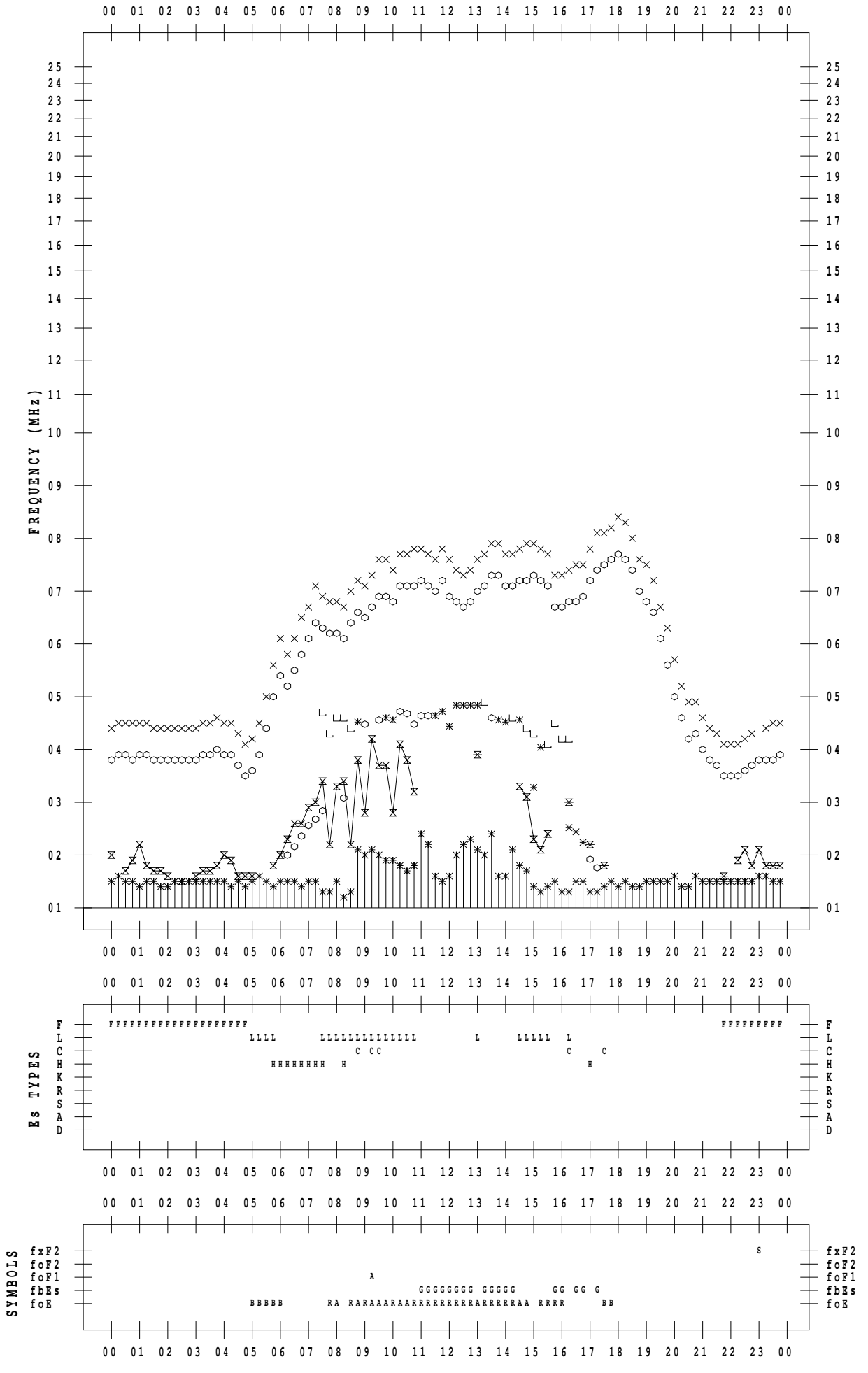
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/21

135 °E MEAN TIME



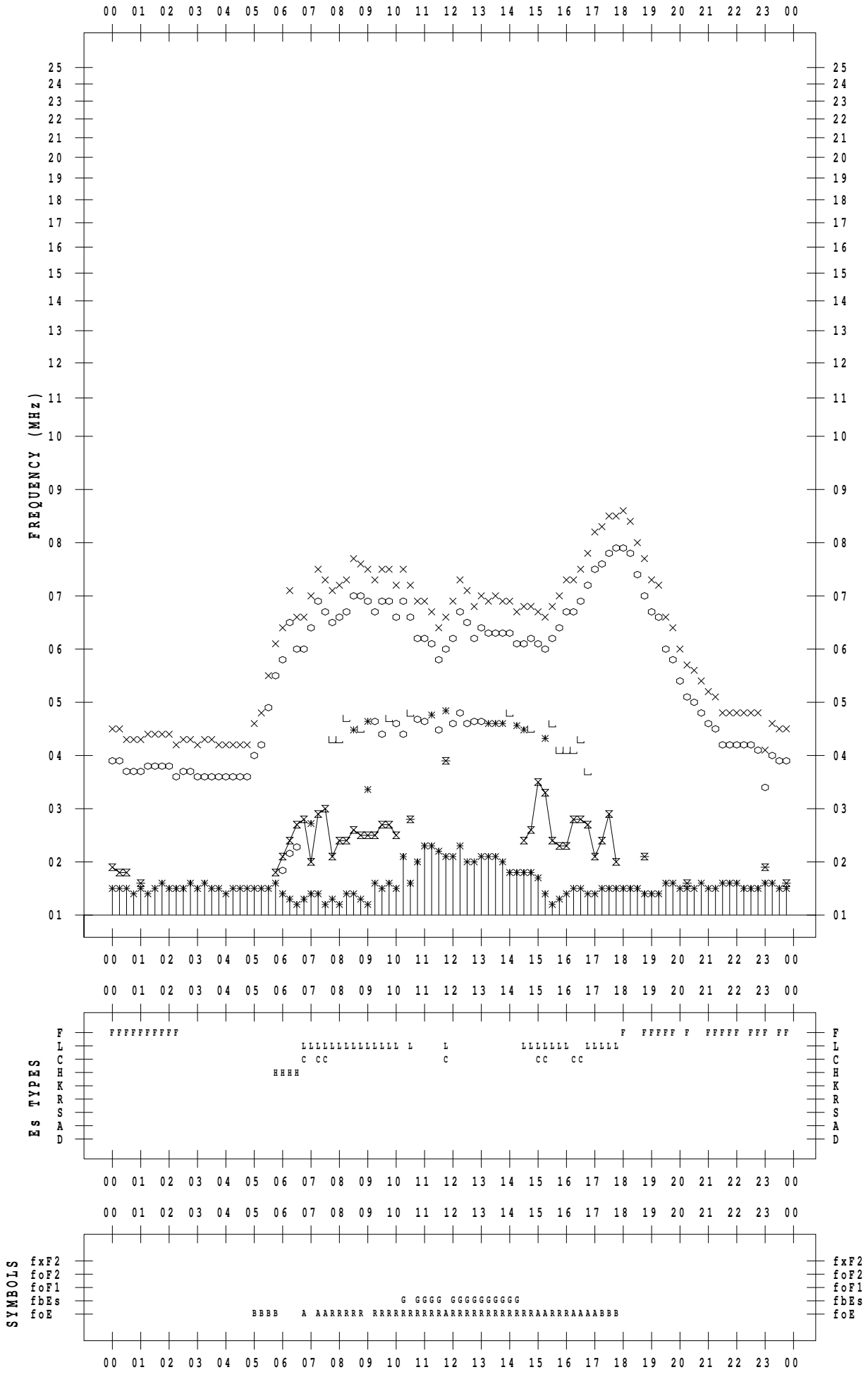
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/22

135 °E MEAN TIME



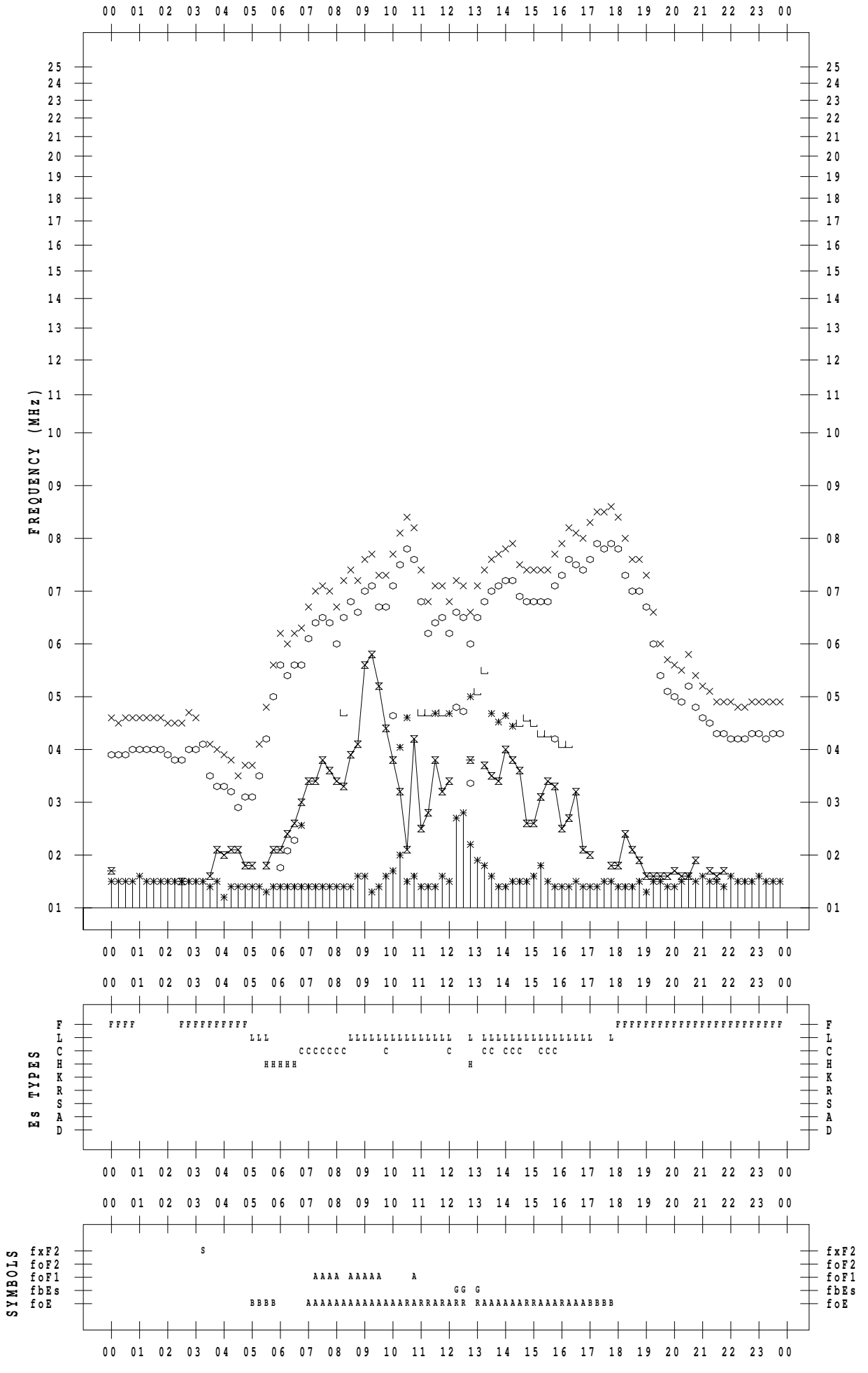
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/23

135 °E MEAN TIME

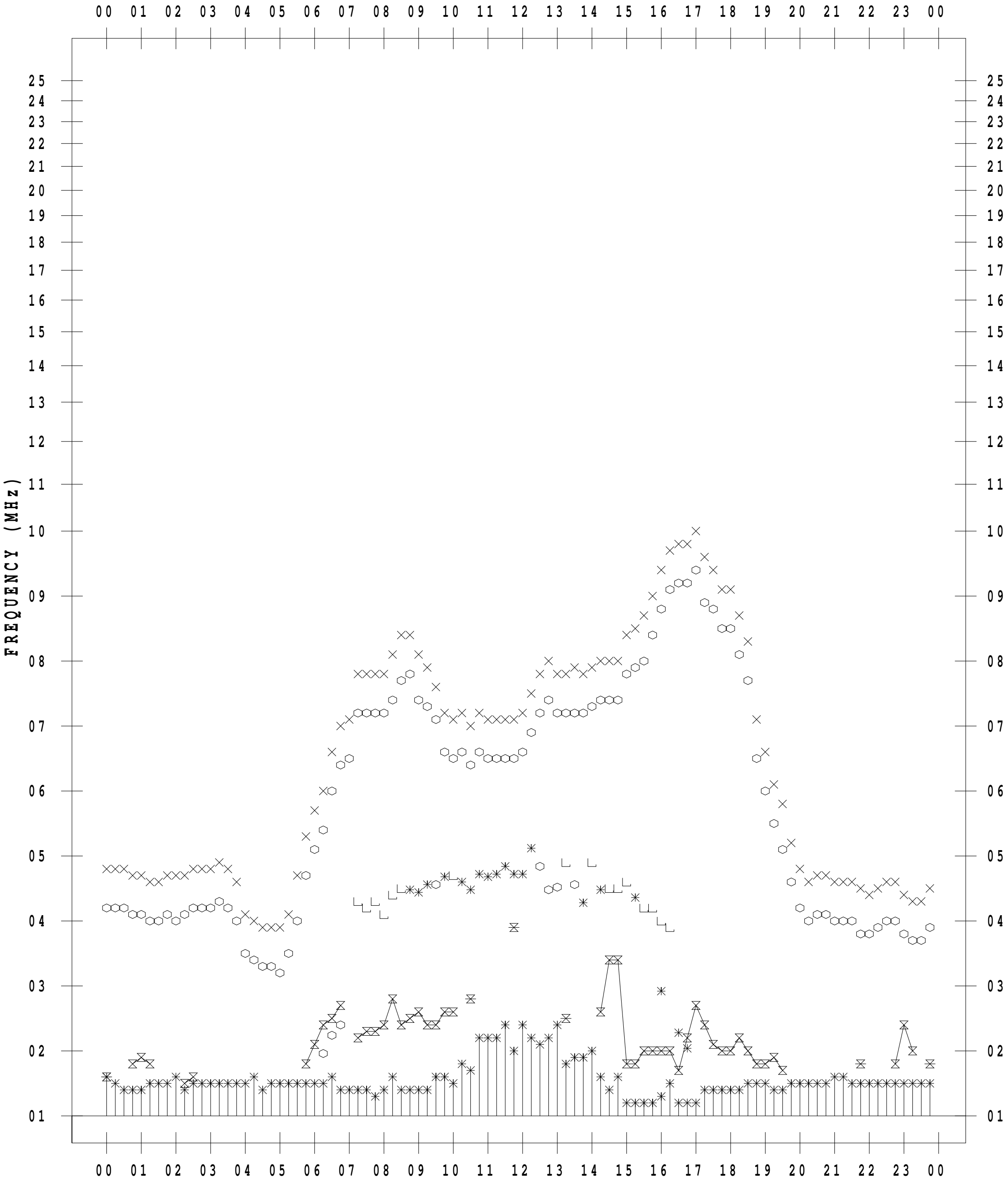


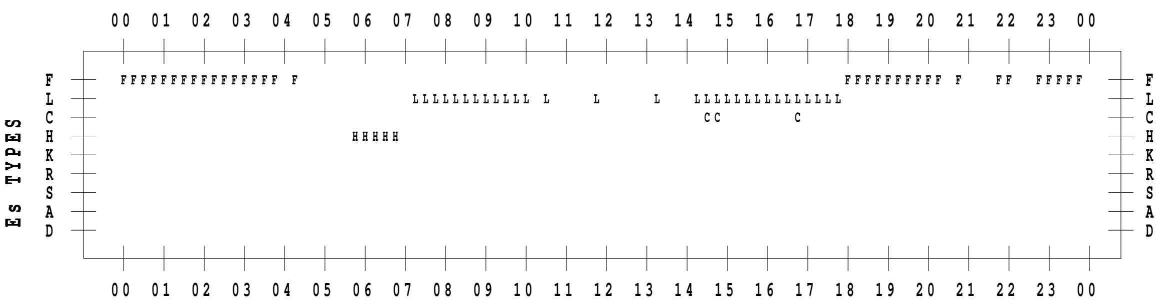
f-PLOT DATA

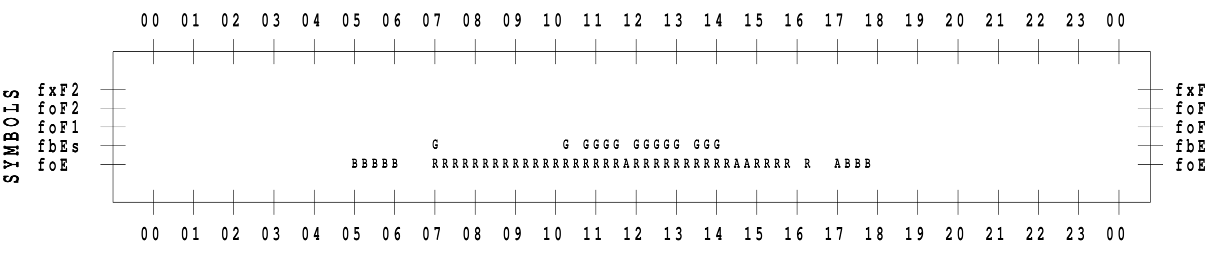
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2010/ 9/24

135 °E MEAN TIME







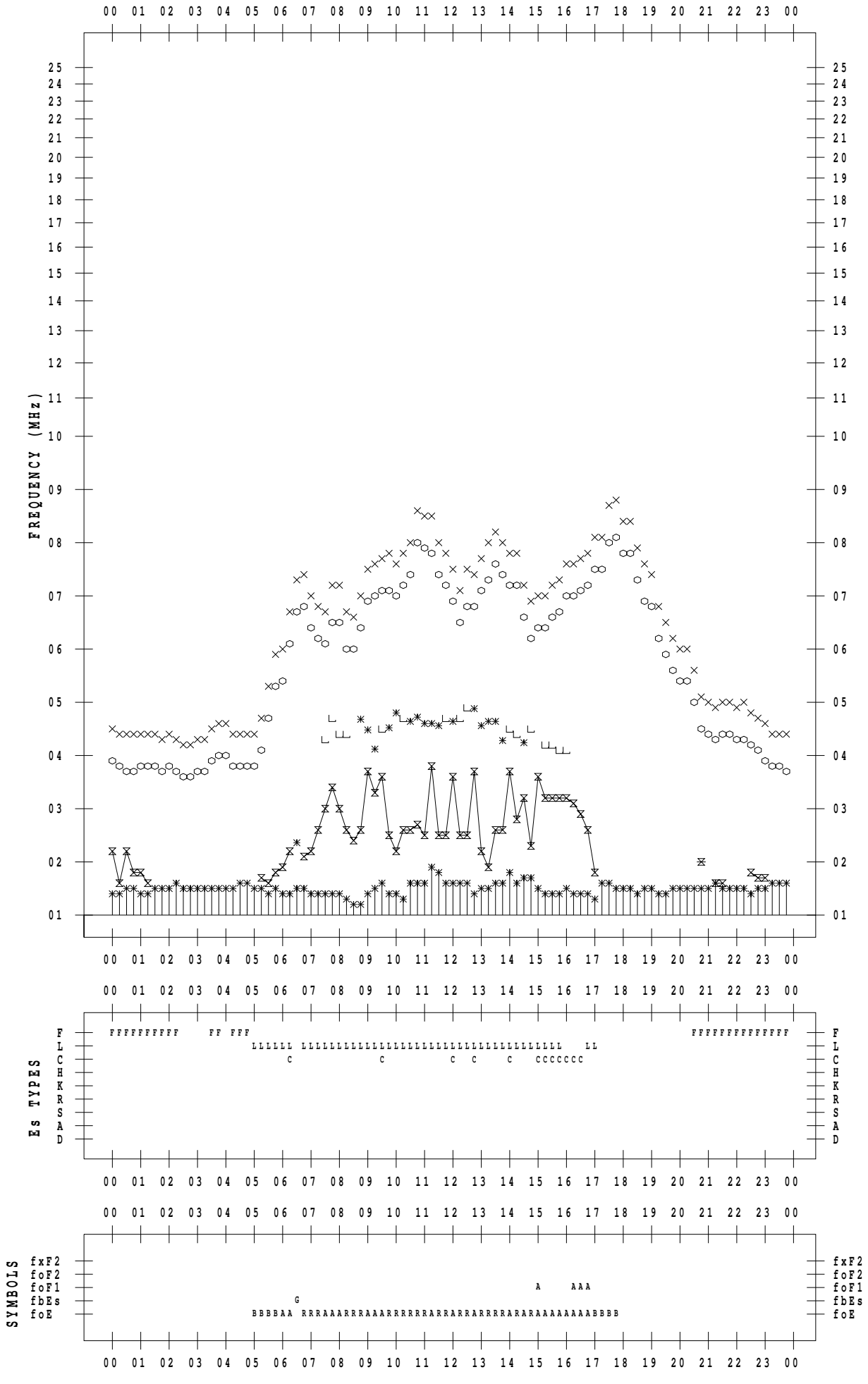
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/25

135 °E MEAN TIME



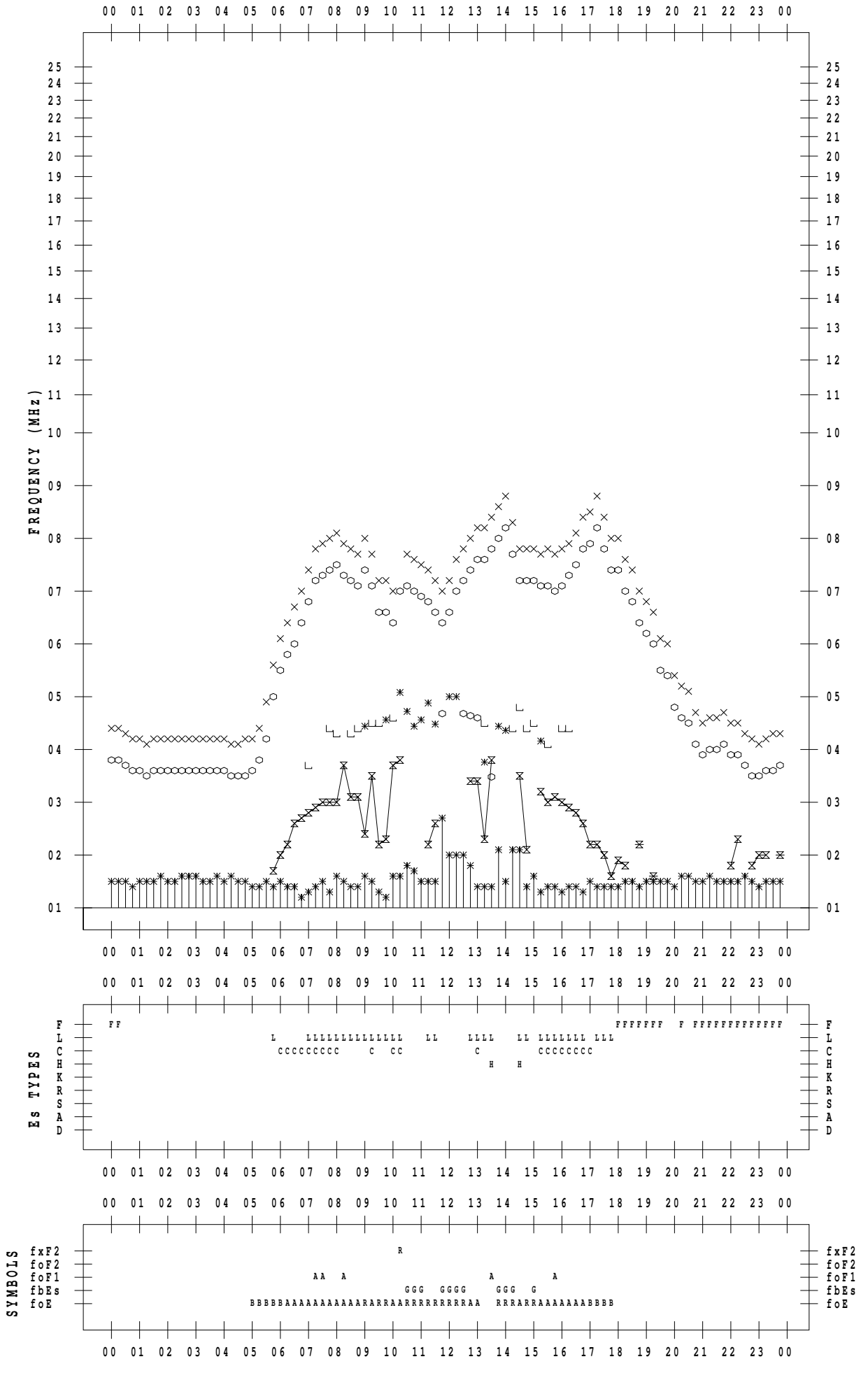
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/26

135 °E MEAN TIME



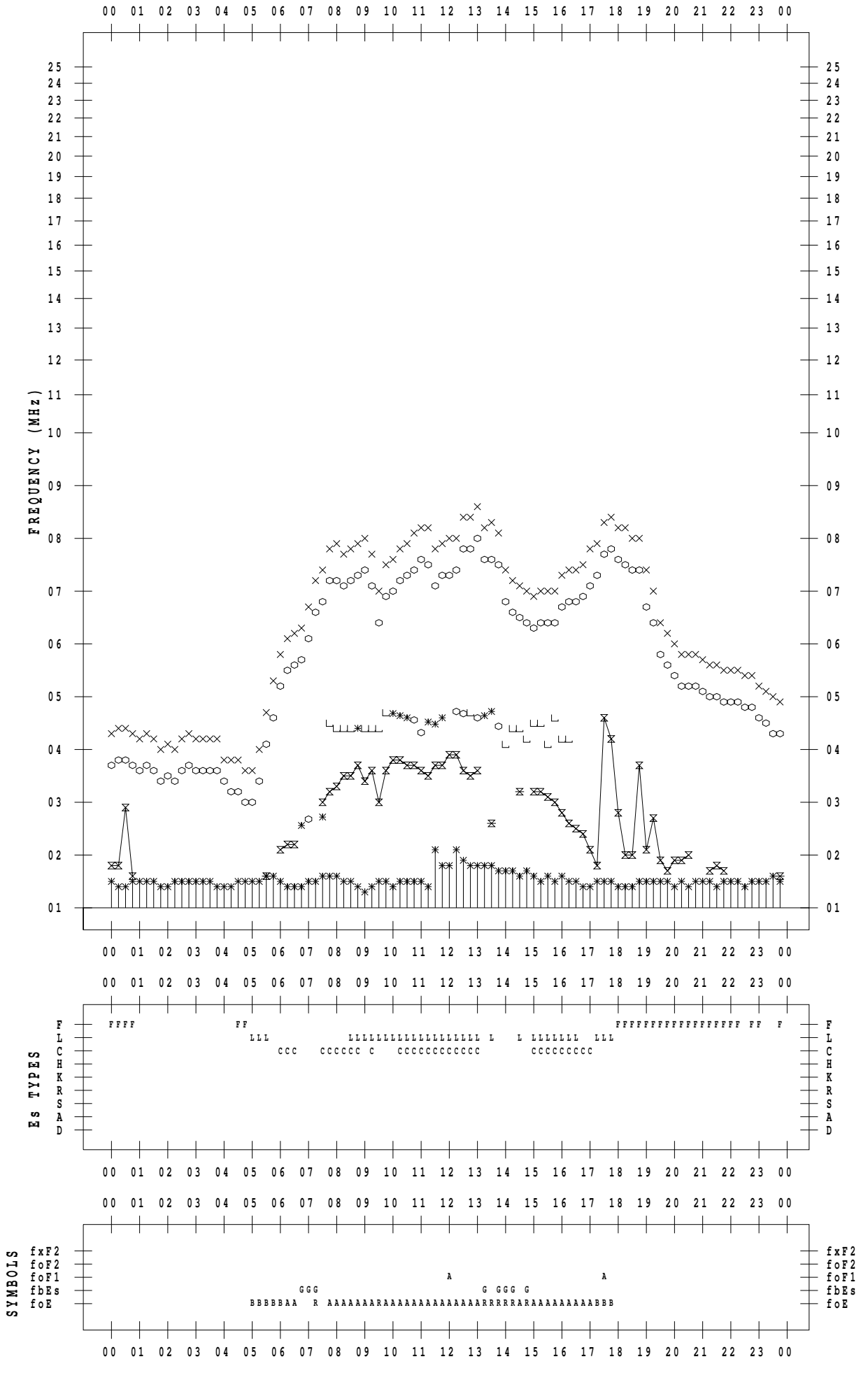
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/27

135 °E MEAN TIME



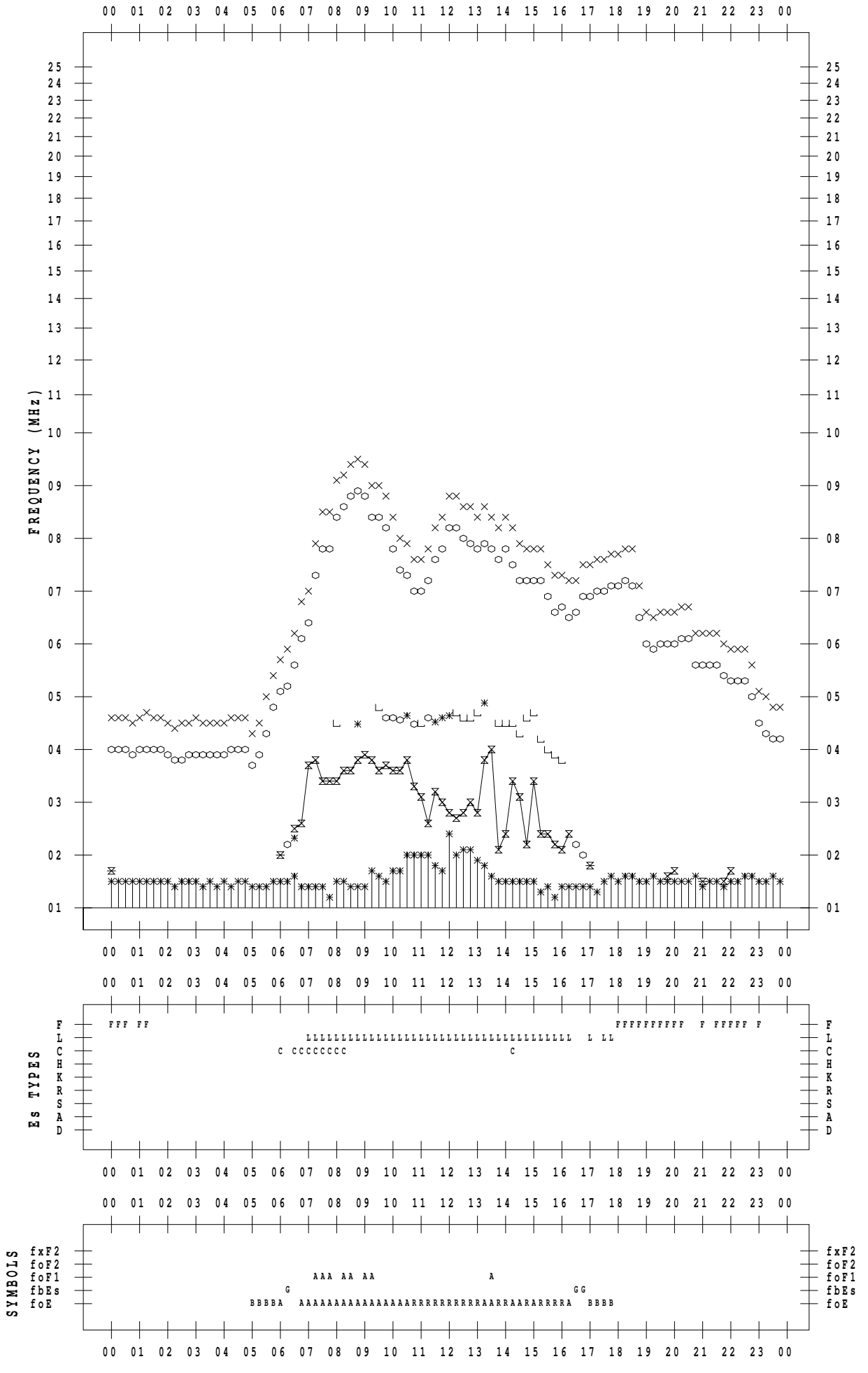
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/28

135 °E MEAN TIME



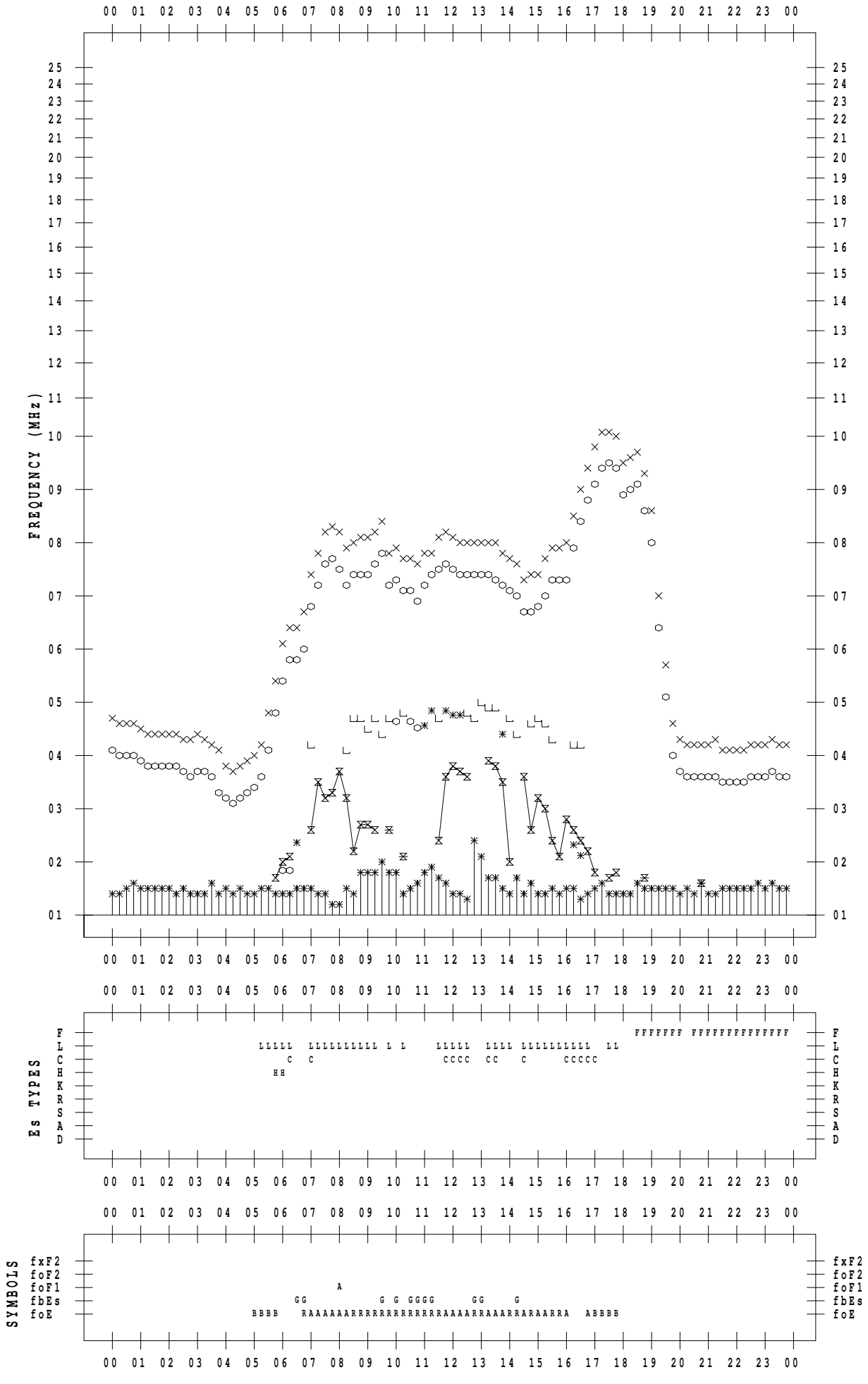
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/29

135 °E MEAN TIME



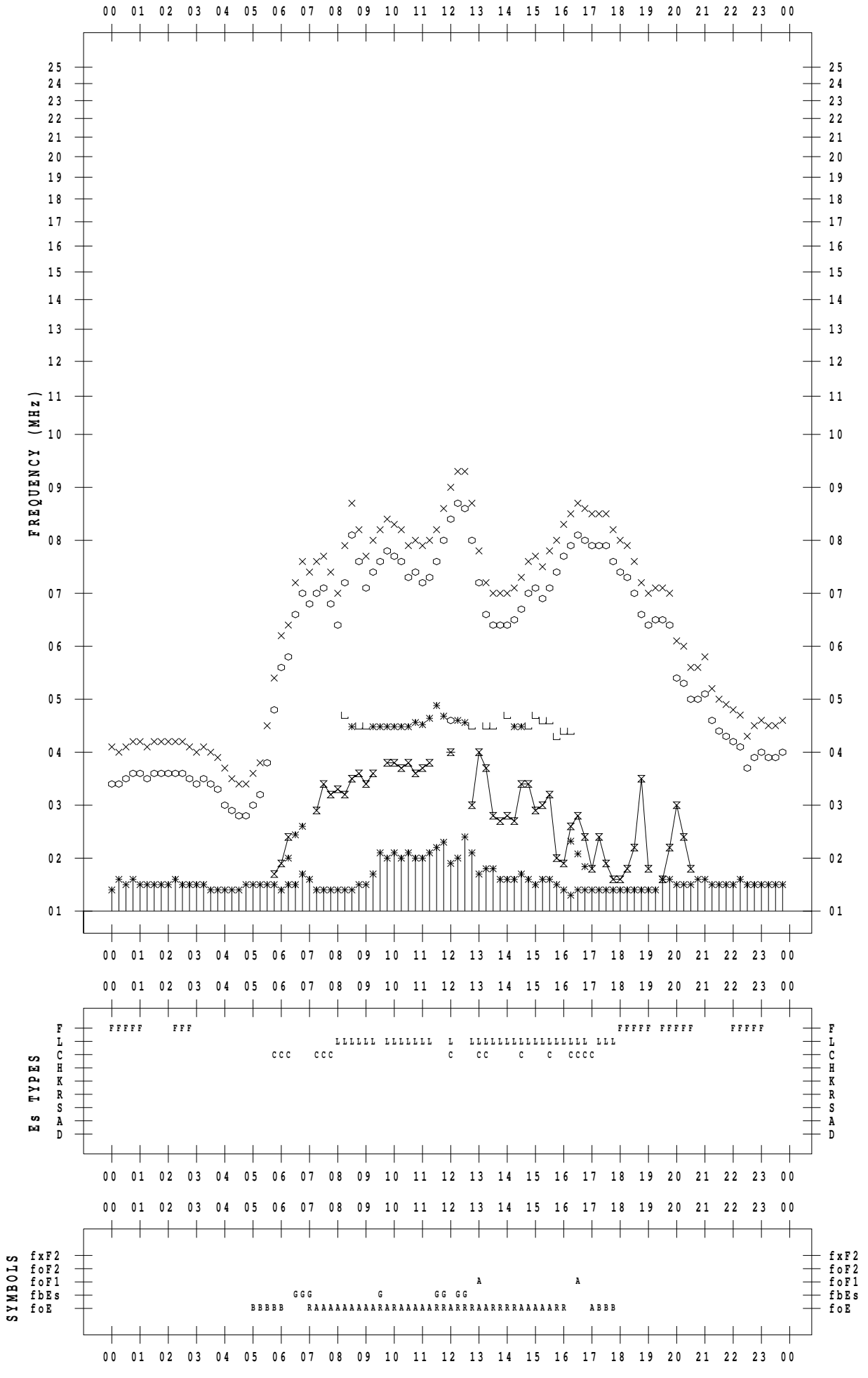
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2010/ 9/30

135 °E MEAN TIME



B. Solar Radio Emission

B1.Outstanding Occurrences at Hiraiso

Hiraiso September 2010

Single-frequency observations

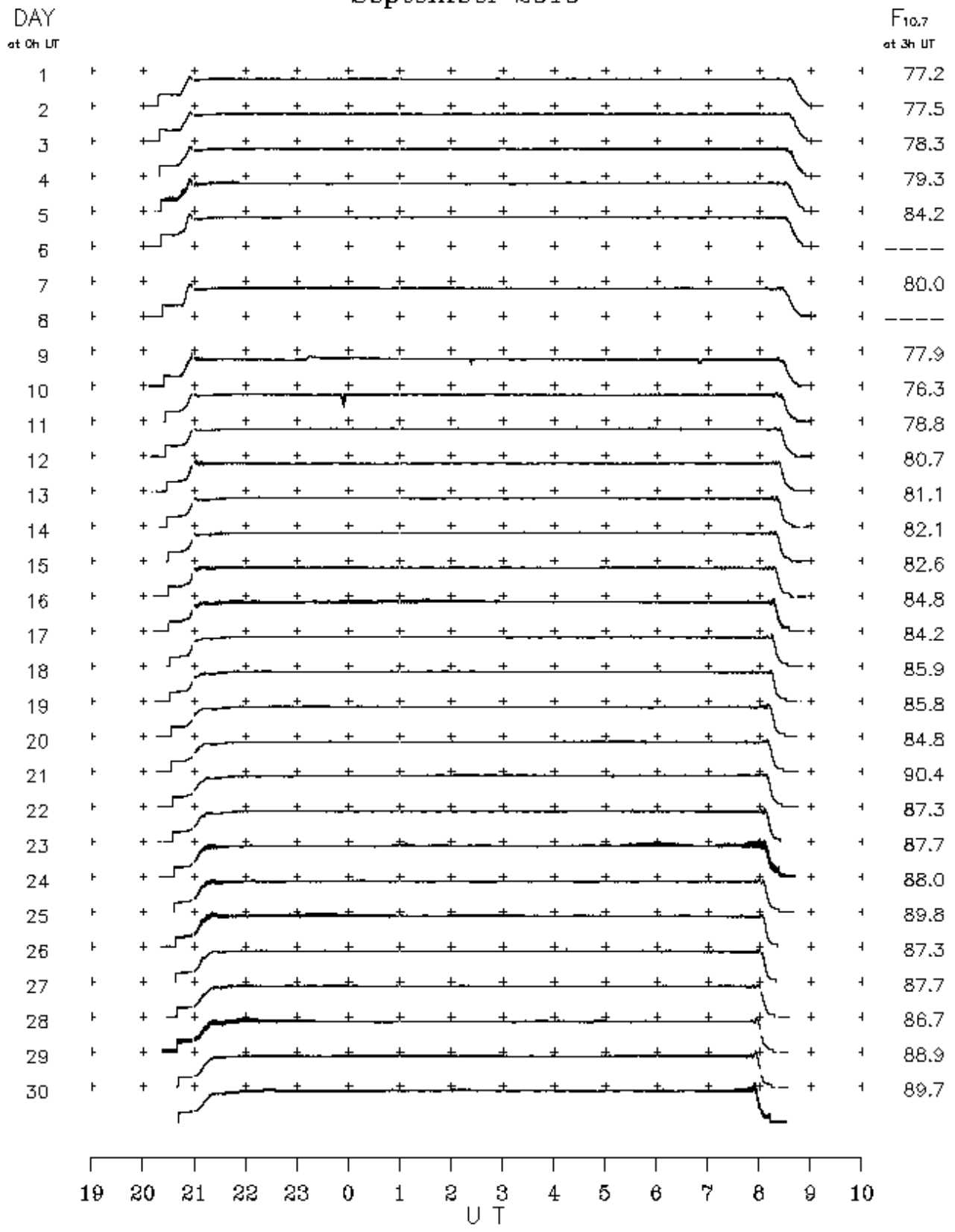
Normal observing period: 2015 - 0850 U.T. (sunrise to sunset)

SEP.	FREQ.	TYPE	START TIME	TIME OF MAXIMUM	DUR.	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1})		POLARIZATION
2010	(MHz)		(U.T.)	(U.T.)	(MIN.)	PEAK	MEAN	REMARKS
8	2800	4 F	2311.0	2316.0	17.0	10	-	

B.Solar Radio Emission

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

September 2010



Note: A vertical grid space corresponds to a 100 sfu.
Elevation angle range ≧ 6°
A link to the daily plot data directory : http://sunbase.nict.go.jp/solar/denpa/hirasDB/2010/09/