F-752

IONOSPHERIC DATA IN JAPAN

FOR AUGUST 2011

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

NATIONAL INSTITUTE OF INFORMATION
AND COMMUNICATIONS TECHNOLOGY
TOKYO, JAPAN

INTRODUCTION

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

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

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

A. IONOSPHERE

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

A1. Automatic Scaling

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

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

a. Characteristics of Ionosphere

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

b. Descriptive Letters

The following descriptive letters are used in the tables.

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

C Impossible measurement because of any failure in observation.

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

N Impossible automatic scaling because of complex echoes.

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

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

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

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

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

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

d. Reliability of Automatic Scaling

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

e. Summary Plot

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

A2. Manual Scaling

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

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

a. Characteristics of Ionosphere

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

b. Symbols

(i) Descriptive Letters

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

A Measurement influenced by, or impossible because of, the presence of a lower thin layer, for example *Es*.

B Measurement influenced by, or impossible because of, absorption in the vicinity of *fmin*.

C Measurement influenced by, or impossible because of, any non-ionospheric reason.

D Measurement influenced by, or impossible because of, the upper limit of the normal frequency range in use.

E Measurement influenced by, or impossible because of, the lower limit of the normal frequency range in use.

F Measurement influenced by, or impossible because of, the presence of spread echoes.

G Measurement influenced by, or impossible because the ionization density of the layer is too small to enable it to be made accurately.

H Measurement influenced by, or impossible because of, the presence of a stratification.

K Presence of particle *E* layer.

L Measurement influenced or impossible because the trace has no sufficiently definite cusp between layers.

M Interpretation of measurement questionable because the ordinary and extraordinary components are not distinguishable.

N Conditions are such that the measurement cannot be interpreted.

O Measurement refers to the ordinary component.

P Man-made perturbations of the observed parameter; or spur type spread *F* present.

Q Range spread present.

R Measurement influenced by, or impossible because of, attenuation in the vicinity of a critical frequency.

S Measurement influenced by, or impossible because of, interference or atmospherics.

T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.

V Forked trace which may influence the measurement.

W Measurement influenced or impossible because the echo lies outside the height range recorded.

X Measurement refers to the extraordinary component.

Y Lacuna phenomena, severe layer tilt.

Z Third magneto-electronic component present.

(ii) Qualifying Letters

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

A Less than. Used only when *fbEs* is deduced from *foEs* because total blanketing of higher layer is present.

D Greater than.

E Less than.

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

O Extraordinary component characteristic deduced from the ordinary component. (Used for x-characteristics only.)

T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.

U Uncertain or doubtful numerical value.

Z Measurement deduced from the third magneto-electronic component.

(iii) Description of Types of *Es*

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

The types are:

f An *Es* trace which shows no appreciable increase of height with frequency.

l A flat *Es* trace at or below the normal *E* layer minimum virtual height or below the part *E* layer minimum virtual height.

c An *Es* trace showing a relatively symmetrical cusp at or below *foE*. (Usually a daytime type.)

h An *Es* trace showing a discontinuity in height with the normal *E* layer trace at or above *foE*. The cusp is not symmetrical, the low frequency end of the *Es* trace lying clearly above the high frequency end of the normal *E* trace. (Usually a daytime type.)

q An *Es* trace which is diffuse and non-blanketing over a wide frequency range.

r An *Es* trace showing an increase in virtual height at the high frequency end similar to group retardation.

a An *Es* trace having a well-defined flat or gradually rising lower edge with stratified and diffuse traces present above it.

s A diffuse *Es* trace which rises steadily with frequency and usually emerges from another type *Es* trace.

d A weak diffuse trace at heights below 95 km as-sociated with high absorption and large *fmin.*

n The designation 'n' is used to denote an *Es* trace which cannot be classified into one of the standard types.

k The designation 'k' is used to show the presence of particle *E*. When *foEs* > *foE* (particle *E*) the *Es* type precedes k.

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

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

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

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

B. SOLAR RADIO EMISSION

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

B1. Outstanding Occurrences at Hiraiso

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

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

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

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

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

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

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

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

B2. Summary Plots of F10.7 at Hiraiso

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

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

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

HOURLY VALUES OF foF2 AT Wakkanai

AUG. 2011

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

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

HOURLY VALUES OF fEs AT Wakkanai

AUG. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	38	34	G	G	G	28	41	61	74	73	73	G	72	64	69	72	102	68	62	73	49	48	54	70
2	50	46	38	34	39	28	38	46	55	52	G	G	G	55	53	50	50	68	53	40	38	G	28	29
3	G	23	33	27	G	G		38	61	109	63	66	64	66	52	53	G	G	42	40	59	55	69	80
4	49	59	59	55	44	33	72	95	76	73	120	96	53		58	G	72	106	78	122	102	59	71	71
5	50	40	40	39	30	33	38	68	50	96	105	83	86		63	G	51	85	73	74	94	93	40	39
6	49	43	34	26	G	34	38	60	48	41	49	49	59	G	G	51	51	66	52	45	38	29	30	34
7	50	27	G	G	G	27	G	G	54	71	59	59	G	G	G	G	49	48	39	35	34	49	60	31
8	40	36	38	40	G	G	37	G	39	54	60	66	70	71	59	74	70	48	51	35	34	41	44	68
9	40	40	33	27	G	39	59	G	G	G	G	G	G		G	G	G	40	34	52	G	G	25	28
10	35	26	G	G	32	48	48	60	70	50	G	G	G	G	G	G	69	64	73	G	45	60	70	39
11	68	34	29	G	G	G	40	73	85	90	135	64	75	72	70	G	97	62	80	60	71	49	60	39
12	39	30	38	38	25	G	41	44	48	60	76	73	86	71	48	138	63	76	92	103	60	69	54	54
13	43	46	31	36	40	50	73	52	57	74	62	G	65	58	G	49	38	52	105	103	57	38	G	34
14	40	G	G	26	36	G		51	64	56	G	68	61	56	75	54	44	36	72	69	32	70	49	49
15	58	40	30	27	26	28	35	46	46	G	G	49	50	53	69	41	G	34	28	G	31	G	28	G
16	G	G	G	G	24	33	59	36	61	G	58	59	64	56	71	73	122	152	80	73	40	34	50	60
17	40	28	27	30	24	G	G	59	57	71	90	54	G	G	52	G	G	54	56	44	60	49	71	69
18	60	34	40	35	28	39	56	44	76	75	61	62	G	68	60	55	G	52	37	47	39	38	40	31
19	25	G	G	G	G	26	34	37	G	G	G	G	G	G	G	G	G	48	57	52	60	52	46	38
20	34	35	G	G	G	G	48	51	61	52	G	G	G	G	G	G	G	34	38	G	G	34	68	46
21	38	29	39	34	34	28	38	51	51	58	76	55	51	71	50	G	45	46	48	43	60	33	31	28
22	32	25	G	G	G	G	34	40	54	41	48	G	G	G	G	G	G	34	31	27	27	33	53	26
23	G	G	G	G	G	G	39	51	49	49	G	G	G	G	G	64	38	43	52	40	28	29	32	32
24	34	G	24	34	25	G	35	36	48	63	61	63	51	49	G	G	G	36	34	43	40	G	G	35
25	33	30	26	G	G	G	39	41	46	G	G	48	G	59	46	39	40	61	50		37	50	38	30
26	G	G	27	25	G	26	34	38	G	48	66	G	G	G	G	50	90	83	52	40	40	43	60	73
27	51	46	27	34	G	G	32	59	74		66	G	G	G	G	G	38	66	70	47	49	60	54	70
28	34	G	34	38	37	26	36	40	40	64	49	G	G	G	G	N	37	44	33	40	48	71	59	40
29	27	36	40	G	G	G	38	38	G	G	G	G	G	G	G	G	36	38	30	29	29	23	G	28
30	24	28	G	G	G	G	36	34	53	90	G	43	G	G	G	38	36	G	35	35	32	40	34	G
31	G	G	G	33	26	28	30	G	G	59	64	55	G	G	51	52	41	43	56	40	51	27	29	32
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	29	31	31	30	31	31	31	28	31	30	31	31	31	30	31	31	31	31
MED	38	30	27	27	G	26	38	44	53	57	59	49	G	25	46	38	40	48	52	43	40	41	46	38
U Q	49	40	38	34	30	33	44	59	61	73	66	63	64	61	59	53	63	66	72	60	59	55	60	60
L Q	27	G	G	G	G	G	34	37	46	41	G	G	G	G	G	G	G	38	37	35	32	29	30	30

HOURLY VALUES OF fmin AT Wakkanai

AUG. 2011

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

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

HOURLY VALUES OF foF2 AT Kokubunji

AUG. 2011

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

DAY \ HOUR	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	50	A	44	45	64	67	A	A	A	A	A	A	64	65	71	68	73	66	A	52	54	A
2	53	46	A	A	A	A	62	73		64	A	A		78	77	76	67	A	A	71	67	67	54	54
3	52	38	54	52	52	58	56	69	48	57	A	A	A	A	A	80	80	78	66	A	65	A	A	A
4	A	A	A	42	44	44	67	91	A	A	A	A	A		75	78	64	55	56	54	52	18	54	51
5	A	52	49	44	44	53	61	59	A	A	A	A	A	78	A	A	77	75	A	73	64	55	A	A
6	52	47	54	52	44	42	54	A	73	81	85	106	76			96	75	64	59	67	66	52	45	53
7	53	53	52	44	52	52	54	59	62	68	A	A	A	A	A	75	76	78	77	77	78	67	52	53
8	45	49	46	45	44	45	62	63		68	61	A	72	71	74	A	82	76	64	44	A		48	47
9	A	A	A	A	36	A	A	A	A	76					68	66	64	74	80	81	63	54	54	53
10	57	46	47	44	41		57	A	73	65	A	A	67	75	76	69	64	A	A	A	A	A	42	52
11	45	49	44	41	45			51	A	64	73	74	64	58		51	57	A	A	A	A	A	A	A
12	53	48	42	42	39	A	53	66	60	A	A	A	A	73	74	66	63	49	A	66	A	A	62	54
13	A	46	43	44	42	46	69	75	A	A	A	A				71	72	67	76	81	64	45	43	54
14	46	45	42	43	41	42	58	71	77	63	A	A	A			73	74	80	64	A	66	67	54	
15	A	A	44	44	44	44	64	62	62	A	A	A		75	84	81	73	69	64	76	54	53	54	44
16	A		44			42	66	82	62		A		66	A	71	A	A	A	72	74	77	67	67	54
17	54	52	54	54	44	A	56	52	52		68		68	78	74	58	63	A	A	A	81	A	51	A
18	A	A	42			A	62	64	A	A	A	A	A	A	85	67	59	58	A	A	80	A	66	44
19	44	42	43	46	44	45	61	76	A	A	A	67	64	A	68	75	68	A	76	80	65	67	52	A
20	54	N	44	53		43	47	64	80	A	72	A			68	66	66	69	78	87	78	54	53	A
21	52	42	A	43	45	45	62	74	73	A	A	A	A	A		A	70	A	83	83	A	76	73	A
22	47	A	A	44	45	42	61	72	88	85	A	A	72	A	73	68	64	56	54	72	58	N	67	A
23	45	47	46	A	A	A	58	85	72	64	66	66		76	75	80	72	72	77	74	A	64	54	A
24	52	53	53	54	52	48	72	76	67	65	66	68	77	78	A	86	87	77	A	77	75	66	54	59
25		A	A	46	43	48	60	50	66	77	A	A	A	73	74	73	80	83	90	88	81	66	A	51
26	42	46	44	45	44	43	54	78	80	72	65		75		78	84	71	67	A	78	A	62	54	54
27	49	45	A	45	45	43	57	73	85	74	73	91	80	A	78	81	75	77	77	59	63	A	A	A
28	43	43	44	A	44	42	64	67	72	68	72		69	73	74	71	76	77	76	74	77	58	A	A
29			44	40	44	45	70	83	81	A		59	71	74	88	87	75	74	A	55	67	67	54	64
30	54	52	N		46	44	61	68	68	75	77	73	65	78	77	70	72	75	81	86	77	53	51	44
31	42	38	43	A	A	45	58	67	75	57	A	63	71	76	81	A	A	A	A	A		A	63	44
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	21	21	23	22	25	23	29	28	21	18	11	9	15	15	22	26	29	23	20	24	22	21	25	18
MED	52	46	44	44	44	45	61	68	72	68	72	68	71	75	74	73	72	74	76	74	66	62	54	53
UQ	53	50	50	46	45	46	64	75	78	75	73	82	75	78	78	80	75	77	77	80	77	67	58	54
LQ	45	44	43	43	43	43	56	63	62	64	66	64	66	73	73	67	64	67	64	66	64	53	51	47

HOURLY VALUES OF fEs AT Kokubunji

AUG. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	70	52	46	46	G	37	59	82	82	137	144	130	104	65	G	G	62	50	45	53	71	39	37	54
2	40	27	57	48	41	35	G	G		53	65	65		G	50	G	52	83	60	31	40	49	G	G
3	G	G	G	G	G	G	G	G	50	57	85	68	68	85	96	G	G	G	59	107	50	58	51	70
4	86	60	54	31	G	28	56	81	98	79	132	134	131		51	G	80	G	G	31	G	30	37	28
5	55	26	39	28	29	G	G	48	68	84	81	106	110	68	161	72	69	83	149	67	49	49	86	78
6	43	40	33	50	G	27	G	51	49	72	70	G	G			G	G	G	35	42	G	31	30	40
7	40	39	G	G	G	G	60	G	G	46	90	80	82	86	136	58	G	G	39	44	47	39	46	G
8	37	27	G	51	28	G	G	G		47	54	64	45	56	65	86	54	57	50	39	27		G	57
9	51	57	66	35	G	29	47	60	78	127					G	G	G	G	45	42	40	41	26	35
10	27	G	23	24	G		G	137	61	G	70	84	62	45	G	G	60	126	152	110	49	82	35	33
11	28	28	G	G	G	G		45	53	G	59	G	47	G		G	G	70	124	83	105	79	60	59
12	50	50	44	34	33	34	G	G	G	54	49	45	97	62	48	57	74	92	80	58	59	65	48	42
13	49	34	35	33	G	49	G	G	88	81	85	47				G	47	51	45	34	25	45	35	G
14	27	26	G	G	G	G	G	G	49	54	93	80	64		G	G	49	G	50	72	G	G	28	
15	54	58	34	G	G	G	G	G	48	59	53	60		45	47	G	53	G	35	43	40	39	G	G
16	31		G	G		24	G	G	G		68		G	46	G	110	101	137	47	39	60	47	40	43
17	28	48	33	G	G	31	G	G	G	G	G	G	G	G	G	G	G	61	82	80	60	53	47	60
18	60	40	32			26	40	60	80	115	69	85	82	75	62	G	G	G	97	90	39	58	25	24
19	G	G	G	G	G	26	G	107	64	52	81	67	57	62	53	57	53	64	62	72	50	49	43	71
20	29	47	G	G	G	G	33	47	53	75	61	57			G	G	48	39	40	35	26	26	G	29
21	G	27	26	G	G	G	G	52	59	75	69	133	53	70		56	G	72	57	53	82	58	69	81
22	34	55	33	27	29	29	50	79	G	G	66	84	57	71	46	G	G	G	35	53	50	31	G	50
23	33	40	39	29	32	29	G	41	G	G	G	50		49	62	50	55	57	46	42	85	50	50	52
24	G	G	G	G	G	G	G	G	G	G	G	G	G	49	89	54	49	43	68	71	42	26	38	28
25		30	31	30	29	24	G	G	G	50	85	63	116	50	G	50	G	42	36	34	59	84	106	58
26	G	29	29	G	G	G	G	48	60	48	48	G	53		G	57	60	G	85	72	72	39	47	52
27	50	34	31	G	G	G	31	G	59	60	G	65	G	86	G	G	G	34	34	30	46	49	81	59
28	42	39	27	29	29	33	31	36	G	53	G	G	53	G	G	G	G	G	34	G	25	34	49	29
29	G		23	G	G	31	35	72	G	62	G	50	G	G	G	G	53	68	80	48	52	G	34	50
30	33	G	G		G	G	G	G	45	51	G	G	G	52	50	G	43	35	G	44	43	35	37	G
31	G	G	33	28	27	26	G	G	51	55	56	52	50	53	61	52	124	123	116	87		72	29	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	29	31	29	29	30	30	31	29	30	30	29	25	24	27	31	31	31	31	31	30	30	31	30
MED	34	34	31	24	G	25	G	36	50	54	66	63	53	52	47	G	49	43	50	48	48	46	37	42
U Q	50	47	35	32	28	29	33	60	62	75	81	82	82	69	62	56	60	70	80	72	59	58	49	58
L Q	27	26	G	G	G	G	G	G	G	47	48	23	G	45	G	G	G	G	36	39	39	34	28	28

HOURLY VALUES OF fmin AT Kokubunji

AUG. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	13	14	14	13	14	14	13	17	33	40	43	40	40	41	52	49	30	31	13	13	14	14	14	20
2	13	13	14	13	13	13	13	17		30	30	43		53	39	49	34	22	14	13	17	14	17	15
3	15	14	14	13	20	21	18	14	33	35	37	40	42	40	40	57	18	40	13	14	14	14	13	13
4	13	13	13	13	15	14	14	15	20	35	41	36	39		43	52	30	15	17	13	40	13	14	15
5	17	13	14	13	13	13	18	17	18	37	39	36	39	43	42	34	37	18	14	13	14	14	14	14
6	14	14	14	13	14	14	13	14	14	34	36	52	56			40	40	14	13	14	15	14	15	13
7	13	14	14	17	15	18	13	14	40	33	37	40	37	39	39	34	48	42	18	13	14	14	14	15
8	14	14	15	13	14	26	14	14		34	37	39	55	38	37	31	17	13	14	14	14		14	13
9	18	14	13	13	13	14	13	17	33	34					52	55	42	37	14	13	14	14	14	14
10	14	15	17	14	17		17	15	14	45	31	33	31	31	52	46	34	31	15	13	14	14	14	14
11	14	14	14	23	14	21		34	35	39	35	53	36	53		43	44	30	14	15	15	14	14	13
12	13	13	13	14	14	13	14	17	43	37	40	38	35	36	40	34	39	14	14	20	14	14	14	14
13	14	15	14	13	14	17	13	18	35	38	36	36				48	17	15	17	14	14	13	13	14
14	14	14	17	15	17	33	13	18	15	36	37	37	35		50	49	35	17	14	14	23	18	15	
15	14	14	14	17	14	18	33	35	33	36	39	30		36	33	48	20	38	14	13	13	13	14	17
16	14		23	21		14	14	17	42		36		63	64	52	34	30	13	13	14	14	13	14	14
17	14	14	13	15	14	13	18	15	40	57	55	53	52	53	57	40	42	18	15	14	14	14	15	14
18	14	14	13			14	17	23	34	40	36	49	37	36	39	43	42	42	13	13	14	13	14	14
19	15	21	17	15	14	17	15	17	33	34	34	35	30	35	34	22	21	14	13	21	15	14	14	15
20	14	15	39	17	18	14	18	15	20	31	33	33			50	20	15	13	14	14	15	15	13	14
21	21	14	14	14	22	14	13	14	34	40	36	42	38	36		25	20	26	13	20	17	15	18	13
22	13	14	14	14	13	13	14	15	41	42	34	34	31	35	22	18	42	35	13	14	15	17	20	14
23	14	13	13	13	13	13	13	14	39	44	50	39		41	34	36	20	13	14	15	13	15	14	14
24	15	14	15	15	14	14	15	15	22	44	55	56	53	38	40	35	18	17	13	14	14	14	13	14
25		14	13	13	14	14	18	40	39	34	39	37	43	31	45	35	41	14	13	13	14	14	13	14
26	15	14	14	18	13	17	13	34	31	40	35	55	41		53	38	31	13	36	18	20	15	13	14
27	14	14	15	15	22	18	17	17	20	39	52	39	52	35	57	45	40	13	14	14	26	13	14	13
28	14	14	14	15	14	13	13	15	40	36	48	62	38	55	53	45	21	14	13	15	17	18	13	13
29	22		15	18	17	14	18	15	40	34	42	35	53	53	52	52	21	13	14	14	14	17	13	13
30	14	39	17		14	33	33	14	18	34	53	54	34	34	36	30	15	13	20	14	14	17	13	18
31	15	18	13	13	13	15	14	34	34	34	35	40	35	36	37	39	33	22	33	13		14	15	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	29	31	29	29	30	30	31	29	30	30	29	25	24	27	31	31	31	31	31	30	30	31	30
MED	14	14	14	14	14	14	14	17	33	36	37	39	39	38	42	40	31	17	14	14	14	14	14	14
U Q	15	14	15	16	16	18	18	18	39	40	42	50	52	48	52	48	40	31	15	14	15	15	14	14
L Q	14	14	13	13	13	14	13	15	20	34	35	36	35	35	37	34	20	13	13	13	14	14	13	13

HOURLY VALUES OF foF2 AT Yamagawa

AUG. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A	A	44	40	44	61	57	A	A	A	A	A	A	A	77	78	78	84	67	A	A	42	54
2	A	A	47	50	47	45	A	68	65	60	62		70	78	90	78	88	A	83	54	54	54	51	52
3	54	52	54	52	52	53	58	55	41	58	A	66	66	66	77	78	A	A	A	A	53	53	42	47
4	40	50	48	47	45	46	51	42	59	54	A		68	B	72	77	A	65	A	67	76	54	52	44
5	52	53	54	60	50	48	50	62	59	57	A		60	73	74	87	87	86	76	71	70	54	54	60
6	43	39	A	A	40	42	50	38	63	64	71	96	60	59	65	80	86	66	61	72	54	51	46	48
7	47	50	51	44	47	48	43	57	62	A	54	64	61	68	75	74	88	88	88	75	76	38	52	52
8	51	52	47	51	47	45	50	55	68	65	A	72	77	78	80	57	94	88	62	58	52	52	52	54
9	48	43	44	A	A	A	43	58	72	64	70	68	70	B	62	70	75	84	90	81	66	52	54	54
10	51	54	50	A	42	38	42	43	77	68	62	A	73	85	58	72	76	88	63	A	A	A	54	54
11	42	52	52	52	52	40	45	57	67	77	74	65	64	64	64	64	67	71	A	74	52	42	A	47
12	42	A	51	48	A	40	45	64	66	A	A	A	A	76	77	71	65	65	A	70	A	66	A	54
13	A	54	52	48	43	36	50	62	54	54	63	A	60	73	71	75	87	88	92	77	66	39	52	54
14	44	42	37	30	28	34	52	72	76	A	A	A	A	A	72	76	75	A	A	A	52	76	47	A
15	A	A	42	32	32	A	46	68	65	A	66	A	A	A	A	54	80	76	93	67	A	39	52	53
16	52	54	54	50	45	45	62	66	53	48	57	A	66	69	76	77	78	86	78	55	54	54	A	52
17	53	52	52	54	54	45	A	55	67	A	58	65	A	74	74	A	64	A	77	74	A	A	A	A
18	A	A	A	A	A	A	A	52	70	A	A	65	61	73	78	77	68	67	70	74	A	A	A	52
19	38	38	39	40	36	38	51	60	61	A	68	68	A	67	77	70	75	75	78	77	67	67	44	54
20	52	42	A	45	40	37	50	65	90	82	A	58	A	A	80	76	76	67	72	80	67	67	54	52
21	40	42	N	44	41	40	46	64	60	72	62	54	60	68	67	71	74	A	114	80	79	74	54	52
22	50	47	33	43	43	40	44	65	59	74	61	A	64	72	A	73	75	65	66	66	72	72	54	51
23	51	42	47	45	44	40	47	78	71	A	A	65	69	71	84	72	72	80	79	77	42	A	53	54
24	A	53	54	A	57	A	54	71	61	62	60	72	68	80	72	84	87	86	78	67	71	74	65	54
25	52	53	48	48	46	38	46	70	73	76	71	A	67	78	78	83	82	78	87	79	45	54	50	51
26	A	50	48	48	47	42	48	78	77	64	76	A	86	100	65	64	78	78	82	73	53	A	A	A
27	A	47	52	44	46	45	42	66	78	82	67	71	A	72	A	69	86	90	74	67	67	53	51	48
28	A	A	A	43	44	47	48	60	66	73	67	68	77	A	A	76	77	A	86	87	73	52	A	47
29	42	A	44	43	43	42	58	65	67	71	65	74	72	72	60	90	90	62	A	A	A	A	54	52
30	49	A	50	51	50	44	52	63	74	74	68	A	71	74	75	73	86	76	80	81	76	47	44	43
31	41	43	43	44	44	43	54	71	65	A	A	69	56	82	86	75	72	72	74	77	A	60	A	A
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	22	23	25	26	28	27	28	31	30	21	20	17	23	24	26	30	29	25	25	27	23	24	23	27
MED	48	50	48	46	44	42	50	63	66	65	66	68	67	73	74	75	78	78	78	74	66	54	52	52
U Q	52	53	52	50	47	45	52	68	72	74	69	71	71	78	78	77	86	86	86	77	72	66	54	54
L Q	42	42	44	44	41	40	45	57	61	59	61	65	61	68	67	71	74	67	73	67	53	51	47	48

HOURLY VALUES OF fEs AT Yamagawa

AUG. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	51	72	58	G	41	36	29	60	82	74	62	115	67	71	78	61	45	47	51	56	46	60	44	40
2	54	58	41	49	48	32	56	45	45	51	48	G	46	76	78	54	63	91	58	57	56	32	G	G
3	33	G	G	G	G	G	44	36	62	G	56	G	60	G	62	59	83	93	77	60	43	25	27	G
4	G	48	39	25	28	31	32	51	48	45	52	G	47	B	G	G	84	78	92	71	59	30	32	G
5	G	36	40	33	35	24	G	46	54	49	52	G	G	G	50	58	46	67	45	37	23	23	28	24
6	G	G	55	51	48	44	46	36	G	57	68	44	G	47	52	60	G	G	50	G	26	39	43	G
7	34	G	30	G	G	G	G	G	59	68	47	G	G	46	48	G	G	G	G	G	30	36	36	G
8	G	34	34	34	G	G	G	G	G	G	51	44	49	44	45	52	G	G	G	39	26	G	G	43
9	26	G	G	56	52	51	30	57	49	48	43	53	44	B	G	G	G	41	36	G	G	40	44	24
10	G	32	27	33	25	G	28	58	122	65	42	45	G	G	44	G	57	42	130	61	69	59	44	40
11	34	32	23	G	G	G	33	36	56	52	56	54	G	G	G	G	G	45	86	55	59	40	48	44
12	36	50	25	36	36	G	40	54	52	67	73	83	81	68	52	75	53	72	71	46	70	54	58	50
13	59	55	50	33	26	25	38	33	47	49	51	69	44	56	72	G	42	43	38	30	25	27	57	43
14	36	36	G	G	G	G	32	48	48	62	60	56	67	74	55	46	65	150	117	114	72	59	57	60
15	59	59	28	34	35	53	41	51	43	67	52	75	85	81	84	51	48	G	31	34	57	37	40	G
16	23	G	35	34	G	G	30	41	46	40	48	44	54	55	48	79	49	56	61	51	27	46	59	49
17	44	50	34	45	36	G	50	44	39	73	68	43	69	G	G	73	54	64	49	G	69	72	59	69
18	113	59	68	48	58	79	70	58	56	79	84	47	46	45	G	44	45	G	34	30	73	70	57	28
19	35	32	G	G	G	G	40	39	40	112	63	64	68	53	55	56	46	53	60	39	32	29	G	29
20	48	40	69	73	38	38	33	46	53	70	85	52	95	54	49	48	43	36	30	34	33	25	G	G
21	G	G	G	G	G	G	G	36	G	G	G	G	44	G	G	42	50	74	50	68	54	47	36	30
22	34	33	G	G	G	G	29	38	43	57	67	74	44	50	91	51	56	58	45	42	60	56	33	32
23	28	31	G	G	G	G	29	33	48	90	75	47	53	56	69	51	44	50	46	41	48	72	30	56
24	70	33	58	60	G	54	36	46	56	72	53	62	49	G	43	G	G	46	45	46	32	35	33	G
25	47	36	35	31	27	26	27	34	43	44	48	53	G	G	G	49	40	39	36	32	45	40	44	55
26	68	59	34	23	33	26	G	39	50	64	67	69	77	65	45	49	52	46	40	36	37	70	60	50
27	71	G	G	31	34	25	G	38	123	76	50	54	152	67	86	64	39	G	G	G	28	G	33	41
28	59	70	48	44	31	G	G	43	G	48	51	44	72	78	76	64	54	70	50	34	G	11	57	45
29	G	30	G	G	G	26	G	35	G	57	63	62	51	49	51	64	56	56	70	72	58	59	37	G
30	G	48	G	G	G	G	G	34	40	G	53	61	46	44	47	G	G	G	36	32	G	33	32	29
31	G	G	G	G	31	G	27	38	43	67	82	49	56	52	53	58	48	54	52	83	69	69	60	73
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	29	31	31	31	31	31	31	31	31	31	31
MED	34	34	30	31	27	G	30	39	48	57	53	52	49	50	50	51	46	47	49	39	45	40	40	32
U Q	54	50	41	44	36	32	40	48	56	70	67	62	68	66	69	60	54	67	61	57	59	59	57	49
L Q	G	G	G	G	G	G	G	36	40	48	50	44	44	G	43	G	39	36	36	32	27	29	32	G

HOURLY VALUES OF fmin AT Yamagawa

AUG. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	15	14	14	15	14	14	14	16	17	21	23	29	28	27	26	17	17	14	14	14	14	14	14
2	15	14	15	14	15	14	14	14	15	18	22	24	37	26	28	35	24	15	14	20	14	15	18	15
3	15	16	14	14	15	15	14	14	14	15	18	24	28	53	24	22	20	21	14	14	14	15	15	15
4	14	14	15	18	17	14	14	14	14	16	23	71	28	B	34	50	21	16	14	14	15	14	14	17
5	15	14	14	14	14	15	20	14	16	18	20	27	50	53	27	21	18	14	15	14	15	15	15	14
6	15	20	15	14	14	15	14	14	14	17	18	24	24	28	26	22	20	15	14	17	15	15	15	14
7	14	17	14	15	15	15	18	16	14	17	21	23	28	29	33	24	20	14	15	14	14	14	15	15
8	15	15	14	14	15	14	17	14	14	17	20	21	27	23	24	18	14	17	14	14	15	15	16	14
9	14	15	14	14	15	14	20	14	14	27	20	21	24	B	20	43	21	20	14	15	15	15	14	15
10	18	14	15	14	15	15	14	14	14	16	18	23	34	33	23	20	15	17	14	14	14	14	14	14
11	14	15	15	14	15	16	15	14	18	20	33	26	51	52	23	18	18	14	14	14	14	14	21	14
12	14	14	14	14	14	14	14	14	16	16	24	26	33	24	24	17	18	14	14	15	15	14	14	15
13	15	15	14	14	15	15	14	15	17	20	21	24	38	27	26	21	20	14	14	14	15	14	14	14
14	15	15	15	14	14	15	15	15	14	15	18	21	21	26	27	20	17	16	14	15	15	15	16	14
15	14	14	14	14	14	14	14	14	14	17	20	18	27	28	26	18	15	14	14	14	14	15	14	15
16	15	14	14	14	14	14	15	14	15	17	21	24	26	22	20	18	17	14	17	14	15	14	14	14
17	14	14	14	14	14	16	14	14	14	20	22	22	36	21	24	28	21	17	14	21	15	15	15	15
18	14	14	15	16	14	14	14	14	15	21	26	27	27	27	26	18	18	14	14	14	14	14	14	14
19	14	15	15	23	16	21	14	15	17	18	20	26	28	26	22	22	17	14	14	14	16	14	15	14
20	14	14	14	14	14	15	14	14	14	18	21	24	24	24	21	20	17	14	14	14	15	14	15	16
21	18	15	15	15	22	16	17	14	17	17	20	47	23	51	20	17	15	15	15	16	15	14	17	14
22	15	15	15	14	15	14	14	14	14	15	21	23	27	24	21	18	16	15	14	14	14	14	14	14
23	15	14	15	15	15	15	14	14	16	16	18	20	29	29	20	16	15	14	14	14	15	15	14	15
24	15	14	15	14	15	15	14	14	15	18	18	23	26	29	21	17	14	14	14	14	14	14	14	15
25	14	14	14	15	14	15	14	18	15	20	18	20	56	52	27	24	14	14	15	14	15	15	15	14
26	14	14	14	15	14	15	18	14	17	17	18	28	32	34	28	23	16	14	14	14	14	14	15	14
27	14	14	14	15	14	14	17	15	15	18	27	21	26	20	22	17	14	14	22	15	17	14	14	14
28	14	16	14	15	14	14	17	14	16	18	20	24	27	35	26	24	18	14	14	14	15	14	14	14
29	18	15	15	15	16	16	16	14	17	18	21	26	27	29	23	22	15	14	14	14	15	14	15	16
30	15	14	15	14	14	15	18	14	14	16	20	26	29	28	24	18	16	14	14	14	15	14	14	14
31	17	15	16	15	14	14	15	14	17	17	20	22	28	22	20	18	16	14	15	14	14	14	14	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	29	31	31	31	31	31	31	31	31	31	31
MED	15	14	14	14	15	15	14	14	15	17	20	24	28	28	24	20	17	14	14	14	15	14	14	14
U Q	15	15	15	15	15	15	17	14	16	18	21	26	33	33	27	24	20	16	14	15	15	15	15	15
L Q	14	14	14	14	14	14	14	14	14	16	18	22	26	24	21	18	15	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Okinawa

AUG. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	34		36	35	A	51		61	A	A	A	A		82	90	102	101	100	87	77	54	50	46
2	47	A	45	43	45	44	53	61	56	63	67	66	82	A	120	N	119	97	97	99	A	A	52	61
3		54		67	76	76	44	52	58	A	61	A	70	77	91	102	A	102	88	86	76	45	54	
4			63	44	44	43	52	82	56				71		84	77	76	80	91	89	87	72	52	54
5	42		N	52	44	46	58	57	61	52			A	A		84	85	91	100	106	78	44	47	52
6	N	44	34	A	34	A	41	A	64	A		77				107	94	66	71	87	54	44	N	43
7	42	39	A	43	41	45	36	60	62						77	89	106	108	106	93	79			51
8	A		42			44	43	61	66	54	68	82	81	83		107	110	90	76	78	78	84	66	67
9		42	47	43	A	A	A	66	65	63	76	78	87		82	84	86	96	96	85	78	67		52
10		44	42	41	N			63	65	68	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	89	96	90	A	A	44	42
17	A	A				36	34	67	64	64			82	81	101	89	85	96	107	79	87	A		A
18	A	A	A	A			40	65	77	67	A		74		88	90	100	89	92	88	77	A	A	A
19	A						41	53	57	71	65	66	75	90	84	76	88	88	A	86	75	A		
20	A	43				34	36	68	99	A	A	A	A	90	89	100	90	86	90	88		74		
21		41						66	73	61			A	75	84	81	82	88	102	111	79	78	44	
22	43			41				67	100	71	61			81	84	84	82	80	82	86	84		A	43
23	45	42	43					83	65	62	65	72	75	84	90	82	80	82	80	81	74	67	A	A
24	A	42	44	44	58	N	41	66	63	A	A	74	82	97	87	91	98	100	88	87	78	78	54	54
25	59	40	A	34	43	34	44	67	72	87	66	64		88	88	90	90	86	103	108	87	34	A	40
26	A	A	42	41			41	67	72	83	A	84	103	110	108	105	104	90	88	88	86	76		52
27	46	A	42	44			41	66	88	72	71	72	93	81	80	96	97	90	86	81	79	54		
28			43	A	A	42	A	N	77	78	68	77	88	101	N	102	90	88	107	131	82	34		A
29	42	36		43		34	44	63	67	68	77	79	92		101	106	106	104	93	82	77	43		A
30		42	42	44	52		34	70	76	74	A	68	82	82	83	94	92	96	90	108	82	A		42
31	A		34		34	32	44	67	60	65	66	74	80	84	84	81	81	81	92	79	82	A	A	A
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	8	13	13	15	11	12	19	22	25	18	12	14	16	15	20	23	23	25	24	25	22	16	9	14
MED	44	42	42	43	44	42	41	66	65	68	66	74	82	84	86	90	90	90	92	87	78	60	52	52
U Q	46	43	44	44	52	44	44	67	74	72	69	78	87	90	90	102	102	96	100	96	82	75	54	54
L Q	42	39	42	41	35	34	40	61	61	63	65	68	75	81	83	84	85	86	88	83	77	44	45	43

HOURLY VALUES OF fEs AT Okinawa

AUG. 2011

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	69	29	G	G	G	88	73		59	106	75	66	48	G	G	G	G	G	33	G	25	53	38	50
2	G	47	G	G	G	28	33	53	G	47	56	55	52	84	62	59	78	79	74	82	102	59	33	G
3		G		G	G	G	G	35	G	51	54	67	G	74	64	72	118	70	50	32	28	G	28	
4			G	G	G	G	G	36	46	G		G	G		G	G	52	49	39	28	39	29	G	G
5	G		29	G	28	G	G	G	G	52			60	81		51	47	50	38	31	30	G	G	G
6	G	G	24	56	G	36	34	52	47	44		G				G	G	G	G	40	48	G	G	38
7	27	G	30	G	G	G	G	G	G					G	G	G	G	G	G	30	G			G
8	48	G	G		G	G	32	G	G	43	G	G	44	48		G	G	G	G	G	G	G	G	26
9		G	G	G	30	53	49	G	37	G	G	G	G		52	53	50	G	54	36	G	G		G
10	G	27	G	G	G			37	65	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	85	69	69	49	49	50	28	32
17	39	39				G	G	60	51	G			G	G	G	G	50	51	G	G	G	25		36
18	59	35	46	27			G	39	82	48	86	G	G	G	G	G	47	86	48	29	43	80	67	48
19	38						33	G	G	52	49	G	52	50	G	G	47	64	82	39	30	29	G	
20	38	G				G	G	40	60	75	46	65	79	71	70	42	48	48	35	27	G	G		
21		G		G				G	G	G			44	G	G	57	52	G	59	28	32	G	31	
22	G			G				G	40	G	G		G	G	50	G	50	41	43	44	38		73	G
23	G	G	G					G	G	G	G	G	G	46	G	48	50	46	52	60	50	49	83	59
24	50	36	28	34	36	G	35	44	63	78	63	80	80	G	G	G	G	G	34	G	G	G	40	34
25	G	29	29	G	G	G	G	35	42	47	G	G		G	G	49	G	49	53	57	43	37	50	28
26	34	79	44	30			G	40	46	58	76	G	49	G	G	G	G	G	32	42	40	33		G
27	40	73	G	G	G		26	32	42	G	G	G	G	G	G	48	G	49	37	G	27	G		
28			36	31	49	G	36	35	G	58	64	49	48	G	50	G	G	G	40	36	G	G	G	78
29	G	G		G		G	G	34	36	59	G	57	48		82	63	48	G	33	G	34	31		44
30		G	G	G	G		G	31	G	G	46	G	60	48	G	G	65	52	71	73	80	49		G
31	42		G		G	G	G	G	G	G	G	G	48	51	73	52	G	50	52	50	84	103	60	49
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	19	19	18	19	16	16	21	24	25	24	18	19	21	20	21	24	25	25	25	25	25	23	17	20
MED	34	G	G	G	G	G	G	34	37	46	46	G	48	G	G	G	47	48	40	32	32	29	31	30
U Q	42	36	29	27	14	14	33	39	49	55	63	57	52	50	57	51	51	51	53	46	45	49	55	46
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	33	14	G	G	G	G

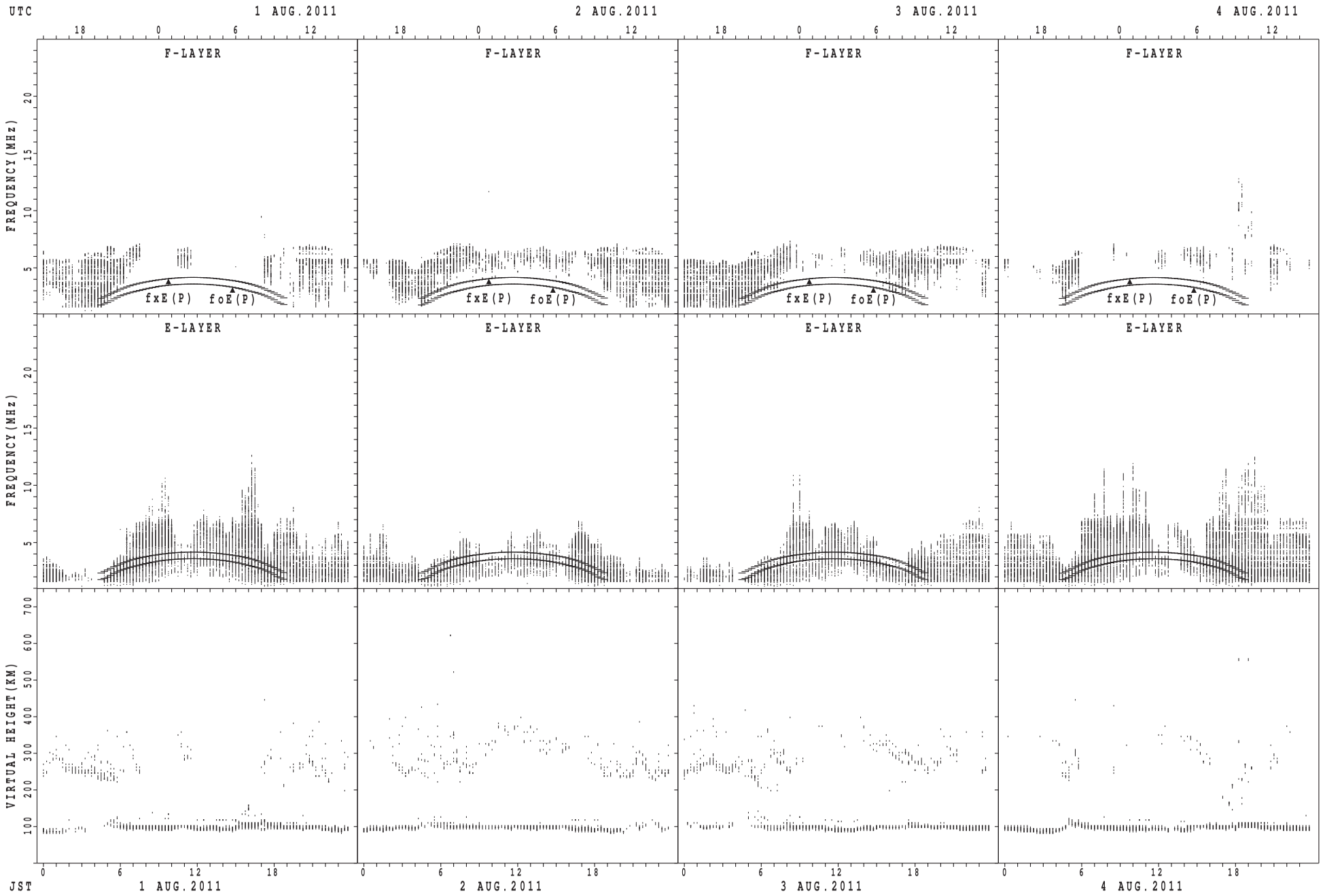
HOURLY VALUES OF fmin AT Okinawa

AUG. 2011

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

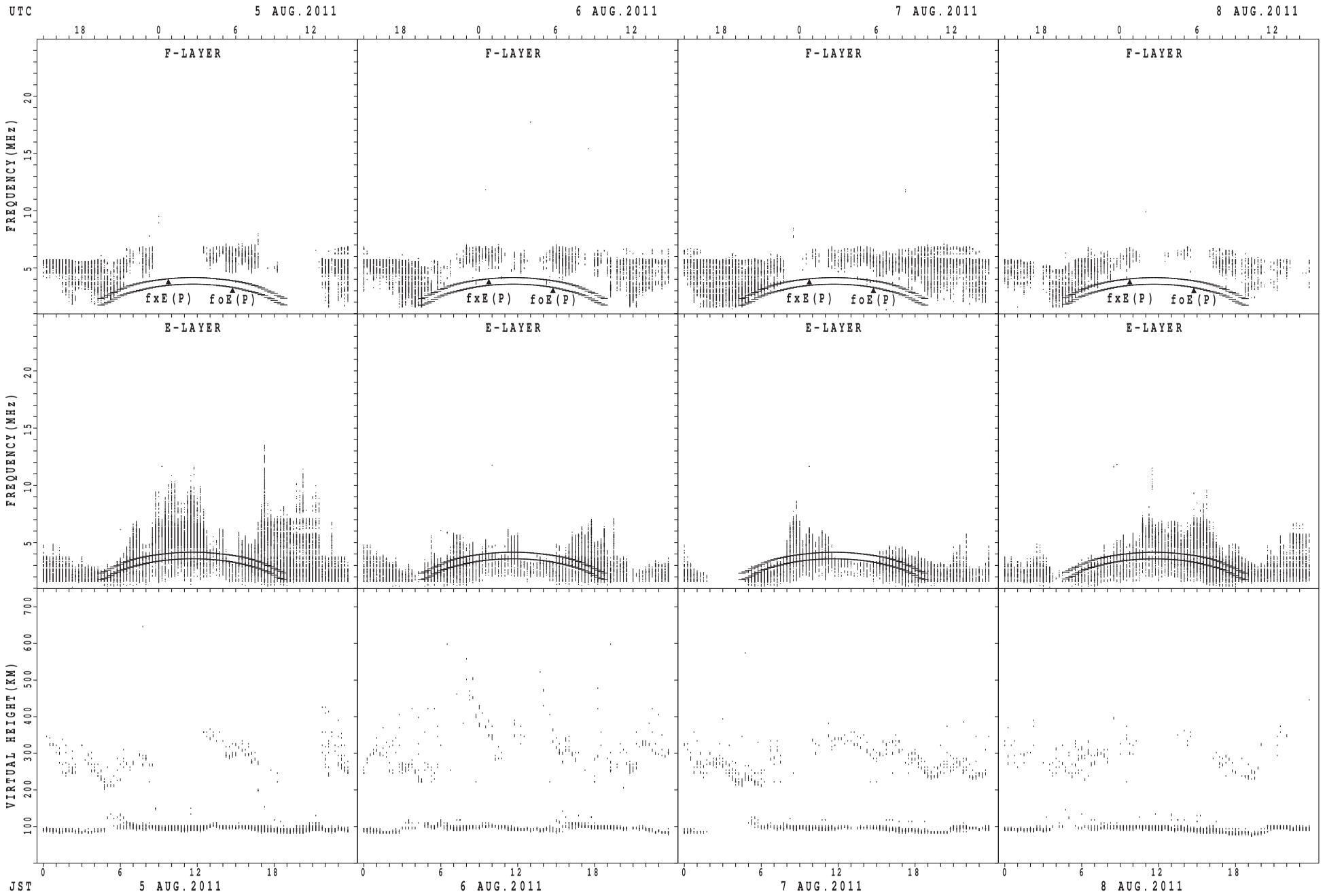
HD	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	15	15	24	21	15	15		21	29	35	36	33	59	60	59	51	44	15	15	14	15	14	21
2	23	15	22	27	21	30	16	14	34	33	35	39	42	50	45	40	43	29	22	14	15	15	15	22
3		20		18	18	18	18	30	41	38	40	49	54	45	40	30	33	29	15	15	14	14	14	
4			18	22	24	20	23	15	26	44		54	55		54	58	32	28	16	14	15	14	22	15
5	20		15	20	14	16	23	27	29	29			39	39		38	33	27	15	15	14	41	33	28
6	31	28	16	15	15	17	14	14	18	28		38				53	53	39	30	14	15	21	22	21
7	16	28	15	22	17	26	22	28	32					N	63	56	55	40	38	28	27			26
8	15	18	21		27	15	15	14	21	43	45	57	58	40		55	54	37	33	26	20	20	40	18
9		28	15	20	14	16	14	34	23	32	55	57	29		32	29	23	55	23	14	23	22		20
10	26	16	20	23	20			17	20	55	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	35	32	14	20	20	15	21	16
17	17	20				28	23	17	24	55			58	55	66	55	35	28	16	20	24	16		21
18	17	20	22	20			27	28	24	29	29	58	55	60	54	55	28	17	14	20	24	21	17	17
19	17						17	27	39	29	30	60	30	30	29	54	24	21	15	17	63	15	42	
20	23	26				20	22	18	21	24	30	32	32	30	30	27	21	17	15	15	27	21		
21		16		24				26	36	42			29	55	55	36	23	17	14	14	27	26	17	
22	26			21				32	28	27	54		63	55	30	52	34	26	16	15	18		15	35
23	22	22	24					36	33	42	54	58	55	54	55	39	33	27	16	17	20	21	22	20
24	17	16	24	17	15	20	17	14	22	28	30	32	33	54	56	55	23	18	14	18	23	56	17	18
25	17	16	20	22	21	23	29	22	28	32	53	58		56	54	37	56	28	22	14	16	20	17	16
26	16	20	17	17			28	21	27	30	35	58	57	54	55	61	52	24	16	15	23	17		26
27	29	18	32	21	26		16	20	26	29	32	55	60	55	53	26	21	20	15	26	17	26		
28			21	17	20	26	20	15	32	23	38	38	29	58	38	35	29	42	22	16	23	20	23	21
29	22	29		27		20	15	29	28	35	56	38	39		43	42	38	18	15	27	16	17		18
30		22	22	24	21		23	15	33	45	32	33	33	34	53	60	24	20	16	17	23	18		23
31	18		28		22	21	18	28	35	54	55	60	36	42	33	30	54	30	18	16	20	18	20	16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	19	19	18	19	16	16	21	24	25	24	18	19	21	19	21	24	25	25	25	25	25	23	17	20
MED	18	20	20	21	20	20	18	22	28	32	36	54	39	54	53	47	33	28	16	16	20	20	20	20
U Q	23	26	22	24	21	24	23	28	33	42	54	58	56	55	55	55	51	34	22	20	23	21	22	22
L Q	17	16	16	18	16	16	15	15	22	29	32	38	32	40	35	35	24	20	15	14	15	15	16	17

SUMMARY PLOTS AT Wakkanai



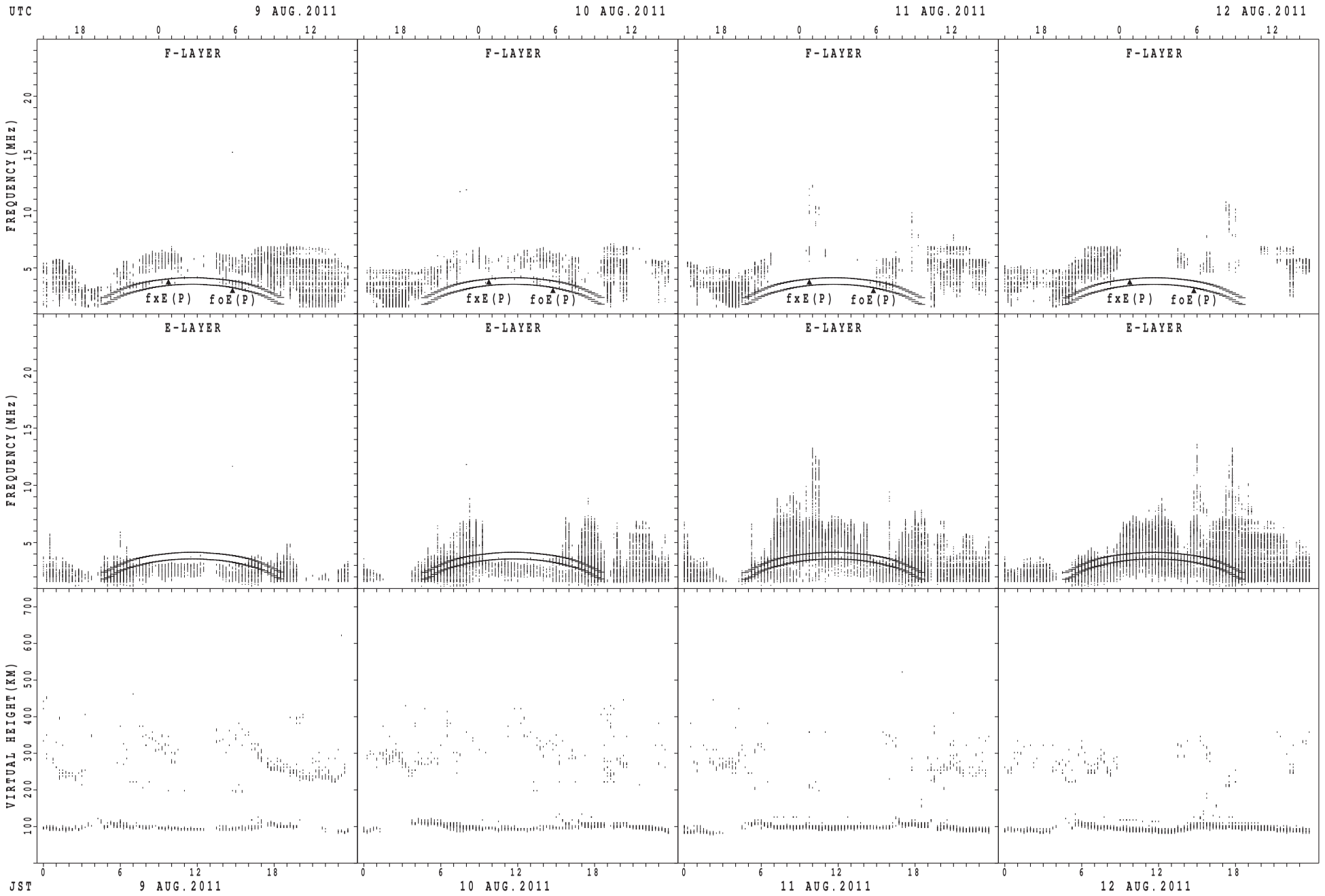
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



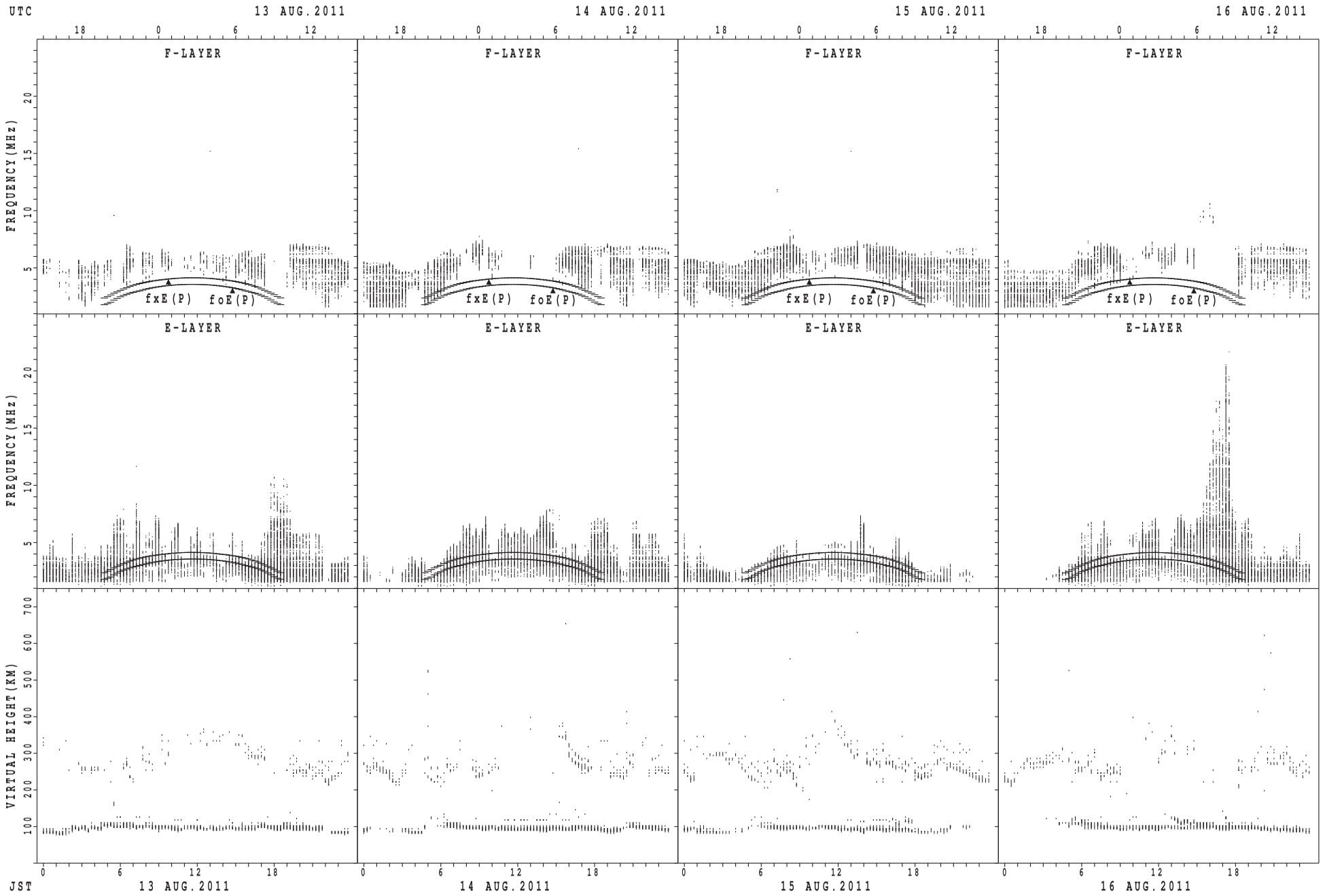
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



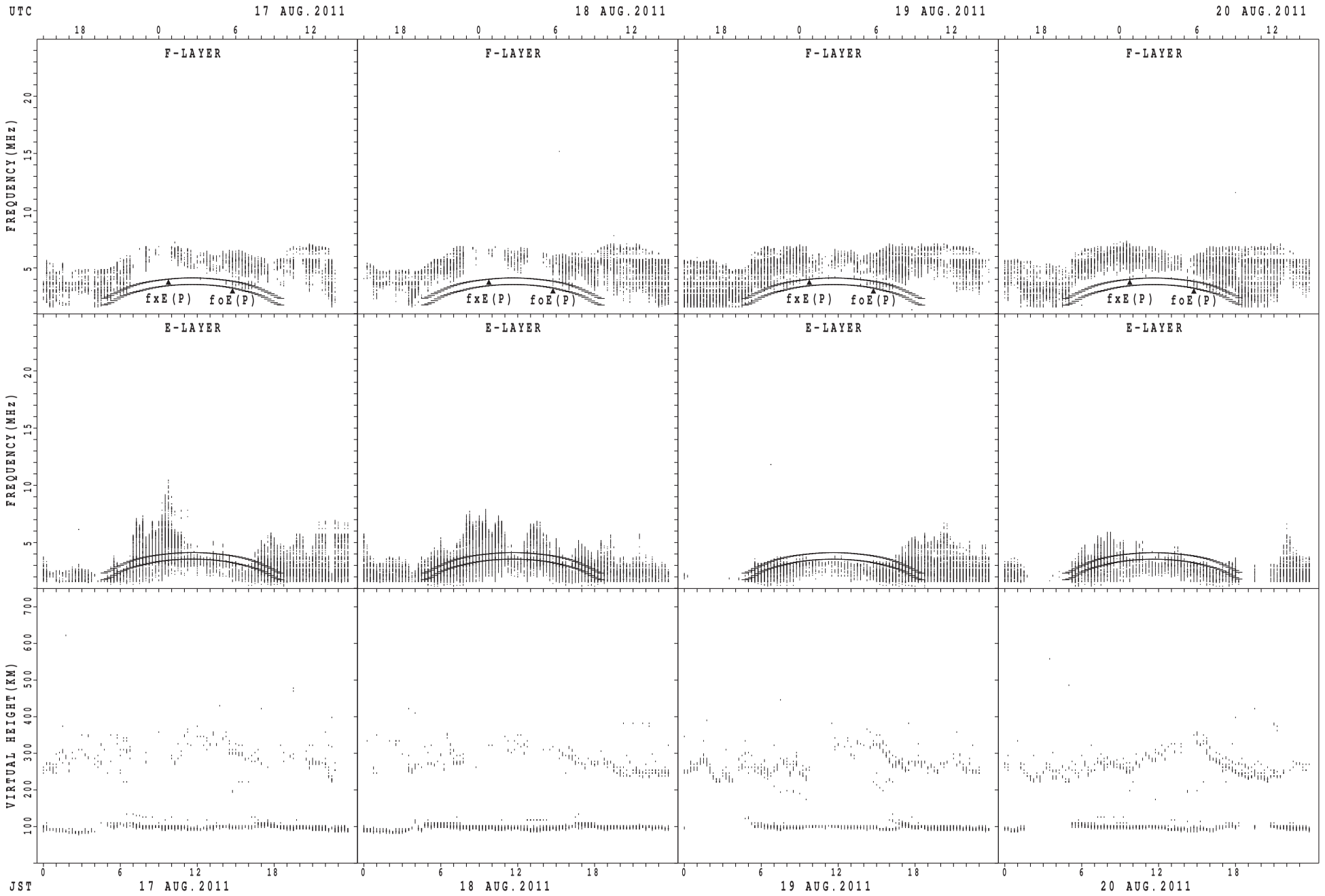
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



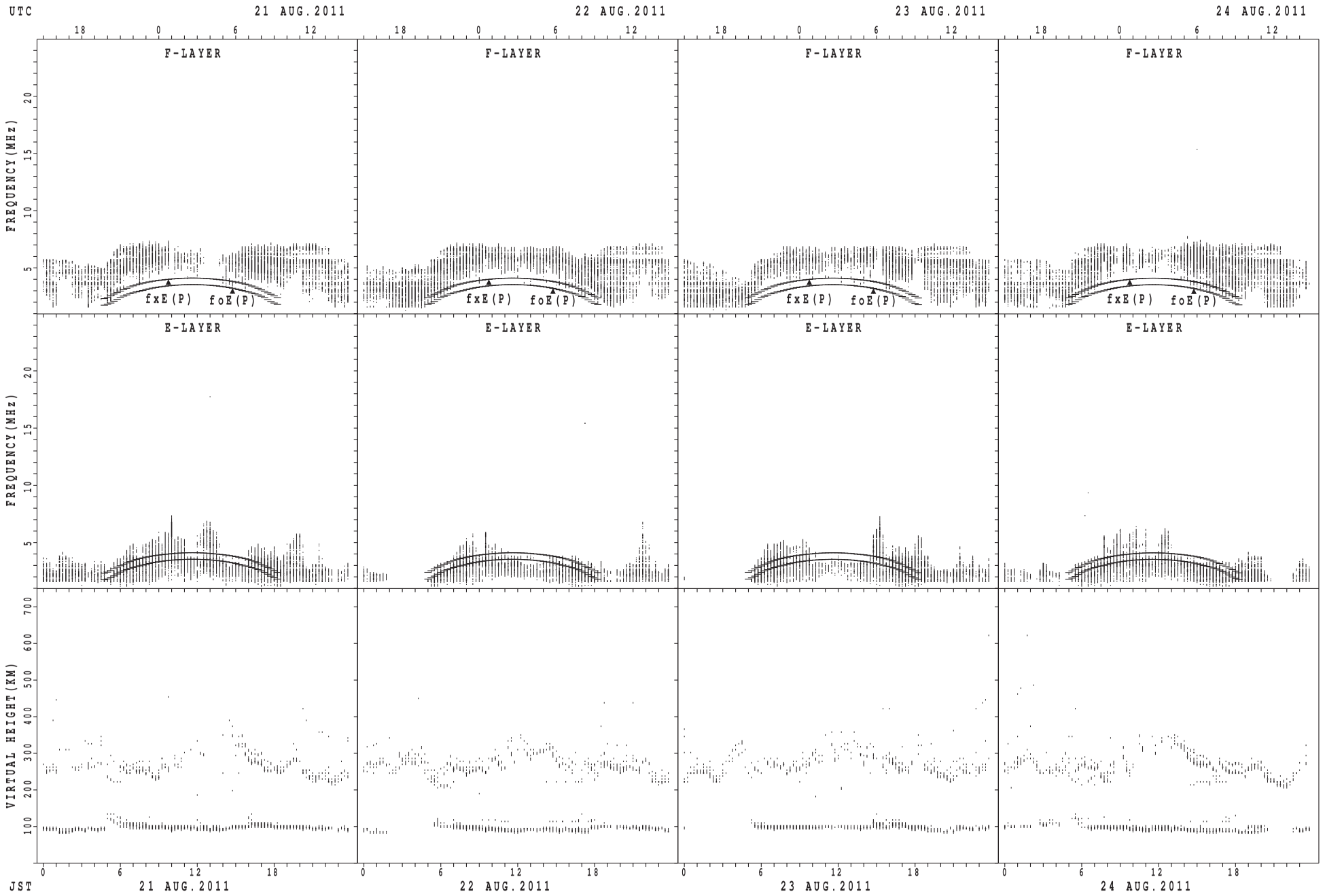
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



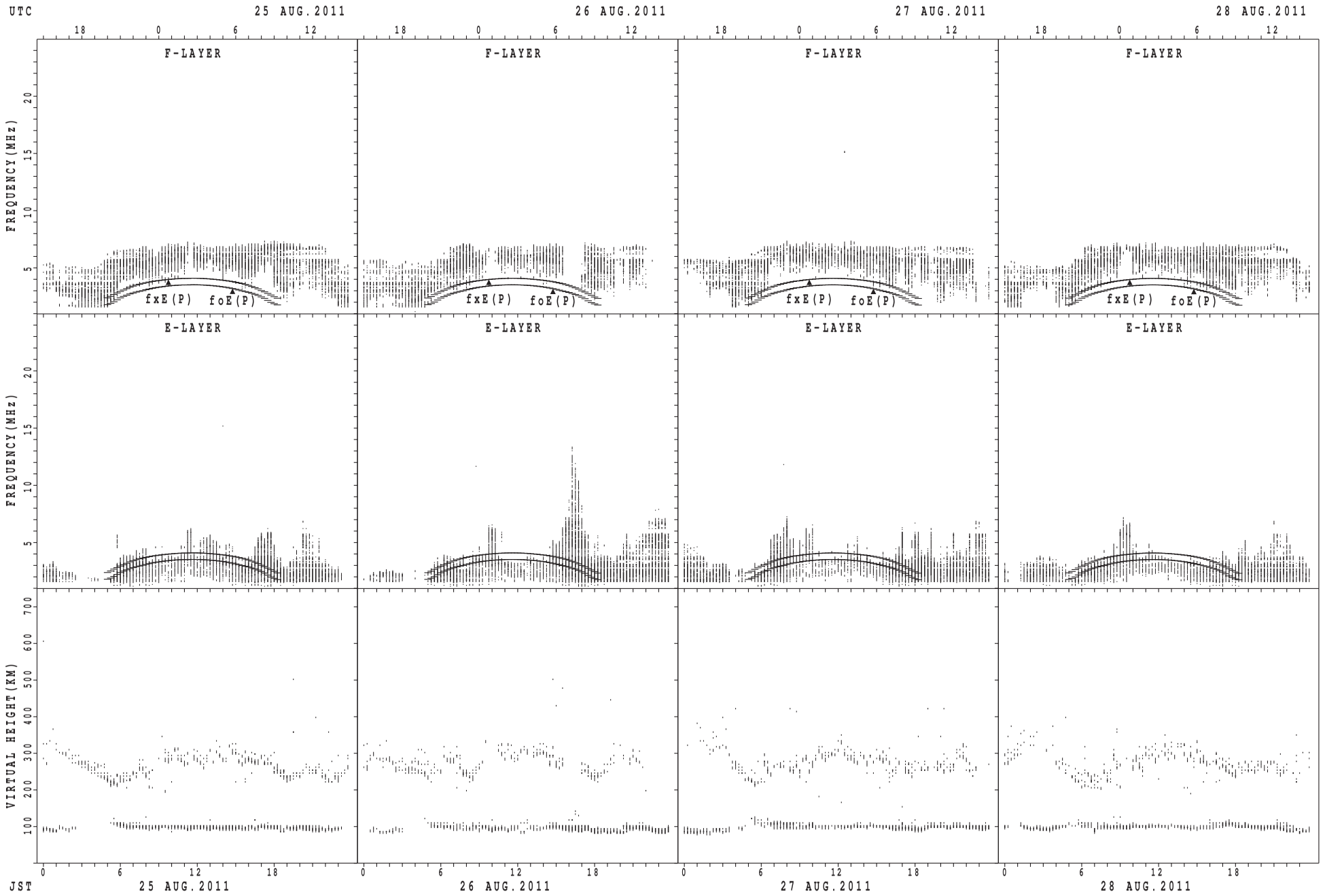
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



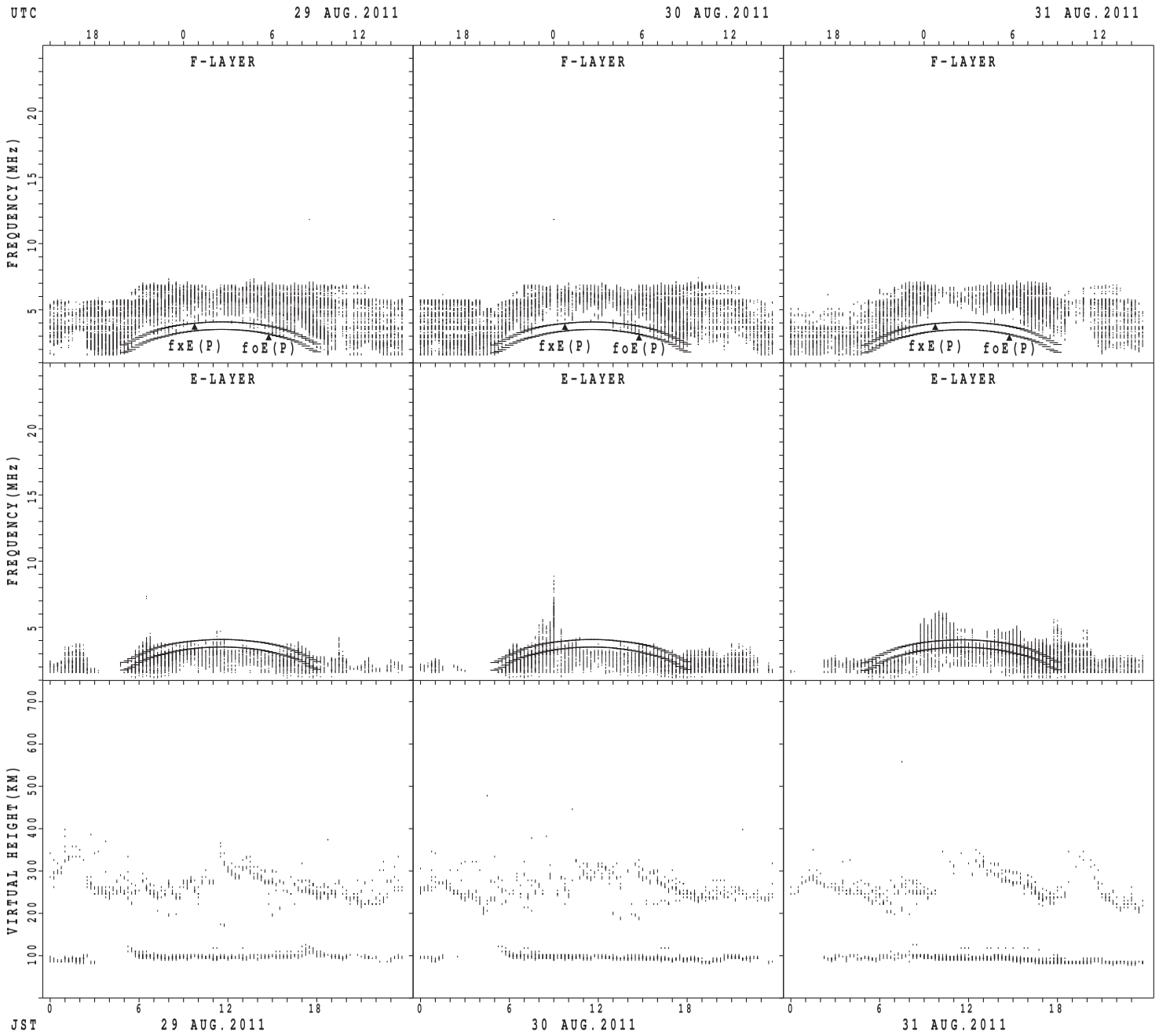
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



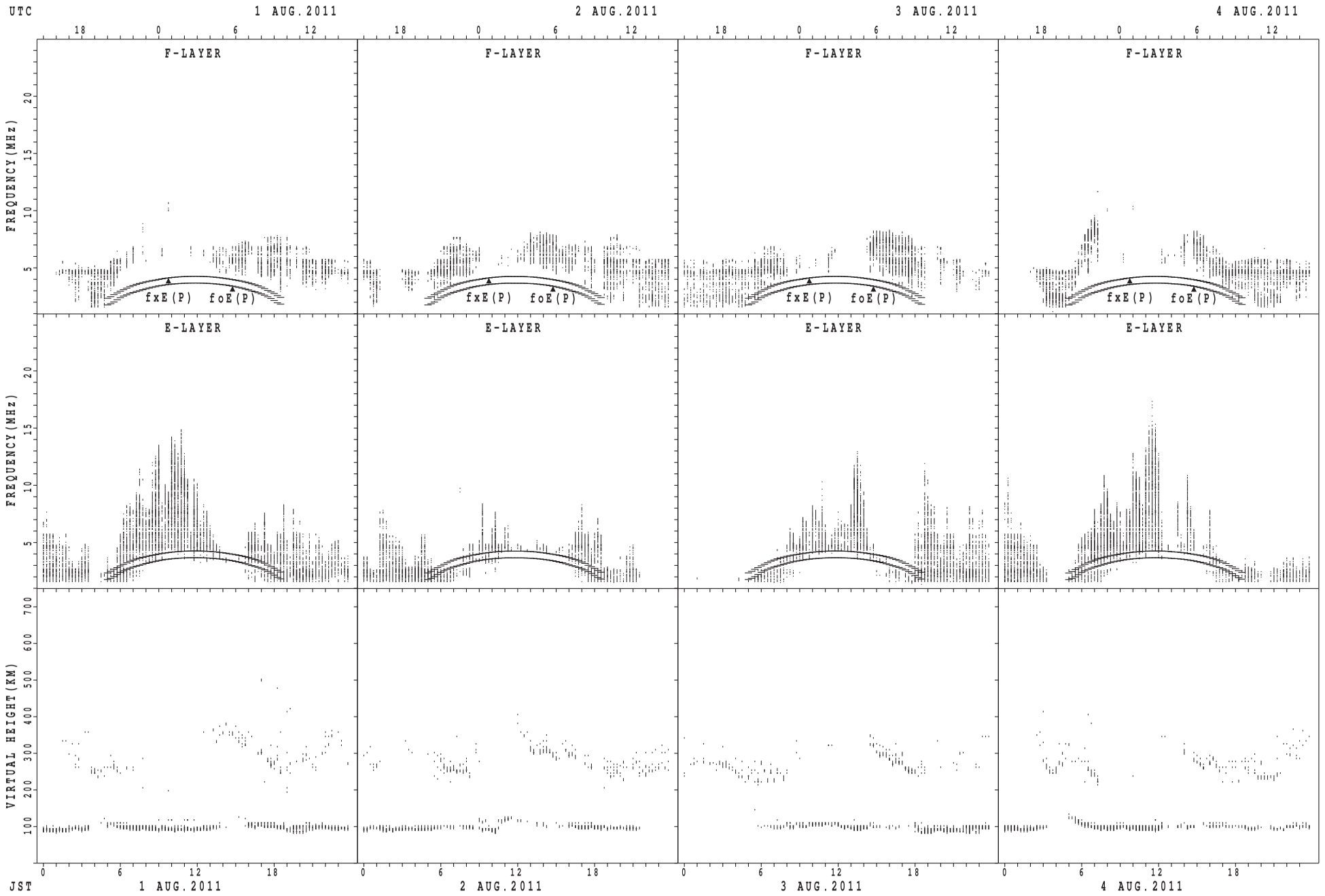
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



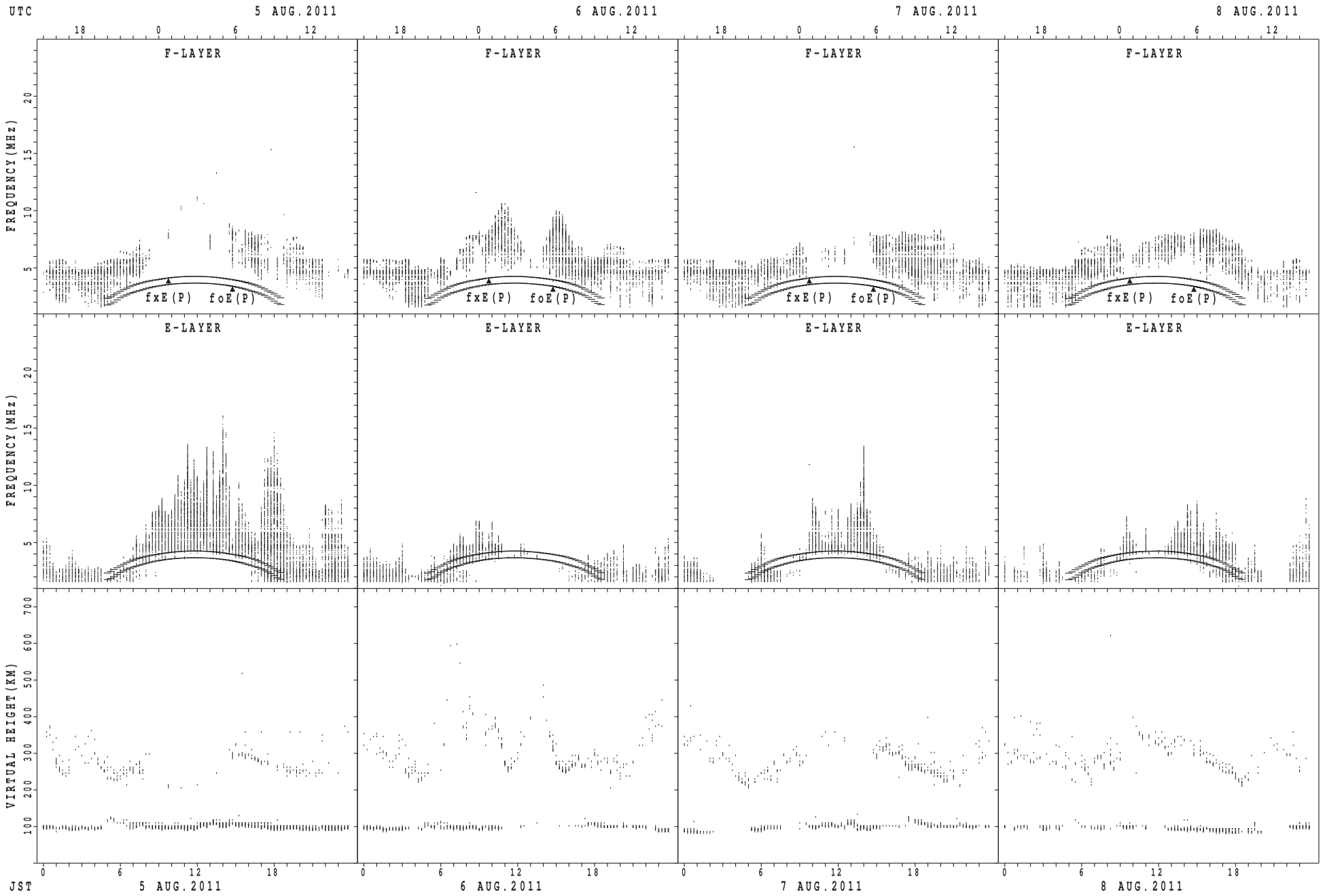
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



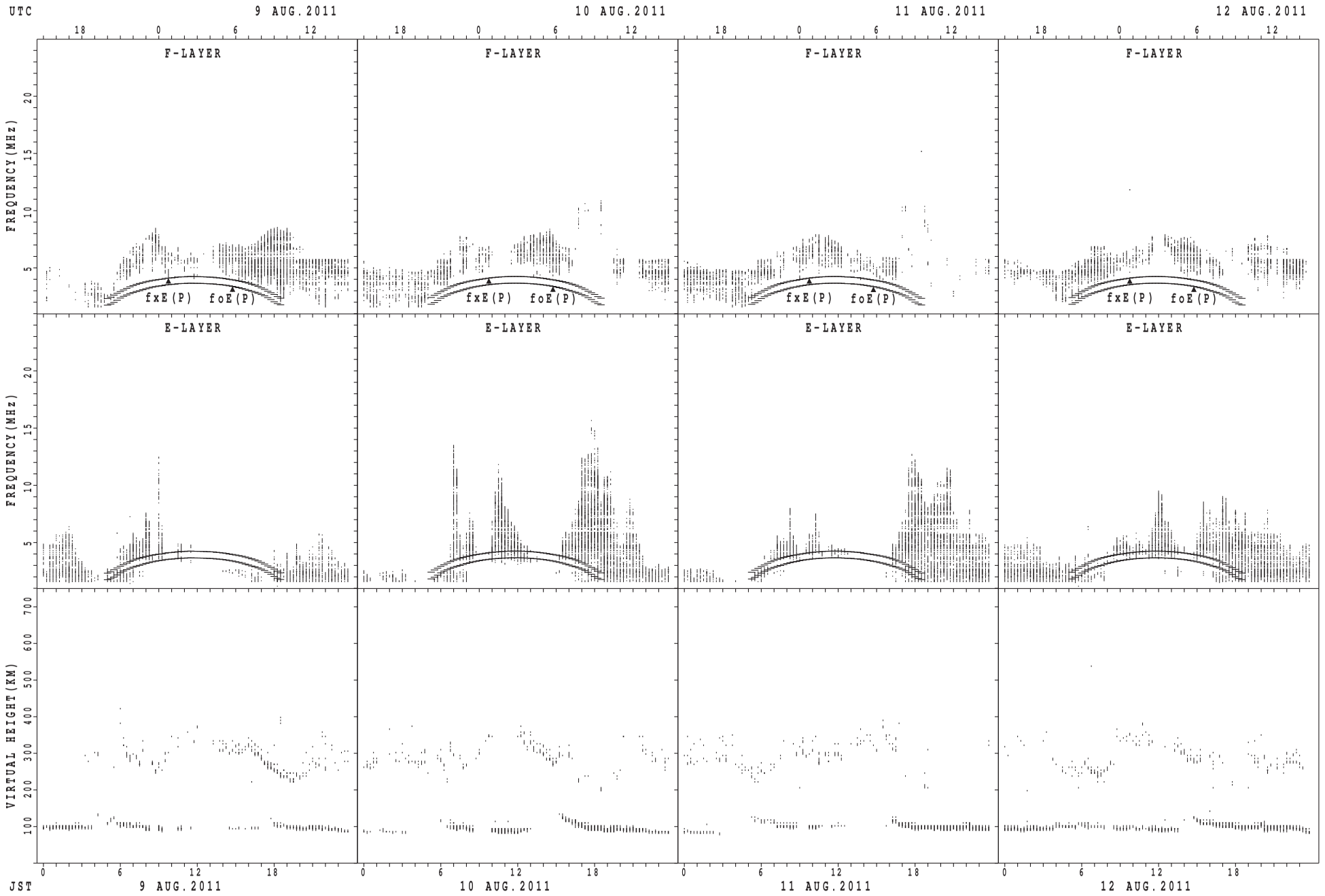
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



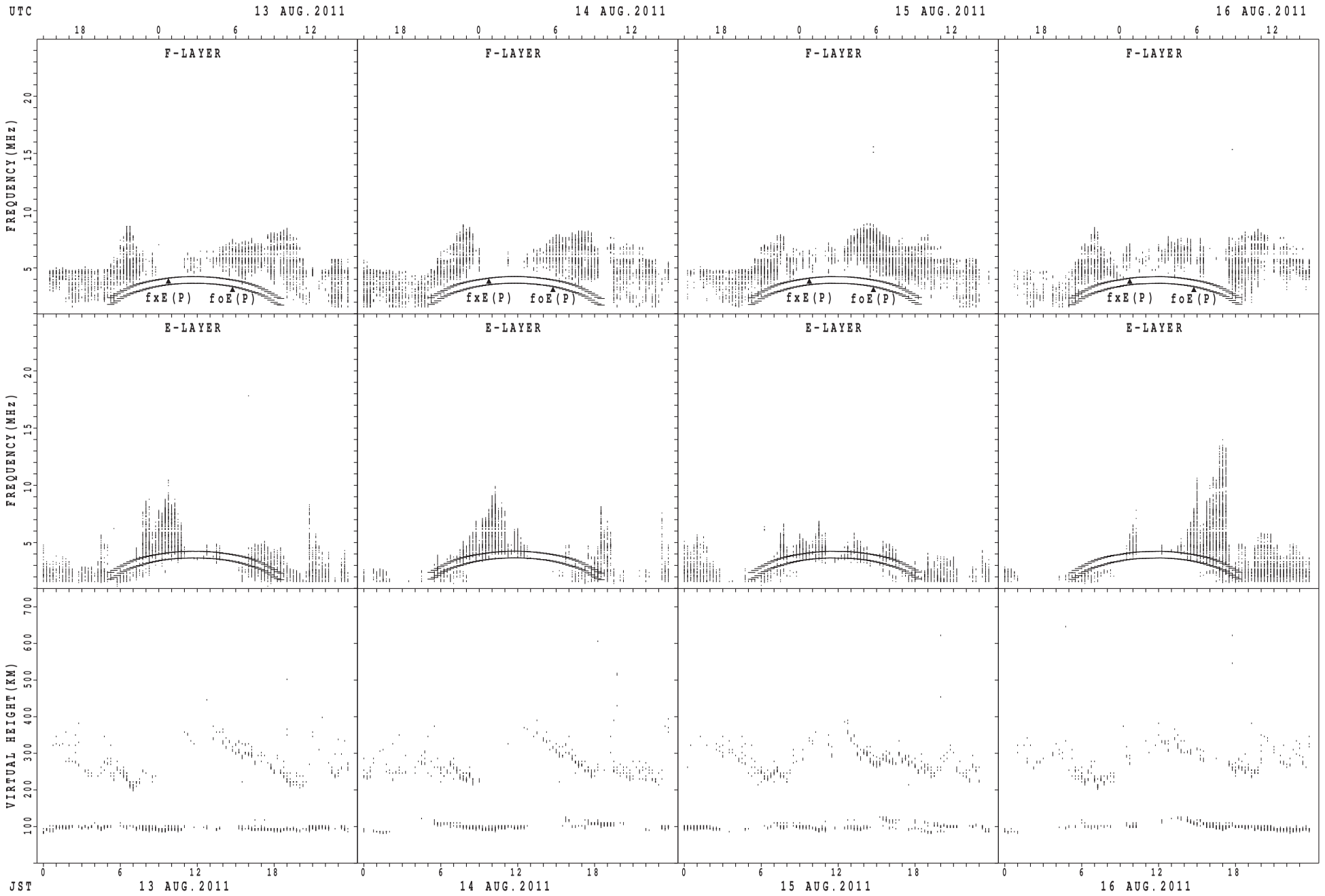
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



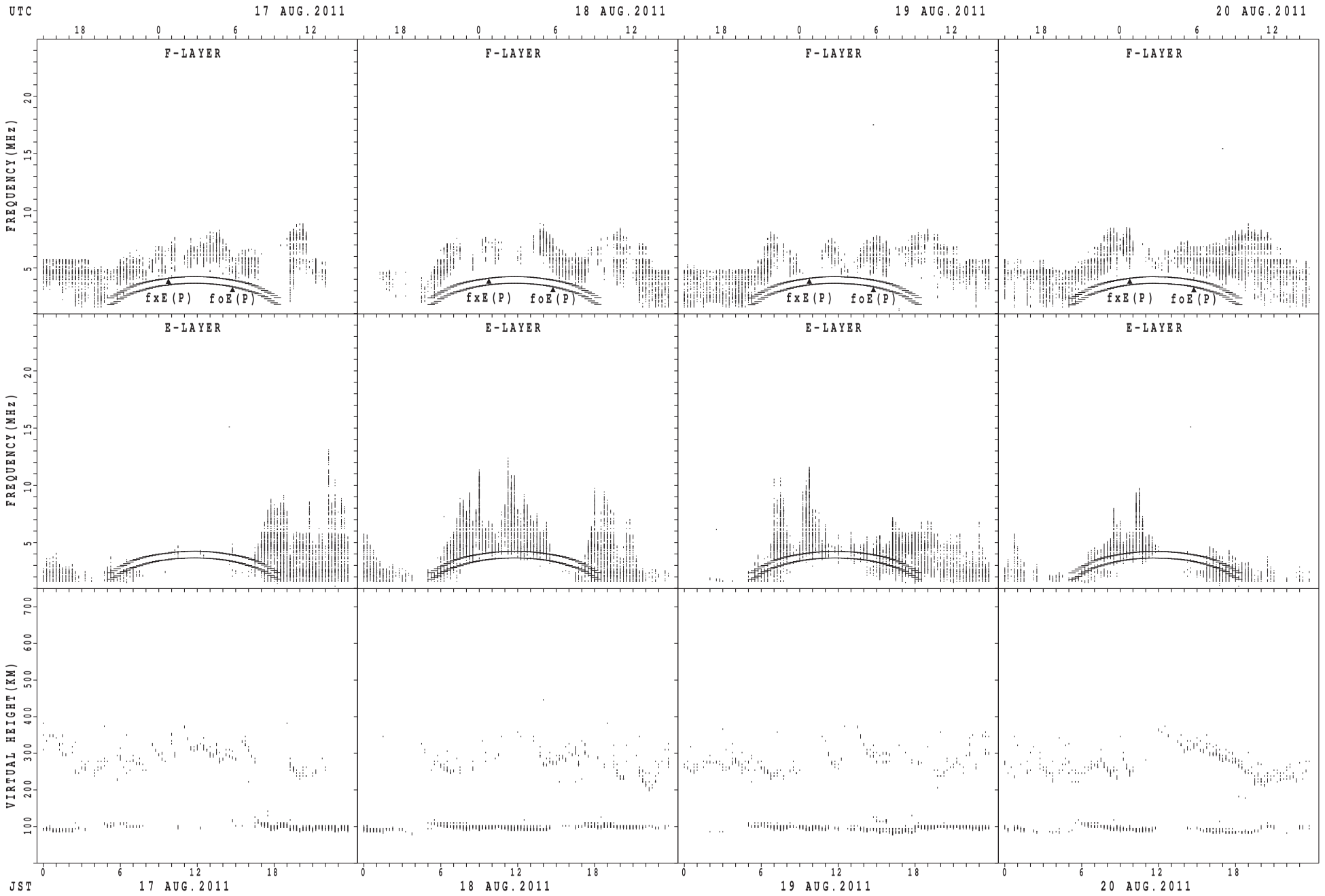
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



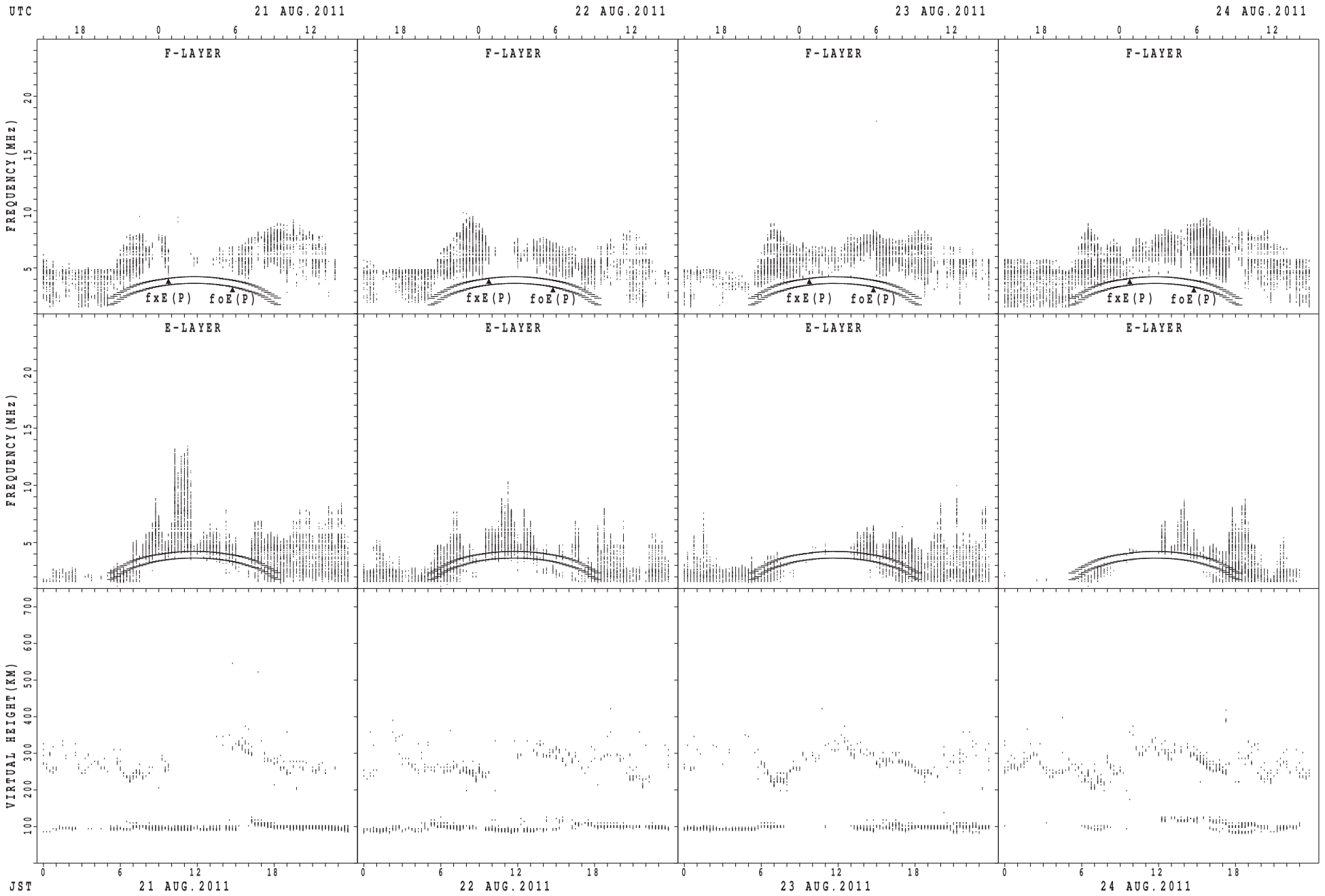
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



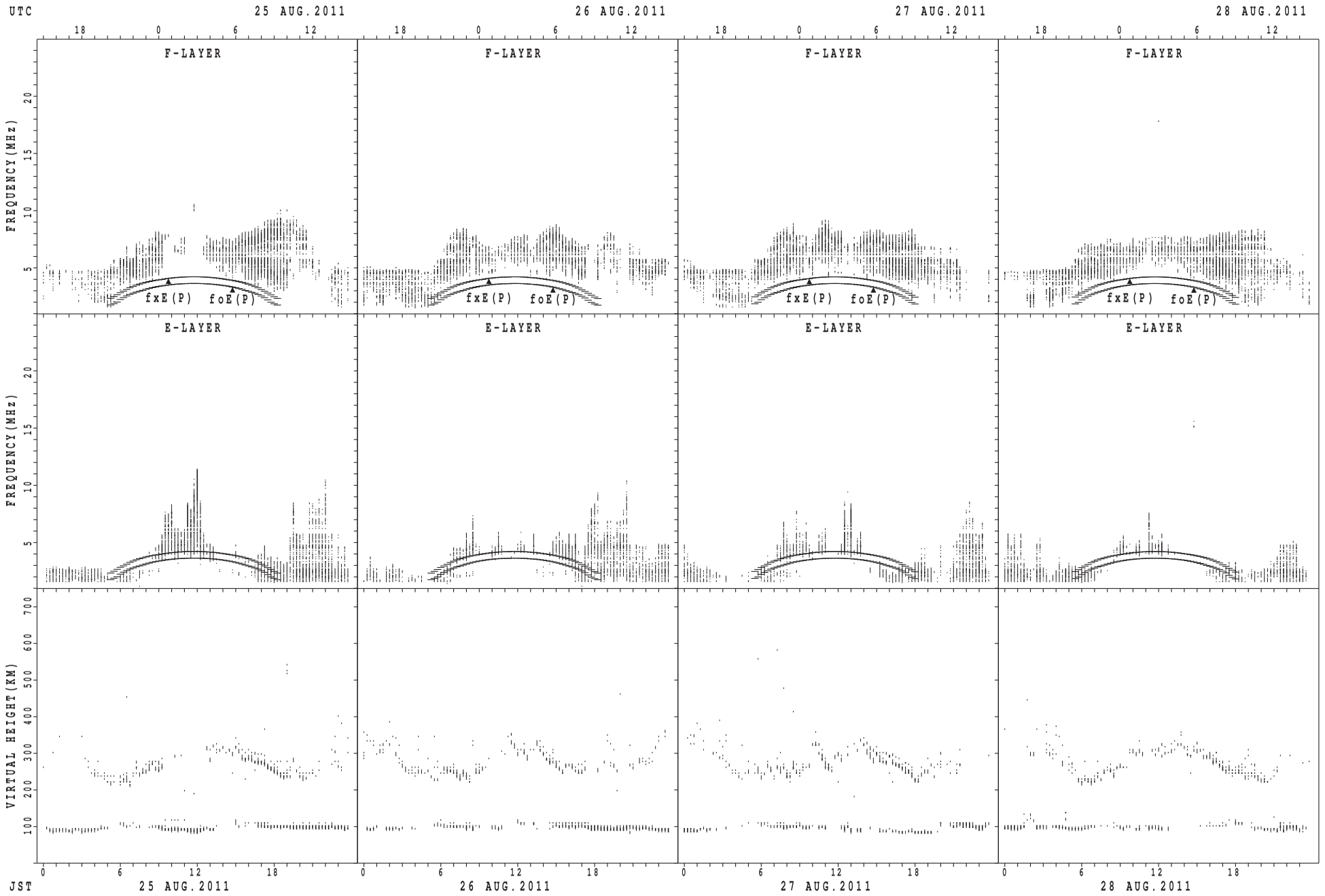
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



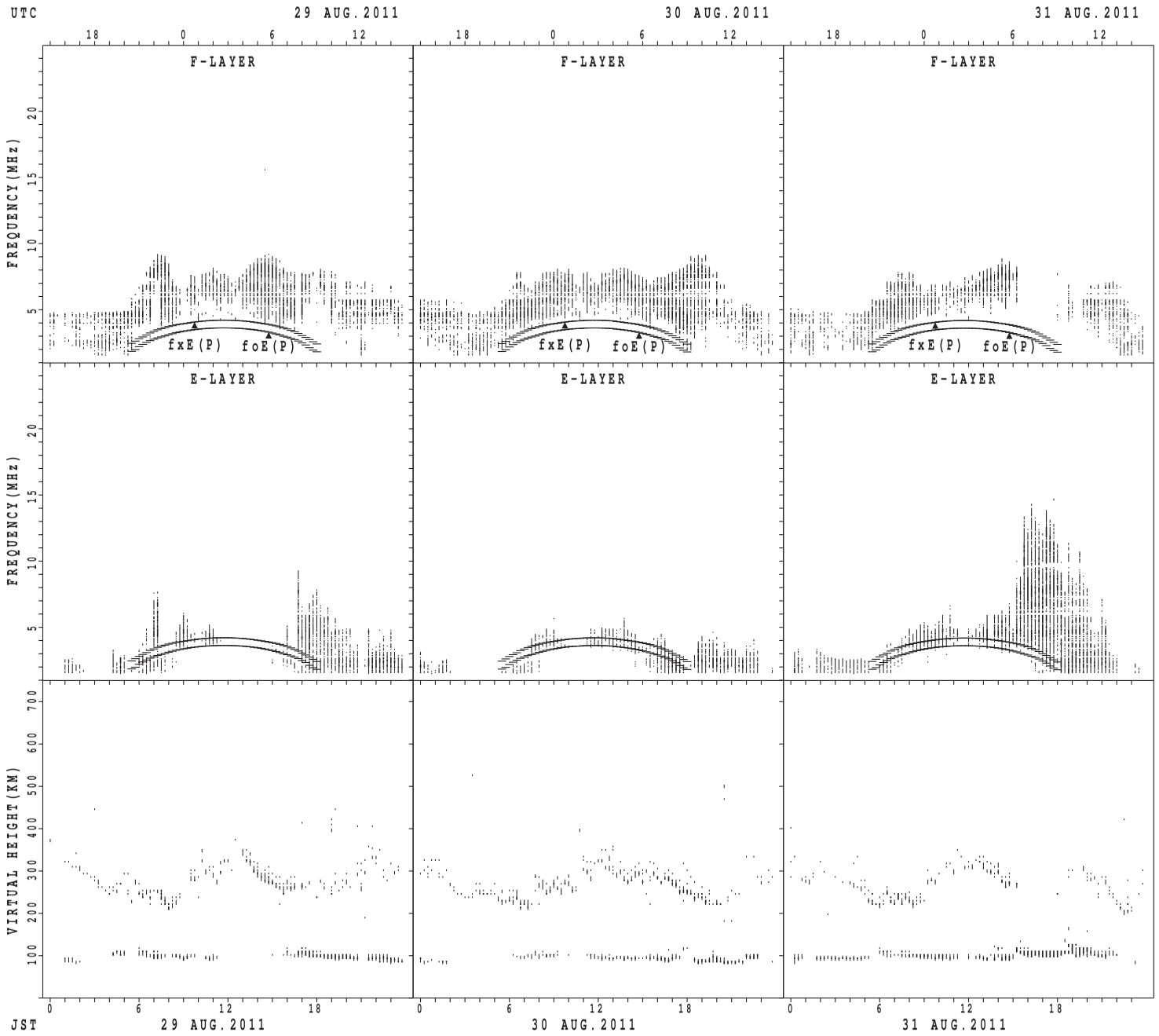
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



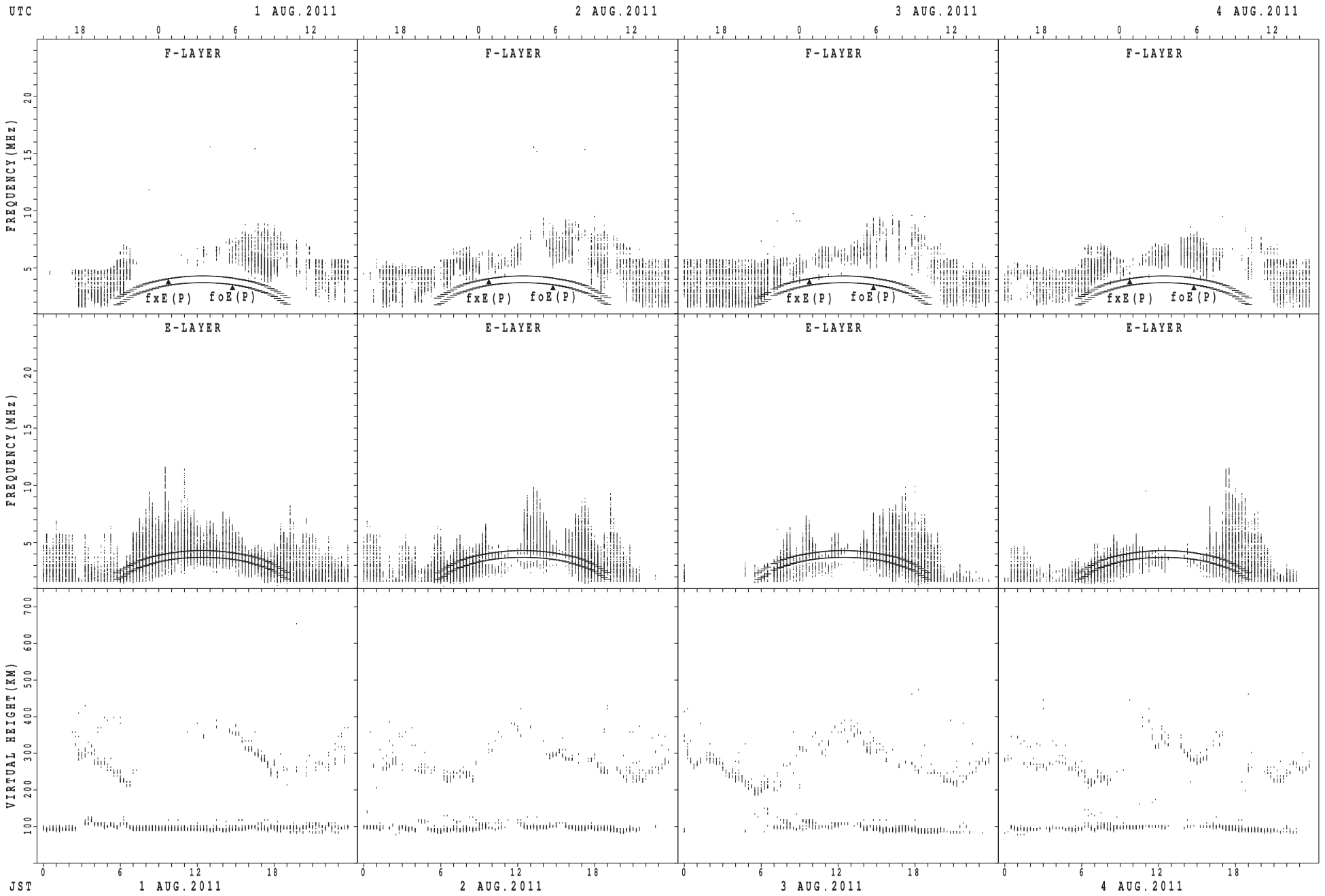
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



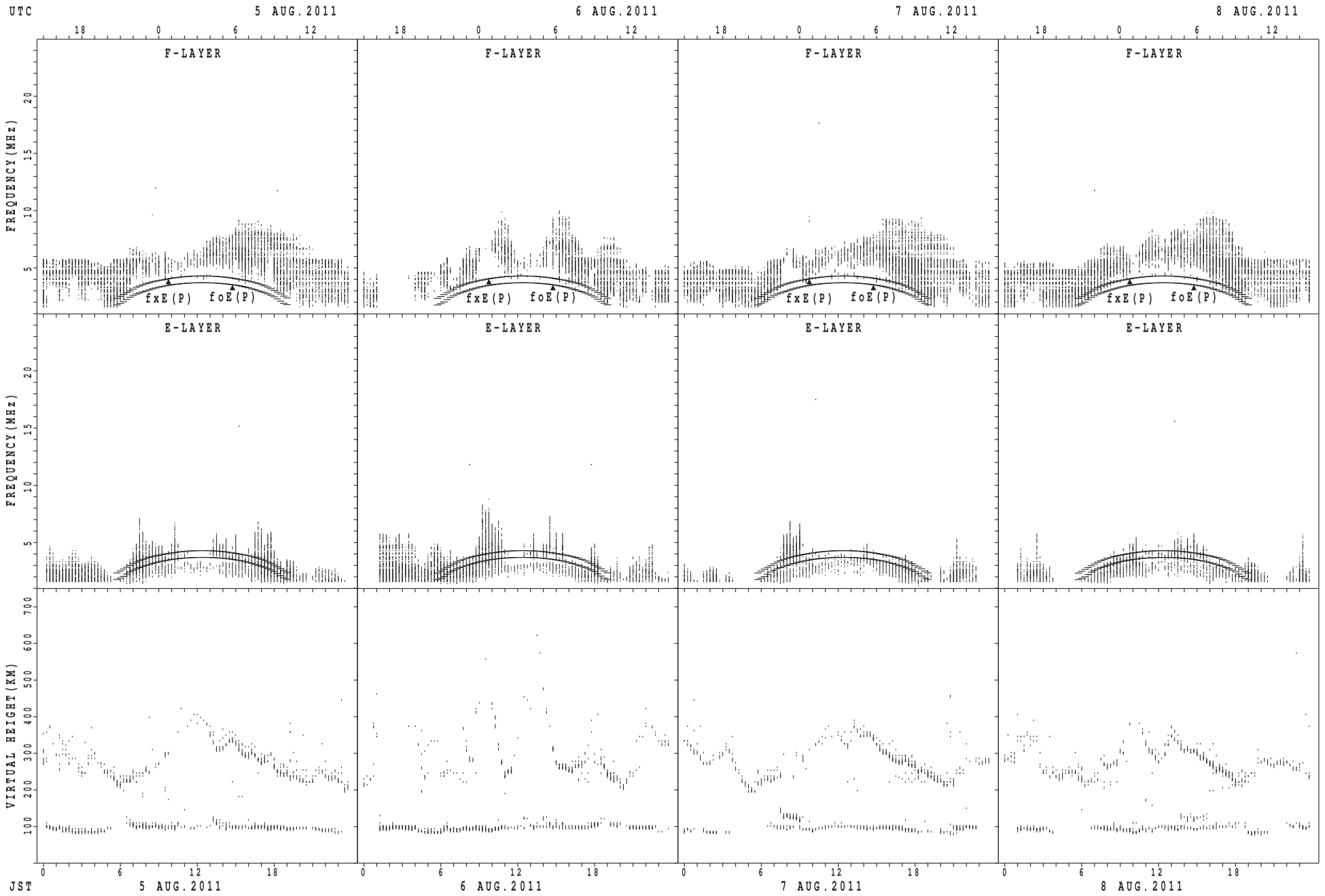
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



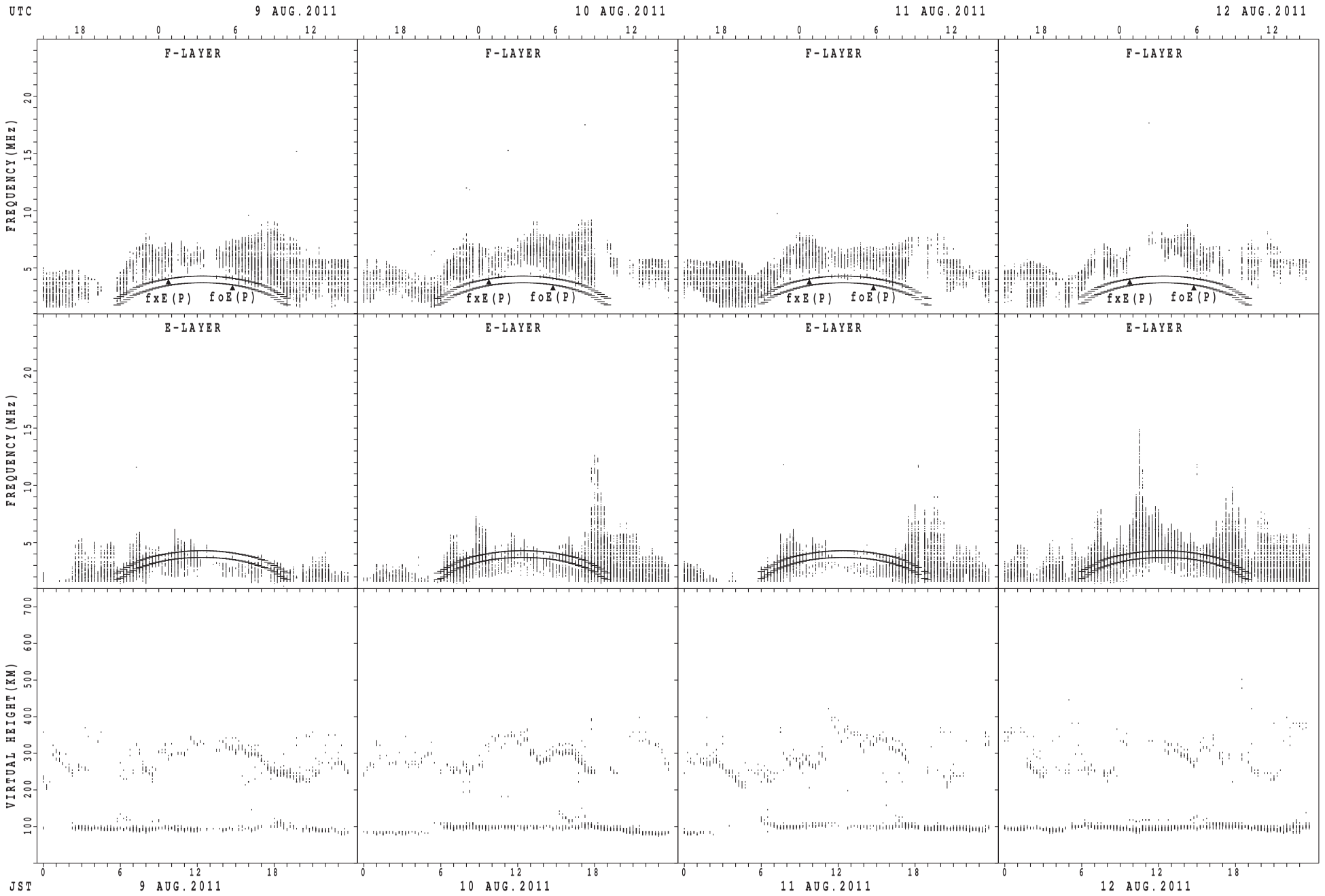
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



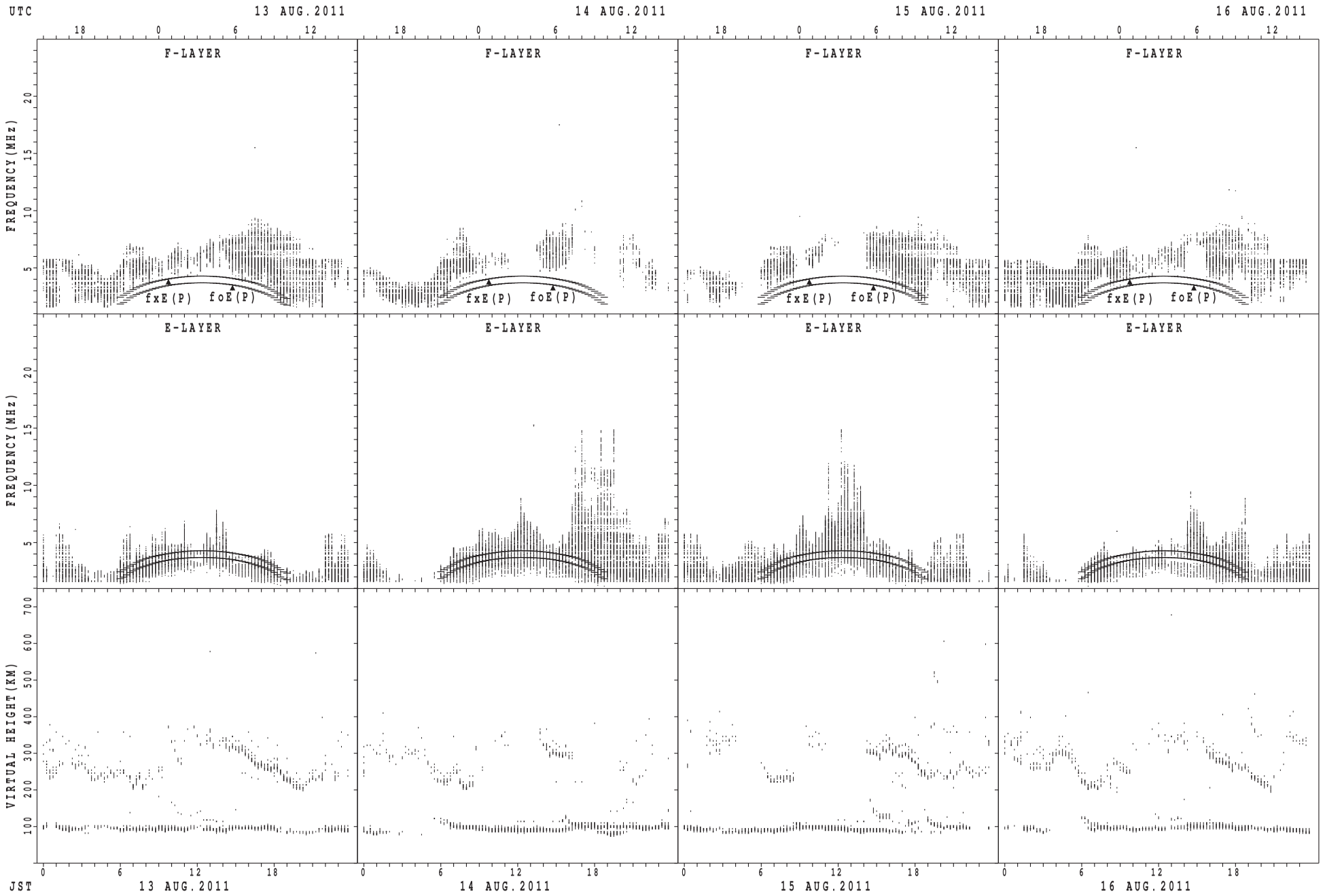
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



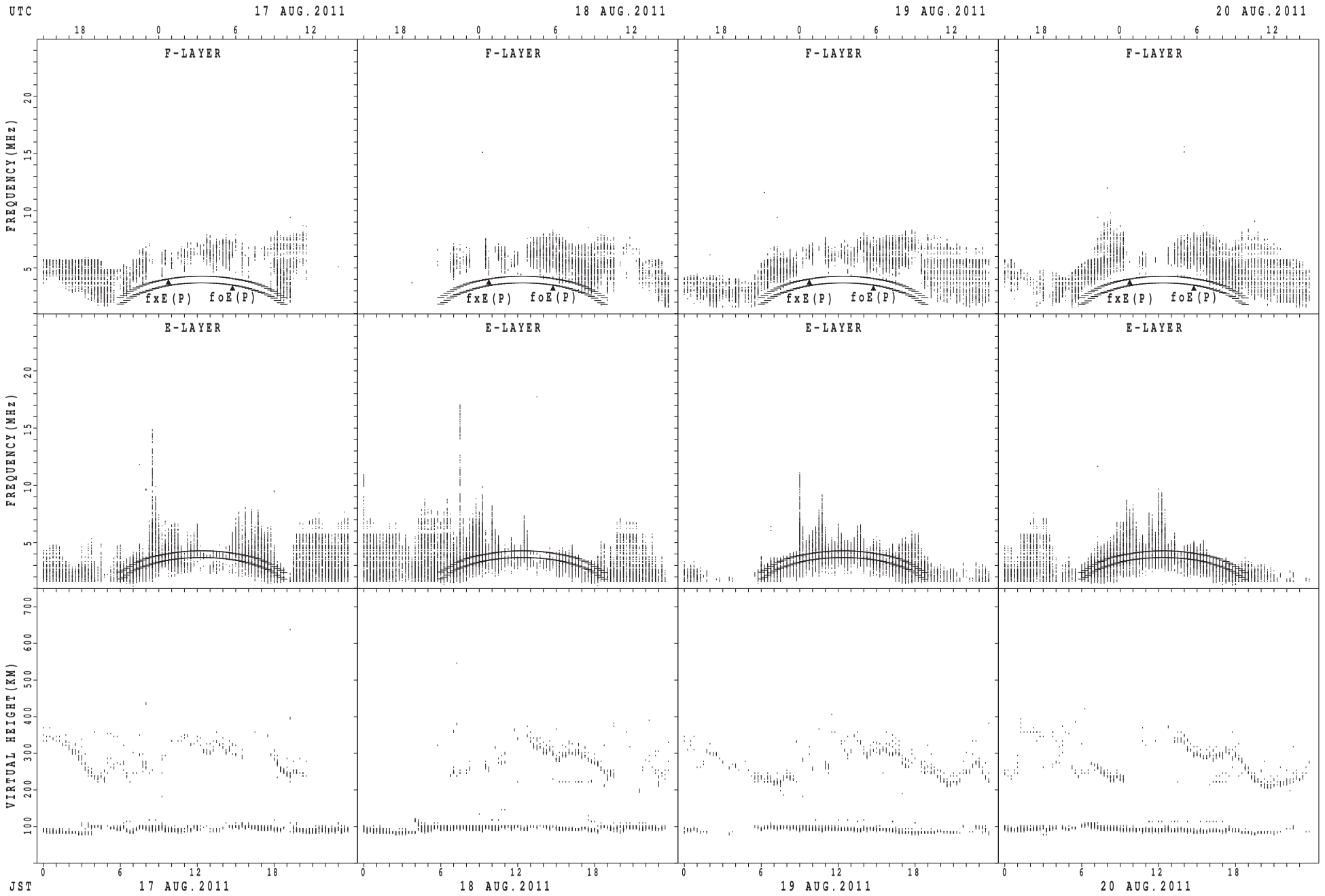
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



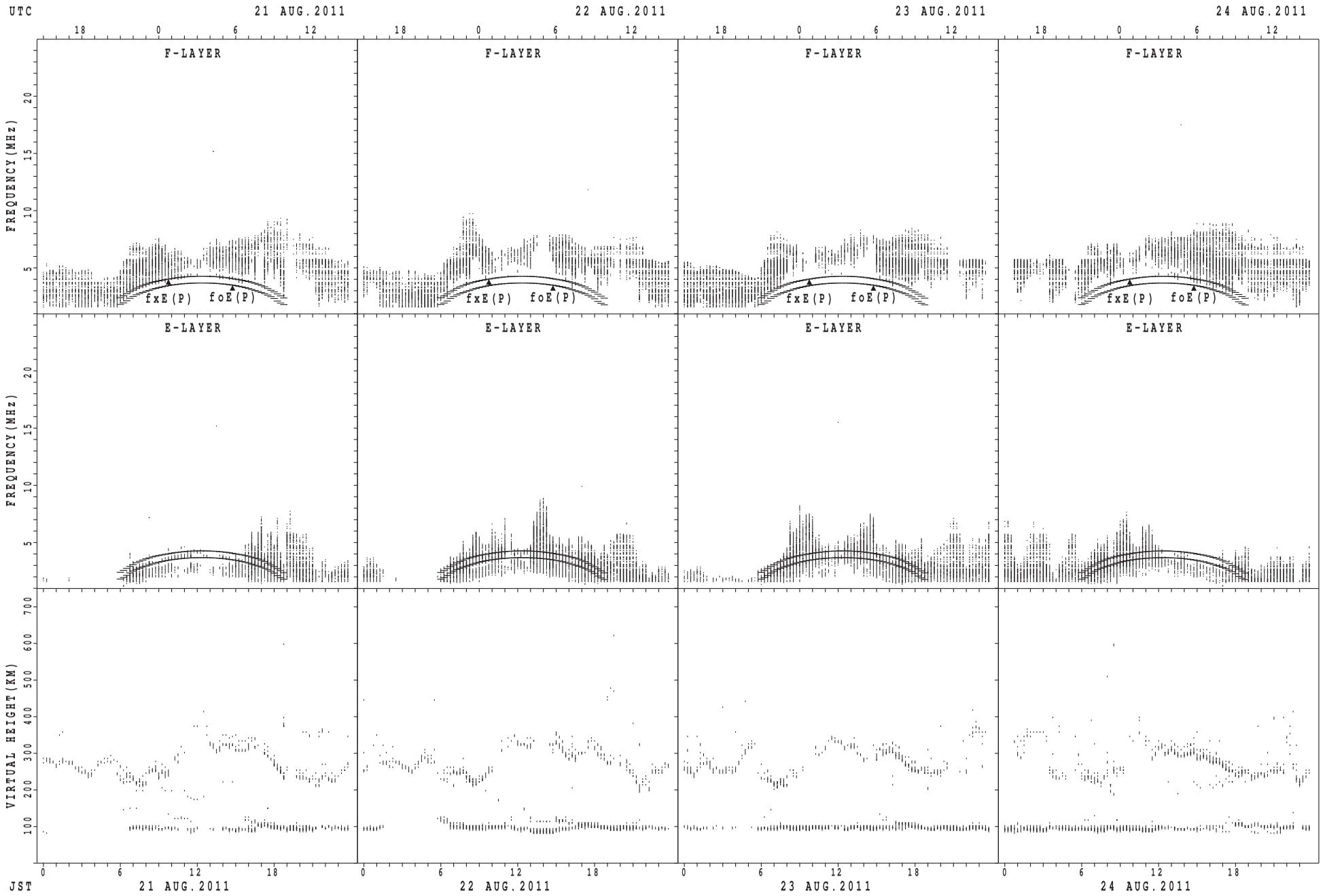
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



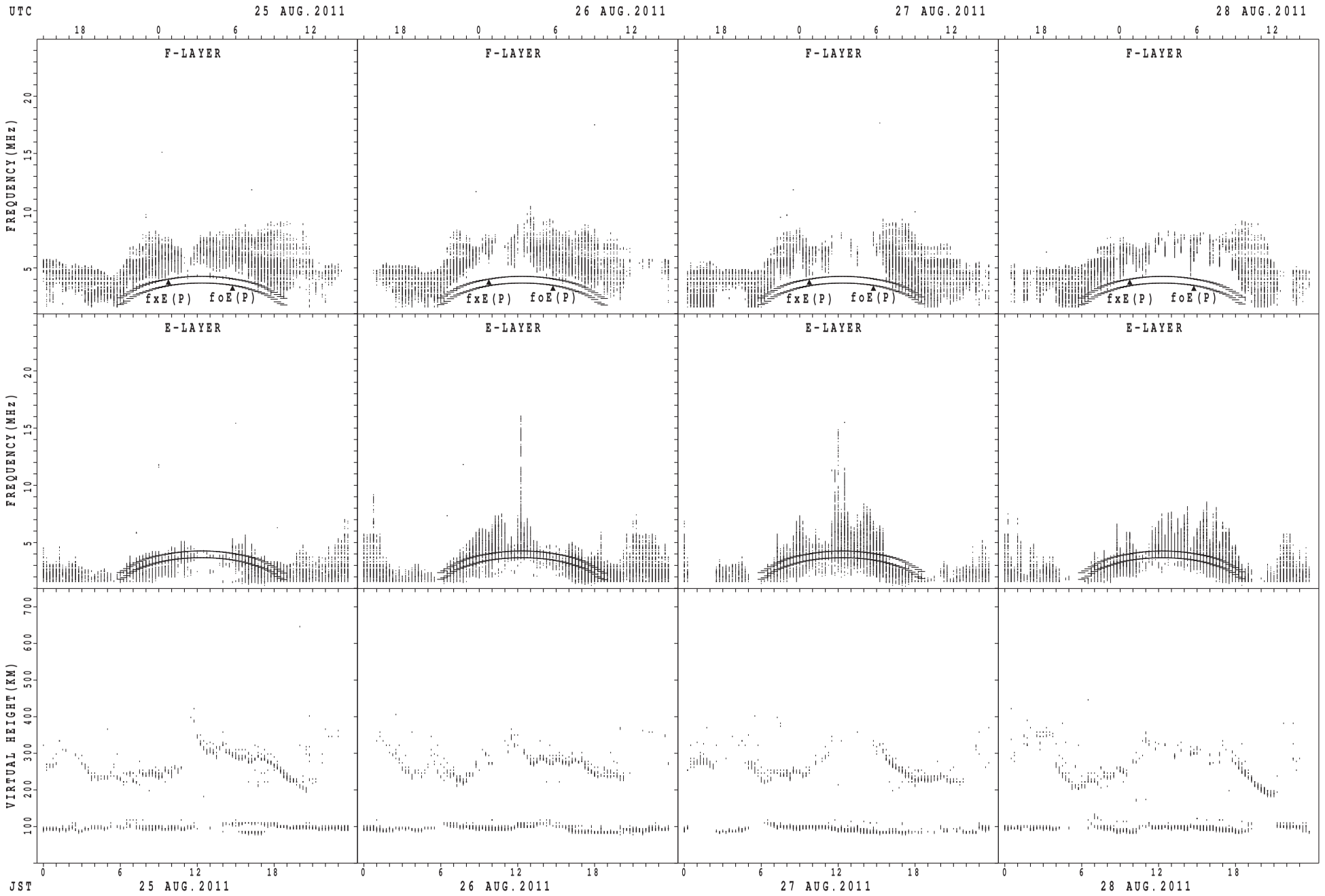
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



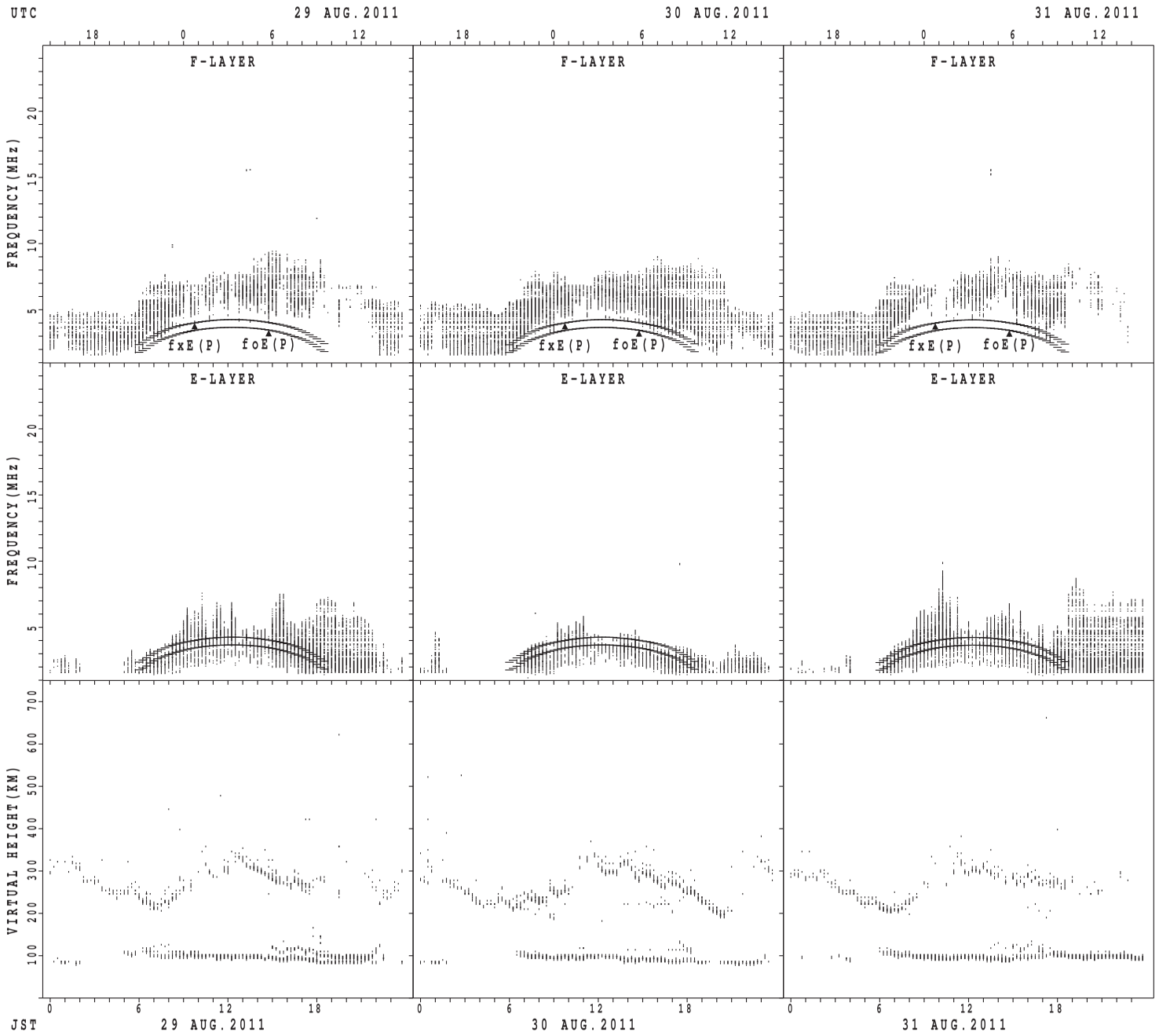
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



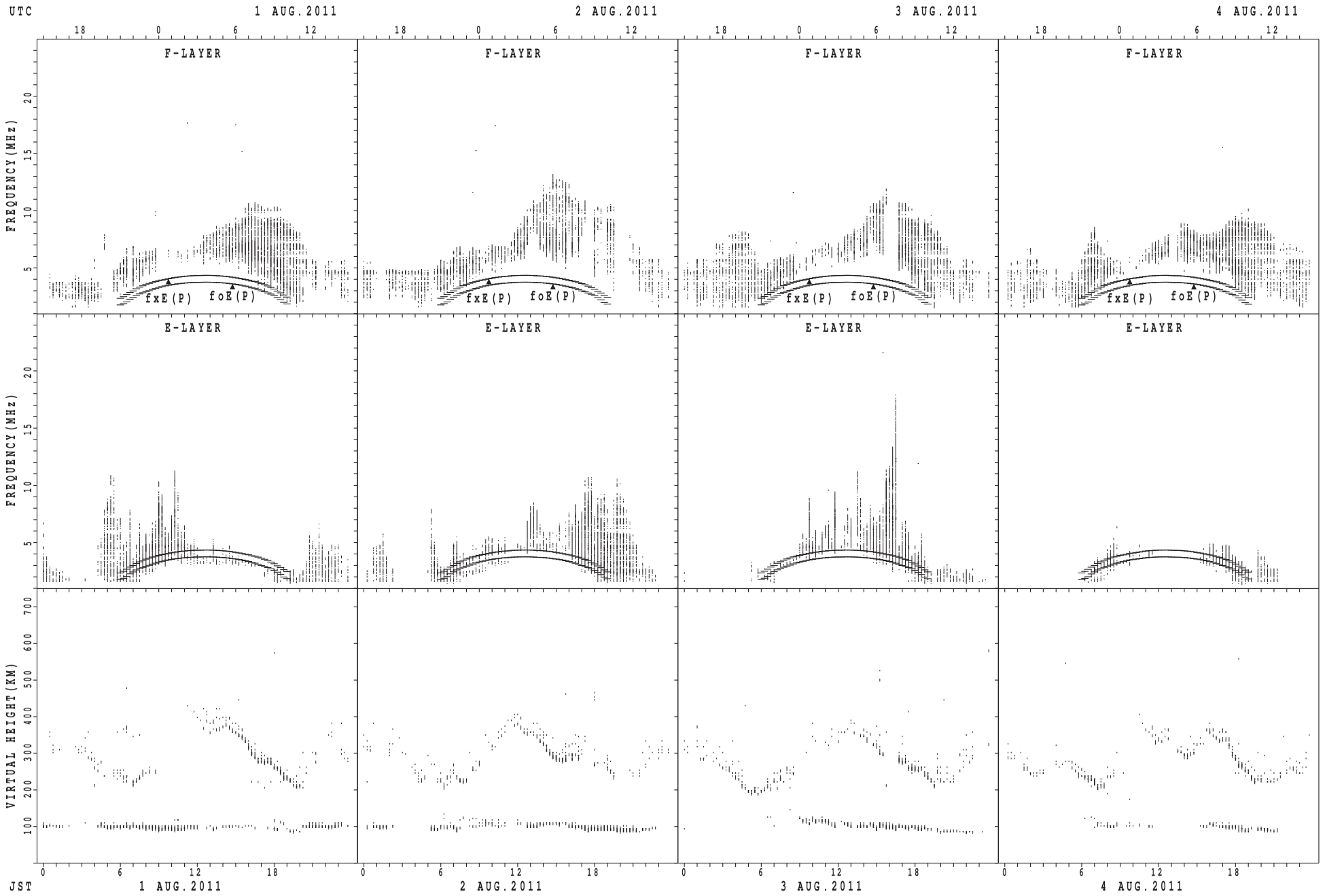
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



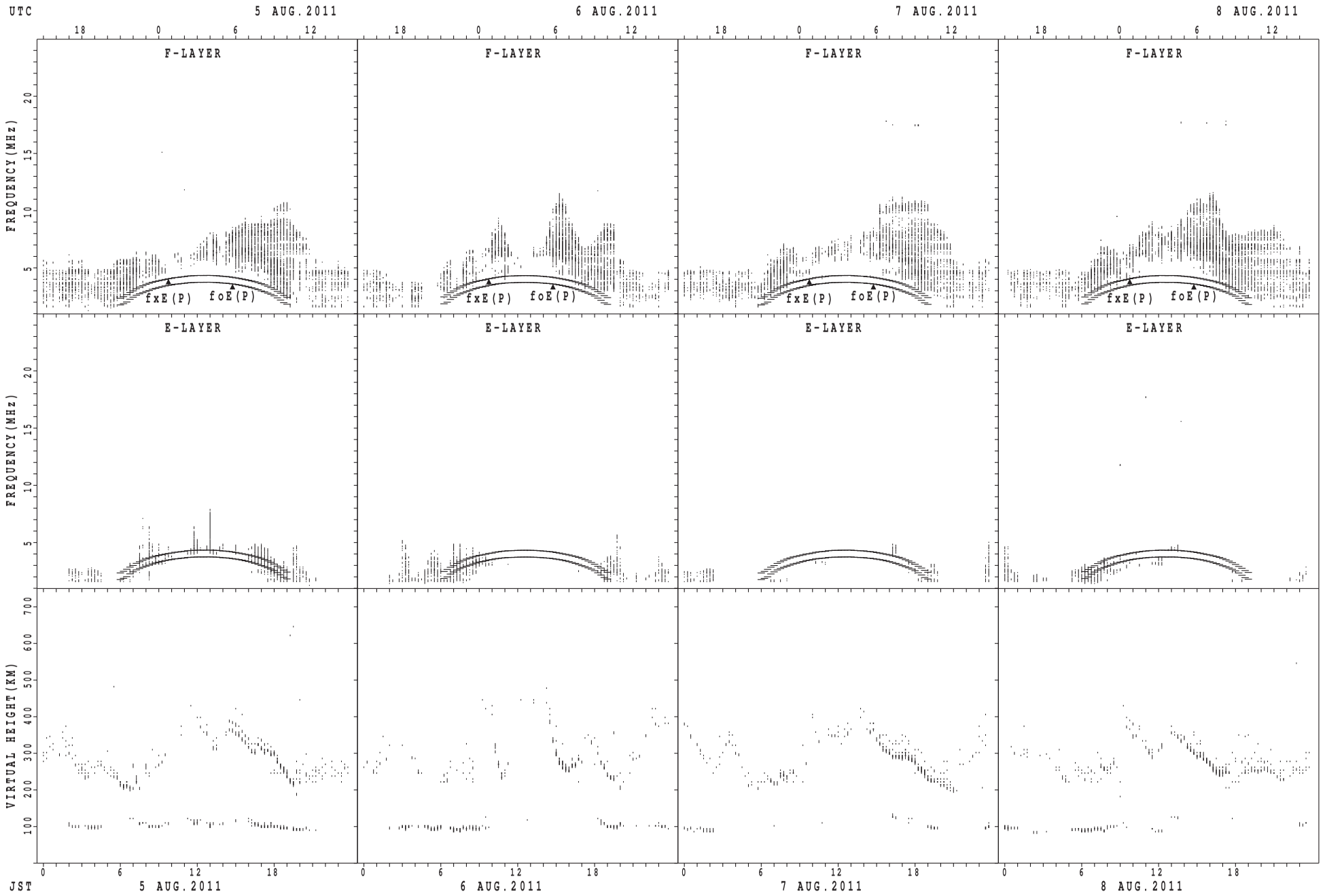
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



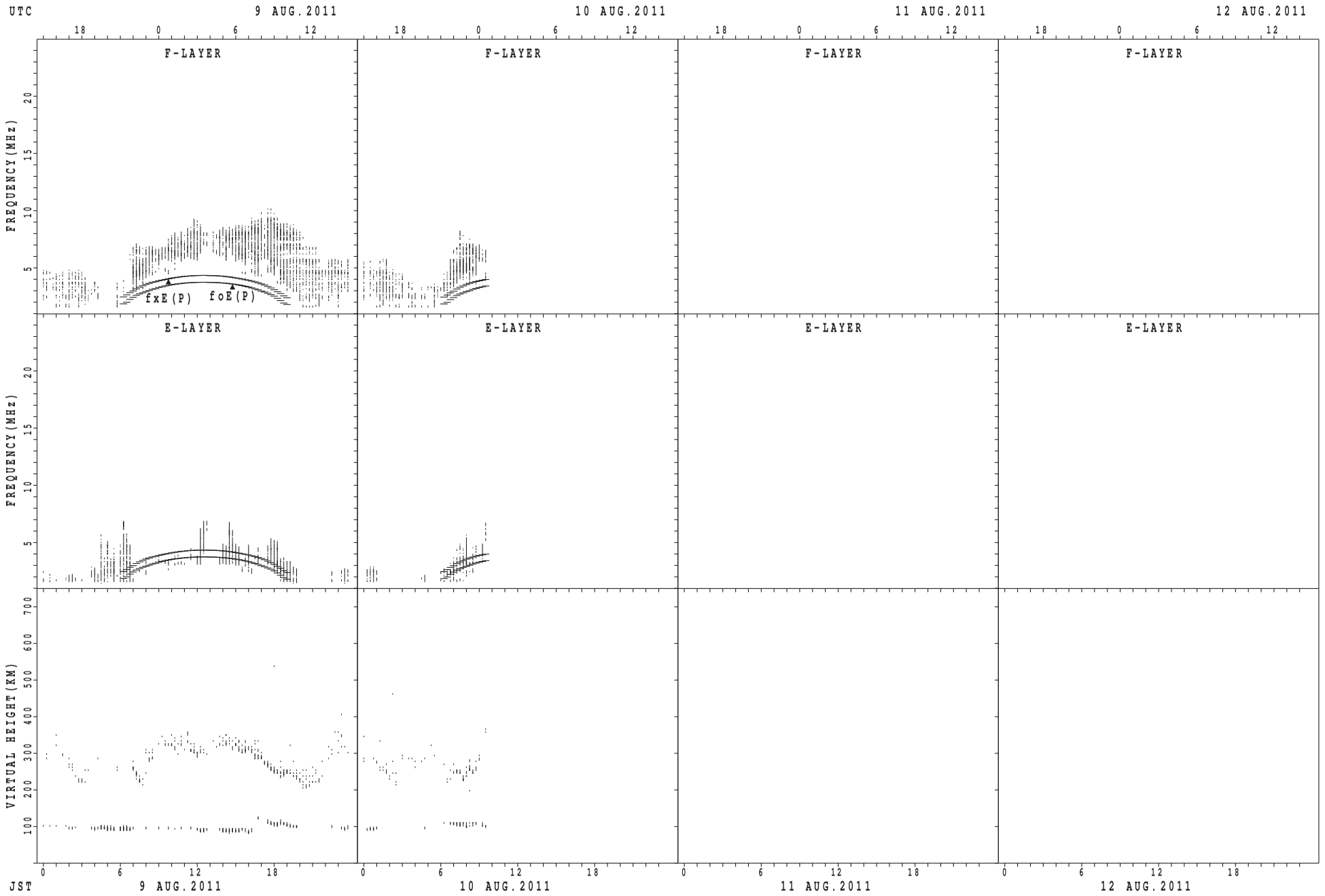
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



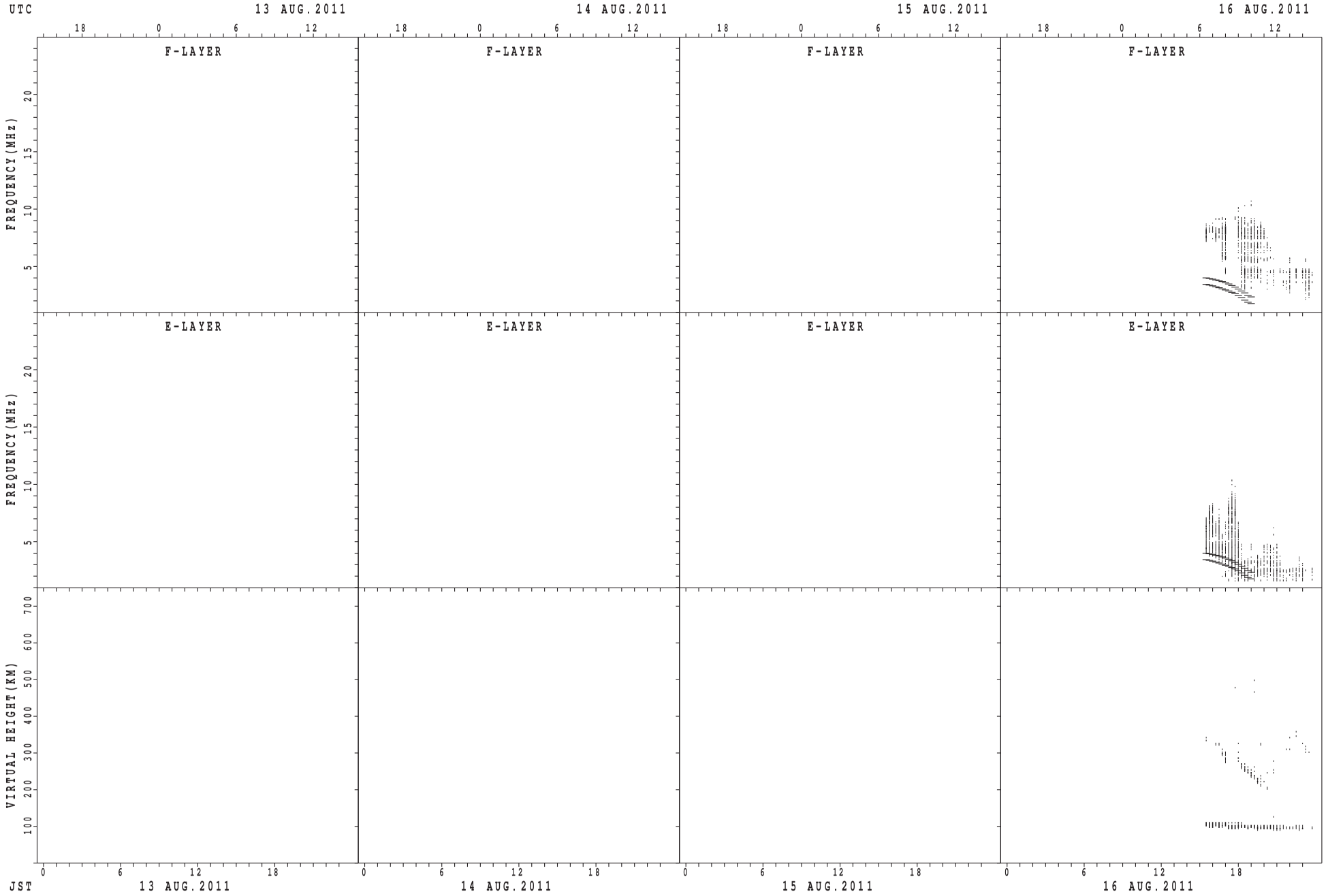
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



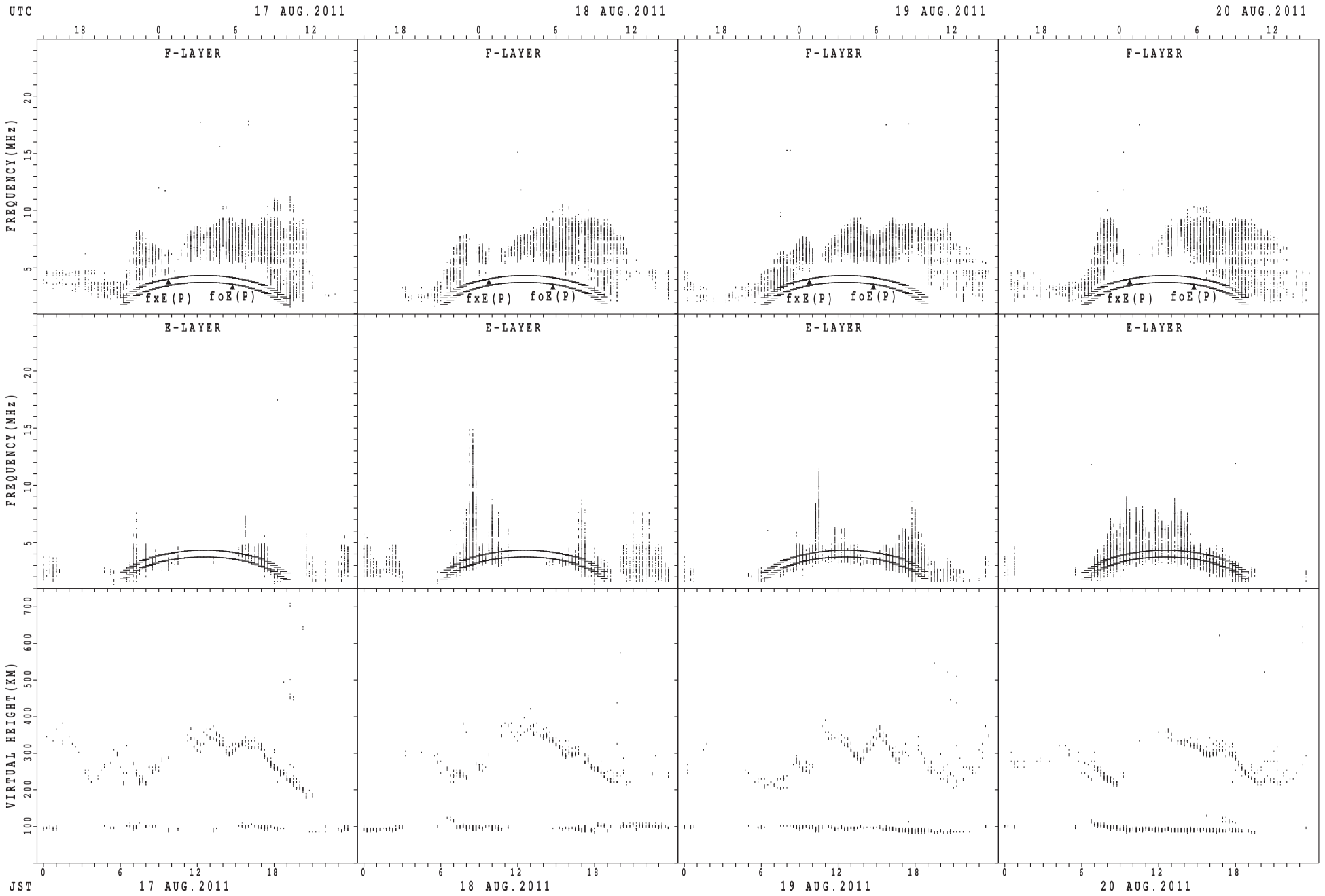
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



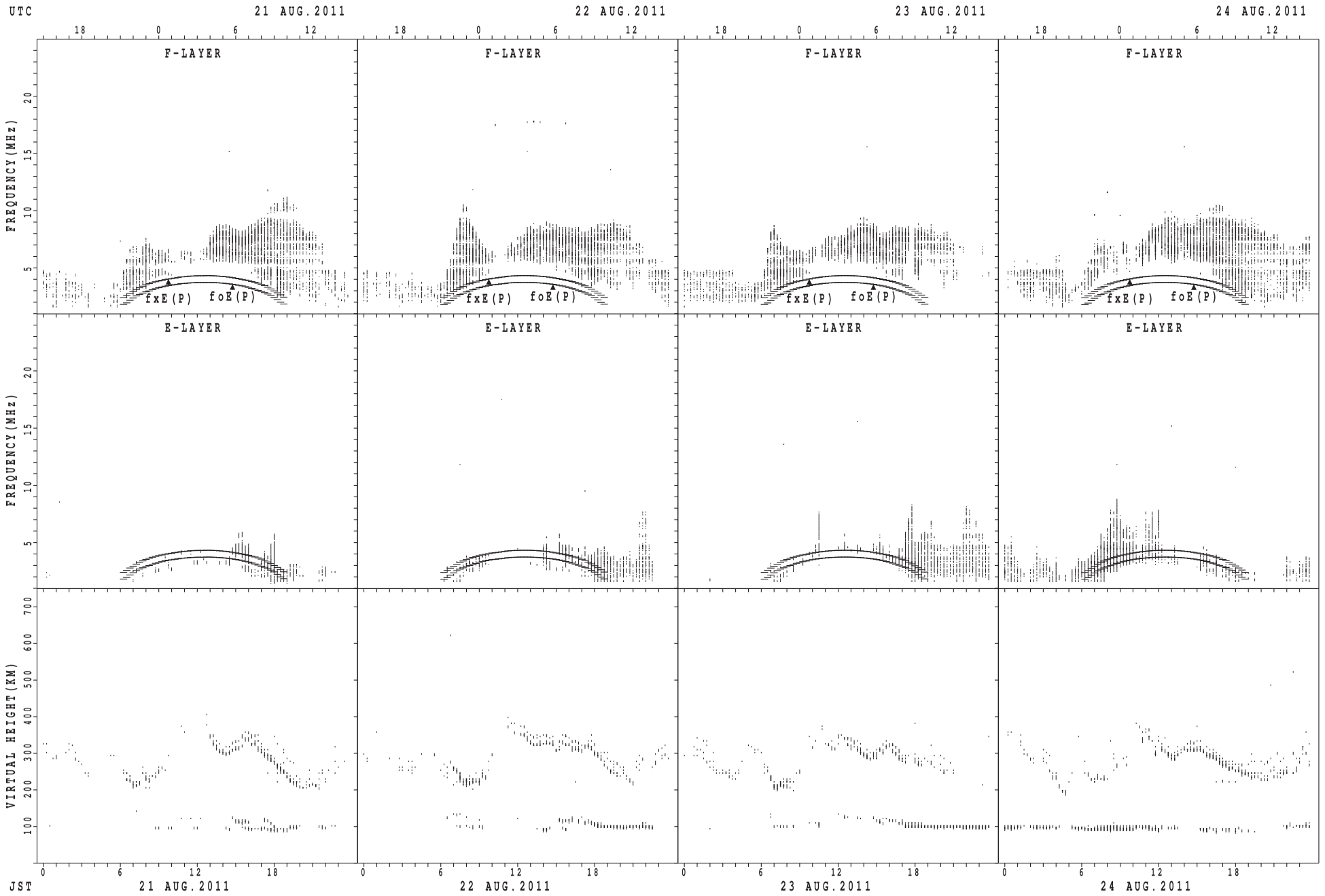
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



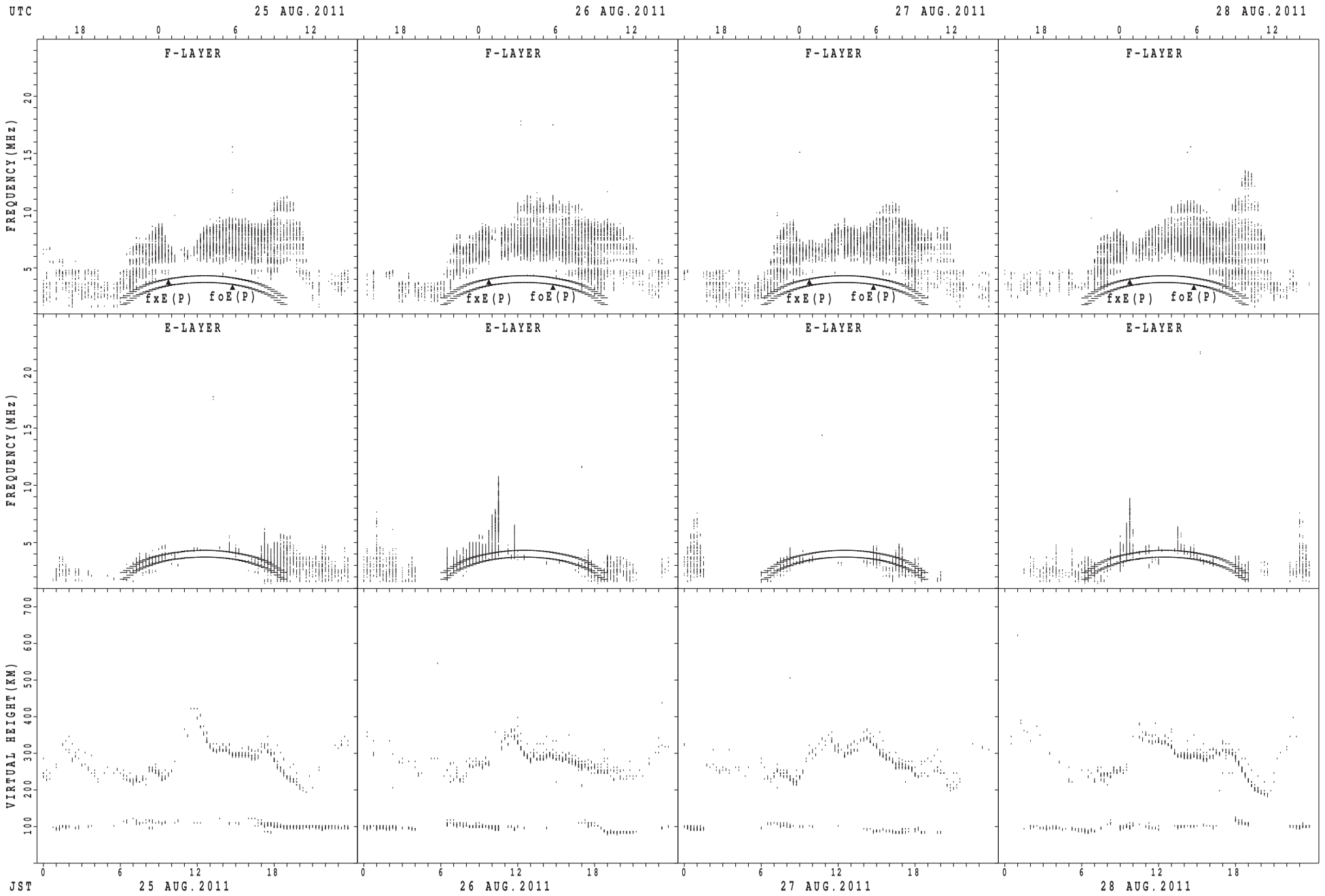
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



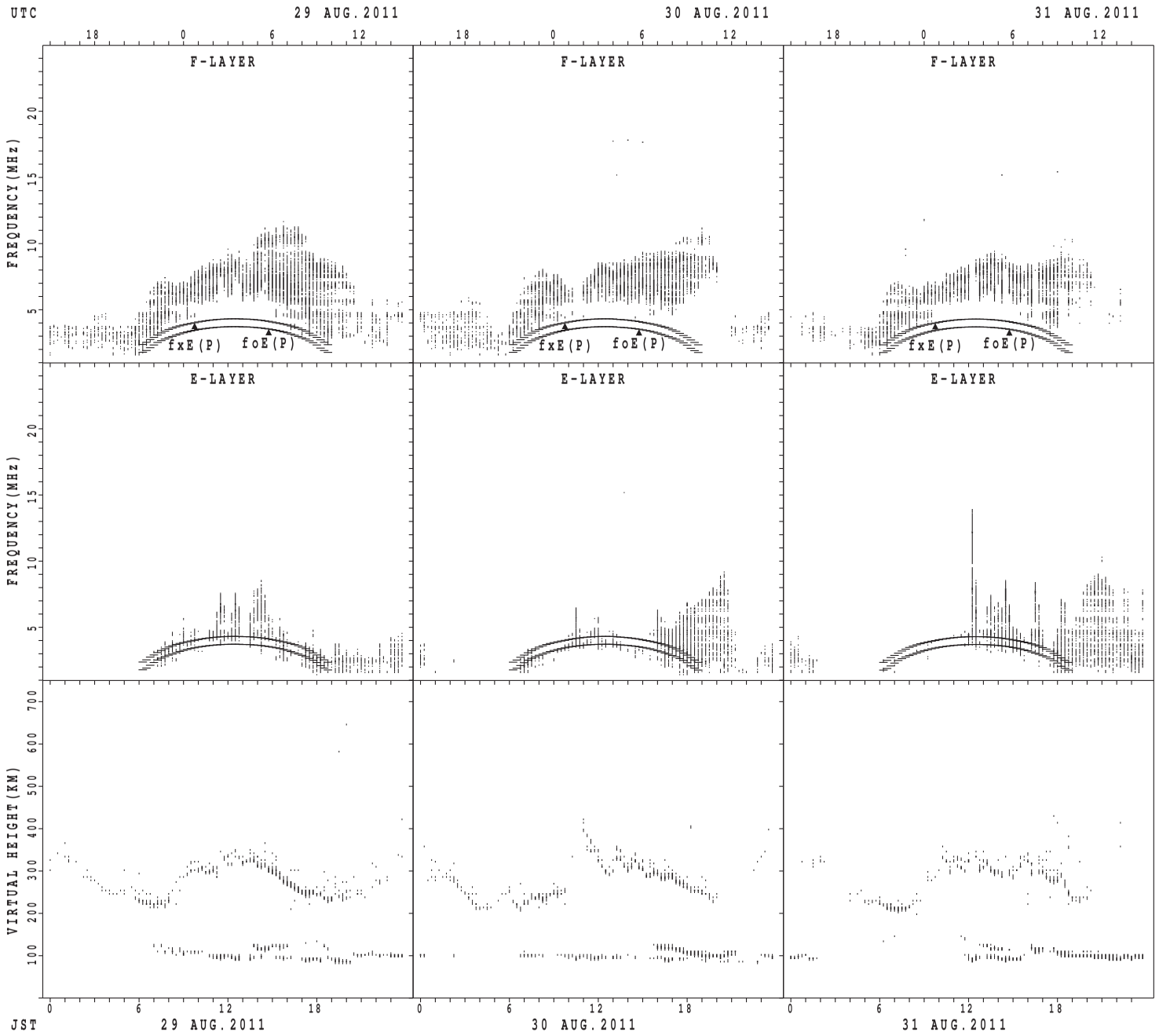
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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

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

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							3	21									16	13	7	10	9	12	7	1
MED							268	282									306	286	270	290	280	272	286	320
U Q							280	297									315	295	274	294	297	291	298	160
L Q							248	265									291	278	262	270	270	264	274	160

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	26	23	20	19	15	17	27	27	26	24	20	18	14	14	16	16	22	29	31	27	29	27	28	29
MED	94	91	91	95	99	111	107	105	103	100	100	97	95	95	96	102	102	105	101	97	97	99	99	95
U Q	97	95	95	97	111	118	113	107	103	103	105	101	101	99	101	112	107	111	103	103	103	103	101	97
L Q	91	89	89	89	89	105	103	103	99	97	96	95	95	93	95	95	95	98	93	89	92	95	95	91

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							6	18	16								20	15	14	15	9	2	1	
MED							270	254	249								293	278	268	264	246	260	258	
U Q							282	274	266								306	296	280	280	266	264	129	
L Q							262	230	232								283	268	260	252	239	256	129	

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	23	23	21	15	9	17	10	16	19	24	23	22	18	19	15	12	19	20	29	30	27	28	26	24
MED	95	95	95	95	97	103	106	103	99	99	97	98	97	97	99	105	105	104	103	99	99	99	99	97
U Q	99	99	97	99	100	107	109	105	103	104	99	99	103	105	109	111	113	107	105	103	103	103	103	101
L Q	91	91	91	93	95	97	103	102	97	96	95	95	95	95	95	96	99	96	100	95	95	95	97	93

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								14	22								18	17	22	19	10	4		2
MED								230	245								289	274	270	262	257	236		291
U Q								246	262								296	282	284	272	258	248		322
L Q								222	238								274	266	256	254	230	232		260

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	22	23	20	19	18	15	22	29	24	27	30	25	25	21	24	23	24	24	28	26	28	28	27	22
MED	97	95	95	93	95	97	97	101	101	97	95	95	97	97	95	103	102	103	101	97	97	96	97	97
U Q	99	101	97	99	99	101	117	107	103	103	101	104	105	104	104	113	113	112	104	99	99	99	99	101
L Q	91	89	91	89	89	95	95	95	97	95	93	94	95	95	91	95	94	96	95	95	90	89	91	89

MONTHLY MEDIANS OF h′F AND h′Es

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

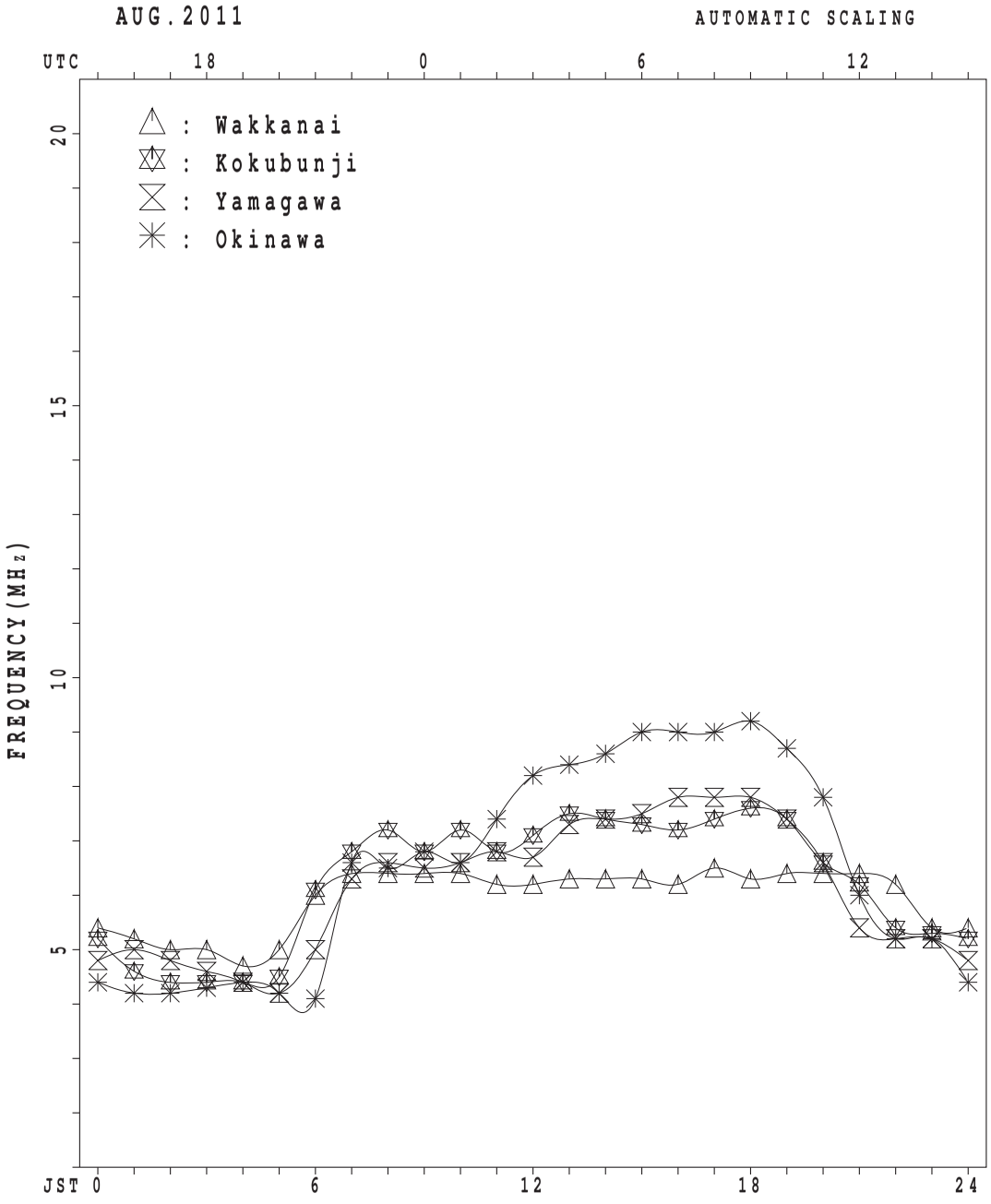
h′F STATION Okinawa LAT. 26°41.0′N LON. 128°09.0′E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT					1	1		10	17	15							15	24	23	24	16	5	1	
MED					290	214		255	240	266							294	297	278	250	249	268	278	
U Q					145	107		270	253	290							320	309	290	264	265	277	139	
L Q					145	107		230	229	246							292	276	258	242	232	259	139	

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	11	9	8	5	4	4	9	15	14	14	10	7	13	9	8	11	15	15	21	19	18	13	11	12
MED	99	97	99	99	99	101	99	107	102	103	98	101	97	103	102	109	103	105	103	99	98	103	99	103
U Q	103	103	103	103	99	104	102	111	105	107	105	111	105	128	106	119	119	111	107	103	103	104	103	106
L Q	97	97	96	98	98	99	94	97	99	97	95	97	95	96	93	95	95	99	97	93	89	91	97	98

MONTHLY MEDIANS PLOT OF foF2



IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 61	X 59	X 58	X 58	X 55															X 80	X 73	72	66	65
2	X 62	X 57	X 51	54	X 48	X 50															X 79	X 74	X 67	X 66
3	X 64	X 61	X 60	X 59	X 59															X 68	X 72	X 68	66	X 60
4	X 51	A	X 53	56	X 50															X 64	X 69	X 67	X 60	66
5	63	64	X 57	X 54	X 55															X 82	X 76	X 68	X 61	A
6	66	63	66	63	X 58															X 74	X 72	X 63	66	65
7	67	68	X 60	63	62	X 58														X 84	X 86	X 75	X 63	X 58
8	X 61	X 56	58	58	X 53															X 59	X 57	X 58	X 58	X 61
9	55	55	A	X 44	X 41															X 89	X 74	X 68	X 64	X 62
10	X 59	X 55	X 52	X 52	X 50															A	X 65	A	67	66
11	X 59	X 56	54	X 53	X 51															X 85	A	A	71	66
12	66	64	57	54	48															X 74	X 75	X 74	X 69	67
13	X 60	56	54	53	X 51															X 90	X 71	62	63	67
14	62	53	X 46	X 48	X 48															X 78	X 77	X 76	X 68	X 59
15	50	55	X 52	X 51	X 51															X 82	X 74	X 70	X 70	X 63
16	X 53	X 53	X 52	X 51	X 48															X 87	X 83	79	X 76	X 70
17	X 64	67	68	X 61	X 57															X 81	X 94	X 72	65	A
18	A	54	52	50	X 43															X 83	X 87	72	X 72	54
19	56	X 54	52	X 52	X 50																X 84	X 72	X 67	X 65
20	66	67	X 59	62	X 51	X 49														X 95	X 90	X 76	X 70	X 63
21	X 60	X 58	X 56	X 54	X 51															X 98	X 90	X 84	X 78	68
22	X 60	X 58	56	57	60															X 78	X 83	X 85	X 74	X 58
23	X 56	X 55	X 52	X 50	X 48															X 87	A	X 73	71	71
24	64	X 63	X 60	X 61	X 58	X 55														X 85	X 90	X 78	X 71	X 68
25	X 57	X 49	X 53	X 52	X 54															X 104	X 97	X 74	X 65	59
26	56	X 53	54	X 53	X 49															X 82	X 84	X 74	X 67	X 64
27	X 63	56	X 54	55	X 58															X 71	X 70	X 70	63	A
28	54	53	54	X 53	54															X 88	X 89	X 69	X 58	X 51
29	X 50	X 50	X 50	X 51	X 51	51														X 83	X 74	X 73	72	X 70
30	X 65	X 62	X 64	X 57	X 55															X 98	X 85	X 65	X 56	X 54
31	X 53	X 54	X 52	X 50	X 51															X 74	X 73	X 76	X 75	X 54
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	31	31	5														28	29	29	31	28
MED	X 60	X 56	X 54	X 54	X 51	X 51														X 82	X 77	X 72	X 67	X 64
U Q	64	62	X 58	58	X 55	X 56														X 88	X 86	X 76	X 71	66
L Q	56	X 54	X 52	X 51	X 49	X 50														X 76	X 72	X 68	X 63	X 59

IONOSPHERIC DATA STATION Kokubunji

AUG. 2011 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	55	52	52	52	49	50	62	66	68	A	A	A	A	64	65	66	68	68	72	74	66	F	F	F
2	56	50	44	F	42	44	59	73	67	65	64	61	65	78	77	74	68	65	64	72	71	68	60	60
3	58	55	53	53	53	53	60	66	58	57	A	64	62	A	A	79	79	76	66	62	66	61	F	54
4	48	A	46	F	43	43	66	91	A	A	A	A	63	B	76	78	65	55	53	58	63	61	54	F
5	F	F	51	48	49	52	58	61	61	A	A	A	A	79	A	82	78	75	A	76	70	62	55	A
6	F	F	F	F	51	46	53	50	72	84	90	104	76	61	66	95	76	64	59	68	66	56	F	F
7	F	F	54	F	F	52	56	59	61	68	A	68	68	A	A	74	74	78	78	78	80	68	56	52
8	55	50	F	F	47	47	60	62	72	70	63	70	75	76	75	78	81	75	70	53	50	52	52	55
9	F	F	A	38	35	34	49	64	72	77	59	61	61	B	68	68	65	74	81	83	68	62	57	55
10	52	48	46	45	44	43	56	67	72	66	66	A	67	75	78	71	64	64	A	A	58	A	F	F
11	53	49	F	47	45	46	56	57	60	65	74	73	70	64	58	54	58	58	A	79	A	A	F	F
12	F	F	F	F	F	45	54	65	64	60	64	64	A	74	72	67	63	55	A	68	68	68	63	F
13	54	F	F	F	45	46	65	76	63	A	A	62	61	62	67	70	70	68	77	84	65	F	F	F
14	F	F	40	42	42	40	57	68	84	63	A	A	A	62	66	74	75	79	72	72	71	70	62	53
15	F	F	46	45	45	46	62	68	63	62	61	67	65	76	84	82	73	68	70	76	68	64	64	57
16	47	47	46	45	41	43	66	82	62	57	59	63	65	69	72	71	70	A	71	81	77	F	70	64
17	58	F	F	55	51	44	54	57	58	66	73	64	70	79	74	61	62	60	61	75	88	66	F	A
18	A	F	F	F	37	43	60	68	69	A	68	A	64	72	85	66	60	58	A	76	81	F	66	F
19	F	47	F	46	44	44	59	76	62	53	A	68	65	A	68	74	69	66	77	81	78	66	61	58
20	F	F	53	F	45	43	54	64	80	70	72	67	62	60	68	66	68	70	79	89	84	70	64	57
21	54	52	50	48	45	44	61	74	73	A	64	A	62	53	64	66	72	80	85	92	84	77	73	F
22	54	52	F	F	F	41	58	70	88	85	A	A	72	70	73	69	64	56	59	72	77	79	68	52
23	50	48	46	44	42	37	59	84	72	65	66	65	65	75	75	79	71	71	78	81	A	67	F	F
24	F	56	54	55	52	49	74	76	69	66	67	70	77	79	81	86	88	78	77	79	84	72	65	62
25	51	43	46	45	48	52	60	61	69	77	76	73	A	72	73	73	79	84	94	98	91	68	58	F
26	F	47	F	47	43	42	58	78	81	72	65	70	73	68	79	84	72	66	69	76	78	67	61	58
27	57	F	48	F	51	48	60	72	86	76	72	90	78	A	77	81	75	77	77	65	64	64	F	A
28	F	F	F	47	F	45	61	66	71	70	73	72	74	73	74	71	75	78	76	82	83	63	52	45
29	44	44	44	44	45	F	63	83	82	62	68	79	71	74	88	88	76	73	78	76	68	66	F	64
30	59	56	57	51	49	48	61	69	70	77	76	72	70	77	78	70	72	74	84	92	78	59	50	48
31	47	48	45	44	45	46	58	67	74	64	61	64	71	76	82	81	A	A	A	68	67	70	68	48
	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	17	19	20	27	30	31	31	30	25	22	23	26	25	28	31	30	29	25	30	29	25	21	17
MED	54	49	46	46	45	45	59	68	70	66	66	68	68	73	74	74	72	70	76	76	71	66	61	55
U Q	56	52	53	50	49	48	61	76	73	74	73	72	72	76	78	81	75	76	78	81	80	69	66	59
L Q	50	47	46	44	43	43	56	64	63	62	64	64	64	64	68	68	65	64	68	72	66	62	56	52

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	A	A	A	A	A	A	A	UL 484	464	A	A	A					
2							L	L	UL 436	A	A	A	A	A	476	464	A	A	A					
3							L	L	A	A	A	A	A	A	A	528	424	L						
4						L	A	A	A	A	A	A	A	B	A	A	420	L	L					
5								A	A	A	A	A	A	A	A	A	A	A	A					
6							L	UL 400	452	A	L	484	UL 488	464	UL 448	UL 448	UL 432	A	A					
7							A	L	UL 448	A	A	A	A	A	A	A	UL 448	UL 388	A					
8								L	L	472	A	A	484	A	A	A	A	A	A					
9							A	A	A	A	UL 512	488	488	B	468	460	440	UL 404						
10							L	A	A	464	UL 484	A	A	472	UL 476	448	A	A	A					
11								UL 480	A	496	A	472	A	472	476	UL 432	428	A	A					
12							L	L	448	A	A	UL 480	A	A	A	A	A	A	A					
13							L	L	A	A	A	472	UL 496	476	A	448	424	A	A					
14							L	L	A	A	A	A	A	476	460	456	A	L						
15							L	L	L	A	472	A	UL 504	A	A	440	A	L	A					
16						L	L	L	L	UL 504	A	UL 496	484	A	A	A	A	A						
17							L	UL 416	UL 444	456	476	UL 504	UL 484	472	472	L	428	A	A					
18							L	A	A	A	A	A	A	A	A	452	L	L	A					
19							L	A	A	472	A	A	A	A	A	A	A	A	A	A				
20								L	A	A	A	A	UL 528	480	476	468	A	L	A					
21							L	A		A	A	A	484	A	468	A	UL 432	A	A					
22							A	A	448	476	A	A	476	A	532	452	L	L	A					
23							L	A	L	L	UL 496	UL 528	UL 484	492	A	456	A	A	A					
24							L		L	UL 480	492	UL 484	A	A	A	A	A	A	A					
25								L	L	436	A	A	A	492	L	484	UL 456	L	A					
26								A	A	460	L	UL 420	A	A	488	A	A	A	A					
27									A	L	UL 524	504	L	A	UL 500	L	L	A						
28									L	A	500	A	A	UL 500	488	UL 472	UL 456	A						
29								A	A	A	L	UL 500	UL 516	516	476	A	A	A	A					
30								L	UL 456	472	476	500	UL 520	484	A	432	436	L						
31								L	A	580	A	A	L	A	A	A	A	A	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								3	7	12	9	13	13	12	15	17	12	2						
MED								UL 416	UL 448	472	492	UL 488	UL 488	478	476	456	432	UL 396						
U Q								UL 480	452	488	UL 506	UL 502	UL 510	492	488	466	UL 444							
L Q								UL 400	UL 444	462	476	476	484	472	468	448	426							

AUG. 2011 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						B	A	A	A	A	A	A	A	A	A	R	A	A	A					
2							U A 244	A	A	A	A	A	A	A	A	A	A	A	A	B				
3						B	220	R	A	A	A	A	A	A	A	A	R	R	A					
4						B	A	A	A	A	A	A	A	B	A	A	A	A	B					
5						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
6						B	A	A	A	A	A	A	A	R	R	R	R	A	A					
7							A	A	R	A	A	A	A	A	A	A	A	R	A					
8						B	R	R	R	A	A	A	A	A	A	A	A	A	A					
9						B	A	A	A	A	A	A	R	B	R	R	R	R	B					
10						B	A	A	A	R	A	A	A	A	A	U A 308	A	A	A					
11						B	U A 220	A	A	A	A	A	A	R	R	R	R	A	B					
12						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
13						B	A	U R 292	A	A	A	A	A	A	A	A	A	A	B					
14						B	A	A	A	A	A	A	A	A	A	R	A	A	A					
15						B	R	A	A	A	A	A	A	A	A	R	A	A	A					
16						B	A	R	A	R	A	R	A	A	A	A	A	A	B					
17						B	A	A	A	R	R	R	R	R	R	R	A	A	A					
18						A	A	A	A	A	A	A	A	A	A	A	R	A	B					
19						B	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
20							A	A	A	A	A	A	A	R	R	R	A	A	B					
21						B	A	A	A	A	A	A	A	A	A	A	R	A	B					
22						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
23						B	A	A	A	R	A	A	A	A	A	A	A	A	B					
24							A	A	A	A	R	R	A	A	A	A	A	A	B					
25						B	A	A	A	A	A	A	A	A	R	A	A	A	B					
26						B	A	A	A	A	A	R	A	A	A	A	A	A	B					
27						B	A	A	A	A	A	A	A	A	A	R	R	A	B					
28						B	A	A	R	A	A	A	A	A	A	A	A	U R 236	B					
29						B	A	A	A	A	A	A	R	R	R	A	A	A	B					
30						B	U R 212	R	A	A	R	R	A	A	A	A	A	A	B					
31						B	R	A	A	A	A	A	A	A	A	A	A	A	B					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							4	1								1		1						
MED							U 220	U R 292								U A 308		U R 236						
U Q							U A 232																	
L Q							216																	

AUG.2011 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 74	J A 56	J A 50	J A 46	J A 21	J A 35	J A 56	J A 76	J A 77	J A 132	J A 140	J A 127	J A 102	J A 64	45	G	J A 58	J A 47	J A 42	J A 49	J A 77	J A 42	J A 35	J A 50
2	J A 37	J A 32	J A 64	J A 46	J A 36	J A 33	29	35	40	J A 48	J A 60	J A 61	54	46	J A 45	J A 43	J A 45	J A 81	J A 72	J A 27	J A 38	J A 50	20	E B 15
3	E B 14	20	E B 15	E B J A 14	J A 23	20	27	G J 27	A J 45	A J 53	A J 78	A J 64	A J 75	A J 79	A J 90	41	G 28	G 26	J A 62	J A 104	J A 56	J A 72	J A 59	J A 68
4	J A 107	J A 62	J A 54	J A 29	E B 14	24	55	J A 75	J A 96	A J 73	A J 132	A J 144	A J 130	B	J A 60	43	J A 82	J A 35	30	J A 26	J A 27	J A 30	J A 32	J A 26
5	J A 57	J A 23	J A 40	J A 24	J A 23	21	28	J A 43	J A 63	A J 77	A J 75	A J 102	A J 106	A J 68	A J 157	A J 66	J A 66	J A 78	J A 150	J A 71	J A 46	J A 45	J A 117	J A 78
6	J A 45	J A 37	J A 28	J A 46	22	J A 26	29	J A 46	J A 45	A J 67	A J 81	A J 46	42	G	G	G	G	32	J A 34	J A 38	J A 32	J A 26	J A 25	J A 35
7	J A 46	J A 38	J A 20	E B 14	E B 15	J A 22	J A 54	31	G 26	41	J A 84	A J 103	A J 76	A J 79	A J 130	A J 55	36	G	J A 35	J A 39	A J 47	A J 35	A J 51	A J 32
8	J A 34	J A 24	20	J A 54	J A 34	21	G	G 26	G 30	42	J A 51	A J 58	40	J A 52	J A 60	A J 83	J A 48	J A 54	J A 46	J A 32	J A 24	20	J A 21	J A 63
9	J A 58	J A 63	J A 60	J A 31	J A 21	J A 26	J A 43	J A 58	J A 71	A J 127	40	46	G	B	G 33	G 30	35	G 21	J A 43	J A 38	J A 40	J A 48	J A 20	J A 30
10	J A 26	E B 16	J A 20	J A 21	20	E B 14	29	J A 132	J A 58	G	J A 65	A J 78	J A 57	39	33	36	J A 57	J A 119	J A 168	J A 125	J A 104	J A 96	J A 39	J A 29
11	J A 26	J A 24	J A 23	20	18	E B 16	30	J A 40	53	40	J A 60	44	47	G	G	G 27	G 23	J A 64	J A 120	J A 76	J A 105	J A 96	J A 65	J A 66
12	J A 46	J A 62	J A 46	J A 32	J A 44	J A 32	24	34	38	J A 51	49	J A 47	J A 91	J A 58	44	56	J A 73	J A 88	J A 74	J A 52	J A 64	J A 66	J A 47	J A 38
13	J A 49	J A 33	J A 37	J A 29	J A 22	J A 58	27	G 26	J A 82	A J 77	A J 79	A J 50	40	41	42	36	J A 43	J A 46	J A 41	J A 28	J A 20	J A 41	J A 40	E B 14
14	J A 23	J A 21	20	E B 14	E B 14	E B 15	27	34	J A 44	A J 51	A J 87	A J 74	J A 70	A J 42	36	G 27	J A 44	34	J A 49	J A 68	J A 45	E B 16	J A 24	E B 15
15	J A 52	J A 60	J A 34	J A 24	E B 15	J A 23	G 19	34	J A 43	A J 57	A J 49	A J 55	46	J A 47	J A 43	G 31	J A 47	34	J A 30	J A 38	J A 46	J A 36	E B 14	J A 20
16	J A 33	J A 24	J A 21	E B 15	19	J A 19	J A 26	G 24	37	G	J A 61	G	44	46	44	J A 114	J A 96	J A 146	J A 41	J A 48	J A 74	J A 45	J A 41	J A 39
17	J A 28	J A 44	J A 33	21	20	J A 27	30	34	42	G	G	G	G	G	G	G 31	37	J A 58	J A 89	J A 80	J A 70	J A 48	J A 59	J A 90
18	J A 76	J A 46	J A 29	J A 30	31	29	J A 38	J A 57	A J 73	A J 110	A J 65	A J 79	A J 102	A J 71	J A 56	37	G 28	33	J A 93	J A 112	J A 40	J A 57	J A 25	J A 21
19	J A 18	20	20	19	18	J A 21	J A 34	J A 103	A J 61	A J 48	A J 77	A J 62	A J 52	A J 58	A J 50	A J 52	J A 51	J A 60	J A 60	J A 67	J A 56	J A 60	J A 43	J A 68
20	J A 25	J A 52	J A E 15	B J 19	A J 20	A	22	28	J A 42	A J 47	A J 73	A 62	J A 54	J A 53	G	G 31	G 28	J A 43	J A 35	J A 39	J A 35	J A 26	J A 24	J A 22	J A 28
21	J A 24	J A 22	J A 25	J A 19	J A 23	J A 23	J A 26	J A 46	J A 53	A J 76	A J 63	A J 134	J A 53	A J 65	A J 42	58	G 27	73	56	J A 48	J A 80	J A 69	J A 73	J A 87
22	J A 36	J A 54	J A 38	J A 26	J A 24	J A 26	J A 44	J A 73	A J 43	A 42	J A 61	A J 80	J A 54	A J 64	A J 44	41	37	35	J A 31	J A 47	J A 46	J A 29	J A 24	J A 59
23	J A 28	J A 36	J A 43	J A 24	J A 27	J A 24	27	J A 36	38	G	J A 45	A J 45	41	J A 44	J A 56	A J 44	J A 48	J A 54	J A 41	J A 36	J A 86	J A 52	J A 54	J A 52
24	J A 27	E B 15	E B 15	20	20	20	25	J A 34	40	41	G	G	45	49	J A 85	47	41	J A 39	J A 64	J A 71	J A 36	J A 22	J A 36	J A 24
25	J A 21	J A 30	J A 30	J A 27	J A 24	J A 19	24	39	38	J A 44	A J 79	63	J A 110	A J 45	G	44	38	J A 38	J A 32	J A 29	J A 74	J A 101	J A 110	J A 59
26	J A 22	J A 35	J A 26	J A 22	J A 20	J A E 15	B 26	J A 44	J A 57	A J 44	A J 45	G	J A 48	J A 47	42	J A 52	J A 56	J A 36	J A 80	J A 69	J A 102	J A 51	J A 49	J A 50
27	J A 53	J A 30	J A 26	J A 19	22	J A 24	34	J A 39	J A 65	A J 58	A J 47	A J 65	44	J A 80	42	G 30	G 23	39	J A 32	J A 34	J A 57	J A 53	J A 111	J A 73
28	J A 38	J A 45	J A 26	J A 43	J A 36	J A 30	J A 32	J A 39	G 28	J A 48	44	48	J A 50	45	41	42	38	32	J A 30	J A 22	J A 20	J A 30	J A 47	J A 36
29	J A 21	J A 24	J A 18	J A 17	J A 17	J A 26	J A 33	J A 70	42	61	40	J A 44	G	G	G	44	J A 47	J A 62	J A 75	J A 41	J A 54	19	J A 36	J A 47
30	J A 33	J A 20	20	E B 16	E B 15	E B 15	G	G 23	J A 42	A J 57	G	G	46	J A 48	J A 46	37	J A 37	J A 35	20	J A 41	J A 44	J A 32	J A 36	J A 32
31	J A 31	J A 20	J A 31	J A 23	J A 22	J A 22	G	34	J A 45	A J 51	A J 50	A J 53	A J 45	A J 50	54	J A 49	J A 122	J A 117	J A 112	J A 89	J A 81	J A 73	J A 40	J A 22
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	29	31	31	31	31	31	31	31	31	31	31
MED	J A 33	J A 32	J A 26	J A 23	J A 21	J A 23	28	J A 39	J A 45	A J 51	A J 61	A J 55	J A 50	A J 47	44	42	J A 43	J A 39	J A 46	J A 47	J A 47	J A 45	J A 40	J A 38
U Q	J A 49	J A 46	J A 38	J A 30	J A 24	J A 26	J A 34	J A 57	A J 61	A J 73	A J 78	A J 78	J A 75	A J 64	A J 56	A J 52	J A 56	J A 64	J A 75	J A 71	J A 74	J A 60	J A 54	J A 63
L Q	J A 25	22	20	E B 19	E B 18	E B 20	26	G 34	40	42	45	G 45	44	G 42	G 33	G	G 36	34	J A 34	J A 35	J A 38	J A 30	J A 25	J A 26

AUG. 2011 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	42	37	24	31	E B 15	31	46	49	53	A A 132	A A 140	A A 127	A A 102	49	40	G	52	39	35	42	56	29	24	38
2	26	16	33	25	20	26	26	33	38	47	54	48	54	44	42	39	42	47	46	22	23	30	E B 15	E B 15
3	E B 14	E B 15	E B 15	E B 14	18	17	26	G 24	40	46	A A 78	51	54	A A 79	A A 90	38	G 27	G 25	22	52	34	19	32	24
4	36	A A 62	31	18	E B 14	20	48	66	A A 96	A A 73	A A 132	A A 144	54	B	46	40	34	28	23	22	E B 15	E B 15	24	17
5	24	17	20	19	18	17	26	38	49	A A 77	A A 75	A A 102	A A 106	64	A A 157	59	56	36	A A 150	21	29	26	20	A A 78
6	23	25	20	20	E B 15	19	25	27	39	55	40	40	40	G	G	G	G	31	30	33	E B 15	22	22	22
7	29	29	E B 15	E B 14	E B 15	E B 15	40	28	G 25	40	A A 84	50	58	A A 79	A A 130	44	34	G	30	34	33	25	20	E B 15
8	18	E B 15	E B 14	16	E B 15	E B 15	G	G 24	G 26	40	46	54	39	48	54	72	41	45	34	27	18	E B 15	E B 15	E B 15
9	37	34	A A 60	28	E B 14	22	38	50	64	55	38	42	G	B	G 30	G 30	34	G 20	28	34	26	21	E B 15	E B 15
10	21	E B 16	E B 15	17	E B 15	E B 14	26	42	42	G	40	A A 78	49	36	32	35	45	60	A A 168	A A 125	32	A A 96	32	22
11	18	19	17	E B 16	E B 15	E B 16	26	37	50	37	52	41	46	G	G	G 26	G 23	44	A A 120	72	A A 105	A A 96	34	37
12	33	24	31	22	20	26	23	31	35	45	48	41	A A 91	54	42	43	52	43	A A 74	46	40	44	34	30
13	37	18	16	19	E B 14	16	24	G 24	43	A A 77	A A 79	40	38	39	42	34	34	38	33	22	18	31	18	E B 14
14	15	16	E B 15	E B 14	E B 14	E B 15	24	31	40	46	A A 87	A A 74	A A 70	37	34	G 25	40	30	34	57	E B 14	E B 16	18	E B 15
15	E B 15	28	18	16	E B 15	17	G 18	32	37	50	42	49	42	44	39	G 28	43	32	26	30	30	30	E B 14	E B 14
16	24	20	E B 15	E B 15	E B 14	18	24	G 23	34	G	54	G	42	44	42	51	52	A A 146	22	34	32	30	23	35
17	22	29	21	E B 15	E B 15	22	26	32	38	G	G	G	G	G	G	G 28	34	54	52	43	38	41	30	A A 90
18	A A 76	37	22	19	28	26	28	48	63	A A 110	54	A A 79	44	59	52	37	G 27	30	A A 93	53	18	26	E B 15	E B 15
19	E B 15	E B 16	E B 15	E B 15	E B 15	17	26	40	44	38	A A 77	54	44	A A 58	43	44	43	44	54	62	30	23	19	E B 15
20	20	31	E B 15	E B 15	E B 15	E B 15	26	34	41	51	60	50	40	G	G 28	G 26	38	28	34	33	19	16	E B 15	21
21	16	20	20	E B 15	E B 15	15	22	38	40	A A 76	60	A A 134	40	46	38	54	G 26	70	54	36	40	42	35	38
22	22	17	25	19	18	19	39	37	34	39	A A 61	A A 80	44	54	40	38	35	32	28	39	38	17	21	25
23	16	31	31	18	18	20	24	33	34	G	39	40	38	42	48	37	44	46	37	35	A A 86	31	20	44
24	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	23	28	35	39	G	G	42	44	63	46	39	36	56	18	30	17	24	E B 15
25	E B 14	23	18	19	18	E B 14	22	37	31	38	64	61	A A 110	42	G	42	34	31	28	19	42	34	30	16
26	E B 15	16	17	18	E B 15	E B 15	24	37	44	38	40	G	46	43	40	48	51	31	58	54	40	30	22	38
27	38	24	18	E B 15	18	17	30	32	40	42	40	42	42	A A 80	40	G 28	G 22	33	26	24	20	37	22	A A 73
28	16	29	E B 15	20	15	22	28	36	G 26	44	42	47	45	41	38	36	34	29	24	E B 16	17	21	32	19
29	17	19	E B 14	E B 15	E B 14	23	29	60	40	58	40	42	G	G	G	41	39	35	72	35	24	15	26	34
30	22	17	E B 15	E B 16	E B 15	E B 15	G	G 22	38	38	G	G	45	44	42	36	35	28	18	34	30	24	18	E B 15
31	E B 15	E B 15	22	20	17	18	G	30	41	47	46	43	40	45	52	42	A A 122	A A 117	A A 112	40	28	31	E B 15	E B 14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	29	31	31	31	31	31	31	31	31	31	31
MED	21	20	18	17	E B 15	17	26	33	40	45	52	48	44	44	40	38	38	35	34	34	30	26	22	21
U Q	29	29	22	19	18	22	28	38	44	A A 55	A A 75	A A 74	A A 54	54	48	44	44	45	A A 58	46	38	31	30	37
L Q	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15	23	G 28	35	38	40	G 40	40	G 38	G 32	G	G 34	30	28	24	19	19	E B 18	E B 15

AUG. 2011 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	16	15	15	15	15	15	14	14	17	26	32	32	29	26	25	20	16	16	14	14	14	15	14	14
2	15	15	14	14	14	14	14	12	14	24	16	28	26	22	25	20	22	13	14	14	14	14	15	15
3	14	15	15	14	15	14	15	15	14	14	21	30	26	27	29	18	15	14	15	15	15	15	14	15
4	15	14	15	16	14	15	14	14	15	19	27	24	23	B	23	26	22	14	13	15	15	15	14	15
5	14	14	15	14	15	15	16	14	15	22	22	25	25	29	27	24	20	17	14	13	15	15	15	14
6	16	14	14	13	15	14	15	14	14	15	21	21	19	20	20	19	17	14	13	15	15	15	15	14
7	16	15	15	14	15	15	14	14	12	18	24	23	28	24	26	26	14	20	13	13	14	16	15	15
8	14	15	14	14	15	15	15	12	15	18	20	22	20	23	24	20	13	13	14	14	14	15	15	15
9	15	14	14	14	14	14	14	14	18	22	20	20	23	B	21	21	15	15	14	13	15	14	15	15
10	15	16	15	15	15	14	14	12	15	24	23	24	18	19	19	22	18	14	15	14	14	14	14	14
11	15	14	14	16	15	16	15	14	16	16	24	20	24	22	25	20	16	15	14	14	16	13	15	14
12	15	15	14	16	14	14	15	14	13	16	24	21	20	21	21	19	18	14	15	14	14	15	15	13
13	16	14	14	14	14	15	14	15	18	19	26	21	17	24	23	20	14	14	18	14	14	14	14	14
14	14	15	15	14	14	15	14	13	14	21	24	24	22	21	17	15	16	13	15	14	14	16	14	15
15	15	16	14	15	15	14	15	14	17	18	20	20	20	19	17	16	18	12	14	14	14	14	14	14
16	14	14	15	15	14	14	15	13	13	18	22	24	22	27	21	22	15	14	14	15	14	14	14	15
17	14	14	13	15	15	12	14	14	21	20	21	23	26	25	24	16	18	16	13	14	15	14	14	14
18	15	14	14	14	13	14	15	22	17	26	22	25	25	22	18	21	19	14	14	13	15	14	15	15
19	15	16	16	15	15	14	14	14	15	18	25	24	23	22	18	18	16	15	13	16	14	14	15	15
20	15	15	15	15	16	15	14	14	15	16	23	18	20	25	17	16	14	14	15	14	14	16	15	15
21	15	14	14	15	15	15	12	14	18	20	20	24	20	22	22	16	14	18	14	18	15	15	14	14
22	15	15	14	14	14	15	15	14	18	18	21	27	19	23	20	16	19	14	14	15	15	16	15	15
23	14	14	15	14	14	14	13	14	18	18	21	21	25	21	24	19	16	14	15	15	14	14	15	14
24	15	15	15	15	15	15	15	13	14	15	18	26	26	24	27	19	12	13	13	15	14	15	15	15
25	14	14	14	15	15	14	14	15	19	20	28	26	28	24	22	22	15	14	16	14	16	14	15	16
26	15	15	15	15	16	15	14	14	16	19	23	25	26	22	18	18	18	14	14	16	15	15	15	16
27	15	15	15	15	16	15	14	14	16	20	20	25	26	26	22	21	14	14	14	15	15	14	15	15
28	16	14	15	15	14	13	14	14	16	19	22	24	24	22	22	22	18	11	13	16	14	15	15	15
29	15	14	14	15	14	15	14	13	12	22	20	20	24	24	25	20	16	13	14	14	14	14	14	14
30	15	15	15	16	15	15	14	14	14	17	30	20	23	21	22	17	15	15	15	14	15	14	15	15
31	15	15	15	14	14	16	15	15	16	22	22	26	24	20	17	19	15	15	14	14	16	16	15	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	15	15	15	15	15	15	14	14	15	19	22	24	24	23	22	20	16	14	14	14	14	15	15	15
U Q	15	15	15	15	15	15	15	14	17	22	24	25	26	25	25	21	18	15	15	15	15	15	15	15
L Q	14	14	14	14	14	14	14	14	14	18	20	21	20	21	19	18	15	14	14	14	14	14	14	14

IONOSPHERIC DATA STATION Kokubunji

AUG. 2011 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	299	298	307	302	297	326	355	355	340	A	A	A	A	291	294	303	308	301	317	326	322	F	F	F
2	304	311	301	F	310	319	333	349	370	351	294	290	292	306	311	326	329	341	324	309	331	315	309	301
3	307	299	296	302	312	348	342	375	352	352	A	319	295	A	A	309	322	316	346	325	306	319	F	302
4	300	A	311	F	313	310	341	368	A	A	A	A	290	B	324	334	338	350	315	320	324	322	292	F
5	F	F	315	304	299	334	344	363	325	A	A	A	A	291	A	316	313	312	A	317	319	310	282	A
6	F	F	F	F	296	318	300	226	282	260	268	317	319	287	258	322	332	333	305	315	306	296	F	F
7	F	F	289	F	F	351	359	347	341	350	A	309	309	A	A	317	308	310	307	319	342	334	301	295
8	275	283	F	F	307	317	327	325	303	327	293	310	302	313	305	312	331	326	354	336	287	280	282	302
9	F	F	A	300	305	296	295	319	324	350	322	313	301	B	324	325	306	320	329	337	321	303	293	301
10	308	295	297	305	305	311	324	323	328	318	328	A	309	290	320	331	326	317	A	A	319	A	F	F
11	300	305	F	297	311	326	356	298	303	307	316	325	319	319	314	325	322	319	A	326	A	A	F	F
12	F	F	F	F	F	345	329	359	353	317	308	304	A	322	331	347	335	335	A	306	301	319	303	F
13	329	F	F	F	329	312	345	391	384	A	A	304	310	296	315	317	317	325	323	345	341	F	F	F
14	F	F	320	308	306	315	344	345	359	387	A	A	A	313	309	321	312	328	328	297	307	322	327	339
15	F	F	295	300	295	325	349	348	369	326	306	325	297	296	311	328	326	324	323	321	308	305	327	334
16	291	297	310	298	297	308	364	380	341	341	359	318	311	324	309	315	313	A	309	319	306	F	311	288
17	283	F	F	312	320	316	319	314	349	341	304	294	320	325	332	319	320	318	296	298	349	320	F	A
18	A	F	F	F	320	293	338	348	329	A	333	A	308	310	338	332	315	308	A	295	347	F	336	F
19	F	310	F	313	308	327	342	372	385	365	A	327	364	A	313	336	332	324	321	312	328	309	311	301
20	F	F	297	F	330	332	340	327	352	322	358	343	301	293	326	315	319	310	310	324	336	327	319	318
21	301	310	299	308	316	312	344	352	349	A	337	A	331	298	314	313	312	315	310	323	324	318	327	F
22	318	316	F	F	F	320	346	338	346	356	A	A	336	311	330	332	324	335	302	295	304	321	343	312
23	301	315	311	310	302	295	331	380	340	334	340	327	314	328	322	338	333	331	326	332	A	300	F	F
24	F	303	286	306	322	318	346	348	341	358	306	324	317	313	310	319	334	337	312	290	334	319	303	314
25	304	279	300	314	331	340	356	340	345	347	330	336	A	339	312	308	323	312	320	333	336	342	297	F
26	F	295	F	319	325	320	340	337	367	352	334	314	334	326	323	341	331	335	324	318	319	314	316	284
27	291	F	293	F	315	315	352	331	346	349	308	336	320	A	309	311	323	337	354	322	303	328	F	A
28	F	F	F	284	F	326	366	356	346	334	322	321	314	312	319	311	322	329	320	317	335	331	300	295
29	285	282	286	310	318	F	345	346	392	322	314	335	308	296	320	328	339	332	323	320	299	297	F	293
30	295	287	307	322	312	316	352	369	346	335	352	335	304	327	328	336	325	327	316	339	342	325	297	293
31	290	299	301	312	307	332	369	370	374	304	331	327	322	323	324	336	A	A	A	293	316	317	334	325
	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	17	19	20	27	30	31	31	30	25	22	23	26	25	28	31	30	29	25	30	29	25	21	17
MED	300	299	300	307	311	318	344	348	346	341	322	321	310	312	317	322	323	325	320	320	321	319	309	301
U Q	304	310	310	312	320	327	352	368	359	352	334	327	320	324	324	332	331	334	325	326	336	324	327	316
L Q	291	291	295	301	305	312	333	331	340	322	306	310	302	296	310	315	315	316	310	309	306	307	297	294

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	A	A	A	A	A	A	A	UL 363	363	A	A	A					
2							L	L	UL 410	A	A	A	A	A	365	393	A	A	A					
3							L	L	A	A	A	A	A	A	A	361	360	L						
4						L	A	A	A	A	A	A	A	B	A	A	404	L	L					
5								A	A	A	A	A	A	A	A	A	A	A	A					
6							L	UL 312	337	A	L	386	UL 358	330	UL 324	UL 371	UL 375	A	A					
7							A	L	UL 389	A	A	A	A	A	A	A	UL 354	UL 378	A					
8								L	L	383	A	A	424	A	A	A	A	A	A					
9							A	A	A	A	UL 377	377	394	B	403	356	372	UL 362						
10							L	A	A	399	UL 366	A	A	400	UL 396	376	A	A	A					
11								UL 353	A	387	A	399	A	383	363	UL 383	378	A	A					
12							L	L	397	A	A	UL 370	A	A	A	A	A	A	A					
13							L	L	A	A	A	413	UL 381	393	A	376	387	A	A					
14							L	L	A	A	A	A	A	405	386	369	A	L						
15							L	L	L	A	392	A	UL 352	A	A	386	A	L	A					
16						L	L	L	L	UL 380	A	UL 367	407	A	A	A	A	A						
17							L	UL 407	UL 400	424	420	UL 372	UL 401	356	368	L	380	A	A					
18							L	A	A	A	A	A	A	A	A	380	L	L	A					
19							L	A	A	417	A	A	A	A	A	A	A	A	A	A				
20								L	A	A	A	A	UL 372	389	386	365	A	L	A					
21							L	A		A	A	A	409	A	382	A	UL 345	A	A					
22							A	A	392	399	A	A	386	A	353	383	L	L	A					
23							L	A	L	L	UL 385	UL 376	UL 374	389	A	368	A	A	A					
24							L		L	UL 407	419	UL 369	A	A	A	A	A	A	A					
25								L	L	422	A	A	A	381	L	378	UL 354	L	A					
26								A	A	420	L	UL 406	A	A	374	A	A	A	A					
27									A	L	UL 388	394	L	A	UL 355	L	L	A						
28									L	A	404	A	A	UL 361	372	UL 385	UL 354	A						
29								A	A	A	L	UL 404	UL 382	360	338	A	A	A	A					
30								L	UL 386	396	409	394	UL 368	381	A	393	364	L						
31								L	A	384	A	A	L	A	A	A	A	A	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								3	7	12	9	13	13	12	15	17	12	2						
MED								UL 353	UL 392	399	392	UL 386	UL 382	382	368	376	368	UL 370						
U Q								UL 407	UL 400	418	414	402	404	391	386	384	379							
L Q								UL 312	386	386	UL 381	UL 371	UL 370	360	355	366	UL 354							

AUG. 2011 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2011 h′F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							252	252	274	A	A	A	A	372	360	340	E A 318	296	258					
2							284	258	254	280	E A 366	400	E A 378	312	306	284	294	294	E A 264					
3							276	228	240	E A 282	A	E A 314	E A 354	A	A	308	282	278						
4						316	E A 274	236	A	A	A	A	E A 366	B	300	276	266	260	262					
5								246	E A 290	A	A	A	A	E A 336	A	280	288	272	A					
6							320	594	342	E A 350	362	270	284	386	452	272	254	264	286					
7							E A 240	280	280	276	A	328	E A 330	A	A	286	304	290	262					
8								280	282	278	390	324	322	304	302	E A 356	280	254	236					
9							364	E A 290	E A 316	260	332	328	364	B	302	298	318	288						
10							286	294	270	292	314	A	344	326	294	270	288	E A 338	A					
11								358	E A 348	308	304	294	300	320	330	314	326	312	A					
12							264	246	252	324	324	352	A	E A 276	298	272	E A 288	E A 266	A					
13							252	210	234	A	A	348	332	360	326	304	296	280	248					
14							270	260	230	224	A	A	A	348	332	304	296	272						
15							256	246	226	E A 288	324	316	358	336	300	272	280	278	270					
16						306	246	236	236	306	E A 294	326	352	294	300	302	300	A						
17							294	290	260	290	332	362	316	290	276	286	314	E A 338	E A 344					
18							280	250	E A 322	A	E A 278	A	326	E A 332	268	276	302	330	A					
19							268	226	226	258	A	298	258	A	324	274	278	E A 282	E A 278	E A 288				
20								272	254	E A 256	250	280	358	366	304	322	296	282	272					
21							266	238		A	E A 356	A	312	E A 368	314	E A 340	306	E A 308	E A 270					
22							E A 256	262	254	258	A	A	292	332	296	290	294	256	280					
23							286	216	238	264	294	320	310	298	300	272	284	274	250					
24							248		288	256	352	300	300	280	E A 316	282	258	250	E A 296					
25								292	256	256	E A 296	E A 296	A	288	316	318	288	276	256					
26								252	234	248	274	298	300	290	302	264	E A 264	248	E A 298					
27									242	250	318	262	298	A	322	296	298	258						
28									266	266	302	306	302	302	314	308	296	264						
29								252	218	E A 312	288	296	322	336	294	276	268	260	E A 328					
30								228	266	270	274	298	326	296	274	274	284	274						
31								226	228	362	E A 278	296	316	308	292	260	A	A	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						2	20	28	29	25	22	23	26	25	28	31	30	29	18	1				
MED						311	268	252	248	268	304	303	316	312	302	284	290	274	264	E A 288				
U Q							285	280	281	299	332	328	352	342	319	308	300	292	E A 286					
L Q							254	236	235	257	288	296	300	295	297	274	280	262	258					

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E A 330	E A 316	E A 274	E A 288	E B 240	E A 244	A	A	A	A	A	A	A	A	220	234	A	A	A	E A 254	E A 292	E A 274	E A 292	E A 324
2	E A 264	E A 248	E A 294	E A 300	E A 272	E A 276	212	210	208	A	A	A	A	A	E A 250	224	A	A	A	E A 244	234	E A 246	234	E B 254
3	E B 236	E B 262	E B 266	E B 262	E A 244	228	214	200	A	A	A	A	A	A	A	234	214	200	226	E A 294	E A 260	228	E A 292	E A 254
4	E A 298	A	E A 310	E A 288	E B 248	E A 258	A	A	A	A	A	A	A	B	A	A	210	208	206	E A 244	232	228	E A 280	E A 278
5	E A 320	E A 256	E A 244	E A 272	E A 274	232	216	A	A	A	A	A	A	A	A	A	A	A	A	228	E A 230	E A 250	E A 280	A
6	E A 296	E A 288	E A 260	E A 276	E B 246	234	216	E A 244	E A 296	A	E A 238	210	216	230	E A 294	200	194	A	A	E A 258	230	230	E A 344	E A 338
7	E A 310	E A 310	E B 260	E B 276	E B 234	206	A	198	196	A	A	A	A	A	A	A	220	224	A	E A 240	226	222	230	E B 256
8	E A 270	E B 272	E B 262	E A 282	E B 256	E B 246	218	200	206	228	A	A	178	A	A	A	A	A	A	224	E A 242	E B 294	E B 286	E B 244
9	E A 356	E A 350	A	E A 304	E B 280	E A 272	A	A	A	A	206	224	200	B	206	214	214	212	E A 248	228	224	E A 248	E B 252	E B 244
10	E A 248	E B 272	E B 278	E A 268	E B 258	234	226	A	A	204	224	A	A	212	176	220	A	A	A	A	E A 230	A	E A 288	E A 264
11	E A 256	E A 264	E A 266	E B 262	E B 248	E B 246	E A 244	E A 236	A	202	A	210	A	218	218	200	222	A	A	E A 316	A	A	E A 304	E A 312
12	E A 268	E A 274	E A 298	E A 304	E A 258	242	196	196	190	A	A	232	A	A	A	A	A	A	A	E A 288	E A 262	E A 238	E A 266	E A 258
13	E A 264	E A 292	E A 270	E A 256	214	E A 248	208	184	A	A	A	198	202	208	A	214	220	A	A	220	206	E A 310	E A 328	E B 238
14	236	E A 264	E B 236	E B 242	E B 246	244	220	214	A	A	A	A	A	194	206	228	A	224	230	E A 328	220	222	224	206
15	E B 306	E A 286	E A 284	E A 284	E B 280	242	212	204	212	A	216	A	212	A	A	E A 240	A	214	A	E A 246	E A 250	E A 278	E B 232	216
16	E A 296	E A 294	E A 262	E B 256	E B 282	E A 246	216	212	202	192	A	224	214	A	A	A	A	A	226	E A 250	E A 258	E A 274	E A 248	E A 280
17	E A 296	E A 320	E A 262	E B 250	E B 236	E A 274	212	194	202	180	200	222	212	224	E A 236	196	212	A	A	E A 294	224	228	E A 254	A
18	A	E A 306	E A 278	E A 284	E A 320	E A 306	218	A	A	A	A	A	A	A	A	210	210	222	A	E A 316	222	E A 252	204	E B 232
19	E B 258	E B 248	E B 258	E B 252	E B 260	E A 240	212	A	A	194	A	A	A	A	A	A	A	A	A	A	222	E A 242	E A 238	E B 258
20	E A 264	E A 270	E A 248	E B 244	212	E B 236	218	210	A	A	A	A	202	202	202	218	A	210	A	E A 240	216	210	E B 220	228
21	E A 264	E A 252	E A 278	E B 244	E B 256	E B 250	218	A	206	A	A	A	200	A	206	A	218	A	A	E A 246	E A 248	E A 250	E A 234	E A 278
22	E A 236	E A 248	E A 328	E A 268	E A 258	E A 256	A	A	196	196	A	A	208	A	222	206	212	212	A	E A 286	E A 284	222	208	234
23	E A 252	E A 280	E A 292	E A 262	E A 302	E A 306	226	A	190	208	184	206	216	214	A	212	A	A	A	E A 242	A	E A 264	E A 254	E A 300
24	E B 248	E B 252	E B 280	E B 252	234	E B 244	218	200	196	192	178	198	A	A	A	A	A	A	A	E A 262	E A 230	216	E A 252	E B 240
25	E B 240	E A 282	E A 294	E A 272	E A 242	228	214	210	202	208	A	A	A	208	214	222	214	212	A	226	226	226	E A 252	E A 260
26	E B 270	E A 296	E A 302	E A 262	E B 238	E B 240	220	A	A	184	194	200	A	A	212	A	A	A	A	E A 282	E A 240	E A 258	E A 250	E A 316
27	E A 320	E A 308	E A 300	E A 278	E B 244	240	232	220	A	224	198	192	210	A	210	206	214	A	226	230	E A 246	E A 262	E A 252	A
28	E A 286	E A 346	E A 284	E B 306	E A 296	E B 248	218	218	202	A	196	A	A	218	210	194	204	A	236	232	222	228	E A 270	E A 268
29	E A 296	E A 304	E A 292	E B 270	E B 248	E B 266	234	A	A	A	222	200	192	200	204	A	A	A	A	E A 242	E A 260	E A 252	E A 294	E A 278
30	E A 268	E A 284	E A 262	E B 232	E B 238	236	218	202	212	194	204	198	216	220	A	214	230	220	E A 240	230	214	228	E A 252	E B 256
31	E B 266	E B 266	E A 298	E A 272	E A 264	E A 242	216	192	A	220	A	A	214	A	A	A	A	A	A	E A 280	E A 268	E A 256	216	200
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	31	31	31	26	19	15	14	12	13	15	12	16	19	15	11	8	29	29	29	31	28
MED	E A 268	E A 281	E A 278	E A 270	E B 248	E 244	218	202	202	199	200	206	210	213	208	214	214	212	227	E A 246	E A 230	E A 246	E A 252	E A 257
U Q	E A 296	E A 304	E A 294	E A 284	E A 272	E A 256	220	214	208	208	219	223	214	219	E A 221	224	220	222	E A 238	E A 284	E A 254	E A 260	E A 286	E A 278
L Q	E 256	E A 264	E B 262	E B 256	E B 240	236	214	198	196	192	195	198	200	205	206	206	210	210	226	231	223	228	234	239

AUG. 2011 h′F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						B	A	A	A	A	A	A	A	A	A	116	A	A	A					
2							116	112	A	118	A	116	120	A	A	A	A	A	A	B				
3						B	114	118	A	A	A	A	A	A	A	A	118	118	A					
4						B	A	A	A	A	A	A	A	B	A	A	A	A	B					
5						B	116	A	A	A	A	A	A	A	A	A	A	A	B					
6						B	116	A	A	A	A	A	A	118	118	116	112	112	112					
7							A	A	116	116	A	A	A	A	A	A	A	120	122					
8						B	120	122	122	A	A	A	A	A	A	A	A	A	A					
9						B	A	A	A	A	A	A	114	B	116	116	116	116	B					
10						B	124	A	A	110	A	A	A	A	A	112	118	A	A					
11						B	118	A	A	A	A	A	118	124	124	122	122	A	B					
12						B	A	A	A	A	A	A	A	A	A	128	A	A	B					
13						B	112	124	A	A	A	A	A	A	A	A	A	A	B					
14						B	A	A	A	A	A	A	A	A	A	118	124	118	A					
15						B	124	118	A	A	A	A	A	A	A	118	116	120	120					
16						B	114	114	A	126	A	130	126	122	122	A	A	A	B					
17						B	A	A	122	130	122	124	118	112	116	124	A	A	A					
18						A	A	A	A	A	A	A	A	A	A	A	122	122	B					
19						B	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
20							120	A	A	A	A	A	A	122	122	118	A	A	B					
21						B	A	A	A	A	A	A	A	A	A	A	116	A	B					
22						B	A	A	A	A	A	A	A	A	A	116	122	122	B					
23						B	A	A	A	120	A	A	A	A	A	A	A	A	B					
24							A	A	A	A	114	124	126	126	120	120	120	116	B					
25						B	A	A	A	A	A	A	A	A	118	A	A	A	B					
26						B	A	A	A	A	A	124	124	A	120	A	A	A	B					
27						B	A	A	A	A	A	A	A	A	A	110	110	A	B					
28						B	A	A	122	A	A	A	A	A	A	A	A	120	B					
29						B	A	A	A	A	A	A	118	118	124	124	A	A	B					
30						B	114	120	A	A	118	122	A	A	A	A	A	A	B					
31						B	116	A	A	A	A	A	A	A	A	A	A	A	B					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							13	7	4	6	3	6	8	7	10	14	12	10	3					
MED							116	118	122	119	118	124	119	122	120	118	118	119	120					
U Q							120	122	122	126	122	124	125	124	122	122	122	120	122					
L Q							114	114	119	116	114	122	118	118	118	116	116	116	112					

AUG. 2011 h′E (KM)

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	96	98	94	94	108	108	102	98	100	98	96	96	96	96	98	G	106	106	106	100	96	104	100	94
2	94	96	94	94	94	98	138	116	102	118	96	120	118	122	108	112	108	104	102	100	100	96	96	B
3	B	108	B	B	102	146	136	104	108	104	102	108	108	100	102	104	104	104	104	92	94	92	92	94
4	100	98	98	96	B	124	108	102	100	100	98	98	98	B	106	108	106	108	104	98	96	94	98	104
5	102	96	96	96	92	110	118	104	104	104	100	102	104	106	106	108	104	102	98	98	100	100	100	100
6	100	100	94	94	98	104	112	102	98	100	100	100	104	G	G	G	G	120	116	102	116	106	98	96
7	96	86	86	B	B	96	96	104	102	112	104	104	104	108	102	100	102	G	118	108	104	102	102	104
8	104	98	98	98	100	96	G	98	100	102	102	98	106	100	98	98	96	94	94	92	90	92	104	100
9	98	100	100	100	100	112	102	104	96	96	96	110	G	B	98	98	96	96	110	104	102	96	98	96
10	90	B	88	92	84	B	118	98	102	G	96	90	90	90	96	122	122	102	96	88	94	96	94	90
11	90	88	88	86	92	B	118	108	106	102	100	104	106	G	G	104	100	106	104	100	102	100	104	96
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13	92	92	96	98	102	102	124	102	98	98	98	98	102	104	98	100	100	98	94	94	92	98	98	B
14	92	92	88	B	B	B	106	106	100	100	100	102	102	106	106	102	118	122	108	108	108	B	94	B
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19	100	92	92	90	88	106	102	100	102	104	100	96	96	98	96	124	90	88	102	102	102	102	102	96
20	98	96	B	94	90	92	114	102	102	100	100	94	96	G	94	96	92	90	86	86	98	102	90	94
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	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	28	26	26	26	28	31	31	27	28	26	28	24	26	29	30	30	31	31	31	30	30	28
MED	96	96	94	96	95	102	104	102	102	102	100	99	102	100	102	104	106	105	104	100	98	98	98	96
U Q	100	98	98	98	102	108	113	106	104	104	102	102	106	106	106	109	108	108	108	104	102	102	102	101
L Q	92	92	91	92	92	96	102	100	100	100	98	96	97	96	96	98	100	100	100	96	96	94	96	94

IONOSPHERIC DATA STATION Kokubunji

AUG. 2011 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F3	F3	F3	F2	F3	L3	L3	L3	L2	L3	L3	L3	L2	L2	L2		L3	L2	L3	F3	F4	F3	F3	F4
2	F4	F2	F3	F3	F3	L2	CL12	CL11	L2	CL11	L2	CL22	C2	C1	L2	L2	L2	L2	L3	L4	F3	F2	F1	
3		F1			F2	H2	H2	L2	L2	L2	L3	L2	L2	L2	L2	L2	L2	L1	L2	F3	F3	F5	F3	F3
4	F4	F3	F4	F4		C2	L2	L3	L3	L3	L3	L3	L2		L2	L2	L2	L2	L2	F3	F3	F2	F2	F2
5	F4	F2	F3	F3	F3	L2	C2	L2	L2	L3	L3	L3	L3	L2	L3	L2	L2	L2	L3	F3	F3	F3	F4	F4
6	F3	F4	F4	F3	F1	L3	C3	L2	L2	L2	L2	L2	L2					C1	C3	F3	F2	F4	F2	F4
7	F4	F2	F2			L1	L3	L2	L2	CL11	L2	L2	L2	L2	L2	L2	L2		C2	F4	F3	F4	F2	F2
8	F5	F2	F1	F3	F2	L1		L2	L2	L2	L2	L2	L2	L2	L2	L3	L2	L3	L3	F2	F2	F1	F2	F2
9	F3	F4	F5	F4	F2	C2	L2	L3	L2	L2	L2	L2			L2	L1	L2	L2	L2	F4	F3	F3	F3	F3
10	F4		F2	F2	F2		C2	L3	L2		L2	L2	L3	L2	L2	C1	CL21	L3	L3	F4	F4	F3	F3	F4
11	F2	F2	F2	F2	F1		C2	L2	L2	L2	L2	L2	L2			L1	L2	L4	L3	F5	F4	F5	F3	F3
12	F4	F3	F3	F4	F4	L3	L2	L2	L2	L2	L2	L2	L3	L2	L2	C2	L2	L2	L3	F5	F4	F3	F2	F3
13	F2	F2	F3	F3	F2	L2	C1	L1	L2	L3	L2	L2	L2	L2	L2	L2	L2	L3	L3	F4	F4	F3	F4	
14	F3	F2	F2				L2	L3	L2	L3	L3	L2	L3	L2	L2	L2	CL22	CL22	L3	F3	F2		F3	
15	F3	F2	F3	F1		L2	L2	CL11	L2	L2	L2	L2	L2	L2	L2	L2	CL22	CL22	CL22	FF22	F3	F5		F2
16	F2	F2	F1		F1	L2	CL11	L2	L2		L2		C2	C2	C2	L3	L2	L3	L3	F3	F4	F3	F3	F3
17	F2	F3	F4	F2	F1	L3	L2	L2	CL12							L2	L1	L2	L3	F5	F4	F3	F4	F5
18	F3	F2	F3	F2	F2	L2	L2	L3	L3	L3	L2	L2	L2	L3	L3	L2	L2	CL22	L3	F4	F3	F4	F2	F2
19	F1	F1	F2	F1	F1	L2	L3	L2	L2	L2	L3	L2	L2	L2	L2	CL22	L3	L3	LL43	F4	F3	F3	F2	F2
20	F3	F2		F1	F2	L2	C2	L2	L2	L3	L2	L2	L2		L1	L2	L2	L2	L3	F4	F2	F2	F2	F2
21	FF22	F3	F2	F2	F2	L2	L2	L2	L2	L3	L2	L2	L2	L2	L2	L2	L1	L3	L4	F4	F4	F3	F4	F3
22	F3	F3	F2	F2	F2	LL22	L3	L3	L2	L2	L3	L3	L2	L2	L2	CL21	CL21	CL12	L2	F3	F3	F3	F2	F3
23	F3	F3	F3	F5	F6	L5	L2	L2	L2		L2	L2	L2	L2	L3	L2	CL22	LL32	L3	F3	F3	F3	F3	F4
24	F3			F1	F1	L1	L2	L2	L2	L2			CL11	C2	C2	C2	CL22	CL22	LL42	FF43	F3	F2	F4	F2
25	F1	F3	F3	F3	F3	L3	L2	L2	L2	L2	L3	L2	L3	L2		L1	L2	L2	L3	F6	F3	F3	F3	F3
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28	F2	F4	F2	F3	F2	L6	L3	L2	L1	L2	L2	L2	L2	L2	L2	L2	L2	CL11	C3	F2	F3	F3	F3	F2
29	F1	F2	F2	F2	F2	L3	L2	L3	L2	L2	L2	L2				C1	L2	L3	L3	F5	F3	F2	F3	F3
30	F2	F2	F2					L2	L2	L2			L2	L2	L2	L2	L2	L2	C2	F4	F3	F4	F3	F2
31	F2	F1	F5	F6	F2	L3		L2	L2	L2	L3	L2	L2	L2	CL12	L2	L4	L3	L3	F3	F4	F4	F2	F1
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

AUG. 2011 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

f-PLOTS OF IONOSPHERIC DATA

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

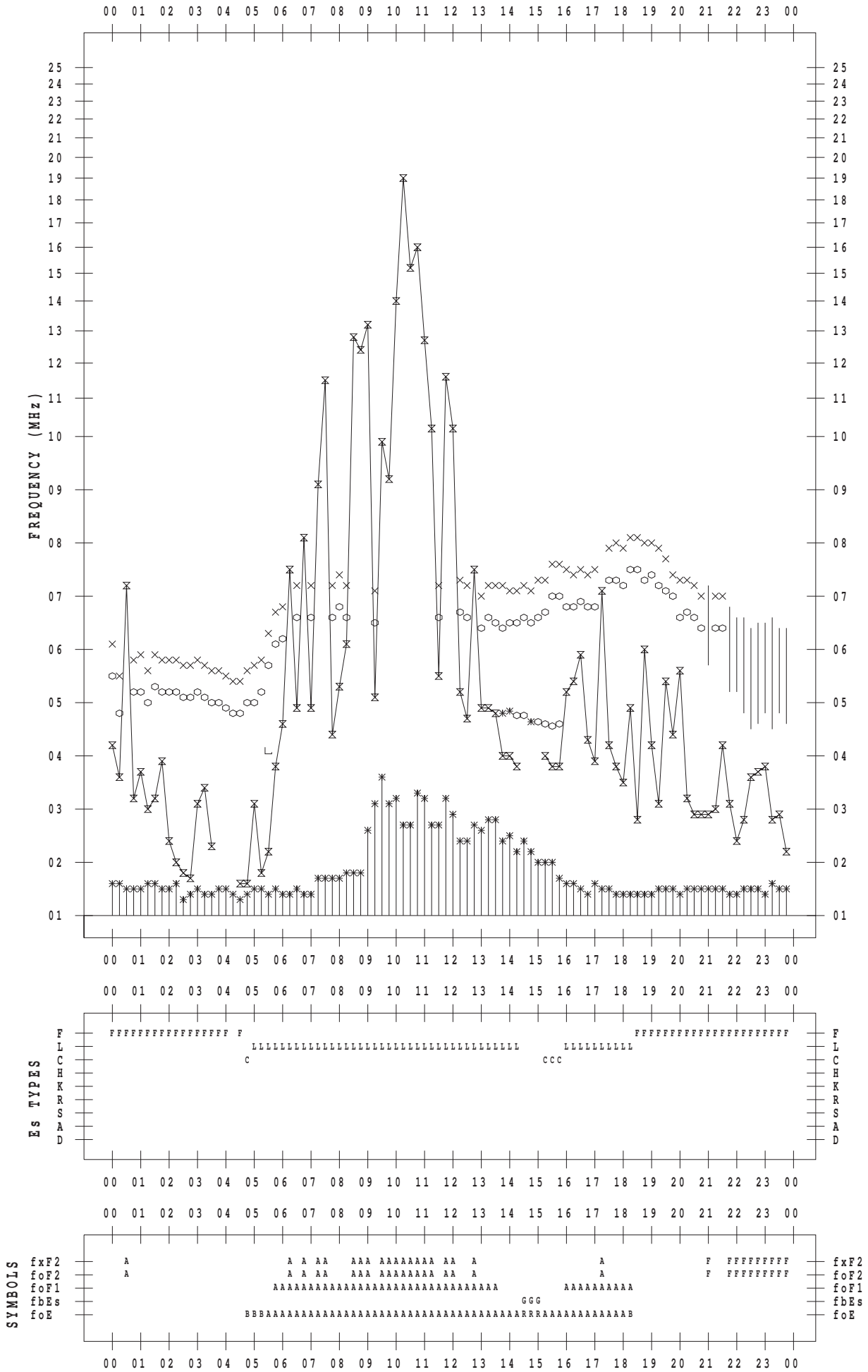
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/ 1

135 °E MEAN TIME



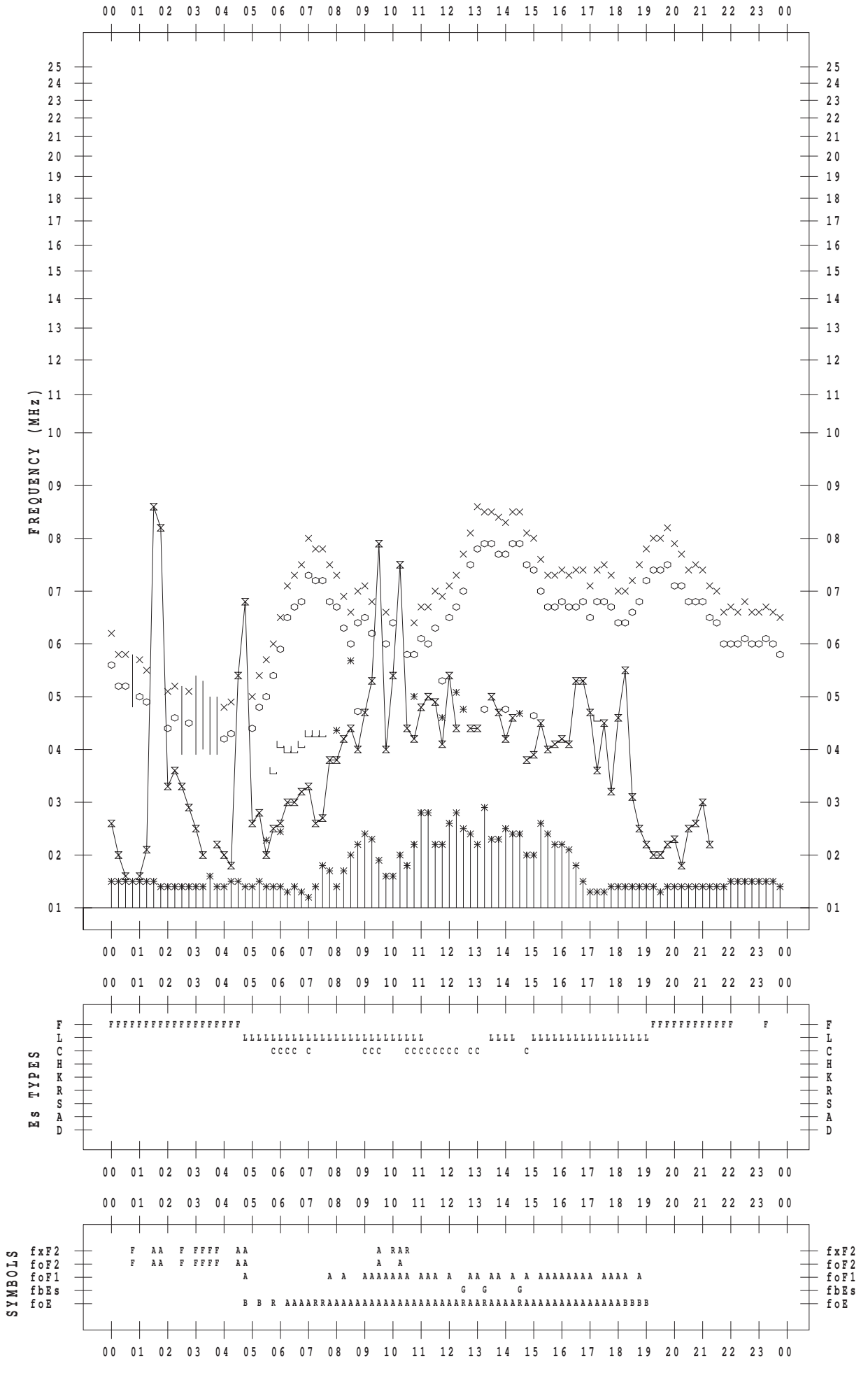
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/ 2

135 °E MEAN TIME

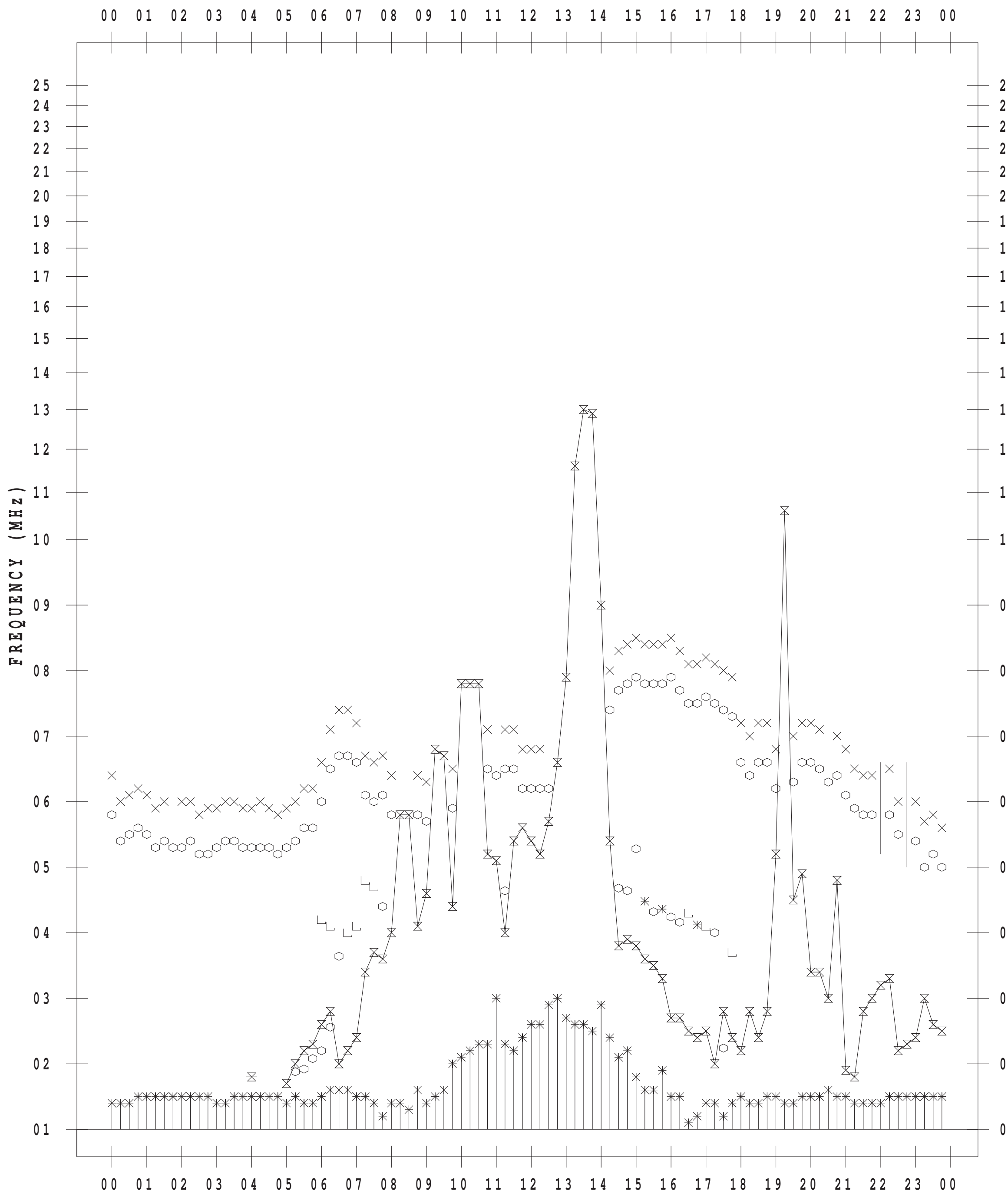


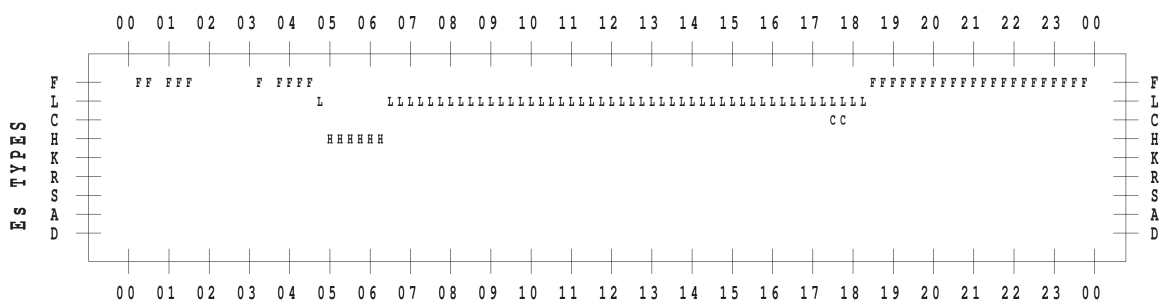
f-PLOT DATA

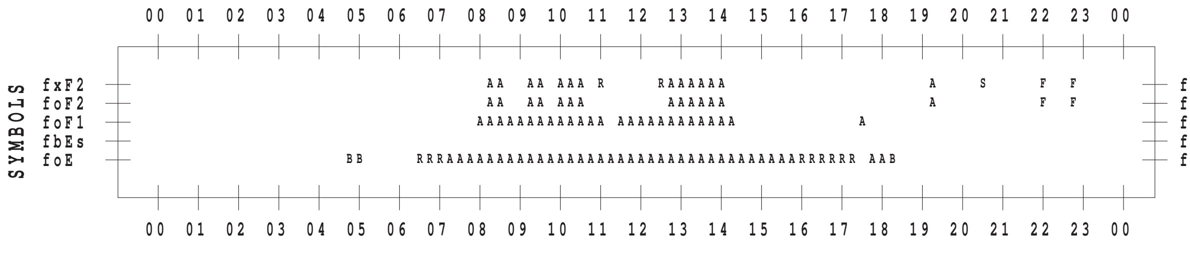
SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/ 3







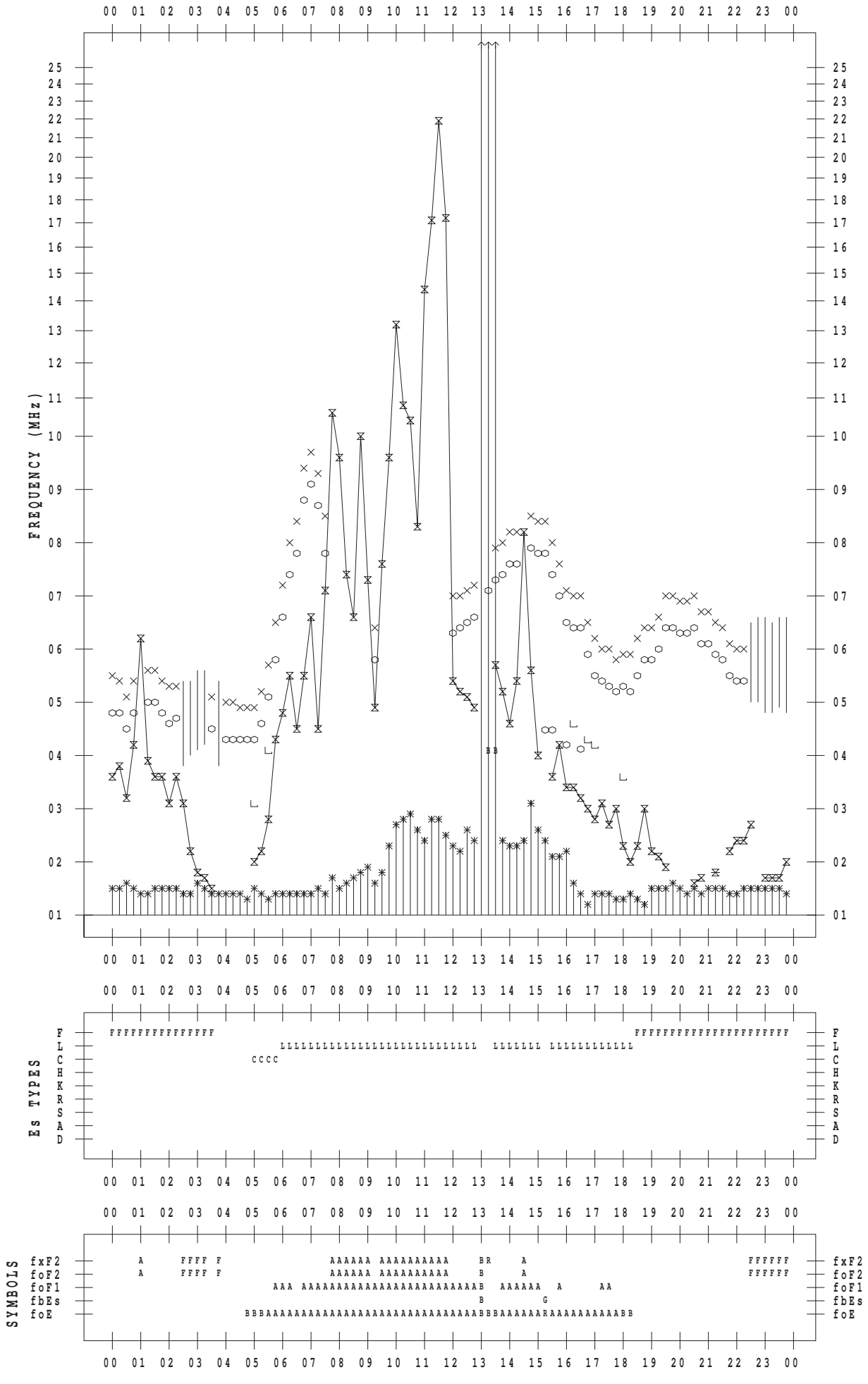
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/ 4

135 °E MEAN TIME

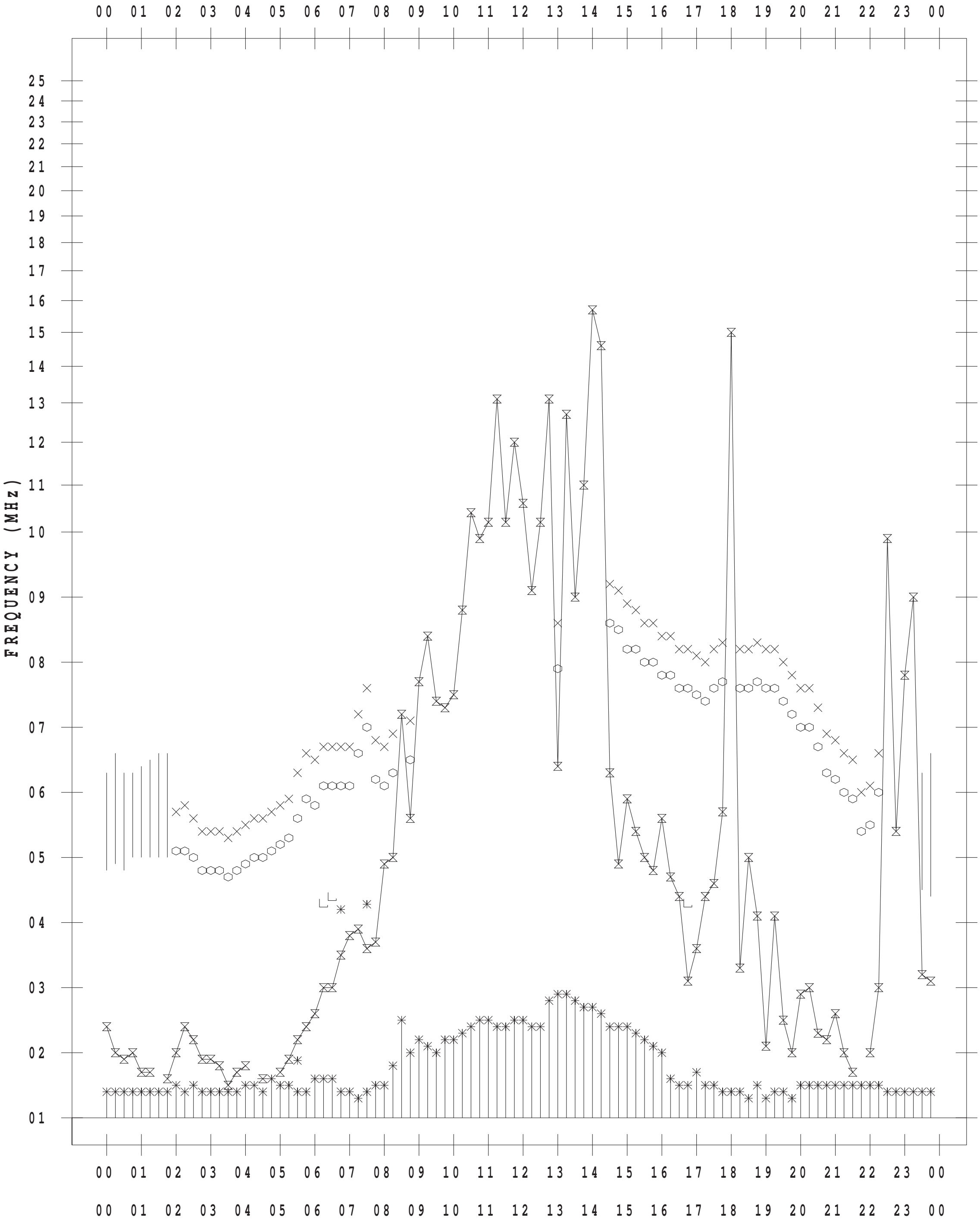


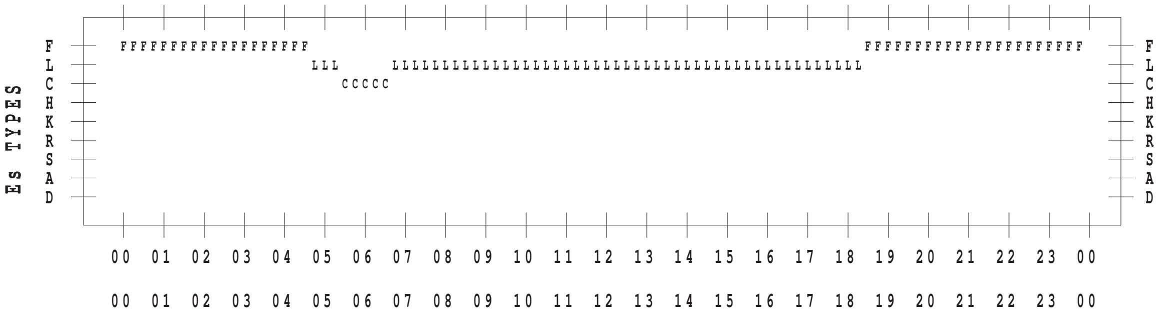
f-PLOT DATA

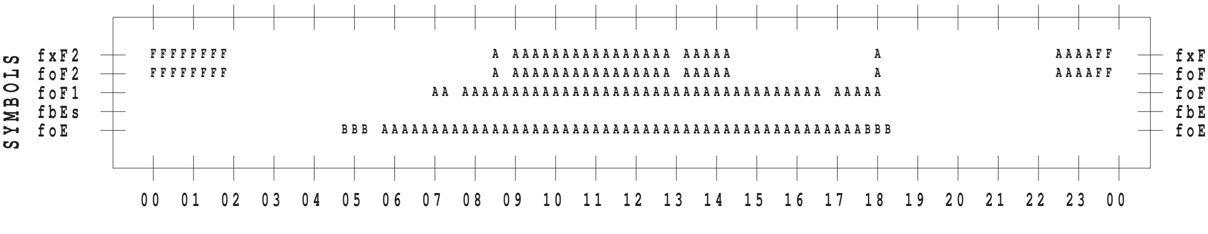
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2011/ 8/ 5

135 °E MEAN TIME







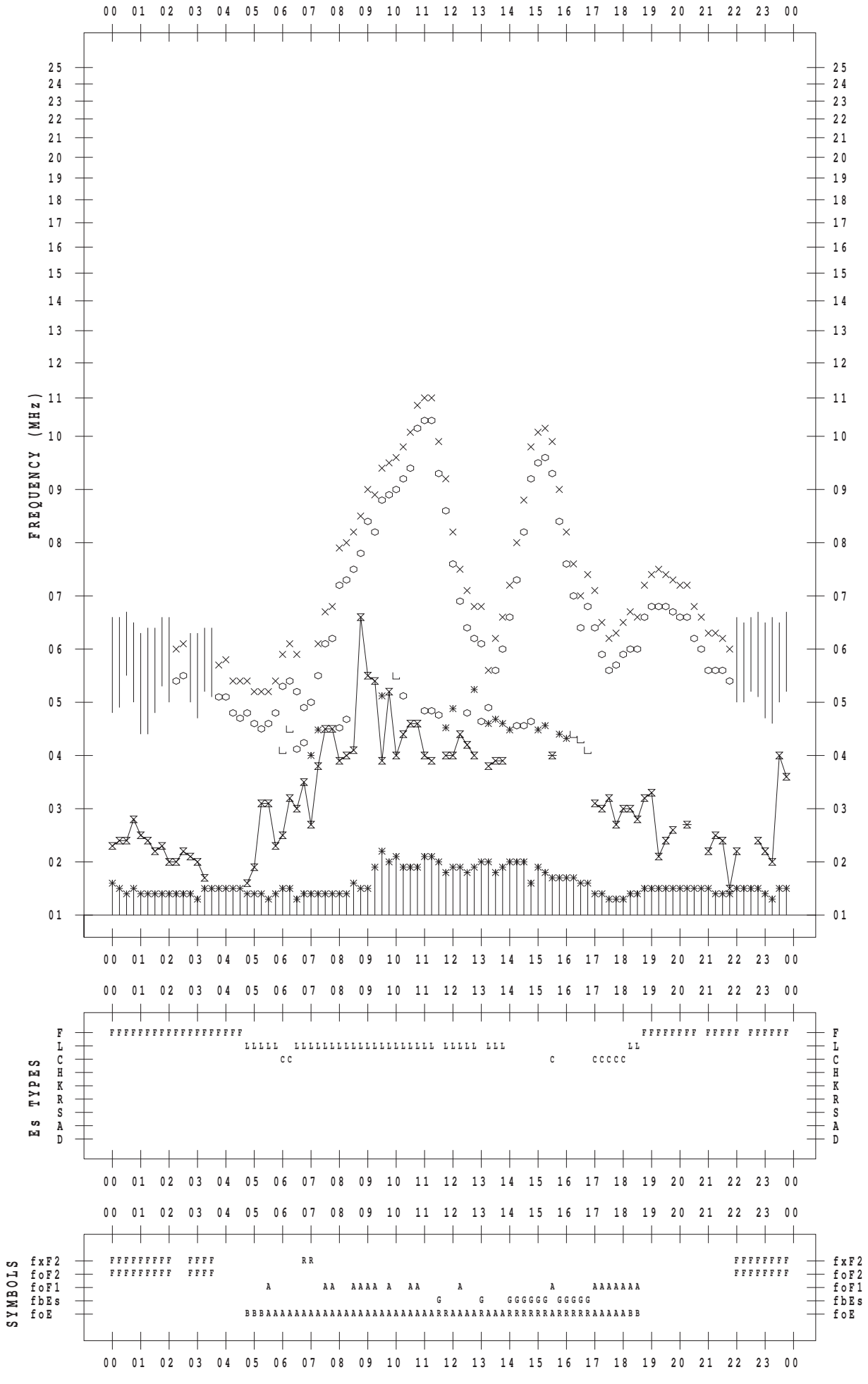
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/ 6

135 °E MEAN TIME



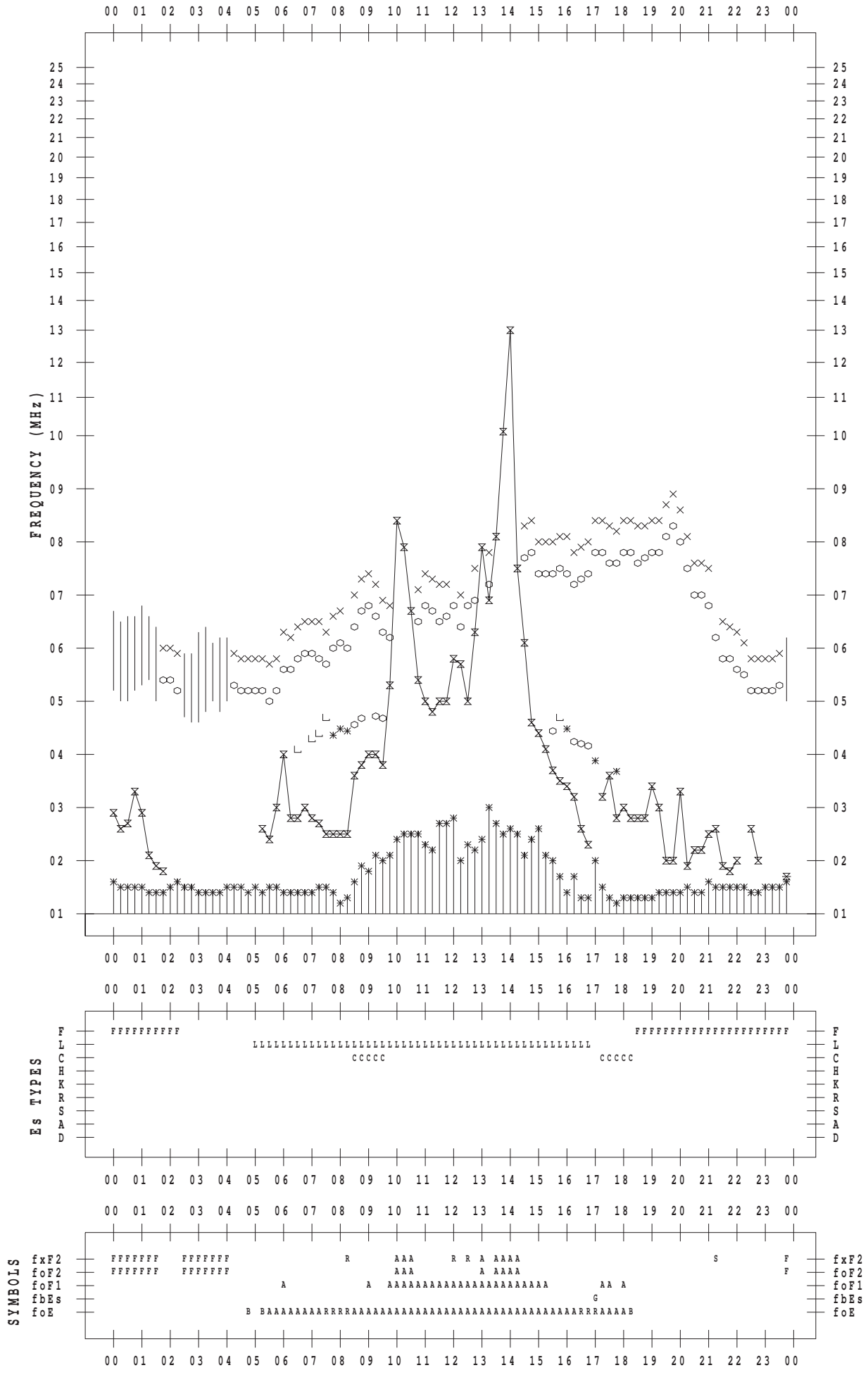
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/ 7

135 °E MEAN TIME



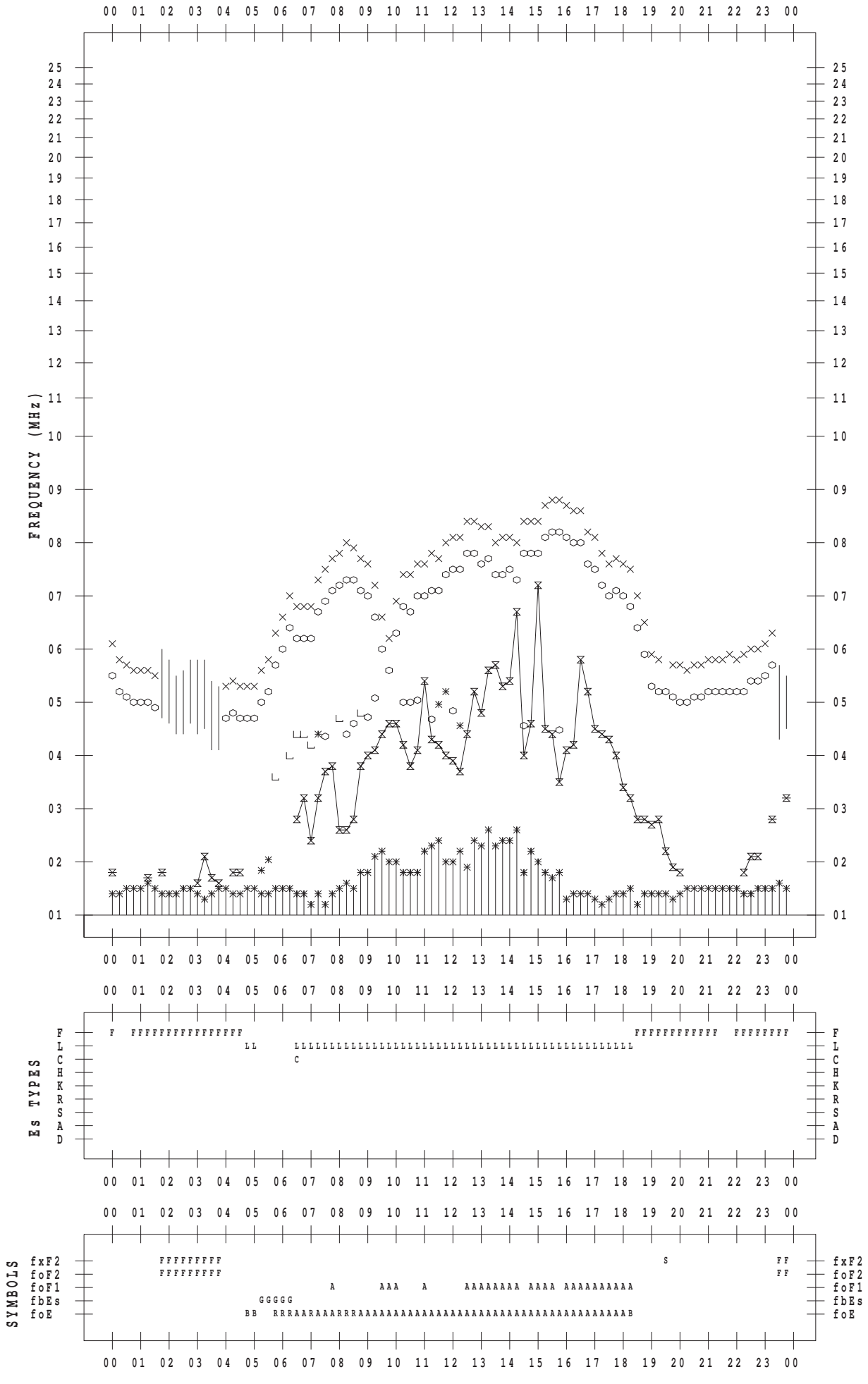
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/ 8

135 °E MEAN TIME



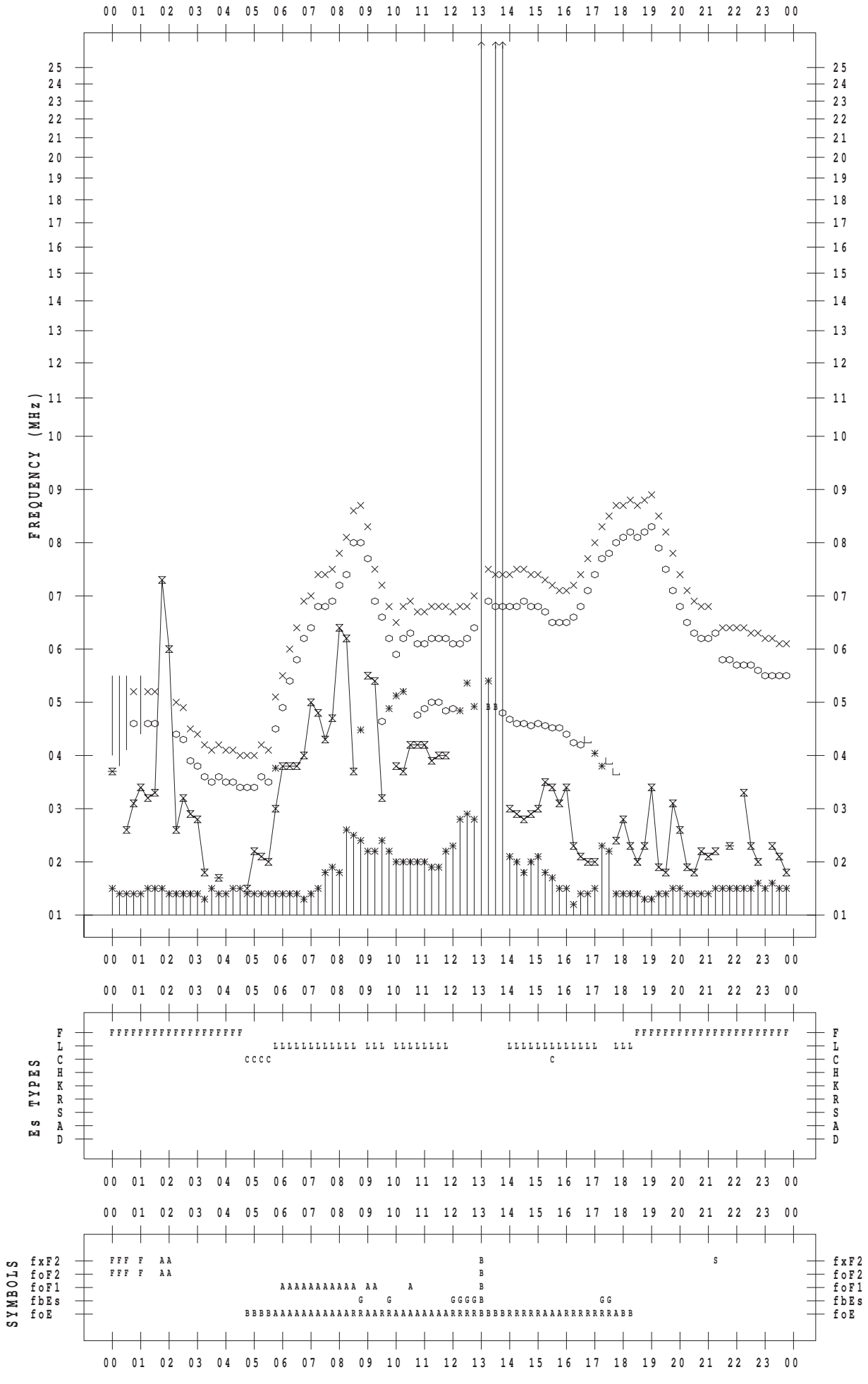
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/ 9

135 °E MEAN TIME



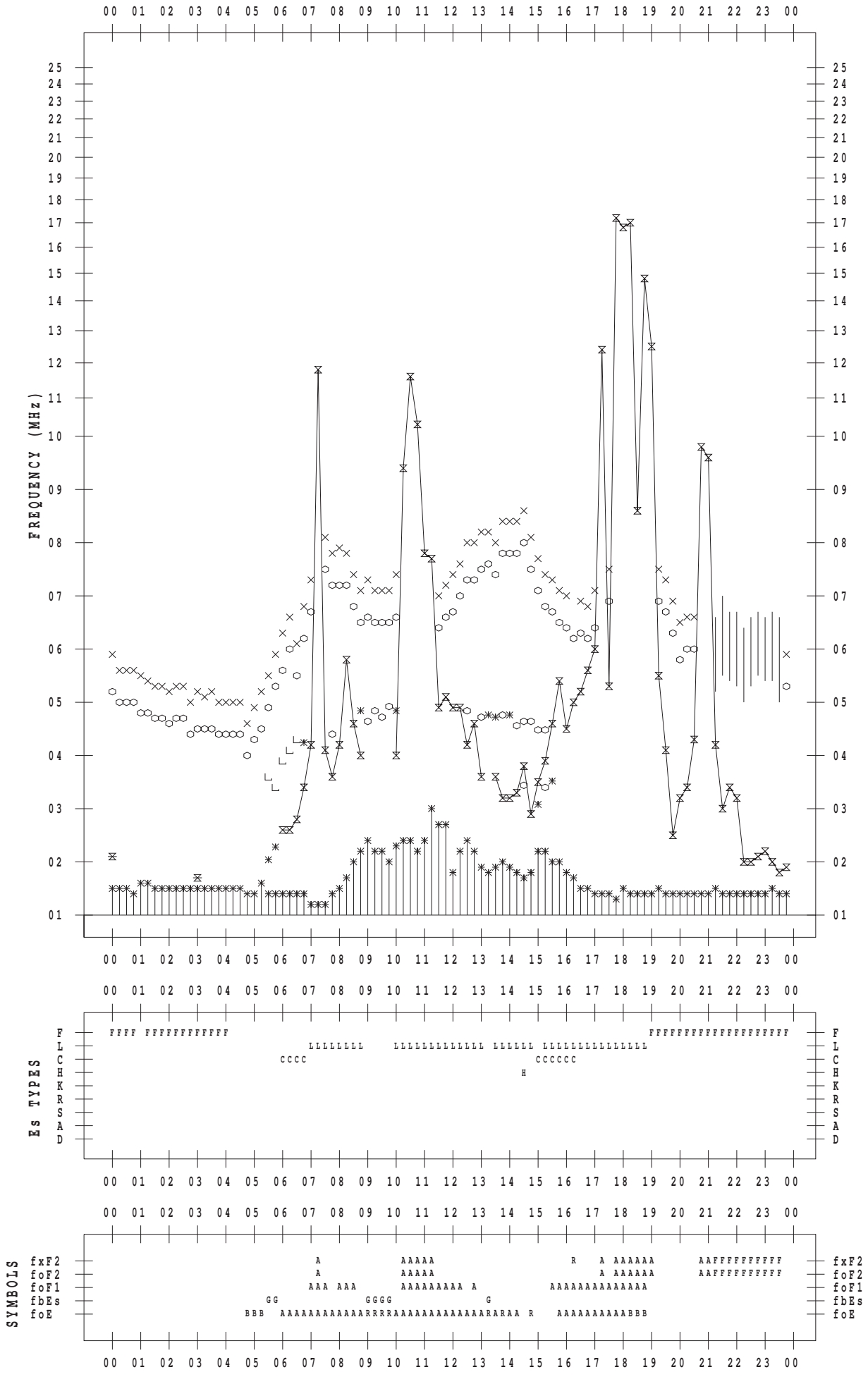
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/10

135 °E MEAN TIME



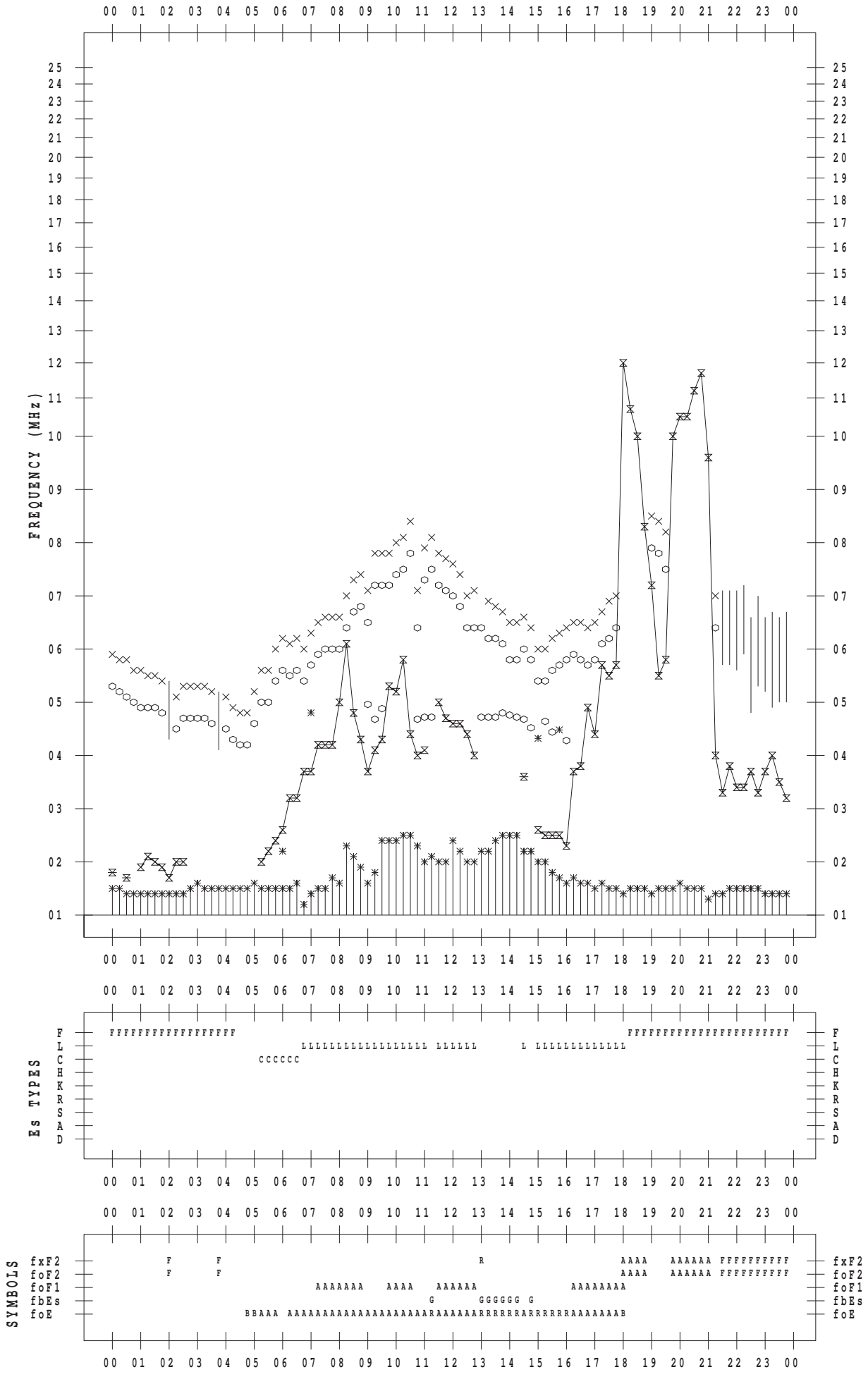
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/11

135 °E MEAN TIME



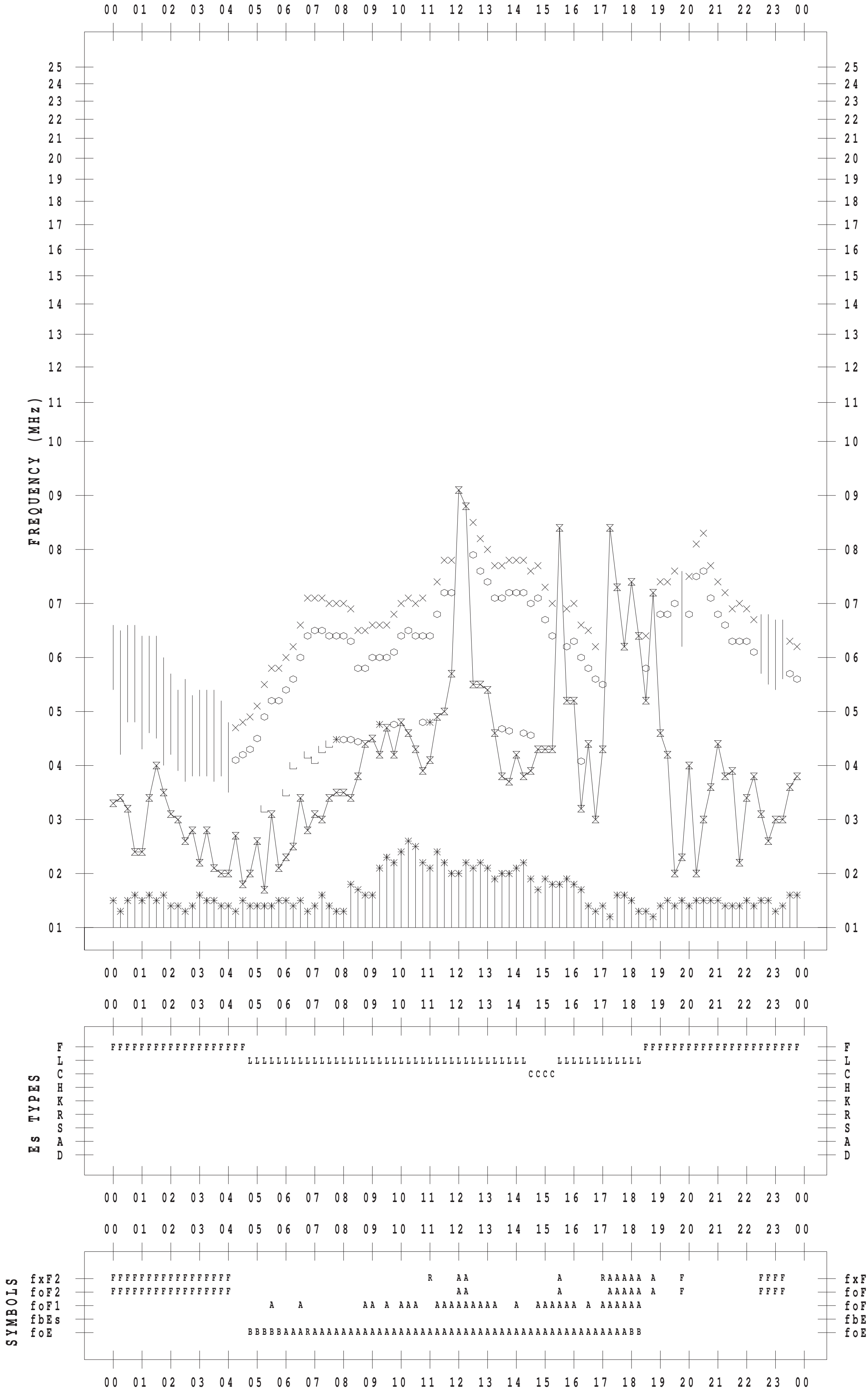
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/12

135 °E MEAN TIME



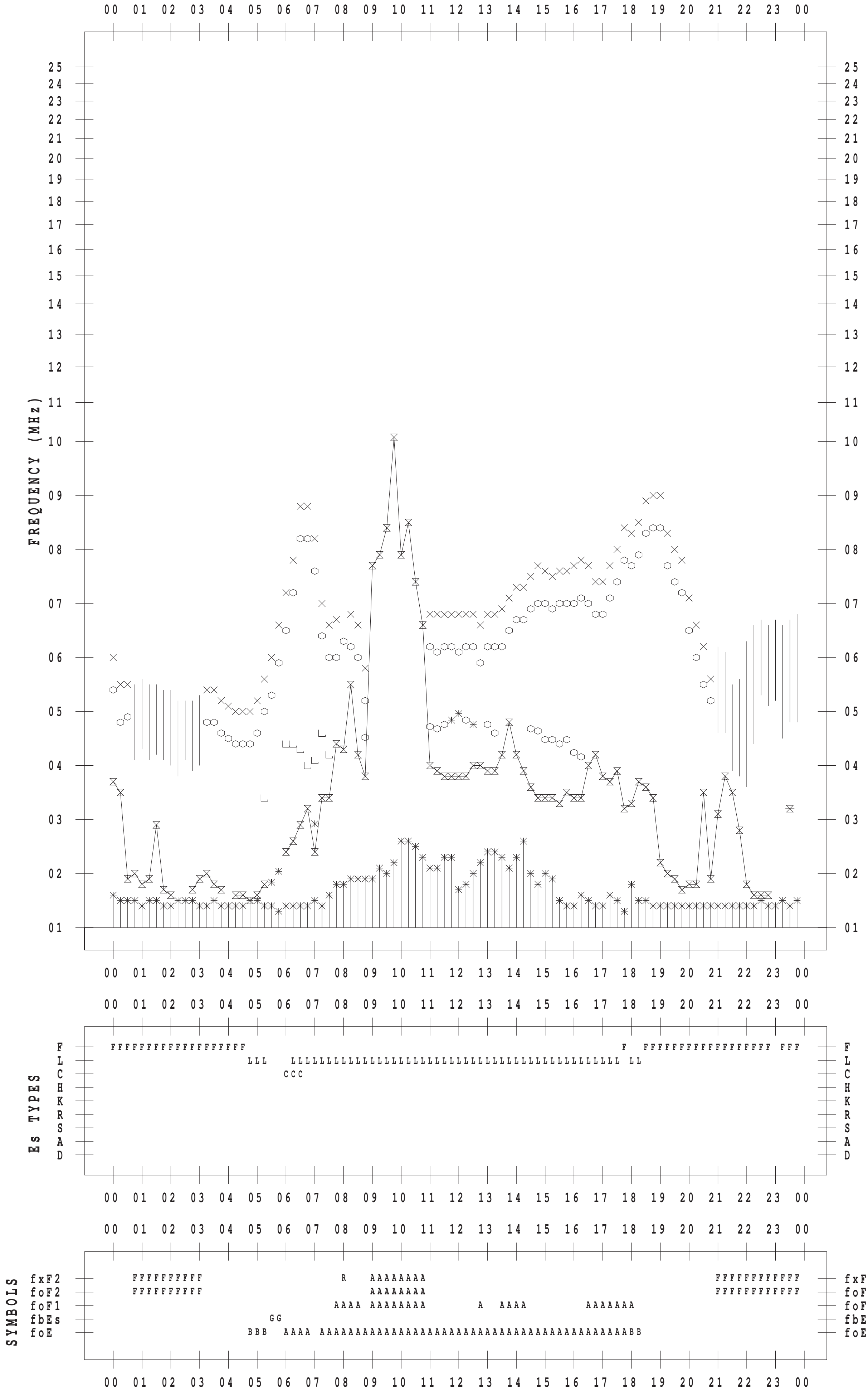
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/13

135 °E MEAN TIME

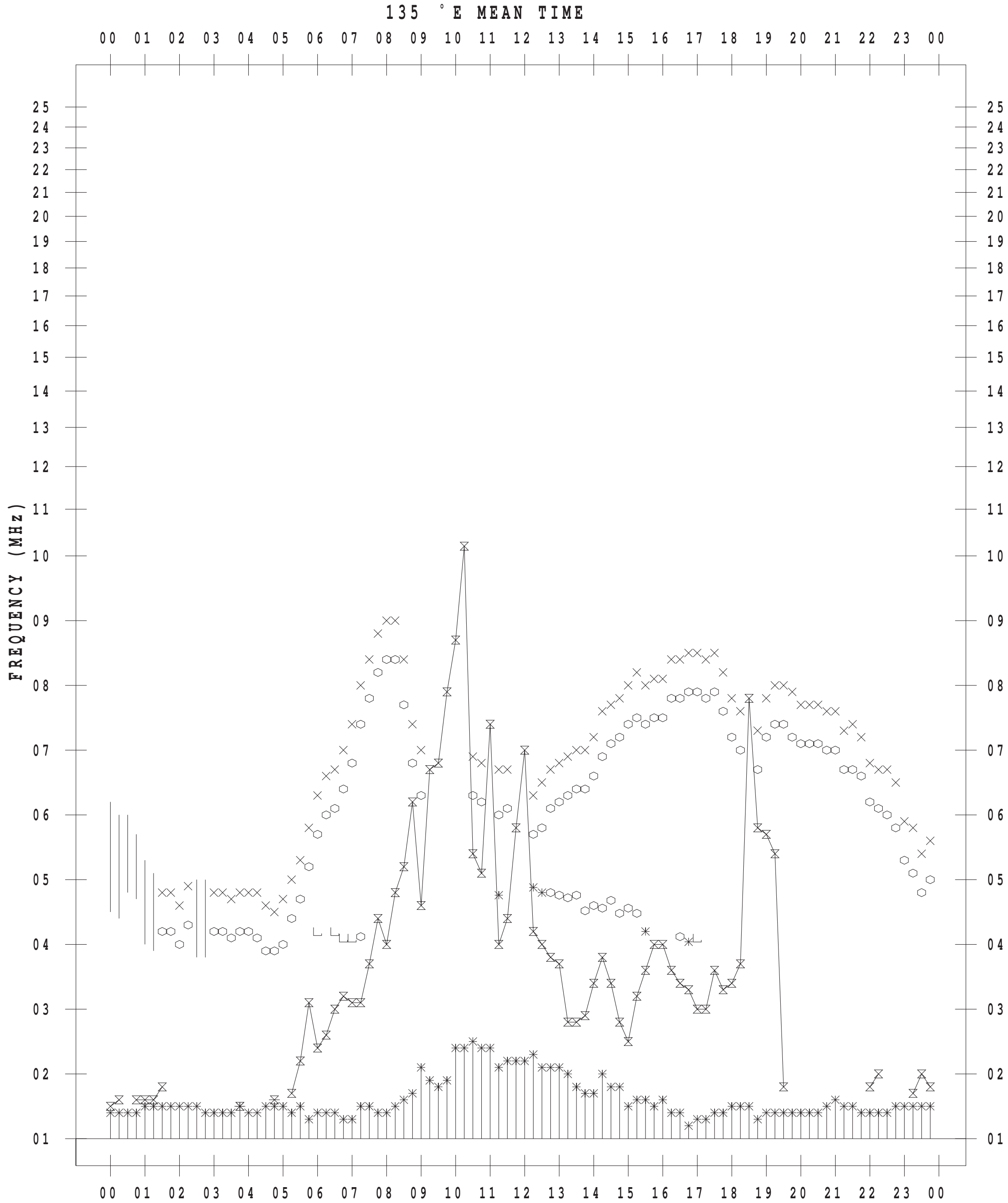


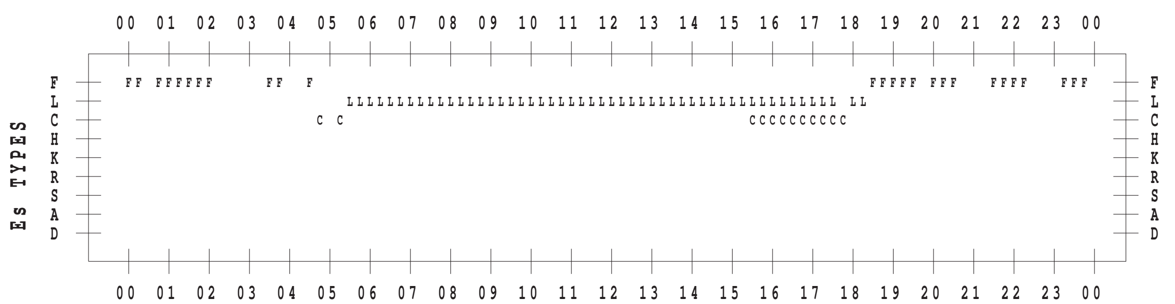
f-PLOT DATA

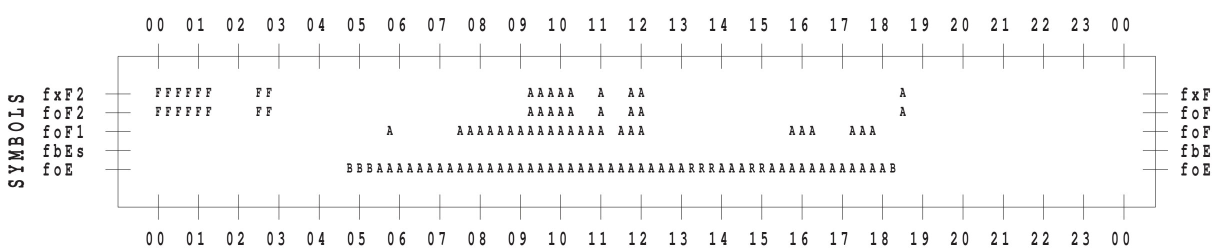
SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/14







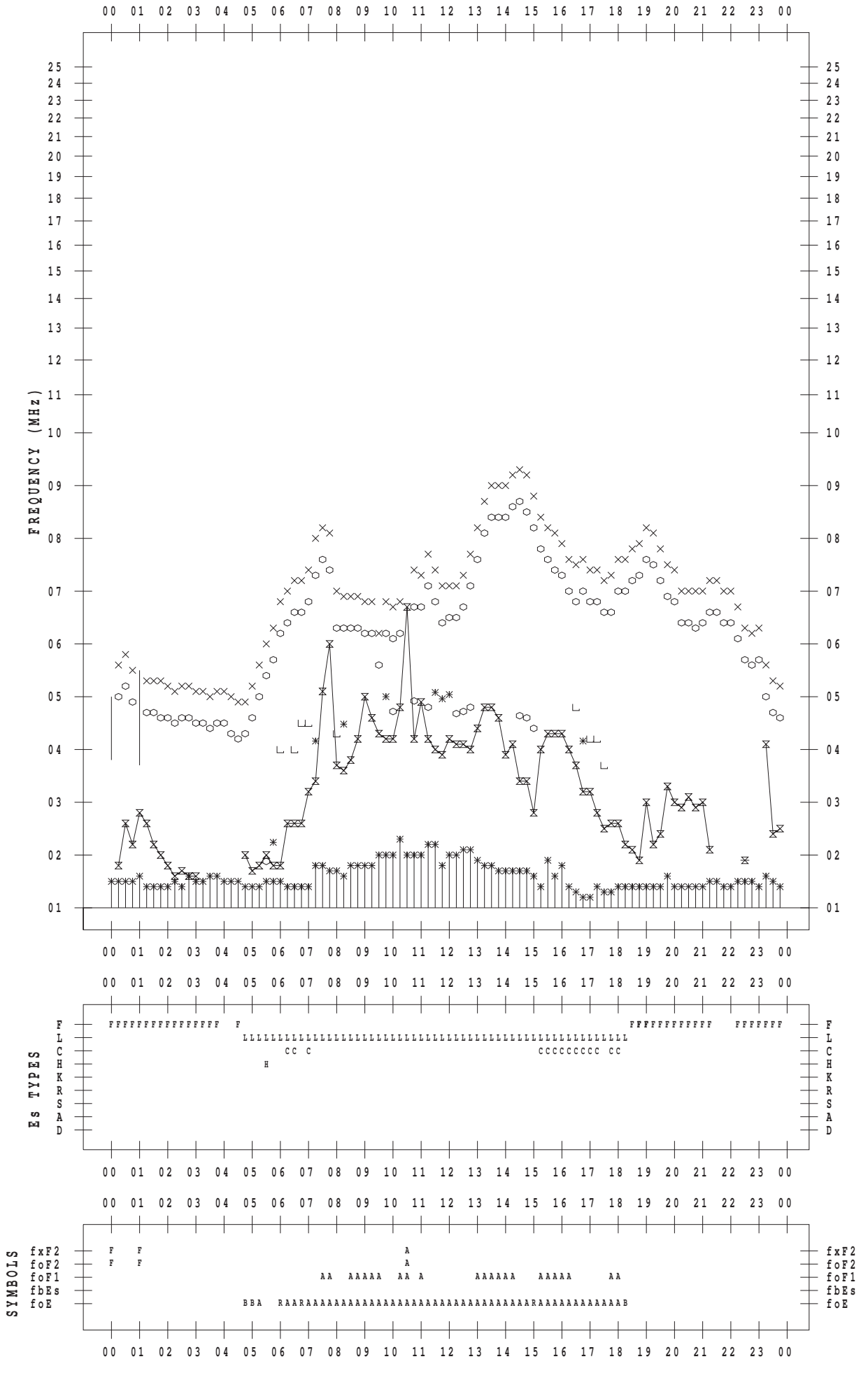
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/15

135 °E MEAN TIME



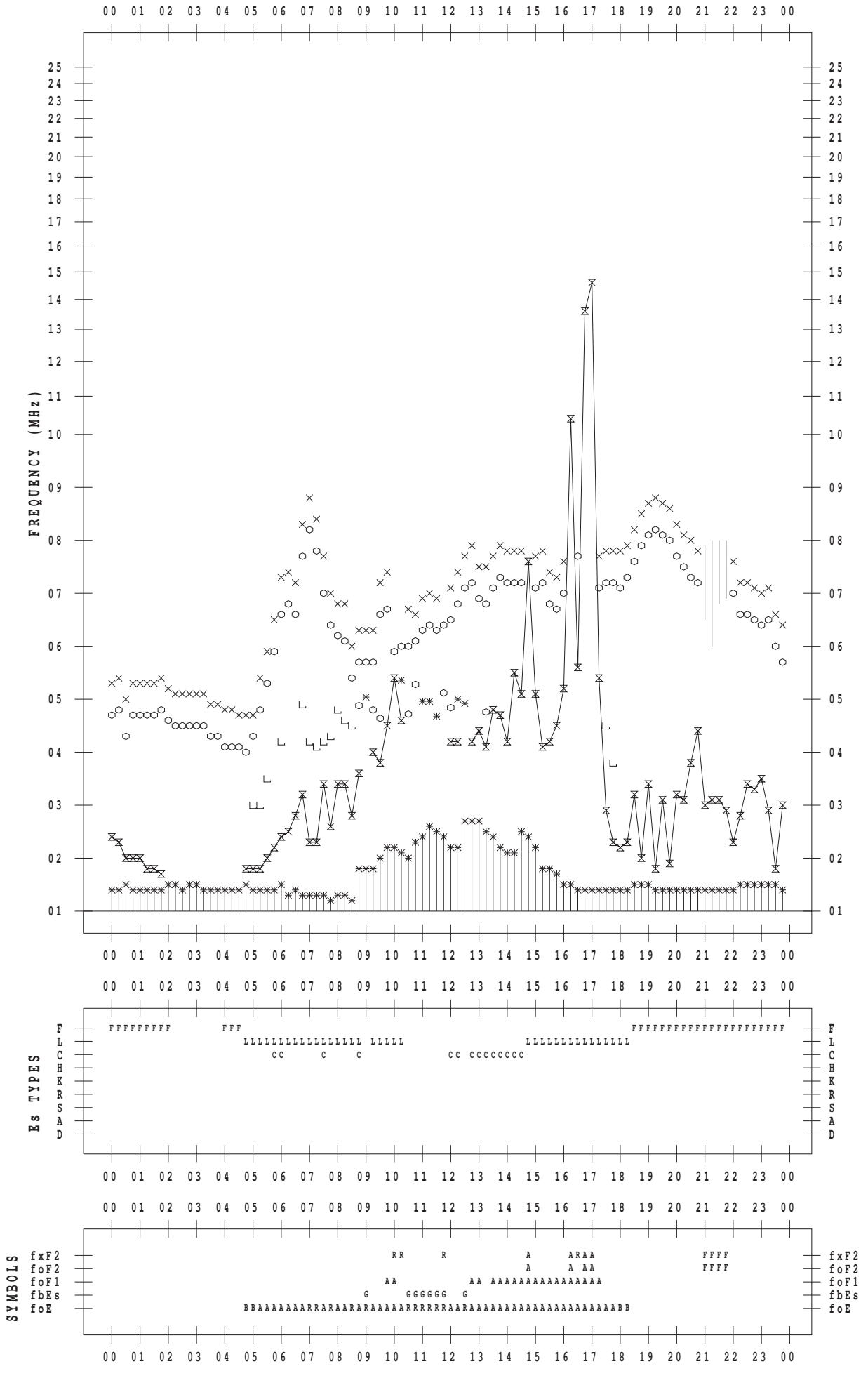
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/16

135 °E MEAN TIME



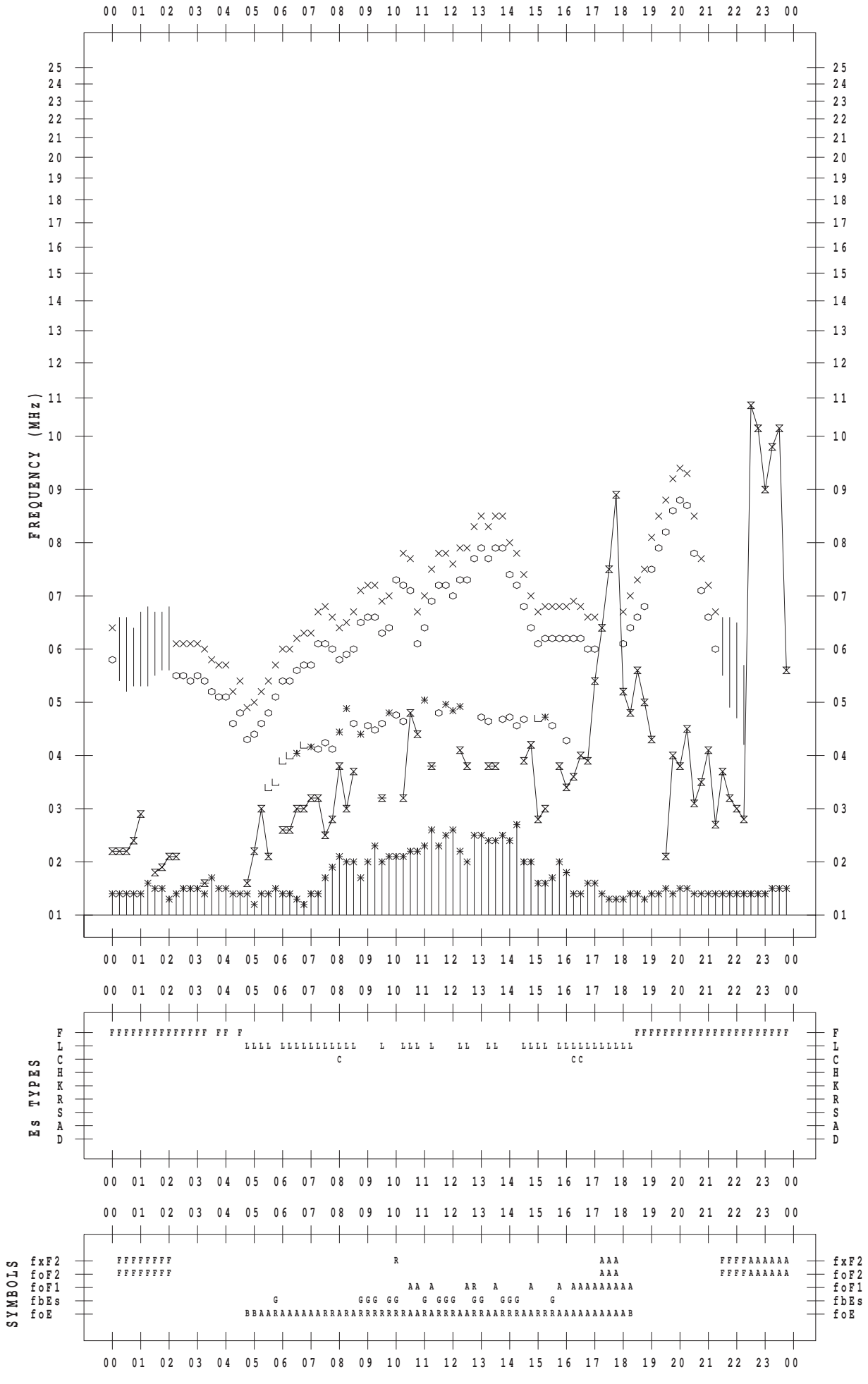
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/17

135 °E MEAN TIME



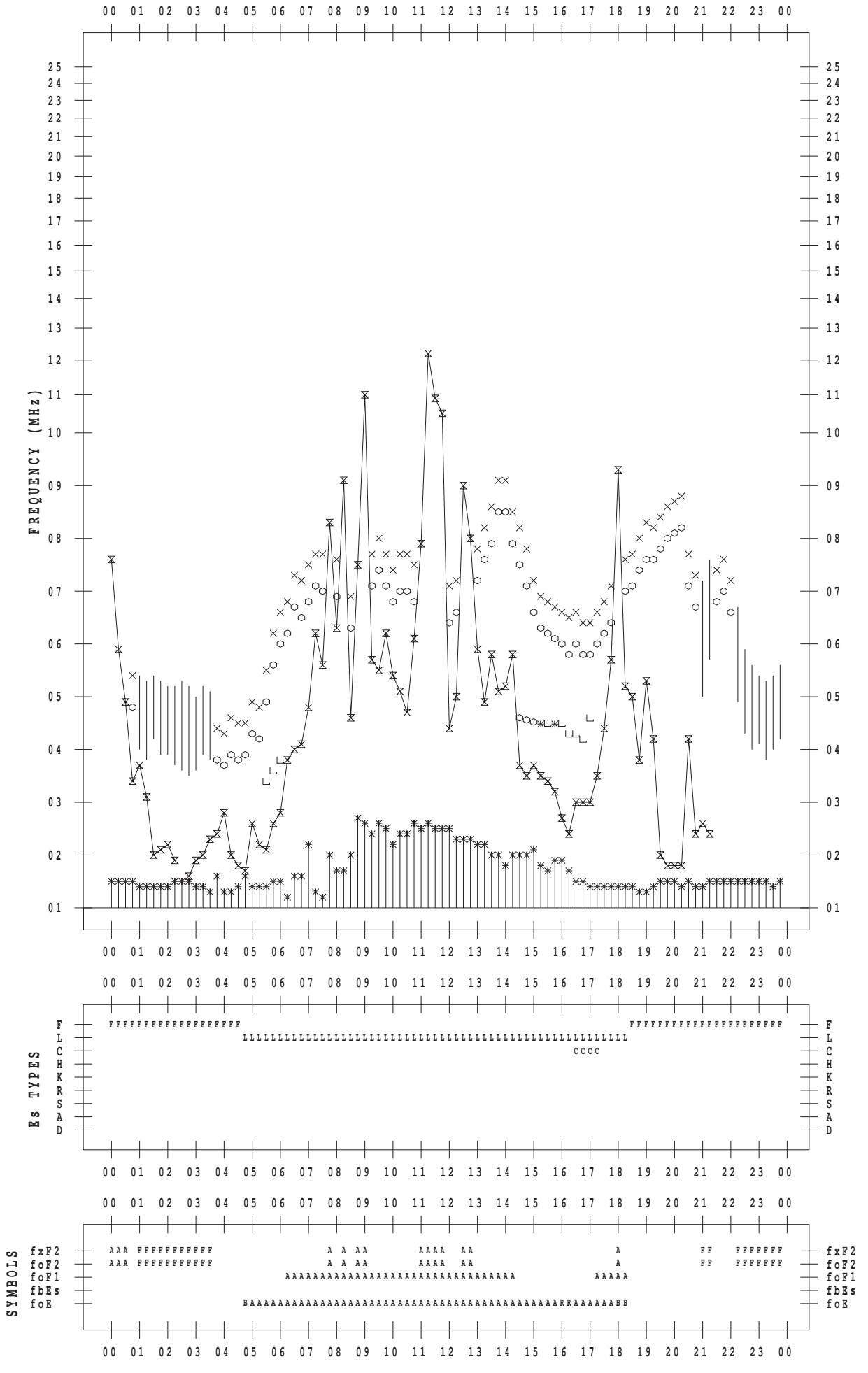
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/18

135 °E MEAN TIME



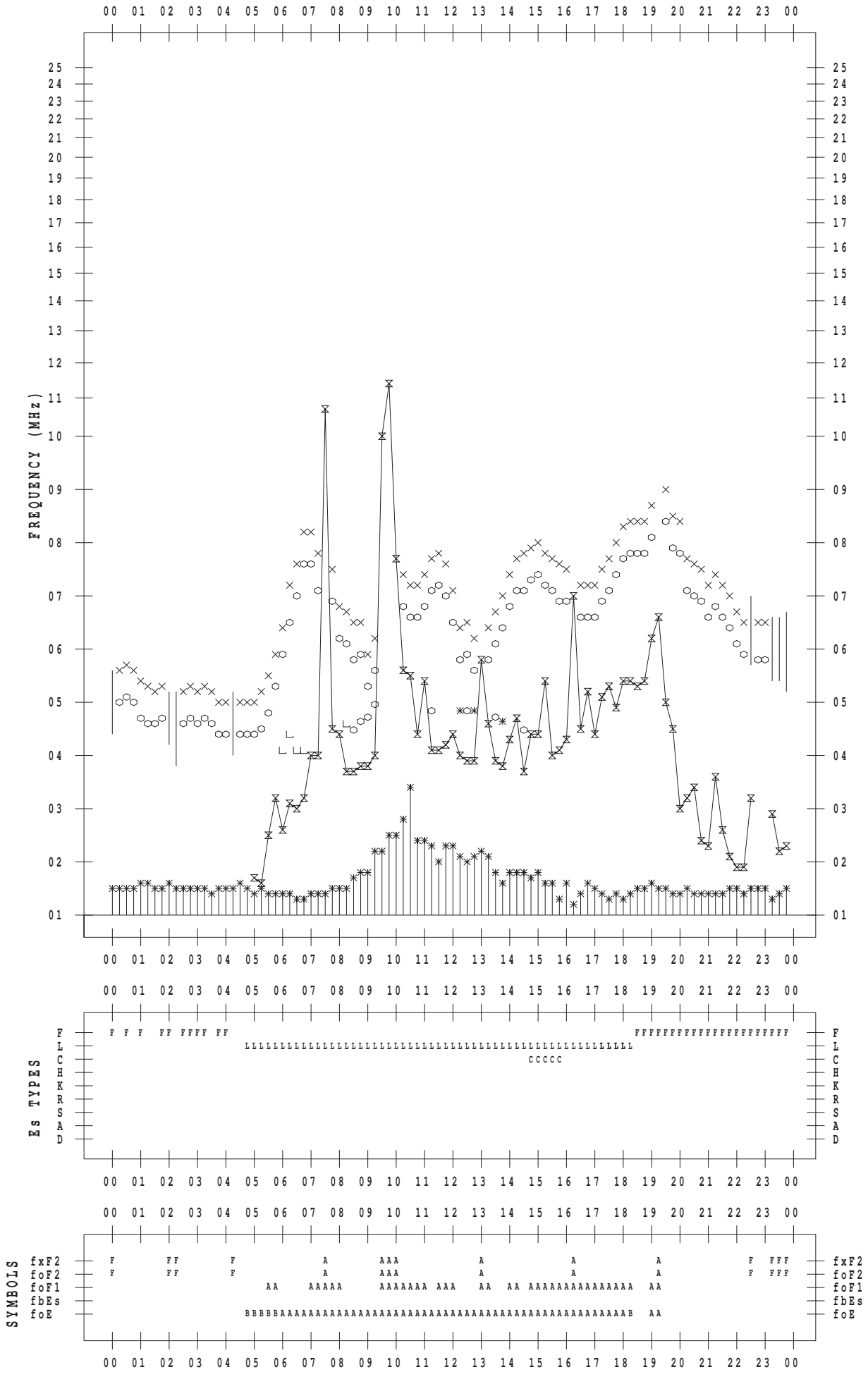
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/19

135 °E MEAN TIME



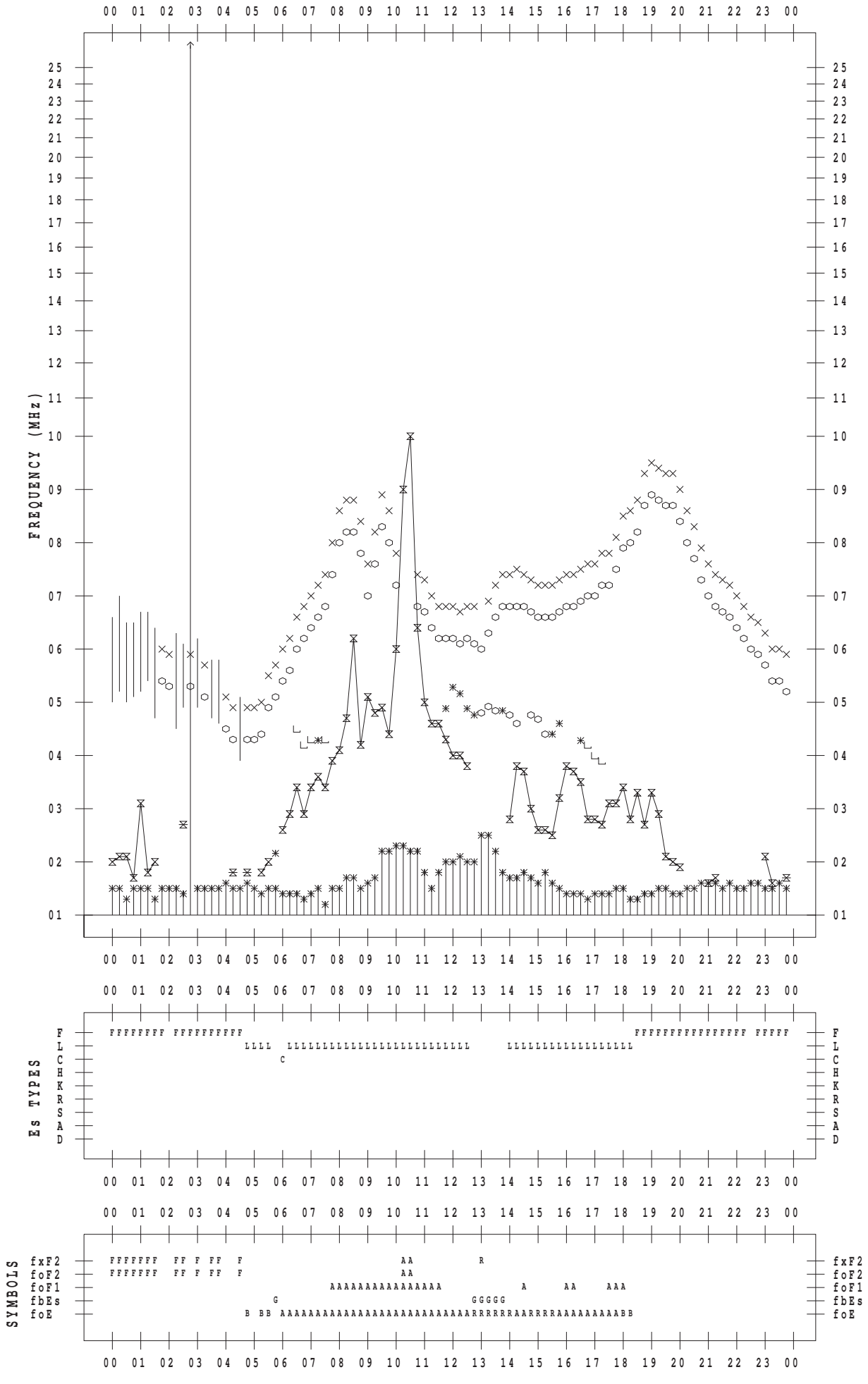
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/20

135 °E MEAN TIME



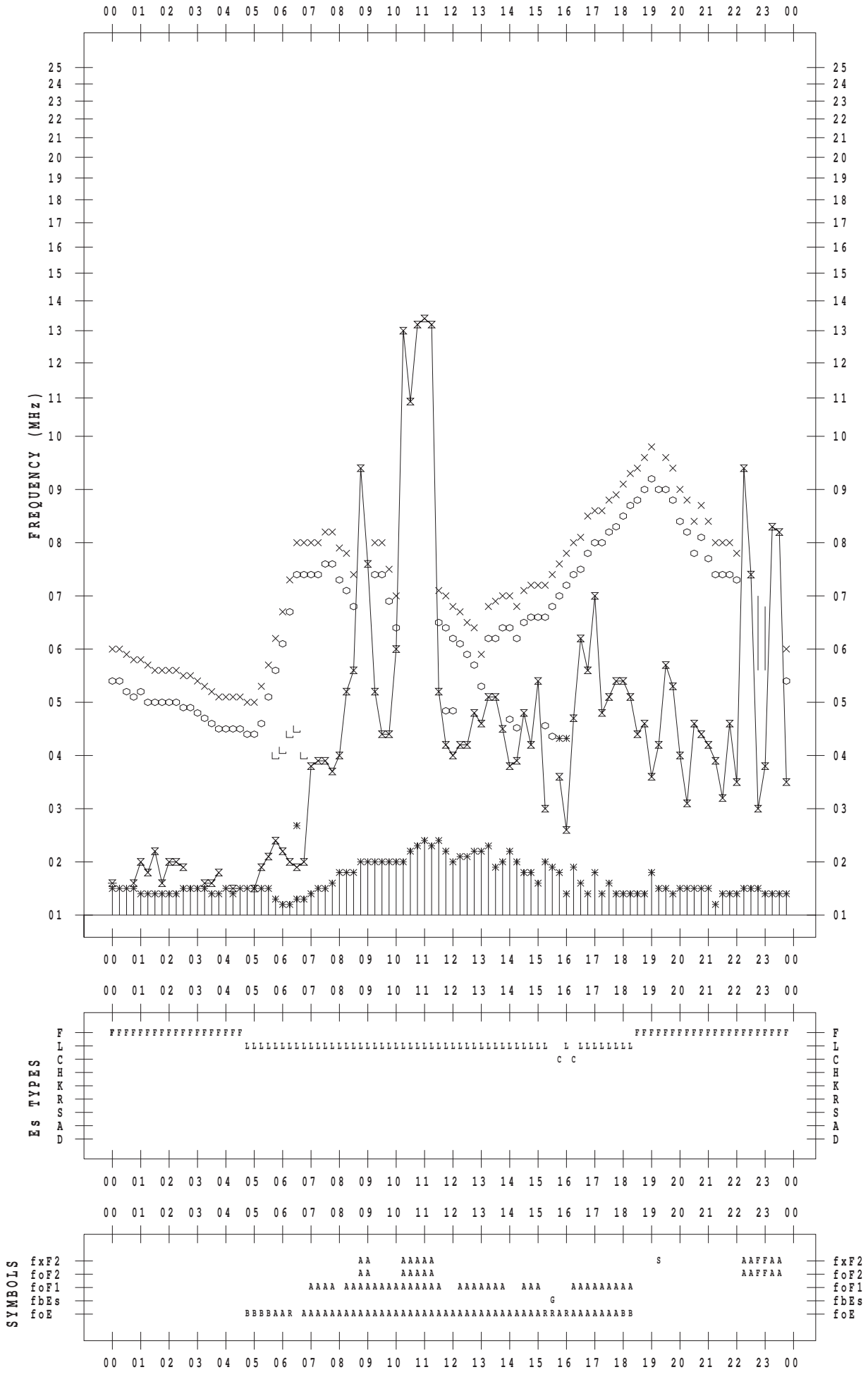
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/21

135 °E MEAN TIME



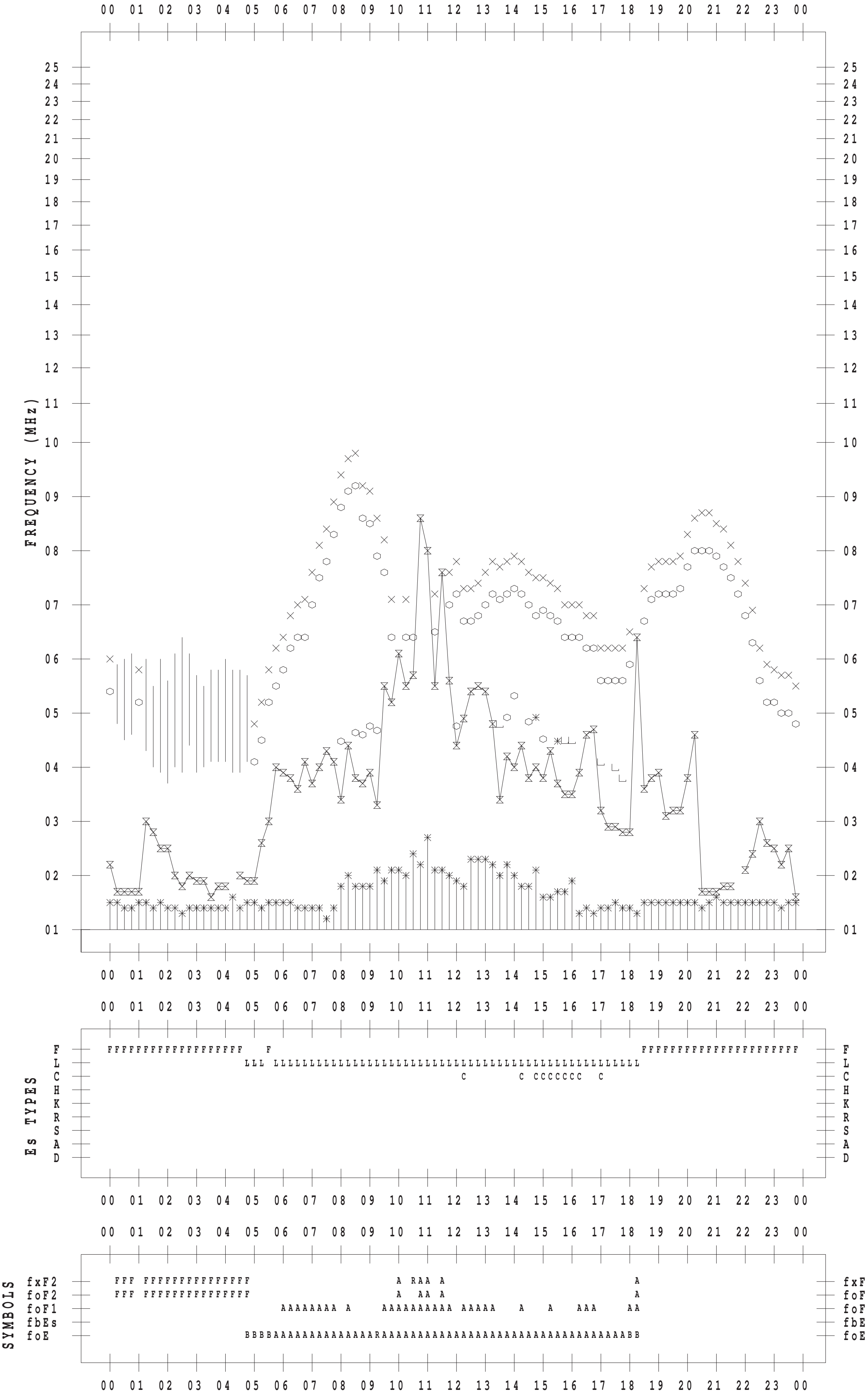
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/22

135 °E MEAN TIME



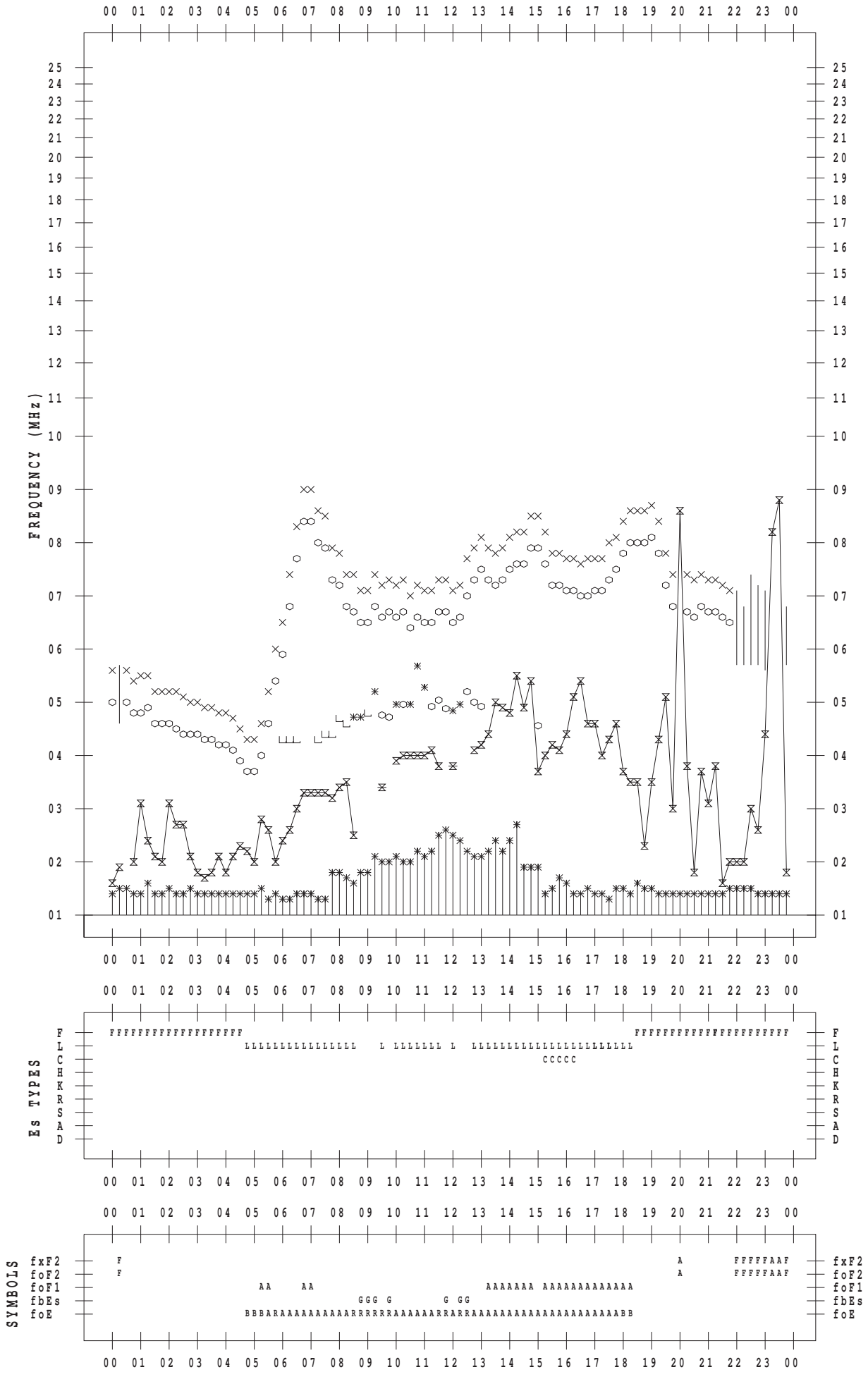
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/23

135 °E MEAN TIME



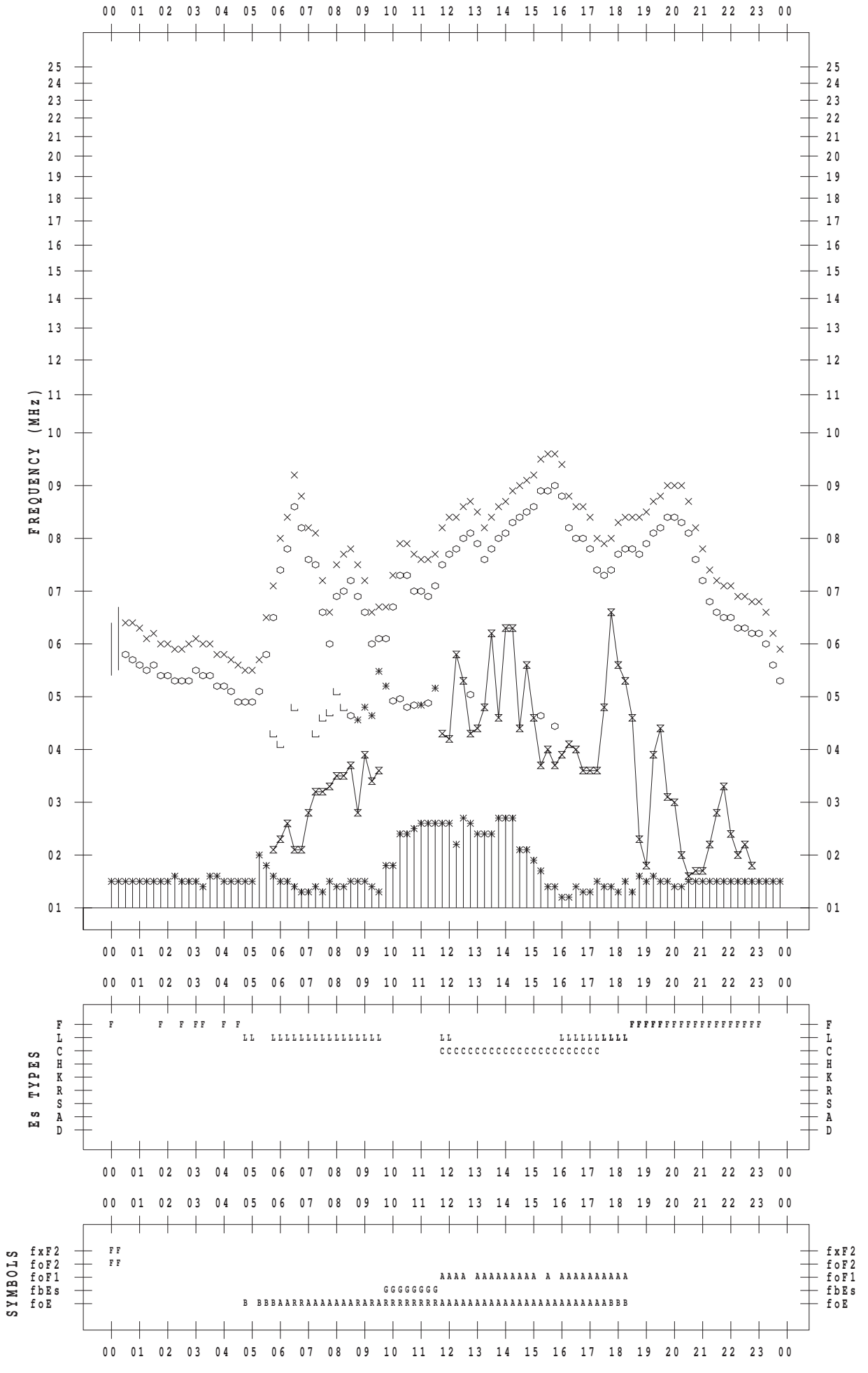
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/24

135 °E MEAN TIME



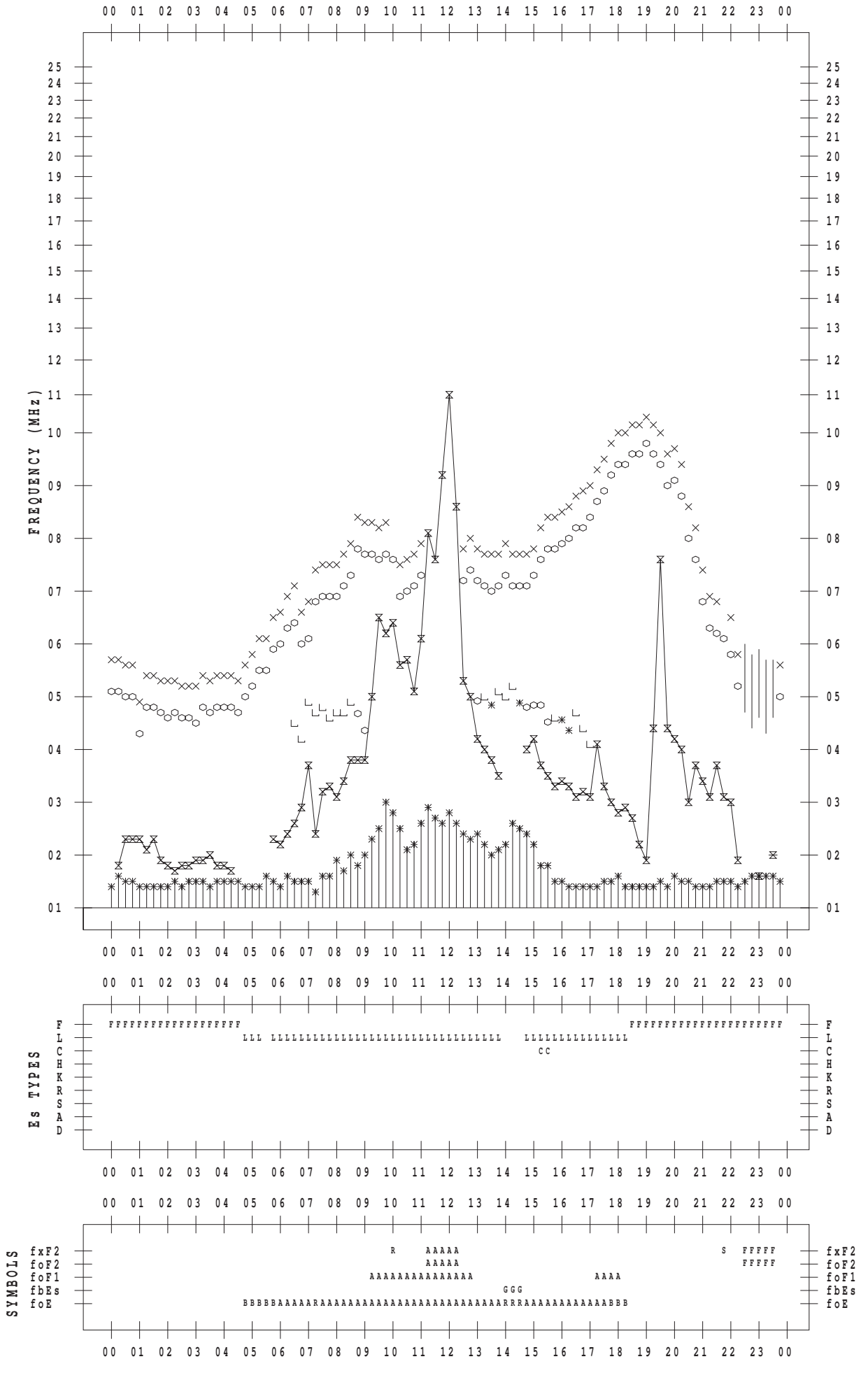
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/25

135 °E MEAN TIME



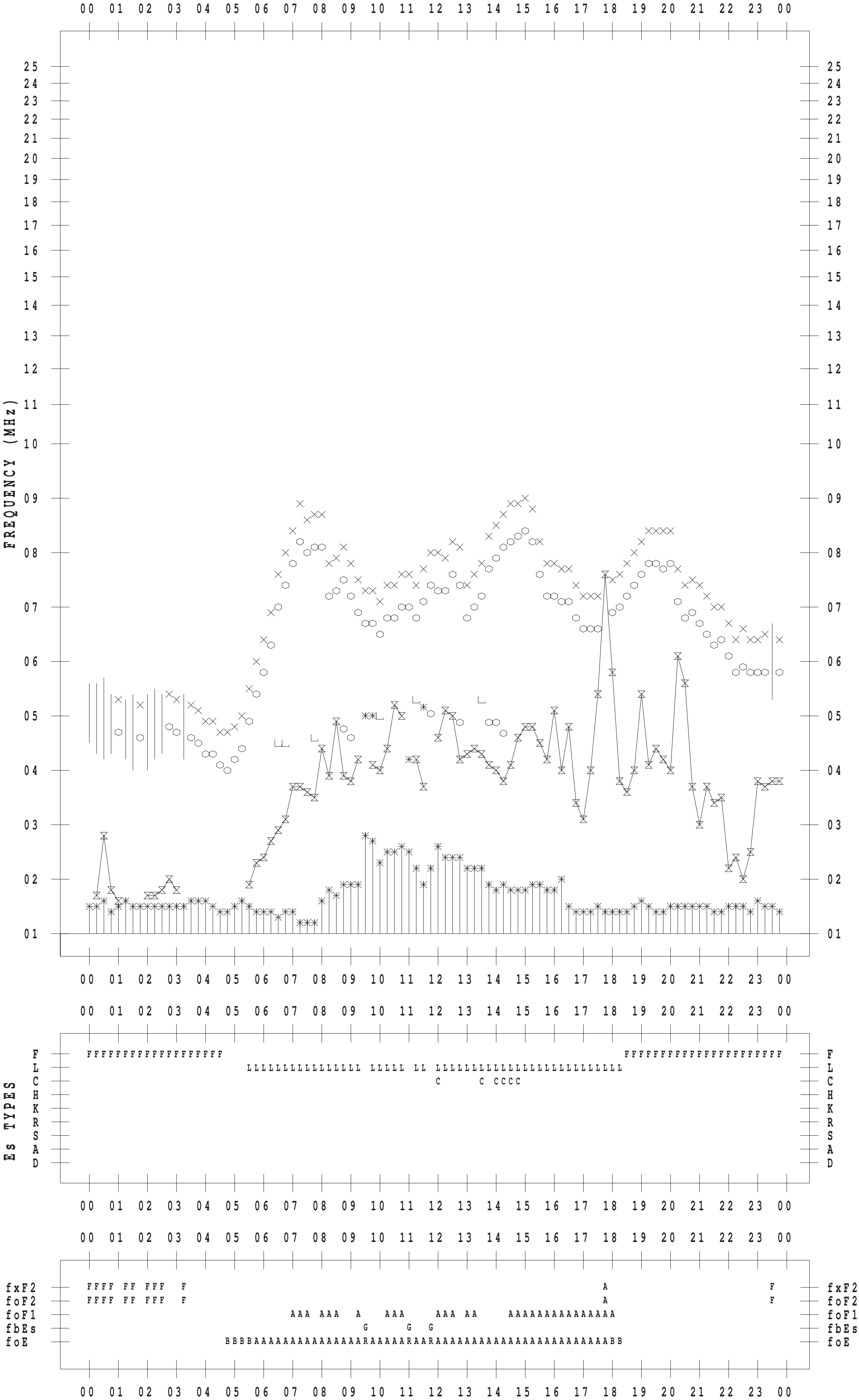
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/26

135 °E MEAN TIME



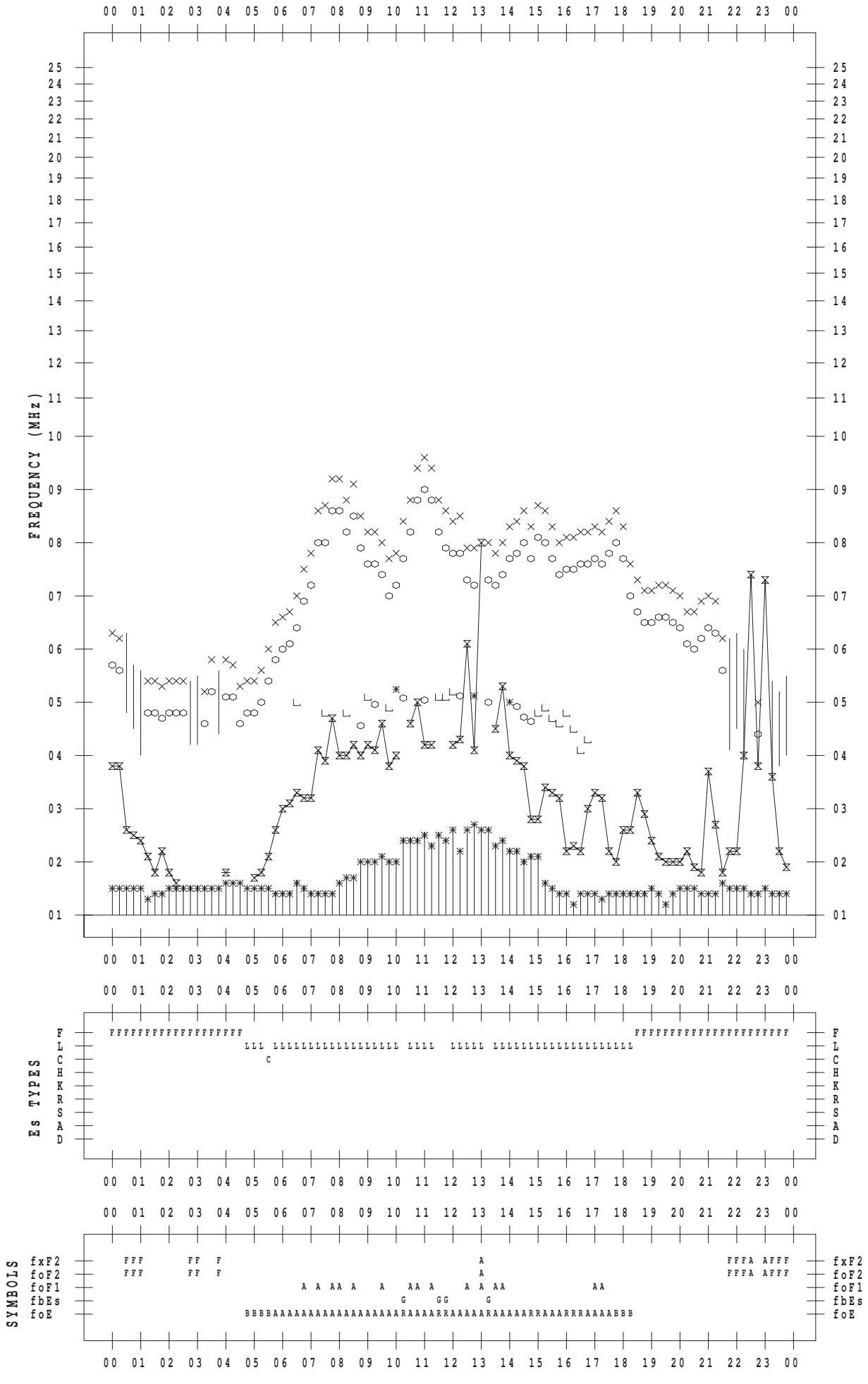
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/27

135 °E MEAN TIME

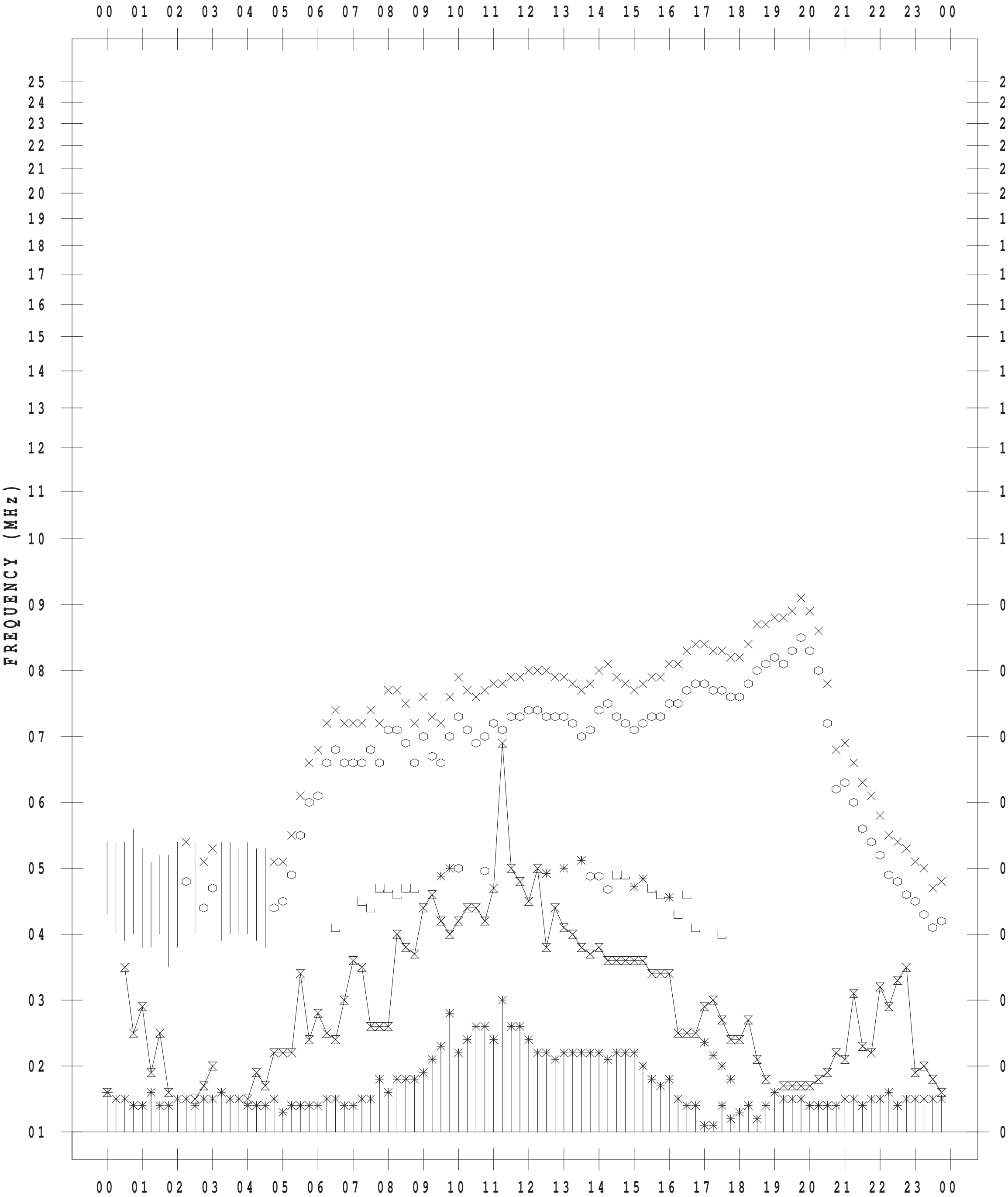


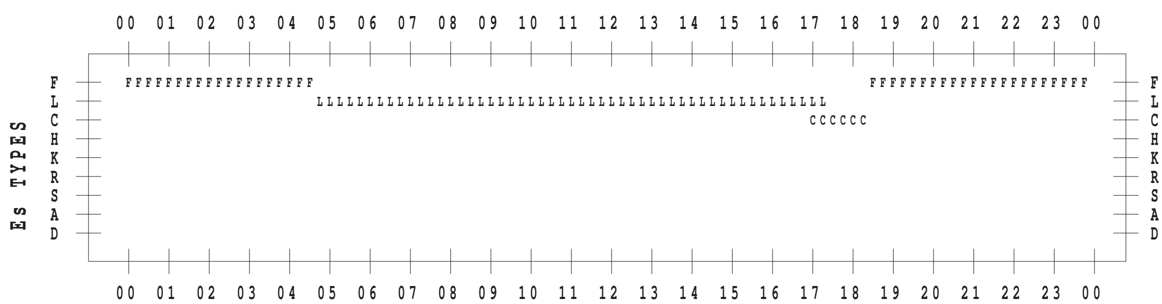
f-PLOT DATA

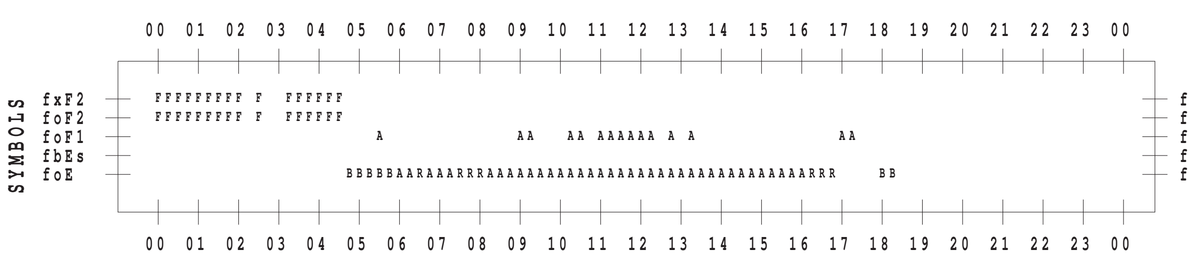
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2011/ 8/28

135 °E MEAN TIME







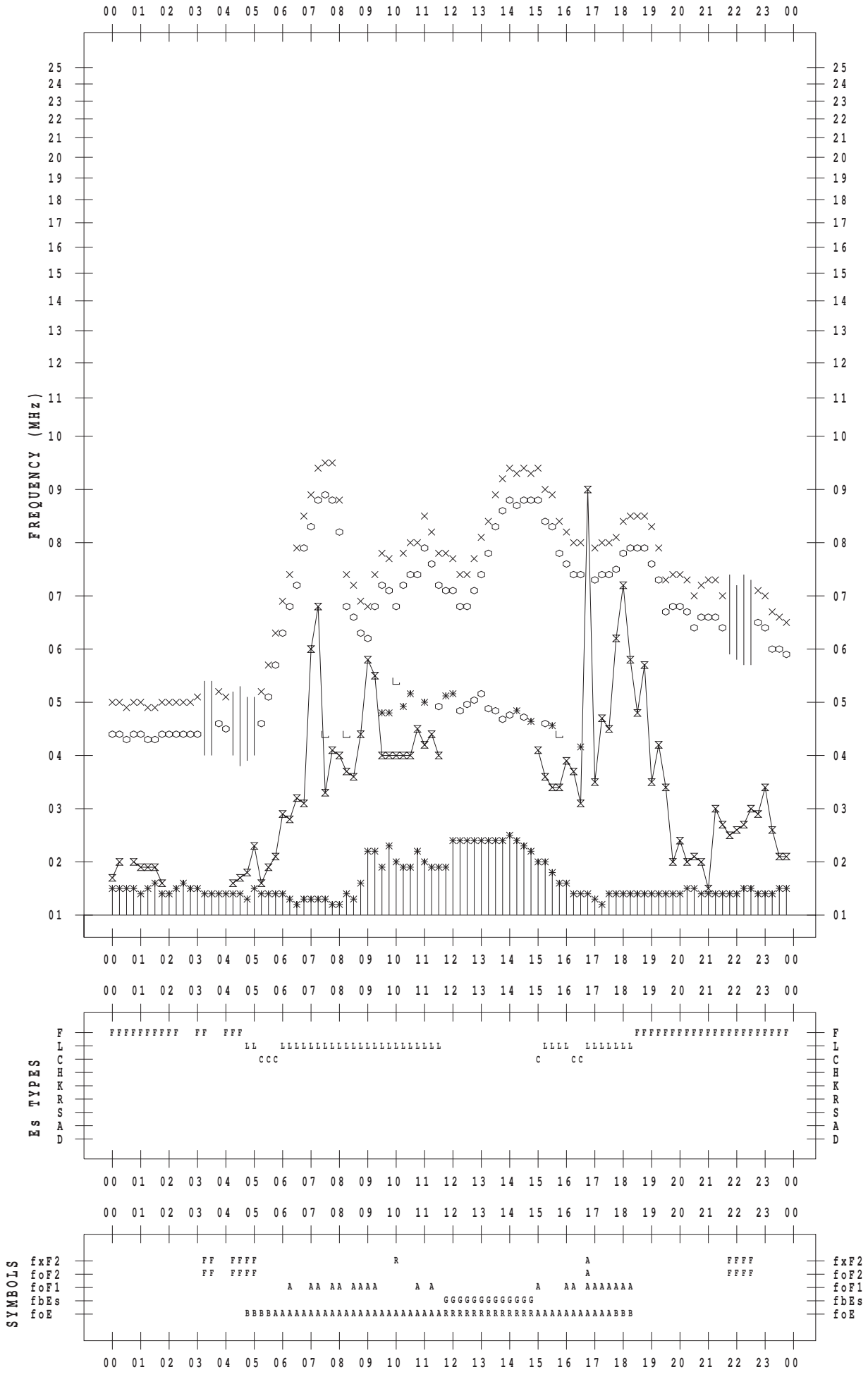
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/29

135 °E MEAN TIME



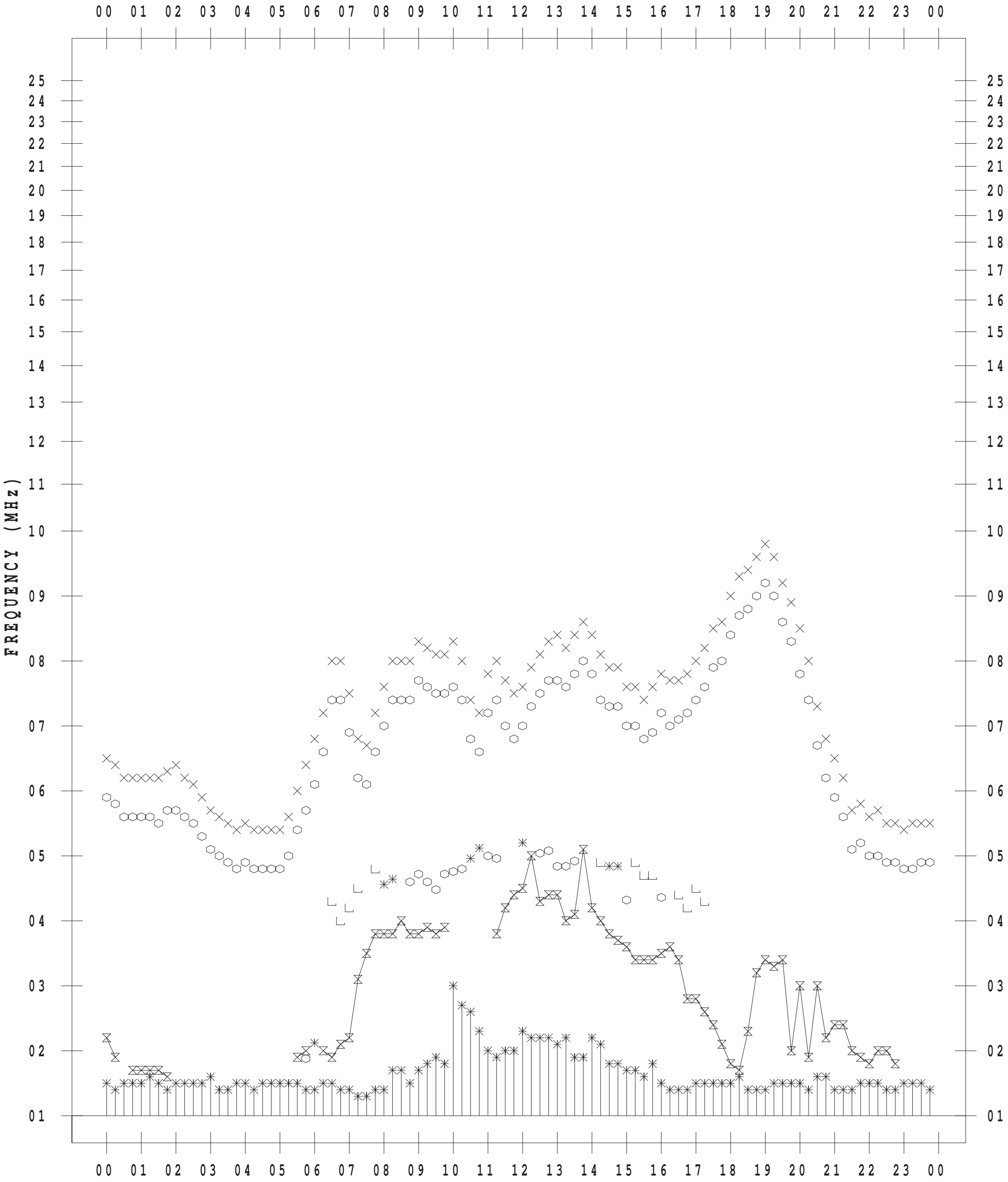
f-PLOT DATA

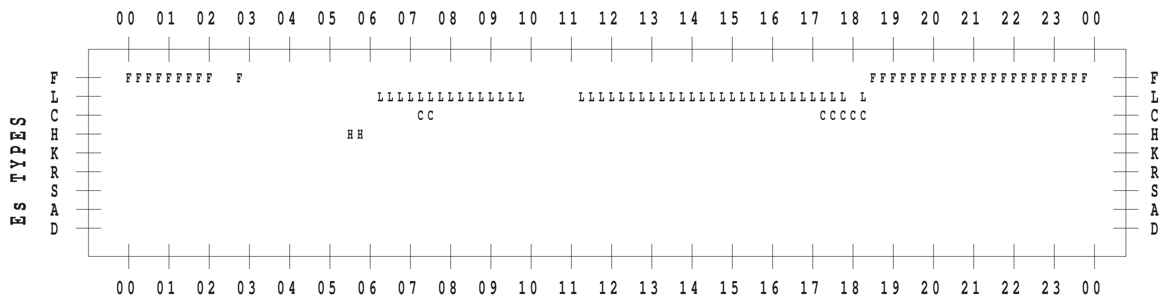
SCALER : I.NISHIMUTA

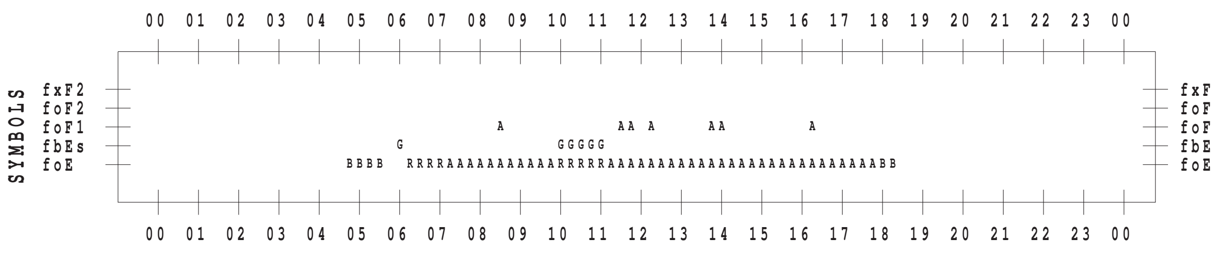
STATION : Kokubunji

DATE : 2011/ 8/30

135 °E MEAN TIME







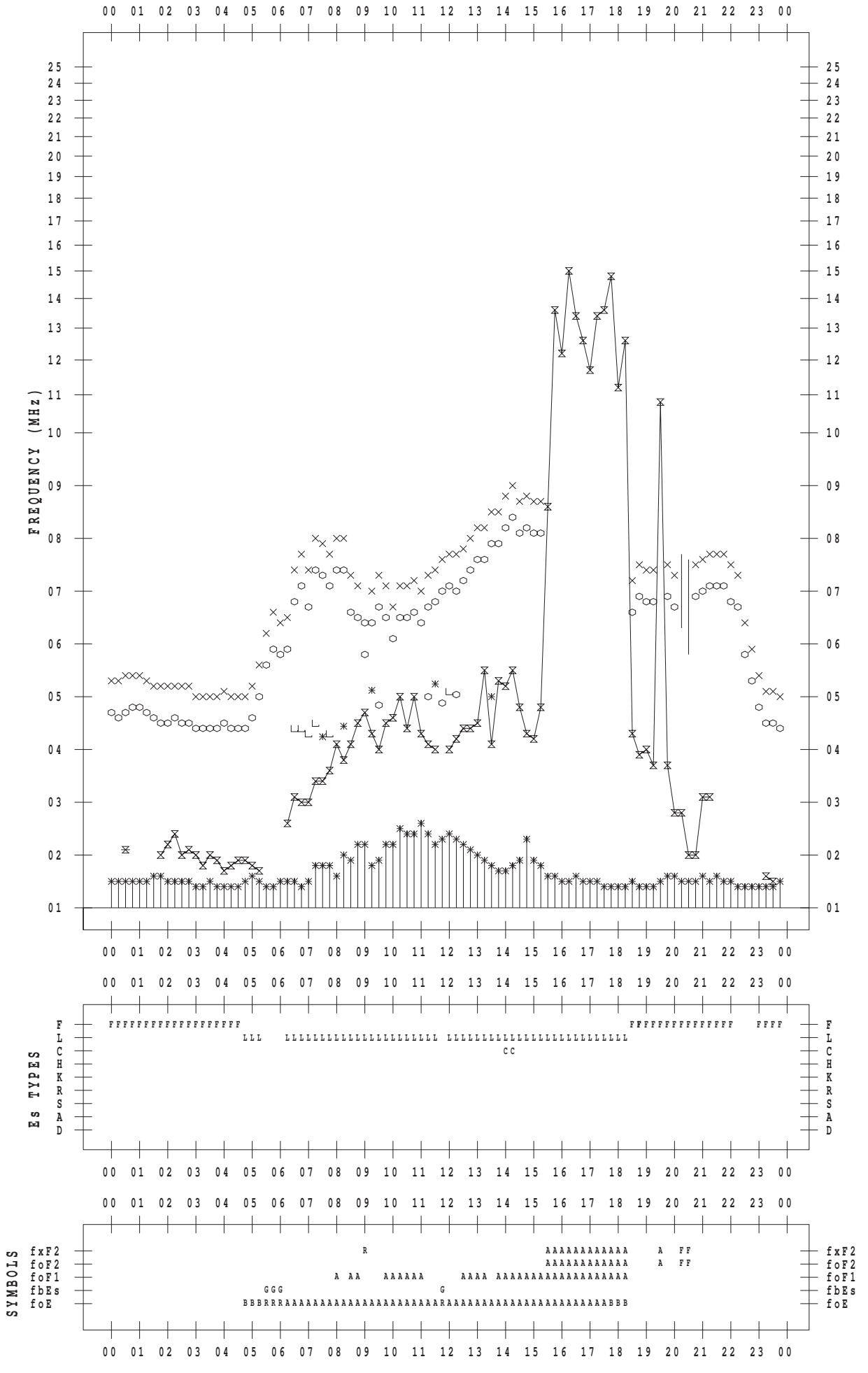
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2011/ 8/31

135 °E MEAN TIME



B. Solar Radio Emission

B1.Outstanding Occurrences at Hiraiso

Hiraiso August 2011

Single-frequency observations

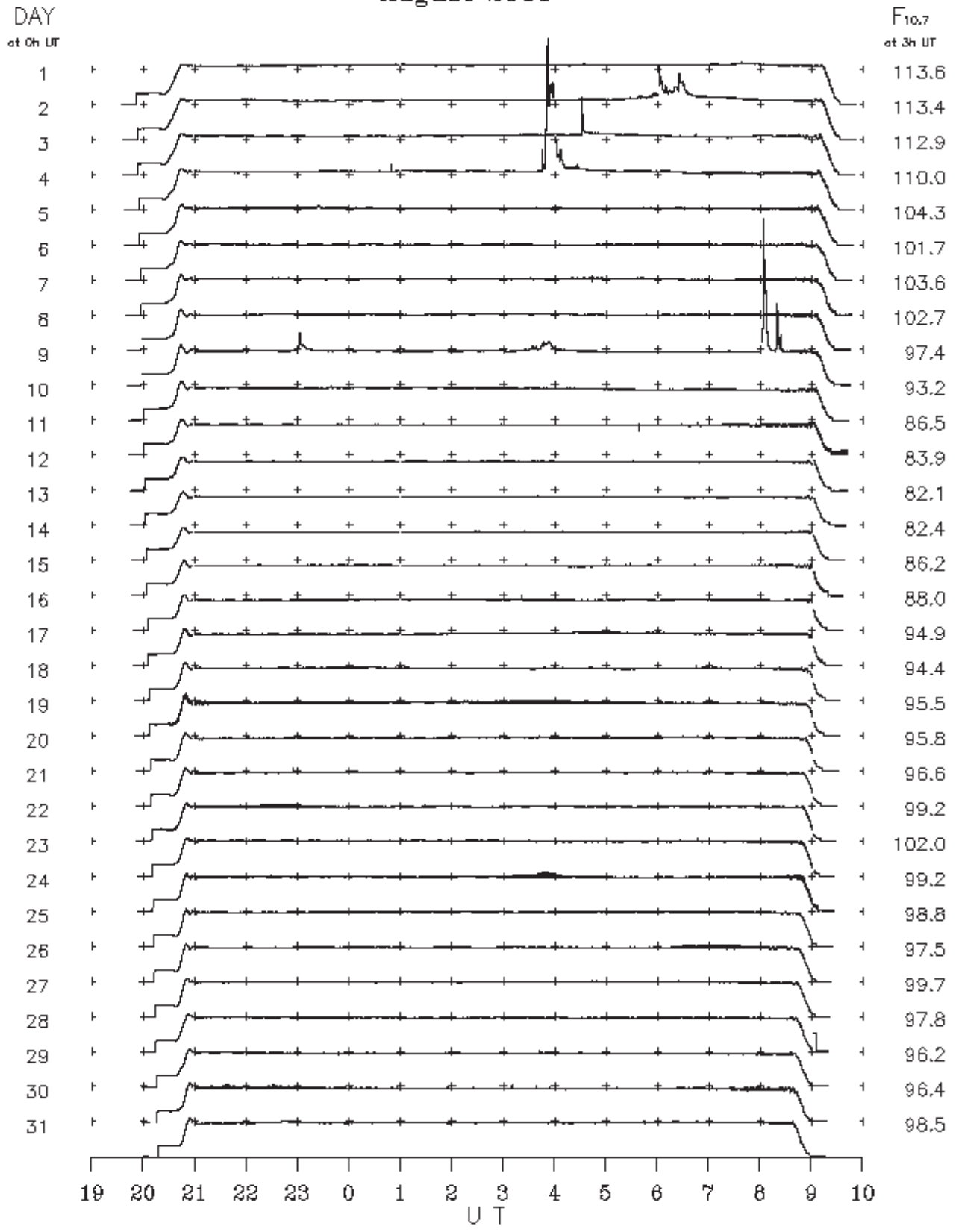
Normal observing period: 1950 - 0935 U.T. (sunrise to sunset)

AUG. 2011	FREQ. (MHz)	TYPE	START TIME (U.T.)	TIME OF MAXIMUM (U.T.)	DUR. (MIN.)	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) PEAK	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) MEAN	POLARIZATION REMARKS
2	2800	7 C	0527.0	0600.0	84.0	150	-	
3	2800	8 S	0431.0	0432.0	4.0	95	-	
3	2800	1 S	0642.0	0643.0	3.0	5	-	
4	2800	7 C	0345.0	0351.0	53.0	350	-	
4	2800	1 S	2323.0	2326.0	3.0	5	-	
8	2800	8 S	2301.0	2303.0	15.0	50	-	
9	2800	7 C	0321.0	0354.0	39.0	25	-	
9	2800	1 S	0722.0	0722.0	2.0	5	-	
9	2800	7 C	0758.0	0802.0	27.0	375	-	
17	2800	1 S	0420.0	0423.0	5.0	5	-	
18	2800	1 S	0643.0	0644.0	2.0	5	-	
30	2800	1 S	2234.0	2243.0	29.0	5	-	

B.Solar Radio Emission

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

August 2011



Note: A vertical grid space corresponds to a 100 sfu.
Elevation angle range ≧ 6°.
A link to the daily plot data directory : http://sunbase.nict.go.jp/solar/denpa/hirasDB/2011/08/