ISSN 0021-0382

F−674

IONOSPHERIC DATA IN JAPAN

FOR FEBRUARY 2005

VOL.57 NO. 2

CONTENTS

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

FEB. 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	40	43	44	40	41	37	37	51	61	68	63		60	63	71	61	56	46	37	23		31	32	34
2	34	32	34	36	34	32	28	41	52	62	65	70	72	64	68	64	53	48	31	32	34	37	37	40
3	37	38	37	34	37	34	30	44	54	56	66	67	76	70	60	68	58	46	41	34	32	34	32	34
4	36	37	36	36	35	32		42	60	63	62	76	57	62	68	70	51	40	32	32	34	38	37	37
5	38	40	40	37	37	36	38	45	58	44	71		73	68		57	60	44	40	36	35	38	37	40
6	40	42	41	41	41	40	38	48	57	56	65	73		71	68	68	61	52	44	A		36	42	42
7	38	44	44	45	57	40	34	54	62	63	82	72	78	64	66	72	73	60	36	40	34	41	36	40
8	42	45	43		45	32	40	44	75	76	C	C	C	C	C	C	82	71	45	54	53	53	54	52
9	54	54	51	47	52	45	32	46	70	70	89		82	75	80	83	70	61	52	40	35	36	38	40
10	39		41	34	41	42	38	54		68	73	92	82	74	67	78	70	55	35	47	42	36	40	37
11	36	34	36	45	33	34	35	53	73	72	81	76	85	72	68	79	81	54	36	32	28	34	26	40
12	38	42	42	41	41	35	31	52	66	71	71	80	77	81	81	81	70	64	41	37	40	41	40	44
13	44	46	47	41	44	45	41	54	62	68	67	74	76	81	78	74	65	58	32	41	47	38	34	38
14	40	44	41	40	45	44	49	54	70	70	76	78	77	84	74	76	72	53	42	34	42	42	41	38
15	44	40	47	46	44	44	44	54	70	67	74	83	83	80	77	81	73	62	46	42			46	44
16	47	50	47	47	46	48	47	60	75	77	72	82	82		78	77	64	67	43	41	37	34	40	40
17	34	37	40	40	40	32	41	66	84	70	74	78		82	81	71	71	60	45	41	38	39	41	36
18	42	34	40	36	37	36	42	48	74	80	84	80	83	94		84	71	54	57	53	45	45	47	53
19	54	52	52	54	41	34	36	54	66	84	84	83	82	85	76	84	84		34	38	34	34	34	36
20		37	37	41			30	54	69	74	71	62	82	72	69	74	66	72	50	48		32	32	
21	40	41	42	43	46	34	34	54	63	58	72	75	73	78	84	81	65	61	42	38	38	38	34	37
22	44	45	43	44	40	32		53	64	60	75	74	70	70	75	77	64	52	46	30	29	30	35	34
23	31	36	36	30	38	40	40	56	73	70	73	74	76	84	82	78	72	50	46	35	34		30	42
24	40	42	42	44	42	44	49	66	65	60	67	70	75	74	68	74	65	61	53	47	40		32	38
25	34	38	40	36	36	34	34	54	66	73	74	77	76	70	63	66	70	64	48	40	30	A	40	40
26	40	37	38	34	36	37	40	61	82	66	66	74	81	80	72	72	70	65		36	34	37	37	34
27	37	34	36		38	26		54	68	83	80		73	76	71	67	65	65	50	44	36	36	36	32
28	35	34	34	34	32	30	36	61	72	72	76	74	72	66	71	68	72	67	A	38	32	32	37	36
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	27	28	26	27	27	25	28	27	28	27	23	25	26	25	27	28	27	26	27	24	24	28	27
MED	40	40	41	40	41	36	38	54	66	69	73	75	76	74	71	74	70	60	42	38	35	36	37	38
U Q	42	44	43	44	44	42	41	54	73	72	76	80	82	81	78	79	72	64	46	42	40	38	40	40
L Q	36	37	37	36	37	32	34	48	62	62	67	73	73	70	68	68	64	52	36	34	34	34	34	36

HOURLY VALUES OF fEs AT Wakkanai

FEB. 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	G	G	G	G	G	G	G	G	G	G	G	G	G	G		G	G	G
2	G	G	G	G	G	G	G	G	G	G	G	G	G	37	43	G	G	G	G	G	G	G	G	G
3	32	G	G	G	G	G	G	G	42	G	G	G	G	G	G	G	G	G	25	G	G	G	G	G
4	G	G	25	G	G	G		G	G	G	G	G	G	G	G	G	G	G	G	G	23	G	G	27
5	34	33	G	27	G	G	G	G	G	G	G		G	G		G	G	G	G	G	G	G	G	28
6	G	30	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	58	G	G	G	G
7	G	27	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	11	G	G	G	G	G	G
8	G	G	G	G	G	G	G	G	G	G	C	C	C	C	C	C	41	30	G	35	G	G	G	G
9	G	G	G	G	G	G	G	G	G	G	62	G	G	G	G	G	G	G	G	G	G	G	G	G
10	G		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	27	G	G	G	G	G	G
11	G	G	G	G	G	G	G	G		G	40		39	G	G	G	G	11	G	G	G	G	G	G
12	G	G	G	G	G	G	G	G			G	G	G	G	G	G	30	26	G	G	G	G	G	G
13	G	G	G	G	G	G	G	31	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
14	G	G	G	G	G	G	G	G		G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
15	G	28	G	G	28	G	G	G	G	G	G	39	G	G	G	G	34	34	G	G	34	G	G	G
16	26	33	33	29	26	G	G	G	G	G	G	G	G		G	G		G	G	G	G	G	G	G
17	G	G	G	G	G	G	G	G	32	38	36	37		G	41	G	G	G	G	22	G	G	G	G
18	G	39	32	G	G	G	G	G	G	51	52	41	38	G	G	G	G	G	G	G	G	G	26	G
19	G	G	G	G	G	G	G	G	32	34	G	G	G	G	38	G	G	G	G	26	24	G	G	31
20	38	36	G	G			G	G	G	G	G	G	G	G	G	G	G	34	G	26		G	G	
21	G	G	G	G	24	G	G	G	G	35	G	G	G	G	G	G	G	G	30	G	G	G	G	G
22	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	30	26	G	G	G	G	G
23	G	35	32	G	G	G	G	G		G	G	G	G	G	G	G	29	G	G	G	G		G	G
24	G	25	34	40	G	28	G	G	G	G	G	49	60	46	39	G	G	32	28	G	G	36	25	G
25	G	G	G	29	G	G	G	G	G	G	44	45	39	G	G	G	G	34	G	G	35	40	39	26
26	G	G	G	G	24	26	G	49	34	42	51	76	49	62	60	42	G	40	42	G	29	G	G	G
27	G	30	G	40	G	G	29	G	G	G	G		G	G	37		G	G	G	35	32	G	G	G
28	G	G	46	G	G	G	G	G	32	G	G	G	G	G	G	46	38	32	42	24	G	G	G	G
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	27	28	28	27	27	27	28	24	27	27	24	26	26	26	26	27	28	28	28	26	27	28	27
MED	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
U Q	G	30	G	G	G	G	G	G	G	G	G	19	G	G	G	G	G	30	G	11	G	G	G	G
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

FEB. 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	15	18	14	15	14	15	18	17	22	21	21	20	20	34	28	24	20	15	15	17		16	18	18
2	16	15	17	15	14	15	15	18	23	21	30	18	20	23	23	27	20	14	15	16	18	17	17	16
3	15	14	15	15	16	15	15	15	15	26	21	20	38	22	28	24	21	14	16	20	20	18	14	16
4	14	14	17	15	15	17		16	16	18	20	21	32	34	35	26	20	15	15	15	15	21	15	15
5	15	15	14	15	14	14	15	16	24	35	45		48	38		24	22	17	17	15	15	15	14	15
6	14	15	14	14	14	14	15	18	24	29	35	34	46	47	36	26	22	16	15	15	16	15	16	17
7	18	15	14	14	15	16	15	18	18	20	21	35	23	34	30	26	20	15	15	16	16	14	15	15
8	15	17	15	14	18	14	15	18	26	29	C	C	C	C	C	C	18	14	20	14	15	15	15	16
9	15	16	14	15	15	14	18	17	22	27	22	36	34	36	32	27	21	15	18	15	20	14	20	16
10	15		15	22	15	15	15	20	20	17	21	33	23	20	20	26	21	15	20	15	15	16	17	15
11	14	14	14	15	16	17	15	18	23	17	18	18	17	18	15	15	21	18	15	16	15	16	18	15
12	15	15	17	15	15	17	16	18	15	14	18	20	17	20	20	15	14	16	15	15	17	17	20	15
13	14	15	15	14	14	14	15	20	26	18	21	21	20	20	29	28	20	18	20	17	16	15	17	15
14	15	14	15	18	14	15	15	18	21	29	22	22	18	20	21	28	23	17	15	18	16	16	15	18
15	14	15	15	15	15	17	15	20	26	32	34	29	23	21	22	20	18	15	15	15	15	18	16	14
16	14	14	14	16	17	15	16	20	24	21	23	33	35		22	20	23	20	18	14	16	21	15	14
17	16	20	16	14	18	16	16	20	18	21	18	20		22	20	16	22	16	15	17	15	14	15	15
18	15	14	15	14	14	15	15	20	15	18	18	18	21	18	18	16	18	17	15	15	17	16	17	15
19	14	14	15	15	14	15	15	20	16	18	18	20	20	20	18	27	23	20	15	18	20	17	17	15
20	15	14	14	16			20	18	22	20	30	18	29	21	18	18	21	14	15	15		20	20	
21	14	17	14	15	16	14	14	21	27	28	20	18	20	20	18	27	21	20	15	14	14	15	15	15
22	15	15	16	15	14	15	18	15	26	18	20	21	21	20	20	18	14	15	18	18	17	20	16	15
23	15	14	14	15	14	15	15	21	24	20	21	20	20	21	21	18	16	21	20	20	15		15	14
24	15	15	14	14	14	15	16	20	15	28	30	20	21	20	20	18	23	15	15	14	14	14	18	14
25	15	14	14	14	14	15	14	18	15	15	18	17	20	20	20	18	18	16	15	15	15	14	14	14
26	14	14	15	14	14	15	16	14	15	18	18	20	20	17	20	17	22	14	15	14	15	17	15	16
27	15	14	15	14	15	15	14	21	15	16	21		20	15	17	16	21	20	15	16	17	16	15	14
28	15	15	14	14	14	17	15	20	14	17	14	17	17	16	17	14	14	14	14	16	15	18	15	18
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	27	28	28	27	27	27	28	28	28	27	25	26	26	26	27	28	28	28	28	26	27	28	27
MED	15	15	15	15	14	15	15	18	22	20	21	20	20	20	20	20	21	16	15	15	16	16	16	15
U Q	15	15	15	15	15	16	16	20	24	27	23	25	29	23	28	26	22	17	17	17	17	18	17	16
L Q	14	14	14	14	14	15	15	17	15	18	18	18	20	20	18	17	18	15	15	15	15	15	15	15

HOURLY VALUES OF foF2 AT Kokubunji

FEB. 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	37	36	36	27	26	27	28	51	73	72	C	C	C	C	C	C	C	44	43	39		34	25	32
2	34	34	32	34	28		27	48	60	56	68	65	74	62	65	62	62	48	35	36	36			38
3	34	30	34	34	25			48	69	74	61	68	72	65	63	59	65	48	41	36	43	34		26
4	30	32	31	32	31	26		47	54	55	61	82	69	63	61	65	63	52	34	34		27	25	30
5	27	30	30	30	31	27		46		58	62	65	84	65	62	69	59	49	36	38	34	28	30	32
6	24	34	36	37		36		54	57	66	65	67	71	75	76	75	62	56	47	38	38	36	36	37
7	37	36	38	39	46			49	61	68	66	90	92	78	77	73	70	60	42	34	36	37	32	36
8	36	37	44	39	34		34	54	71	86	84	101	110	95	71	77	86	75	46				46	
9			52	63			27	54	64	74	93	107	111	101	80	80	81	67	54	34	37			
10	43	42	42	26	38	36	38	63	71	68	92	88	110	81	80	75	72	59	47	43	48	34	27	
11	34	36	38	45	36	35	34	59	66	67	73	95	101	97	81	68	82	62	42	34	34	34	36	36
12	36	39	42	39	39	28	32	62	62	71	78	77	101	100	98	88	74	61	39	36	30	36	26	
13		34	34	36	41		36	51	56	65	74	75	83	89	81	84	68	55	47	43	42	42	36	39
14	36	37	39	41	42	41	45	51	66	75	91	88	91	85	86	80	71	63	48	36	44	38		39
15	39	38	42	45	44	38	41	55	66	75	85	76	112	101	94	73	84	66	51	47	41	38		36
16	38	37	37	41	37	39	42	64	82	83	92	75	90	91	92	69	76	69	51	44		39	39	39
17	38	36	36	42	41	42	46	64	80	91	91	97	92	93	87	77	75	53	43		38	39	38	34
18		44	41	36	34		36	64	73	95	124	100	115		120	81	66	59	57	61	47		39	
19	42	43	47	43		32	32	51	75	80	86	98	102	111	97	86	73	66	49	47	37	34	34	35
20	37	34	46	34			27	59	69	77	76	87	102	110	83	71	66	61	66	45	32		27	28
21	27	32	39	48			26	49	59	74	78	86	98	77	85	76		55	59	38	38	35	36	37
22	37	41	44	43	31			52	61	67	78	94	101	82	78	77	85	71	42	36	34			26
23	23	34	37	37	31	27	34	54	60	76	78	87	101	87	97	85	63	60	47	32			27	32
24	32	30	30	36	36	39	30	54	57	67	64	66	84	82	76	64	68	71	55	39	28			
25		31	34	37				60	61	76	77	82	97	92	72	64	67	64	55	32	30		32	A
26	34	36	34	36	36	34	41	58	65	55	77	87	97	94	84	75	70	63	47		34	26	34	32
27		34	37	36				58	65	91	96	85	100	83	85	83	75	66	48	38	34		34	
28		34	35	36	28		28	49	68	77	68	76	90	94	76	85	74	58	48	36	30	28		32
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	22	27	28	28	21	15	20	28	27	28	27	27	27	26	27	27	26	28	28	25	23	18	20	20
MED	36	36	37	37	36	35	34	54	65	74	78	86	97	88	81	75	70	60	47	38	36	34	34	34
U Q	37	37	42	41	40	39	39	59	71	77	91	94	102	95	87	81	75	66	51	43	41	38	36	37
L Q	32	34	34	35	31	27	28	50	60	67	68	75	84	78	76	69	66	55	42	35	34	34	27	32

HOURLY VALUES OF fEs AT Kokubunji

FEB. 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	G	G	G	G	G	G	G	G	G	40	C	C	C	C	C	C	C	G	G	G	33	G	G	G
2	G	G	G	G	G		G	28	33	G	40	44	G	G	G	G	G	G	G	G	G	24		G
3	G	G	G	G	G		G	G	G	37	G	G	G	G	G	G	G	G	G	G	G	G		G
4	G	G	G	G	G	G	G	G	32	37	G	40	40	43	G	G	35	G	G	G	G	27	33	G
5	27	33	26	G	G	G	G	G		G	G	43	G	G	G	G	G	G	G	G	G	G	G	G
6	G	G	G	G	G	G	G	G	G	35	43	41	43	G	G	G	G	G	G	G	G	G	G	24
7	G	25	G	G	G		25	G	G	40	G	G	G	G	G	G	G	37	26	G	G	G	G	G
8	G	G	G	G	G	23	G	G	G	G	G	G	G	G	G	G	G	G	G				G	G
9	G	24	G	G			G	29	G	G	G	G	G	G	G	G	G	G	G	G	G			
10	G	G	G	G	G	G	G	G	G	36	G	G	G	G	G	G	G	G	G	G	G	G	G	
11	G	G	G	G	G	G	24	G	G	G	G	G	47	46	52	40	33	G	33	G	G	G	G	G
12	G	G	G	G	G	G	G		G	G	G	G	50	G	40	G	40	G	G	G	G	G	G	G
13	G	G	G	G	G	G	G	G	48	N	G	G	G	G	40	36	G	G	G	G	G	24	G	G
14	G	G	G	G	G	G	G	G	G	G	G	G	45	G	G	G	G	G	G	G	G	G		G
15	G	G	G	G	G	G	G	G	G	G	G	G	G	G	42	G	G	G	G	G	G	G		G
16	G	G	G	G	G	G	G	G	33	G	G	G	48	G	G	G	G	28	G	G	G	G	G	G
17	G	G	G	23	G	G	G	G	G	G	G	G	G	G	G	G	G	35	G	30	27	G	G	G
18	G	G	G	G	G		G	G	G	G	G	45	G	42	G	G	G	G	G	G	G		G	G
19	32	G	G	G		G	G	G	G	G	G	G	G	G	G	45	55	G	G	G	G	G	G	G
20	26	G	G	G			G	G	G	G	45	G	42	G	G	G	G	G	G	G	G	G	G	G
21	G	G	G	G			G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
22	G	G	G	G	G		G	G	G	G	G	G	G	G	G	40	33	G	G	G	G		G	G
23	G	G	G	G	G	G	G	30	G	G	G	G	G	G	G	G	G	G	G	G			G	G
24	G	G	G	G	G	26	G	G	G	G	38	G	G	G	G	53	32	G	G	G	G			
25		G	G	G			G	G	N	G	G	G	G	G	G	G	41	G	G	G	G		G	48
26	G	G	G	G	G	G	G	34	G	G	G	39	G	G	G	43	41	53	30	27	G	G	32	G
27	37	29	G	29		33	G	G	G	G	G	G	G	G	70	45	50	27	29	34	G	29	G	
28	G	G	G	G	G		G	G	G	G	G	G	G	G	G	49	36	28	G	G	G	G		G
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	28	28	28	22	18	28	27	26	27	27	27	27	27	27	27	27	28	28	27	26	21	21	24
MED	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
U Q	G	G	G	G	G	G	G	G	G	G	G	G	40	G	G	40	35	G	G	G	G	G	G	G
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Kokubunji

FEB. 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	15	13	13	14	13	18	14	14	C	C	C	C	C	C	C	22	14	13	14	13	13	13
2	13	13	17	14	13		13	13	13	14	15	39	35	39	31	31	24	18	14	15	14	14		13
3	14	15	14	14	14		15	20	13	13	15	17	18	15	14	13	14	17	14	15	13	15		14
4	13	15	14	17	21	17	15	20	13	14	15	22	23	20	14	13	13	23	14	14	14	13	14	14
5	14	14	14	13	13	14	18	21		33	18	22	26	23	38	34	23	18	14	14	14	17	14	14
6	14	14	14	14	14	20	21	20	24	18	21	22	28	22	36	34	29	22	15	17	13	14	13	14
7	13	15	14	13	13		14	13	14	15	20	20	22	17	20	39	24	13	15	15	15	14	17	17
8	18	14	14	13	13	15	14	14	28	35	37	40	38	39	38	37	18	35	20				13	14
9	13	14	15	14			20	13	14	18	22	28	25	40	37	18	24	20	14	15	14			
10	14	13	14	13	15	14	15	14	28	14	15	17	14	35	17	18	33	21	14	21	14	18	18	
11	14	13	14	13	13	14	14	22	14	17	17	20	30	24	17	14	13	22	15	17	22	18	14	14
12	14	14	15	15	14	18	14	13	13	15	20	41	15	24	14	14	13	22	22	17	23	13	15	13
13	13	14	14	14	13	15	14	21	14	14	40	21	29	21	18	15	17	22	13	14	14	17	13	17
14	14	14	13	17	14	14	14	21	14	14	14	20	40	28	20	20	26	23	14	15	14	24		22
15	14	21	15	13	13	17	14	22	14	21	35	37	43	39	26	35	29	22	13	13	15	15		15
16	14	23	18	13	17	13	14	22	14	14	21	42	33	41	18	33	28	14	18	15	21	15	14	13
17	14	21	14	14	14	14	14	23	33	37	37	41	39	40	40	38	29	14	15	15	15	14	13	13
18	14	13	14	13	17		15	21	14	18	22	24	28	23	39	30	26	23	15	14	21		20	18
19	13	21	14	13		17	14	22	28	31	20	37	40	22	18	14	20	22	14	14	14	17	14	23
20	15	17	14	13			17	22	20	21	23	25	23	40	18	15	14	20	17	14	14	18	17	14
21	21	13	15	13			21	22	18	13	18	35	42	24	37	33	24	14	14	14	15	20	14	14
22	14	13	13	14	14		18	23	13	17	18	26	23	24	40	24	14	18	13	17	14		18	13
23	13	17	13	13	14	15	18	17	15	22	21	23	21	39	22	21	20	23	17	14			13	13
24	14	13	14	13	13	14	23	21	17	17	37	42	21	40	39	29	15	22	14	14	14			
25		13	18	13			20	22	15	18	38	21	23	40	37	31	18	20	14	15	14		18	13
26	14	13	14	18	14	14	14	17	14	30	41	43	29	24	23	20	14	14	13	15	14	14	13	13
27	13	13	14	13		14	21	13	14	15	22	40	43	40	23	15	15	13	13	13	13	14	14	
28	15	13	13	14	15		15	21	13	14	20	40	40	39	40	17	13	13	13	14	14	18		18
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	28	28	28	22	18	28	28	27	28	27	27	27	27	27	27	27	28	28	27	26	21	21	24
MED	14	14	14	13	14	14	15	21	14	17	21	26	28	28	23	21	20	20	14	15	14	15	14	14
U Q	14	15	15	14	14	17	18	22	18	21	35	40	39	40	38	33	26	22	15	15	15	18	17	16
L Q	13	13	14	13	13	14	14	15	14	14	18	21	23	23	18	15	14	15	14	14	14	14	13	13

HOURLY VALUES OF foF2 AT Yamagawa

FEB. 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	26	36	36		28	28	25	32	66#	83#	62#	80#	89	78#	74	66	58	60	52	34#	38	28		28
2	28	32	34	30	31	29	28	35	51#		64	58	81#	84	65#	59	60	55	55	36#	34	34		34
3	34	32	36	30	30		25	29	66#	C	C	C	C	C	C	C	52	61	51	37#	36	26	30	
4	28		32	34	30			36	51#	55	66#	74	64	70	72	69	66	64	47#	36#	A	26	A	29
5	32	32	32	34	28	28		32	54#	64	64	92#	77#	84	70#	66	64	56	51	34#	36	37	30	30
6	32	34	34	30	30	28		36	59#	58	67	72	66	72	94#		65	70	55#	50	53		34	34
7	34	32	32	37	40	A	28	37	59#	67	65	78#	94#	86	78	75	75	72	55#	36#	41	38	36	30
8	36	34	38	49#				38	59#	67	71	86#	110#	87#	78	76	97#	71#	59#	A	37	37	44	37
9	38	36	44	47	A	25		36	54#	68#	82#	108#	114	111	110	*111	*116	96	81#	65#	37#	36	37	36
10	37	36	37	32	30		30	42#	70#	94#	81#	84	85	84	82	82	72	64	66	51#	51	42		32
11	34	34	34	42				37	60#	67	68	85#	106#	106	101	82#	72	72	62	44#		34	36	36
12	36	37	42	47	30#		26	37#	52#	66#	73	78		103	112	97#		A	58	41#	34	32	36	32
13	29	32	32	34	45#		25	34	54#	64	64	77#	82	85	86	87	84	72#	67	54#	41#	32	34	32
14	34		32	34	37	34	32	37	66#	70	78		82	77	80	82	80	80	67#	48#	37#	37	26#	
15	34	34	34	37	41		34	38	65#	64	80#	81	97#	86#	95	77#	81	78	55#	54	53	34#		
16				38	37	35	36	48#	74#	83	80	83	78	81	85	81	84	72#	70	66		64	52#	42
17	47	42	38	37	37	42	54#	67#	82#	82	101#	107	83#	84	98#	94	86	73#		47	37	38	36	34
18	36	37	36	32	36	36	30	50#	66#	82#	*114#	84	84		111	86#	73#	73	72	76	44#		32	36
19	37	37	37	37	32		28	47#	68#	75	82	100#	110	114	107	86#	85	78	50#	55	48	37#	34	32
20	34	32	38	42				47	70#	74	81	86	113#	114	107	79#	71	72		37	36	34	29	
21	30	29	34	45#	30#			41	61#	64	72	80	98#	98	80#	74	70	64	62	52	37#	32	32	34
22	34	36	37	37	34			38	61#	66	80#	96#	96	84#	82	82	94#	86	67#	37#	36	34	26	26
23	28	32	30	37	37			42	55#	63	81#	82	96#	83#	83	84	71#	66	58	A		31		28
24	23	28	31	34	37	37		38	58#	62	75#	81	73	94#	85	77	73	76	72	49#		29	28	28
25	28	29	32	37	34			37	60#	72#	81	76	85	101#	82#	67#	66		60	50	31#	30	32	32
26		34		38	32	32	36	52#	54	66#	85#		98	111#	101	76#	75	74	55#	43#	28#	34	31	
27	30		32	34	30	30	28	37	57#	71#	86#	78	96#	98	82#	85	77	73	C	C	32		28	31
28	30	31	32		36	29		42	55#	65	78#	82	83	100#	98	78#		65	54#	48	36#		28	28
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	24	26	26	24	13	15	28	28	26	27	25	26	26	27	26	26	26	25	25	23	24	22	23
MED	34	34	34	37	33	30	28	38	60	67	78	82	87	86	85	80	73	72	58	48	37	34	32	32
U Q	36	36	37	38	37	35	34	42	66	74	81	86	98	101	101	85	84	74	67	53	41	37	36	34
L Q	29	32	32	34	30	28	26	36	54	64	67	78	82	84	80	75	66	64	54	37	36	31	29	29

HOURLY VALUES OF fEs AT Yamagawa

FEB. 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	G	G	G		G	G	G	G	# 29	G#	* # 39	* 39	G	* # 43	* 38	* 40	G	G	G	G	G	G		G
2	G	G	G	G	G	G	G	G	# 28		G	G	G	G	G	G	G	# 29	25	G#	G	G	G	G
3	# 27	26	28	G#	G	G	G	G	G	C	C	C	C	C	C	C	G	G	G	G	G	G	G	G
4	G	G	G	G	G			G	G	G	* # 42	G	* # 44	G	G	* # 39	* 42	G	# 26	* 32	31	G#	* # 43	G
5	G	# 27	G#	G	G	G	G	G	* # 34	G	G	G	G	* # 42	* 43	* 38	* 34	29	30	25	G#	G	G	G
6	G	G	G	G	G	G		G	# 29	* 34	G	G	* # 51	* 42	G		G	G	# 27	25	G#		G	G
7	G	G	# 30	G#	# 29	29	26	26	G#	* # 33	G	G	G	G	G	G	G	* # 33	25	G#	G	G	G	G
8	# 26	27	G#	G	G			G	G	* # 38	G	G	G	* # 59	* 39	* 43	* 42	* 50	30	* 40	G	* # 32	31	29
9	24	G#	# 31	31	29	G#	G	# 24	* # 42	* 34	* 40	G	G	G	G	G	* # 36	31	G#	G	G	G	G	G
10	G	G	G	G	G		G	G	G	G	G	G	G	G	G	G	G	* # 32	* 41	G	G	G	G	G
11	G	G	G	# 31	28	G#		G		* 39	G	G	G	* # 55	* 47	* 48	* 34	G	# 26	29	28	G#	G	G
12	G	G	G	G	G		25	25	* # 45	* 34	G	G		G	* # 43	* 40	G	* # 69	* 49	27	G#	G	G	G
13	G	G	G	G	G		G	# 28	* # 48	G	G	G	G	* # 44	* 44	* 39	* 38	G	G	G	# 26	26	G#	G
14	G	# 29	G#	G	G	G	G	G		* 34	G	G	* # 39	G	* # 43	G	G		G	G	G	# 23	G#	
15	G	G	G	G	G		G	G	G	G	G	G	G	G	G	* # 44	G	* # 32	G	* # 43	G	G	* # 34	
16				G	G	G	G	G		G	G	G	* # 40	* 43	G	* # 38	G	G	* # 33	* 36	G	G	G	G
17	# 27	G#	G	# 30	G#	G	G	# 27	G#	G	G	* # 39	* 40	* 59	G	* # 41	* 44	G	* # 36	* 39	G	# 26	28	G#
18	G	G	G	G	G	G	G	G	G	G	* # 37	G	G	G	G	G	G	G	G	G	G	G	G	G
19	G	G	G	G	G		G	G	G	G	G	G	G	* # 40	G	G	G	G	G	G	G	G	# 25	G#
20	G	G	# 24	* 32	G	G	G	G	G	G	G	* # 42	G	G	G	G	G	* # 32	G	# 26	G#	G	G	
21	G	G	G	G	11			G	# 30		G	G	G	G	G	G	G	G	G	G	G	G	G	G
22	G	G	G	G	G		G	G	G	* # 39	G	G	G	G	G	G	G	G	G	G	G	G	G	G
23	G	G	G	G	G	G	G	G		* 35	G	* # 40	G	G	G	* # 43	G	* # 32	* 41	* 44		27	24	G#
24	G	G	G	G	G	G	G	G	G		G	* # 39	* 40	* 42	* 49	* 46	* 41	* 32	G	# 21	G#	G	G	G
25	G	G	G	G	# 27	G#		G	* # 33	* 39	G	* # 41	G	G	G	G	G	G	G	G	G	G	G	G
26	* # 33	* 32	27	G#	G	G	G	G	G	G	G	* # 39	G	* # 48	G	G	G	G	G	G	G	G	G	G
27	G	# 28	G#	G	G	G	G	G	* # 46	G	G	* # 42	G	G	G	G	G	G	C	C	26	G#	# 25	G#
28	G	# 29	G#		G	G		G	G	G	G	G	G	G	G	G		* 38	* 38	G	G		G	G
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	27	27	26	28	19	21	28	24	24	27	27	26	27	27	26	27	27	27	27	27	26	27	25
MED	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
U Q	G	26	G	G	G	G	G	G	31	34	G	39	G	43	39	40	34	32	30	29	G	G	24	G
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Yamagawa

FEB. 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	16	17	17		16	15	20	15	15	14	17	18	21	20	18	20	16	22	16	20	15	18		15
2	17	15	15	16	15	15	17	15	23		15	21	22	22	21	17	17	16	17	16	17	15	18	18
3	15	15	15	15	15	17	16	15	24	C	C	C	C	C	C	C	15	14	15	15	15	15	18	15
4	14	20	15	17	15			15	17	17	15	22	22	20	21	18	14	14	17	14	15	18	14	14
5	15	15	15	17	15	18	17	15	15	#29	#18	18	18	21	20	16	15	15	15	15	15	15	16	14
6	15	14	15	17	17	16		15	15	15	15	22	20	21	22		17	16	15	16	16		14	16
7	16	15	14	18	14	15	16	15	15	15	15	16	22	22	18	17	16	15	17	17	15	15	16	17
8	16	15	15	15	15			15	#27	#15	#33	#21	23	28	22	20	16	15	14	15	15	15	15	15
9	15	17	15	14	15	18	17	15	18	15	16	22	24	27	21	20	18	14	16	16	14	15	15	15
10	15	16	16	16	17		16	15	24	15	17	20	18	21	18	17	20	15	14	18	16	17	20	15
11	15	15	17	15	16	16		17	14	15	16	20	20	21	21	21	15	22	17	15	15	18	16	15
12	15	15	16	14	15		16	16	14	15	16	20		22	24	22	16	15	15	15	14	21	14	15
13	17	15	15	15	15		18	15	14	17	21	20	21	30	20	18	17	14	17	15	15	16	18	15
14	14	14	15	15	15	16	17	17	15	15	16	17	21	23	24	18	17	15	18	15	15	15	17	
15	18	15	20	16	17		15	17	15	15	18	20	22	18	21	22	14	15	24	16	16	17	14	
16				15	16	15	16	16	15	15	20	20	22	20	23	18	18	14	14	15	15	20	17	14
17	16	18	17	17	16	17	17	16	15	18	21	24	#39	33	#21	22	17	15	14	18	18	15	15	18
18	16	14	16	20	18	17	17	15	15	17	20	#35	#23	23	22	20	18	27	17	15	15	18	15	17
19	17	21	16	16	15		17	17	23	18	20	21	21	23	24	21	17	26	20	18	16	16	17	17
20	15	17	20	15	16	16	18	17	24	18	23	21	20	21	23	21	14	14	16	15	15	15	18	
21	15	17	15	16	15			17	15	17	20	20	21	21	26	18	14	15	18	15	16	18	16	17
22	17	15	15	15	15		16	17	15	17	18	20	20	20	21	21	16	15	15	15	18	15	17	18
23	18	15	14	14	17	17	17	17	14	18	20	20	24	20	21	18	16	15	14	15		15	16	15
24	15	18	14	15	15	15	15	17	14	18	18	17	20	21	21	17	17	17	18	15	18	17	17	18
25	16	17	17	16	15	15		17	15	16	20	18	20	20	21	17	15	16	16	15	16	18	18	15
26	15	15	15	15	15	16	15	17	24	16	18	18	20	21	18	21	18	15	17	15	17	14	15	17
27	15	15	17	16	15	14	17	18	16	15	17	20	18	23	20	18	17	15	C	C	16	18	15	15
28	15	15	16		16	15		16	14	16	18	18	21	21	21	18		15	15	15	14		17	15
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	27	27	26	28	19	21	28	28	26	27	27	26	27	27	26	27	28	27	27	27	26	27	25
MED	15	15	15	16	15	16	17	16	15	16	18	20	21	21	21	18	16	15	16	15	15	16	16	15
U Q	16	17	17	16	16	17	17	17	20	17	20	21	22	23	22	21	17	16	17	16	16	18	17	17
L Q	15	15	15	15	15	15	16	15	15	15	16	18	20	20	20	18	15	15	15	15	15	15	15	15

HOURLY VALUES OF foF2 AT Okinawa

FEB. 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		34	32			26	28	29	63	77	93	75	75	107	102	84	72	65	72	59	54	53	42	42
2	32		32	31	34	30	28	32	54	64	68	66	66	86	81	66	56	62	62	61	37	41	34	42
3	43	30	31	31	31			28	53		68	65	62	78	83	80	64	66	61	52	44	53	38	32
4		28	30	34	26			34	50	57	64	81	67	85	87	85	70	74	66	51	36	36	36	30
5		34	32	31	31			30	54	66	72	78	71	90	92	84	77	78	81	51	48	51	37	37
6	34	40	A	A	A		28	34	55	65	67	78	93	87	104	111	97	90	89	102	100	66	50	50
7	43	38	38	40	30			34	61	71	75	93	101	114	108	96	90	87	101	87	72	52	43	48
8	52	42	31	52	A			37	60	58	78	101	117	105	108	108	104	75	66	48	47	51	43	40
9	26	38	47	42	A	A		37	55	71	96	117	122	144	150	157	172	142	131	124	87	82	66	52
10	53	51	52	29				36	64	76	90	90	95	88	96	96	88	76	70	62	58	53	28	31
11	32	30	37	47				37	58	65	78	100	118	125	136	132	110	98	88	78	59	44	38	37
12	42		40	44				38	55	64	76	87	106	110	121	126	113	103	80	52	48	38	34	28
13	29	30	32	36	48			40	56	62	70	76	86	91	101	110	114	122	106	84	54	51	38	36
14	34	32	31	32	35	31		42	61	66	75	94	102	73	82	101	108	120	108	88	66	72	52	37
15			32	34	36	30		45	62	72	76	82	90	94	105	100	81	90	82	71	74	62	43	40
16	34	34	34	34	36	35	34	44	75	91	84	84	85	96	112	126	112	100	97	107	130	126	101	65
17	54	64	51	52	51	63	62	71	95	99	100	110	100	85	99	108	111	101	83	70	64	53	53	40
18	30	40	38	30	29	32	31	44	70	83	119	102	95	102	115	108	101	108	88	87	66	47	34	36
19	38	42	44	40	34			43	72	71	88	102	116	120	114	107	101	94	81	66	62	50	44	
20		34	40	37				45	61	72	97	90	107	127	122	98	102		130	87	71	66	31	31
21	36	34	36	46	37			43	66	66	62	85	114	98	80	74	74	70	70	66	54	32	32	32
22	26	34	38	44				38	56	71	84	94	97	106	88	94	94	107	105	82	63	47	34	29
23	28		36	32	25			41	54	65	77	99	98	104	96	84	77	71	61	42	38	37		
24	28	30	28	35		A	A	37	54	65	82	97	90	96	110	98	85	90	87	54	44	43		34
25	32	31	32	36	32			37	62	66	82	97	108	111	106	77	66	76	67	61	45	36	34	34
26	31	34	32	34	34	32	34	47	57	66	98	111	111	122	116	98	84	71	60	44	34		30	
27	28	34	32	31	31			38	55	66	95	97	106	111	105	88	92	75	66	50	48	41	34	
28		29	38	51	45	34		38	61	64	85	97	92	108	132	95	68	70	66	54	52	38	36	32
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	22	24	27	26	18	9	7	28	28	27	28	28	28	28	28	28	28	27	28	28	28	27	26	24
MED	33	34	34	36	34	32	31	38	59	66	80	94	98	103	105	98	91	87	81	64	54	51	38	36
U Q	42	39	38	44	36	34	34	43	62	72	91	99	107	111	114	108	106	101	93	85	66	53	43	41
L Q	29	30	32	32	31	30	28	35	55	65	73	81	88	89	94	84	75	71	66	52	46	41	34	32

HOURLY VALUES OF fEs AT Okinawa

FEB. 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	G	G	G	25	G	G	G	G	G	G	G	47	46	41	59	G	35	36	G	28	G	G	30	25
2	G	28	25	26	26	G	G	G		G	G	G	G	G	39	G	G	G		G	G	G	G	G
3	G	G	G	G	G	G		G	33		G	47	44	41	G	G	35	G	G	G	G	G	G	G
4	G	G	G	G	G		G	G	34	34	G	48	49	46	44	41	35	36	G	32	28	G	G	G
5	G	28	29	G	G	G		G	32	G	G	45	44	46	51	41	38	33	27	26	G	G	G	G
6	G	37	46	51	36		G	G	G	40	37	G	60	44	43	40	58	51	40	30	29	23	23	G
7	G	G	G	G	G		G	23	32	G	G	G	G	G	G	G	35	G	G	20	28	G	G	G
8	G	G	G	G	26			G	31	35	G	42	59	46	G	G	44	35	G	G	G	G	G	G
9	G	G	G	27	48	35	31		G	G	G	G	48	56	48	61	36	32	G	11	28	23	28	G
10	G	G	G	G	G			G	G	G	G	G	G		G	G	G	36	28	G	24	G	G	G
11	G	G	G	G				G	G	40	G	41	G	56	57	44	46	88	33	33	28	G	G	G
12	G	G	G	24			G	35	G	G	G	G	G	51	49	42	35	G	G	25	G	G	G	G
13	G	G	26	G	G		G	G	G	34	G	G	42	51	58	42	44	43	30	34	26	24	G	G
14	G	G	G	G	G	G		G		34	38	47	G	G	54	42	37	34	34	G	26	24	24	26
15	34	27	G	G	G	G	G	G		35	G	G	41	41	G	51	51	65	57	60	43	G	G	G
16	G	G	G	G	G	G	G	G	30	36		40	G	52	50	44	49	53	44	G	G	G	G	G
17	G	G	28	28	40	29	28	G	29	38	41	46	50	51	64	52	51	78	58	48	49	33	G	G
18	G	G	G	G	G	G	G	G		36	37	G	41	56	42	G	G	G	G	35	G	28	G	G
19	G	G	G	G	G		G	G	G	G	G	G	G	41	G	G	G	G	G	G	G	G	G	G
20		G	G	30	G		G	G	G	G	44	G	45	40	G	G	53	40	36	24	G	G	G	G
21	G	G	G	G	11	G		G	G	G	G	G	G	44	G	G	G	G	G	G	G	G	G	G
22	G	G	G	G	G			G	G	G	G	G	G	51	G	G	G	G	26	22	G	G	G	G
23	G	G	G	G	G	G			36	41	G	40	55	51	58	G	G	32	G	G	G	G	G	G
24	G	G	G	G		37	37	G	G	37	38	39	47	48	49	55	49	39	G	48	G	G	G	G
25	G	G	G	G	G		27	G	G	G	G	G	48	47	46	G	G	G	G	G	G	G	G	G
26	G	G	G	25	25	G	G	G	G	G	G	40	48	G	G	G	G	33	G	G	G	G	G	G
27	G	G	G	G	G	G		G	G	G	G	G	50	48	G	G	G	G	G	G	28	G	G	27
28		G	G	25	G	G		G	G	G	G	G	G	41	49	48	44	42	33	G	40	G	G	G
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	28	28	28	25	16	17	26	24	27	27	28	28	27	28	28	28	28	27	28	28	28	28	28
MED	G	G	G	G	G	G	G	G	G	G	G	G	43	46	44	G	35	34	G	16	G	G	G	G
U Q	G	G	G	25	18	G	14	G	30	36	G	41	48	51	50	43	45	41	33	31	28	G	G	G
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	41	G	G	G	G	G	G	G	G	G	G

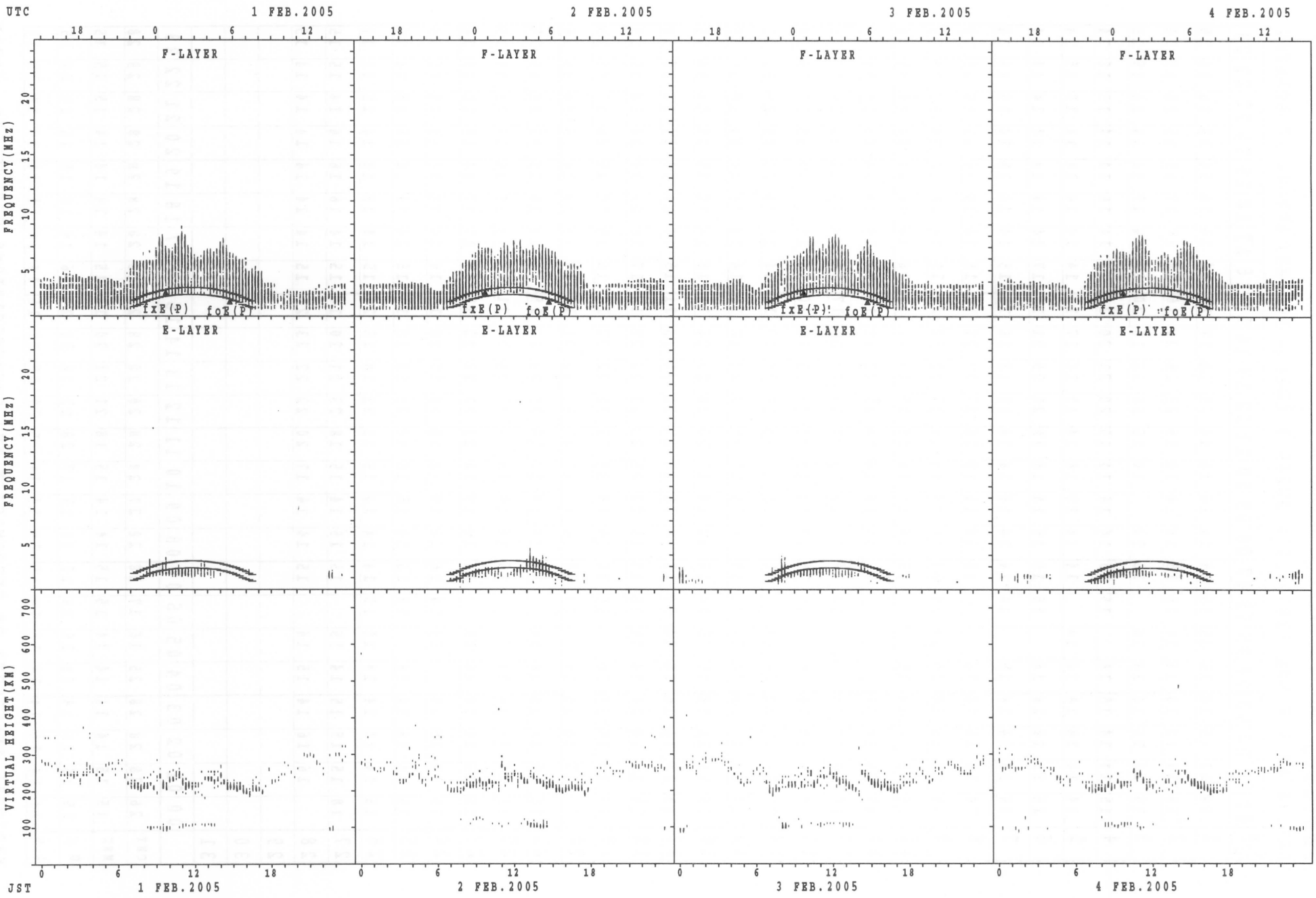
HOURLY VALUES OF fmin AT Okinawa

FEB. 2005

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

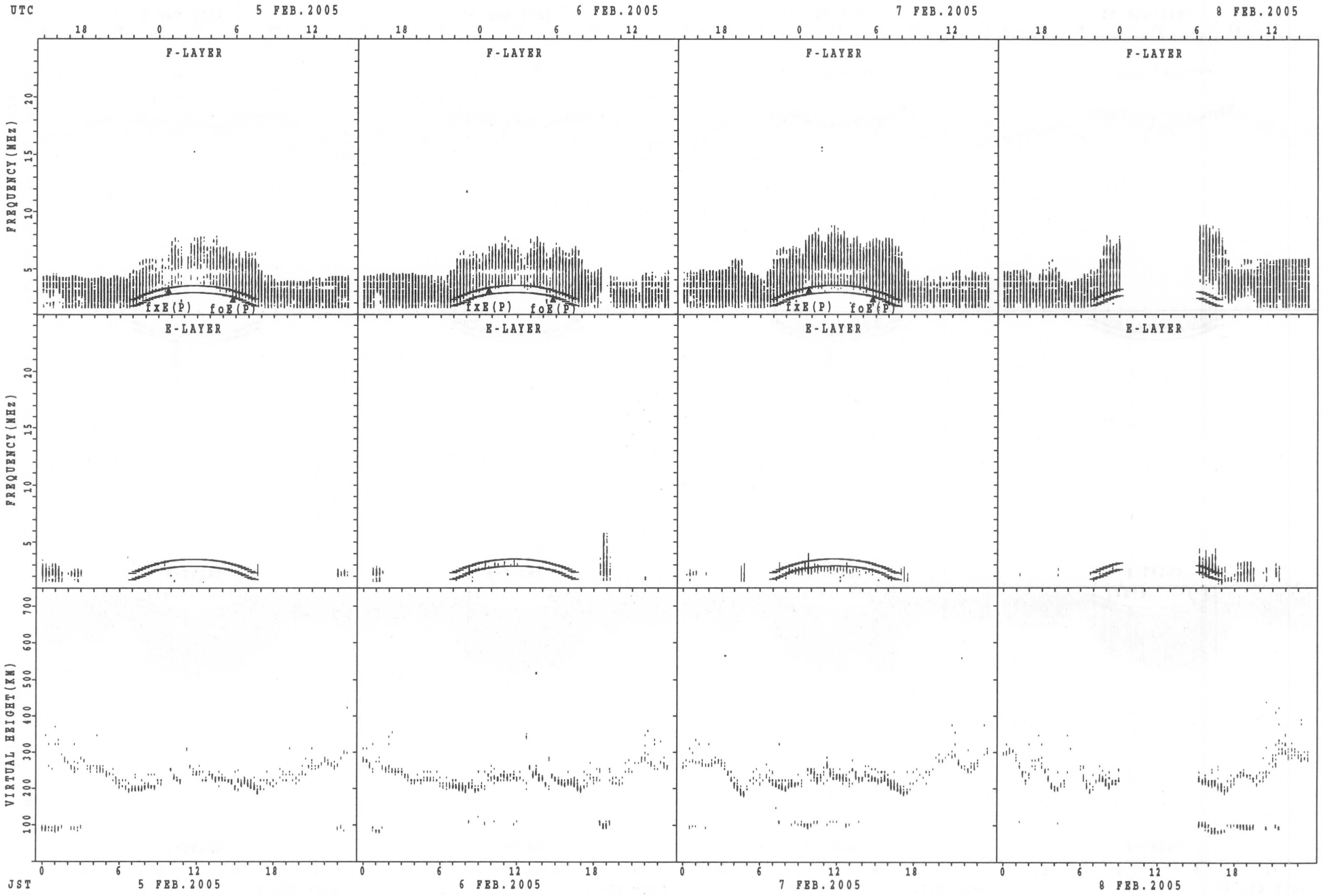
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	14	15	14	15	15	15	15	14	14	14	14	21	18	17	17	14	14	15	14	14	15	14	15
2	18	14	14	14	14	14	15	15	14	14	14	15	23	15	20	16	14	14	17	15	15	15	17	14
3	15	14	15	14	14	16		15	14		14	15	16	18	15	20	15	14	17	14	14	14	15	15
4	15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

SUMMARY PLOTS AT Wakkanai

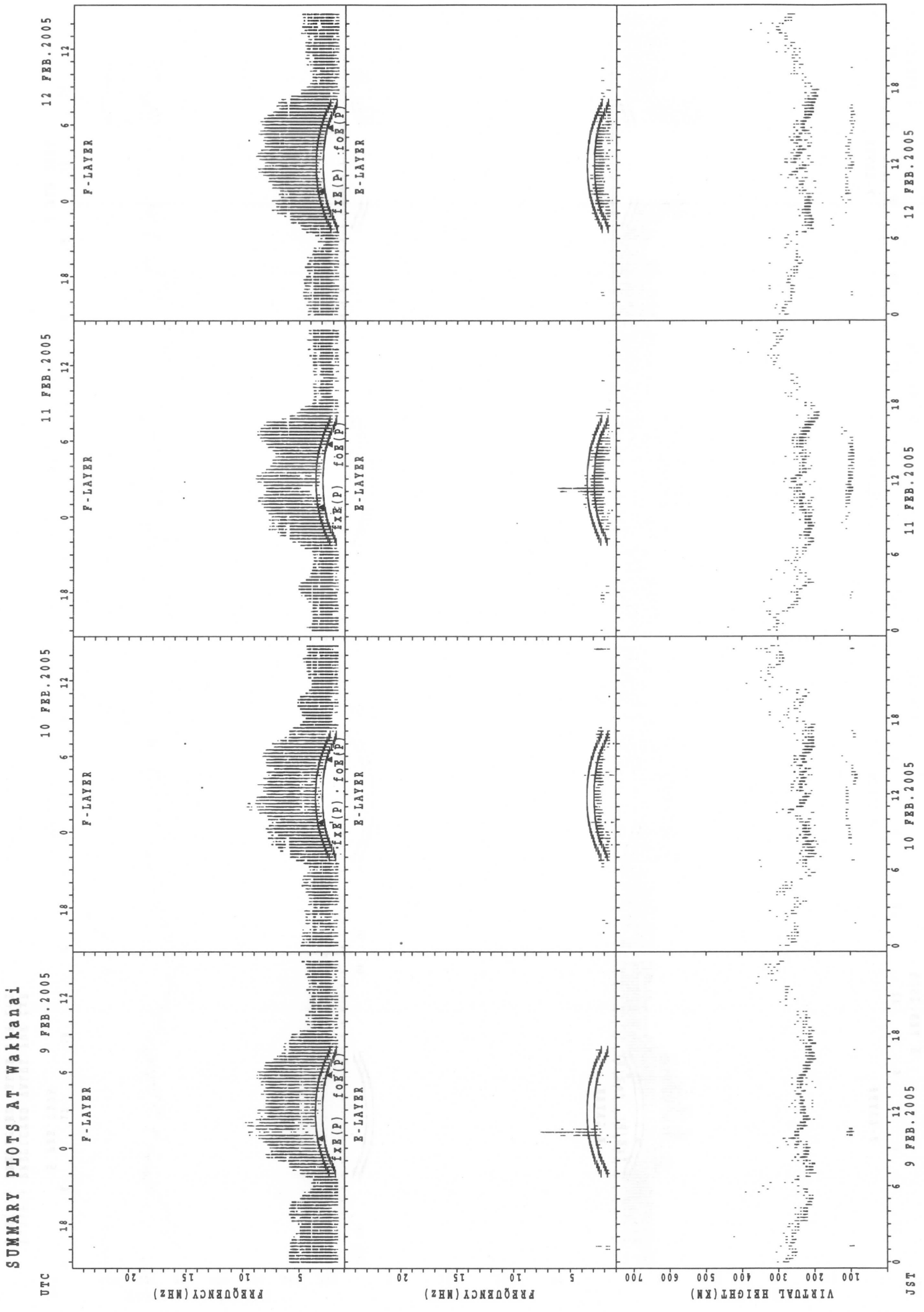


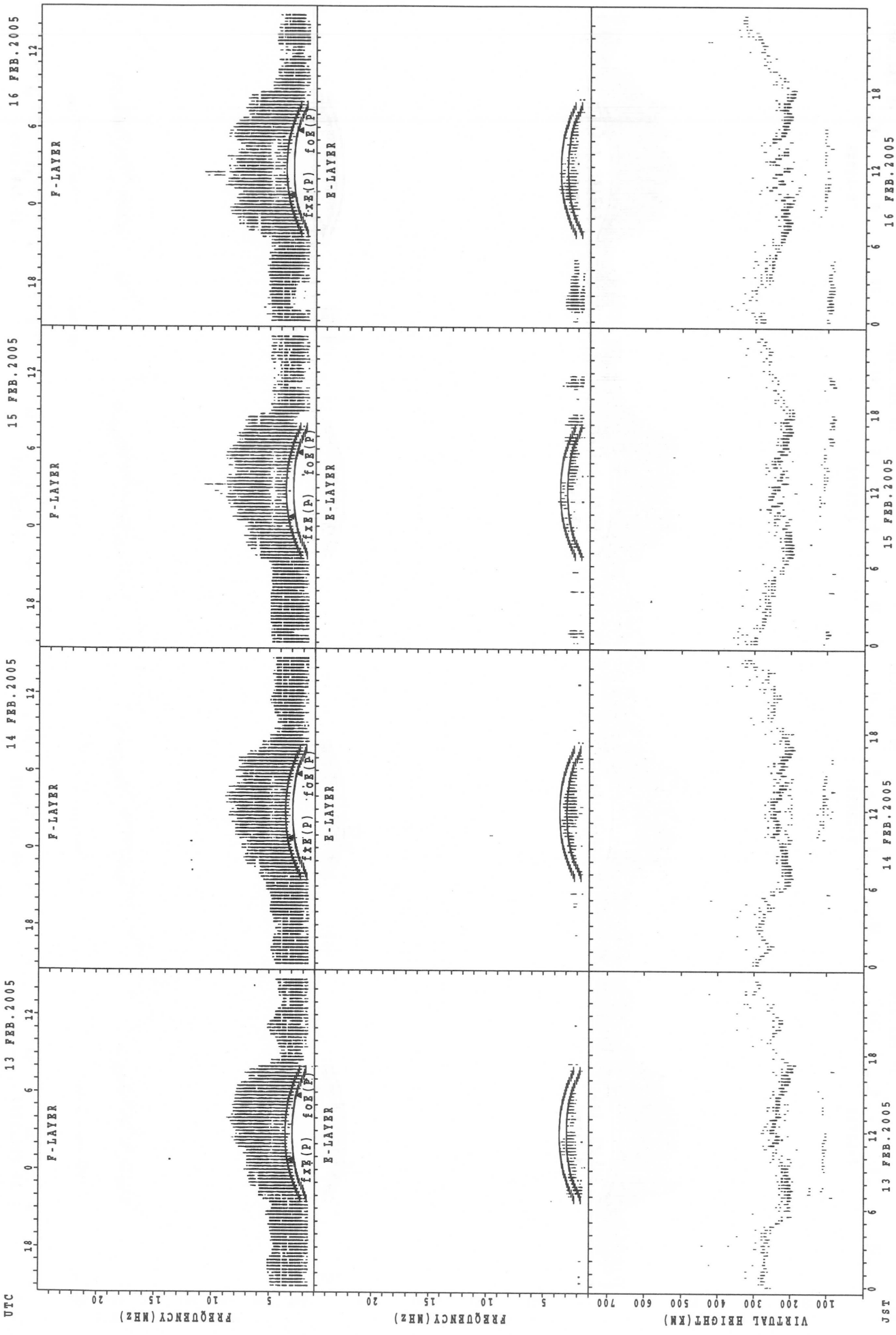
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

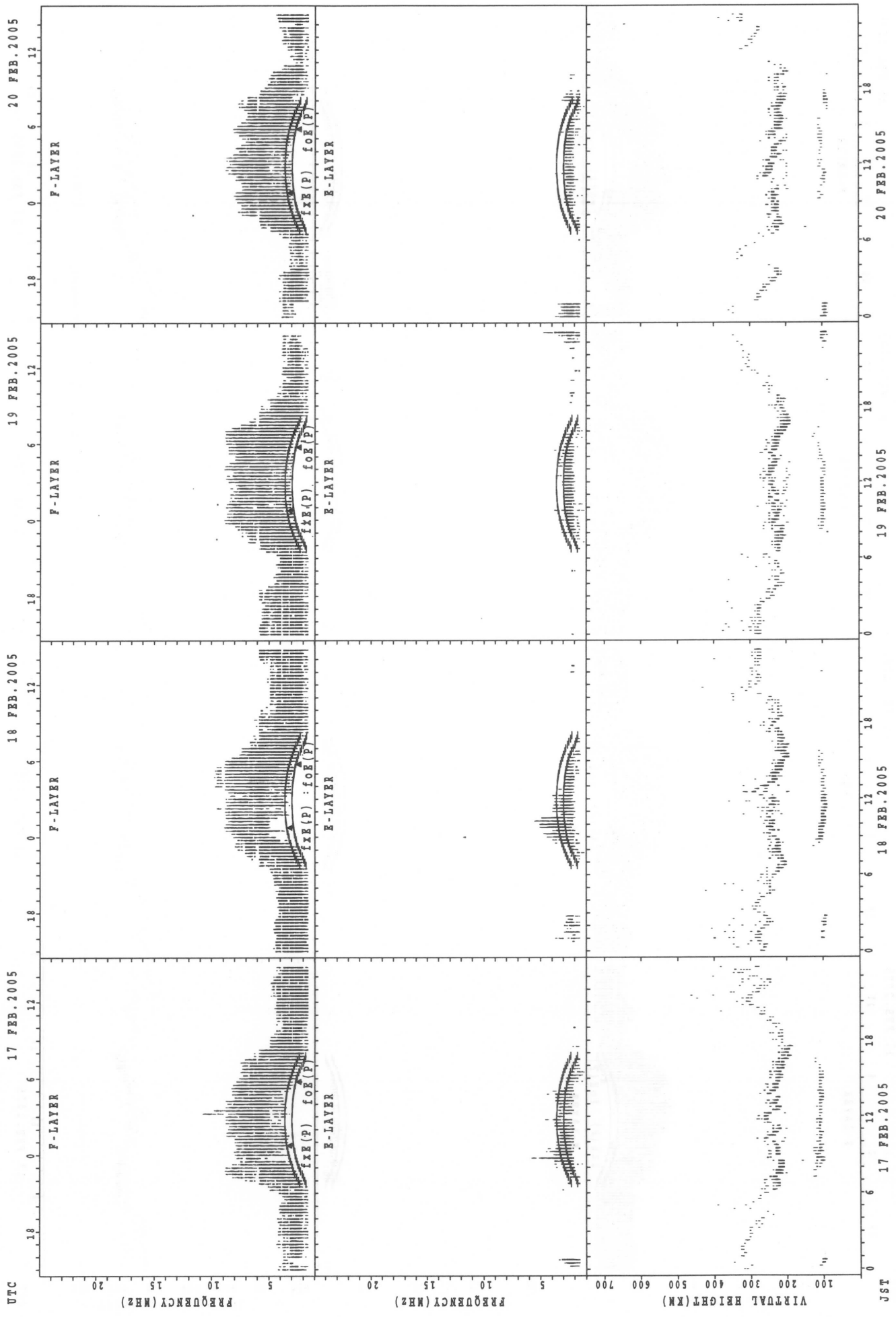
SUMMARY PLOTS AT Wakkanai



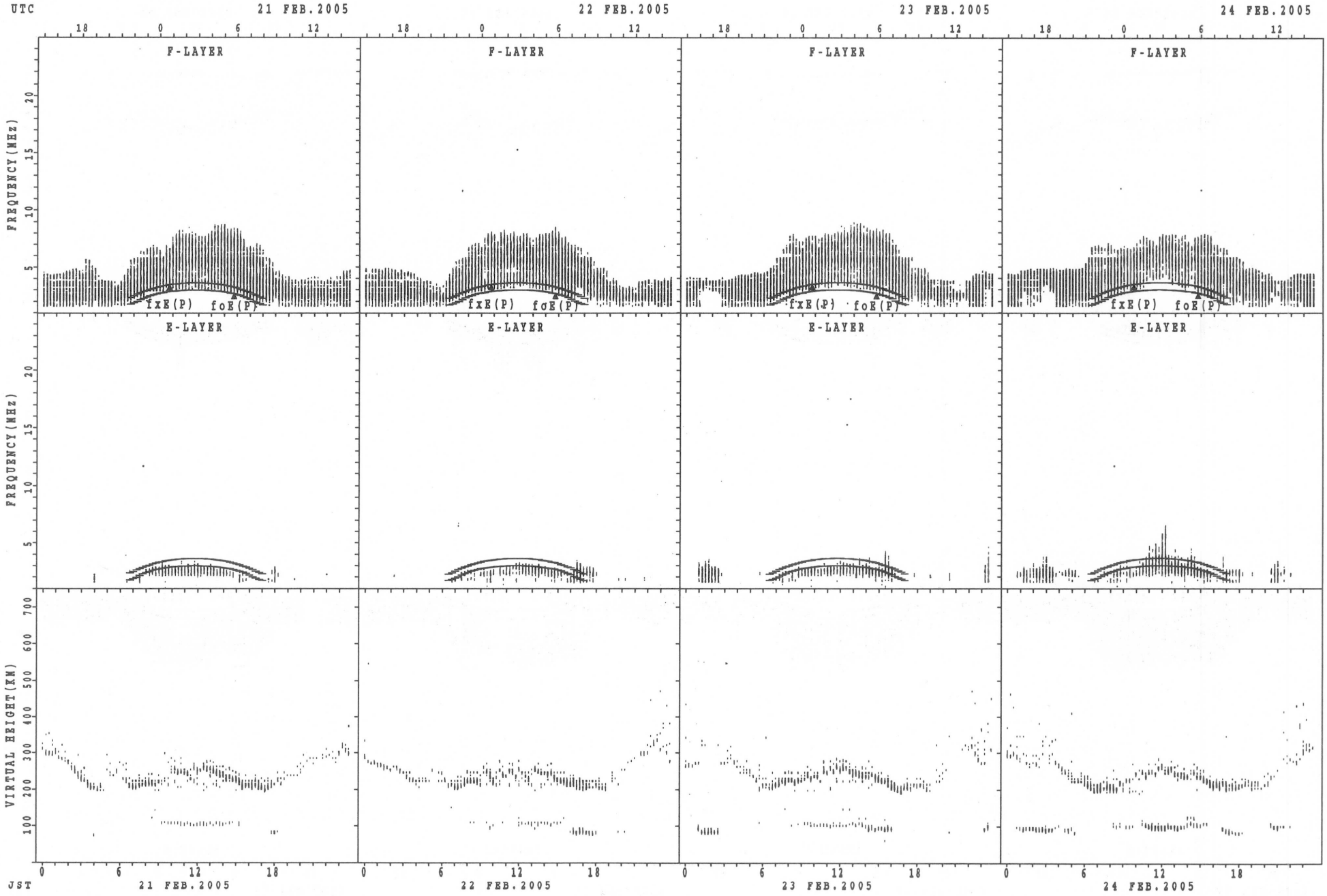
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


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

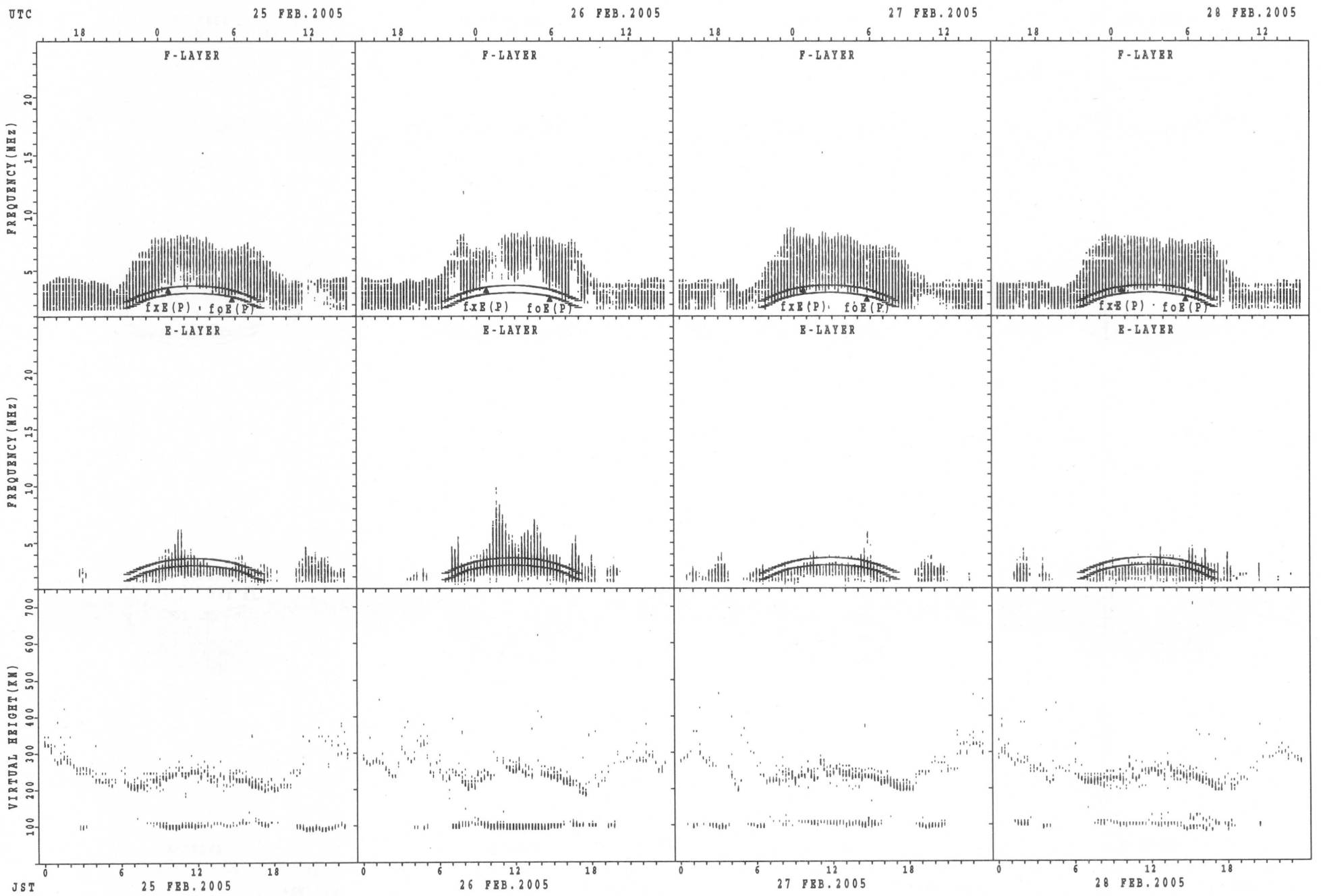

SUMMARY PLOTS AT Wakkanai
UTC
17 FEB.2005
18 FEB.2005
19 FEB.2005
20 FEB.2005
F-LAYER
E-LAYER
FREQUENCY (MHz)
VIRTUAL HEIGHT (KM)
fxE(P)
foE(P)
fxE(P) : foE(P)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



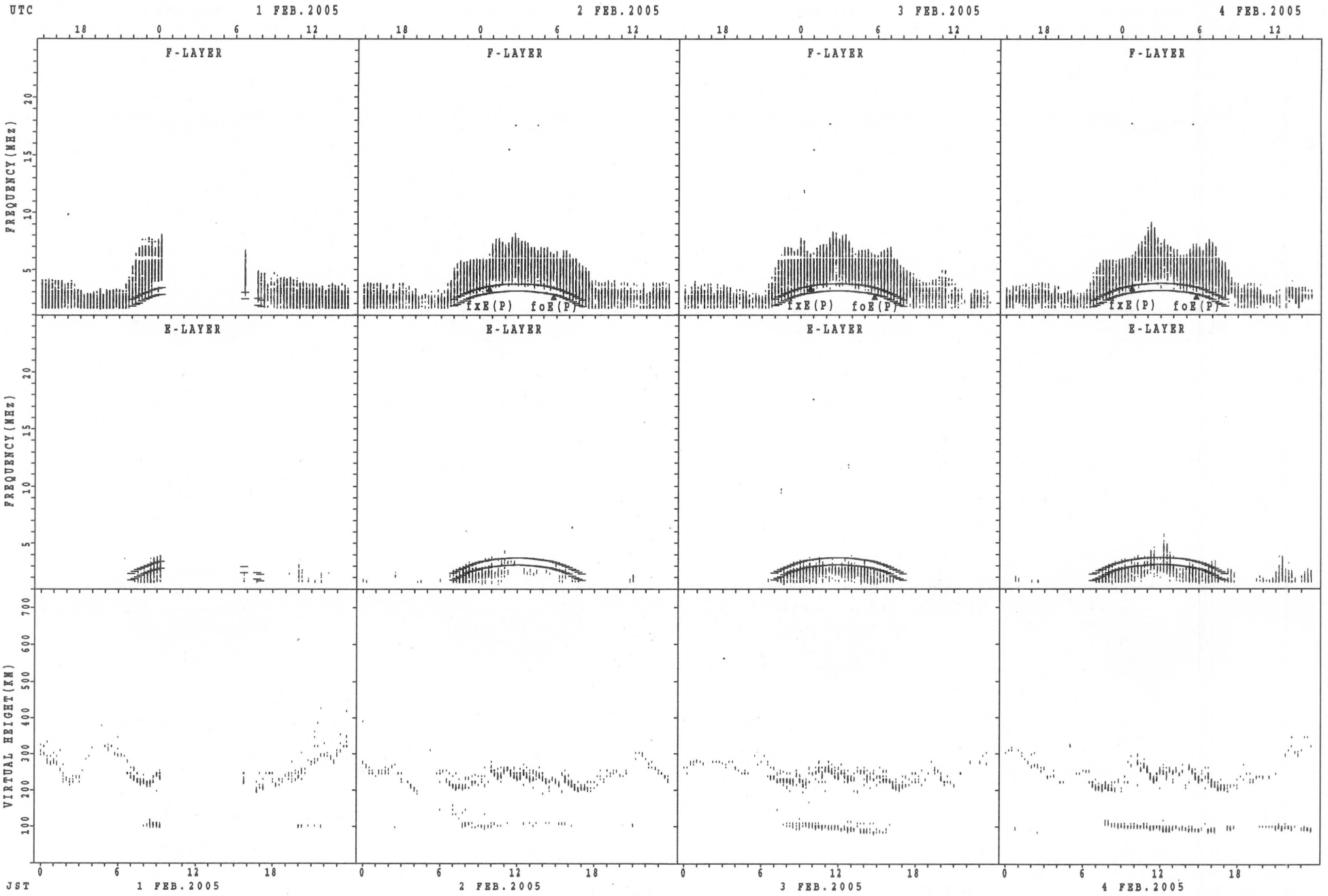
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



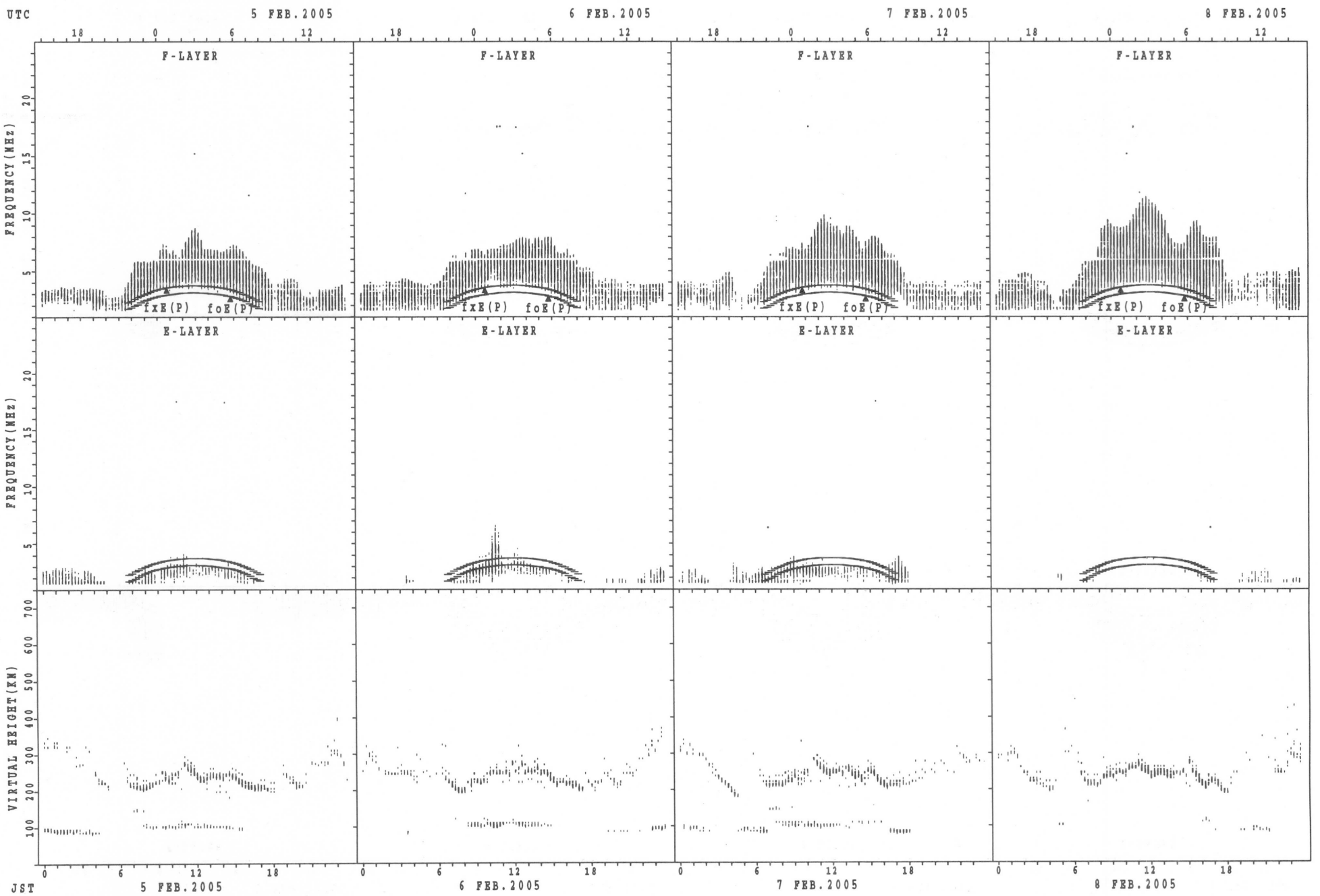
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



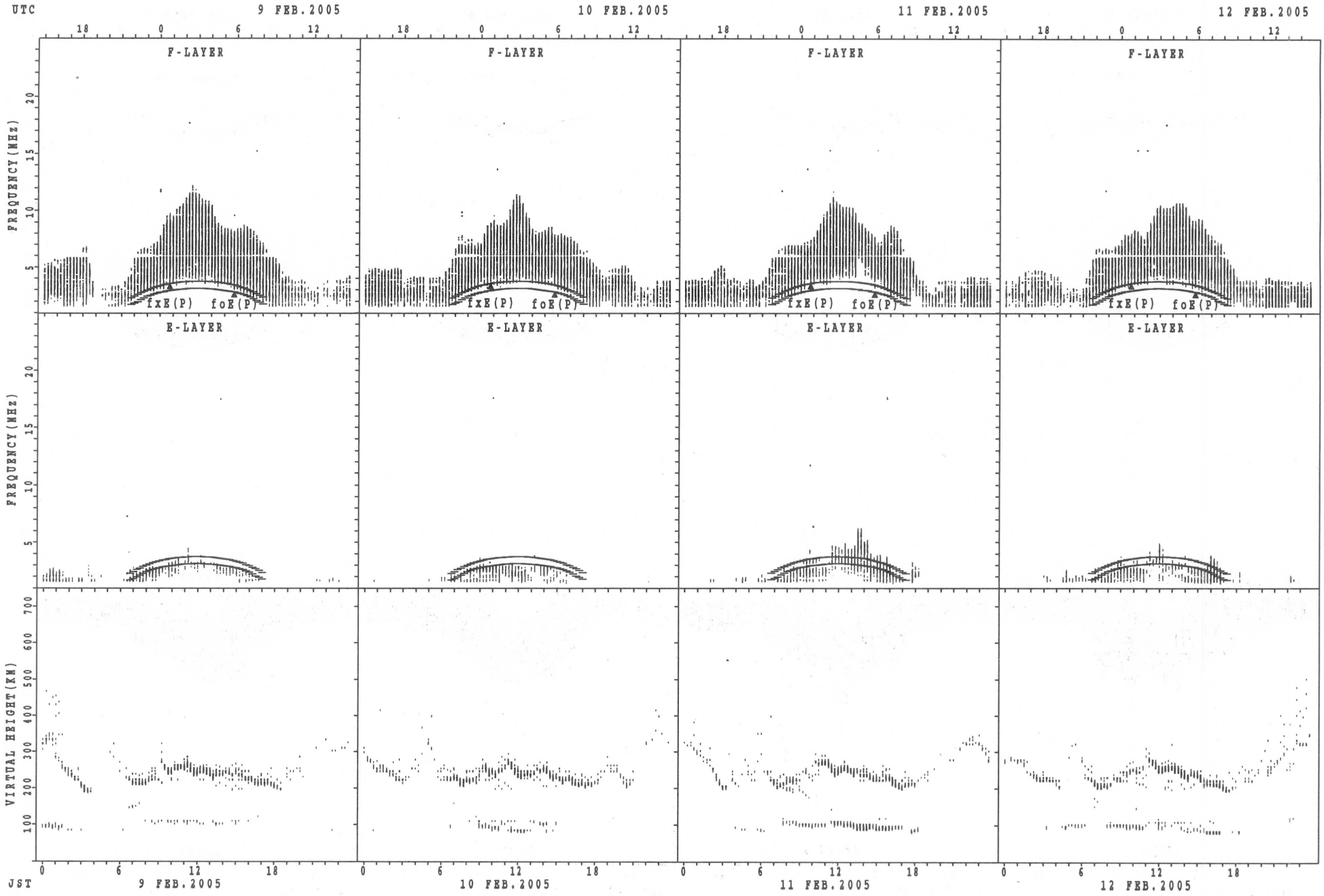
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



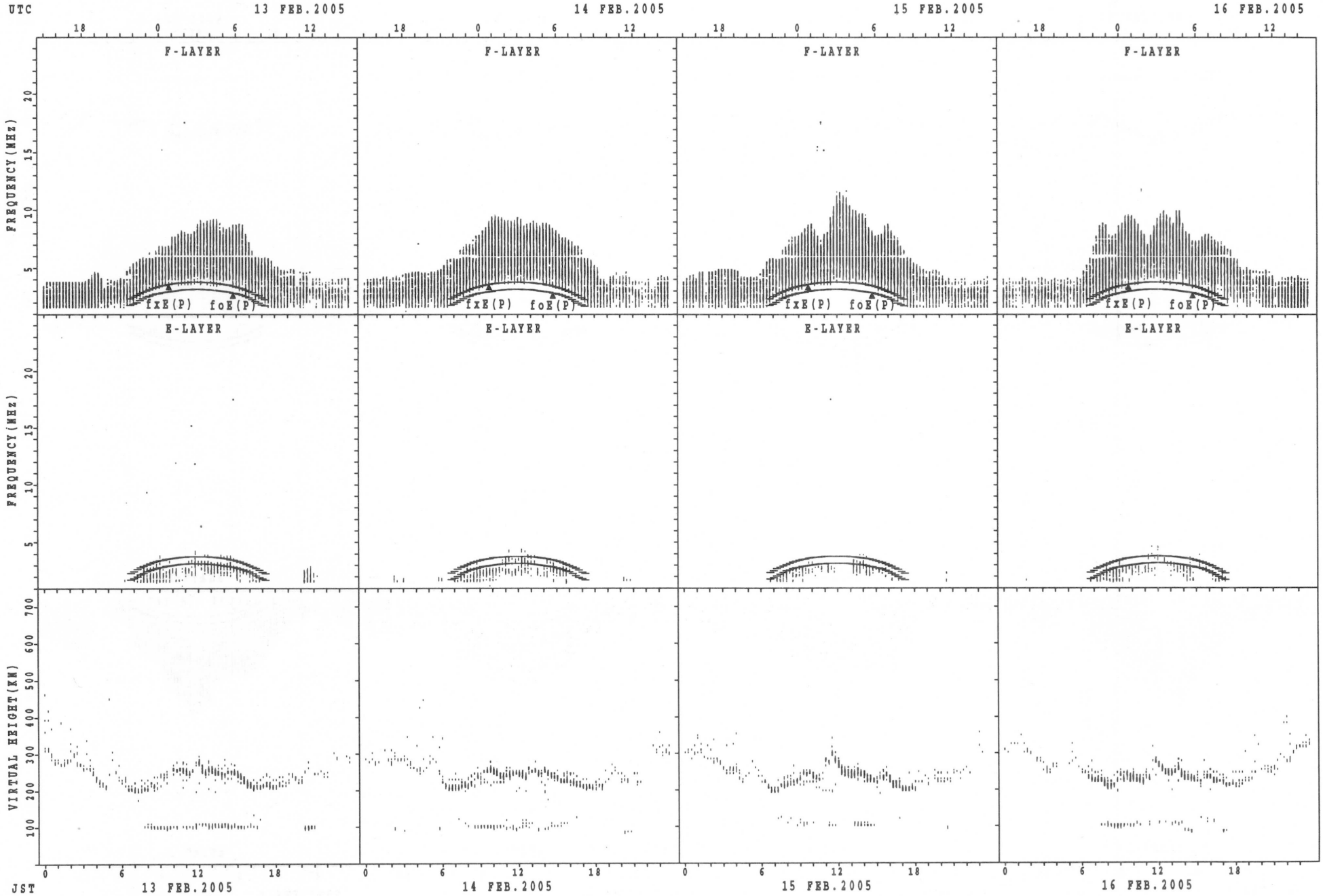
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



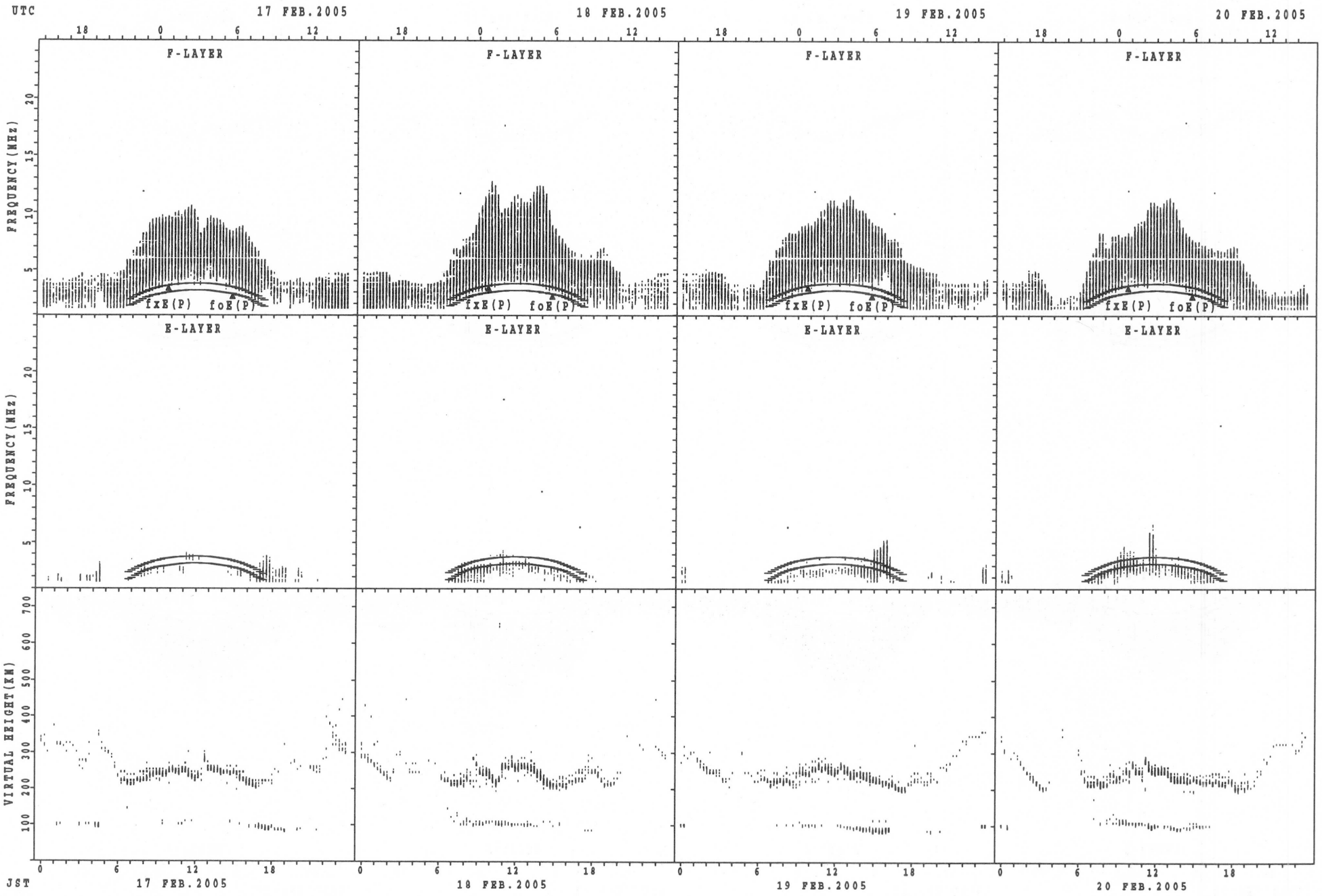
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



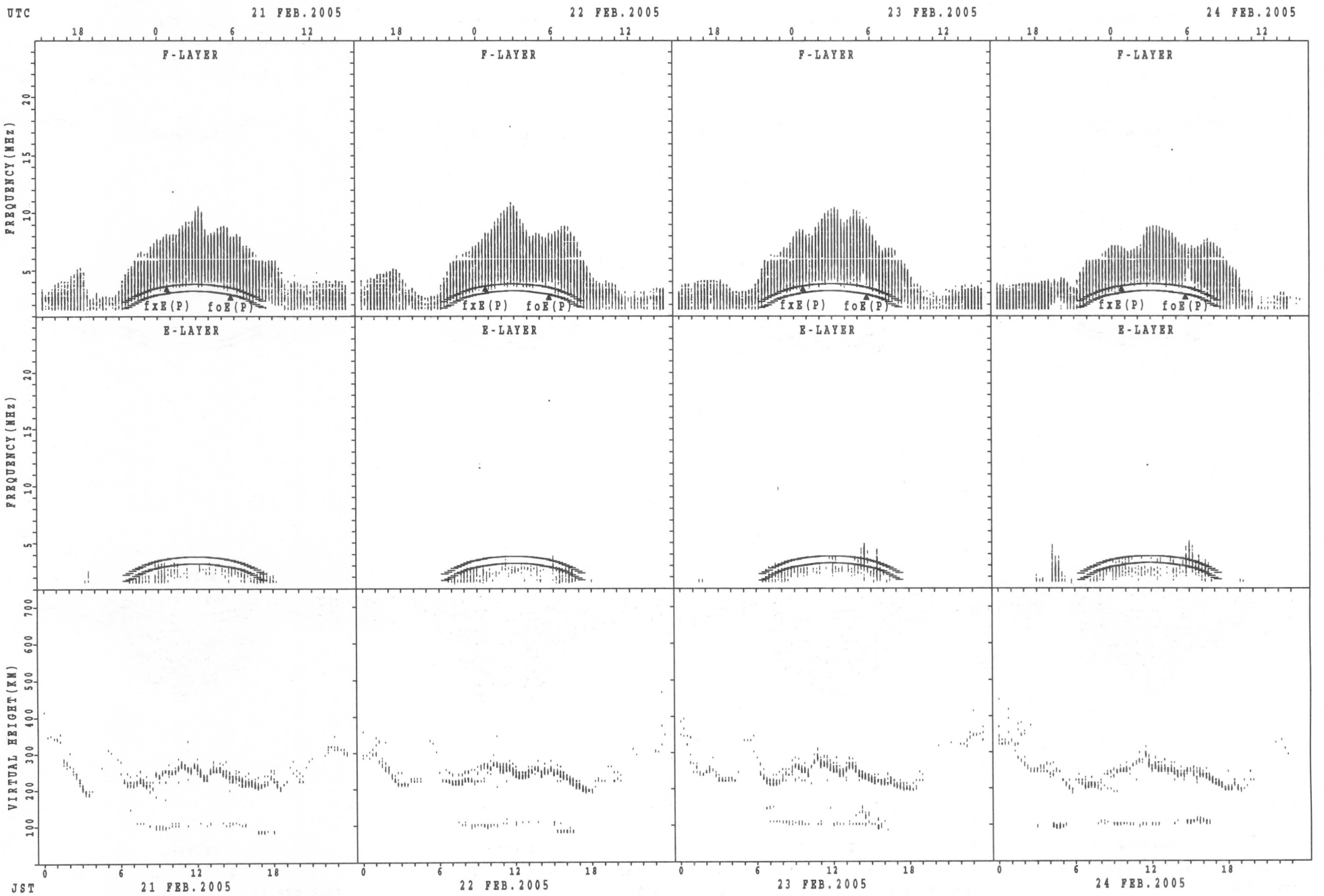
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



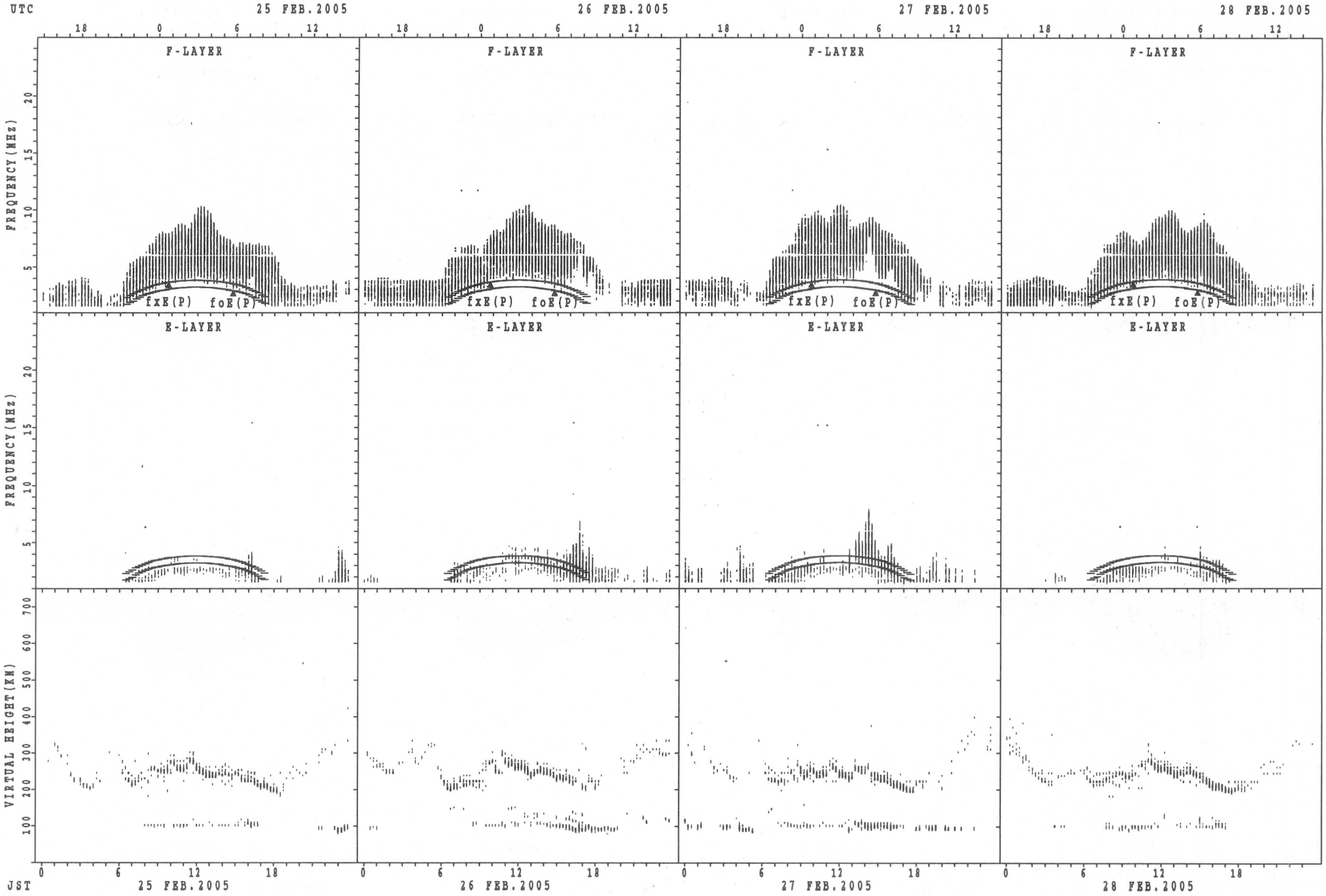
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



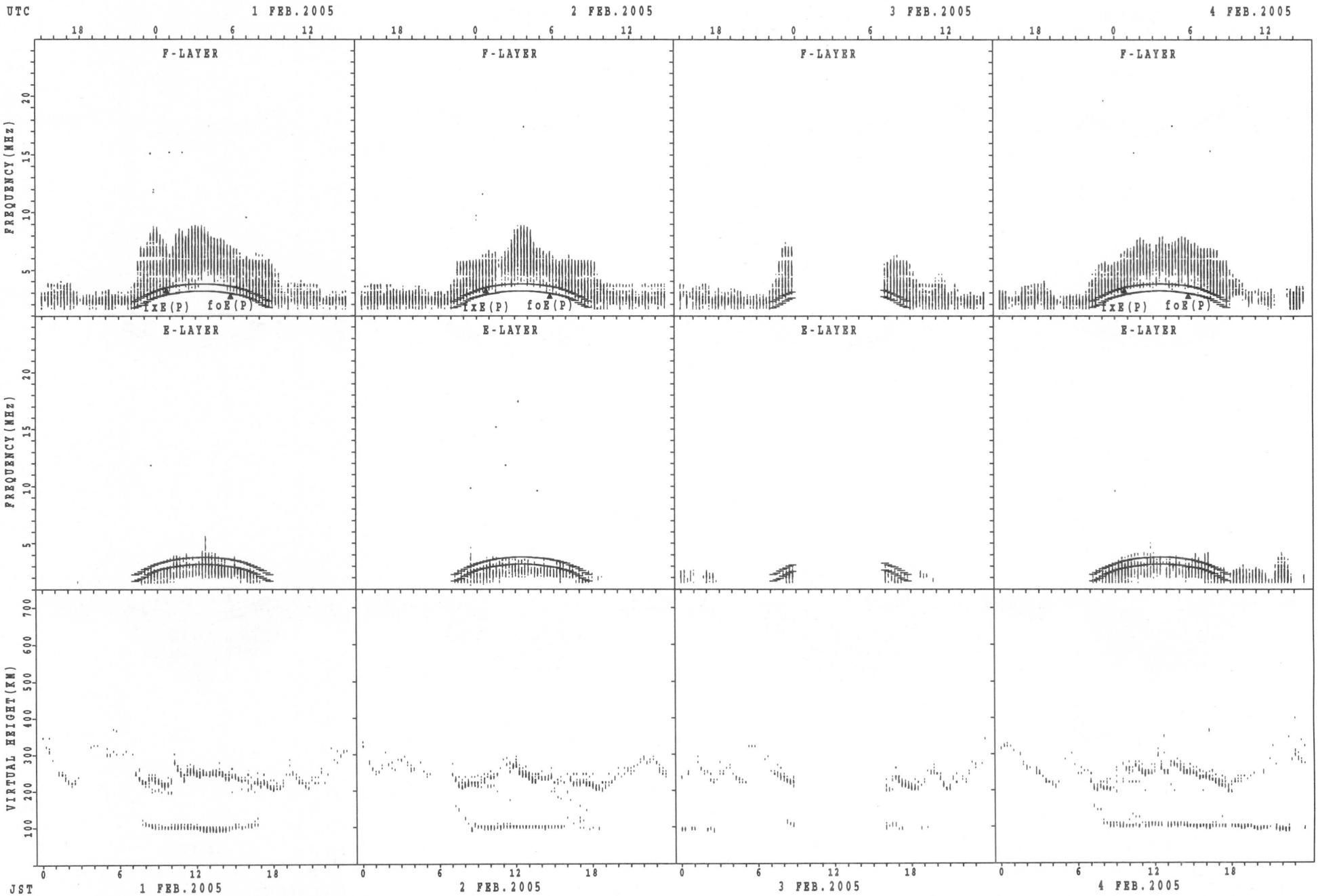
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

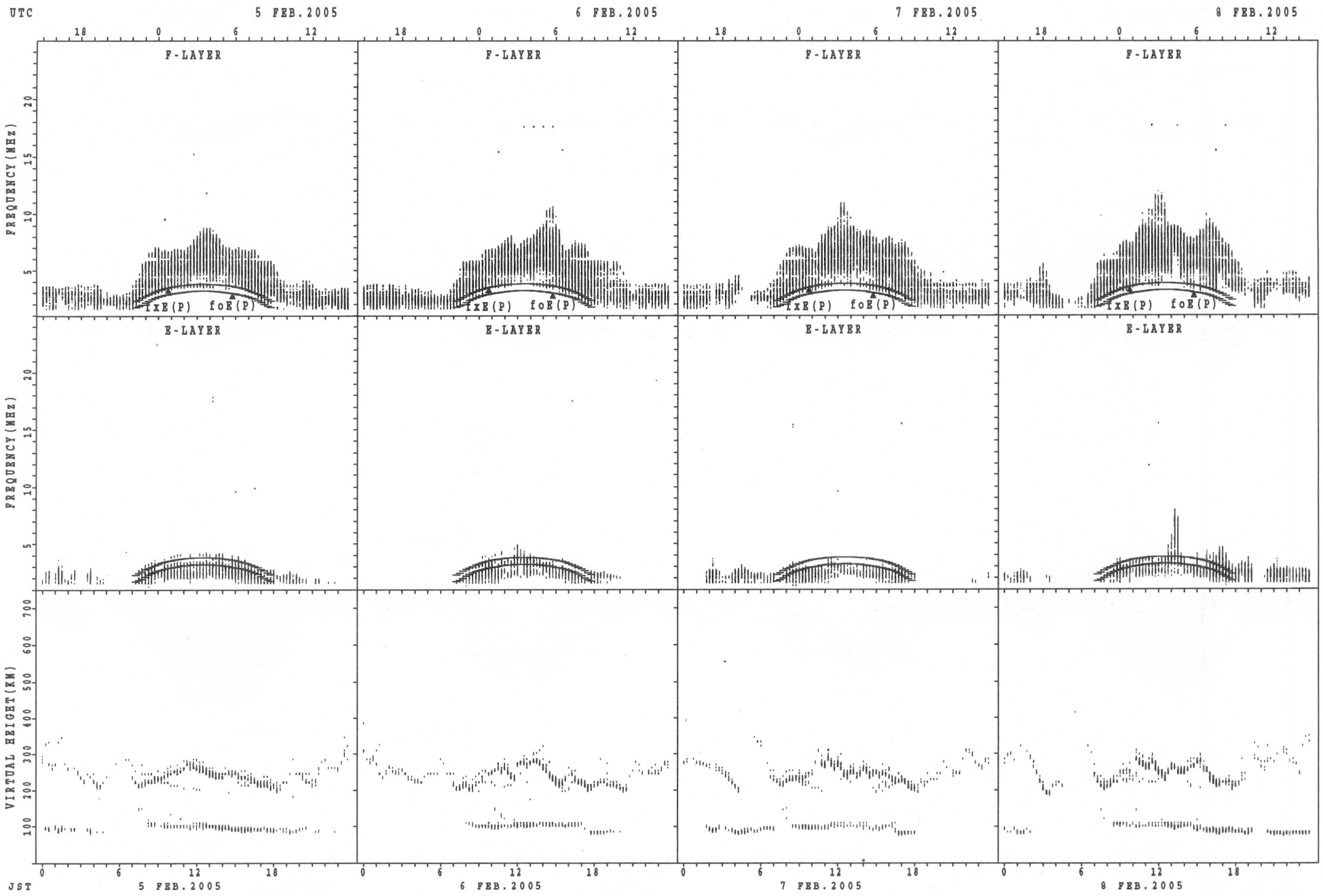


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

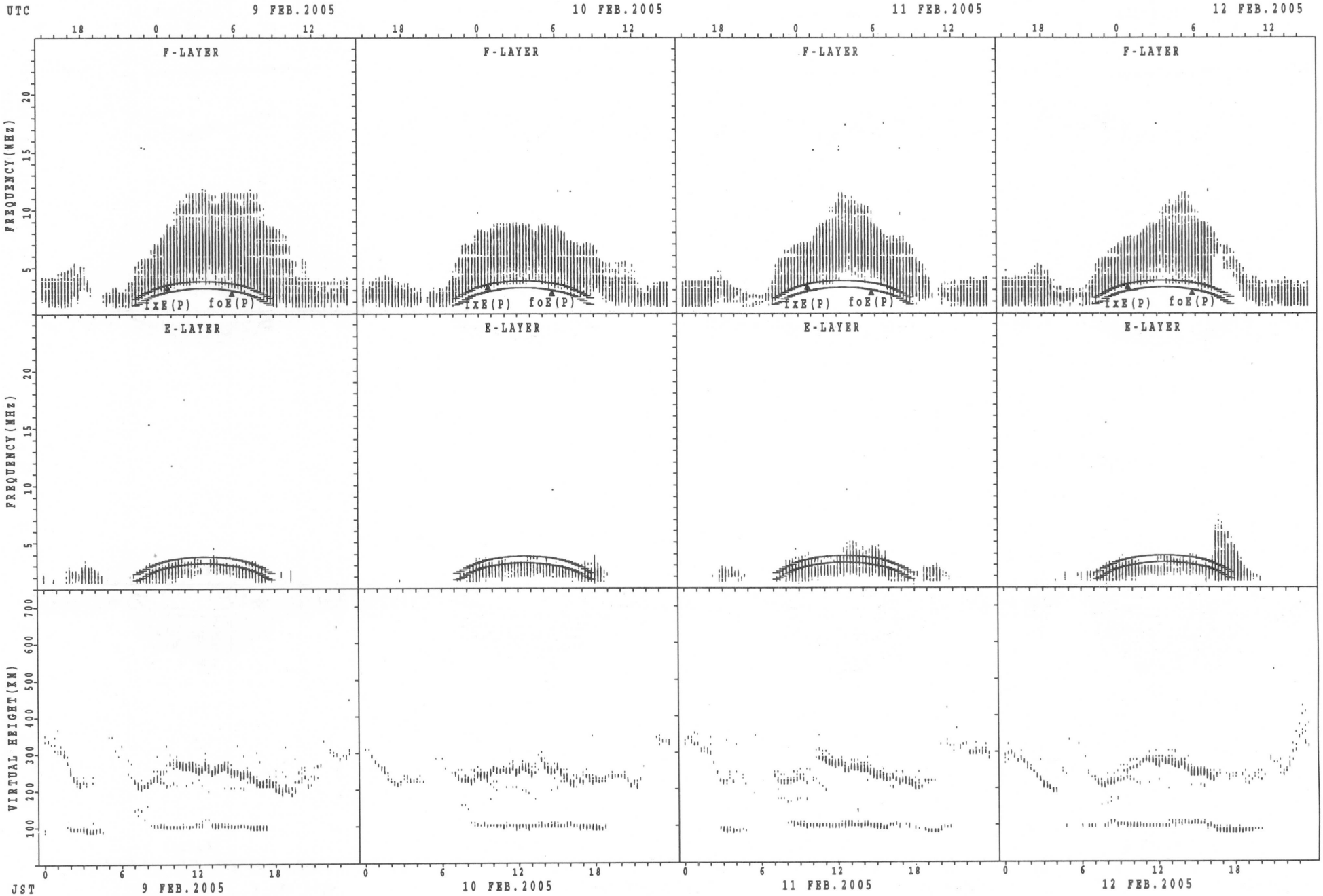
SUMMARY PLOTS AT Yamagawa



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

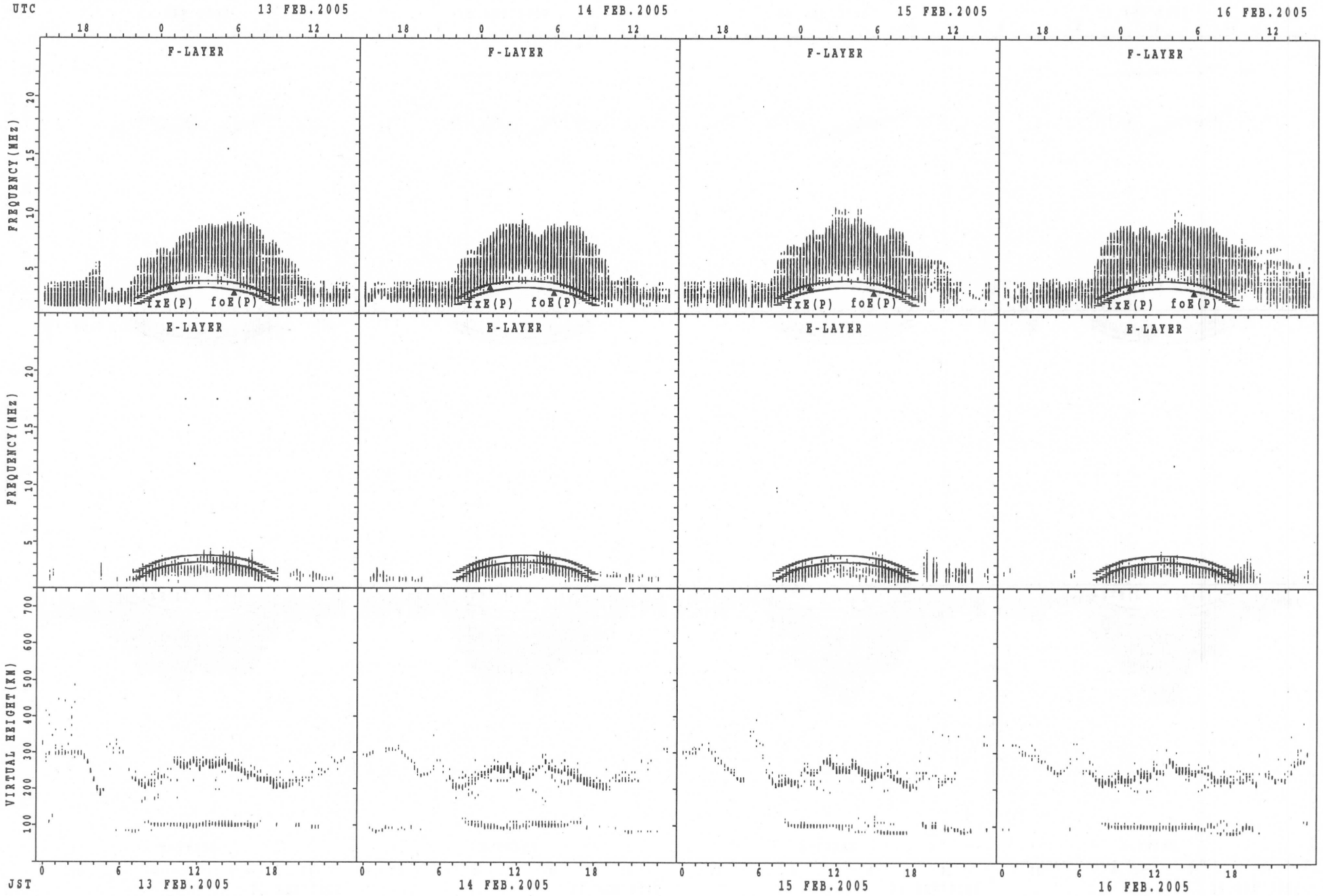

SUMMARY PLOTS AT Yamagawa
UTC
5 FEB.2005
6 FEB.2005
7 FEB.2005
8 FEB.2005
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P) foE(P)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



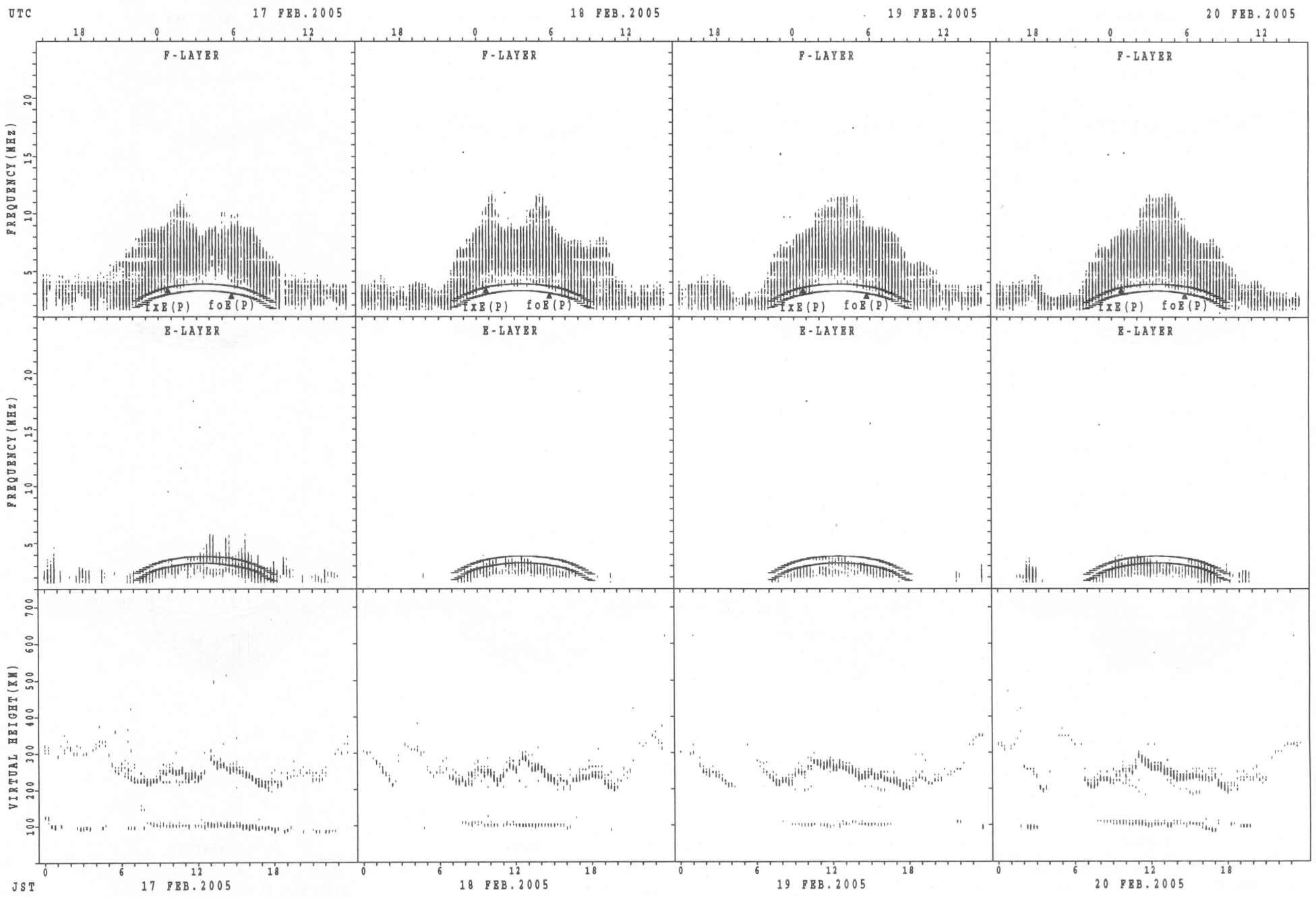
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



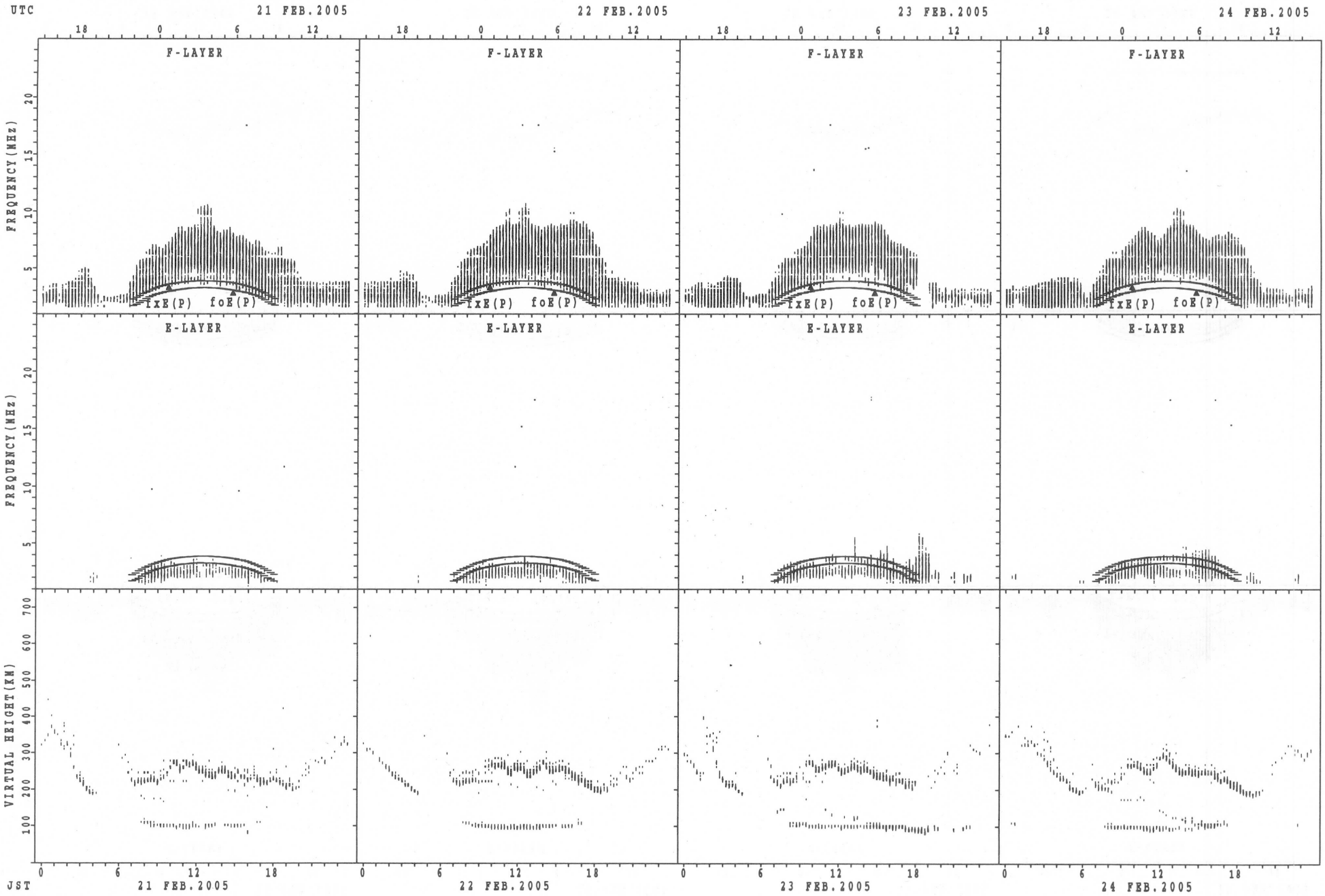
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



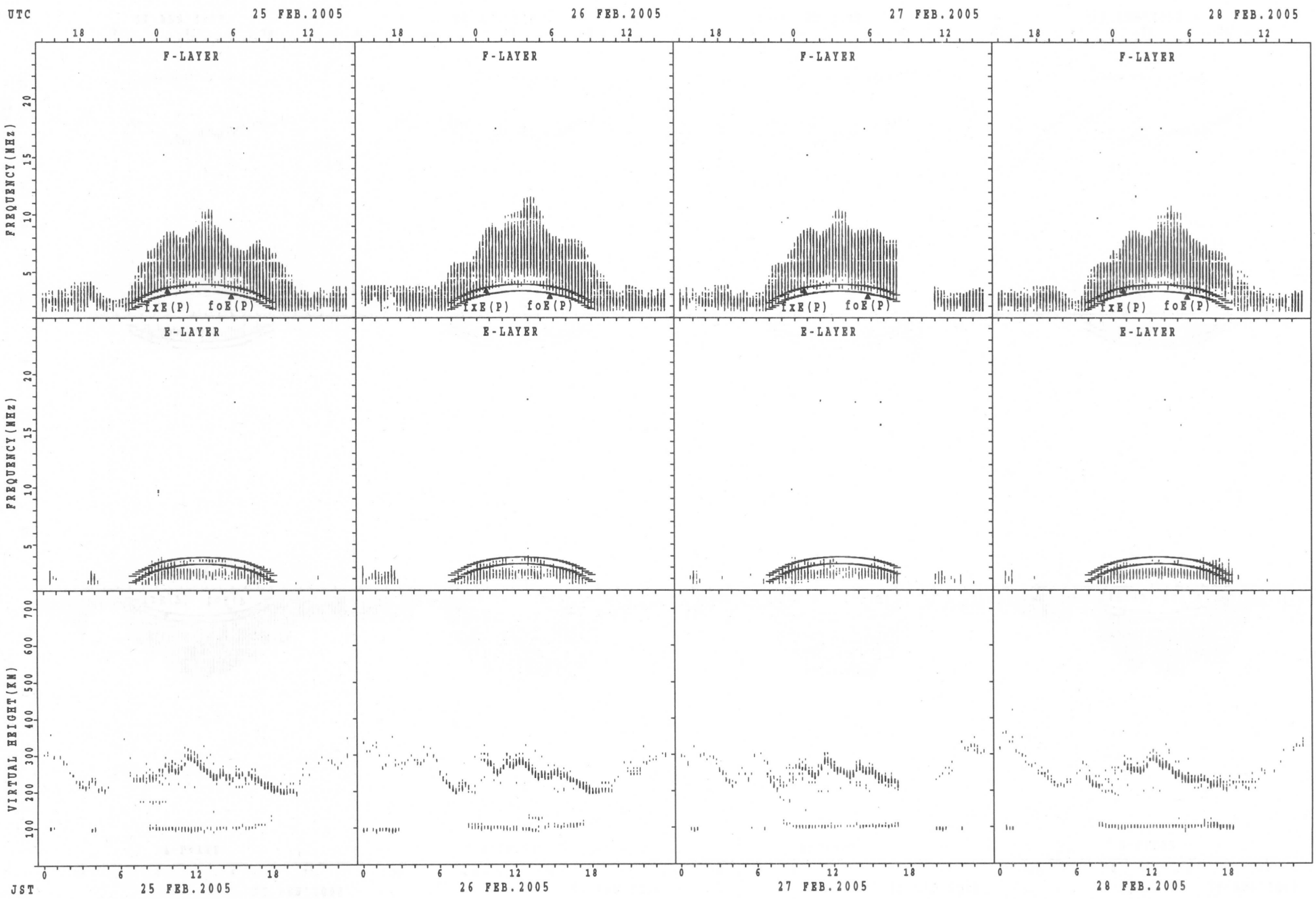
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



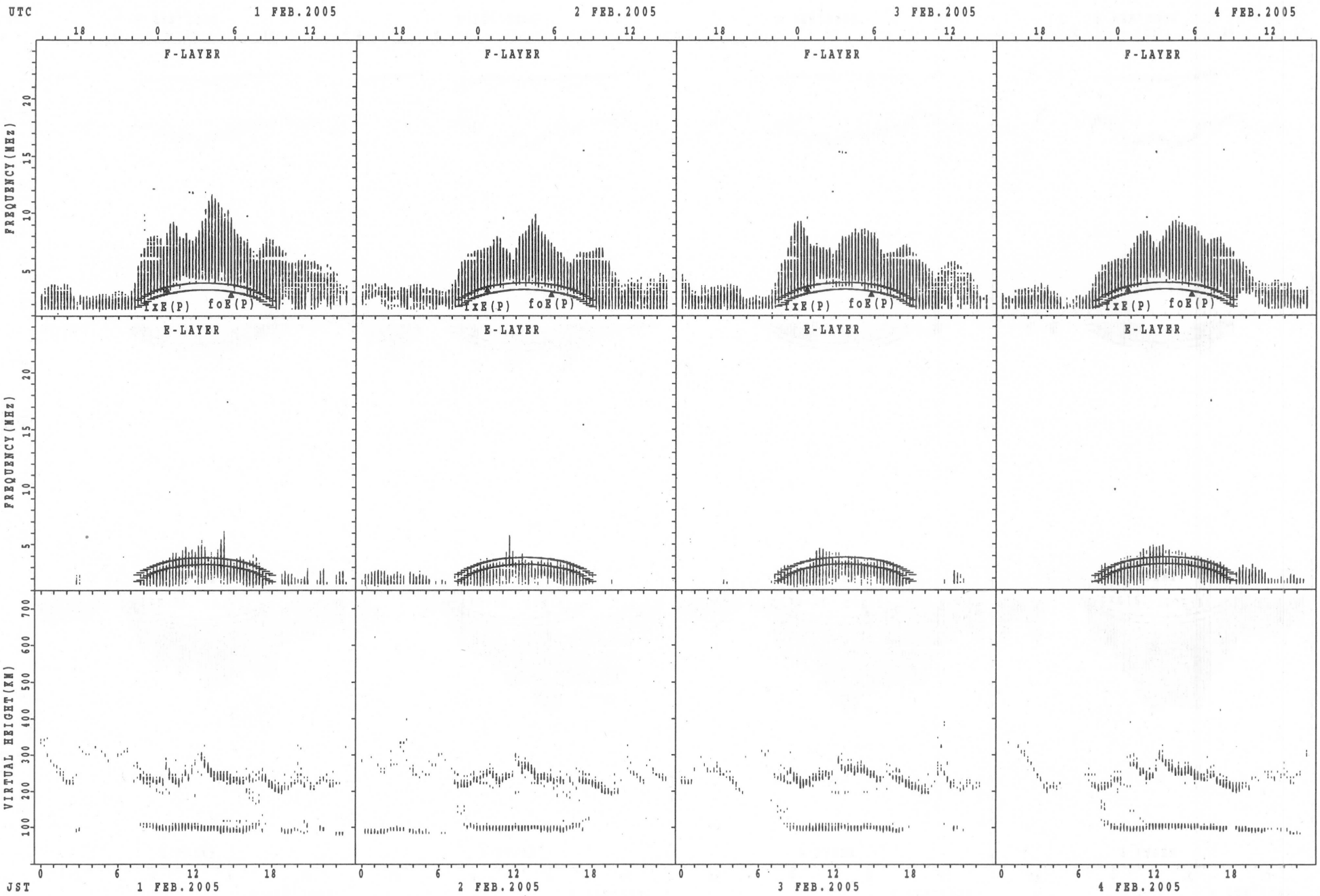
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



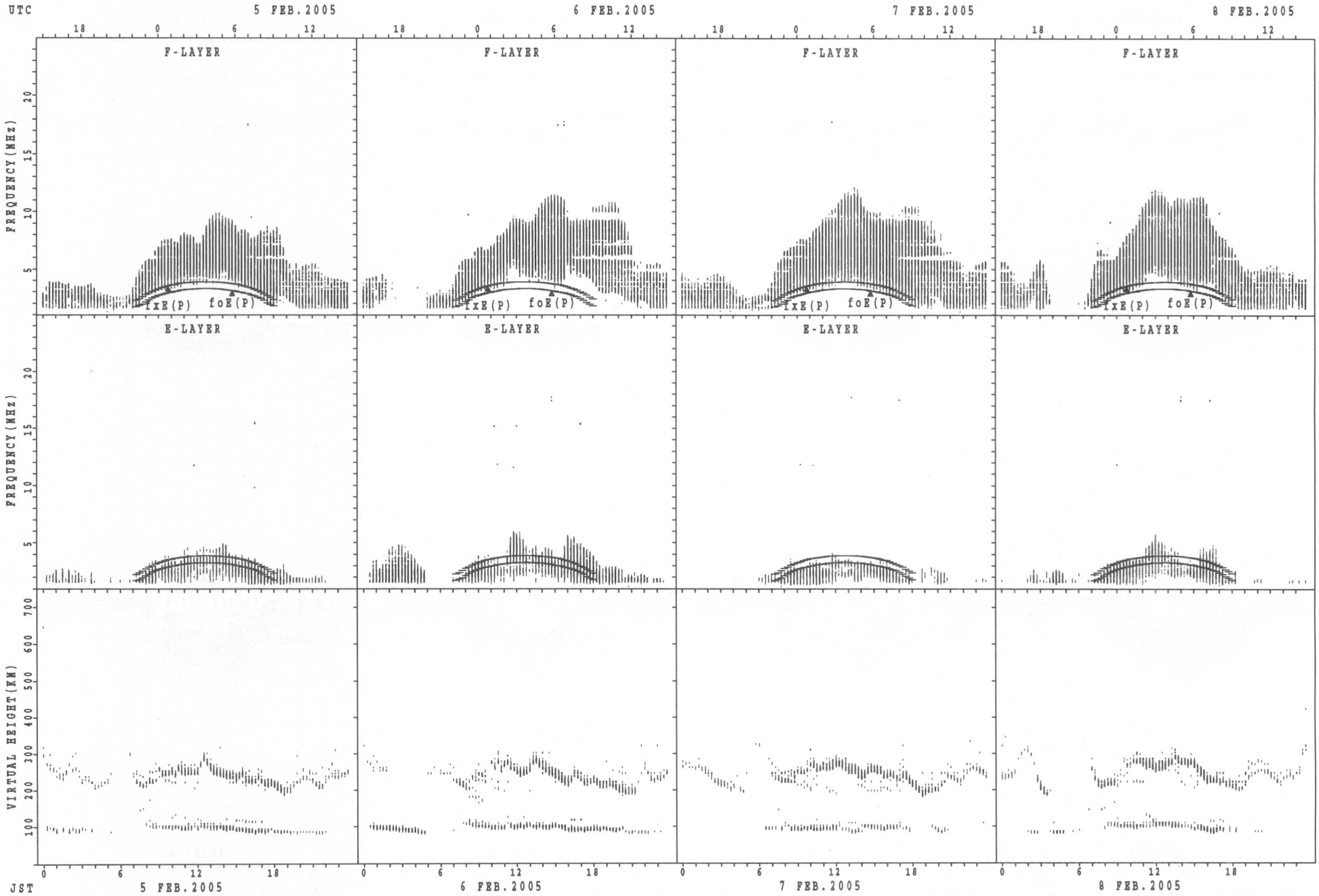
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa

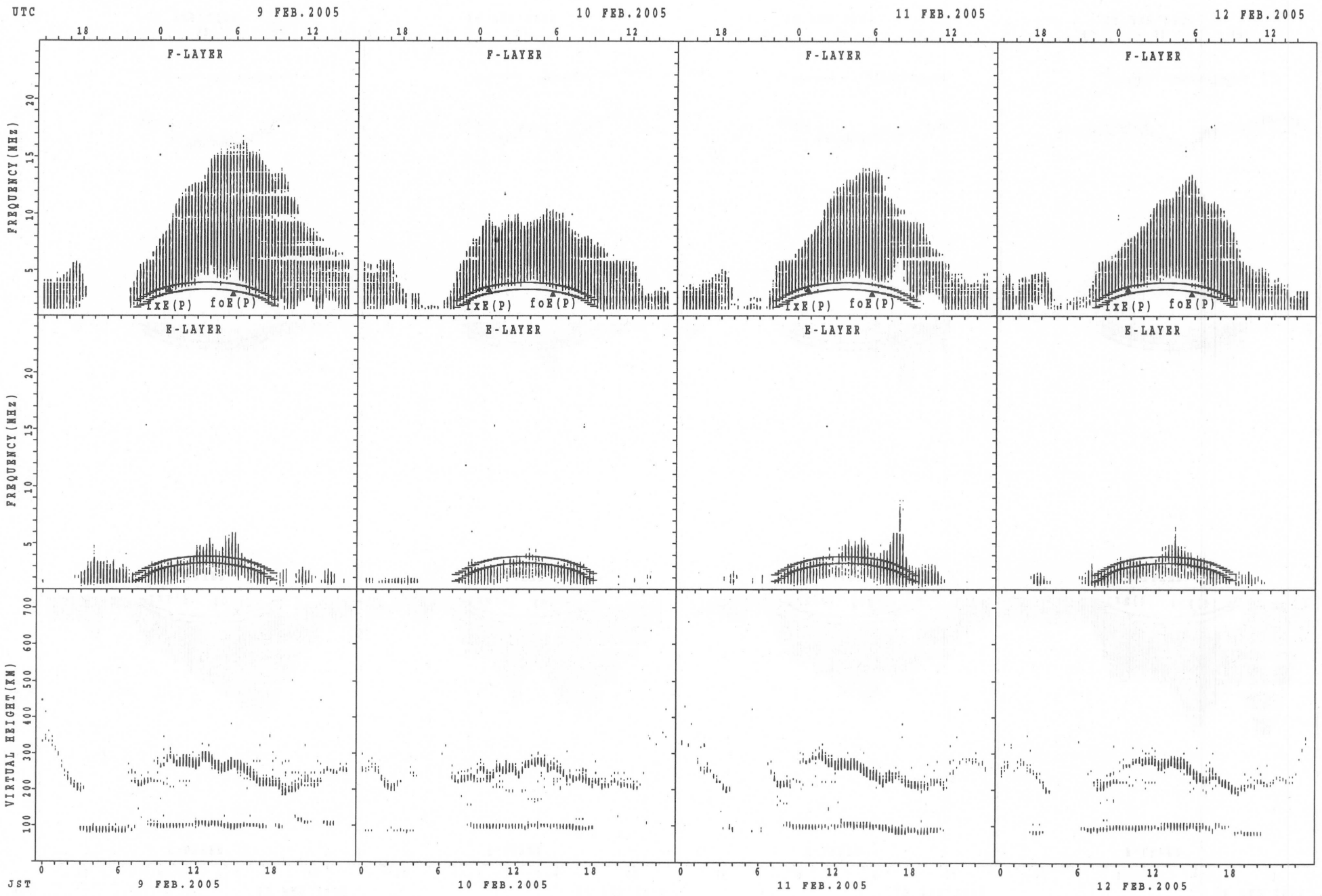


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

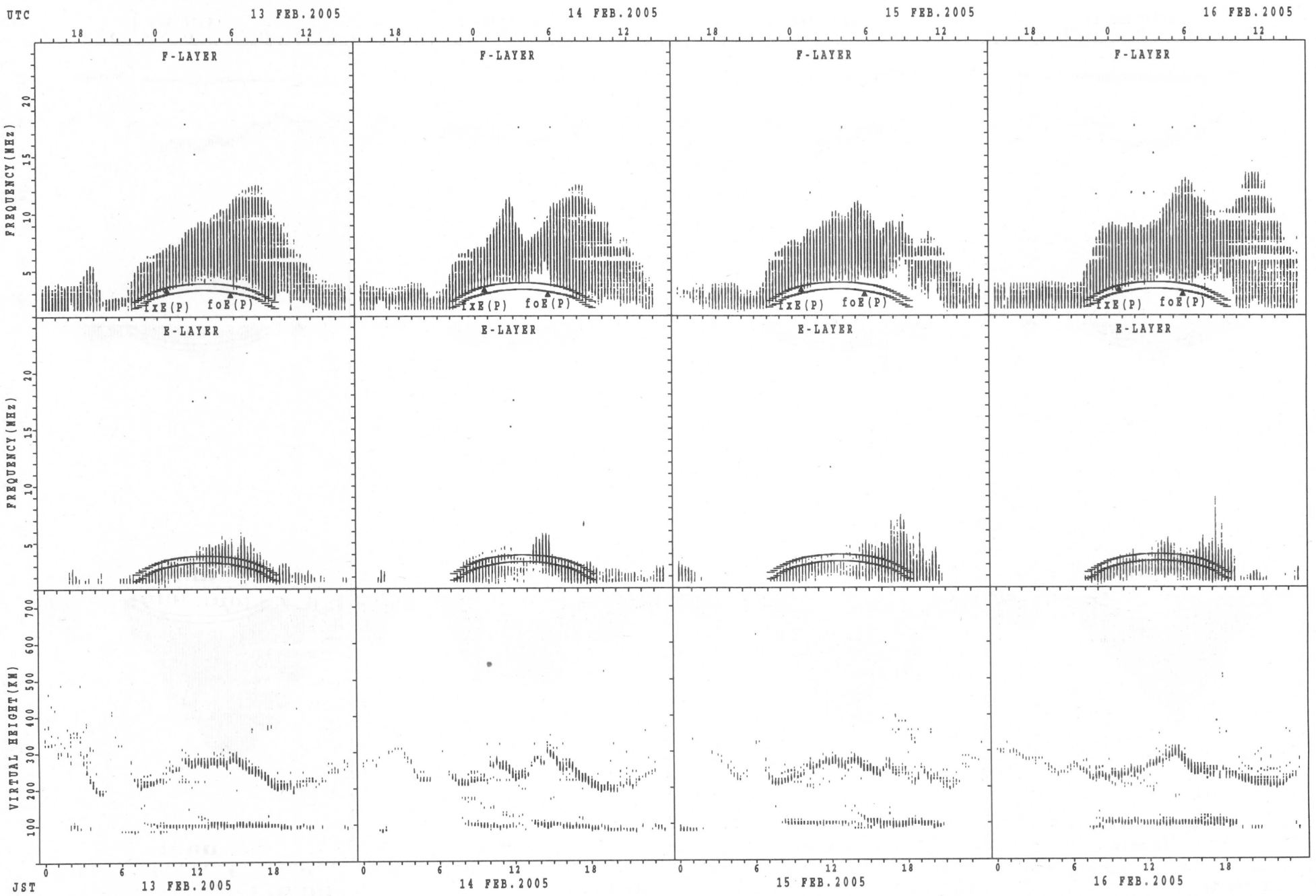
SUMMARY PLOTS AT Okinawa



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

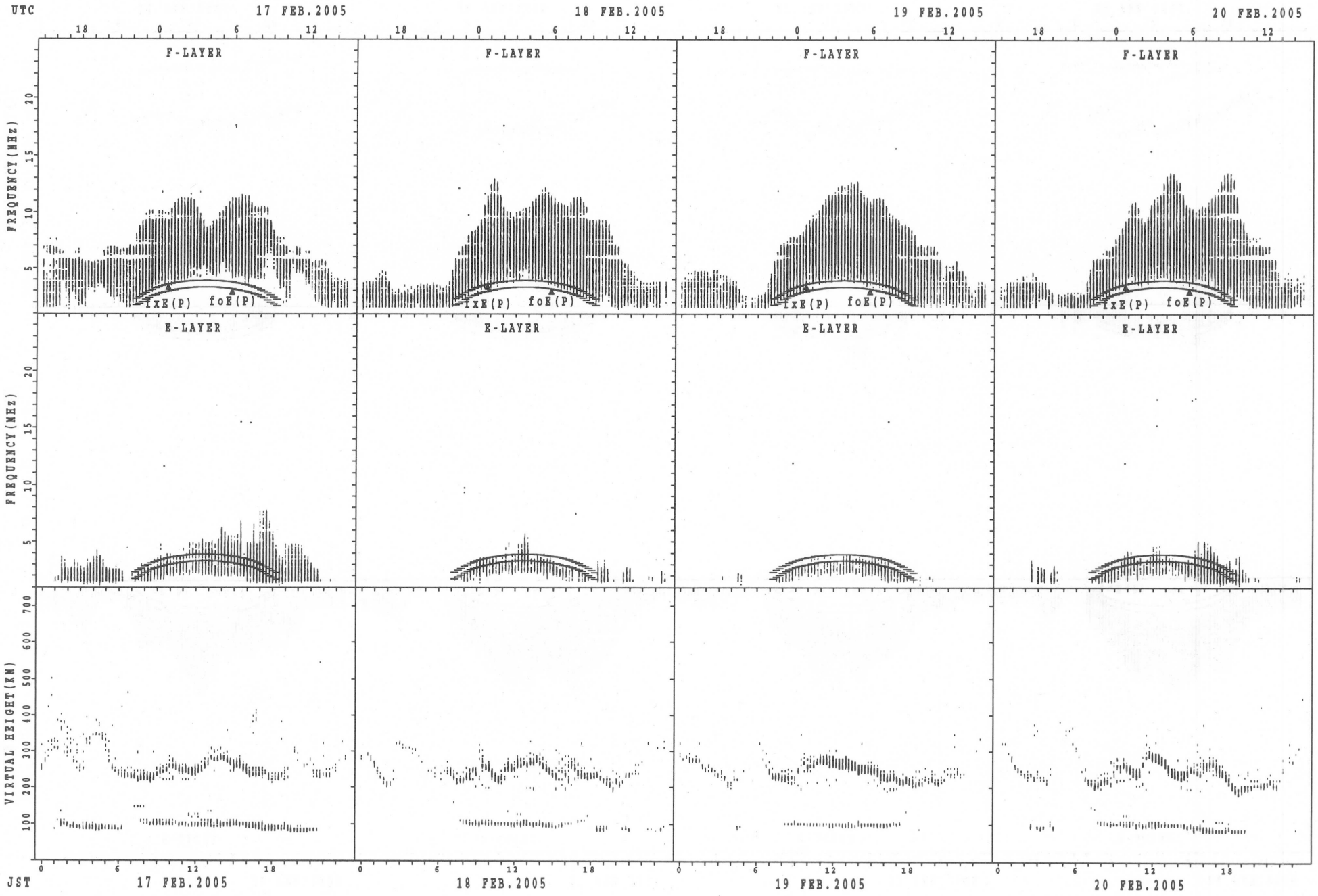

SUMMARY PLOTS AT Okinawa
UTC
9 FEB.2005
10 FEB.2005
11 FEB.2005
12 FEB.2005
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P)
foE(P)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



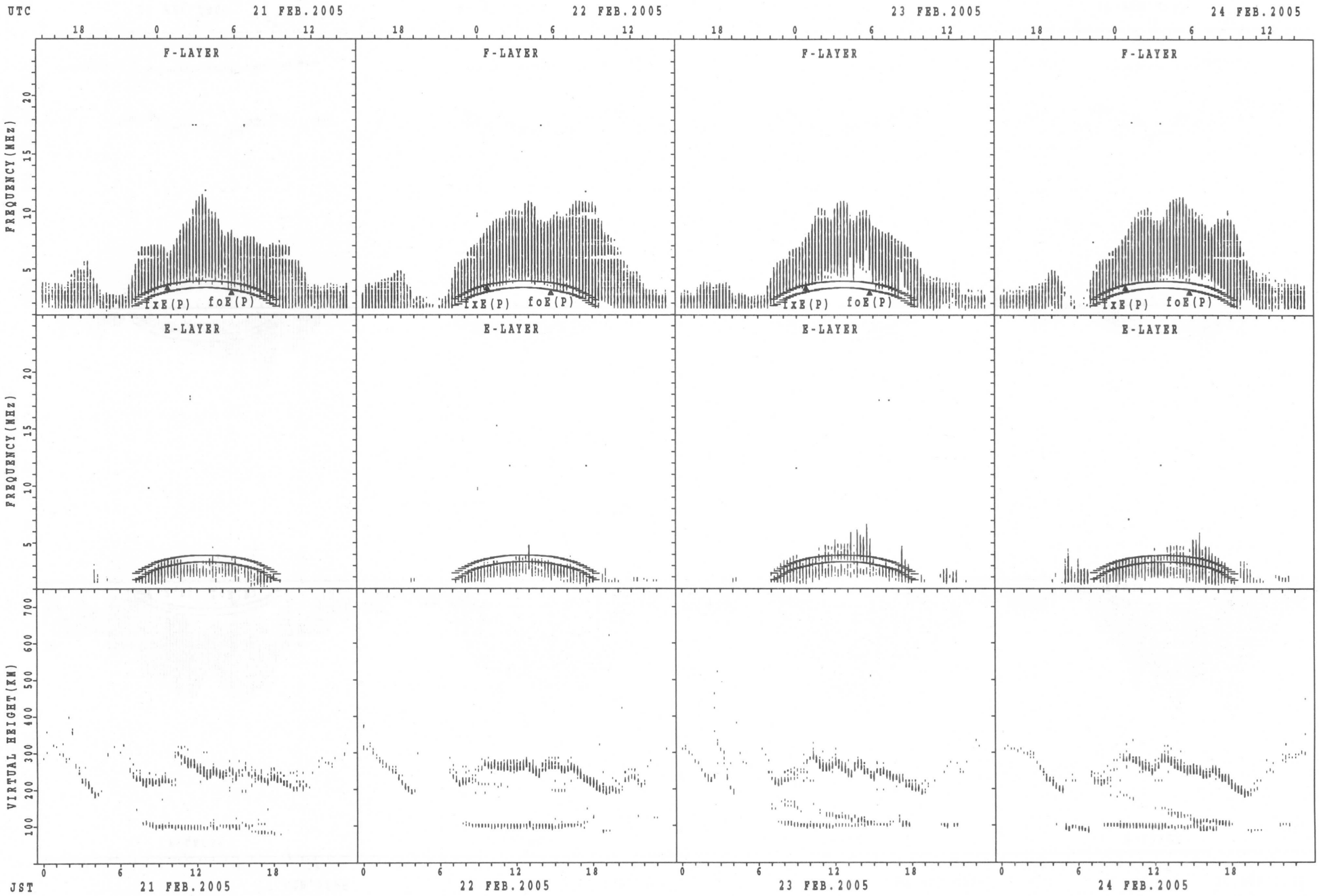
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



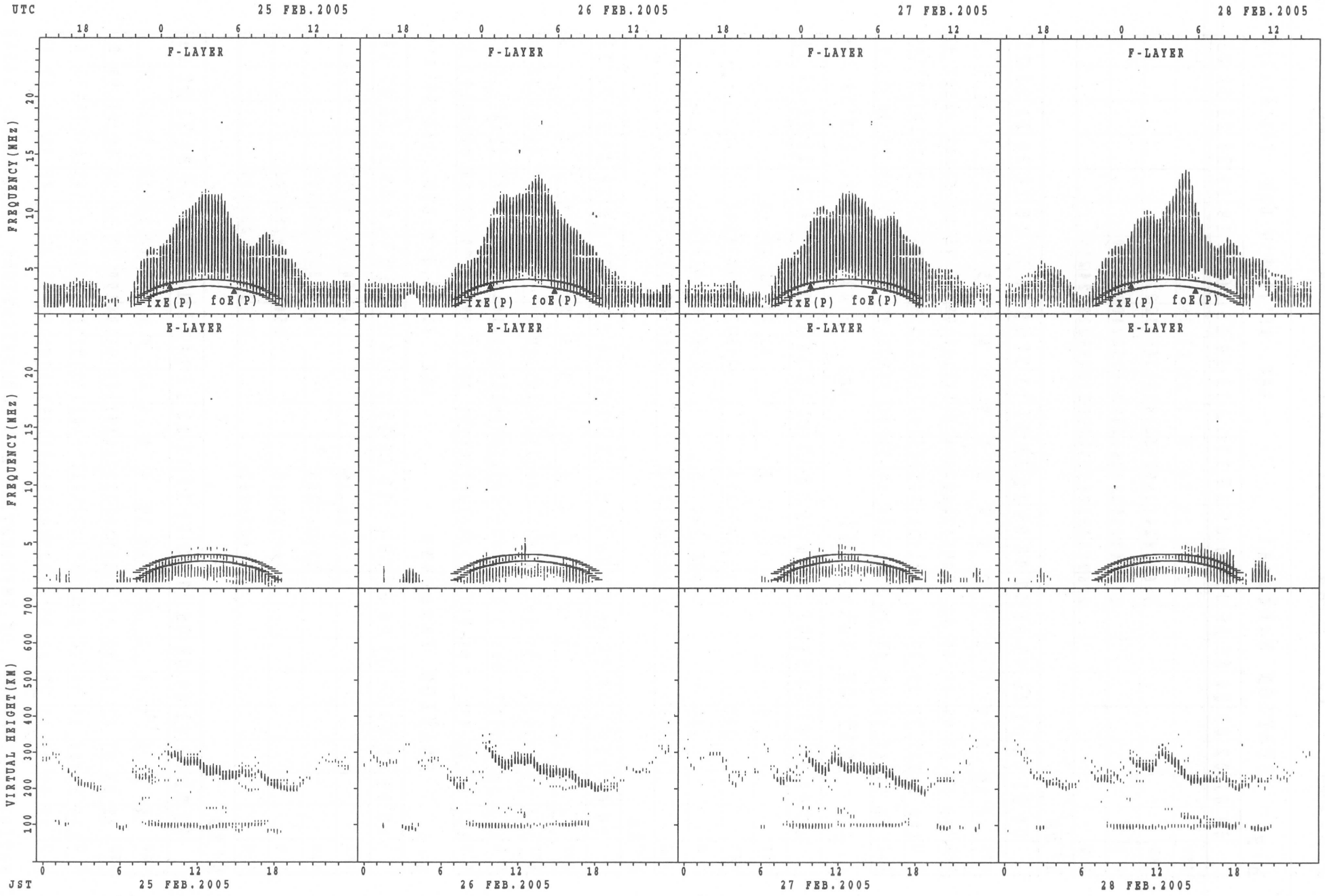
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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

FEB.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								3	22	24	20	8	5	11	24	25	19	10						
MED								246	238	244	250	242	238	238	245	232	230	232						
U Q								270	242	256	256	260	245	254	252	240	236	240						
L Q								216	226	233	243	232	230	230	238	229	224	216						

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	4	10	6	5	4	2	1	2	5	4	6	6	5	3	6	2	5	10	6	7	6	2	3	4
MED	95	97	97	95	92	96	97	96	105	112	102	104	97	113	107	108	95	91	89	91	103	98	107	97
U Q	100	99	107	97	95	97	48	99	110	141	105	105	103	125	113	119	105	103	91	99	119	103	109	100
L Q	92	93	97	93	86	95	48	93	97	106	97	99	96	99	105	97	95	89	87	87	91	93	91	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				1				3	13	23	8				11	24	22	10	1					
MED				232				240	236	250	252				246	239	230	224	248					
U Q				116				256	251	264	259				254	249	238	238	124					
L Q				116				236	230	242	248				238	236	222	222	124					

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	4	4	1	2		3	2	4	4	6	4	6	7	3	5	8	10	6	4	3	2	4	2	2
MED	104	98	93	101		97	90	153	128	106	109	111	105	103	105	107	96	98	91	97	98	103	108	94
U Q	111	99	46	103		105	91	155	160	107	149	167	109	105	105	114	107	103	93	97	105	105	113	97
L Q	100	95	46	99		95	89	145	112	105	107	105	101	99	96	99	89	89	90	89	91	101	103	91

h'F STATION Yamakawa 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									8	16	16					19	20	19	6	1				
MED									238	257	256					246	243	232	238	248				
U Q									240	265	265					254	251	248	258	124				
L Q									234	239	242					238	237	230	222	124				

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	5	7	5	4	4	1	2	5	10	10	4	8	6	11	8	12	8	12	13	12	4	5	7	1
MED	95	93	97	95	90	89	96	97	155	107	121	144	107	105	104	104	100	97	93	92	96	95	95	87
U Q	114	99	100	95	95	44	97	159	171	167	161	179	109	129	107	106	103	102	98	101	100	138	103	43
L Q	93	89	95	93	89	44	95	96	113	103	105	104	105	105	100	100	95	88	89	89	92	90	89	43

MONTHLY MEDIANS OF h'F AND h'Es

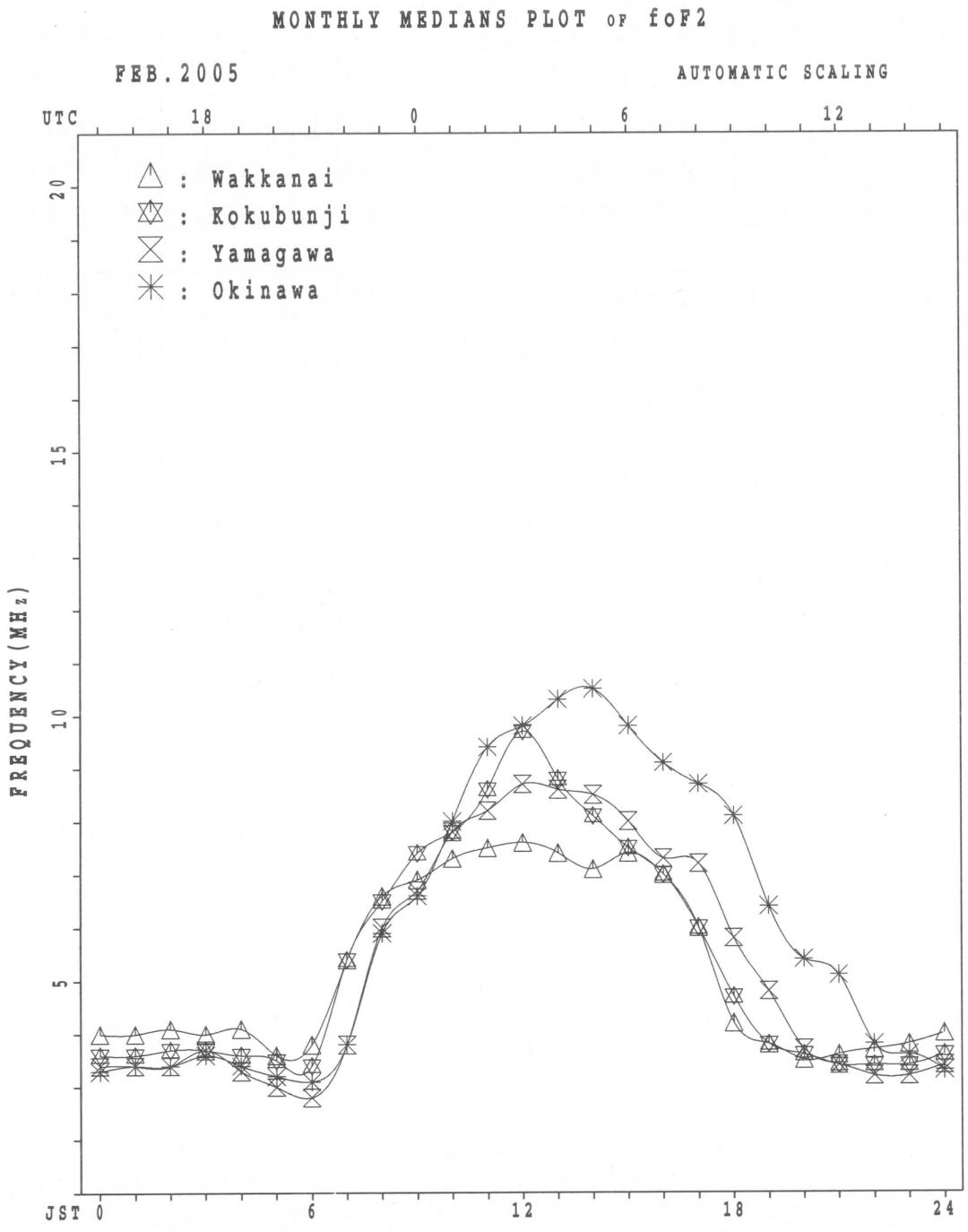
FEB.2005 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

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									6	19	22					10	26	26	18	8	4	1	1	
MED									242	256	262					240	240	234	228	225	236	226	224	
U Q									248	280	274					260	254	244	238	237	287	113	112	
L Q									230	240	254					232	232	230	214	219	218	113	112	

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	1	4	5	9	6	3	4	2	8	12	6	12	17	23	17	13	18	18	12	13	12	6	4	3
MED	87	91	97	95	91	91	91	94	155	103	106	131	111	109	105	105	97	98	95	89	95	88	97	97
U Q	43	95	100	96	91	95	94	95	155	130	149	144	139	121	114	107	105	105	103	102	98	97	97	97
L Q	43	88	93	93	91	89	89	93	124	102	103	107	107	103	102	103	95	95	91	88	90	87	92	89


MONTHLY MEDIANS PLOT OF foF2
FEB. 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

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

FEB. 2005 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB.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	36	35	36	26	26	F 26	28	49	72	71	C	C	C	C	C	C	C	44	42	39	F	32	30	31
2	33	32	32	34	30	26	28	47	52	55	68	67	74	66	65	61	61	50	37	36	37	35	36	36
3	34	33	34	33	32	28	27	47	65	72	61	68	72	63	62	58	66	48	41	35	44	34	S 28	29
4	29	32	33	34	32	27	28	47	54	54	62	82	69	63	60	66	69	52	32	34	31	29	30	30
5	29	30	30	31	31	26	25	46	54	58	60	66	83	66	63	68	59	50	35	40	36	29	31	32
6	33	33	37	36	F	34	F	55	59	66	63	67	70	74	75	75	62	56	48	40	39	36	35	36
7	36	36	37	40	44	24	31	50	60	66	65	89	87	81	76	73	71	60	41	34	36	37	36	37
8	37	38	43	38	34	28	33	53	69	86	84	101	109	94	70	78	87	75	46	40	42	45	46	F
9	F	F	F	62	22	29	27	54	63	74	93	106	111	100	80	80	81	68	55	40	37	31	35	36
10	F	F	F	40	37	35	37	61	72	70	87	88	110	82	79	75	72	60	46	42	48	33	31	33
11	34	35	38	45	36	34	32	58	67	67	73	94	102	98	80	68	83	61	43	33	34	35	35	36
12	37	40	43	42	39	29	31	62	62	70	78	78	99	100	99	88	74	59	40	36	35	35	34	F
13	F	33	33	34	F 38	F	33	50	57	65	73	77	84	88	80	84	68	55	47	44	40	40	38	39
14	36	36	38	38	41	F 38	F	56	66	73	90	88	89	86	86	80	71	64	48	40	44	41	36	39
15	40	40	42	45	44	39	40	54	66	74	83	76	110	100	92	74	86	66	52	46	44	38	36	37
16	38	38	40	40	39	39	40	64	82	83	93	76	89	90	88	70	77	70	58	48	45	42	40	39
17	38	38	38	41	40	44	46	64	80	92	93	96	88	92	87	82	74	58	43	37	40	40	38	F
18	F	F	40	35	34	33	35	63	72	94	123	99	112	108	121	81	66	60	60	62	46	36	39	42
19	43	44	47	42	34	33	33	56	75	80	86	98	104	110	98	86	74	66	50	47	39	36	35	36
20	37	37	44	40	25	26	28	60	68	76	76	90	103	109	84	71	66	64	68	46	32	28	30	32
21	30	32	38	48	27	25	29	50	58	73	78	86	98	77	85	76	68	57	58	40	40	35	36	37
22	38	F 38	42	42	30	24	28	52	61	68	79	95	103	81	78	78	85	71	44	36	34	28	28	30
23	29	33	36	37	31	28	32	56	63	76	77	87	99	88	98	85	64	64	47	33	27	29	31	32
24	32	30	35	34	36	38	30	54	58	68	66	67	84	82	75	68	68	71	54	40	28	26	28	30
25	30	31	34	38	26	21	26	51	61	75	76	82	98	92	72	65	67	66	55	34	31	30	32	33
26	34	36	36	35	34	32	40	57	65	64	78	88	96	93	84	79	75	65	48	34	35	34	34	34
27	34	34	35	35	32	31	29	58	66	92	94	86	100	82	86	84	76	67	49	37	34	30	32	34
28	F	32	35	35	F 27	24	31	52	67	77	68	77	91	92	76	85	76	60	49	36	31	33	30	32
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	25	26	28	27	27	26	28	28	28	27	27	27	27	27	27	27	28	28	28	27	28	28	25
MED	34	35	37	38	34	29	31	54	65	72	78	86	98	88	80	76	71	60	48	40	37	34	34	34
U Q	37	38	40	42	38	34	33	58	68	76	87	94	103	98	87	82	76	66	53	41	42	36	36	37
L Q	32	32	35	34	30	26	28	50	60	66	68	76	84	81	75	68	66	56	42	36	34	30	30	32

FEB.2005 foF2 (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 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										L	C	C	C	C	C	C	C							
2											L 436	L 436	L	L	L 416	L								
3									L	L	L	L 424	L	L	L									
4											L	L	L	L	L	A								
5											L	L	L	L	L	L								
6										L	L	L	L	L	L									
7										L	L	L 448	L	L	L	L								
8										L	L	L	L	L	L	L								
9											L	L	L	L	L	L								
10										L	L	L	L 464	L	L	L								
11									L	L	L	L	L	L	A	L								
12											L	L	L	L	L	L								
13										L	L	L	L 484	L	L	L								
14									L	L	L	L	L	L	L									
15										L	L	L	L 460	L	L									
16										L	L	L	L	L	L		L							
17										L	L	L	L	L 452	L	L								
18										L	L	L	L 444	L	L									
19										L	L	L	L	L 448	L 440	L								
20										L	L	L	L	L 460	L	L								
21										L	L	L	L 464	L	L	L								
22											L	L	L	L	L	L								
23										L	L	L 448	L 448	L	L	L								
24										L	L 436	L	L 448	L 444	L									
25									L	L	L	L 452	L 452	L 452	L	L								
26											L	L 432	L	L	L	L								
27									L	L	L 440	L	L 432	L	A	L	A							
28									L	L	L	L 472	L	L	L	A								
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT											3	7	9	5	2									
MED											L 436	L 448	L 452	L 452	L 428									
U Q											L 440	L 452	L 464	L 456										
L Q											L 436	L 432	L 446	L 446										

FEB. 2005 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 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	UR 248	A	C	C	C	C	C	C	C	B						
2								B	UR 260	A	A	R	332		R	R	R 216	B						
3								B	UR 248	288	A	R	312	A	UR 288	UR 272	R	B						
4								184	UR 244	A	A	A	UR 324	UA 308	UR 296	268	A	B						
5								B	232	296	A	A	A	UR 316	R	R	UR 228	B						
6								B	240	A	A	A	A	UR 320	UR 296	UR 284	240	B						
7								B	244	A	308	UR 332	UR 344	R	R	272	UR 228	B						
8								B	244	UR 288	R	R	A	R	R	UR 288	UR 260	B						
9								B	244	UR 296	A	A	A	A	UR 312	UR 272	UR 244	B						
10								B	236	A	304	UR 328	336	R	UR 308	UR 280	UR 244	B						
11								B	236	UR 284	316	R	A	A	A	A	A	B						
12								B	232	292	316	A	A	A	A	R	A	B						
13								B	UR 248	308	324	332	A	A	A	UR 312	A	B						
14								B	248	288	316	A	A	A	R	284	248	B						
15								184	260	UR 304	A	A	A	A	A	R	244	B						
16								B	UR 268	UR 296	A	A	A	A	UR 328	UR 296	A	B						
17								B	260	UA 308	A	A	A	R	A	R	R	B						
18								184	UR 276	A	R	A	A	A	UR 304	UR 292	UR 244	B						
19								172	244	UR 292	UR 312	UR 348	UR 348	324	312	A	A	B						
20								184	264	A	A	A	A	R	R	UR 288	UR 240	B						
21								176	256	284	312	UR 328	R	A	R	UR 284	UR 244	B						
22								184	252	292	R	A	UR 344	A	A	A	A	B						
23								188	256	UR 308	320	A	A	A	308	A	UR 256	UR 192						
24								B	R	UR 292	R	332	340	UA 320	A	A	A	B						
25								180	UR 252	UR 288	UR 308	UR 340	A	R	UR 304	284	A	UR 196						
26								212	252	300	A	340	A	UA 324	UA 312	UA 288	A	B						
27								192	260	UR 304	UR 320	A	A	UA 320	A	A	A	B						
28								188	UR 256	UR 296	UR 324	UR 328	340	A	UR 304	UA 284	UA 244	B						
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								12	27	20	12	9	9	7	12	16	14	2						
MED								184	248	UR 294	316	UR 332	340	UA 320	UR 306	UR 284	UR 244	UR 194						
U Q								188	260	U 302	320	UR 340	UR 344	324	U 312	UR 288	UR 244							
L Q								182	244	288	310	UR 328	328	U 316	UR 300	UR 276	240							

FEB. 2005 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 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	18	E B 16	E B 15	E B 14	E B 16	E B 14	E B 15	E B 16	G 22	J A 38	C	C	C	C	C	C	C	E B 17	E B 15	19	J A 30	J A 17	E B 16	E B 15
2	20	18	19	E B 16	E B 15	E B 15	19	J A 22	J A 26	31	36	G 26	37	G 23	G 25	G 18	25	E B 17	E B 15	E B 16	E B 16	J A 18	19	E B 15
3	18	E B 16	18	18	E B 16	E B 16	E B 16	19	G 19	31	32	G 28	34	J A 35	J A 33	G 22	G 22	E B 18	E B 15	E B 16	E B 15	E B 16	E B 15	E B 16
4	E B 15	20	19	E B 15	E B 15	E B 15	E B 15	G	G 22	31	34	J A 37	J A 36	J A 42	J G 25	J A 32	J A 29	J A 21	J A 18	E B 16	21	J A 25	J A 30	J A 19
5	J A 23	J A 28	J A 27	J A 22	19	E B 16	E B 15	21	27	G 23	35	J A 46	J A 40	G 30	G 28	G 23	G 19	E B 18	E B 15	E B 15	E B 15	15	E B 15	E B 16
6	18	E B 15	18	19	J A 19	E B 15	E B 15	E B 17	26	36	J A 41	35	37	37	G 29	31	G 20	E B 19	J A 21	J A 17	20	18	J A 20	J A 19
7	J A 23	J A 23	J A 19	E B 14	21	J A 22	J A 22	22	28	J A 36	34	J G 28	G 29	G 23	G 23	30	G	J A 36	J A 20	E B 15	E B 16	E B 15	E B 16	E B 15
8	E B 16	E B 16	18	E B 15	E B 16	J A 17	E B 15	22	30	G 25	G	G 28	38	G 26	G	G	G 23	J A 24	E B 15	J A 23	J A 25	J A 24	E B 15	E B 16
9	J A 16	J A 23	22	J A 16	18	19	J A 16	23	29	G 19	35	J A 38	35	J A 40	G 27	G 19	G 18	E B 16	E B 16	E B 15	J A 17	19	J A 19	20
10	18	E B 15	E B 14	E B 15	E B 14	19	J A 16	21	28	J A 36	35	G 26	G 26	G 24	G 27	G 26	G 21	E B 18	E B 16	J A 16	J A 16	E B 15	E B 15	E B 16
11	E B 15	E B 16	19	E B 15	21	J A 17	J A 18	20	G 19	G 20	38	G 24	J A 42	J A 40	J A 47	J A 34	J A 27	J A 21	J A 27	E B 15	E B 16	E B 15	E B 15	E B 15
12	E B 16	E B 15	E B 15	22	20	19	21	22	G 19	35	36	35	J A 48	37	34	G 21	J A 36	J A 21	J A 20	20	E B 16	E B 15	19	E B 14
13	E B 16	E B 15	E B 15	E B 15	E B 16	18	19	E B 16	G 20	34	36	37	J A 38	J A 38	34	G 30	28	E B 18	E B 16	E B 16	J A 16	J A 20	E B 15	E B 15
14	E B 16	E B 16	J A 22	20	18	20	19	20	G 20	G 25	34	38	38	35	G 26	32	28	21	E B 15	18	J A 16	E B 15	E B 17	E B 14
15	E B 15	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	21	G	G 24	35	36	36	36	34	G 29	29	19	E B 15	E B 15	E B 15	19	E B 15	E B 15
16	E B 14	19	20	E B 15	E B 14	E B 15	E B 15	22	G 21	G 27	37	37	40	J A 39	G 28	G 25	27	J A 25	E B 15	E B 15	18	E B 15	E B 15	E B 16
17	E B 15	19	E B 16	J A 17	J A 16	E B 16	E B 15	24	30	33	36	39	38	G 30	36	G	G	J A 37	J A 25	J A 28	J A 23	18	18	E B 14
18	E B 14	E B 16	E B 16	E B 16	J A 20	E B 15	E B 16	22	G 23	33	G 24	J A 39	J A 40	J A 46	34	G 22	G 20	E B 16	J A 22	19	E B 16	19	E B 15	E B 16
19	J A 36	E B 16	E B 15	E B 15	E B 15	18	E B 15	22	28	G 25	G 28	39	39	37	35	J A 42	J A 50	E B 16	E B 14	J A 17	J A 21	19	E B 14	J A 17
20	J A 24	20	E B 15	E B 15	E B 14	E B 16	E B 15	23	28	36	39	J A 40	J A 44	J A 34	G 30	G 23	G	E B 18	E B 15	E B 15	E B 16	E B 16	E B 16	E B 15
21	E B 16	E B 13	E B 16	E B 16	E B 15	E B 15	E B 15	22	G 21	G 23	36	G 26	G 23	35	G 24	G 26	G 22	J A 26	E B 23	E B 16	E B 16	E B 16	E B 15	18
22	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	E B 14	22	G 20	33	G 25	J A 40	G 30	35	33	34	J A 29	J A 21	E B 15	E B 14	E B 16	E B 16	E B 15	E B 15
23	E B 16	E B 16	E B 16	E B 15	18	E B 15	E B 16	24	30	G 24	35	34	40	36	37	33	G 20	21	J A 20	E B 14	E B 16	E B 16	E B 16	E B 15
24	18	19	E B 15	J A 20	J A 18	J A 23	E B 15	E B 17	G 24	G 23	G 25	38	38	36	34	J A 47	J A 29	20	E B 16	E B 15	E B 15	E B 16	E B 16	E B 15
25	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	23	G 20	G 23	35	38	38	G 24	35	G 23	G J A 38	G	E B 15	E B 15	E B 16	E B 16	20	J A 43
26	J A 23	J A 16	E B 16	E B 15	E B 14	E B 15	E B 15	27	28	G 23	35	39	39	38	38	34	J A 44	J A 53	J A 26	J A 27	J A 19	J A 23	J A 26	19
27	J A 31	J A 23	19	J A 24	J A 63	J A 28	E B 16	23	31	G 24	G 24	37	36	38	J A 64	J A 40	J A 44	J A 21	J A 22	J A 31	J A 24	J A 23	J A 17	J A 19
28	J A 17	E B 16	E B 16	19	J A 17	18	E B 15	G	G 22	G 20	G 24	38	38	38	34	J A 42	29	J A 24	E B 16	E B 15	E B 15	E B 16	E B 15	E B 16
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	28	28	28	28	28	28	28	28	27	27	27	27	27	27	27	28	28	28	28	28	28	28
MED	16	E B 16	E B 16	E B 15	E B 16	E B 16	E B 15	22	G	G 26	35	37	38	36	33	G	27	20	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16
U Q	J A 19	19	19	18	18	18	16	22	28	34	36	J A 39	J A 40	J A 38	35	J A 34	J A 29	J A 22	J A 20	18	J A 20	J A 19	18	J A 18
L Q	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	20	G 20	G 23	G	G 28	G 36	G 30	G 27	G 23	G 22	E B 18	E B 15	E B 15	E B 16	E B 16	E B 15	E B 15

FEB. 2005 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 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	16	E B 16	E B 15	E B 14	E B 16	E B 14	E B 15	E B 16	G 21	29	C	C	C	C	C	C	C	E B 17	E B 15	E B 16	E B 16	16	E B 16	E B 15
2	E B 16	E B 16	16	E B 16	E B 15	E B 15	E B 15	20	G 21	29	34	G 25	35	G 22	G 24	G 18	24	E B 17	E B 15	E B 16	E B 16	17	E B 15	E B 15
3	E B 16	E B 16	E B 15	E B 16	E B 16	E B 16	E B 16	18	G 19	30	31	G 27	34	32	G 23	G 21	G 21	E B 18	E B 15	E B 16	E B 15	16	E B 15	E B 16
4	E B 15	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	G	G 21	31	32	34	G 26	G 26	G 23	G 19	25	18	E B 15	E B 16	E B 16	16	19	E B 16
5	E B 15	16	18	E B 15	E B 15	E B 16	E B 15	20	26	G 22	32	34	32	G 29	G 27	G 21	G 19	E B 18	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16
6	E B 16	E B 15	E B 16	E B 16	E B 15	E B 15	E B 15	E B 17	25	30	35	34	34	35	G 26	30	G 18	E B 19	E B 15	E B 16	E B 15	E B 15	E B 15	E B 16
7	E B 16	16	E B 15	E B 14	E B 15	16	17	21	27	31	32	G 24	G 25	G 23	G 22	30	G	26	19	E B 15	E B 16	E B 15	E B 16	E B 15
8	E B 16	E B 16	E B 15	E B 15	E B 16	E B 16	E B 15	21	28	G 25	G	G 28	37	G 26	G	G	G 23	20	E B 15	20	20	20	E B 15	E B 16
9	E B 15	16	E B 16	E B 14	E B 16	E B 15	E B 16	22	27	G 19	34	35	35	35	G 26	G 19	G 17	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15
10	E B 16	E B 15	E B 14	E B 15	E B 14	E B 16	E B 16	20	27	30	33	G 23	G 24	G 23	G 26	G 26	G 19	E B 18	E B 16	E B 15	E B 16	E B 15	E B 15	E B 16
11	E B 15	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	E B 16	G 19	G 19	36	G 23	37	37	42	31	25	19	24	E B 15	E B 16	E B 15	E B 15	E B 15
12	E B 16	E B 15	E B 15	E B 16	E B 15	E B 15	E B 16	21	G 19	33	34	35	38	35	32	G 19	30	19	17	E B 15	E B 16	E B 15	E B 15	E B 14
13	E B 16	E B 15	E B 15	E B 15	E B 16	16	E B 15	E B 16	G 20	32	34	35	35	34	33	G 27	26	E B 18	E B 16	E B 16	E B 16	17	E B 15	E B 15
14	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	20	G 20	G 25	33	35	36	34	G 24	32	27	20	E B 15	E B 16	E B 15	E B 15	E B 17	E B 14
15	E B 15	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	20	G	G 24	34	35	35	35	34	G 28	28	18	E B 15	E B 15	E B 15	E B 16	E B 15	E B 15
16	E B 14	E B 16	E B 16	E B 15	E B 14	E B 15	E B 15	20	G 20	G 26	35	35	36	35	G 24	G 24	25	22	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16
17	E B 15	E B 16	E B 16	E B 14	E B 15	E B 16	E B 15	22	28	32	34	37	36	G 29	35	G	G	22	17	20	18	E B 16	E B 15	E B 14
18	E B 14	E B 16	E B 16	E B 16	16	E B 15	E B 16	20	G 23	31	G 24	36	35	35	32	G 22	G 20	E B 16	E B 16	E B 15	E B 16	E B 16	E B 15	E B 16
19	E B 15	E B 16	E B 15	E B 15	E B 15	E B 16	E B 15	21	26	G 24	G 27	38	38	35	34	34	40	E B 16	E B 14	E B 15	E B 15	E B 16	E B 14	E B 16
20	E B 15	E B 15	E B 15	E B 15	E B 14	E B 16	E B 15	22	28	33	35	34	36	30	G 28	G 21	G	E B 18	E B 15	E B 15	E B 16	E B 16	E B 16	E B 15
21	E B 16	E B 13	E B 16	E B 16	E B 15	E B 15	E B 15	21	G 20	G 23	35	G 26	U Y 23	34	G 24	G 25	G 22	20	18	E B 16	E B 16	E B 16	E B 15	E B 15
22	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	E B 14	22	G 20	31	G 25	34	G 30	34	32	32	25	18	E B 15	E B 14	E B 16	E B 16	E B 15	E B 15
23	E B 16	E B 16	E B 16	E B 15	16	E B 15	E B 16	23	28	G 23	34	U Y 34	38	35	36	32	G 19	G 18	E B 16	E B 14	E B 16	E B 16	E B 16	E B 15
24	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	E B 15	E B 17	G 24	G 23	G 25	36	36	35	34	38	25	18	E B 16	E B 15	E B 15	E B 16	E B 16	E B 15
25	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	22	G 19	G 23	34	37	36	U Y 24	34	G 22	26	G	E B 15	E B 15	E B 16	E B 16	E B 15	24
26	E B 15	E B 16	E B 16	E B 15	E B 14	E B 15	E B 15	24	28	G 23	32	38	38	37	36	34	33	35	17	19	16	E B 15	19	E B 15
27	21	E B 16	E B 16	18	E B 15	23	E B 16	22	30	G 23	G 24	36	34	36	61	38	38	18	19	23	E B 16	16	E B 16	17
28	E B 16	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	G	G 19	G 20	G 24	36	38	37	32	35	28	20	E B 16	E B 15	E B 15	E B 16	E B 15	E B 16
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	28	28	28	28	28	28	28	28	27	27	27	27	27	27	27	28	28	28	28	28	28	28
MED	E B 16	E B 16	E B 16	E B 15	E B 15	E B 15	E B 15	20	G 24	G 26	33	35	35	34	32	G 28	25	18	E B 16	E B 15	E B 16	E B 16	E B 15	E B 15
U Q	E B 16	E B 16	E B 16	E B 15	E B 16	16	E B 16	22	27	31	34	36	37	35	34	32	27	20	16	16	E B 16	16	E B 16	E B 16
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	G	G 20	G 23	G	G 28	G 34	G 29	G 24	G 21	G 21	E B 18	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

FEB. 2005 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

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

IONOSPHERIC DATA STATION Kokubunji

FEB. 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	283	300	354	353	295	F 293	308	338	366	347	C	C	C	C	C	C	C	346	346	321	F	303	311	304
2	314	324	320	367	371	304	346	377	381	356	359	347	363	375	371	363	362	350	350	344	340	308	315	326
3	319	314	309	318	315	311	316	355	376	382	355	349	362	377	362	357	363	352	344	316	347	337	S 350	322
4	301	302	318	342	343	302	337	386	391	349	326	353	338	361	340	352	372	371	355	341	351	327	315	306
5	304	305	316	312	331	367	316	362	382	351	367	342	369	361	361	365	385	360	355	340	367	315	316	301
6	328	307	337	325	F	315	F	377	366	382	358	337	354	345	347	361	358	357	355	328	346	322	309	303
7	291	302	310	344	390	294	333	372	372	362	339	340	334	323	362	347	370	361	345	323	314	320	303	306
8	305	285	320	350	371	303	286	351	331	348	333	324	341	351	350	328	356	348	332	307	313	293	307	F
9	F	F	F	382	408	299	311	363	364	323	331	326	339	352	341	335	352	357	346	332	321	294	288	293
10	F	F	F	350	316	297	333	361	361	336	347	322	349	354	342	347	353	353	339	311	335	343	288	276
11	284	293	317	370	350	325	293	367	365	358	327	322	337	339	354	365	351	373	347	335	296	312	284	285
12	313	307	330	344	369	294	323	377	367	348	349	311	345	335	349	355	356	368	343	333	311	312	336	F
13	F	319	311	311	F 344	F	360	377	368	351	348	349	333	337	337	349	364	347	343	334	321	326	320	295
14	295	301	306	298	312	F 315	F	358	346	349	347	343	344	333	342	347	352	346	342	318	335	339	301	287
15	290	279	291	320	303	294	324	376	346	351	360	322	334	347	354	333	364	364	329	330	335	326	317	293
16	289	285	289	310	302	307	319	353	362	353	365	341	339	342	369	332	358	353	348	316	298	305	305	286
17	273	285	282	304	288	283	323	353	340	351	342	342	355	343	347	335	367	366	337	303	319	313	307	F
18	F	F	348	295	309	305	328	363	337	322	357	323	330	316	345	343	348	335	309	339	329	272	291	282
19	292	298	319	318	295	320	315	360	355	336	330	327	336	349	353	357	356	366	325	329	328	312	280	283
20	282	292	335	365	296	276	307	370	361	354	336	320	344	349	367	361	343	339	349	351	337	301	293	285
21	296	271	325	388	286	304	321	358	370	347	341	328	343	346	348	351	358	352	352	317	341	303	299	291
22	298	F 293	329	365	344	308	325	362	354	334	330	335	351	361	352	349	361	374	349	314	355	304	303	321
23	254	346	337	346	345	287	314	371	351	335	348	323	341	329	351	365	367	379	370	344	313	295	300	255
24	259	272	312	325	327	373	334	375	349	347	353	332	337	345	363	344	346	369	359	379	346	302	289	314
25	301	283	323	359	336	320	325	375	336	338	328	332	335	354	357	348	362	358	367	333	329	311	294	292
26	296	309	319	316	304	289	344	388	340	310	333	323	331	347	348	363	374	393	365	320	318	307	304	295
27	281	295	323	322	291	369	317	366	327	345	346	328	352	342	346	362	375	373	353	348	340	320	291	292
28	F	288	313	356	F 360	329	336	348	349	348	335	313	331	354	347	360	383	384	356	354	316	323	300	292
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	25	26	28	27	27	26	28	28	28	27	27	27	27	27	27	27	28	28	28	27	28	28	25
MED	295	298	319	343	327	304	323	364	361	348	346	328	341	347	350	351	361	359	348	331	329	312	303	293
U Q	304	307	329	358	350	320	333	376	368	352	355	342	351	354	361	361	367	370	355	340	341	322	313	305
L Q	283	285	311	317	302	294	315	358	346	337	333	323	335	339	346	344	353	351	342	318	316	303	292	286

FEB. 2005 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 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										L	C	C	C	C	C	C	C							
2											L 387	L 414	L	L	L 409	L								
3									L	L	L	L 417	L	L	L									
4											L	L	L	L	L	A								
5											L	L	L	L	L	L								
6										L	L	L	L	L	L									
7										L	L	L 378	L	L	L	L								
8										L	L	L	L	L	L	L								
9											L	L	L	L	L	L								
10										L	L	L	L 383	L	L	L								
11									L	L	L	L	L	L	A	L								
12											L	L	L	L	L	L								
13										L	L	L	L 367	L	L	L								
14									L	L	L	L	L	L	L									
15										L	L	L	L 388	L	L									
16										L	L	L	L	L	L		L							
17										L	L	L	L	L 389	L	L								
18										L	L	L	L 393	L	L									
19										L	L	L	L	L 384	L 401	L								
20										L	L	L	L	L 370	L	L								
21										L	L	L	L 363	L	L	L								
22											L	L	L	L	L	L								
23										L	L	L 390	L 385	L	L	L								
24										L	L 388	L	L 379	L 374	L									
25									L	L	L	L 381	L 373	L 368	L	L								
26											L	L 407	L	L	L	L								
27									L	L	L 377	L	L 405	L	A	L	A							
28									L	L	L	L 375	L	L	L	A								
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT											3	7	9	5	2									
MED											L 387	L 390	L 383	L 374	L 405									
U Q											L 388	L 414	L 390	L 386										
L Q											L 377	L 378	L 370	L 369										

FEB. 2005 M(3000)F1 (0.01)

IONOSPHERIC DATA STATION Kokubunji

FEB. 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										246	C	C	C	C	C	C	C							
2											254	254	236	234	228	230								
3									228	228	250	254	238	234	250									
4											240	256	256	250	278	228								
5											240	272	236	240	236	238								
6										226	252	256	254	256	246									
7										242	246	260	248	262	238	252								
8										238	252	266	236	244	246	270								
9											246	258	242	236	242	252								
10										248	244	260	238	238	256	232								
11									224	232	256	270	244	250	242	228								
12											252	288	248	256	236	240								
13										250	262	252	278	258	254	246								
14									222	246	248	242	246	258	254									
15										238	236	280	268	240	246									
16										240	234	240	262	248	230		238							
17										244	248	250	228	250	242	246								
18										272	234	260	258	268	234									
19										248	246	260	248	248	240	228								
20										240	256	256	252	246	226	230								
21										240	254	266	262	250	244	242								
22											260	256	240	238	236	246								
23										266	240	264	254	250	242	232								
24										250	248	278	254	256	242									
25									236	258	278	254	258	238	244	246								
26											278	276	262	240	252	232								
27									264	250	244	244	242	238	250	232	224							
28									236	246	246	282	260	242	246	240								
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									6	21	27	27	27	27	27	20	2							
MED									232	246	248	260	248	248	242	239	231							
U Q									236	250	254	270	258	256	250	246								
L Q									224	239	244	254	240	238	236	231								

FEB. 2005 h'F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 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 296	E B 268	216	216	E B 286	E B 294	E B 280	236	218	200	C	C	C	C	C	C	C	204	222	224	220	E A 254	E B 274	E B 274
2	E B 268	232	E A 244	226	200	E B 290	222	212	210	H 196	212	H 166	222	214	190	H 182	212	206	204	224	226	E A 264	E B 270	E B 244
3	230	E B 258	E B 250	E B 250	E B 252	232	E B 246	234	208	H 196	196	202	194	204	H 180	210	224	210	216	E B 248	228	210	216	E B 268
4	E B 280	E B 284	E B 256	E B 244	230	E B 280	234	208	202	198	H 188	H 198	H 186	204	206	A	214	206	204	220	218	E A 238	E A 288	E B 286
5	E B 288	E A 294	E A 272	E B 268	E B 244	206	E B 262	216	210	224	220	210	206	206	198	194	208	208	200	232	208	E B 244	E B 262	E B 290
6	234	E B 278	238	240	224	222	234	212	190	H 188	202	H 188	H 192	228	212	218	210	208	214	230	210	240	E B 258	E B 280
7	E B 292	E A 282	E B 270	230	196	E A 320	E A 250	212	214	220	208	H 186	204	210	204	204	214	214	210	220	E B 246	232	E B 272	E B 260
8	E B 270	E B 288	E B 244	214	196	E A 274	E B 278	214	212	H 192	230	220	216	216	210	208	218	216	190	E A 254	E A 248	E A 270	236	E B 274
9	E B 290	E A 276	236	206	182	E B 282	232	216	214	220	214	196	222	204	210	204	210	H 180	206	228	E B 244	E B 248	E B 296	E B 278
10	E B 288	E B 246	E B 238	214	238	E B 292	222	226	216	212	212	200	H 190	204	204	206	222	210	210	E B 246	228	210	E B 288	E B 330
11	E B 304	E B 290	E B 264	202	204	234	232	H 170	202	H 188	206	200	212	212	A	202	218	200	200	212	E B 254	E B 250	E B 304	E B 304
12	E B 254	E B 264	240	216	210	E B 284	E B 252	218	H 180	218	210	206	216	204	202	210	214	200	202	220	E B 238	E B 248	236	E B 318
13	E B 304	E B 266	E B 268	E B 252	226	E A 236	214	202	H 180	204	202	206	190	200	216	220	210	208	208	218	216	234	224	E B 272
14	E B 270	E B 262	E B 266	E B 268	E B 246	E B 254	218	206	H 178	200	210	214	202	H 190	188	224	216	210	202	214	220	216	E B 246	E B 292
15	E B 282	E B 302	E B 272	E B 256	E B 246	232	224	198	H 192	202	216	198	H 192	206	220	208	H 210	204	198	212	218	226	232	E B 268
16	E B 296	E B 304	E B 284	E B 258	E B 250	E B 260	E B 248	226	210	198	206	200	216	202	204	204	190	216	206	218	234	236	E B 260	E B 292
17	E B 322	E B 292	E B 300	E B 262	E B 284	E B 290	230	214	222	220	210	216	208	H 198	216	206	218	206	210	E A 278	E A 254	E B 254	E B 262	E B 304
18	E B 280	E B 258	226	E B 276	E A 244	E B 246	236	212	214	194	202	210	210	210	200	208	206	220	238	208	218	E B 288	E B 284	E B 296
19	E B 274	E B 274	E B 248	234	E B 238	E B 242	214	210	220	200	198	220	222	212	202	A	212	196	208	208	218	E B 250	E B 302	E B 322
20	E B 302	E B 286	E B 238	206	E B 250	E B 336	E B 274	214	214	216	208	214	204	208	206	196	210	H 202	214	198	222	E B 254	E B 300	E B 302
21	E B 310	E B 316	E B 254	200	E B 282	E B 272	E B 238	212	H 202	H 182	226	216	220	210	200	202	210	208	220	206	218	E B 262	E B 272	E B 298
22	E B 284	E B 280	E B 250	E B 208	216	206	234	218	H 194	214	208	204	224	208	202	220	226	208	194	208	214	E B 264	E B 266	E B 276
23	E B 334	232	230	222	216	E B 286	E B 254	218	210	H 196	212	200	204	208	222	210	210	208	200	208	E B 236	E B 270	E B 284	E B 318
24	E B 324	E B 324	E B 256	E B 238	226	214	194	202	H 188	H 188	H 180	216	208	208	218	222	220	216	198	196	208	E B 270	E B 292	E B 280
25	E B 278	E B 302	E B 254	218	206	E B 244	E B 256	212	H 180	H 182	H 202	216	218	206	210	208	222	210	198	204	E B 236	E B 256	E B 280	E A 336
26	E B 290	E B 254	234	E B 252	E B 268	E B 302	228	208	H 198	H 200	216	208	E A 246	A	224	A	224	208	202	224	E A 248	E B 258	E A 290	E B 284
27	E A 308	E B 272	E B 270	E A 242	222	E A 242	E B 260	224	210	H 200	H 182	204	H 200	222	A	A	A	204	200	E A 228	218	E A 244	E B 288	E A 292
28	E B 290	E B 286	E B 246	216	214	E B 238	228	H 192	H 184	H 190	198	H 186	222	222	210	A	206	198	202	E B 204	228	E B 240	E B 276	E B 296
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	28	28	28	28	28	28	28	28	27	27	27	26	25	22	26	28	28	28	28	28	28	28
MED	E B 289	E B 279	E B 250	U 218	U 212	E B 257	224	212	209	200	208	204	208	208	206	208	213	208	204	214	220	E B 249	E B 273	E B 291
U Q	E B 303	E B 291	E B 267	E B 252	E B 248	E B 288	E B 253	218	214	213	212	214	220	212	214	210	218	210	210	E 228	E B 237	E B 260	E B 288	E B 303
L Q	E B 276	E B 263	238	215	212	235	226	208	H 191	H 193	202	H 198	H 200	204	201	204	210	204	200	208	218	237	259	E B 275

FEB. 2005 h'F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 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	A	C	C	C	C	C	C	C	C	B						
									122															
2								B										B						
									128	114	112	120	120	120	120	120	124							
3								B						A			A	B						
									126	122	114	118	118		112	112								
4								E B			A	A					A	B						
								128	124	118			116	116	116	110								
5								B					A					B						
									120	118	118	114		122	118	114	116							
6								B				A	A					B						
									114	116	114			118	118	118	116							
7								B		A								B						
									118		118	116	120	112	112	116	120							
8								B										B						
									122	122	118	112	116	114	114	114	120							
9								B				A	A	A				B						
									116	118	120				118	110	116							
10								B										B						
									116	116	116	112	114	108	112	118	118							
11								B					A	A	A	A	A	B						
									116	114	112	112												
12								B									A	B						
									114	110	112	116	114	116	110	114								
13								B					A	A	A		A	B						
									114	114	118	118				124								
14								B										B						
									116	114	114	116	114	114	114	114	116							
15								E B							A			B						
								136	114	118	118	114	114	116		120	120							
16								B					A	A				B						
									120	120	116	114			114	114	116							
17								B										B						
									114	120	118	112	112	120	122	114	120							
18												A	A	A				B						
								116	120	116	116				118	114	118							
19								E B								A	A	B						
								148	116	116	116	114	118	116	114									
20												A	A					B						
								122	116	122	122			118	116	114	110							
21														A				B						
								114	116	116	112	118	118		112	122	122							
22																	A	B						
								120	114	116	116	116	120	116	114	112								
23												A												
								114	118	118	114		114	112	120	120	116	120						
24								B								A	A	B						
									124	110	110	114	116	118	112									
25																	A							
								114	118	116	118	118	116	116	118	118		126						
26													A				A	B						
								128	122	114	116	116		118	116	118								
27																A	A	B						
								114	118	118	114	116	118	116	114									
28																		B						
								112	118	116	110	114	118	116	110	120	118							
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								12	28	26	26	21	18	20	24	23	16	2						
MED								116	118	116	116	116	116	116	114	114	118	123						
U Q								E B																
								128	121	118	118	117	118	118	118	120	120							
L Q								114	116	114	114	114	114	115	112	114	116							

FEB. 2005 h'E (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 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	102	B	B	B	B	B	B	B	106	104	C	C	C	C	C	C	C	B	B	110	102	106	B	B
2	100	100	98	B	B	B	140	144	104	128	118	104	156	104	102	106	142	B	B	B	B	106	104	B
3	102	B	96	96	B	B	B	160	104	128	116	102	152	94	90	90	102	B	B	B	B	B	B	B
4	B	94	98	B	B	B	B	G	108	114	102	102	100	98	98	94	94	100	106	B	106	102	100	98
5	98	90	92	92	92	B	B	144	144	106	120	112	102	104	104	98	96	B	B	B	B	B	B	B
6	92	B	92	92	90	B	B	B	130	112	116	106	104	158	104	168	104	B	94	90	92	90	90	94
7	100	96	92	B	96	94	90	146	138	104	160	102	102	98	96	136	G	88	88	B	B	B	B	B
8	B	B	92	B	B	102	B	164	152	108	G	106	128	104	G	G	108	88	B	92	94	90	B	B
9	96	96	92	90	90	92	92	148	160	102	124	108	106	104	102	96	94	B	B	B	92	92	90	90
10	90	B	B	B	B	98	98	156	166	112	158	92	90	88	100	102	96	B	B	88	90	B	B	B
11	B	B	94	B	94	90	90	90	104	106	156	102	102	102	98	96	94	96	90	B	B	B	B	B
12	B	B	B	100	100	102	102	154	102	168	154	126	110	114	108	98	92	94	92	92	B	B	122	B
13	B	B	B	B	B	96	98	B	102	164	150	138	108	104	108	104	102	B	B	B	104	100	B	B
14	B	B	100	92	92	92	96	154	100	102	140	118	114	112	96	150	140	134	B	96	92	B	B	B
15	B	B	B	B	B	B	B	164	G	102	132	126	118	118	106	102	140	124	B	B	B	108	B	B
16	B	92	94	B	B	B	B	158	102	102	122	118	108	106	90	98	116	86	B	B	86	B	B	B
17	B	106	B	102	102	B	B	144	148	136	132	118	116	104	118	G	G	98	92	88	90	92	92	B
18	B	B	B	B	96	B	B	138	100	120	104	104	106	104	126	100	100	B	88	90	B	88	B	B
19	102	B	B	B	B	102	B	152	160	102	104	164	162	156	142	90	90	B	B	92	90	90	B	102
20	100	102	B	B	B	B	B	158	152	120	118	106	102	102	98	98	G	B	B	B	B	B	B	B
21	B	B	B	B	B	B	B	152	106	98	156	104	100	106	104	104	108	90	88	B	B	B	B	118
22	B	B	B	B	B	B	B	162	100	166	100	118	106	118	120	112	84	90	B	B	B	B	B	B
23	B	B	B	B	96	B	B	148	152	102	156	102	126	118	126	130	96	92	96	B	B	B	B	B
24	126	124	B	100	100	98	B	B	108	100	98	162	148	130	120	106	106	110	B	B	B	B	B	B
25	B	B	B	B	B	B	B	168	104	104	176	158	112	100	172	100	104	G	B	B	B	B	96	90
26	100	94	B	B	B	B	B	144	144	106	116	158	140	126	130	126	98	110	94	96	96	130	118	94
27	114	98	100	102	116	94	B	142	166	104	102	118	124	114	112	104	102	102	100	102	96	96	96	96
28	98	B	B	108	104	108	B	G	100	96	98	146	140	130	142	124	118	104	B	B	B	B	B	B
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	14	11	12	10	13	12	8	22	27	28	26	27	27	27	26	25	24	16	11	11	13	13	9	8
MED	100	96	94	98	96	97	97	152	108	106	121	112	110	104	105	102	102	97	92	92	92	96	96	95
U Q	102	102	98	102	101	102	100	158	152	120	154	126	128	118	120	118	108	107	96	96	99	106	111	100
L Q	98	94	92	92	92	93	91	144	102	102	104	104	102	102	98	98	95	90	88	90	90	90	91	92

IONOSPHERIC DATA STATION Kokubunji

FEB. 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

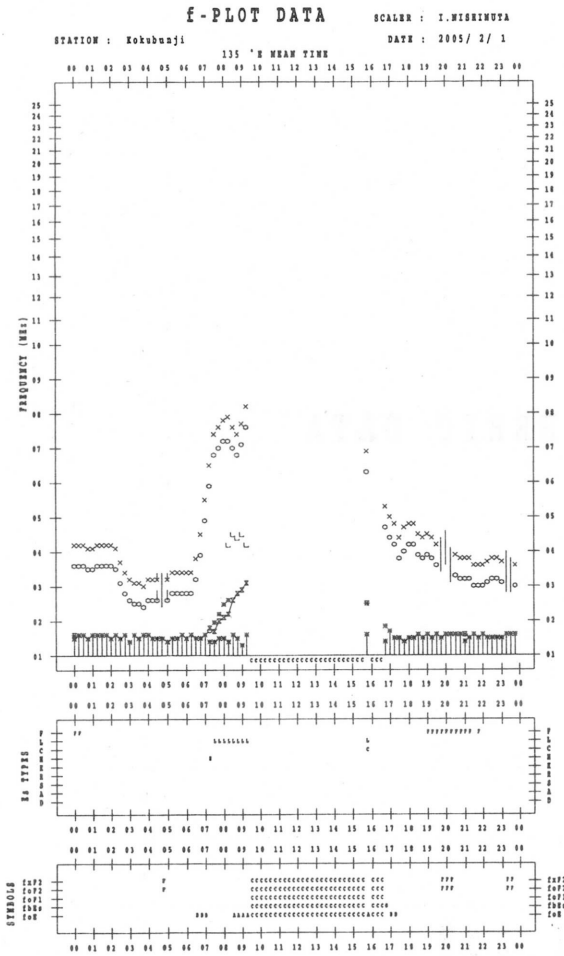
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F1								L1	L2										F1	F2	F1		
2	F2	F1	F2				F1	H2	L2	CL12	CL11	L1	HL11	L1	L1	L1	HL11					F2	F1	
3	F1		F1	F1				H1	L2	CL11	CL11	L1	HL11	L2	L2	L2	L2							
4		F2	F1						L2	CL21	L1	L1	L1	L2	L2	L2	L2	L2	F1		F2	F2	F3	F2
5	F3	F3	F2	F2	F3			H2	HL11	L1	CL11	CL11	L1	L1	L1	L1	L1							
6	F1		F1	F1	F1				CL11	CL11	CL11	L2	L2	HL11	L1	HL11	L1		F1	F2	F2	F1	F2	F2
7	F1	F2	F2		F1	F2	F2	HL11	HL11	L1	HL11	L1	L1	L1	L2	HL11		L3	F2					
8			F1			F2		H1	H1	L1		L1	CL11	L1			L1	L2		F1	F1	F2		
9	F2	F2	F2	F1	F1	F1	F1	H1	H1	L1	CL11	L1	L1	L1	L1	L1	L2				F1	F1	F1	F1
10	F1					F1	F1	HL11	HL11	CL21	HL11	L1	L2	L2	L1	L1	L1			F1	F1			
11			F2		F2	F2	F2	L1	L1	L1	HL11	L1	L2	L2	L3	L2	L3	L3	F3					
12				F1	F1	F1	F2	H1	L1	HL11	HL11	CL11	CL11	CL11	CL11	L1	L4	L2	F2	F1			F1	
13						F1	F1		L1	HL11	HL11	HL11	L1	L1	L1	L2	L2				F1	F3		
14			F2	F2	F1	F2	F1	H1	L1	L1	HL11	CL11	CL11	CL11	L1	HL11	HL11	H1		F1	F1			
15								H1		L1	CL11	CL11	CL11	CL11	L1	L2	HL11	C1				F1		
16		F1	F1					H1	L2	L2	CL11	CL11	L2	L1	L1	L1	C1	L2			F1			
17		F2		F2	F1			H1	H1	CL11	CL11	CL11	CL11	L1	CL11			L2	F2	F2	F4	F1	F1	
18					F1			H1	L1	CL11	L1	L1	L1	L1	CL11	L1	L1		F1	F1		F1		
19	F2					F1		H1	HL11	L1	L1	HL11	HL11	HL11	HL11	L3	L3			F1	F2	F2		F2
20	F2	F1						H1	H1	CL11	CL11	L1	L1	L1	L2	L1								
21								H1	L1	L1	HL11	L1	L1	L1	L1	L1	L1	L2	F1					F1
22								H1	L1	HL11	L1	CL11	L1	CL11	CL11	CL11	L2	L2						
23					F1			H2	H1	L2	HL11	L2	C2	CL11	CL11	CL11	L1	L1	F1					
24	F1	F1		F2	F2	F2			L1	L1	L1	HL11	HL11	CL11	CL11	L2	L1	L2						
25								H1	L1	L1	HL11	HL11	CL11	L1	HL11	L1	L1						F2	F3
26	F2	F2						H2	HL21	L1	CL11	HL11	HL11	CL11	CL11	CL21	LC21	CL32	F2	F3	F3	F1	F3	F2
27	F3	F2	F1	F2	FF21	F3		H2	HL11	L1	L1	CL11	CL11	CL11	CL31	L2	L3	L2	F2	F2	F2	F2	F1	F1
28	F2			F1	F1	F1			L2	L2	L1	HL11	HL11	CL11	HL11	CL11	CL21	L4						
29																								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

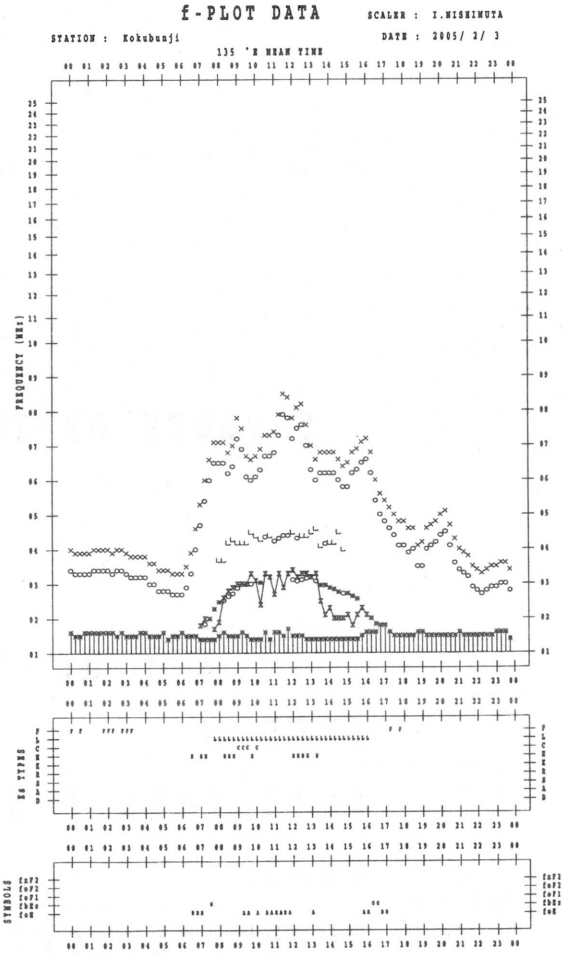
FEB. 2005 TYPES OF Es

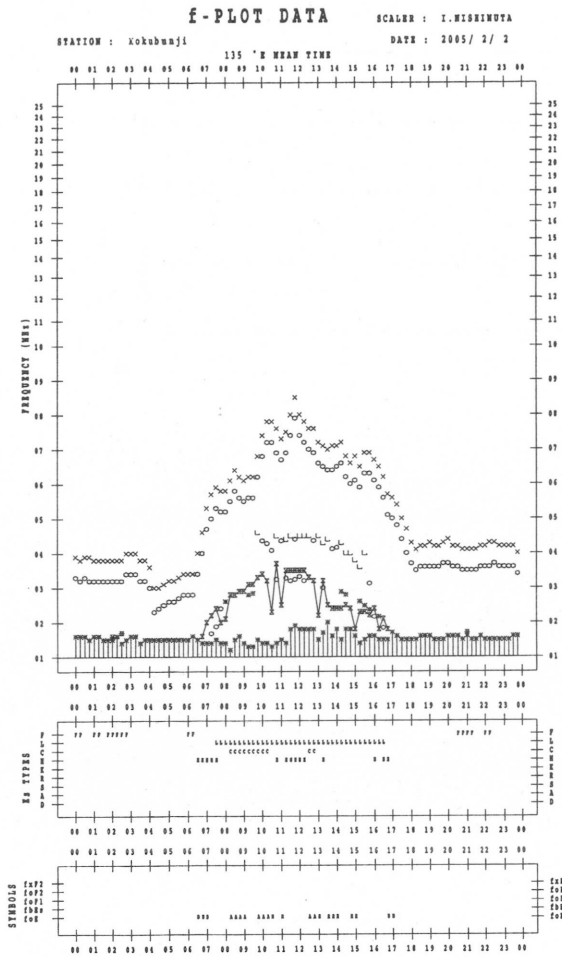
NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

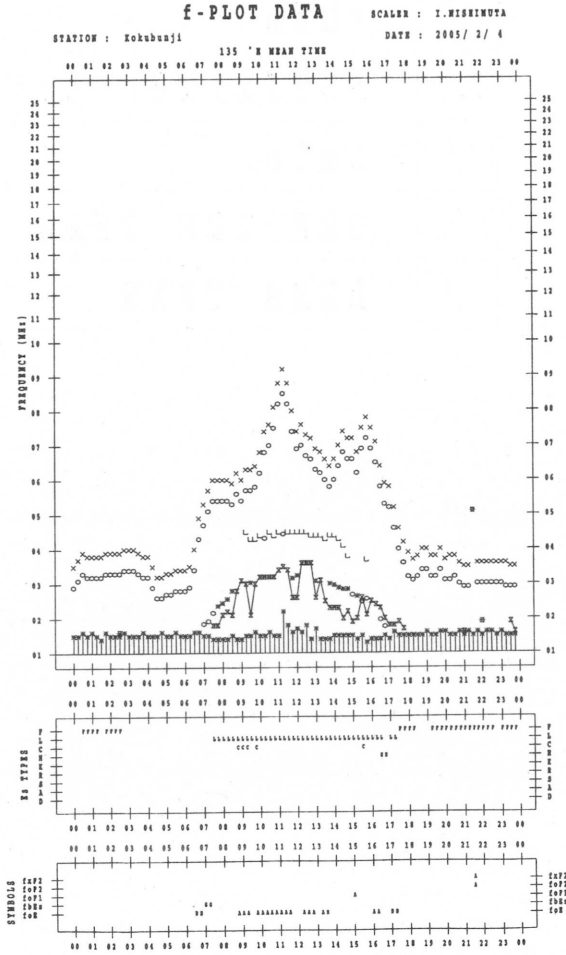
f-PLOTS OF IONOSPHERIC DATA

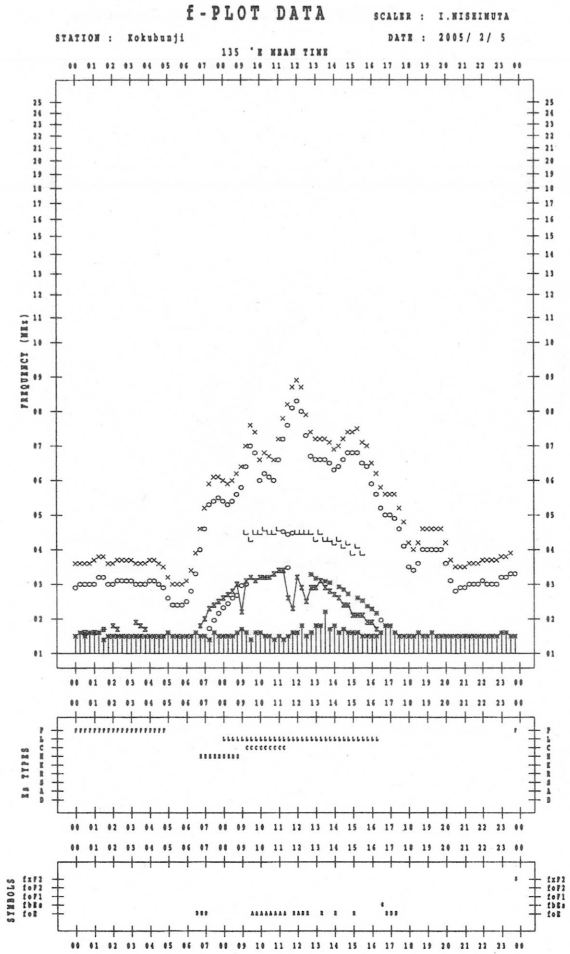
KEY OF f-PLOT	
	SPREAD
	foF2, foF1, foE
	fxF2
	DOUBTFUL foF2, foF1, foE
	fbEs
	ESTIMATED foF1
	fmin
	GREATER THAN
	LESS THAN

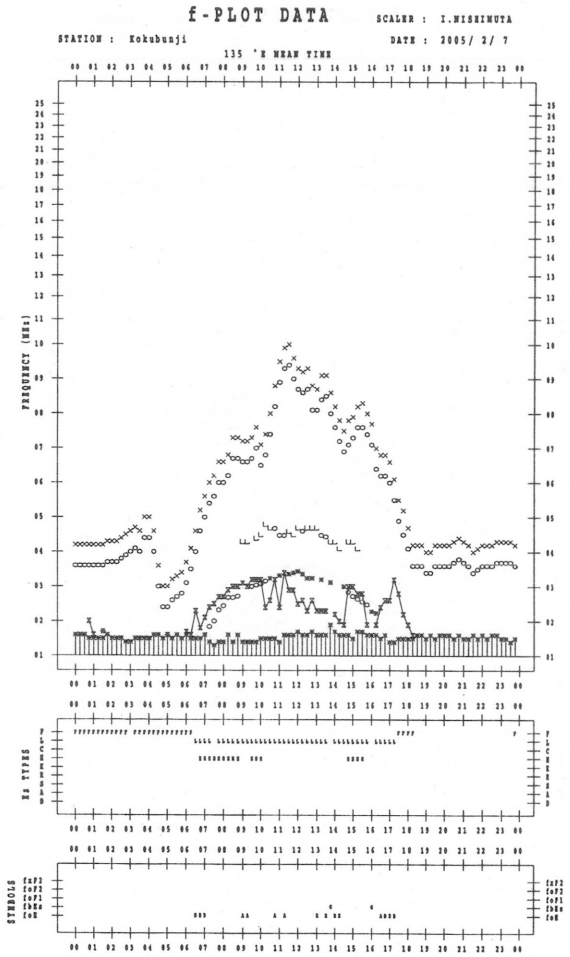

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/ 1
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

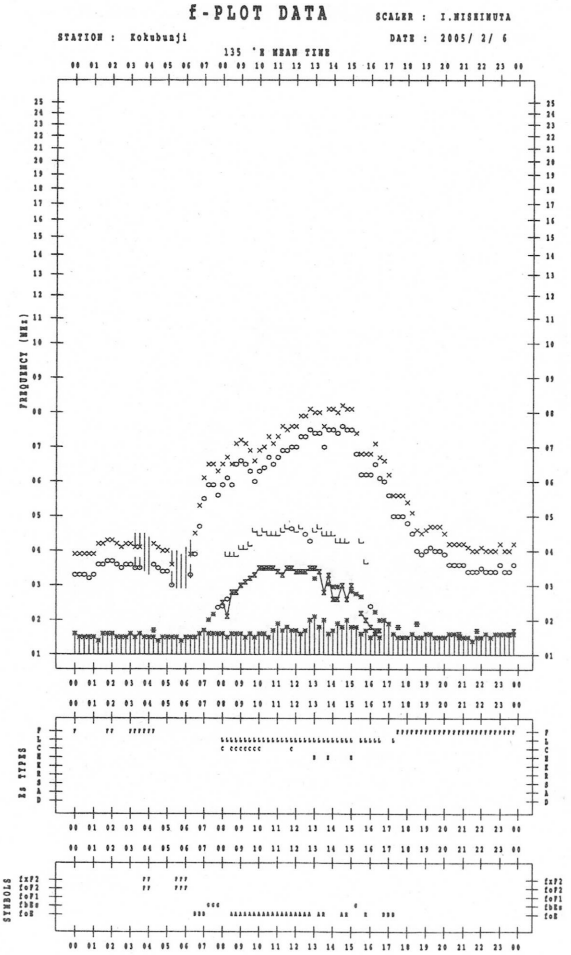

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/ 3
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

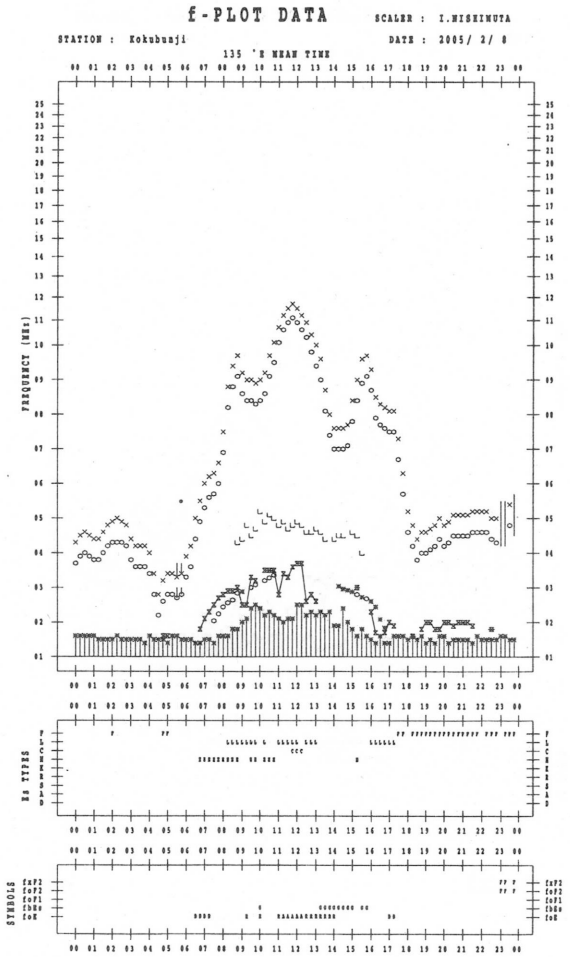

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/ 2
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

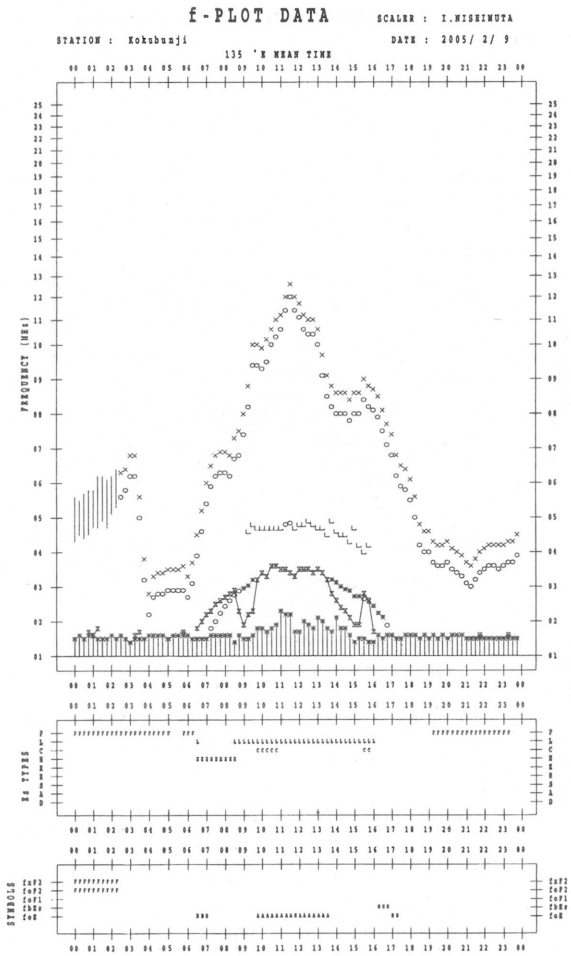

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/ 4
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

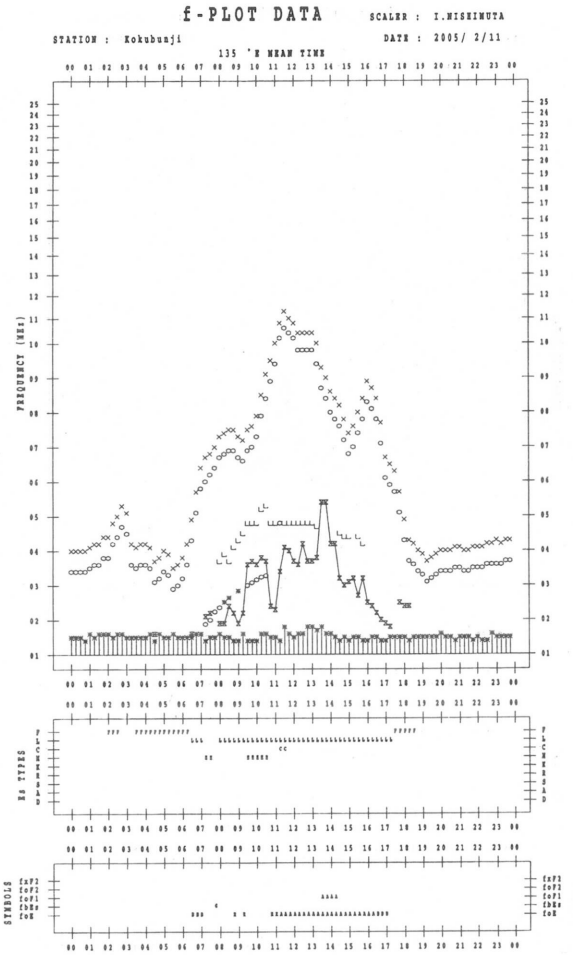

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/ 5
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

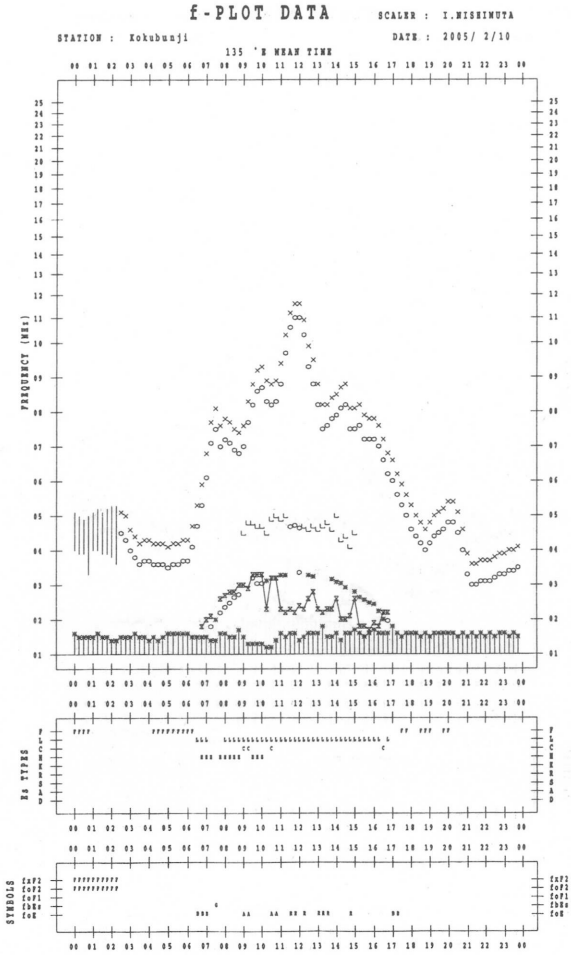

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/ 7
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

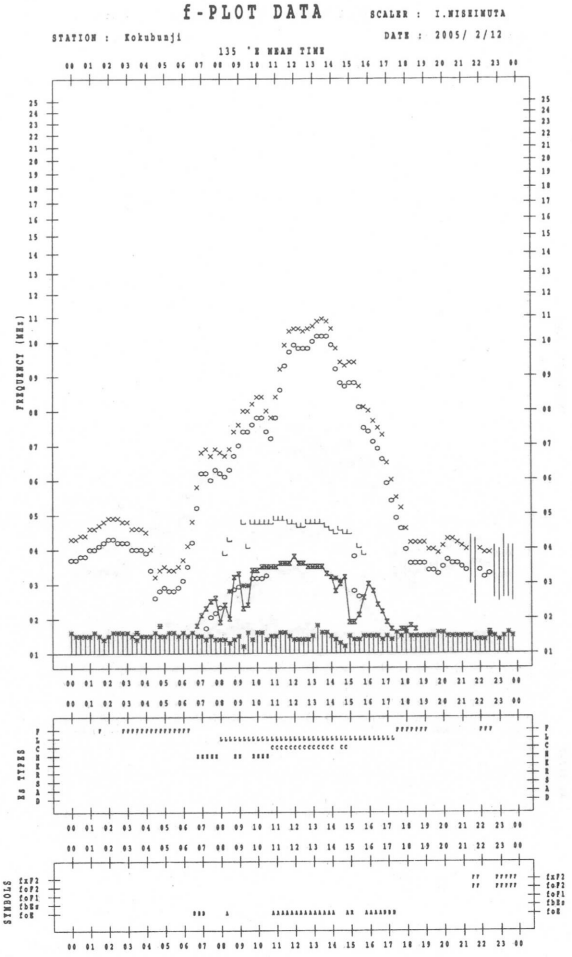

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/ 6
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

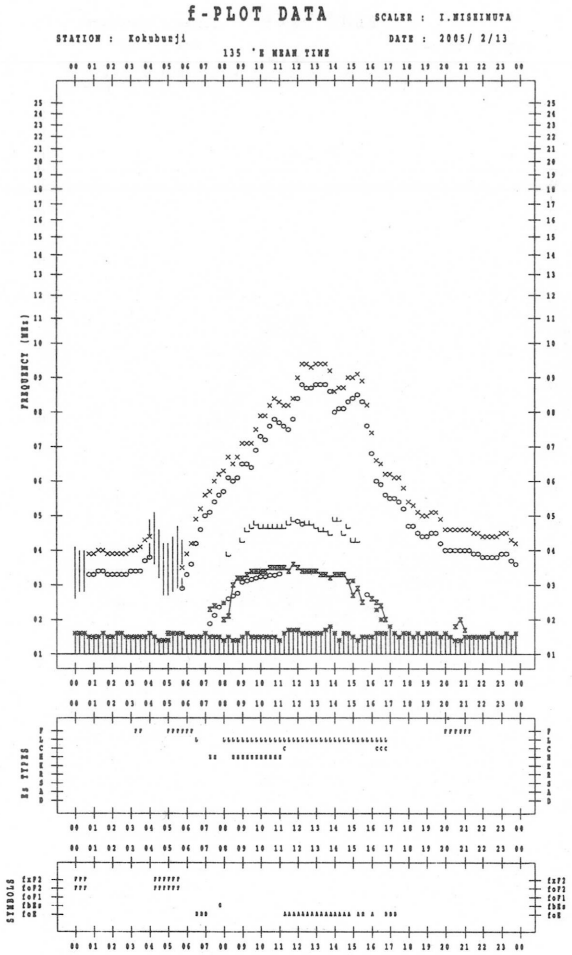

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/ 8
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

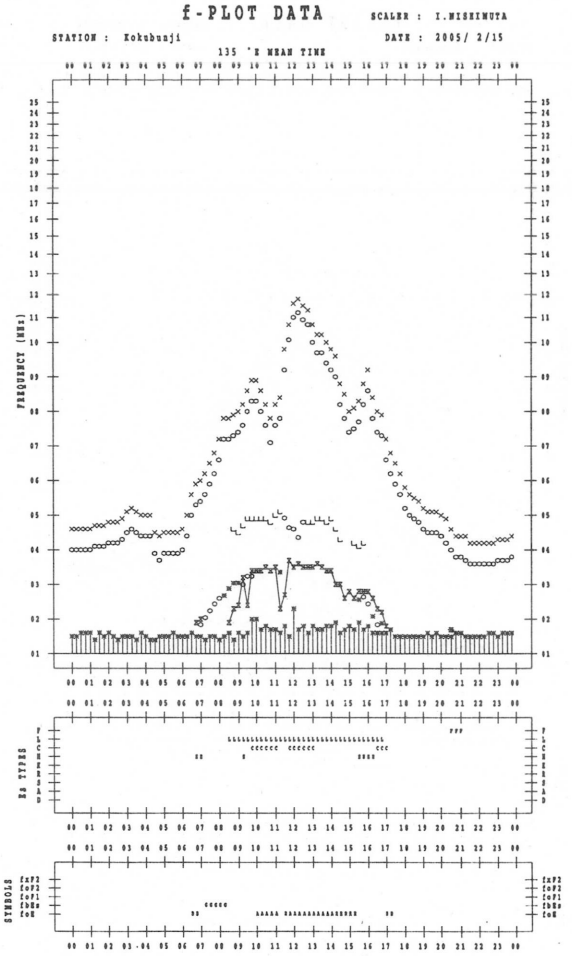

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/ 9
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

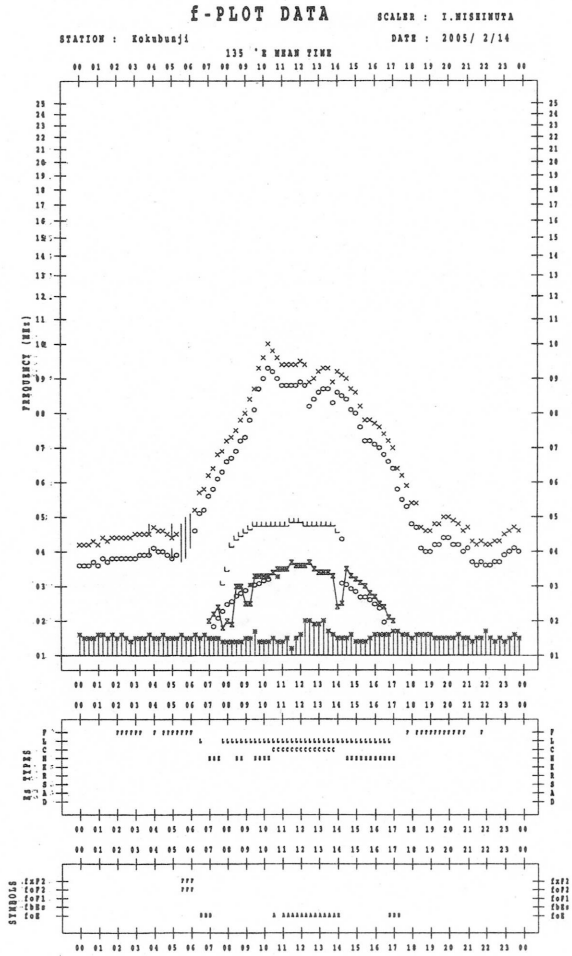

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/11
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

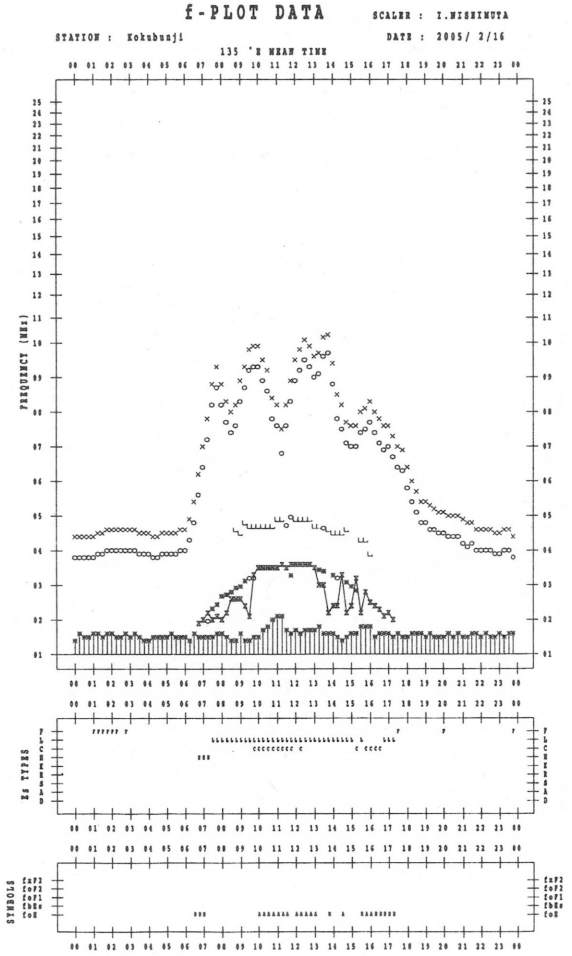

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/10
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

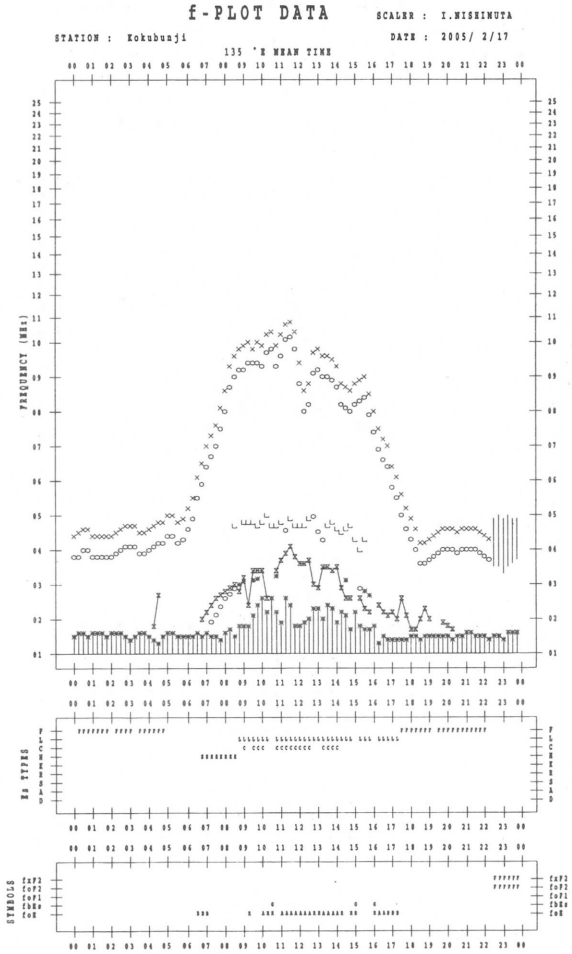

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/12
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

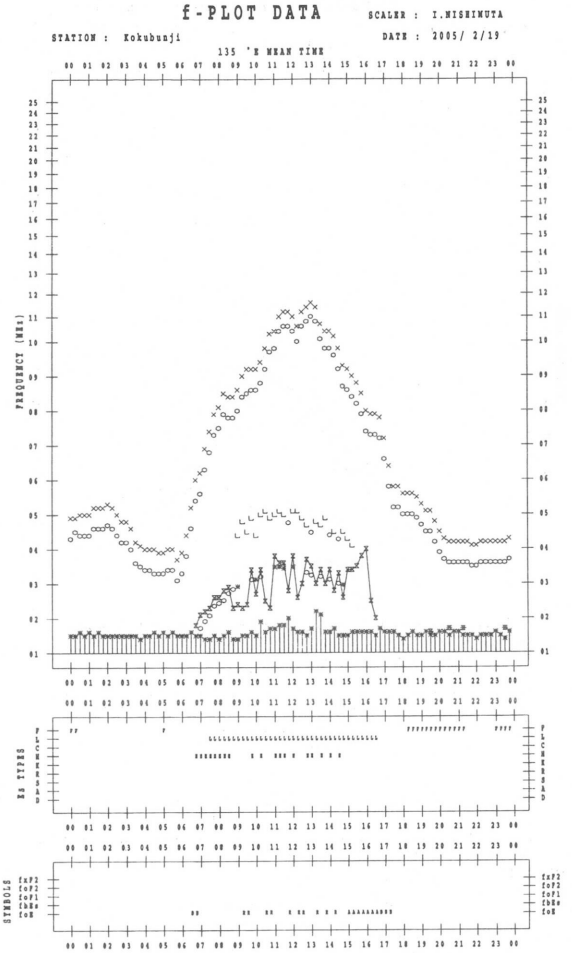

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/13
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

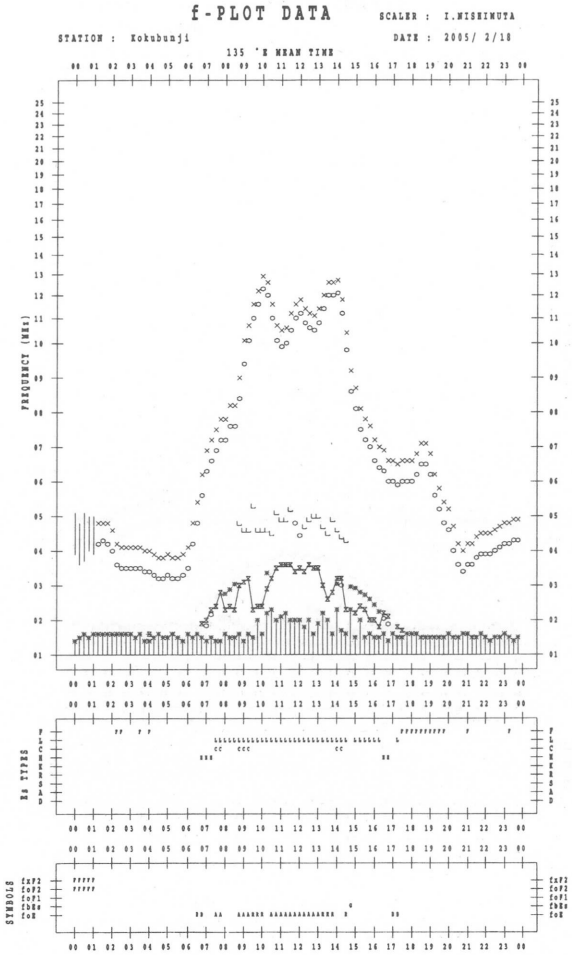

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/15
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

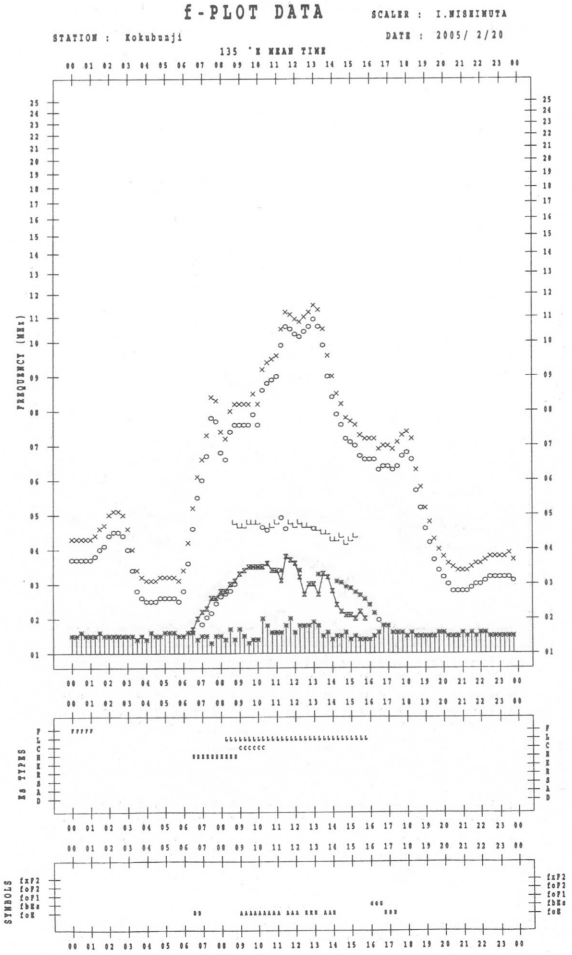

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/14
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

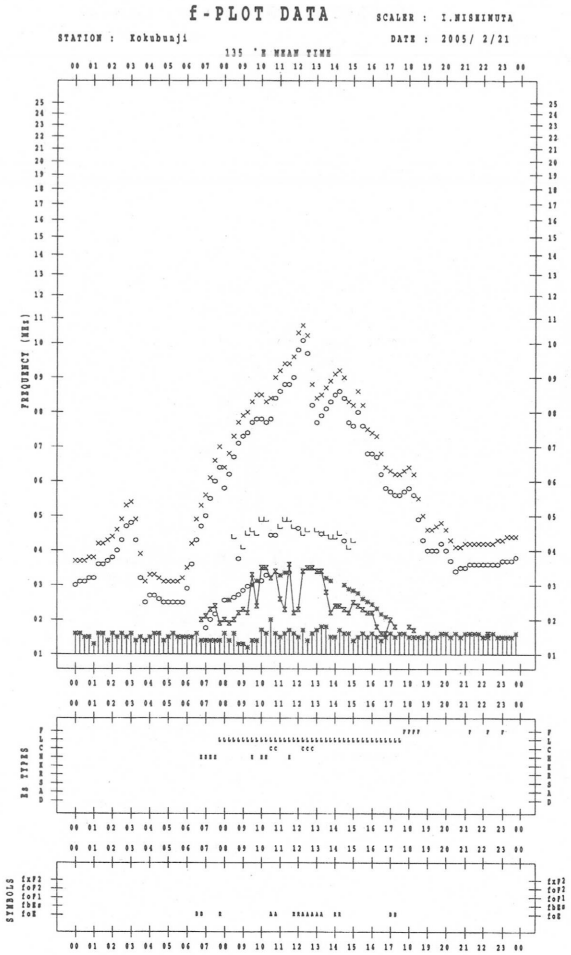

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/16
135 'E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

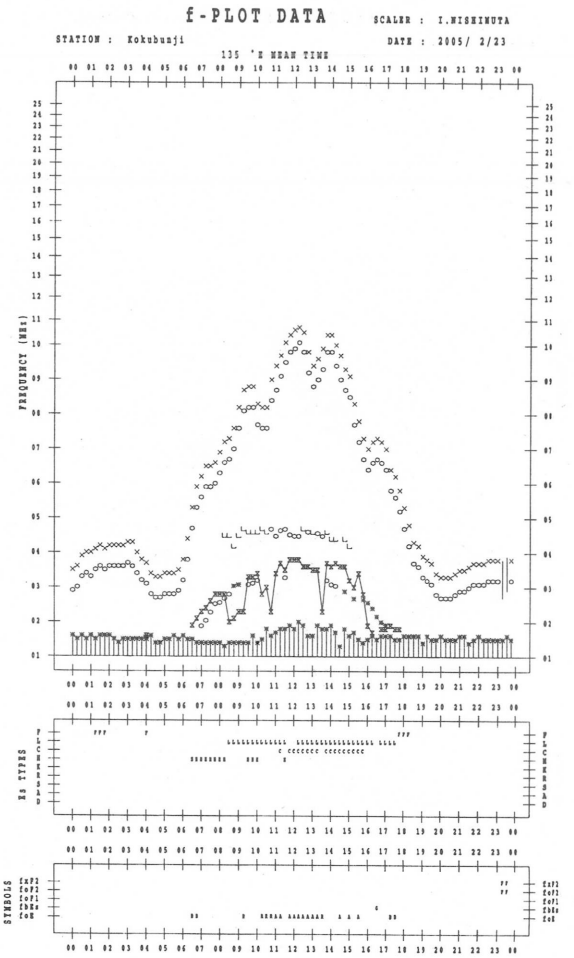

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/17
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

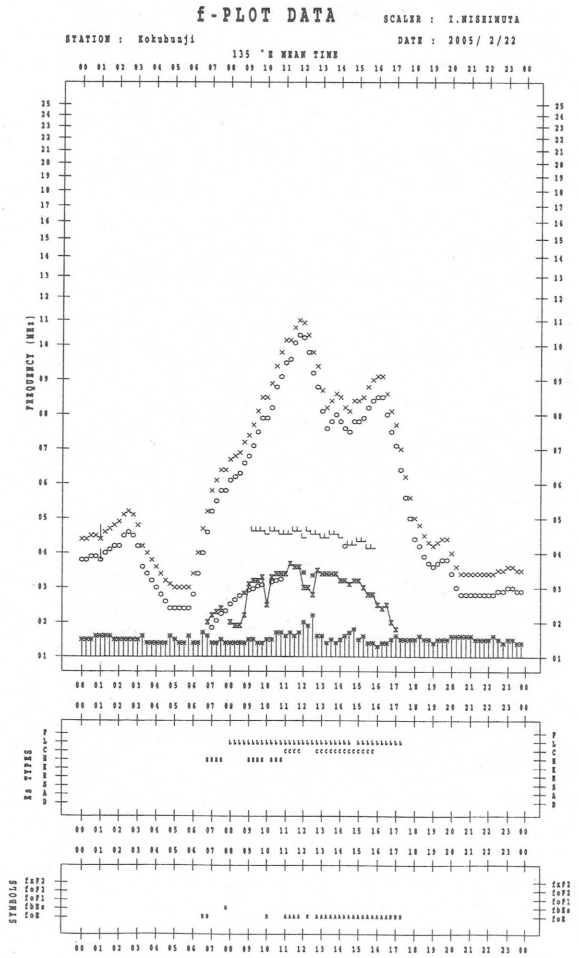

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/19
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

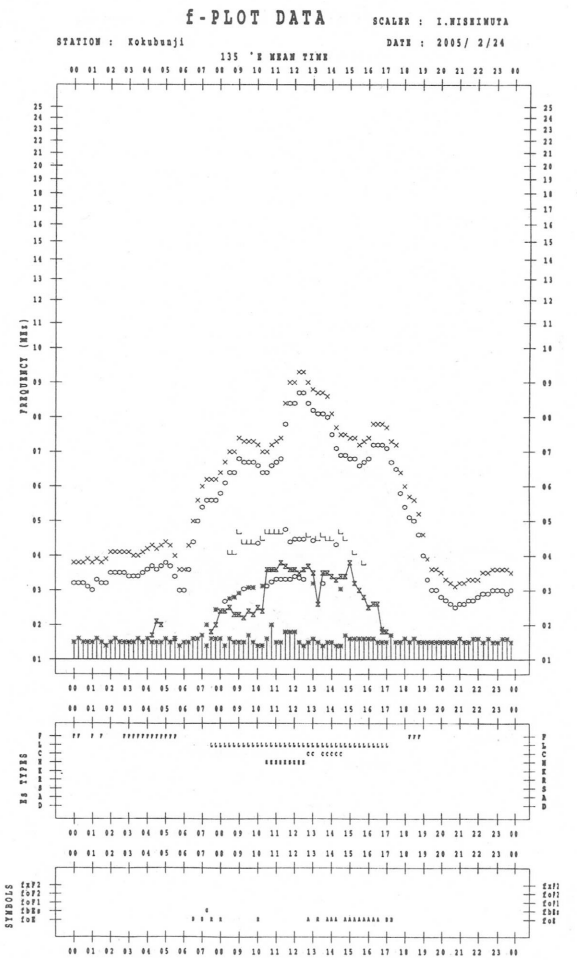

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/18
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

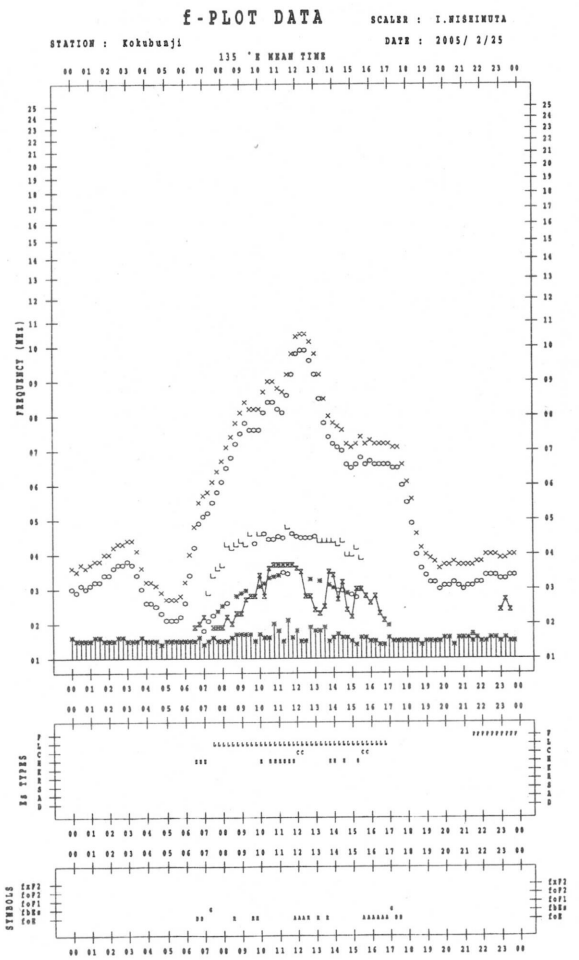

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/20
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

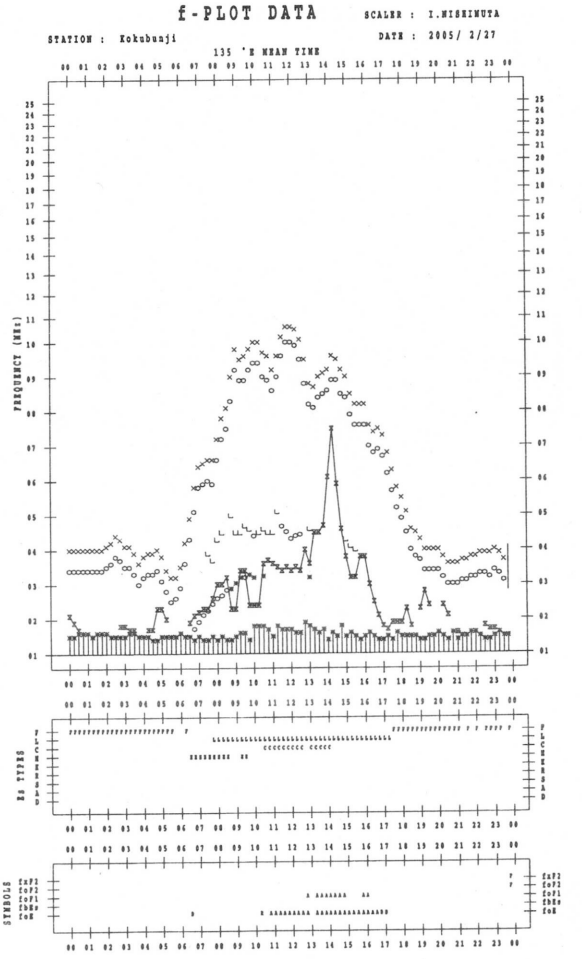

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/21
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

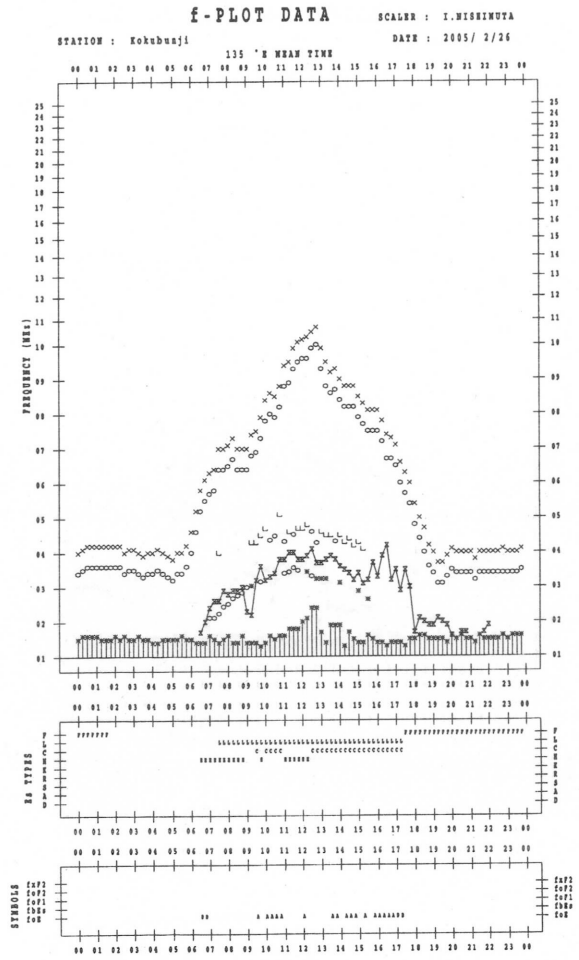

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/23
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS

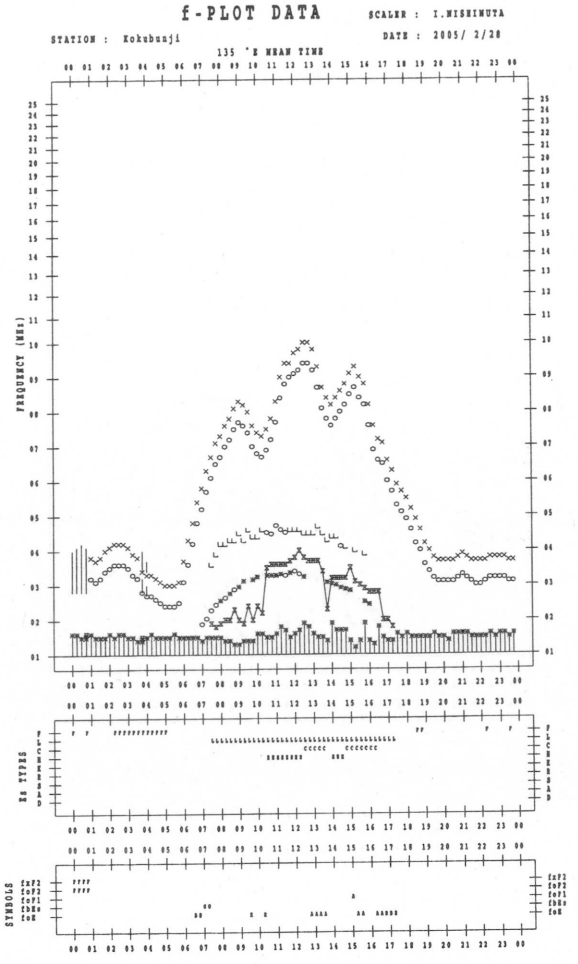

f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/22
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/24
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/25
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/27
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/26
135 °E MEAN TIME
FREQUENCY (MHz)
Es TYPES
SYMBOLS


f-PLOT DATA
SCALER : I.NISHIMUTA
STATION : Kokubunji
DATE : 2005/ 2/28
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 February 2005

Single-frequency observations

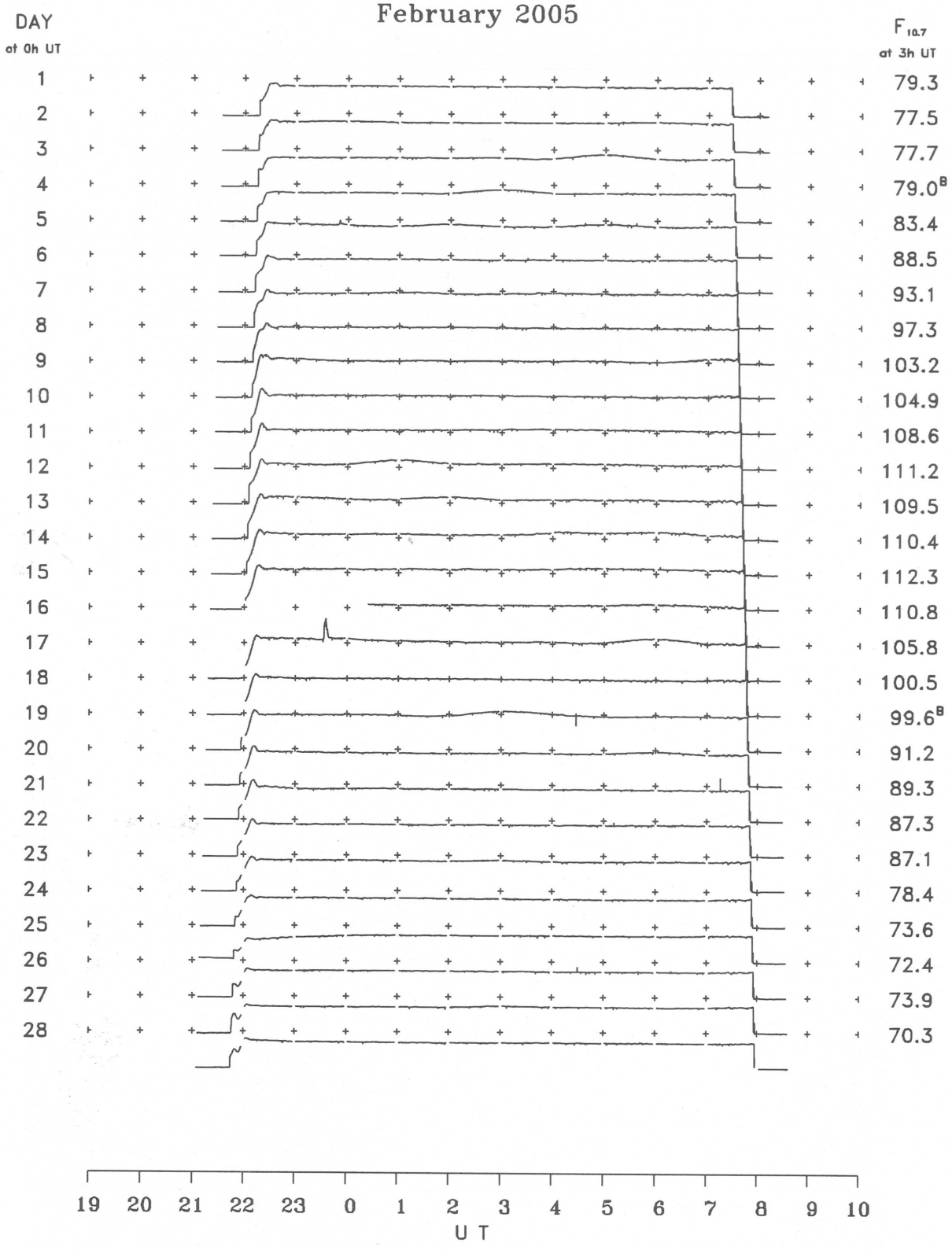
Normal observing period: 2120 - 0820 U.T. (sunrise to sunset)

FEB. 2005	FREQ. (MHz)	TYPE	START TIME (U.T.)	TIME OF MAXIMUM (U.T.)	DUR. (MIN.)	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) PEAK	FLUX DENSITY (10^{-22} W m^{-2} Hz^{-1}) MEAN	POLARIZATION REMARKS
4	2800	1 S	2350.0	2350.0	2.0	15	-	0
16	2800	4 S/F	2332.0	2335.0	7.0	60	-	WL
21	2800	8 S	0716.0	0716.0	1.0	35	-	0

B. Solar Radio Emission

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

February 2005



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

IONOSPHERIC DATA IN JAPAN FOR FEBRUARY 2005
F－674　Vol.57　No.2（Not for Sale）

電離層月報（2005年2月）
第57巻　第2号（非売品）
2005年　6月6日　印刷
2005年　6月10日　発行

編集兼　独立行政法人情報通信研究機構
発行所　〒184－8795　東京都小金井市貫井北町4丁目2－1
☎（042）（327）7478（直通）

Queries about "Ionospheric Data in Japan" should be forwarded to :
National Institute of Information and Commnications Technology, 2-1
Nukui-Kitamachi 4-chome, Koganei-shi, Tokyo 184-8795 JAPAN