F-727

IONOSPHERIC DATA IN JAPAN

FOR JULY 2009

VOL. 61 NO. 7

CONTENTS

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

NATIONAL INSTITUTE OF INFORMATION
AND COMMUNICATIONS TECHNOLOGY
TOKYO, JAPAN

INTRODUCTION

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

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

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

A. IONOSPHERE

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

A1. Automatic Scaling

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

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

a. Characteristics of Ionosphere

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

b. Descriptive Letters

The following descriptive letters are used in the tables.

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

C Impossible measurement because of any failure in observation.

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

N Impossible automatic scaling because of complex echoes.

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

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

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

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

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

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

d. Reliability of Automatic Scaling

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

e. Summary Plot

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

A2. Manual Scaling

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

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

a. Characteristics of Ionosphere

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

b. Symbols

(i) Descriptive Letters

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

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

(ii) Qualifying Letters

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

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

(iii) Description of Types of *Es*

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

The types are:

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

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

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

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

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

B. SOLAR RADIO EMISSION

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

B1. Outstanding Occurrences at Hiraiso

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

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

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

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

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

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

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

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

B2. Summary Plots of F10.7 at Hiraiso

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

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

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

HOURLY VALUES OF foF2 AT Wakkanai

JUL. 2009

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A	A	A	37	41	36	A	A	A	A	A	A	A	A	A	A			36	61	60	52	A
2		A	42	43	42	47	47	A	A	A	A	A	A	A	A	A	A	A		A	A	53	A	A
3	37	34	32	34	37	39	A	A	A	A	A	A	A	A	A	A	A	46	52	A	63	61	52	46
4		A		32		44	47	A	A	A	A	A	A	A	A	A		44	47	53	59	50	53	51
5	44		43	42	40	47	A	A	A	A	A			A	A	53		49	A	58	54	60	54	50
6	46		42	42	39	45	46		52	A	A	A	A	A	A	A	A	A	A	58	63	54	47	43
7		37	35	31	35	39	52	A	A	A	A	A	A	A	A	A	A	A	A	A	63	58	52	32
8	28	35	34	34	40		A	A	A	A	A	A	A	A	A	A	A	A	55	55	60	54	54	47
9	36	38	A	34	A	A	A	A	A	A	A	A	A	A	A	A	A	A		47	58	58	54	36
10	34	32	31	30	A	42	A	A	55	56	A	A				A	A	A	A	63	60	52	A	A
11	A	42		A	A	A	A	A	A	A	A	A	A	A			A	A		A	A	54	54	45
12	34	38		38	41	A	A	A	A		A	A	A	A	A	A		A	A		51	A	A	A
13	A		A	31	32	44	A	A	A	A	A	A	A	A		A	A	A	A	45	A	53	54	45
14	38	34	A	32	32	45	A	A	A	A	58	A		A	A	34	A	A	A	A	A	54		
15	34	34	42	32	30		A	A	A	A	A	A		A	A	A		A	47	33	54	54	A	44
16	41	37	36	37	38	42	52	A	A	A	A	A	A	A	A	A	A		A	A	A	54	48	42
17	31	A	A	A	31	31	A	A	A	A	A	52	A	49			A	A	A	53	A	53	A	A
18	A	A	A	A	38	A	A	A	A	A	A	A	A	A	A	A	A	A	56	A	A	A	36	34
19	A		A	A	A		A	A	A	A	A	A	A	A	A	A		A	A	A	54	52	54	36
20	30	34		34	A	44	A		A	A	A		A	A	A	A	A	59	44	A	62	63	51	38
21	A		32	29	36	40	A	A	A	A	A	A	A	A	A	A	42	A	A		A	A	A	
22	37	34	44		45		C	A	A	A	A	A	A	A	A	A	C	56	62	66	60	A	A	34
23		A	A	34	35	A	A	A	A	A	A	A	A	A	A	A	A	A	A	54	A	52	51	44
24	28	31	34	31	A	A	33	A	A	A	A	A	A	A	A	A		A	A	A	58	A	A	A
25	A	A	32		32	38	46	A	A	A	A	A	A	A	A	A	A	A	A	55	62	55	54	54
26	43	A	32	32		43	47	56		A	A	A	A	A	A	A	A	A	A	A		51	47	45
27	45	A	36	A	30	A	A	A	A	A	A	A	A	A	A	A	A	A	A		62	53	54	42
28	32	32	34	34	35	45	A	A	A	A		A	A	A			47	48	A	A	54	54		52
29	31	A		A	34	42	44	A	A	A	A	A	A	A		49	42	47	51	57	62	54	42	44
30		47	43	34	54	38	A	A		51	A	A	A	A	A	A	A	A	A	55	54	A		A
31	A	31	28	A	34	43	51	56	56	A	A	A	A		A	A	47	59	A	A		52	47	
	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	16	18	21	23	20	11	2	3	2	1	1		1		3	4	8	8	15	20	25	20	21
MED	35	34	34	34	36	42	47	56	55	54	58	52		49		49	44	48	52	55	60	54	52	44
U Q	41	37	42	35	40	44	51	56	56	56	29	26		24		53	47	57	55	58	62	56	54	46
L Q	31	33	32	31	32	39	44	56	52	51	29	26		24		34	42	46	47	47	54	52	47	37

HOURLY VALUES OF fEs AT Wakkanai

JUL. 2009

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	72	60	60	58	29	33	39	64	54	69	79	58	52	54	74	46	50	53		85	58	34	51	60
2	43	53	51	33	40	38	46	49	60	58	70	63	64	73	54	72	61	55		176	72	43	52	48
3	32	28	26	30	50	40	64	70	74	54	64	58	76	66	44	39	38	40	50	63	72	48	40	43
4	38	59	40	60	54	52	48	64	75	62	75	64	71	59	99	62	40	39	28	G	28	27	27	34
5	40	43	29	28	26	36	43	54	72	117	78	G	G	51	50	G	43	46	55	65	38	32	29	39
6	44	41	G	26	39	44	33	41	38	58	68	101	52	69	97	102	69	53	65	42	53	49	39	34
7	38	28	32	34	59	36	45	69	63	62	55	68	54	64	53	102	76	90	72	63	60	37	36	38
8	29	G	24	G	24	35	53	61	73	61	95	66	68	55	68	72	72		68	43	39	40	28	26
9	G	30	54	27	50	66	73	68	83	103	81	73	53	49	39	45	52	97	59	42	39	29	37	28
10	24	G	G	29	41	36	50	45	46	G	51	74	G	G	G	56	49	66	63	57	40	36	54	58
11	71	38	40	62	49	44	95	73	94	113	56	62	49	67	G	G	51	71	92	71	59	49	51	51
12	24	G	35	28	27	50	71	65	38		50	52	48	41	50	68	61	73	69	71	46	79	70	59
13	70	40	48	26	28	29	60	70	61	61	73	62	52	60		56	62	62	106	58	69	57	48	56
14	33	34	39	G	G	39	58	48	64		53	80	49	54	44	G	44	54	48	66	69	58	68	51
15	27	40	28	G	27	43	53	71	62	67	66	72	G	49	39	37	61	58	61	36	28	39	47	24
16	28	G	G	G	G	30	48	46	64	72	94	97	64	73	103	63		49	117	67	60	34	28	39
17	32	51	43	39	32	38	68	59	72	62	65	G	48	G	G	G	71	65	60	41	61	59	85	70
18	70	72	71	67	34	54	73	112	51	105		134	128	103	76	92	62	54	54	72	85	102	70	44
19	58	38	60	40	36	49	51	63	66	62	81	50	62	58	83	71	52	46	53	53	65	40	38	40
20	35	37	38	38	59	41	92		91	59	59	49	47	57	53	51	49	62	71	80	61	51	55	
21	55	41	30	35	37	39	49	70	114	83	103	72	52	64	51	49	51	64	58		72	72	68	44
22	26	33	34	37	33	42	C	50	60	123	64	96	40	50	80	120	C	G	36		32	60	52	30
23	39	43	52	34	35	70	72	72	120	56	58	48	50	46	69	71	70	63	70	70	60	40	59	G
24	G	32	28	36	42	42	45	55	66	59	53	68	72	53	46	39	41	123	109	72	29	70	72	80
25	70	49	36	32	27	34	43	52	72	68	58	64	50	72	68		46	60	60	51	70	52	49	33
26	41	48	29	28		G	45	50	41	46	70	60	59	62	54	70	50	76	72	93	60	36	33	G
27	35	51	49	43	G	41	45	57	60	58	56	45	43	48	39	43	47	52	48	48	58	34	36	25
28	G	G	24	G	27	35	59	65	66	80		51	51	43	41	46	42	35	60	68	46	40	48	48
29	26	58	39	42	33	35	35	57	45	57	50	50	41	40	G	G	G	39	38	27	28	28	G	35
30	38	40	48	34	27	28	92	69	39	112	151	94	74	52	128	58	103	59	59	46	43	64	46	59
31	59	34	57	66	36	36	46	41	46	116	72	56	68	G	45	51	44	62	70	72	33	36	50	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	31	31	31	31	30	31	30	30	31	29	29	31	31	31	30	30	29	30	29	29	31	31	31	30
MED	38	40	38	34	34	39	50	62	64	62	66	63	52	54	52	54	51	58	60	63	58	40	48	42
U Q	55	49	49	40	41	44	68	69	73	93	78	73	64	64	74	71	62	65	70	71	65	58	55	51
L Q	27	30	28	27	27	35	45	50	51	58	56	51	48	48	41	39	44	49	53	44	39	36	36	33

HOURLY VALUES OF fmin AT Wakkanai

JUL. 2009

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

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

HOURLY VALUES OF foF2 AT Kokubunji

JUL. 2009

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	A		27	A	A		49	48	A	A	A	A		A	A	106	A	A	A		54	37	A
2	A	A	A	A	A	A	A	A	A	A		A	A	A		A	A	49	47	54	54	45		
3	42	43		A	A		A	A	A	A	A	A	A	A	A		A	54	59		71	44	A	A
4	A			27	30	36		A	A	A	A	A		A	A	A	A	59	58	62	54	45	44	42
5	42	37		27	27	38		A	A	A	A	A	A	A	A	A	A	A	A	74	66	A	44	A
6	A		34	34	28	39	A	A	A	61	A	A			48	48	59	55	54	72		42	A	A
7	A	A	30	30	32			A		38	A	A	A	A	A			46	A	61	69	66	A	A
8	A	A	A	26	28		A	52	A	A	A	A			A	45		A	59	A	A	54	A	A
9		A		27	30	36	A	A	A	A	56				A	A	A	38	A	A	51	51	46	A
10	A	A	A		A	36	A	A	57	A	A	A	A	A	A	A	A	58	66	75	A	A	A	A
11	A	A	A		31	A	A	51	56	58	57	A	A	A	A	A	A	A	47	58	50	42	42	37
12	A	A	A	A	34	A	A	A	A	A	A	A	A	A	A		43	57	68	52	67	A	A	A
13	A	A	A	A		A	A	54	A	A	A	A	A		A	A	A	A	43	54	52	47	45	A
14	A	A	A	34	28	A	A	A	A	A	A	56		A	A	A	A	A		A	A	A	A	A
15	A	A	A	A	A	A	A	A	A		A	A	A	A	A	A	A	55	59	52	52		41	A
16	A	A	A	A	30	30	A	A	52	A	38		A		A	A	A	46	55	62	51	44	A	A
17	A	A	A	A	A	34	A	A	A	A	A	48	A	A	A	A	38	A	46	58	54	43	A	31
18	26	A		27	A	A	A	A	A		38	A	A	A	A	A	A		47	A	A	A	A	A
19	A	A	A	A	24	34	A	46	A	A			A	A	A	A	A	A		A	52	64	A	A
20		A	A	A	27	A	44	53	45	A				A		51	47	A		A	54	51	53	
21		A			A	34		A	A	45	A	A	A	A	A	A	A	A		A	52	A	A	A
22	44	46		34		A	A	A		A	A	A	A			C	51	62	73	58	53		44	
23	A			A	A			51	A	A	A	A	A	A	A	A		A	A	A	51	A	42	45
24	A	A	34		34	34	45	A	A	A	A	A	61	A			48	A	A	A	52	A	44	A
25	A			32	32	34		50	54	A	A	A	A	A	52	A	A	A	52	A	A	A	A	A
26	50		36	37	30	36		A	A	A	A	A	A	A	A	55	55	A	A	51	49	49	45	42
27	44	A		A	A	A		A	A	A	A	A	A		A	A			A	55	54	A	A	
28	A	A	A	A	28	36	41	45	58	A	A	A			A	A	62	A	A	A	44	39	43	38
29	38	A	A		28		46	57	A	A	A	A	A	A	A	59	54	A			55	49	A	42
30	38	38	39	28	28	34	39	45	A	48	A		A	A	54	54	A	A	48	58	61	61	44	38
31	34	32	29	A	32		45		56	47	54	A	A	A	56	A	A	A	A	A	A	44		34
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	9	5	6	13	19	14	6	11	8	6	5	2	1		4	6	10	11	16	16	23	19	14	9
MED	42	38	34	28	30	35	44	51	55	48	54	52	61		53	52	52	55	54	58	53	47	44	38
U Q	44	44	36	34	32	36	45	53	56	58	56	56	30		55	55	59	58	59	62	55	54	45	42
L Q	36	34	30	27	28	34	41	46	50	45	38	48	30		50	48	47	46	47	54	51	44	42	35

HOURLY VALUES OF fEs AT Kokubunji

JUL. 2009

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	59	43	49	49	45	53		G	50	52	59	50	59		43	78	134	126	138	144	71	34	40	59
2	51	72	59	80		85	107	134	112	163	139	172	114		59	131	120	114	53	34	49	67	48	53
3	50	32	43	49	60	40	70	80	70	85	60	112	61	84	80	47	49	35	42	43	55	60	91	54
4	40	28	22	G	G	G	37	49	55	91	144	51		125	107	127	82	G	50	56	50	28	47	45
5	36	28	34	30	G	26	41	61	60	102	106	150	115		96	107	96	85	96	77	131	65	55	70
6	59	35	30	33	27	40	61	60	60	61	66	53		40	G	45	42	40	60	34	39	57	43	49
7	40	47	26	G	39	34	51	51			58	58	53	70	61		G	41	106	60	49	60	66	48
8	36	53	51	48	G	30	43	53	60	57	78	72			50	G	62	94	62	152	82	60	65	59
9	43	34	45	G	32	49	58	60	51	63	56	G			44	46	42	43	72	95	59	30	35	40
10	47	59	56	26	52	35	70	80			108	102	59	60	70	43	56	53	49	40	106	130	81	48
11	70	49	59	37	56	60	86		38		54	42	52	100	62	67	60	60	48	51	29	36	33	49
12	59	58	54	59	43	57	46	51	84	71	117	87	84	49	72	G	38	62	61	92	49	50	70	46
13	69	50	40	26		28	43	53	142	87	68	69	70	51	170	64	79	114	47	29	44	33	45	71
14	72	48	39	28	32	39	70	116	123	130	62	G	G	61	48	79	73	70			94	69	60	52
15	58	58	84	79	82	49	82	122	107	109	177	104	114	79	56	64	74	43	41	35	35	50	68	59
16	80	72	52	43	31	59	69	50	50	50	G		40		48	51	78	54	68	35	39	58	40	39
17	37	40	45	35	31	26	64	95	151		82	49	107	143	91	122	G	46	33	G	G	24	40	29
18	G	55	31	59	70	64	55	58	106	40	45	118	105	110	81	62	40	G	41	59	83	78	57	53
19		87	40	48	26	29	56	51	50	59	47		54	82	78	92	116	70		55	33	35	39	36
20	27	39	33	39	36	36	34	38	45	70	49	G		61	G	G	41	49	53	81	60	50	45	40
21	39	36	39	33	53	27	47	107		107	105	53	42	72	99	72	62	57			51	106	60	58
22	40	43	40	67	50	41	72	99	131	86	48	52	79			C	G	G	43	29	29	26	28	37
23	43	36	35	34	53		40	40	64	116	116	136	172	135	64	58	G	55	81	64		52	105	
24	57	57		43	G	G	32	60	53	52	61	61	G	65		44	44	64	53	52	45	57	49	
25	59	34	50	G	24	30	37	49	65	68	50	75	103	115	53	104	60	110	68	114			152	79
26	31	40	28	26	29	29	34	50	53	53	102	42	50	88	65	50	51	72	102	34	28	33	35	30
27	35	58	33	50	50	36	40	62	70	75	96	90	68	78	60	100	62		162	85	134	80	56	50
28	42	72		39	G	34	35	35	G	73	53	86	110	52	107	77	53	62	153	60	35	G	29	40
29	37	49	49	36	G	32	43	51	73	72	62	117	92	69	58	101	81	155	132		60	41	50	47
30	37	G	G	41	24	G	34	43	72	50	75	102	124	71	68	53	65	58	38	43	50	26	40	33
31	27		60	50	30	48	34	69	51	48	47	106	115	80	53	56	60	58	65	79	58	34	36	33
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	29	31	29	30	30	30	28	27	31	29	26	24	29	29	31	30	28	28	29	30	31	29
MED	42	48	40	39	32	36	46	56	62	71	62	72	74	75	62	64	60	58	60	56	50	50	48	48
U Q	59	58	51	49	51	49	69	80	95	91	105	105	110	94	80	96	78	72	88	80	65	60	65	56
L Q	37	36	33	28	24	29	37	50	51	53	53	50	53	61	51	46	42	43	47	35	37	33	40	39

HOURLY VALUES OF fmin AT Kokubunji

JUL. 2009

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

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

HOURLY VALUES OF foF2 AT Yamagawa

JUL. 2009

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

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

HOURLY VALUES OF fEs AT Yamagawa

JUL. 2009

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	36	38	32	G	G	G	38		42	73	58	56	65	76	42	60	71	53	62	60	35	54		33
2	33	36	32	56	51	40	45	51	83	81	73	85	49	41	40	G	71	40	61		60	93	50	51
3	40	33	27	G	28	38	41		72	55	82	70	61	60	81		48	62	53	80	58	38	39	26
4	G	34	G	G	28	G	30	35	55	55	54	44	56	46	75	44	49	116	150	82	59	72	45	59
5	32	34	29	40	33	42	56	80	102	70	75	68	53	46	47	52	43	35	60	60	45	44	40	45
6	33	30	G	37	28	40	39	52	54	82	79	78	84	57	47	49	48	34	33	34	28	48	45	48
7	40	48	40	47	39	31	59	93	136	78	102	106	98	106	81	39	47	63	55	77	56	59	34	32
8	56	48	67		57	40	51	58	54	91	47	58	78	63	82	54	78	115	149	99	81	58	58	84
9	85	59	52	56	113	56	70	109	70	68	86	112	51	60	66	62	46		50	49	48	G	26	30
10	43	47	30	27	34	57	59	52	72	97	66	113	60	46	100	92	76	76	92	84	92	85		71
11	58	48	46	49	G	49	62	90	92	91	79	60	62	42	57	69	54	47	42	40	53	58	50	33
12	59	49	34	30	29	36	32	81	93	152	151	118	52	43	47	G	44	68	70	40	43	49	71	79
13	58	60	60	33	G	G	30	36	50	58	147	114	77	68	70	52	84	70	40	43	34	40	41	34
14	32	41	73	34	33	40	59	92	84	151	105	124	158	105	65	58	48	50	71	58	52	45		58
15	59	59	G	G	39	43	34	46	48	108		151		156	121	54	G	71	42	59	56	32	44	53
16	49	41	29	36	60	41	44	46	60	G	53	58	63	48	G	G	56	82	70	39	60	59	28	34
17	55	57	49	34	37	32	36	59	79	85	110	126	84	72	132	62	40	39	G	G	29	51	32	32
18	G	34	36	27	G	G	28	52	50	46	108	82	71	60	84	78	51	46	36	46	58	33	30	40
19	46	59	47	44	49	60	40	49	116	52	96	152	73	84	62	64	G	71	107	150	73	69	93	81
20	48	67	72	69	92	72	88	92	68	52	77	53	75	88	80	62	65	43	42	46	37	33	28	34
21	54	25	32	37	G	G	50	60	48	109	74	72	133	79	G	99	50	70	80	37	35	44	33	59
22	41	79	69	49	49	G	51	73	91	68	102	112	78	121	98	C	39	39	42	59	39	46	44	65
23	G	32	58	34	41	40	33	58	59	45	50	77	52	51	48	G	G		35	48	40	59	48	104
24	40	46		47	44	36	40	50	40	44	46	53	69	53	65	G	44	82	68	36	34	59	36	40
25	43	32	30	32	G	G	37	52	58	51	49	56	47	84	55	96	72	109	73	56	40	92	48	59
26	49		59	36	27	23	32	45	60	90	94	85	76	112	65	82	78	79	58	82	43	39	31	31
27	29	48	61	30	24	29	49	60	48	55	84	69	74	71	52	56	55	81	51	54	133	93	78	80
28	49	46	54	39	48	30	40	52	95	84	114	68	67	53	46	68	61	54	56	36	60	90	84	32
29	G	G	54	G	37	34	49	44	41	82	111	84	97	83	89	53	49	48	61	70	36	49	84	51
30	48	58	50	39	26	28	37	42	56	70	103	54	87	53	50	47	G	83	92	59	52	50	40	36
31	45	28	24	25	26	G	G	34	40	45	47		50	50	58	65	54	78	67	46	58	33	48	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	31	30	30	30	31	31	31	29	31	31	30	30	30	31	31	29	31	29	31	30	31	31	28	31
MED	43	46	43	35	33	36	40	52	60	70	80	78	70	60	65	56	49	68	60	55	52	50	44	48
U Q	54	57	58	44	48	41	51	76	84	90	103	112	78	84	81	66	65	80	71	70	59	59	50	59
L Q	33	34	30	27	26	G	34	46	50	52	58	58	56	50	47	45	44	46	42	40	37	40	33	33

HOURLY VALUES OF fmin AT Yamagawa

JUL. 2009

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

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

HOURLY VALUES OF foF2 AT Okinawa

JUL. 2009

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	42	32	30		A	31	42	45	A	A	A	A	A	A			54	67	71	59	44	37		
2	37	A	A	A		A		44	A		A	A			A		A	A	A	73	62			A
3	A						36	42	45	A	A	A	A	A	A	A	62	72	77	75	65	54		37
4	32				A		34	A	56	A	A	A	A	A		57	66	65	67	62	51	50		A
5	A		A	A	A	A	A	A	A	A	A	A	A	A	54	A	68	78	A	A	A	A	A	A
6	A	A				26	35	38	A	A	A	A	A	A	A	A	75	85	88	88	44		A	
7	A	A	A	A	A	A	A	A	A	A	A	A	66	68	69	66	66	68	85	88	77	A		
8				A	A	A	28	A	A	C	C	C	C	A	A	A	64	A	A	A	50	46	A	A
9			A	A	A	A	A	A	68	A	A	A	A	A	A	A	49	56		63	A	66	A	
10	32	31					A	48	58	A	A	A	A	A	A		76	72	69	71	75	66	47	A
11	44	44	44	38	32	31	A	A	65	A	A	A	A	A	A	A	A	54	66	52	45	50	A	
12	28		A					A	A	A	64	A	A	A	A		59		A	76	A		A	A
13	A		A	A			29	44			54	A	A	A	A	A	A	A	86	88	A	A	41	36
14		32	A			A	A	A	68	A	55	A	A	A	A	57	A	A	A	71	77	76	58	52
15	51	52	44	38	A	A	28	41	74	42			A	A	A	A	A	86	85	85	54	42		34
16	23	29		28	A	A	A	46	56	51	59	A	A	49		A	55	A	45	57	A	52	47	
17	A	A	A	A			34	45	A	A	A	A	A	A	A	A	68	72	67	68	71	45	28	
18					A	A	30	41	49	A	A	A	A	A	A	A	A	A	A	A	58	46		A
19	A	A	A	A	A				54	A	A	A	A	A	A	A	A	62	67	70	87	A	A	A
20	A	A	A	A	A	A	A	51	52	A	A	A		A	A	74	A	A	A	A	66	A	31	
21	34						32	48	46	59	A		A		A	A	A	42	A	55	59	A		
22	A	A	A	A				70	69	A	A	A	A	A	A	C	A	A	82	76	36	44	48	
23		A	A	A	A		A	59	48	49			A	A	60	60	52			50	54	52	45	A
24	28		38	A	A		A	A	A	49	109		62	71	66	63	A	58	A	A	50		50	A
25	A	36	32	A	31	30	34	60	A	A	A	A	A	A		56	A		66	64	61	52	A	34
26	30	32	34	28				42	A	A	A	A	A	A	A	A	A	A	A	66	66	65	66	63
27							32	57	A	A	A	A	A			A	A	A		A	72	A	A	A
28	A	A	A	A	A		A	A	57	A	A	A	A	A	A	A		83	84	66	72	49	A	A
29	A	A				A	A	46	52	53	A	A	A	A	65	A	A	A	74	58	A	A	A	
30					30		A	A	A	A	A	A	A	A	A	67	73	81	85	78	76	52	38	
31							32	57	52	129		A	57	62	A	63	72	83	77	75	64	52	36	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	11	8	6	4	3	4	13	19	17	7	5		3	4	5	9	15	17	18	25	25	19	12	7
MED	32	32	36	33	31	30	32	46	56	51	59		62	65	65	63	66	72	76	70	62	52	46	36
U Q	42	40	44	38	32	31	34	57	66	59	86		66	69	67	66	72	82	85	76	72	54	49	52
L Q	28	31	32	28	30	28	29	42	50	49	54		57	55	57	57	55	60	67	60	50	46	37	34

HOURLY VALUES OF fEs AT Okinawa

JUL. 2009

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	32	G	34	43	29	G	48	56	59	60	57	56	92			38	G	32	29	29	28	37	32
2	33	50	59	61	G	30		47	61	48	81	49	51	50	59	66	102	123	136		30	G	33	57
3	51		28		28	34	29	36	40	96		124	73	63	49	53	48	48	40	40	G	58	46	34
4	28		G	30	34	G	G	48	42	72	62	49	60	41		G	G	41	46	37	27	50	37	36
5	48		30	33	30	66	48	62	108	90	109	82	52	68	51	81	56	80	136	149	108	73	58	50
6	40	32	28			G	29	55	136	68	88	134	57	93	66	92	51	50	55	50	36	30	31	24
7	33	46	34	40	51	48	49	72	86	115	167	126	62	61	57	G	46	64	50	70	70	40	G	
8	G	26	25	33	40	51	29	103	93	C	C	C	C	112	92	59	77	94	174	136	83	38	108	147
9	27	33	32	86	80	66	102	159	91	113	91	88	83	43	49	53	38	43	73	38	84	55	58	32
10	29	28	35	G	G		40	41	56	89	73	115	132	58	99	56	63	60	52	52	72	44	40	59
11	37	38	30	G	G	G	51	148	68	106	66	62	89	129	78	59	65	59	52	34	32	50	49	26
12	26	33	36		G	29	36	62	108	176	47	71	81	74	84	G	58	72	95	48	67		40	40
13	30		28	30			G	31	35		57	63	78	91	106	61	81	125	75	47	70	72	35	28
14	26	35	37	27		34	55	82	133	135	67	102		106	122	48	152		95	50	48	36	48	27
15	29	46	40	50	58	40	G	37	37	38	G		58	135	132	122	134	G	G	32	31	G		30
16	G	G	30	G	32	40	50	41	38	37	50	51	52	41		41	37	61	45	31	43	29	G	
17	28	40	35	40	34	G	30	53	67	81	143	83	90	150	136	160	48	35	G	37	G	11	G	
18		G			30	28	G	32	44	68	56	50	81	94	106	96	88	94	72	60	39	30		38
19	39	24	56	47	31			G	54	59	68	67	110	75	68	86	89	49	60	29	50	50	29	26
20	39	72	106	108	48	79	108	49	78	94	66	62	50	70	87	50	100	73	52	50	32	29	26	29
21	28	28	26		G		G	32	36	G	39		52	50	75	88	85	G	64	55	49	40	37	37
22	46	58	44	71	G		29	46	45	106	93	147	135	92	83	C	94	106	47	29	30	G	G	
23	27	59	67	37	36		57	38	36	50		44	42	82	51	48	G	G	G	32	29	30	46	58
24	29	49	41	38	47	30	33	52	89	50	48		42	G	G	G	62	53	46	90	42	30	28	69
25	37	25	28	36	52	29	G	44	74	82	84	96	77	42		G	91	49	47	72	69	56	93	G
26	30	28	30	G	28			38	62	71	66	76	116	176	110	122	126	172	107	48	36	30	28	27
27							G	37	72	118	58	96	63	G	57	52	104	117	86	125		80	69	68
28	38	30	39	33	29		57	84	65	94	84	80	51	59	54	62	73	58	41	46	59	40	55	58
29	40	34	G		28	34	69	48	34	48	50	80	90	50	59	78	82	74	61	72	82	88		47
30	37	50	38	33	30		59	96	124	92	84	76	62	69	68	67	G	47	41	30	29	30	G	26
31	26	G	G	27	29		30	34	38	38	G	51	48	56	63	60	68	71	62	66	37	41	33	28
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	26	29	24	27	20	28	31	31	29	28	27	29	31	27	29	31	30	31	30	30	30	28	27
MED	30	33	32	34	30	32	32	48	62	81	66	76	62	69	68	59	68	60	52	48	40	39	37	34
U Q	38	46	39	43	43	44	53	62	89	101	84	96	86	93	99	83	91	80	75	66	69	50	48	57
L Q	27	28	28	28	28	28	G	37	40	50	53	57	52	50	57	48	48	47	45	34	30	30	28	27

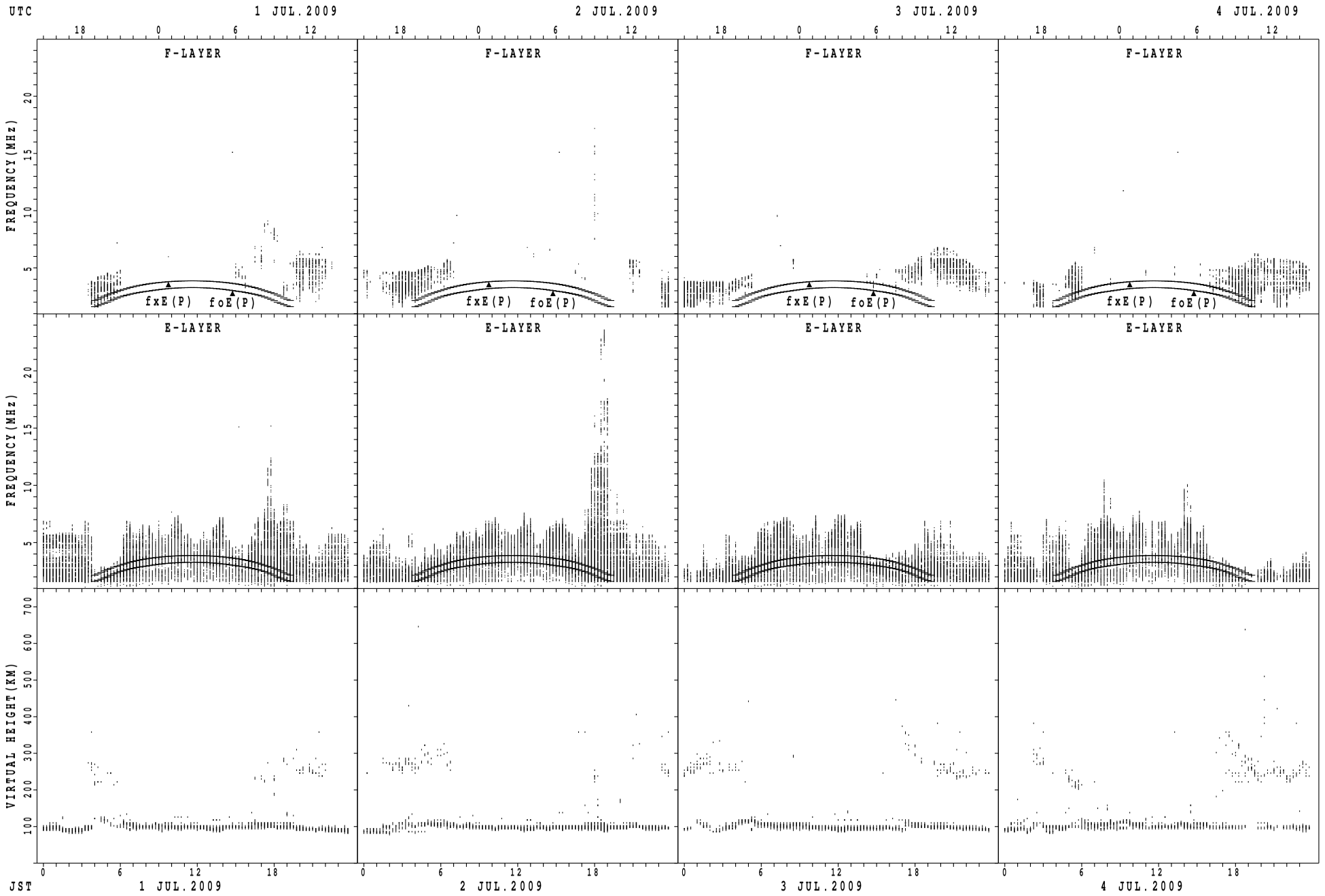
HOURLY VALUES OF fmin AT Okinawa

JUL. 2009

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

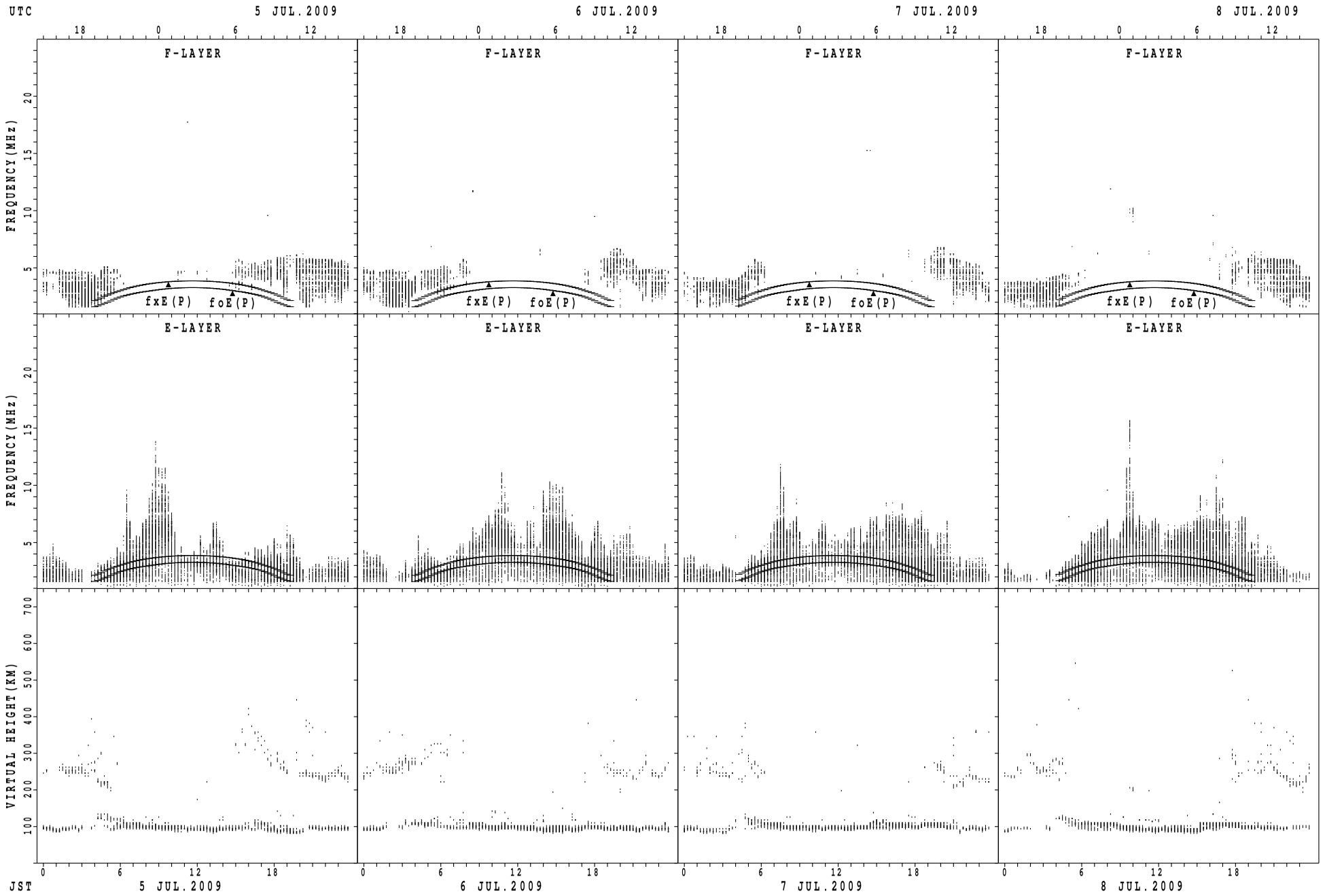
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	17	15	18	14	14	15	21	14	18	30	34	38	38	35			30	28	14	14	15	14	15	16
2	14	14	16	14	15	15		15	20	21	28	30	33	34	29	30	28	22	15	15	14	18	15	15
3	14		15		14	15	18	14	23	24	29	29	29	30	32	29	22	14	14	14	14	15	14	16
4	14		22	15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

SUMMARY PLOTS AT Wakkanai



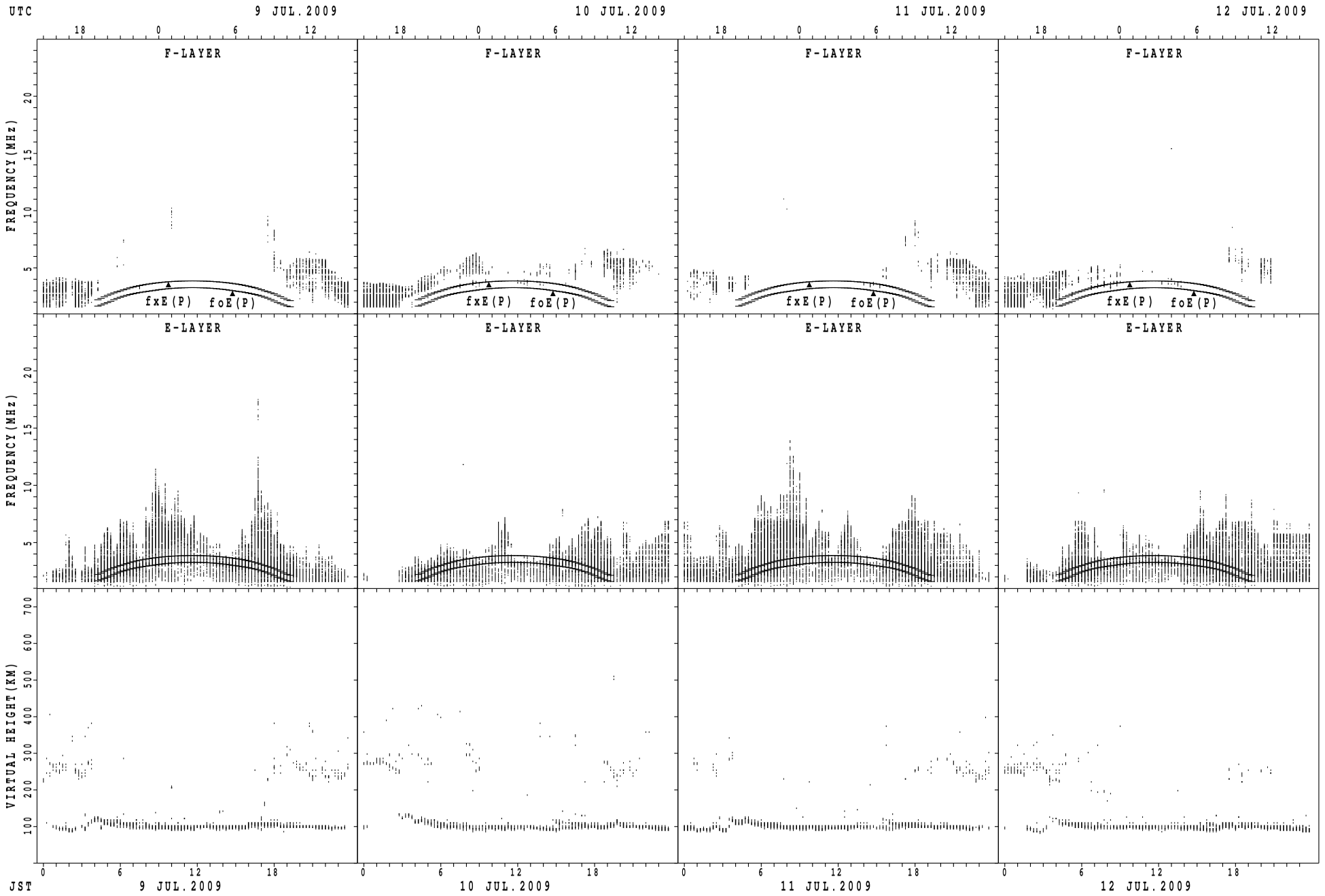
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



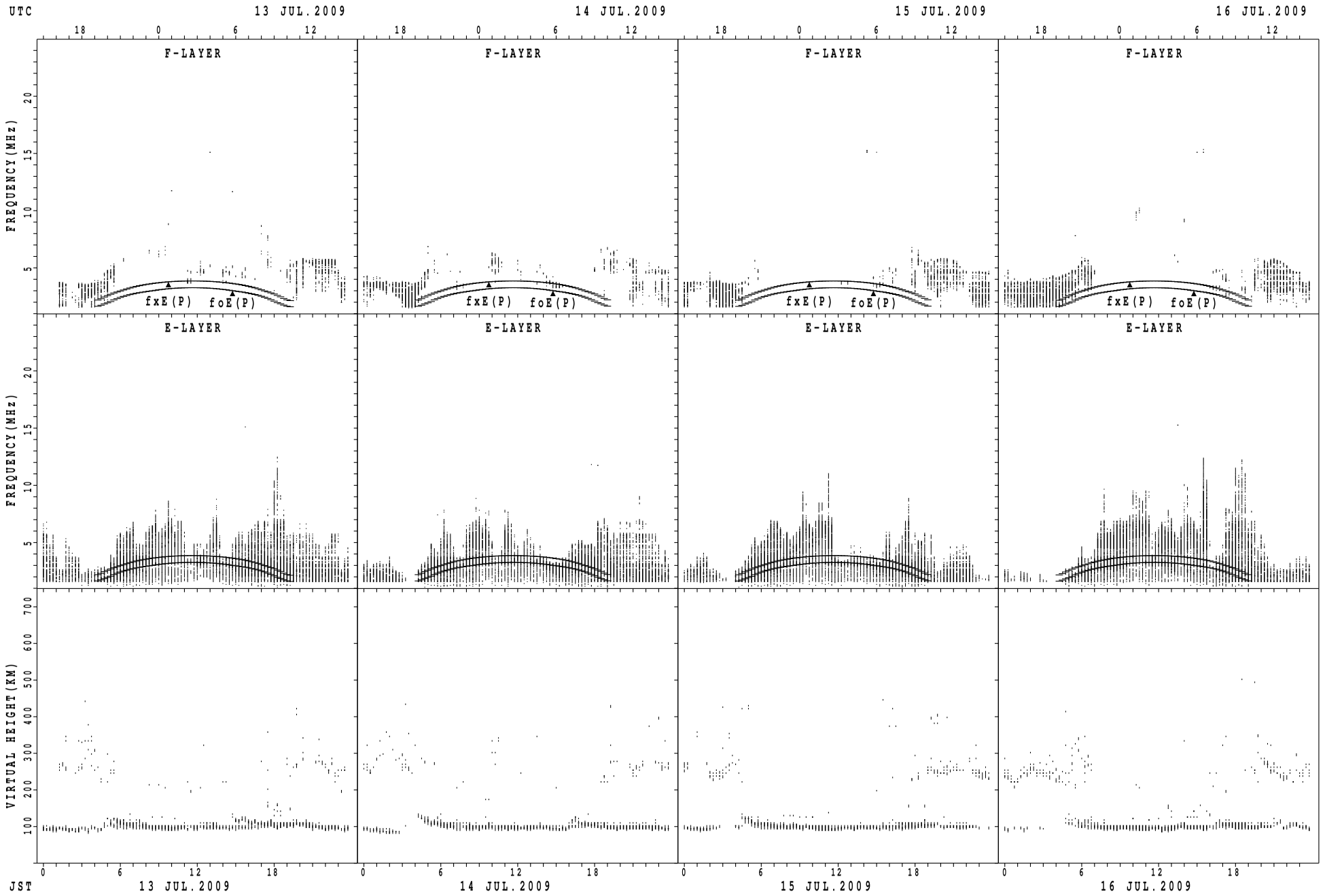
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



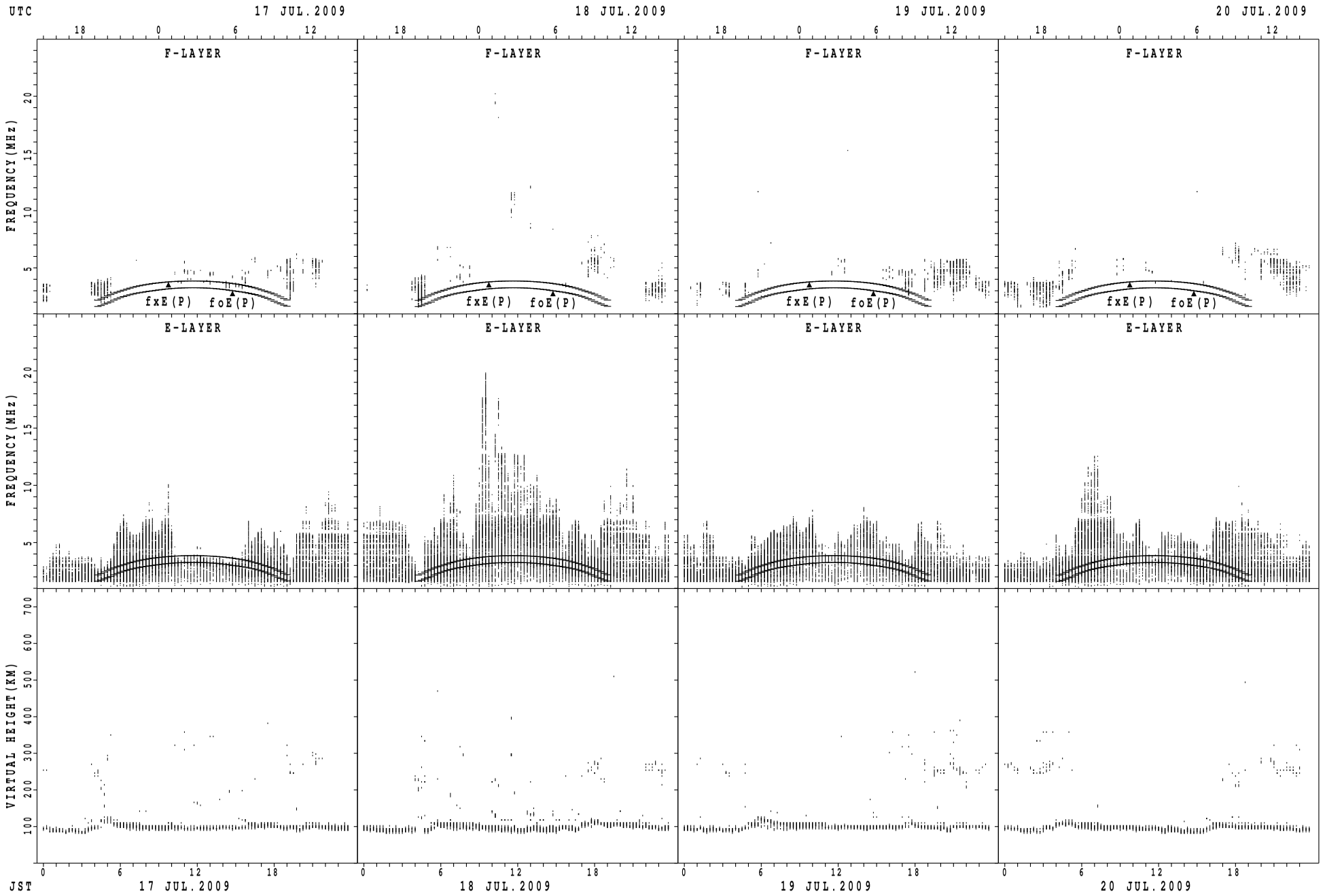
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



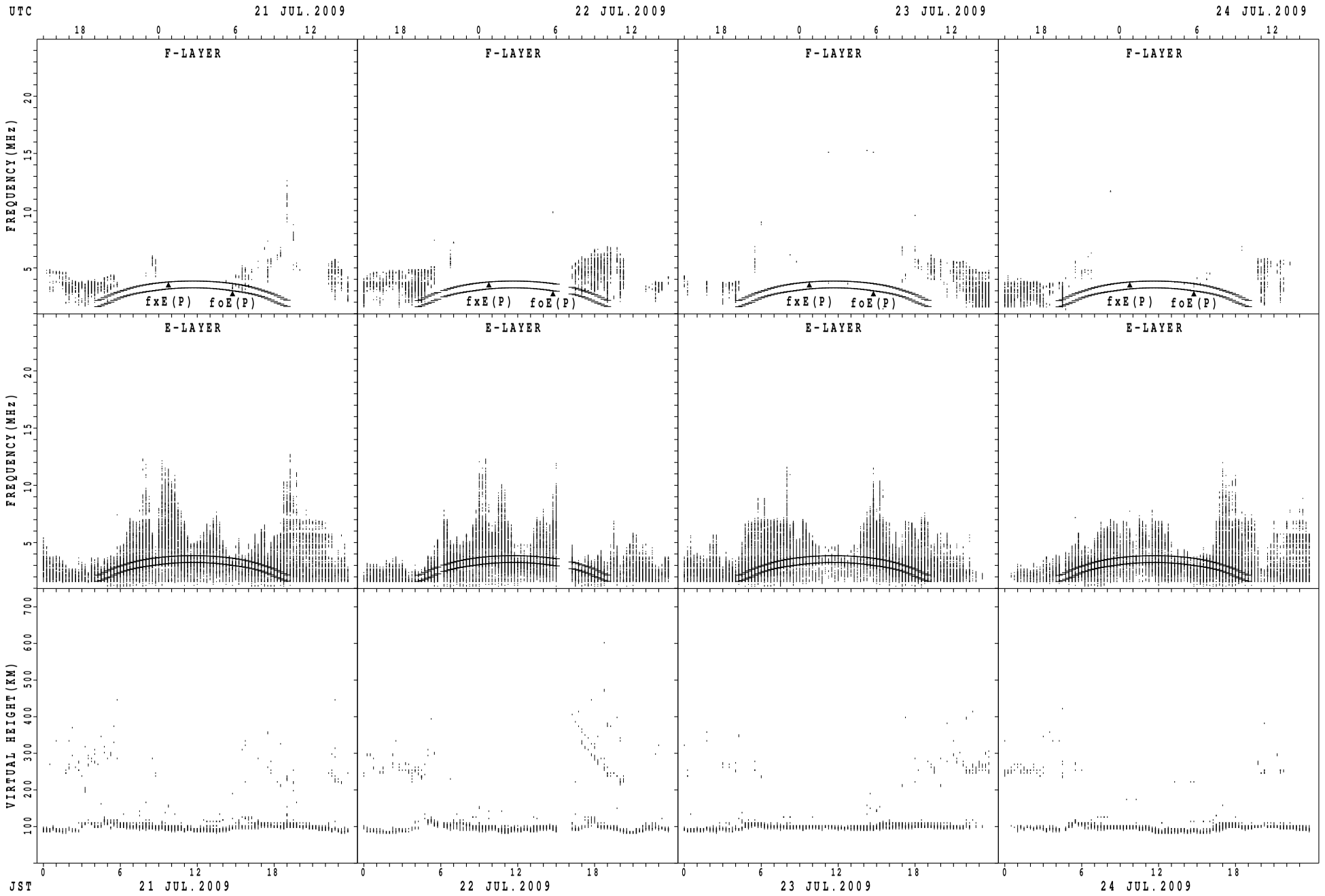
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



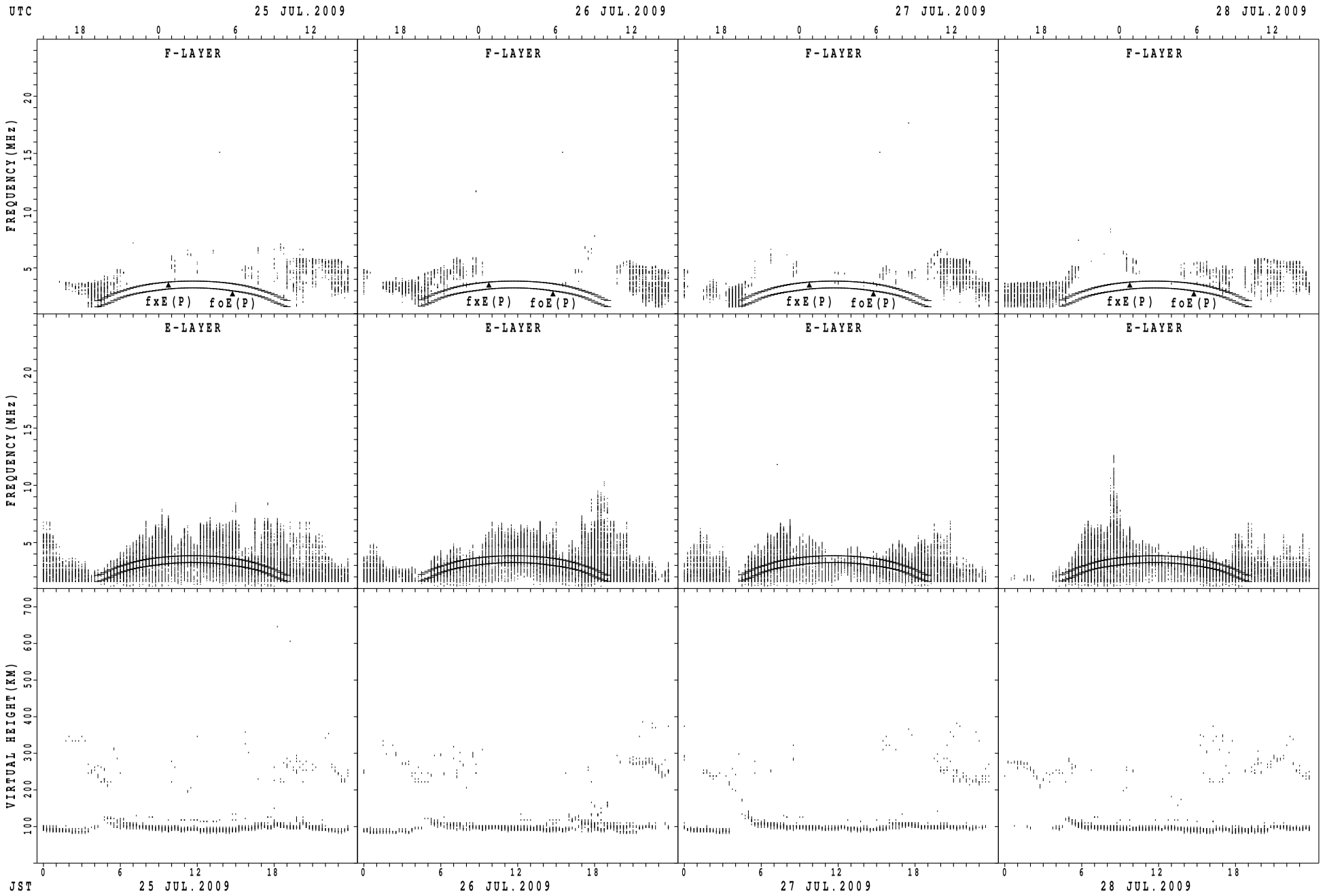
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



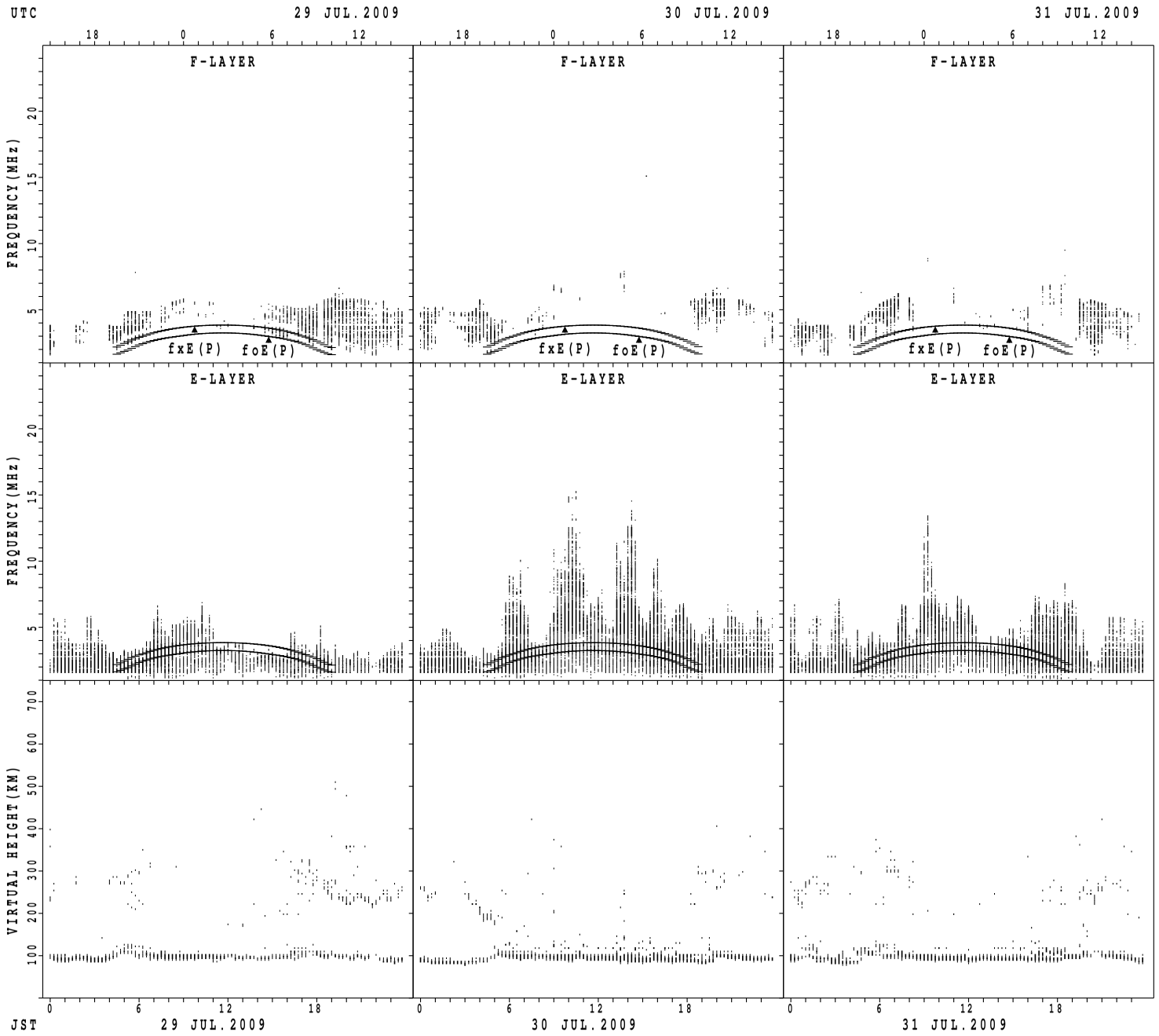
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



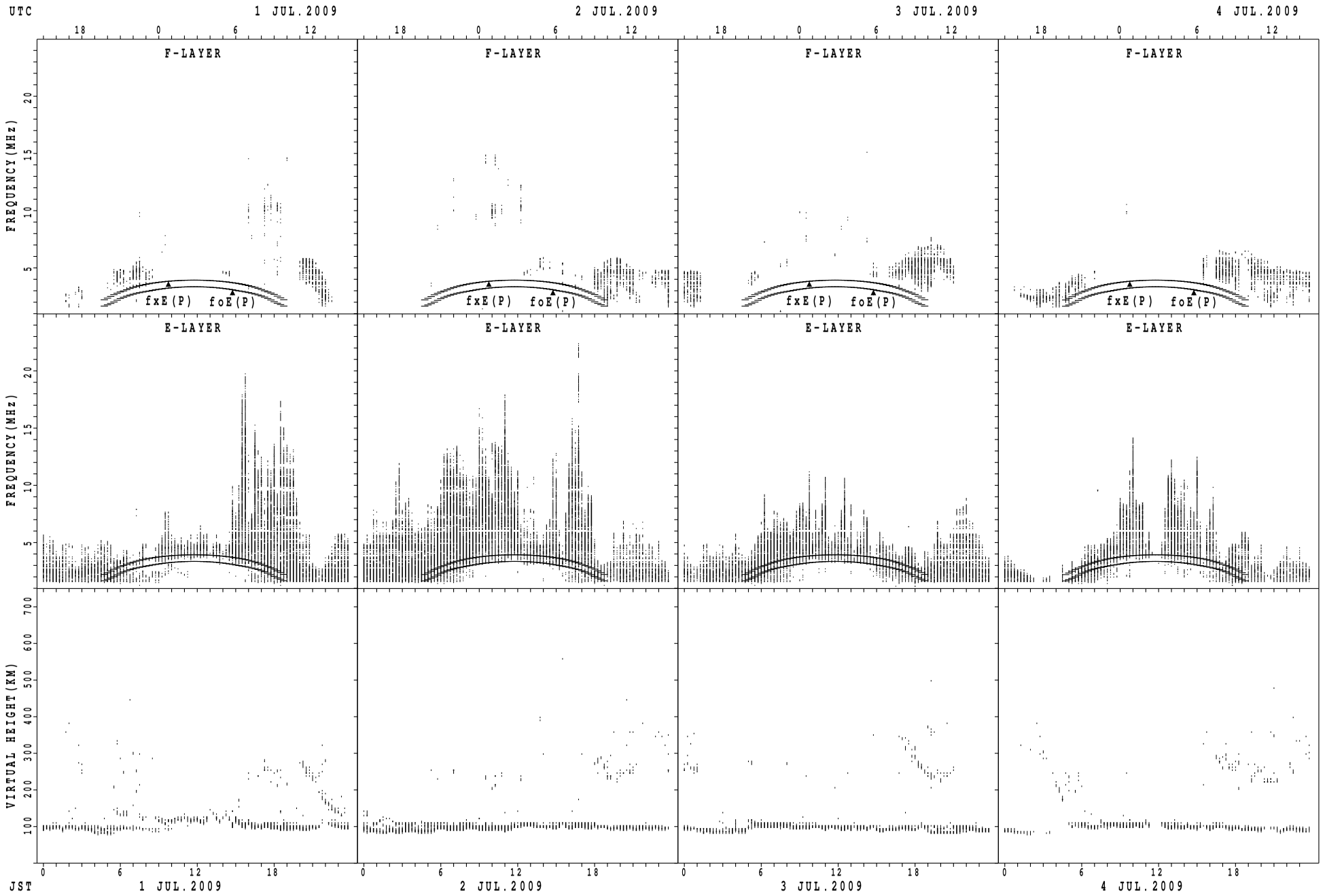
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



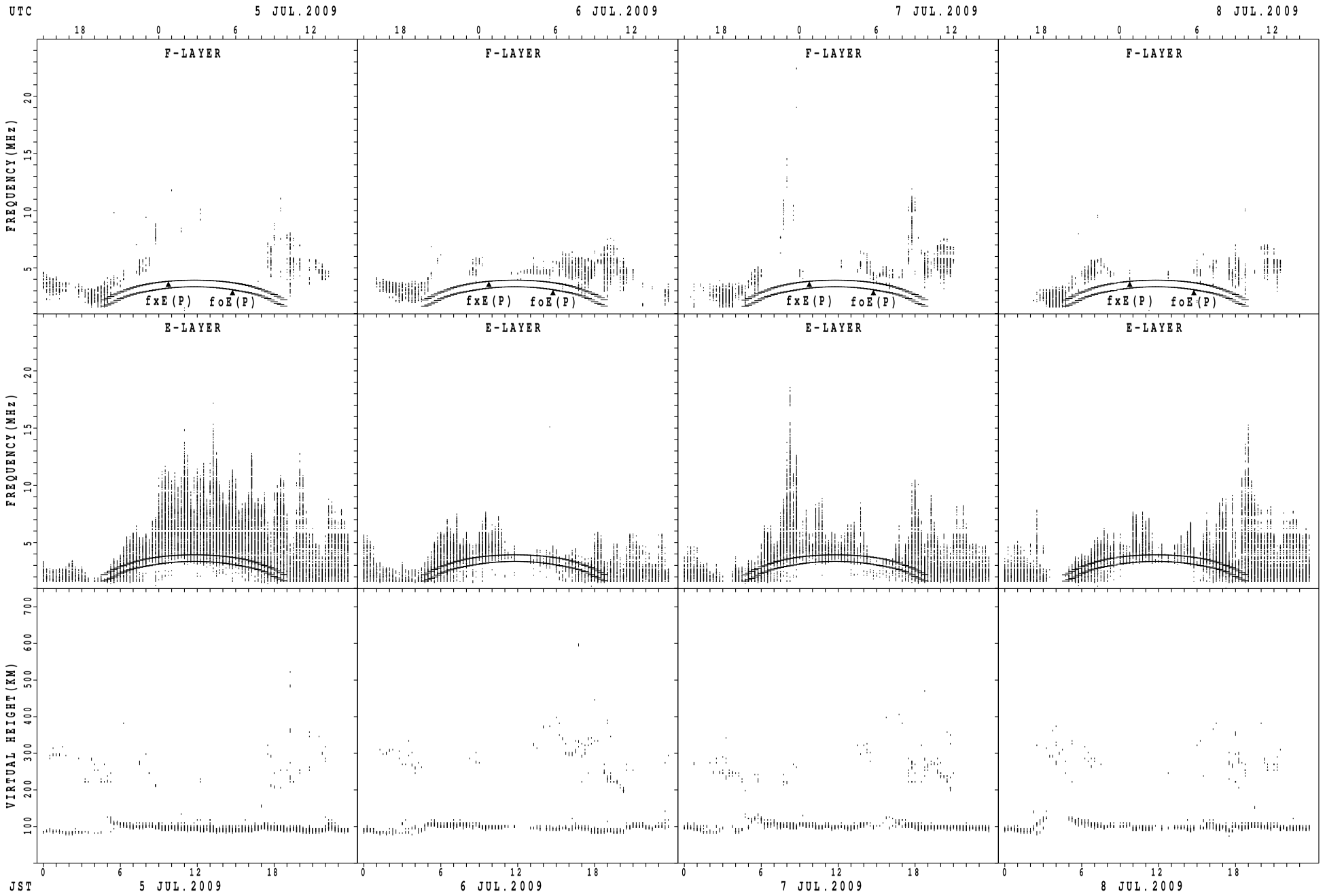
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



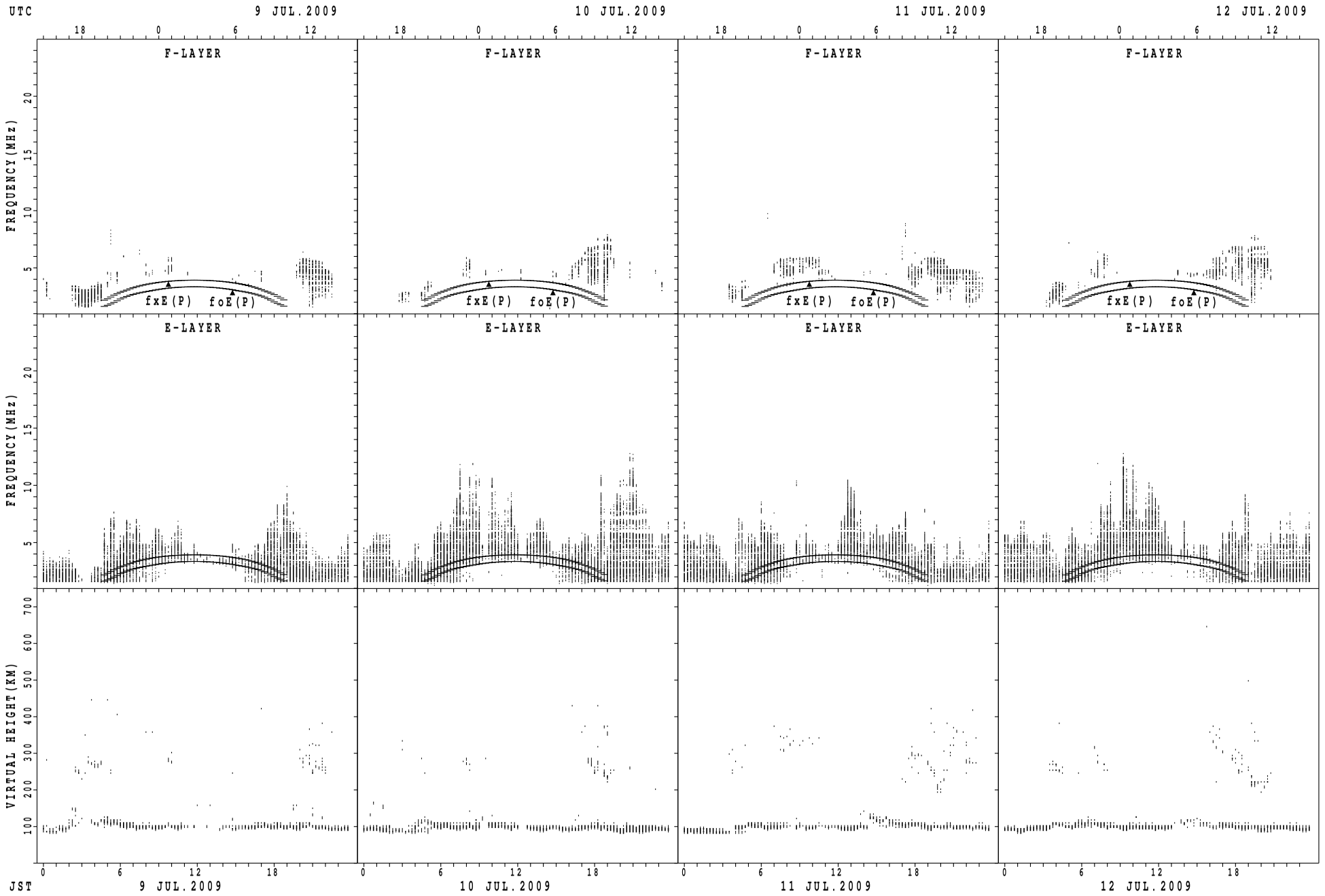
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



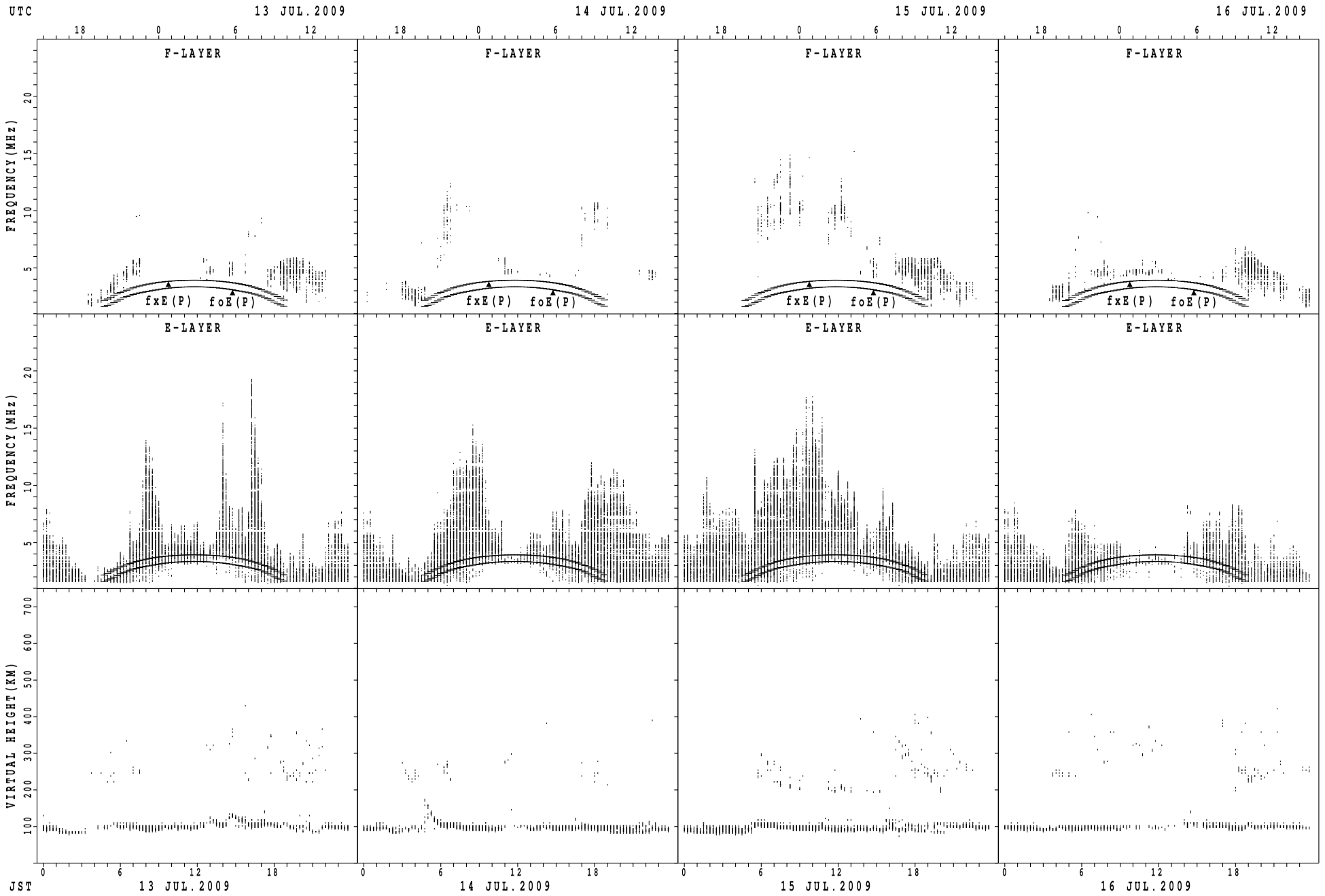
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



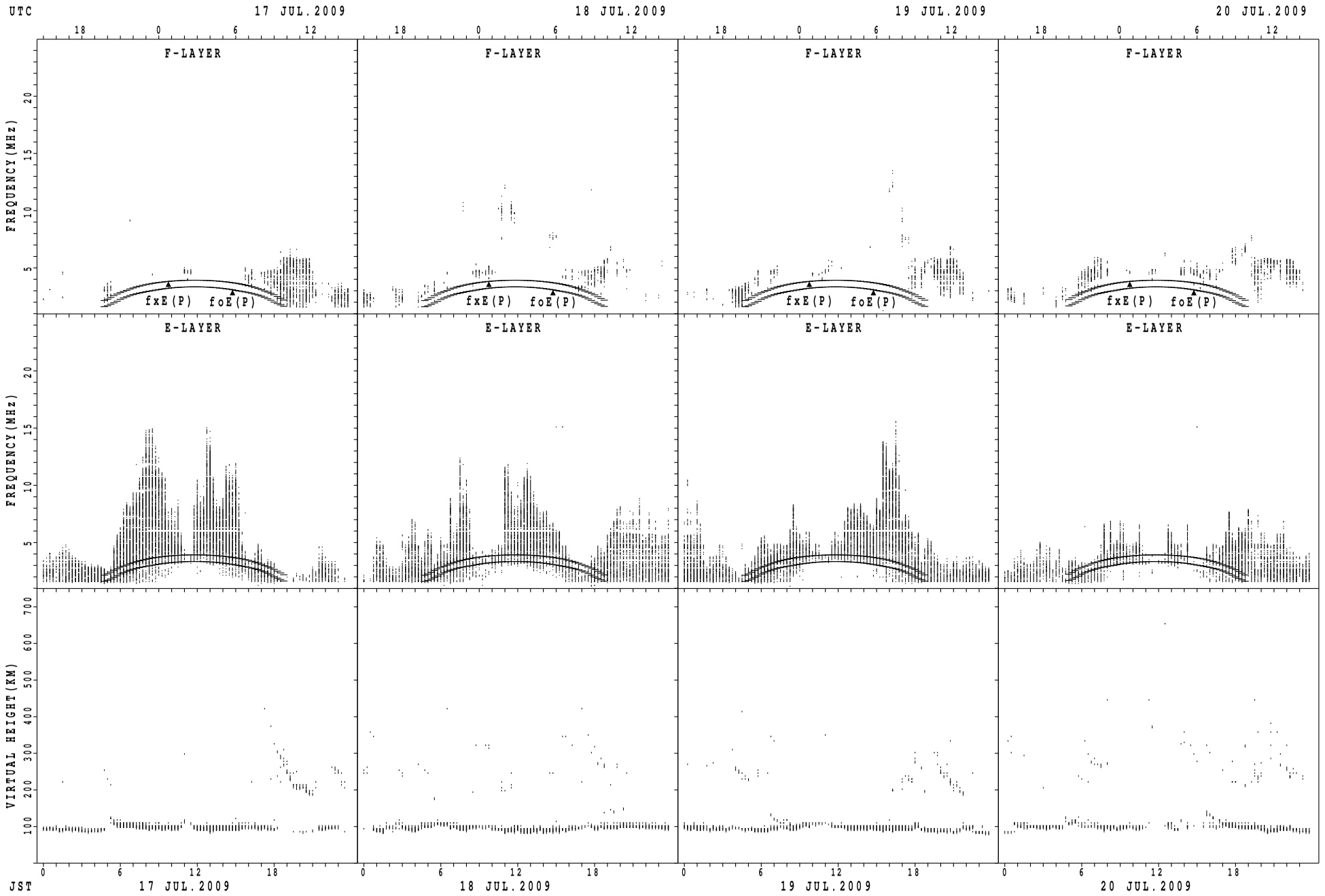
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



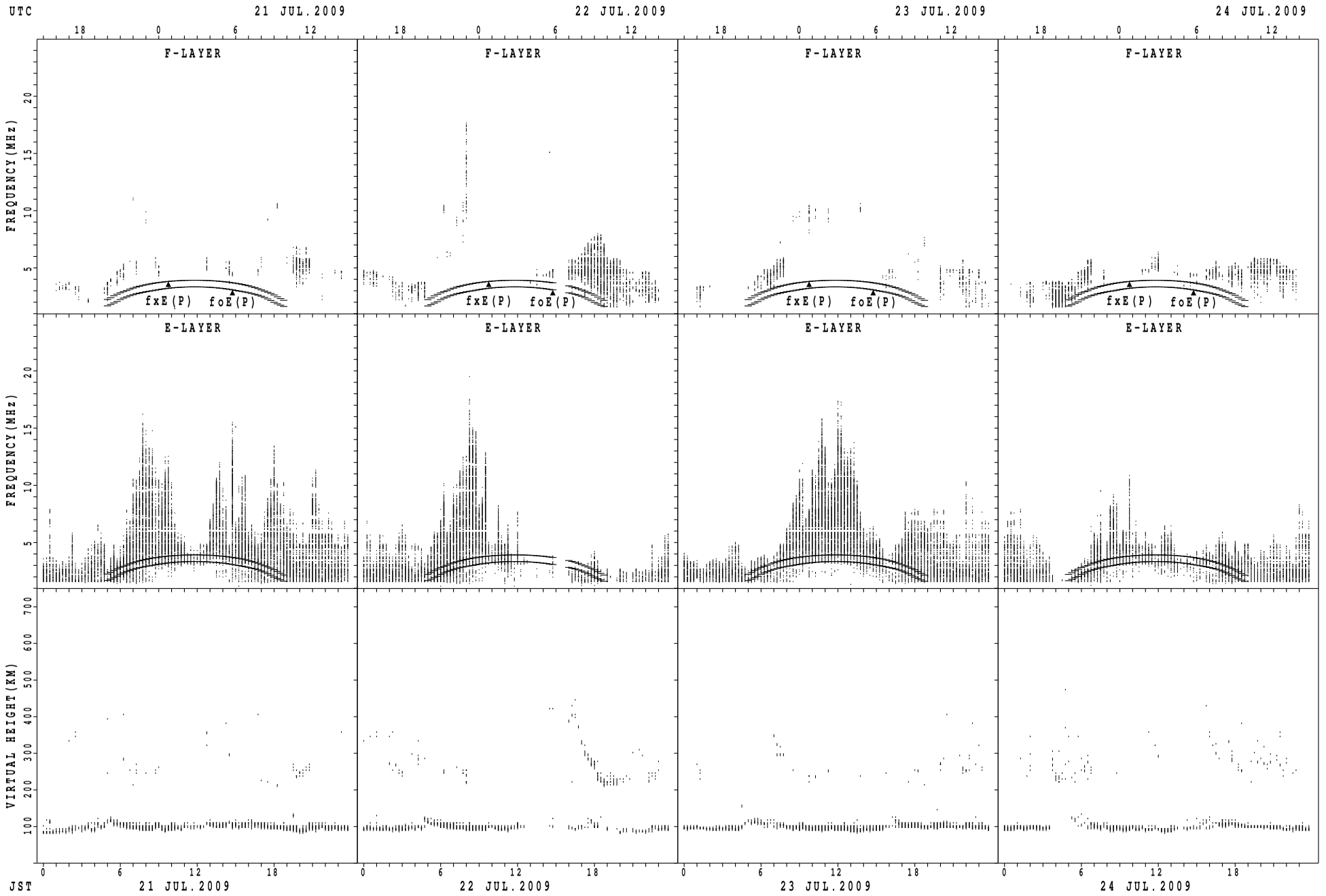
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



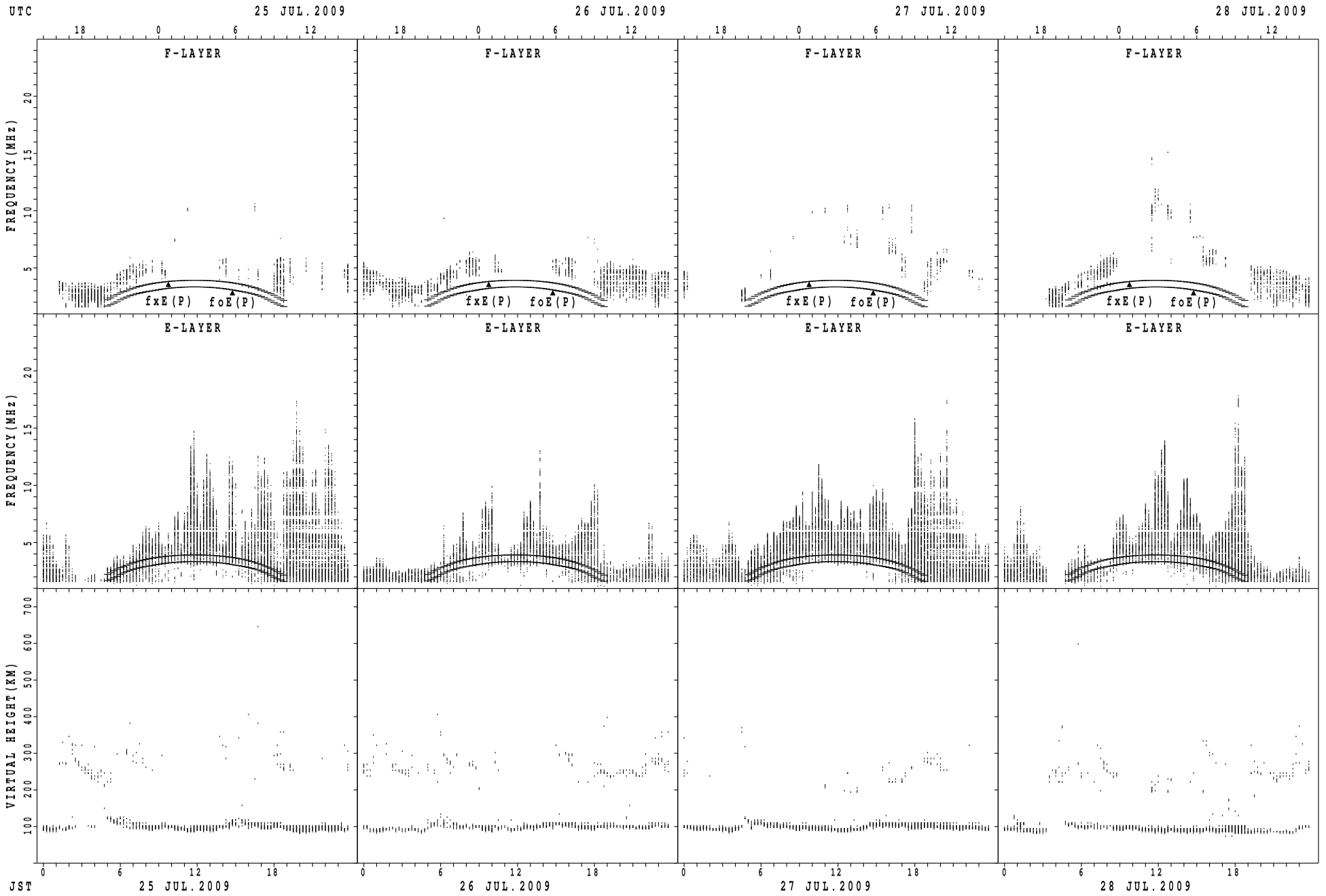
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



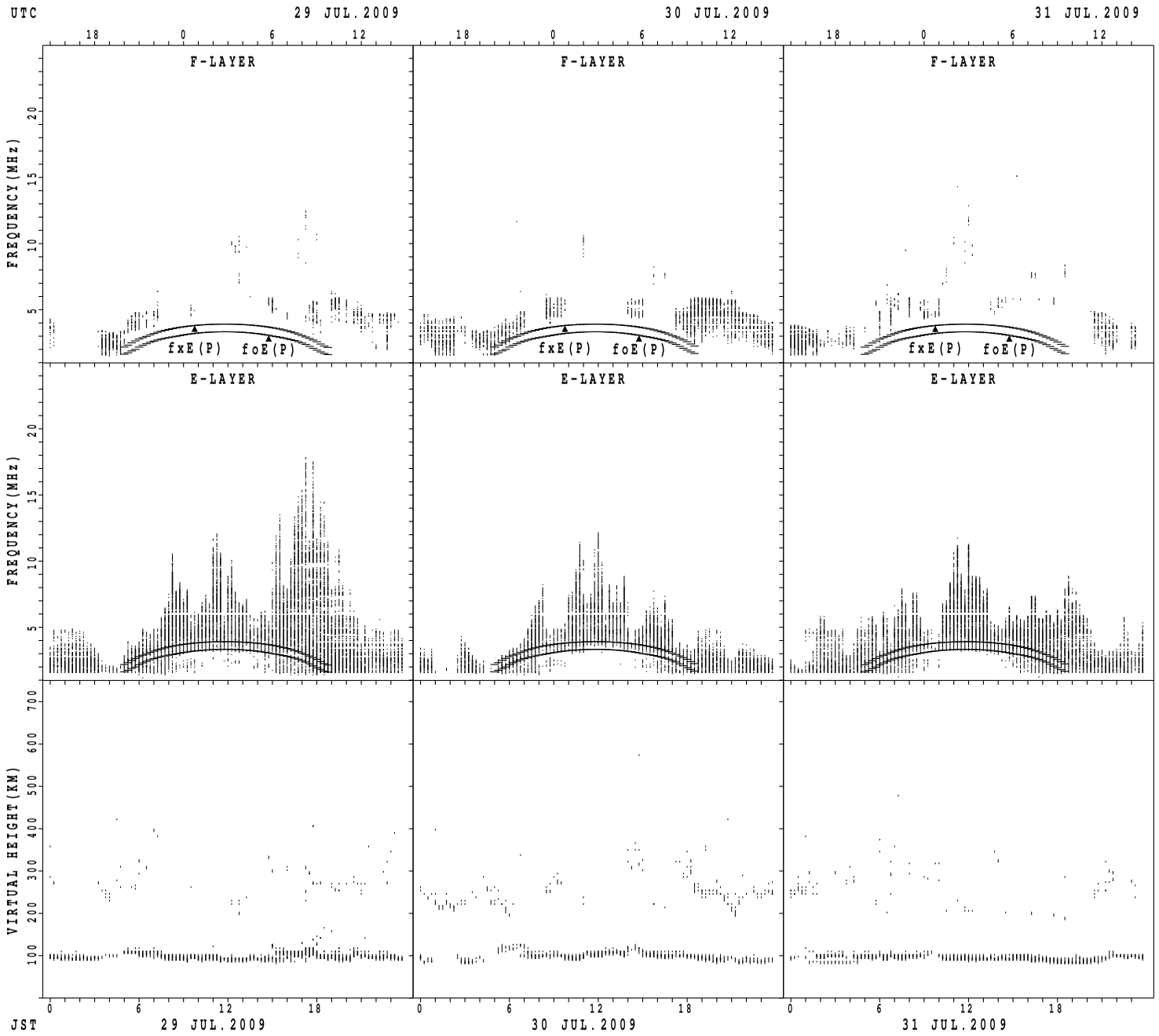
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



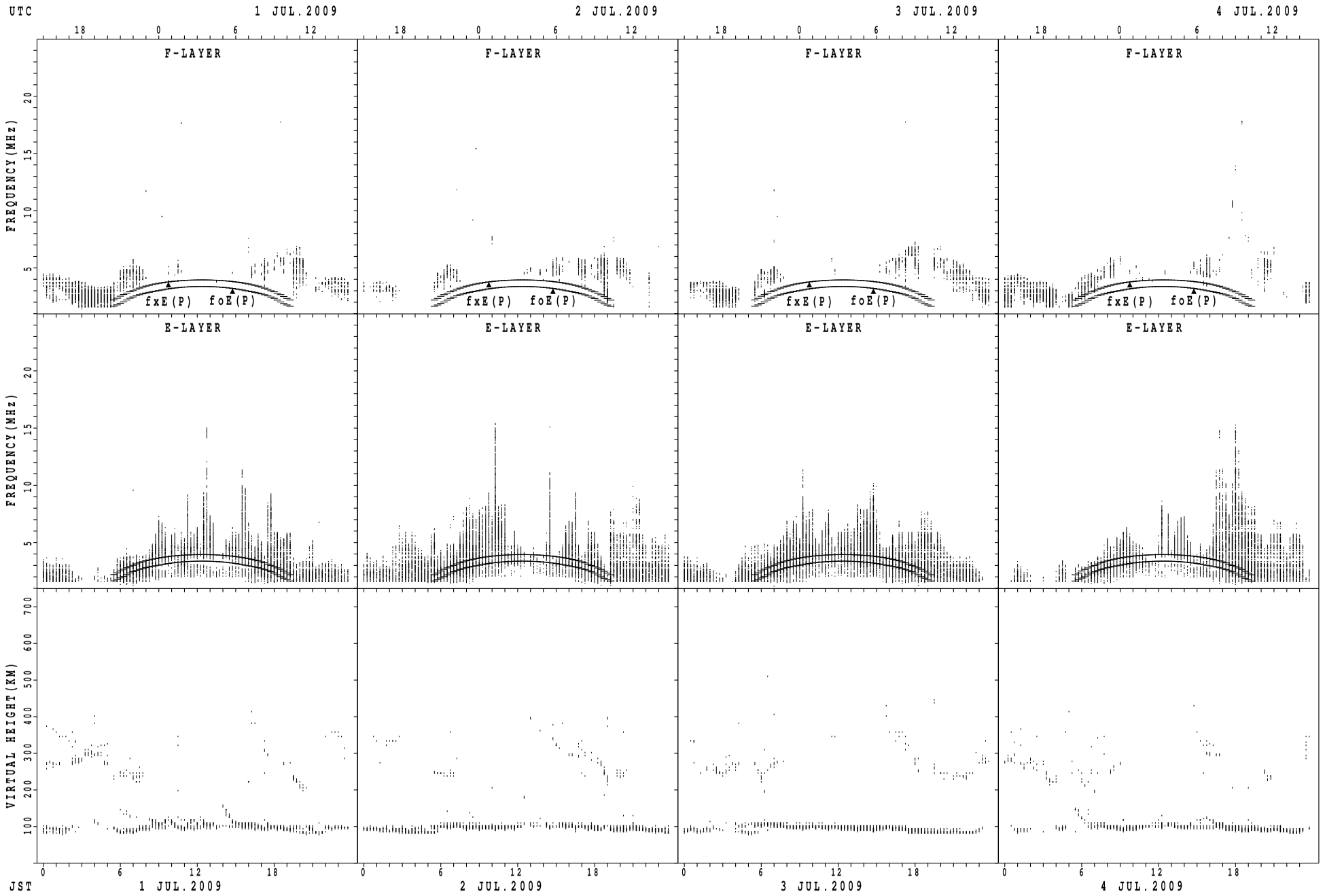
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



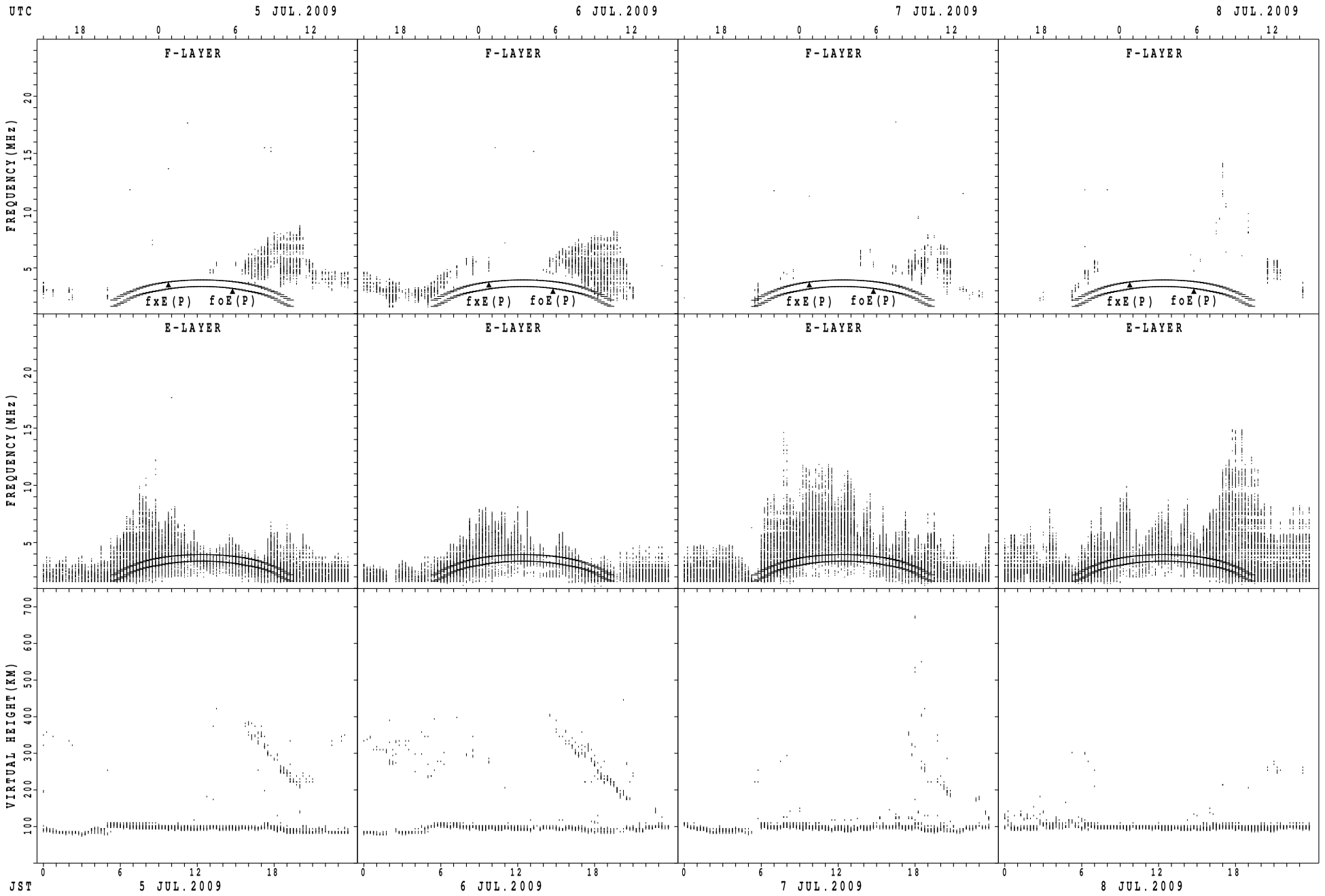
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



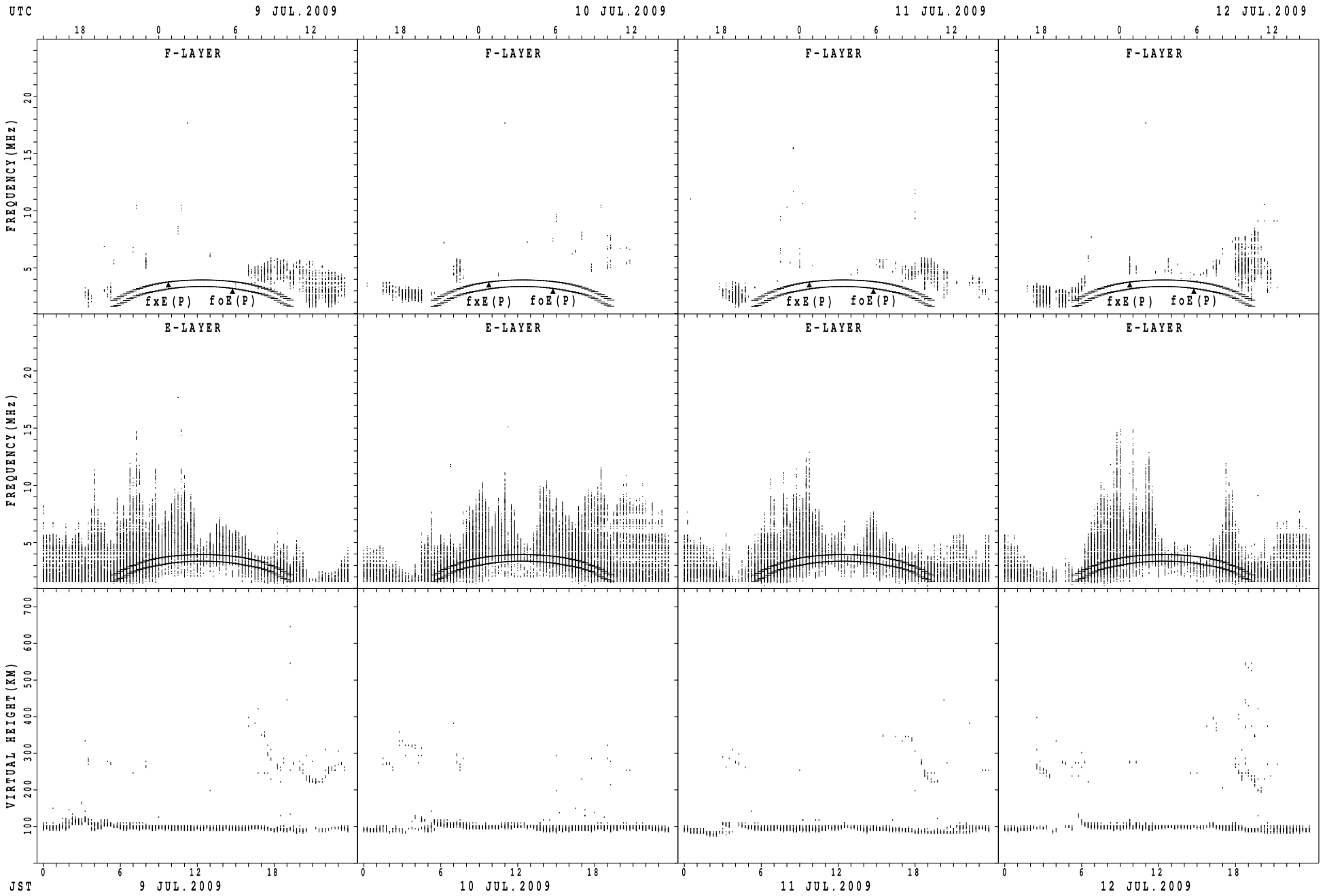
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



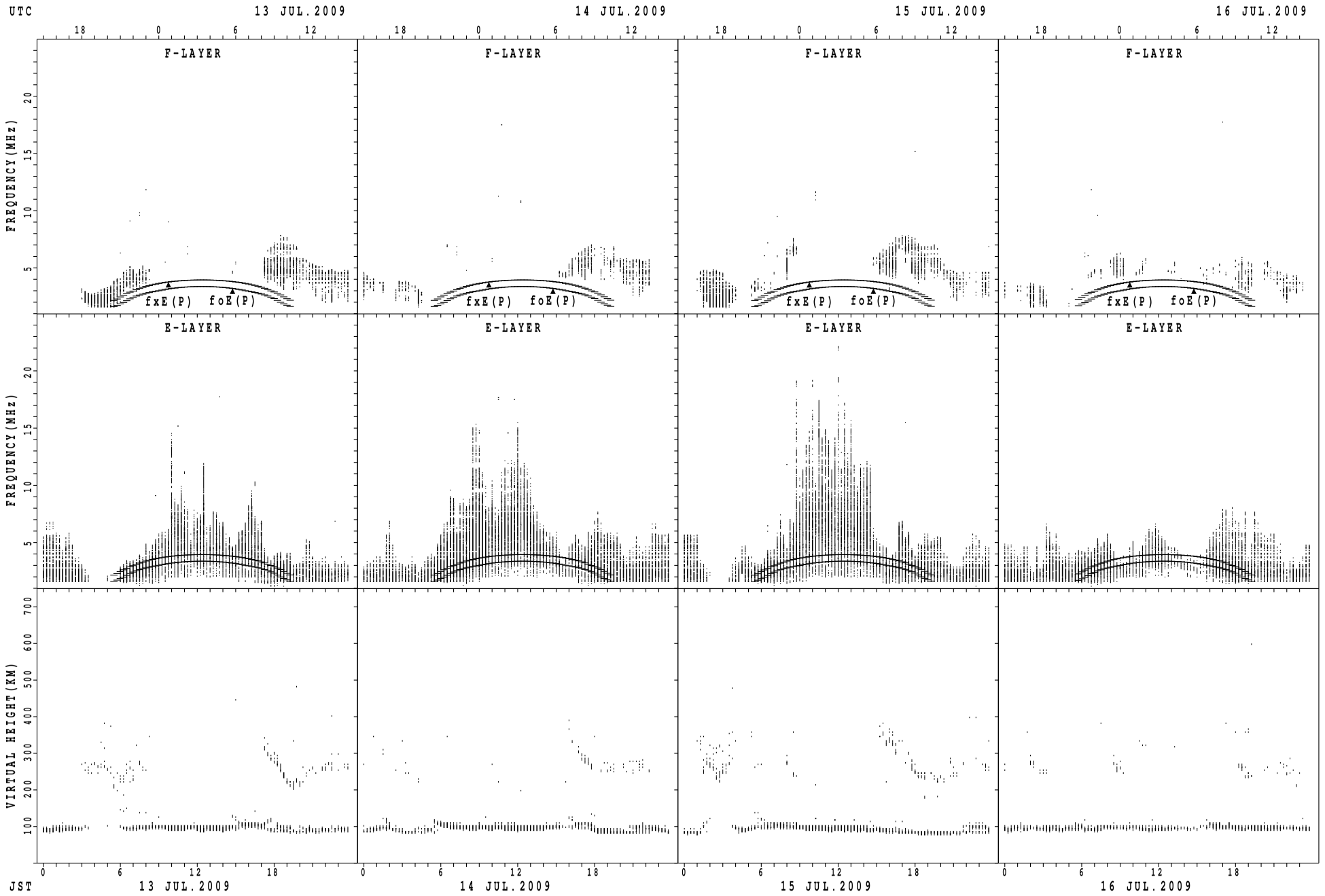
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



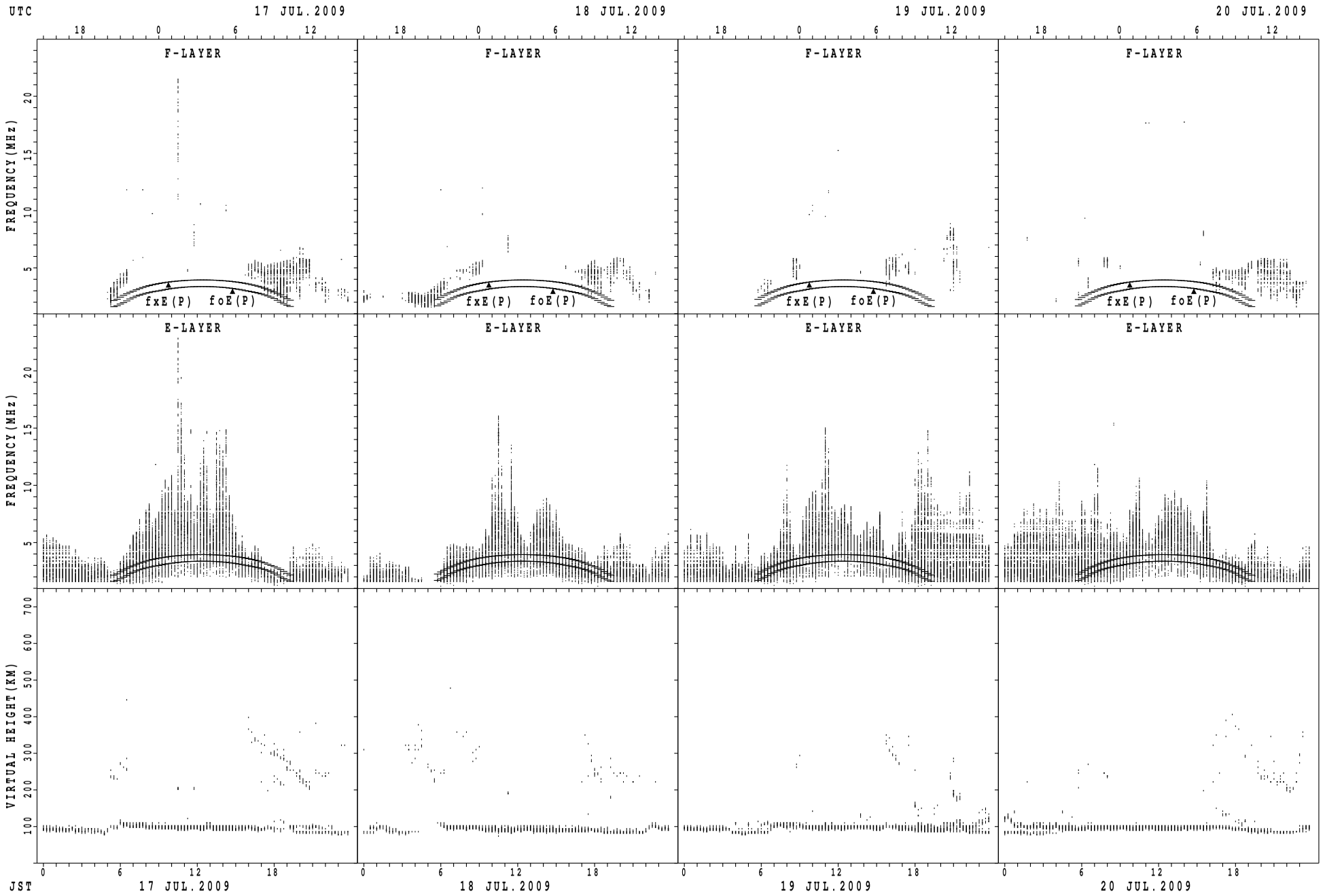
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



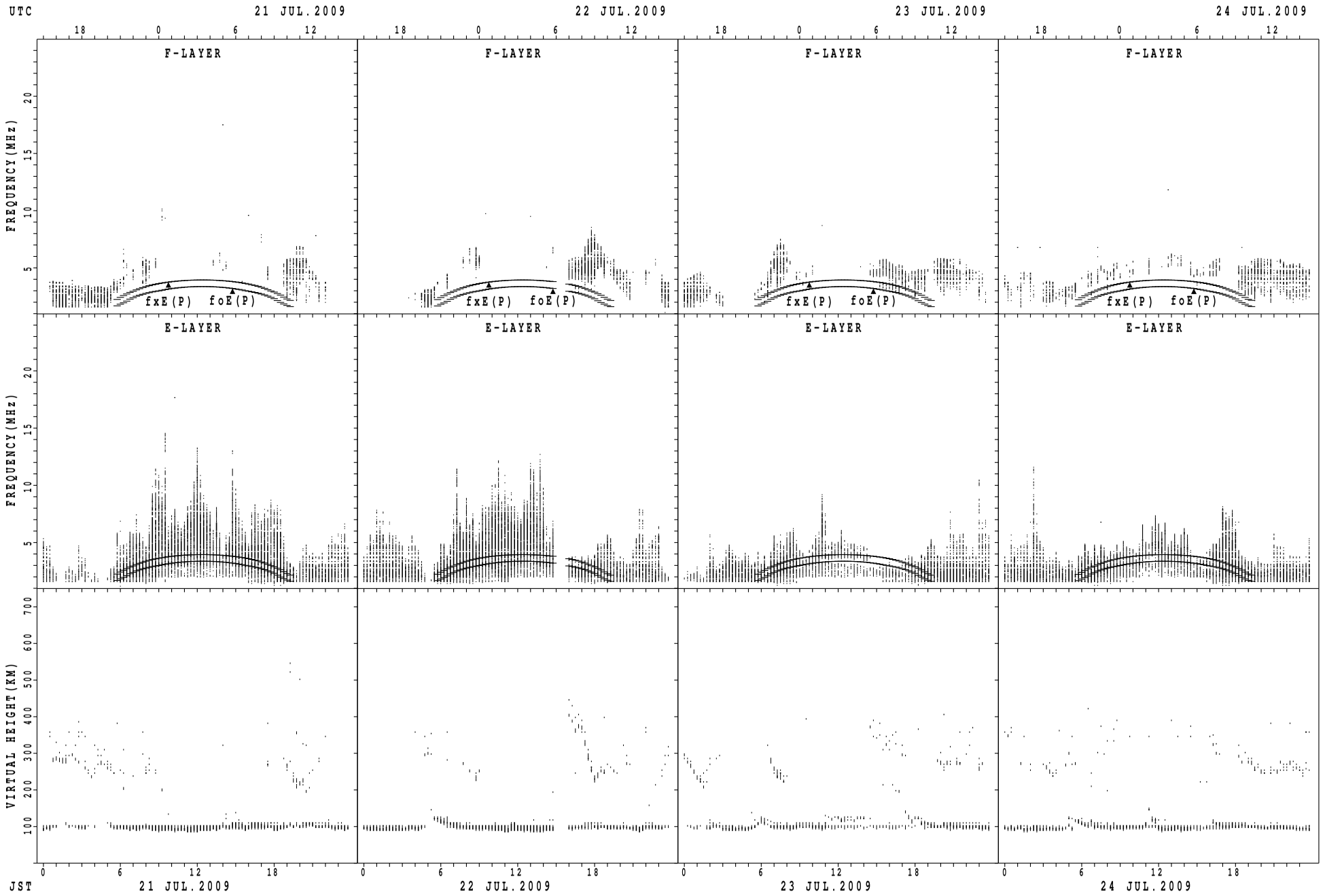
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



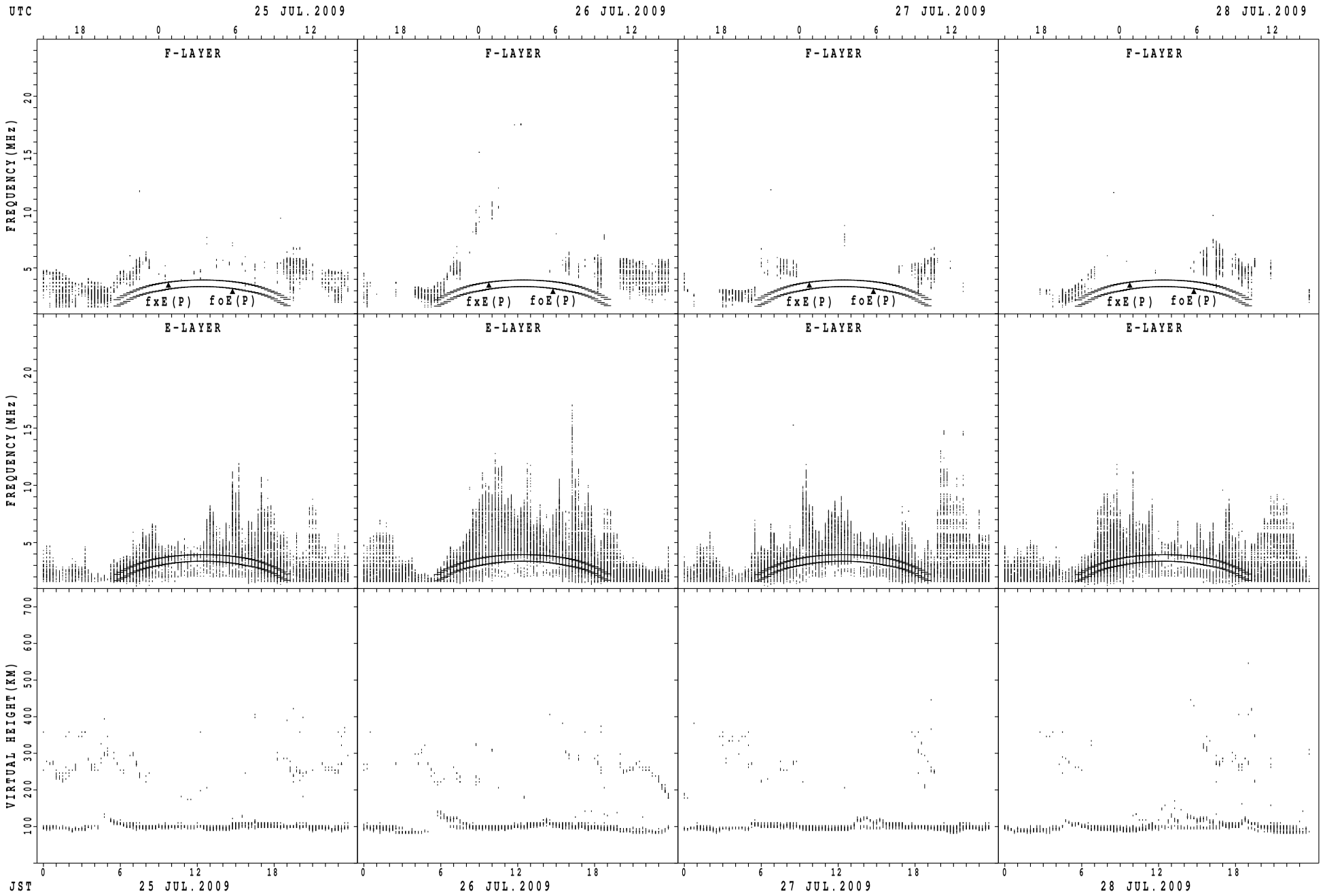
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



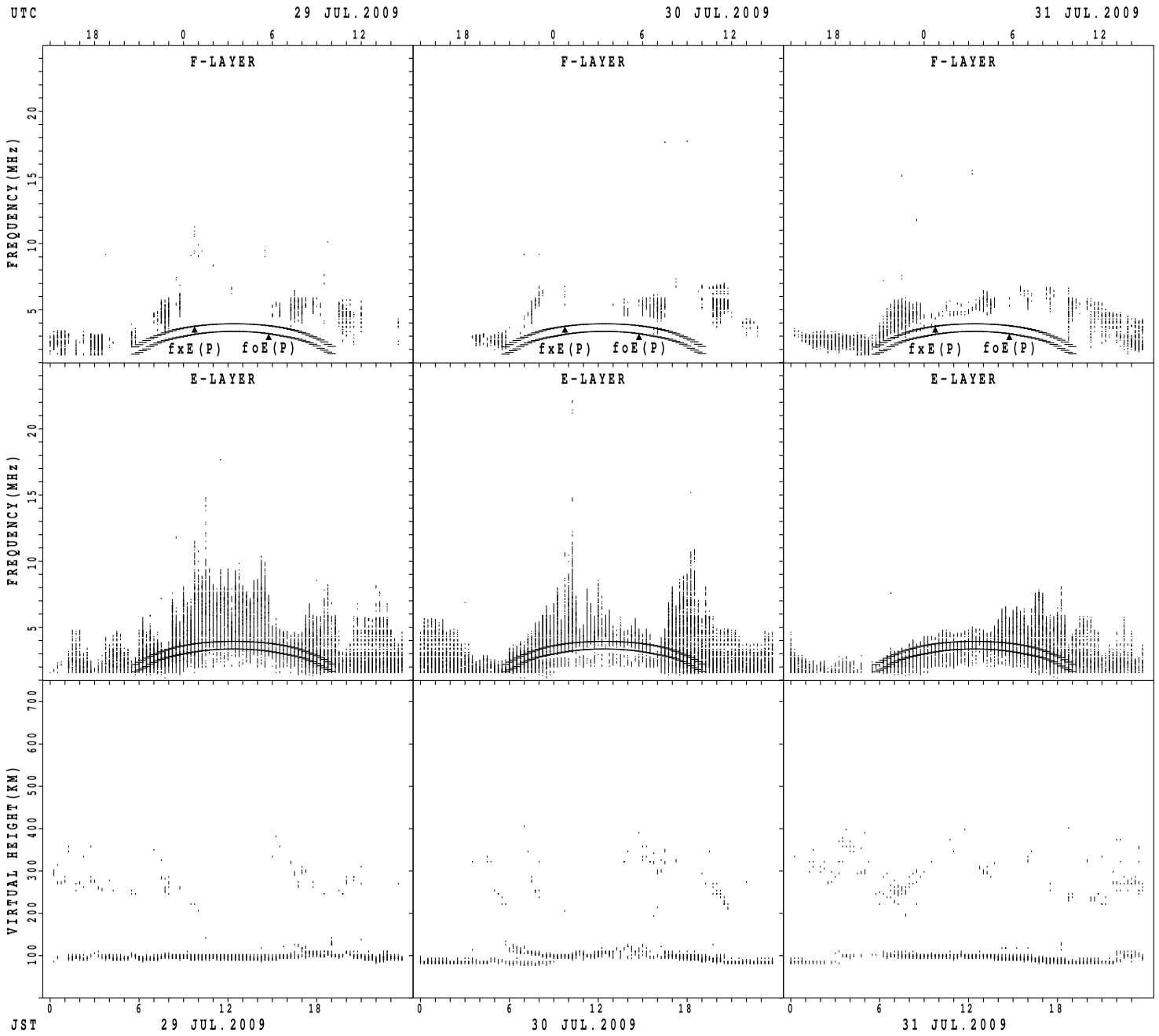
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



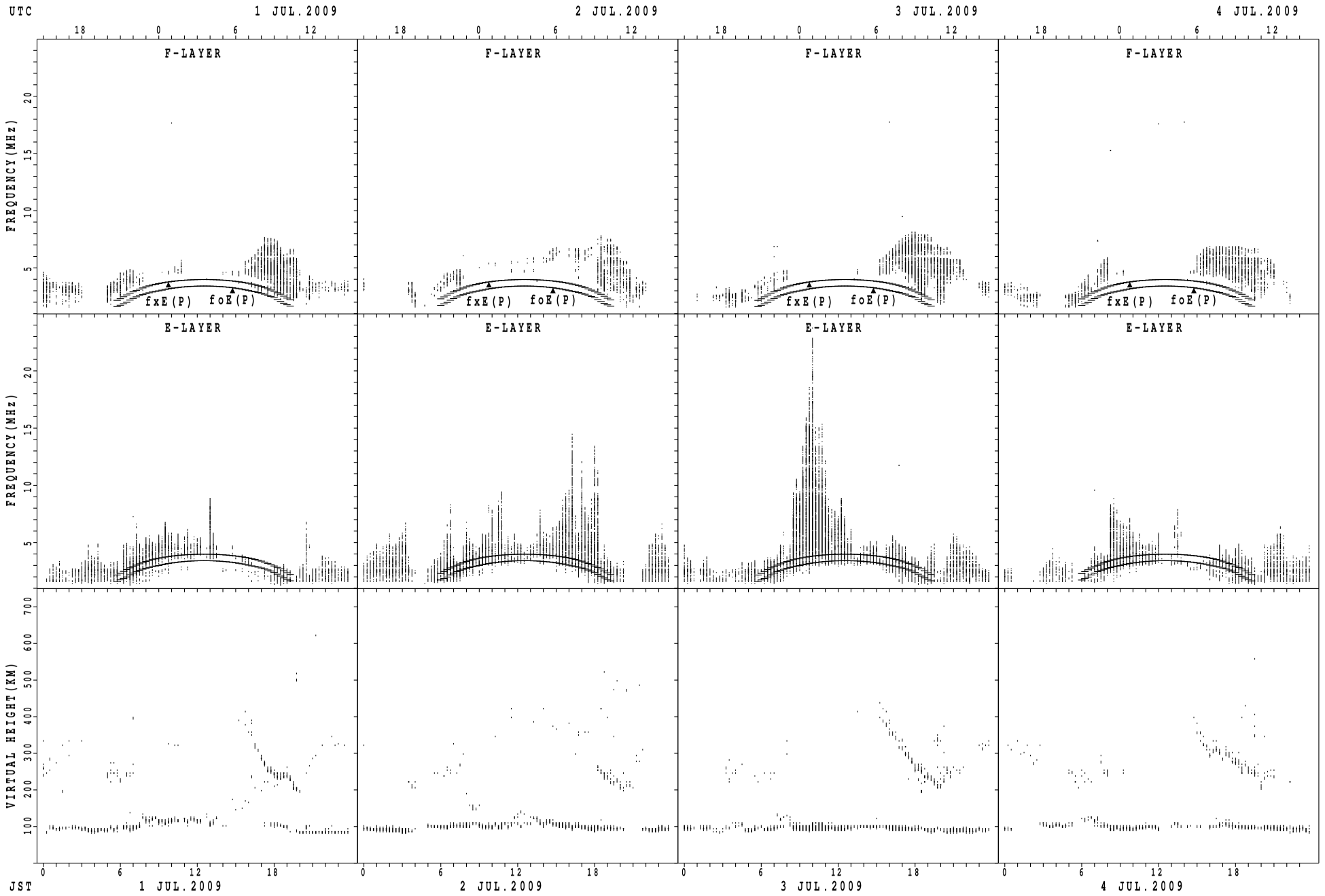
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



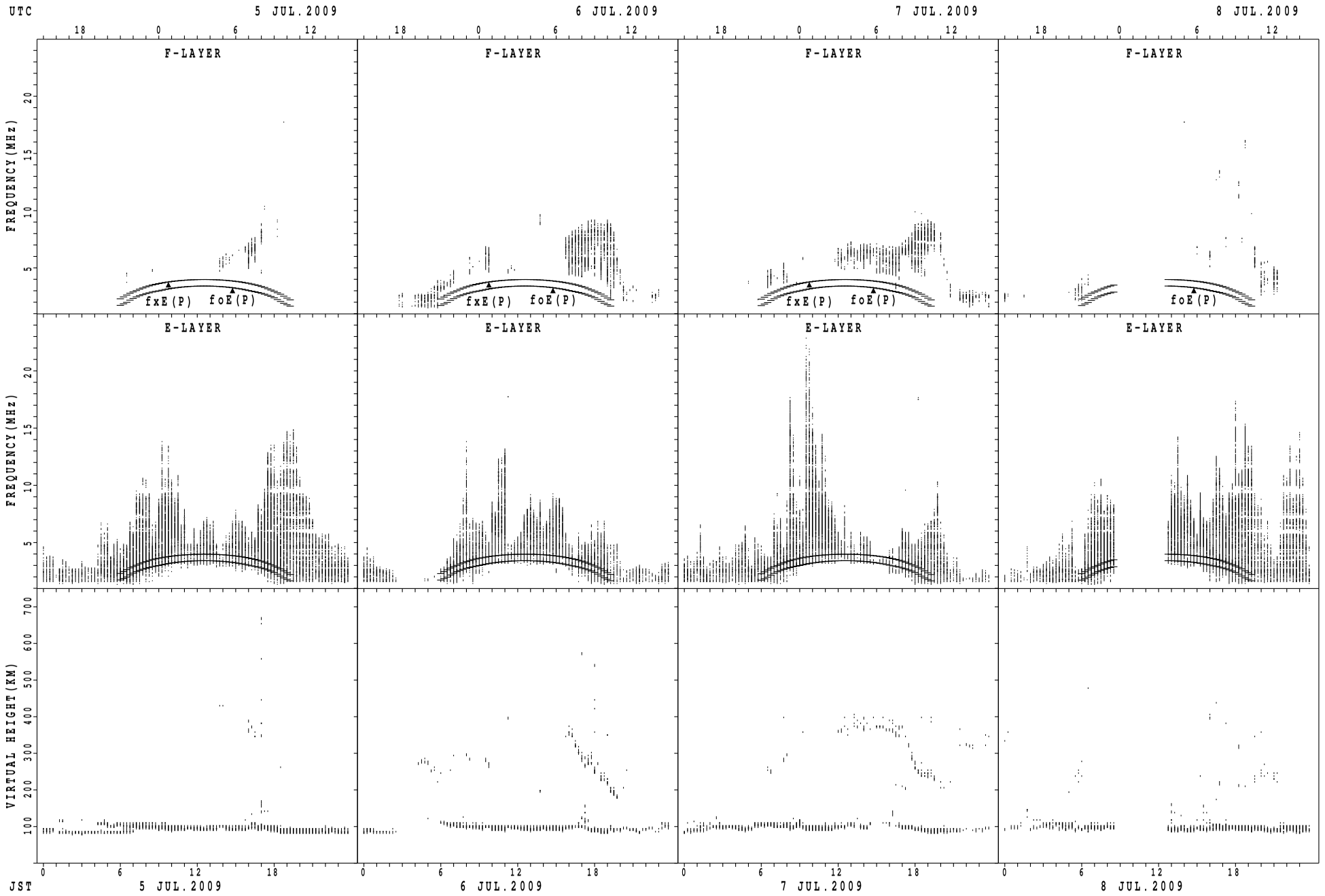
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



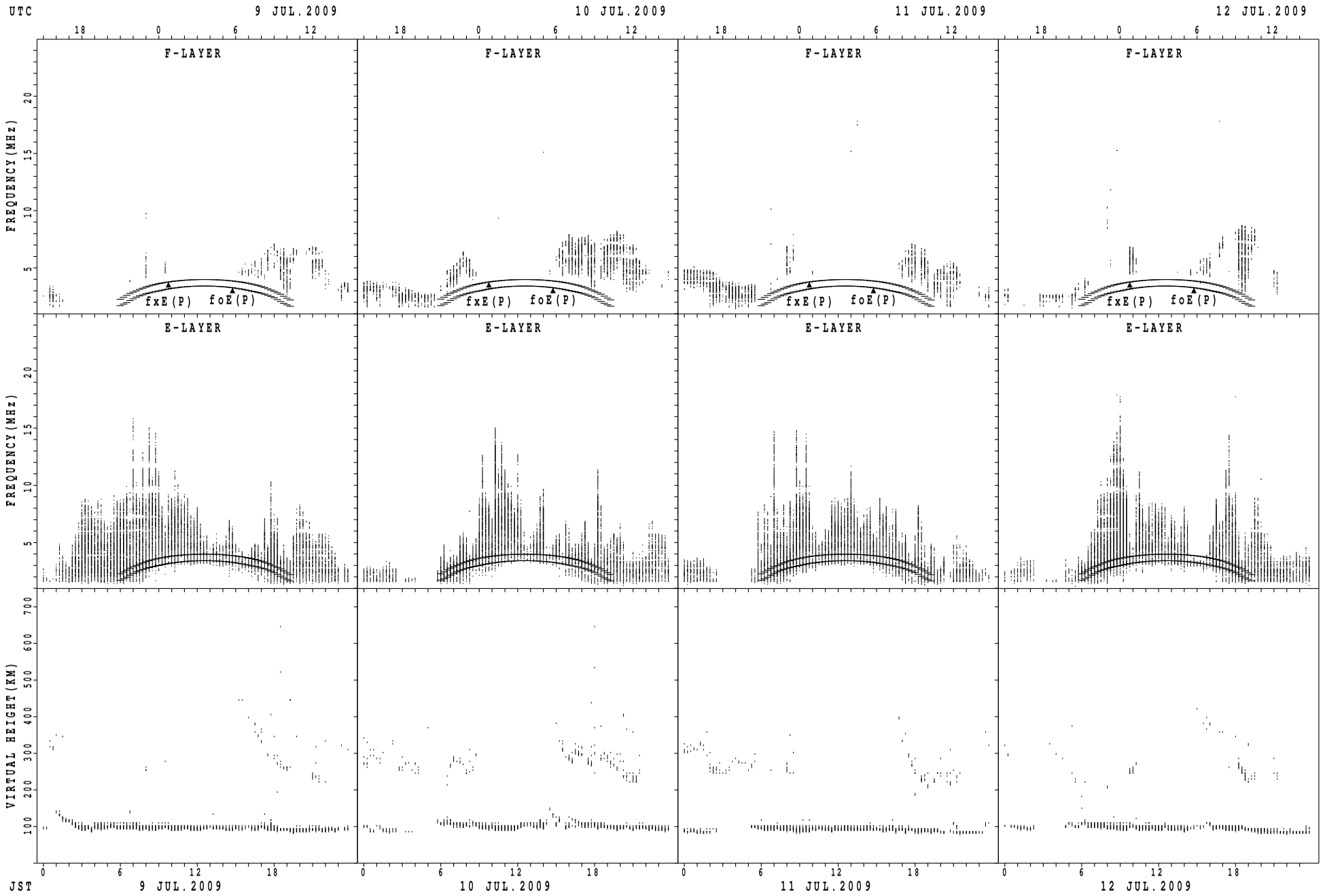
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



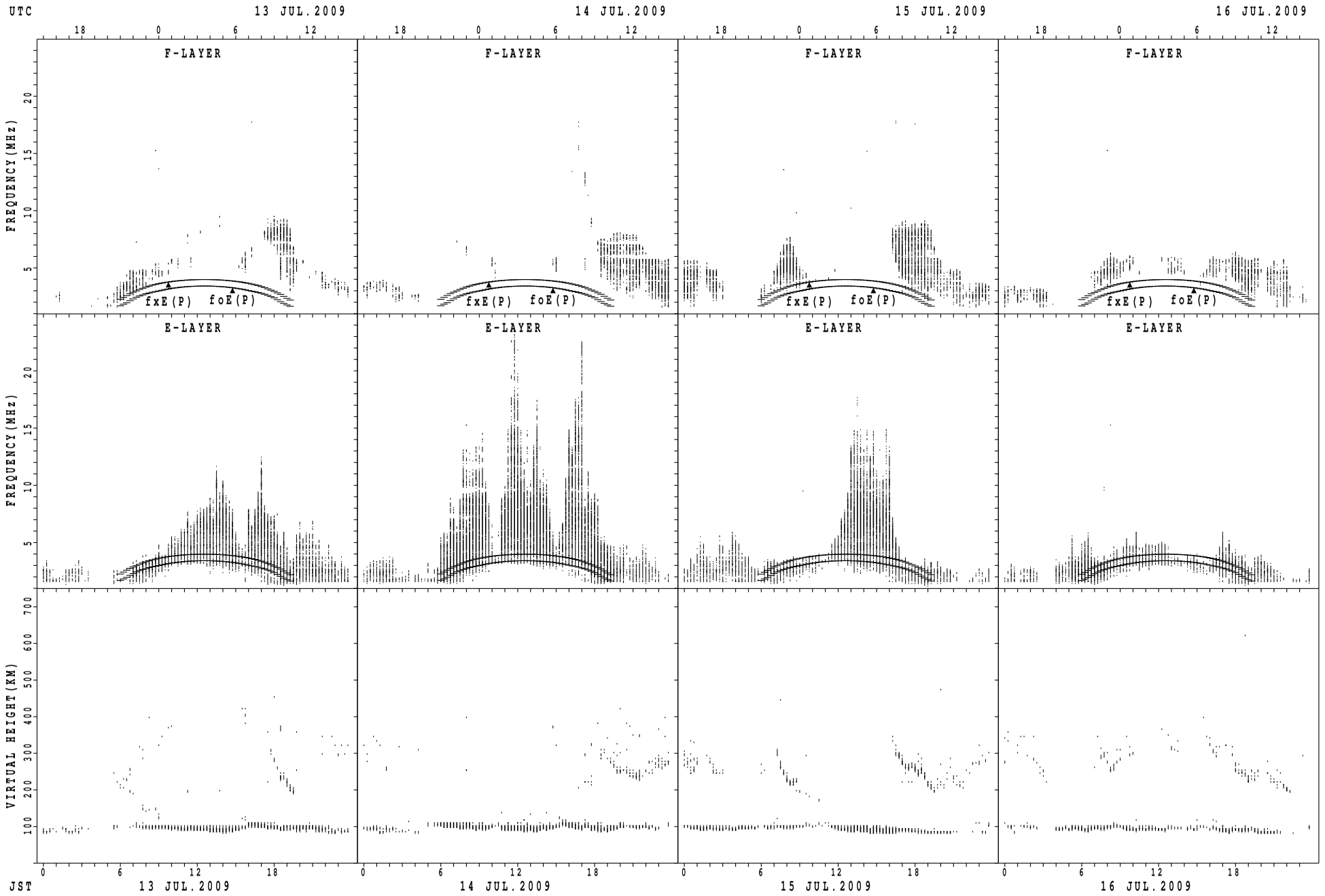
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



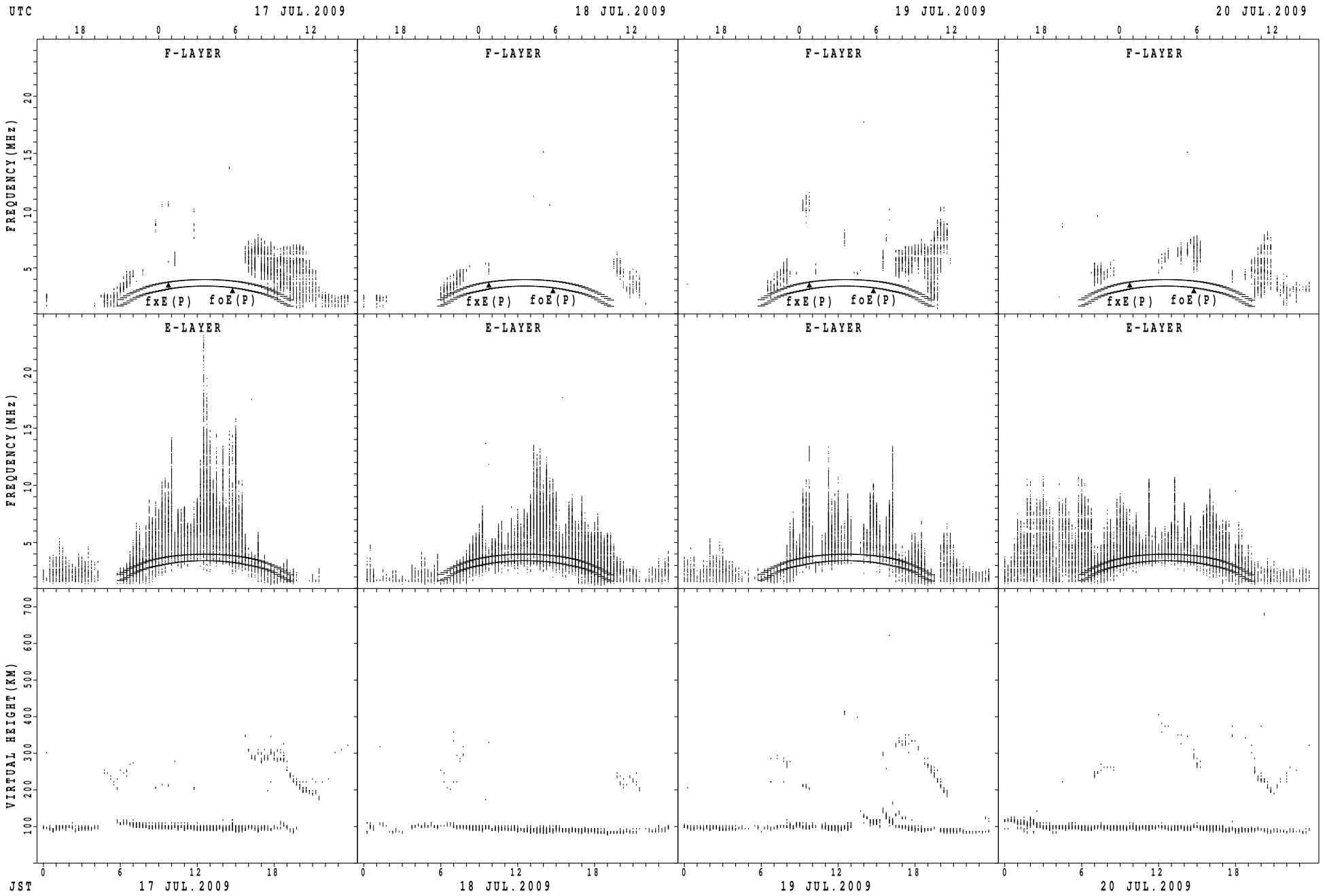
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



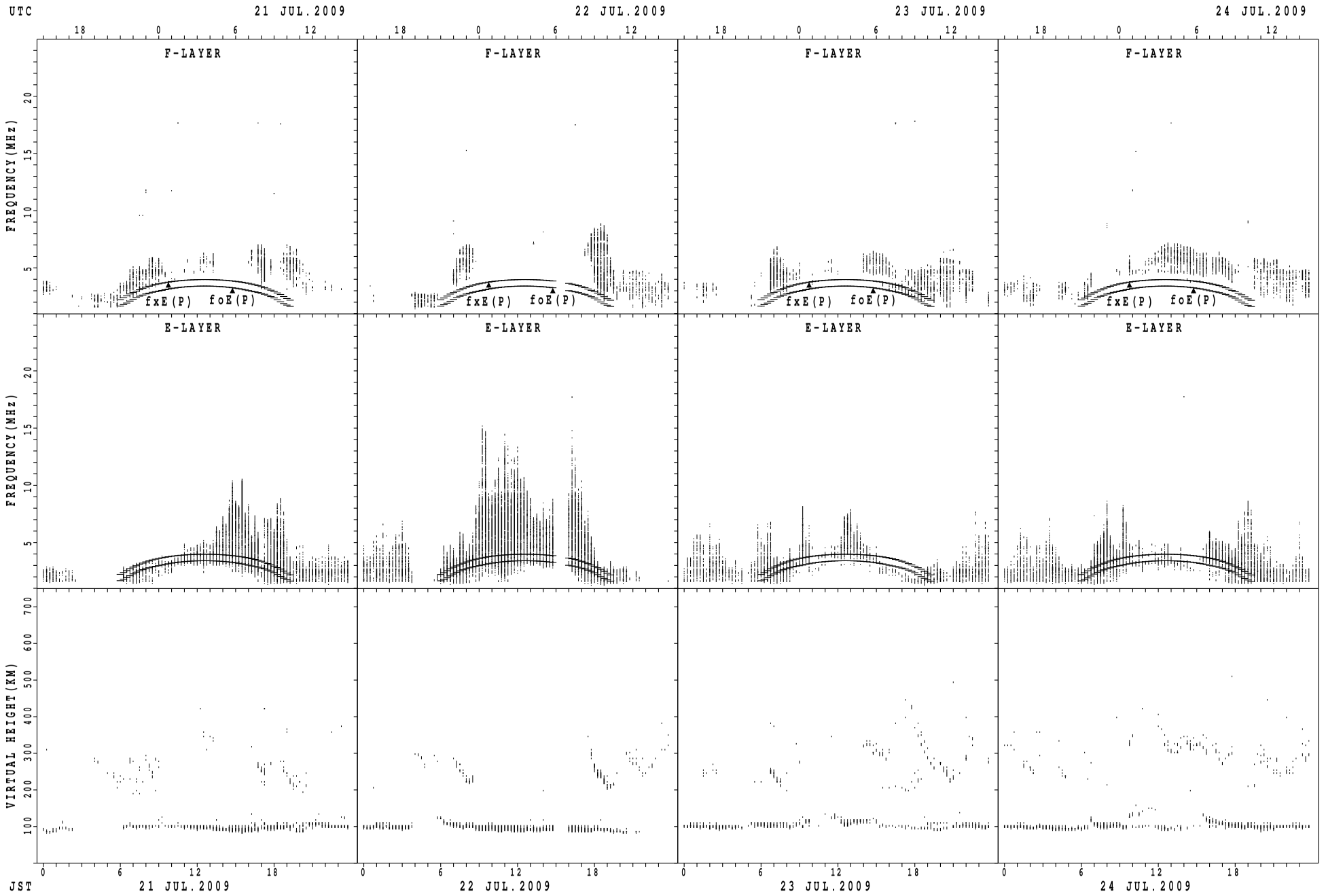
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



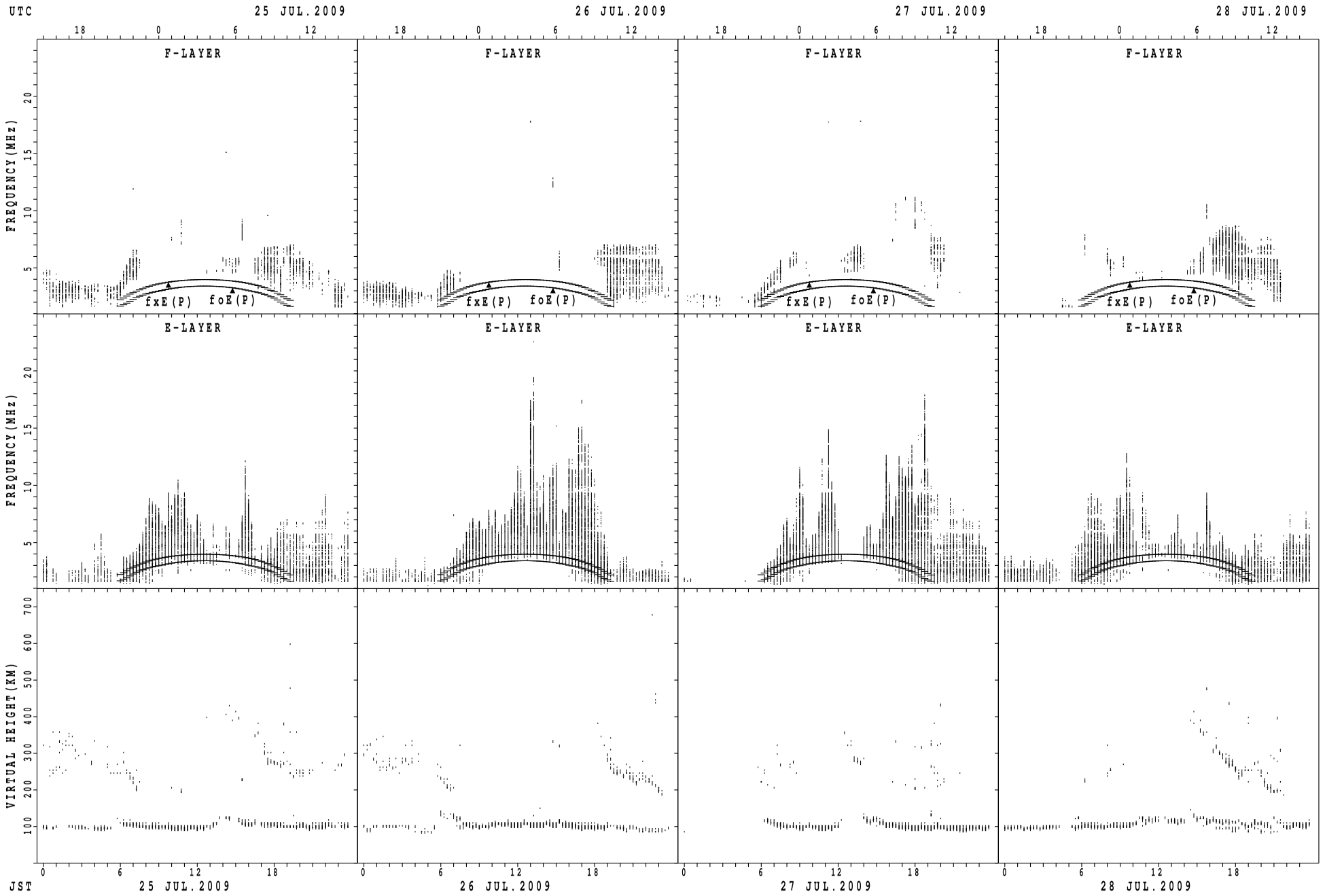
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



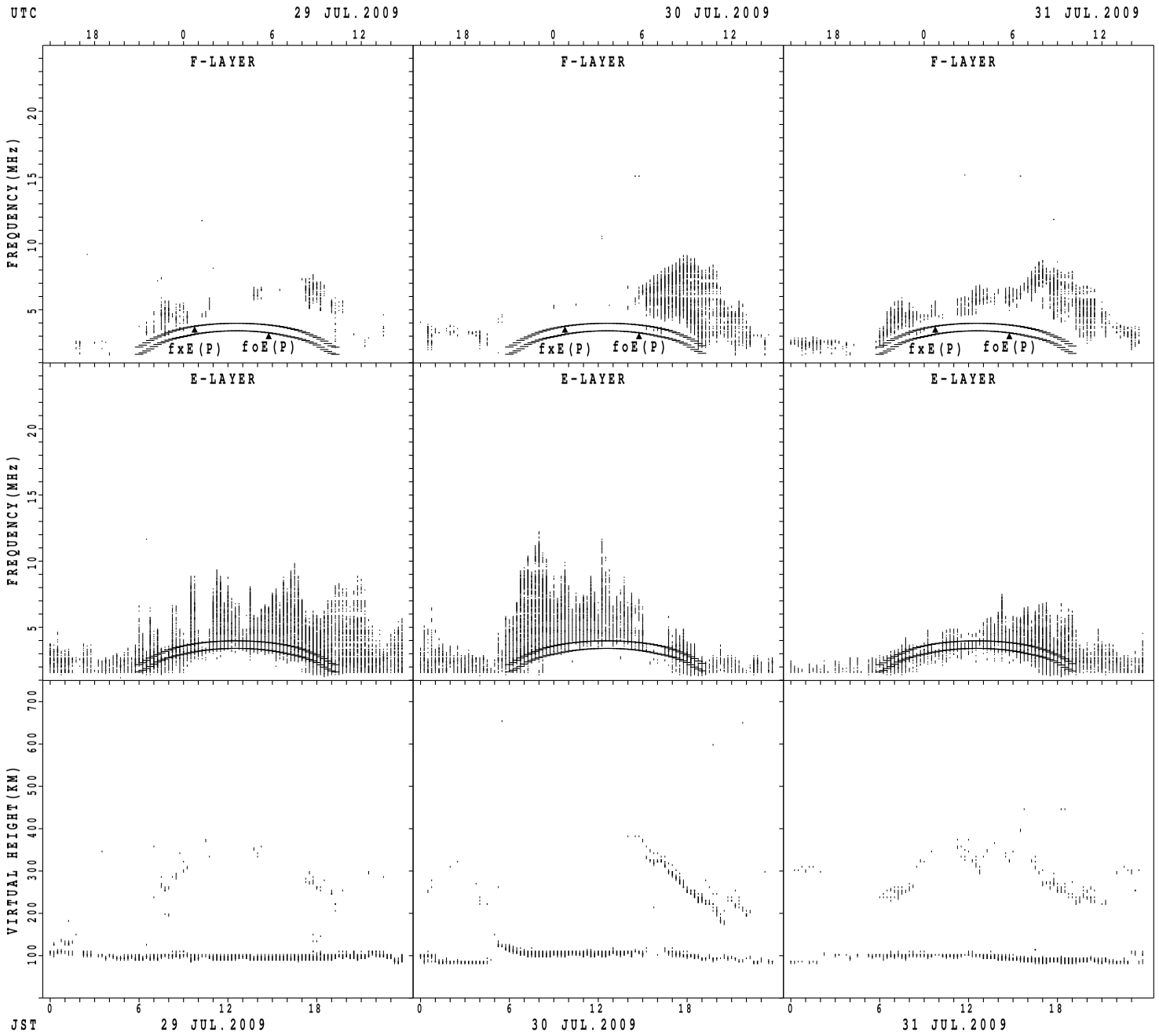
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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

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

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																		3	4	3		1		
MED																		232	237	280		280		
U Q																		242	258	304		140		
L Q																		232	217	262		140		

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	28	26	28	26	27	30	30	30	31	28	29	29	28	28	26	25	28	29	29	28	31	31	30	28
MED	96	93	93	95	103	113	109	105	105	103	101	97	97	98	97	99	107	107	105	103	103	101	99	97
U Q	98	97	96	97	113	115	113	109	105	106	103	103	103	101	99	107	113	111	111	104	105	105	101	97
L Q	94	91	91	91	95	111	107	103	101	102	99	95	93	95	95	95	102	105	103	100	101	97	97	95

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																		1	3	3	3	3		
MED																		224	224	248	236	242		
U Q																		112	274	258	250	258		
L Q																		112	210	238	230	234		

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	29	29	28	27	23	27	30	29	27	27	30	26	24	24	27	26	27	27	27	27	28	29	31	29
MED	97	95	95	95	97	107	108	103	103	101	103	101	99	97	101	102	103	105	103	97	97	101	99	97
U Q	98	99	98	103	101	115	111	109	105	105	105	105	103	103	105	111	111	107	105	103	102	103	103	103
L Q	95	90	91	91	95	101	103	103	99	97	97	95	96	94	95	95	95	103	99	95	94	95	97	95

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

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	4									4	4	3	6	1		
MED								264	278									303	283	240	237	192		
U Q								132	283									317	290	254	256	96		
L Q								132	257									243	264	232	216	96		

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	27	29	27	25	25	23	30	29	31	30	30	30	30	31	29	24	27	29	30	29	31	30	28	31
MED	97	95	97	95	97	95	105	103	103	102	101	99	99	97	97	97	103	103	102	97	95	97	97	97
U Q	99	99	101	97	101	105	111	105	105	103	105	105	103	105	108	111	111	106	103	103	101	103	103	101
L Q	91	89	89	89	91	95	103	99	99	99	97	97	95	95	95	95	97	95	95	91	89	89	90	95

MONTHLY MEDIANS OF h′F AND h′Es

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

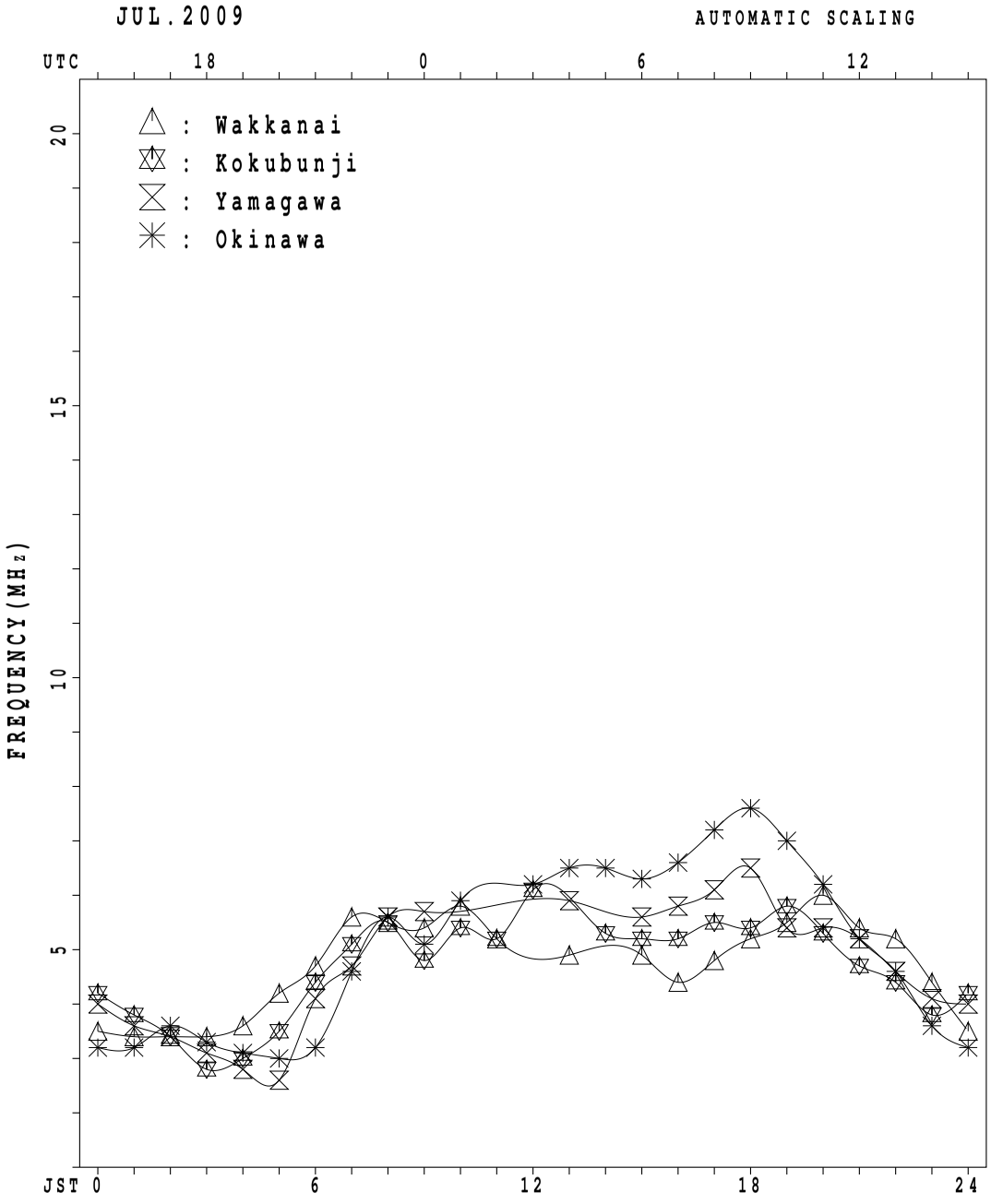
h′F STATION Okinawa LAT. 26°41.0′N LON. 128°09.0′E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								2	7									12	17	13	7	3		1
MED								243	240									287	264	240	226	252		216
U Q								250	266									295	287	251	282	262		108
L Q								236	226									278	254	223	214	248		108

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	23	25	20	21	16	20	30	31	28	26	27	29	29	26	24	28	26	28	30	28	26	23	26
MED	98	99	97	99	99	98	106	105	103	103	99	99	97	99	97	103	102	103	97	95	95	96	95	95
U Q	105	105	102	102	103	103	112	109	107	105	105	107	104	107	107	107	112	107	103	103	100	103	105	103
L Q	95	95	92	95	92	95	103	103	101	100	97	95	95	95	95	95	95	97	95	91	89	93	89	91

MONTHLY MEDIANS PLOT OF foF2



IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

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

IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

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

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	400	396	A	A	A	A	A	A	A	392	A	A					
2							A	A	A	A	A	A	A	428	A	A	A	A	U L 336					
3							A	A	A	A	A	A	A	A	A	U L 420	A	U L 372	332					
4						L	U L 400	A	A	A	A	A	U L 428	A	A	A	A	360	A					
5							U L 368	A	A	A	A	A	A	A	A	A	A	A	A	A				
6							A	A	A	A	A	A	U L 436	440	U L 416	A	A	368	A					
7							A	A	A	A	A	A	A	A	A	U L 408	U L 404	U L 372	A					
8							A	A	A	420	A	A	U L 432	A	A	U L 404	U L 412	A	A	A				
9							A	A	A	A	A	U L 432	U L 436	A	U L 416	U L 404	392	U L 372	A	A				
10							A	A	U L 408	A	A	A	A	A	A	U L 408	A	A	A					
11							A	A	404	A	U L 428	U L 436	U L 424	A	A	A	A	A	A	A				
12						A	U L 372	A	A	A	A	A	A	A	A	U L 408	A	A	A					
13									A	A	A	A	A	A	A	A	A	A	A					
14	A						A	A	A	A	A	432	U L 432	A	A	A	A	A	A	A				
15						A	A	A	A	A	A	A	A	A	A	U L 416	A	356	A					
16							A	388	A	U L 404	428	U L 412	U L 440	U L 424	A	A	A	A	A					
17							A	A	A	A	A	440	A	A	A	A	384	368	312					
18							A	A	A	U L 412	U L 424	A	A	A	A	A	A	368	312	A				
19							A	A	A	A	U L 424	U L 440	A	A	A	A	A	A	A	A				
20						A	332	376	412	A	U L 432	420	U L 432	A	U L 428	U L 420	380	A	A	A				
21							A	A	A	416	A	A	A	A	A	A	A	A						
22							A	A	A	A	U L 424	A	A	U L 416	U L 416	C	U L 388	360	304					
23							U L 356	U L 396	A	A	A	A	A	A	A	A	380	A	A	A				
24							L	A	A	A	U L 420	A	U L 440	A	U L 412	U L 420	U L 392	A	A	A				
25								A	A	A	A	A	A	A	A	A	396	A	L					
26							U L 348	A	L	A	A	U L 452	A	A	A	U L 408	A	A	A					
27						A	A	A	A	A	A	A	A	A	A	A	A	A	A					
28							L	U L 388	412	A	A	A	A	A	A	A	A	A	A	A				
29							A	A 380	A	A	A	A	A	A	A	A	A	A	A					
30								U L 392	A	A	A	A	A	A	A	A	A	A	A					
31						U L 280	344	A	A	A	436	A	A	A	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						1	7	7	5	4	8	8	9	4	5	10	10	9	5					
MED						U L 280	U L 356	388	408	414	U L 426	U L 434	U L 432	426	U L 416	U L 408	392	368	312					
U Q							U L 372	396	412	418	U L 430	U L 440	U L 438	434	U L 422	U L 420	U L 396	U L 372	334					
L Q							344	380	400	U L 408	U L 424	426	U L 430	U L 420	U L 414	U L 408	384	360	308					

JUL. 2009 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						A	A	A 284	A	A	A	A	A	U A 344	A	A	A	A	A	B				
2						A	A	A	A	A	A	A	A	A	A	A	A	A	A					
3						A	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
4						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
5						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
6						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
7						B	U A 240	A	A	A	A	A	A	A	A	A 324	A	A	A	B				
8						B	A	A	A	A	A	A	356	348	A	A	A	A	A	B				
9						A	A	A	A	A	A	A	A	360	A	A	A	A	A	B				
10						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
11						A	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
12						A	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
13						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
14	A					B	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
15						A	A	A	A	A	A	A	A	A	A	A	A	A	A					
16						B	A	A	A	A	A	R	A	R	A	A	A	A	A	B				
17						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
18						A	A	A	A	A	A	A	A	A	A	A	A	R	A	B				
19						A	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
20						A	A	A	A	A	A	A	A	A	A	A	A 288	A	A	B				
21							A	A	A	A	A	A	A	A	A	A	A	A	B	B				
22						B	A	A	A	A	A	A	A	A	R	C	A	A	A	B				
23						A	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
24						A	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
25						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
26						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
27						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
28						B	A	A	R	A	A	A	A	A	A	A	A	A	A	B				
29						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
30						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
31						B	A	A	A	A	A	A	A	A	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							1	1					1	3		1	1							
MED							U A 240	284					356	348		324	288							
U Q														360										
L Q														U A 344										

JUL. 2009 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 53	J A 39	J A 54	J A 57	J A 42	J A 59	37	34	J A 48	J A 48	J A 66	48	J A 57	45	44	J A 76	J A 146	J A 127	J A 134	J A 145	J A 71	J A 35	J A 38	J A 65
2	J A 55	J A 77	J A 65	J A 99	J A 102	J A 88	J A 106	J A 127	J A 117	J A 162	J A 133	J A 176	J A 108	J A 54	J A 60	J A 129	J A 115	J A 107	J A 49	J A 29	J A 61	J A 85	J A 52	J A 48
3	J A 56	J A 26	J A 45	J A 46	J A 64	J A 42	J A 72	J A 78	J A 67	J A 84	62	J A 106	J A 62	J A 80	J A 74	J A 56	J A 55	34	38	J A 40	J A 50	J A 79	J A 100	J A 60
4	J A 42	J A 29	J A 23	21	21	22	J A 33	40	J A 50	J A 85	J A 138	46	41	J A 118	J A 119	J A 126	J A 82	34	J A 44	J A 51	J A 44	J A 23	J A 42	J A 40
5	J A 36	J A 23	J A 28	J A 25	20	21	J A 35	J A 58	J A 53	J A 103	J A 103	J A 146	J A 112	J A 143	J A 93	J A 102	J A 94	82	J A 92	J A 70	J A 147	J A 66	J A 74	J A 80
6	J A 69	J A 42	J A 25	J A 31	J A 22	J A 34	J A 59	J A 61	J A 54	J A 58	J A 61	J A 48	38	38	36	J A 42	41	30	J A 61	J A 28	J A 45	J A 56	J A 46	J A 60
7	J A 39	J A 46	J A 24	J A 19	J A 37	J A 36	J A 50	J A 48	J A 161	J A 87	J A 65	J A 56	J A 49	J A 67	J A 60	38	36	J A 38	J A 99	J A 65	J A 46	J A 64	J A 79	J A 46
8	J A 42	J A 55	J A 64	J A E 59	B 15	24	J A 38	J A 48	J A 56	J A 54	J A 72	J A 66	41	43	J A 48	38	J A 58	J A 92	J A 59	J A 164	J A 79	J A 67	J A 58	J A 71
9	J A 42	J A 35	J A 43	21	J A 27	J A 48	J A 52	J A 54	J A 49	J A 57	J A 50	40	39	42	40	J A 43	J A 38	36	J A 66	J A 96	J A 72	J A 25	J A 31	J A 37
10	J A 46	J A 63	J A 67	J A 24	J A 51	J A 32	J A 64	J A 75	J A 99	J A 82	J A 104	J A 97	J A 56	J A 55	J A 64	J A 40	J A 50	J A 49	J A 45	J A 47	J A 107	J A 128	J A 80	J A 59
11	J A 75	J A 52	J A 56	J A 38	J A 56	J A 58	J A 81	J A 82	J A 42	J A 96	J A 53	J A 43	J A 58	J A 94	44	J A 62	J A 54	J A 52	J A 44	J A 48	J A 28	J A 32	J A 28	J A 52
12	J A 61	J A 57	J A 52	J A 56	J A 43	J A 60	J A 41	J A 46	J A 80	J A 65	J A 114	J A 90	J A 80	J A 46	J A 66	40	39	J A 56	J A 56	J A 97	J A 58	J A 54	J A 75	J A 44
13	J A 73	J A 47	J A 45	J A 22	J A 25	20	J A 37	J A 50	J A 136	J A 81	J A 64	J A 68	J A 67	46	J A 171	J A 58	J A 73	J A 115	J A 42	J A 26	J A 38	J A 28	J A 48	J A 79
14	J A 74	J A 59	J A 44	J A 32	J A 41	J A 27	J A 69	J A 109	J A 119	J A 125	J A 60	38	38	J A 56	J A 44	J A 76	J A 69	J A 65	J A 92	J A 109	J A 97	J A 84	J A 72	J A 46
15	J A 70	J A 59	J A 86	J A 77	J A 78	J A 45	J A 78	J A 117	J A 101	J A 109	J A 174	J A 68	J A 109	J A 77	J A 50	J A 59	J A 68	J A 39	J A 36	J A 33	J A 32	J A 45	J A 66	J A 58
16	J A 90	J A 72	J A 49	J A 43	J A 24	J A 66	J A 67	J A 56	J A 48	J A 46	38	G 32	42	G 31	J A 45	J A 55	J A 85	J A 49	J A 70	J A 41	J A 40	J A 55	J A 40	J A 38
17	J A 32	J A 37	J A 45	J A 34	J A 28	19	J A 61	J A 95	J A 150	J A 150	J A 82	J A 64	J A 105	J A 148	J A 85	J A 118	31	J A 45	J A 28	J A 19	J A 22	J A 20	J A 46	J A 25
18	J A 24	J A 54	J A 31	J A 59	J A 75	J A 72	J A 52	J A 68	J A 104	36	J A 40	J A 118	J A 101	J A 114	J A 77	J A 60	J A 36	G 21	J A 34	J A 52	J A 79	J A 78	J A 60	J A 52
19	J A 102	J A 91	J A 41	J A 44	J A 20	J A 24	49	J A 49	J A 45	J A 61	J A 46	42	J A 52	J A 75	J A 73	J A 99	J A 110	J A 66	J A 56	J A 50	J A 29	J A 31	J A 40	J A 29
20	J A 24	J A 40	J A 32	J A 48	J A 32	J A 31	30	32	J A 41	J A 70	J A 48	40	37	J A 56	39	34	40	J A 44	J A 47	J A 74	J A 61	J A 55	J A 42	J A 37
21	J A 40	J A 38	J A 50	J A 35	J A 58	J A 24	J A 44	J A 107	J A 173	J A 108	J A 106	J A 51	46	J A 68	J A 103	J A 72	J A 56	J A 60	J A 130	J A 96	J A 48	J A 103	J A 73	J A 69
22	J A 40	J A 45	J A 38	J A 86	J A 46	J A 35	J A 68	J A 96	J A 129	J A 84	J A 47	J A 55	J A 85	38	G 27	C	42	28	J A 39	J A 23	J A 24	J A 22	J A 22	J A 34
23	J A 46	J A 35	J A 29	J A 29	J A 50	27	J A 36	34	J A 58	J A 118	J A 111	J A 132	J A 173	J A 130	J A 62	56	36	J A 50	J A 75	J A 66	J A 109	J A 47	J A 108	J A 82
24	J A 74	J A 57	J A 72	J A 42	J A E 15	B 19	29	J A 54	J A 47	J A 46	J A 57	J A 55	J A 40	J A 61	39	38	38	J A 61	J A 50	J A 46	J A 40	J A 52	J A 46	J A 106
25	J A 61	J A 45	J A 51	J A E 15	B J A 18	24	29	J A 45	J A 58	J A 65	53	J A 73	J A 110	J A 116	J A 50	J A 89	J A 58	J A 107	J A 77	J A 130	J A 176	J A 134	J A 167	J A 77
26	J A 28	J A 39	J A 25	J A 22	J A 24	J A 26	29	J A 45	J A 47	J A 58	J A 96	43	J A 46	J A 82	J A 60	J A 51	J A 54	J A 72	J A 97	J A 29	J A 24	J A 34	J A 45	J A 25
27	J A 32	J A 61	J A 40	J A 46	J A 46	J A 31	J A 36	J A 64	J A 64	J A 69	J A 91	J A 87	J A 62	J A 72	J A 57	J A 97	J A 61	J A 44	J A 160	J A 98	J A 130	J A 81	J A 58	J A 54
28	J A 45	J A 72	J A 62	J A E 58	B 14	J A 28	J A 29	31	G 25	J A 72	J A 50	J A 79	J A 107	J A 48	J A 102	J A 72	J A 48	J A 59	J A 151	J A 54	31	22	J A 25	J A 37
29	J A 33	J A 45	J A 43	J A 33	J A 18	J A 30	J A 38	J A 46	J A 74	J A 66	J A 58	J A 112	J A 85	J A 63	J A 53	J A 101	J A 75	J A 149	J A 114	J A 77	J A 78	J A 53	J A 52	J A 44
30	J A 42	21	20	J A 46	J A 20	J A E 15	B 27	J A 39	J A 73	J A 45	J A 71	J A 96	J A 118	J A 65	J A 70	J A 48	J A 72	J A 52	J A 34	J A 40	J A 50	J A 24	J A 44	J A 30
31	J A 20	21	J A 62	J A 58	J A 28	J A 45	J A 30	J A 63	J A 48	J A 42	J A 44	J A 106	J A 108	J A 74	J A 49	J A 50	J A 54	J A 52	J A 60	J A 77	J A 65	J A 30	J A 33	J A 29
	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	30	31	31	31	31	31	31	31	31
MED	J A 45	J A 45	J A 45	J A 42	J A 28	J A 31	J A 41	J A 54	J A 58	J A 70	J A 64	J A 66	J A 62	J A 65	J A 60	J A 58	J A 55	J A 52	J A 59	J A 52	J A 50	J A 53	J A 48	J A 48
U Q	J A 69	J A 59	J A 56	J A 57	J A 50	J A 45	J A 64	J A 78	J A 104	J A 96	J A 103	J A 97	J A 107	J A 82	J A 74	J A 89	J A 73	J A 72	J A 92	J A 96	J A 79	J A 78	J A 73	J A 65
L Q	J A 36	J A 37	J A 31	J A 25	20	24	33	45	J A 48	J A 57	J A 50	46	42	46	44	43	40	39	J A 44	J A 40	J A 38	J A 30	J A 40	J A 37

IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A A 53	19	E B 15	16	A A 42	30	34	32	35	A A 48	A A 66	A A 48	A A 57	A A 45	A A 44	42	32	A A 127	A A 134	27	20	E B 15	19	A A 65
2	A A 55	A A 77	A A 65	A A 99	17	29	A A 106	A A 127	A A 117	A A 162	A A 133	A A 176	A A 108	39	42	44	A A 115	38	24	15	28	16	24	20
3	20	16	21	18	23	22	A A 72	A A 78	A A 67	A A 84	A A 62	A A 106	A A 62	A A 80	A A 74	36	37	32	28	21	25	22	A A 100	A A 60
4	20	17	16	E B 15	E B 15	19	28	37	A A 50	A A 85	A A 138	A A 46	38	A A 118	A A 119	A A 126	A A 82	30	30	47	31	E B 15	30	30
5	21	19	24	19	E B 15	19	30	A A 58	46	A A 103	A A 103	A A 146	A A 112	46	A A 93	A A 102	A A 94	A A 82	59	47	22	30	33	A A 80
6	A A 69	17	19	19	17	28	A A 59	A A 61	A A 54	50	A A 61	A A 48	36	36	35	40	38	29	35	22	26	29	24	25
7	23	E B 15	E B 15	E B 15	16	18	34	A A 48	A A 161	40	A A 65	A A 56	A A 49	A A 67	56	35	33	30	A A 99	33	28	42	A A 79	A A 46
8	21	A A 55	22	E A 15	E B 15	20	34	37	44	37	A A 72	A A 66	40	39	44	35	34	44	32	A A 164	46	23	A A 58	A A 71
9	16	22	18	E B 15	17	20	A A 52	37	41	46	44	38	37	A A 42	37	36	31	30	34	A A 96	21	16	20	21
10	A A 46	A A 63	A A 67	E B 16	A A 51	20	A A 64	A A 75	36	A A 82	A A 104	45	A A 56	A A 55	A A 64	34	38	38	34	20	52	A A 128	32	30
11	A A 75	26	A A 56	18	21	23	A A 81	39	31	41	40	39	40	A A 94	43	A A 62	A A 54	A A 52	32	42	19	26	18	20
12	A A 61	A A 57	A A 52	E B 15	E B 15	B A 60	30	32	51	A A 65	A A 114	A A 90	A A 80	A A 46	44	35	38	42	34	20	24	33	A A 75	A A 44
13	A A 73	23	E B 16	18	E B 15	20	31	40	A A 136	A A 81	A A 64	A A 68	A A 67	42	A A 171	47	A A 73	A A 115	35	20	18	18	25	A A 79
14	A A 74	24	18	17	E B 15	26	A A 69	A A 109	A A 119	58	A A 60	36	37	A A 56	40	A A 76	A A 69	A A 65	A A 92	A A 109	A A 97	A A 84	32	30
15	A A 70	A A 59	A A 86	A A 77	A A 78	30	A A 78	A A 117	A A 101	A A 109	A A 174	A A 68	A A 109	A A 77	A A 50	36	A A 68	30	31	19	25	19	18	A A 58
16	17	A A 72	A A 49	18	19	17	A A 67	30	40	38	35	G 32	38	G 31	40	A A 55	A A 85	38	33	E B 14	25	22	19	18
17	18	A A 37	A A 45	A A 34	18	17	A A 61	A A 95	A A 150	A A 150	A A 82	38	A A 105	A A 148	A A 85	A A 118	30	28	22	15	E B 16	E B 15	21	E B 15
18	E B 15	20	18	E B 15	E B 15	22	A A 52	40	A A 104	35	36	A A 118	A A 101	A A 114	A A 77	A A 60	34	G 21	23	44	A A 79	A A 78	A A 60	19
19	A A 102	E B 16	20	16	16	21	A A 49	36	38	A A 61	38	39	A A 52	A A 75	A A 73	A A 99	A A 110	A A 66	31	A A 50	22	24	33	19
20	E B 15	19	21	A A 48	16	A A 31	25	30	36	44	38	37	36	A A 56	37	33	35	41	A A 47	A A 74	E B 16	38	34	28
21	E B 14	24	17	17	20	18	32	A A 107	A A 173	35	44	A A 51	44	A A 68	41	44	35	38	29	39	20	A A 103	28	31
22	24	19	19	E B 15	16	24	A A 68	A A 96	A A 129	A A 84	33	A A 55	A A 85	35	G 27	C	30	26	25	16	19	18	17	20
23	19	20	22	22	15	22	29	32	51	A A 118	A A 111	A A 132	A A 173	A A 130	A A 62	A A 56	34	A A 50	39	A A 66	17	35	E B 16	29
24	30	31	E B 15	20	E B 15	16	25	A A 54	A A 47	A A 46	34	44	36	A A 61	36	36	32	40	41	41	31	33	24	18
25	30	17	16	E B 15	E B 15	22	29	36	43	45	A A 53	A A 73	A A 110	A A 116	44	41	34	A A 107	24	23	A A 176	22	27	34
26	16	26	15	16	16	17	26	36	41	48	A A 96	40	A A 46	A A 82	42	35	40	A A 72	34	20	18	19	16	E B 15
27	18	A A 61	20	A A 46	A A 46	A A 31	33	A A 64	A A 64	A A 69	A A 91	A A 87	A A 62	A A 72	A A 57	A A 97	A A 61	39	A A 160	18	17	A A 81	36	20
28	A A 45	A A 72	A A 62	20	E B 14	24	26	28	G 25	A A 72	A A 50	A A 79	A A 107	A A 48	A A 102	A A 72	40	A A 59	A A 151	A A 54	20	E B 15	20	18
29	18	28	A A 43	21	E B 15	23	33	33	A A 74	57	A A 58	A A 112	A A 85	A A 63	44	44	41	A A 149	30	34	31	E B 15	31	20
30	17	E B 15	E B 15	E B 15	E B 15	E B 15	26	32	A A 73	40	A A 71	A A 96	A A 118	A A 65	45	44	A A 72	A A 52	28	23	23	E B 15	18	18
31	E B 15	E B 15	E B 15	16	17	19	24	45	43	40	37	A A 106	A A 108	A A 74	46	48	A A 54	A A 52	A A 60	A A 77	29	20	25	20
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31
MED	21	23	20	17	16	22	34	40	A A 51	A A 57	A A 62	A A 56	A A 62	A A 63	44	44	38	41	34	33	24	22	25	25
U Q	A A 55	A A 55	A A 45	A A 20	19	26	A A 64	A A 75	A A 104	A A 84	A A 96	A A 96	A A 107	A A 80	A A 73	A A 62	A A 69	A A 65	A A 47	A A 50	31	A A 35	A A 33	A A 44
L Q	17	17	E B 16	E B 15	E B 15	19	29	33	41	41	40	40	40	45	41	36	34	30	29	20	19	E B 16	19	19

JUL. 2009 fbEs (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

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

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

JUL. 2009 fmin (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	282	F	367	A	356	362	358	356	A	A	A	A	A	A	303	312	A	A	311	F	F	F	A
2	A	A	A	A	324	367	A	A	A	A	A	A	A	314	340	314	A	329	347	325	346	313	F	F
3	F	F	F	312	339	358	A	A	A	A	A	A	A	A	A	309	299	302	311	334	370	340	A	A
4	305	312	319	318	379	395	330	316	A	A	A	A	251	A	A	A	A	344	322	341	338	358	F	F
5	F	F	312	337	F	366	316	A	352	A	A	A	A	310	A	A	A	A	302	344	343	304	F	A
6	A	F	F	F	F	314	A	A	A	357	A	A	279	306	296	302	328	326	304	343	374	361	313	317
7	F	F	F	F	328	364	368	A	A	350	A	A	A	A	344	259	283	313	A	336	340	F	A	A
8	335	A	319	F	F	321	309	342	371	324	A	A	307	284	282	324	296	331	320	A	F	F	A	A
9	F	F	338	F	F	350	A	304	314	319	357	R 324	R 289	A	322	329	267	280	330	A	327	F	F	F
10	A	A	A	313	A	341	A	A	358	A	A	330	A	A	A	295	279	300	331	355	340	A	356	F
11	A	F	A	F	F	340	A	314	311	325	342	318	290	A	314	A	A	A	330	336	362	F	F	F
12	A	A	A	292	F	A	324	332	377	A	A	A	A	A	307	294	306	319	329	344	361	316	A	A
13	A	332	311	319	351	367	395	376	A	A	A	A	A	329	A	305	A	A	329	348	335	341	F	A
14	A	F	F	F	F	345	A	A	A	354	A	341	302	A	343	A	A	A	A	A	A	A	F	F
15	A	A	A	A	A	334	A	A	A	A	A	A	A	A	A	319	A	326	348	337	374	317	335	A
16	312	A	A	F	352	367	A	338	349	330	330	295	351	294	315	A	A	310	334	354	342	323	334	362
17	368	A	A	A	309	361	A	A	A	A	A	339	A	A	A	A	336	286	305	333	356	360	336	343
18	336	307	328	367	333	380	A	350	A	326	352	A	A	A	A	A	331	291	330	337	A	A	A	F
19	A	345	334	316	F	372	A	332	307	A	317	317	A	A	A	A	A	A	340	A	328	391	382	317
20	325	319	334	A	340	A	324	348	356	334	R	279	296	A	313	352	333	322	A	A	332	F	345	355
21	F	F	335	F	322	331	313	A	A	396	351	A	282	A	299	344	304	346	313	318	342	A	335	F
22	F	F 329	F	F	F	333	A	A	A	A	264	A	A	305	258	C	272	295	330	341	321	312	318	333
23	296	339	329	343	370	330	315	319	356	A	A	A	A	A	A	A	287	A	332	A	313	F	F	F
24	F	F	317	323	F	311	341	A	A	A	290	309	338	A	258	267	320	327	337	314	316	314	320	F
25	316	F	302	F	325	337	345	359	372	348	A	A	A	A	343	333	307	A	326	320	A	F	F	F
26	F	F	314	342	333	342	285	362	300	313	A	321	A	A	307	321	341	A	352	340	317	335	330	F
27	F	A	F	A	A	A	310	A	A	A	A	A	A	A	A	A	A	304	A	307	F	A	F	329
28	A	A	A	351	331	361	357	350	363	A	A	A	A	A	A	A	335	A	A	A	323	349	341	F
29	F	F	A	334	343	345	337	324	A	349	A	A	A	A	316	327	327	A	356	346	343	F	333	F
30	F	354	358	377	328	351	364	331	A	333	A	A	A	A	324	334	A	A	319	329	330	362	348	F
31	336	F	337	F	F	325	309	336	343	349	359	A	A	A	338	342	A	A	A	A	346	329	F	F
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	9	9	15	15	16	28	18	18	15	15	9	10	10	7	18	19	19	18	24	23	25	17	14	7
MED	325	329	328	334	333	348	327	337	356	334	342	320	293	306	314	319	307	316	330	337	340	335	335	333
U Q	336	342	335	351	347	365	357	350	363	350	354	330	307	314	338	333	331	327	336	344	351	359	345	355
L Q	308	310	314	316	326	334	313	324	314	325	304	309	282	294	299	302	287	300	320	325	328	315	330	317

IONOSPHERIC DATA STATION Kokubunji

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

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	374	431	A	A	A	A	A	A	A	394	A	A					
2							A	A	A	A	A	A	A	426	A	A	A	A	U L 380					
3							A	A	A	A	A	A	A	A	A	U L 367	A	U L 378	384					
4						L	U L 396	A	A	A	A	A	U L 399	A	A	A	A	391	A					
5							U L 362	A	A	A	A	A	A	A	A	A	A	A	A	A				
6							A	A	A	A	A	A	U L 426	432	U L 423	A	A	387	A					
7							A	A	A	A	A	A	A	A	A	U L 400	U L 380	U L 371	A					
8							A	A	A	415	A	A	U L 396	A	A	U L 405	U L 394	A	A	A				
9							A	A	A	A	A	U L 444	U L 464	A	U L 422	U L 405	387	U L 291	A	A				
10							A	A	U L 406	A	A	A	A	A	A	U L 392	A	A	A					
11							A	A	402	A	U L 428	U L 453	U L 420	A	A	A	A	A	A	A				
12						A	U L 377	A	A	A	A	A	A	A	A	U L 407	A	A	A					
13									A	A	A	A	A	A	A	A	A	A	A					
14	A						A	A	A	A	A	430	U L 428	A	A	A	A	A	A	A				
15						A	A	A	A	A	A	A	A	A	A	U L 385	A	393	A					
16							A	378	A	U L 411	416	U L 362	U L 413	U L 424	A	A	A	A	A					
17							A	A	A	A	A	393	A	A	A	A	381	376	358					
18							A	A	A	U L 425	U L 431	A	A	A	A	A	A	394	373	A				
19							A	A	A	A	U L 436	U L 431	A	A	A	A	A	A	A	A				
20						A	400	401	414	A	U L 442	453	U L 401	A	U L 405	U L 379	383	A	A	A				
21							A	A	A	437	A	A	A	A	A	A	A	A						
22							A	A	A	A	U L 424	A	A	U L 417	U L 399	C	U L 360	359	355					
23							U L 364	U L 379	A	A	A	A	A	A	A	A	382	A	A	A				
24							L	A	A	A	U L 413	A	U L 387	A	U L 409	U L 407	U L 351	A	A	A				
25								A	A	A	A	A	A	A	A	A	393	A	L					
26							U L 355	A	L	A	A	U L 407	A	A	A	U L 404	A	A	A					
27						A	A	A	A	A	A	A	A	A	A	A	A	A	A					
28							L	U L 393	397	A	A	A	A	A	A	A	A	A	A	A				
29						A	A	396	A	A	A	A	A	A	A	A	A	A	A					
30								U L 363	A	A	A	A	A	A	A	A	A	A	A					
31						U L 341	377	A	A	A	392	A	A	A	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						1	7	7	5	4	8	8	9	4	5	10	10	9	5					
MED						U L 341	U L 377	379	406	420	U L 426	U L 430	U L 413	425	U L 409	U L 402	382	378	373					
U Q							396	396	422	431	U L 434	U L 448	U L 427	429	U L 422	U L 405	393	392	382					
L Q							U L 362	374	400	413	414	U L 400	U L 398	U L 420	U L 402	U L 385	U L 380	U L 365	356					

JUL. 2009 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 h'F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							262	276	290	A	A	A	A	A	A	E A 344	350	A	A					
2							A	A	A	A	A	A	A	362	298	E A 346	A	288	270					
3							A	A	A	A	A	A	A	A	A	354	E A 366	338	286					
4						240	306	E A 328	A	A	A	A	374	A	A	A	A	264	252					
5							336	A	266	A	A	A	A	E A 354	A	A	A	A	E A 344	248				
6							A	A	A	E A 268	A	A	430	374	364	362	292	296	328					
7							252	A	A	268	A	A	A	A	E A 298	482	406	348	A					
8							332	274	254	352	A	A	372	364	410	312	372	294	E A 276	A				
9							A	374	340	E A 364	272	374	378	A	374	378	454	418	312	A				
10							A	A	266	A	A	E A 318	A	A	A	378	428	326	246					
11							A	332	334	316	296	346	410	A	350	A	A	A	280	E A 264				
12						A	354	318	244	A	A	A	A	A	E A 344	402	354	300	280					
13									A	A	A	A	A	304	A	370	A	A	E A 282					
14	A						A	A	A	E A 290	A	280	416	A	E A 298	A	A	A	A	A				
15						E A 318	A	A	A	A	A	A	A	A	A	316	A	290	244					
16							A	310	274	316	314	396	286	400	344	A	A	E A 354	292					
17							A	A	A	A	A	294	A	A	A	A	316	426	326					
18							A	E A 308	A	328	296	A	A	A	A	A	E A 328	380	294	E A 286				
19							A	320	E A 350	A	358	342	A	A	A	A	A	A	272	A				
20						A	326	270	268	E A 320	330	428	384	A	336	276	304	E A 330	A	A				
21							312	A	A	248	286	A	E A 428	A	360	E A 298	E A 360	E A 312						
22							A	A	A	A	440	A	A	412	496	C	390	334	262					
23							328	348	E A 296	A	A	A	A	A	A	A	400	A	290	A				
24							282	A	A	A	406	348	286	A	382	372	338	E A 286	E A 284	E A 326				
25								282	264	E A 300	A	A	A	A	292	326	374	A	286					
26							340	252	338	348	A	326	A	A	E A 360	318	280	A	272					
27						A	358	A	A	A	A	A	A	A	A	A	A	E A 320	A					
28							262	296	258	A	A	A	A	A	A	A	282	A	A	A				
29						E A 254	E A 296	344	A	E A 308	A	A	A	A	E A 352	296	300	A	248					
30								308	A	290	A	A	A	A	316	300	A	A	280					
31						332	338	E A 292	284	284	278	A	A	A	314	E A 300	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						4	15	17	15	15	10	10	10	7	18	19	19	18	23	4				
MED						U 266	326	308	270	299	305	344	378	364	344	335	346	314	278	E A 275				
U Q						325	338	330	334	328	358	374	416	400	364	372	390	348	292	E A 306				
L Q						247	282	279	264	284	286	318	372	354	314	300	304	294	270	256				

IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 h′F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	E A 342	E B 272	E A 232	A	222	A	216	190	A	A	A	A	A	A	A	192	A	A	E A 286	E A 260	214	E A 264	A
2	A	A	A	A	E A 284	E A 244	A	A	A	A	A	A	A	206	A	A	A	A	206	226	214	222	E A 318	E A 300
3	E A 244	E A 246	E A 276	E A 286	E A 282	214	A	A	A	A	A	A	A	A	A	226	A	226	E A 230	220	206	216	A	A
4	E A 300	E A 290	E A 276	E B 262	210	190	214	A	A	A	A	A	E A 240	A	A	A	A	202	A	E A 254	E A 236	208	E A 286	E A 306
5	E A 262	E A 268	E A 278	E A 256	E B 234	218	220	A	A	A	A	A	A	A	A	A	A	A	A	A	210	E A 260	E A 270	A
6	A	E A 274	E A 274	E A 250	E A 250	E A 282	A	A	A	A	A	A	194	182	182	A	A	196	A	224	202	E A 234	E A 278	E A 306
7	E A 312	E B 282	E B 250	E B 236	E A 232	230	A	A	A	A	A	A	A	A	A	198	194	228	A	E A 246	218	200	A	A
8	E A 288	A	E A 270	E A 276	E B 268	228	A	A	A	202	A	A	220	A	A	208	212	A	A	A	E A 274	228	A	A
9	E A 262	E A 290	E A 258	226	E A 254	E A 258	A	A	A	A	A	184	178	A	204	200	204	E A 252	A	A	E A 242	E A 234	E A 240	E A 312
10	A	A	A	E B 282	A	E A 236	A	A	212	A	A	A	A	A	A	220	A	A	A	216	E A 256	A	E A 252	E A 308
11	A	E A 296	A	E A 256	E A 242	E A 236	A	A	210	A	208	182	216	A	A	A	A	A	A	A	200	E A 294	E A 274	E A 258
12	A	A	A	E B 272	218	A	216	A	A	A	A	A	A	A	A	208	A	A	A	E A 238	198	E A 320	A	A
13	A	E A 284	E B 312	E A 330	220	194	220	E A 242	A	A	A	A	A	A	A	A	A	A	A	222	226	204	E A 306	A
14	A	E A 314	E A 294	E A 254	202	E A 252	A	A	A	A	A	176	206	A	A	A	A	A	A	A	A	A	E A 304	E A 308
15	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	228	A	220	A	232	200	E A 260	E A 242	A
16	E A 260	A	A	232	E A 232	208	A	210	A	216	200	E A 252	202	210	A	A	A	A	A	212	214	226	232	E A 234
17	218	A	A	A	E A 294	226	A	A	A	A	A	214	A	A	A	A	204	208	206	232	200	190	E A 246	E B 236
18	220	E A 334	E A 286	216	E B 230	214	A	A	A	180	196	A	A	A	A	A	A	214	208	A	A	A	A	E A 240
19	A	E B 240	E A 300	E A 250	E A 252	210	A	A	A	A	202	196	A	A	A	A	A	A	A	A	E A 244	200	210	E A 306
20	E B 248	E A 280	E A 312	A	E B 252	A	202	190	204	A	186	186	212	A	208	208	E A 256	A	A	A	216	E A 288	E A 252	222
21	218	E A 288	E A 268	E A 276	E A 264	224	A	A	A	184	A	A	A	A	A	A	A	A	216	E A 278	210	A	E A 238	E A 312
22	E A 246	E A 270	E A 264	214	E A 276	E A 258	A	A	A	A	188	A	A	210	206	C	E A 236	228	E A 242	214	220	E A 240	E A 250	E A 244
23	E A 320	E A 250	E A 290	E A 300	E A 242	E A 256	E A 232	204	A	A	A	A	A	A	A	A	218	A	A	A	E A 244	E A 340	220	E A 286
24	E A 298	E A 294	E B 244	E A 272	E B 230	216	224	A	A	A	196	A	196	A	208	196	E A 238	A	A	A	E A 266	E A 266	E A 256	E A 234
25	E A 292	E A 290	E A 270	E B 256	218	208	222	A	A	A	A	A	A	A	A	A	204	A	E A 234	228	A	E A 292	E A 284	E A 282
26	E A 240	E A 292	E A 262	E A 236	E A 244	E A 234	E A 242	A	E A 298	A	A	202	A	A	A	204	A	A	A	228	224	E A 230	220	E B 266
27	224	A	E A 262	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	E A 260	228	A	E A 316	E A 240
28	A	A	A	E A 262	228	E A 234	212	206	198	A	A	A	A	A	A	A	A	A	A	A	E A 236	224	222	E A 264
29	E A 260	E A 312	A	E A 272	228	A	A	224	A	A	A	A	A	A	A	A	A	A	A	228	208	212	E A 292	E A 292
30	E A 238	218	210	202	E B 232	214	198	E A 232	A	A	A	A	A	A	A	A	A	A	A	236	E A 240	200	E A 230	220
31	E B 234	E B 238	E B 248	E A 260	E A 264	E A 236	210	A	A	A	218	A	A	A	A	A	A	A	A	A	216	E A 238	274	E A 268
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	20	22	22	26	27	26	12	8	6	4	8	8	9	4	5	10	10	9	7	19	28	26	26	23
MED	E A 254	E A 286	E A 271	E A 256	E A 242	U 214	216	209	204	193	198	188	204	208	206	208	204	217	211	224	210	229	E A 254	E A 268
U Q	E A 290	E A 294	E A 286	E A 272	E A 264	E A 236	223	E A 228	212	209	205	208	218	210	208	220	E A 236	228	E A 234	E A 246	E A 241	E A 260	E A 284	E A 306
L Q	236	E 268	E 262	236	228	214	211	205	198	182	192	183	195	194	193	200	204	205	206	222	209	212	238	E 240

JUL. 2009 h′F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 h′E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						A	116	118	118	116	112	116	114	112	114	112	A	A	A	B				
2						A	A	A	A	A	A	A	A	A	A	A	A	A	A					
3						126	A	A	A	A	A	A	A	A	A	A	A	122	124	B				
4						B	A	124	122	A	A	A	114	A	A	A	A	114	A	B				
5						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
6						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
7						B	128	114	A	A	A	A	A	A	A	118	120	116	A	B				
8						B	116	A	A	A	A	A	118	120	A	118	118	A	A	B				
9						128	A	A	A	A	A	A	A	120	A	A	A	114	A	B				
10						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
11						A	A	A	A	A	A	A	A	A	124	120	116	A		B				
12						A	A	118	A	A	A	A	A	A	120	120	114	A	A	B				
13						B	A	A	A	A	A	A	A	112	A	124	A	A	A	B				
14	A					B	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
15						A	A	A	A	A	A	A	A	A	A	A	A	120	122					
16						B	A	A	A	A	A	114	A	118	A	A	A	A	A	B				
17						B	A	A	A	A	A	A	A	A	A	A	A	A	A	B				
18						A	A	A	A	A	A	A	A	A	A	A	A	114	A	B				
19						A	A	122	120	A	A	A	A	A	A	A	A	A	A	B				
20						A	112	A	A	A	A	A	A	118	118	A	118	110	A	B				
21							A	A	A	A	A	A	A	A	A	A	114	A	B	B				
22						B	A	A	A	A	A	A	A	A	116	C	110	112	112	B				
23						126	110	112	A	A	A	A	A	A	A	A	116	A	A	B				
24						118	120	A	A	A	A	A	A	A	A	122	116	A	A	B				
25						B	122	112	A	A	A	A	A	104	A	A	112	A	A	B				
26						B	116	118	A	A	A	A	A	A	A	A	A	A	A	B				
27						B	114	A	A	A	A	A	A	A	A	A	A	A	A	B				
28						B	A	A	116	A	A	A	A	A	A	A	A	A	A	B				
29						B	A	A	A	A	A	A	A	A	A	A	116	A	A	B				
30						B	122	122	A	A	A	A	A	A	A	114	A	A	A	B				
31						B	A	A	A	A	A	A	A	A	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						4	11	9	4	1	1	2	3	7	5	8	11	8	3					
MED						126	116	118	119	116	112	115	114	118	118	119	116	114	122					
U Q						127	122	122	121				118	120	122	121	118	118	124					
L Q						122	114	113	117				114	112	115	116	114	113	112					

IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	98	100	100	96	88	92	126	148	124	118	118	120	120	134	118	118	106	104	102	102	100	102	166	148
2	104	104	114	112	112	94	102	100	104	104	100	100	104	110	104	102	102	108	106	98	98	96	96	100
3	98	94	90	108	92	118	106	104	104	104	102	96	100	98	100	102	94	114	144	102	92	102	94	88
4	96	90	88	88	86	106	102	124	114	106	104	106	114	100	104	104	104	114	96	96	90	92	92	94
5	106	90	90	88	90	124	104	102	102	104	102	100	100	96	96	98	98	104	100	98	94	90	94	98
6	92	92	84	110	90	108	104	104	106	106	106	104	100	100	96	98	98	96	94	92	90	108	100	106
7	104	102	92	90	92	116	122	118	102	106	104	104	98	100	104	144	122	116	106	98	100	102	100	100
8	96	96	118	118	B	118	116	106	100	100	96	100	142	138	100	124	116	104	106	98	102	100	94	98
9	96	90	104	112	110	120	104	100	100	98	102	104	104	136	102	96	100	118	104	102	102	106	100	96
10	94	96	94	94	92	114	104	100	102	104	106	104	102	102	98	96	92	98	104	102	90	92	92	100
11	90	90	92	88	94	106	106	102	104	104	104	104	104	100	134	120	118	108	104	98	106	102	102	102
12	98	94	96	94	104	106	106	114	100	98	98	104	100	104	112	118	114	106	102	98	98	98	98	98
13	94	96	92	90	94	128	106	100	98	98	100	102	102	114	104	128	106	110	106	108	100	98	100	98
14	98	98	94	92	94	142	106	104	104	98	98	98	100	98	100	102	98	110	104	98	92	90	94	94
15	96	94	86	88	92	96	106	106	104	100	98	102	100	102	102	96	112	118	110	102	110	104	104	102
16	100	102	102	98	96	100	98	102	102	98	100	98	96	96	106	108	106	104	100	106	102	102	102	102
17	98	100	98	100	94	108	104	102	102	102	98	104	100	94	100	100	106	102	104	96	94	92	96	98
18	96	92	96	104	92	106	106	102	100	100	100	94	94	92	96	94	94	98	102	102	102	104	102	100
19	100	100	100	96	96	96	94	122	116	102	110	106	106	102	100	100	96	96	100	94	92	92	100	90
20	86	106	102	98	102	116	112	100	96	100	102	100	100	112	124	102	132	114	106	96	96	92	96	90
21	90	90	94	98	98	106	106	104	98	102	98	98	100	114	104	104	114	100	102	106	94	102	102	100
22	94	94	98	98	100	108	102	102	100	98	98	98	104	104	100	C	118	116	110	92	92	88	90	96
23	96	100	98	98	100	118	116	118	102	100	100	94	96	98	94	96	120	108	104	100	104	106	104	100
24	100	98	100	100	B	124	116	104	104	102	102	100	96	94	104	116	120	104	106	106	102	102	100	102
25	100	102	98	B	104	126	116	114	100	98	102	100	98	98	102	108	112	100	104	96	92	88	96	96
26	102	94	92	94	94	114	114	114	104	104	96	98	94	102	106	108	106	100	98	102	100	100	100	104
27	106	100	96	92	96	118	112	104	102	100	98	96	96	94	100	104	106	104	100	102	102	98	100	100
28	96	112	112	106	B	108	100	100	100	102	104	98	94	94	90	92	92	106	100	92	90	88	88	96
29	102	98	94	96	104	106	104	104	100	92	98	98	98	96	96	122	114	104	106	102	98	108	96	94
30	100	92	94	88	90	B	120	120	98	106	104	100	108	110	110	116	100	102	100	98	98	98	98	94
31	94	100	96	102	100	102	100	100	100	106	102	100	100	98	98	96	102	94	94	90	92	94	102	104
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	30	28	30	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31
MED	98	96	96	97	94	108	106	104	102	102	102	100	100	100	102	103	106	104	104	98	98	98	100	98
U Q	100	100	100	102	100	118	114	114	104	104	104	104	104	110	104	116	114	110	106	102	102	102	102	102
L Q	94	92	92	92	92	106	104	102	100	98	98	98	98	96	98	98	98	100	100	96	92	92	94	96

IONOSPHERIC DATA STATION Kokubunji

JUL. 2009 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

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

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F4	F4	F2	F3	F3	L3	CL22	HL22	CL22	CL22	CL22	CL22	CL22	CL22	CL22	CL22	L3	L3	L5	L3	F4	F2	FF33	FF33
2	FF22	FF22	FF22	FF22	FF22	L3	L4	L4	L3	L3	L3	L4	L3	L2	L2	L2	L3	L3	L2	L3	F5	F3	F4	F4
3	F5	F3	F4	FF24	F4	CL22	L5	L3	L3	L3	L3	L3	L3	L3	L3	L2	L3	CL22	HC13	L3	F4	FF24	F3	F4
4	F3	F2	F2	F2	F2	L2	L3	CL22	CL32	L3	L3	L3	CL22	L2	L2	L3	L3	CL22	L4	L5	F5	F3	F6	F5
5	FF23	F5	F5	F3	F2	CL22	L3	L3	L4	L3	L3	L3	L3	L2	L3	L3	L3	L4	L4	L5	F3	F3	F3	F4
6	F3	F3	F4	FF23	F2	L3	L7	L4	L3	L3	L3	L2	L2	L2	L2	L3	L2	L3	L4	L4	F4	F3	F4	F5
7	F4	F3	F3	F2	F3	CL22	CL32	CL32	L4	L2	L2	L2	L3	L3	L2	HL12	CL12	CL22	L6	L3	F6	F5	F5	F5
8	F4	F3	FF23	FF23		C4	C2	L3	L3	L2	L3	L3	HL12	H2	L3	CL12	CL22	L4	L3	L4	F5	F5	F5	F7
9	F3	F4	F4	F2	F3	CL42	L4	L3	L2	L3	L2	L2	L2	HL22	L2	L2	L2	CL32	L3	L5	F3	F2	F5	F5
10	F4	F5	F4	F4	F3	C2	L4	L4	L2	L3	L2	L2	L3	L3	L3	L2	L3	L3	L3	L3	F4	F5	F3	F5
11	F3	F4	F4	F3	F3	L2	L5	L3	L2	L2	L2	L2	L2	L3	CL12	CL32	CL32	L4	L4	L6	F2	F5	F7	F4
12	F7	F4	F5	F4	F3	L3	L3	CL22	L2	L3	L2	L3	L3	L2	CL22	CL22	CL22	L2	L3	L3	F4	F3	F4	F5
13	F6	F3	F3	F2	F2	CL22	L3	L3	L3	L3	L2	L2	L2	CL22	L3	CL22	L3	L3	L3	L4	F3	F4	F6	F5
14	F5	F4	F3	F3	F2	HC32	L3	L4	L4	L3	L3	L2	L2	L2	L2	L2	L3	CL42	L5	L4	F4	F3	F3	F4
15	F4	F3	F5	F3	F4	L2	L4	L4	L3	L3	L3	L3	L3	L3	L3	L3	CL43	CL22	CL42	L3	FF22	F3	F3	F6
16	F3	F4	F4	F3	F5	L3	L3	L3	L3	L2	L2	L2	L2	L2	L2	L3	L3	L3	L3	L2	F5	F3	F5	F3
17	F4	F7	F3	F4	F3	L3	L4	L3	L4	L3	L3	L2	L2	L3	L3	L3	L2	L2	L2	L2	F2	F2	F3	F3
18	F1	F3	F2	F2	F3	L3	L3	L3	L3	L2	L2	L3	L2	L2	L3	L3	L2	L2	L5	L6	F4	F7	F5	F4
19	F4	F4	F5	F5	F3	L4	L3	CL23	CL22	L3	L2	L2	L2	L3	L3	L3	L3	L3	L3	L4	F4	F5	F4	F3
20	F2	F3	F6	F5	F3	C3	C3	L2	L3	L2	L2	L2	L2	CL32	CL22	L2	HL22	CL22	L4	L4	F4	F5	F5	F4
21	F4	F3	F5	F2	F2	L2	L3	L4	L3	L2	L2	L2	L2	C2	L2	L2	CL22	L3	L4	L4	F5	F5	F3	F4
22	F6	F4	F4	F4	F3	L3	L4	L4	L3	L3	L2	L3	L2	L2	L2		CL22	CL22	CL22	L2	F3	F3	F2	F4
23	F3	F3	F7	F5	F3	C3	C3	C2	L3	L3	L3	L3	L3	L3	L3	L2	CL12	L3	L4	L6	F3	F6	F3	F5
24	F5	F3	F4	F3		C2	C3	L3	L3	L3	L2	L2	L2	L2	L2	CL22	CL22	L2	L3	L5	F7	F5	F6	F3
25	F4	F3	F3		F2	C3	C2	C3	L3	L2	L2	L3	L3	L3	L2	L2	CL22	L3	L3	L3	F4	F3	F4	F4
26	F2	F4	F2	F2	F3	CL22	CL22	CL22	L3	L2	L3	L2	L2	L3	L2	L2	L2	L4	L3	L5	F2	F3	F3	F5
27	F5	F6	F5	F6	F4	C7	C3	L4	L4	L3	L3	L3	L3	L3	L3	L3	L3	L4	L5	L3	F3	F5	F4	F3
28	F3	FF33	FF23	FF22		L5	L3	L2	L2	L3	L2	L3	L3	L3	L3	L3	L3	LL23	LL33	L4	F4	F3	F3	F5
29	F3	F4	F4	F5	F2	L5	L4	L2	L3	L3	L3	L2	L2	L3	L3	CL22	CL32	L3	L3	L3	F3	F4	F5	F5
30	F3	F2	F1	F3	F2		C3	CL21	L4	L2	L2	L2	L2	L2	L2	C2	L3	L3	L3	L3	F3	F2	F3	F3
31	F2	F2	F4	FF23	FF23	L3	L3	L3	L3	L2	L2	L4	L3	L3	L2	L3	L4	L4	L5	L5	F5	F4	F5	F6
	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																								

f-PLOTS OF IONOSPHERIC DATA

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

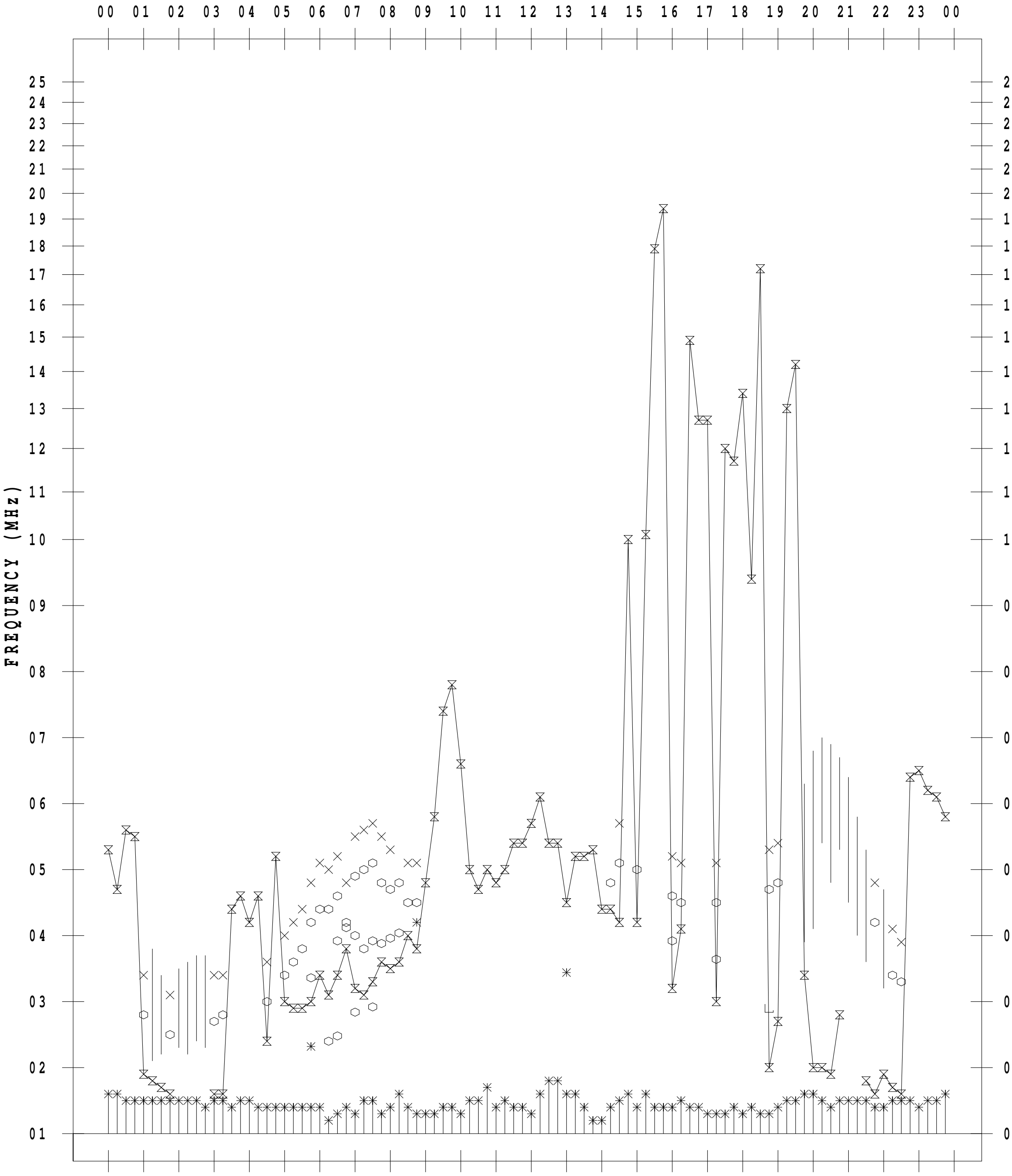
f-PLOT DATA

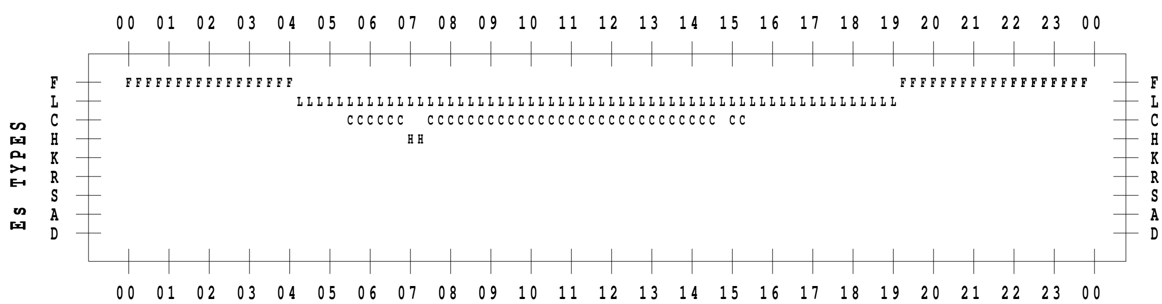
SCALER : I.NISHIMUTA

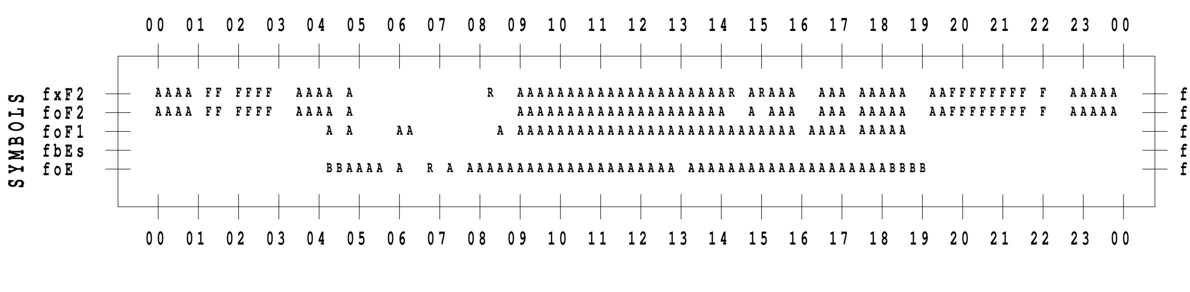
STATION : Kokubunji

DATE : 2009/ 7/ 1

135 °E MEAN TIME







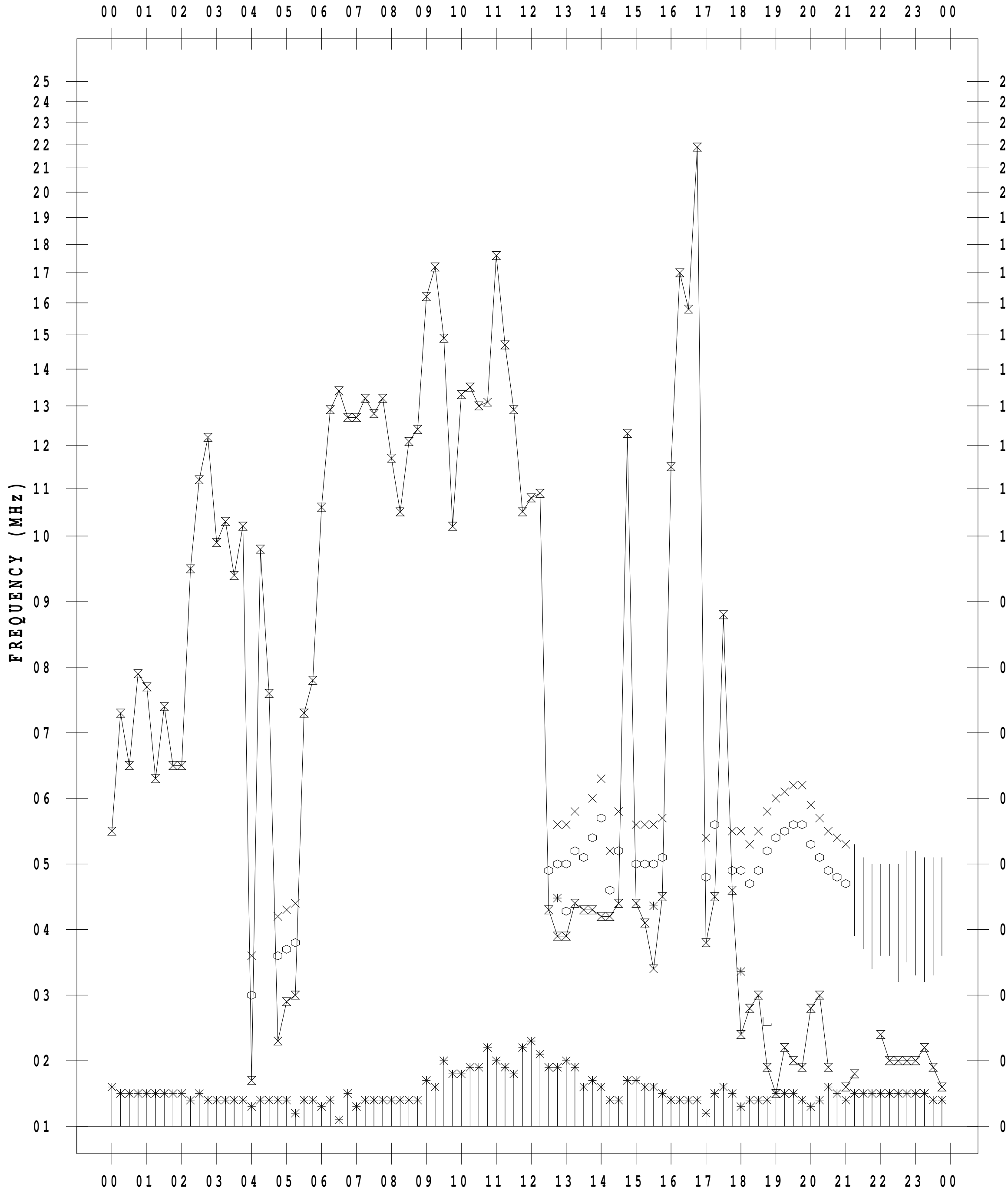
f-PLOT DATA

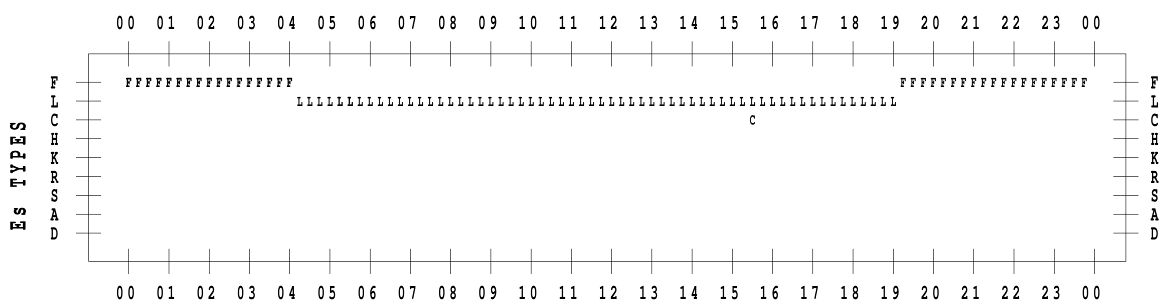
SCALER : I.NISHIMUTA

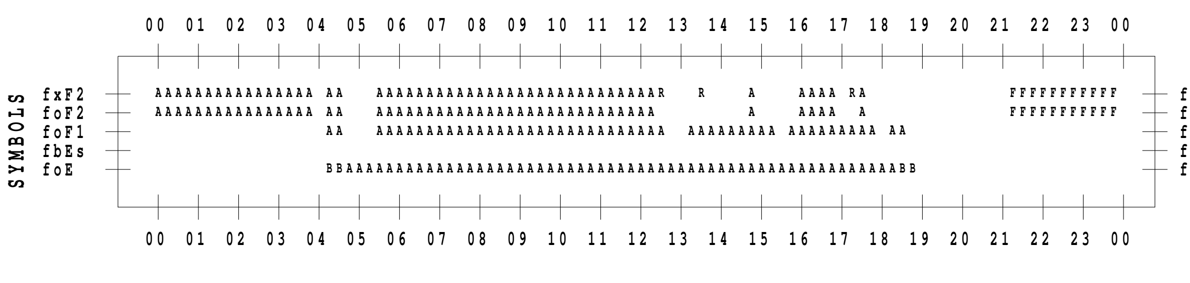
STATION : Kokubunji

DATE : 2009/ 7/ 2

135 °E MEAN TIME







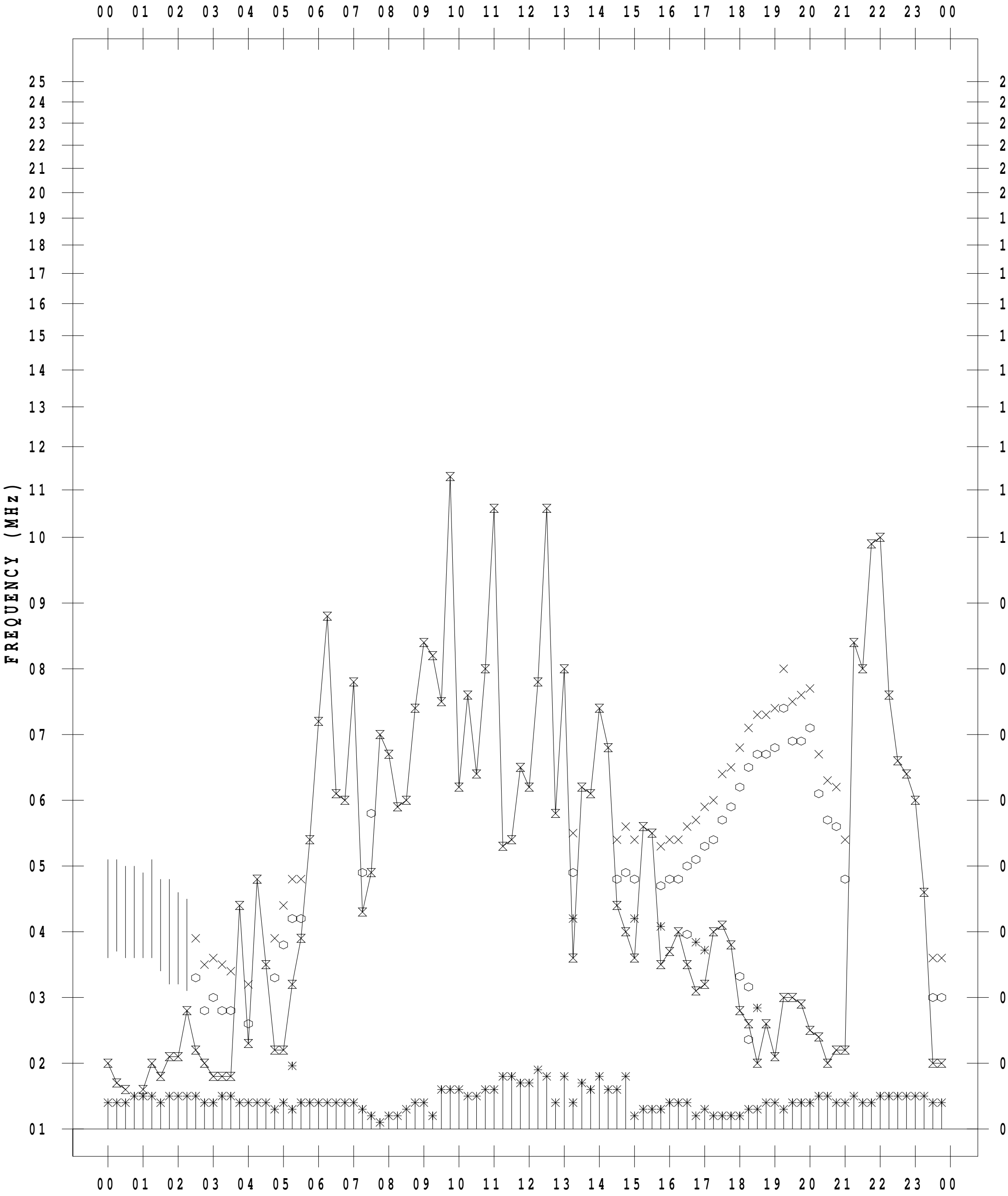
f-PLOT DATA

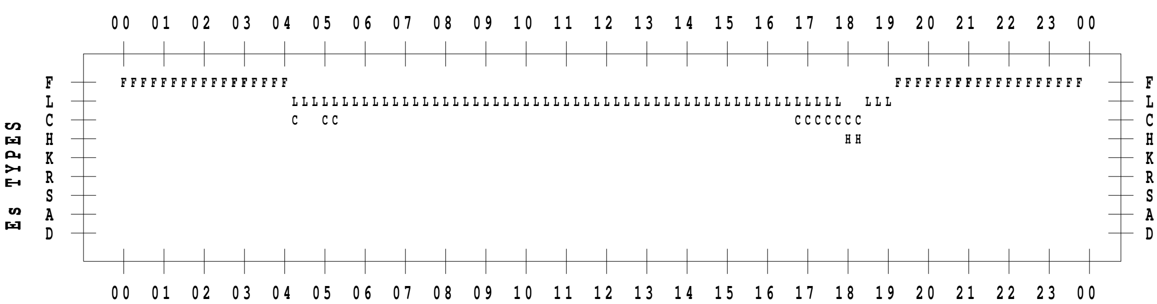
SCALER : I.NISHIMUTA

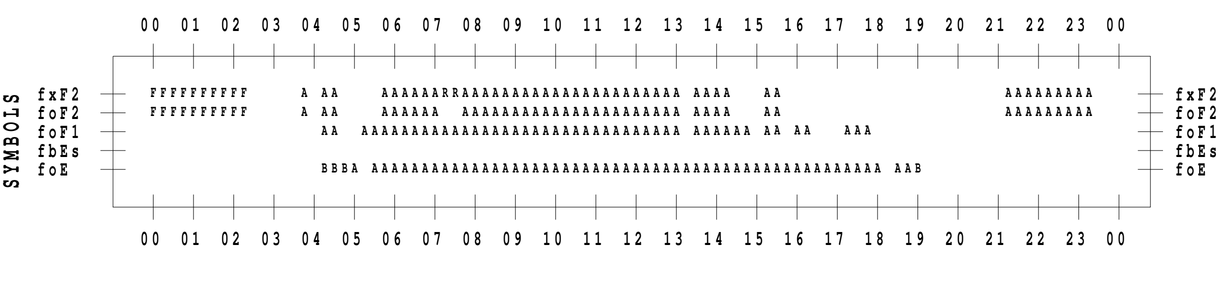
STATION : Kokubunji

DATE : 2009/ 7/ 3

135 °E MEAN TIME







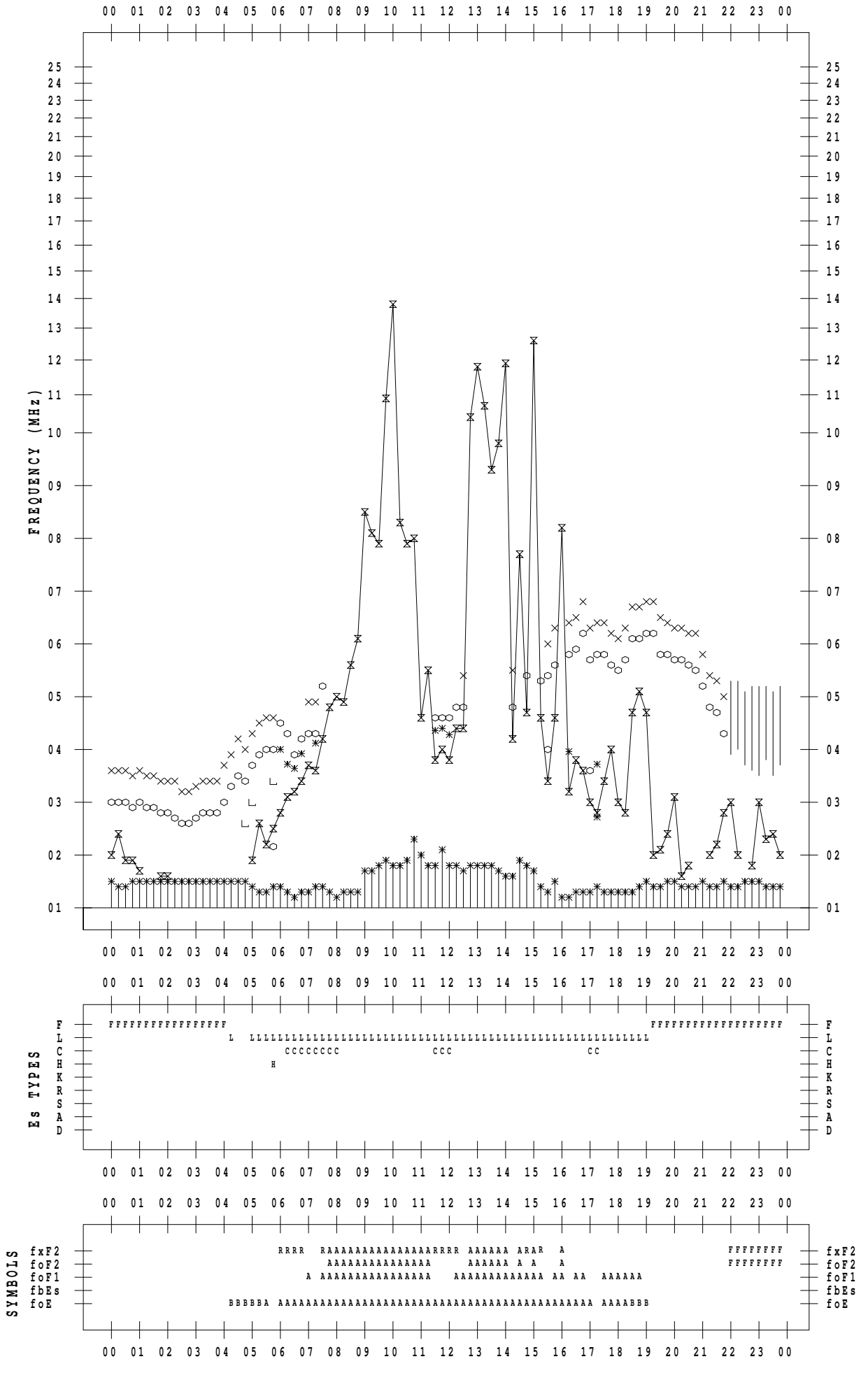
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/ 4

135 °E MEAN TIME



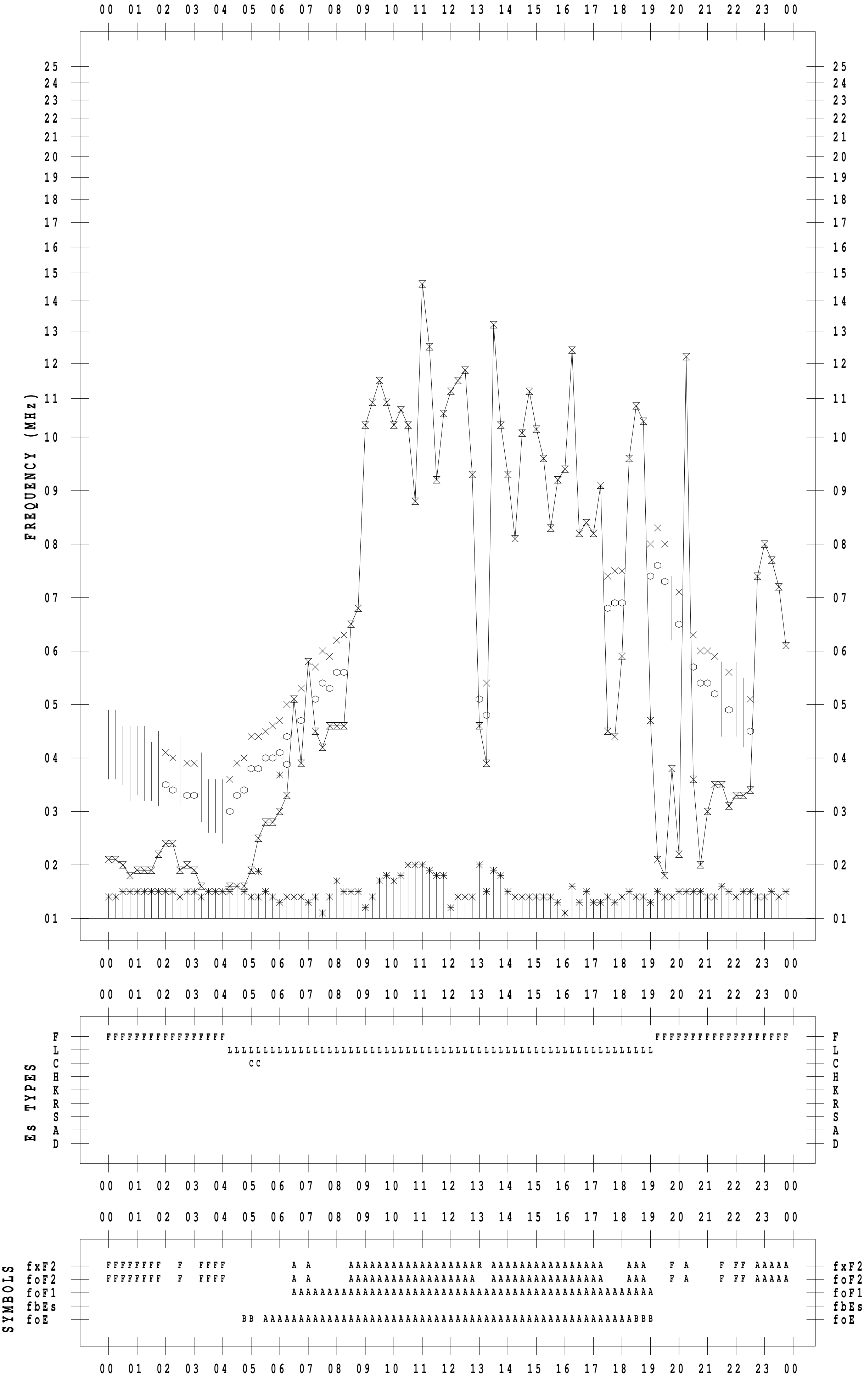
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/ 5

135 °E MEAN TIME



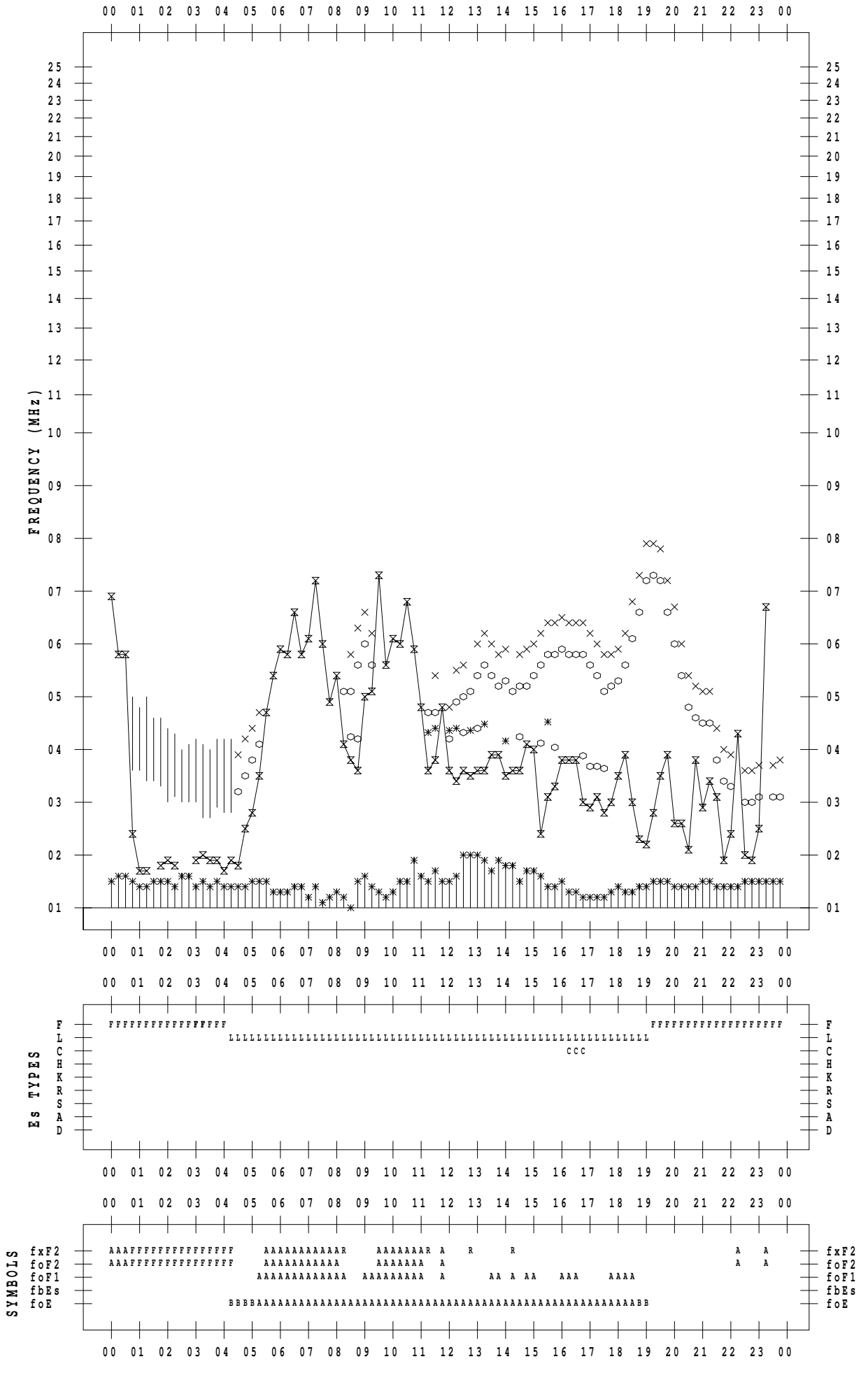
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/ 6

135 °E MEAN TIME



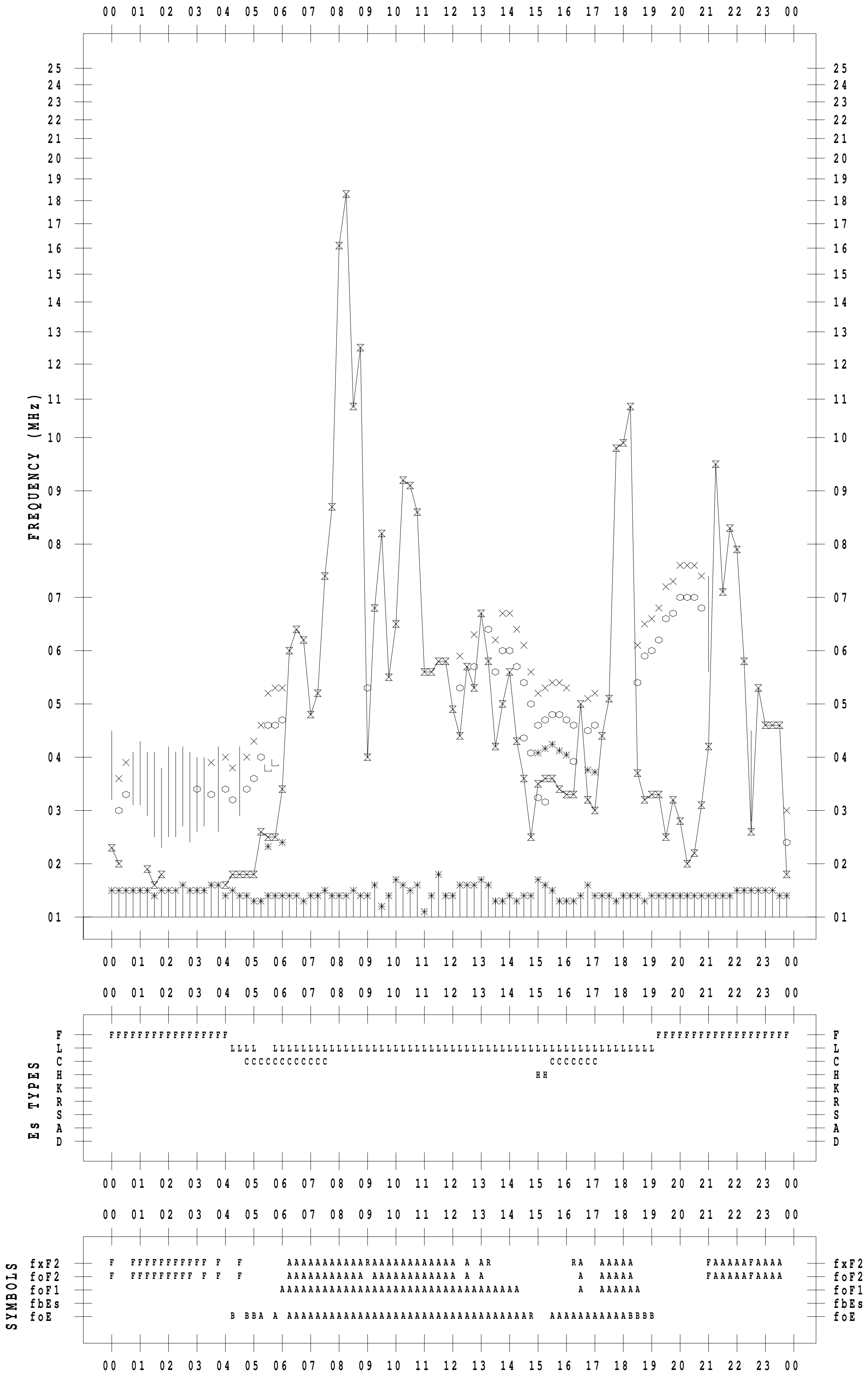
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/ 7

135 °E MEAN TIME



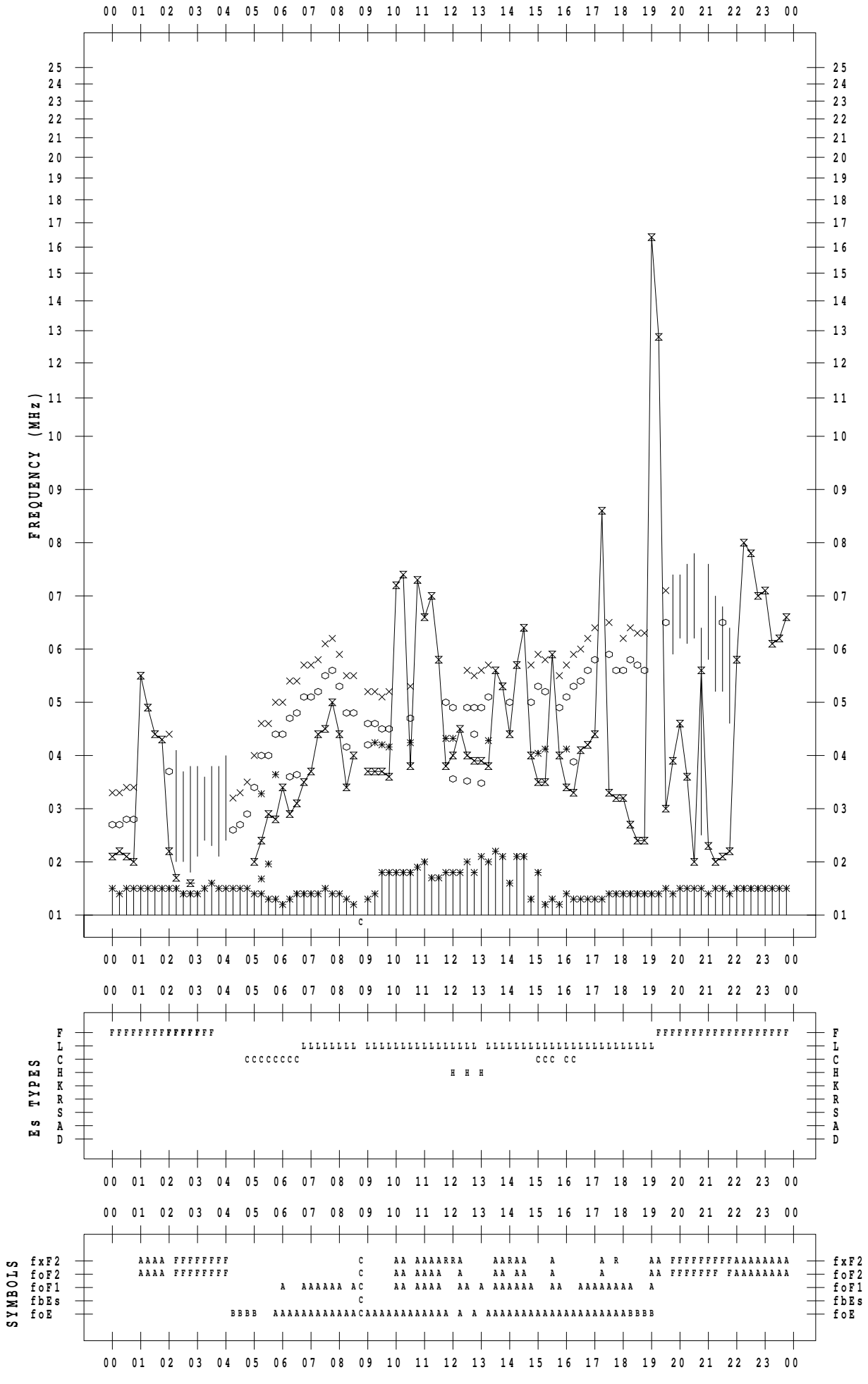
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/ 8

135 °E MEAN TIME



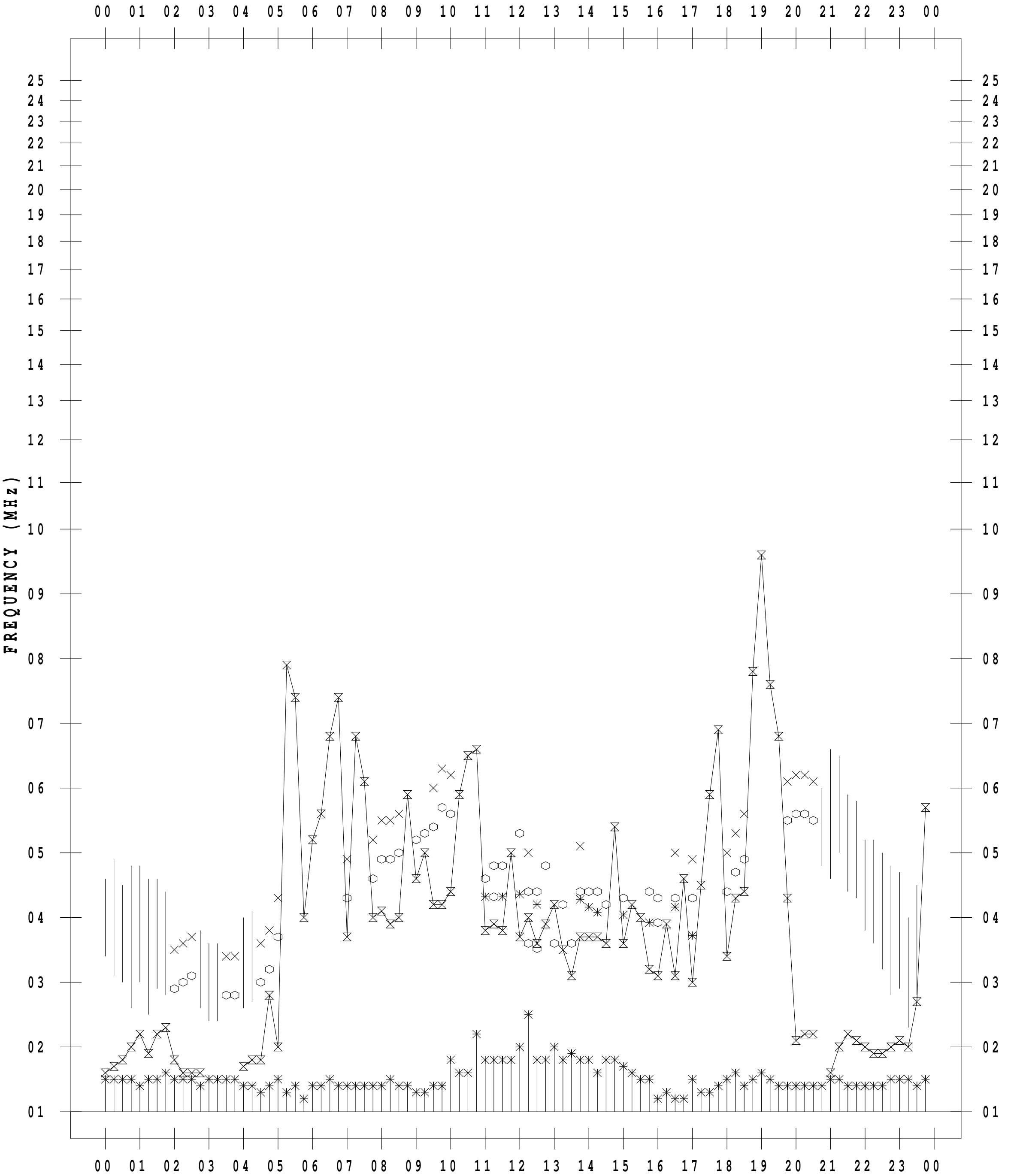
f-PLOT DATA

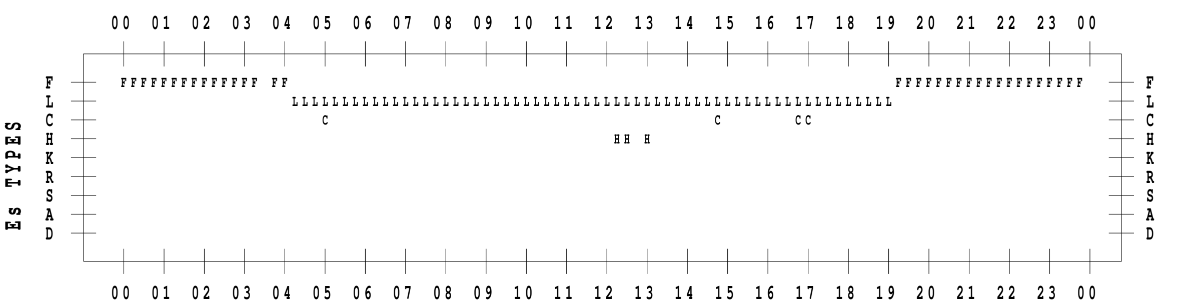
SCALER : I.NISHIMUTA

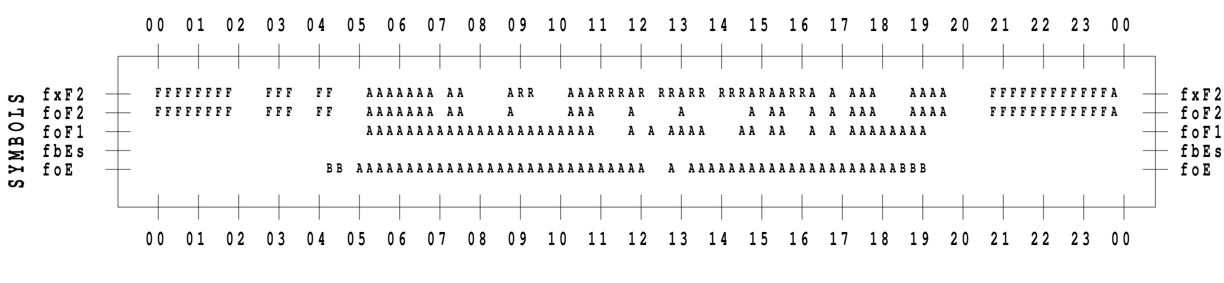
STATION : Kokubunji

DATE : 2009/ 7/ 9

135 °E MEAN TIME





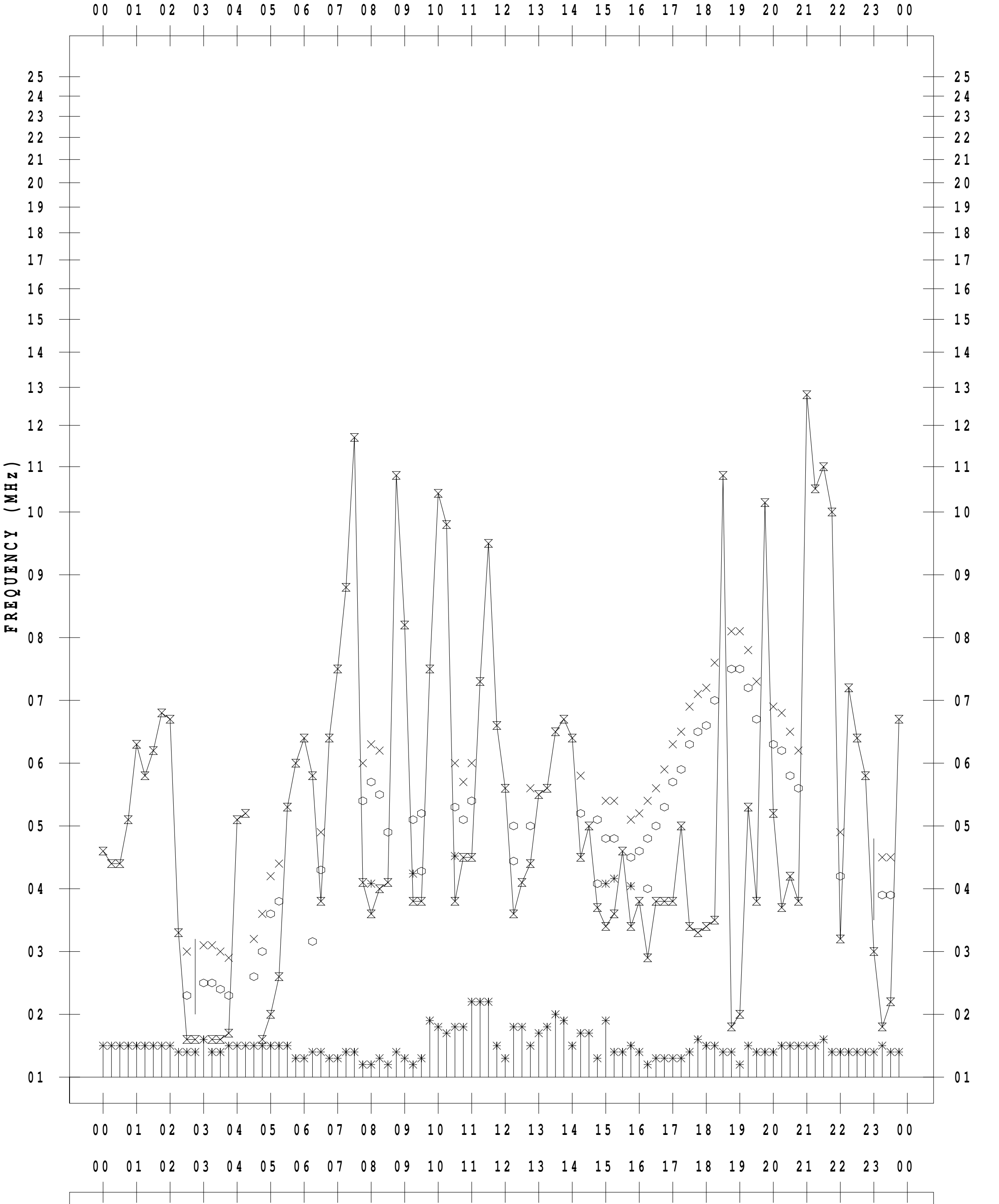


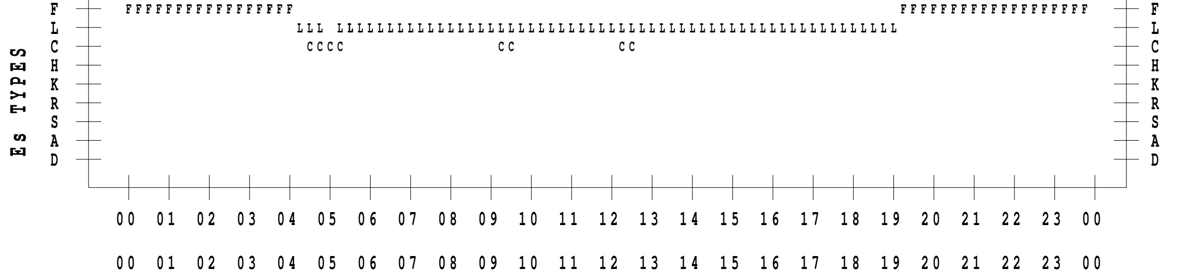
f-PLOT DATA

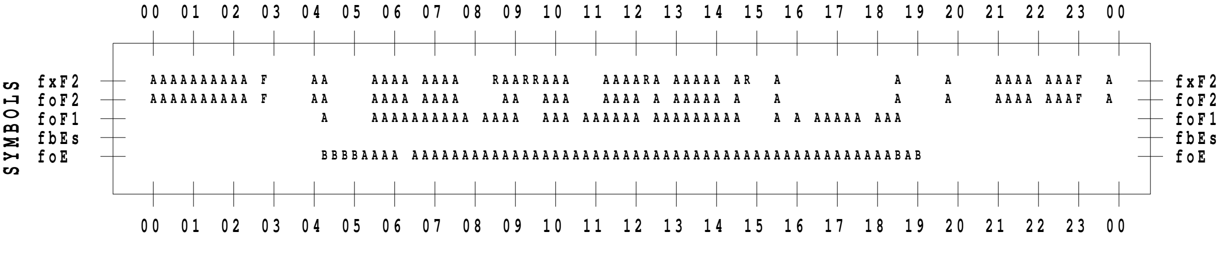
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2009/ 7/10

135 °E MEAN TIME







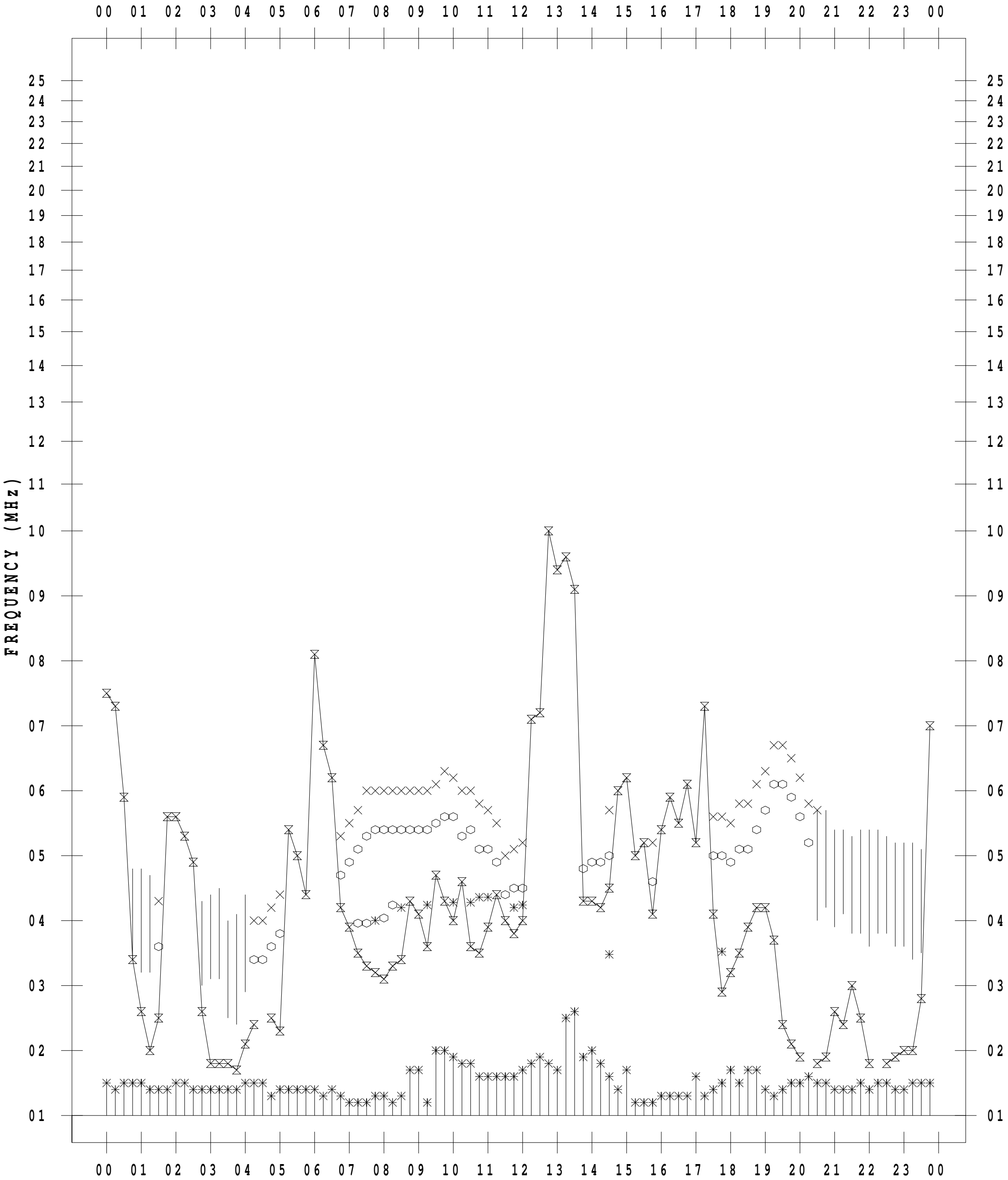
f-PLOT DATA

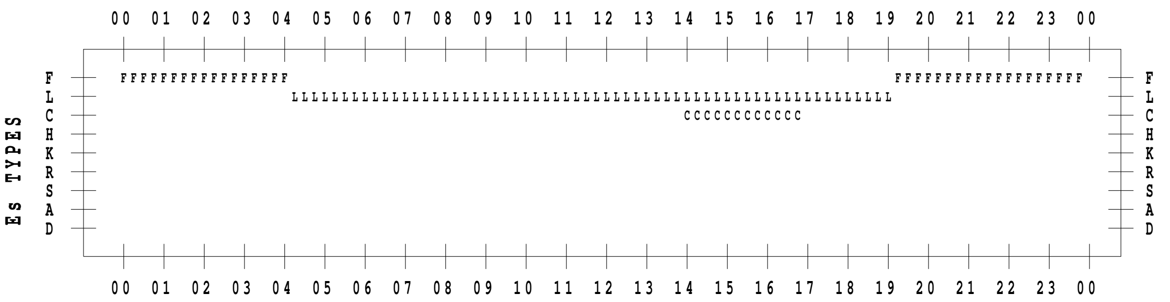
SCALER : I.NISHIMUTA

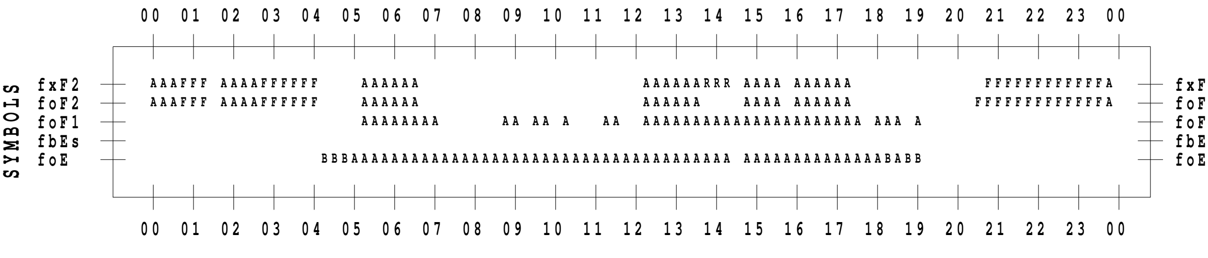
STATION : Kokubunji

DATE : 2009/ 7/11

135 °E MEAN TIME





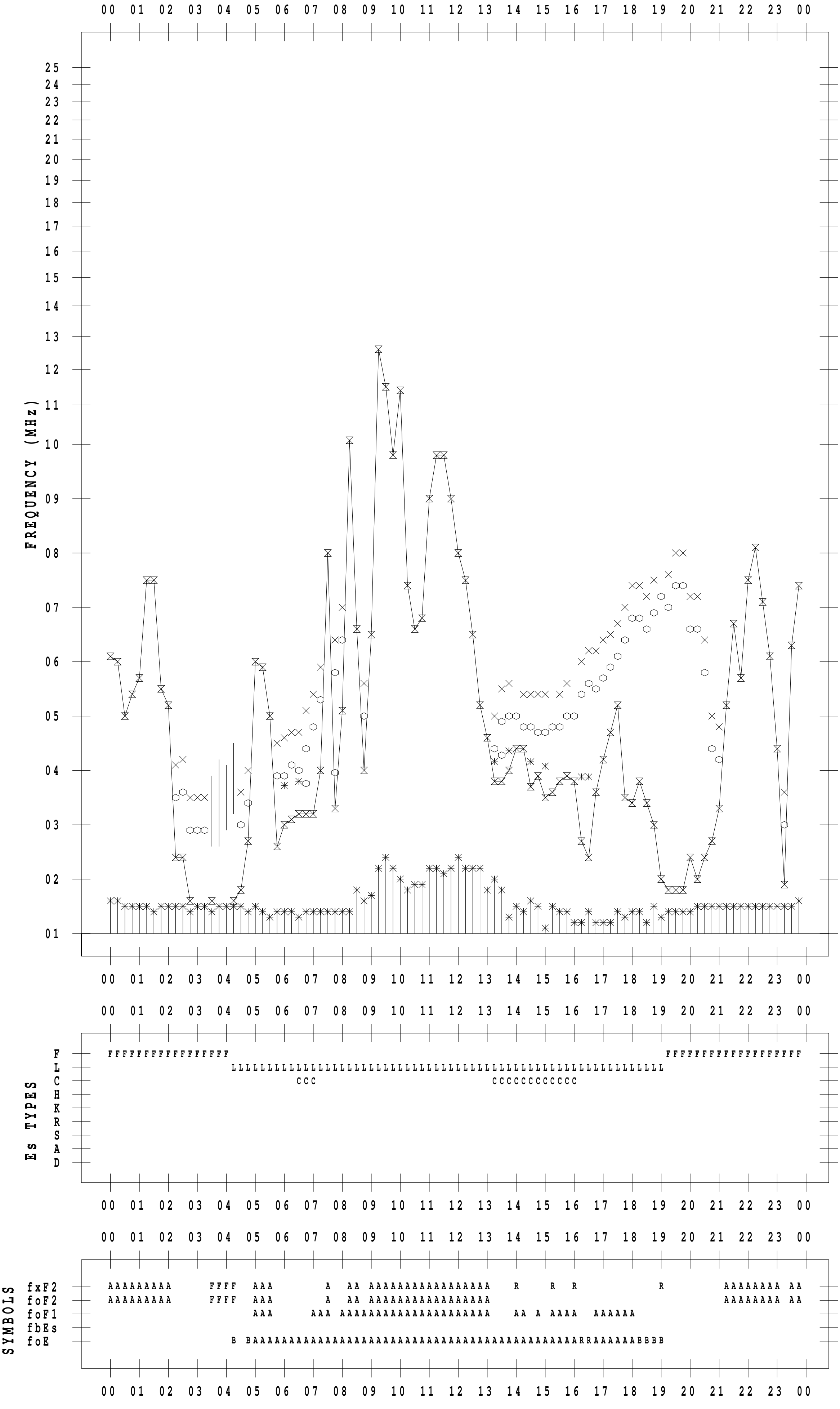


f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2009/ 7/12

135 °E MEAN TIME

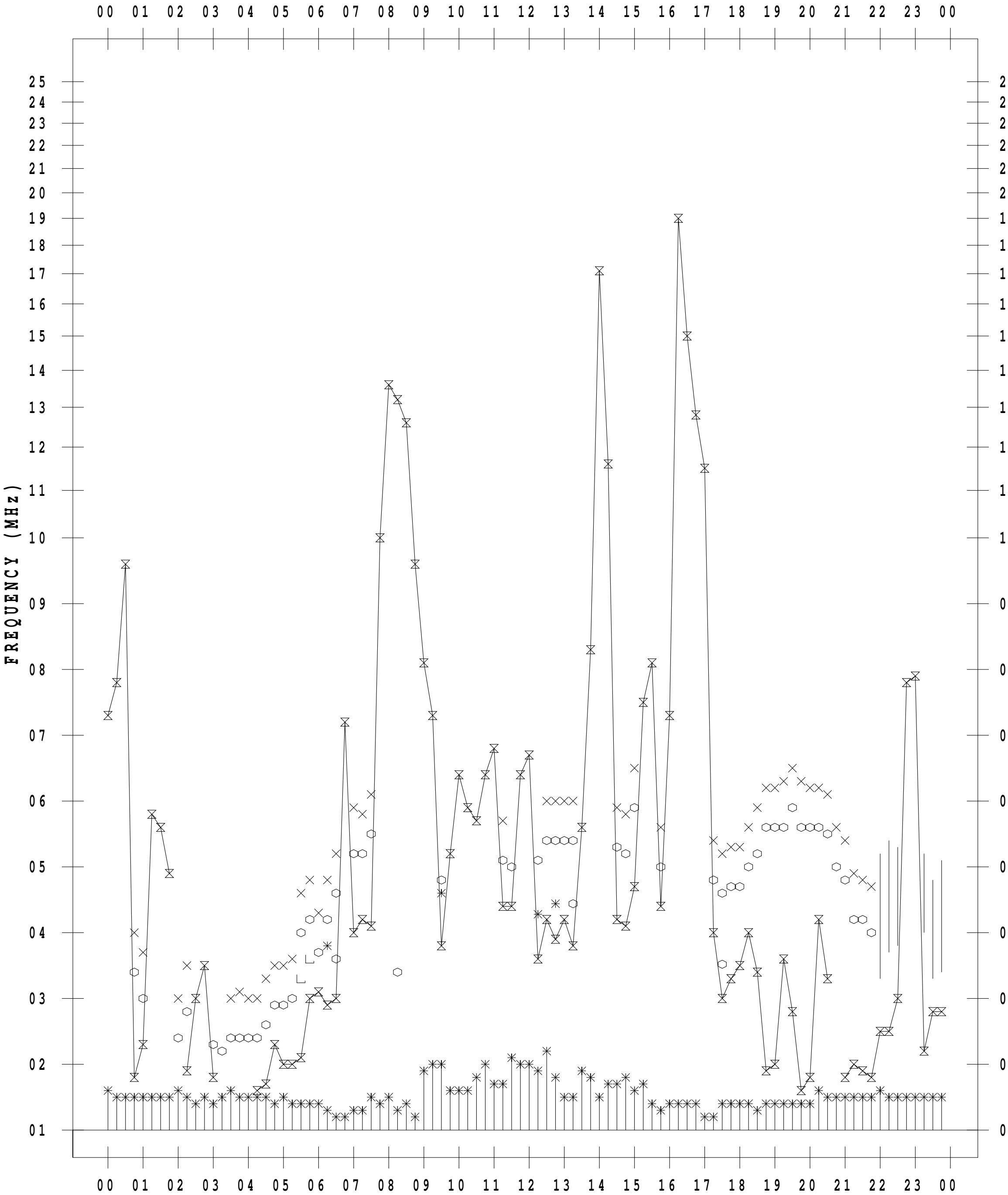


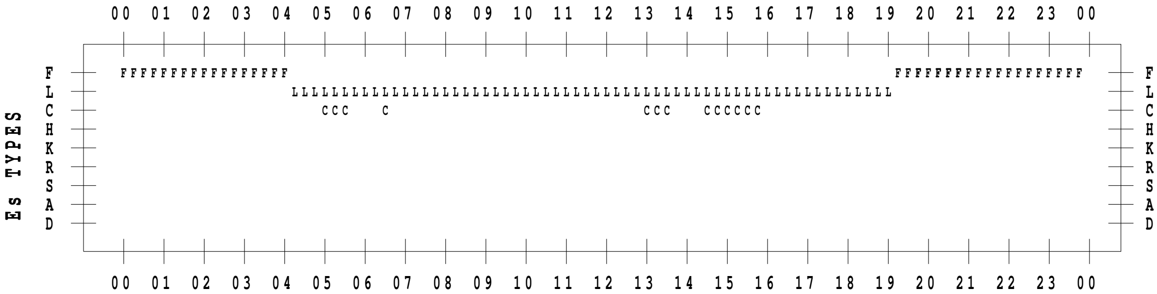
f-PLOT DATA

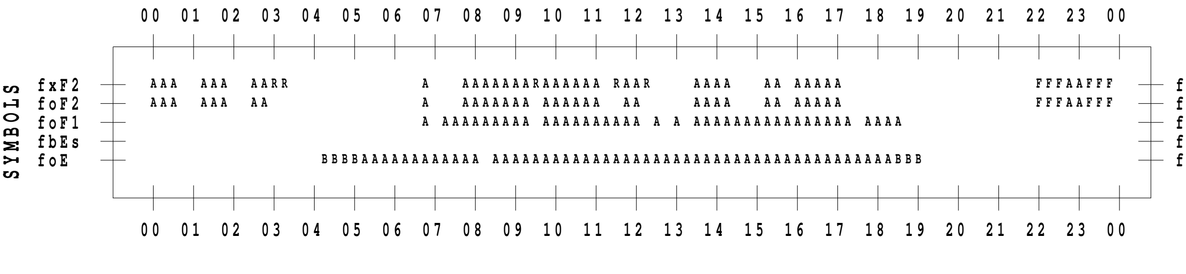
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2009/ 7/13

135 °E MEAN TIME







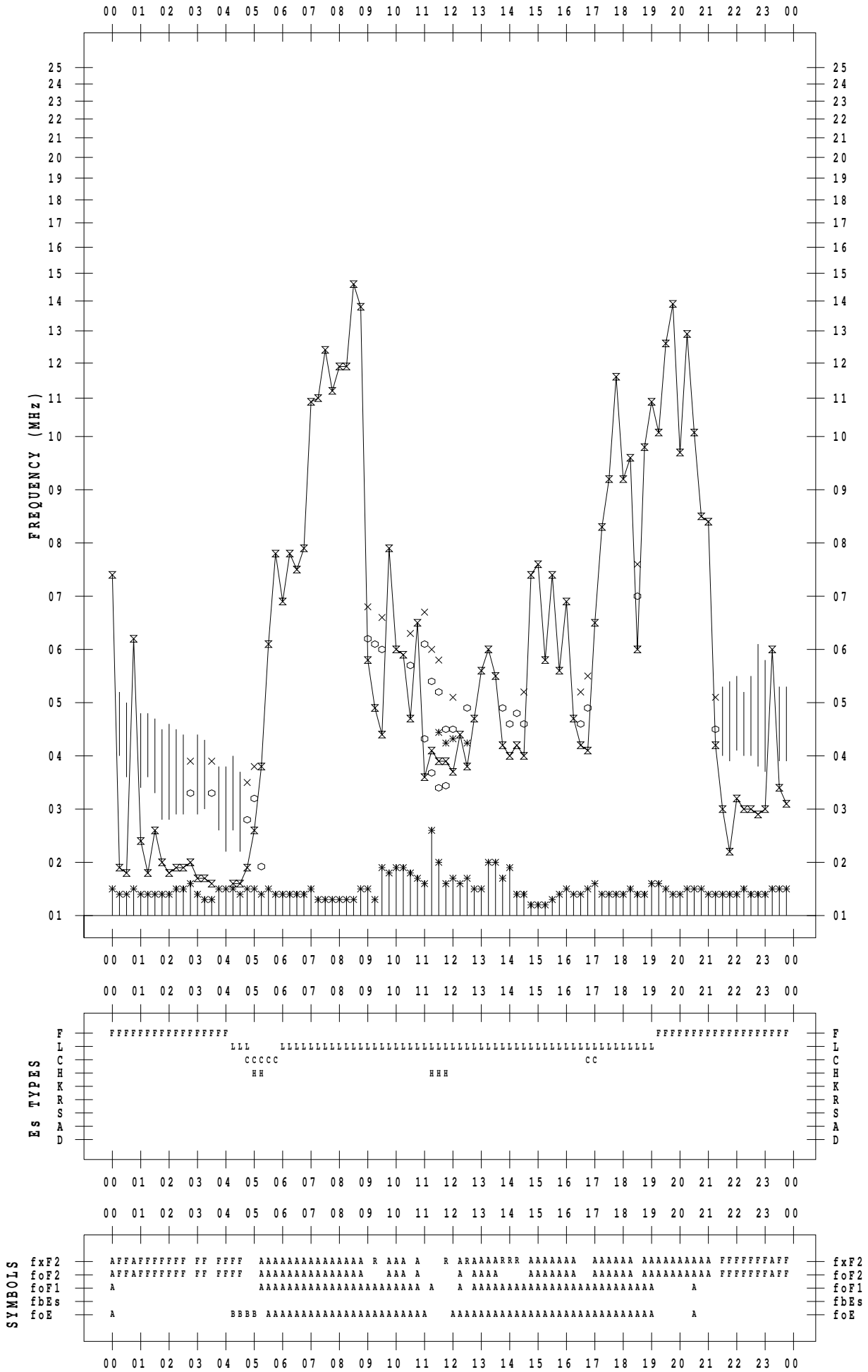
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/14

135 °E MEAN TIME



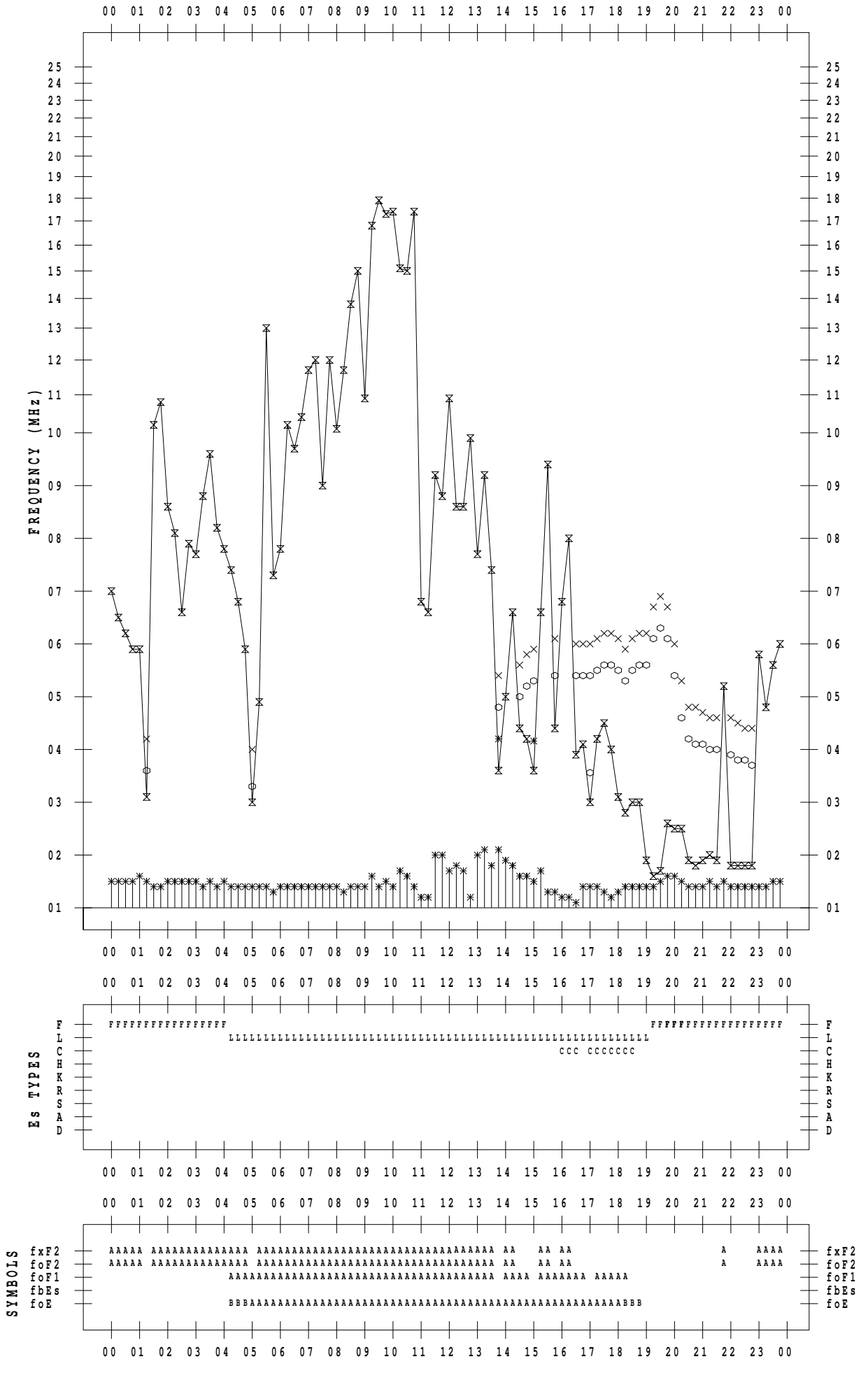
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/15

135 °E MEAN TIME



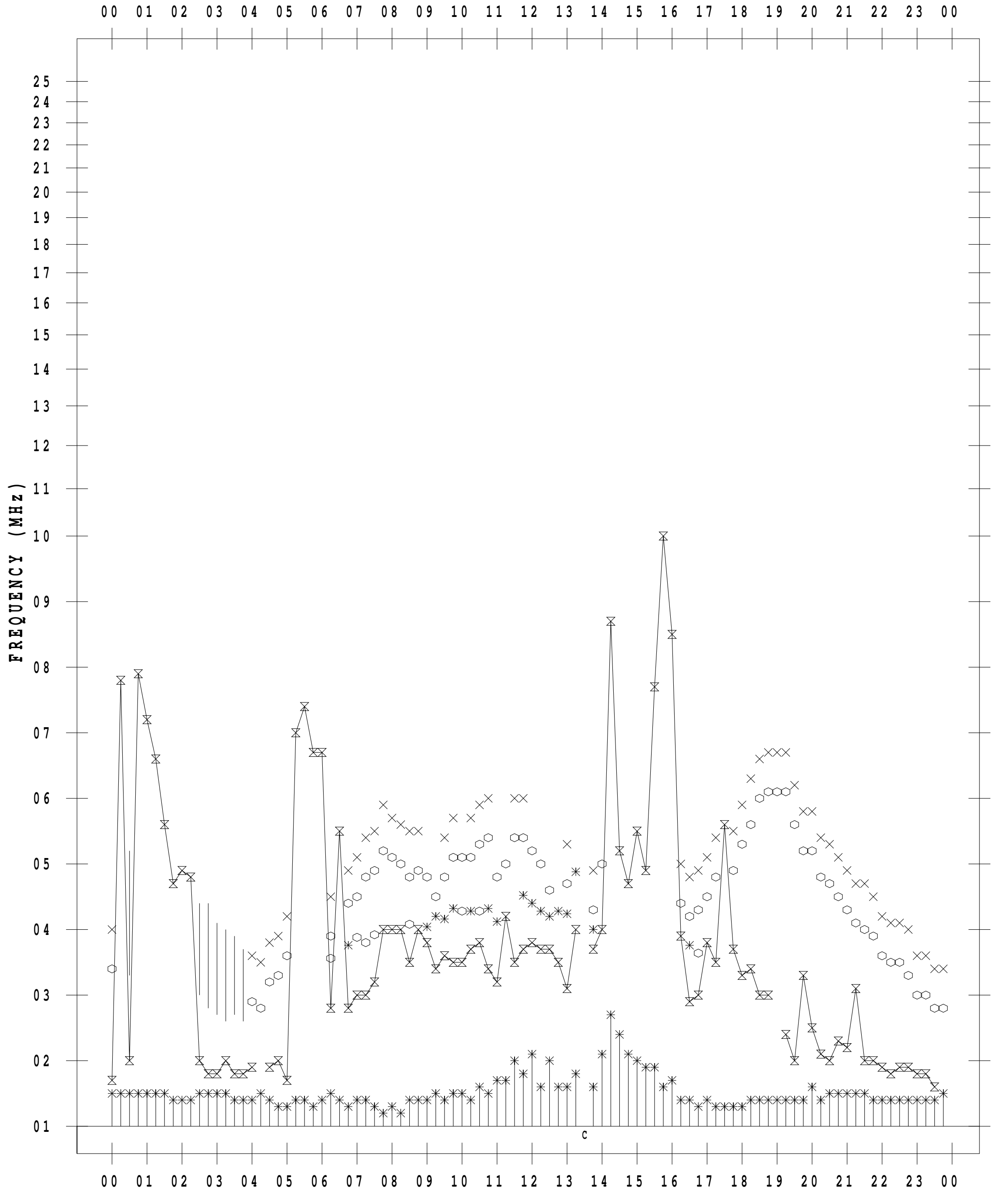
f-PLOT DATA

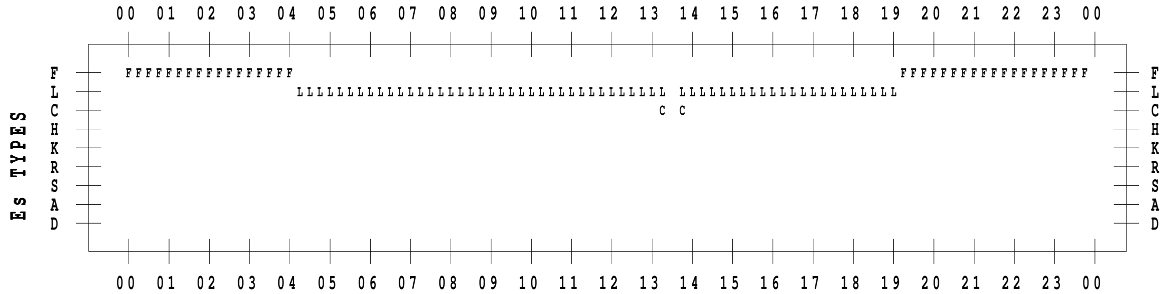
SCALER : I.NISHIMUTA

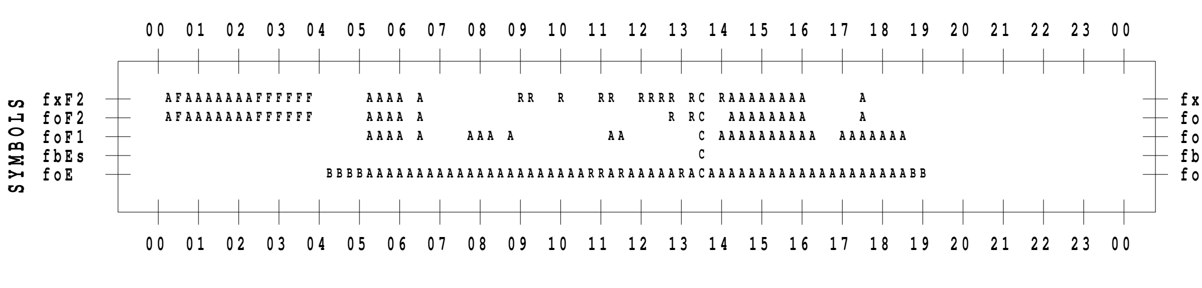
STATION : Kokubunji

DATE : 2009/ 7/16

135 °E MEAN TIME







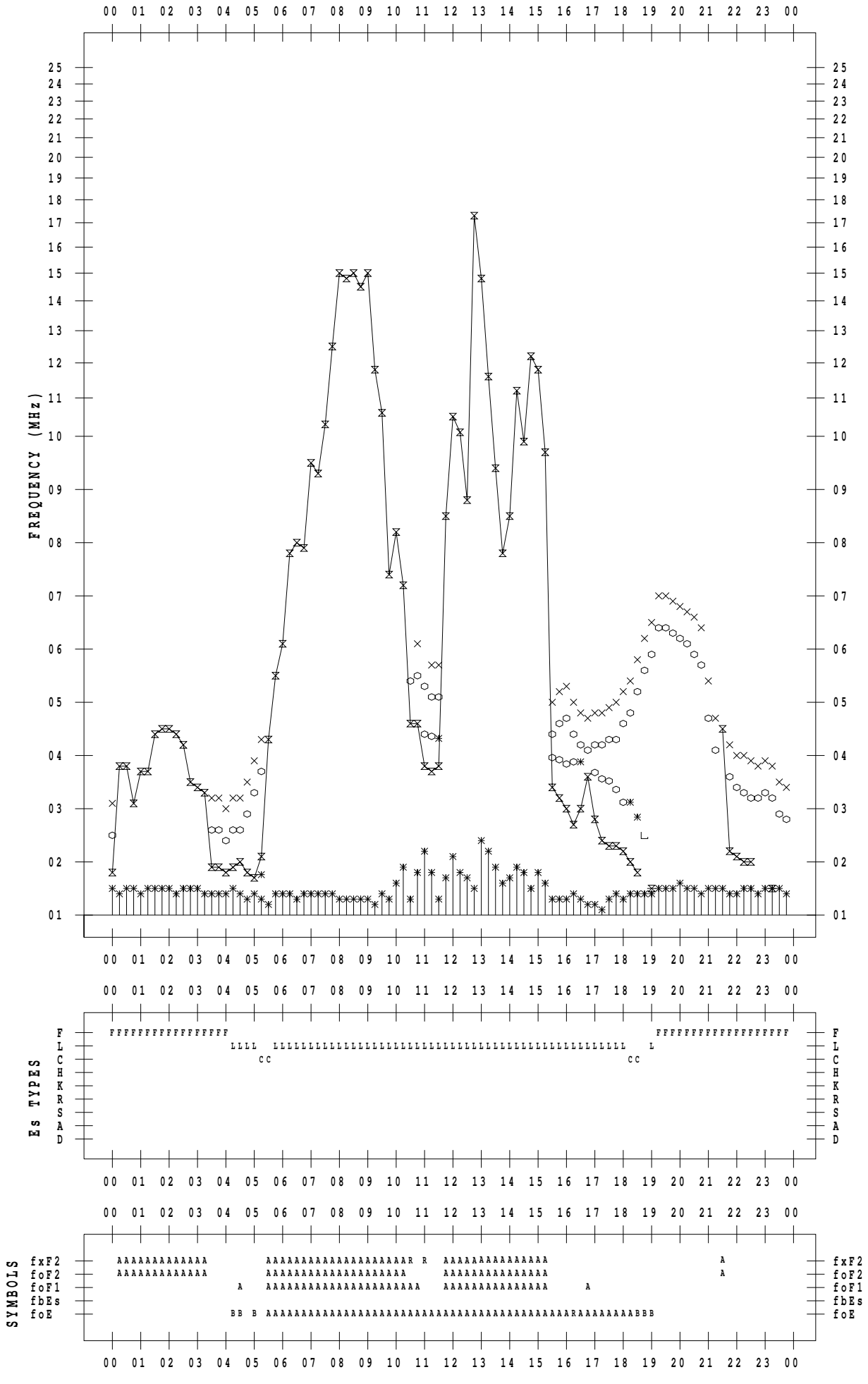
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/17

135 °E MEAN TIME



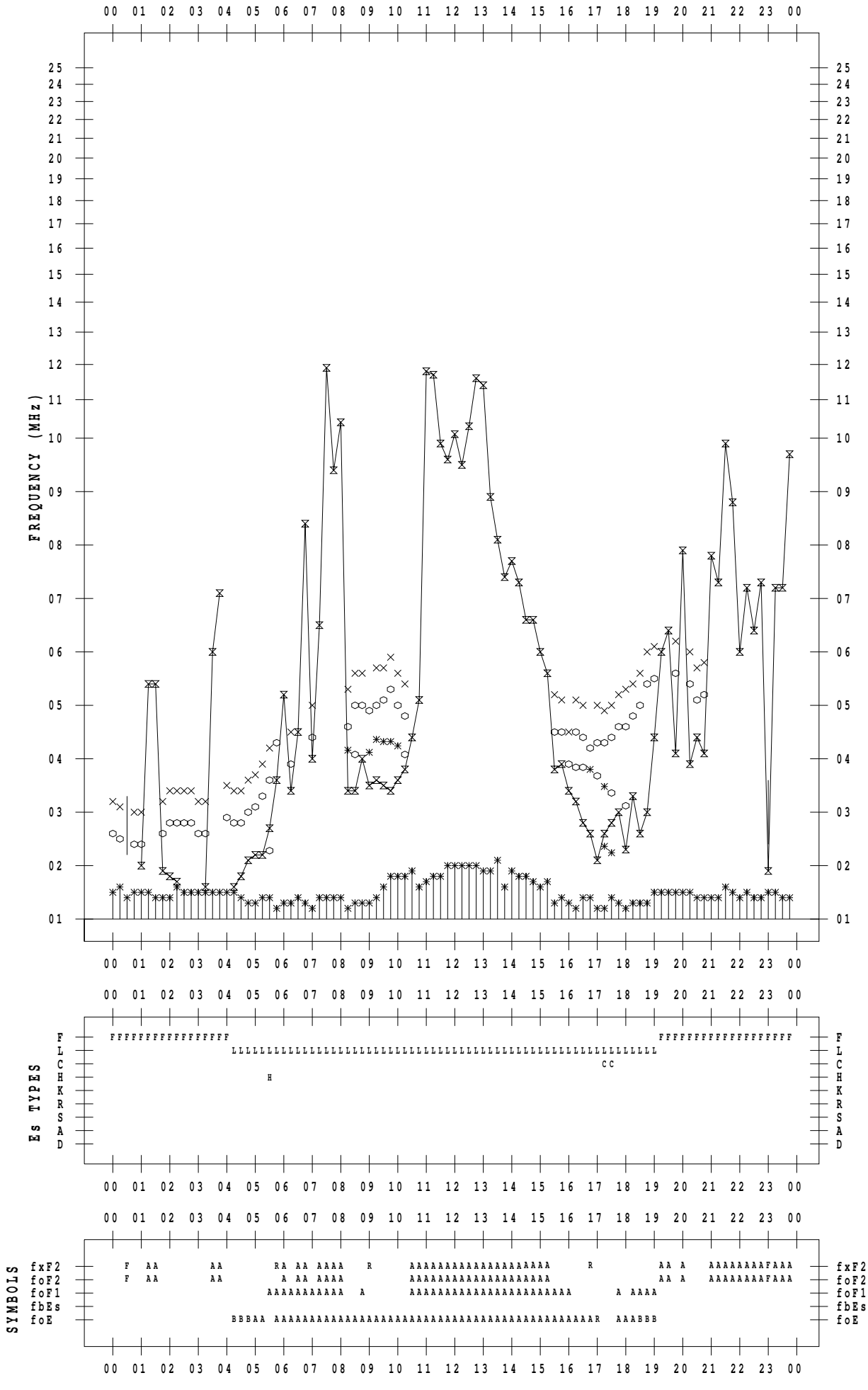
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/18

135 °E MEAN TIME



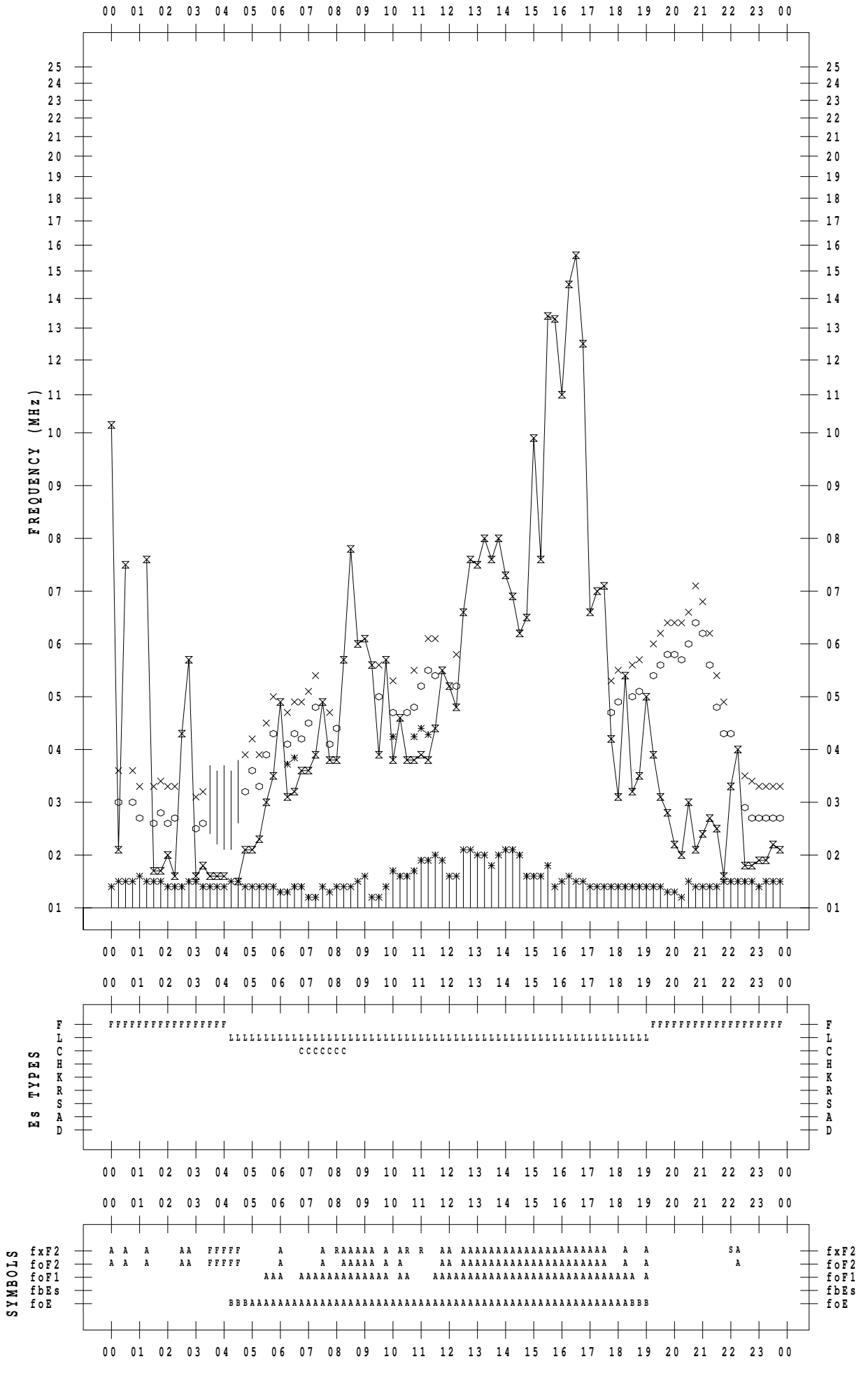
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/19

135 °E MEAN TIME



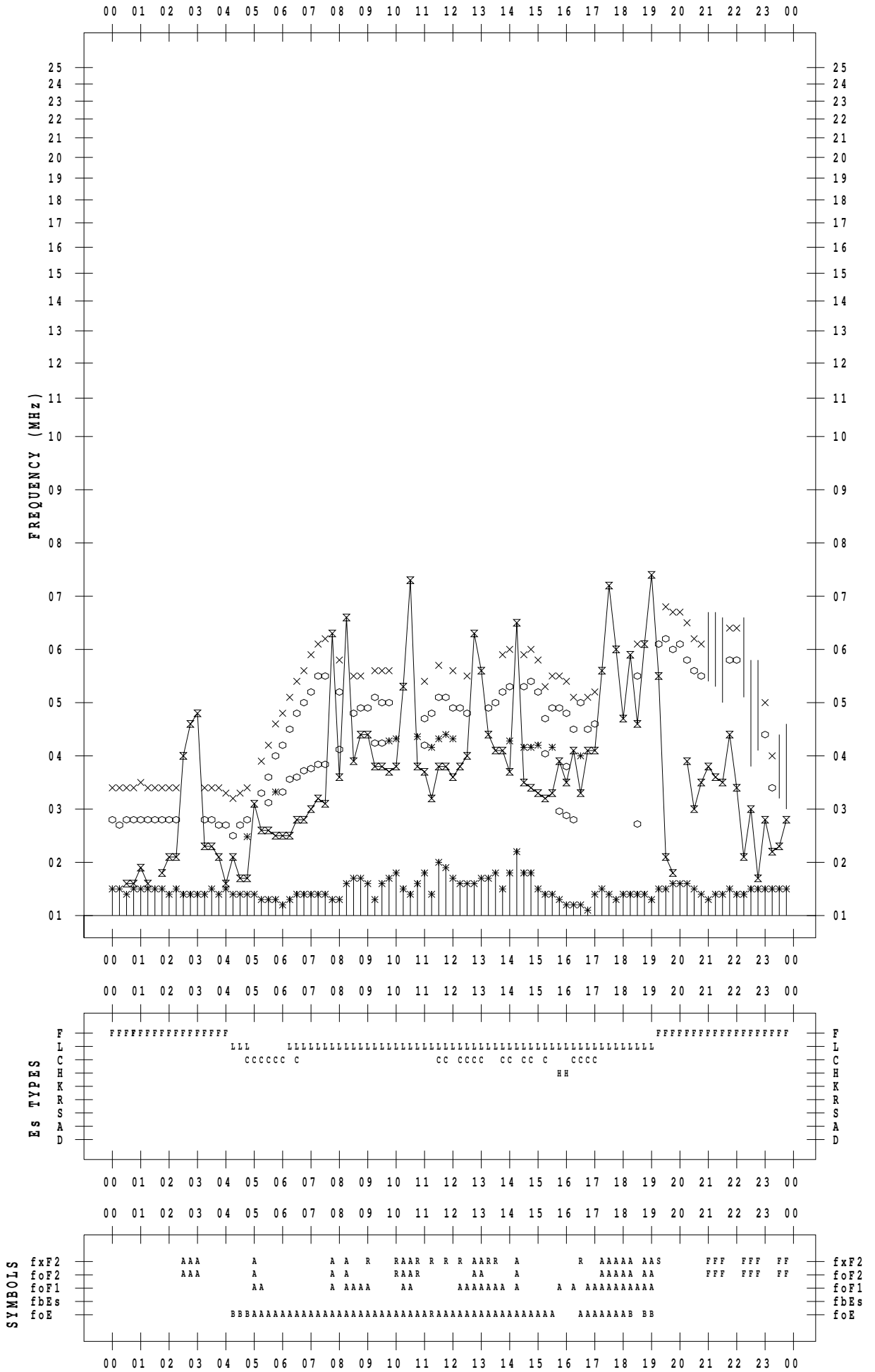
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/20

135 °E MEAN TIME



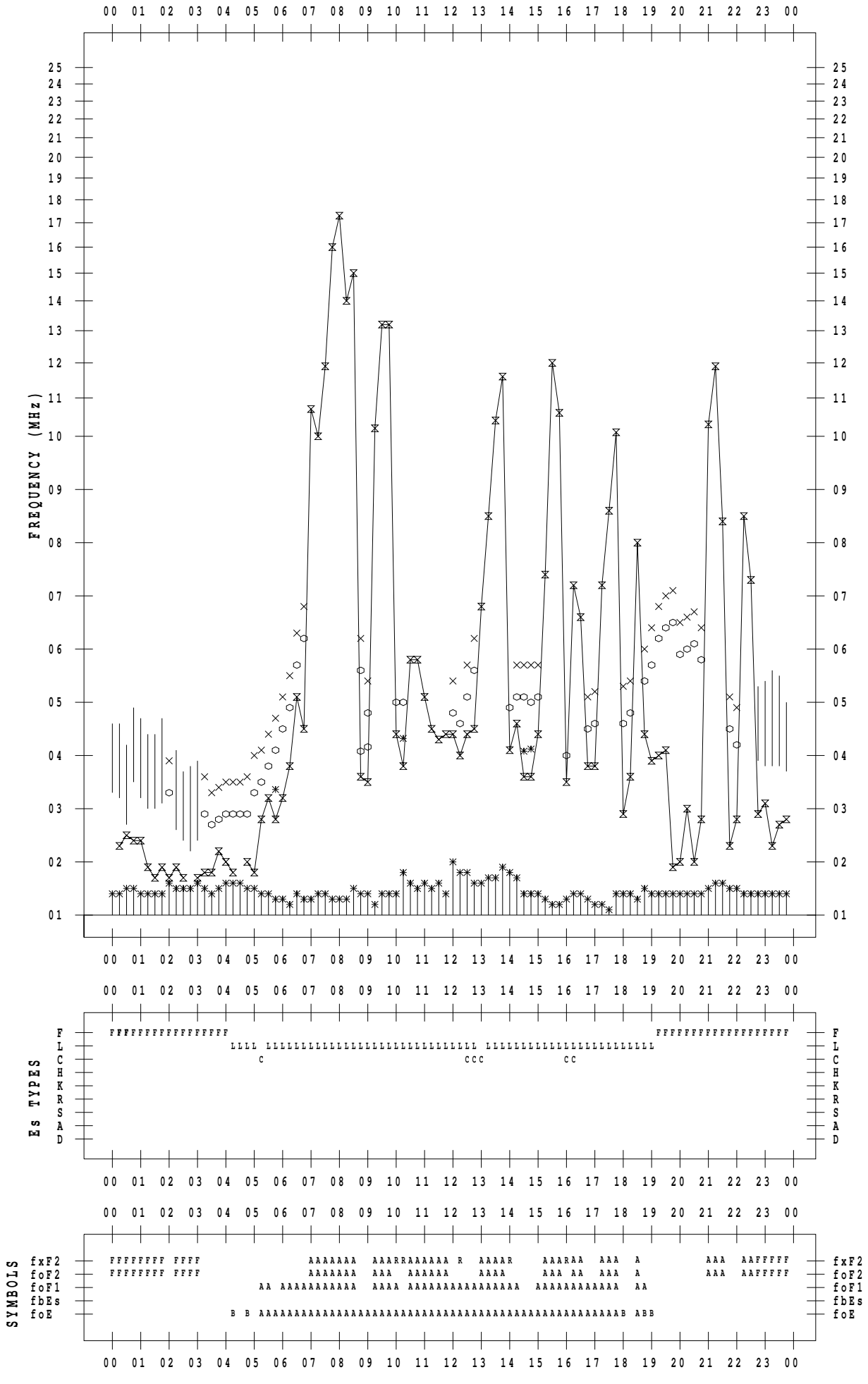
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/21

135 °E MEAN TIME



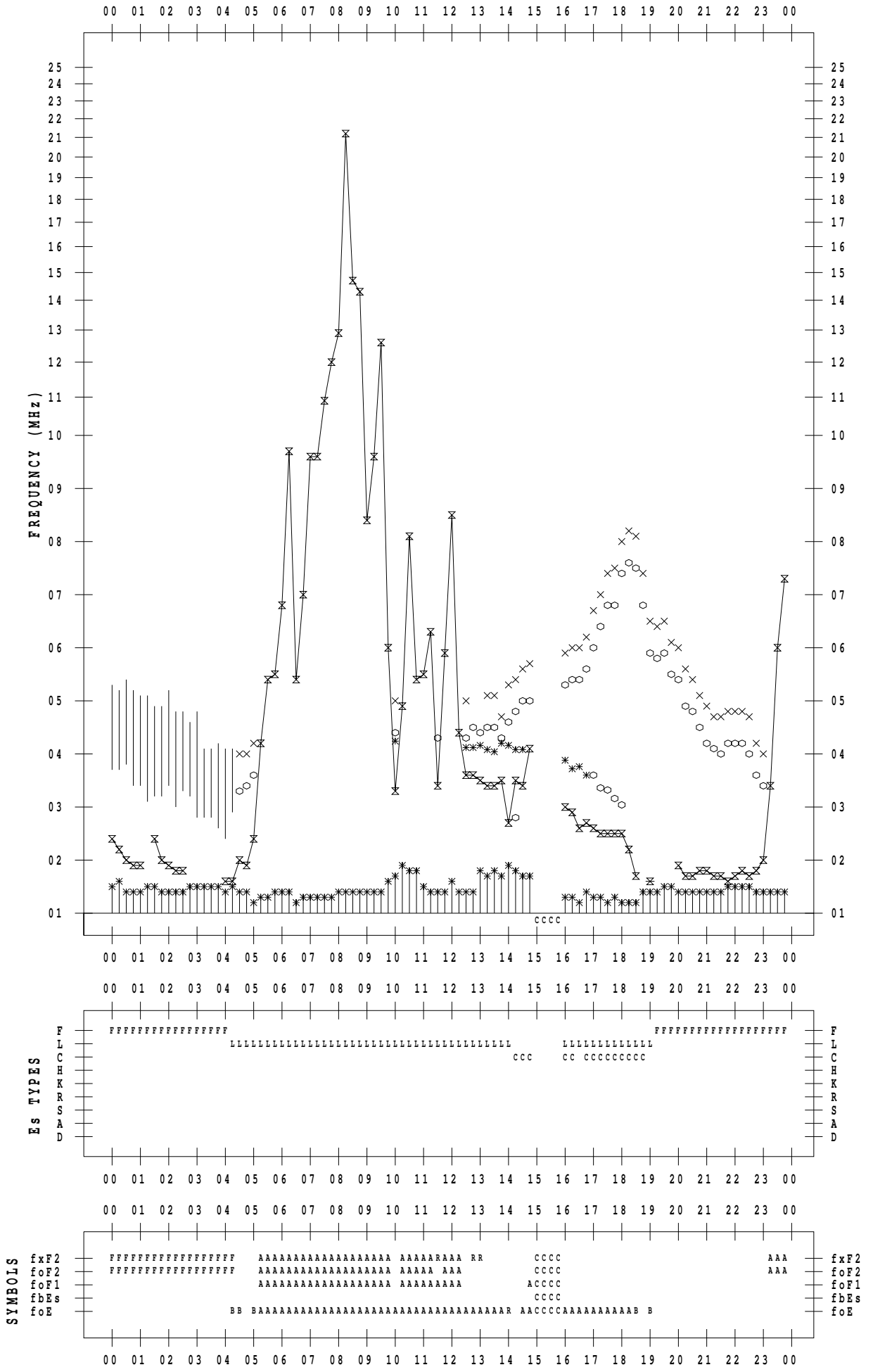
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/22

135 °E MEAN TIME

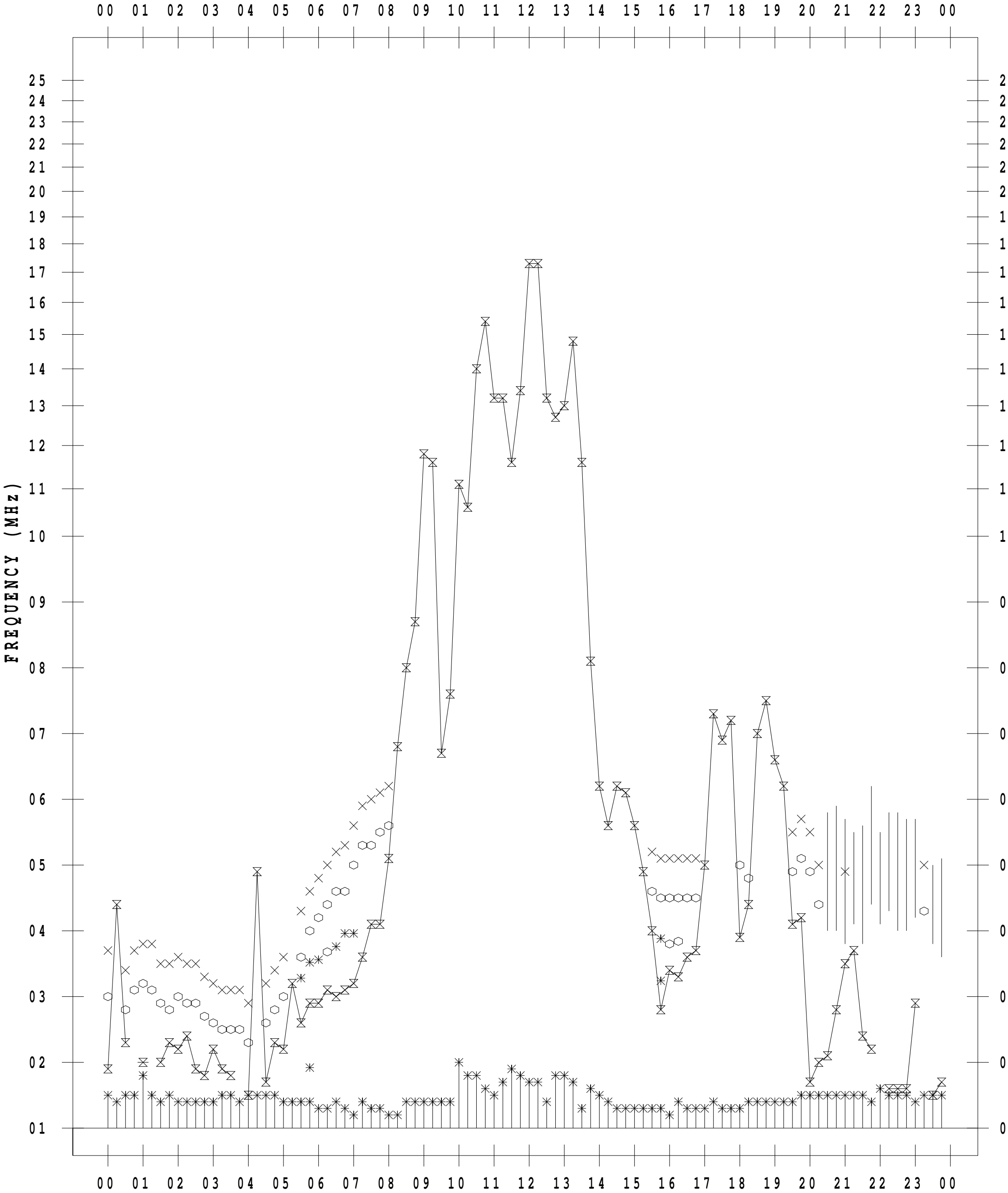


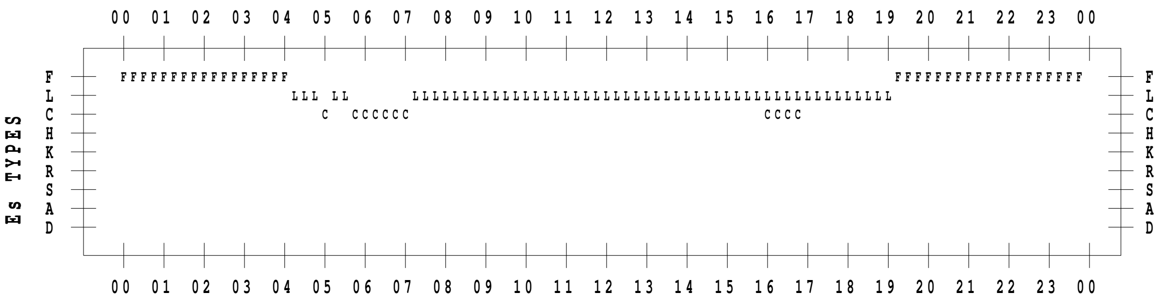
f-PLOT DATA

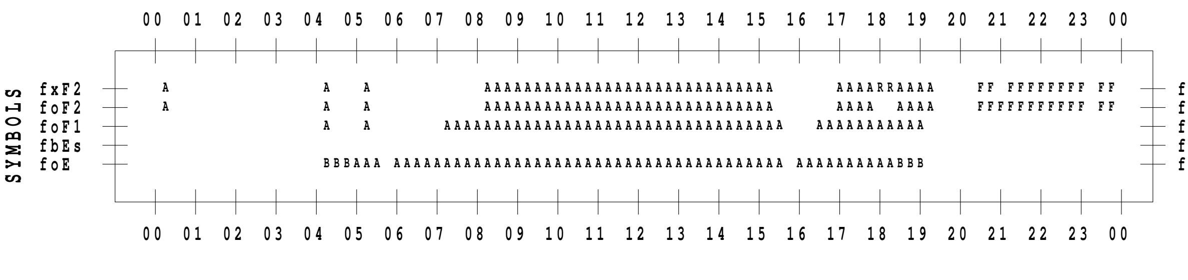
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2009/ 7/23

135 °E MEAN TIME





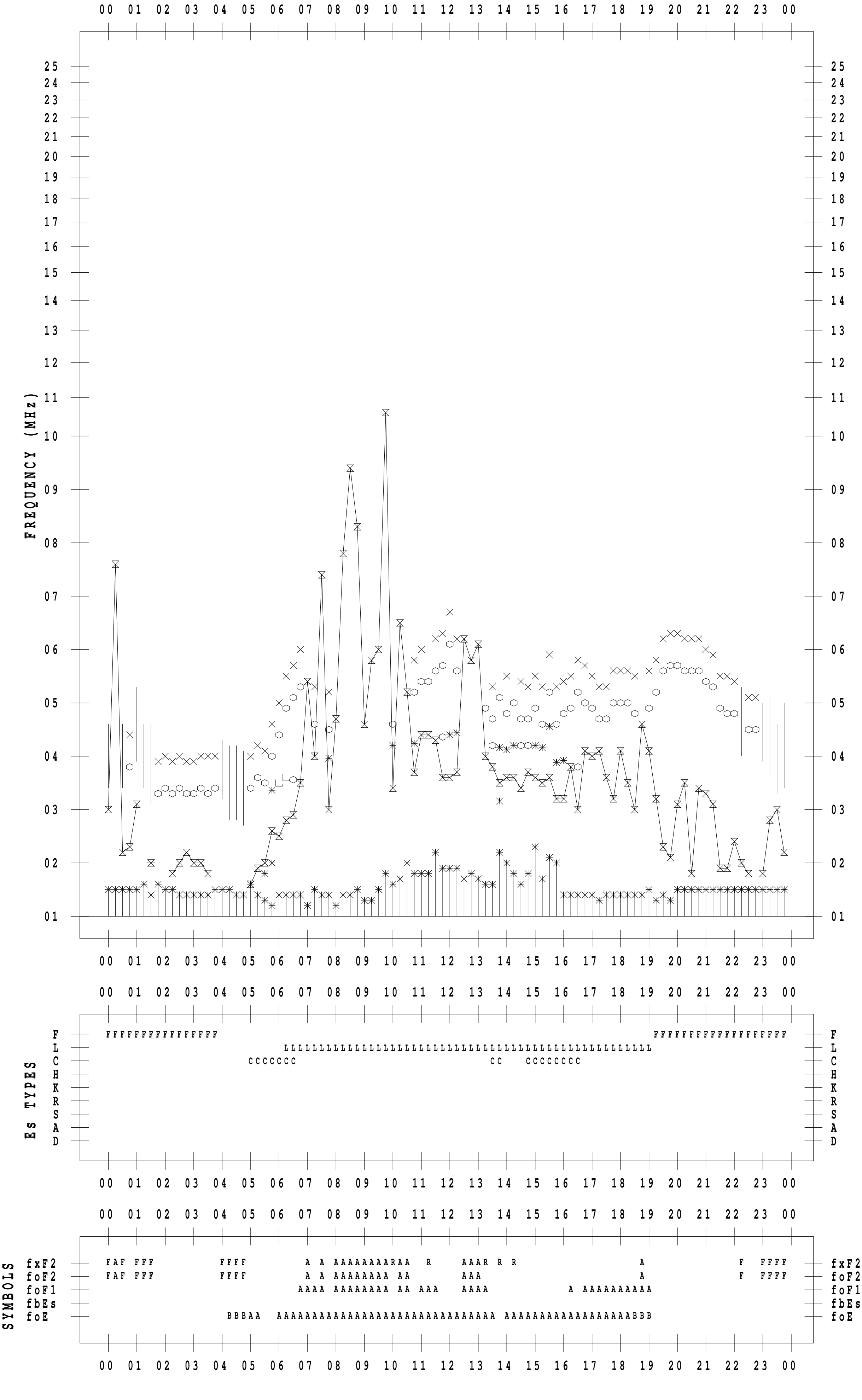


f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2009/ 7/24

135 °E MEAN TIME



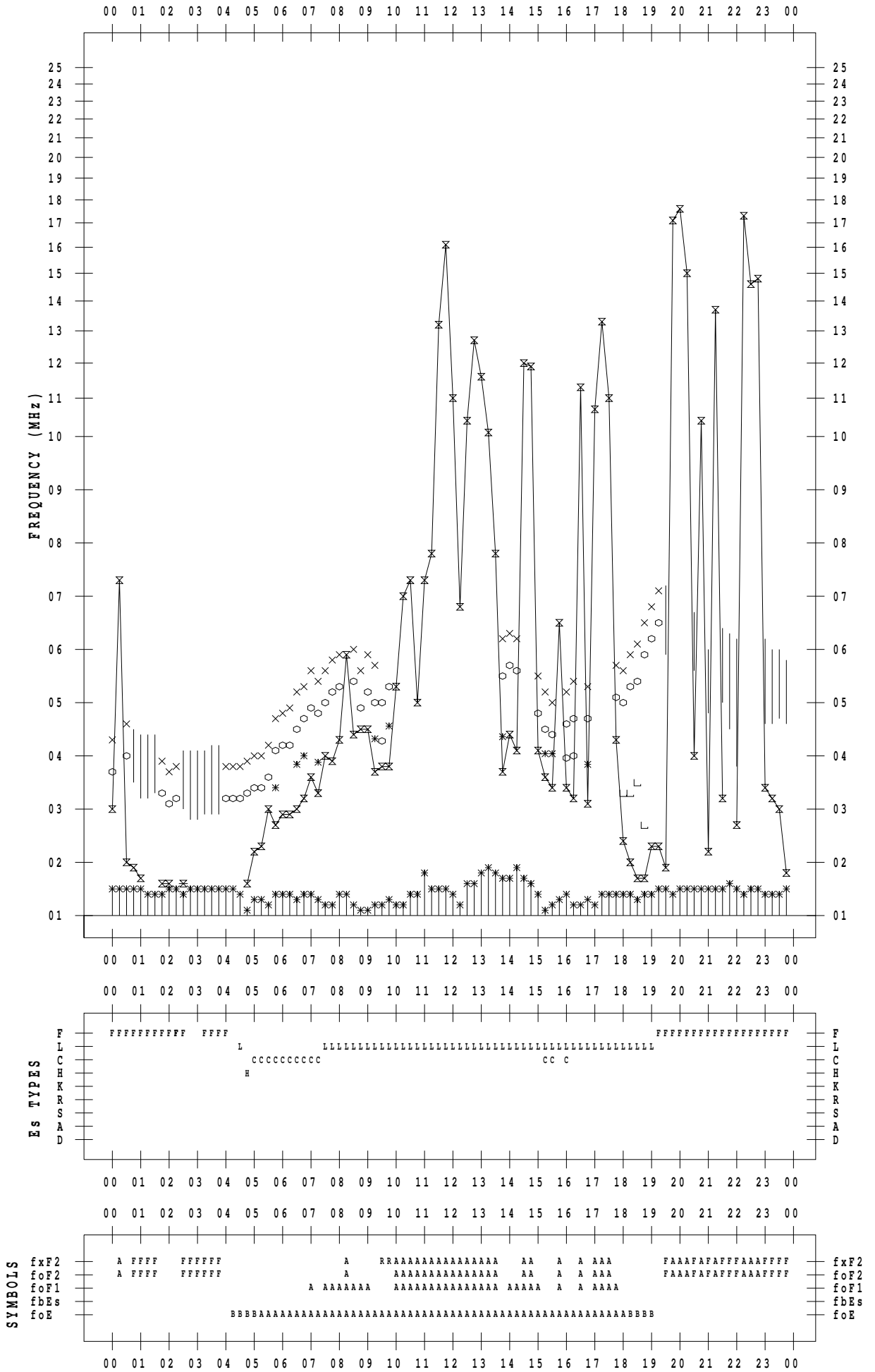
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/25

135 °E MEAN TIME



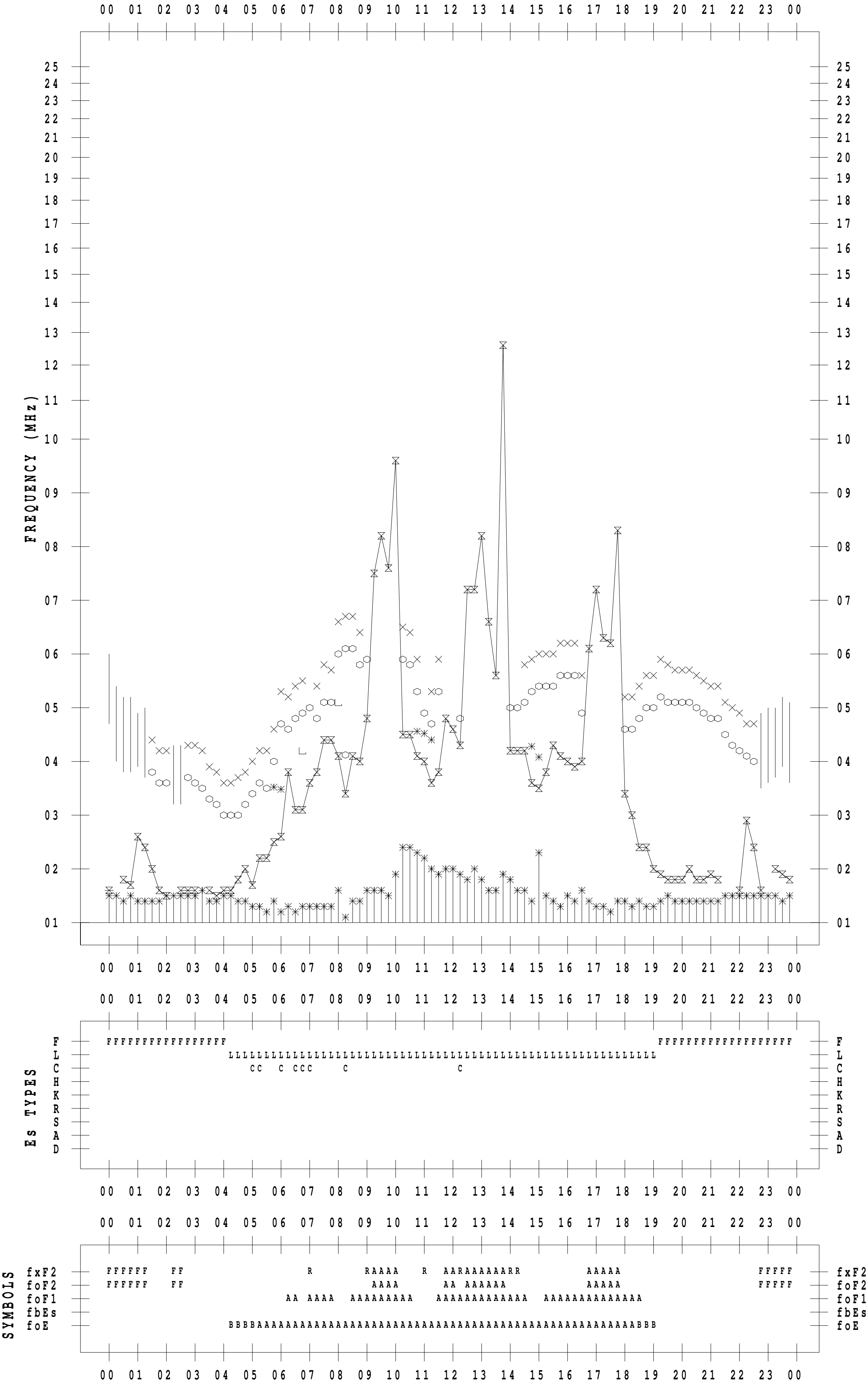
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/26

135 °E MEAN TIME



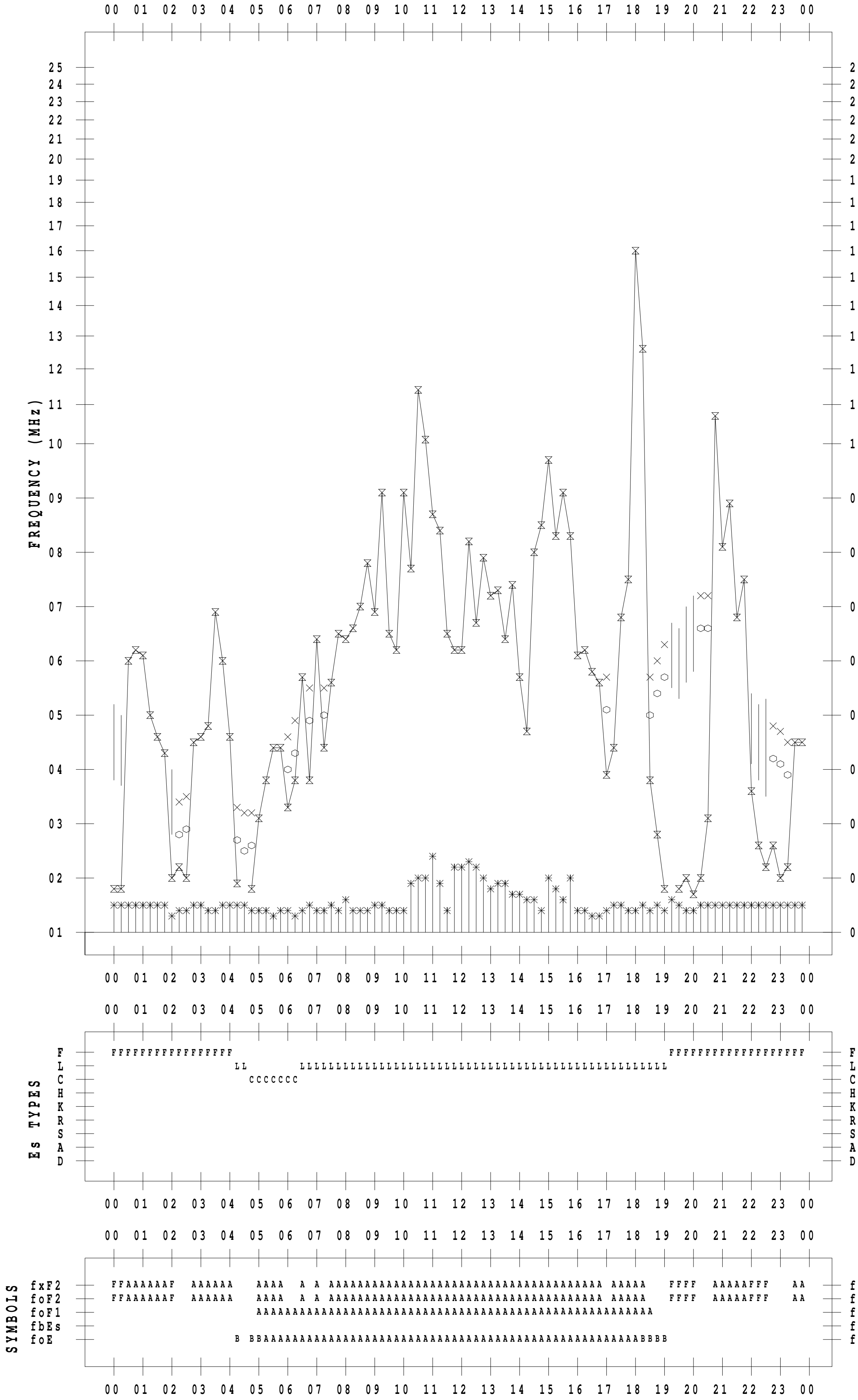
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/27

135 °E MEAN TIME



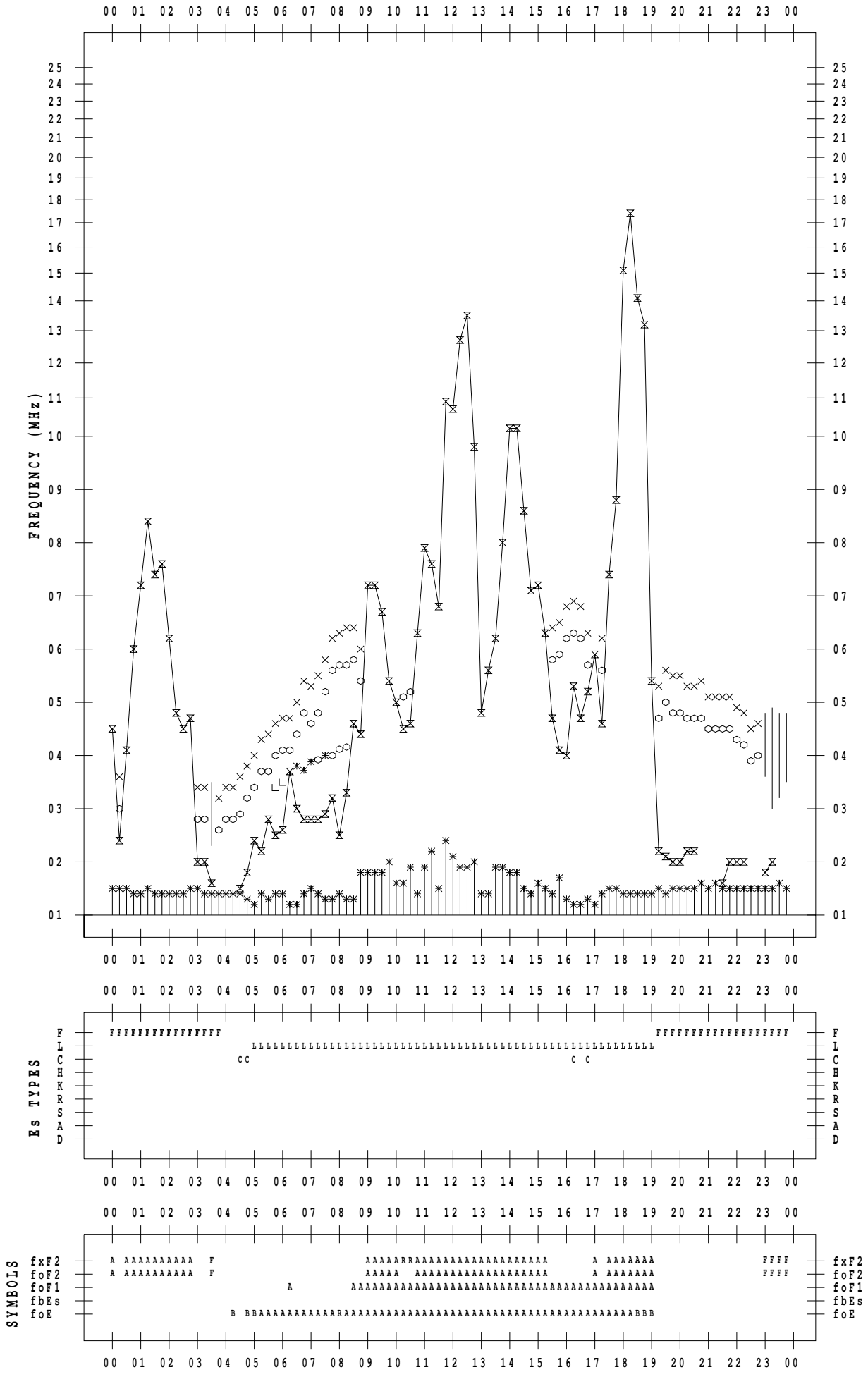
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/28

135 °E MEAN TIME

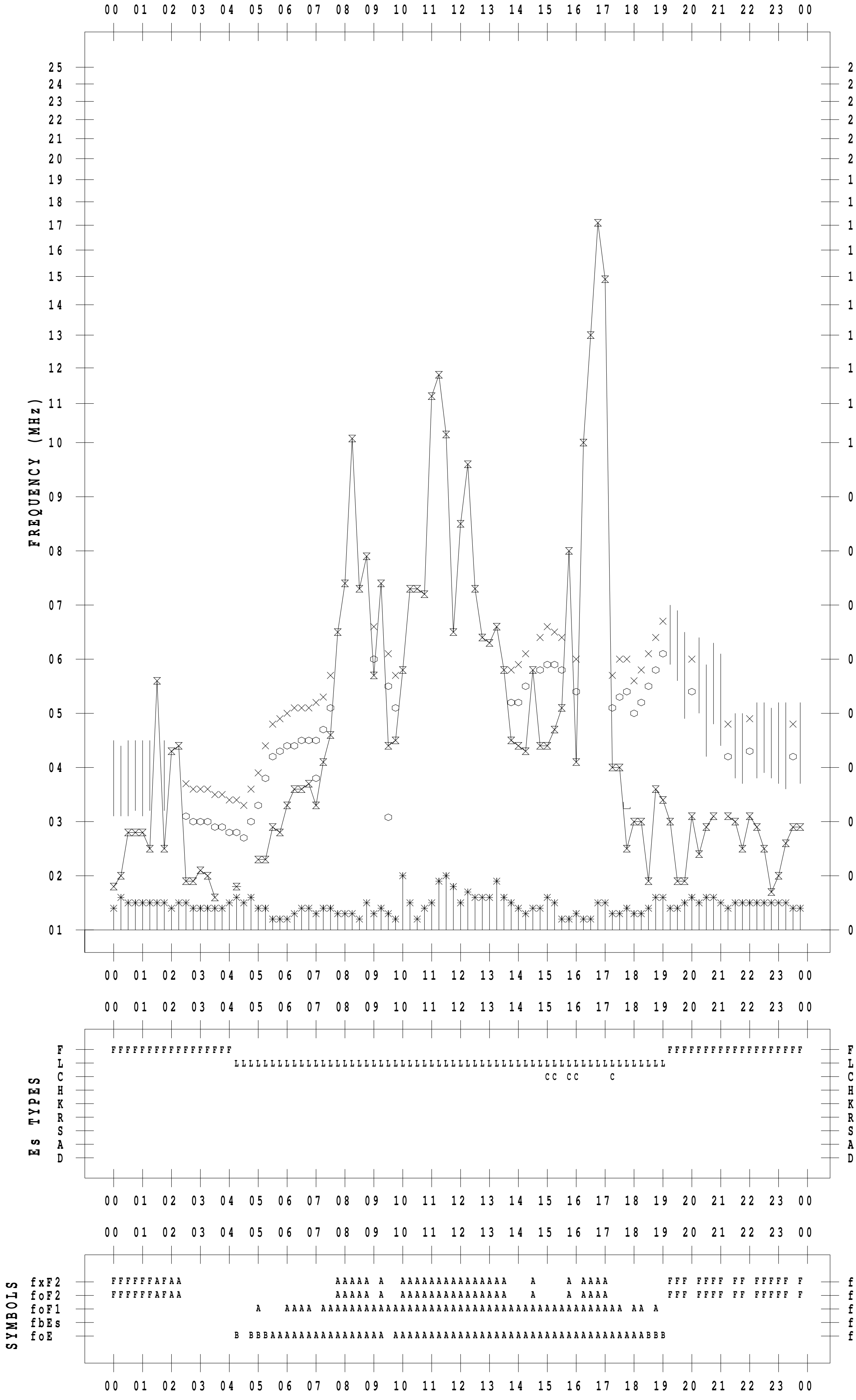


f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2009/ 7/29

135 °E MEAN TIME



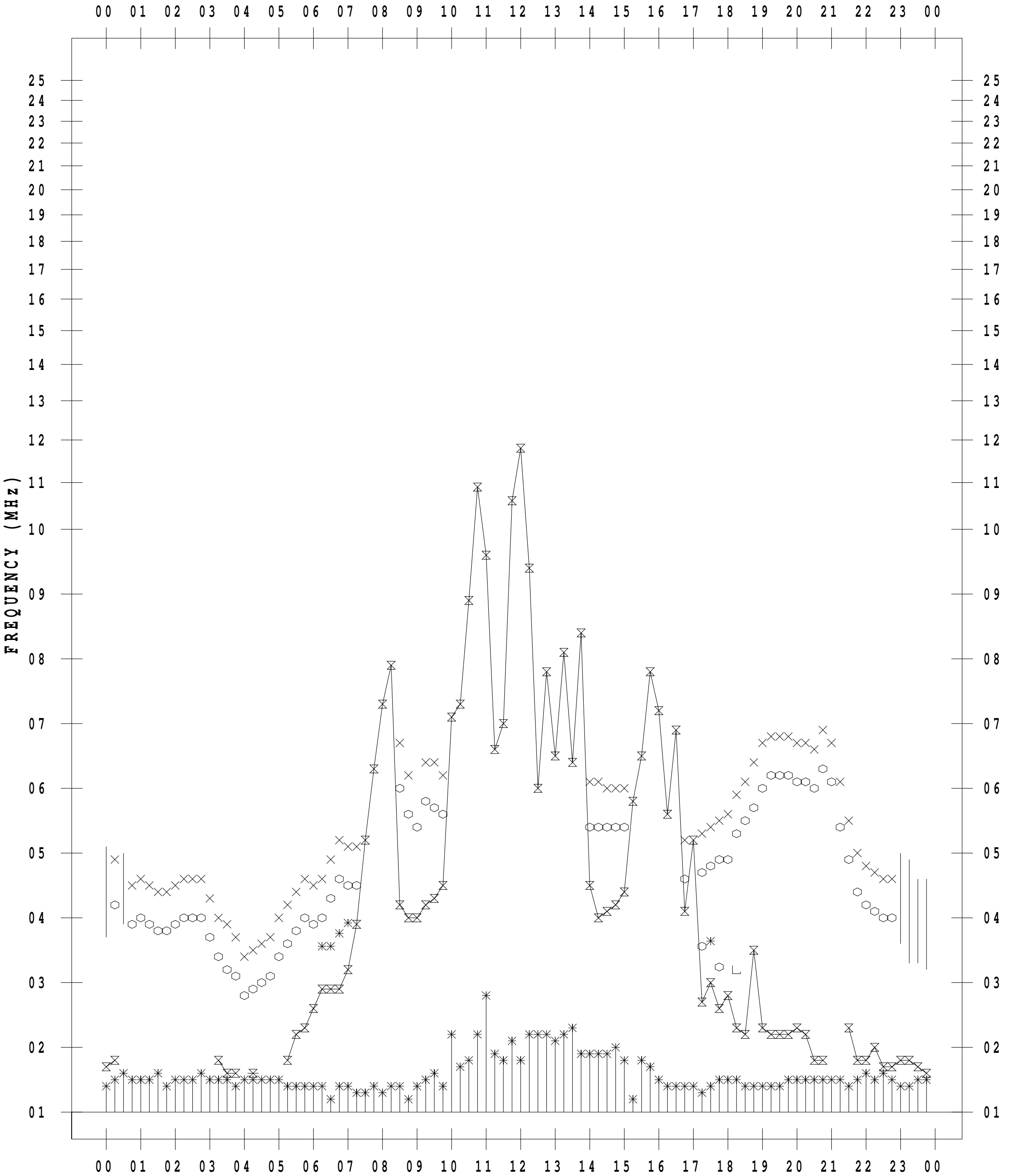
f-PLOT DATA

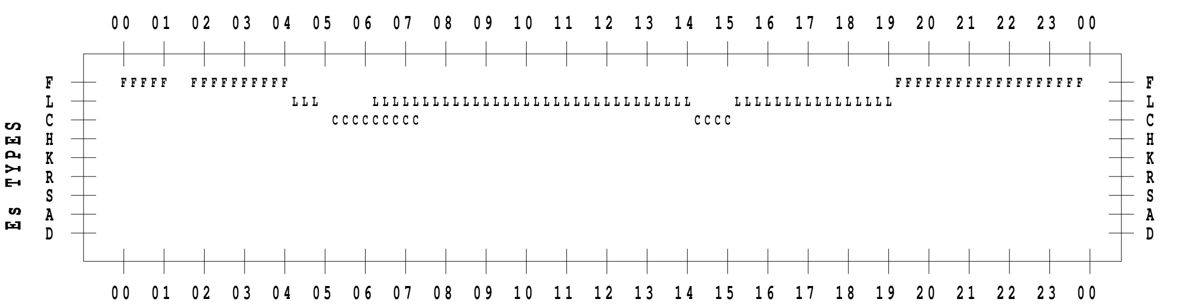
SCALER : I.NISHIMUTA

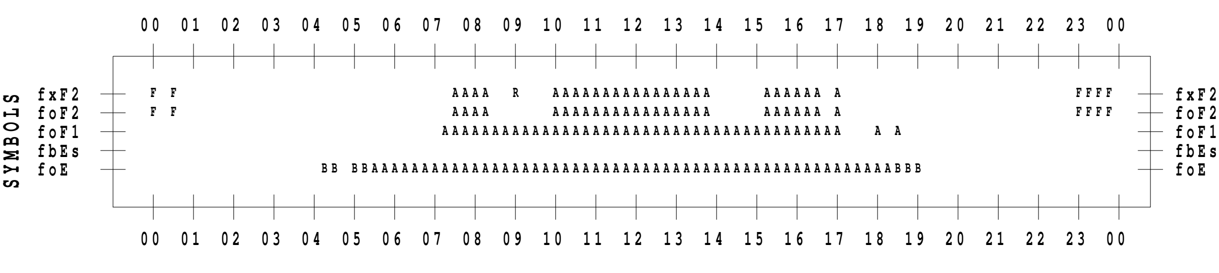
STATION : Kokubunji

DATE : 2009/ 7/30

135 °E MEAN TIME







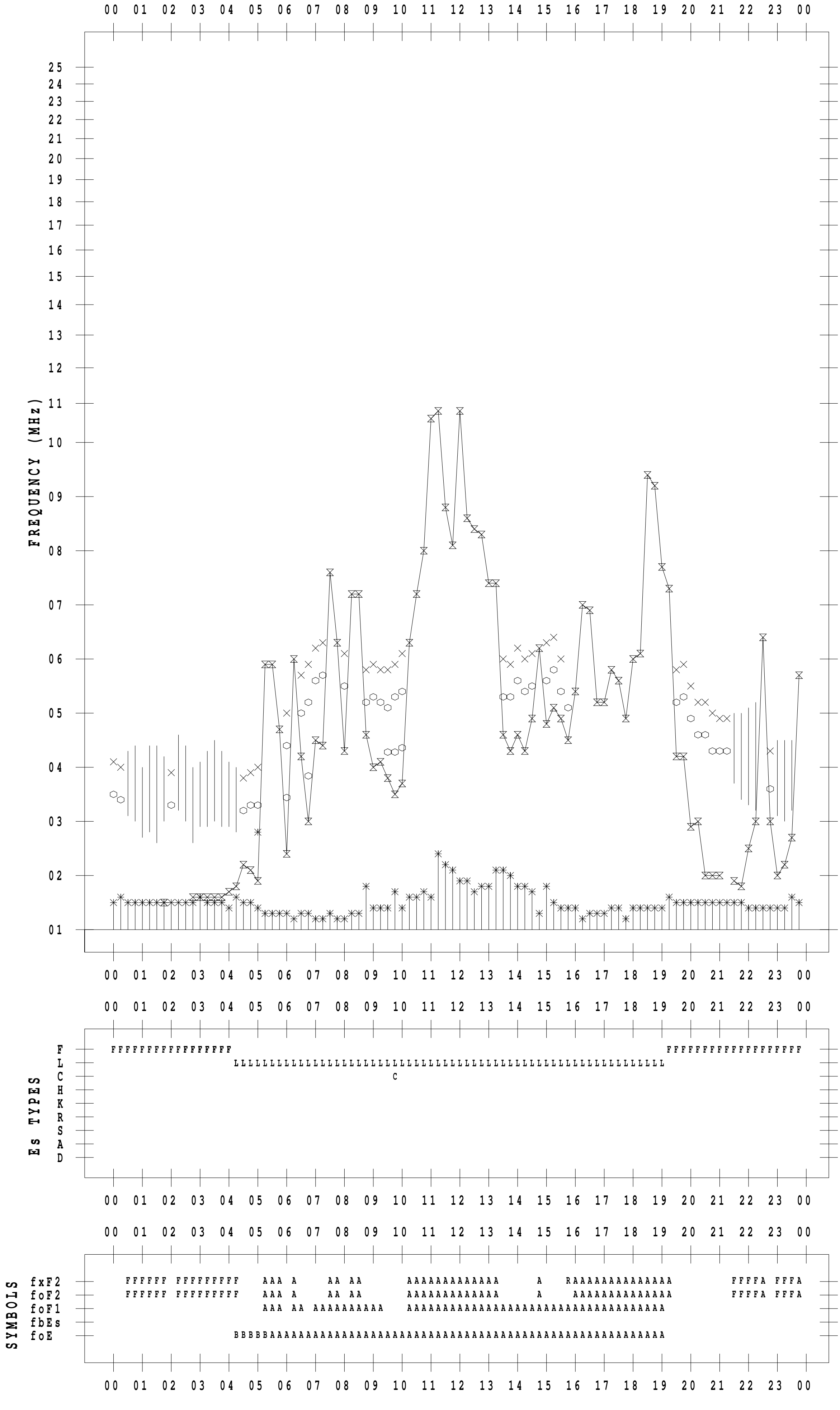
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2009/ 7/31

135 °E MEAN TIME



B. Solar Radio Emission

B1.Outstanding Occurrences at Hiraiso

Hiraiso July 2009

Single-frequency observations

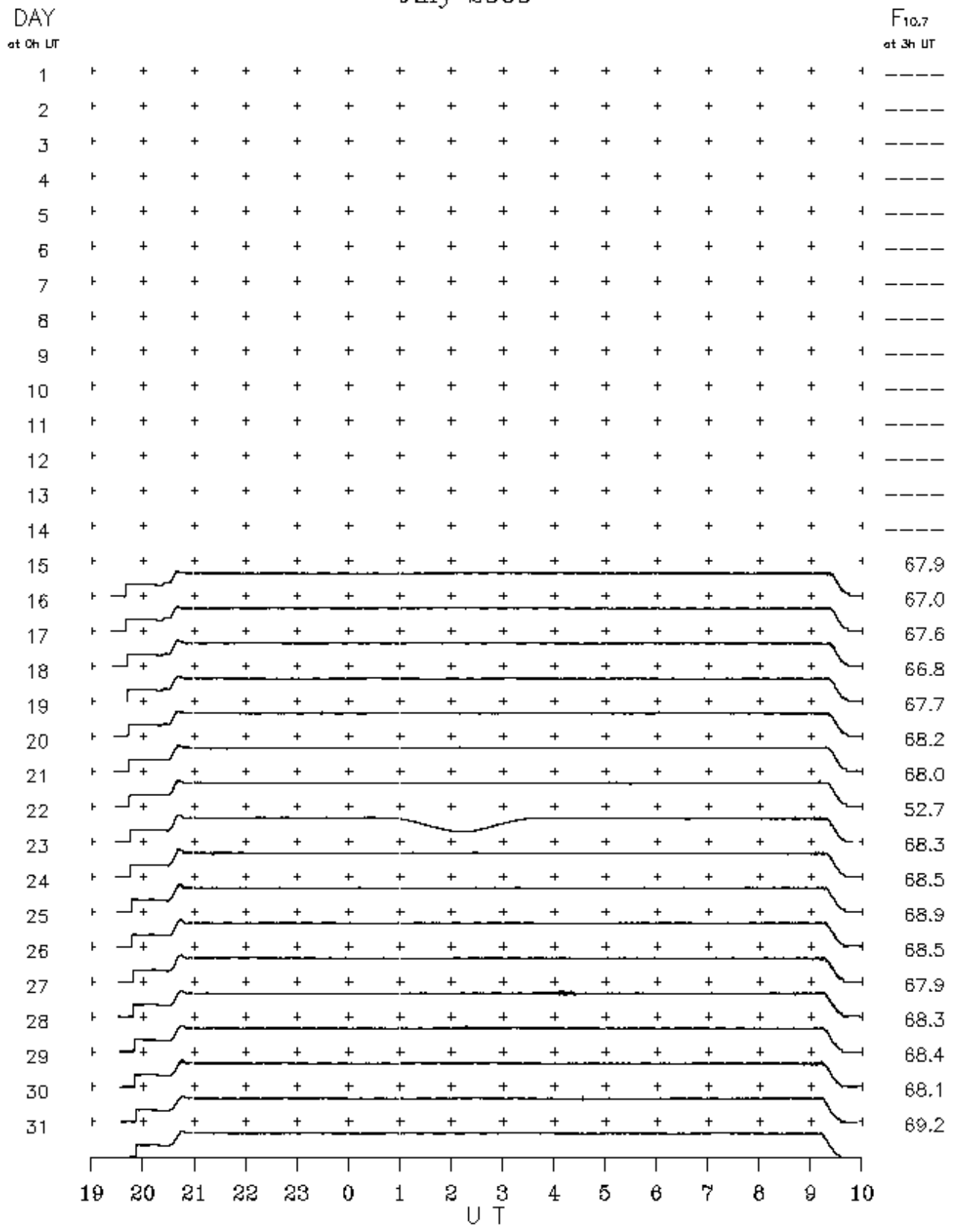
Normal observing period: 1925 - 1000 U.T. (sunrise to sunset)

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

B.Solar Radio Emission

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

July 2009



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/2009/07/