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IONOSPHERIC DATA IN JAPAN

FOR MAY 2005

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NiCT

NATIONAL INSTITUTE OF INFORMATION
AND COMMUNICATIONS TECHNOLOGY
TOKYO, JAPAN

INTRODUCTION

This Series contains data on ionosphere (I) and solar radio emission (S) obtained at the following stations under the National Institute of Information and Communications Technology, 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 2005

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

HOURLY VALUES OF fEs AT Wakkanai

MAY 2005

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	G	G	G	G	G	G	39	47	51	50	66	G	40	45	G	G	G	G	30	28	29	47	39	40
2	G	G	G	26	32	40	52	44	50	60	77	G	G	70	72	49	G	60	65	39	38	46	49	G
3	28	G	41	49	51	39	G	42	42	43	46	47	99	50	42	G	38	34	39	G	G	G	30	30
4	G	G	G	G	G	G	G	G	51	54	51	51	54	G	G	46	G	G	32	48	42	34	50	65
5	60	40	27	G	G	30	38	G	G	55	G	41	41	41	40	43	G	G	32	26	11	38	G	G
6	29	G	G	G	G		G	38	49	G	41	G	G	G	G	G	53	59	44		G	G	G	G
7	G	G	G	G	G	G	32	46	50	46	40	G	G	G	G	G	G	G	36	35	30	G	G	G
8	G	G	G	G	G	31	G	40	38	41	42	G	G	G	G	G	G	41	31	G	11	G	G	27
9	G	24	G	G		31	51	96	78	90	100	67	118	76	G	41	44	40	46	40	36	32	44	33
10	34	26	26	31	G	35	58	64	51	77	43	86	46	46	G	G	57	80	47	44	32	39		45
11	28	G	24	G	30	36	40	46	50	42	G	61	51	45	40	G	39	40	76	48	55	60	44	37
12	40	32	29	32	G	35	40	57	76	65	66	58	58	58	61	59	G	G	60	46	39	38	36	G
13	38	29	29	29	25	44	99	62	64	75	48	G	G	84	90	G	38	65	28	48	30	27	G	44
14	G	G	G	G	G	G	79	46	49	40	56	47	G	42	56	G	G	46	38	47	48	32	60	58
15	84	59	85	68	42	48	45	61	62	52	G	G	G	G	81	G	G	G	G	G	G	55	71	68
16	53	58	28	34	41	44	40	52	40	84	42	68	G	G	G	G	G	G	G	27	G	G	G	G
17	G	G	G	G	28	G	38	64	G	G	52	64	G	42	G	G	37	G	G	35	28	25	26	G
18	G	G	24	G	45	48	90	75	63	63	69	69	90	96	54	G	75		84	28	48	54	30	24
19	29	24	G	26	30	49	48	46	83	50	41	47	68	76	62	112		61	87	108	71	64	59	44
20	89	69	83	66	53	64	49	46	48	G	64	53	45	46	G	G	G	33	G	31	26	16	38	70
21	33	34	48	86	44	59	90	80	60	G	41	51	54	62	44	G	G	43	46	46	52	39	G	G
22	26	28	G	G	30	39	44	41	53	57	62	66	59	51	45	52	46	G	34	40	35	24	G	G
23	33	39	28	32	33	36	41	50	52	51	69	50	G	66	82	68	47	49	144	90	72	69	72	58
24	37	30	G	G	26	46	94	126	109	152		62	64	72	64	78	110	162		95	146		60	78
25	33	47	46	39	34	36	71	57	78	60	61	52	50	50	50	57	44	36	38	70	43	30	32	33
26	33	37	37	G	28	34	39	48	48	63	60	41	44	46	G	54	G	42	42	34	G	G	27	33
27	G	32	33	26	32	30	42	40	51	46	65	63	41	G	G	G	G	G	48	39	39	G	G	G
28	G	58	39	39	38	45	41	44	48	51	41	42	G	G	G	42	G	46	75	60	28	34	30	40
29	27	28	37	30	G	37	45	48	57	57	51	78	67	62	46	40	41	G	73	54	39	34	29	25
30	G	G	27	G	28	36	80	50	88	50	64	58	47	42	58	80	48	G	G	G	G	G	G	26
31	25	24	G	G	G	32	G	G	46	G	G	G	G	47	61	53	G		G	G	G	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	30	30	31	31	31	31	30	31	31	31	31	31	30	29	30	30	31	30	30	31
MED	28	26	26	G	28	36	42	47	51	51	51	51	44	46	42	G	G	36	38	40	32	32	30	30
U Q	34	37	37	32	34	44	58	61	63	63	64	63	58	62	61	53	44	47	60	48	43	39	44	44
L Q	G	G	G	G	G	31	38	42	48	42	41	G	G	G	G	G	G	G	30	28	11	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

MAY 2005

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	17	14	14	14	15	20	14	18	17	17	18	21	21	20	17	15	27	16	15	14	14	17	16	15
2	14	14	14	14	14	14	14	14	18	22	21	20	20	20	18	15	14	15	14	14	14	14	15	14
3	15	15	14	14	15	14	15	18	23	24	36	36	21	22	21	20	14	14	15	15	15	14	14	15
4	14	17	15	14	15	14	16	17	20	24	21	22	18	22	18	18	18	15	16	14	15	15	14	14
5	14	15	14	14	15	14	16	17	20	22	21	20	21	22	20	17	17	18	15	15	15	16	15	15
6	15	15	14	14	15	14	14	17	20	20	22	20	20	20	21	22	20	15	15	14	15	15	15	15
7	15	15	14	15	15	16	14	15	20	21	23	21	22	20	20	17	18	26	15	14	14	15	14	15
8	15	15	14	17	15	14	15	16	17	20	20	20	18	21	20	20	16	15	14	18	14	16	18	15
9	18	14	15	14	16	15	14	14	18	18	20	20	18	20	20	18	20	14	15	14	14	14	15	14
10	14	15	14	14	17	16	14	18	20	28	22	24	26	24	20	22	17	14	14	14	14	14		15
11	14	15	17	15	14	18	14	15	18	20	20	21	20	20	20	18	21	14	17	14	15	15	16	15
12	15	15	15	14	16	16	16	18	18	26	22	20	21	32	21	21	16	15	17	14	14	15	14	15
13	14	14	15	15	16	18	21	18	21	21	23	24	20	24	20	20	16	14	14	14	14	15	20	16
14	15	15	15	14	18	23	15	16	21	20	20	22	33	33	22	16	15	14	16	14	14	15	15	15
15	14	15	14	14	14	18	15	17	20	23	24	20	18	17	18	18	15	14	20	15	15	15	14	14
16	14	14	14	14	14	14	15	18	20	20	18	20	24	20	20	18	17	20	20	17	21	15	15	15
17	18	15	20	17	18	15	15	18	20	20	20	20	50	23	21	21	15	14	15	14	15	15	17	15
18	15	14	15	14	14	15	15	15	18	20	20	18	21	20	21	20	15	15	14	15	14	15	14	15
19	14	16	17	15	14	15	15	20	20	20	21	20	26	22	22	17	17	15	15	14	14	15	14	14
20	14	14	14	14	14	15	14	20	18	20	20	20	24	24	21	17	15	24	21	14	15	15	14	14
21	14	15	14	14	14	17	15	18	20	18	23	33	28	30	21	18	15	16	14	14	14	15	15	14
22	14	15	15	14	14	14	15	16	14	18	22	20	20	20	22	18	18	15	16	14	14	14	15	15
23	14	14	14	14	14	15	15	14	14	18	20	18	18	20	18	18	17	15	14	14	14	14	14	14
24	15	14	15	14	15	15	14	15	17	18	22	21	22	20	21	20	15	14	14	14	15		15	14
25	14	14	14	14	14	16	15	17	20	20	20	20	20	21	18	20	18	14	17	14	14	15	15	14
26	14	14	14	14	15	14	14	14	15	18	21	18	20	21	20	16	18	15	14	14	15	16	15	14
27	15	14	15	15	15	14	15	20	18	18	21	22	30	22	20	16	15	14	14	14	16	15	16	15
28	18	14	14	14	14	14	15	14	18	18	22	21	24	18	26	18	17	14	15	14	15	14	15	15
29	15	15	15	14	15	14	18	15	18	21	24	21	15	18	18	15	18	18	14	14	14	14	14	16
30	15	14	14	14	14	15	15	16	20	22	21	21	22	23	22	20	16	15	21	14	14	15	24	15
31	14	14	14	14	16	15	15	21	18	18	18	18	18	21	22	20	16	15	14	17	14	17	15	20
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31
MED	14	15	14	14	15	15	15	17	18	20	21	20	21	21	20	18	17	15	15	14	14	15	15	15
U Q	15	15	15	14	15	16	15	18	20	22	22	21	24	23	21	20	18	15	16	14	15	15	15	15
L Q	14	14	14	14	14	14	14	15	18	18	20	20	20	20	20	17	15	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Kokubunji

MAY 2005

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	53	52	48	45	48	54	66	43	A	71	62	76	71	81	85	96	88	77	78	90	66	A		36
2			46		41	51	55	58	61	63	62	76	85	86	83	77	74	66	71	83	87	66		54
3	53	49	51	51	44	49	64	69	62		78	87	86	80	77	82	81	77	80	96	80	54	54	54
4	54	54	52	48	51		67	66	68	68	66		75	83	85	97	95	85	87	83	66	53	52	48
5		43	47		42	52	66	62	64	A	68	69	76	82	92	100	93	90	93	86	59	54	54	53
6	54	48	45	45	46	62	78	71	48	A		75	86	97	100	100	100	102	91	98	79	66	54	54
7	54		51	48	47	51	68	75	73	73	68	73	86	97	105	101	97	88	85	90	88	54	54	53
8	53	51		52	54	51	66	59	67	68	73	76	88	101	87	95	85	61	67	85	62	47	44	44
9		46	40	44	38	38	A		54	48		64	72	66	71	75	72	72	77	87	80	64	54	
10	52	54	47	46	46	52	72	72	69	62	68	61	73	83	93	98	98	86	73	74	66	52	54	54
11	53	52	54	52	47	55	66	57	69	A	A		A	76	81	85	86	80	A	77	A	66	54	A
12	54	54	55	55	50	54	58	A	A	A	A	72	69	74	77	72	72	67	66	64	A	54	54	A
13	59	55	52	52	46	A	47		A	A	A	A	A	A	77	76	64	63	68	62	A	54	54	54
14	54	54	53	55	49	55	59	66	76	74	72	74	A	91	93	97	91	88	81	83	72	71	66	54
15	64	65	66	A	A	50	A	A	A	A	A		A		55	69	74			87	73		A	
16	42	47	66		A	37	A	62			62					59		62	57	47	44	46		50
17			41	43	45	44	49	51	56	64	68	66		75	91	103	105	105	100	87	62	54	59	54
18	52	55	55	47	47	A	52		A	A	A		79	48		68	61	A	A		A	A	A	51
19	52	48	44		36		47	48	A	A	A	A	A	A		53		A	67	59	A		A	A
20	A	36	A	28		A		A	A			A	A	A		58	62	69	84	81	76	A	A	A
21	A	A	A	A	31		A	139	76	139	143		A			A	64	72	74	A	A	A	A	A
22		49	47		45		53	A		A		A		77	A	A	81	77	67	71	82	66	66	66
23	54	55	A		42	42	47	A	A	A			A	64	73	84	92	87	88	73	61	A	54	54
24	A	49	51	44	51	54	64	59	55	A	A			58	65		66		62	64	66	54	62	54
25	A	A	44	44	39	44	A		A	A	A	A	N	A		A	64	64	71	80	64	44	A	A
26	A	A	A	44		42	71	64	59	59		62	48		65	68	68	72	64	A	63	A	54	54
27		52	48	43	41	47	59	66	60	A	A			A	A	A	83	67		A	66	75	65	A
28	53	44		42	41	48	71	A	A		68	62	63		63	69	80	72	72	73	66	74	75	62
29	54	52	55	54	54	58	62	64	A	A	71	58		75	78		A	94	A	A	72	62	52	63
30	63	62	54	A	A	51	55	68	77	71	A	A	68	67	A	A	A	A	57	82	86	82	53	
31	62	54	66	54	53		A	A				A			A	A	55	A	54	58	44	65	61	54
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	20	25	25	22	26	23	24	20	17	12	14	15	15	20	21	23	27	25	26	26	25	23	22	21
MED	54	52	51	46	46	51	63	64	64	68	68	72	75	78	81	82	81	77	72	82	66	54	54	54
U Q	54	54	54	52	49	54	66	68	71	72	72	76	86	84	91	97	92	87	84	87	79	66	61	54
L Q	53	48	46	44	41	44	54	58	57	62	66	62	69	70	72	69	66	67	67	71	62	54	54	52

HOURLY VALUES OF fEs AT Kokubunji

MAY 2005

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	29	G	G	G	G	28	34	53	65	G	54	61	52	G	G	G	G	G	30	29	42	50	33	G
2	26	49	35		G	G	33	43	40	G	G	G	53	68	40	G	G	41	57	25	23	59	41	25
3	41	33	G	G	G	G	G	G	40		50	61	49	52	G	38	G	41	36	35	49	39	33	G
4	G	G	29	24	G	G	G	34	48	49	52		G	G	G	59	68	77	60	G	G	G	G	G
5	24	26	24		G	G	G	58	59	54	44	G	45	48	62	55	45	43	69	65	49	43	34	G
6	32	G	G	G	G	G	G	43	46	68	62	67	74		57	51	54	47	62	58	56	31	G	G
7	G	G	G	G	G	G	G	46	52	51	G	G	G	G	G	G	G	42	G	G	G	G	G	G
8	G	G		G	G	G	39	44	59	52	G	G	G	53	49	G	47	50	35	G	65	34	G	24
9	G	G	G	G	G	35	50	45	48	58		G	60	58	G	G	49	50	51	50	52	G	G	
10	G	34	26	G	G	33	60	42	G	G	G	52	G	G	G	G	G	G	35	29	50	35	67	33
11	50	49	50	29	26	52	60	62	62	126	82		86	G	58	55	61	55	70	48	86	58	70	70
12	46	39	32	29	G	G	47	57	76	79	67	61	61	61	54	54	47	G	41	56	57	51	39	60
13	46	49	49	50	50	45	46	50	56	71	63	94	78	82	52	68	48	41	34	42	92	82	48	45
14	37	31	G	39	32	30	44	52	60	57	70	G	75	81	57	39	62	54	34	G	G	49	50	24
15	50	59	94	84	65		61	65	82	61	90		74	57	54	55	G			G	G	35	59	50
16	31	49	71		43	34	59	43		47	G		60			G		G	29	G	23	G	G	G
17			G	G	G	33	37	41	49	G	44	G		G	G	G	G	G	G	G	G	G	G	34
18	G	31	33	G	65	76	54	63	57	53	109	65	70	49	69	47	45	80	84	83	83	72	93	54
19	37	24	G	29	G		48	55	57	83	84	90	156	75		53	55	63	60	52	59	33	69	60
20	60	39	82	58	32	82	157	117	112	151		75	83	90	G	G	G	G	G	43	60	95	94	60
21	84	60	40	80	G		61	120	97	94	153	125	161			54	77	94	131	89	126	95	72	90
22	59	27	31	54	33	45	44	64	74	92	61	121	70	66	92	149	60	G	39	56	60	59	41	27
23	59	43	81	57	G	29	35	60	113	60		82	163	57	50	G	G	61	G	35	33	68	45	41
24	68	34	57	45	G	34	40	45	52	54	65			50	61	61	51	71	70	55	50	58	59	53
25	93	105	60	30	40	G	60	80	86	94	76	114	149	86	84	72	43	44	37	92	37	34	46	86
26	70	67	58	33	40	25	35	48	60	51	47	48	51		G	50	50	60	79	103	42	82	G	G
27	24	30	G	G	G	G	40	36	52	67	74	51		101	74	91	52	41	62	93	40	50	38	60
28	G	G	G	30	32	29	51	66	68	59	59	G	49	G	G	G	61	71	53	39	42	30	71	G
29	40	55	33	26	49	48	G	58	72	86	45	51		G	G	158	176	83	137	116	60	G	93	52
30	49	28	50	64	91	36	G	52	79	72	144	135	62	62	86	132	83	106	66	G	G	G	G	G
31	25	26	39	28	G		43	67				50			104	61	G	72	31	29	24	54	58	33
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	28	31	27	31	31	29	29	27	26	26	26	28	31	30	30	30	31	31	31	31	30
MED	37	32	32	29	G	29	43	52	59	59	61	56	62	55	51	51	48	48	46	42	49	43	41	33
U Q	50	49	50	47	40	36	54	63	75	81	76	82	78	68	61	61	60	71	66	58	60	59	67	54
L Q	24	24	G	G	G	G	33	43	50	51	44	G	49	G	G	G	G	41	34	G	23	30	G	G

HOURLY VALUES OF fmin AT Kokubunji

MAY 2005

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

HOURLY VALUES OF foF2 AT Yamagawa

MAY 2005

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	A	54		42	52	36	50	63		A		78	78	81	81	101	99	86	99	84	66			
2		42			36	38	48	63	61		66	80	82	85	C	80	76	80	81	81	80	54	48	A
3			37	37	32		59	66	67				81	74	80	84		97		81			58	66
4	66	66	61	52	54	58	66	62	62	68	67	76	84	84	97			A			78		54	
5	53	34	36	37	34	43	68	58	59	A				69	80	84		101	110	86		53	52	59
6	49	A	A		50	43	78	66		A		77		97	89	103	99	100	108	98		76		A
7	52	50	53	37	37	49	63	78	69	67	72		85				A		93	A				
8		49	32	34	52	37	55	62	68	75		78	82			98		80	78	83	78	52	34	
9			37	36	49	A	A	60	56	62	73	80	84	77	76	82		78	81	84	82	54		53
10	49		42			40	71	72	70	A	73		74	A		98	101	84	82	79	A	A	A	
11	37	A		34		44	54	66	72	72	A	A		A	81	83		82	78	78	66	A	A	51
12	54		54	52	52	34	A	A	A	A		A	A	85	85	80	80	96	80		A			
13		54	42	A	A	A	54	67				73	78	81	79	84	81	78	80	72	A	A	58	38
14		52	44	54	46	34	57	61		67	A		75	81	A	81	A	99	92	80	80	66		A
15	A	A	58	42	37	36		67	74	A	A		80	78	73	77	80		74		53	A	A	A
16	A	A	A	32	A	A		58	A	A	A	A				74	68	72	72	49	36		36	38
17			37	37	36	36		38	55	59			59	76	82		110	114	86		A	66	72	65
18	66	66	65	52	54	49		A	A		A	A	74	76	76		68	67	66	65	A	A	A	A
19	54	37	51	34	30	A		62	65	A	A	A		A		A		63	70	44	A	A		A
20	A	A	A		A	A	A		A	A	A	A	A		77	78	69	66	78	84	A	A	A	A
21	37	36	38	36	26		A		74		A	A	A				A	A	83	A	A		A	A
22	A	A	52	A	42	36	40	A	58	A	A	A	A	A	A	82	77	77	78	A	78	54	A	65
23	65	54	A	66	52	51	52	66	A	A		A	72	77	82			109	84	78	73	62	64	
24	A		A	51	58	66	64	54		59	56	63	72	80	82	85	82	67		66	A	A	64	53
25	53	61	59	49		42	55	64	A	A	A	A	A	A	A		76	A	A	81	A	A	A	A
26	A	A	31		A		44	54		A	A	A	A	A	73		A	79	A	A	A	A	A	A
27	54	A	49	37	37		55	62	67		A		A	74	82	83	82	A	73	78	66	81	54	48
28	42	42	A	34	37	38	59	56	55	A	A			A	A	77	77		A	72	78	A	77	54
29	59	A		A	A	A	50	A	80	74	A	A	A	A	78	84	93	82	78	A				52
30	A	54	52	55		51	60	77	72				82	80		49	67	67	63	81	80	74	A	66
31	77	66	74	63	A	60	39		A	A	A	A		A	A	A		A	A	55	54	66	50	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	16	16	21	23	21	21	22	24	18	9	6	8	16	17	18	21	18	23	24	22	15	12	13	13
MED	54	53	49	37	42	42	55	62	67	67	70	78	79	80	80	83	80	80	80	80	78	64	54	53
U Q	62	57	56	52	52	50	63	66	72	73	73	79	82	82	82	84	93	97	85	83	80	70	64	65
L Q	49	42	37	36	36	36	50	59	59	60	66	74	74	76	77	79	76	72	76	72	66	54	49	49

HOURLY VALUES OF fEs AT Yamagawa

MAY 2005

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	36	G	43	34	G	32	45	40	70	87	44	60	80	94	G	G	G	54	51	46	29	34	30	40
2	G	G		29	27	28	G	47	48	55	44	G	G	63	C	G	38	35	43	72	54	34	39	40
3	G		G	G	G		G	G	G				G	G	G	G		43		35	54	35	43	G
4	32	G	30	28	G	G	G	42	55	63	57	57	45	G	G	55		104	70	39	34	35	28	
5	G	G	G	G	G	G	G	42	50	66	54	44		G	G	G	G	49	42	39	39	39	36	36
6	41	73	56	34	G	G	G	45		75		56	G	G	G	G	53	48	58	64	58	44	49	71
7	G	G	G	G	G	G	30	41	44	40	43	42	G		G	44	84	54	68	111	35		35	
8		G	G	G	G	G	30	43	40	50	41	G	G	G	G	G		38	G	28	G	G	G	38
9	27	27	G	28	G	48	40	44	44	G	66	G	60	61	G	G	38	39	77	70	46	39	27	G
10	G	G	G		G	G	G	37	48	60	G		44	85	71	62	G	68	G	57	82	84	42	46
11	34	36	41	34	36	32	42	61	53	69	88	85		77	78	53		50	66	65	44		45	33
12	43	39	28	G	37	G	53	60	65	72	74	85	80	72	65	G	70	63	45	85	59		39	42
13	44	56	G	77	89	70	38	49	44	43		58	64	64	G	83	44	44	42	51	53	68	43	40
14	34	46	32	G	30	28	G	34	38	48	72	71	63	G	118	74	103	60	48	44	G	28	27	38
15	72	59	G	G	G	G	44	34	57	89	88	76	G	G	G	G	G		G	G	G	40	82	70
16	37	54	69	39	43	44	29	56	65	63	70	73				G	G	G	39	35	26	26	30	24
17			G	G	G	G		40	44	40	54	G	G	G	G		G	60	63	83	72	36	39	43
18	33	G	33	28	28	36	43	94	45	42	85	153	79	52	G		G	G	G	36	82	59	90	83
19	40	40	25	32	33	42	47	42	54	94	103	80		61		94	66		59	104	58	83	52	
20	60	72	44		40	56	43	48	93	103	144	116	103	78	G	G	G	G	G	39	86	84	72	104
21		G	67	36	24	38	44	57	61	72	83	108	92	G			80	84	60	80	88	57	116	59
22	58	72	35	108	32	G	28	59	49	73	123	130	91	131	82	61	71	74	72	72	70	44	70	59
23	42	68	89	54	43	35	G	G	85	116	134	113	70	62	51			45	50	46	38	46	38	43
24	90	43	46	32	32	G	36	G	40	51	G	52	G	G	G	50	51	74	68	60	66	83	33	82
25	45	48	39	55		47	42	51	69	79	95	116	105	89	83	68	51	92	95	65	72	60	72	72
26	71	56	31	40	53	32	30	44	73	86	86	74	64	94	64	82		91	158		130		114	84
27		70	24	G	G	29	32	44	60	59	68	42	88	42	G	52	G	72	68	62	61	36	69	40
28	36	33	50	32	G	G	27	38	50	116	79	58	45	76	105	78	42	74	120	152	93	107	43	38
29	56	71	46	61	70	69	47	80	64	67	80	74	118	132	78	50	44	60	86	95	45	59	57	56
30	91	56	40	42	58	29	35	38	48	56	43	80	54	86	60	45	G	40	58	44	66	46	85	24
31	G	G	39	26	40	25	33	45	53	68	78	45		71	64	68	60	67	108	33	28	58	37	32
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	29	30	29	30	30	30	31	30	30	28	29	26	29	27	27	25	29	30	30	31	27	31	28
MED	37	40	32	32	28	28	32	44	52	66	73	71	62	62	G	50	42	54	58	58	54	44	43	41
U Q	56	57	44	39	40	38	43	51	64	79	87	85	80	81	71	68	63	73	70	72	72	60	70	64
L Q	27	G	G	G	G	G	G	38	44	51	49	44	G	G	G	G	G	41	42	39	35	35	35	37

HOURLY VALUES OF fmin AT Yamagawa

MAY 2005

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

HOURLY VALUES OF foF2 AT Okinawa

MAY 2005

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							50	66	63	74	A		83	87	101	113	122	122	121	108	A			53
2				46			54	59				78	98	103	88	88	101	104	123	107		A		
3							44	74	67	66	67			87	92	106	121	111	106	105	88			
4		66					64	60	66	74		84	104	110	108	115	127	126	130	A	107	76		86
5							63	61	66	65			83		108	110	127	130	118	109	87		52	63
6							64	66				84	105	110	129	131	131	137	140	137	110			
7	66	66		62	52		66	88				76	106	149	134	141	138	135	137	131		87		66
8					53			67	68	73		77	112	124	108	128	126	120	108	110	82			
9						A	36	62	77	82	77	88	106	102	88	106	106	102	107	106	88			
10					36	52	66	67	66	74	72	74	85			131	129	110	109	106			A	A
11	A						54	60	72	A	A	A	83	100	106	106	C	C	C	A	A	A		
12				53	A	A	47	67	A		C	C	C	C	C	C	C	127	C	C		54	61	63
13	64	65	64	51	44	38	48	60	66	68	A	80	95	107	120	124	135	130	123	102	66	66	65	66
14	63	A	60	65		30	52	56	65	64	92	74	A	88	98	101	111	124	110	A	87		71	71
15	64	54	60	62	48	45	52	71	82	74		A	94	104	103	97	118		88	142	49	A	A	A
16		A	51	A	A	A	35	A	A	54	A	56	58		66	81	78	78	72	55	48	49	A	53
17		52	47	46	46		A	45	54	62	72	70	80	94	112	131	132	136	142	108	88	90	106	107
18	88	105		86	75	62	52	44	50	A	56	64	75	A	76	80	81	85	76	71	52	53	A	A
19	A	54	61	A		30	45	A	74	A	A	62	75	76	68	74	74	80		54		48	51	51
20	44	45	54	A	28	28	A	A	A	A	A	65	A	90	104	104	90	79	86	87	77	A	A	A
21	A	A	51	A	A	A	41	55	65	66	76	76	70	68	72	76	88	A	A	A	A	51	A	A
22	A	53	52		A	A		57	58	A	65	72	82	98	101	88	A	101	98	88	78	63	54	A
23	66	A	62	61	54	54	59	66	74	70		80		104	112	121	130	111	108	110	87	66	72	72
24	63	48	54	61	70	64	52	56	57	52	64	68	82	88	96	101	101	91	74	73	74	73	65	73
25	63	52	54	56	46	42	54	62	A	A	A	A	A	80	81	83	92	A	A		72	A	54	A
26	A	A	A	A	A	A	A	54	72	A	A	A	A	76	80	91	98	102	A	A	73		A	A
27	61	A	A	A	44	A	51	66	69	62	A	A	70	87	100	102	90	78	A	88	88	89	53	42
28	A	44	34	34	36	36	51	57	53	A	A		A	A	76	83	87	84	74	74		75	64	65
29	64	64	64	52	43	41	54	71	88	A	A	A	A	82	100	104	90	88	A	88	90	78	54	54
30	55	52	54	52	48	45	60	66	A	77	66	66	100	92	67	71	70	78	74	82	89	66	70	76
31	83	66	54	66	73	65	54	46	A	A	A				68	70	68	63		A	A	64	62	61
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	13	15	16	15	16	14	26	28	22	17	10	19	21	24	29	30	28	27	22	23	21	17	15	17
MED	64	54	54	56	47	44	52	62	66	68	70	74	83	93	100	103	104	104	108	105	87	66	62	65
U Q	66	66	60	62	53	54	59	66	72	74	76	80	102	104	108	115	127	126	123	109	88	77	70	72
L Q	62	52	51	51	43	36	48	56	63	63	65	66	77	87	78	83	89	84	86	82	72	53	54	53

HOURLY VALUES OF fEs AT Okinawa

MAY 2005

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

DAY \ HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G		G	G	G	27	50	39	73	92	90	84	G	G	G	G	G	42	60	71		28	27
2	G	36	G	26	G		G	G	40		G	G	88	G	G	G	G	G	60	43	41	54	31	28
3	34	28	G			32	G	G	38	G	62		G	G	G	G	G	G	G	G	G	G	30	27
4	46	53	G		38	36	G	G	38	54	51	62	50	53	G	42	39	49	58	144	52	34	G	28
5	G	G	G	G		G	G	G	38	60		68	G	G	G	78	87	115	116	86	G	34	29	G
6		G					G	35	57	68		G	G	G	54	G	70	56	59	89	60	34	58	58
7	39	G	G	G	G	G	G	G	46	56	G	G	G	55	53	G	G	G	G	G	37	86		G
8	G		G	G	G	G	G	36	51	39	52	G	G	G	G	G	G	69	36	40	38	36	28	
9	G	34	G	G	G	29	G	33	60	G	49	G	G	G	G	G	60	56	49	28	30	32	28	28
10		28	G	G	G	G	G	G	G	51	G	G	G	G		G	70	G	41	42	32	G	37	80
11	28	G			G		27	56	52	88	125	60	G	61	G	G	C	C	C	92	43	90	58	49
12	51	38	36	39	40	44	G	47	68	57	C	C	C	C	C	C	C	51	C	C	58	39	38	34
13	33	41	30	30	34	25	G	38	60	61	81	70	82	65	G	G	55	61		32	27	58	29	68
14	56	72	87	39		29	G	33	57	G	G	46	88	54	50	58	83	90	93	114	61		G	32
15	33	36	68	48	48	35	35	38	48	52	70	79	88	57	49	G	G	G	G	26	G	46	85	87
16		54	56	64	37	59	60	105	73	54	73	58	G		G	G	G	38	44	34	24	30	67	37
17	32	24	24	G	G	G	35	38	36	54	56	48	45	47	70	G	G	G	43	48	27	G	G	G
18	49	68		32	G	38	29	G	39	68	53	59	52	96	44	G	G	G	G	G	52	79	71	108
19	72		60	46	38	37	37	71	70	91	156	45	52	43	G	58	60	67	72	50	71	44	45	39
20	37		92		G	40	55	86	145	126	115	64	116	93	G	G	G	G	G	58	81	79	137	93
21	76	83	66	69	39	68	27	36	51	53	48	56	64	56	55	51	72	101	95	64	105	88	59	83
22	67	71	50	53	59	72	48	38	50	68	64	62	52	69	60	80	107	88	85	61	51	48	50	59
23	51	71	42	40	79	36	42	93	47	60	58	43	47	G	G	59	46	43	38	G	G	G	40	41
24	G	58	26	29	31	25	28	35	36	44	49	64	50	G	G	53	56	63	58	65	49	56	48	58
25	G	40	40	50	44	29	79	78	120	146	74	94	91	70	64	71	84	92	152	82	58	72	45	50
26	87	93	61	59	63	64	78	46	72	102	114	150	108	77	G	41	69	78	126	94	68	72	84	69
27	71	69	112	66	33	50	39	58	54	53	74	78	57	64	64	51	72	81	137	90	86	46	46	36
28	57	49	36	26	28	G	35	39	50	105	164	104	90	102	72	G	59	64	56	42	60	88	88	58
29	56	46	40	33	27	G	45	57	71	116	104	97	78	G	47	64	73	145	106	85	91	36	34	40
30	27	G	43	G	G	G	46	49	77	80	G	43	57	G	G	G	G	G	42	40	30	53	59	47
31	78	G	G	G	23	G	43	59	50	83	90	G			55	50	51	51	60	72	113	81	54	40
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	27	26	27	28	31	31	31	30	28	29	29	28	29	30	29	30	28	30	31	29	30	30
MED	38	39	36	31	28	29	28	38	51	60	63	59	52	50	G	G	55	54	57	54	51	46	45	40
U Q	56	63	60	48	39	39	43	57	68	83	91	74	86	64	54	53	71	78	89	85	68	75	59	59
L Q	14	12	G	G	G	G	G	33	39	53	49	22	G	G	G	G	G	G	39	34	30	34	29	28

HOURLY VALUES OF fmin AT Okinawa

MAY 2005

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
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2	53	18	22	15	23		17	22	22		62	55	45	53	58	54	44	44	21	14	18	15	15	21
3	20	18	21			17	26	20	32	62	42		91	62	54	63	46	43	28	22	22		20	16
4	20	17	15		20	18	34	22	29	40	44	39	43	45	59	30	29	22	20	15	18	17	20	18
5	21	22	64	22		23	22	22	29	32		43	68	68	63	44	43	32	18	17	22	15	15	21
6		66					32	22	30	34		60	62		45	56	36	32	21	32	27	17	21	21
7	17	21	21	20	20	33	15	22	32	36	64	54	56	48	45	62	55	43	28	22	20	17		21
8	21		26	23	38	18	23	16	22	34	38	63	62	60	54	56	46	23	20	15	15	28	20	
9	66	18	22	23		18	17	23	30	46	38	63	58	59	54	45	24	30	18	17	15	16	18	15
10		15	21	24	20	30	21	22	44	38	56	63	63			59	33	39	22	18	17	23	15	17
11	20	20			29		18	22	22	39	55	43	64	44	58	59	C	C	C	23	18	18	15	17
12	18	15	18	22	17	15	23	29	33	42	C	C	C	C	C	C	C	26	C	C	14	14	14	14
13	14	15	14	14	14	14	14	15	21	33	35	38	39	38	46	22	21	16	14	14	14	14	14	14
14	14	14	15	14		15	14	14	21	23	28	39	42	39	39	26	23	18	14	14	15		15	14
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16	14	14	14	14	14	14	14	14	21	30	24	26			91	22	22	18	14	14	14	14	15	14
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19	14	14	14	14	14	14	14	14	16	17	20	27	28	22	49	23	18	15	14	15	14	14	14	14
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21	14	14	14	14	14	15	14	14	15	22	30	24	29	29	30	28	22	16	14	14	14	14	15	14
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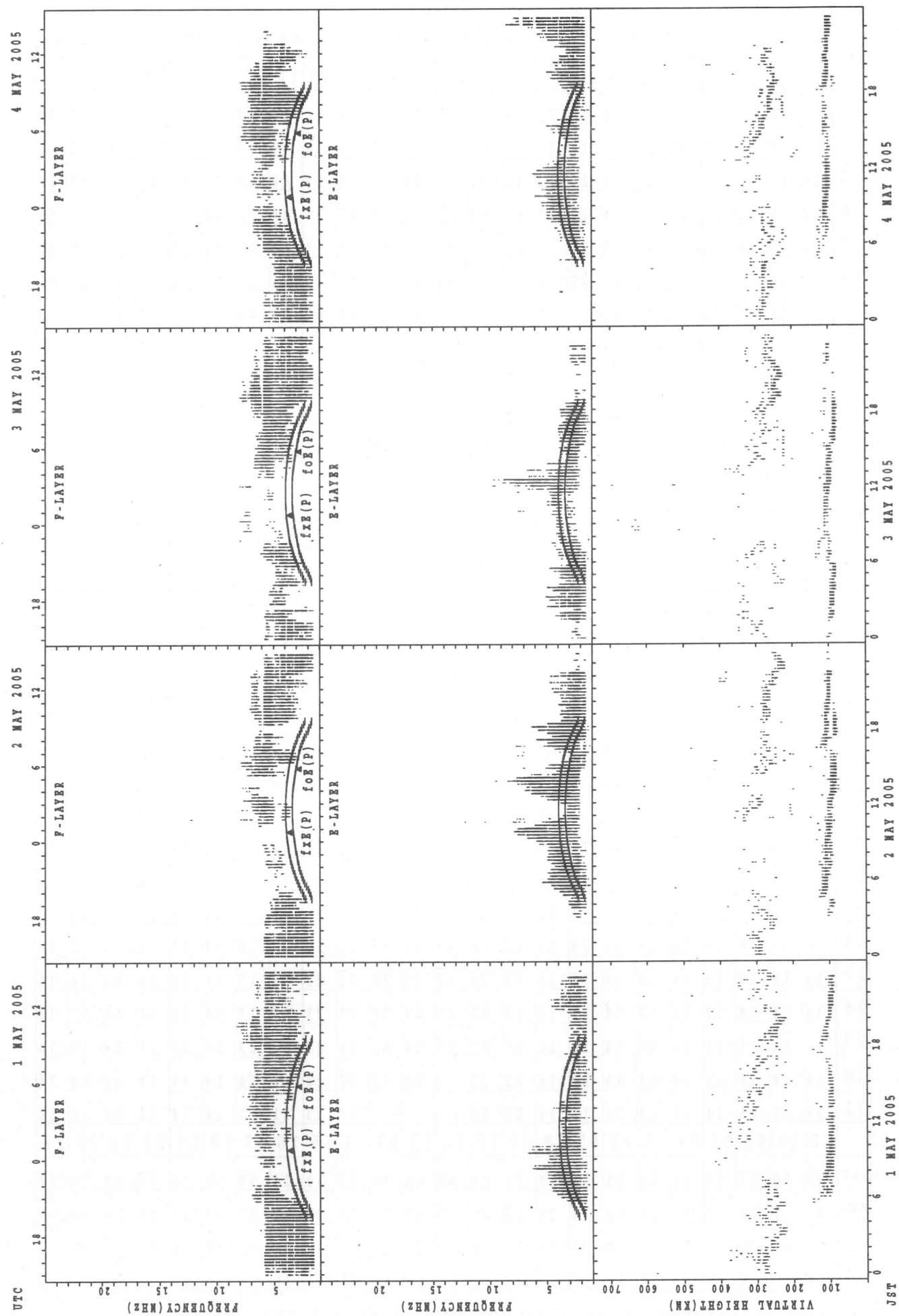
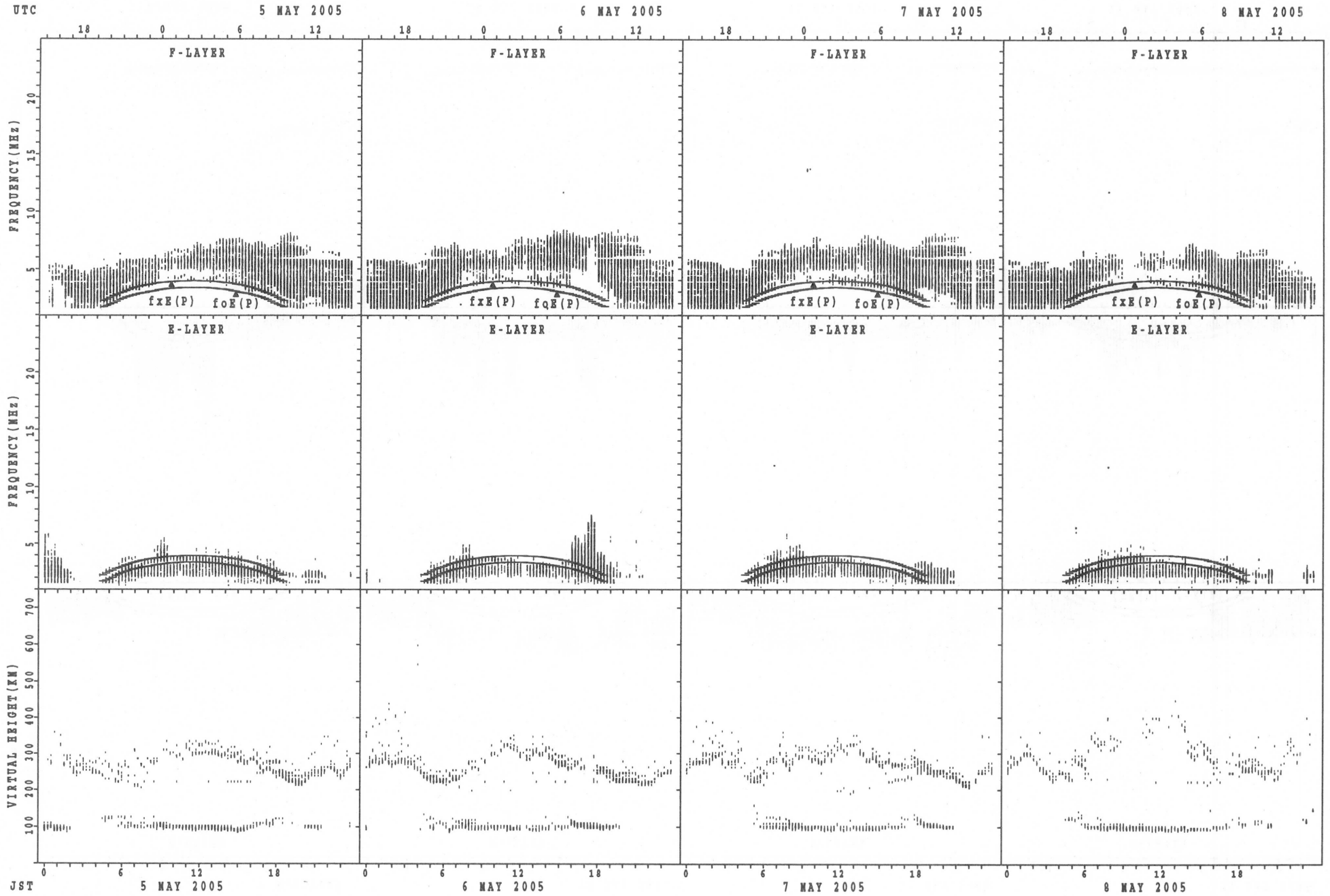
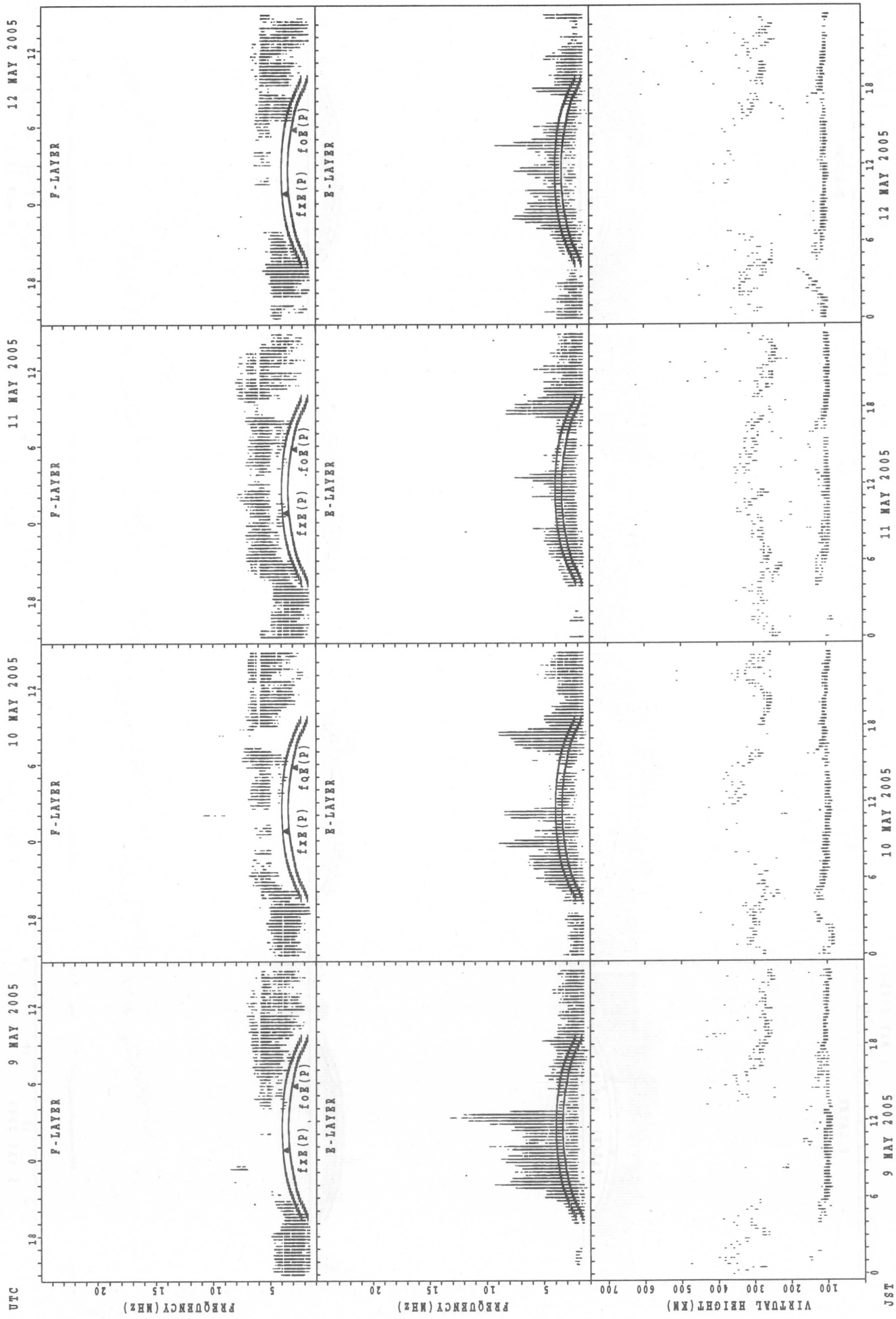
31	14	15	15	14	14	14	14	14	14	22	23				37	23	21	17	14	14	14	14	14	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	30	27	27	26	28	31	31	31	30	28	27	28	26	29	30	29	30	29	30	31	29	30	30
MED	14	14	14	14	14	14	14	14	20	22	26	33	39	37	39	27	22	17	14	14	14	14	14	14
U Q	19	18	21	20	20	17	18	22	29	34	38	43	57	53	54	54	34	30	20	16	18	17	15	17
L Q	14	14	14	14	14	14	14	14	15	20	22	26	29	28	27	22	18	15	14	14	14	14	14	14

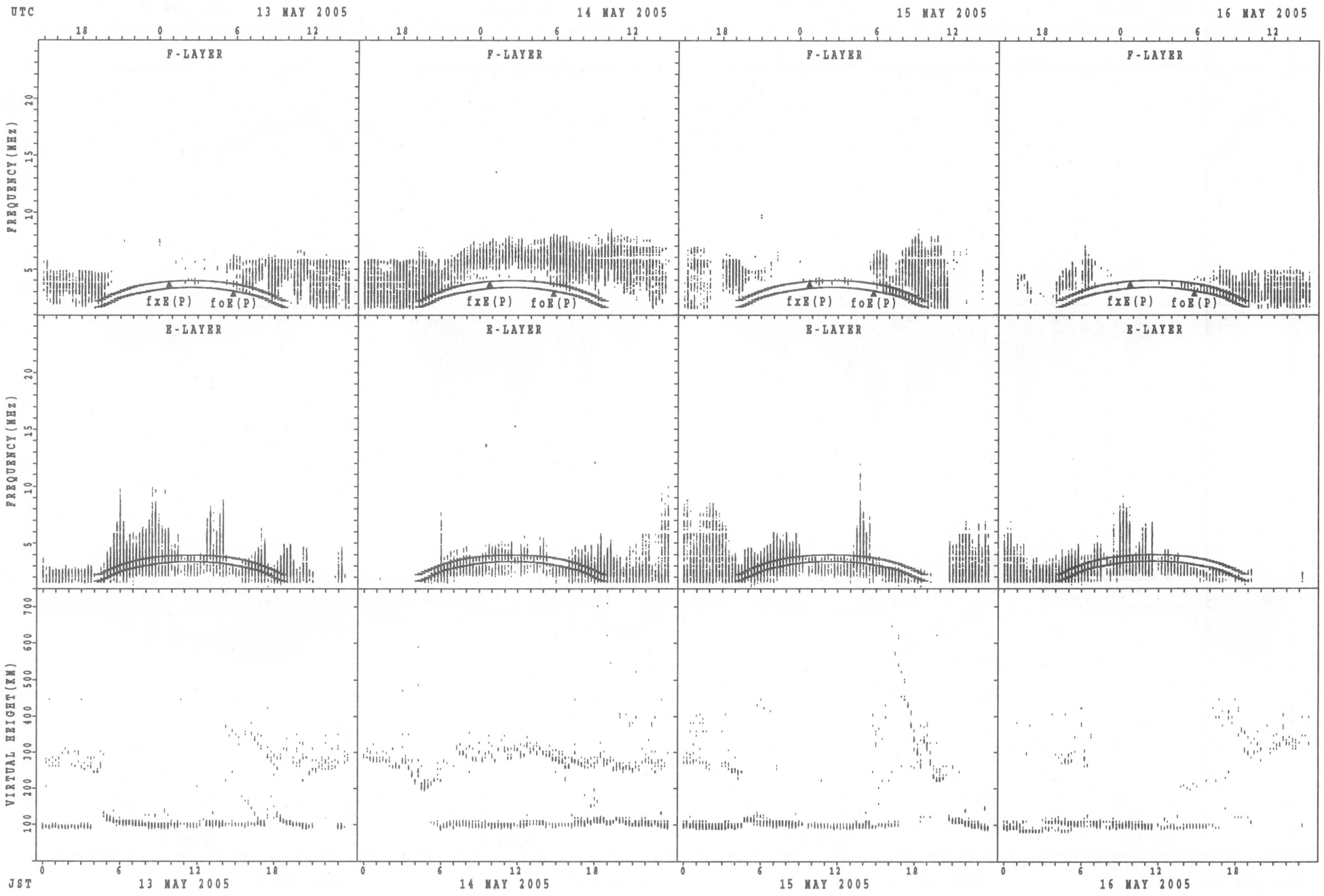

SUMMARY PLOTS AT Wakkanai
UTC
JST
1 MAY 2005
2 MAY 2005
3 MAY 2005
4 MAY 2005
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai

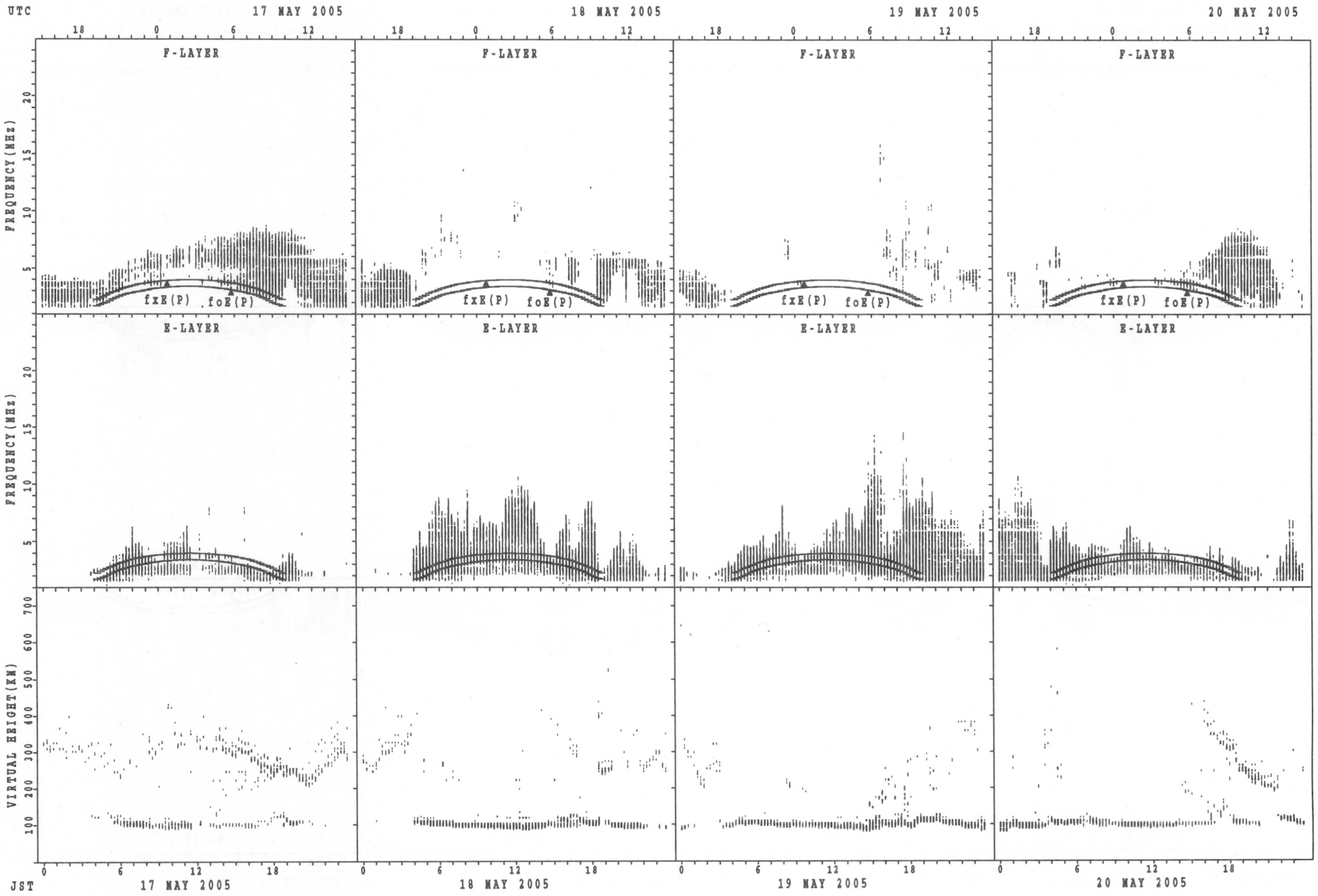


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


SUMMARY PLOTS AT Wakkanai
UTC
JST
9 MAY 2005
10 MAY 2005
11 MAY 2005
12 MAY 2005
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

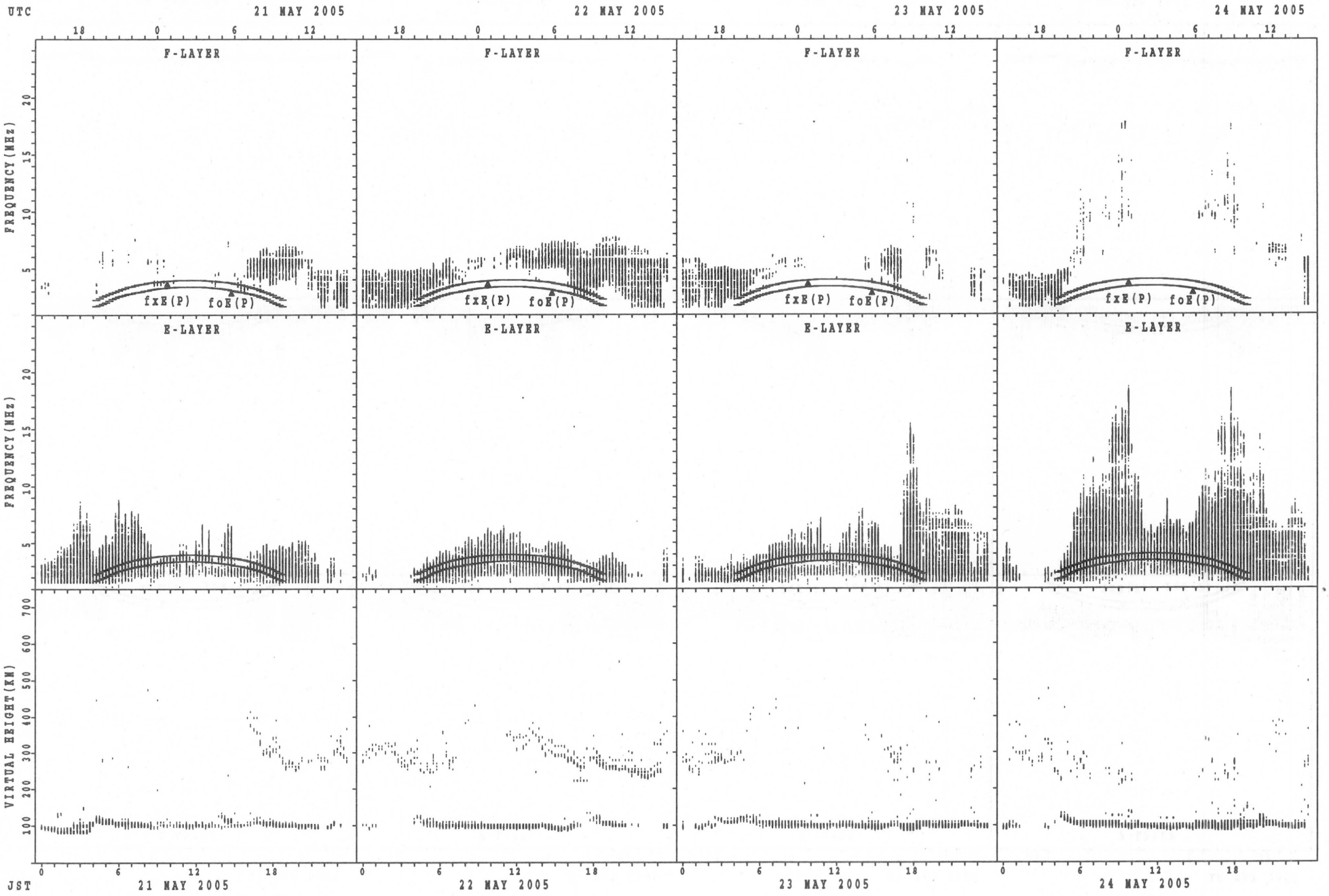

SUMMARY PLOTS AT Wakkanai
UTC
13 MAY 2005
14 MAY 2005
15 MAY 2005
16 MAY 2005
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P)
foE(P)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



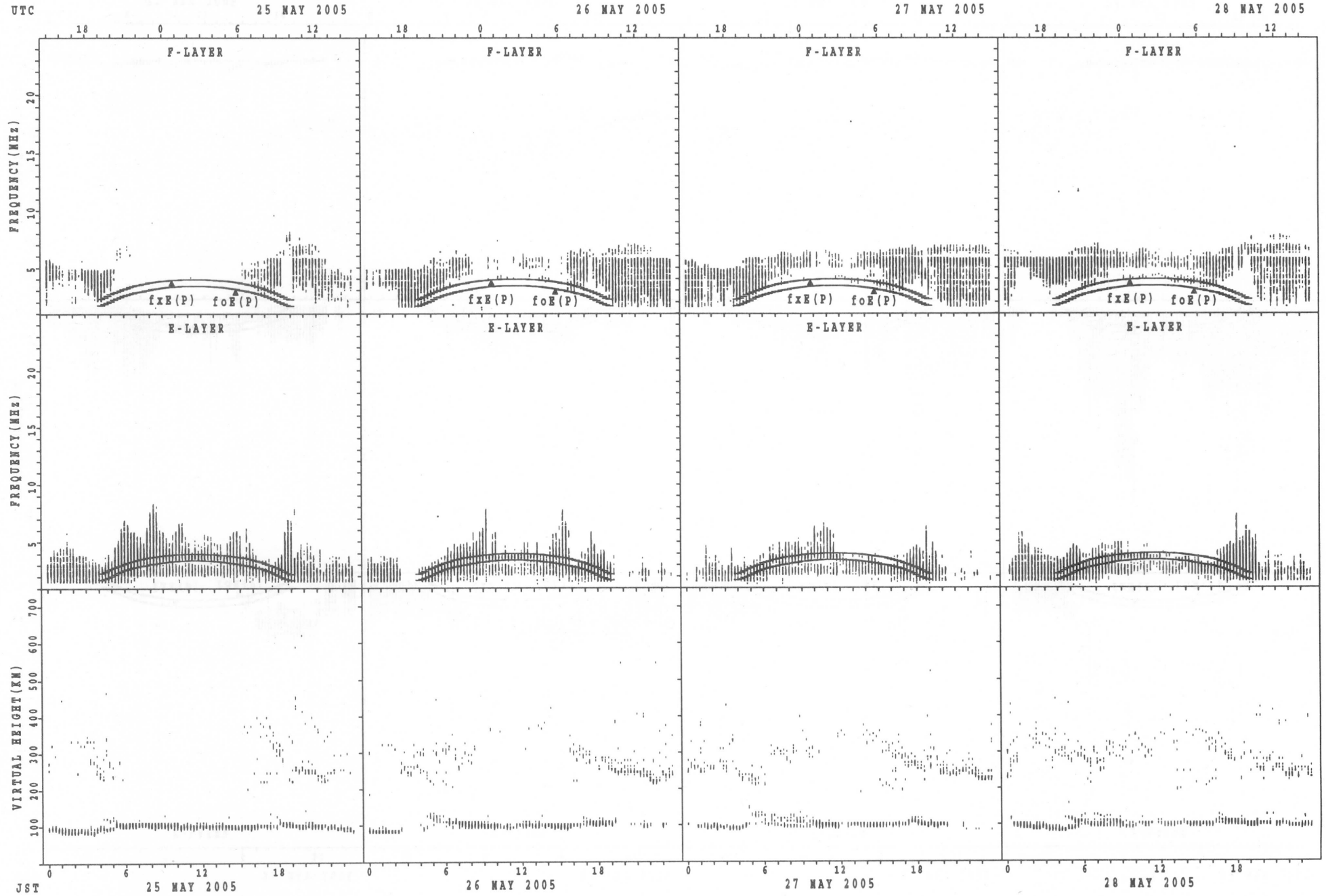
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



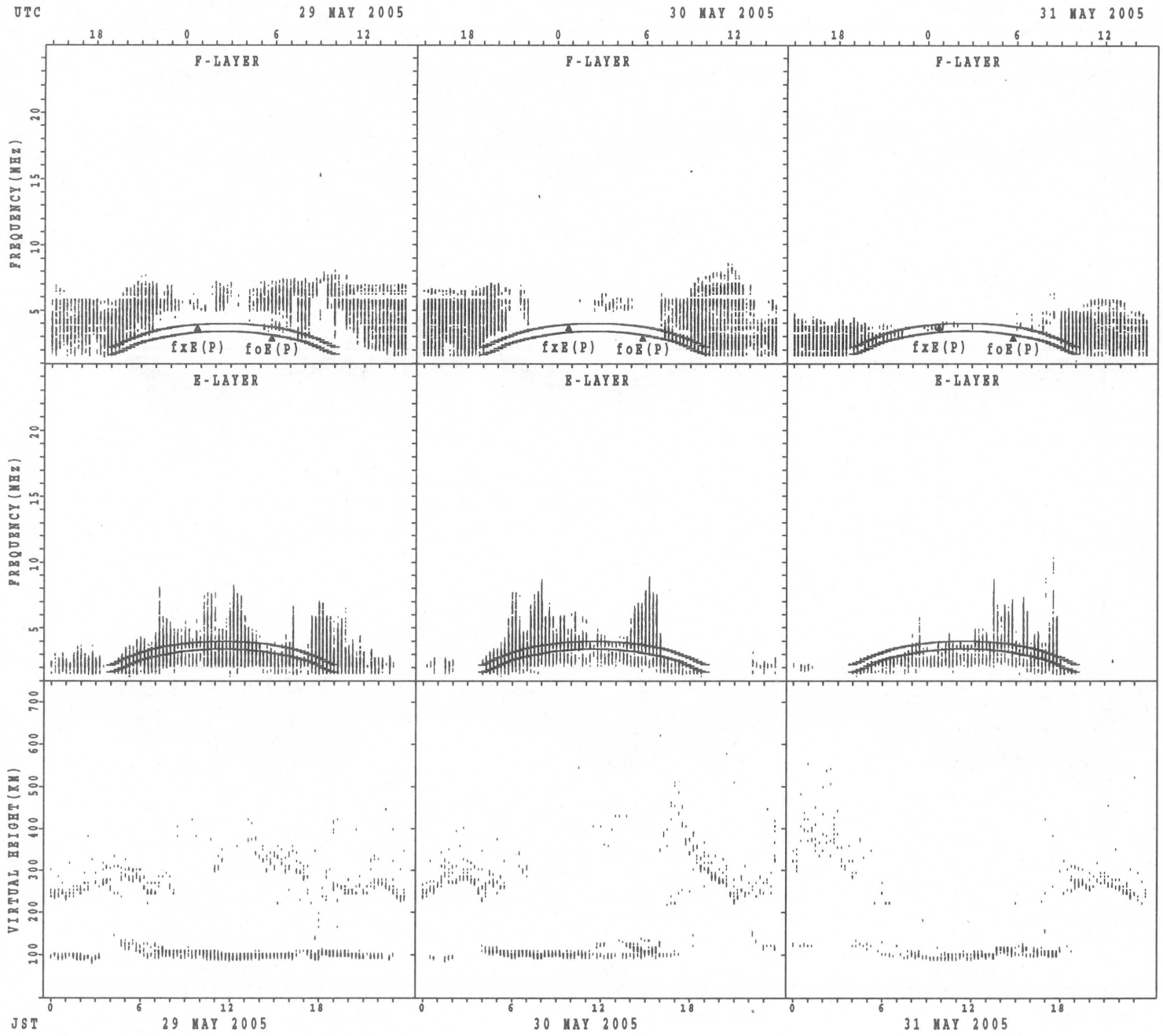
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



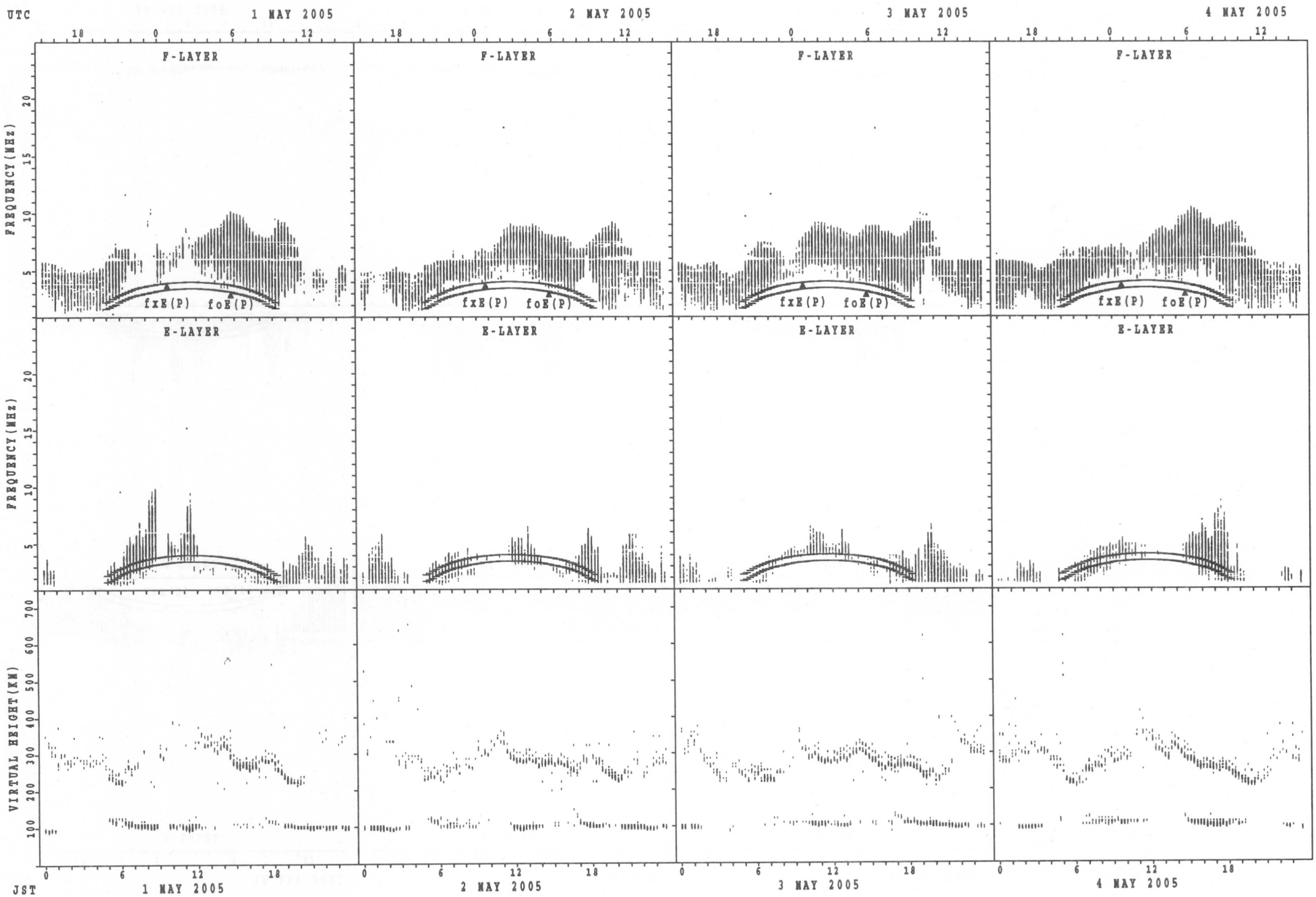
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



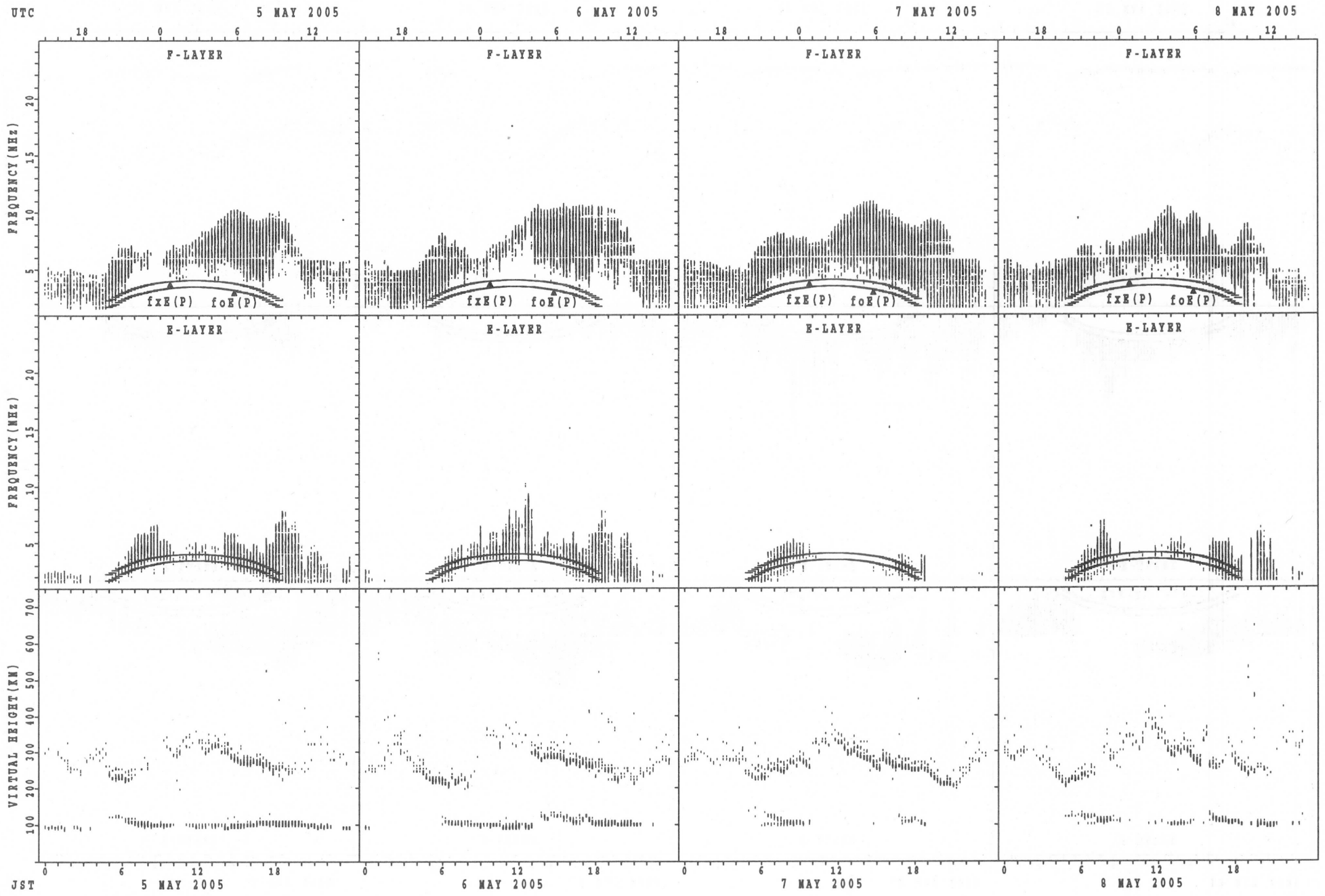
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



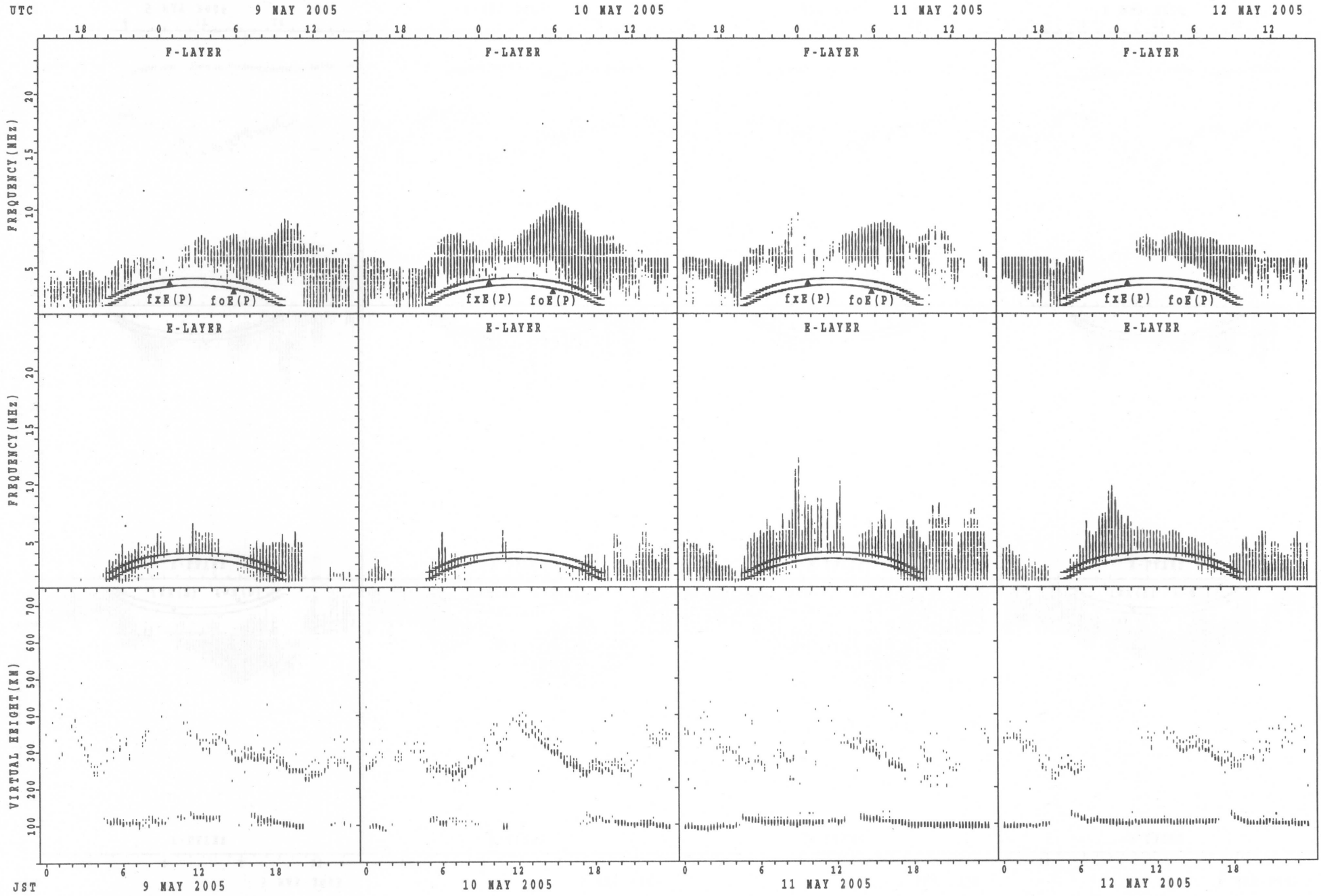
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



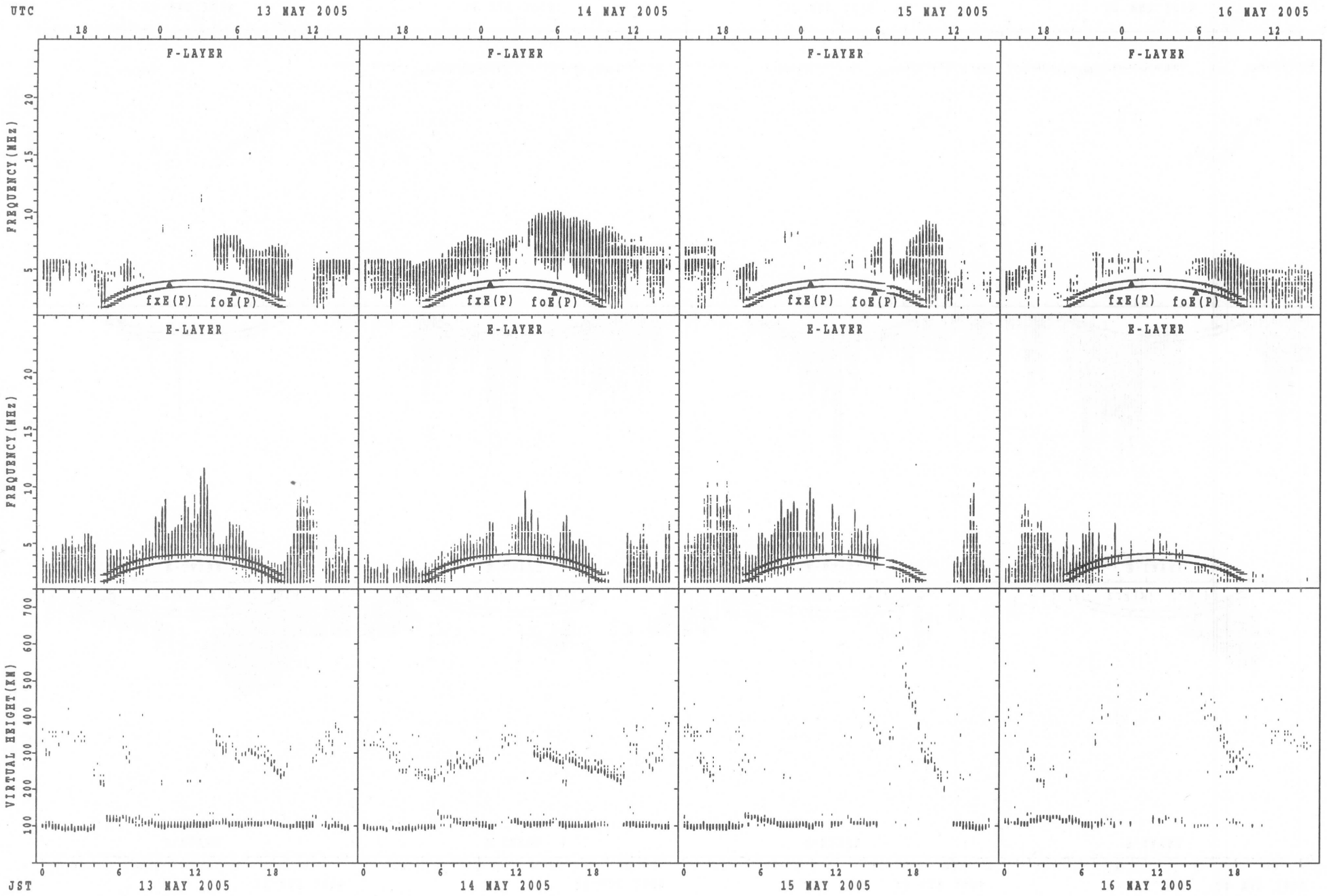
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



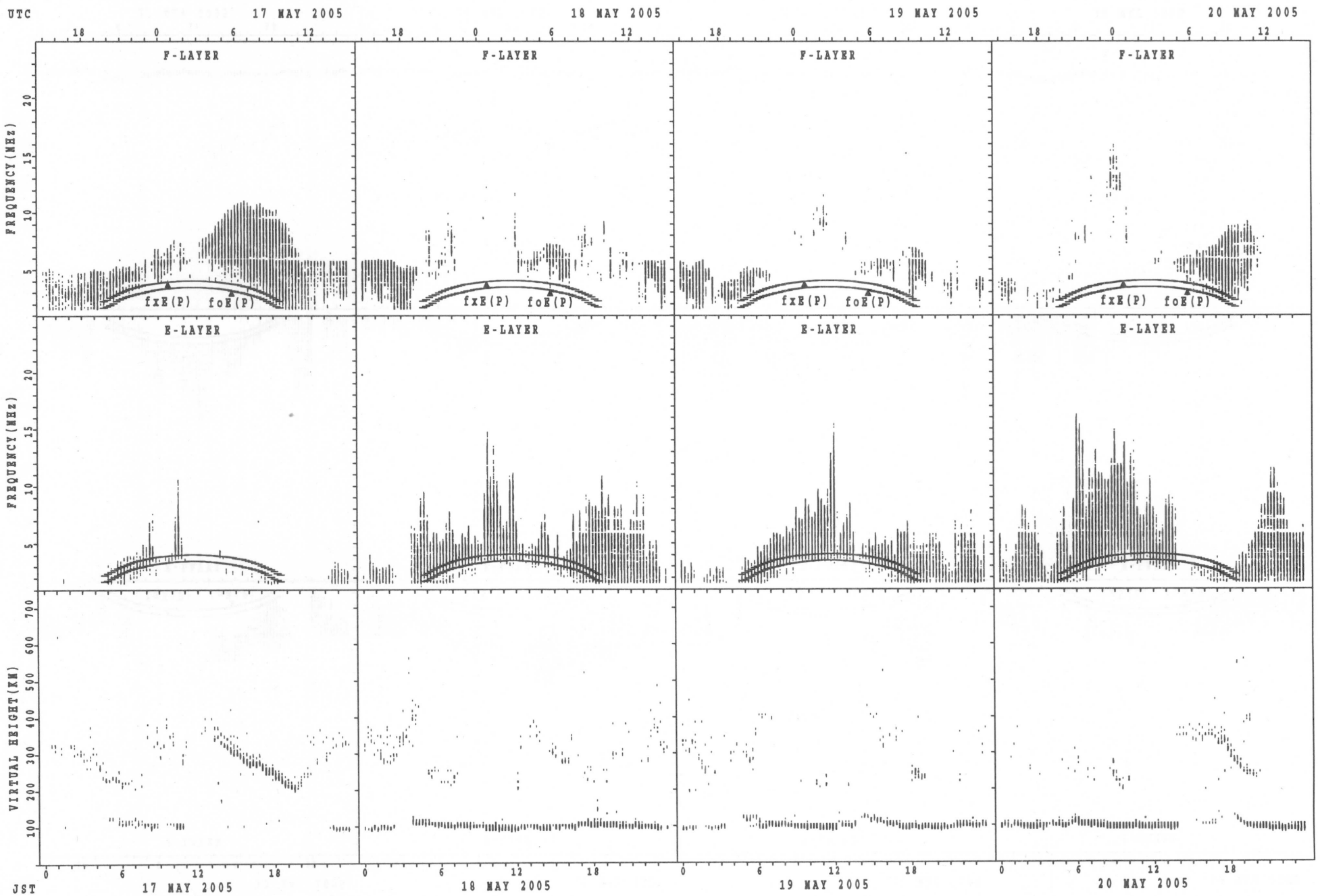
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



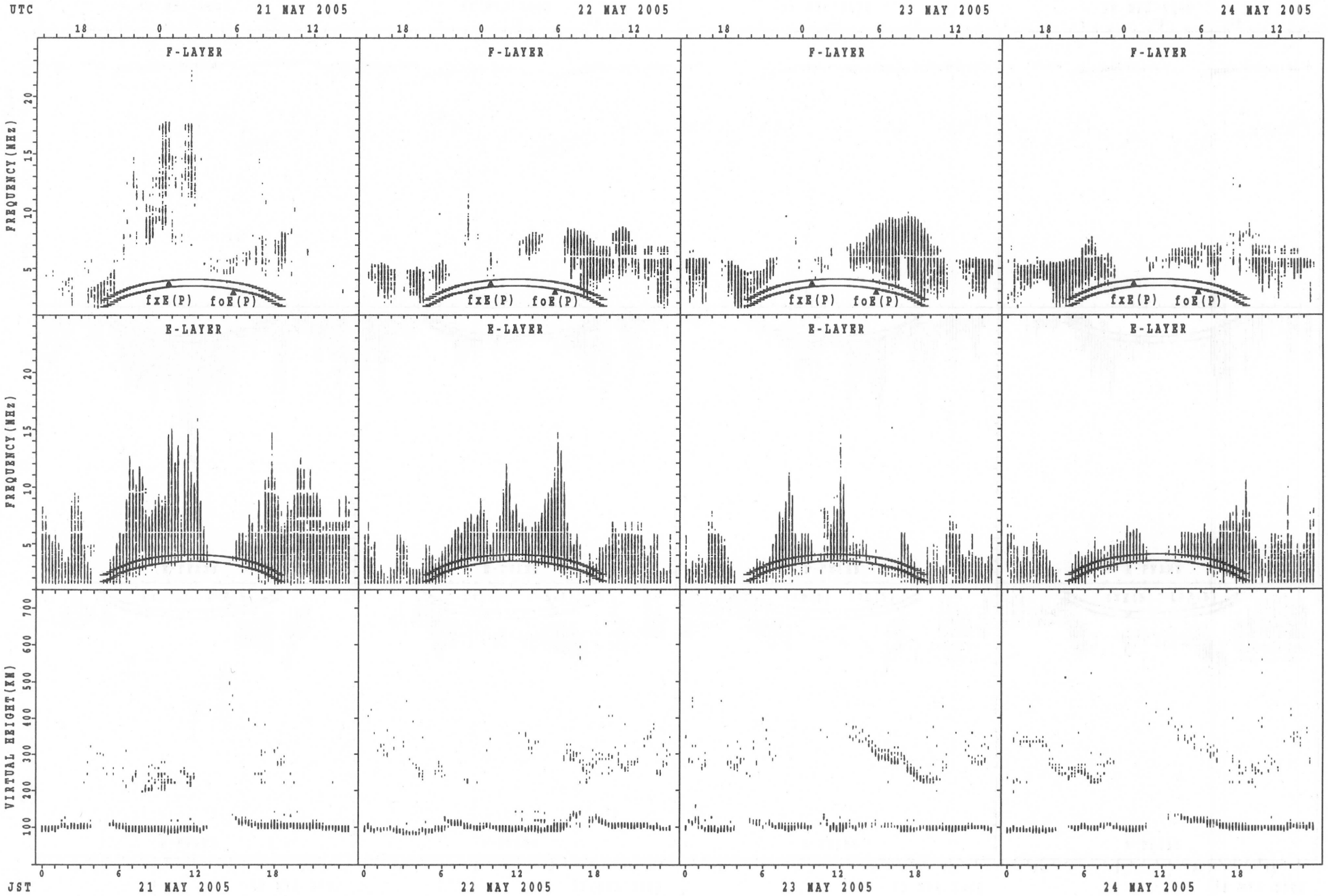
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



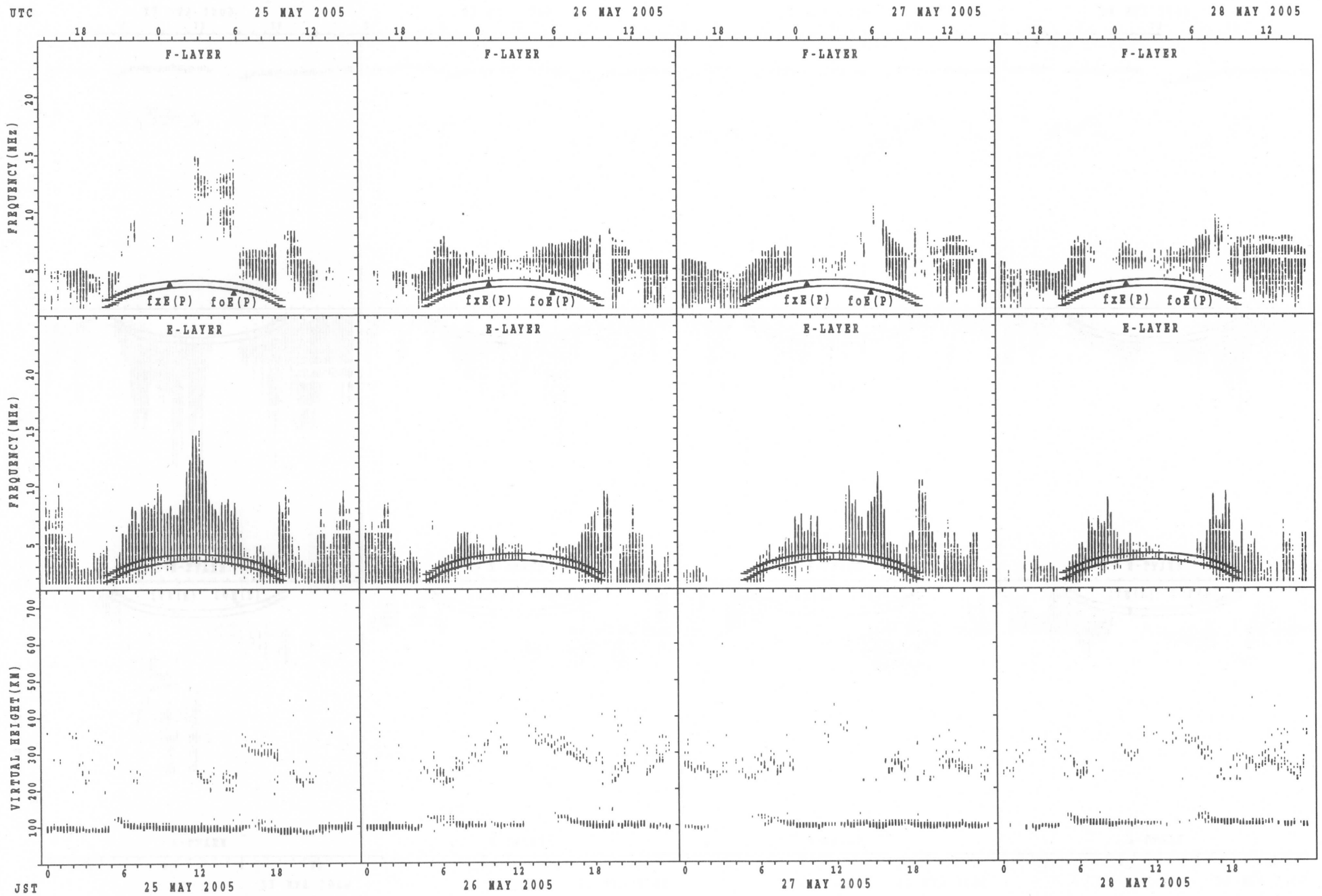
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



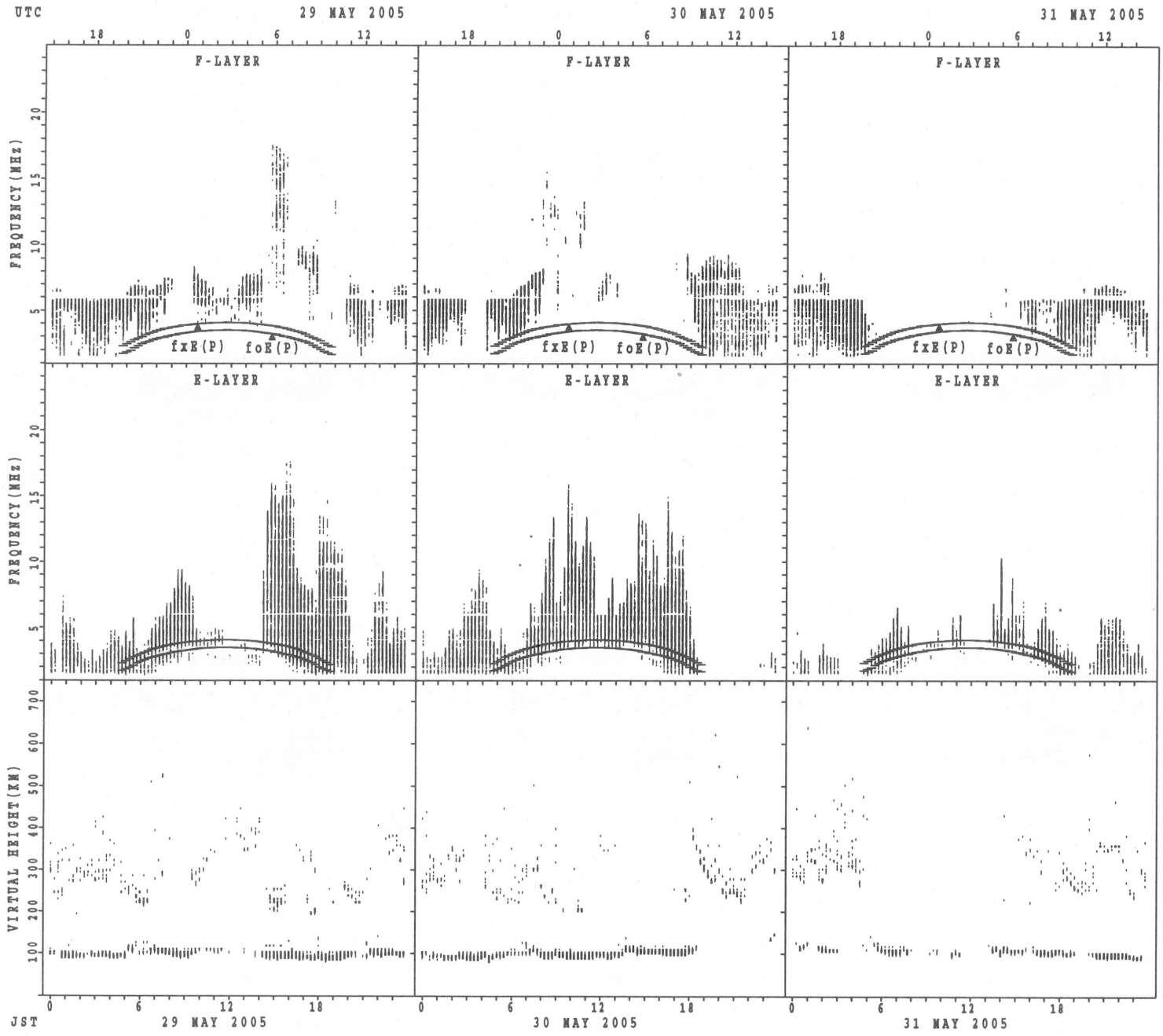
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



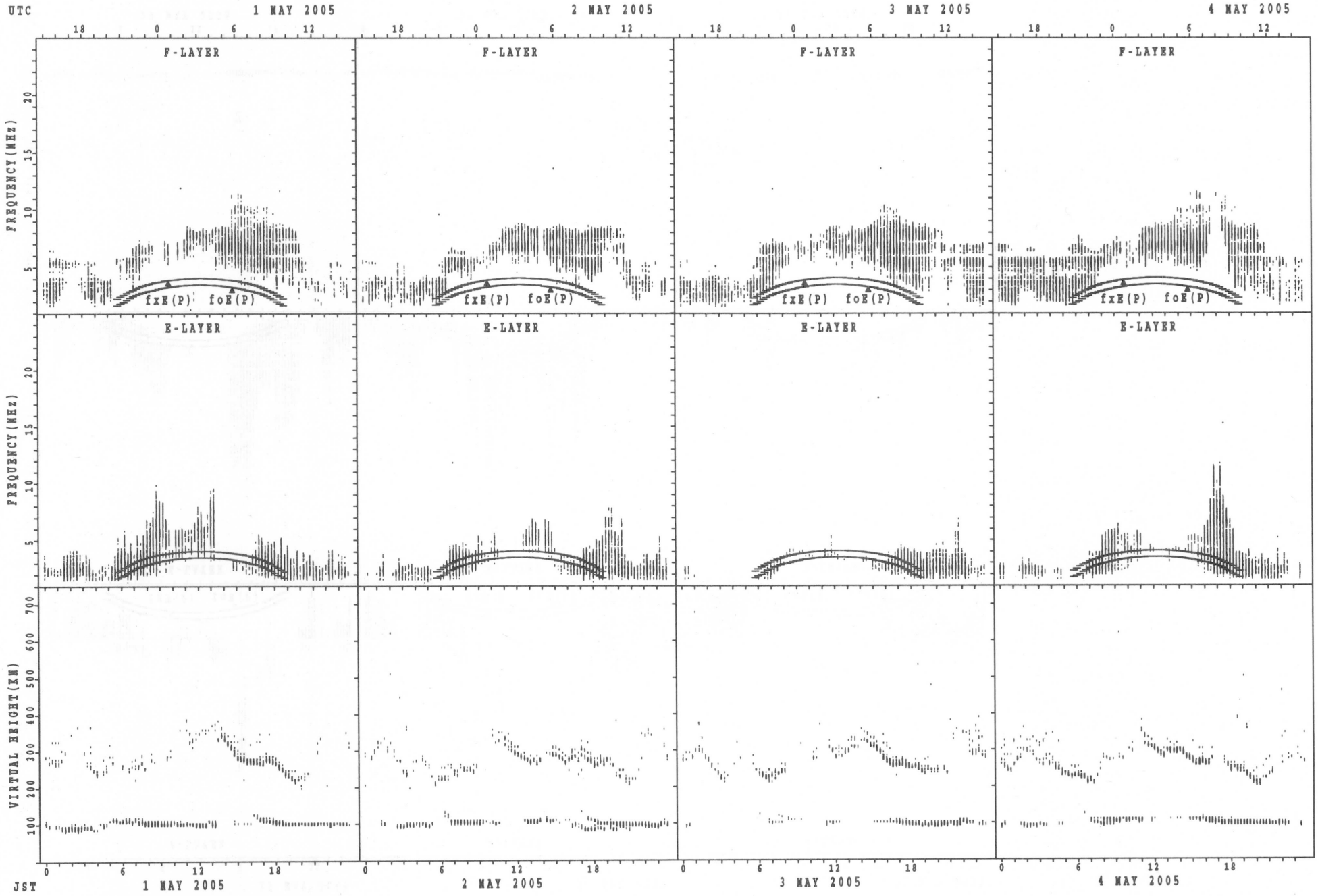
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

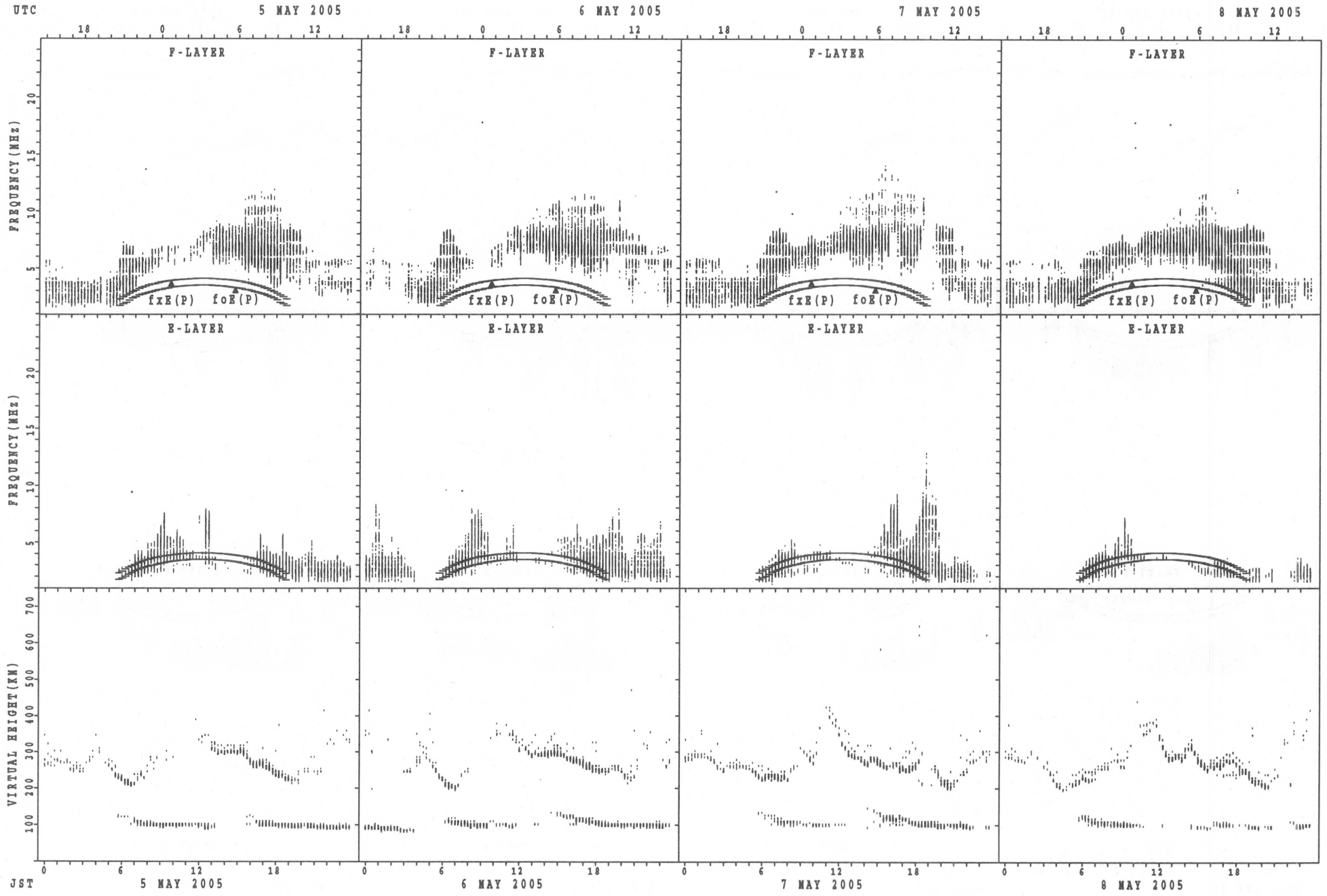


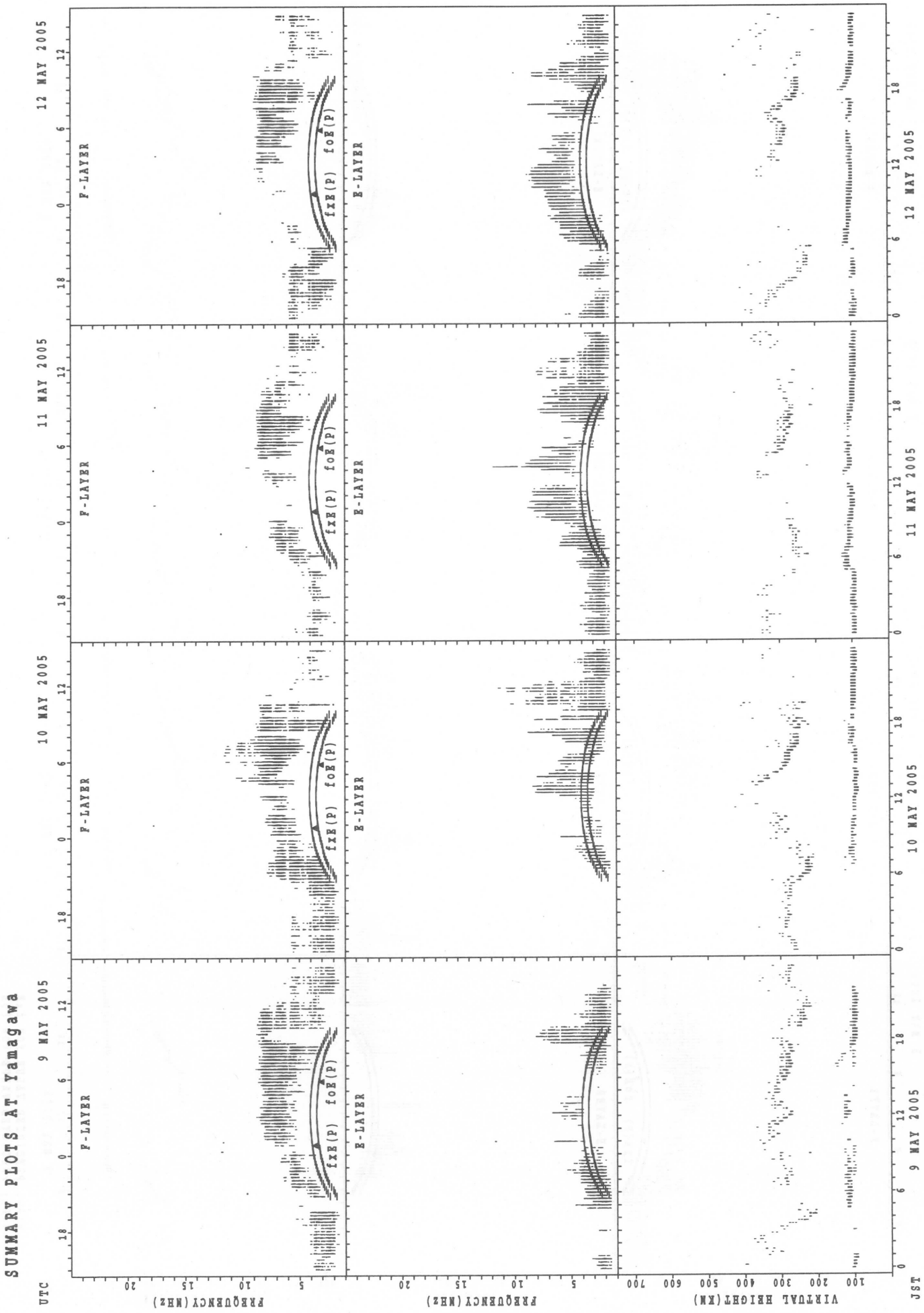
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa

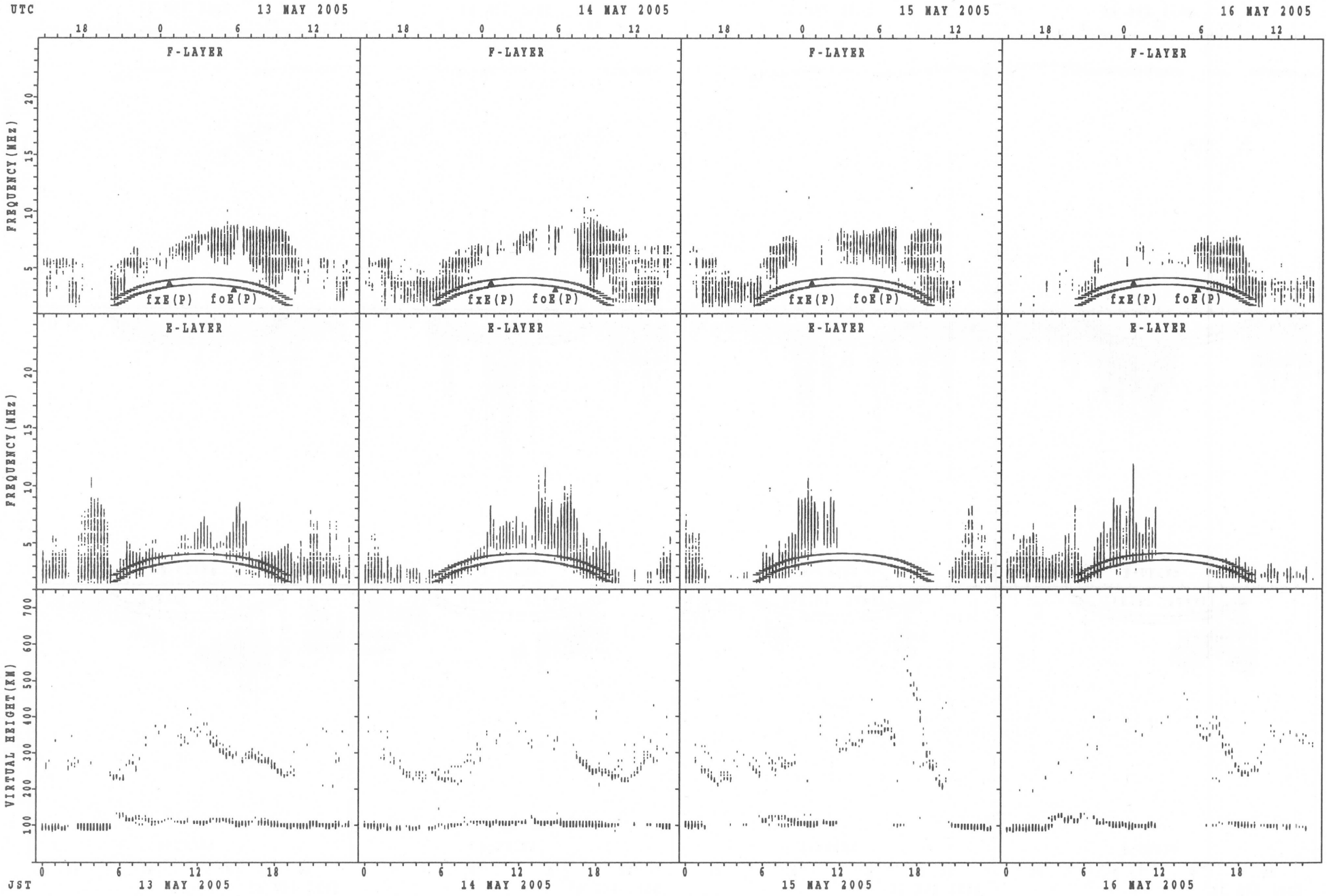


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


SUMMARY PLOTS AT Yamagawa
UTC
5 MAY 2005
6 MAY 2005
7 MAY 2005
8 MAY 2005
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

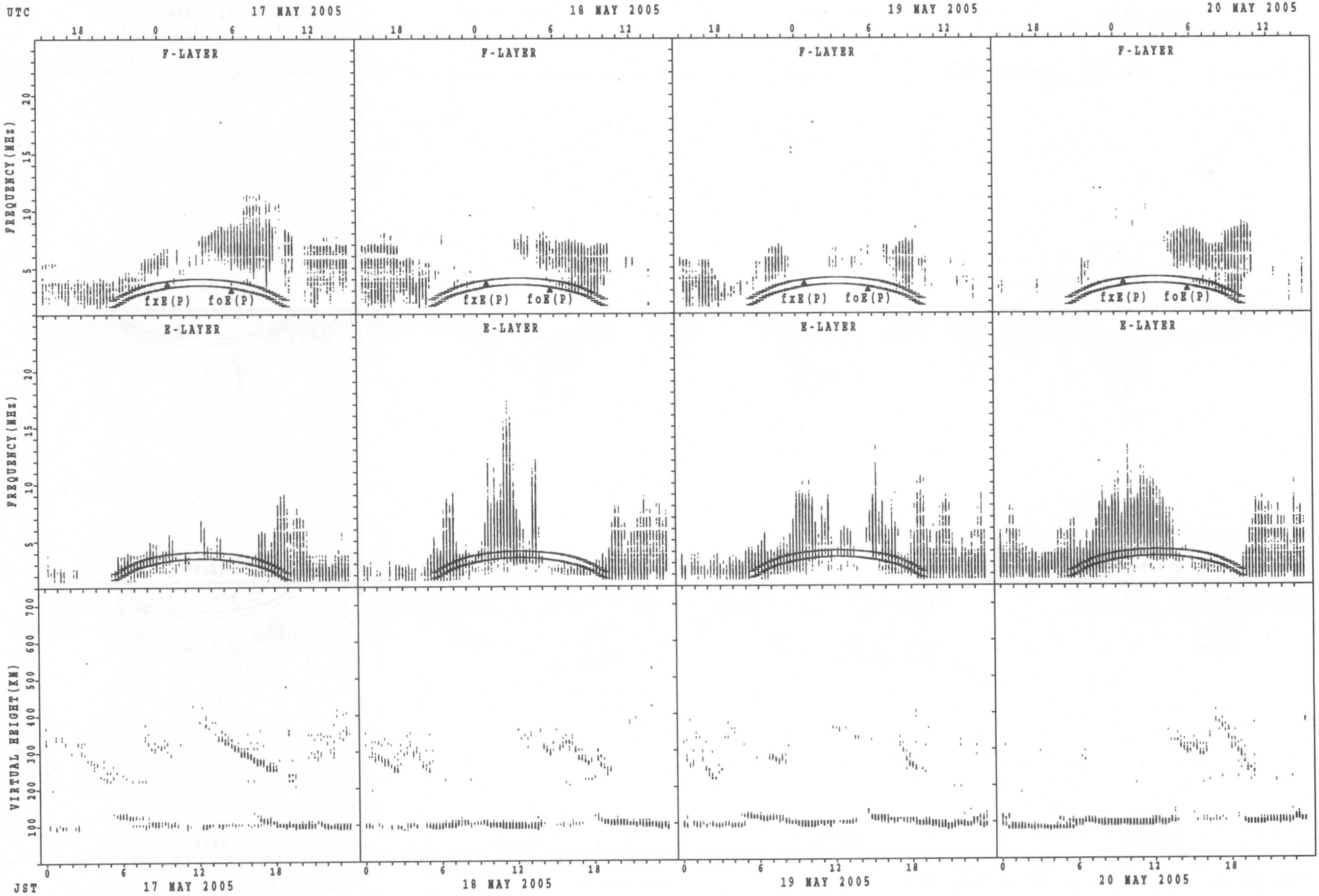

SUMMARY PLOTS AT Yamagawa
UTC
JST
9 MAY 2005
10 MAY 2005
11 MAY 2005
12 MAY 2005
F-LAYER
E-LAYER
fxE(P)
foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



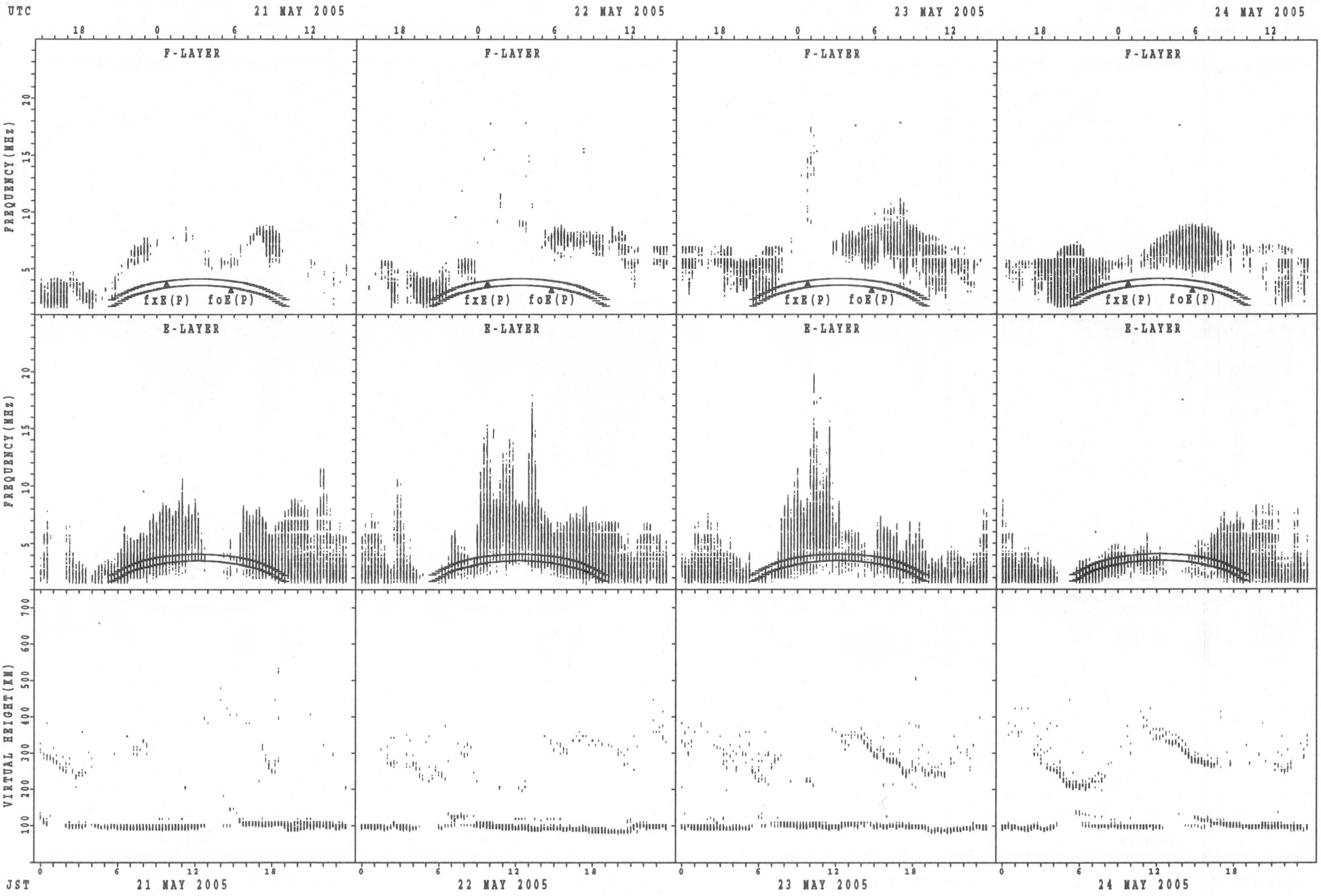
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa

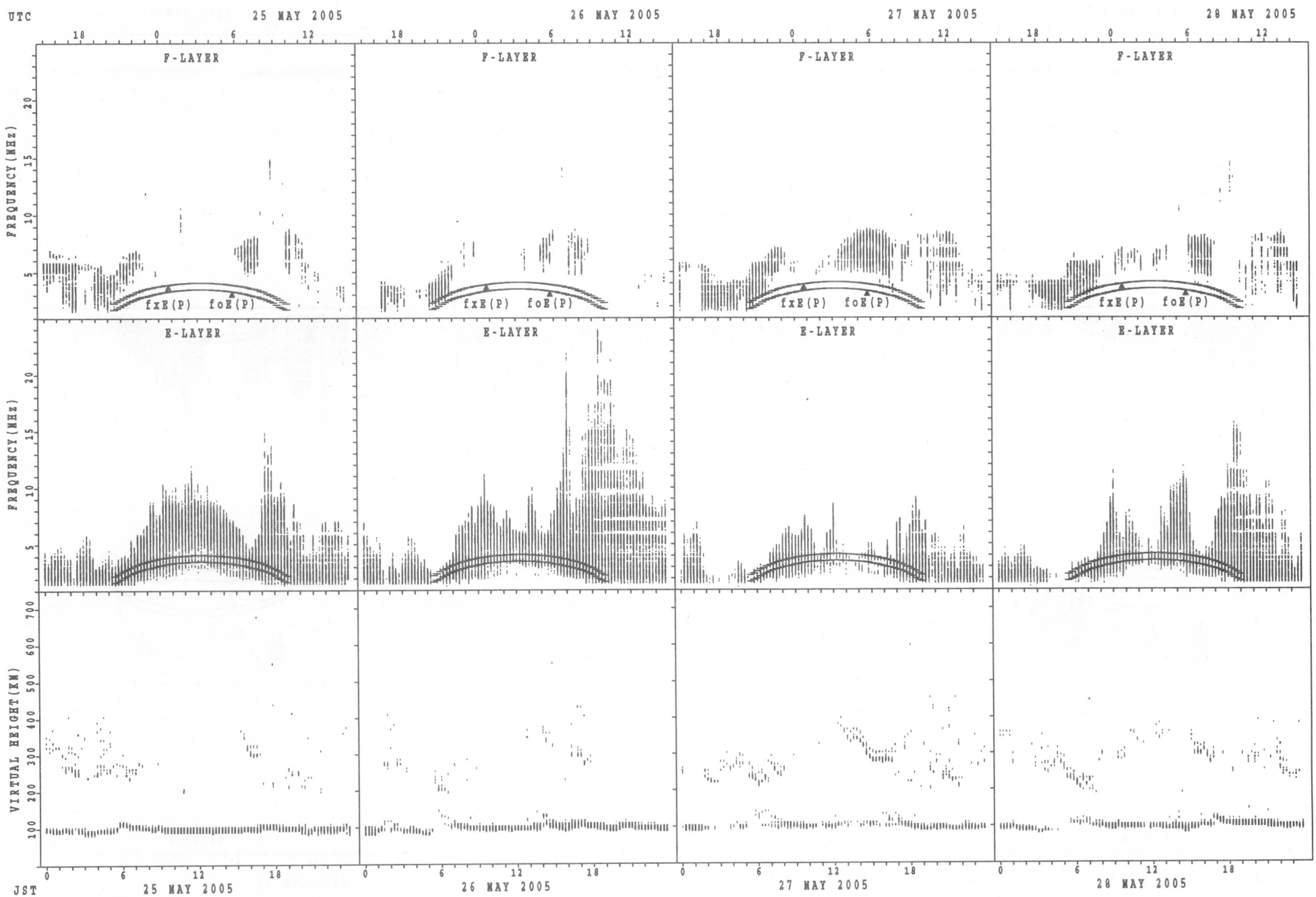


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

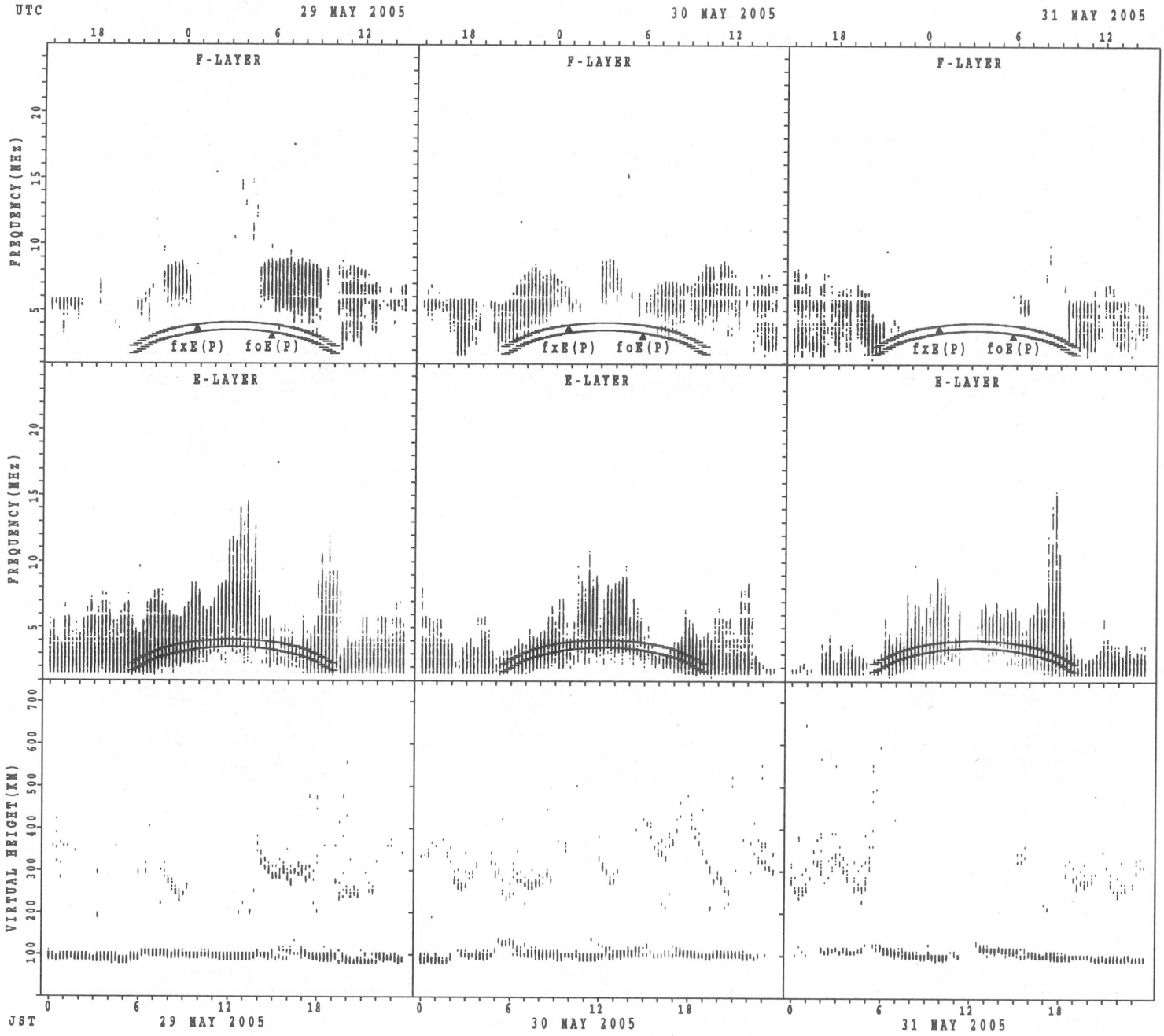
SUMMARY PLOTS AT Yamagawa



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

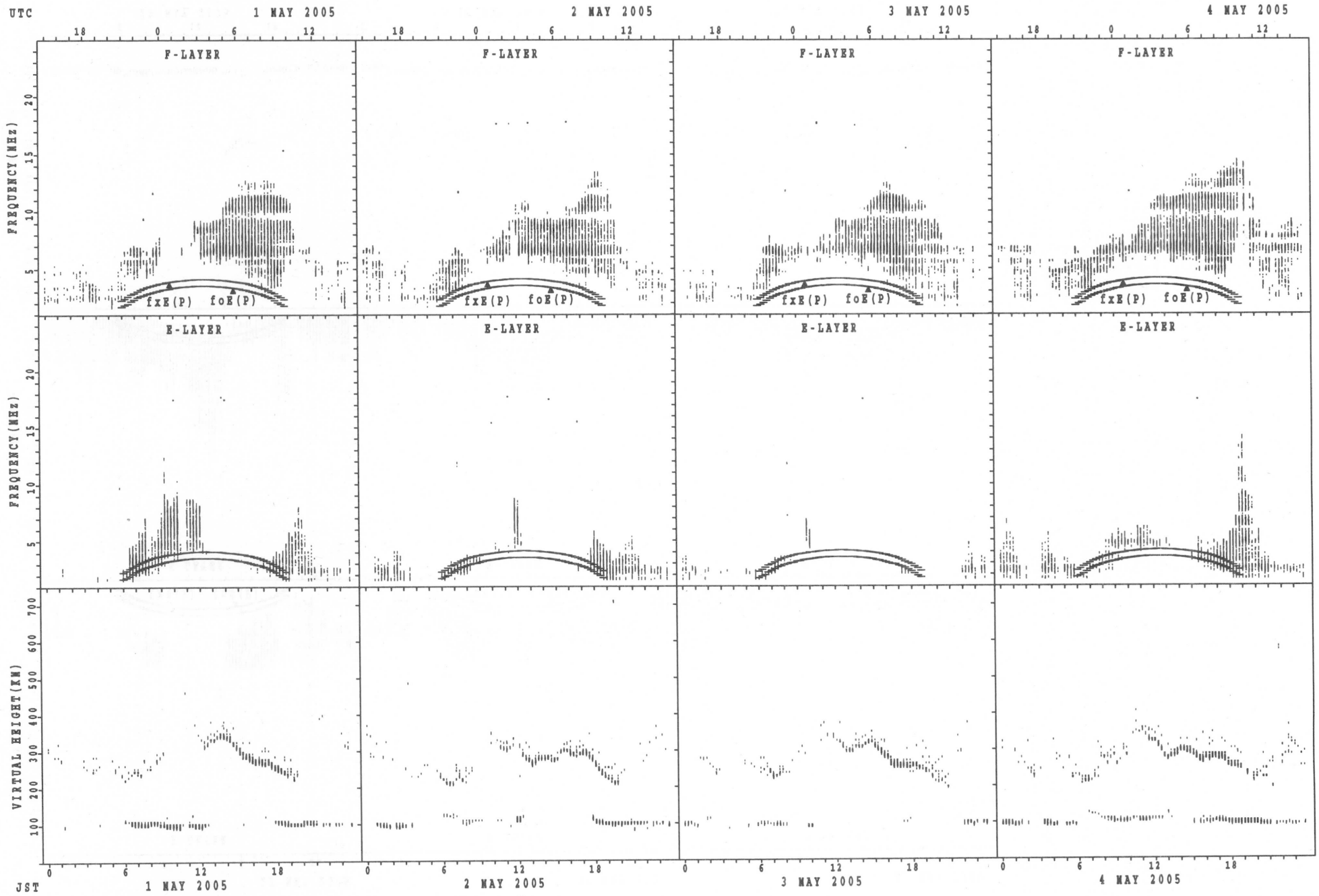

SUMMARY PLOTS AT Yamagawa
UTC
25 MAY 2005
26 MAY 2005
27 MAY 2005
28 MAY 2005
F-LAYER
E-LAYER
fxE(P) foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



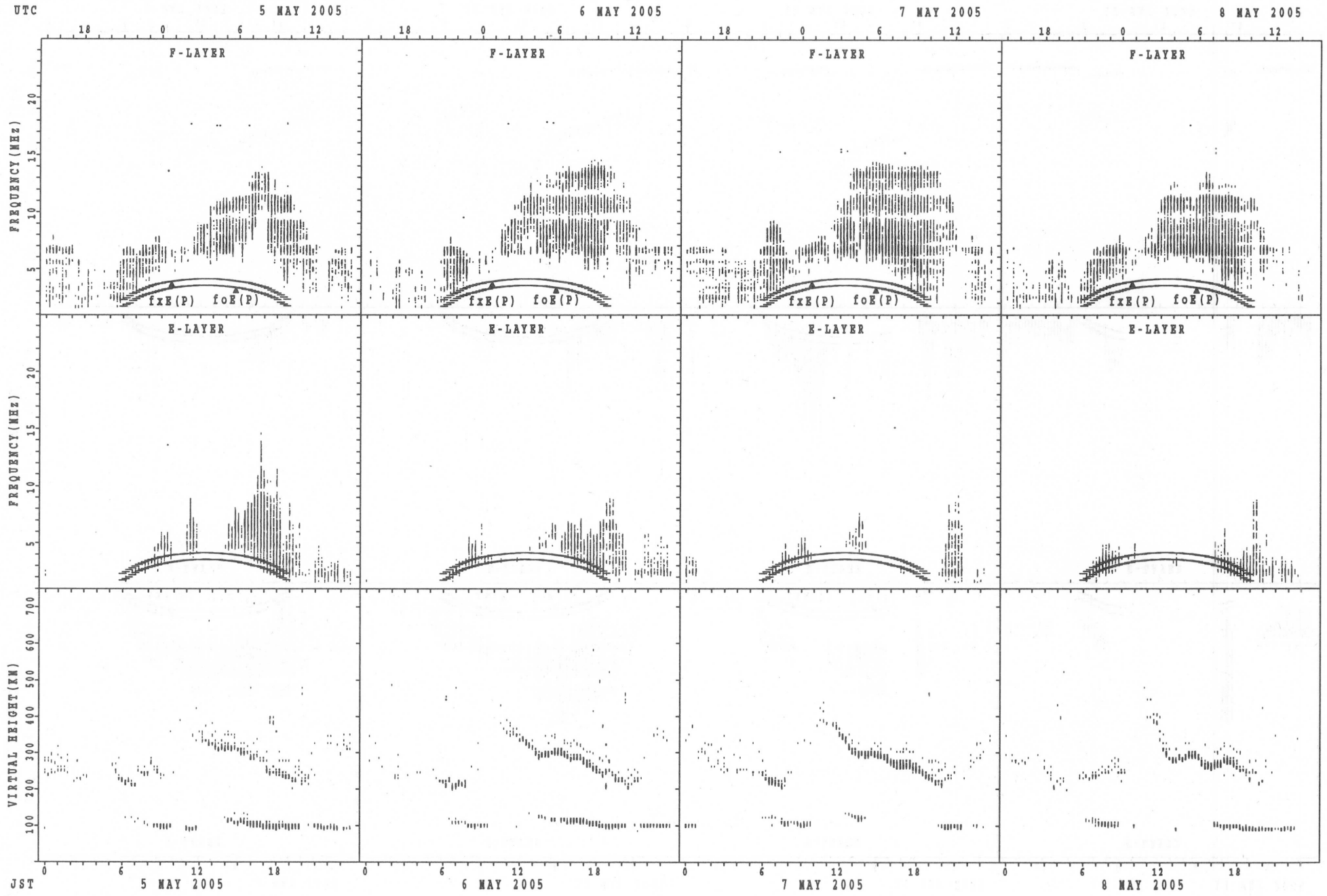
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



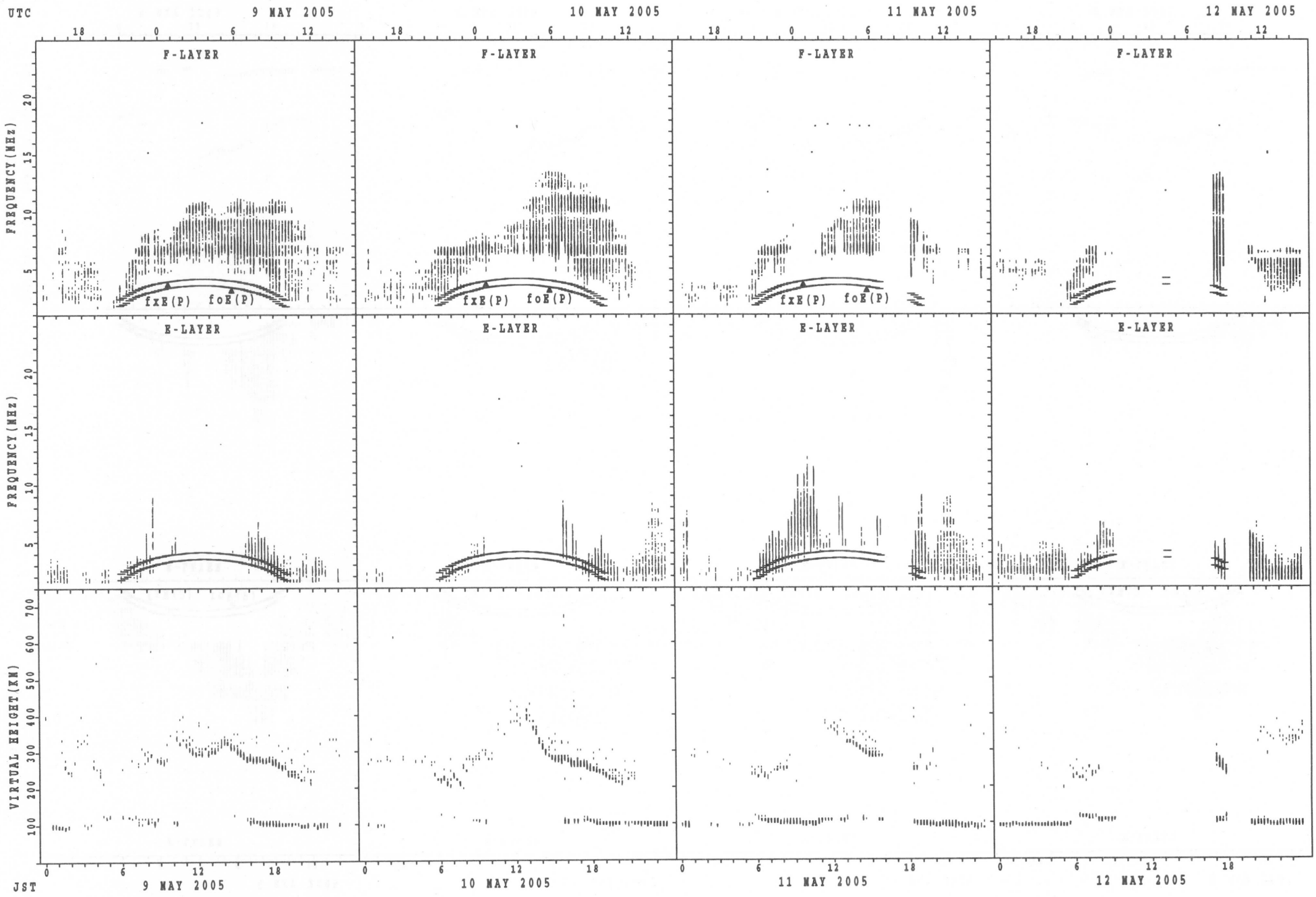
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



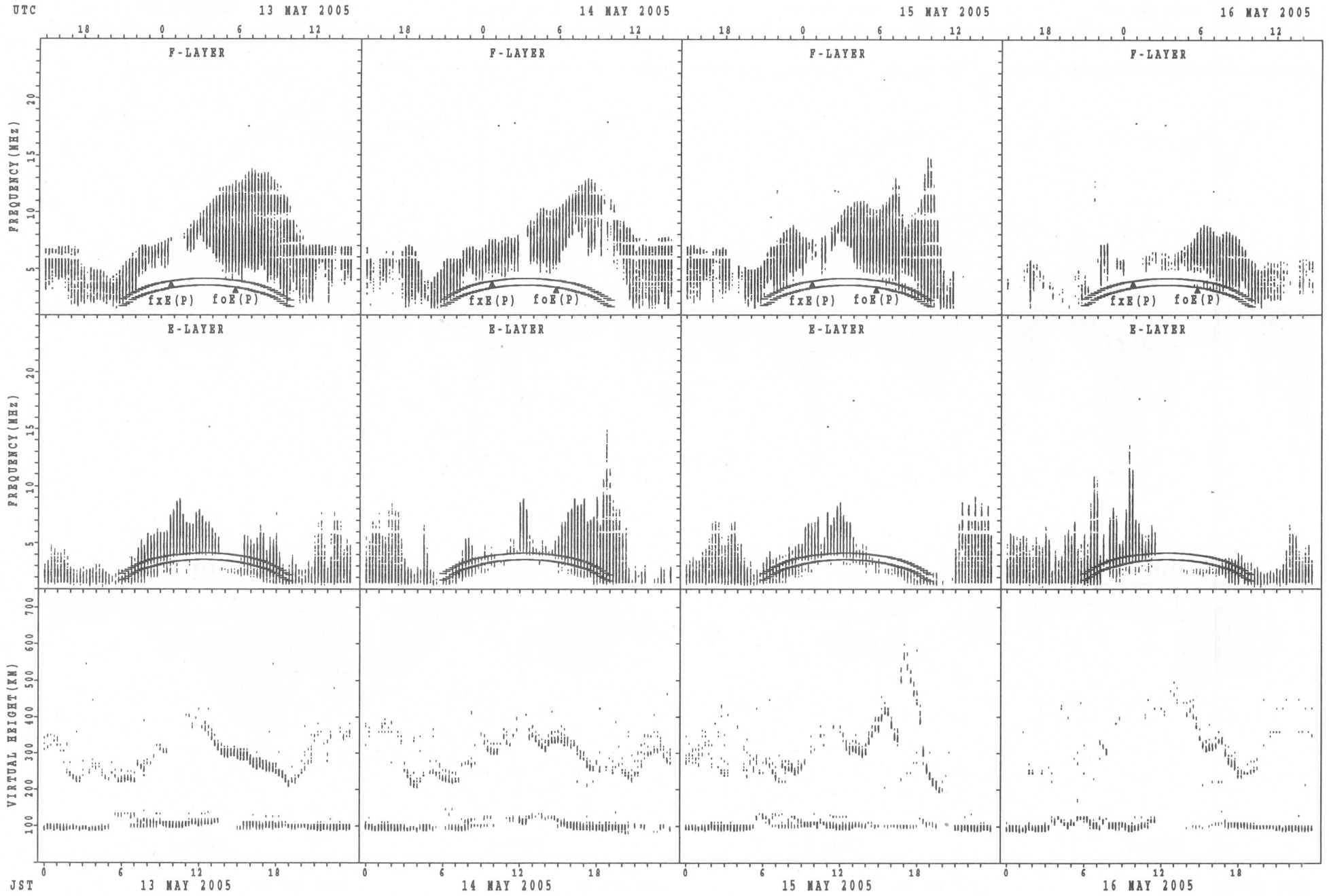
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



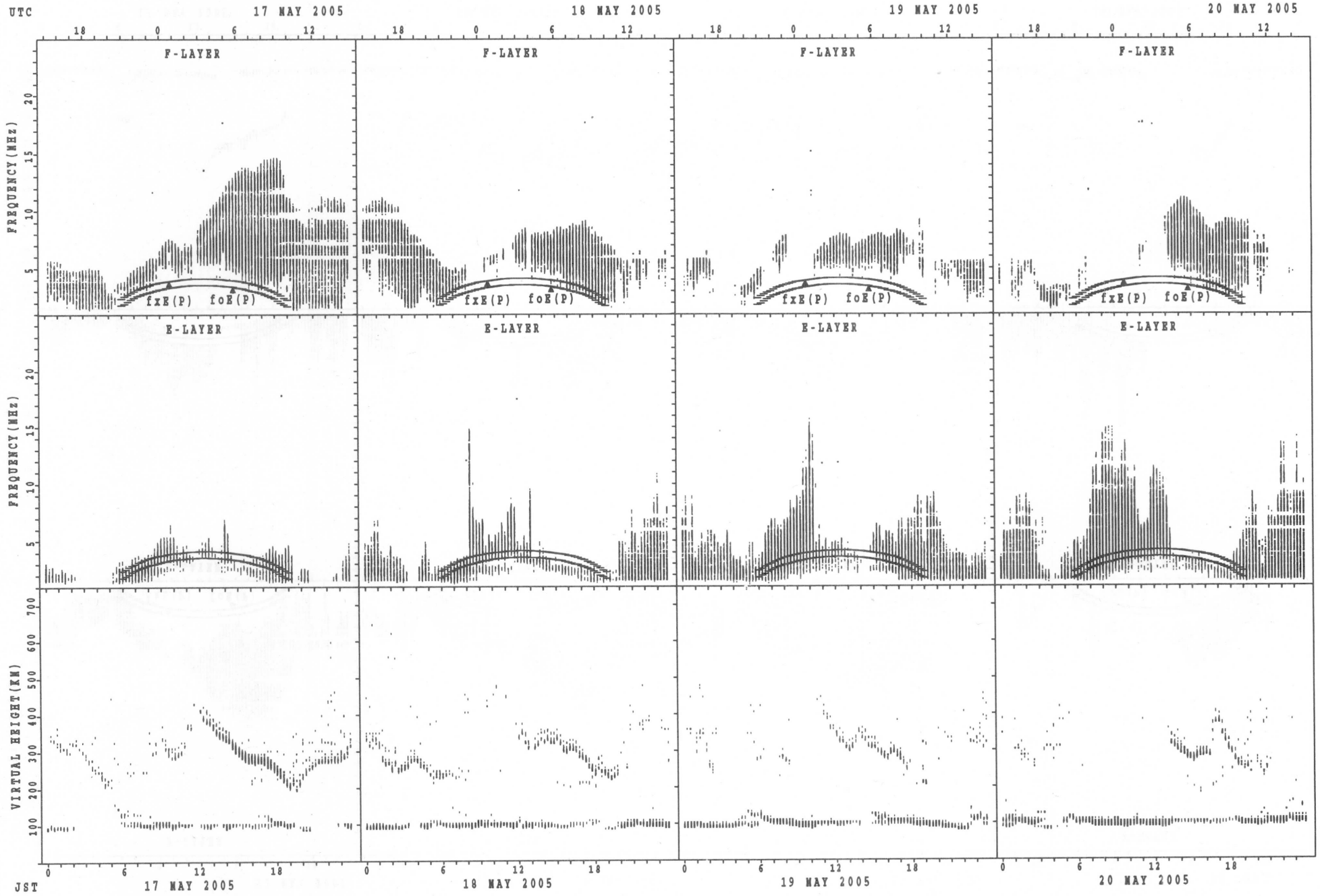
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



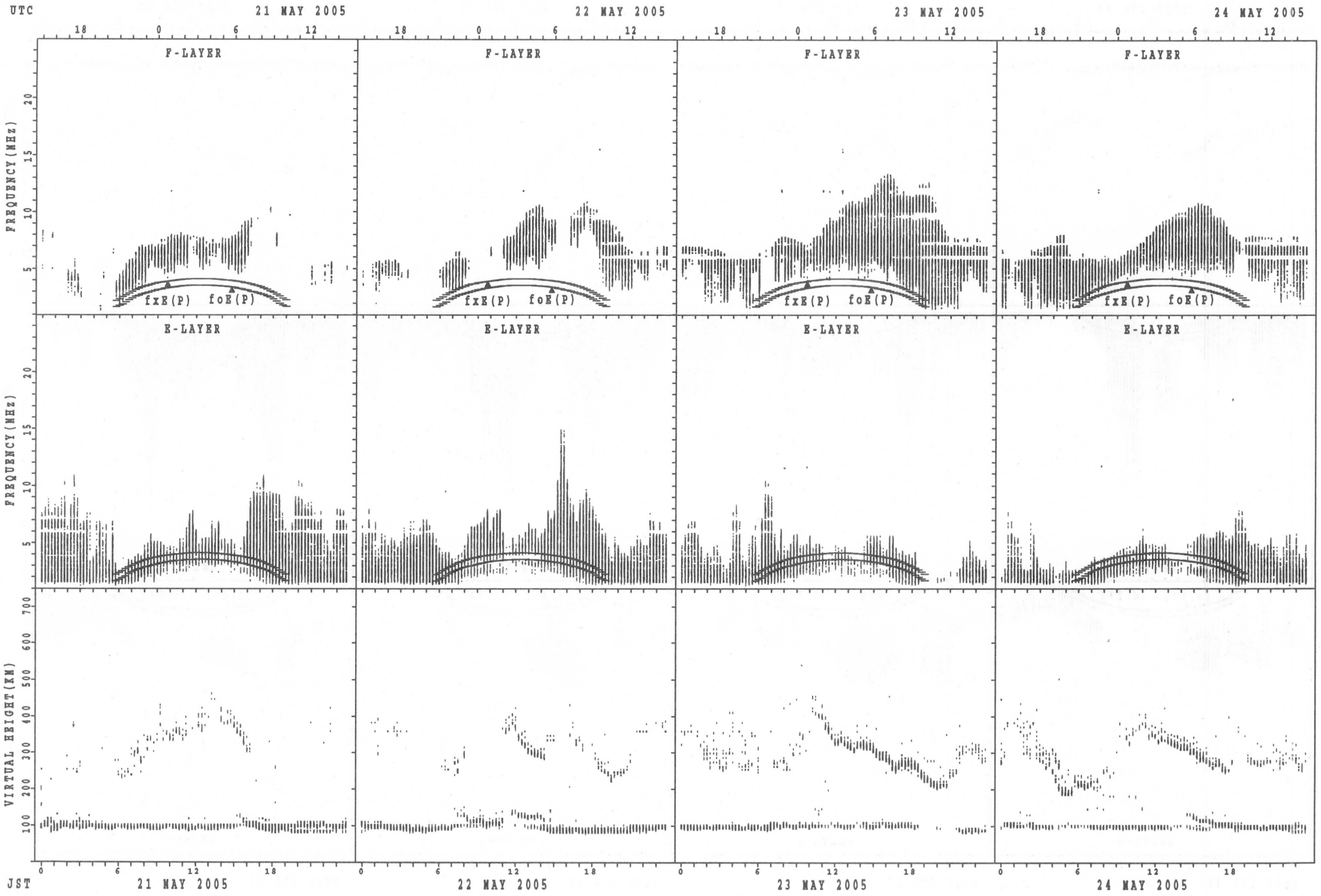
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



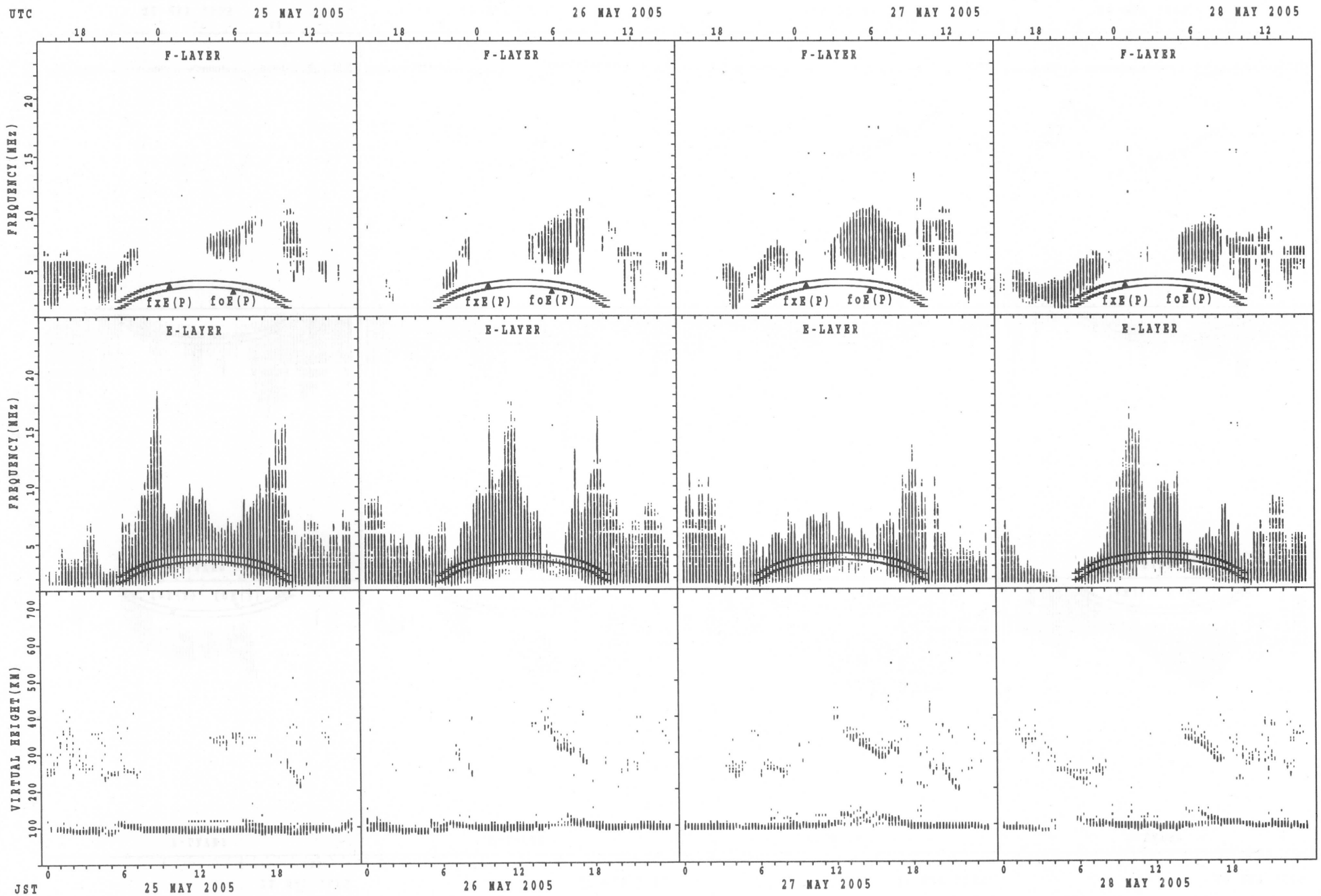
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



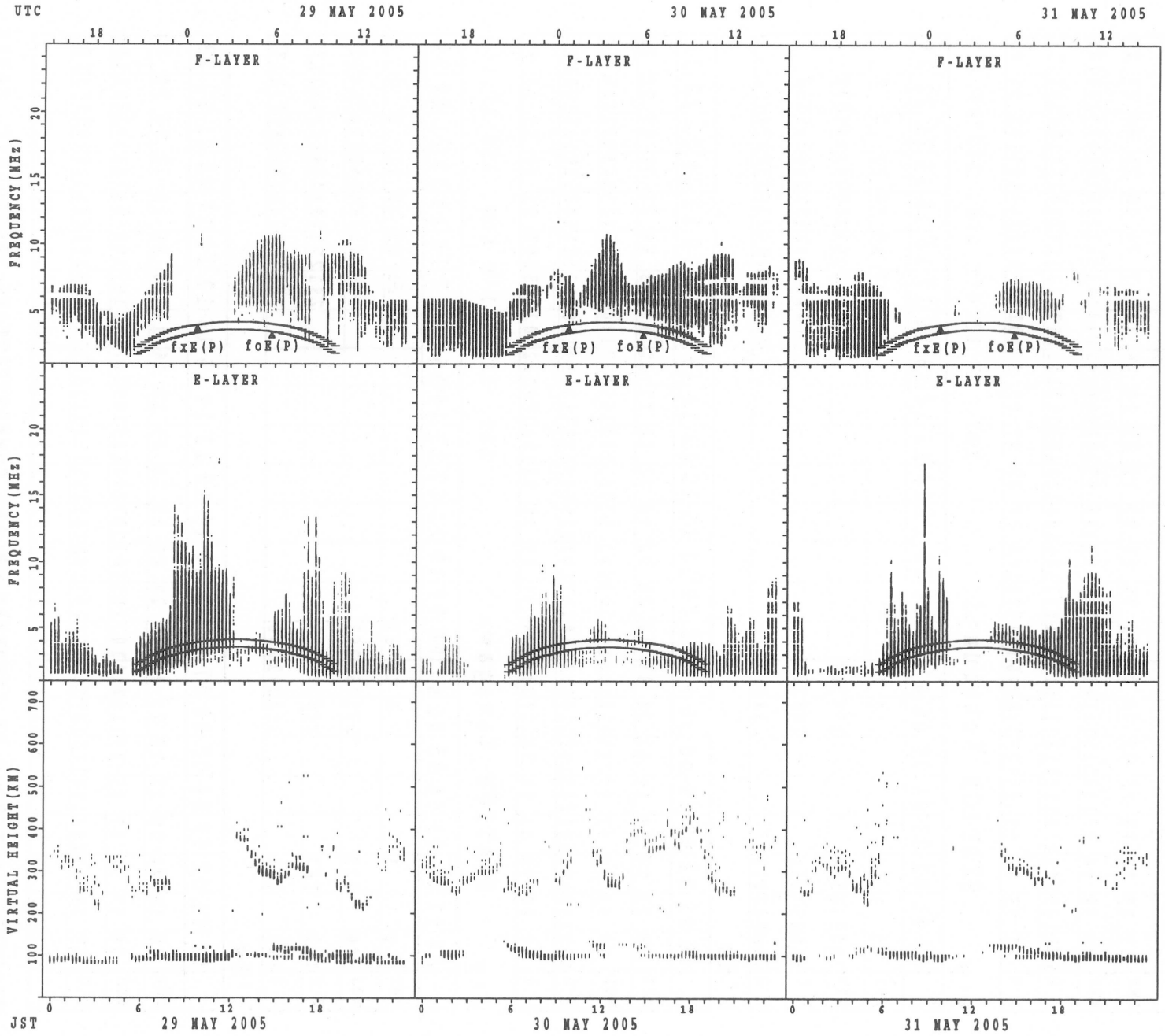
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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 2005 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						2	4	4									11	13	9	16	14	5		3
MED						302	272	279									296	286	286	277	285	268		292
U Q						346	293	317									306	302	296	282	296	291		294
L Q						258	254	256									288	274	259	256	264	264		268

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	19	18	15	19	25	26	28	29	26	26	23	19	23	18	15	14	17	24	25	22	20	19	20
MED	99	99	96	99	107	115	111	111	107	104	103	103	99	101	103	103	112	111	111	105	105	103	103	101
U Q	105	109	101	113	113	119	113	113	111	107	105	105	105	109	113	111	127	113	115	110	107	106	105	111
L Q	97	95	89	95	95	107	105	106	103	103	101	97	97	97	99	95	101	109	104	103	103	101	99	96

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	1	1				14	13									23	20	18	18	11	3	2	
MED	382	334	310				251	248									270	262	262	250	248	304	308	
U Q	426	167	155				262	284									302	287	282	272	266	346	354	
L Q	338	167	155				238	219									264	250	244	230	238	274	262	

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	23	20	18	13	17	24	30	28	25	22	18	22	18	17	20	20	23	26	23	25	24	22	20
MED	99	97	99	97	97	115	111	110	105	103	103	99	105	103	105	108	110	107	107	105	103	101	103	99
U Q	103	103	102	101	103	122	116	113	110	107	107	105	109	105	113	119	116	113	111	107	105	105	105	103
L Q	97	95	95	93	95	98	107	107	103	99	99	95	99	101	104	102	103	103	103	99	99	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	1		1				6	10	12									21	21	20	11	3	1	1
MED	386		322				237	253	268									270	262	264	258	254	264	354
U Q	193		161				246	280	285									291	272	294	294	300	132	177
L Q	193		161				232	232	250									264	248	246	230	250	132	177

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	21	19	21	20	17	18	22	28	29	29	26	25	18	19	12	16	14	26	25	29	28	26	30	26
MED	99	97	95	97	95	99	114	111	107	103	103	103	101	103	109	111	111	107	103	103	101	102	101	100
U Q	103	99	97	102	104	115	127	115	111	107	105	105	111	111	113	113	119	113	105	105	105	105	103	103
L Q	97	95	93	94	95	97	111	107	103	101	99	99	97	95	97	103	105	103	103	99	97	97	97	97

MONTHLY MEDIANS OF h'F AND h'Es

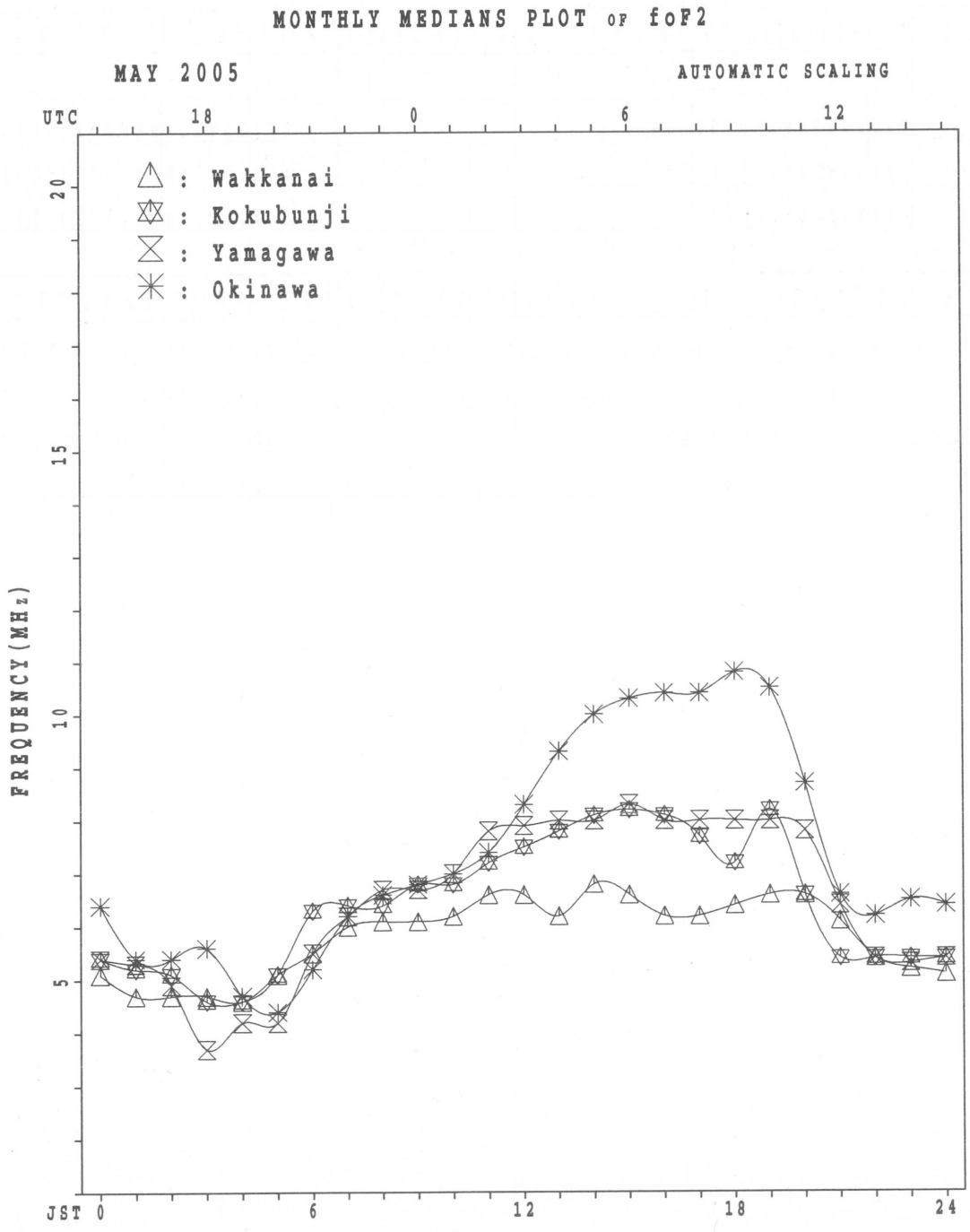
MAY 2005 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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	2	2		2	1	2	3	10	11									25	19	21	13	6	3	3
MED	339	336		280	328	246	250	250	264									272	254	234	248	242	328	326
U Q	344	352		282	164	286	274	254	282									279	264	259	275	288	356	330
L Q	334	320		278	164	206	232	240	258									262	248	224	227	228	312	312

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	21	21	18	17	16	18	19	24	30	27	23	22	20	16	13	13	18	20	23	26	27	25	27	27
MED	97	97	99	97	96	99	109	108	105	103	101	105	104	104	105	111	110	105	103	101	101	99	97	101
U Q	103	102	103	99	101	105	119	112	111	111	105	113	109	124	122	123	115	109	105	103	103	105	103	105
L Q	96	97	95	93	93	95	101	104	103	97	97	101	96	97	95	100	105	103	103	99	97	97	97	97


MONTHLY MEDIANS PLOT OF foF2
MAY 2005
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 2005 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 60	X 58	X 56	X 54	X 54															X 98	X 75	X 51	X 53	X 55
2	X 56	X 52	X 51	X 52	X 48															X 88	X 94	X 74	X 68	X 62
3	X 59	X 56	X 56	X 57	X 49															X 102	X 86	X 63	X 62	X 62
4	65	61	X 57	X 56	X 56															X 90	X 72	X 59	X 59	X 57
5	X 55	O X 54	X 53	X 49	X 47															X 92	X 68	X 60	X 60	X 59
6	X 59	X 55	X 52	53	X 51															X 106	X 93	X 71	X 65	X 62
7	X 60	X 59	X 57	X 54	X 53															X 97	X 94	X 70	X 64	X 61
8	X 60	X 58	X 55	X 57	X 60															X 91	X 74	X 53	X 52	X 53
9	X 46	X 51	X 47	X 49	X 44															X 94	X 85	X 76	X 69	X 69
10	X 66	X 60	X 53	X 52	X 51															X 80	X 74	X 66	X 61	X 59
11	66	X 59	X 58	X 57	X 53															X 83		X 76	X 64	X 65
12	X 66	X 62	X 60	X 61	X 56															X 71	S 68	X 66	X 66	X 64
13	X 63	X 61	X 58	X 57	X 53															X 68	X 65	X 67	X 66	67
14	X 62	X 60	X 59	X 64	X 55															X 89	X 82	X 77	X 77	X 71
15	X 70	75	X 77	X 62	X 51															X 94	X 79	X 50	X 53	X 48
16	X 48	X 53	X 73	X 65	X 34															X 54	X 52	X 55	X 55	X 58
17	X 54	X 52	X 48	X 50	X 51															X 93	X 72	X 68	X 68	X 65
18	X 64	X 63	X 63	62	56															A	X 70	X 67	65	62
19	64	56	X 57	X 39	X 40															X 65	X 50	X 50	X 47	X 45
20	X 44	X 42	X 47	X 33	X 34															X 95	X 86	A	A	A
21	A	X 50	X 43	X 43	X 36															A	A	A	A	A
22	X 56	X 56	X 52	X 51	53															X 78	X 87	X 72	76	75
23	X 66	X 64	X 60	X 58	55															X 80	X 69	X 62	X 65	X 60
24	A	X 57	60	59	X 56															X 77	X 73	X 68	69	68
25	63	57	X 49	X 54	X 42															X 86	X 74	X 55	X 51	A
26	X 51	X 50	X 46	X 48	X 47															X 82	X 75	X 66	69	67
27	60	X 57	X 54	X 48	X 46															X 73	X 76	X 79	77	68
28	X 58	X 52	X 50	X 48	X 46															X 80	X 81	X 80	X 80	X 76
29	X 69	X 64	X 61	X 58	X 56															A	X 80	X 68	X 66	70
30	75	72	69	X 58	X 61															X 92	X 94	X 89	X 68	X 71
31		X 73	80	67	70															X 66	X 70	X 70	69	X 65
	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	31	31	31	31															28	29	29	29	28
MED	X 60	X 57	X 56	X 54	X 51															X 87	X 75	X 67	X 65	X 63
U Q	X 66	X 61	X 60	X 58	X 56															X 94	X 86	X 73	69	68
L Q	X 56	X 53	X 51	X 49	X 46															X 78	X 70	X 60	X 60	X 59

MAY 2005 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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	54	52	50	48	48	54	65	60	57	V 70	61	76	74	82	88	98	88	77	77	92	69	45	47	49
2	50	46	45	46	42	48	53	60	60	63	65	77	86	86	84	77	76	65	70	82	88	68	62	56
3	53	50	50	51	43	49	66	71	64	62	79	87	86	81	78	85	82	76	80	95	80	57	56	55
4	F	F	51	50	50	61	62	67	67	68	66	64	75	84	86	97	95	86	86	84	66	53	53	51
5	49	48	47	43	41	52	65	62	64	56	67	70	76	83	92	99	91	90	94	86	62	54	54	53
6	53	49	46	F	45	62	77	72	59	59	68	76	85	97	99	100	100	102	100	100	87	65	58	56
7	54	53	51	48	47	52	71	74	72	74	68	74	87	97	105	102	98	88	83	91	88	64	58	55
8	54	52	49	51	54	57	65	61	69	69	74	78	91	100	88	94	83	63	68	85	68	47	46	47
9	40	44	41	43	38	40	50	52	53	53	52	65	73	68	71	74	70	71	77	88	79	70	63	63
10	60	54	48	46	45	52	72	73	70	63	68	68	75	83	92	100	98	86	74	74	68	59	54	53
11	F	53	52	50	47	56	66	63	69	A	A	60	A	77	82	86	86	79	68	77	A	70	58	59
12	60	56	54	55	49	55	58	50	A	A	64	72	69	74	78	71	72	66	65	65	S	60	60	58
13	57	54	51	51	47	44	47	47	A	A	A	A	A	71	78	76	63	62	68	61	58	60	60	F
14	56	54	53	58	49	54	59	66	76	72	74	75	80	91	93	98	91	89	82	83	76	71	71	65
15	64	F	71	56	45	48	A	52	A	56	A	55	64	60	59	70	74	61	78	88	72	44	46	42
16	42	47	67	59	28	36	A	62	56	60	60	55	56	A	50	56	55	59	57	48	46	49	49	52
17	48	46	42	43	45	44	47	52	57	64	68	65	71	80	92	102	105	104	98	87	66	62	62	59
18	58	57	56	F	F	A	49	A	A	A	A	60	64	60	65	68	60	A	A	A	64	61	F	F
19	F	F	50	33	34	46	46	48	52	A	A	A	A	A	51	52	55	56	64	59	44	44	40	39
20	38	36	41	27	28	A	A	A	A	A	A	A	56	61	57	59	62	69	84	89	80	A	A	A
21	A	44	37	37	30	38	A	A	A	A	A	A	A	55	52	58	63	71	78	A	A	A	A	A
22	50	50	46	45	F	44	50	A	A	A	59	A	72	78	A	82	80	79	68	72	81	66	F	F
23	60	58	54	51	F	40	47	58	A	50	56	62	A	66	74	87	90	93	89	74	63	56	59	54
24	A	50	F	F	50	52	66	57	54	A	A	57	60	63	65	68	66	68	66	71	67	62	F	F
25	F	F	43	48	36	S 42	A	A	A	A	A	A	A	A	A	61	63	63	69	80	68	49	45	A
26	45	44	39	42	40	47	68	63	59	60	55	62	55	61	66	67	69	73	70	76	69	60	F	F
27	F	51	48	42	40	48	59	66	61	62	A	58	59	A	A	A	82	68	60	67	70	73	F	F
28	52	46	44	42	39	48	74	62	A	61	67	61	62	62	64	67	78	72	70	74	74	74	74	69
29	63	58	55	52	49	58	67	64	72	77	70	65	59	75	80	A	94	92	84	A	74	62	60	F
30	F	F	F	52	55	55	56	68	78	69	A	A	70	66	A	54	A	A	64	86	88	83	62	65
31	70	67	F	F	F	32	A	A	A	A	A	R	R	51	A	A	56	54	54	60	64	64	F	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	23	26	28	27	27	29	25	25	20	20	19	23	24	27	26	28	30	29	30	28	28	29	23	21
MED	54	50	50	48	45	48	62	62	62	62	67	65	72	75	78	76	79	72	72	81	69	61	58	55
U Q	60	54	52	51	49	54	66	66	70	69	68	75	78	83	88	98	91	87	83	88	80	67	62	59
L Q	49	46	44	43	39	44	50	54	57	60	60	60	61	62	65	67	63	64	68	72	65	54	49	52

MAY 2005 foF2 (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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								A	A	448	464	A	A	L 472	L 476	L 448	L 404	L	L					
2								A	L	L 492	L	468	484	L 480	L 460	L 444	L	L						
3								L	L	L 464	A	A	L 488	L 488	L 480	L 448	L	L						
4								L	L	L 464	L 500	L 492	488	L 480	468	A	A	A						
5								A	A	A	480	L 492	L 500	L 496	A	L 464	L	U L 400						
6									L	A	L 496	A	U L 500	A	A	L 472	A	A	A					
7								L	A	L 460	L	L 500	488	L 484	L 476	L 444	L	L						
8								A	L	L 540	L 476	L 492	L 496	L 480	464	L 456	L	A						
9							A	L 444	L 436	A	U L 484	L 472	A	A	L 468	L 448	L	A	A					
10							A	L	L 444	L 444	L 500	L 504	512	504	500	L 460	L							
11							A	A	A	A	A	L 496	A	480	A	468	A	A	A		A			
12							A	A	A	A	A	A	A	A	A	L 464	A	L						
13							A	A	A	A	A	A	A	A	A	A	L	L						
14							A	A	A	A	A	520	A	A	A	L 456	A	A						
15							A	A	A	A	A	L 468	A	A	A	A	436	372	332					
16							A	L 416	L 448	A	A	L 448	A	A	A	412	400	L 364						
17								L 472	L 448	L 464	460	L 480	E	B U L 476	456	452	L 428	L						
18						A	A	A	A	A	A	A	A	456	A	436	L 424	A	A					
19						A	A	A	A	A	A	A	A	A	444	A	A	A	A					
20						A	A	A	A	A	A	A	A	A	L 452	444	420	L 380	L					
21							A	A	A	A	A	A	A	U L 444	448	A	A	A	A					
22							L	A	A	A	L 484	A	A	A	A	A	A	L						
23							L 380	A	A	A	460	460	A	L 464	L 464	436	424	A	L					
24							L	A	A	A	A	452	468	460	A	A	L 428	A	A					
25							A	A	A	A	A	A	A	A	A	A	408	L 388	L					
26							L	L	L	L 452	472	472	464	L 452	456	A	A	A	A					
27							L	L 432	A	A	A	A	U L 488	A	A	A	A	A	A					
28							A	A	A	A	A	476	468	L 464	472	436	A	A	A					
29							L	L 476	A	A	468	L 468	468	L 480	460	A	A	A	A					
30								L	A	A	A	A	A	A	A	A	A	A	A					
31							A	A	A	A	A	U L 452	452	436	A	A	L 432	A	L					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	5	4	9	12	18	14	18	16	18	10	5	1					
MED							L 380	L 444	L 446	L 464	478	L 474	488	L 478	464	L 448	L 424	L 380	332					
U Q								L 474	L 448	L 478	L 490	L 492	496	L 480	L 474	L 460	L 428	L 394						
L Q								L 424	L 440	L 450	466	468	468	460	456	444	408	368						

MAY 2005 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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	U A 232	A	A	A	A	A	A	R	R	R	R	U A 244	U A 172					
2						B	U A 212	A	A	A	A	A	A	A	A	R	288	U A 244	B					
3						B	U A 240	U A 280	A	A	A	A	A	A	A	A	U R 308	U A 252	B					
4						B	U A 220	U A 276	U A 312	A	A	A	R	A	R	A	A	A	B					
5						B	A	U A 284	A	A	A	A	A	A	A	A	A	A	B					
6						U R 168	U A 240	A	A	A	A	A	A	A	A	A	U A 296	A	B					
7						B	256	A	A	A	A	A	R	R	R	U R 344	U R 304	U A 244	B					
8						B	A	A	A	A	A	R	A	A	A	U R 340	U A 300	A	A					
9						U A 164	A	U A 280	A	U A 332	A	R	A	A	A	340	U A 300	A	U A 176					
10						B	A	U A 276	A	R	R	A	R	R	R	R	U R 300	U A 256	180					
11						B	U A 236	A	A	A	A	A	A	A	A	A	A	U A 260	A		A			
12						180	A	U A 284	U A 324	A	A	B	A	A	A	A	A	A	U A 192					
13						B	U A 236	A	A	A	A	A	A	A	A	A	A	A	U A 192					
14						B	264	A	A	A	A	U A 352	A	A	A	U A 332	A	A	A					
15						U A 192	U A 256	U A 288	A	A	A	A	A	A	A	A	U R 292	244	188					
16						B	A	A	A	A	A	A	B	A	A	R	U R 280	U R 244	B					
17						U A 192	U A 232	A	A	A	A	A	B	R	R	328	R	U A 244	B					
18						A	A	A	A	A	A	A	A	A	A	A	A	U A 252	B					
19						B	A	U A 280	A	A	A	A	A	A	U A 344	U A 316	A	A	A					
20						B	U A 232	A	A	A	A	A	A	A	U R 364	U R 316	U R 288	244	U A 184					
21						U R 200	A	A	A	A	A	A	A	U R 352	R	U R 316	U A 284	U A 248	A					
22						A	A	U A 276	A	A	A	A	A	A	A	A	U A 288	U A 256	184					
23						U A 176	A	A	A	A	A	A	A	A	A	A	U R 304	A	A					
24						B	A	A	A	A	A	360	R	U A 356	A	A	A	A	B					
25						B	A	A	A	A	A	A	A	A	A	A	U A 288	A	A					
26						U A 184	A	A	A	A	A	A	A	A	U A 336	320	U A 296	U A 256	A					
27						192	244	A	A	A	A	A	A	A	A	A	A	A	A					
28						188	A	A	A	A	A	A	A	A	U A 352	A	A	A	A					
29						B	U A 256	U A 296	A	A	A	A	A	A	A	A	A	A	A					
30						B	U A 248	A	A	A	A	A	A	A	A	A	A	A	A					
31	J K 124					B	U A 240	U A 272	A	A	A	A	U A 364	U A 360	A	A	U A 296	A	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	1					10	16	11	2	1		2	1	3	4	9	16	14	8					
MED	J K 124					U 186	U A 240	U A 280	U A 318	U A 332		356	U A 364	U A 356	U A 348	U A 328	U 296	U A 246	U A 184					
U Q						U A 192	U A 252	U A 284						U A 360	U 358	U R 340	U R 300	U R 256	U A 190					
L Q						U A 176	U A 232	U A 276						U R 352	U A 340	U R 316	U A 288	244	U A 178					

MAY 2005 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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	JA 24	JA 17	EB 14	JA 17	EB 15	21	30	JA 50	JA 61	36	JA 49	69	JA 52	G 27	G 26	G 25	G 24	28	24	JA 24	JA 36	JA 45	JA 27	JA 31
2	JA 24	JA 44	JA 29	JA 20	EBJA 15	21	27	JA 38	JA 40	42	41	40	JA 47	JA 63	JA 42	G 23	34	JA 36	JA 52	JA 19	JA 18	JA 60	JA 42	JA 20
3	JA 36	JA 34	20	19	JA 23	18	26	32	41	JA 52	JA 50	JA 57	JA 48	JA 58	40	39	G 26	34	JA 31	JA 29	JA 46	JA 37	JA 26	EB 15
4	JA 16	20	JA 23	JA 20	EBEB 14	14	27	34	JA 43	JA 47	JA 46	44	G 30	38	GJA 29	59	JA 62	JA 74	JA 62	JA 25	EBJA 16	22	JA 18	JA 17
5	JA 18	JA 20	JA 21	22	JA 17	20	30	JA 51	JA 55	JA 49	JA 46	JA 43	45	JA 44	JA 62	JA 55	JA 42	JA 41	68	JA 59	36	JA 45	JA 32	JA 20
6	JA 27	JA 18	19	EB 14	EB 14	G	29	JA 38	JA 43	JA 61	JA 61	JA 64	JA 74	JA 75	JA 52	47	JA 52	JA 42	65	JA 52	JA 55	JA 28	JA 20	22
7	EB 14	EB 15	EB 14	EB 16	EB 15	21	29	38	JA 46	JA 46	JA 47	41	G	G 30	G 29	G 28	GJA 24	38	26	JA 20	EB 15	EB 15	EB 16	JA 20
8	EB 15	EB 15	23	EB 14	EBJA 15	25	32	38	JA 52	JA 50	41	G 33	40	JA 50	JA 43	GJA 29	JA 43	JA 46	JA 32	EBJA 16	63	JA 32	EB 16	JA 18
9	JA 23	EB 15	19	EB 15	20	JA 32	JA 44	JA 40	JA 44	JA 66	41	G 33	JA 56	JA 57	42	37	JA 43	JA 44	JA 46	JA 44	JA 46	EB 16	JA 20	JA 17
10	JA 21	JA 31	JA 20	22	EBJA 14	27	JA 53	35	39	G 31	GJA 33	55	G 34	G 33	G 29	G 27	G 24	30	JA 31	JA 24	JA 45	JA 32	JA 63	JA 34
11	JA 45	JA 42	JA 44	JA 27	JA 21	JA 46	JA 55	JA 60	JA 57	JA 119	77	44	JA 81	39	JA 53	JA 50	JA 63	JA 52	JA 63	JA 43	JA 81	JA 57	JA 66	JA 73
12	JA 42	JA 32	JA 32	JA 24	EB 15	22	JA 43	JA 52	JA 71	JA 74	JA 69	JA 55	JA 56	JA 56	JA 50	JA 47	JA 44	31	JA 38	JA 50	JA 50	JA 45	JA 36	JA 53
13	JA 41	JA 43	JA 44	JA 54	JA 47	JA 40	JA 40	JA 44	JA 50	JA 68	JA 58	JA 91	JA 74	JA 76	JA 48	JA 65	JA 46	JA 36	28	JA 38	88	JA 79	JA 42	JA 46
14	JA 36	JA 25	21	JA 36	JA 30	26	38	JA 52	JA 54	JA 51	JA 63	43	JA 70	JA 75	JA 56	39	JA 59	JA 48	27	JA 20	EB 15	JA 42	JA 50	JA 19
15	JA 48	JA 74	JA 101	JA 88	JA 61	JA 38	JA 55	JA 63	JA 75	JA 55	JA 84	42	JA 69	JA 58	JA 54	JA 50	G 23	28	GEB 15	23	JA 31	JA 63	JA 43	
16	JA 28	JA 42	JA 66	JA 56	JA 41	JA 29	JA 53	JA 37	JA 41	JA 43	JA 44	43	JA 54	JA 48	42	G 24	G 23	G 19	23	JA 17	JA 18	20	EB 15	EB 16
17	EB 16	18	EB 15	JA 24	20	27	31	34	JA 43	38	JA 43	42	EB 54	G	G	35	G 23	29	21	EB 16	EBEB 15	15	21	JA 31
18	JA 17	JA 26	JA 26	EB 15	JA 64	JA 76	JA 52	JA 58	JA 51	JA 49	JA 104	64	JA 69	JA 46	JA 63	JA 42	JA 41	JA 74	JA 85	JA 78	JA 84	JA 66	JA 88	JA 49
19	JA 30	JA 24	JA 18	JA 23	23	JA 32	JA 43	JA 49	JA 54	JA 77	JA 81	JA 90	JA 170	JA 77	41	JA 47	JA 52	JA 58	JA 55	JA 48	JA 63	JA 30	JA 87	JA 73
20	JA 54	JA 42	JA 76	JA 56	JA 27	JA 80	JA 158	JA 112	JA 106	JA 146	JA 98	JA 94	JA 82	JA 95	G 27	G 27	G 23	33	23	JA 37	JA 64	JA 89	JA 97	JA 54
21	JA 83	JA 57	JA 34	JA 75	JA 54	G	JA 55	JA 126	JA 78	JA 91	JA 152	JA 120	JA 155	JA 33	G 27	GJA 51	JA 72	JA 96	JA 131	JA 83	JA 125	JA 93	JA 66	JA 90
22	JA 64	JA 23	JA 25	JA 52	JA 29	JA 45	JA 40	JA 59	JA 69	JA 87	JA 56	JA 117	JA 66	JA 63	JA 88	JA 143	JA 57	35	JA 36	JA 51	JA 55	JA 59	JA 44	JA 21
23	JA 55	JA 44	JA 86	JA 53	18	22	30	JA 53	JA 108	JA 54	JA 45	JA 83	JA 168	JA 54	JA 46	37	GJA 27	56	JA 32	JA 34	JA 30	JA 62	JA 42	JA 39
24	JA 62	JA 34	JA 55	JA 40	JA 19	JA 28	JA 37	JA 40	JA 48	JA 57	JA 60	41	G 29	46	JA 59	JA 56	JA 47	JA 66	JA 64	JA 51	49	JA 58	JA 66	JA 55
25	JA 88	JA 110	JA 54	JA 25	JA 35	JA 34	JA 58	JA 74	JA 85	JA 95	JA 71	JA 108	JA 144	JA 81	JA 100	JA 69	37	37	JA 29	JA 88	JA 34	JA 30	JA 45	JA 89
26	JA 74	JA 68	JA 55	JA 36	JA 34	26	30	JA 42	JA 54	JA 46	41	JA 46	JA 46	39	40	44	JA 44	JA 59	JA 73	JA 98	JA 54	JA 80	JA 32	JA 23
27	JA 19	JA 25	20	19	EB 15	22	34	37	JA 47	JA 61	JA 70	JA 51	JA 41	JA 95	JA 70	JA 85	JA 46	JA 36	JA 57	JA 98	JA 35	JA 54	JA 34	JA 58
28	JA 18	EB 15	JA 23	JA 30	JA 27	23	JA 48	JA 62	JA 64	JA 52	JA 53	JA 48	JA 43	JA 40	38	35	JA 54	JA 70	JA 46	JA 33	JA 42	JA 29	JA 72	JA 24
29	JA 41	JA 52	JA 27	JA 21	JA 44	JA 43	30	JA 52	JA 66	JA 80	JA 44	JA 45	43	39	JA 40	JA 156	JA 182	JA 80	JA 130	JA 116	JA 74	JA 24	JA 93	61
30	JA 44	JA 26	JA 52	JA 63	JA 93	JA 30	28	JA 54	JA 76	JA 73	JA 144	JA 129	JA 57	JA 57	JA 80	JA 126	JA 78	JA 106	JA 74	EB 15	EB 15	EB 15	EB 20	JA 21
31	JK 26	JA 21	JA 33	JA 27	21	20	JA 40	JA 62	JA 47	40	41	JA 52	41	41	JA 98	JA 56	34	JA 68	JA 33	JA 23	JA 19	JA 53	JA 52	JA 27
	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	JA 30	JA 26	JA 26	JA 24	JA 21	JA 26	JA 38	JA 50	JA 54	JA 54	JA 53	JA 51	JA 54	JA 50	JA 43	JA 47	JA 43	JA 42	JA 38	JA 37	JA 45	JA 42	JA 42	JA 31
U Q	JA 48	JA 43	JA 52	JA 52	JA 35	JA 34	JA 52	JA 59	JA 69	JA 74	JA 71	JA 83	JA 74	JA 63	JA 59	JA 56	JA 54	JA 66	JA 64	JA 52	JA 63	JA 59	JA 66	JA 54
L Q	JA 19	20	20	EB 19	EB 15	21	30	38	JA 44	46	44	43	43	G 39	G 38	G 35	G 26	34	28	20	EB 19	28	21	JA 20

MAY 2005 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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	22	E B 14	E B 14	E B 15	E B 15	20	26	40	51	36	42	52	48	G 26	G 26	G 25	G 24	27	22	21	28	39	21	E B 15
2	18	16	22	16	E B 15	17	25	35	38	40	38	38	44	40	37	G 23	33	31	46	17	E B 16	24	21	17
3	E B 15	E B 15	E B 15	E B 15	E B 16	16	25	31	39	40	45	48	42	40	38	38	G 26	34	27	26	42	21	20	E B 15
4	E B 16	E B 16	18	16	E B 14	E B 14	26	33	38	40	42	42	U Y 30	38	G 29	47	46	55	20	18	E B 16	E B 16	17	E B 15
5	16	19	E B 15	20	E B 15	19	28	40	48	44	41	41	41	40	46	36	35	32	63	52	33	25	19	E B 16
6	E B 16	E B 15	E B 15	E B 14	E B 14	G	27	35	38	46	42	49	45	54	48	42	41	36	61	39	23	19	16	E B 15
7	E B 14	E B 15	E B 14	E B 16	E B 15	20	28	38	43	42	40	39	G	G 30	G 29	G 28	G 24	32	24	E B 15	E B 15	E B 15	E B 16	E B 16
8	E B 15	E B 15	17	E B 14	E B 15	22	30	36	44	42	40	U Y 33	38	44	39	G 29	36	38	26	E B 16	41	21	E B 16	E B 15
9	E B 15	E B 15	E B 14	E B 15	E B 15	27	41	36	38	44	40	G 33	51	52	40	36	39	39	42	34	40	E B 16	17	E B 15
10	E B 16	25	E B 16	E B 17	E B 14	21	51	33	36	U Y 31	G 32	40	G 34	U Y 33	U Y 29	G 27	G 24	28	27	21	22	27	32	20
11	39	37	35	E B 15	E B 15	38	46	49	47	A A 119	A A 77	42	A A 81	39	48	43	49	42	60	36	A A 81	27	43	41
12	31	21	20	16	E B 15	21	40	43	A A 71	A A 74	56	53	52	49	45	40	40	28	30	46	34	38	27	48
13	24	38	38	34	28	37	38	42	A A 50	A A 68	A A 58	A A 91	A A 74	68	45	56	36	33	25	34	47	E B 16	20	35
14	26	20	E B 15	17	20	24	36	36	51	46	60	41	68	72	48	38	55	42	25	17	E B 15	26	27	E B 14
15	35	E B 16	20	39	24	29	A A 55	44	A A 75	50	A A 84	41	56	48	45	47	G 23	26	G	E B 15	E B 17	28	37	30
16	18	16	20	22	20	20	A A 53	33	38	41	43	38	45	A A 48	40	G 24	G 23	G 19	21	E B 15	E B 16	E B 16	E B 15	E B 16
17	E B 16	E B 15	E B 15	E B 16	E B 16	25	29	32	38	36	40	40	E B 54	G	G	34	G 22	27	20	E B 16	E B 15	E B 15	E B 14	23
18	16	21	21	E B 15	E B 14	A A 76	42	A A 58	A A 51	A A 49	A A 104	44	60	42	57	38	35	A A 74	A A 85	A A 78	50	38	17	22
19	20	E B 15	E B 15	18	E B 16	30	38	39	48	A A 77	A A 81	A A 90	A A 170	A A 77	40	44	43	46	28	35	36	24	22	23
20	23	16	E B 15	E B 15	E B 15	A A 80	A A 158	A A 112	A A 106	A A 146	A A 98	A A 94	51	46	G 27	G 27	G 23	30	22	30	16	A A 89	A A 97	A A 54
21	A A 83	27	25	21	17	G	A A 55	A A 126	A A 78	A A 91	A A 152	A A 120	A A 155	A A U Y 33	G 27	44	44	46	46	A A 83	A A 125	A A 93	A A 66	A A 90
22	30	E B 15	18	27	20	32	25	A A 59	A A 69	A A 87	41	A A 117	55	55	A A 88	73	41	28	32	45	44	42	29	17
23	20	21	25	27	E B 14	20	27	52	A A 108	46	38	41	A A 168	36	42	34	G 27	40	22	23	21	38	23	27
24	A A 62	23	26	30	E B 16	24	30	36	42	A A 57	A A 60	40	U Y 29	42	52	44	38	54	44	46	46	22	32	40
25	E B 15	16	E B 15	E B 15	22	19	A A 58	A A 74	A A 85	A A 95	A A 71	A A 108	A A 144	A A 81	A A 100	47	35	32	27	46	32	19	26	A A 89
26	26	E B 15	26	21	26	24	27	36	36	40	40	40	40	36	38	42	42	49	50	62	27	36	E B 16	E B 15
27	E B 15	E B 15	E B 15	E B 15	E B 15	20	32	35	44	45	A A 70	46	37	A A 95	A A 70	A A 85	44	32	50	56	28	35	27	42
28	E B 15	E B 15	E B 15	18	23	20	38	56	A A 64	46	45	41	40	36	37	34	50	60	42	30	20	16	E B 16	E B 15
29	29	35	17	E B 16	23	34	28	40	56	65	40	43	41	39	36	A A 156	56	60	57	A A 116	20	16	30	30
30	17	22	35	36	24	27	26	35	61	43	A A 144	A A 129	53	54	A A 80	47	A A 78	A A 106	54	E B 15	E B 15	E B 15	E B 20	17
31	15	E B 15	19	18	E B 16	18	A A 40	A A 62	A A 47	A A 40	A A 41	40	40	39	A A 98	A A 56	32	35	23	20	E B 15	34	40	E B 15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	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	18	16	17	16	E B 16	21	32	39	48	46	43	42	46	42	40	40	36	35	28	30	27	24	21	17
U Q	26	21	22	21	20	29	A A 42	A A 52	A A 64	A A 68	A A 71	A A 53	A A 60	54	A A 48	47	44	46	50	46	41	36	30	35
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	19	27	35	38	40	40	40	40	36	G 36	G 34	G 26	30	23	E B 17	E B 16	E B 16	E B 17	E B 15

MAY 2005 fbEs (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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	14	14	15	15	15	14	14	13	20	17	23	21	20	17	16	16	14	14	16	15	13	15	15
2	14	15	15	14	15	15	14	14	15	15	22	22	18	25	16	16	15	12	15	14	16	15	15	15
3	15	14	15	15	16	16	16	16	28	25	28	23	27	23	22	18	16	15	16	15	15	15	14	15
4	16	16	15	13	14	14	14	16	14	18	24	25	24	24	20	17	14	13	14	14	16	16	14	15
5	14	14	15	16	15	15	13	18	18	25	27	26	31	26	24	21	17	16	13	14	15	14	15	16
6	16	15	15	14	14	14	14	14	18	16	24	24	29	27	22	21	20	15	15	15	14	13	14	15
7	14	15	14	16	15	16	14	14	20	18	21	23	28	20	22	18	15	14	16	15	15	15	16	16
8	15	15	15	14	15	15	14	16	16	18	25	19	24	21	16	16	16	15	14	16	15	15	16	15
9	15	15	14	15	15	13	13	16	16	19	22	26	21	22	20	21	14	13	14	14	15	16	14	15
10	16	15	16	17	14	14	13	15	22	22	26	27	23	24	21	22	16	14	14	14	15	14	14	16
11	15	16	15	15	15	15	15	16	16	22	23	21	24	22	24	21	25	13	14	15	15	15	16	15
12	16	15	14	15	15	14	15	15	22	25	25	38	30	26	20	23	21	16	14	16	16	14	16	15
13	14	15	14	15	15	14	15	18	20	25	21	24	29	25	20	19	14	13	15	14	15	16	14	15
14	16	15	15	13	15	13	13	16	17	22	25	23	26	26	25	24	21	14	16	14	15	15	14	14
15	15	16	16	14	15	15	16	17	16	21	26	25	24	21	22	17	18	14	15	15	17	15	16	14
16	16	15	15	15	15	14	15	14	24	16	16	22	37	22	22	16	15	15	16	15	16	16	15	16
17	16	15	15	16	16	14	13	15	21	21	24	22	54	22	22	22	14	15	15	16	15	15	14	15
18	14	15	16	15	14	16	15	14	16	20	16	18	18	20	15	16	15	16	16	13	14	15	14	16
19	16	15	15	15	16	15	14	13	16	17	19	20	25	24	15	16	13	12	14	15	14	15	14	14
20	15	14	15	15	16	14	14	14	16	17	19	24	18	23	18	18	14	14	16	14	15	16	15	14
21	16	15	15	15	15	15	14	17	15	18	23	23	20	19	20	20	17	16	13	15	15	16	15	15
22	15	15	15	16	15	15	14	12	16	18	20	21	24	18	20	22	14	14	15	15	15	15	16	15
23	14	15	15	15	14	13	14	14	15	18	14	21	21	21	16	16	16	15	13	14	14	15	14	14
24	16	16	16	15	16	16	14	15	14	19	18	18	20	18	18	17	14	14	16	14	14	16	15	16
25	15	15	15	15	14	16	16	16	20	20	19	20	24	25	22	17	16	14	16	15	15	14	16	15
26	14	15	15	15	14	13	14	15	15	16	18	24	18	20	23	21	18	15	15	16	13	15	16	15
27	15	15	15	15	15	15	14	19	20	18	19	22	26	24	27	16	16	13	15	14	15	14	14	15
28	15	15	15	16	15	12	14	14	17	17	18	24	25	20	19	22	14	13	14	14	15	14	16	15
29	16	15	15	16	16	14	14	16	17	16	16	22	23	24	18	26	16	16	14	12	15	14	15	14
30	16	14	15	15	16	15	14	14	16	18	32	24	25	22	22	17	17	16	15	15	15	15	20	15
31	15	15	14	14	16	15	14	14	16	18	23	22	22	23	22	14	14	14	15	14	15	14	14	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	15	15	15	15	15	15	14	15	16	18	22	23	24	22	20	18	16	14	15	15	15	15	15	15
U Q	16	15	15	15	16	15	15	16	20	21	25	24	27	24	22	21	17	15	16	15	15	15	16	15
L Q	15	15	15	15	15	14	14	14	16	17	18	21	21	20	18	16	14	13	14	14	15	14	14	15

MAY 2005 fmin (0.1MHz)

IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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	284	291	296	295	295	319	362	338	327	308V	289	305	287	291	279	315	329	303	304	342	344	300	283	269
2	282	282	292	312	273	328	338	326	340	314	312	299	317	325	334	332	331	312	315	316	338	286	289	294
3	283	269	292	330	300	337	341	357	323	307	321	320	323	318	307	318	318	320	312	342	358	297	276	279
4	F	F	290	287	289	336	350	348	351	347	333	290	300	315	300	315	330	333	326	339	332	304	291	295
5	295	298	312	310	298	344	367	372	351	348	339	310	306	298	301	312	321	324	335	342	326	286	293	295
6	303	307	293	F	320	355	388	389	416	312	306	293	292	306	311	307	312	313	314	326	349	331	304	295
7	298	281	300	299	304	306	355	345	341	329	305	299	287	299	315	325	324	328	309	316	336	344	305	287
8	286	293	283	301	327	364	352	335	309	297	300	270	278	309	300	321	343	324	306	335	317	283	263	286
9	258	311	270	295	322	314	301	270	305	283	302R	305	305	306	311	325	320	319	301	322	326	309	293	292
10	300	290	293	296	292	320	344	355	347	344	299	301	276	283	291	300	323	342	314	315	316	313	294	283
11	F	299	302	286	296	338	349	339	334	A	A	270	A	304	313	307	333	347	309	300	A	320	287	280
12	286	283	287	309	334	334	355	334	A	A	273	307	296	292	311	312	309	326	332	309	S	287	287	267
13	285	298	291	306	358	343	304	327	A	A	A	A	A	291	306	327	312	305	322	310	271	296	280	F
14	284	285	290	309	311	348	365	315	340	321	315	295	299	305	302	309	310	311	317	315	312	273	306	297
15	279	F	338	339	310	341	A	314	A	323	A	267	292	311	272	296	288	229	240	270	329	249	294	267
16	263	273	326	399	285	322	A	297	274	274	287	265	289	A	241	269	271	310	311	298	263	256	268	275
17	274	277	278	304	294	355	381	304	310	337	312	317	285	273	285	296	311	322	322	338	297	287	283	279
18	277	277	294	F	F	A	323	A	A	A	A	306	320	306	309	326	331	A	A	A	303	284	F	F
19	F	F	329	286	294	333	299	290	294	A	A	A	A	A	287	298	311	318	336	361	294	286	269	285
20	291	306	306	344	326	A	A	A	A	A	A	A	285	318	315	305	298	290	292	312	368	A	A	A
21	A	250	312	305	312	302	A	A	A	A	A	A	A	276	248	274	285	306	313	A	A	A	A	A
22	287	285	293	287	F	312	368	A	A	A	314	A	309	315	A	325	315	325	303	311	324	308	F	F
23	283	307	287	303	F	306	294	352	A	341	286	313	A	291	287	318	314	319	338	330	306	303	292	306
24	A	286	F	F	313	348	344	356	373	A	A	294	283	300	310	315	317	317	333	316	301	304	F	F
25	F	F	294	347	300	S 289	A	A	A	A	A	A	A	A	A	306	321	305	302	331	341	327	288	A
26	277	294	311	303	310	314	346	349	327	339	305	330	276	300	308	308	316	312	313	272	307	316	F	F
27	F	319	324	316	311	330	334	341	329	341	A	311	291	A	A	A	347	334	308	299	311	309	F	F
28	319	309	306	296	310	312	361	358	A	328	341	325	312	293	293	298	318	322	309	304	303	298	297	323
29	306	303	303	297	296	317	340	288	300	324	335	305	298	287	262	A	298	309	309	A	310	290	285	F
30	F	F	F	299	284	336	301	305	298	309	A	A	287	309	A	279	A	A	257	273	288	304	272	264
31	290	274	F	F	F	303	A	A	A	A	A	R	R	281	A	A	310	311	293	297	301	278	F	284
	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	26	28	27	27	29	25	25	20	20	19	23	24	27	26	28	30	29	30	28	28	29	23	21
MED	285	290	294	303	304	330	346	338	328	324	306	305	292	300	302	310	316	318	312	316	314	298	288	285
U Q	295	303	308	312	313	342	362	354	344	340	321	311	306	309	311	320	324	324	322	333	334	309	294	295
L Q	279	281	290	296	294	313	328	310	307	308	299	293	286	291	287	299	310	310	304	302	302	286	280	277

MAY 2005 M(3000)F2 (0.01)

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IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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								A	A	372	367	A	A	L 373	L 361	L 370	L 373	L	L					
2								A	L	L 366	L	393	352	L 385	L 389	L 381	L	L						
3								L	L	L 389	A	A	L 375	L 388	L 369	L 377	L	L						
4								L	L	L 378	L 384	L 395	396	L 383	374	A	A	A						
5								A	A	A	399	L 398	387	L 358	A	L 358	L	U L 357						
6									L	A	L 389	A	U L 349	A	A	L 356	A	A	A					
7								L	A	L 379	L	L 396	402	L 369	L 379	L 370	L	L						
8								A	L	L 342	L 372	L 374	L 380	354	381	L 359	L	A						
9							A	L 330	L 348	A	U L 369	L 384	A	A	L 376	L 368	L	A	A					
10							A	L	L 403	L 394	L 378	L 376	371	359	352	L 374	L							
11							A	A	A	A	A	L 398	A	379	A	358	A	A	A		A			
12							A	A	A	A	A	A	A	A	A	L 417	A	L						
13							A	A	A	A	A	A	A	A	A	A	L	L						
14							A	A	A	A	A	364	A	A	A	L 376	A	A						
15							A	A	A	A	A	L 385	A	A	A	A	357	317	299					
16							A	L 340	L 320	A	A	L 393	A	A	A	377	346	L 342						
17								L 342	L 358	L 362	400	L 381	E B	U L 356	418	373	L 362	L						
18						A	A	A	A	A	A	A	A	348	A	363	L 384	A	A					
19						A	A	A	A	A	A	A	A	A	373	A	A	A	A					
20						A	A	A	A	A	A	A	A	A	L 390	376	L 370	L 368	L					
21							A	A	A	A	A	A	A	U L 415	367	A	A	A	A					
22							L	A	A	A	L 365	A	A	A	A	A	A	L						
23							L 355	A	A	A	420	398	A	L 387	L 381	376	362	A	L					
24							L	A	A	A	A	399	381	325	A	A	L 354	A	A					
25							A	A	A	A	A	A	A	A	A	A	373	L 370	L					
26							L	L	L	L 424	409	394	410	L 430	374	A	A	A	A					
27							L	L 365	A	A	A	A	U L 398	A	A	A	A	A	A					
28							A	A	A	A	A	410	423	L 394	372	384	A	A	A					
29							L	L 347	A	A	409	L 401	410	L 390	383	A	A	A	A					
30								L	A	A	A	A	A	A	A	A	A	A	A					
31							A	A	A	A	A	U L 408	401	383	A	A	L 350	A	L					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	5	4	9	12	18	14	18	16	18	10	5	1					
MED							L 355	L 342	L 353	L 378	386	L 394	392	L 381	375	L 374	L 362	L 357	299					
U Q								L 356	L 380	L 392	404	L 398	402	L 388	L 382	L 377	L 373	L 369						
L Q								L 335	L 334	L 364	L 370	L 384	375	358	370	L 363	L 354	330						

MAY 2005 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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								248	E A 316	298	382	318	334	326	328	266	260	286	282					
2								246	280	314	308	332	282	286	272	274	268	266						
3								238	258	292	288	278	280	280	310	278	270	270						
4								254	266	274	284	374	336	290	310	284	258	248						
5								232	258	E A 240	290	318	330	314	302	278	268	270						
6									214	E A 264	338	326	306	296	282	284	272	272	E A 258					
7								258	252	278	280	322	320	296	282	258	268	258						
8								238	296	342	316	368	338	294	306	272	256	254						
9							E A 328	412	348	396	402	348	328	324	328	278	292	284	272					
10							252	244	258	278	346	332	378	356	318	296	272							
11							260	E A 270	274	A	A	308	A	314	300	290	264	250	E A 342		A			
12							246	E A 246	A	A	E A 412	320	338	334	292	314	298	268						
13							366	E A 314	A	A	A	A	A	E A 404	306	E A 288	310	300						
14							250	242	258	284	E A 304	334	E A 344	E A 316	288	282	276	260						
15							A	E A 352	A	E A 338	A	426	E A 364	336	422	350	336	540	416					
16							A	330	404	422	378	452	392	A	552	434	404	314						
17								378	348	292	326	306	364	364	326	304	274	266						
18						A	E A 326	A	A	A	A	E A 316	E A 354	344	E A 340	292	280	A	A					
19						292	358	380	E A 430	A	A	A	A	A	444	370	320	E A 318	240					
20						A	A	A	A	A	A	A	E A 402	324	336	338	342	324	296					
21							A	A	A	A	A	A	A	420	498	408	E A 358	302	264					
22							256	A	A	A	330	A	322	296	A	E A 330	288	262						
23							392	E A 284	A	E A 312	428	340	A	342	340	290	280	276	240					
24							250	220	254	A	A	384	402	348	E A 334	308	294	E A 292	E A 250					
25							A	A	A	A	A	A	A	A	A	322	310	310	282					
26							254	264	296	282	370	294	438	356	332	306	296	E A 288	E A 276					
27							270	268	306	246	A	350	384	A	A	A	246	258	E A 314					
28							236	E A 270	A	308	274	346	352	368	358	326	284	E A 294	E A 272					
29							238	360	E A 316	E A 294	276	340	376	346	388	A	E A 284	E A 286	268					
30								290	E A 332	318	A	A	E A 344	E A 326	A	416	A	A	E A 444					
31							A	A	A	A	A	R	R	446	A	A	342	296	322					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						1	15	24	20	20	19	23	24	27	26	28	30	28	17					
MED						292	254	256	U 273	288	321	332	340	326	320	292	280	274	272					
U Q							328	322	324	316	378	350	377	356	340	328	310	298	E A 318					
L Q							250	245	258	278	288	318	329	296	302	280	268	264	261					

MAY 2005 h'F2 (KM)

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MAY 2005 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 A 302	E B 266	E B 268	E B 266	E B 262	234	220	A	A	218	220	A	A	204	202	218	200	222	E A 252	222	214	E A 340	E A 318	E B 310
2	E A 282	E A 312	E A 302	E A 254	E B 274	228	224	A	212	202	212	212	E A 238	208	204	H 206	E A 236	E A 234	E A 252	244	222	E A 236	E A 230	E A 264
3	E B 286	E B 296	E B 270	226	E B 254	236	226	212	214	216	A	A	232	208	206	228	222	E A 246	E A 264	236	214	226	E A 308	E B 288
4	E B 270	E B 280	E A 284	E A 288	E B 272	240	208	216	216	226	220	206	192	H 182	230	A	A	A	238	216	210	226	E A 276	E B 266
5	E A 274	E A 278	E B 252	E A 260	E B 266	238	226	A	A	A	220	196	208	208	A	220	228	226	E A 248	226	226	E A 270	E A 284	E B 260
6	E B 248	242	238	E B 262	238	226	218	214	196	A	230	A	E A 258	A	A	E A 268	A	A	A	232	216	210	226	246
7	E B 260	E B 274	E B 262	E B 268	E B 260	236	222	E A 232	A	E A 242	224	H 188	H 198	216	206	206	210	E A 242	E A 240	244	212	206	230	E B 272
8	E B 278	E B 272	E B 290	E B 262	226	216	220	A	E A 240	224	H 196	214	H 186	E A 280	220	212	E A 228	A	E A 256	234	E A 252	E A 248	E B 312	E B 288
9	E B 352	E B 270	E B 338	E B 284	234	E A 272	A	E A 260	E A 270	A	E A 234	222	A	A	234	222	A	A	A	E A 244	240	224	E A 248	E B 254
10	E B 250	E A 278	E B 262	E B 272	E B 280	238	A	210	204	212	204	200	202	206	226	210	214	232	244	236	236	E A 248	E A 310	E A 304
11	E A 318	E A 312	E A 296	E B 272	E B 268	E A 248	A	A	A	A	A	H 188	A	222	A	E A 238	A	A	A	E A 270	A	232	E A 320	E A 350
12	E A 316	E A 304	E A 304	E A 252	218	E A 248	A	A	A	A	A	A	A	A	A	218	A	222	E A 246	E A 292	E A 286	E A 316	E A 298	E A 406
13	E A 300	E A 320	E A 352	E A 310	226	E A 280	A	A	A	A	A	A	A	A	A	A	E A 246	E A 242	E A 248	E A 258	E A 388	E B 256	E A 292	E A 316
14	E A 314	E A 316	E B 280	242	226	230	A	A	A	A	A	212	A	A	A	212	A	A	E A 248	234	218	E A 298	E A 268	248
15	E A 330	E B 282	236	E A 274	E A 270	E A 242	A	A	A	A	A	212	A	A	A	A	210	244	264	272	210	E A 384	E A 336	E A 382
16	E A 336	E A 328	238	214	E A 330	244	A	230	E A 270	A	A	220	A	A	A	204	232	232	246	262	E B 312	E B 326	E B 330	E B 294
17	E B 300	E B 306	E B 294	E B 280	E B 264	226	218	212	E A 260	212	206	206	B	E B 260	H 182	220	202	226	230	210	208	E B 270	E B 274	E A 310
18	E A 306	E A 288	E A 274	E B 328	E B 322	A	A	A	A	A	A	A	A	E A 324	A	E A 248	218	A	A	A	E A 302	E A 336	E A 280	E A 304
19	E A 300	E B 290	E B 202	E A 290	E B 272	A	A	A	A	A	A	A	A	A	228	A	A	A	A	216	E A 312	E A 292	E A 324	E A 336
20	E A 320	E A 286	E A 284	E B 232	E B 270	A	A	A	A	A	A	A	A	A	230	H 192	200	212	252	244	216	A	A	A
21	A	E A 342	E A 280	E A 276	E A 270	228	A	A	A	A	A	A	A	190	240	A	A	A	A	A	A	A	A	A
22	E A 310	E B 288	E A 284	E A 304	E A 256	E A 282	E A 234	A	A	A	E A 242	A	A	A	A	A	A	206	E A 252	E A 284	E A 262	E A 266	E A 308	236
23	E A 286	E A 262	E A 310	E A 278	E B 258	236	226	A	A	A	H 178	218	A	210	228	208	210	A	212	212	E A 248	E A 278	E A 284	E A 270
24	A	E A 310	E A 314	E A 306	242	E A 238	202	A	A	A	A	206	230	E A 282	A	A	E A 266	A	A	E A 260	E A 276	E A 248	E A 314	E A 312
25	E B 256	E B 272	E A 280	E B 214	E A 306	H 188	A	A	A	A	A	A	A	A	A	A	E A 234	220	210	E A 248	206	210	E A 332	A
26	E A 324	E B 272	E A 296	E A 254	E A 282	228	214	220	206	202	194	192	200	186	218	A	A	A	A	E A 408	244	E A 242	230	E B 266
27	E B 260	240	226	218	240	228	228	220	A	A	A	A	H 192	A	A	A	A	A	A	E A 332	E A 262	E A 270	236	E A 270
28	222	224	E B 258	E A 292	E A 290	222	A	A	A	A	A	196	194	198	208	214	A	A	A	E A 252	E A 244	E A 262	240	216
29	E A 282	E A 302	E A 268	E A 264	E B 272	E A 244	A	E A 262	A	A	202	222	218	208	206	A	A	A	A	A	220	216	E A 290	E B 324
30	E A 252	E A 268	E A 294	E A 320	E A 294	228	226	E A 232	A	A	A	A	A	A	A	A	A	A	A	E B 298	E B 262	234	E B 258	E A 312
31	E B 280	E B 286	E B 264	E A 296	E B 298	E A 274	A	A	A	A	A	202	210	202	A	A	218	A	230	254	238	E A 326	E A 326	214
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	31	31	31	31	28	15	12	10	9	14	18	14	18	16	18	17	14	19	28	29	29	29	28
MED	E A 286	E A 286	E A 280	E 272	E 268	232	221	216	208	214	210	206	202	206	219	214	214	225	E A U 248	232	U 224	E A 256	E A 290	E A 288
U Q	E A 315	E A 306	E A 296	E A 290	E A 280	E A 244	226	E A 232	E A 260	225	224	214	230	E A 222	229	E A 222	E A 233	E A 242	E A 252	E A 266	E A 262	E A 295	E A 316	E A 312
L Q	E B 265	E 272	262	254	242	228	218	213	206	207	202	196	194	202	206	208	210	222	238	233	215	229	253	262

MAY 2005 h'F (KM)

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IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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	116	114	A	114	A	A	A	114	112	112	114	122	120					
2						B	116	A	A	112	116	120	A	A	A	112	116	122	B					
3						B	122	122	120	A	A	A	A	A	A	A	122	118	B					
4						B	122	118	114	116	A	A	118	116	116	116	A	A	B					
5						B	120	122	A	A	A	A	A	A	A	A	A	A	B					
6						126	116	A	A	A	A	A	A	A	118	114	114	110	B					
7						A	122	118	A	A	A	114	118	112	120	118	118	120	B					
8						B	120	120	114	114	114	114	118	A	A	118	124	122	A					
9						114	114	116	116	114	114	118	120	118	118	116	116	124	118					
10						B	A	114	112	118	118	A	116	116	116	114	114	120	116					
11						B	116	114	A	A	A	118	A	114	116	114	116	120	A		A			
12						120	122	122	118	A	A	B	A	A	A	A	A	120	120					
13						B	116	120	118	A	A	A	A	A	114	A	A	A	120					
14						B	118	114	A	A	A	114	116	A	A	116	A	A	A					
15						124	118	122	A	A	A	118	A	120	A	A	112	114	118					
16						B	A	118	A	A	A	120	B	118	118	114	116	122	B					
17						120	122	118	A	112	112	116	B	112	110	112	112	116	B					
18						A	A	A	A	A	A	A	A	A	A	A	A	120	B					
19						B	116	116	A	A	A	A	A	A	118	118	A	A	A					
20						B	118	A	A	A	A	A	A	A	114	116	118	120	126					
21						112	A	A	A	A	A	A	A	116	114	114	116	112	A					
22						A	A	112	A	A	A	A	A	A	A	A	110	118	120					
23						122	116	A	A	A	A	A	A	A	A	116	118	A	A					
24						B	A	A	A	A	A	112	A	116	116	114	116	A	B					
25						B	A	A	A	A	A	A	A	A	A	A	112	A	A					
26						116	110	A	A	A	A	A	A	A	118	120	116	116	A					
27						124	118	112	A	A	A	A	A	A	A	A	A	A	A					
28						116	A	A	A	A	A	A	A	A	118	A	118	A	A					
29						B	124	124	A	A	118	A	116	A	112	A	A	A	A					
30						B	116	118	A	A	A	A	A	A	A	A	A	A	A					
31	K 130					B	116	114	116	114	A	A	118	116	A	116	114	A	A					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	1					10	23	21	8	8	6	10	8	12	17	19	21	18	8					
MED	K 130					120	118	118	116	114	115	117	118	116	116	116	116	120	120					
U Q						124	122	121	118	115	118	118	118	117	118	116	118	122	120					
L Q						116	116	114	114	113	114	114	116	114	114	114	114	116	118					

MAY 2005 h'E (KM)

IONOSPHERIC DATA STATION Kokubunji

MAY 2005 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	98	94	B	98	B	122	120	114	104	120	104	104	106	102	102	102	102	122	118	108	104	102	102	102
2	100	98	98	98	B	132	118	106	104	116	118	124	102	98	104	104	172	114	100	102	102	98	98	98
3	102	98	98	94	94	146	126	126	116	104	106	108	106	98	104	106	108	120	110	110	104	102	100	B
4	100	98	96	96	B	B	122	122	114	114	106	108	106	122	102	114	106	102	102	104	B	104	102	98
5	96	96	94	94	94	118	122	114	102	102	102	102	102	100	100	98	104	106	108	106	108	102	100	98
6	94	94	92	B	B	G	122	104	104	102	102	96	96	100	124	124	120	120	112	106	104	104	104	102
7	B	B	B	B	B	140	140	118	106	106	106	116	G	104	104	106	104	118	114	106	B	B	B	98
8	B	B	92	B	B	122	122	120	116	116	116	104	112	106	102	108	128	112	110	B	104	98	B	106
9	120	B	138	B	130	114	110	116	120	118	134	102	124	124	130	152	126	118	114	106	100	B	104	104
10	102	100	94	100	B	118	106	114	114	104	102	98	102	100	108	102	100	134	120	114	110	102	102	100
11	96	94	92	96	96	116	116	114	106	104	106	116	104	132	120	120	116	112	100	100	100	100	96	96
12	94	96	98	102	B	138	118	112	110	102	102	104	104	106	106	106	106	118	116	106	102	98	104	102
13	100	102	96	96	98	122	120	118	114	104	104	104	104	108	114	104	104	104	110	104	104	102	104	104
14	100	98	94	94	94	158	122	120	104	106	102	118	116	104	102	118	104	104	102	104	B	106	106	102
15	102	100	100	100	102	128	122	116	106	106	104	118	104	114	104	104	104	160	G	B	114	110	100	100
16	114	114	114	122	122	124	106	114	108	102	100	118	114	120	122	100	102	104	108	108	104	106	B	B
17	B	100	B	110	108	126	114	122	108	112	118	116	B	G	G	178	102	132	110	B	B	B	106	98
18	94	98	100	B	110	108	106	104	104	104	98	98	98	98	98	98	98	112	106	108	104	104	100	98
19	98	98	98	100	100	118	118	112	102	102	96	96	96	102	122	118	104	100	98	100	96	98	102	102
20	102	106	100	98	104	102	112	104	102	98	98	98	94	96	98	102	102	130	166	110	100	94	94	96
21	96	96	108	106	126	G	106	98	96	94	92	98	98	100	104	124	114	112	106	106	106	104	102	98
22	96	98	98	92	90	92	98	116	104	102	102	100	100	100	120	102	122	136	124	112	108	106	106	98
23	100	118	124	96	98	116	112	102	100	104	104	106	100	100	104	116	104	98	100	98	98	98	102	102
24	94	94	94	94	94	104	104	104	102	100	96	158	102	130	124	122	120	102	104	102	100	100	106	104
25	94	100	100	96	96	108	106	104	102	102	102	96	96	98	98	98	118	94	90	90	90	96	98	100
26	100	100	100	102	100	124	118	106	104	102	104	104	102	102	140	122	116	114	102	102	98	100	110	98
27	98	96	96	96	B	152	120	114	104	102	102	100	102	102	104	98	104	102	104	104	98	98	102	98
28	98	B	100	94	92	126	108	102	100	102	98	104	104	104	146	102	120	104	104	106	102	106	102	126
29	100	100	96	100	98	100	120	116	104	102	112	106	112	102	114	94	98	96	96	92	98	96	136	106
30	94	92	94	96	94	98	122	126	102	102	100	98	100	100	106	104	104	104	104	B	B	B	B	138
31	E B 278	124	114	112	118	118	114	114	114	114	102	104	132	124	104	112	116	104	104	102	102	100	98	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	28	27	28	26	22	28	31	31	31	31	31	31	29	30	30	31	31	31	30	27	26	27	27	29
MED	98	98	98	97	98	120	118	114	104	104	102	104	102	102	104	106	104	112	106	106	102	102	102	100
U Q	101	100	100	100	108	127	122	118	110	106	106	116	106	108	120	118	118	120	112	108	104	104	104	103
L Q	96	96	94	96	94	111	108	104	102	102	100	98	100	100	102	102	104	104	102	102	100	98	100	98

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

MAY 2005 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

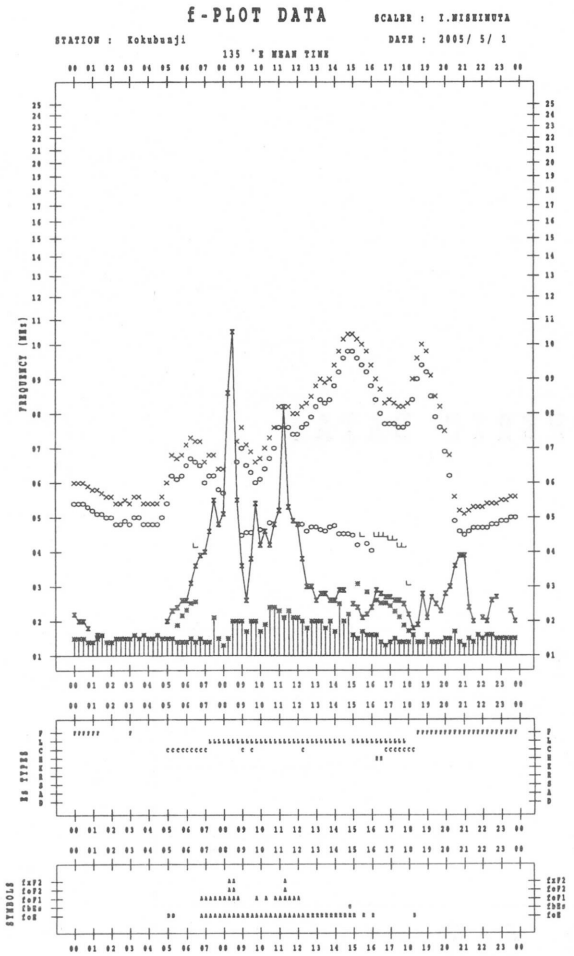
LAT.35°42.4'N LON.139°29.3'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

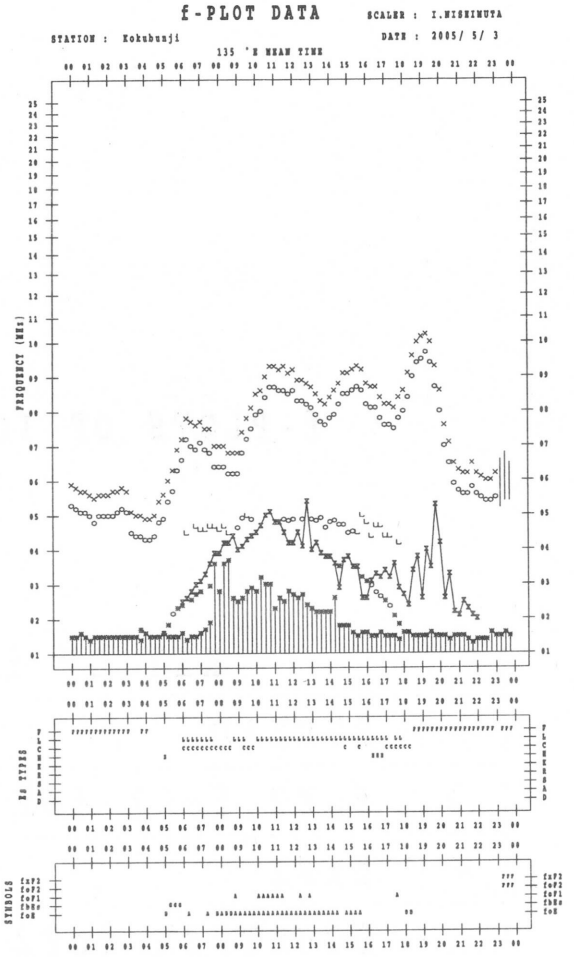
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F3	F2		F1		C4	C2	C3	L2	CL11	L2	L2	L2	L1	L1	L1	L1	CL21	C2	F2	F3	F5	F3	F2
2	F3	F3	F5	F2		C2	CL22	L2	L2	CL12	CL11	CL11	L2	L2	L2	L2	HL11	CL21	L4	F2	F1	F4	F3	F3
3	F2	F2	F1	F1	F2	H1	CL11	CL11	C1	L1	L1	L2	L1	L2	L1	L1	L1	CL22	C3	F3	F3	F3	F3	
4	F2	F1	F5	F2			C2	CL21	CL11	CL21	L1	L1	L1	CL11	L1	CL21	L3	L3	L2	F3		F1	F1	F2
5	F2	F4	F2	F2	F1	C1	C1	C3	L2	L2	L2	L1	L1	L1	L2	L2	L2	L2	L4	F5	F3	F3	F3	F2
6	F3	F1	F1				CL11	L1	L2	L2	L2	L2	L2	L3	C2	C2	C3	CL21	C4	F4	F2	F2	F2	F1
7						H2	HL12	CL11	L2	L2	L1	CL11		L1	L1	L2	L1	CL32	C2	F1				F2
8			F1			C2	CL21	CL11	CL21	CL21	CL11	L1	CL11	L2	L2	L2	CL21	CL21	L2		F5	F4		F2
9	F2		F1		F1	C3	C2	CL21	CL11	CL21	CL11	L1	CL21	CL21	CL11	HL11	CL11	CL32	C5	F4	F5		F2	F2
10	F2	F2	F2	F1		C2	L2	CL11	CL11	L1	L1	L2	L1	L1	L1	L1	L2	CL11	C3	F2	F4	F5	F3	F4
11	F6	F6	F3	F2	F2	C3	CL31	CL21	L2	L3	L2	CL11	L3	CL11	CL21	CL21	C2	CL31	L4	F4	F4	F3	F5	F4
12	F4	F4	F4	F3		H1	C2	CL31	CL31	L3	L2	L1	L1	L2	L1	L1	L2	CL11	C3	F8	F5	F4	F4	F5
13	F3	F5	F5	F5	F4	C3	C2	CL11	CL21	L3	L2	L3	L2	L3	CL21	L2	L2	L2	C2	F4	F4	F3	F2	F4
14	F6	F4	F2	F2	F2	HL11	CL22	CL21	L3	L2	L2	CL11	CL11	L2	L2	CL11	L3	L3	L3	F2		F5	F6	F3
15	F5	F3	F3	F4	F4	C2	C3	CL31	L3	L2	L3	CL11	L2	CL11	L2	L2	L1	HL11			F1	F5	F5	F5
16	F4	F4	F3	F3	F6	C3	L2	CL11	L1	L1	L1	CL11	C1	C1	C1	L1	L2	L1	C3	F2	F2	F1		
17		F2		F1	F1	C2	C1	C1	L1	CL11	CL11	CL11				HL11	L2	C1	C2				F2	F2
18	F2	F4	F3		F2	L4	L2	L3	L3	L2	L3	L3	L3	L2	L3	L2	L2	CL32	L5	F5	F6	F5	F3	F4
19	F3	F3	F2	F3	F2	C3	CL32	CL22	L3	L3	L3	L4	L3	L2	CL11	CL21	L3	L2	L3	F2	F3	F4	F3	F3
20	F4	F3	F3	F2	F2	L3	C3	L4	L4	L4	L3	L3	L2	L2	L1	L1	L1	HL22	H2	F3	F4	F4	F4	F3
21	F4	F5	F4	F4	FF24		L5	L3	L4	L4	L3	L3	L3	L2	L1	CL21	CL31	C3	L3	F4	F5	F4	F4	F5
22	F4	F2	F3	F4	F2	L2	LC22	C3	L3	L2	L2	L3	L2	L2	CL23	L3	C2	CL21	C5	F4	F4	F6	F3	F2
23	F3	FF43	FF23	F3	F1	C2	C1	L3	L4	L2	L2	L2	L3	L2	L2	CL11	L2	L2	L3	F3	F4	F3	F3	F6
24	F6	F4	F4	F4	F1	L3	L2	L2	L1	L2	L2	HL11	L1	CL11	CL21	CL21	CL21	L3	L3	F4	F4	F3	F6	F4
25	F3	F3	F3	F3	F4	L2	L3	L3	L3	L2	L3	L3	L3	L3	L4	L3	CL11	L3	L3	F4	F4	F4	F6	F5
26	F4	F3	F3	F2	F3	C2	C1	L2	L2	L2	L1	L2	L2	L2	HL11	CL11	CL21	CL31	L4	F5	F4	F5	F2	F3
27	F2	F2	F1	F1		H2	CL21	CL11	L2	L3	L3	L3	L1	L2	L3	L4	L3	L2	L3	F4	F5	F3	F3	F4
28	F1		F2	F3	F3	C2	L2	L3	L4	L3	L2	L1	L1	L1	HL11	L1	CL22	L5	L3	F4	F3	F2	F2	F1
29	F2	F4	F3	F2	F4	L3	CL21	CL21	L2	L3	CL11	L1	CL11	L1	CL11	L4	L3	L4	L3	F4	F2	F2	FF22	F2
30	F1	F2	F2	F2	F2	L2	CL11	CL21	L3	L2	L3	L3	L2	L2	L2	L2	L3	L4	L5					K1
31	K1	F2	F5	F3	F2	C2	C4	CL31	CL21	CL11	L2	L2	CL11	CL11	L3	CL21	CL11	L3	L3	F2	F2	F2	F5	F2
	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																								

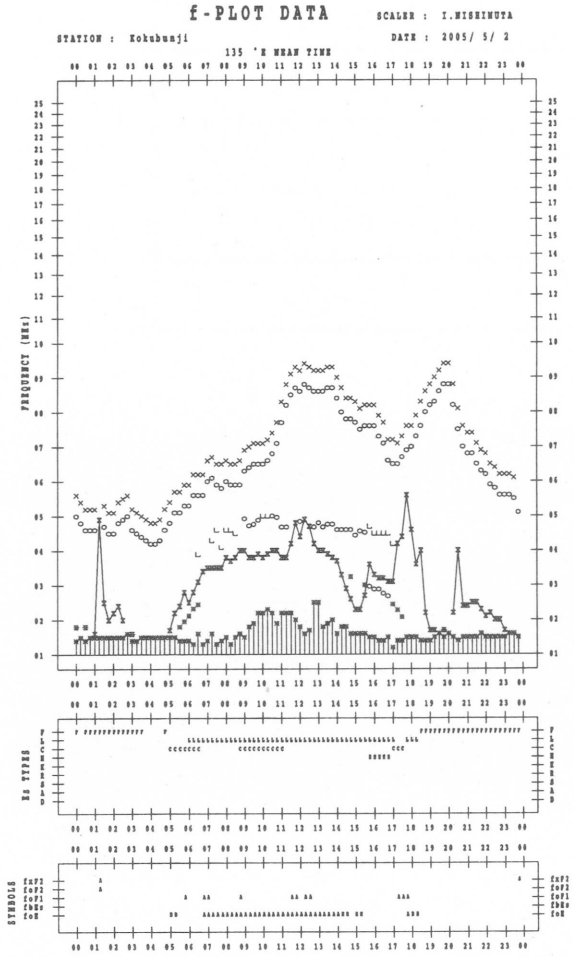
MAY 2005 TYPES OF Es

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 : 2005/ 5/ 1
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/ 3
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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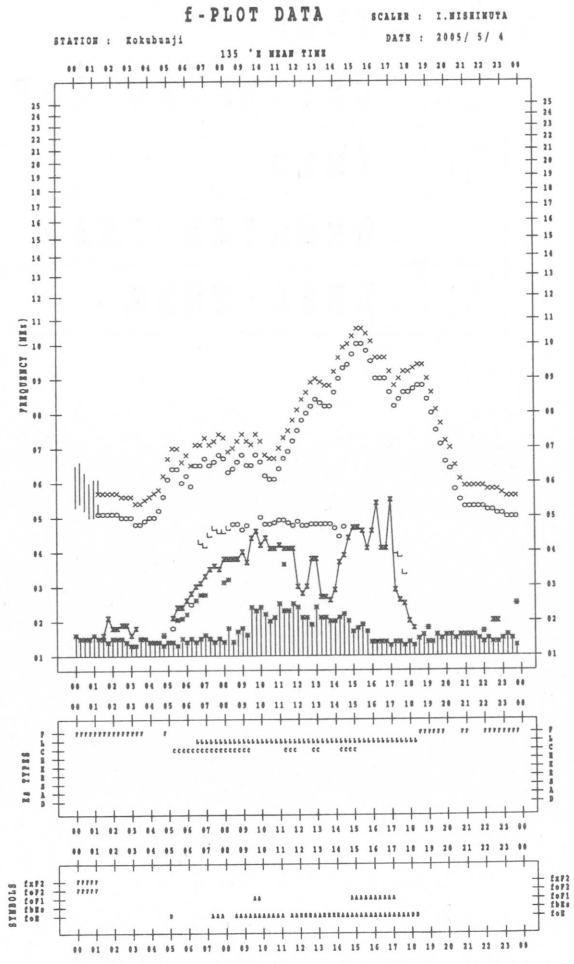
STATION : Kokubunji
DATE : 2005/ 5/ 2
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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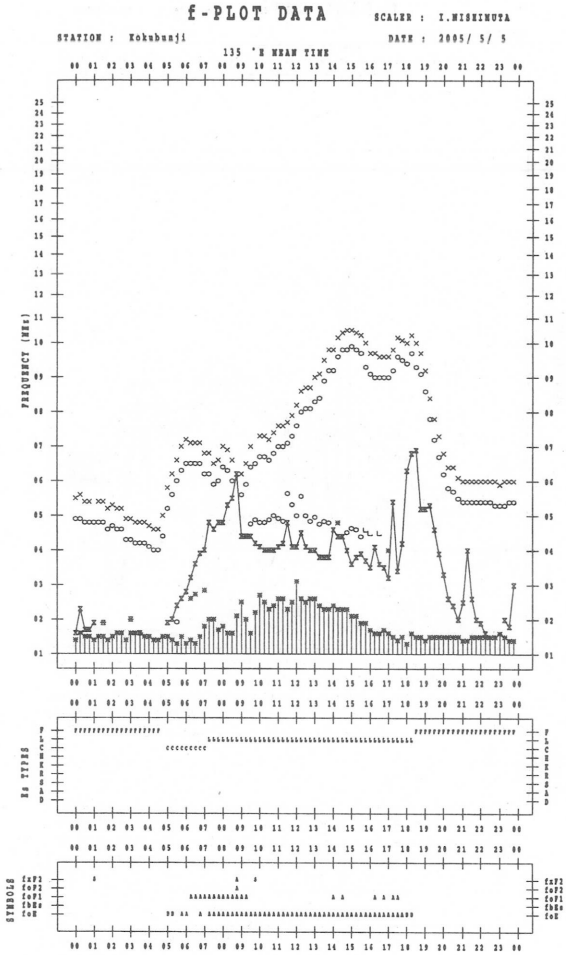
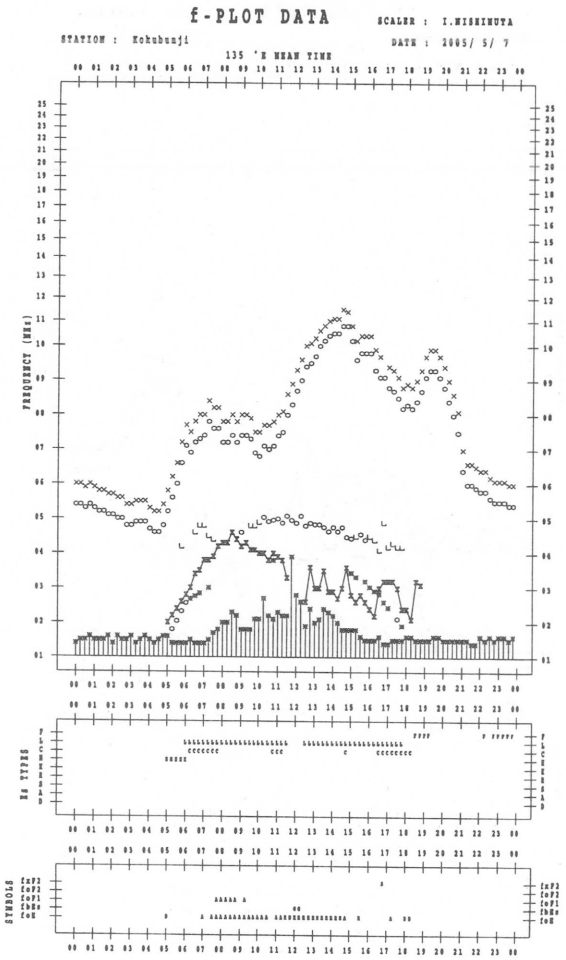
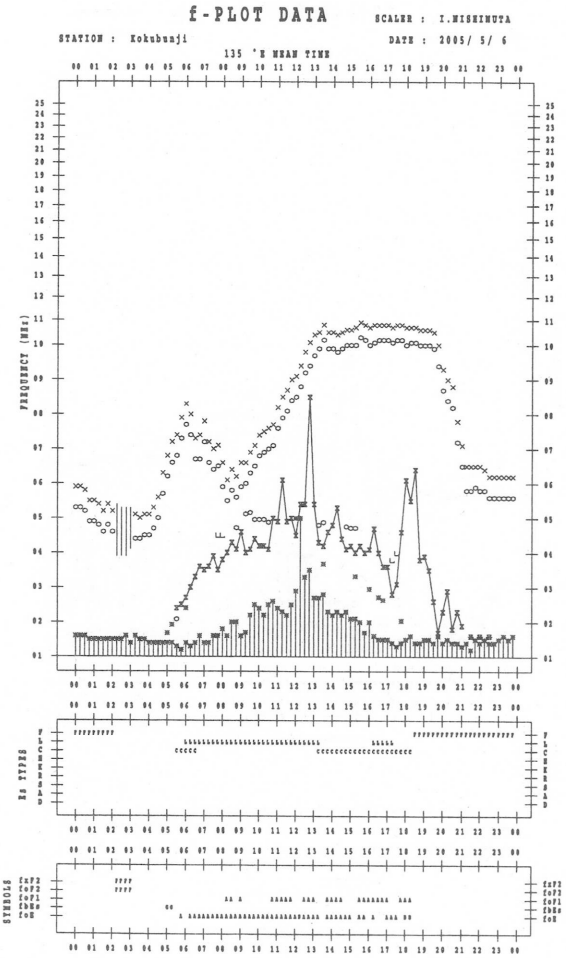
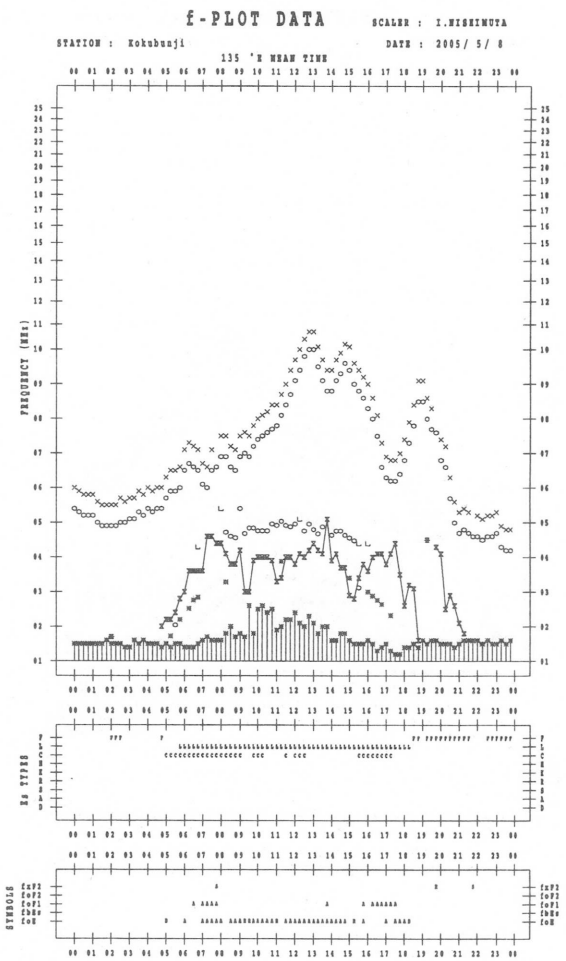
STATION : Kokubunji
DATE : 2005/ 5/ 4
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/ 5
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/ 7
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/ 6
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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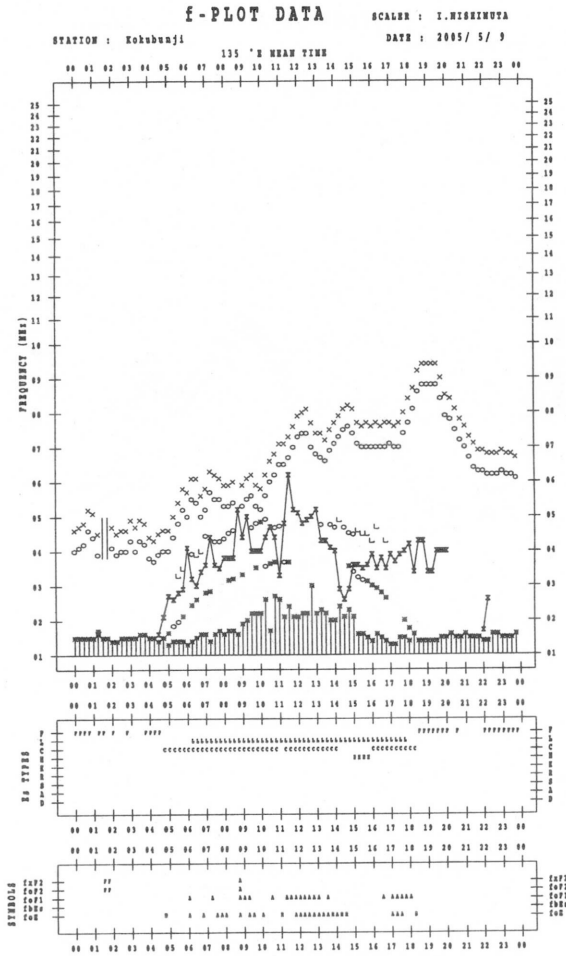
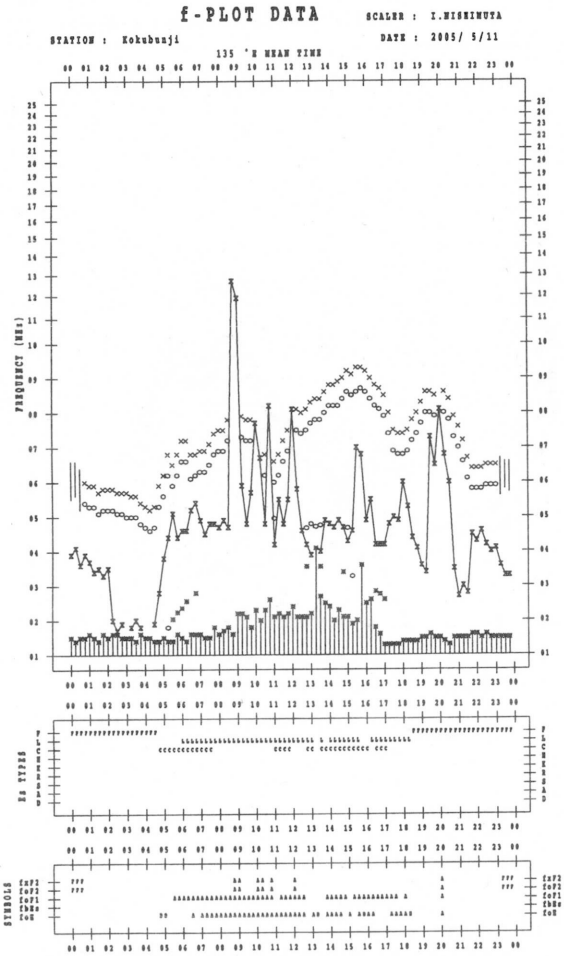
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/ 8
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/ 9
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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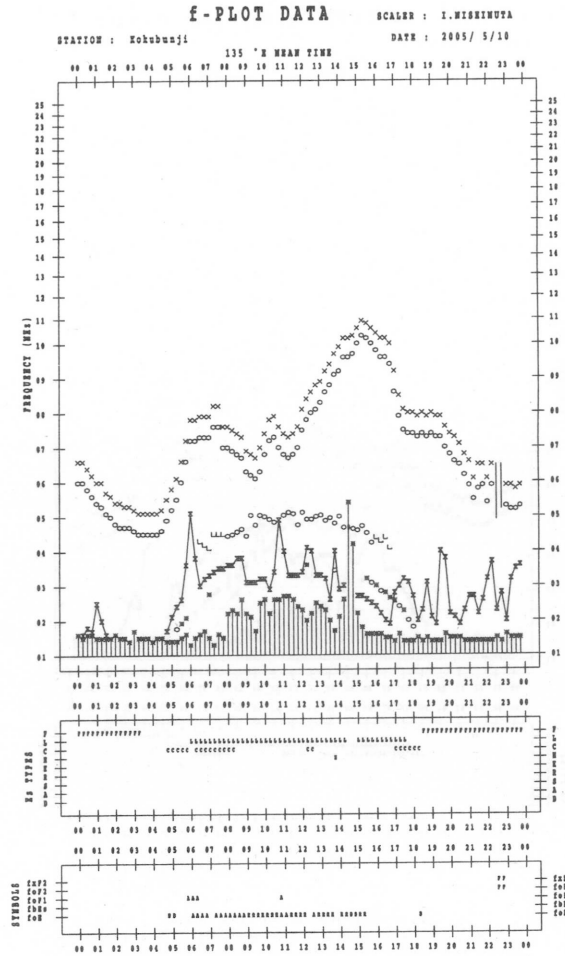
STATION : Kokubunji
DATE : 2005/ 5/11
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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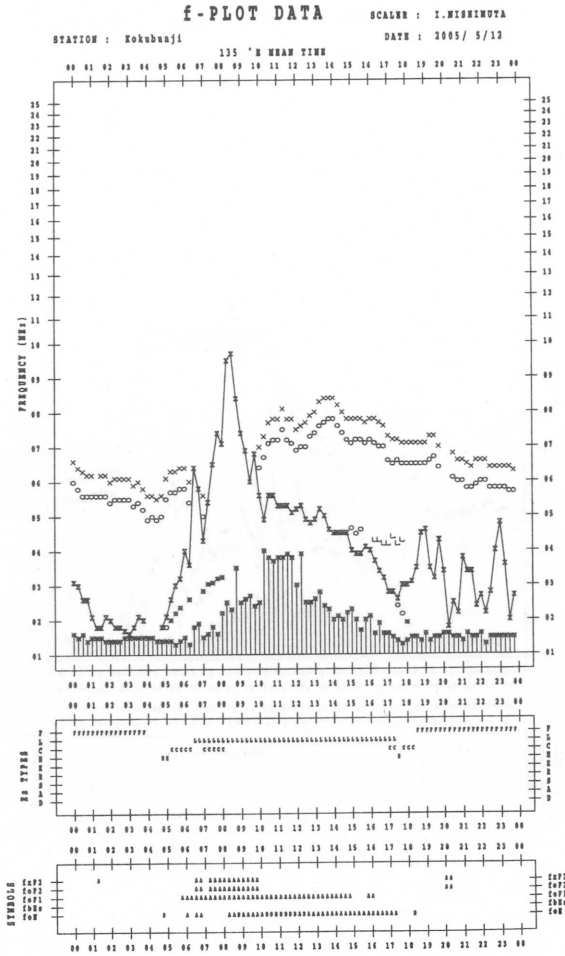
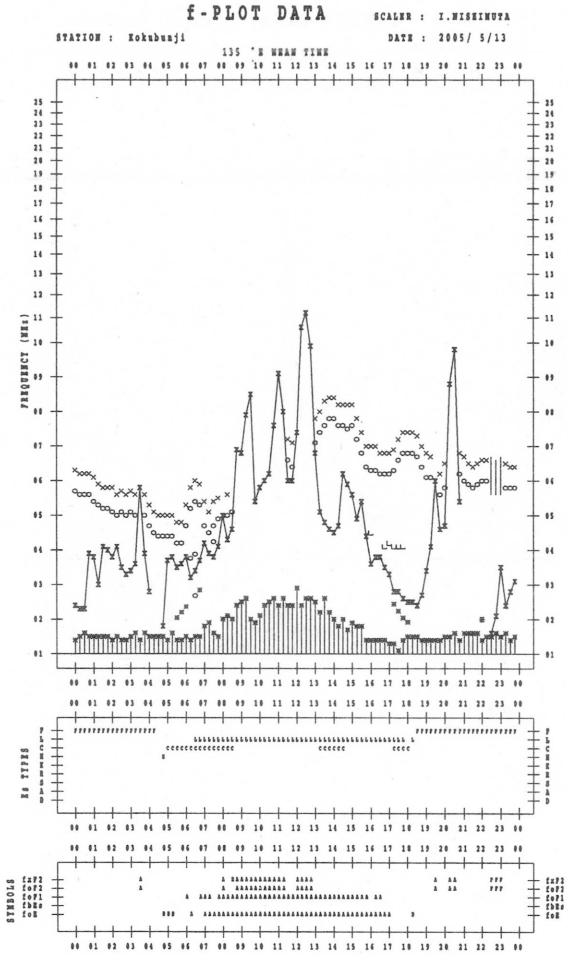
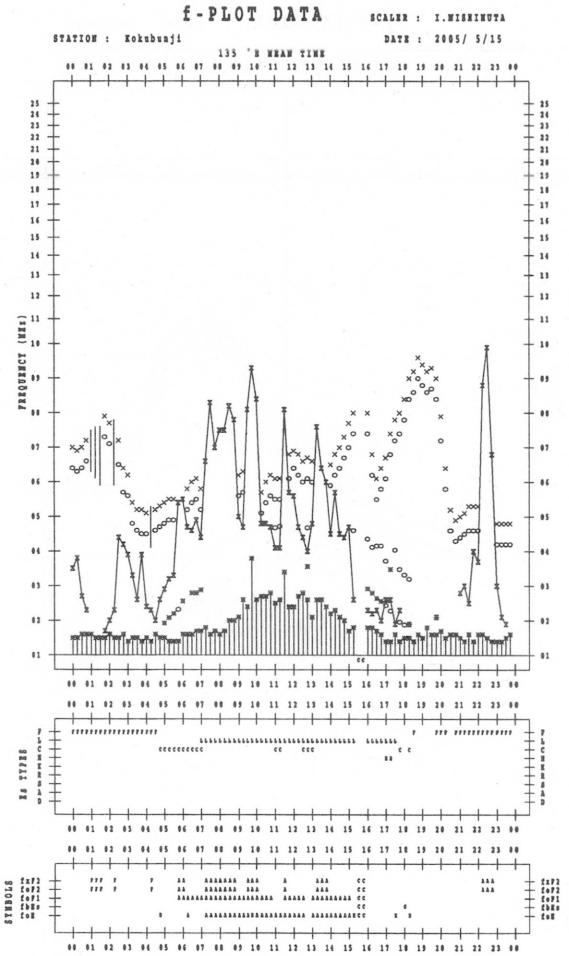
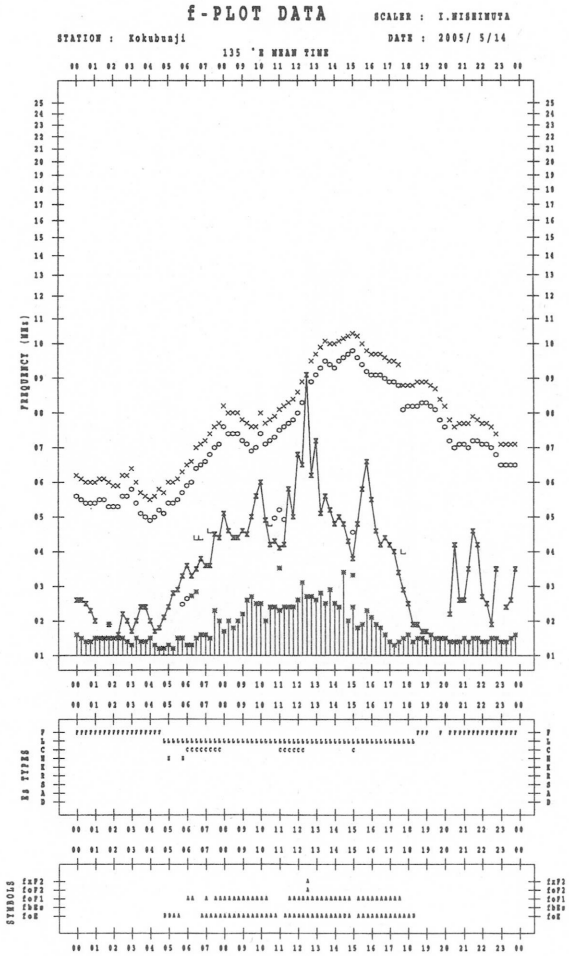
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/10
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/12
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2005/ 5/13
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2005/ 5/15
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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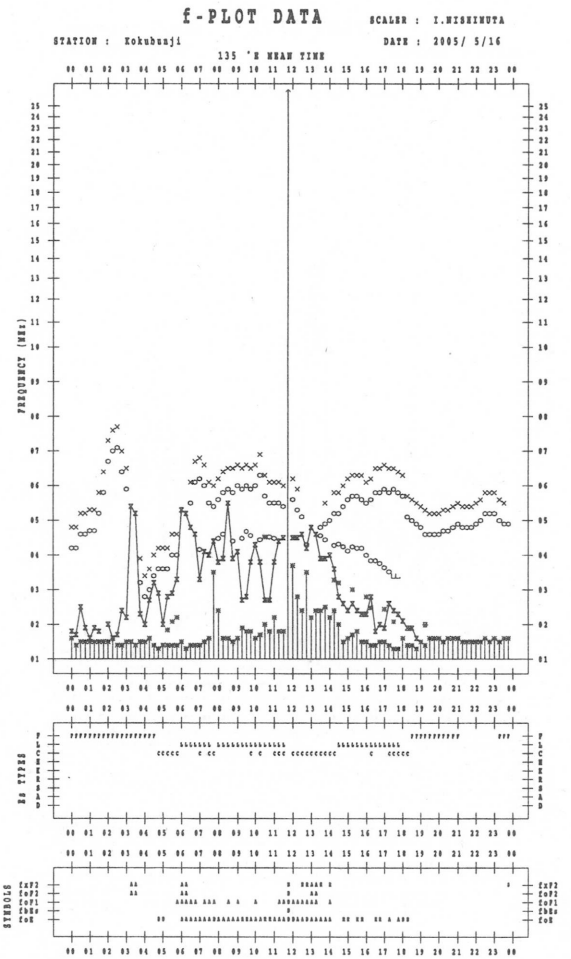
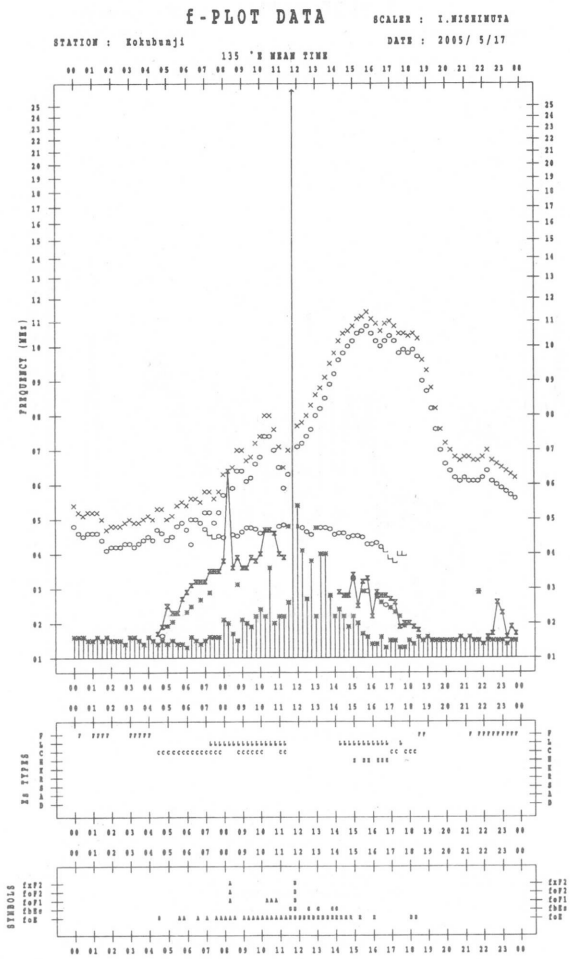
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2005/ 5/14
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATA : 2005/ 5/16
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS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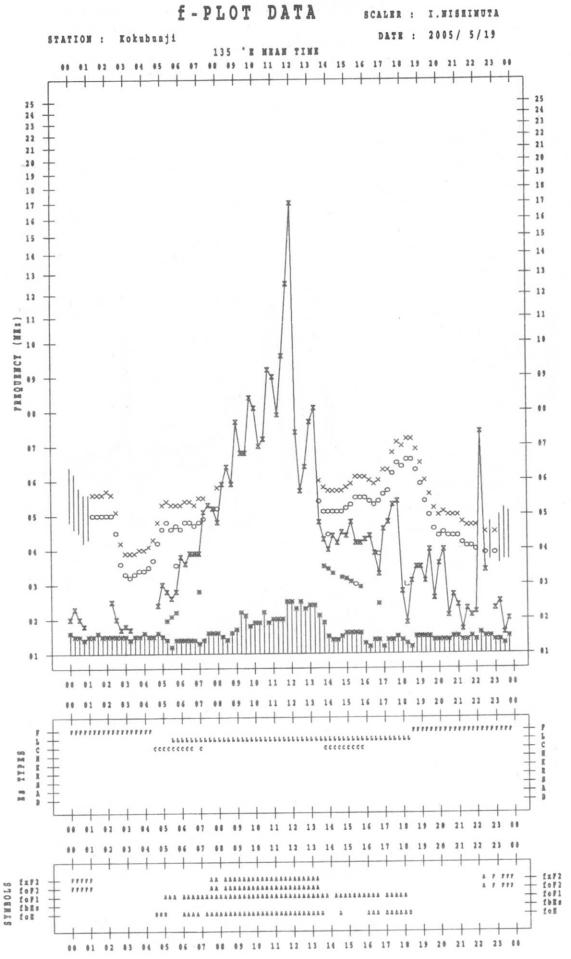
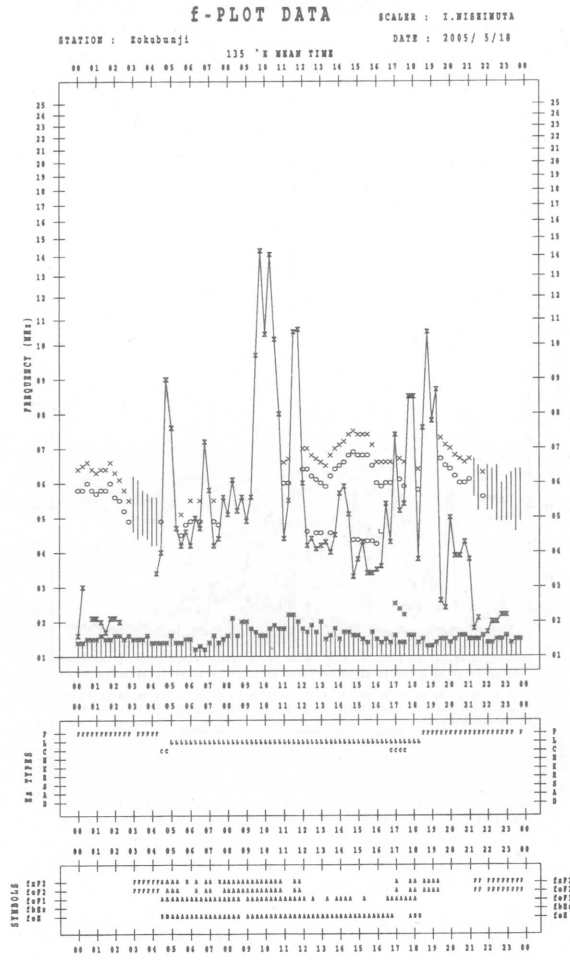
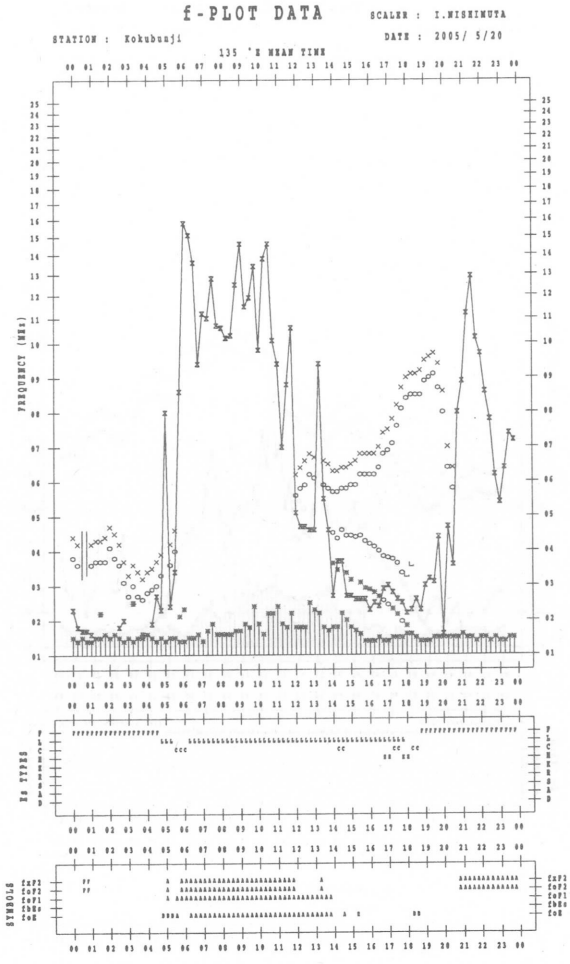
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/17
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/19
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/18
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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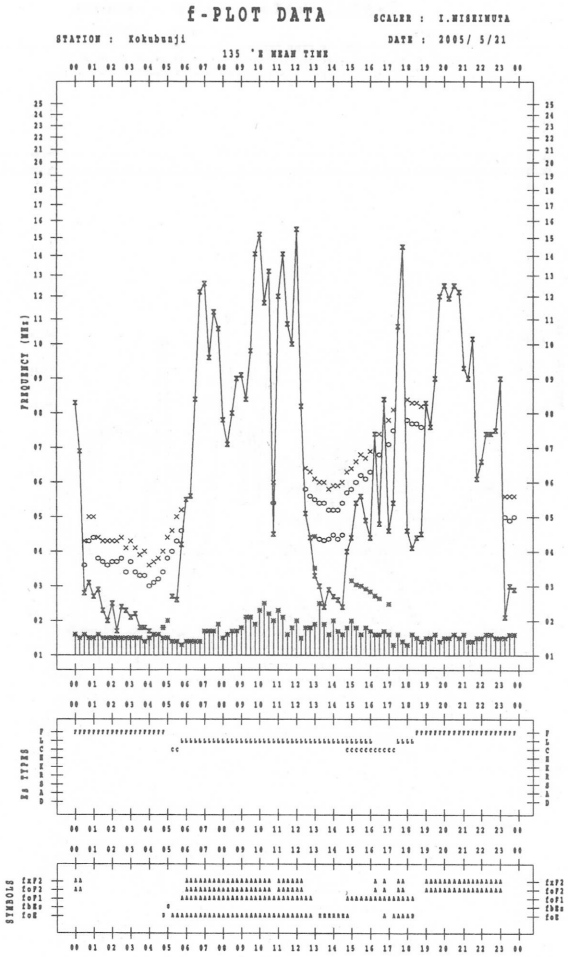
STATION : Kokubunji
DATE : 2005/ 5/20
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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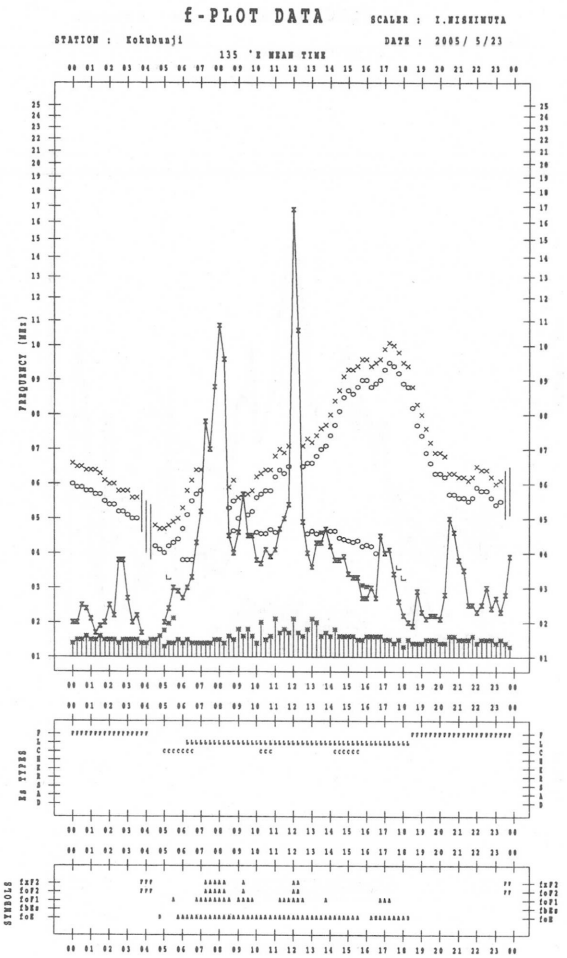
STATION : Kokubunji
DATE : 2005/ 5/21
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
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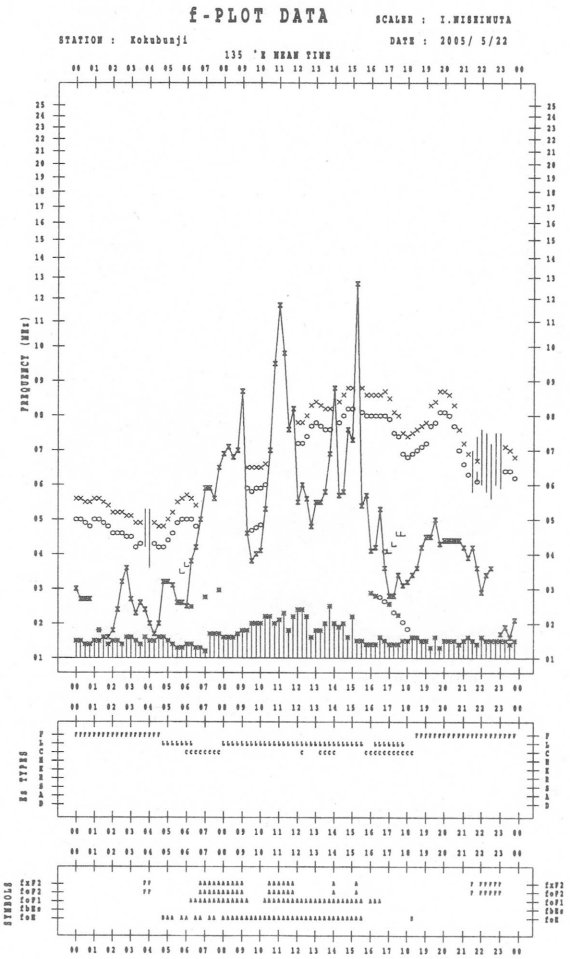
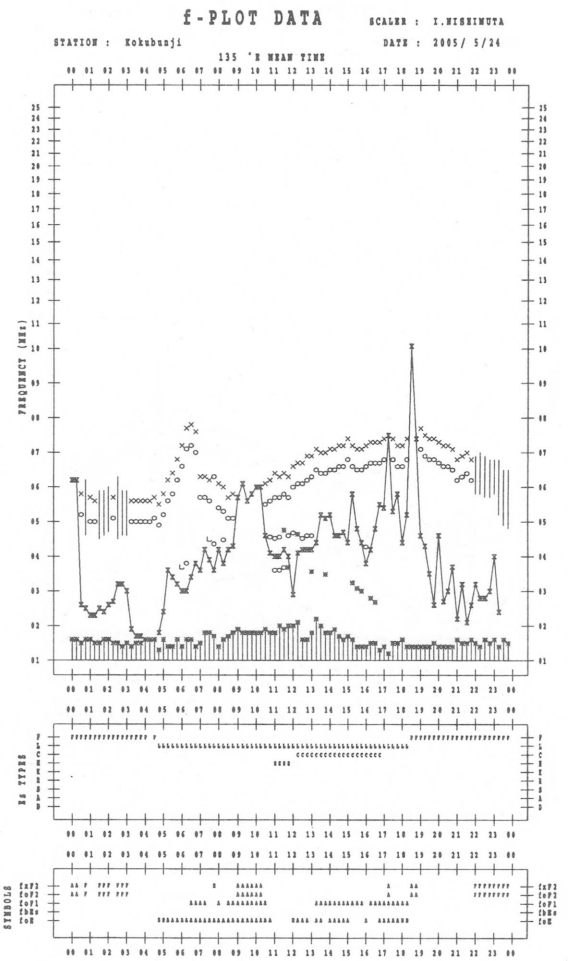
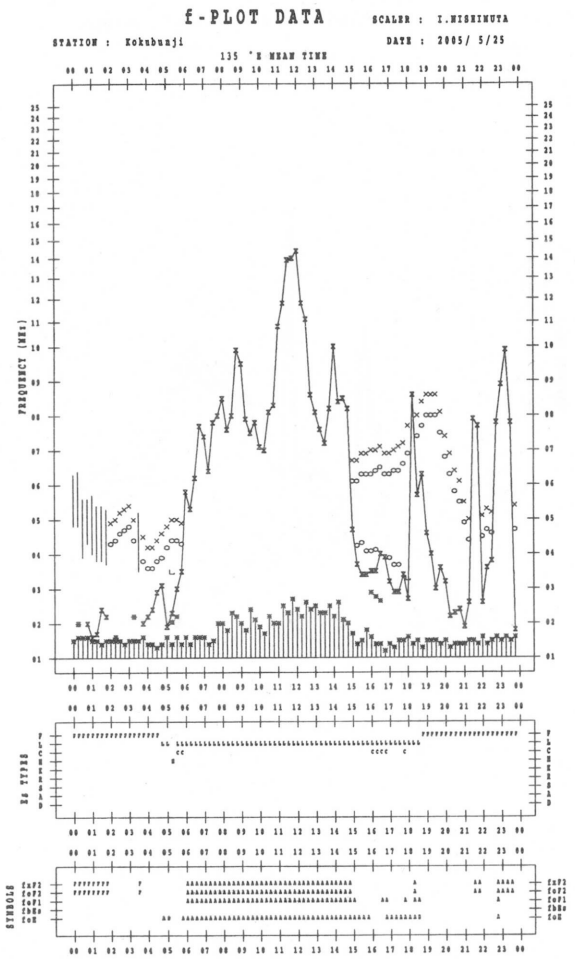
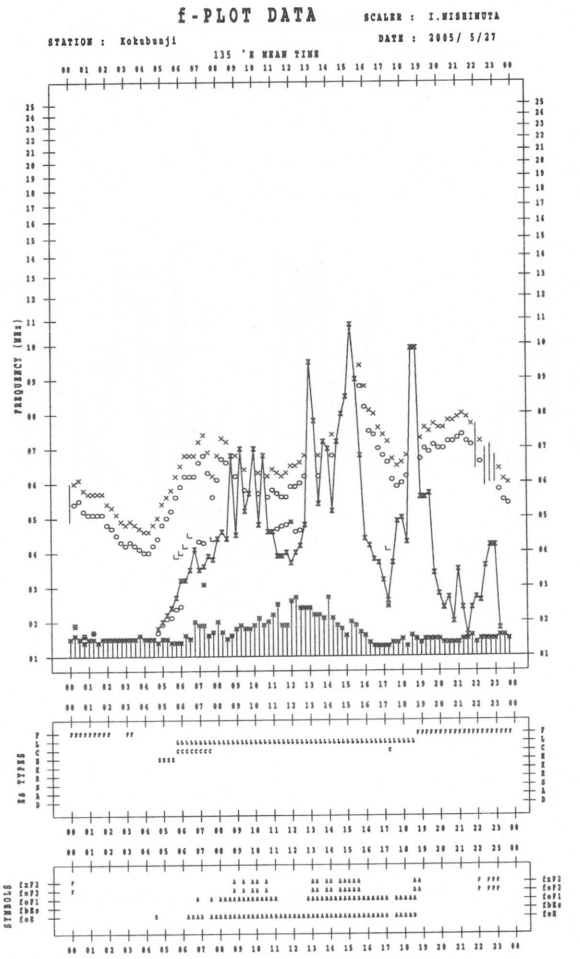
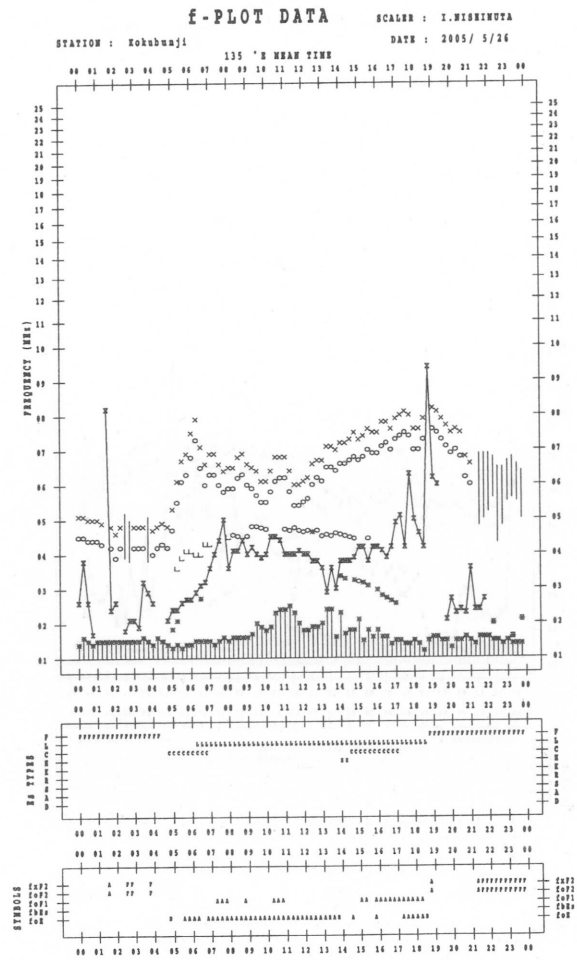
STATION : Kokubunji
DATE : 2005/ 5/23
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

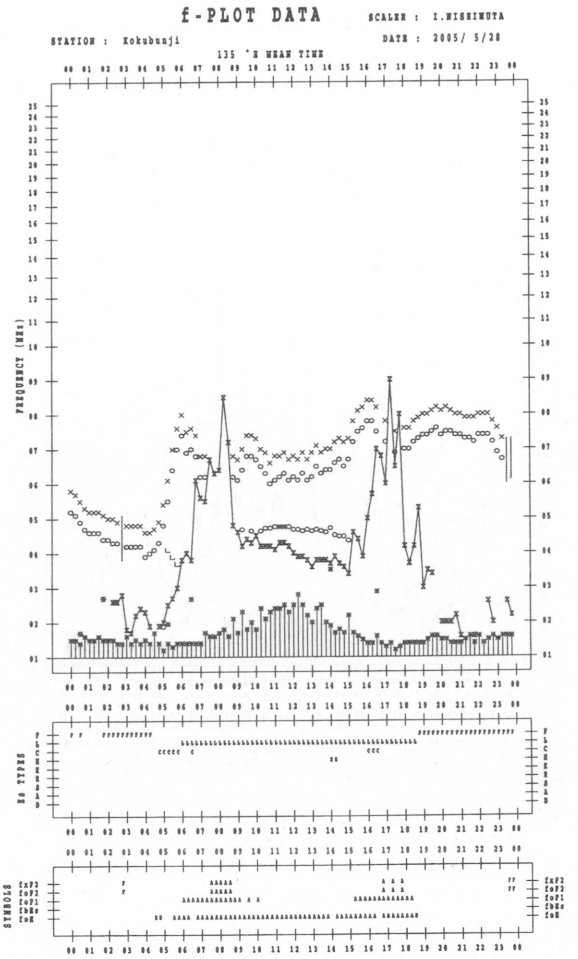

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/22
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

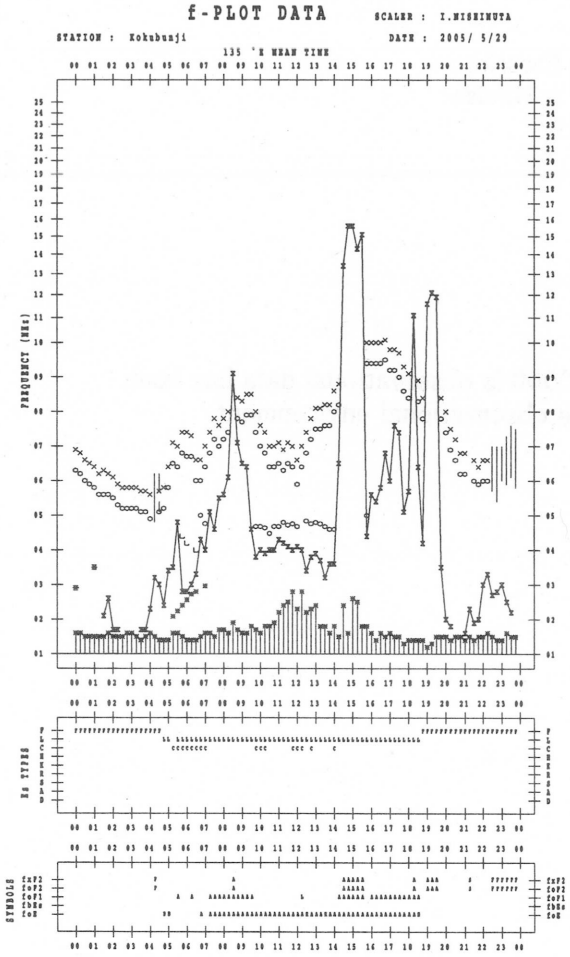

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/24
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

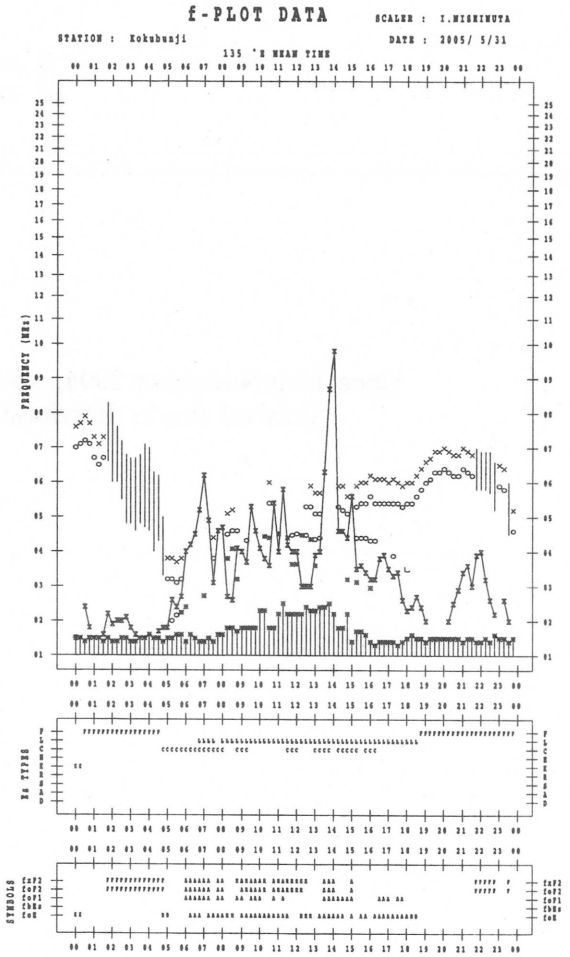

f-PLOT DATA
SCALER : I.NISHIMUYA
STATION : Kokubunji
DATE : 2005/ 5/25
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

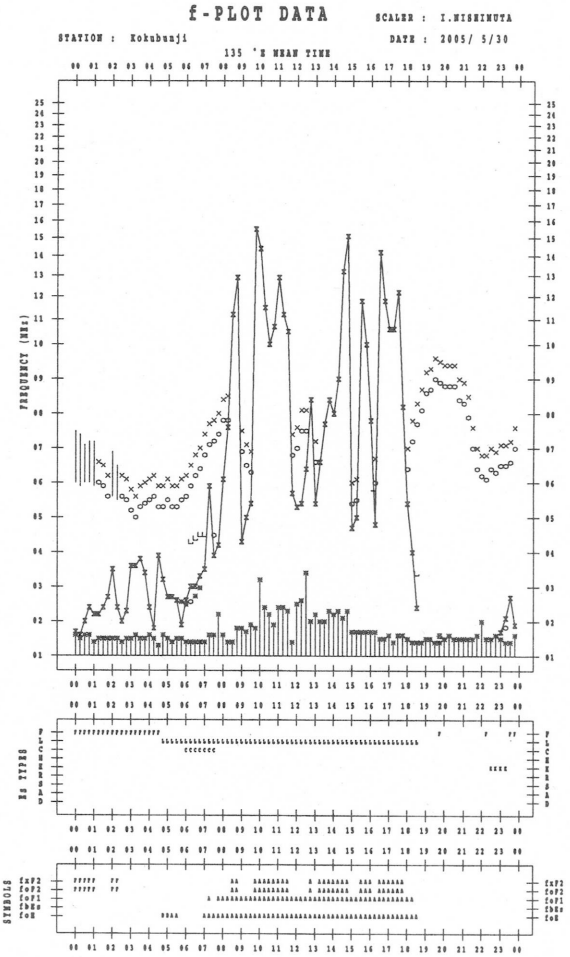

f-PLOT DATA
SCALER : I.NISHIMUYA
STATION : Kokubunji
DATE : 2005/ 5/27
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUYA
STATION : Kokubunji
DATE : 2005/ 5/26
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUYA
STATION : Kokubunji
DATE : 2005/ 5/28
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/29
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 5/31
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 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 2005

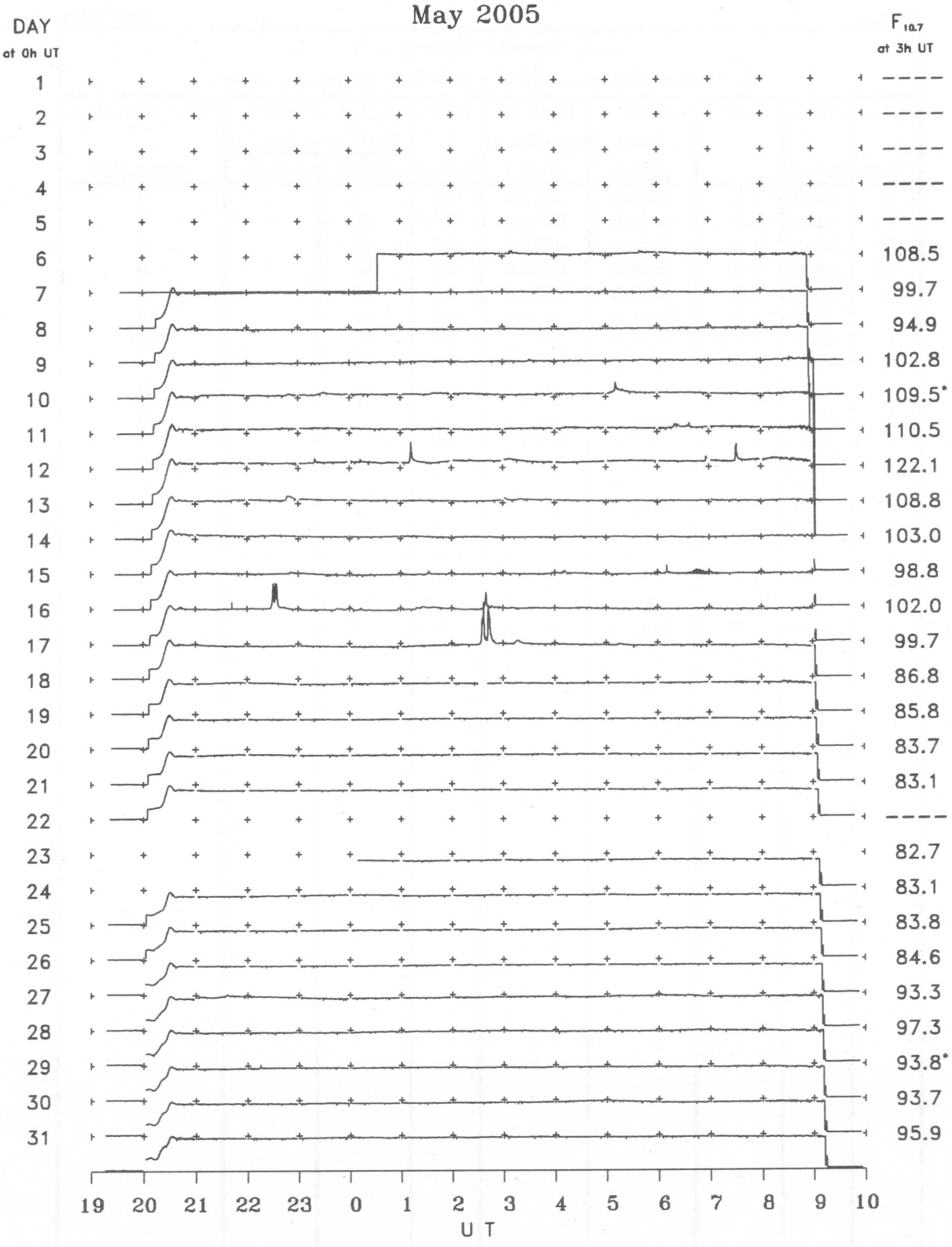
Single-frequency observations

Normal observing period: 1930 - 0940 U.T. (sunrise to sunset)

MAY	FREQ.	TYPE	START TIME	TIME OF MAXIMUM	DUR.	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1})		POLARIZATION
2005	(MHz)		(U.T.)	(U.T.)	(MIN.)	PEAK	MEAN	REMARKS
6	2800	1 S	0308.0	0311.0	5.0	10	-	0
10	2800	3 S	0510.0	0511.0	11.0	25	-	0
11	2800	3 S	0619.0	0621.0	8.0	10	-	0
11	2800	8 S	0638.0	0638.0	1.0	10	-	0
11	2800	1 S	2319.0	2320.0	4.0	15	-	0
12	2800	3 S	0111.0	0113.0	8.0	60	-	0
12	2800	4 S/F	0656.0	0657.0	4.0	15	-	0
12	2800	3 S	0730.0	0732.0	7.0	50	-	0
12	2800	1 S	2244.0	2249.0	20.0	15	-	0
13	2800	3 S	0258.0	0259.0	7.0	55	-	0
13	2800	3 S	0658.0	0659.0	4.0	25	-	0
15	2800	1 S	0132.0	0134.0	4.0	10	-	0
15	2800	7 C	0408.0	0412.0	6.0	10	-	0
15	2800	4 S/F	0608.0	0611.0	7.0	25	-	0
15	2800	8 S	2142.0	2142.0	1.0	20	-	0
15	2800	7 C	2228.0	2233.0	13.0	75	-	0
16	2800	7 C	0237.0	0240.0	7.0	50	-	0
17	2800	7 C	0232.0	0238.0	20.0	200	-	
17	2800	1 S	0313.0	0317.0	12.0	10	-	
28	2800	3 S	2215.0	2215.0	2.0	10	-	

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 2005
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