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IONOSPHERIC DATA IN JAPAN

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CONTENTS

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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, Independent Administrative Institution in Japan.

Station	Geographic		Geomagnetic (IGRF2000)		Technical Method	
	Latitude	Longitude	Latitude	Longitude		
Wakkanai	45°23.6'N	141°41.1'E	36.4°N	208.6°	Vertical Sounding	(I)
Kokubunji	35°42.4'N	139°29.3'E	26.6°N	207.9°	Vertical Sounding	(I)
Yamagawa	31°12.1'N	130°37.1'E	21.4°N	199.8°	Vertical Sounding	(I)
Okinawa	26°40.5'N	128°09.2'E	16.8°N	198.4°	Vertical Sounding	(I)
Hiraiso	36°22.0'N	140°37.5'E	27.4°N	209.2°	Solar Radio Emission	(S)

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 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 as well by experienced specialists to supplement automatically-scaled parameters.

A1. Automatic Scaling

Digital ionograms are automatically scaled by the pattern recognition method. The following five factors of ionospheric characteristics are published for the present. 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 ionospheric 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 too small ionization density of the layer (for *fEs*).

N Impossible automatic scaling because of complex echoes.

Blank No digital record because of trouble in the automatic data processing system, but existence of film record.

c. Definitions of the 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 spred ***F*** trace
foF2 ***foF1*** ***foE*** ***foEs***	Ordinary wave critical frequency for the ***F2, F1***, ***E*** and ***Es*** including particle ***E*** layers, respectively
fbEs	Blanketing frequency of the ***Es*** layer, e.g. the lowest ordinary wave frequency visible through ***Es***
fmin	Lowest frequency which shows vertical ionospheric reflections
M(3000)F2 ***M(3000)F1***	Maximum usable frequency factor for a path of 3000 km for transmission by ***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.

X 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 associated 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. Daily Data at Hiraiso

The three-hourly mean and daily mean values of the solar radio emission intensities are tabulated for 500 MHz measurements. The intensities are expressed by the flux density in 10^{-22} Wm^{-2} Hz^{-1} unit.

The following symbols are used in the tables, when interference or radio bursts prevented measuring the base-level flux densities or determining the variability indices:

* Measurement impossible because of interference.

B Measurement impossible because of bursts.

Daily data within parentheses mean that the observation time does not exceed one third of the period.

B2. 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
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.

B3. 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

MAY 2007

LAT.45°23.5'N LON.141°41.2'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	34	40	40	41	42	36			A				49	57	57	54	50	46	57	52	54	55	39
2	42	42	38	40	34	42	43	40	50		A	A				55	53	60	50	61	63	60	52	44
3	44	43	43	44	45	44	47	50			39	53					56	53	58	66	69	66	44	40
4	40	38	41	34	40	46	45	45		39	42	42				59	55	56	A	63	58	53	53	52
5	47	47	44	43	44	52	52	53	55	62	57	57		55	58	39	55	52	52	54	62	52	54	38
6	40	40	40	34	36	48	46	49	53	56	61	58	55	A	60		60	55	48	59	A	62	61	52
7	45	34	41	32	41	60	45	A	53	54		56	49	A	A	A	59	61	A	70	70	71	64	53
8	44	38		34	36		A	A		A	A	62	A	A	A		60	A	57	64	62	61	52	45
9	43	45	49	47	45	38	42	A	A	A	A	A		A	A	47	53	A	48	51	48	54	49	40
10	46	46	46	47	46	46	47	48		60	61				57		54	56	56	54	54	61	51	41
11	45	43	46	44	47	47	52	64	70	61	49	A	A	A	59	57	47	44	52	60		54	54	53
12	44		A	A	A	48	A	56	A	60	58						54	46	53	61	54	65	61	50
13	32	45	A	40	34	53	A	A	63	56	A	A	A			A	68	70	76	A	66	54	50	A
14	A	A	A	A	40	53	55	A	A	A	A	A	58	A	A	A	A	A	A	58	53	54	A	A
15	40	A	A	A	47	A	A	55	60	A					59	A	56	56	55	64	66	67	59	34
16	38	40	41	44	47	52	53	64	60	54	60	54	54	A			58	61	55	62	70	66	51	47
17	37	40	40	38	40	46	41	54	52	A	C	56				A	A	56	63	61	63	54	53	52
18	47	42	44	42	45	45	52	62	57	65			58		58	57	A	A		A	A	71	A	A
19	A	A	A	A		A	A	A	A	A	A	A	A	A	A		A		A	A		A	A	A
20	A	A	A	34	34		A	A	A	A	A	A		A	58	54	55	50	A	53	52	61	54	58
21	48	52	42	43	45	46	45		A	A	A	62		A	34	46	51	46	52	52	38	52	60	45
22	47	44	48	45	42	45	A	A	A	A					41	39	51	52	52	57	66	54	52	
23	52	39		A	A	A	A	A	A	A							A	47	A	71	65	54		54
24		53	41	41		A	A	A	A	A		A	A	A	A		39	A	A	40	36	34	32	30
25	A		26	26	28	38	A	A	40	A	A	A	A				51	56	53	54	53	43	46	A
26	45	41	37	34	32	40	A	A	A	A	A	A	A		39	A	56		A	A	A	61	48	47
27	47	51	44	36	39	36	40	A	A	A	A		A	A	A		A	47	53	58	54	41	A	45
28				34	37	41	36	A	A	A	A	A	A	A		54		53	46	53	60	50	54	46
29	40	36	30	36	42	45	54	56	60	A	A				A		50	A	A	A	42	66		45
30	41	41	34	38	39	40	47		63		A					A	A	A	A	60	55	66	54	54
31	42	35	34	37	34	45	54	61	63			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	25	24	22	26	27	25	20	14	14	10	8	9	5	2	11	11	22	21	19	25	25	29	24	24
MED	44	42	41	39	40	45	46	54	58	58	58	56	55	52	58	54	54	53	53	59	58	54	53	46
U Q	46	45	44	43	45	48	52	61	63	61	60	60	58	55	59	57	56	56	56	62	65	65	54	52
L Q	40	38	38	34	36	41	42	49	53	54	45	53	51	49	41	46	51	48	50	54	52	53	50	40

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

HOURLY VALUES OF fEs AT Wakkanai

MAY 2007

LAT.45°23.5'N LON.141°41.2'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	32	G	G	G	G	G	G		42	51		G	G	G	50	G	G	G	G	25	G	G	G	G
2	G	G	G	G	G	G	G	G	G	G	45	46	G	G	G	G	G	33	33	26	G	G	G	G
3	G	G	G	G	G		35	42			G	40	G	G	G	G	G	G	34	28	G	G	G	G
4	G	G	G	G	G	29	G	40	G	G	G	G	40	39		50	52	51	71	29	26	26	G	G
5	G	G	G	G	G	G	37	44	48	48	45	G	G	G	G	G	42	43	44	41	40	G	G	G
6	G	G	G	G	G		38	41	G	G	G	47	G	68	G	G	G	G	32	52	68	41	40	G
7	G	G	28	G	G	30	45	51	43	50	46		G	82	65		52	58	64	49	29	43	G	G
8	G	25	33	33	24		49	59	90	76	52	53	52	64	76	G	52	96	52	46	29	34	G	G
9	G	G	G	G	31	34	37	46	64	67	69	64	G	41	40	G	G	58	30	G	G	G	G	24
10	25	G	G	G	G	G	34	42	44	46	48	G	G	G	G	G	G	36	29	G	G	G	G	G
11	G	G	G	G	G	32	35	76	37	40	G	40	49	44	G	G	41	50	35	41	35	49	45	59
12	39	59	60	66	64	33	52	54	64	G	39			G	50	48	44	43	50	34	30	27	28	G
13	G	33	47	30	37	46	55	60	52	54	77	51	150	110		102	47	46	50	62	52	33	38	60
14	70	59	72	66	33	41	51	50	67	75	57	52	G	61		95	91	132	106	34	60	60	80	67
15	28	59	59	52	80	84	78	59	52	59	45	40	G	41	41	64	46	50	54	38	76	48	36	33
16	29	35	58	28	30	32	42	50	42	46	50	G	51	41	G	G	41	46	38	33	45	44	43	28
17	G	30	G	37	G	79	44	60	48	49	C	G	G	G	G	51	59	52	43	34	28	35	26	26
18	G	G	G	G	25	35	42	52	46	46	49	G	46	G	48	54	63	84	93	116	95	57	79	59
19	49	59	60	45	37	39	52	66	80	61	64	51	51	71	70	44	70	58	95	66	50	59	70	68
20	60	78	51	34	26	42	60	64	63	62	81	78	42	51	44	G	G	38	56	45	39	34	39	39
21	26	G	G	G	G	28	41		48	51	52	44	70	49	G	G	G	32	42	51	45	38	24	G
22	G	G	24	G	G	30	44	49	53	60	G	G	G	G	G	G	G	39	45	44	38	46	36	47
23	27	34	40	60	32	49	49	49	46	60	44	G	G	41	G	38	66	43	53	33	32	G	G	39
24	39	26	31	28		46	44	46	63	54	47	49	46	79	74	42	G	69	69	35	26	31	26	26
25	39	30	25	G	G	32	51	46	G	48	65	58	86	G	40	G	G	40	49	40	39	59	33	60
26	32	32	24	G	25	37	55	68	65	58	68	81	60	60	G	68	46	68	80	72	68	46	39	33
27	27	25	G	G	G	32	39	48	61	46	48	48	53	46	45	40	42	36	34	48	45	36	43	32
28	35	29	32	G	G	G	38	51	66	64	52	62	64	56	G	39	51	37	47	41	39	40	39	32
29	24	26	27	26	27	37	48	45	47	62	58	G	G	G	61	45	48	81	64	57	46	33	40	39
30	33	34	37	31	G	38	46	52	51	41	51	G	G	49	41	60	68	96	76	56	39	30	38	26
31	26	G	26	33	G		46	40	52	46	45	109	50	72		157	143	109	97	90	112	79	109	60
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	30	27	31	29	30	30	29	29	30	31	27	30	31	31	31	31	31	31	31	31
MED	26	25	25	G	G	33	44	50	50	50	48	44	20	41	40	38	44	46	50	41	39	35	36	28
U Q	33	34	40	33	30	41	51	59	63	60	57	52	51	61	50	51	52	68	69	52	50	46	40	47
L Q	G	G	G	G	G	29	37	44	43	46	44	G	G	G	G	G	G	37	35	33	28	26	G	G

HOURLY VALUES OF fmin AT Wakkanai

MAY 2007

LAT.45°23.5'N LON.141°41.2'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

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

HOURLY VALUES OF foF2 AT Kokubunji

MAY 2007

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

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

HOURLY VALUES OF fEs AT Kokubunji

MAY 2007

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G	G	G	G	G	32	G	37	50	60	61	46	50	46	54	55	39	40	41	54	29	26	23
2	G	G	G	G	G	G	35	39	46	50	G	G	G	G	45	G	G	37	38	G	25	49	G	G
3	G	G	G	G	G	G	35	40	44	G	G		45	57	45	G	47	45	36	36	33	G		G
4	G	G	G	G	G	G	29	43	50	55	45	G	G		G	G	48	75	38	37	29	55	55	G
5	G	25	G	G	G	G	35	53	60	62	56	41	50	44	G	50	G	43	45	62	61	84	70	59
6	58	82	69	31	34	G	35	45	62	74	86		52	86	43	50	G	G	33	29	57		31	59
7	43	37	31	82	26	G	G	40	45		50	82	148	60	55	43	54	134	29	61	27	70	73	82
8	59	57	60	52	65	28	50	63	58	62	86	124	84	50	G	91		148	91	56	103	69	70	60
9	28	G	G	G	G	G	37	55	52	G	123	52	59	70	G		G	34	38	31	35	43	56	60
10	G	G	G	46	45	36	35	55	48	55		G	G	53	54	64	95	71	57	61		36	G	83
11	G	G	G	G	46	G	36	43	G	G	45		50	61	61	58	41	41	43	40	34	37	58	32
12	50	82	52	51	G	26	37	63	77	71	92	92	78	62	59	79	114	150	60	44	59		49	56
13	47	40	32	47	G		58			94	53	61	71	62	73		53	40	30	35	32	36	33	48
14	29	40	50	43	29	26	37	57	60	49	78	61	74	72	78	81	91	80	55	68	114	94	57	27
15	70	58	71	58	60	60	55	43	55	64		94	148	92	85	87	62	56	55	60	40	39	40	59
16	27	34	49	40	30	27	39	34	51	G	52	G		52	64	71	86	97	84	43	41	34	60	80
17	65	29	25	G	G	G	37	47	95	72	57	65	110	62	52	75	86	83		124	108	40	30	34
18	28	31	36	36	36	31	61	94	107	87	109	140	92		G	G	G	40	38	42	72	60	105	59
19	57	84	58	57	24	27	48	54	57	62	62	136	62			G	37	78	71	92	94	83	57	70
20	58	60	30	52	29	29	45	62	57	91	60	59	70	53	52	60	37	37	96	134	71	81	54	29
21	37	30	33	27	24	28	36	42	65	72	G		45	G	G	G	G	G	36	24	32	40	36	39
22	49	31	G	G	G	28	37	48	G	47		G		G	G	46	50	115	39	46	57	59	55	82
23	50	47	44	28	33	72	80	68	68	55	77	60	71		69	62	104	39	92	48	G	G	24	40
24	24	69	30	47	60	37	66	71	63	73	69	77	49	47	78	83	39	48	34	60	54	54	23	29
25	28	29	39	33	28	29	34	53	68	59		62	74	54	125		116	115	93	65	47	65	82	70
26	54	57	26	G	35	36	51	85	79	69	107	82	G	49	92		53	47	70	68	83	59	55	59
27	59	39	36	30	33	29	62	74	125	47	53	82	75	69	64	50	43	60	48	60	115	37	55	34
28	46	G	47	G	G	29	G	54	67	72	74	84	61	58	55	56	56	39	28	31	26	28	51	29
29	29	37	24	29	32	29	71	52	51	84	57	53	56		50	50	62	55	50	40	83	60	35	37
30	32	39	32	40	47	34	40	60	68	50	49	51	45	57	61	80	93	129	103	143		72	57	78
31	65	59	61	79	45	54	56	106	170		163		62	61	53	45	47	36	49	48	71	85	59	59
	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	30	31	30	30	29	27	26	29	26	30	27	30	31	30	31	29	29	30	31
MED	37	37	32	31	29	28	37	54	59	62	60	61	61	57	54	54	52	48	46	48	54	54	55	56
U Q	57	57	49	47	36	31	55	63	68	72	86	82	74	62	64	75	86	83	70	62	77	69	58	60
L Q	24	G	G	G	G	G	35	43	50	49	50	51	45	50	43	43	37	39	38	37	32	36	33	29

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HOURLY VALUES OF fmin AT Kokubunji

MAY 2007

LAT.35°42.4'N LON.139°29.3'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	17	14	14	14	14	17	13	29	30	33	33	33	30	29	18	17	15	13	13	13	14	13	13
2	14	13	14	17	13	18	18	26	29	18	45	46	47	46	30	22	41	13	13	14	14	13	13	21
3	17	20	14	13	20	15	14	14	39	47	45		30	29	29	21	17	13	14	13	14	18		17
4	18	17	20	18	13	14	13	14	17	18	30	31	46		44	43	17	14	13	13	13	13	13	14
5	14	14	14	13	15	14	18	14	14	18	31	34	20	30	44	20	17	15	14	13	13	13	14	13
6	14	13	13	13	13	15	13	14	20	21	34	34	34	34	25	28	17	18	14	14	13	13	13	14
7	13	13	13	13	14	18	13	14	17		30	33	29	34	33	17	17	13	13	14	15	13	13	13
8	13	13	13	13	13	13	17	14	18	18	25	31	30	21	28	20	15	15	13	14	13	13	13	13
9	13	13	13	17	14	20	15	15	17	20	30	28	25	28	25		15	15	14	14	14	14	13	17
10	17	14	13	14	13	13	13	14	15	18		46	46	36	36	20	14	17	14	14	17	13	14	13
11	21	21	18	15	14	18	13	13	14	21	29		37	35	33	18	17	13	14	13	14	13	13	14
12	13	13	14	13	13	17	17	13	17	30	31	33	33	33	33	20	18	15	14	13	13	13	13	13
13	13	13	14	13	14		15			29	33	36	34	33	33	20	15	14	13	14	14	13	14	13
14	14	14	13	13	13	15	14	13	17	34	29	31	33	33	33	18	18	14	14	14	15	13	14	14
15	13	14	13	13	13	13	13	14	21	17	30	23	33	34	22	18	15	15	14	14	14	14	13	17
16	14	14	13	13	15	13	13	18	17	28	30	29		42	33	30	28	14	14	13	13	17	13	13
17	14	14	14	21	18	17	15	17	18	22	30	31	29	28	25	20	13	14		13	14	13	20	13
18	17	13	13	13	13	13	14	14	18	33	36	31	34	47	45	42	17	14	15	13	13	13	13	13
19	13	13	13	13	13	15	13	17	18	20	28	33	38			20	28	14	13	17	14	13	14	13
20	13	13	13	13	13	13	18	15	21	31	31	33	30	21	20	22	21	13	13	13	13	13	13	14
21	13	14	13	14	14	14	13	13	21	17	47		30	45	45	23	17	14	13	14	14	14	13	13
22	13	13	13	13	15	14	20	13	18	28		45		45	21	18	15	14	13	13	13	13	13	14
23	13	13	14	14	13	15	14	13	17	31	33	34	35		28	28	21	13	14	13	18	15	14	13
24	14	13	15	13	45	13	17	13	17	21	34	39	31	28	30	28	18	13	17	14	13	13	14	13
25	14	13	14	13	13	14	18	14	14	30		34	33	30	31	25	17	14	13	13	13	13	14	13
26	13	13	13	13	13	13	14	14	14	28	29	33	29	28	22	18	18	21	14	14	13	14	13	15
27	14	13	14	14	13	13	15	15	20	31	31	31	28	29	25	23	17	15	15	14	15	13	14	13
28	13	17	14	14	14	13	13	15	29	30	31	35	34	33	31	20	18	14	14	14	14	14	15	13
29	14	13	13	13	13	14	13	18	20	21	30	30	33		34	31	17	17	13	14	14	14	14	13
30	14	13	13	13	14	13	20	17	22	30	21	31	33	31	29	31	14	13	14	13	13	13	13	13
31	13	13	13	13	13	14	14	18	18	22	29	30	30	36	34	31	18	20	13	13	14	15	14	13
	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	30	31	30	30	30	28	28	29	27	30	30	31	31	30	31	31	31	30	31
MED	14	13	13	13	13	14	14	14	18	25	30	33	33	33	30	20	17	14	14	14	14	13	13	13
U Q	14	14	14	14	14	15	17	15	21	30	33	34	34	36	33	28	18	15	14	14	14	14	14	14
L Q	13	13	13	13	13	13	13	13	17	20	29	31	30	29	25	20	15	13	13	13	13	13	13	13

HOURLY VALUES OF foF2 AT Yamagawa

MAY 2007

LAT.31°12.1'N LON.130°37.1'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	40	42	32	32	32	50	60	51	61	65	81	88	95	98	90	82	76	70	73	78	A	26	34
2	34		32	32			48	52	56	55	57	72	81	74	74	82	84	A	A	84	A	42	38	39
3	41	A	28	28	32	30	50	A	54	64	68	67	71	71	65	68	78	78		110	83	A	A	34
4	34	36	34	34	29	29	50	62	57	62	A	57	55		61	67	77	71	68	A	74	A		37
5	38	38	37	39	37		46	56	68	A	A	A	A	A	67	75	73	76	A	A	76	65	A	42
6	A	A	A	A	A	A	48	58	A	A	A	A	A	A	58	65	72	75	76	74	76	51	A	A
7	42	42	37	40	25	25	45	57	50	57	A	A	A	62	66	81	90	82	80	A	52	51		A
8	A	A	A	A	A	41	42	47	A	A	A	A	A	82		93	91	80	66	61	A	54	52	64
9	53	A	54	54	43	37	40	52	61		A		67	82	85	78	76	67	57	56	60	A	48	A
10		A	40	38	34	34	47	51	62			52	61	58	58	65	64	63	57	58	55	64	A	A
11	A	38	34	34	32	34	47	65	57	58	A		61	60		62	68	A	A	77	78	50	A	A
12	A	30	28	28	A		51	66	61	A	A	A	A	77	72	63	74	74	63	62	A	71	71	52
13	34		30	30	28	30		55	A	57			A	A	72	85	88	90	87	86	84	A	40	A
14	A	36	34	A	A	29	54	64	A	52		56		62	72	80	90	97	90	82	66	54	30	A
15	A	32	A	28	26	30	53	56	51	A	A	A	A	57	61	76	90	91	77	80	78	54		A
16	41	A	A	34	A	35	56		A	A	A	A		58	71	77	A	A	A	A	A	51	A	A
17	42	42	A	41	29	31	52	A	A	A	A	A	64	68	64	62	76	78	86	84	A	51	A	46
18	46	48	47	40	36	35	52	70	A	A	A	A	A	85	77	81	82	71	61	A	A	86	A	A
19	A	A	A	A	A	39	54	52	A	A	A	A	58	58	60	A	64	A	A	A	55	54	51	48
20	A	A	A	A	A	36	46	A	A	A	A	A	A	A	78	74	72		50	A	A	A	A	A
21	A	41	36	31		36	44	A	55		A	A		85	A	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	A	A	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	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	11	14	16	12	17	20	16	12	8	3	6	9	16	18	19	19	15	14	13	13	14	8	9
MED	41	38	35	34	32	34	49	56	56	58	65	62	64	70	69	76	77	76	69	77	76	54	44	42
U Q	42	42	40	39	35	36	52	63	61	61	68	72	76	82	74	81	88	82	80	84	78	64	51	50
L Q	34	36	32	30	28	30	46	52	52	56	57	56	59	59	61	65	72	71	61	61	57	51	34	35

HOURLY VALUES OF fEs AT Yamagawa

MAY 2007

LAT.31°12.1'N LON.130°37.1'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	26	G	G	G	G	G	32	36	40	48	49	41	G	G	59	49	G	47	44	50	60	59	G	G
2	G		G	G	G	G	28	37	40	50	48	49	47	52	54	63	79	96	96	92		27	G	45
3	38	54	33	28	G	G	39	61	51	42	54	46	41	44	54	50	57	60		87	59	50	71	54
4	32	G	G	G	G	G	28	43	53	58	61	51	41	G	G	43	48	54	60	72	78	58	58	34
5	36	G	G	G	G	22		41	54	63	79	75	74	85	54	52	51	59	84	84	40	44	58	48
6	60	59		69	115	79	28	49	77	96	74	67	70	79	40	61	62	G	53	51	59	51	57	58
7	58	58	40	29	G	34	30		61	56	56	114	104	46	42	G	51	72	71	109	86	51	57	79
8	92	78	49	40	48	34	36	45	65	59	72	125	80	78		62	41	57	44	32	70	37	59	48
9	46	79	57	50	38	28	34	56	60	58	70	59	76	57	74	59	G	G	G	G	G	59	55	49
10	46	43	37	29	28	G	31	44	54	52	48	43	44	G	40	G	42	44	61	52	51		71	87
11	90	26	25	G	G	G	32	43	54	51	67	54	53	48	51	51	67	72	72	32	32	35	33	40
12	58	26	48	G	68	60	35	45		60	64	68	101	G	50	45	42	44	34	56	90	59	59	50
13	34	32	G	G	24	G		56	61	45	48	G	84	65	61	58	70	64	52	39	55	43	33	59
14	49	32	35	50	71	36	43	40	56	61	62	57	49	55	51	58	82	56	53	36	54	23	29	37
15	34	33	43	44	34	G	46	39	44	53	48	52	62	51	49	48	44	40	72	40	43	33	30	47
16	39	85	48	33	60	59	46	57	114	128	66	53	G	61	49	74	113	102	116	91	113	60	59	82
17	47	29	58	40	G	G	33	57	79	92	74	76	64	55	G	G	57	65	62	79	85	50	71	60
18	G	G	G	G	G	32	50	52	79	73	109	129	118	79	49	G	44	48	58	76	110	91	70	82
19	60	86	70	72	60	33	38	42	61	65	83	114	41	56	52	72	55	74	78	60	54	59	43	70
20	55	56	50	60	38	26	34	71	86	84	96	146	117	82	49	46	60	69	50	70	80	59		
21	92	G	40	34	49	29	32	54	52	62	69	74	99	65	80	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	52	62	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	21	20	20	21	21	21	19	20	20	21	21	22	22	21	20	20	20	20	19	20	19	19	19	19
MED	46	32	38	29	28	26	34	45	58	59	66	58	63	55	50	50	53	58	60	58	59	51	57	50
U Q	59	58	48	47	54	34	39	56	71	69	74	76	84	71	54	60	64	70	72	81	85	59	59	70
L Q	34	13	G	G	G	G	31	41	52	51	51	51	44	45	45	44	43	45	50	39	51	37	33	45

HOURLY VALUES OF fmin AT Yamagawa

MAY 2007

LAT.31°12.1'N LON.130°37.1'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	18	24	28	29	27	22	20	21	15	14	14	14	14	18	21
2	14		14	16	18	14	14	15	14	17	23	24	30	34	24	22	17	14	16	14	14	15	15	14
3	14	14	14	14	14	14	14	15	16	33	29	24	30	35	28	20	16	16		14	15	14	14	15
4	16	14	14	14	14	14	14	14	14	17	18	20	21	47	46	30	16	14	14	16	15	14	15	14
5	14	15	14	14	14	14	14	15	17	17	18	29	27	26	20	18	18	16	14	15	14	14	15	14
6	14	14	15	14	14	14	14	14	15	18	18	29	20	21	18	18	17	14	14	14	14	14	14	14
7	14	14	14	14	14	14	14	14	14	17	20	24	26	28	27	18	17	15	14	15	15	14	14	14
8	14	14	14	14	14	14	15	14	17	20	18	24	23	20		18	18	16	14	14	14	14	14	14
9	14	14	14	14	14	14	15	14	16	20	27	27	32	24	21	20	18	15	23	16	16	14	14	14
10	14	14	14	14	17	14	14	14	16	17	15	18	24	22	24	17	20	14	16	14	14	14	14	15
11	14	14	14	14	14	14	14	14	14	17	24	18	23	23	21	20	17	15	14	14	14	14	15	14
12	14	14	14	14	14	14	14	14	16	15	22	32	22	48	33	21	17	14	14	14	14	14	15	14
13	14	14	16	15	15	16		14	17	16	21	18	24	16	33	22	17	14	14	14	15	14	14	14
14	14	15	14	14	14	14	14	14	16	17	24	30	23	30	32	22	17	14	15	14	15	15	14	15
15	14	14	14	14	14	15	14	14	17	20	18	29	32	23	20	18	21	14	14	14	14	14	14	14
16	14	14	14	14	14	14	14	14	14	18	22	22	28	30	26	21	17	14	14	14	14	14	15	14
17	14	14	14	14	18	14	14	14	14	20	21	29	29	26	27	18	20	15	15	14	14	14	14	14
18	14	14	14	15	14	14	14	14	14	18	18	24	29	27	26	18	18	14	15	14	14	14	15	14
19	14	14	14	14	14	15	14	14	16	21	18	32	45	24	22	20	20	18	14	14	14	14	14	14
20	14	14	14	14	14	14	15	14	16	17	23	30	28	23	20	21	18	14	14	14	14	14	14	14
21	14	14	15	14	14	14	14	14	15	18	20	23	27	28	26	C	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	27	23	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	21	20	21	21	21	21	20	21	21	21	21	22	22	21	20	20	20	20	19	20	20	20	20	20
MED	14	14	14	14	14	14	14	14	16	18	21	26	27	26	25	20	18	14	14	14	14	14	14	14
U Q	14	14	14	14	14	14	14	14	16	20	23	29	29	30	27	21	19	15	15	14	15	14	15	14
L Q	14	14	14	14	14	14	14	14	14	17	18	23	23	23	21	18	17	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Okinawa

MAY 2007

LAT.26°40.5'N LON.128°09.2'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

HD	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	42	42	47		26		45	56	56	66	77	88	110	128	143	145	131	121	122	99	86	A	A	A
2	A			29			44	59		56	65	82	86	96	96	100	105	116	126	105	54	A	A	A
3	A	A	31	30	26		45	A	A	62	74	84	84	85	80	84	104	106	98	126	A	A	A	A
4	A	A		40	28	29	45	63		57	A	57	74	72	86	90	A	A	A	A	78	54	A	A
5	A	29	28	28	A		41	69	A	57	A		76	88	102	100	A	A		A	79		A	A
6	A	A	A	A	A	A	42	57	A	A		A	72	77	79	80	82	82	85	A	82	47	A	
7		28	49	A	A	A	38	50	59	A	A	A	66	76	84	90	98	106	A	A	61	52	A	
8	A	A	A	A	A	A	31	47	54	A	A	A		98	108	122	114	101	86	70	61	52	44	44
9	A	44	45	48	30	A	A	A	56	A	65	A	A		101	100	102	94	86	77	64	53	44	A
10	42		36	34	31	30	42	57	53	51			60	63	64	75	80	72	A	A	63	54	34	A
11	34	A	A	A	A	29	38	60	58	A	A	A	A	64	68	74	82	86	85		66	44	31	
12	A	A	28				47	65	52	A			71	86	89	90	88	90	80	76	79	64	A	A
13	A	36	A	30	31		45	57	57					74	81	87	100	104	88	102	84	52	A	A
14			30	A		29	46	60	50	53	A	60	A	74	80	88	107	112	96	88	88		A	
15			28			A		50	51	A		A			70	80	90	94	97	102	84	A	44	37
16	35	34	A	30	30	A	37	53	56	A	A	A	A	73	78	84	86	88	100	100	A	A	A	A
17		37		A	33		43	58	A	A		A	A	78	78	81	88	101	102	88	62	50	A	A
18	A	A	A	A	36	38	54	57	52	A	A	71	78	83	87	88	101	87	82	80	87	A	A	A
19	A	A	A	A	29		50	A	A	A	A	77	84	90	88	87	87	82	A	A	A	A	A	A
20	A	A	A	A		26	A	A	A	A	A	A	A	96	107	108	108	102	82	72	A	A	A	A
21	A	A	47	A			42	51	A		A	A	A	98		101	105	79	83	78	73	65	A	A
22	A	A	A	A	A	A	45	A	A		A	A	A	80	87	78	60		58	62	65	A	A	
23	A		29	32	29	A	A	A	A	A	A	A	A		A		66	57	55	49	60	63	A	A
24	A	50	50	41	A	A	A	A	A	A	A	A	A			58	60	61	55	A	A	A	A	A
25	A		A	A	A	A	A		47	A	A	A		A	A	78	90	84	71	71	66	52	A	A
26	A	A		A	29	29	45	52	A	A	A		A	A	A	62	A	A	A	A	A	A	47	A
27	47		44	32		30	44	54	A	A	A	A	A	A	A	A	85	88	A	A	A	A	A	A
28	A	A	A	A	A	A	46	50	A	A	A	A	A	A	81	A	98	104	106	80	58	41	A	42
29	A	A	A	A			37	58	64	A	A					77	75	A	A	A	A	61	A	
30	A	A		A	A		45	58	A		A	A	A	A	A	A	96	91	A	72	86		A	47
31	45	44	45	32	A	A		71	A	A	A			69	77	83	97	100	82	76	71	54	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	6	9	14	12	12	8	24	23	14	7	4	7	11	21	23	27	28	26	22	20	23	16	6	4
MED	42	37	40	32	30	29	44	57	55	57	70	77	76	80	84	87	93	92	86	79	71	52	44	43
U Q	45	44	47	37	31	30	45	60	57	62	75	84	84	93	96	100	103	104	98	99	84	57	44	45
L Q	35	31	29	30	28	29	41	52	52	53	65	60	71	73	78	78	83	84	82	72	62	51	34	39

HOURLY VALUES OF fEs AT Okinawa

MAY 2007

LAT.26°40.5'N LON.128°09.2'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

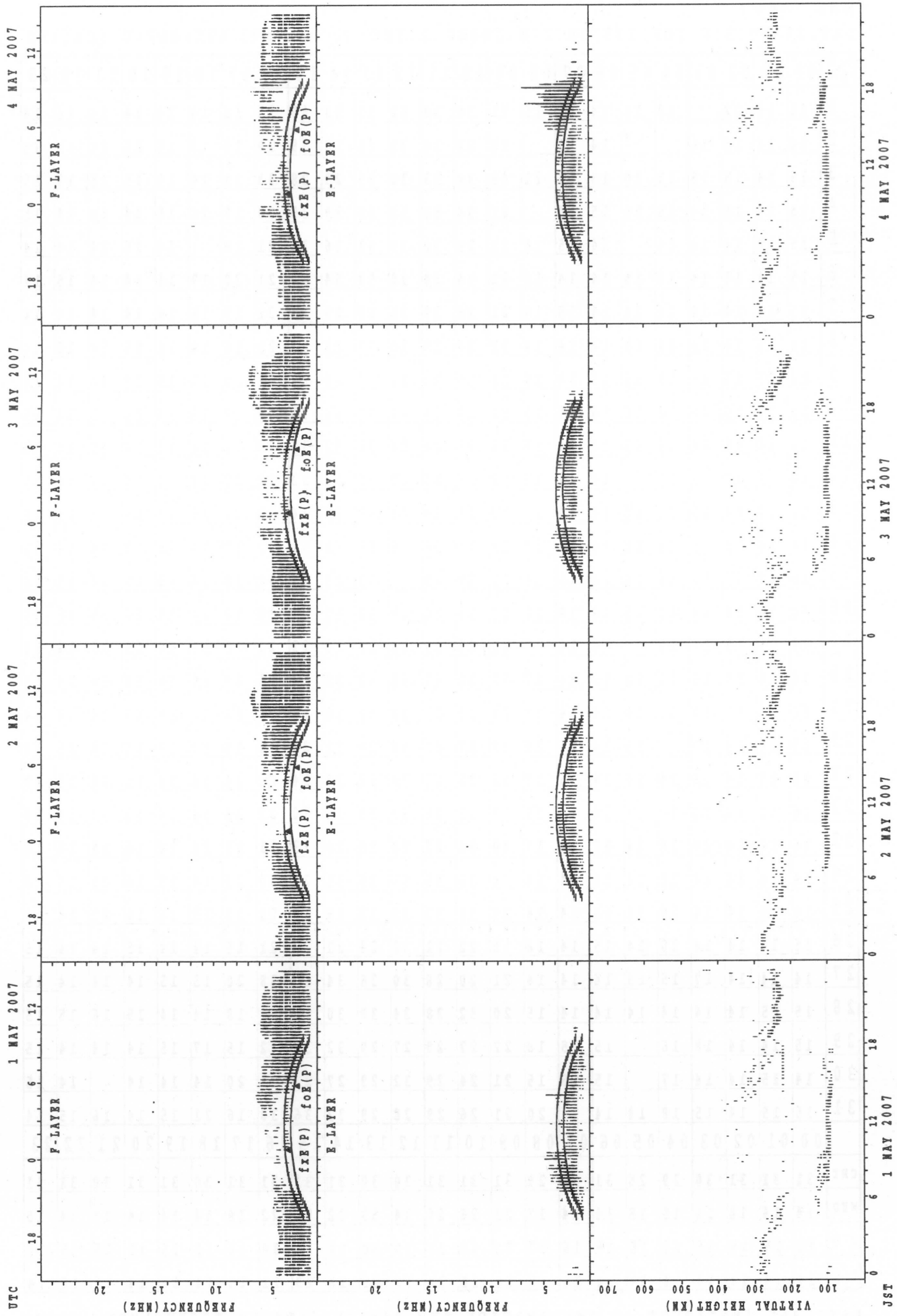
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	26	G	G		G	35	27	47	48	56	50	46	G	G	G	G	G	43	67	72	67	50	28	59
2	44	36	57	30			29	35		47	57	63	87	58	G	53	62	52	88	57	82	59	71	72
3	48	54	28	G	G	G	G	68	95	G	48	63	57	53	G	54	72	78	116	93	82	77	115	
4	48	49	35	35	24	G	27	37		51	78	80	G	46	59	74	88	108	143	94	34	39	59	70
5	39	28	G	36	36		27	36	68	56	79	59	50	46	46	82	123	156		144	116	112	93	43
6	59	56	71	58	56	66	34	40	74	71	59	78	78	G	53	41	49	44	59	95	64	54	50	36
7	35		110	81	51	36	29	41	48	65	73	68	63	G	47	54	55	79				68	54	39
8	57	49	57	49	30	32	38	40	47	102	145	144	83	67	56	71	57	42	G	42	32	29	28	G
9	58	33	37	32	28	37	60	67	60	69	61	68	90		70	89	52	65	40	32	G	G	58	59
10	50	28	50	29	G	G	G	G	43	45	46	47	G	55	G	51	41	48	113	72	53	71	32	58
11	49	59	68	69	40	32	34	41	49	78	92	88	82	G	G	42	55	65	72	68	43	33	50	29
12	58	44	G	34	G		28	38	46	54	55	50	48	58	64	82	G	42	69	43	49	36	58	70
13	48	56	38	28	G	G	G	G	36	50	46	57	50	59	55	63	65	57	60	49	51	48	49	57
14	49	33	39	41	42	29	34	40	38	49	82	56	81	54	48	G	49	34	50	28	28	29	50	29
15	32	G	34	47	25	51	45	37	44	48	48	55		51	59	G	G	G		52	55	59	33	G
16	33	31	43	49	35	29	G	35	41	79	111	134	94	62	G	55	60	65	69	72	116	93	78	70
17	39	34	36	50	49		33	51	66	93	83	103	68	56	47	58	69	84	64	50	59	71	56	59
18	50	40	59	36	27	G	G	34	45	73	62	G	G	G	G	G	G	G	49	76	103	92	90	77
19	58	71	56	56	26	27	37	72	106	108	90	65	58	56	62	58	70	52	107	94	79	90	58	66
20	40	57	70	38		G	49	68	82	150	175	102	104	91	102	98	56	G	35	77	82	70	91	91
21	79	46	57	39	25	G	35	42	65	62	70	102	87	80	106	64	76	81	76	50	39	52	81	93
22	69	91	68	71	68	66	51	67	70	68	114	98	114	86	66	53	G	50	52	64	92	71	70	48
23	54	31	29	G	G		71	87	60	91	92	165	114	79	79	72	G	G	G	34	34	70	86	50
24	82	39	50	G	78	72	71	61	86	113		84	147	56	61	50	69	50	53	83	50	57	50	50
25	39	28	51	40	36	50	59	48	66	85	136	95	72	112	92	64	54	42	40	30	34	G	70	114
26	78	72	38	39	G	34	47	40	63	81	58	42	100			63	70	132	81	135	90	67	49	82
27	34	48	34	G	25	G	34	50	74	137	112	133	139		105	92	52	79	116	160	114	110	134	56
28	55	64	70	51	36	30	28	34	56	61	60	109	79	85	87	110	92	57	50	43	29	38	58	G
29	49	70	38	50	28		36	40	48	46	57	46	48	48	G	52	61	91	94	84	114	80	71	30
30	35	49	33	39	37		35	48	64	74	68	107	148	113	113	143	79	113	122	72	60		54	44
31	34	29	28	33	63	77	40	39	58	68	57	42	G	G	G	49	46	G	37	47	57	28	37	58
	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	31	30	29	24	31	31	29	31	30	31	30	28	30	31	31	31	28	30	30	30	31	30
MED	49	45	39	39	28	31	34	40	60	68	69	68	78	56	56	58	56	52	66	70	58	59	58	58
U Q	58	56	57	50	41	43	45	51	69	85	92	102	94	73	70	74	70	79	91	84	82	71	78	70
L Q	39	31	34	32	12	G	27	37	46	51	57	55	50	46	G	50	46	42	49	47	39	38	50	39

HOURLY VALUES OF fmin AT Okinawa

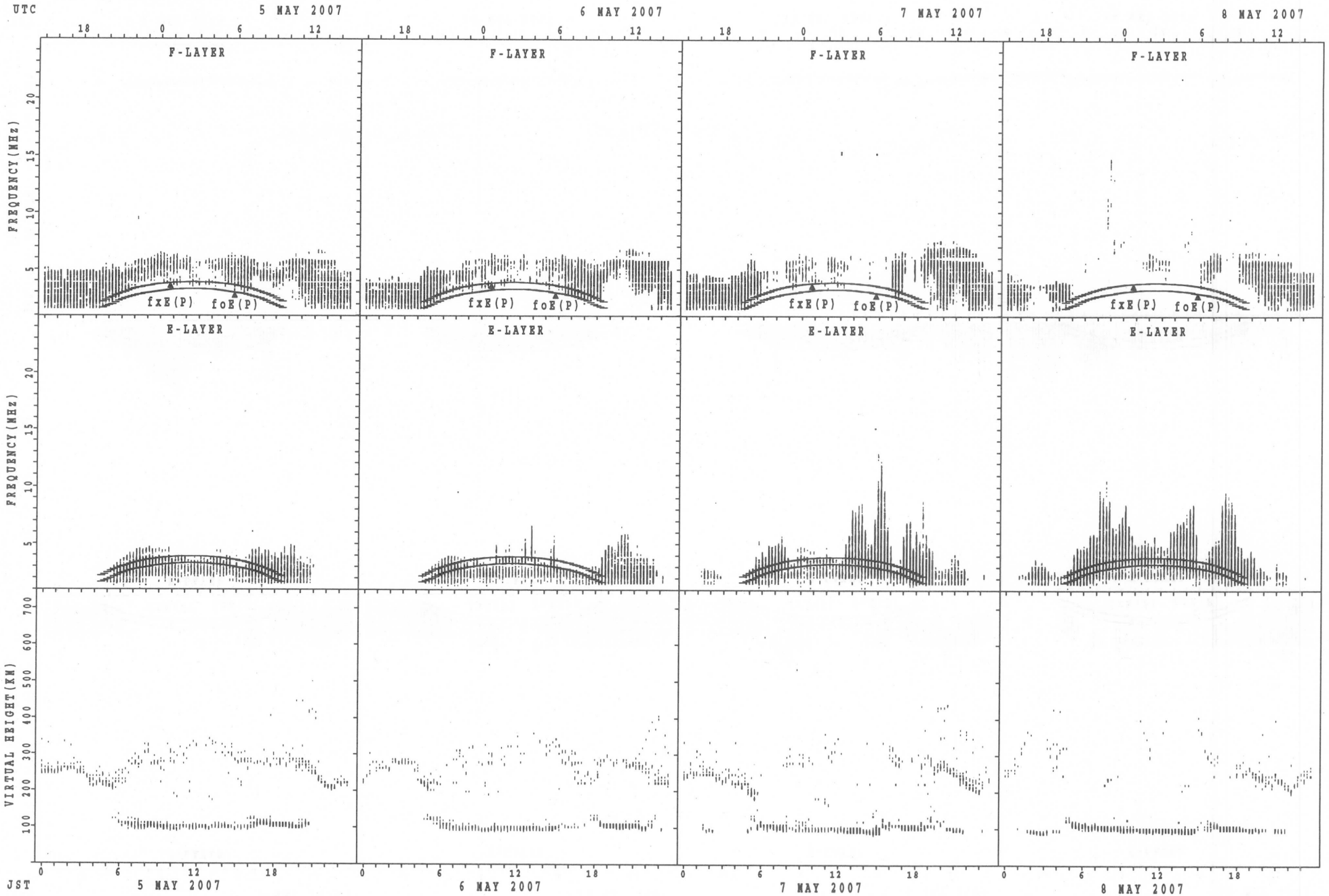
MAY 2007

LAT.26°40.5'N LON.128°09.2'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	16	22		18	15	14	15	15	21	30	30	52	53	53	49	39	18	14	14	14	15	14	14
2	14	14	15	16			14	14		22	22	30	39	40	58	38	20	14	14	15	15	15	15	15
3	15	14	15	15	15	20	18	15	21	48	30	33	36	33	29	28	33	21	14	15	15	15	15	15
4	15	14	15	14	15	15	15	14		21	34	38	52	40	39	35	30	17	16	15	14	15	14	15
5	15	14	14	14	14		14	15	16	21	29	30	39	51	36	34	21	15		14	15	14	14	14
6	15	14	14	14	15	15	14	14	15	22	34	34	30	54	54	22	21	20	17	14	14	14	15	14
7	15	15	14	14	14	14	14	15	15	21	26	27	36	50	28	24	22	17	15	14	14	14	14	14
8	14	15	14	14	14	15	14	14	14	22	24	29	30	27	28	22	21	16	14	14	15	14	15	14
9	14	15	15	15	15	18	15	14	16	21	30	30	32		26	22	17	18	15	15	21	16	14	14
10	14	16	15	14	14	16	16	14	17	21	24	34	47	33	48	35	30	27	14	14	15	15	14	15
11	14	14	14	14	14	15	14	14	17	20	26	24	24	28	52	35	30	18	14	14	14	15	14	15
12	14	14	15	14	15		14	14	17	23	34	36	40	39	35	32	20	29	14	14	14	14	14	15
13	14	14	14	15	14	14	16	14	17	20	26	30	41	30	35	34	22	23	14	14	15	15	15	16
14	14	14	14	15	14	15	16	14	17	23	24	26	35	35	39	52	22	17	14	15	14	15	14	15
15	15	17	15	15	15	14	14	15	20	21	29	29		38	23	47	30	18	14	15	17	14	15	14
16	14	14	14	14	15	15	18	14	16	22	24	28	29	30	50	24	30	18	14	15	18	15	15	15
17	14	15	15	14	15		14	14	20	21	26	29	28	28	28	23	21	16	15	14	15	15	14	15
18	14	14	15	14	14	18	15	14	17	22	32	47	50	52	28	23	21	39	14	14	14	14	14	15
19	15	15	15	14	15	14	14	14	17	21	23	30	37	40	38	23	22	18	14	14	14	14	14	14
20	15	14	14	14		15	14	16	26	22	27	30	34	29	23	22	18	15	14	14	14	14	15	14
21	15	14	14	15	14	20	14	16	17	21	28	27	33	32	28	24	23	14	14	14	15	14	15	17
22	16	14	14	14	14	14	14	14	15	17	23	26	23	33	34	30	22	15	14	14	14	14	14	15
23	14	14	14	20	18	14	17	14	17	20	24	27	29	28	28	23	21	15	14	14	16	15	14	15
24	14	14	14	14	15	14	14	14	15	18	30	35	37	35	35	23	30	21	14	15	14	15	14	14
25	14	15	14	14	14	14	14	14	14	20	18	32	33	32	29	35	21	20	15	14	14	21	14	15
26	15	14	14	14	20	14	15	14	18	18	22	21	32	24	21	23	21	15	14	14	15	14	14	15
27	14	14	14	17	15	15	14	14	14	21	20	28	30	36	34	35	38	20	15	15	14	14	14	15
28	15	15	14	14	14	14	14	14	15	20	32	28	34	30	30	18	21	18	14	14	15	16	15	15
29	15	14	14	18	16		15	15	18	22	27	29	27	29	32	35	22	15	17	15	14	14	14	15
30	14	15	14	14	17		15	15	15	21	24	29	32	29	27	23	21	20	14	14	14		14	15
31	16	15	14	15	18	14	14	14	20	21	26	29	28	29	32	36	30	16	21	15	14	16	15	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	30	29	25	31	31	29	31	31	31	30	30	31	31	31	31	30	31	31	30	31	31
MED	14	14	14	14	15	15	14	14	17	21	26	29	34	33	32	28	22	18	14	14	14	15	14	15
U Q	15	15	15	15	15	15	15	15	17	22	30	32	39	40	39	35	30	20	15	15	15	15	15	15
L Q	14	14	14	14	14	14	14	14	15	20	24	28	30	29	28	23	21	15	14	14	14	14	14	14

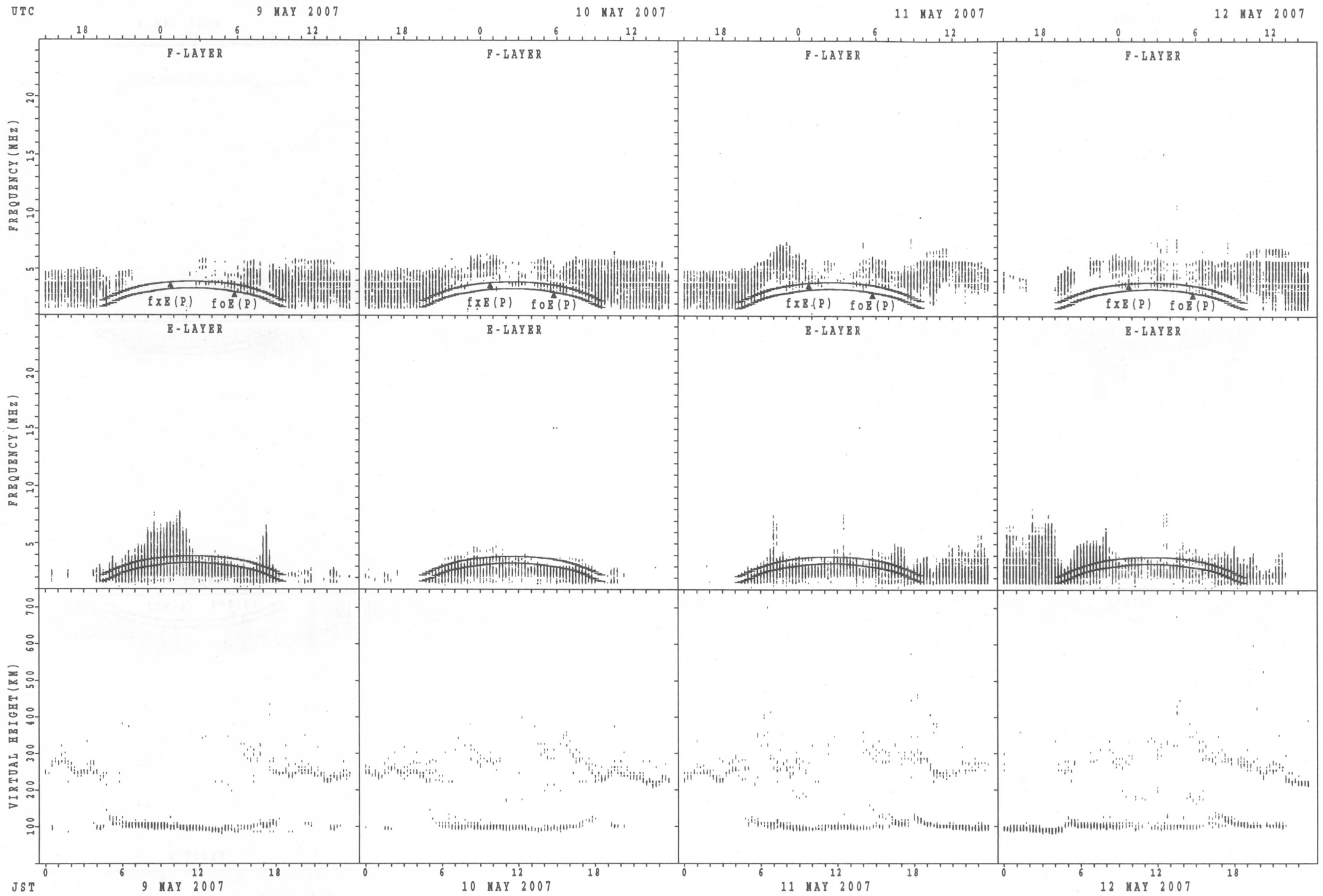

SUMMARY PLOTS AT Wakkanai
UTC
JST
1 MAY 2007
2 MAY 2007
3 MAY 2007
4 MAY 2007
F-LAYER
E-LAYER
FREQUENCY (MHz)
VIRTUAL HEIGHT (KM)
fxE(P)
foE(P)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



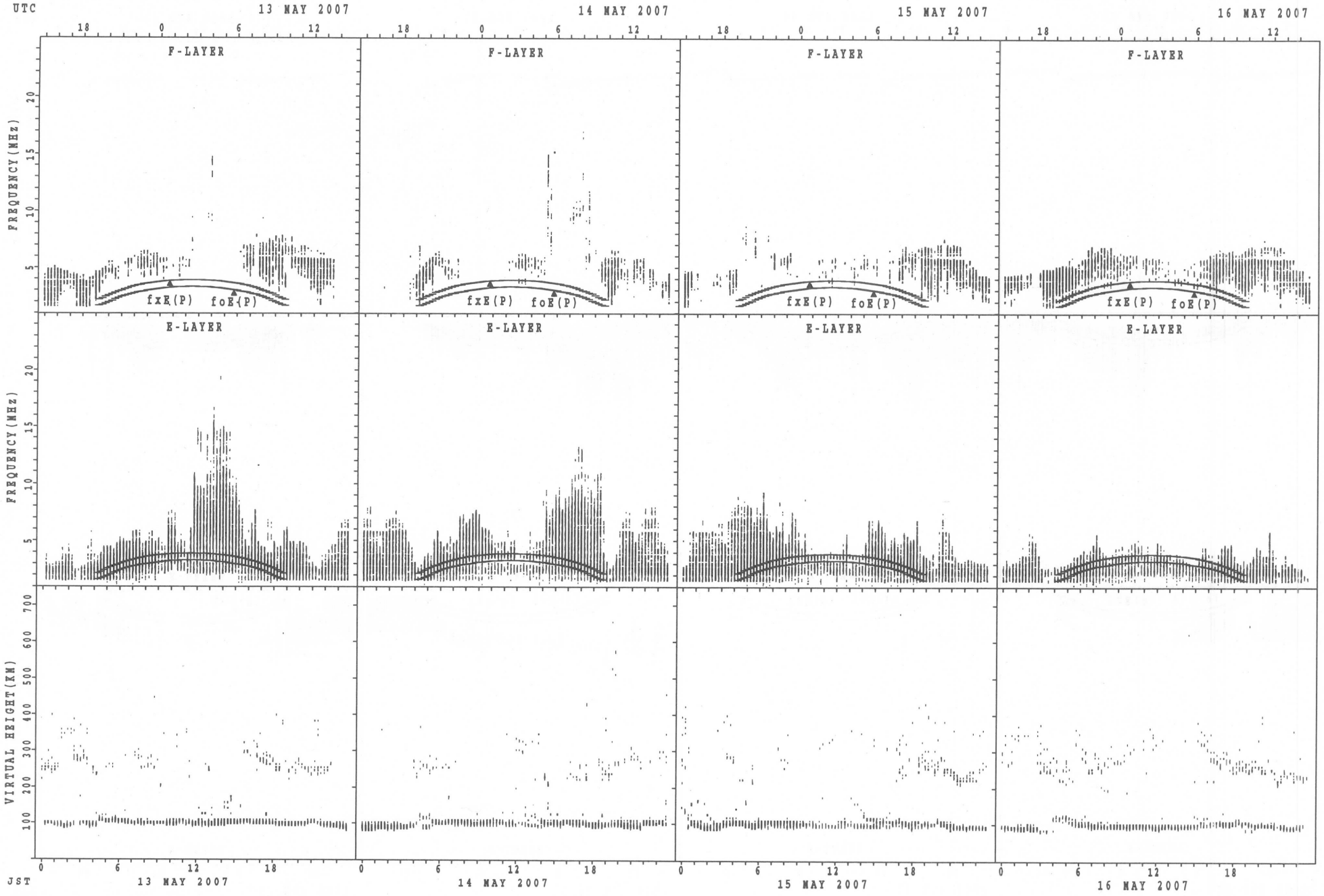
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



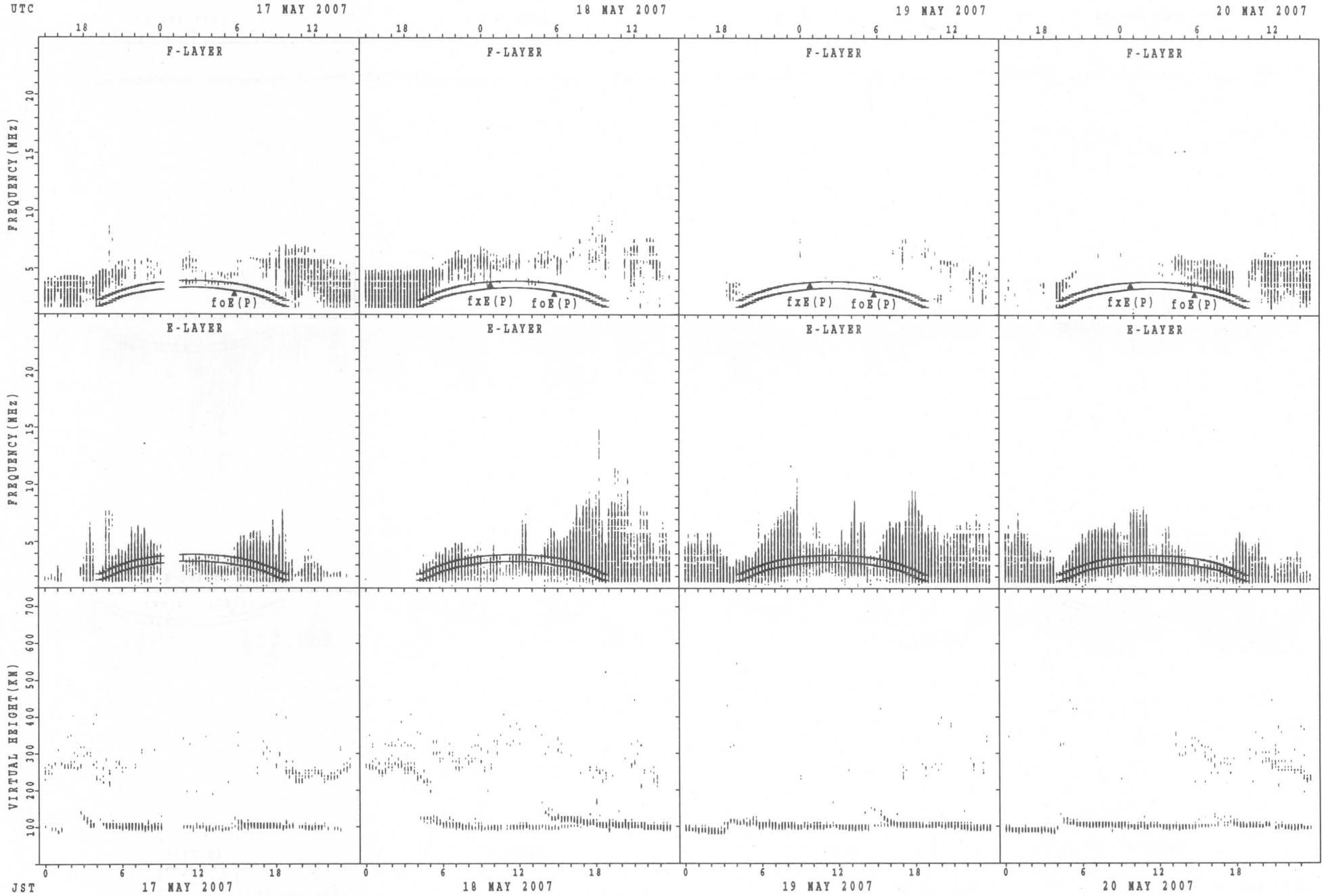
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



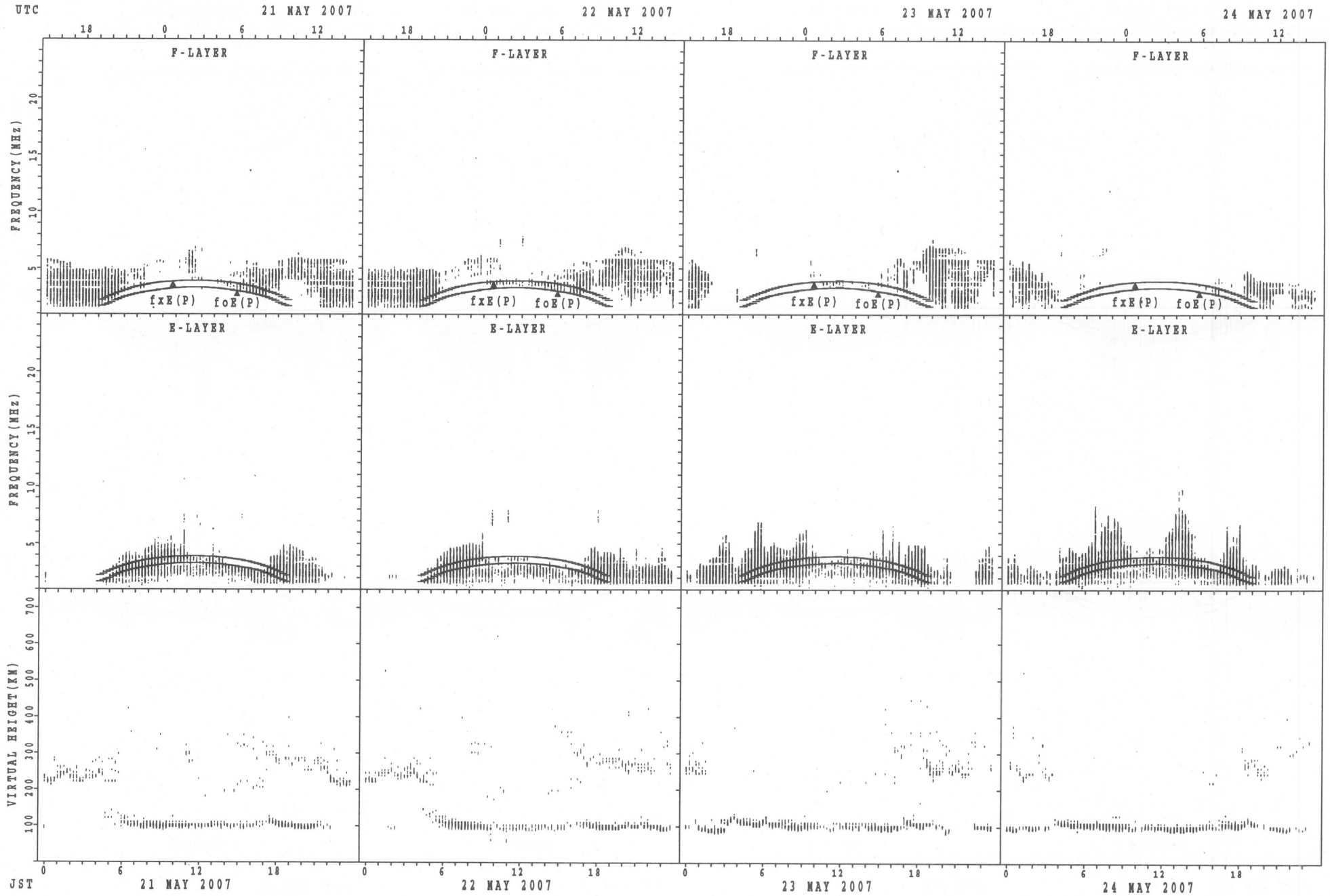
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



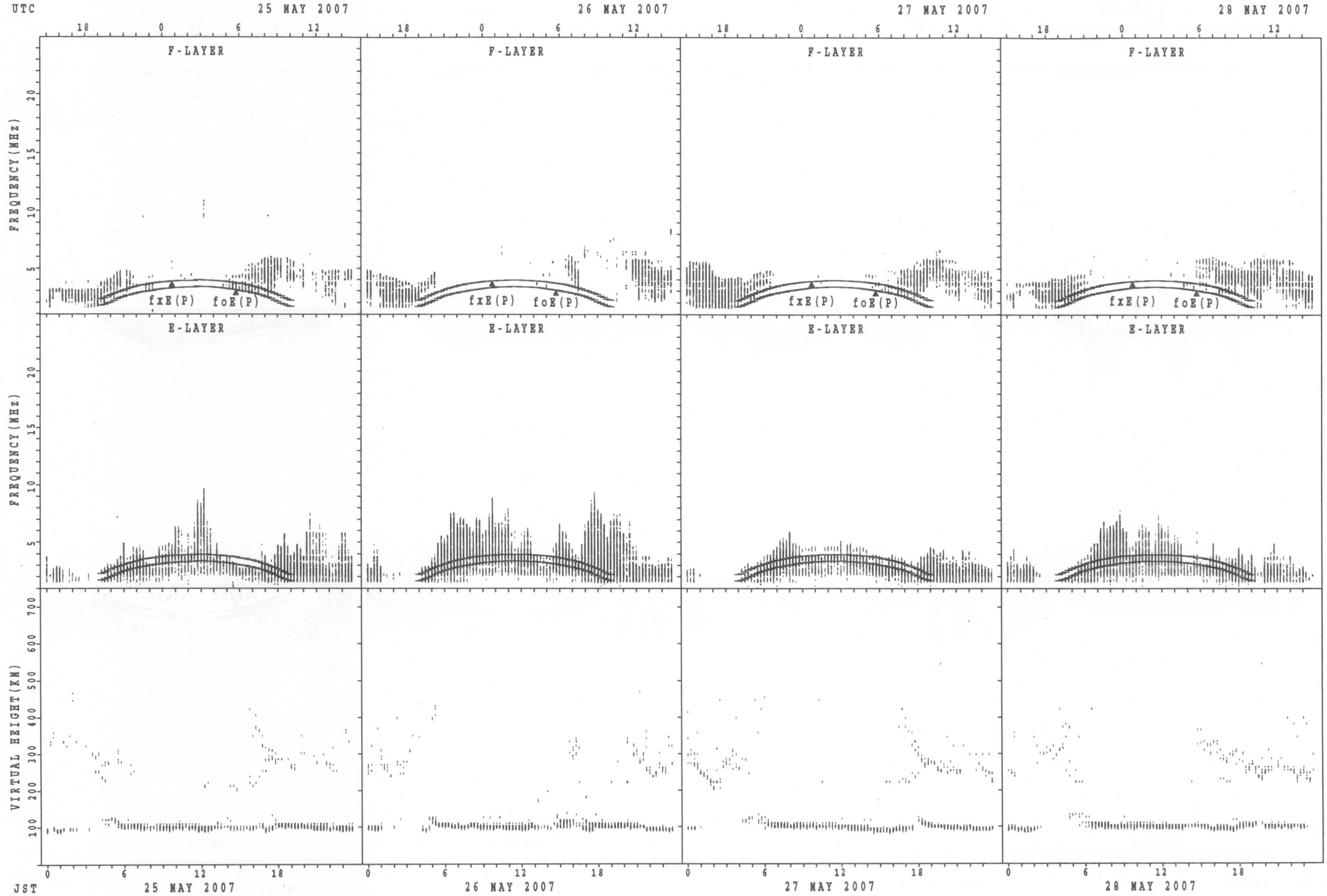
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



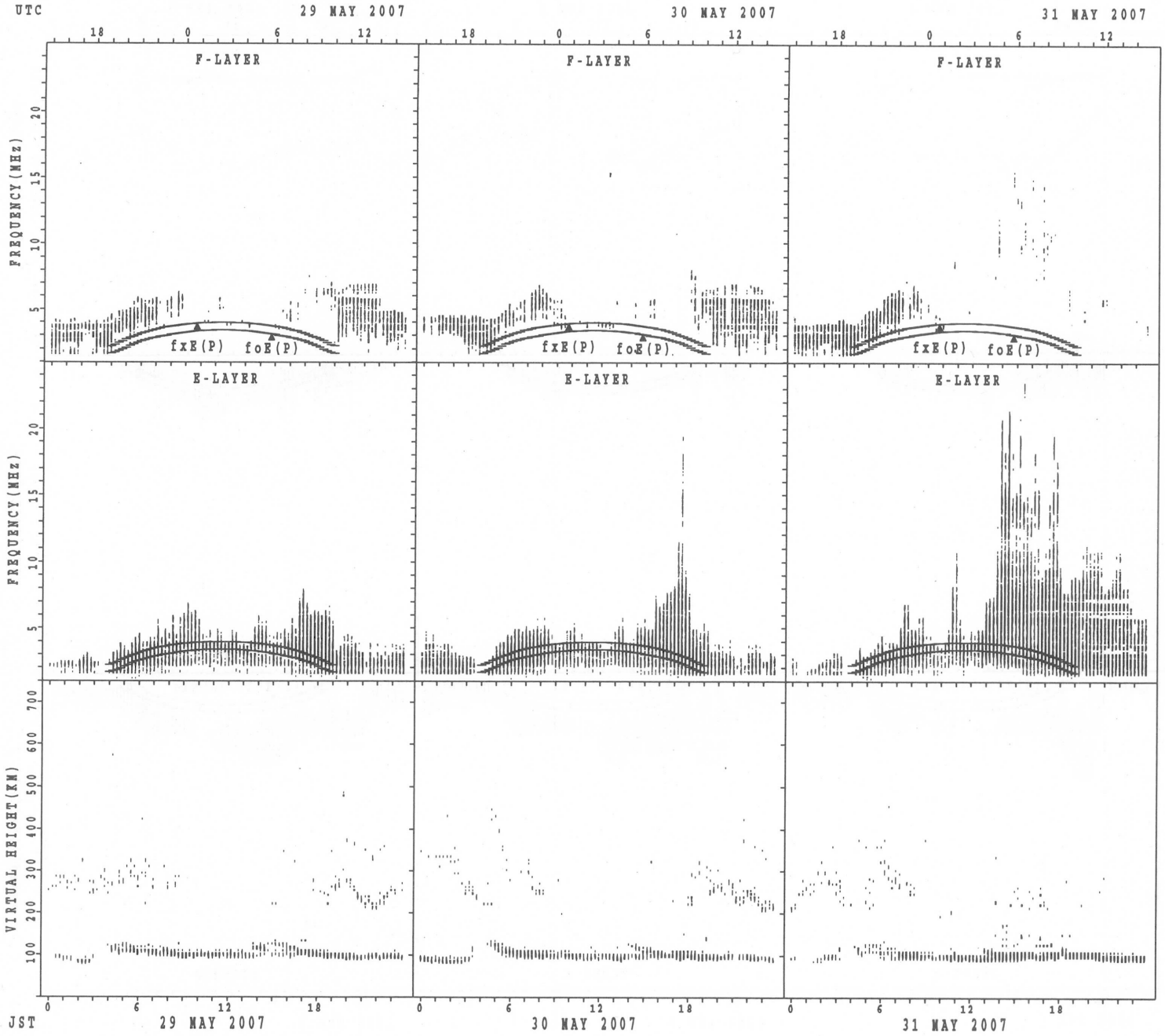
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



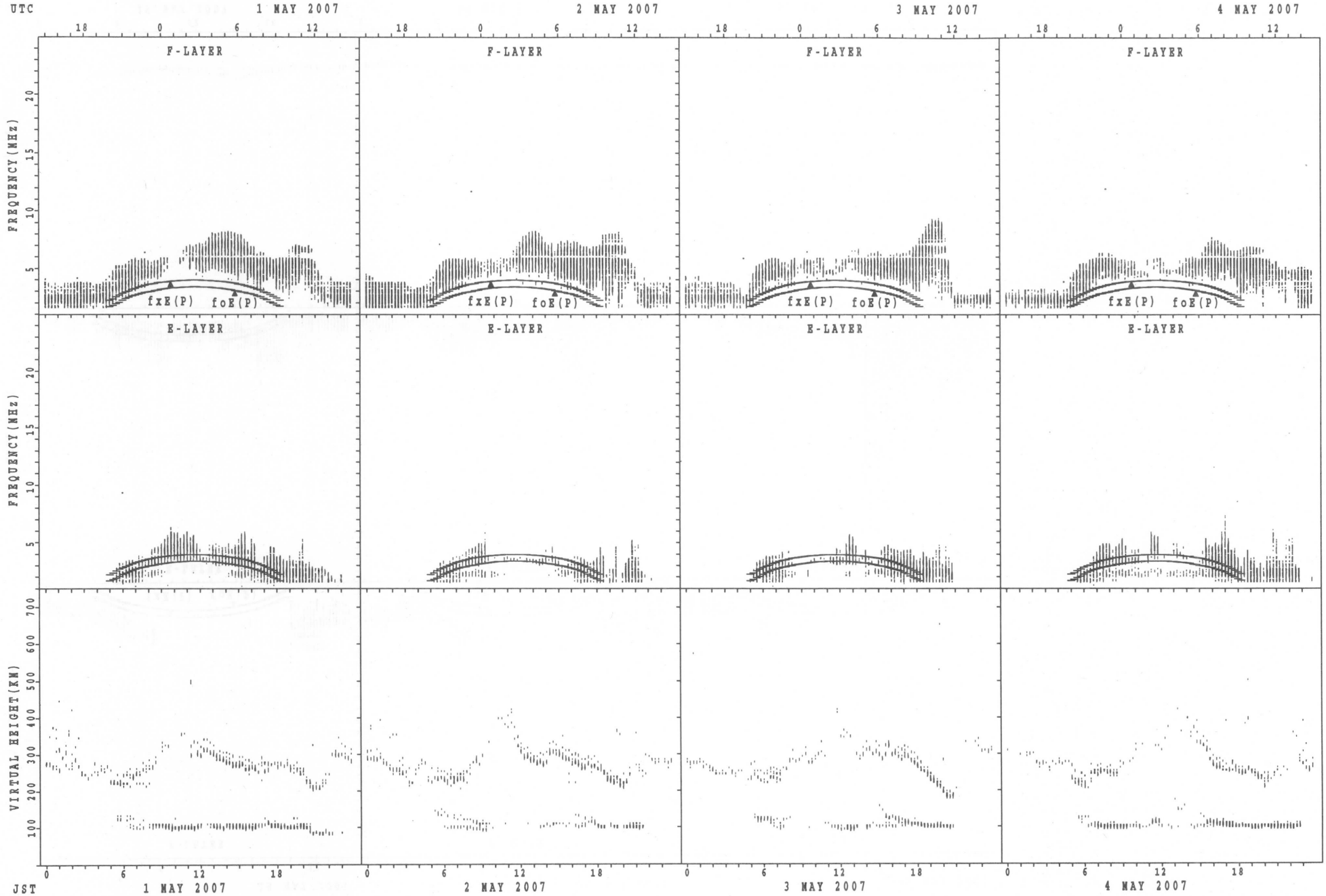
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



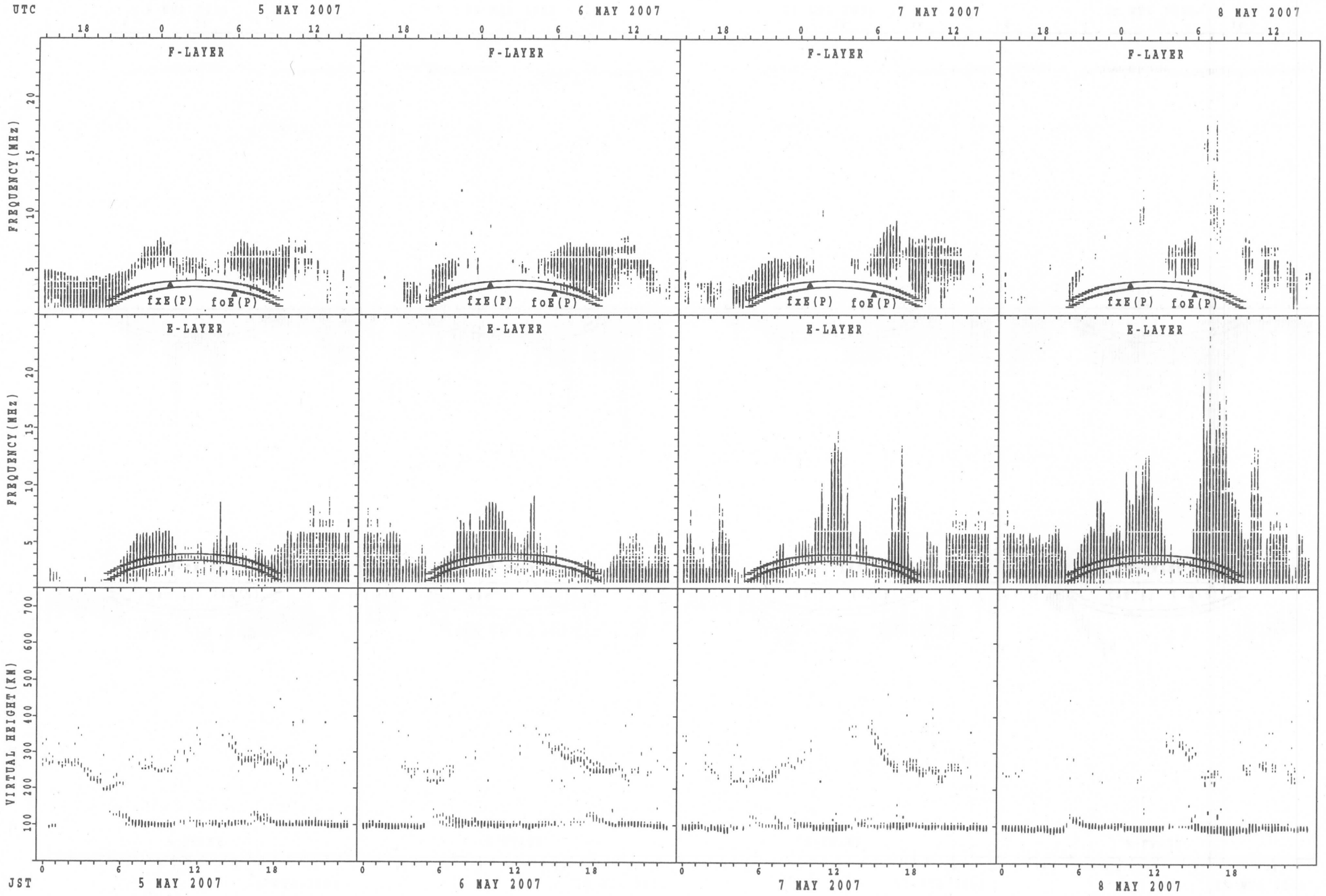
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



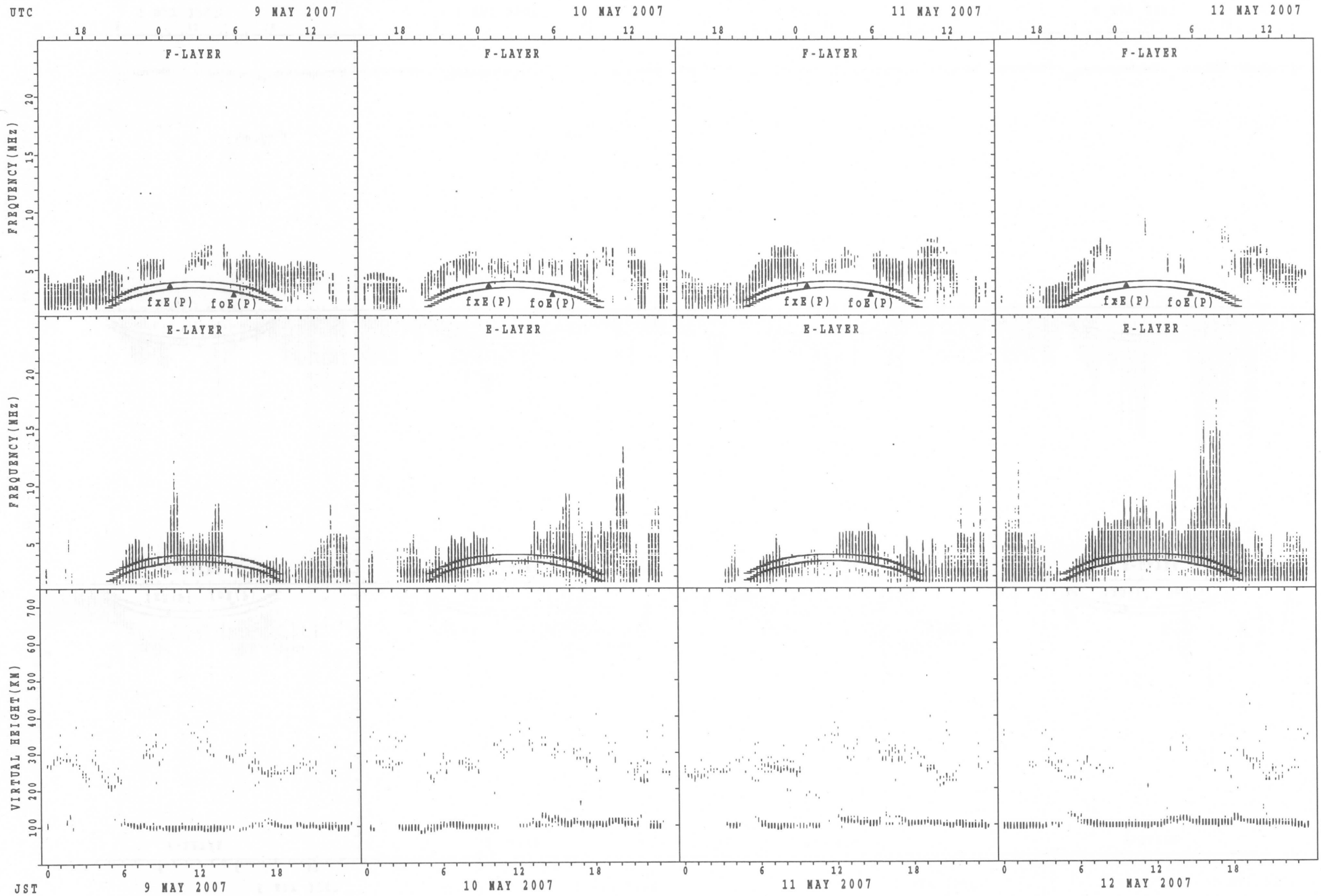
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



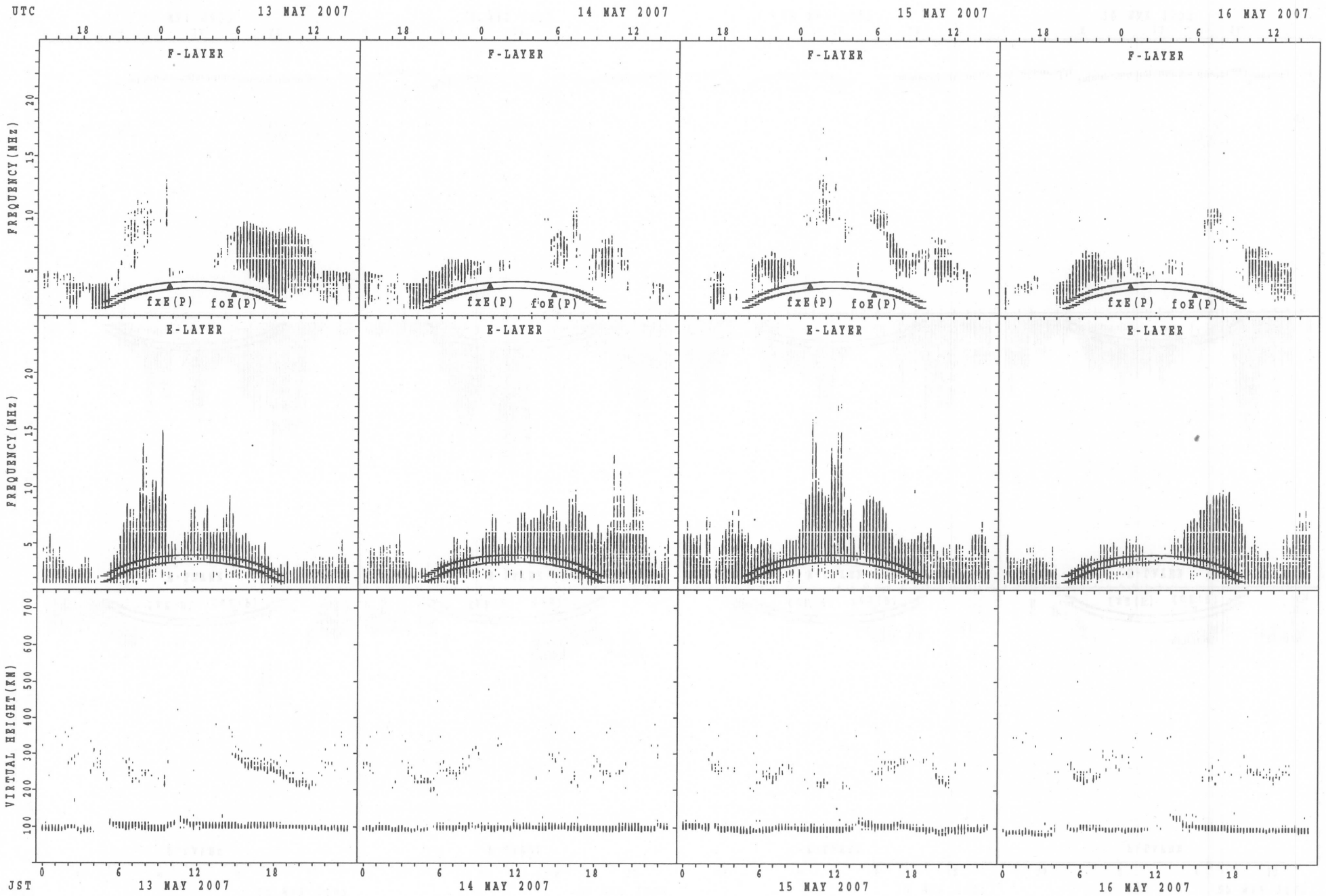
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



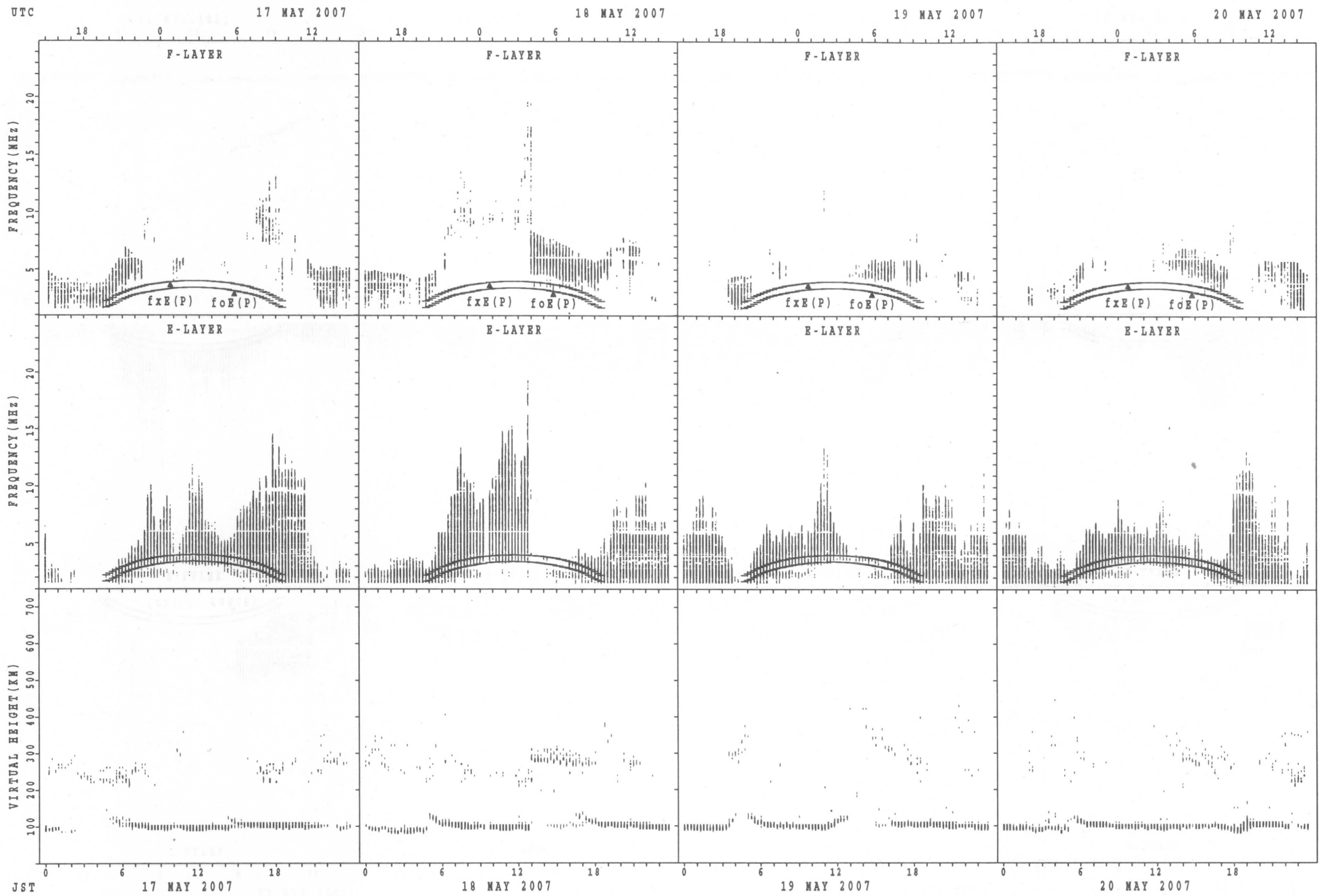
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



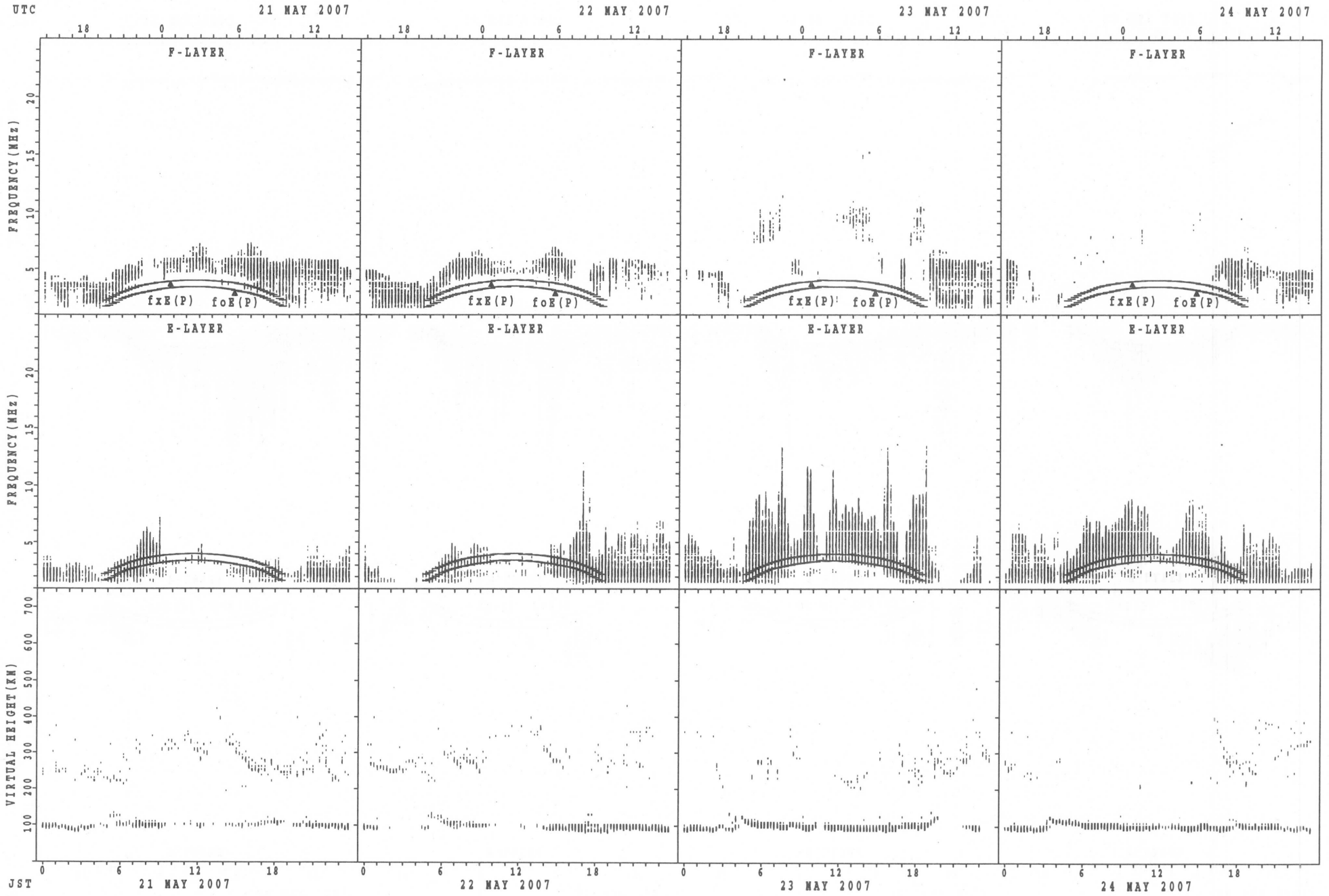
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



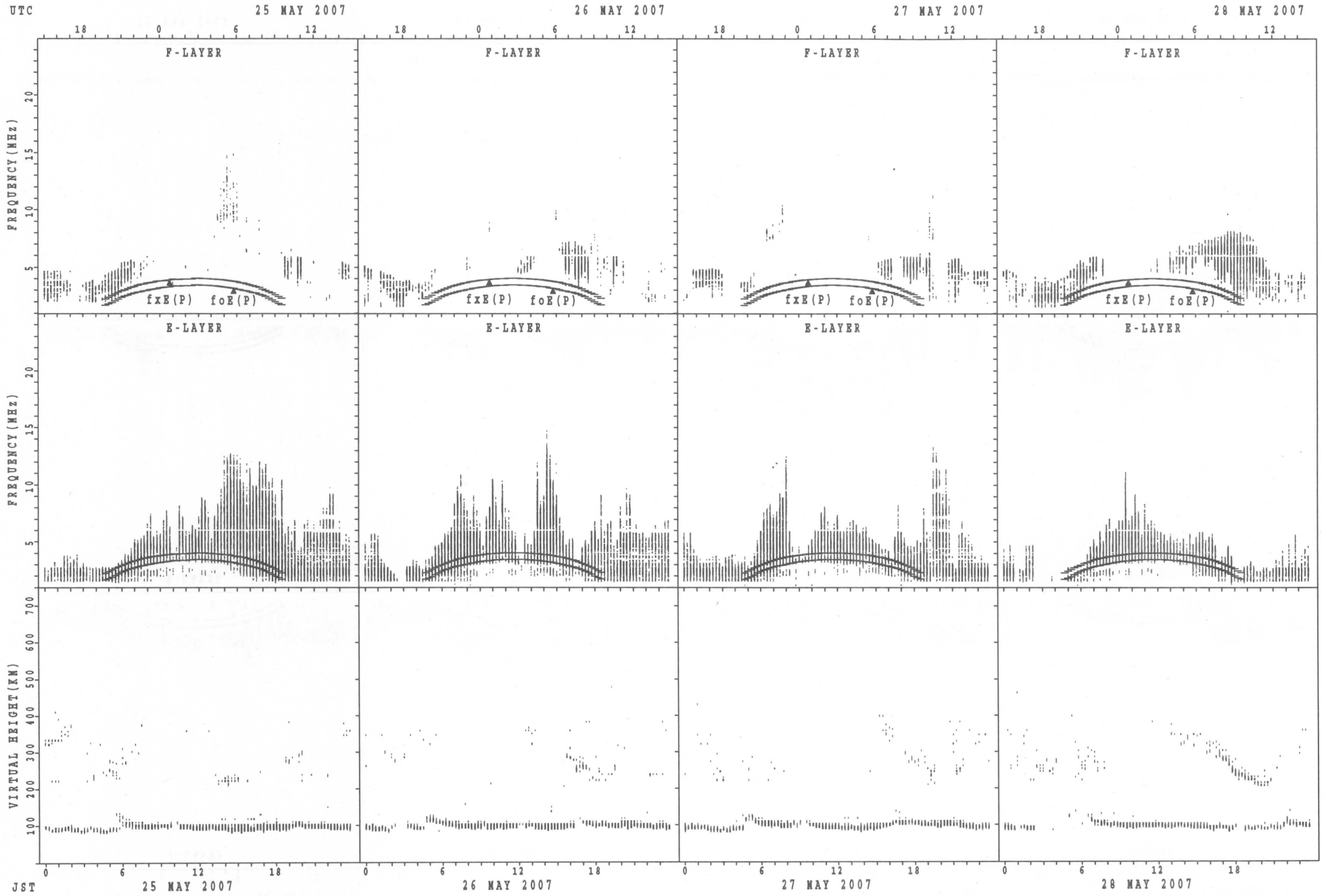
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



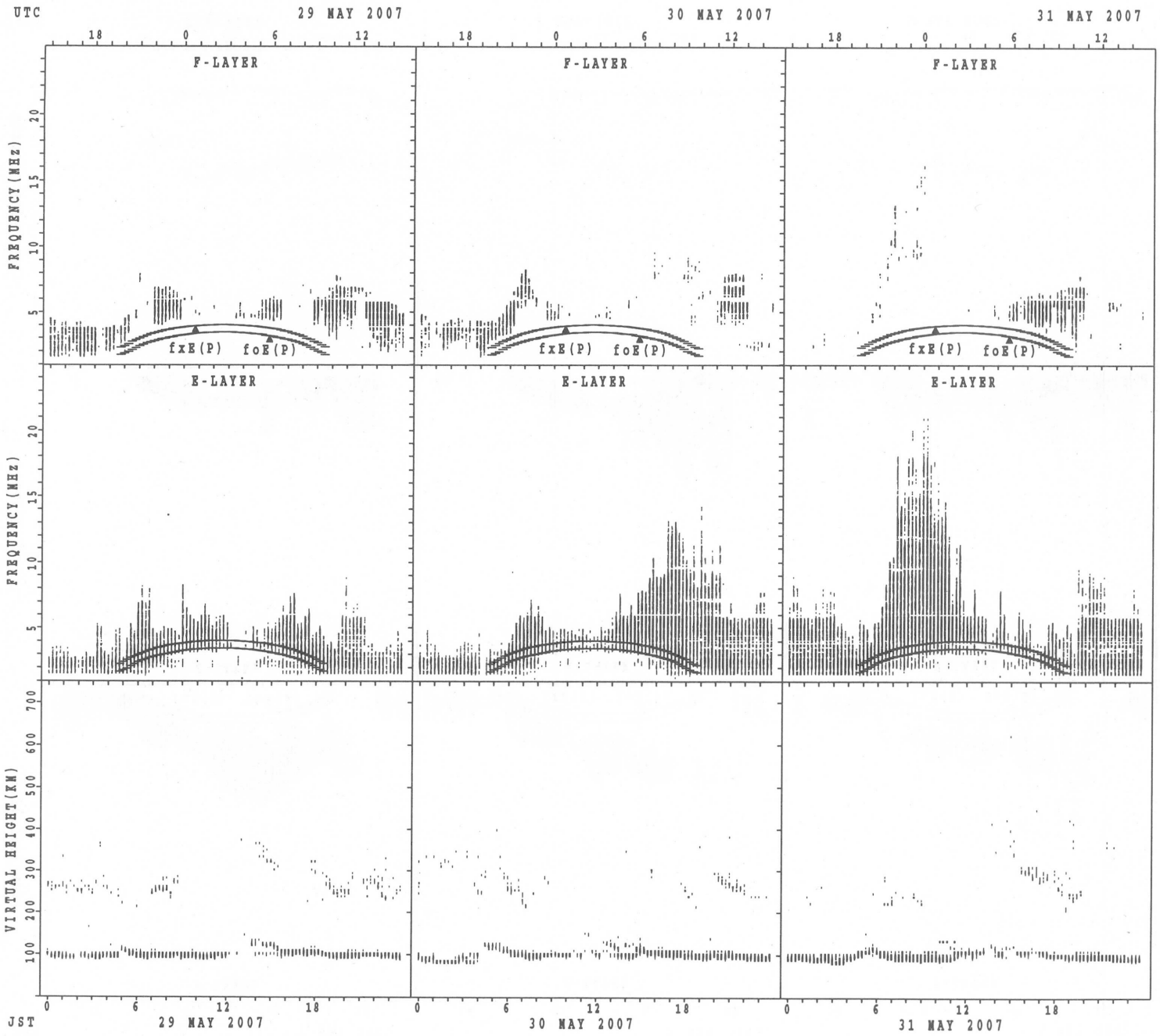
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



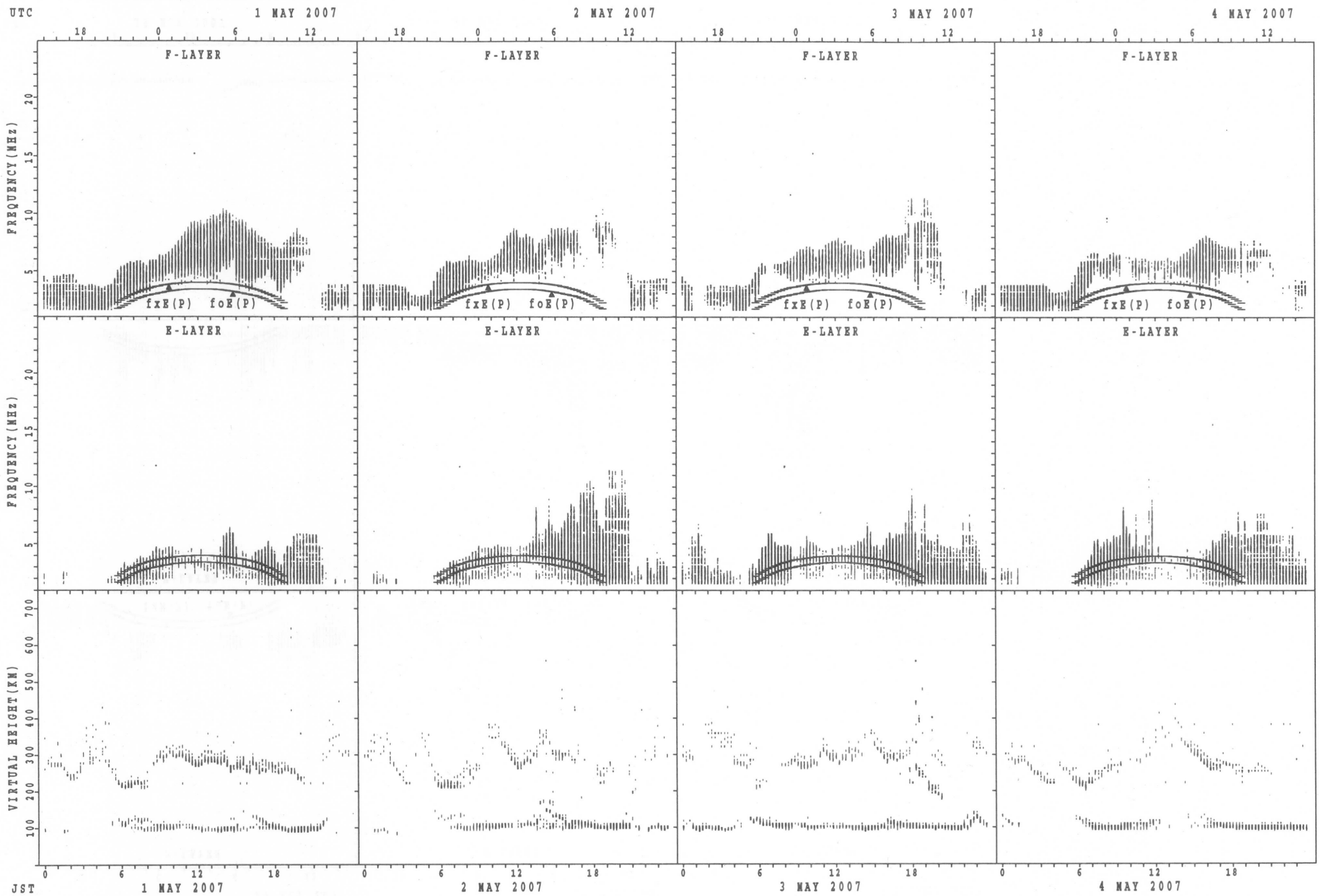
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



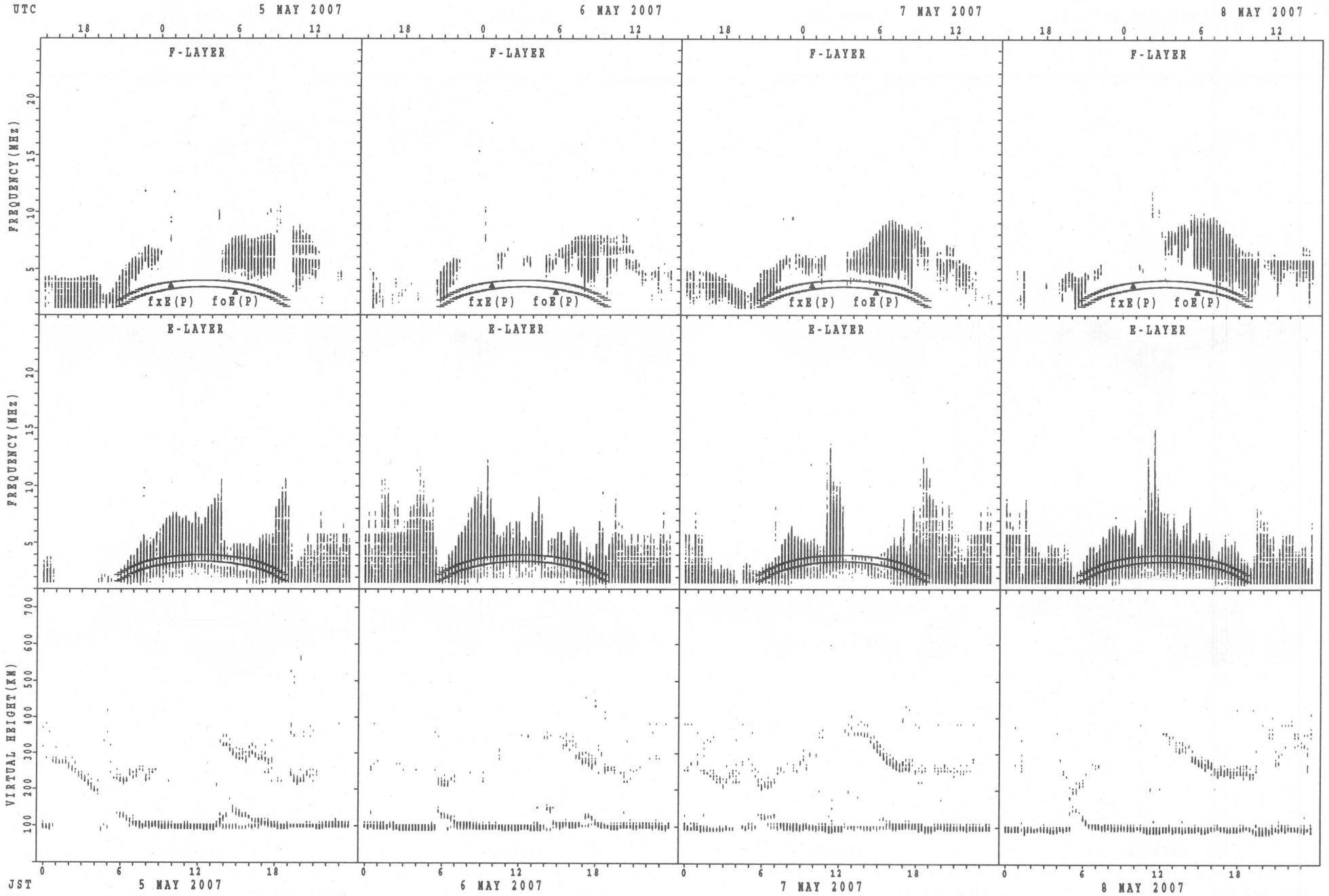
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa

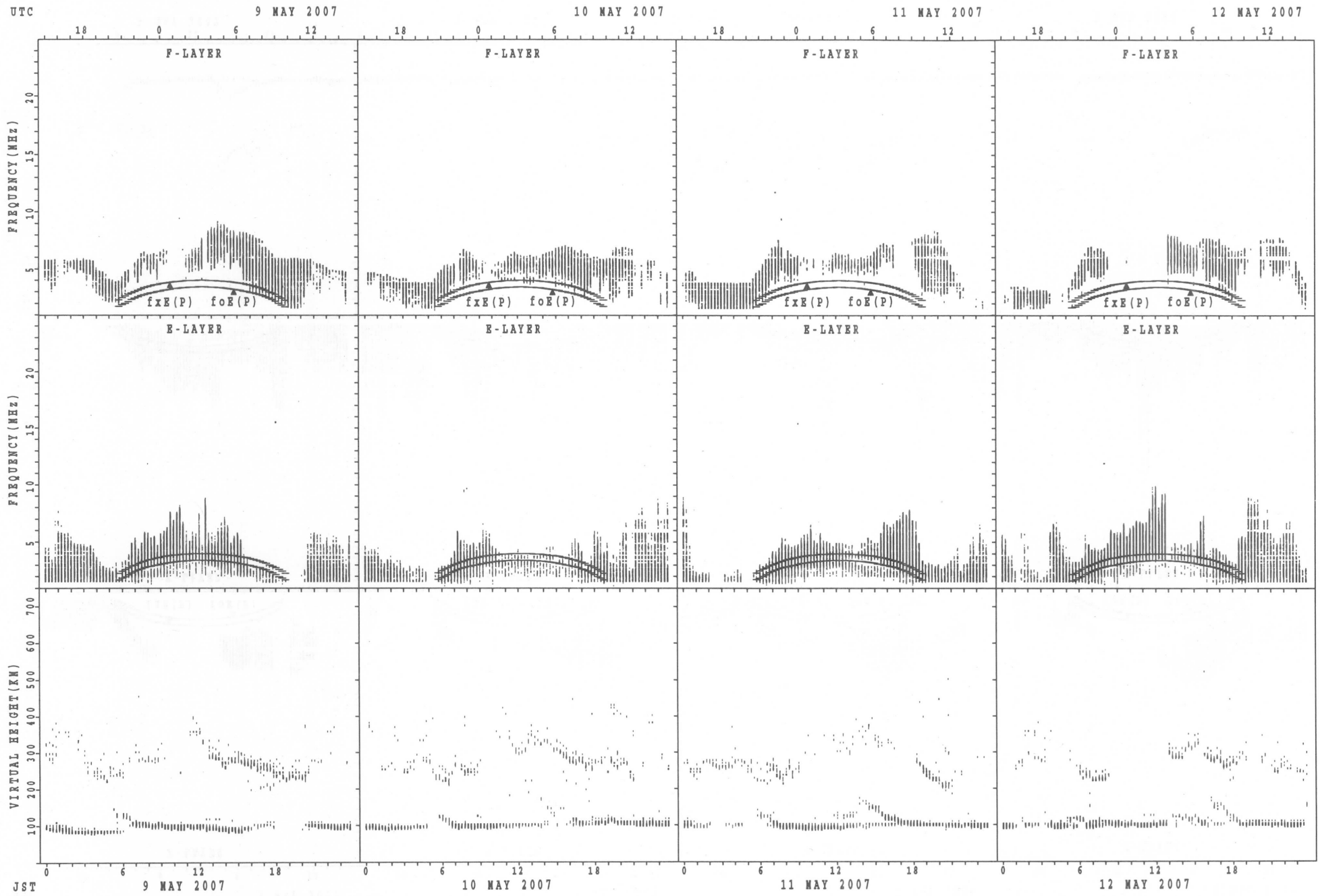


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

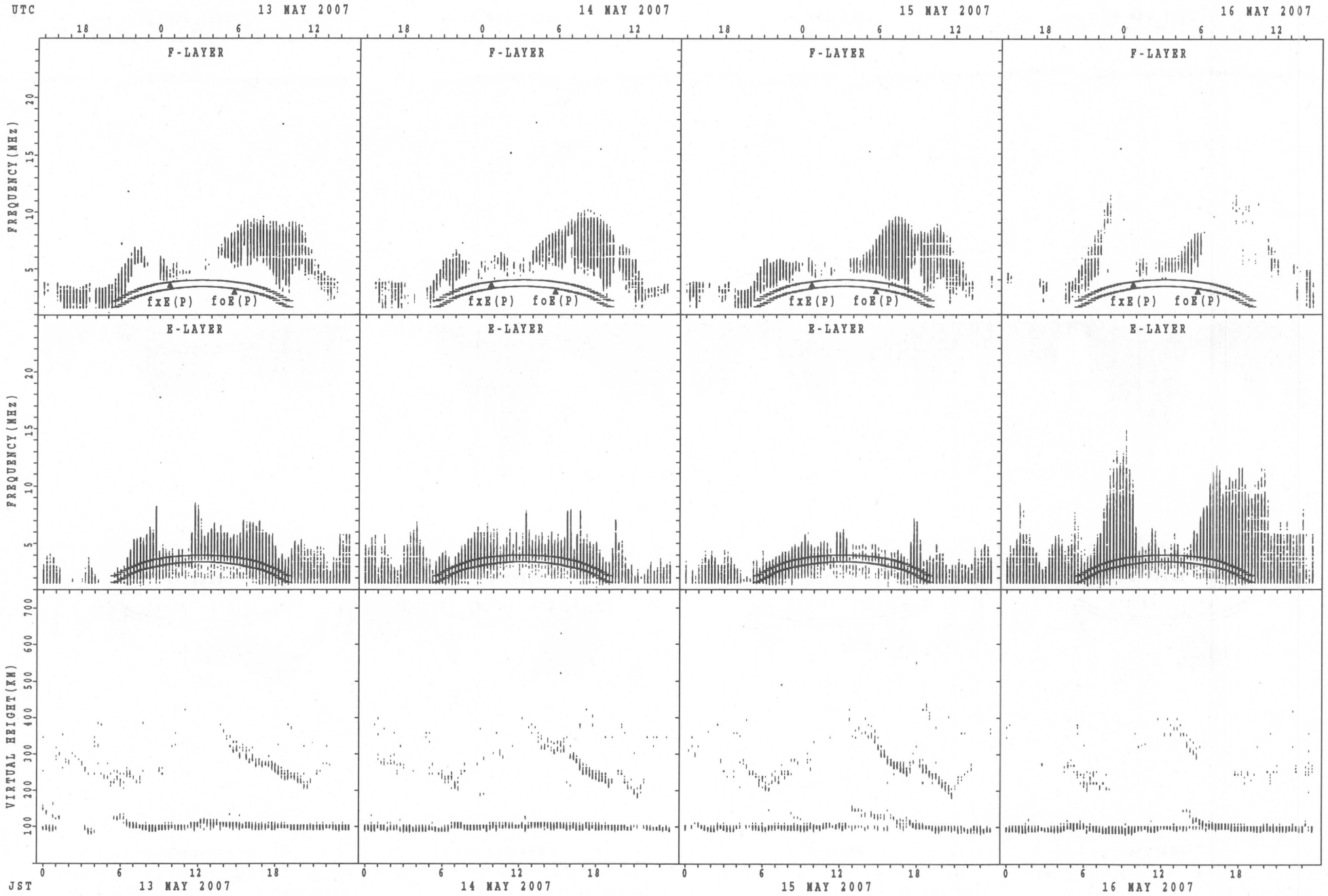
SUMMARY PLOTS AT Yamagawa



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

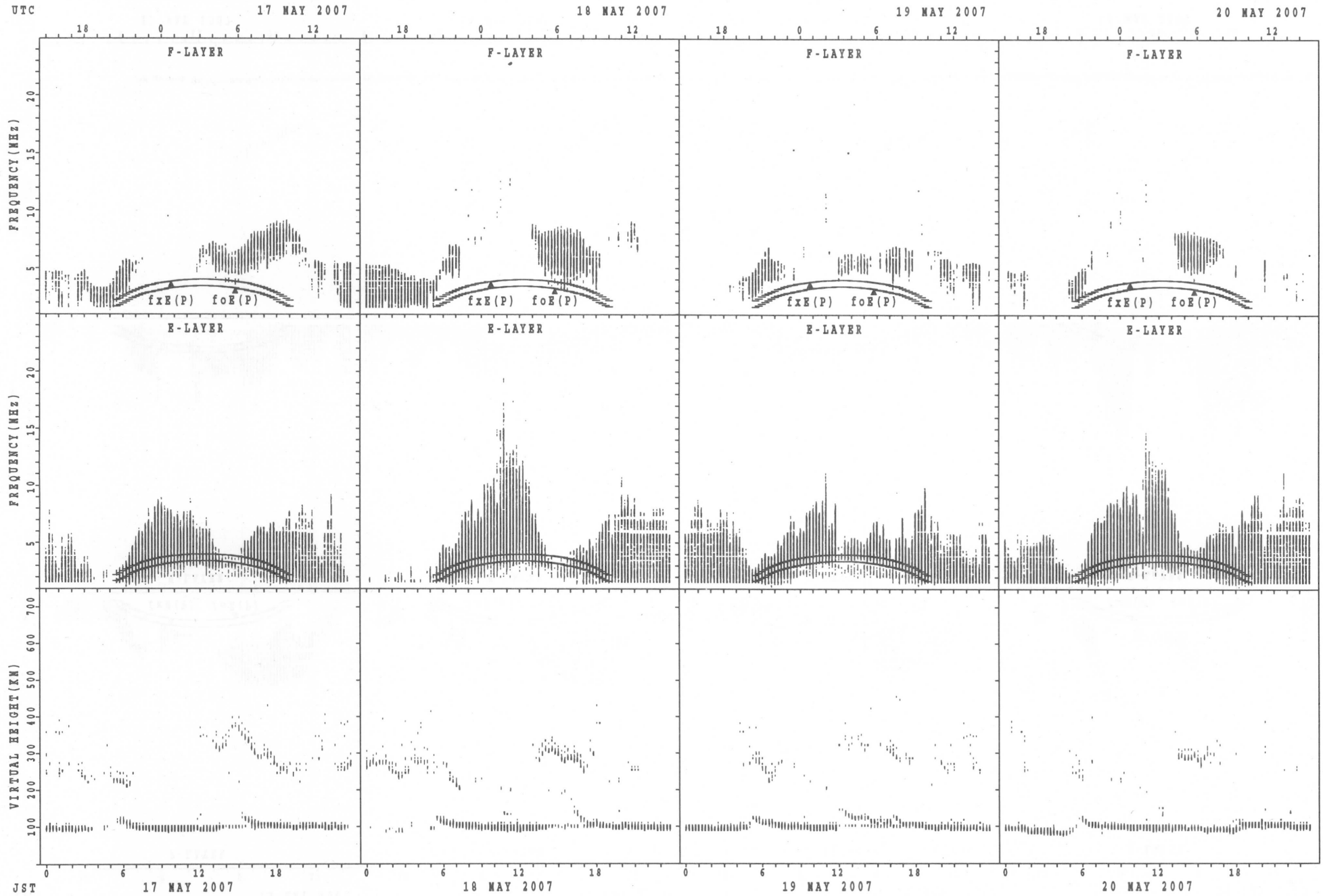

SUMMARY PLOTS AT Yamagawa
UTC
9 MAY 2007
10 MAY 2007
11 MAY 2007
12 MAY 2007
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P)
foE(P)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



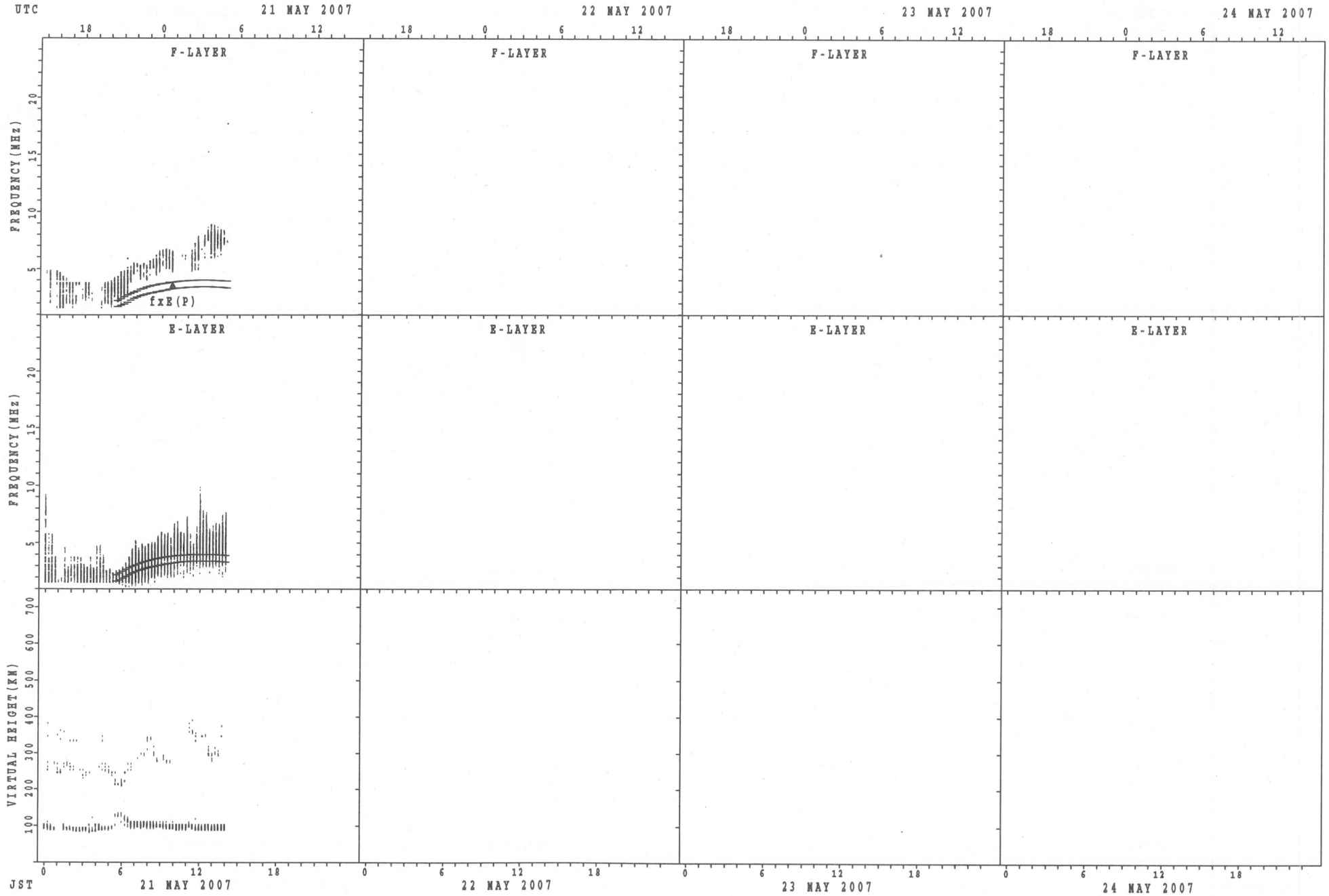
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



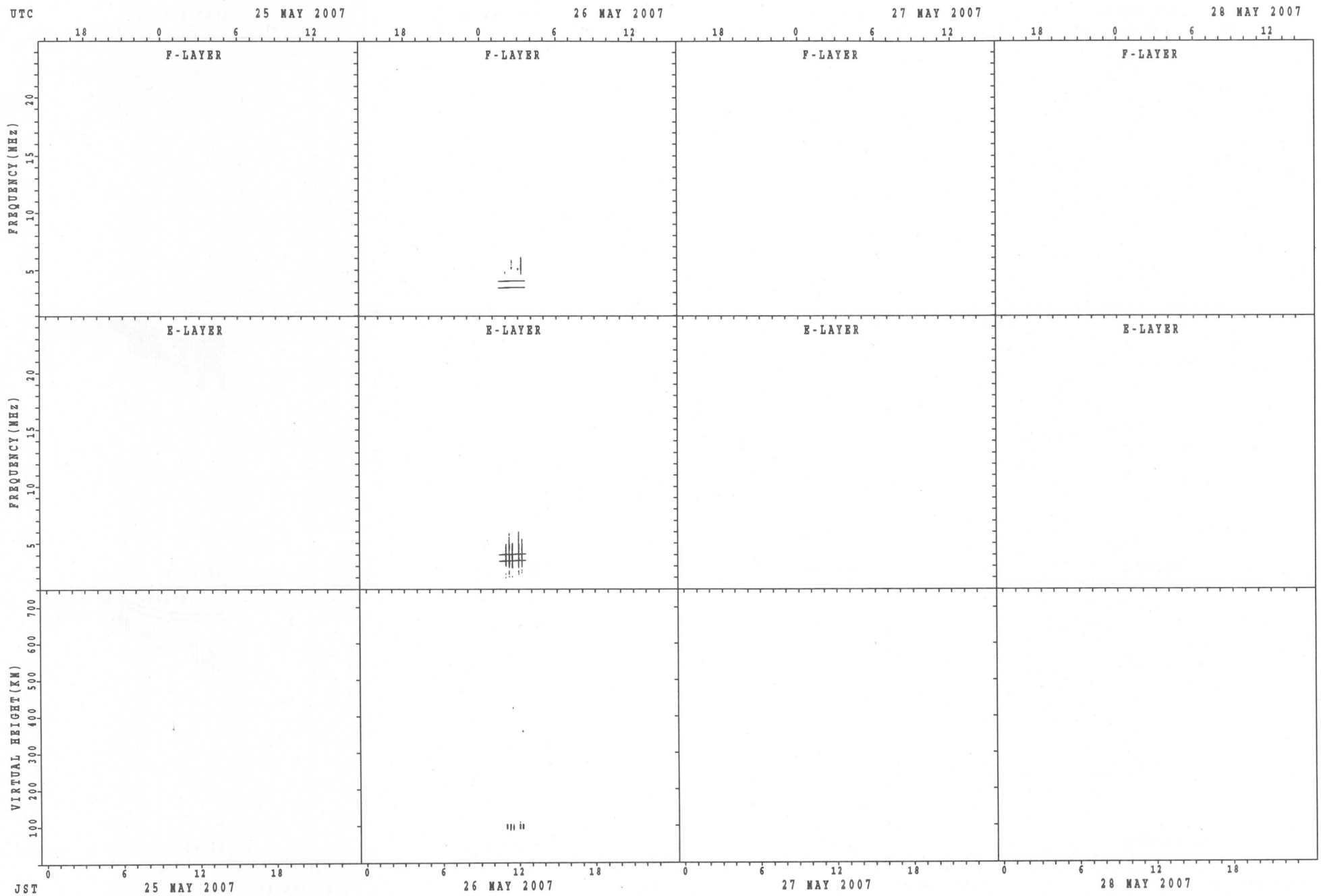
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



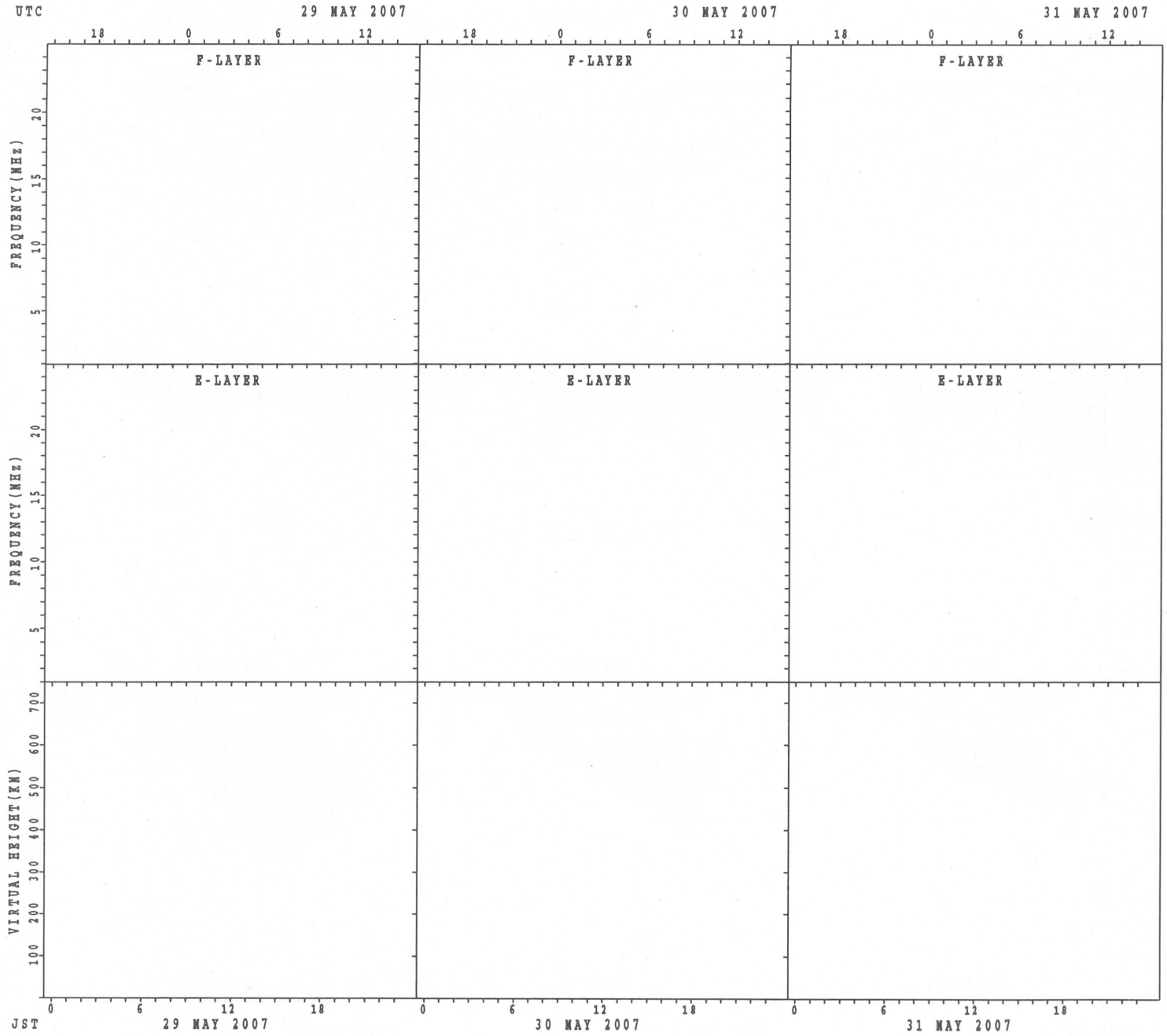
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



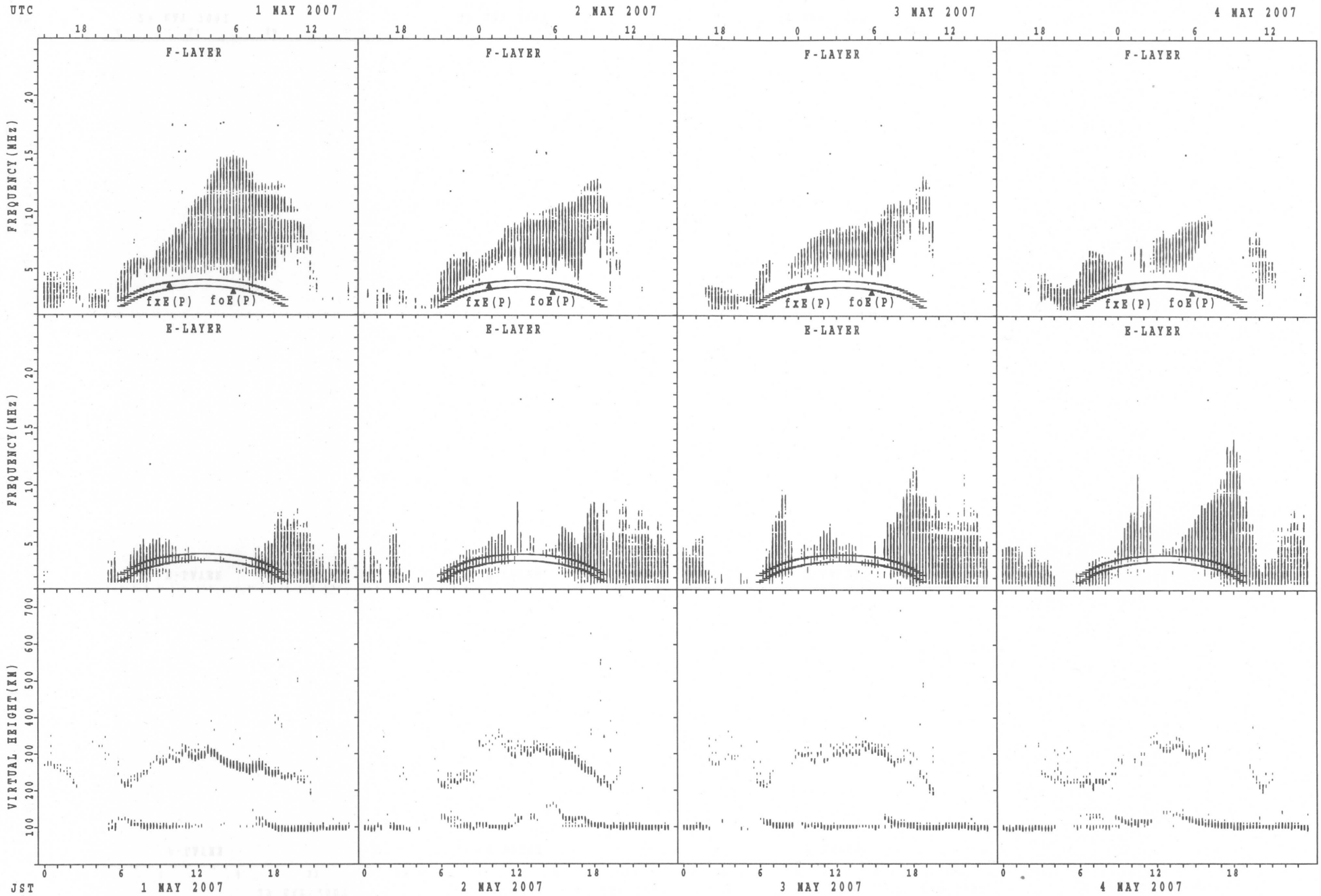
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



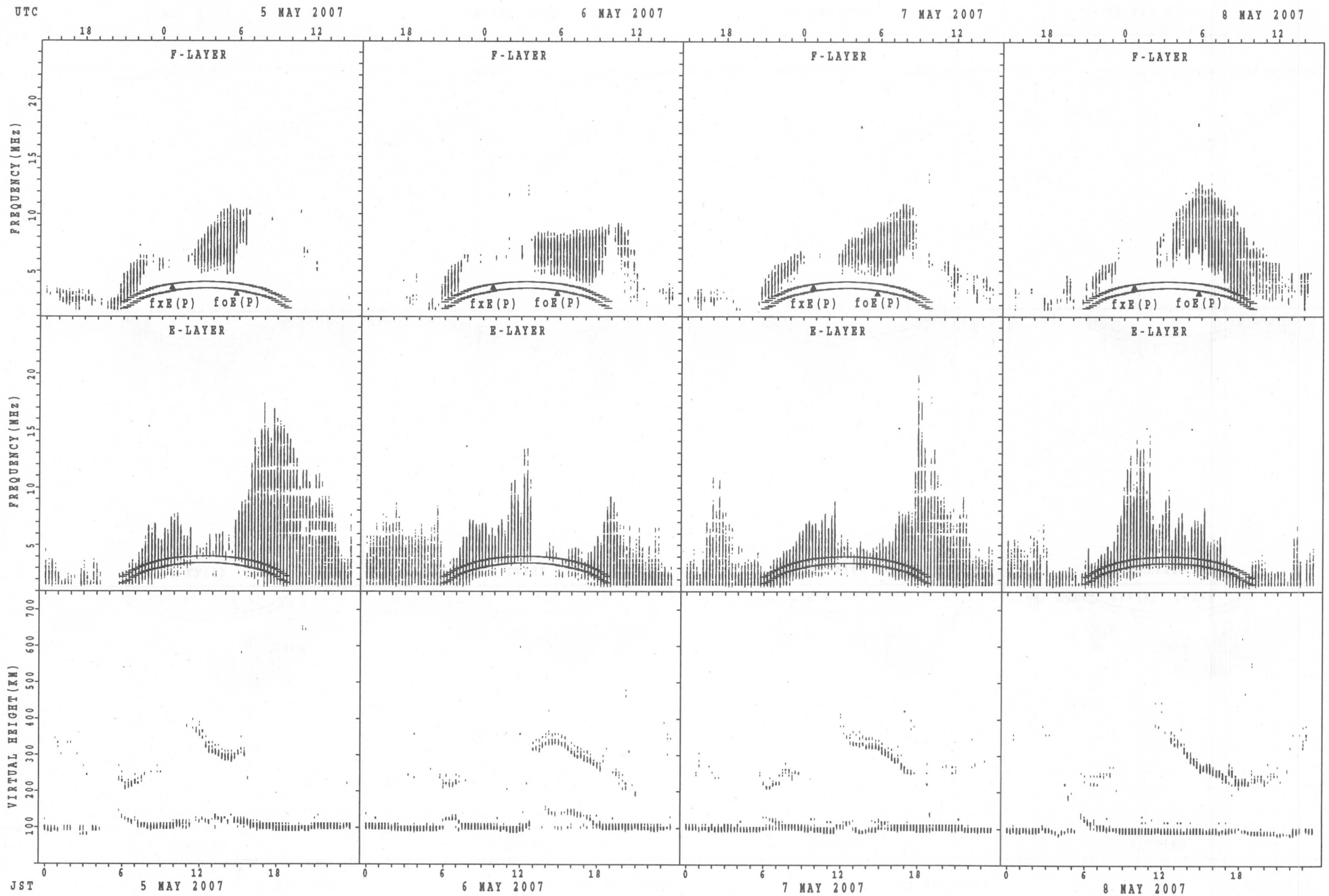
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



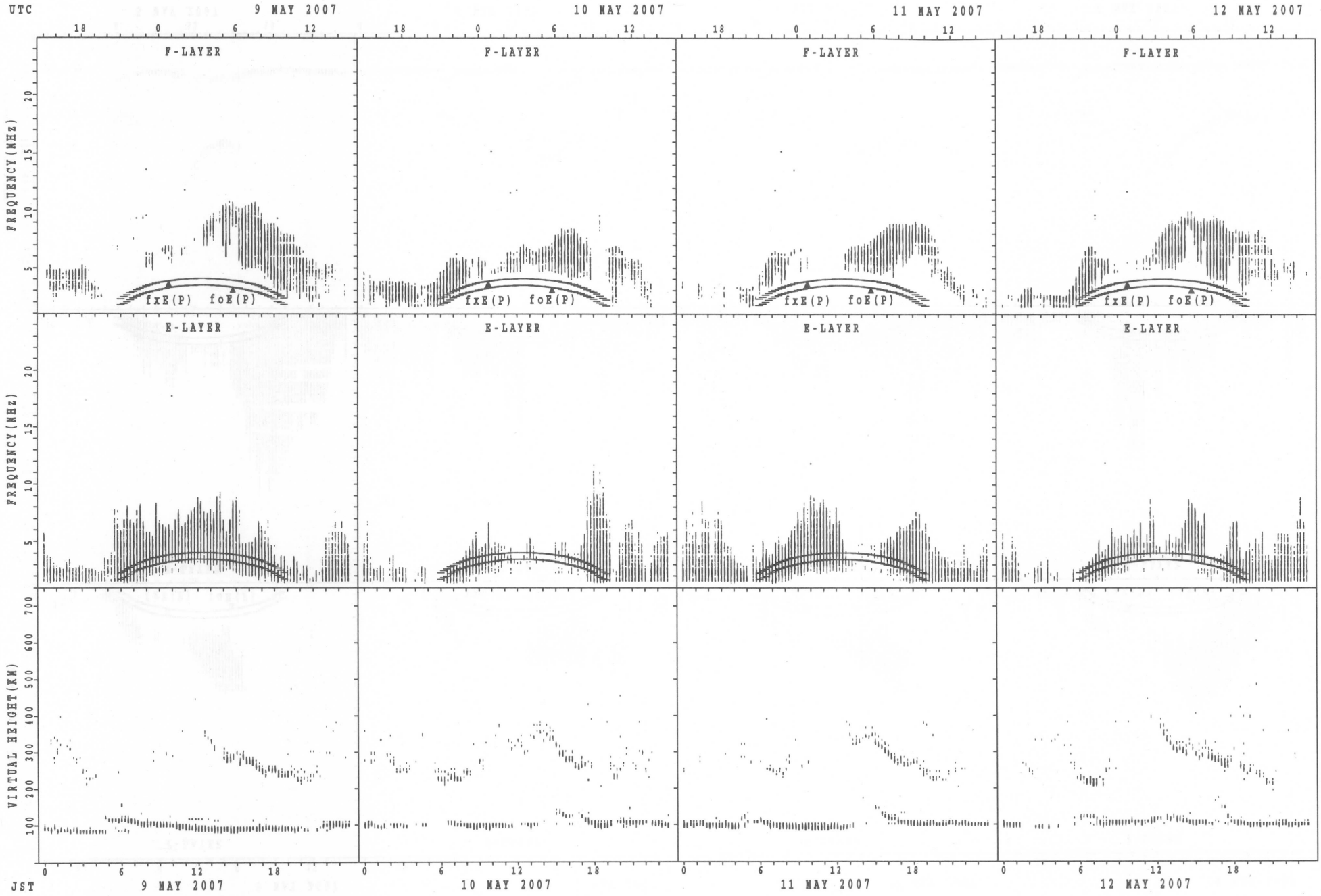
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



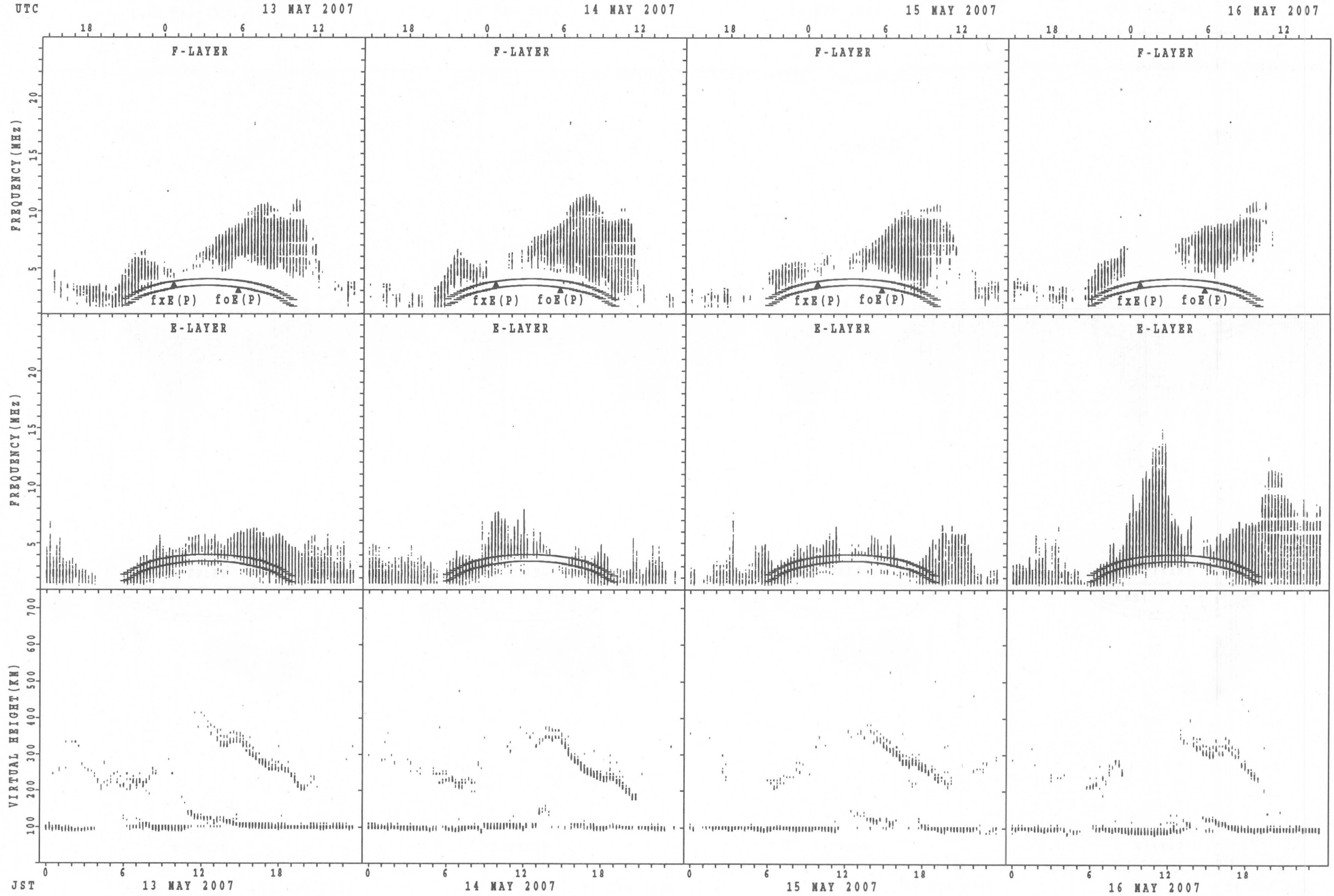
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



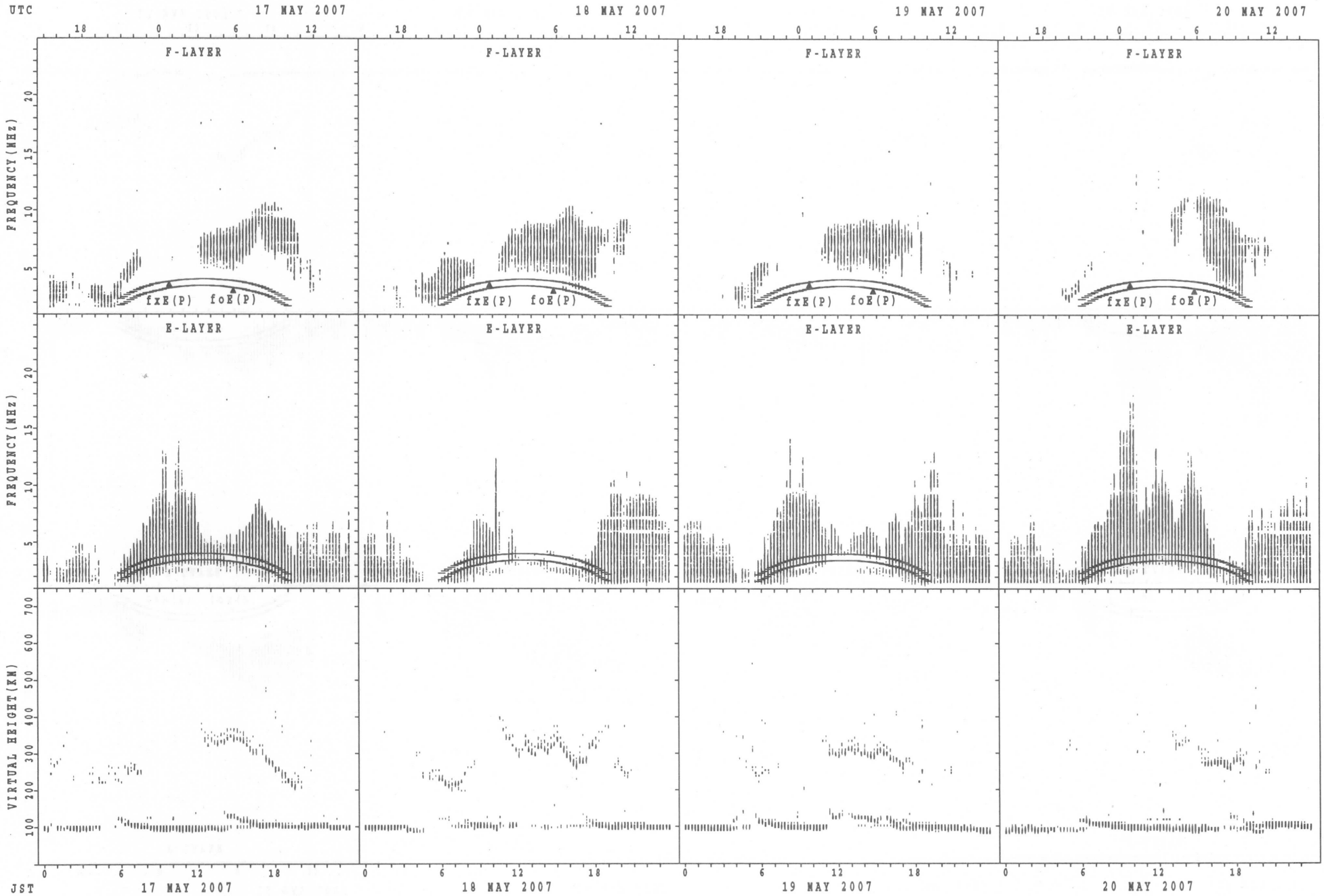
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



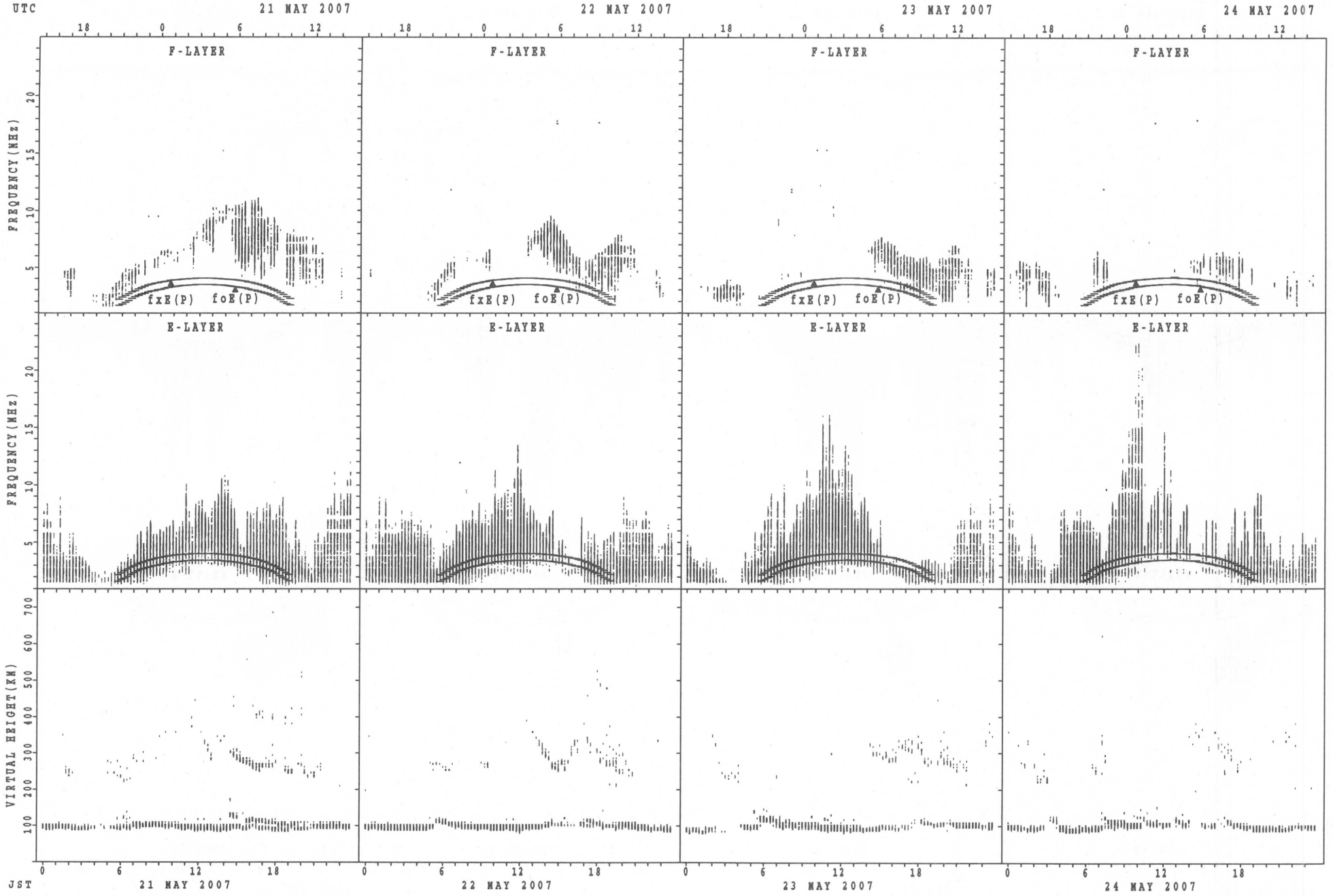
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



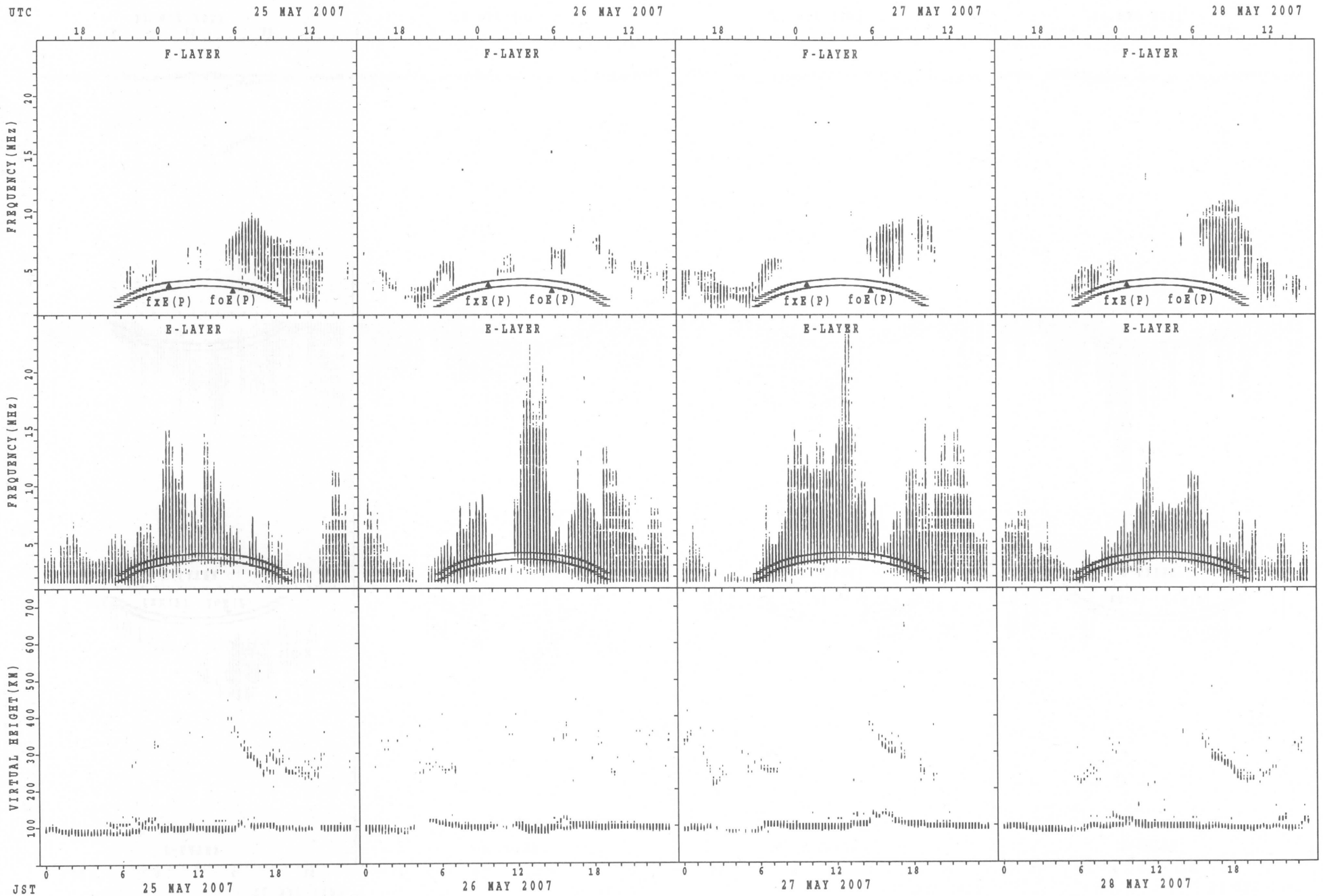
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



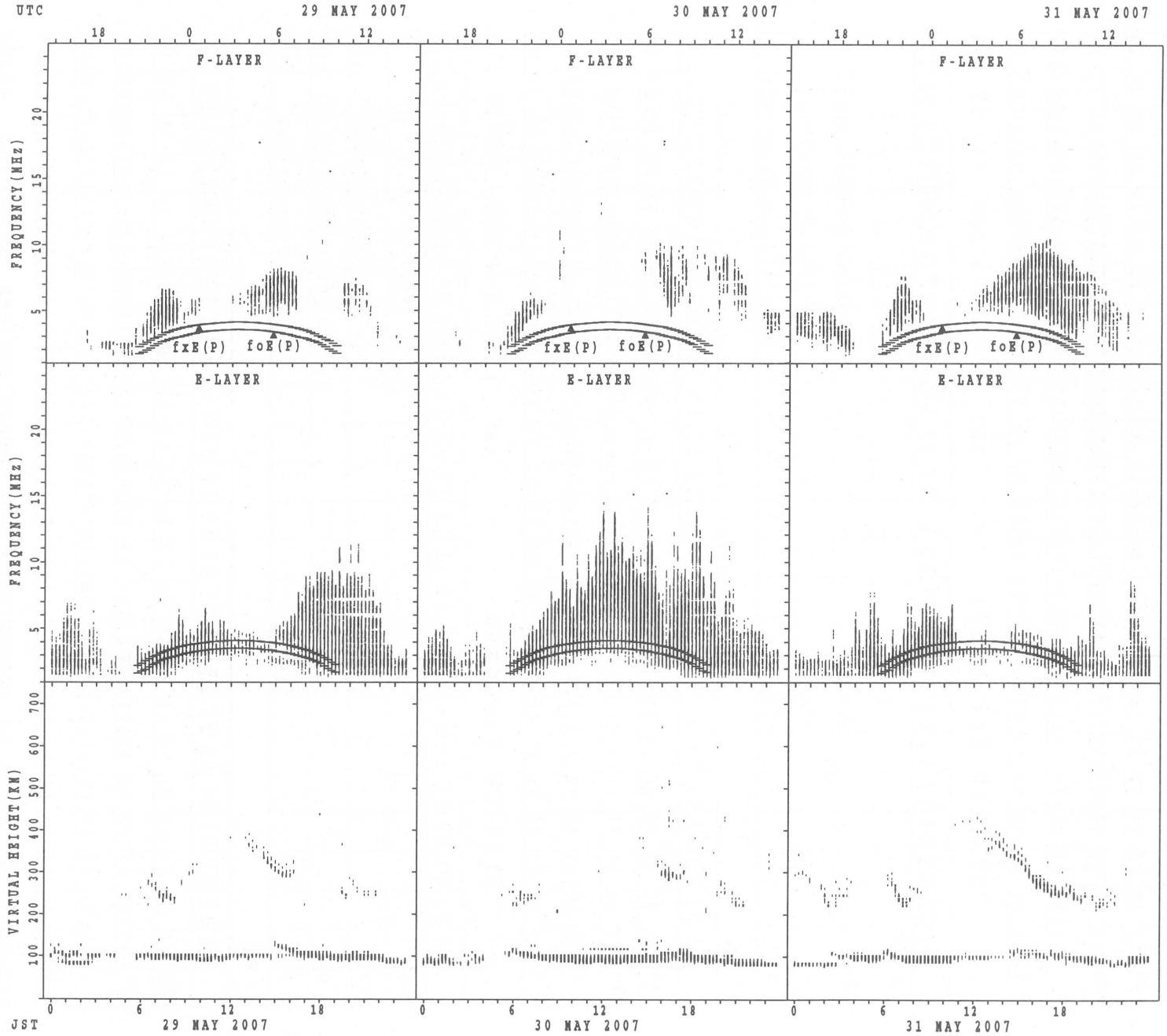
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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

MAY 2007 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

h'F STATION Wakkanai LAT. 45°23.5'N LON. 141°41.2'E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						1											1	5	3	1	2	6	1	
MED						220											310	266	266	284	268	291	268	
U Q						110											155	287	276	142	268	302	134	
L Q						110											155	243	258	142	268	260	134	

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	18	17	18	14	13	22	28	28	26	26	24	18	14	20	14	16	20	28	30	29	26	24	21	20
MED	97	97	96	97	101	112	111	107	105	103	103	103	102	100	100	112	113	107	107	103	103	103	99	98
U Q	99	101	97	101	118	119	113	111	107	105	105	111	105	103	119	120	118	111	109	108	107	105	104	103
L Q	95	91	93	91	96	107	106	105	105	103	103	103	97	98	95	103	107	105	105	101	103	101	97	97

h'F STATION Kokubunji LAT. 35°42.4'N LON. 139°29.3'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	8									10	7	3	7	11	2	1	
MED							267	257									274	286	260	256	240	290	252	
U Q							278	264									300	300	282	274	264	298	126	
L Q							256	236									264	272	248	246	232	282	126	

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	24	23	22	20	20	20	29	29	28	25	24	21	25	23	23	21	24	29	30	30	28	27	28	28
MED	97	97	95	97	96	113	111	105	103	103	100	99	101	103	105	109	106	105	105	103	105	103	103	99
U Q	100	99	101	97	99	123	114	108	103	105	103	104	107	111	113	111	111	113	109	107	106	105	105	103
L Q	97	95	91	90	95	96	106	103	99	99	98	97	97	99	99	102	101	103	101	99	103	99	99	97

h'F STATION Yamagawa LAT. 31°12.1'N LON. 130°37.1'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								7	5									14	9	8	7	3		1
MED								232	254									267	272	251	234	260		338
U Q								240	280									288	278	296	254	260		169
L Q								216	234									254	249	233	222	240		169

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	19	15	14	13	12	12	19	20	20	21	21	21	20	17	18	16	18	18	18	19	18	19	17	18
MED	99	101	97	95	95	97	119	107	103	101	99	99	103	101	113	110	113	111	103	103	104	101	103	101
U Q	105	105	97	97	102	105	127	111	105	104	103	108	107	111	141	132	119	111	109	105	107	105	104	105
L Q	97	99	95	94	92	96	113	103	99	99	97	95	96	95	97	102	105	105	103	101	103	101	99	99

MONTHLY MEDIANS OF h'F AND h'Es

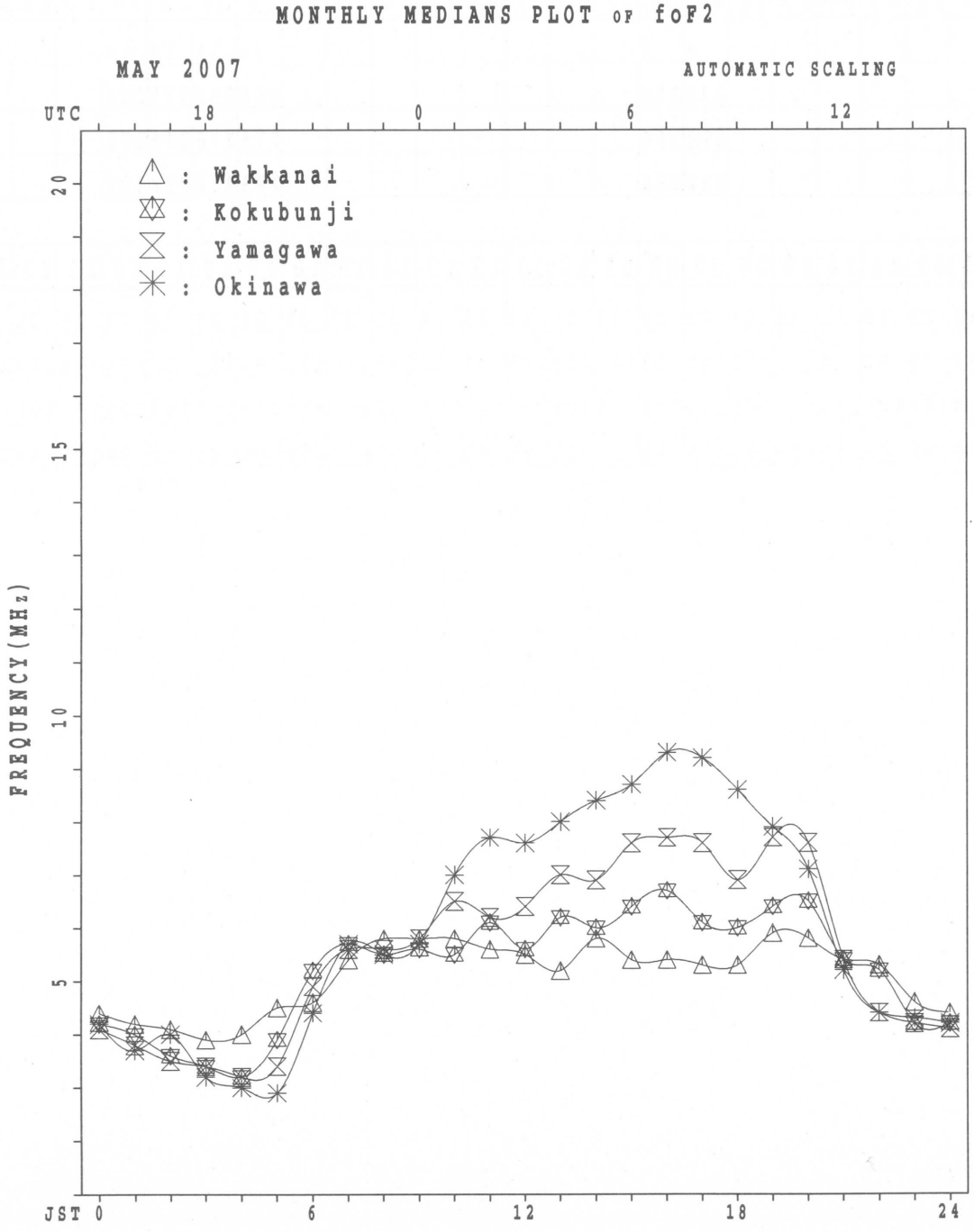
MAY 2007 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

h'F STATION Okinawa LAT. 26°40.5'N LON. 128°09.2'E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								6	2									24	19	18	12			
MED								232	261									266	252	239	254			
U Q								270	264									279	270	264	272			
L Q								222	258									253	230	222	221			

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	31	28	28	26	22	16	26	29	29	30	30	30	25	22	21	27	25	26	26	30	29	28	31	27
MED	101	99	98	97	98	101	111	107	103	103	103	101	99	102	105	115	113	107	103	103	103	105	103	103
U Q	105	103	103	101	103	109	121	113	109	105	105	107	113	119	123	127	117	113	109	103	106	106	105	105
L Q	95	95	95	89	89	99	103	103	99	97	97	95	95	97	97	103	105	105	101	99	98	100	99	101


MONTHLY MEDIANS PLOT OF foF2
MAY 2007
AUTOMATIC SCALING
UTC
18
0
6
12
△ : Wakkanai
⛛ : Kokubunji
⧖ : Yamagawa
✳ : Okinawa
FREQUENCY(MHz)
20
15
10
5
JST 0
6
12
18
24

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 44	X 44	X 43	X 42	X 38															X 71	X 76	X 62	X 42	46
2	50	45	44	X 39	X 33															X 83	X 79	X 53	X 45	X 45
3	X 46	X 46	X 45	X 40	X 40															X 92	X 93	X 35	X 33	X 34
4	X 34	X 34	X 34	X 34	X 33															X 72	X 69	X 58	X 51	X 53
5	X 51	X 50	X 45	46	48															X 79	X 77	O X 66	X 56	X 46
6	X 46	49	46	X 44	X 38															X 77	X 79	X 72	X 59	X 45
7	X 46	50	46	A	41															X 81	X 80	X 71	A	X 58
8	X 49	X 44	A	X 35	X 38															X 77	X 72	X 71	65	A
9	X 43	45	47	46	44															X 58	X 60	X 58	X 50	X 44
10	X 46	X 48	X 45	X 42	X 40															X 70	A	X 70	64	56
11	X 52	X 46	X 43	X 42	X 41															X 74	X 81	X 60	A	X 45
12	X 42	X 40	X 40	40	38															X 75	X 76	X 66	X 55	55
13	53	52	51	45	43															X 90	X 84	X 64	X 51	X 50
14	X 48	49	44	42	X 39															X 80	X 73	A	A	43
15	A	A	51	52	X 42															X 73	X 81	X 62	X 48	A
16	X 35	X 39	46	X 43	X 41															X 76	X 73	X 66	X 57	X 54
17	A	X 44	X 43	X 41	X 39															A	A	X 54	X 53	X 53
18	X 52	X 50	X 48	X 46	X 42															X 68	X 76	78	A	X 57
19	X 50	A	X 45	46	X 44															A	A	X 57	56	53
20	A	A	X 39	X 34	X 35															A	X 64	X 66	67	64
21	X 46	X 44	X 40	X 43	44															X 62	X 64	X 64	65	54
22	54	X 46	X 42	X 40	X 38															X 63	X 66	X 62	56	X 54
23	X 51	51	X 46	X 42	X 34															X 64	X 69	X 64	X 62	X 57
24	X 61	X 53	X 47	X 39	X 32															X 58	55	X 50	52	54
25	51	52	50	48	X 35															X 66	X 65	X 56	A	X 54
26	X 53	X 49	X 45	X 39	X 38															X 61	X 61	X 56	56	X 52
27	X 50	51	52	X 45	X 33															X 65	A	62	X 51	X 48
28	X 48	X 46	X 42	X 42	X 39															X 80	X 67	X 50	X 46	51
29	X 46	X 44	47	44	44															X 74	X 74	X 70	67	X 59
30	X 49	X 44	X 44	X 46	X 44															X 72	X 73	X 79	76	A
31	64	A	A	A	X 39															X 75	X 70	O X 66	65	X 57
	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	27	29	29	31															28	27	30	26	28
MED	X 49	X 46	X 45	X 42	X 39															X 74	X 73	X 63	X 56	X 53
U Q	X 52	50	47	46	42															X 78	X 79	X 66	64	X 56
L Q	X 46	X 44	X 43	X 40	X 38															X 66	X 66	X 57	X 51	X 46

MAY 2007 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	38	38	37	36	32	40	48	54	54	54	58	65	68	76	78	75	66	59	55	65	70	56	36	F
2	F	F	F	33	27	35	51	54	54	53	54	56	72	79	70	68	69	65	66	77	73	47	39	39
3	40	40	39	34	34	36	50	57	50	57	59	51	56	62	58	60	59	60	68	85	87	29	27	28
4	28	28	28	28	27	37	50	56	60	54	53	52	55	51	55	59	72	68	62	66	63	52	45	47
5	45	44	39	F	F	38	42	51	66	74	59	58	54	52	58	68	67	62	63	73	71	60	50	40
6	40	F	F	38	32	37	51	53	55	A	A	61	55	A	57	63	69	67	66	71	73	66	53	39
7	39	F	F	A	F	38	50	54	52	58	54	58	A	57	56	69	84	80	72	75	74	65	A	52
8	43	38	A	29	32	34	48	A	A	A	A	A	65	68	71	69	A	A	69	71	65	65	F	A
9	37	F	F	F	F	43	40	A	56	57	A	56	62	68	67	57	60	59	52	52	54	52	42	38
10	40	42	39	36	34	42	50	53	59	56	55	55	55	59	57	56	54	56	60	64	A	64	F	F
11	45	40	37	36	35	36	52	64	68	57	50	54	56	64	A	60	59	52	56	68	75	54	A	38
12	36	34	34	F	F	36	51	61	A	A	A	A	A	60	58	A	A	A	61	68	70	60	49	F
13	F	F	F	F	F	34	A	64	A	A	51	A	A	55	73	83	88	83	80	84	78	58	45	44
14	42	F	F	F	33	45	46	56	58	55	A	58	A	A	A	77	A	A	67	74	66	A	A	F
15	A	A	F	F	36	A	55	60	53	A	A	A	A	A	A	A	79	64	62	66	75	56	42	A
16	29	33	F	37	35	41	60	62	56	58	55	51	R	55	A	A	A	A	A	70	67	60	51	47
17	A	38	37	35	32	42	57	56	A	A	55	58	A	53	52	A	A	A	A	A	A	48	46	47
18	46	44	42	40	36	40	A	A	A	A	A	A	A	81	73	70	65	57	53	62	70	F	A	51
19	44	A	39	F	38	38	43	50	49	A	A	A	A	48	49	54	54	A	A	A	A	51	F	F
20	A	A	33	28	29	33	50	60	54	A	A	A	57	62	65	64	57	49	A	A	58	60	F	F
21	40	38	34	37	F	38	46	49	58	57	59	60	68	57	55	62	68	57	51	56	58	58	F	F
22	F	40	36	34	32	38	47	57	59	61	53	53	51	54	61	62	53	A	50	57	60	56	F	48
23	45	F	40	36	28	A	A	A	A	52	A	A	A	A	A	60	A	55	A	58	63	58	56	50
24	55	47	41	33	26	A	A	A	A	A	A	A	A	A	A	47	46	56	52	52	F	44	F	F
25	F	F	F	F	28	42	50	50	54	45	46	53	A	48	A	A	A	A	59	60	59	50	A	48
26	46	43	39	33	32	38	A	A	56	A	A	A	52	58	A	A	69	64	A	57	55	50	F	45
27	43	F	F	38	27	34	A	A	A	45	A	A	A	A	A	51	53	56	57	59	A	F	45	42
28	42	40	36	36	33	37	51	56	A	A	A	A	55	60	64	67	71	72	78	74	61	44	40	F
29	40	38	F	F	F	39	A	64	66	A	52	52	A	52	54	58	53	A	57	68	68	64	F	53
30	43	38	38	40	38	38	55	78	A	53	50	A	46	54	59	A	A	A	A	66	67	73	F	A
31	F	A	A	A	33	A	54	A	A	A	A	A	53	A	52	53	60	60	62	69	64	60	F	51
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	18	18	20	24	27	24	23	20	17	16	17	17	24	22	24	23	21	24	28	26	28	15	19
MED	42	39	38	36	32	38	50	56	56	56	54	56	55	58	58	62	65	60	62	67	67	57	45	47
U Q	45	42	39	37	34	40	52	61	59	58	56	58	64	63	67	68	69	66	66	72	73	60	50	50
L Q	39	38	36	33	28	36	48	53	54	53	52	52	54	54	55	58	54	56	56	60	61	50	40	39

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								L	L	U L 440	A	A	448	U L 440	432	U L 428	A	A						
2								L	U L 420	E A	U L 460	U L 448	436	444	U L 432	424	404	L						
3								L	U L 428	A	U L 452	U L 452	440	A	436	424	A	A	A					
4								A	A	A	U L 448	U L 456	448	A	440	416	A	A						
5								A	A	A	A	448	U L 452	U L 460	U L 432	A	U L 404	A	A					
6								A	A	A	A	A	U L 444	A	U L 428	428	408	L	A					
7								L	L	A	U L 456	A	A	A	A	U L 420	A	A	L					
8								A	A	A	A	A	A	A	416	A	A	A	A					
9								A	A	428	A	A	A	A	U L 436	U L 408	L	L						
10							L	A	A	A	U L 436	436	U L 448	A	A	U L 424	A	L						
11							L	U L 392	408	U L 436	U L 440	U L 444	A	A	A	A	U L 408	A	A					
12							L	A	A	A	A	A	A	A	A	A	A	A	A					
13							A	A	A	A	A	A	A	A	A	428	A	364	L					
14							L	A	A	U L 436	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							L	U L 400	A	432	448	U L 452	U L 448	A	A	A	A	A	A					
17							L	A	A	A	A	A	A	A	A	A	A	A	A					
18							A	A	A	A	A	A	A	A	432	420	U L 408	L	A					
19						260	A	A	A	A	A	A	A	U L 440	436	A	388	A	A					
20							A	A	A	A	A	A	A	A	A	A	U L 404	U L 380	A					
21									A	A	U L 452	U L 456	456	U L 444	U L 448	U L 432	U L 396	L						
22							U L 368	A	416	424	U L 444	448	448	U L 440	U L 436	U L 420	A	A	L					
23						A	A	A	A	A	A	A	A	A	A	A	A	U L 356	A					
24						A	A	A	A	A	A	A	A	A	A	U L 412	U L 372	E A	L					
25							L	A	A	A	U L 424	A	A	A	A	A	A	A	A					
26						A	A	A	A	A	A	A	U L 444	A	A	A	U L 404	A	A					
27							A	A	A	U L 412	A	A	A	A	A	A	U L 380	A	A					
28							344	A	A	A	A	A	A	A	A	A	A	360	L					
29							A	392	A	A	A	A	A	U L 428	A	A	A	A	A					
30						U L 336	U L 356	A	A	A	U L 432	A	U L 444	A	A	A	A	A	A					
31						A	A	A	A	A	A	A	A	A	A	U L 420	U L 412	U L 376	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						2	3	3	4	7	11	9	12	7	12	14	12	5						
MED						298	U L 356	U L 392	418	U L 432	U L 448	U L 448	448	U L 440	434	U L 422	U L 404	U L 364						
U Q							U L 368	U L 400	U L 424	U L 436	U L 452	U L 454	U L 448	U L 444	U L 436	428	U L 408	U L 378						
L Q							344	392	412	424	U L 436	446	444	U L 440	432	420	U L 392	358						

MAY 2007 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							B	A	A	A	A	A	A	A	A	A	A	U A 244	B					
2							B 216	U A 260	A	A	A	A	A	A	A	A	280	U A 224	B					
3							B	A	A	A	A	A	A	A	A	316	U A 272	A	B					
4							B U A 220	A	A	A	A	A	A	348	324	312	A	A	A					
5							B U A 220	A	A	A	A	A	A	A	A	A	A	U A 248	B					
6							B	A	A	A	A	A	A	A	A	A	R	R	B					
7							B 240	A	A	A	A	A	A	A	A	A	A	A	B					
8							B U A 232	A	A	A	A	A	A	A	A	A	A	A	A					
9							B	A	A	A	A	A	A	A	U R 356	R	R	U A 240	B					
10							B U A 244	A	A	A	A	A	R	A	A	A	A	A	B					
11							B	A	A	R	R	A	A	U A 356	A	A	A	A	B					
12							B	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	B					
14							B	A	A	A	A	A	A	A	A	A	A	A	A					
15							B	A	A	A	A	A	A	A	A	A	A	U A 236	B					
16							B	A	A	A	A	A	A	352	A	U A 304	A	A	B					
17							B	A	A	A	A	A	A	A	A	U A 312	A	A	B					
18							B	A	A	A	A	A	A	A	R	R	284	U A 240	U A 176					
19							B	A	A	A	A	A	A	A	324	312	A	A	A					
20							B	A	A	A	A	A	A	A	A	A	A	A	A					
21							B U A 232	A	A	A	A	A	A	A	A	A	A	A	A					
22							B	A	A	A	A	R	A	A	A	A	A	A	A					
23							B	A	A	A	A	A	A	A	A	A	A	U R 288	A					
24							B U A 212	A	A	A	A	A	A	A	A	A	A	A	A					
25							B	A	A	A	A	A	A	A	A	A	A	A	A					
26							B	A	A	A	A	A	A	A	A	A	A	A	A					
27							B	A	A	A	A	A	A	A	A	A	A	A	A					
28							B	A	A	A	A	A	A	A	A	A	A	A	A					
29							B	A	A	A	A	A	A	U R 348	U A 336	A	A	A	A					
30							B U A 220	A	A	A	A	A	A	A	A	U A 312	A	A	A					
31							B	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								9	1					1	3	4	6	3	7	1				
MED							U A 220	U A 260					U A 356	348	330	312	280	U A 240	U A 176					
U Q							U A 236							352	U 346	312	284	U 248						
L Q							U A 218							348	324	312	U A 272	U A 236						

MAY 2007 foE (0.01MHz)

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 15	E B 16	E B 15	E B 15	E B 14	J A 18	27	32	37	J A 44	J A 56	J A 56	J A 46	J A 47	J A 45	J A 52	J A 51	32	J A 33	J A 36	J A 52	30	J A 20	J A 24
2	E B 16	E B 15	E B 14	E B 14	E B 14	20	28	34	40	J A 46	39	41	38	38	38	36	33	30	J A 34	J A 22	J A 19	J A 43	J A 20	E B 15
3	E B 15	E B 15	E B 15	E B 15	E B 15	18	30	34	35	43	42	40	J A 42	J A 52	38	36	J A 44	J A 40	J A 34	J A 32	J A 32	20	E B 15	E B 15
4	E B 14	E B 15	E B 14	18	E B 15	J A 16	26	J A 37	J A 44	J A 49	38	42	39	44	41	38	J A 42	J A 74	J A 32	J A 34	J A 40	J A 56	J A 52	J A 24
5	19	J A 20	20	20	E B 16	J A 18	28	J A 47	J A 54	J A 57	J A 50	40	J A 45	39	J A 41	J A 46	34	J A 38	J A 39	J A 56	J A 57	J A 82	J A 84	J A 63
6	J A 52	J A 90	J A 67	J A 31	J A 32	E B 16	29	J A 40	J A 58	J A 68	J A 80	J A 64	J A 46	J A 79	38	J A 51	G 22	G 20	26	J A 23	J A 53	J A 100	J A 29	J A 68
7	J A 44	J A 38	J A 29	J A 92	J A 23	J A 20	29	34	J A 42	J A 46	J A 45	J A 57	J A 142	J A 62	J A 49	37	J A 49	J A 134	J A 27	J A 61	J A 24	J A 88	J A 77	J A 88
8	J A 60	J A 52	J A 54	J A 52	J A 64	J A 23	J A 46	J A 57	J A 52	J A 65	J A 80	J A 132	J A 84	J A 44	40	J A 99	J A 178	J A 157	J A 86	J A 50	J A 114	J A 70	J A 64	J A 54
9	J A 25	E B 15	J A 19	20	E B 15	18	30	J A 49	J A 46	36	J A 117	J A 54	J A 55	J A 63	G 35	G 28	G 23	29	J A 32	J A 24	J A 30	J A 38	J A 58	J A 66
10	J A 21	E B 16	E B 15	J A 42	J A 43	J A 32	28	J A 50	J A 42	J A 49	38	38	G J 34	A J 49	A J 54	A J 58	A J 92	A J 77	A J 54	A J 62	A J 149	A J 48	A J 29	A J 85
11	E B 14	E B 15	E B 14	20	J A 43	18	28	J A 40	G 24	G 29	39	36	J A 46	J A 57	J A 57	J A 56	38	35	J A 38	J A 46	J A 49	J A 38	J A 69	J A 40
12	J A 50	J A 78	J A 53	J A 50	J A 25	19	31	J A 58	J A 72	J A 65	J A 85	J A 90	J A 72	J A 58	J A 59	J A 78	J A 109	J A 145	J A 57	J A 39	J A 60	J A 80	J A 45	J A 54
13	J A 48	J A 33	J A 30	J A 44	J A 28	24	J A 52	J A 75	J A 121	J A 91	J A 52	J A 60	J A 69	J A 58	J A 68	J A 87	J A 55	J A 38	22	J A 30	J A 26	36	J A 31	J A 43
14	J A 23	J A 39	J A 48	J A 44	J A 23	J A 22	J A 33	J A 51	J A 56	J A 45	J A 80	J A 58	J A 68	J A 66	J A 73	J A 78	J A 84	J A 74	J A 49	J A 61	J A 122	J A 100	J A 69	J A 22
15	J A 67	J A 54	J A 70	J A 53	J A 73	J A 58	J A 49	J A 40	J A 49	J A 57	J A 88	J A 91	J A 168	J A 86	J A 79	J A 81	J A 58	J A 50	J A 49	J A 55	J A 36	42	J A 35	J A 65
16	J A 23	J A 35	J A 51	J A 35	J A 28	22	J A 34	33	J A 45	42	J A 45	J A 45	40	48	J A 58	J A 66	J A 81	J A 92	J A 80	J A 40	J A 39	34	J A 65	J A 77
17	J A 67	J A 24	J A 20	20	E B 17	19	32	J A 41	J A 92	J A 66	J A 54	J A 74	J A 108	J A 66	J A 54	J A 70	J A 88	J A 85	J A 110	J A 124	J A 109	J A 40	J A 28	J A 30
18	J A 27	J A 30	J A 33	J A 32	J A 34	24	J A 56	J A 90	J A 102	J A 82	J A 103	J A 135	J A 86	J A 174	G 28	G 26	35	33	J A 33	J A 48	J A 76	J A 75	J A 110	J A 55
19	J A 55	J A 83	J A 68	J A 53	J A 20	20	J A 47	J A 48	J A 52	J A 60	J A 59	J A 139	J A 58	41	41	38	36	J A 72	J A 66	J A 85	J A 90	J A 84	J A 72	J A 78
20	J A 60	J A 78	J A 26	J A 46	J A 26	J A 23	J A 40	J A 60	J A 51	J A 86	J A 58	J A 56	J A 67	J A 49	J A 47	J A 54	J A 34	J A 31	J A 91	J A 145	J A 64	J A 84	J A 48	J A 23
21	J A 34	J A 28	J A 30	J A 29	J A 20	J A 24	31	36	J A 60	J A 75	40	38	40	38	J A 44	37	J A 35	31	J A 31	J A 19	J A 27	J A 37	J A 41	J A 41
22	J A 51	J A 28	21	E B 14	J A 18	21	31	J A 42	36	J A 44	38	G 33	36	37	J A 39	J A 53	J A 46	J A 117	J A 40	J A 41	J A 55	J A 75	J A 57	J A 83
23	J A 54	J A 43	J A 38	J A 32	J A 31	J A 65	J A 74	J A 64	J A 74	J A 49	J A 71	J A 55	J A 80	J A 77	J A 64	J A 57	J A 118	J A 38	J A 89	J A 47	E B 15	19	J A 19	J A 36
24	J A 19	J A 65	J A 31	J A 49	J A 60	J A 32	J A 63	J A 66	J A 57	J A 67	J A 65	J A 71	J A 44	J A 44	J A 73	J A 90	J A 49	J A 42	26	J A 56	J A 50	J A 50	J A 18	J A 24
25	J A 23	J A 25	J A 34	J A 29	J A 23	J A 23	28	J A 48	J A 68	J A 55	38	J A 55	J A 68	J A 48	J A 124	J A 156	J A 114	J A 117	J A 86	J A 60	J A 43	J A 62	J A 77	J A 72
26	J A 51	J A 54	J A 24	J A 24	J A 32	J A 30	J A 46	J A 81	J A 73	J A 69	J A 100	J A 86	J A 42	J A 46	J A 88	J A 131	J A 51	J A 41	J A 65	J A 61	J A 99	J A 69	J A 54	J A 64
27	J A 61	J A 35	J A 32	J A 30	J A 28	24	J A 57	J A 72	J A 118	J A 42	J A 52	J A 77	J A 69	J A 66	J A 59	J A 47	J A 39	J A 54	J A 43	J A 54	J A 128	J A 36	J A 52	J A 30
28	J A 43	J A 20	J A 43	E B 14	20	22	26	J A 48	J A 60	J A 65	J A 68	J A 82	J A 58	J A 53	J A 52	J A 50	J A 51	J A 32	J A 22	J A 26	J A 20	J A 28	J A 54	J A 31
29	J A 33	J A 40	J A 23	J A 30	J A 28	J A 22	J A 72	J A 49	J A 46	J A 78	J A 53	J A 52	J A 54	J A 42	J A 44	J A 46	J A 59	J A 58	J A 43	J A 36	J A 90	J A 62	J A 35	J A 34
30	J A 34	J A 34	J A 30	J A 39	J A 44	J A 30	J A 33	J A 56	J A 62	J A 46	J A 48	J A 48	J A 46	J A 54	J A 58	J A 76	J A 88	J A 124	J A 98	J A 144	J A 126	J A 70	J A 52	J A 75
31	J A 63	J A 60	J A 67	J A 73	J A 46	J A 48	J A 51	J A 99	J A 176	J A 208	J A 171	J A 106	J A 66	J A 58	J A 48	J A 40	J A 46	J A 36	J A 44	J A 42	J A 78	J A 88	J A 76	J A 58
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	J A 34	J A 34	J A 30	J A 31	J A 26	J A 22	32	J A 48	J A 54	J A 57	J A 54	J A 56	J A 55	J A 52	J A 49	J A 53	J A 49	J A 42	J A 43	J A 47	J A 53	J A 56	J A 52	J A 54
U Q	J A 54	J A 54	J A 48	J A 46	J A 34	J A 24	J A 49	J A 60	J A 72	J A 68	J A 80	J A 82	J A 69	J A 63	J A 59	J A 78	J A 84	J A 85	J A 66	J A 61	J A 90	J A 80	J A 69	J A 68
L Q	E B 21	E B 20	E B 20	E B 20	E B 18	19	28	40	44	45	42	42	42	44	41	38	36	33	J A 32	J A 34	J A 32	37	J A 29	J A 30

MAY 2007 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 15	E B 16	E B 15	E B 15	E B 14	E B 16	25	30	34	39	50	53	40	36	32	33	41	30	31	25	30	26	15	E B 15
2	E B 16	E B 15	E B 14	E B 14	E B 14	17	26	30	37	40	36	38	35	35	36	34	31	28	33	19	E B 15	21	E B 15	E B 15
3	E B 15	E B 15	E B 15	E B 15	E B 15	16	28	32	34	41	36	37	39	46	36	35	40	34	29	28	21	16	E B 15	E B 15
4	E B 14	E B 15	E B 14	E B 15	E B 15	E B 15	24	34	41	45	37	39	37	42	38	35	38	35	28	29	E B 15	20	20	E B 16
5	E B 15	E B 15	E B 15	E B 15	E B 16	E B 15	27	44	52	55	49	39	38	37	38	42	32	36	36	45	52	48	30	21
6	24	20	20	21	17	E B 16	26	36	49	A A 68	A A 80	54	39	A A 79	36	34	G 21	G 19	24	20	42	23	18	E B 15
7	18	23	16	A A 92	E B 15	18	28	32	36	43	41	53	A A 142	46	47	35	41	44	19	31	18	22	A A 77	31
8	19	22	A A 54	24	22	18	44	A A 57	A A 52	A A 65	A A 80	A A 132	54	44	35	43	A A 178	A A 157	59	41	23	32	21	A A 54
9	E B 15	E B 15	E B 15	E B 15	E B 15	18	28	A A 49	41	34	A A 117	46	45	45	G 33	G 27	G 23	27	28	22	23	30	28	18
10	E B 15	E B 16	E B 15	17	21	23	25	44	42	46	36	36	G 33	42	44	36	45	29	29	51	A A 149	E B 15	E B 15	30
11	E B 14	E B 15	E B 14	E B 15	20	17	26	30	G 24	G 29	36	34	43	50	A A 57	46	35	34	36	20	44	30	A A 69	E B 15
12	19	20	E B 15	16	E B 15	18	29	53	A A 72	A A 65	A A 85	A A 90	A A 72	46	49	A A 78	A A 109	A A 145	54	36	42	34	20	18
13	23	28	16	19	E B 16	20	A A 52	43	A A 121	A A 91	42	A A 60	A A 69	46	58	33	41	31	20	25	22	31	20	31
14	17	20	16	17	E B 15	18	25	43	42	38	A A 80	44	A A 68	A A 66	A A 73	45	A A 84	A A 74	40	44	45	A A 100	A A 69	18
15	A A 67	A A 54	19	20	20	A A 58	48	34	45	A A 57	A A 88	A A 91	A A 168	A A 86	A A 79	A A 81	54	48	46	48	30	36	30	A A 65
16	E B 15	23	19	27	20	20	30	32	41	37	40	37	37	44	A A 58	A A 66	A A 81	A A 92	A A 80	36	30	19	19	32
17	A A 67	E B 15	E B 15	E B 15	E B 17	18	30	37	A A 92	A A 66	44	46	A A 108	44	44	A A 70	A A 88	A A 85	A A 110	A A 124	A A 109	16	19	20
18	E B 16	18	19	16	18	22	A A 56	A A 90	A A 102	A A 82	A A 103	A A 135	A A 86	44	U Y 28	G 25	32	30	31	36	45	43	A A 110	42
19	33	A A 83	31	31	E B 14	18	34	43	44	A A 60	A A 59	A A 139	A A 58	37	40	36	34	A A 72	A A 66	A A 85	A A 90	40	32	18
20	A A 60	A A 78	E B 14	E B 15	16	19	36	52	48	A A 86	A A 58	A A 56	49	44	44	43	30	28	A A 91	A A 145	33	20	43	15
21	E B 15	E B 16	22	E B 14	E B 15	18	29	33	53	41	37	37	38	37	35	33	29	29	23	E B 15	23	21	20	32
22	22	E B 15	E B 15	E B 14	E B 15	20	30	37	34	37	36	G 33	34	34	34	34	41	A A 117	24	26	42	21	20	31
23	30	31	20	E B 16	18	A A 65	A A 74	A A 64	A A 74	44	A A 71	A A 55	A A 80	A A 77	A A 64	55	A A 118	30	A A 89	22	E B 15	E B 15	E B 15	18
24	E B 16	35	20	26	19	A A 32	A A 63	A A 66	A A 57	A A 67	A A 65	A A 71	A A 44	A A 44	A A 73	36	30	35	24	34	38	16	E B 15	16
25	18	21	22	22	19	20	27	42	48	42	35	46	A A 68	42	A A 124	A A 156	A A 114	A A 117	36	38	34	41	A A 77	18
26	16	25	17	E B 14	20	26	A A 46	A A 81	42	A A 69	A A 100	A A 86	38	43	A A 88	A A 131	31	36	A A 65	49	39	44	35	38
27	31	24	23	19	21	22	A A 57	A A 72	A A 118	37	A A 52	A A 77	A A 69	A A 66	A A 59	42	34	50	39	31	A A 128	19	28	20
28	28	E B 15	32	E B 14	E B 15	20	25	40	A A 60	A A 65	A A 68	A A 82	44	45	43	44	44	31	20	22	E B 15	20	E B 16	19
29	E B 16	17	E B 15	16	18	19	A A 72	34	40	A A 78	47	42	A A 54	40	43	42	46	A A 58	41	34	35	48	26	30
30	E B 15	20	19	19	E B 16	25	31	48	A A 62	42	39	A A 48	39	48	48	A A 76	A A 88	A A 124	A A 98	40	20	32	44	A A 75
31	40	A A 60	A A 67	A A 73	23	A A 48	46	A A 99	A A 176	A A 208	A A 171	A A 106	46	A A 58	42	37	34	32	42	22	31	52	38	41
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	17	20	16	16	E B 16	19	30	43	48	46	50	53	45	44	44	42	41	35	36	34	33	26	21	20
U Q	28	25	20	21	20	22	A A 46	A A 53	A A 62	A A 67	A A 80	A A 82	A A 69	A A 48	A A 58	A A 55	A A 81	A A 74	A A 59	44	44	40	A A 38	32
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	18	26	34	41	40	37	39	38	42	36	34	32	30	28	22	22	20	E B 18	E B 16

MAY 2007 fbEs (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

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

MAY 2007 fmin (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'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	297	318	320	322	320	356	368	368	351	329	320	320	320	313	316	329	333	349	320	314	336	359	306	F
2	F	F	F	339	313	345	378	380	366	342	309	302	317	326	325	313	323	322	327	351	364	319	308	308
3	314	309	319	325	331	349	364	375	346	343	340	320	311	333	320	337	324	318	320	346	393	305	293	302
4	298	309	310	322	318	356	372	374	375	360	342	327	340	308	300	307	341	351	331	324	352	330	294	309
5	314	305	309	F	F	386	376	345	366	366	370	338	321	304	310	325	329	325	313	325	350	307	331	305
6	300	F	F	316	339	361	371	358	361	A	A	344	325	A	317	317	319	316	326	319	322	341	324	335
7	316	F	F	A	F	346	369	375	357	347	337	320	A	309	280	295	319	331	317	320	333	321	A	308
8	308	289	A	299	300	337	366	A	A	A	A	A	314	315	312	329	A	A	328	341	325	312	F	A
9	315	F	F	F	F	378	356	A	342	329	A	295	319	321	319	340	349	353	348	316	316	329	346	306
10	308	310	317	316	316	364	338	326	363	365	326	337	313	334	330	324	327	329	325	318	A	325	F	F
11	338	344	322	322	315	310	347	345	354	383	278	318	319	337	A	324	328	327	311	322	350	350	A	340
12	311	305	334	F	F	339	353	351	A	A	A	A	A	332	323	A	A	A	316	309	325	346	353	F
13	F	F	F	F	F	343	A	372	A	A	357	A	A	279	297	312	323	325	323	332	349	364	322	313
14	312	F	F	F	326	386	341	369	365	339	A	337	A	A	A	324	A	A	314	338	357	A	A	F
15	A	A	F	F	339	A	356	383	343	A	A	A	A	A	A	A	339	335	319	328	351	337	331	A
16	330	312	F	319	324	318	370	378	358	358	363	354	R	314	A	A	A	A	A	325	327	336	336	327
17	A	320	318	339	334	337	362	369	A	A	288	316	A	296	306	A	A	A	A	A	A	328	312	313
18	305	299	322	314	321	351	A	A	A	A	A	A	A	318	316	329	326	335	311	291	314	F	A	328
19	299	A	301	F	302	302	320	318	368	A	A	A	A	291	288	327	321	A	A	A	A	296	F	F
20	A	A	306	298	309	339	327	366	366	A	A	A	315	316	332	344	346	321	A	A	322	340	F	F
21	335	330	328	347	F	347	353	310	334	295	326	314	326	321	305	331	343	343	320	312	320	321	F	F
22	F	315	323	318	320	333	330	345	337	363	295	324	283	305	323	343	338	A	315	318	321	315	F	314
23	303	F	303	371	318	A	A	A	A	347	A	A	A	A	A	323	A	345	A	287	300	295	293	276
24	302	306	324	312	342	A	A	A	A	A	A	A	A	A	A	289	290	330	325	342	F	297	F	F
25	F	F	F	F	342	347	336	335	329	318	292	315	A	302	A	A	A	A	314	319	306	324	A	303
26	306	294	297	297	282	324	A	A	363	A	A	A	296	322	A	A	320	347	A	310	305	295	F	303
27	298	F	F	389	316	343	A	A	A	295	A	A	A	A	A	292	311	310	325	331	A	F	359	307
28	305	310	298	315	310	309	361	348	A	A	A	A	309	307	318	295	316	313	342	347	353	320	305	F
29	316	328	F	F	F	360	A	357	357	A	356	317	A	308	299	323	321	A	312	319	339	324	F	323
30	313	318	304	314	331	304	351	381	A	346	354	A	314	303	315	A	A	A	A	306	314	323	F	A
31	F	A	A	A	339	A	323	A	A	A	A	A	317	A	324	301	323	331	326	332	362	310	F	329
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	18	18	20	24	27	24	23	20	17	16	17	17	24	22	24	23	21	24	28	26	28	15	19
MED	308	310	318	318	320	345	356	366	358	346	332	320	317	314	316	324	324	330	320	321	330	324	322	309
U Q	315	318	322	332	332	356	368	375	366	362	355	337	320	322	323	329	338	344	326	332	351	336	336	327
L Q	302	305	304	314	314	333	340	345	344	329	302	316	312	304	305	310	320	322	314	315	320	311	305	305

MAY 2007 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								L	L	U L 382	A	A	381	U L 395	382	U L 372	A	A						
2								L	U L 408	E A	U L 393	U L 392	417	397	U L 406	374	381	L						
3								L	U L 386	A	U L 392	U L 407	412	A	381	369	A	A	A					
4								A	A	A	U L 405	U L 373	379	A	338	383	A	A						
5								A	A	A	A	394	U L 391	U L 388	U L 383	A	U L 378	A	A					
6								A	A	A	A	A	U L 399	A	U L 400	367	368	L	A					
7								L	L	A	U L 376	A	A	A	A	U L 372	A	A	L					
8								A	A	A	A	A	A	A	396	A	A	A	A					
9								A	A	378	A	A	A	A	U L 386	U L 397	L	L						
10							L	A	A	A	U L 437	417	U L 392	A	A	U L 368	A	L						
11							L	U L 388	414	U L 391	U L 429	U L 421	A	A	A	A	U L 409	A	A					
12							L	A	A	A	A	A	A	A	A	A	A	A	A					
13							A	A	A	A	A	A	A	A	A	368	A	379	L					
14							L	A	A	U L 377	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							L	U L 376	A	393	413	U L 396	U L 405	A	A	A	A	A	A					
17							L	A	A	A	A	A	A	A	A	A	A	A	A					
18							A	A	A	A	A	A	A	A	410	385	U L 362	L	A					
19						338	A	A	A	A	A	A	A	U L 314	364	A	366	A	A					
20							A	A	A	A	A	A	A	A	A	A	U L 356	U L 365	A					
21									A	A	U L 396	U L 390	402	U L 394	U L 390	U L 369	U L 376	L						
22							U L 357	A	402	422	U L 417	404	405	U L 419	U L 385	U L 386	A	A	L					
23						A	A	A	A	A	A	A	A	A	A	A	A	U L 365	A					
24						A	A	A	A	A	A	A	A	A	A	U L 379	U L 391	E A	L					
25							L	A	A	A	U L 410	A	A	A	A	A	A	A	A					
26						A	A	A	A	A	A	A	U L 348	A	A	A	U L 349	A	A					
27							A	A	A	U L 402	A	A	A	A	A	A	U L 375	A	A					
28							377	A	A	A	A	A	A	A	A	A	A	371	L					
29							A	385	A	A	A	A	A	U L 376	A	A	A	A	A					
30						U L 340	U L 391	A	A	A	U L 393	A	U L 369	A	A	A	A	A	A					
31						A	A	A	A	A	A	A	A	A	A	U L 393	U L 372	U L 384	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						2	3	3	4	7	11	9	12	7	12	14	12	5						
MED						339	U L 377	U L 385	405	U L 391	U L 405	U L 396	396	U L 394	386	U L 373	U L 374	U L 371						
U Q							U L 391	U L 388	411	402	U L 417	U L 412	405	397	398	U L 385	U L 380	382						
L Q							U L 357	U L 376	394	378	U L 393	U L 391	380	U L 376	382	369	U L 364	U L 365						

MAY 2007 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 h'F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								252	262	314	E A 314	E A 310	298	300	280	274	262	260						
2								244	246	288	350	370	306	280	278	298	272	264						
3								242	278	288	292	318	350	294	312	292	296	288	262					
4								246	236	262	300	332	308	376	362	328	268	248						
5								E A 280	246	248	240	294	326	362	342	300	276	282	270					
6								248	E A 274	A	A	E A 298	326	A	330	312	286	286	250					
7								242	272	276	308	E A 336	A	336	E A 406	332	274	252	270					
8								A	A	A	A	A	E A 324	304	320	298	A	A	E A 294					
9								A	292	284	A	380	310	294	292	292	260	248						
10							280	E A 302	258	244	322	292	356	308	308	300	E A 298	288						
11							276	260	260	244	452	340	340	278	A	310	290	276	290					
12							268	E A 278	A	A	A	A	A	302	E A 320	A	A	A	E A 338					
13							A	244	A	A	276	A	A	E A 394	E A 342	298	262	260	256					
14							262	246	258	298	A	292	A	A	A	280	A	A	268					
15						A	E A 268	228	E A 274	A	A	A	A	A	A	A	262	278	E A 280					
16							238	232	262	260	268	284	386	344	A	A	A	A	A					
17							256	248	A	A	382	318	A	390	374	A	A	A	A					
18							A	A	A	A	A	A	A	284	284	284	278	270	268					
19						332	330	E A 328	E A 268	A	A	A	A	408	380	314	310	A	A					
20							282	254	E A 254	A	A	A	E A 336	314	282	268	272	294	A					
21									E A 318	334	308	332	308	320	362	298	262	270						
22							310	276	276	248	388	344	430	362	310	274	292	A	272					
23						A	A	A	A	282	A	A	A	A	A	E A 318	A	268	A					
24						A	A	A	A	A	A	A	A	A	A	382	402	294	278					
25							288	E A 294	E A 326	E A 310	382	348	A	E A 354	A	A	A	A	E A 274					
26						316	A	A	270	A	A	A	370	318	A	A	284	262	A					
27							A	A	A	404	A	A	A	A	A	380	330	E A 344	272					
28							258	270	A	A	A	A	360	340	306	E A 306	294	280	242					
29							A	246	256	A	E A 280	E A 318	A	360	362	314	E A 312	A	E A 292					
30						370	262	230	A	278	306	A	384	E A 382	326	A	A	A	A					
31						A	E A 292	A	A	A	A	A	334	A	342	358	300	274	E A 282					
	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	14	22	20	17	16	17	18	24	22	24	23	21	18					
MED						332	270	246	261	280	308	318	332	320	320	299	280	272	266					
U Q						370	288	E A 276	275	304	366	342	360	362	362	316	298	287	E A 282					
L Q						316	262	244	257	254	286	296	310	301	306	292	268	261	268					

MAY 2007 h'F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

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MAY 2007 h'F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 268	E B 248	E B 250	238	234	226	210	216	212	224	A	A	224	196	202	210	A	A	E A 268	E A 254	228	210	228	E B 282
2	E B 276	E B 278	E B 242	228	232	226	232	216	212	A	204	206	182	202	204	210	208	238	E A 254	222	208	216	E B 248	E B 260
3	E B 274	E B 264	E B 250	E B 228	228	230	218	218	208	A	200	196	204	A	204	220	A	A	A	226	200	192	E B 294	E B 294
4	E B 290	E B 286	E B 278	E B 264	E B 260	230	212	A	A	A	190	212	212	A	E A 266	220	A	A	E A 242	240	210	220	E A 272	E B 264
5	E B 258	E B 256	E B 262	248	220	200	204	A	A	A	A	212	210	H 190	218	A	222	A	A	E A 264	E A 254	E A 308	232	E A 260
6	E A 310	E A 338	E A 312	E A 258	228	218	218	A	A	A	A	A	218	A	196	216	222	220	A	236	242	214	206	222
7	226	E A 278	E A 244	A	200	202	228	220	210	A	E A 232	A	A	A	A	226	A	A	226	E A 246	224	230	A	E A 240
8	E A 288	E A 318	A	E A 358	E A 320	E A 246	E A 278	A	A	A	A	A	A	A	222	A	A	A	A	E A 236	E A 266	E A 254	226	A
9	E B 254	E B 274	E B 268	E B 222	E B 252	204	216	A	A	214	A	A	A	A	222	202	222	212	230	E A 240	E A 250	E A 268	244	E A 288
10	E B 252	E B 268	E B 254	E B E A 280	E A 284	230	216	A	A	A	188	186	194	A	A	214	A	224	E A 248	E A 292	A	218	214	E A 276
11	236	222	222	234	E A 278	232	220	212	190	200	194	178	A	A	A	A	210	A	A	242	232	216	A	E B 248
12	E A 264	E A 278	248	E A 266	242	220	216	A	A	A	A	A	A	A	A	A	A	A	A	E A 278	E A 252	224	212	226
13	E A 294	E A 322	E A 266	E A 278	E B 254	222	A	A	A	A	A	A	A	A	A	194	A	218	222	230	210	202	E A 254	E A 296
14	E A 262	E A 276	E A 278	E A 282	220	220	H 186	A	A	E A 236	A	A	A	A	A	A	A	A	A	E A 234	E A 244	A	A	E A 286
15	A	A	E A 282	E A 248	E A 248	A	A	A	A	A	A	A	A	A	A	A	A	A	A	E A 278	218	218	E A 262	A
16	240	E A 310	E A 276	E A 288	E A 256	222	216	198	A	216	206	208	204	A	A	A	A	A	A	E A 250	234	216	228	E A 268
17	A	E B 252	E B 252	218	E B 236	222	212	A	A	A	A	A	A	A	A	A	A	A	A	A	A	204	E A 278	E A 266
18	E B 256	E A 284	E A 270	240	E A 256	230	A	A	A	A	A	A	A	A	H 188	210	224	E A 234	A	E A 320	E A 306	E A 268	A	E A 296
19	E A 324	A	E A 346	E A 322	E B 268	260	A	A	A	A	A	A	A	E A 304	E A 254	A	E A 246	A	A	A	A	E A 300	E A 334	E A 252
20	A	A	240	E B 304	E A 284	222	A	A	A	A	A	A	A	A	A	A	214	212	A	A	E A 254	216	E A 302	214
21	220	238	E A 268	232	214	228	216	220	A	A	202	198	200	200	196	196	206	224	214	230	E A 236	222	E A 258	222
22	E A 268	E B 254	240	E B 246	E B 248	214	E A 246	A	196	200	H 186	186	182	192	188	220	A	A	216	E A 244	E A 274	E A 264	E A 260	E A 278
23	E A 326	E A 298	E A 308	198	E A 260	A	A	A	A	A	A	A	A	A	A	A	A	E A 244	A	E A 284	E B 260	E B 232	E B 272	E A 308
24	E B 262	E A 310	220	E A 314	E A 298	A	A	A	A	A	A	A	A	A	A	E A 250	214	A	216	E A 248	E A 320	E A 268	E B 290	E A 308
25	E A 298	E A 314	E A 348	E A 280	214	E A 248	230	A	A	A	204	A	A	A	A	A	A	A	A	E A 266	E A 290	E A 300	A	E A 282
26	E A 260	E A 276	E A 266	E B 264	E A 322	A	A	A	A	A	A	A	E A 258	A	A	A	224	A	A	E A 330	E A 288	E A 370	E A 312	E A 346
27	E A 336	E A 328	E A 252	216	E A 264	222	A	A	A	214	A	A	A	A	A	A	E A 248	A	A	232	A	E A 270	230	E A 276
28	E A 310	E B 250	E A 382	240	E B 244	228	226	A	A	A	A	A	A	A	A	A	A	E A 236	208	218	198	216	E B 274	E A 288
29	E B 252	E A 256	E B 246	E A 248	E A 260	222	A	E A 236	A	A	A	A	A	222	A	A	A	A	A	E A 256	230	E A 268	E A 258	226
30	232	E A 290	E A 286	E A 260	E B 250	242	E A 244	A	A	A	244	A	244	A	A	A	A	A	A	E A 284	244	258	E A 244	A
31	E A 306	A	A	A	E A 268	A	A	A	A	A	A	A	A	A	A	216	E A 238	222	A	230	224	E A 332	E A 286	E A 292
	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	27	29	29	31	26	20	8	6	7	11	9	12	7	12	14	13	11	11	28	27	30	26	28
MED	E 266	E A 278	E A 266	E A 248	E 252	223	216	216	209	214	201	198	206	198	202	214	218	221	220	E A 245	U 221	U 215	E 258	E A 276
U Q	E A 296	E A 310	E A 280	E A 280	E A 268	230	229	220	212	224	206	210	221	222	222	220	E A 231	E A 236	E A 248	E A 272	E A 260	E A 268	E A 278	E A 290
L Q	253	E B 256	247	233	232	220	214	214	196	200	190	186	197	192	196	210	212	218	216	233	224	216	230	250

MAY 2007 h'F (KM)

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MAY 2007 h'E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						B	122	122	118	A	A	A	A	A	A	A	A	116	B					
2						B	120	118	116	116	116	A	116	116	A	116	114	122	B					
3						B	122	120	120	120	A	112	A	A	A	118	118	118	B					
4						B	120	A	A	A	A	A	114	114	114	112	116	A	A					
5						B	122	114	A	A	A	A	A	A	A	A	114	120	B					
6						B	118	114	110	A	A	A	A	A	A	A	116	116	B					
7						B	122	120	120	116	A	A	A	A	A	114	A	A	B					
8						B	116	A	A	A	A	A	A	A	A	A	A	A	A					
9						B	116	A	A	A	A	A	A	A	122	116	120	120	B					
10						B	124	A	A	A	A	A	120	A	120	120	A	A	B					
11						B	A	A	114	118	A	A	118	116	116	A	118	120	B					
12						B	114	A	A	A	A	A	A	118	114	104	A	A	B					
13						B	A	A	A	A	A	116	A	A	A	A	A	A	B					
14						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
15						B	A	A	A	A	A	A	A	A	120	A	A	116	B					
16						B	A	A	A	A	A	A	A	116	116	118	A	A	B					
17						B	122	A	A	A	A	A	A	A	A	116	A	A	B					
18						B	114	A	A	A	A	A	A	A	114	118	118	110	116					
19						B	116	A	A	A	A	A	A	114	116	120	120	A	A					
20						B	114	A	A	A	A	A	A	A	A	A	A	A	A					
21						B	118	114	A	A	A	A	A	A	A	A	A	114	A					
22						B	118	A	A	A	A	112	A	A	A	A	118	A	A					
23						B	A	A	A	A	A	A	A	A	A	A	A	116	A					
24						B	110	A	A	A	A	A	A	A	A	A	A	A	A					
25						B	118	A	A	A	A	A	A	A	A	A	A	A	A					
26						B	122	A	A	A	A	A	A	A	A	A	A	114	A					
27						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
28						B	112	106	A	A	A	A	A	A	A	A	A	A	A					
29						B	A	A	A	A	A	A	A	116	116	116	A	A	A					
30						B	116	A	A	A	A	A	A	120	A	118	A	A	A					
31						B	110	A	A	A	A	A	A	112	120	114	A	116	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							23	8	6	4	1	3	4	9	11	14	10	13	1					
MED							118	116	117	117	116	112	117	116	116	116	118	116	116					
U Q							122	120	120	119		116	119	117	120	118	118	120						
L Q							114	114	114	116		112	115	114	114	114	116	115						

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	B	B	B	B	132	124	126	116	108	102	102	102	104	108	108	106	124	108	106	104	94	90	90
2	B	B	B	B	B	140	130	126	114	112	118	108	116	110	104	116	136	116	110	106	104	106	102	B
3	B	B	B	B	B	130	118	118	120	130	102	108	100	100	102	156	120	118	112	110	106	94	B	B
4	B	B	B	114	B	122	122	102	106	106	106	118	116	154	146	134	118	108	102	102	102	102	102	110
5	100	94	100	100	B	132	126	116	102	102	102	106	106	106	104	108	120	122	114	104	106	106	104	100
6	100	102	98	100	98	B	120	118	116	106	104	102	102	100	102	106	102	104	118	112	106	106	106	102
7	98	100	94	92	94	102	138	124	114	112	104	98	96	102	108	120	102	102	108	106	102	102	98	98
8	98	96	96	96	92	102	120	106	102	104	104	100	100	106	106	108	98	92	92	92	100	100	98	96
9	104	B	92	94	B	124	118	106	106	106	98	102	100	98	100	94	100	124	110	106	108	102	102	98
10	104	B	B	98	98	98	122	106	102	102	102	106	102	108	128	120	106	106	104	110	114	110	118	102
11	B	B	B	102	100	120	104	98	98	100	96	100	126	116	114	108	126	118	108	110	108	102	104	102
12	98	98	96	110	102	120	118	104	102	98	98	98	102	116	116	108	104	104	124	108	108	104	104	102
13	96	96	100	94	96	122	104	104	102	98	104	114	106	102	102	102	106	104	104	102	104	100	98	98
14	98	98	100	98	94	96	104	100	100	104	102	102	104	102	102	102	102	100	100	100	100	100	100	100
15	104	104	102	98	98	96	96	100	102	104	100	98	98	100	116	108	104	114	106	100	94	104	104	104
16	94	90	92	86	94	104	106	104	102	106	102	102	106	140	114	110	104	104	102	102	98	98	98	98
17	94	96	92	92	B	122	120	106	104	100	102	102	96	98	98	110	106	104	104	104	102	104	104	94
18	104	94	92	90	90	126	110	106	102	102	98	98	100	112	104	106	154	130	118	106	104	106	104	100
19	98	98	94	96	128	132	116	104	102	102	102	98	110	126	164	150	124	104	106	108	106	102	102	98
20	96	94	96	94	96	96	116	104	106	102	102	102	100	96	100	100	102	102	112	96	106	104	102	102
21	98	98	96	90	96	100	120	116	104	102	102	102	104	104	108	108	104	120	106	106	102	100	104	98
22	96	96	96	B	96	128	118	106	102	100	100	108	104	100	102	100	112	98	108	94	100	100	98	96
23	94	96	94	100	120	112	106	104	102	106	98	100	98	98	98	94	98	116	104	108	B	112	104	100
24	100	98	96	96	116	116	108	104	106	106	104	102	102	102	102	100	100	100	114	106	106	106	100	98
25	98	94	94	94	94	90	116	102	102	104	108	102	102	100	100	94	96	100	100	100	108	102	102	96
26	96	94	90	122	98	120	112	106	104	100	98	102	104	102	96	96	102	114	106	102	102	104	102	98
27	92	96	90	90	114	118	104	104	104	104	104	98	98	96	96	96	102	106	106	102	100	104	100	96
28	96	96	96	B	90	122	126	116	104	104	100	100	100	98	98	96	94	92	92	92	92	92	108	104
29	106	96	102	100	100	112	102	100	100	100	100	100	98	132	120	124	104	106	106	104	100	100	100	102
30	98	92	88	96	100	118	114	104	102	102	102	100	106	126	126	114	106	106	106	98	100	106	102	96
31	96	96	92	88	94	106	114	102	100	96	98	96	104	112	120	116	108	114	104	100	100	100	100	94
	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	24	25	26	24	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	31	30	29
MED	98	96	96	96	97	119	116	104	102	104	102	102	102	102	104	108	104	106	106	104	103	102	102	98
U Q	100	98	97	100	100	124	120	116	106	106	104	102	106	112	116	116	112	116	110	106	106	106	104	102
L Q	96	94	92	92	94	102	106	104	102	100	100	100	100	100	100	100	102	102	104	100	100	100	100	96

MAY 2007 h'Es (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2007 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

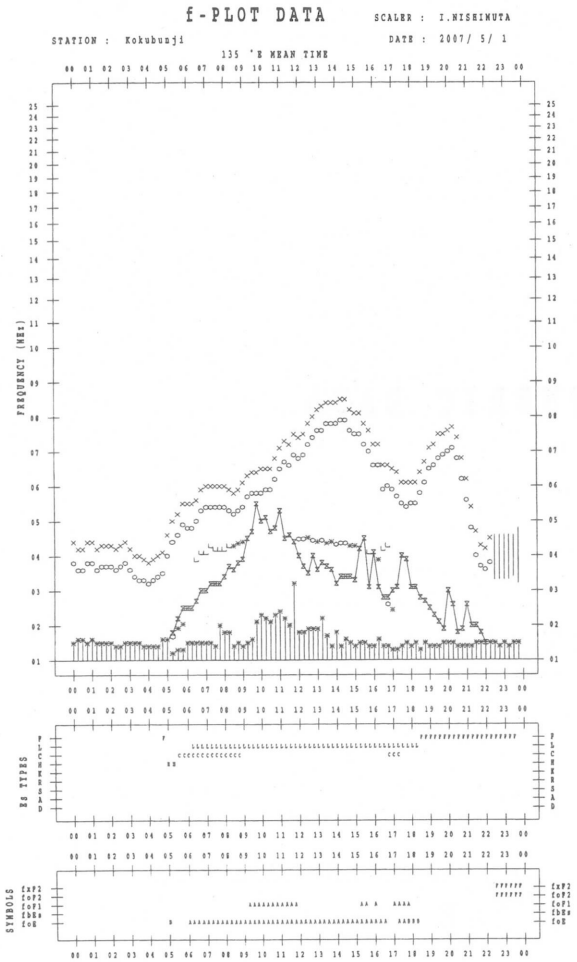
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						H 1	C 3	CL 11	CL 11	L 2	L 3	L 3	L 3	L 2	L 2	L 2	L 3	CL 22	L 4	F 6	F 2	F 3	F 3	F 2
2						H 1	CL 21	CL 11	CL 21	CL 22	CL 11	L 2	CL 11	CL 11	L 2	CL 11	HL 12	CL 21	C 3	F 4	F 3	F 3	F 2	
3						C 1	C 2	CL 21	CL 21	CL 21	L 2	CL 11	L 2	L 2	L 2	HL 12	CL 22	CL 32	C 4	F 5	F 5	F 4		
4				F 1		C 1	C 2	L 2	L 2	L 2	L 2	CL 12	CL 22	HL 22	HL 12	HL 22	CL 42	L 3	L 3	F 5	F 3	F 3	F 4	F 1
5	F 2	F 3	F 1	F 2		H 1	C 2	CL 32	L 2	L 3	L 2	L 1	L 1	L 1	L 2	L 2	CL 11	CL 21	C 4	F 6	F 7	F 5	F 5	F 4
6	F 4	F 4	F 5	F 5	F 4		C 2	CL 21	CL 21	L 2	L 3	L 3	L 2	L 2	L 2	L 2	L 1	L 1	C 4	F 6	F 4	F 3	F 3	F 3
7	F 4	F 5	F 3	F 3	F 2	L 2	HL 21	CL 11	CL 11	CL 21	L 1	L 2	L 2	L 2	L 3	CL 11	L 3	L 3	L 3	F 3	F 3	F 3	F 4	F 5
8	F 5	F 5	F 4	F 5	F 4	L 2	C 3	L 3	L 3	L 3	L 2	L 3	L 2	L 2	L 2	L 2	L 5	LC 52	L 3	F 4	F 4	F 4	F 5	F 5
9	F 2		F 2	F 1		C 1	C 2	L 3	L 2	L 2	L 3	L 1	L 2	L 2	L 1	L 2	L 2	CL 11	C 3	F 4	F 4	F 5	F 4	F 4
10	F 2			F 3	F 3	L 2	CL 21	L 3	L 2	L 2	L 2	L 1	L 2	L 2	CL 22	CL 22	L 2	L 2	L 4	F 3	F 7	F 2	F 2	F 4
11				F 1	F 3	C 1	L 3	L 2	L 2	L 1	L 2	L 2	CL 12	CL 22	CL 32	L 3	CL 22	CL 32	L 3	F 3	F 3	F 5	F 5	F 3
12	F 3	F 3	F 4	FF 22	F 2	C 2	C 2	L 3	L 3	L 3	L 3	L 3	L 3	CL 22	CL 32	L 4	L 4	L 4	C 3	F 5	F 7	F 3	F 3	F 3
13	F 6	F 4	F 5	F 3	F 2	C 2	L 4	L 3	L 3	L 3	L 2	CL 22	L 3	L 3	L 3	L 2	L 3	L 3	L 3	F 4	F 3	F 6	F 3	F 4
14	F 4	F 5	F 5	F 3	F 3	L 3	L 2	L 2	L 2	L 2	L 3	L 3	L 3	L 3	L 3	L 3	L 3	L 4	L 3	F 4	F 5	F 5	F 3	F 2
15	F 4	F 5	F 4	F 4	F 3	L 4	L 3	L 2	L 2	L 3	L 4	L 3	L 3	L 2	C 3	L 3	L 4	CL 32	L 4	F 5	F 5	FF 33	F 7	F 6
16	F 4	F 5	F 2	F 3	F 2	L 2	L 2	L 2	L 2	L 2	L 2	L 2	L 1	HL 11	CL 32	CL 42	L 5	L 5	L 4	F 4	F 5	F 5	F 3	F 4
17	F 4	F 1	F 2	F 1		C 2	C 2	L 2	L 3	L 2	L 3	L 2	L 3	L 2	L 3	CL 32	L 4	L 6	L 7	F 5	F 5	F 2	F 2	F 3
18	F 2	F 3	F 2	F 3	F 2	C 4	C 4	L 4	L 4	L 2	L 4	L 4	L 3	L 2	L 2	L 2	HL 12	CL 21	C 4	F 5	F 7	F 4	F 4	F 7
19	F 5	F 4	F 5	F 4	F 1	C 2	C 2	L 3	L 3	L 3	L 3	L 3	L 3	CL 21	HL 11	HL 11	CL 11	L 3	L 6	F 4	F 5	F 5	F 5	F 4
20	F 4	F 4	F 3	F 3	F 2	L 2	CL 21	L 3	L 3	L 2	L 3	L 3	L 2	L 2	L 2	L 2	L 2	L 2	CL 33	F 4	F 3	F 3	F 6	F 1
21	F 3	F 3	F 4	F 3	F 2	L 1	CL 21	CL 21	L 3	L 2	L 2	L 2	L 2	L 2	L 2	L 2	L 2	CL 21	L 3	F 3	F 3	F 3	F 3	F 3
22	F 4	F 2	F 1		F 1	CL 22	CL 21	L 3	L 2	L 2	L 2	L 2	L 2	L 2	L 2	L 2	CL 32	L 3	L 4	F 4	F 4	F 4	F 4	F 5
23	F 6	F 5	F 5	F 2	FF 32	C 5	L 4	L 3	L 3	L 2	L 2	L 3	L 3	L 3	L 4	L 4	L 4	CL 22	L 4	F 4		F 1	F 2	F 3
24	F 2	F 5	F 5	F 5	F 5	C 6	C 3	L 3	L 3	L 3	L 3	L 3	L 3	L 2	L 3	L 2	L 2	L 3	CL 22	F 4	F 4	F 3	F 2	F 4
25	F 3	F 4	F 5	F 4	F 4	L 3	CL 21	L 3	L 3	L 3	L 2	L 3	L 3	L 3	L 4	L 4	L 3	L 4	L 4	F 3	F 7	F 5	F 5	F 4
26	F 4	F 4	F 2	F 2	F 2	C 3	CL 31	L 4	L 3	L 3	L 3	L 3	L 2	L 2	L 3	L 4	L 3	C 3	L 4	F 5	F 4	F 6	F 4	F 7
27	F 5	F 5	F 4	F 4	FF 22	C 3	L 3	L 3	L 4	L 2	L 2	L 3	L 3	L 5	L 4	L 5	L 2	L 3	L 2	F 5	F 6	F 4	F 4	F 3
28	F 4	F 2	F 5		F 1	C 2	C 2	C 2	L 3	L 3	L 3	L 3	L 2	L 2	L 2	L 2	L 3	L 3	L 3	F 4	F 2	F 3	F 2	F 3
29	F 3	F 2	F 2	F 2	F 3	C 2	L 3	L 2	L 2	L 3	L 3	L 2	L 3	HL 11	CL 21	CL 21	L 3	L 4	L 3	F 4	F 4	F 5	F 8	F 6
30	F 2	F 3	F 3	F 2	F 2	C 3	C 2	L 3	L 3	L 2	L 3	LL 22	L 2	CL 22	CL 22	CL 32	L 5	L 5	L 5	F 4	F 3	F 6	F 7	F 6
31	F 6	F 5	F 4	F 3	F 2	L 3	C 4	L 4	L 3	L 3	L 3	L 3	L 2	CL 32	CL 22	CL 22	L 2	CL 21	L 3	F 4	F 3	F 5	F 5	F 4
	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																								

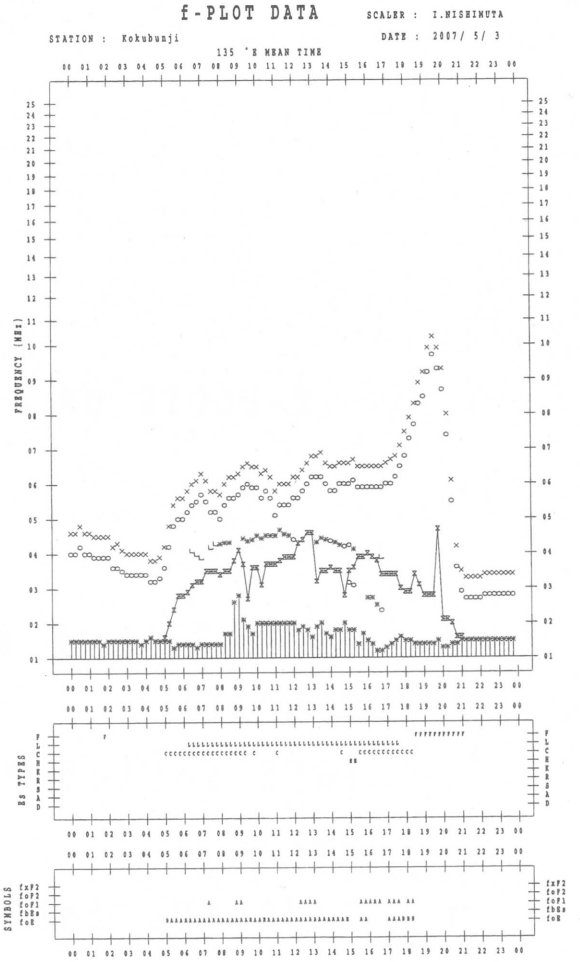
MAY 2007 TYPES OF Es

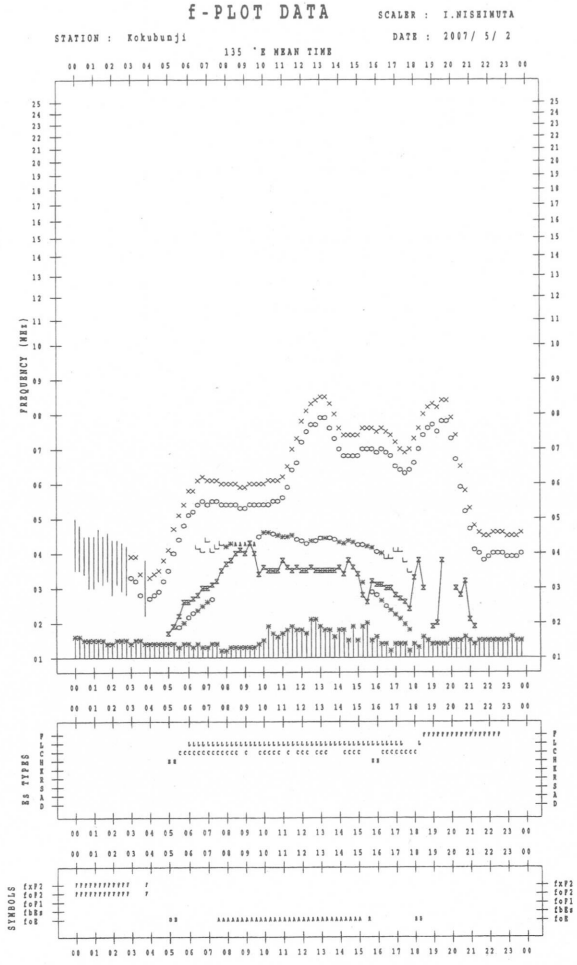
NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

f-PLOTS OF IONOSPHERIC DATA

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


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/ 1
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/ 3
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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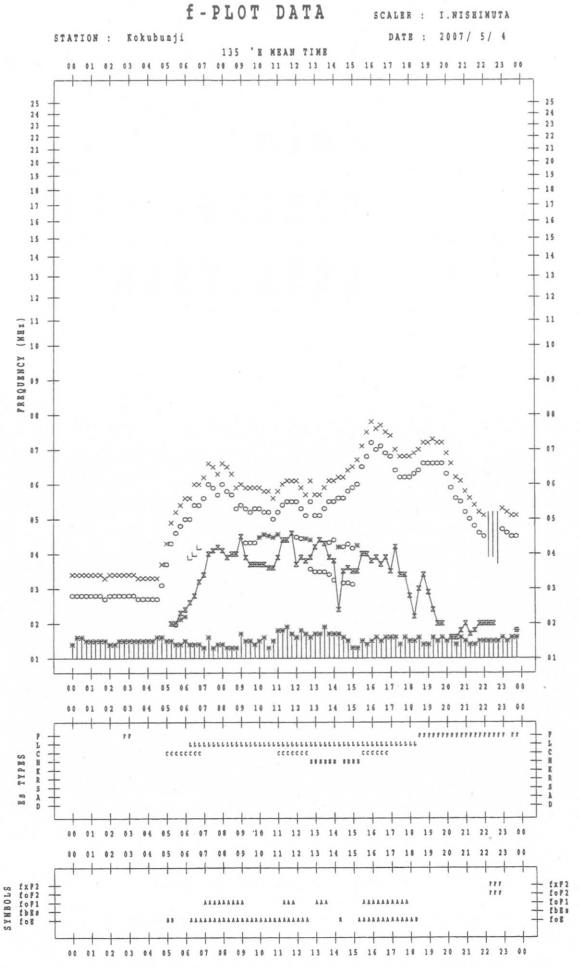
STATION : Kokubunji
DATE : 2007/ 5/ 2
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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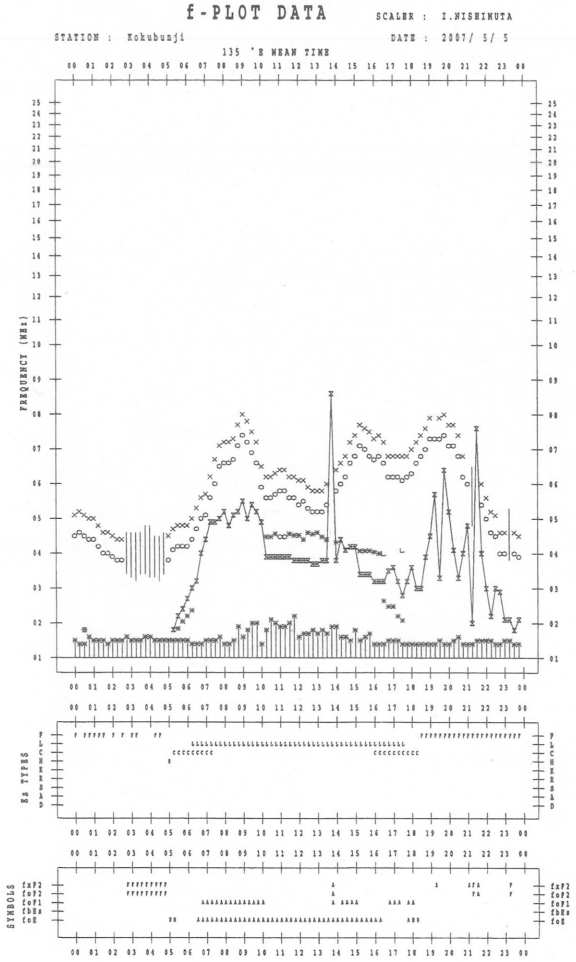
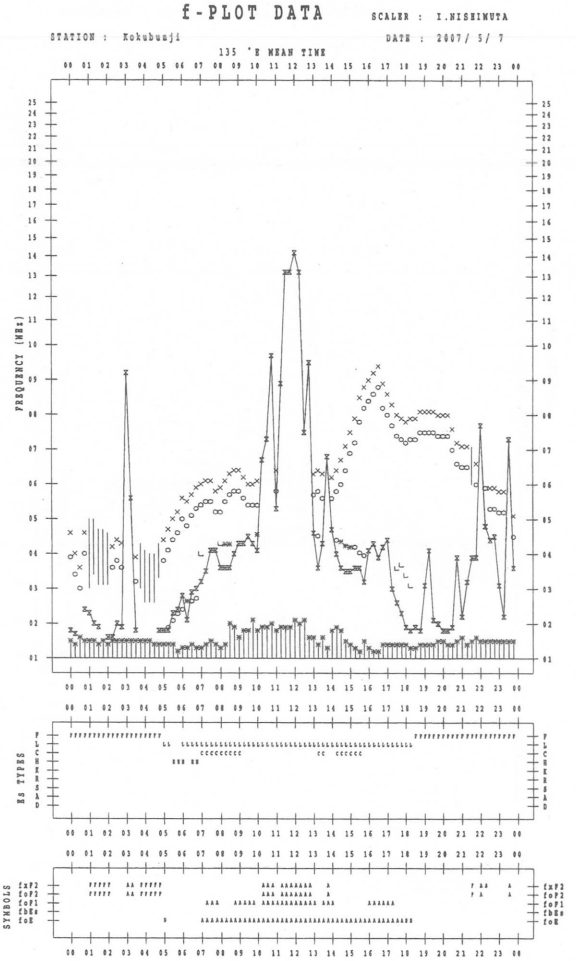
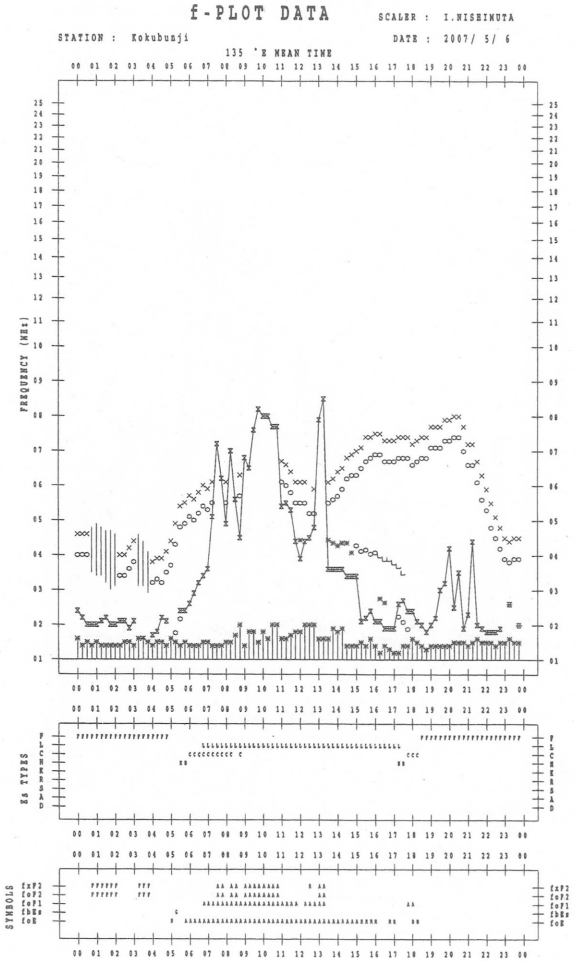
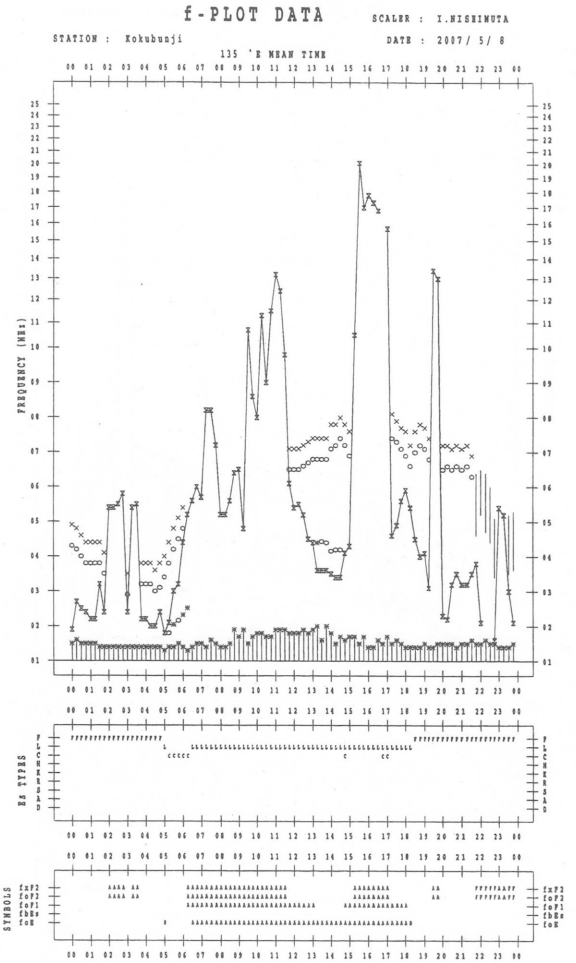
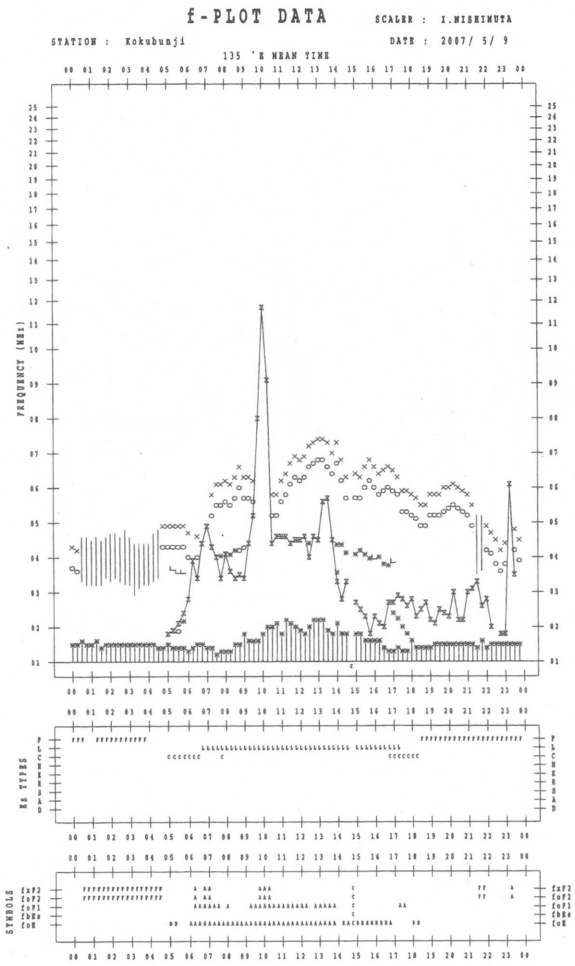
STATION : Kokubunji
DATE : 2007/ 5/ 4
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

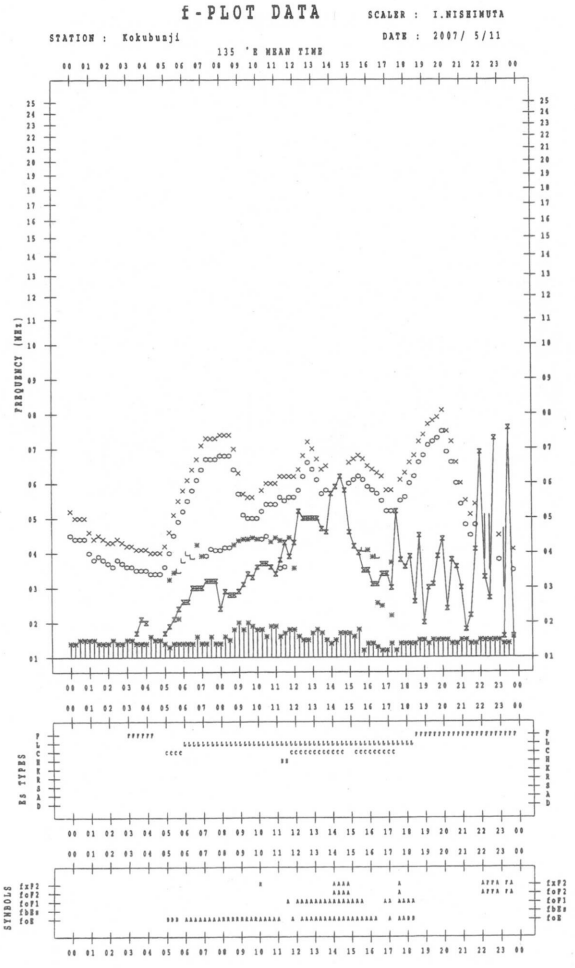

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/ 5
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

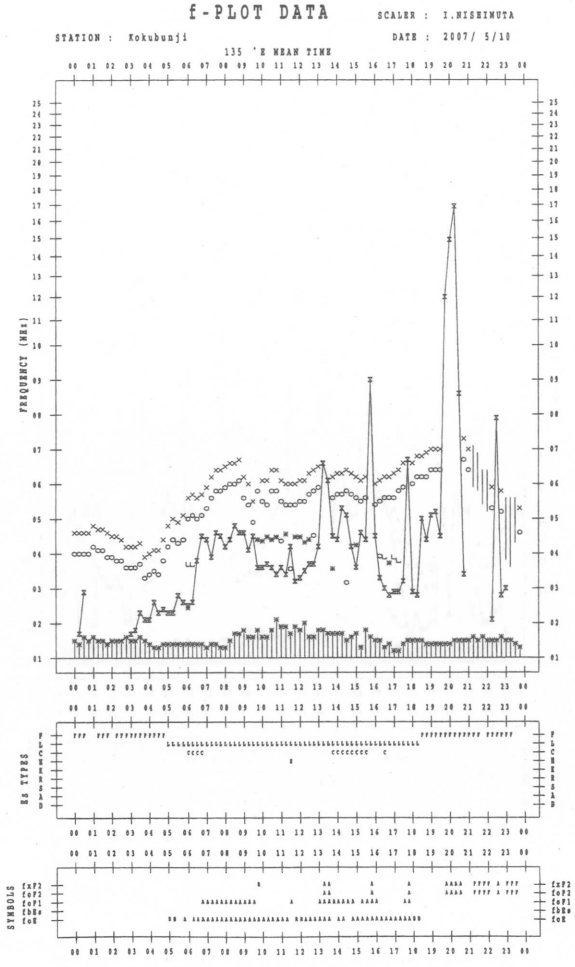

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/ 7
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

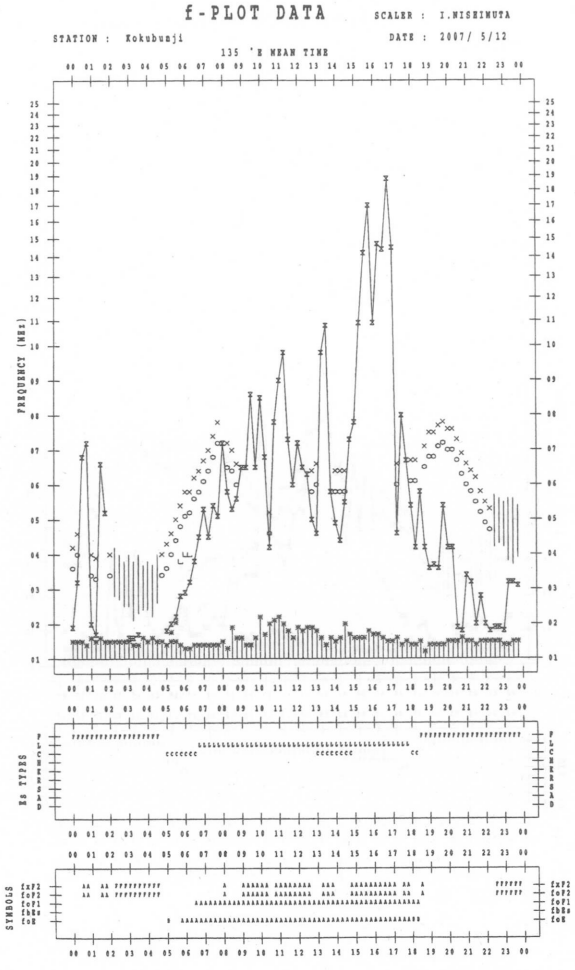

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/ 6
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

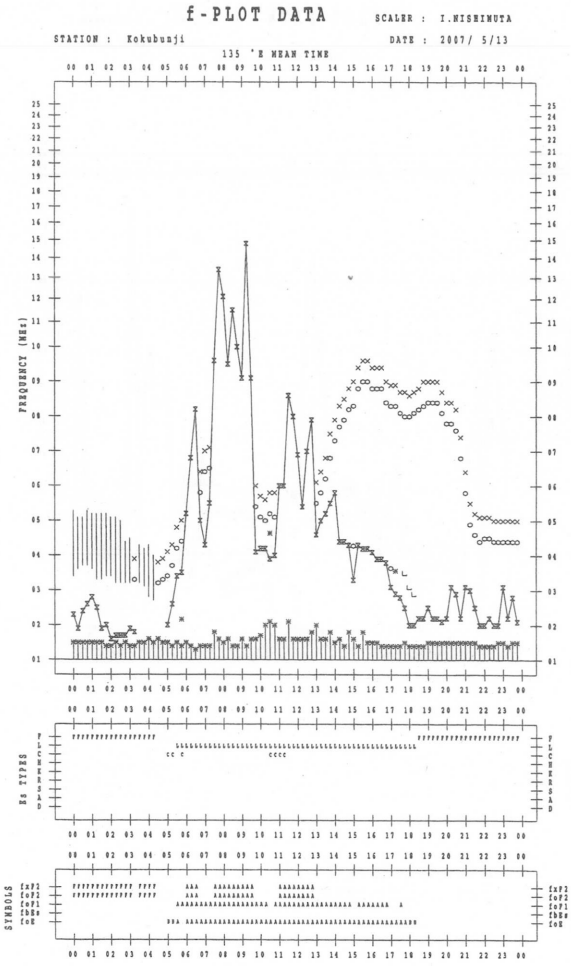

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/ 8
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

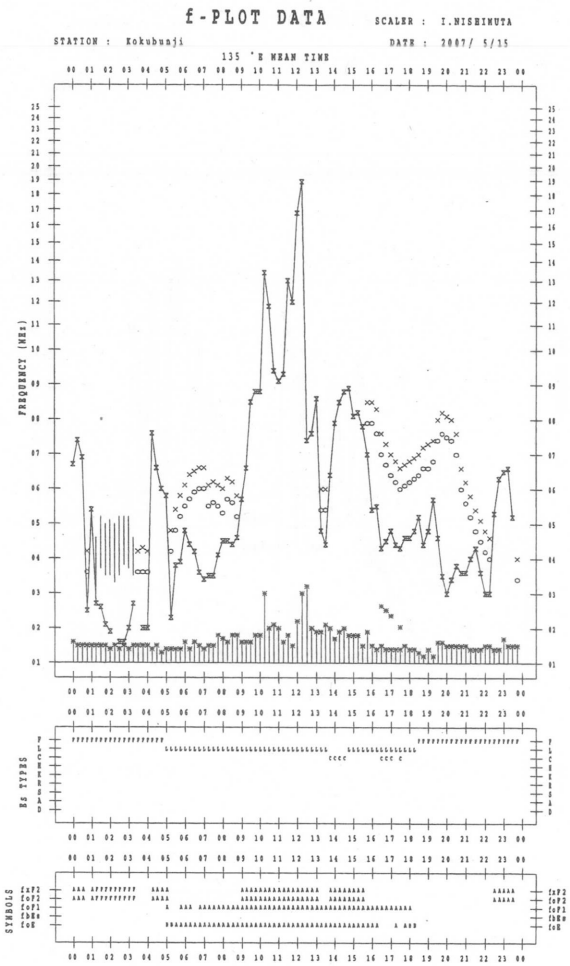

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/ 9
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

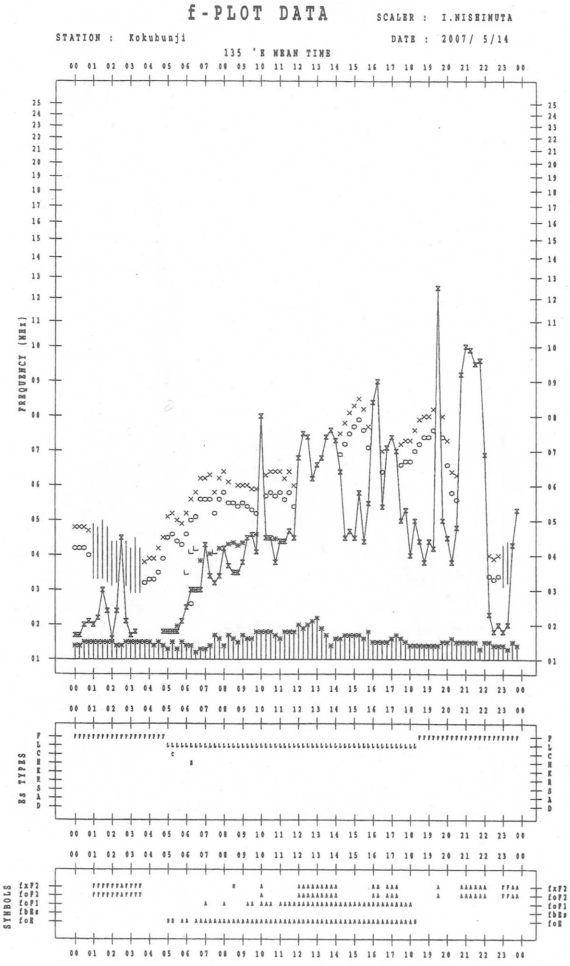

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/11
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

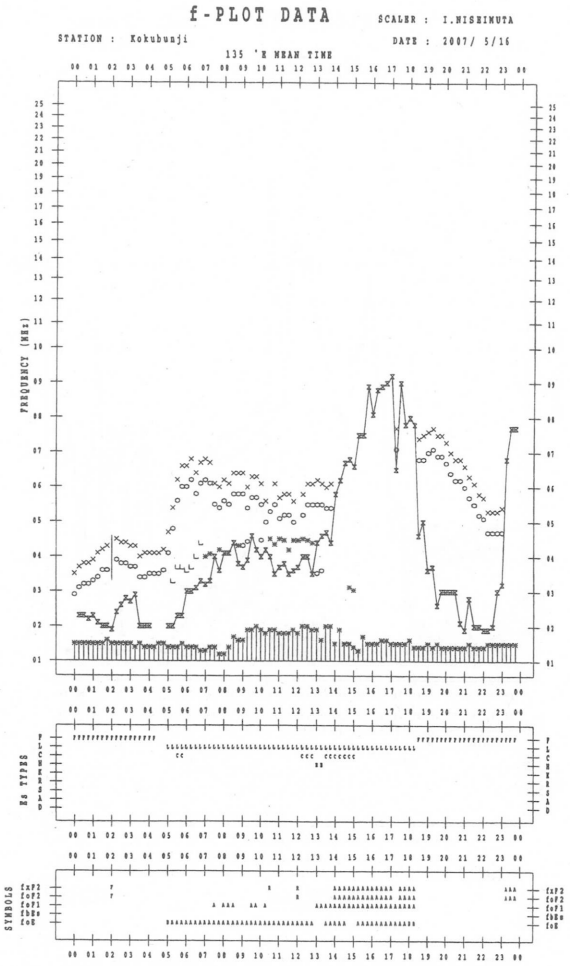

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/10
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

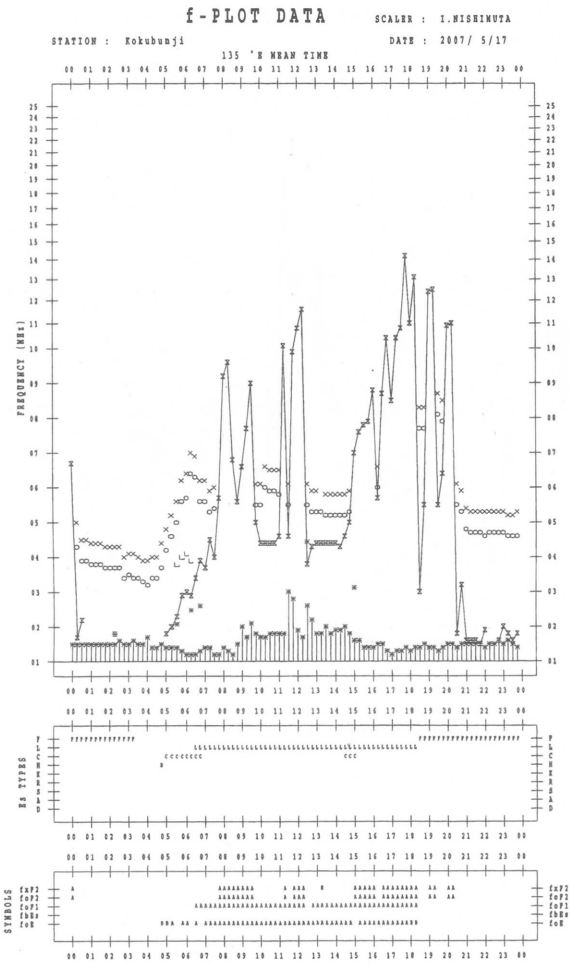

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/12
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

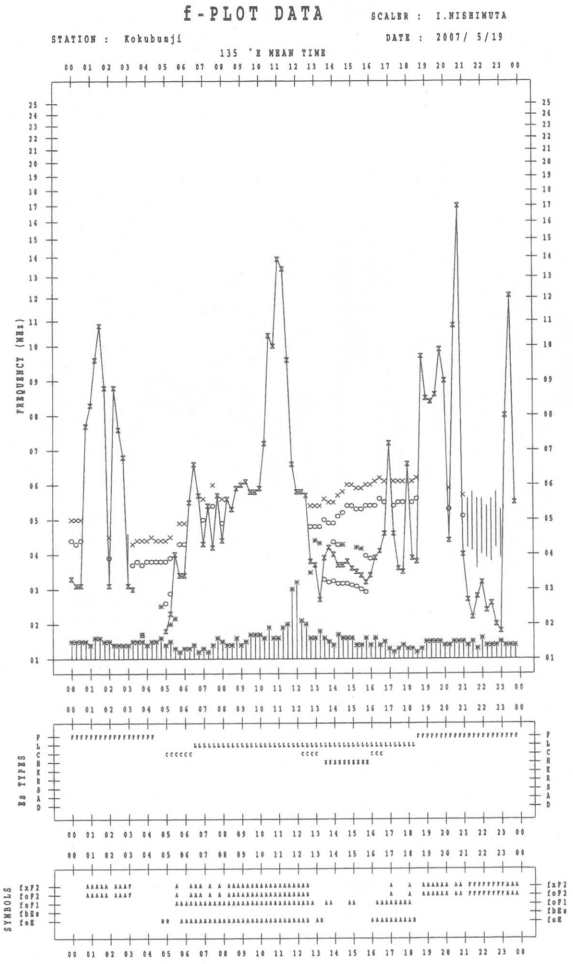

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/13
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/15
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/14
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/16
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/17
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
foE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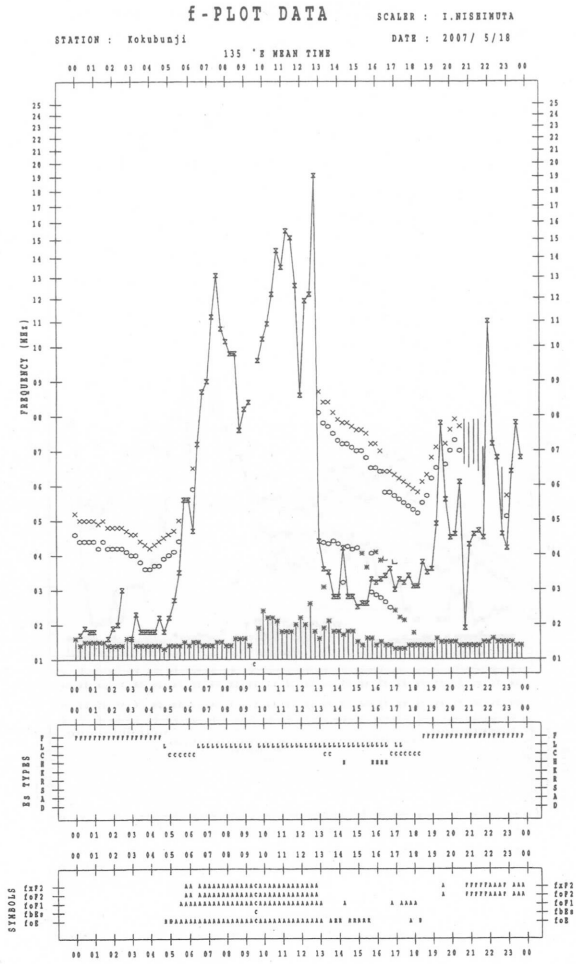
STATION : Kokubunji
DATE : 2007/ 5/19
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
foE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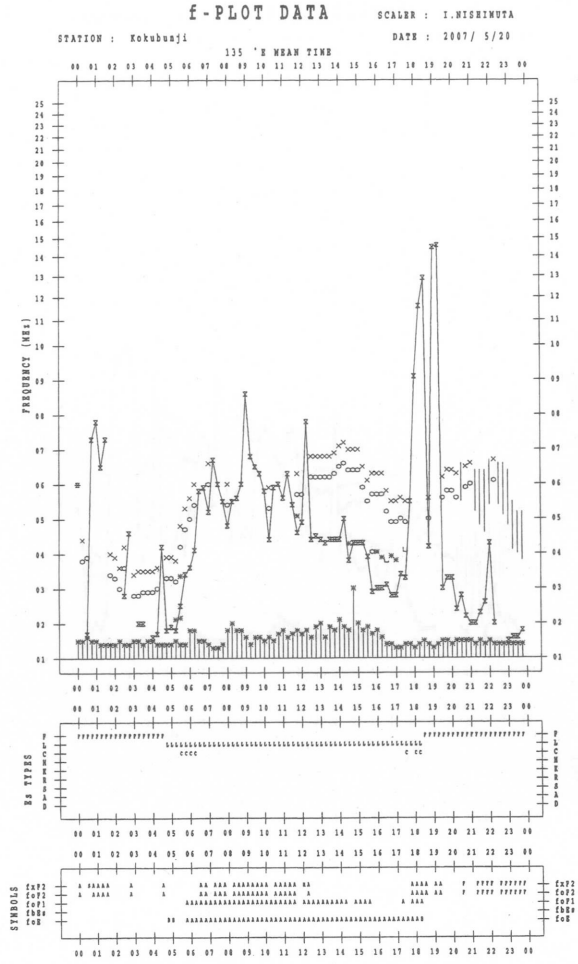
STATION : Kokubunji
DATE : 2007/ 5/18
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
foE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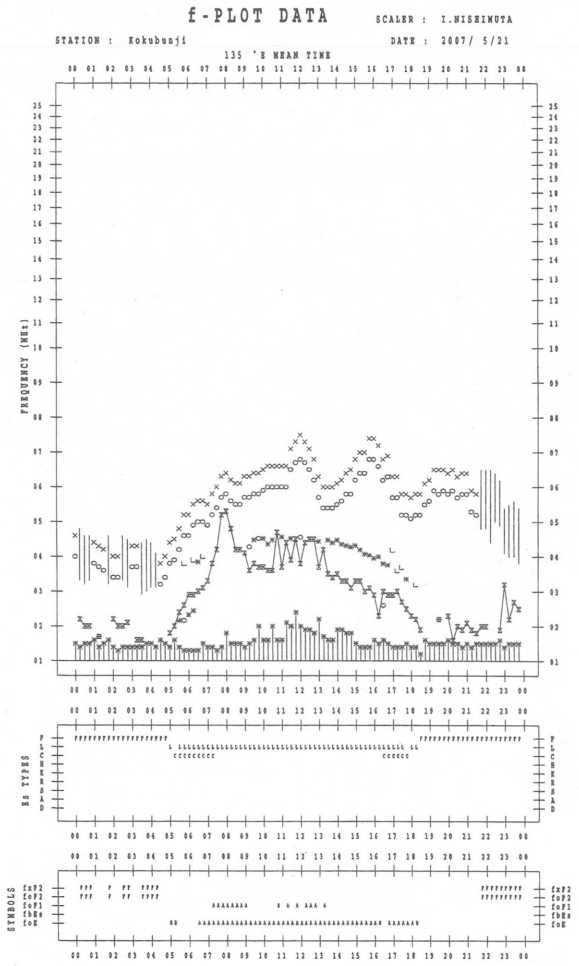
STATION : Kokubunji
DATE : 2007/ 5/20
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS
foE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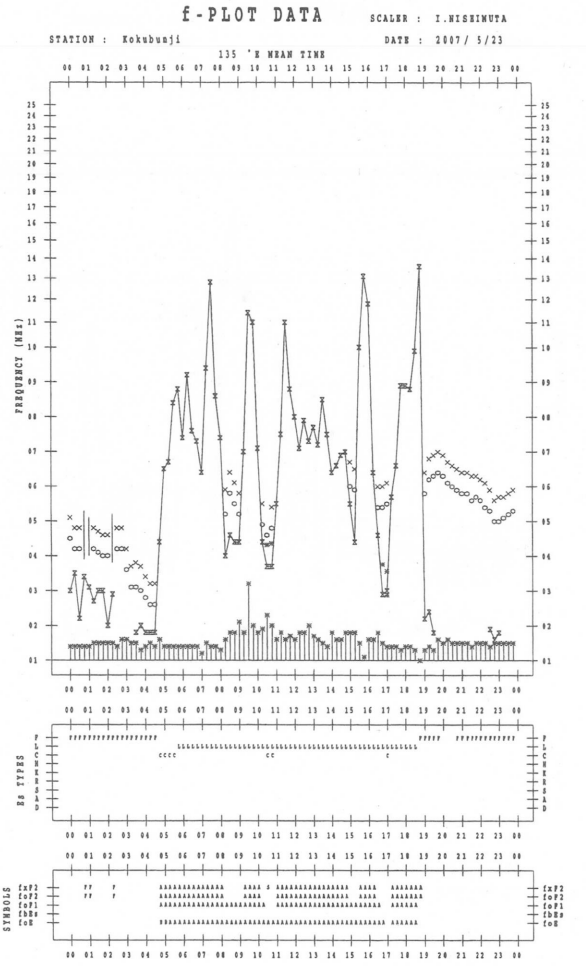
STATION : Kokubunji
DATE : 2007/ 5/21
135 °E MEAN TIME
FREQUENCY (MHz)
Rs TYPES
SYMBOLS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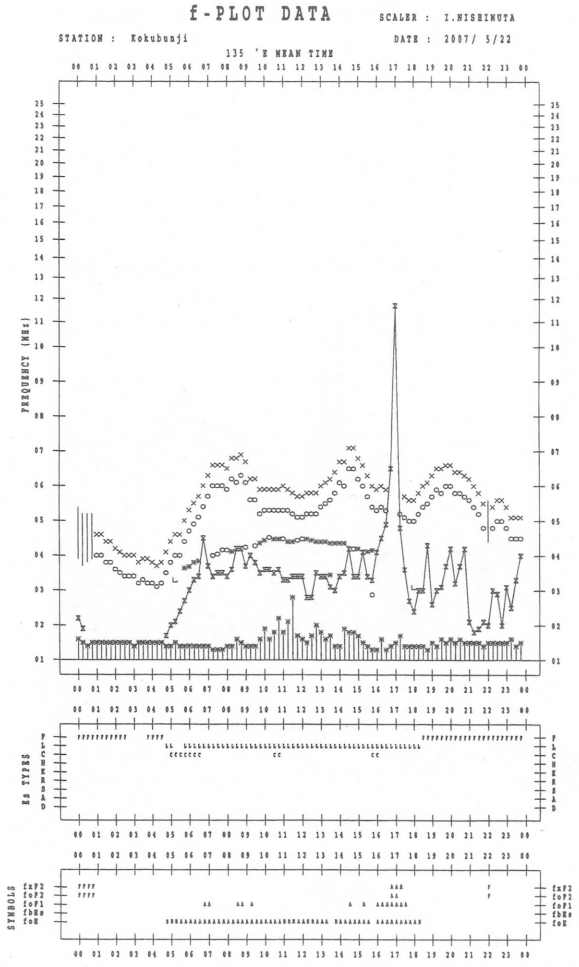
STATION : Kokubunji
DATE : 2007/ 5/23
135 °E MEAN TIME
FREQUENCY (MHz)
Rs TYPES
SYMBOLS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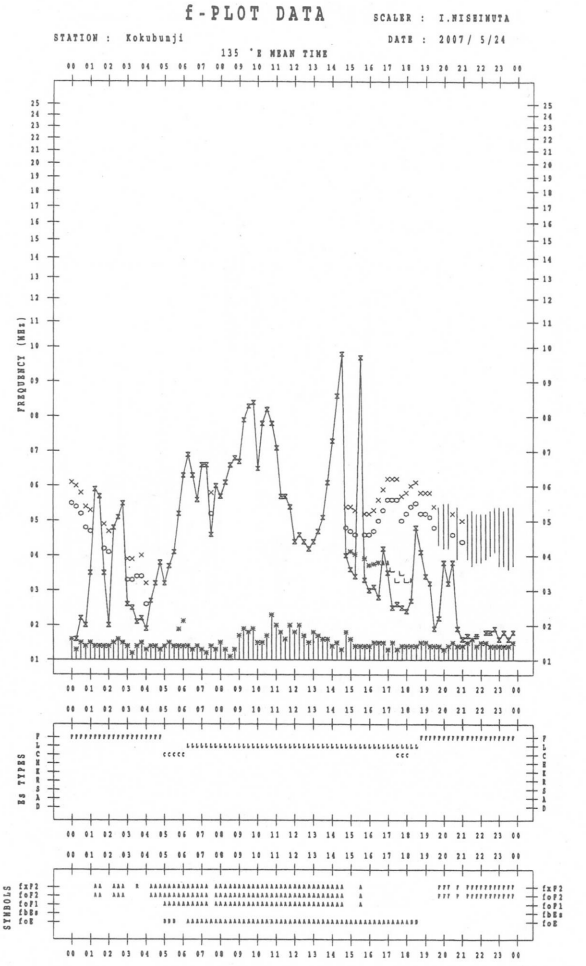
STATION : Kokubunji
DATE : 2007/ 5/22
135 °E MEAN TIME
FREQUENCY (MHz)
Rs TYPES
SYMBOLS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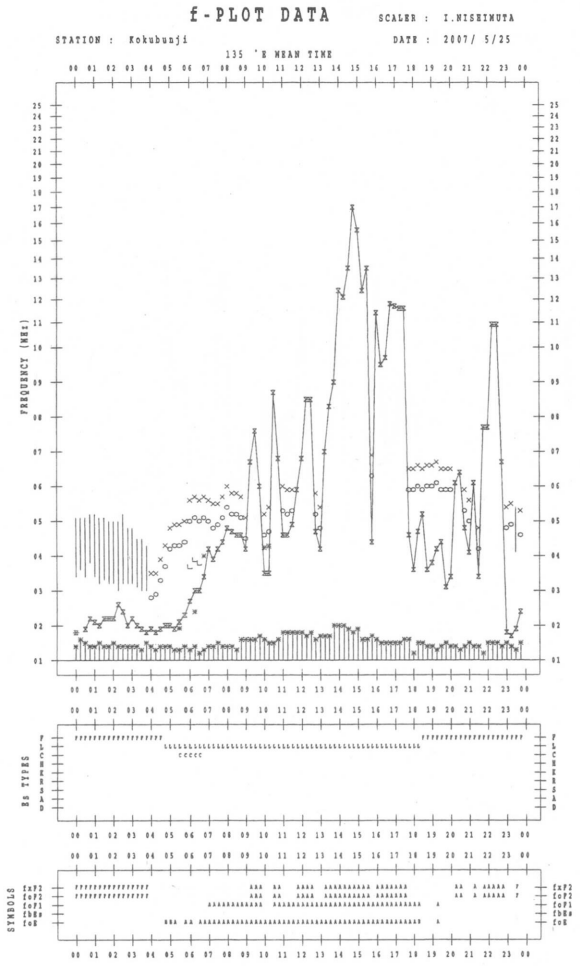
STATION : Kokubunji
DATE : 2007/ 5/24
135 °E MEAN TIME
FREQUENCY (MHz)
Rs TYPES
SYMBOLS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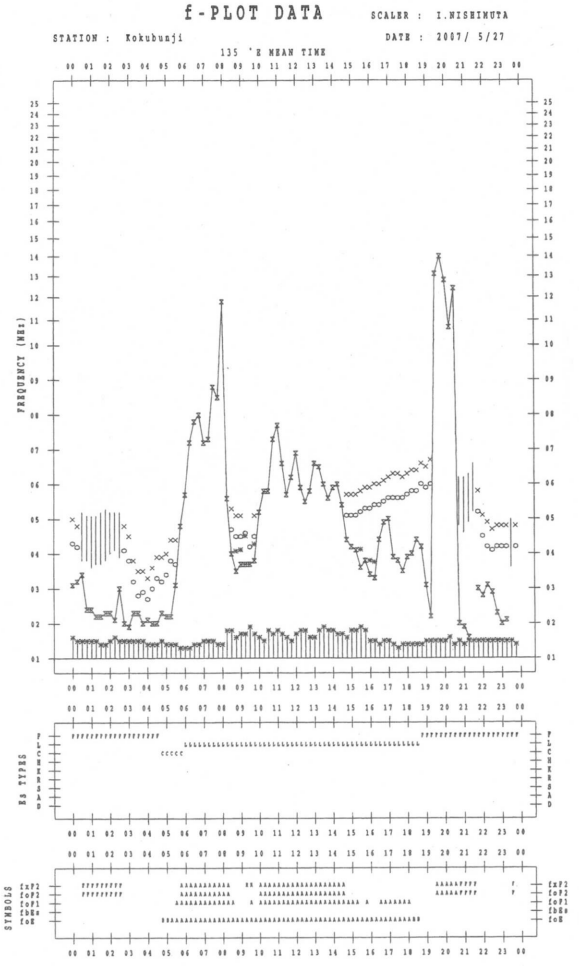
STATION : Kokubunji
DATE : 2007/ 5/25
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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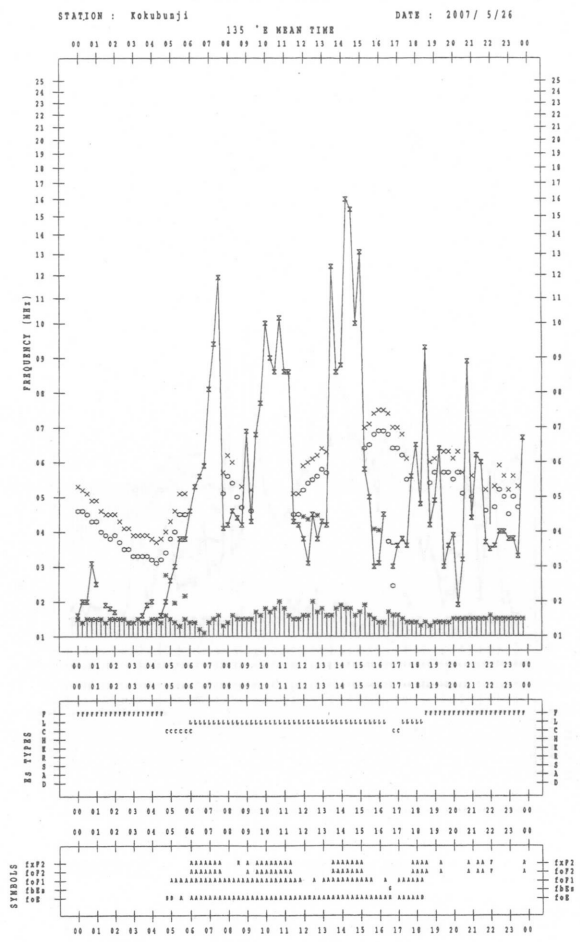
STATION : Kokubunji
DATE : 2007/ 5/27
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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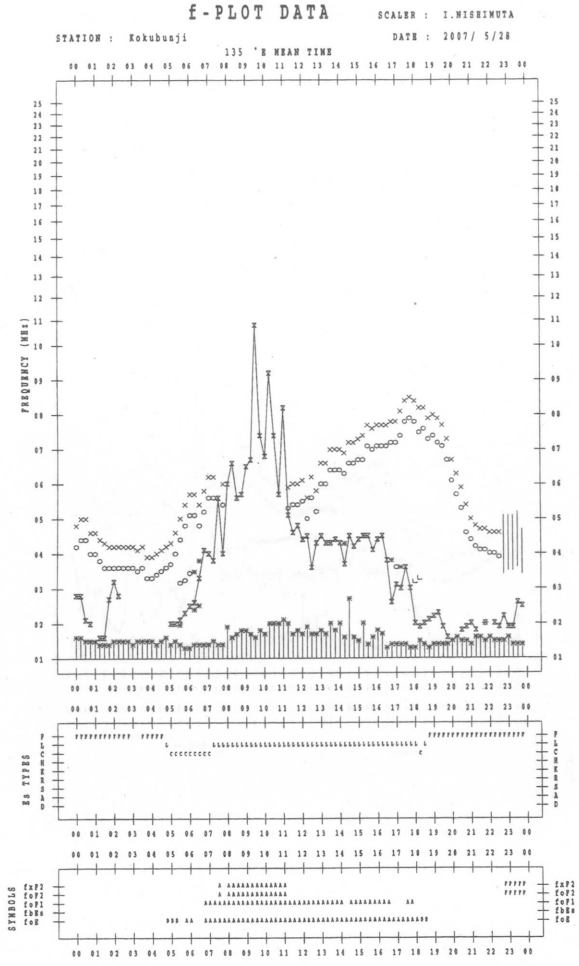
STATION : Kokubunji
DATE : 2007/ 5/26
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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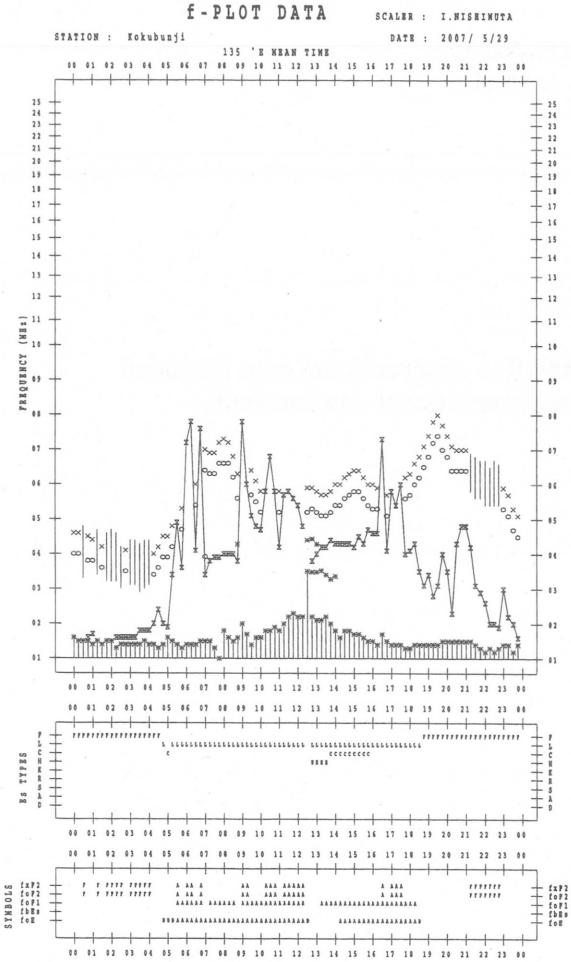
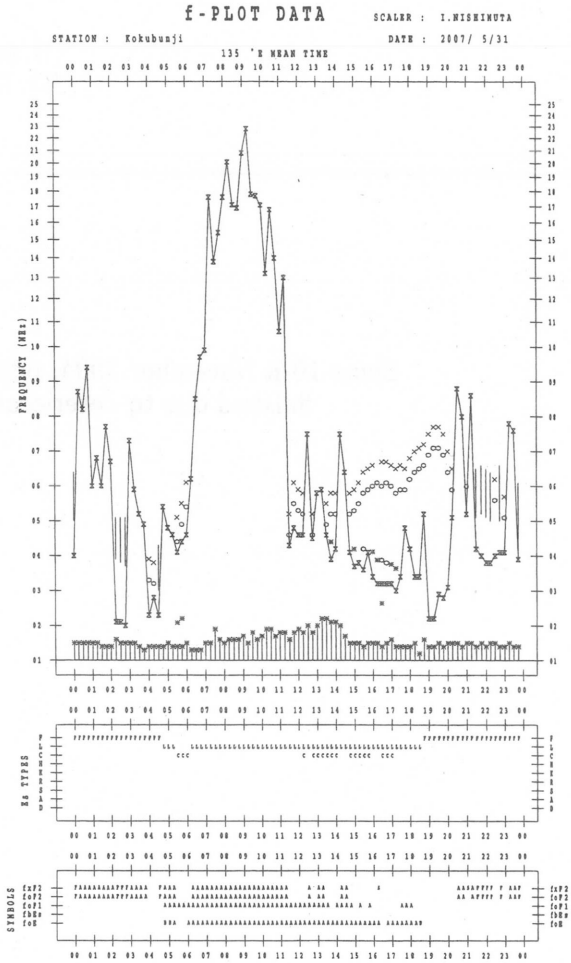
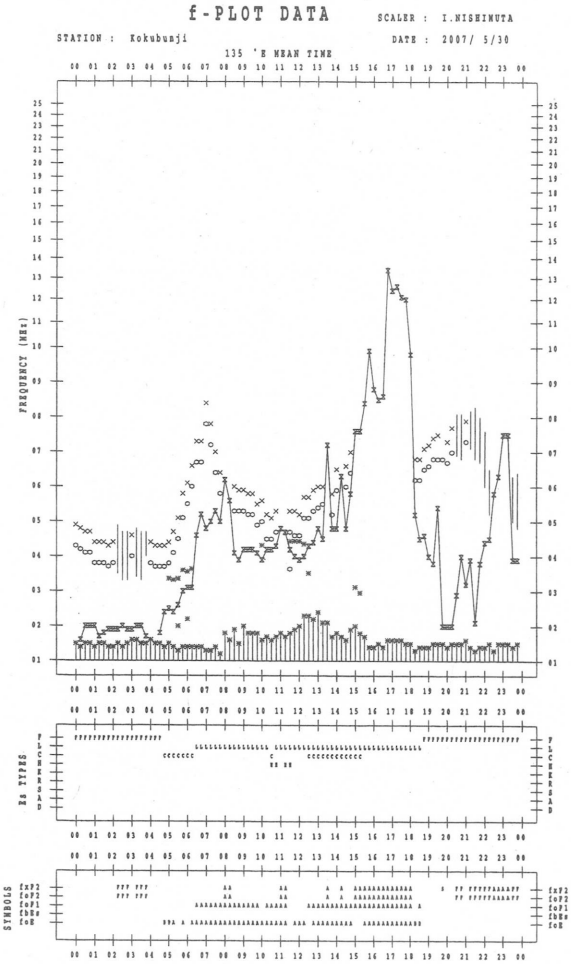
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/28
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/29
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/31
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2007/ 5/30
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

B. Solar Radio Emission
B1. Daily Data at Hiraiso
500 MHz

Since 10th November 2004, offering of 500MHz observational data has been finished due to deterioration of the observational environment.

B. Solar Radio Emission

B2. Outstanding Occurrences at Hiraiso

Hiraiso May 2007

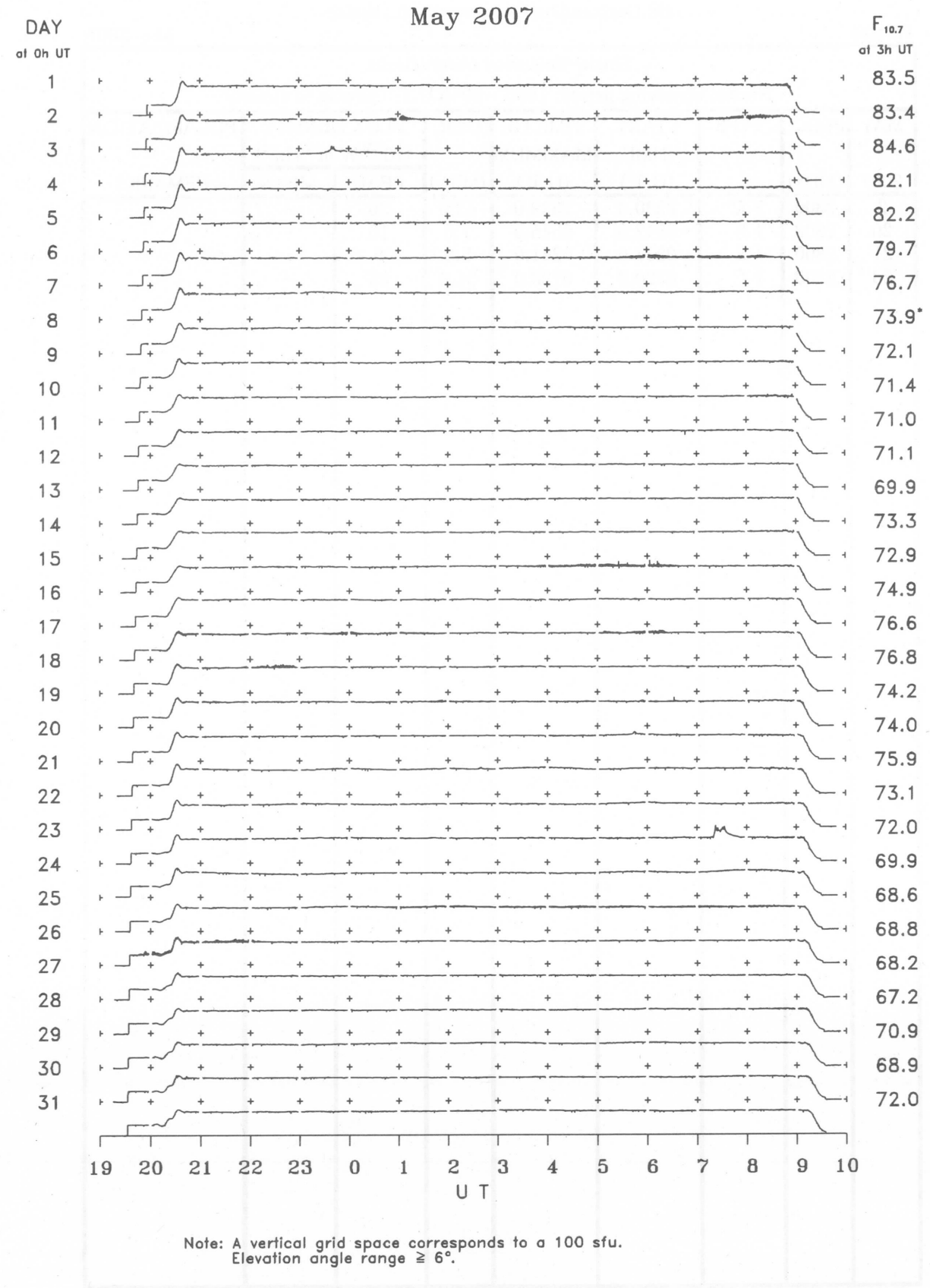
Single-frequency observations

Normal observing period: 1925 - 0945 U.T. (sunrise to sunset)

MAY 2007	FREQ. (MHz)	TYPE	START TIME (U.T.)	TIME OF MAXIMUM (U.T.)	DUR. (MIN.)	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) PEAK	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) MEAN	POLARIZATION REMARKS
2	2800	7 C	2330.0	2339.0	43.0	20	-	
20	2800	1 S	0542.0	0546.0	7.0	10	-	
21	2800	1 S	0237.0	0241.0	5.0	5	-	
23	2800	7 C	0720.0	0723.0	31.0	35	-	

B. Solar Radio Emission

B3. Summary Plots of $F_{10.7}$ at Hiraiso



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

IONOSPHERIC DATA IN JAPAN FOR MAY 2007
F－701　Vol.59　No.5（Not for Sale）

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2-1 Nukui-Kitamachi　4-chome,　Koganei-shi,　Tokyo 184-8795 JAPAN