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IONOSPHERIC DATA IN JAPAN

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CONTENTS

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INTRODUCTION

This Series contains data on ionosphere (I), solar radio emission (S) and radio propagation (P) obtained at the following stations under the Communications Research Laboratory, Ministry of Posts and Telecommunications of Japan.

Station	Geographic		Geomagnetic		Technical Method
	Latitude	Longitude	Latitude	Longitude	
Wakkanai	45°23.5′N	141°41.2′E	35.3°N	206.5°	Vertical Sounding (I)
Kokubunji	35°42.4′N	139°29.3′E	25.5°N	205.8°	Vertical Sounding (I)
Yamagawa	31°12.1′N	130°37.1′E	20.4°N	198.3°	Vertical Sounding (I)
Okinawa	26°16.9′N	127°48.4′E	15.3°N	196.0°	Vertical Sounding (I)
Hiraiso	36°22.0′N	140°37.5′E	26.3°N	206.8°	Radio Receiving (S,P)
Inubo	35°42.2′N	140°51.5′E	25.6°N	207.0°	Radio Receiving (P)

A. IONOSPHERE

Ionospheic 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 as well as graphically on 35 mm photographic film. 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*).

B Impossible measurement because of absorption in the vicinity of *fmin*.

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 descriptivel etter 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 Handbook of Ionogram Interpretation and Reduction (Second Edition) 1972 " and its revision of chapters I-4, published in July 1978.

a. Characteristics of Ionosphere

fxI	Top frequency of spread *F* trace
foF2 *foF1* *foE* *foEs*	Ordinary wave critical frequency for the *F2,F1, E* and *Es* including particle *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 transmisson 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 or impossible because the ionization density of the layer is too small to enable it to be made accurately.

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

K Presence of particle *E* layer.

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

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

N Conditions are such that the measurement cannot be interpreted.

O Measurement refers to the ordinary component.

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

Q Range spread present.

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

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

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

V Forked trace which may influence the measurement.

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

X Measurement refers to the extraordinary component.

Y Lacuna phenomena, severe layer tilt.

Z Third magneto-electronic component present.

(ii) Qualifying Letters

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

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

D Greater than.

E Less than.

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

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

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

U Uncertain or doubtful numerical value.

Z Measurement deduced from the third magneto-electronic component.

(iii) Description of Types of *Es*

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

The types are:

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

l A flat *Es* trace at or below the normal *E* layer minimum virtual height or below the particle *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 normnal *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 two parabolic antennas, one with 10-meter diameter for 200 MHz measurements and one with 2-meter diameter for 500 and 2800 MHz measurements, 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 separately for 200 and 500 MHz measurements. The intensities are expressed by the flux density in 10^{-22} Wm^{-2} Hz^{-1} unit.

The table for 200 MHz measurements also presents the variability indices defined by the number of impulsive radio bursts within the three-hour intervals as follows:

0 quiet or no burst,

1 a few bursts,

2 many bursts,

3 very many bursts.

The daily variability index is defined as the daily mean of three-hourly indices.

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 percent.

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 $F_{10.7}$ 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.

C. RADIO PROPAGATION

C1. H.F. Field Strength at Hiraiso

Field strength observation of 15 MHz standard waves transmitted from WWV and WWVH stations which are located respectively at Fort Collins, Colorado and Kauai, Hawaii, is carried out at Hiraiso. In order to avoid interference among the same frequency waves, the upper sideband of WWV or WWVH with the audio tone 600 Hz is picked up by the use of a narrow band-pass filter with 80 Hz bandwidth.Particulars of the transmitters and the receiver are summarized in the following table.

The tabulated *field strength* expressed in dB above one microvolt per meter is the average of quasi-peak values of the incident upper sideband field intensity for 45 seconds after the universal time indicated on the table. Abbreviated symbols are as follows:

CNT — number of observed values,
MED — median,
UD — value of the uppermost decile when they are ranked according to magnitude,
LD — value of the lowest decile when they are ranked according to magnitude,
U — uncertain,
E — less than,
C — innuenced by, or impossible because of, any artificial accident,
S — influenced by, or impossible because of, interferences or atmospherics.

C2. Radio Propagation Quality Figures at Hiraiso

The tabulated six-hourly quality figures are calculated for standard waves WWV transmitted from Fort Collins and WWVH transmitted from Kauai.

Quality figures expressing radio propagation conditions range over five grades as follows:

1 — very poor(very disturbed),
2 — poor(disturbed),
3 — rather poor(unstable),
4 — normal,
5 — good.

Whole day quality figure ranged in grades of 1o, 1+, 2-, 2o, 2+, 3-, 3o, 3+, 4-, 4o, 4+, 5-, 5o stands for an average of six-hourly quality figures of the two circuits. Abbreviated symbols are as follows:

C — artificial accident,
S — propagational accident,
U — inaccurate.

Characteristics	Transmitter		Receiver
Station Call	WWV	WWVH	
Location	Fort Collins, Colorado	Kauai, Hawaii	Hiraiso, Ibaraki
latitude	40°41´N	22°00´N	36°22´N
longitude	105°02´W	159°46´W	140°38´E
Distance	9150 km	5910 km	--
Carrier Power	10 kW	10 kW	--
Power in each sideband	625 W	625 W	--
Modulation	50 %	50 %	--
Antenna	λ / 2 vertical	λ / 2 vertical	4.5 m vertical rod
Bandwidth	--	--	80 Hz for upper sideband
Calibration	--	--	Every hour

The column of conditions presents a record of the forecast of *radio propagation conditions* which is applicable to forthcoming 12 hours and broadcast six times par hour from JJY (Japan Standard Wave) staion. The conditions are denoted as follows:

N normal,
U unstable,
W disturbed.

Data on *geomagnetic storms* which are often correlated with radio propagation disturbances are tabulated based on reports from observation at Kakioka Magnetic Observatory, Japan Meteorological Agency. *Time* (U.T.) is expressed in hours and minutes (or tenths of an hour) , and *range* in nanotesla. When they are uncertain quantitatively, / 's are used to replace the numerical values. Continuation of a geomagnetic storm is denoted by ---.

C3. Phase Variation in OMEGA Radio Waves at Inubo

The phase values of eight OMEGA radio signals as received at Inubo are depicted for an interval of one month, along with the phase deviation defined as a deviation from a value averaged over the six quietest day within the month. Particulars of the received signals are given in the table below.

In each of the four panels of the figure, the phase (ϕ) is shown in the lower part and the phase deviation ($\Delta \phi$) is shown in the upper part. The phase data are sampled every 30 min, so the curves of the phase and phase deviation are composed of 48 data points per day. The phase delay is measured as a positive value.

The polar cap phase anomaly (PCPA) caused by the solar protons are well detected on the Norway signal. The start, end and maximum times of the PCPA are listed in the table next to the figure, where the times are expressed as day / hour & minute in U.T.. The maximum phase deviation in the list is defined as a phase advance (negative values in the figure) in degrees.

C4. Sudden Ionospheric Disturbances

a. Short Wave Fade-out (SWF) at Hiraiso

The table of short wave fade-out (SWF) is prepared from the record of field intensities measured at Hiraiso.

Drop-out intensities of the 10 MHz, the 20 MHz. and the 25 MHz waves are respectively distinguished by marks ′, ″, and ‴ from those of the 15 MHz wave for WWV and WWVH. Values of *start, duration, type,* and *importance* are obtained from data of the circuit whose drop-out intensity in dB is underlined as xx. When these quantities could not be determined accurately, they are accompanied by one of the following symbols.

D greater than,
E less than,
U uncertain or doubtful.

Types of fade-out are as follows:

S sudden drop-out and gradual recovery,
SL slow drop-out taking 5 to 15 minutes and gradual recovery,
G gradual and irregular in both drop-out and recovery.

Importance of fade-out is scaled according to its amplitude into nine ascending grades as 1-, 1, 1+, 2-, 2, 2+, 3-, 3, 3+.

Correspondence of solar optical and X-ray flares, and solar radio burst to SWF is marked by X, being determined with data from interchange messages of IUWDS and observations at Hiraiso.

In table (a) SWF, *date* indicates the day to which the *start-time* of the event belongs.

b. Sudden Phase Anomaly (SPA) at Inubo

Data of sudden phase anomaly (SPA) are prepared from the records of phase measurement of VLF radio waves received at Inubo. The transmitting stations are listed in the following table.

Phase advance is shown in unit of degree at its maximum stage. No transmission or no reception during the period is indicated by -, an indistinguishable record is spaced out, and a multi-peak event is marked by *. The most remarkable or distinct phase advance is underlined and listed in the column of *Time*.

In table (b) SPA, *date* indicates the day to which the *start-time* of the event belongs.

The following letters may be attached to the value, if necessary.

D greater than,
E less than,
U uncertain or doubtful.

Transmitting Stations

Name	Location (Geographic Coordinates)		Call Sign	Frequency (kHz)	Radiation Power (kW)	Arc Distance from Inubo (km)
Norway	66°25′N	013°08′E	Ω / N	13.6	10	7820
Liberia	06°18′N	010°40′W	Ω / L	13.6	10	14480
Hawaii	21°24′N	157°50′W	Ω / H	13.6	10	6100
North Dakota	46°22′N	098°20′W	Ω / ND	13.6	10	9140
La Reunion	20°58′S	055°17′E	Ω / LR	13.6	10	10970
Argentina	43°03′S	065°11′W	Ω / AR	13.6	10	17640
Australia	38°29′S	146°56′E	Ω / AU	13.6	10	8270
Japan	34°37′N	129°27′E	Ω / J	13.6	10	1040
North West Cape	21°49′S	114°10′E	NWC	22.3	1000	6990

HOURLY VALUES OF foF2 AT WAKKANAI

OCT. 1995

LAT. 45.4N LON. 141.7E SWEEP 1MHz TO 25MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	69	36	30	28		59	46	68	54	68	62	67	59	63	58	53	52	57	57	44		40	37	
2	36		40	38	40	A	35	36	A	65	65	69	68	68	68	68		56	62	59		57	35	38
3	46	47	38	49	31	29		58	68	61	82	80	59	60	58	61	71	68		41		37	38	40
4	38	36	31	35	A	29	A	A	A	A	A	A	A	49	A	69	55	61	64	56	56	37		59
5	35		28		28		A	59	A	A	A	A	A	A	A	A	A	48	48	37	42	38	32	35
6	35	35	38		N	28		56	48		60	60	A	53	A	A	A	68	60	38	28	44	35	36
7	A	29	28	A	A	N	36	41	56	56	58	60	63	A	A	56	A		54	A	56	A	32	A
8	A	36	29	34	N	A	31	A		56	57	60	56	67	58	63	56	60	A	40	38		59	59
9	49	36	30	30	30	30		41	68	A	A	55	54	63	52	60	A	A	36	38	A	A	36	A
10	A	35	32	A		A	A	35	A	A	A	49		A	40	50		52	35	38				35
11		36	35	28	A	N	32	57	57	60	66	67	55	68	68	60	67	57	38	40	31	38	35	
12	35	34	34	29	30	29	A	35		68	69	75	66	67	67	67	58		A	36	36		37	
13	35	35	35		A	35	A	56	57	60	57		66	61	68	63	62		52		40			36
14	35	35	35		35	38	35	57	57	62	64	82	76	70	68	60	67		40	40		38		A
15	A	40	35	35	40	38		58	60		70	60	66	68	67	60	69	53		26	30	34	40	40
16	36		46		35	36	28			67	66	78	82	64	56	64	55		23	36	38			38
17		42	36	30	24	41	35	58	58	72	72	62	87	64	66	68	61		57	57	45	49	47	48
18		55		56	52	35	40	58	70	68	67	72	N	72	56	60	67		40	50	49		56	
19	28			38	A	28	37	58	70	68	81	77	80	64	71	72	74	68	68	56	49	56	43	57
20		50	58	57	54	36	58	60	69	60	73	87	83		70	69	73	68	74		58	58	A	A
21	29	35		A	28	30	A	A	58	57	60	60	60	A	64	64	62	A	A	A	A	A	A	28
22	35	A	A	A	28	29	A	68		68	68	68	68	62	67	62	60	A	30		A	41	A	35
23	A	A	A	A	36	A	A	57	68	68	70	77	72	65	60	64	58	65	44		35	A	A	56
24	A	38	30	32	30	38	36	57		76	66	71	78	72	A	A	62		47	40	35	A	35	38
25	A		35	40		35	35	57	69	68			87	81	83	61	60	53	37	34		37	A	58
26	42	A	37	40	41	35	38	60	68	74	78	82		61		70	74	50	A	30	28		A	44
27	40	44	40	38	36	34	38	39	67	68			68	68	71	62	58	46	37	35		A	38	
28	41	A	35	31	31	29	31	57	66	68	81	70	80	72	68	66	58	56		35	28		40	43
29	40	46	48	47	48		48	57		68	81	71	80		68	64	66	35	34	25	56	40	35	
30	40	40	52	54	54	38	42	62	68	68	56	80	71		70	62	62		N	A	34	A	46	40
31	A	38	38	40		26	30	39	A	71	80	A	81	80	56	68	68	30	A	38	36	37	29	40
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	19	21	26	21	20	23	19	27	20	25	25	25	25	24	25	28	25	19	22	23	21	16	20	21
MED	36	36	35	38	35	35	36	57	66	68	67	70	68	66	67	63	62	56	46	38	38	39	37	40
U Q	41	43	38	43	40	38	40	58	68	68	75	77	80	69	68	67	67	65	57	44	49	46	41	52
L Q	35	35	31	30	30	29	32	41	57	60	61	60	61	62	58	60	58	50	37	36	32	37	35	36

HOURLY VALUES OF fEs AT WAKKANAI

OCT. 1995

LAT. 45.4N LON. 141.7E SWEEP 1MHz TO 25MHz 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	24	25	G	G	24	24	G	28	26	33	29	29	30	35		32	32	33	30	G	28	G	G	
2	G	G	G	G	G	29	G	27	26	33	30	29	28	32	28	29	37	33	G	G		G	G	G
3	G	G	G	G	G	G	22	28	35	35	26	36	35	32	32	26	35	35	37	30		28	G	G
4	G	G	G	G	38	38	27	42	35	38	33	53	44	28	36	44	36	29	31	G	G	G	G	G
5	30	28	28		34	28	33	24	42	36	56	57	42	35	35	28	34	G	24	27	G	G	G	28
6	25	G	24	G	G	G	G	28	34	34	56	36	29	33	58		43	32	47	30	29	33	G	32
7	27	G	25	33	35	30	G		29	33	32	35	29	94	58	42	64		39	42	39	41	33	66
8	41	30	G	26	33	28	29			32	41	37	33	30	29	30	34	31	64	30	29	G	G	G
9	25	G	G	G	G	G	G	33	36	39		29	33	53	33	32	55	40	24	33	44	40	43	42
10	24	25	38	29	33	36	37	G	38	33	32	33		30	31	27		26	26	24	24	25	G	G
11	G	28		30	30	24	G	34	33	27	31	27	27	34	32	31	24	27	27	28	G	G	G	G
12	G	26	G	G	31	G	45	34	26	32	28	29	34	36	29	39	37	39	38	G	G	G	G	G
13	G	G	G	G	42	33	43	41	31		42	37	29	30	33	24	25	27	24	28	27	27	31	24
14	G	G	G		G	G	G	27	26	39	41	47	43	52	42	39	28	G	25	G	G	G		58
15		38	32	30	26	G		26	34	34	33	36	N	28	27	24	G	G	G		34	25	32	
16	G		G	G	24	G	G	30	30	28	30	31	28	31	26	31	30	36	G	24	30	G		G
17	G	G	G	31	G	G	G		24	44	52	63	36	27	29	27	28	G	G	G	27	32	31	27
18		G	G	G	G	G	G	30	27	36		36	53	54	66	61	58	32	35	28	G	G	G	
19	34			60	65	G	38	37	34	30	27	33	33	32	30	30	40	34	32	25	G	26	G	G
20	G	G	G	G	G	G	G	29	53	65	51	33	41		33	32	44	30	25		G	G	36	39
21	36	24	32	34	32	29	34	41	40	34	37	36	46	74	54	69	44	41	68	73	41		45	33
22	27	59	58	41	38	28	34	50	47	43	36	28	31	46	43		38	36	34	34	43	33	46	30
23	41	40	38		31	36	34	41	50	44	33	37	40	57	60	42	45	36	41	G	G	45	45	30
24	28	G	G	G	G	G	G	27		39	61	42	35	51		72	41	34	28	27	25		G	G
25	41	32	25	26	29	29	25	34	38	37	58	51	46	38	G	52	41	34	G	30	26	27		26
26		28	G	G	26	29	25	45	34	45	49	44	35	37		34	36	27		32	34		30	34
27	26	27	G	G	G	11	G	G	38	56	G	46	28	31	32	36	31	G	30	32	G	42		26
28	32	29	25	G	G	G	24	23	25	38	34	53	35	45	38	23	G	G	32	27	26	25		G
29	G	33	G	33	37	36	25	G	30	32	36	47	34		43	37	G	G	G	32	34	38	36	28
30	G	25	24	29	G	G	G		29	31	46	37	45		62	38	30	32	G	36	37	55	46	38
31	28	G		G		29	G	33	57	40	57		75	65	76	38	56		31	34	36	G	G	38
	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	29	28	28	30	31	30	27	29	30	29	30	29	28	28	29	30	29	30	29	29	28	26	28
MED	24	25	G	G	26	24	12	30	34	36	36	36	35	35	33	32	36	32	29	28	27	25	G	26
U Q	29	28	25	30	33	29	33	37	38	39	50	46	42	51	48	40	43	34	35	32	34	33	36	33
L Q	G	G	G	G	G	G	G	27	28	33	30	33	29	31	29	28	30	13	24	12	G	G	G	G

HOURLY VALUES OF fmin AT WAKKANAI

OCT.1995

LAT. 45.4N LON. 141.7E SWEEP 1MHz TO 25MHz 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	15	15	15	15	16	18	16	17	17	16	16	16	15	15	15	15	15	15	16	16	15	15	
2	16	16	16	15	17	16	18	16	18	17	17	18	16	17	18	15	16	16	15	16		15	15	16
3	15	15	15	15	16	15	20	17	16	16	17	15	15	18	16	15	15	14	15	15		14	18	16
4	15	17	16	15	14	15	16	18	16	16	17	16	15	15	15	15	15	16	14	16	16	15	15	16
5	15	15	14		15	15	15	17	16	16	16	16	16	16	16	16	17	16	15	15	15	15	15	14
6	15	16	14	15	16	15	15	18	16	15	15	15	15	16	16	16	16	15	15	16	15	15	15	16
7	15	15	16	15	15	15	16	15	15	16	17	17	17	16	17	15	18		16	15	15	15	15	15
8	15	15	15	15	15	15	15	15		17	16	17	15	15	15	16	16	16	16	15	15	15	16	16
9	16	16	15	17	17	16	18	16	18	16	16	16	16	17	17	17	15	15	16	16	15	15	16	15
10	16	16	15	16	15	15	15	18	15	20	16	17		16	15	15		16	17	15	15	17	16	15
11	15	15	15	15	16	18	16	16	16	17	16	16	18	16	16	15	17	16	16	16	15	15	16	16
12	15	16	15	17	16	18	15	15	15	15	16	17	17	17	16	14	16	16	16	16	16	17	15	15
13	15	16	15	16	15	15	15	15	15	15	14	17	17	15	15	15	15	17	15	15	16	15	15	15
14	15	15	16		14	15	16	17	15	15	16	16	16	16	16	15	18	15	16	15	18	15		15
15	15	15	15	15	15	15	17	15	16	16	16	15	16	18	16	15	21	16	15	15	15	16	15	15
16	15		15	15	15	15	16	15	16	15	16	16	15	17	16	15	15	15	15	15	16	15		15
17	16	15	15	15	15	15	16	18	15	15	16	15	18	15	15	16	16	16	16	15	14	15	15	15
18		15	15	15	15	15	16	15	15	16	16	15	15	16	16	15	15	15	15	15	15	15	15	
19	15			15	15	16	15	15	15	15	16	16	15	16	15	22	15	15	15	15	15	15	15	15
20	15	14	15	15	16	15	16	16	16	15	16	16	16	16	16	16	14	16	15		15	16	15	15
21	15	15	15	15	15	15	15	15	15	16	16	16	16	15	15	15	15	15	15	15	15	15	15	15
22	15	16	15	15	15	15	14	15	16	16	15	16	16	16	17	15	15	15	16	15	15	16	15	15
23	16	16	15	15	15	15	15	14	15	16	16	16	17	17	16	15	15	15	15	16	15	15	16	15
24	15	15	16	15	16	14	16	17		15	18	16	16	16	15	16	16	15	15	15	15	14	16	15
25	14	15	16	15	15	15	16	15	15	15	14	14	15	15	18	15	15	15	16	15	15	15	14	14
26	15	15	15	15	16	15	16	18	15	14	16	16	15	15		15	15	16	15	15	15	15	15	15
27	15	15	15	15	15	16	15	20	17	16	15	15	17	17	15	16	15	15	15	15	14	15	15	15
28	15	15	15	15	16	16	16	21	16	16	17	16	16	17	16	18	18	15	15	15	15	16	15	15
29	15	14	16	14	15	16	16	21	15	16	16	17	17	16	16	16	16	16	18	15	15	15	15	15
30	15	15	15	15	15	15	15	17	15	15	17	17	17		15	15	15	15	15	15	15	14	14	15
31	16	15	14	15		16	16	17	15	16	15	16	17	15	15	15	14	16	15	15	16	16	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	29	30	29	30	31	31	31	29	31	31	31	30	30	30	31	30	30	31	30	29	31	29	29
MED	15	15	15	15	15	15	16	16	15	16	16	16	16	16	16	15	15	15	15	15	15	15	15	15
U Q	15	16	15	15	16	16	16	18	16	16	16	17	17	17	16	16	16	16	16	16	15	15	15	15
L Q	15	15	15	15	15	15	15	15	15	15	16	16	15	15	15	15	15	15	15	15	15	15	15	15

HOURLY VALUES OF foF2 AT KOKUBUNJI

OCT.1995

LAT. 35.7N LON. 139.5E SWEEP 1MHz TO 25MHz 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	46		34	36	30					B	B	B	B	B		B				B	B	B	B	B
2	B	B	B	B	B	B		B	B	B	B	62	66	54	55	54	60		68	61	69	69	37	36
3		36		42	32	29		68	70	74	92	90	67	59	63	85	97	66	52	A	A	A	44	32
4	40		58		35		35	41	68	77		53	74	80	70	62	66	60		67	51		54	
5	57	30	28		A	28	A	74	77	60	A	60	58	58	59	60	50	70		38	38	38	37	A
6	59		N	26		25	46	68	71		52	63		52	51	58	67	71		60	A	A	59	35
7	35	25			35	B	74	69	71	63	53	64	80	76	70	54	56	59	72	71	31	38	A	69
8		A	35	A	30	29	51		91	74	68	68	58	56		59	67	66		47	49	32		
9			32	28	N		60	68	59	71	71	66	66		54	66	60	62	68	A		69		
10	60	26	A	A	24	A	A	68	68	66	66	A	65	63	56	57	67	70	56	43		38	35	A
11	35	44	37	36	31	29	28		68	91	70	68	72	72	62	74	72	71	58	33	28			29
12		34	A	A	59		43	68	71	74	55	66	83	75	66	65	70	71	60	69	43	44	46	42
13				30	32	35	51	70	71	72	75	77	72		65	67	61	71	60	A	A	58	A	59
14	44			35		35	45		67	63	70	82	90	84	71	64	61	71	71		A	29	35	36
15	34	34	27	35	40	30	57	69	56	68	66	77	82	76	72	71	70	67	60	A	36		35	A
16	A		40	38	40		46	69	68	68	70	80	80	70	68	62	71		46	37		36	46	44
17	A	48		35	37	28		73	80	62	86	75	76	82	71		67	63	52	59	57	46	46	46
18	45	A	47	45	44	35	32	71	68	82	66	74	80	78	82		57	55	56	58	48	45	46	
19	43	44	46			35	48		73	81	102	120	92	84	94		82	82	58	68		56	58	68
20	68	59	38	38		38			116	72	80	86	84	A	82	80		81		52	58	A	42	46
21	A	A	A	A	A	29		68	82	86	93		67	70	80	80	64	60	46	41	46		36	A
22	A	59	A	34	30	35	42	67	70	68	68	91	70	74	64	61	68	60	43	43		B		35
23		69		35	37		41		67	68	79	81	74	63	70	71	72	60		40		58	56	
24			59	34	32	38	56	68	71	69	69	80	91	77	91		56	48	45		32	A	A	49
25	A	A	A	39	35		43	68	74	83	96	101	88	86	92	84			34	N	A		35	A
26		42	44		28	N	A	68	68	72	86	74		59	68	88	82	66	35	A	59			47
27				41	32			70	68	78	74	78	88	72	70	82	67	45	A	N	35	35		37
28	38		35	37	41	N	37	56	68	83	76	80	80	68	63	66	57	50	40	40	40	37	33	32
29		A	34	35	26			69	69	72	72	76	70	67	68	62	66	68	A	A	A	A	38	A
30	43	A	28	57	32	26	42		55		68	66	65	68	74	81			A	69			31	35
31	A	40	35	35	39	34	38		68	75	92	116	100	95	82	85	67	55		37	36	42	A	A
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	14	14	17	20	23	16	20	21	29	27	27	28	28	27	29	26	27	26	20	20	17	17	20	18
MED	44	41	35	35	32	32	44	68	69	72	71	76	75	72	70	66	67	66	56	50	43	42	40	40
U Q	57	48	45	38	39	35	51	69	72	78	86	81	83	78	77	80	70	71	60	64	54	57	46	47
L Q	38	34	33	34	30	28	39	68	68	68	68	66	67	63	63	61	60	60	45	40	35	36	35	35

HOURLY VALUES OF fEs AT KOKUBUNJI

OCT.1995

LAT. 35.7N LON. 139.5E SWEEP 1MHz TO 25MHz 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	B	G	B	G	B	B	B	B	B	G	B	G	G	G	B	B	B	B	B
2	B	B	B	B	B	B		B		B	B	30	31	30	29	27	28	30	31	31	24	G	G	G
3	G	G	G	G	G	G		38	42	36	31	G	55	47	36	27	44	55	37	31	49	38	26	G
4	G	G	25	30	29	23	27	40	53	34	34	48	45	46	30	25	39	25	59	30	G	G	G	
5	G	29	24	45	29	26	35	36	26	34	34	G	G	34	34	28	G	30	G		36	30	28	25
6	G	G	G	G	G	G	G	24	23	29	33	48	G	G	30	28	32	G	25	32	34	41	26	G
7	G	G	G	G	G		G	33	40	41	36	36	G	27	29	30	29	32	39	44	52	30	33	40
8	52	38	40	28	G	26	G	29	46	31	35	61	50	44		38	34	30	G	29	G	G	G	G
9	G	G	G	G	G	B	G			45	30	25	32	33	40	42	40	34	30	34	G	G	G	G
10		58	50	34	36	56	76	48	52		30	116	48	44	32	31	40	29	39	27	29	G	G	
11	G	G	G	G	G	G	29	30	28	30	30	30	30	26	28	32	38	26	G	G	G	G	26	G
12	G	G	32	34	G	G	30	34	31	38	42	52	49	55	37	44	35	43	29	G	29	24	27	24
13	G	G	G	25	23	27	G	34	41	31	G	32	32		27	34	40	33	35	56	38	47	34	G
14	28	G	28	G	30	G	G	35	34	54	39	32	40	34	33	30	29	37	33	36	38	49	33	31
15	24	28	G	G	G	G		37	49	39	45	45	31	23	30	26	25	32	39	43	36	G	38	44
16	40	27	27	G	G		25	32	38	40	39	30	35	48	38	40	41	40	39	28	G	26	27	25
17	32	G		26	24	G	28	41	48	48	45	31	26	G	34	30	G	34	30	G	G	G	G	G
18	37		34	G	29	G	26	28	28	27	37	46	42	33	30	27	29	30	28	39	37	G	G	G
19	30	26	26	G	G	G	26	32	43	44	35	34	28	36	34	33	34	G	25	38	G	33	33	32
20	24	G	G	G	G	G	G	34	38	43	46	41	36	114	54	55	48	42	39	34		72	71	129
21	86	74	58	40	51	27	G	34	37	50	29	37	41	39	36	40	30	34	38	36	38	32	48	53
22	55	31	36	28	31	25	29	33	44	34	25	25	52	35	33	34	32	30	27	G	G		G	G
23	G	G		G	27	G	G		32	29	25	26	G	31	29	26	35	32	G	31	G	G	G	G
24	G	G	G	G	G	G	G	28	25	43	38	50	35	29	48	37	30	28	G	30	G	31	27	G
25		32	34	G	G	G	G	31	36	34	28	31	58	52	44	35	54	44	G	38	33	27	34	32
26	27	G	G	G	G	G	28	25	36	32	30	44		30	28	30	34	31	29	39	34	28	G	G
27	G	G	G	G	G	G		29	37	40	60	37	45	32	27	25	33	29	28	28		G	32	G
28	48	33	37	31	25	G		29	27	104	56	47	48	42	50	26	G	G	G		38	28	34	24
29	28	30	G	26	G	G	G		31		30	49	38	52	47	48		G	54	34	45	34	26	50
30	44	44	32	G	G	G	G	24	30	36	31	50	60	49	43	37	48		30	G	25	32	28	G
31	34	29	31	G	G	24	30	33	41	46	49	44	36	49	52	44	31	G	G	G	G	G		37
	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	29	28	30	30	26	26	26	29	27	29	30	29	29	30	30	30	30	31	28	28	29	29	28
MED	24	G	24	G	G	G	G	33	37	38	34	37	36	35	34	32	34	30	29	31	29	27	27	G
U Q	35	30	33	28	27	24	28	35	42	44	40	48	48	47	40	38	40	34	38	37	37	32	33	32
L Q	G	G	G	G	G	G	G	29	29	32	30	30	30	30	29	27	29	26	G	27	G	G	G	G

COMMUNICATIONS RESEARCH LABORATORY, JAPAN

HOURLY VALUES OF fmin AT KOKUBUNJI

OCT.1995

LAT. 35.7N LON. 139.5E SWEEP 1MHz TO 25MHz 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	15	14	14	17		27		46	B	B	B	B	B		B		42	66	B	B	B	B	B
2	B	B	B	B	B	B		B		B	B	15	18	17	18	15	15	15	15	15	15	15	14	15
3	14	15	15	14	14	17		15	15	21	18		18	20	17	15	15	15	16	14	14	15	15	15
4	15	15	14	15	15	15	15	20	15	15	17		20	18	15	15	15	17	15	15	14	14	15	
5	15	14	15	15	14	15	15	15	16	20	20		43	39	17	17	15	15	15	15	16	15	15	16
6	15	15	16	15	16	15	17	15	16	20	22	26		38	18	16	15	15	15	15	15	15	14	15
7	15	15	15	15	14		16	15	17	16	18	14		39	16	15	21	14	15	15	14	15	15	15
8	15	14	14	14	14	15	16	15	15	15	18	16	16	16		15	15	15	15	14	15	15	14	15
9	15	14	15	16	15		16	16	16	16	21		15	15	15	15	15	14	14	15		16	15	15
10	15	15	15	15	14	15	15	15	15	15	17	21	17	17	14	15	15	14	14	14	14	15	16	15
11	15	15	15	15	15	14	15	15	15	16	16	22	20	18	17	18	15	16	15	15	18	15	15	15
12	15	15	15	14	15	15	15	15	14	14	17	14	22	18		15	14	14	15	15	15	15	15	15
13	15	16	14	14	14	15	15	15	14	15		18	20		20	18	18	15	14	15	15	15	15	15
14	15	24	16	16	14	15	17	20	15	16	15			17	15	14	15	14	15	14	15	14	15	15
15	14	15	14	14	15	14	16	15	14	16	16	17	16	15	15	15	15	15	15	15	15	15	14	15
16	15	15	15	15	14		16	15	15	15	16	15	15	15	14	14	15	15	14	15	15	14	14	15
17	14	15		15	15	15	15	15	15	15	15	17	15		15	14	15	15	14	14	14	14	14	14
18	15	15	15	14	14	14	15	15	15	15	18	20	20	17	15	18	15	15	15	15	15	14	15	15
19	15	16	15	15	15	15	14	15	15	16	16	16	15	14	15	15	15	15	15	14	15	14	15	15
20	15	14	15	14	15	15	16	15	15	16	15	18	20	17	15	21	14	14	15	14	15	15	15	15
21	15	15	14	15	15	16	15	15	18	14	16	20	22	18	17	15	15	14	14	14	14	15	14	15
22	15	15	14	15	15	14	15	15	15	15	18	15	14	15	14	15	15	15	15	16	21	B	16	15
23		15		14	15	16	14		15	17	15	16	20		17	18	20	15	14	15	15	15	15	15
24	15	15	15	15	15	15	15	15	14	16	17	17	16	17	14	15	15	15	14	16	15	14		15
25	15	15	14	15	15		15	18	14	16	18	17	16	21	15	15	15	15	15	15	15	15	15	14
26	15	15	14	15	16	14	14	17	15	14	16	16		16	15	15	17	15	15	14	15	15	15	17
27	16	15	16	15	14	15		15	14	15	15	16	18	16	16	15	17	14	15	17	14	15	14	14
28	15	14	15	15	14	16	16	15	18	16	16	16	17	20	17	15	21	15	15	14	15	15	14	14
29	15	14	14	15	14	14	14	17	15	15	18	16	17	20	15	15	15	15	15	14	15	15	15	15
30	15	14	15	14	14	15	15	15	15	15	16	18	16	21	17	15	16		15	16	15	14	15	15
31	14	14	14	15	15	14	15	17	15	16	17	15	17	15	15	15	15	15	18	15	17	15	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	30	28	30	30	25	28	28	30	29	28	25	26	27	28	30	30	30	31	30	28	29	29	29
MED	15	15	15	15	15	15	15	15	15	16	17	16	17	17	15	15	15	15	15	15	15	15	15	15
U Q	15	15	15	15	15	15	16	15	15	16	18	18	20	20	17	15	15	15	15	15	15	15	15	15
L Q	15	14	14	14	14	14	15	15	15	15	16	15	16	16	15	15	15	14	14	14	14	14	14	15

HOURLY VALUES OF foF2 AT YAMAGAWA

OCT.1995

LAT. 31.2N LON. 130.6E SWEEP 1MHz TO 25MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	59	50	50		28	36	38		57		76	66	66	73	A	66	66	75	66	A	109	34		N
2	69	32		48	48	49	28		62	66	67	78	61	71	70	60	66	83	80			32	42	A
3		46			30	23		66	69	74	91	92	66	61	72	101	93	82	59	53	A	A	37	38
4	31	37	36	42	48	35	A	49	70	82	65	72	75	82	78	62	71	73	82			69		
5	42	28	26	89	A	A	A	68	86	82	71	67	78	63	60	67	66	66	69			47	53	37
6			49	A	49	A	59		70	67	62	63	85	71	55	67	72	84	84	72	A	A	47	A
7		49	36	34		N	36	57	62	67	80	78	80	72	72	76	68	58	82	83	A	A	A	
8		59	37		A	A	30			85		69	66	74	84	72	75	80	82	82	79		31	30
9	A	42	A	25	26		37			87	97	76	72	68	62	74	66	72	84	70		A	A	46
10	41	A	A	69		37	37	67	68	78	72	80	91	80	66	58	68	83	83	69	A	69	31	
11		46	36		34		35	60	68	80	82	86	86	76	77	82		72	73		49		69	34
12	A	A			30		48	61	70	68	70	67	84	87	70	67	80	85	83	60	A	A	A	44
13			A	30				66	84	80	77	86	81	76	72	68	71	67	76			39		A
14	37	35	38		59	49	48	62	70	76	91	86	90	86	85	84	71	70	84	60	A	A	A	49
15	37	37	37		47	37		59	62	65	72	71	93	94	87	82	75	74	70	61	A	59		31
16	37	34	A	38	31	A	37	54	66	72	84	91	84	70	80	67	74	63	56	50			59	
17	37			58		41		54	67	72	84	79	84	78	67	70	73	73	69			30		35
18		38	36	41	41		38	68	78	73	77	74	72	84	73	74	68	67	A	31				60
19		33		48	47			39	68		92	82	80	88	90	91	80	97	79	A	31	A	A	49
20	60	37		38	47	36	37	66	73	81	93	91	86	96	107	103	110	102	74	65			60	34
21	31	32				49	37		86	85	81	80	81	90	102	82	72	70	50				38	42
22		59		59	A	59		57	91	66	78	70	78	72	78	74	68	68	51	38			69	
23		49		36		49	37	60	70	71	87	72	76	72	82	84	78	54	50	40	A	A	A	
24	43	44		34	37		46	74	70	85	70	80	96	92	97	75	67	66	A		89	34	A	34
25	A		69			49				75	91	100	94	97	105		73	60	A	A	A	A	79	
26	A		43	55	N	A	N	60	68	57		83	85	72		83	73	64	60	N	36	42	44	46
27	34		34	38		49	47	54	72	69	82	80	76	91		84	72	62	69		69	A	A	
28	40	38	36	38		23		59	68	77	78	A	78	72	68	68	70	58	A	35		32		A
29	43	36	A	36	37		32		66	31	72	72	74	67	67		77	A	54	A	89	34		A
30	A	35	41	32	38			59	61	59	67	70	74	76	87		93	80	57	A	32	A	38	A
31	47	32	35	36	41	A	N	48	80	72	92	107	115	85	91	92	77	54	47			59	50	109
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	16	23	16	21	18	15	18	23	28	29	29	30	31	31	28	28	30	30	27	15		13	15	16
MED	40	37	36	38	40	41	37	60	70	73	78	78	80	76	78	74	72	71	70	60		39	47	40
U Q	45	46	42	51	47	49	46	66	72	80	89	86	86	87	87	83	77	80	82	70		59	60	47
L Q	37	34	36	35	31	36	36	54	66	67	71	71	74	72	69	67	68	64	57	40		33	38	34

HOURLY VALUES OF fEs AT YAMAGAWA

OCT.1995

LAT. 31.2N LON. 130.6E SWEEP 1MHz TO 25MHz 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	34	29	29	34	34	30	38	29	27	27	28	29		G	26	G	G
2	G	G	G	G	G	G	28	34	37	29	30	29	30	32	36	29	31	44	46		28	G	G	33
3	G	G	G	G	G	G	G	29	30	38	30	37		45	34	30	30	29	G	29	38	43	31	32
4	29	31	G	G	G	G	50	40	31	28	30	32	60	60	31	36	52	42	31	28	29	G	G	G
5	28	25	27	31	30	38	44		39	40	35	30	35	39	41	32	32	33	32	27	28	24	25	28
6	24	24	G	31	30	29	27		28		31	30	29	38	30	33	28	30		33	39	38	32	32
7	27	29	27	G	G	G	G	33	40	41	40	40	36	G	58	29	30	28	G	32	38	34		31
8	G	34	30			40	30	33	40	40	37	36	32	31	29	32	39	33	30	27	33	G	23	24
9	34	29	27	24	G	G	G	28	30	44	50	50	40	40	28	39	43	44	43	34	27	34	40	33
10	35	27		30	35	26	G	43	55	55		37	38	37	40	30		36	29	28		33	27	23
11	G	28	27	25	G		G	29	29	29	30	30	30	30	38	29		32	G	G	G	G	G	G
12	30	29	26	G	26	G	G	33	31		40	57	64	62	30	29	43	40	33	34	36	38	30	33
13	28	25	33	23	26	G		33	39	49	55			49	40	42		30	27	32				54
14		G	G	G	G	G	G	29	38	32	31	37	52	28	29	29	25	26	G	34	32		39	28
15	28	27	29	25	G	G	G	39	48	51	56	61	56	54	29	40	40	47	57	39	41	32	36	31
16	29		35	28	G	28	28	38	40	41	38	44	32	31	29	29	28	21	24	28	24	G	G	G
17	G	G		G	G	G	G		49	50	50	30	41	38	30	34	31	29	27	G	27	G	G	G
18	G	G	G	31	30	G	G	31	29	29	30	37	40	50	80	44	44	40	40	25	31	30	33	G
19	G	G	G	G	G		G		48	31	29	30	28	31	29	29	28	32	25	33	30	39		G
20	G	G		G	G	G	G	27	36	36	40	51	40	35	60	G	30	40	40	28	32	26	G	24
21	30	31	B	G	G	G	G		29	28	27	40	36	37	35	31	40	G	G	G	33	34	26	G
22	G	G	G		30	26	G	39	42	52	59	38	36	37	29	29	29	30	28	G	G	30	G	G
23	G	G	G	G	G	G	G		28	40	31	36	35	34	25	30	28	23	G	G		40	30	G
24	G	G	G	31	G	G	G	29	39	30		39	G	31	30	29	28	26	48	27	29	29	30	33
25	30	26	G	23	26	G		34	38	40	38	G	56	32	52	39	39	40	48	58		38	30	24
26		G	24	25	26	26	G	30	29	30	33	32	29	28		30	49		26	G	28	27	30	27
27	26	28	25	G	24	G	G	27	42	50	54	49			32	30	29	27		G	30	40	40	30
28	30	33	32	31		G	G		31	50	39	53	30		56	51		40	37	32	36	27	36	39
29		29	33	G	G	G	G	30	29		36	38		32	30		40	70	32	33	28		33	38
30	39	G	29	29	G	G	G	25	29	30	38	33	66	30		34	26	31	37	34		47		
31	28	30	28	28	25	29	G	26	31	33	66		41	38	38	31	36	28	26	G	28	32	29	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	30	27	29	29	29	29	24	31	28	29	29	27	29	29	30	27	30	29	29	26	28	27	30
MED	26	25	25	23	G	G	G	32	36	39	37	37	36	37	31	30	31	32	29	28	30	31	30	26
U Q	29	29	29	28	26	26	G	34	40	46	45	42	41	39	40	34	40	40	38	33	33	38	33	32
L Q	G	G	G	G	G	G	G	29	29	30	30	31	30	31	29	29	28	28	24	G	28	25	G	G

HOURLY VALUES OF fmin AT YAMAGAWA

OCT.1995

LAT. 31.2N LON. 130.6E SWEEP 1MHz TO 25MHz AUTOMATIC SCALING

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

HOURLY VALUES OF foF2 AT OKINAWA

OCT.1995

LAT. 26.3N LON. 127.8E SWEEP 1MHz TO 25MHz 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	46	43		54	58	38	36	47		71	76	68	76	85	77	81	81		81	58	A	A		48
2			36	37	89	B		A	56	67	74	72	68	78	92	84	90	94		39	A		A	
3	36		59					44	72	68	80	106	78	83	92	123	112	94	58	60	A	43		48
4	A	58	A	38			89		62	81			84	82	81	84	86	94	85	89	61	70	76	68
5	95			A	A	A	A	48	89	81	83	76	80	81	81			A	63	60	A	A	53	
6	58	44	43	30			A	45	74	70	75	86	102	102	91	75	90	96		A	55	A	58	
7					N	58	49	60	69	68	95	89	77	75	83	93	90	72	93	88		A		
8	A	A	A	A	A	59	69	39		82		91	78	92	115	116	91		88	93		A	63	68
9	80	68	48	A	A			66	63	85	105	92	93	92	84	86	76	83	92	82	63	A	46	
10	47				A	A	A	45	70	81	99	85	110	105	92	78	71		93	64	41	46	A	35
11	A	A	55	31				51	94	72	88	104	117	117	117	105	86	83	87					
12	37	46		49			49	58	58	78	81	85	77	80	80	83	88	97	96	A	42	A		38
13	38	35		32	A	N	A	42		82		72	A	78	94	96	86	103	87	68	54		A	34
14		37	32	31		59		44	61	72	93	104	94	92	106	116	N	93			43	A	A	A
15		A	32	A			89	49	57	60	A	95		103	105	101	92	90	90	49	A	A	A	37
16	38	A	36	44			A	39	67		94	112	93	86	112	121		98	72	51		42		A
17	A	43		38				52		66	82	98	83	74	84	94	92	93	74	A	89			
18		40			56			57	73	76	83	83	74	67	90		93	83	67	43	48	A		
19	41		44		29	29			61		92	68	75	95	95	85	92	93	75	48				A
20	53	61			32	31	69	63	71	83	93	102	104		146	152	162	144	92	84		94	60	
21	68		A	A		58		61		83	82	91	104	112		104		71	68	55	65		55	51
22	52	55	43	38		A	A	A	91	94	96	104	96	100		134	117	91	71	48	44	A	43	A
23	A	36	32		N			60	82	76		91		105		124		82	66	61	47	52		A
24	57		55	48					73	68	82	94	110	113	116	89	80	80		38	A	A	69	
25	A	38	A	58				56		67	92	104	102	112	131	126			51				35	33
26	A	69	47	43	A			41	81	83	54	82	92	102	94	83	66	71	A			A	30	A
27		35						60	71	67	83	115	91	100		124	84	62	50	A	38	44		38
28		31	37	38	41			38	74	83	74	84	86	78	81	65	73	66	60	61		37	A	B
29		69	A	A	36			48	69	95	72	83	81		90	112	116		71		A	48	A	44
30	A	A		36	38	40		54	60	64	72	85	83	92	104	134	146	165	124	83	60		A	48
31	A	45	38	38	43	57	44	47	67		94	116	106	92	91	83	92	89		58	56	47		30
	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	18	15	17				26	25	28	26	30	28	29	27	29	25	25	25	22	15	10	11	14
MED	50	44	43	38				48	70	76	83	91	88	92	92	96	90	91	75	60	54	46	55	41
U Q	58	58	48	46				58	74	82	93	104	102	102	106	122	92	95	91	82	61	52	63	48
L Q	38	37	36	34				44	61	68	76	83	78	80	84	83	82	81	66	49	43	43	43	35

HOURLY VALUES OF fEs AT OKINAWA

OCT. 1995

LAT. 26.3N LON. 127.8E SWEEP 1MHz TO 25MHz 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	28	34	29	G	G	G	G	G	G	26	27	G	29	34	25	G	G
2	G	G	G	G	G	B	G		35	33	G	G	G	G	38	42	43	39	31	G	49		28	26
3	G		G	G				29	41	48	41	G	36	G	41	44	47	39	60	42	44	G		42
4	39		24	25			G		37	25	42	36	G	G	G	37	42	40	39	37	24	G	24	G
5	G	G		25	24	28	42	50	60	60		55	41	45	G	53	35	62	49	33	39	34	26	G
6	26	G	G	G			26	G	36	58	60	42	G	38	G	61	52	51	86	93	25		G	
7	G				G	G	G	29	31	42	47	45	52	34	39	G	G	G	G	G		41		
8	36	48	40	29	26	G	59	34	59	78	43	36	G	32	G	25		33	32	42	36	33		G
9	G	G	24	32	23	G	G		40	52	46	48	55	50	G	G	33	36	82	29	40	60	G	G
10	G		G	G	28	33	32	48	59	86	85	G	47	36	G	G	G	32	28	G	G	G	34	25
11	38	34	26	G	G		G	G	25	25	G	39	G	34	38	39	46	43	G	G	G		G	
12	G	G		G			G	35	41	50	54	60	52	52	G	44	49	57	46	34	G		G	G
13	G	G	G	G	33	39	40	32		55	56	76	84	50	48	G	32	33	26	G	G	G	58	59
14	29	26	27	32	G	G	G	28	39	46	53	50	G	40	36	42	G	25	28		70	41	40	38
15	G	39	G	26			G	29	44	57	84	70	70	55	39	52	40	39	38	38	38	34	68	G
16	G	32	G	G			26	37	42	56	48	49	38	38	G	32		G	G	25	44	44	26	27
17	24	G		G			G	34		42	59	45	41	51	38	40	45	34	34	59	G	G		G
18	G	G	G	G	11			42	35	42	46	38	37	G	46	48	42	44	34		G		G	G
19	G	G	G		G	28	G		37	34	G	44	31	35	32	G	22	G	G	G	G	G	26	45
20	41		B	G	G	G	35		38	48		67	57	48	66	67	58	46	32	G	G	G	G	24
21	28	G	43	27		G		36		24	39	51	49	40		34	30	25	G	G	28	G	G	G
22	G	G	G	G		29	32	33	38	50	44	54	51	50	G	G	27	G	G	G	G	28	29	34
23	36	G	G	G	G	G	G	33	26	39	46	40	38	36	G	40	42	26	32	42	G	42	G	38
24	28	G	G	G	G	G	G		45		37	G	48	56	68	32	34	30	28	28	65	34	23	G
25	25	G	42					33	38	37	35	50	39	48	40	40	35	32	G	G		G	G	39
26		30	26	24	24			40	34	26	G	42	36	G	42	41	38	38		G	G	29	G	26
27	G	23	G		G		G		37	33	58	52	56	52	51	48	42	37	G	29	G	G	G	G
28		G	G	G	28	G		38	38	37	68		38	38	29	50	34	35	33	23		G		
29		G	31	28	G			38	28	28	50	34	38	38	60	69	46		G	38	34	29	45	34
30		28	G	G	G	G	G	G	24	G	50	56	34	50			78	G	30	39	68	43	34	
31	48	27	G	G	G	25	G	33	40	42	45	53	63		48	42	44	34	40	G	G	27	27	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	26	26	27	21	17	24	24	28	30	29	30	31	30	29	30	29	30	30	29	28	26	26	26
MED	G	G	G	G	G	G	G	33	38	42	46	45	38	38	38	40	40	34	30	28	24	28	24	12
U Q	29	27	26	25	24	28	29	37	41	52	55	53	52	50	44	48	45	39	38	38	39	34	29	34
L Q	G	G	G	G	G	G	G	29	34	33	38	36	31	34	G	25	31	26	G	G	G	G	G	G

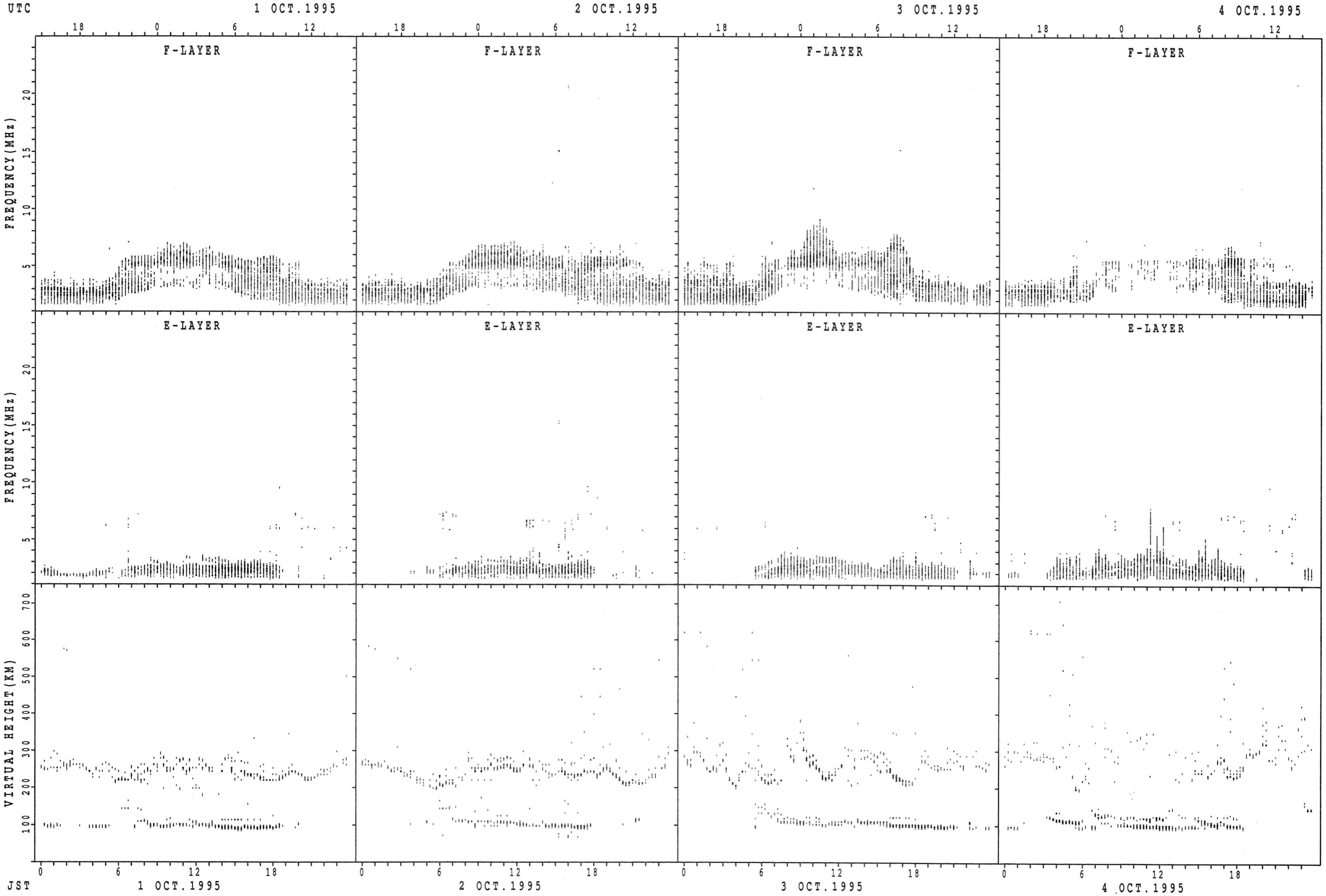
HOURLY VALUES OF fmin AT OKINAWA

OCT.1995

LAT. 26.3N LON. 127.8E SWEEP 1MHz TO 25MHz AUTOMATIC SCALING

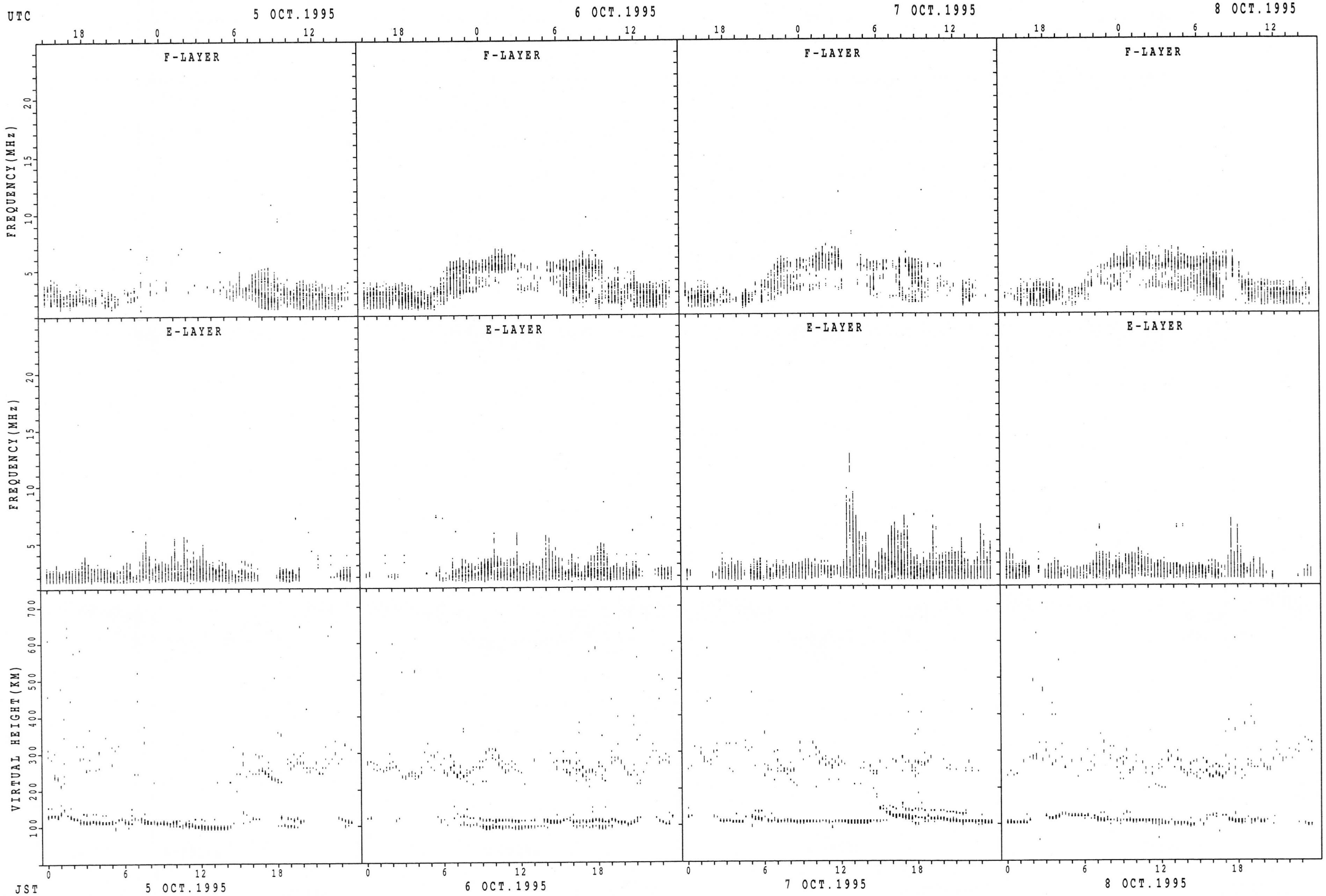
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	18	15	16	17	15	15	14	14	16	20		45	50	48	48	40		15	24	15	14	14		15
2	16	17	14	15	15		18	17	18	18		46	49	46	44		28		16	16	14	15	15	15
3	15		14	15				14	14	17	33	46	45	44		27	17	15	15	14	15	26		15
4	14	16	15	16			15	14	15	17			42	40	35	31	21	15	15	14	15	17	15	15
5	15			15	15	15	14	14	15	17		29	32	29				15	16	15	14	15	16	18B
6	15	14	16	14			15	24	16	16	17	18		45	46	26	16	16	16	16	15	16	15	
7	16				16	16	17	14	16	16	27	30	26		18	33	30	27	17	15		16		
8	14	15	15	15	15	16		14	15	17		28		46	44	17	20	24	15	15	14	15	15	15
9	15	16	15	14	18		15	21	16	28	29	30	30	30		39	17	15	17	14	14	15	17	14
10	14		17	17	14	14B	15	18	15	16	24		22	26		42		16	18	15		14	14	14
11	14	15	14	16	15			21	17	17		44	45	22	45	17	18	15	16	24	15		15	
12	15	15		16			14	14	15		32	33	34	35	42		15	14	15	15	15	15	16	15
13	15	15	15	16	14	15	14	14		26	33	32	30	30	29	33	18	14	16	17	15	16	14	15
14	15	14	15	15	15	14		15	17	16	30	32		45	48	27	30	15	14		15	15	15	15
15	15	15	15	16			18	14	14	16	28	28	29	23	30	28	17	15	16	14	14	15	15	15
16	15	15	15	16			15	14	16	16	29	29	28	28		23		15	18	15	15	15	14	15
17	17	21		15			15B	15		16	18	30	30	29		17	15	14	15	15	17	15		17
18	17	17	26	15	14			14	16	17	29	30	30		29	20	17	14	14	15	18	17	27	
19	17	18	15		16	15	14		14	17		18	20	20	16		16	15		27		15	15	14
20	14	15		18	15	14	14	14	15	16	28	28	29	29	27			16	15	15	15	14	15	16
21	14	15	14	14		14		16		17		32	34	34		35	15	15	18	17	15	14	15	15
22	16	16	17	15		15	14	15	14	15	30	30	32	33	42	32	34		26	15	16	14	15	14
23	15	15	16	15	15	16	15	15	15	17		30	40	42	44		23	27	16	16	15	15		15
24	15		15		17			14	15	16	23		32	28	26	30	18	14	15	15	15	15	15	15
25	16	15	15	14				15	15	17	17	30	32	28	24	18	17	15	17	15		18	15	15
26	14	15	15	14	17			14		16		29	28		29	26	20	18	20	15	15	15	18	17
27	18	17	16		16			15	16	16	27	28	29	28	27	24	18	17	26	16		16		28
28		16	16	15	14	16		22	14	16	17			23	22	18	17	14	14	18		17	17	
29		17	15	14				18	15	17	18	28	30	29	36	27	18		16	15	15	15	15	16
30	15	16	23	28	17	26	14	21	15		29	30		32	28	17	15	15	15	14	15	15	14	14
31	15	15	15	16	16	16		16	14	18		34	32	32	30	28	15	14	15	18	16	15	14	16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	26	26	27	19	14	18	30	27	29	20	27	26	28	23	25	26	28	30	30	25	30	25	26
MED	15	15	15	15	15	15	15	15	15	17	28	30	31	30	30	27	18	15	16	15	15	15	15	15
U Q	16	16	16	16	16	16	15	17	16	17	29	32	34	41	44	32	20	16	17	16	15	16	15	16
L Q	14	15	15	15	15	14	14	14	15	16	20	28	29	28	27	19	16	14	15	15	14	15	15	15

SUMMARY PLOTS AT WAKKANAI



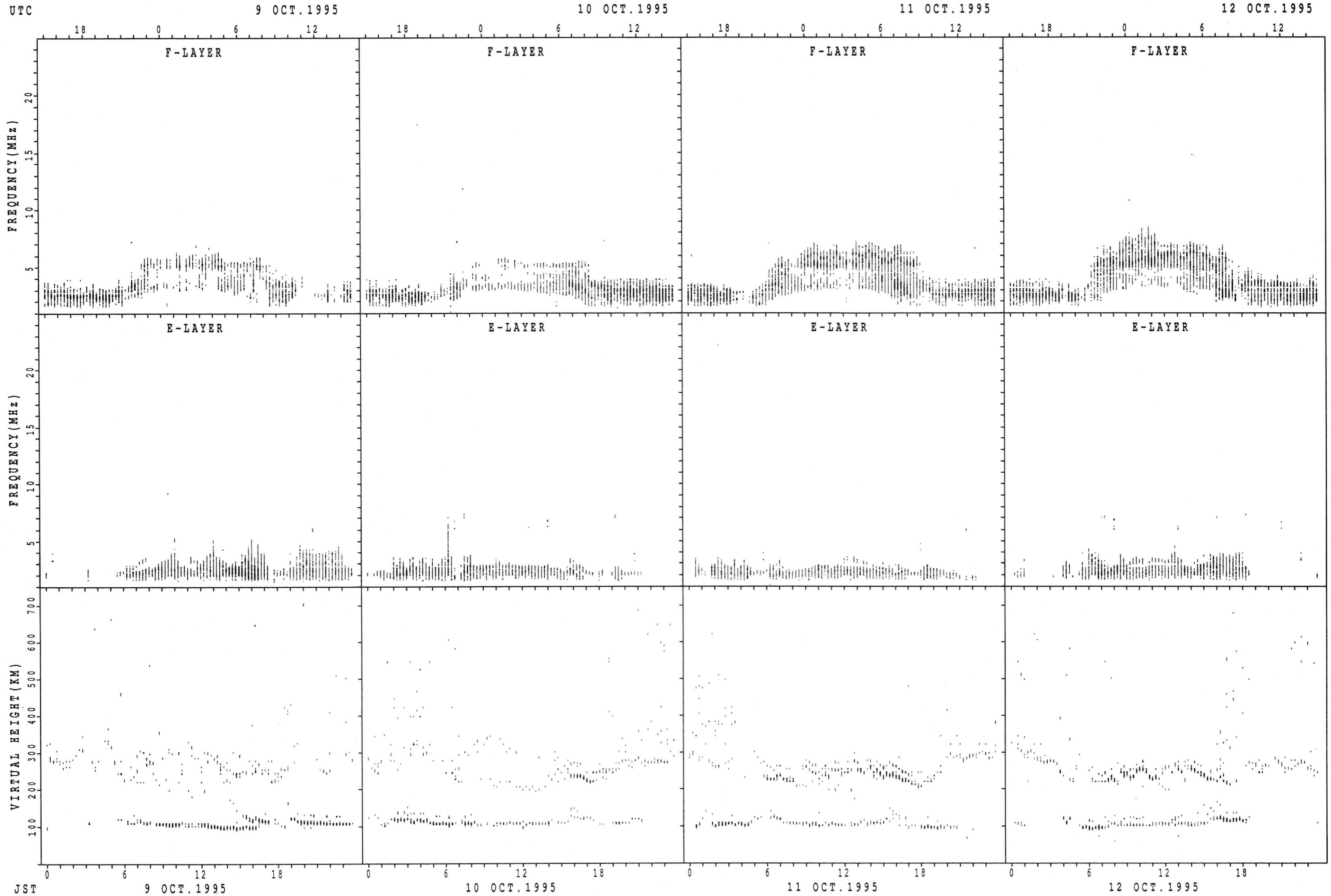
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT WAKKANAI



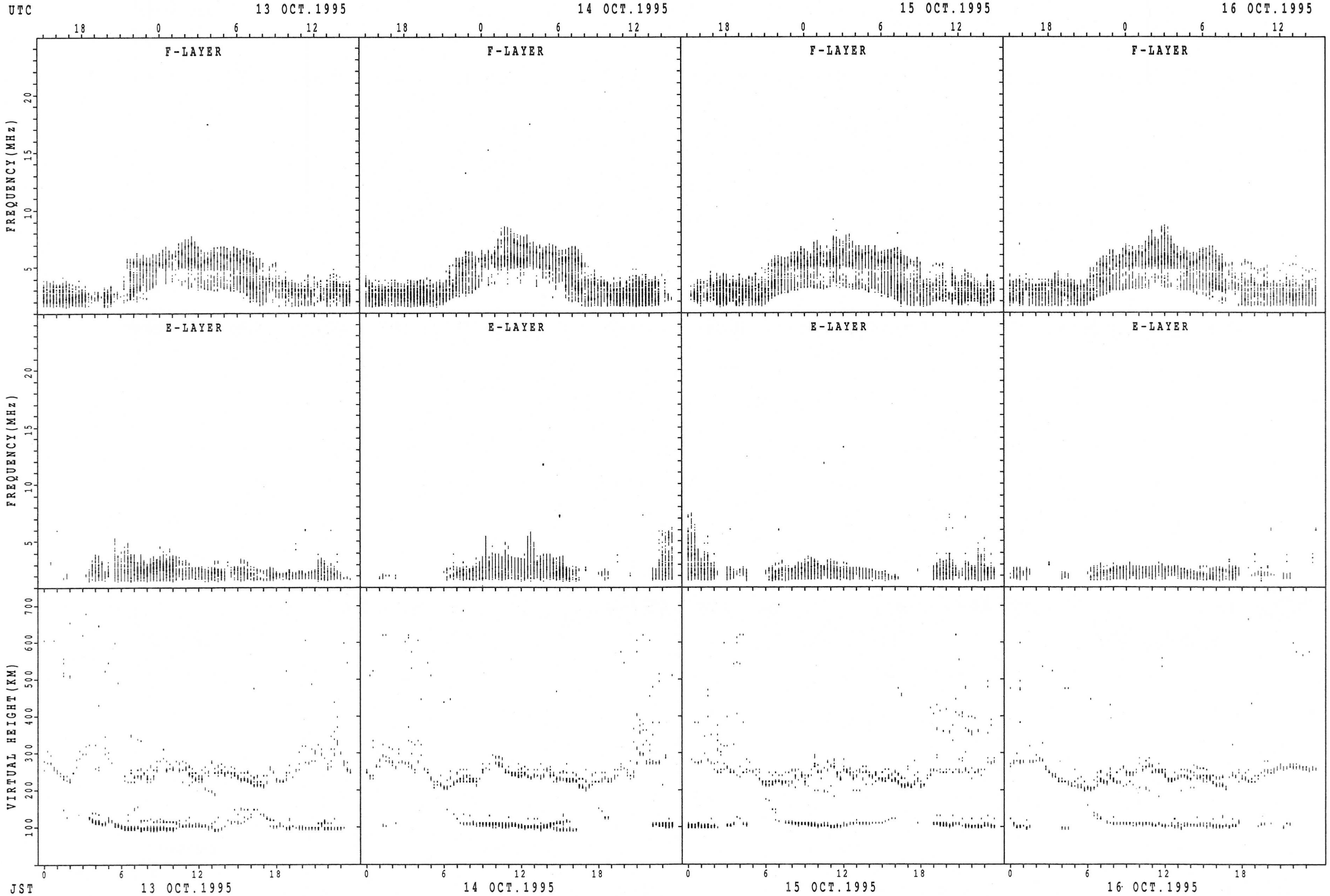
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT WAKKANAI



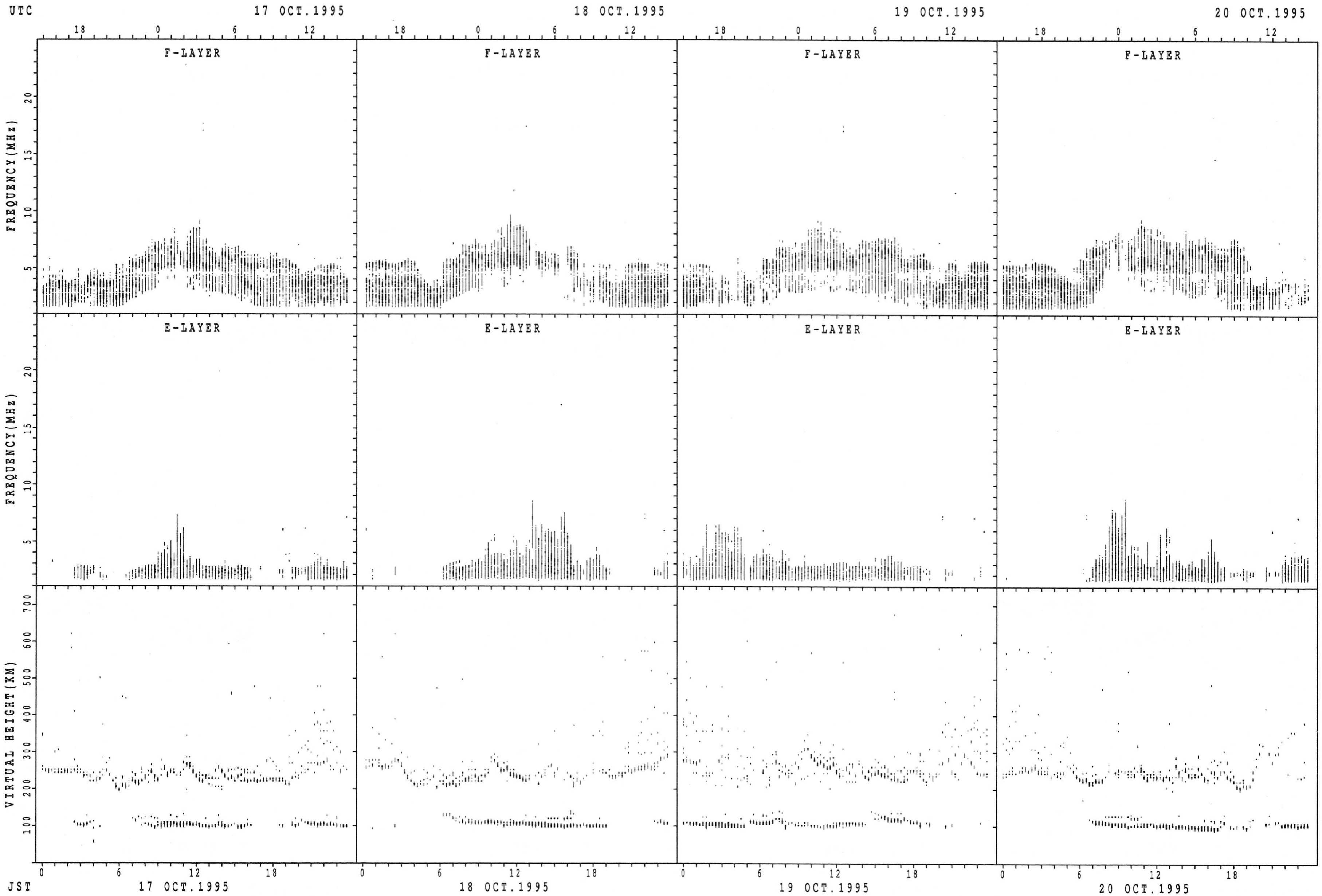
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT WAKKANAI



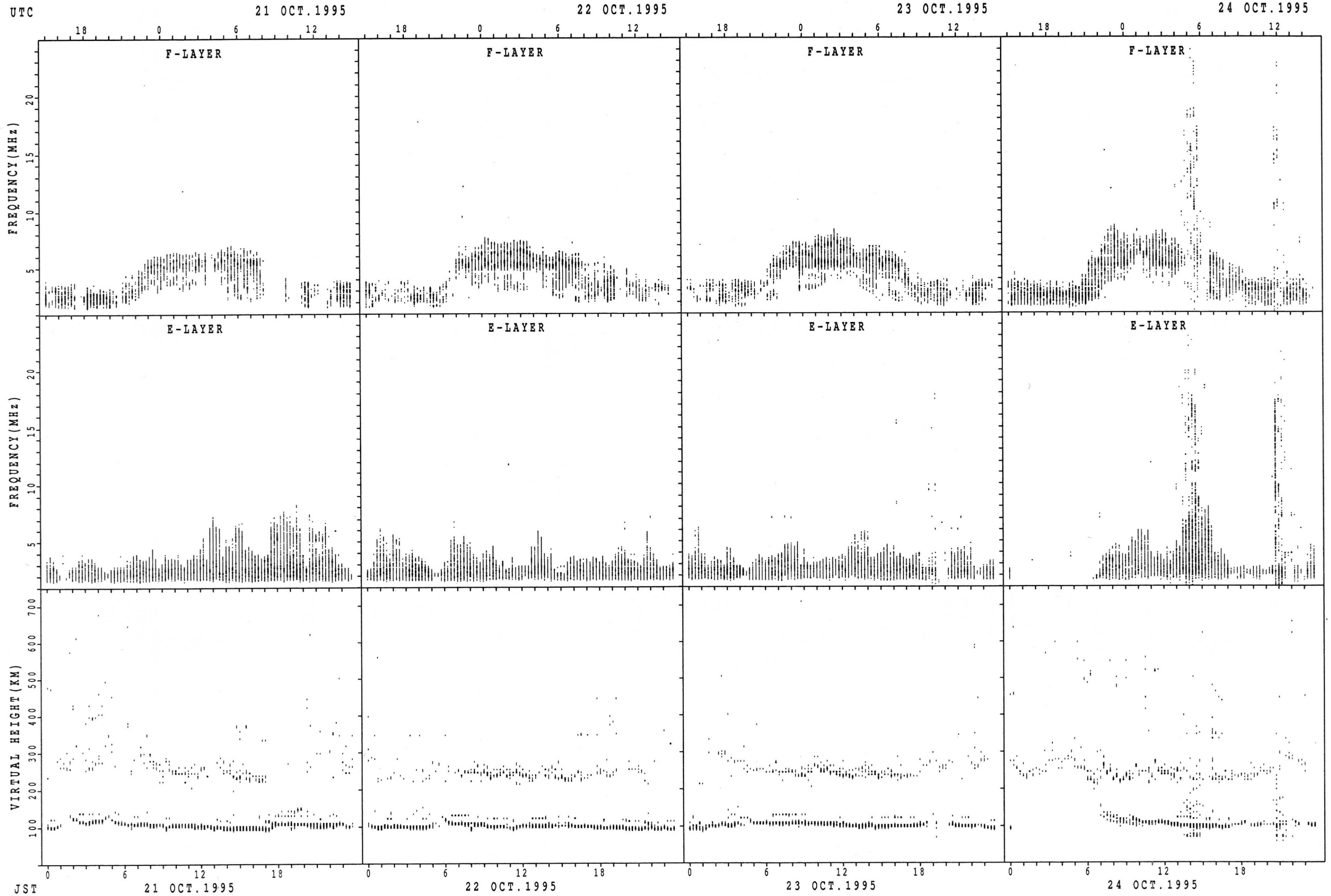
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT WAKKANAI



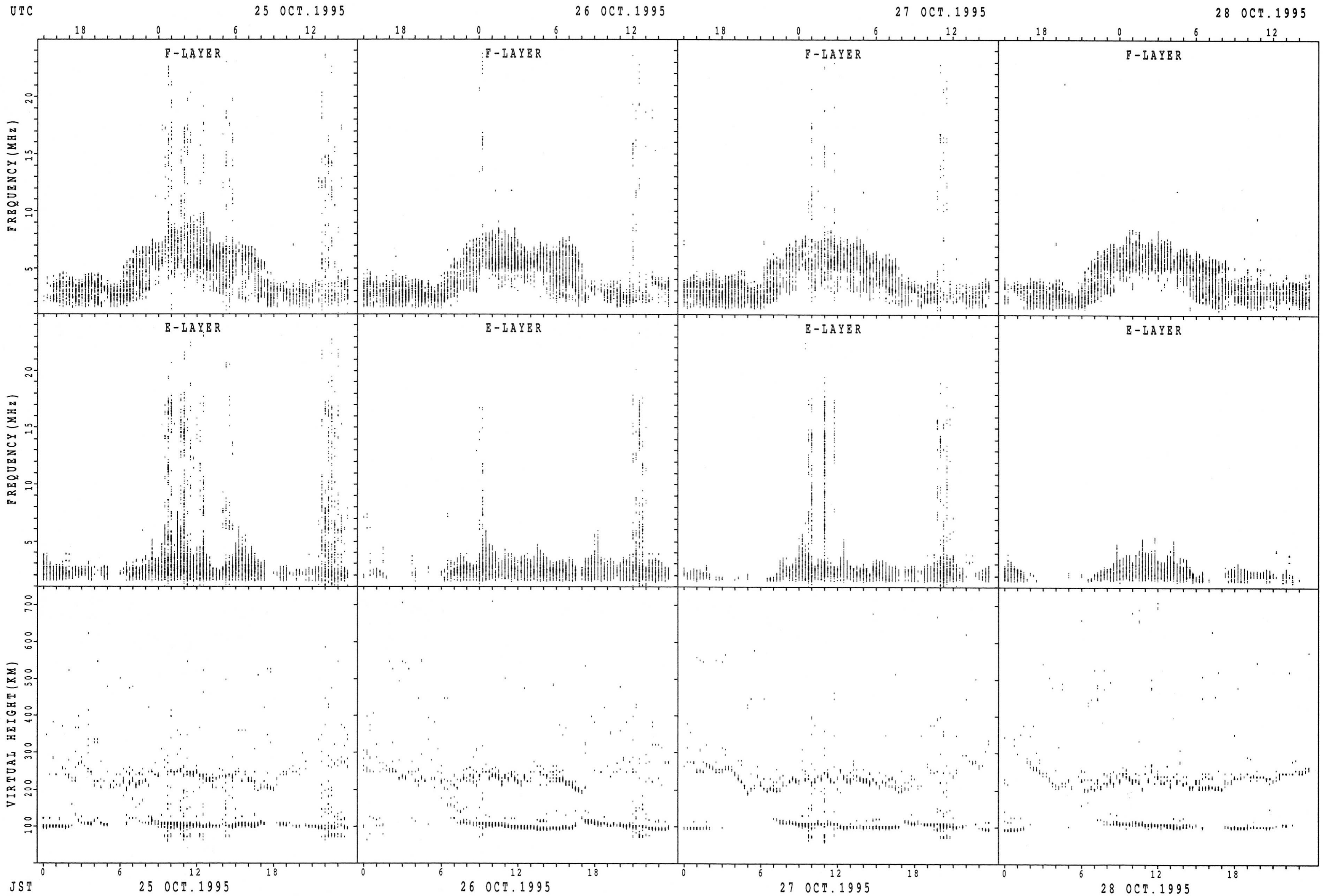
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT WAKKANAI



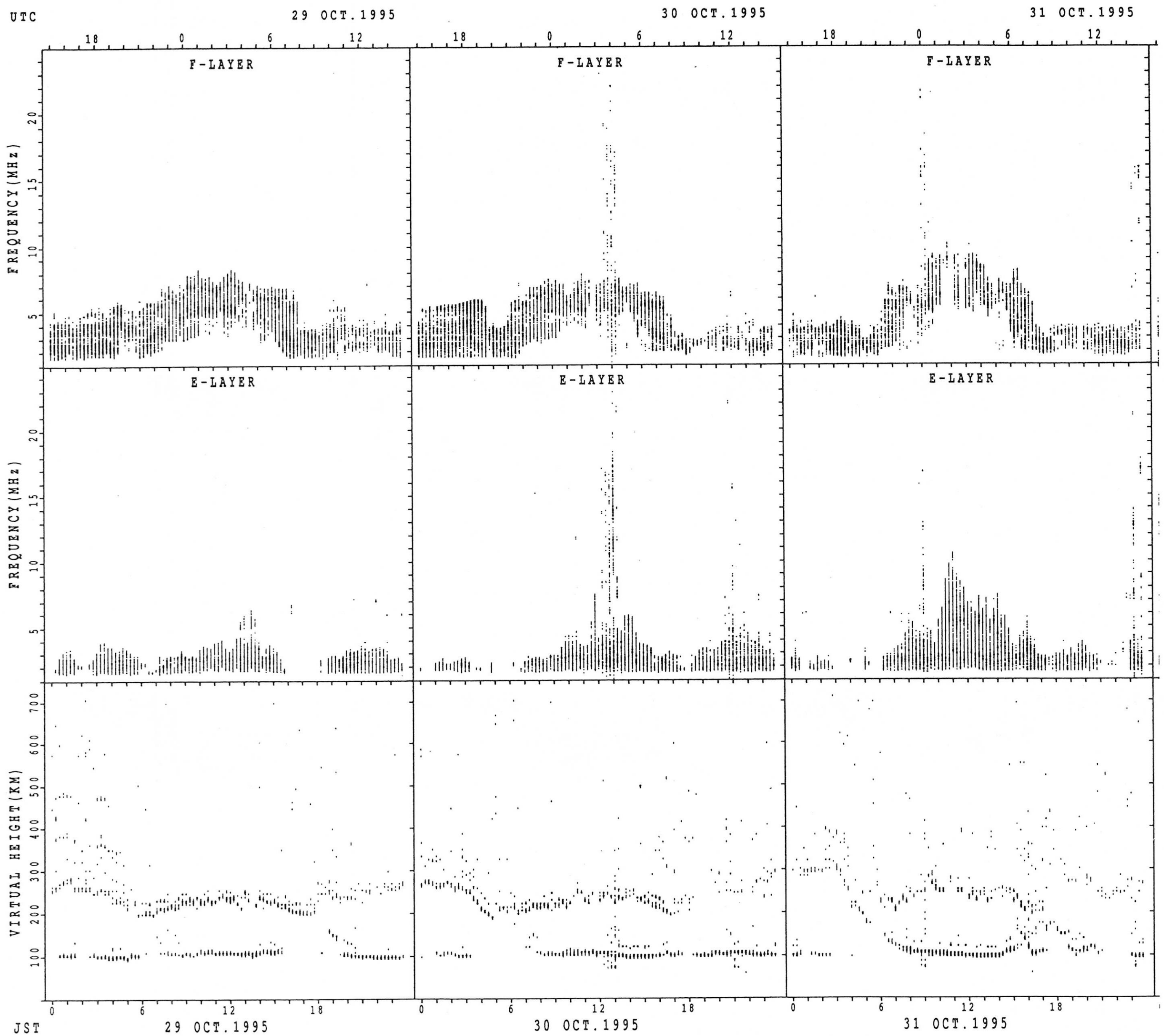
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT WAKKANAI



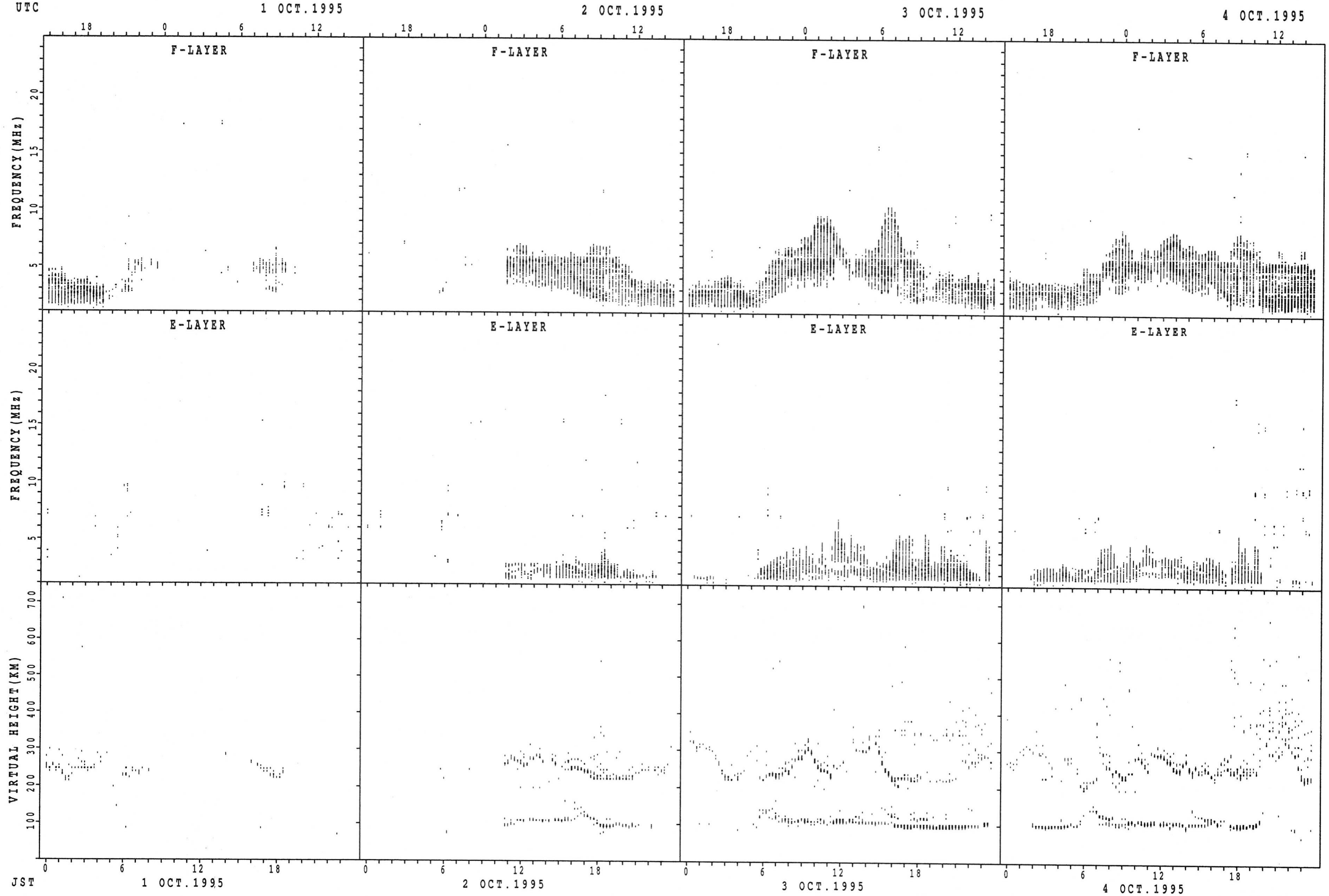
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT WAKKANAI



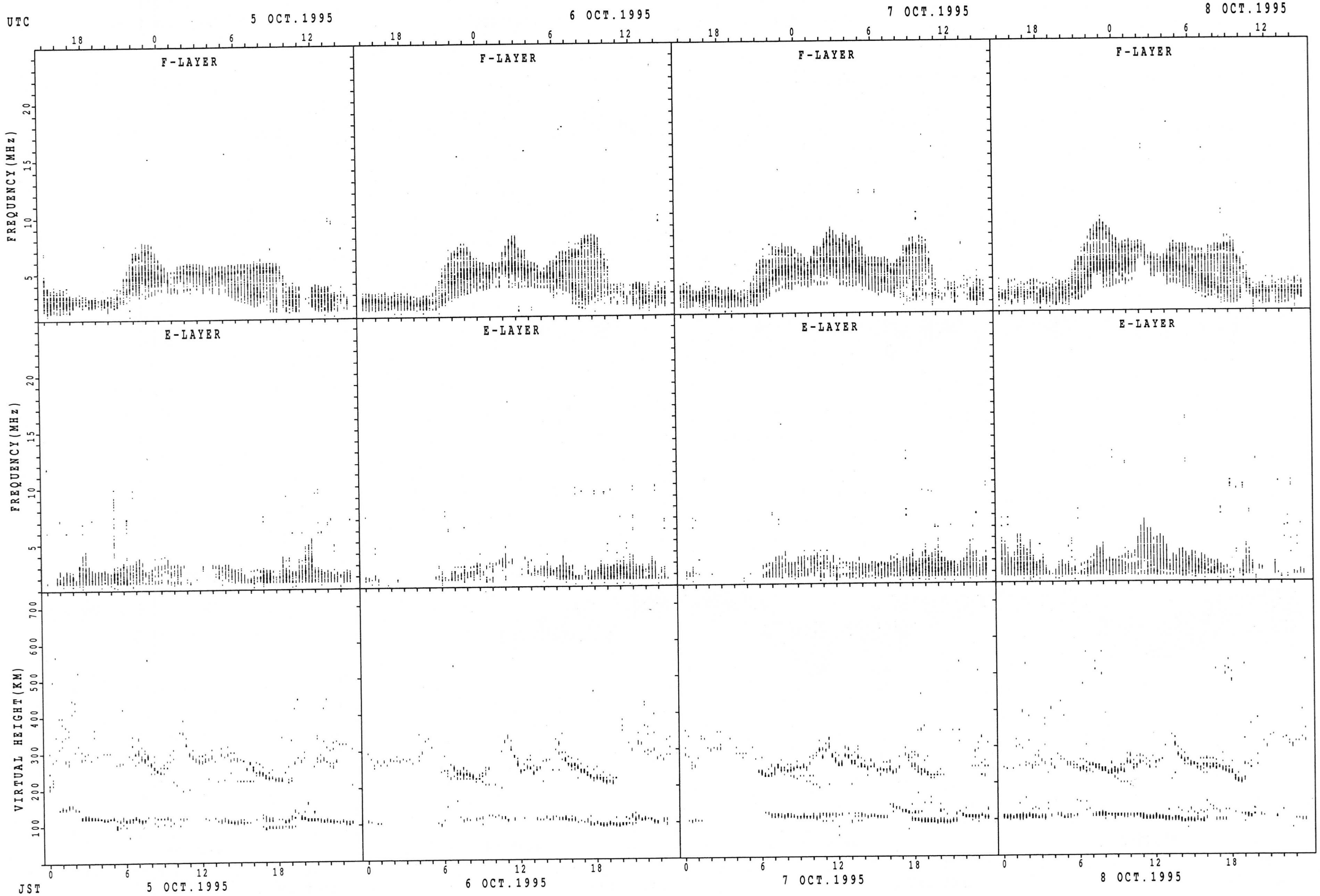
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT KOKUBUNJI TOKYO



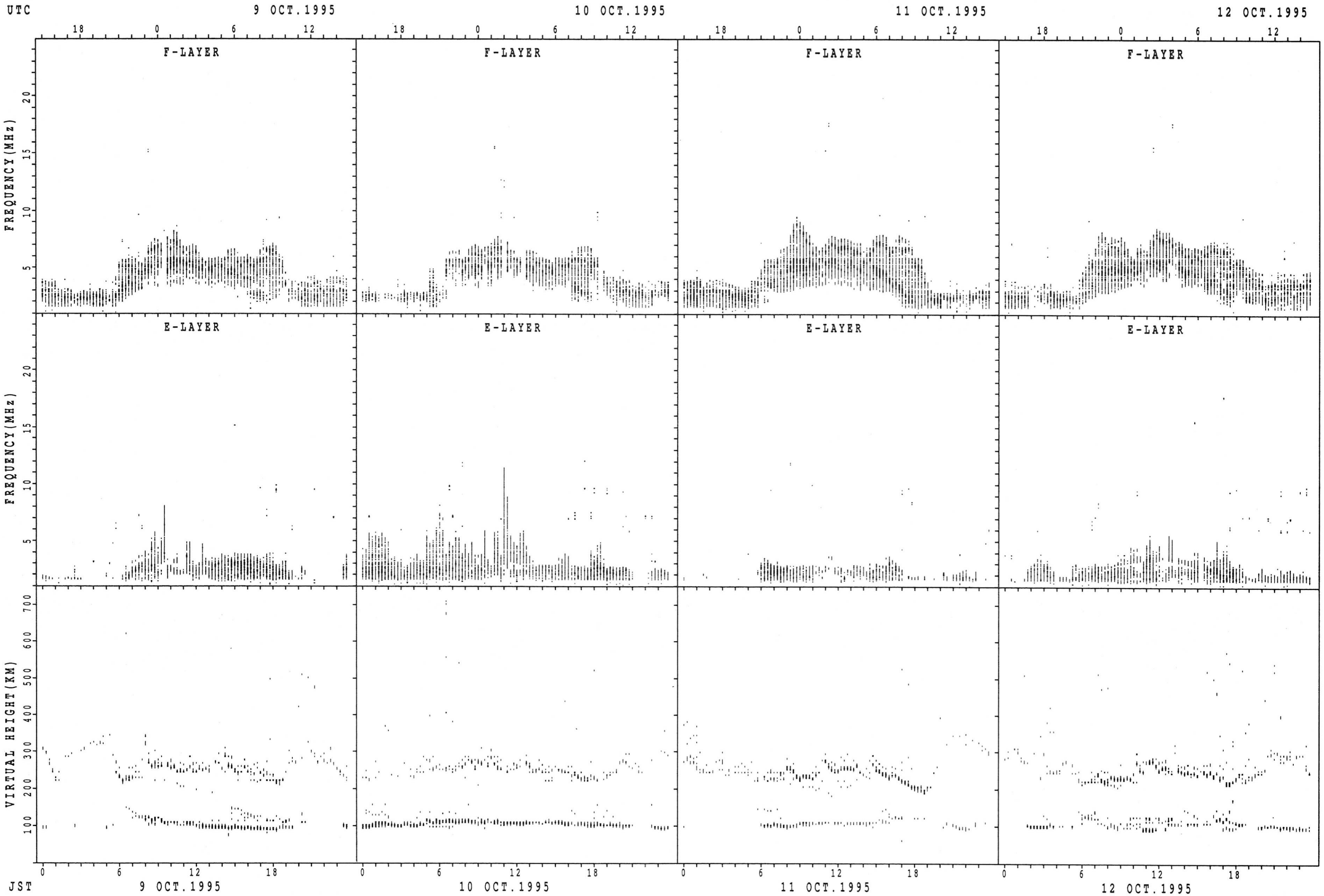
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT KOKUBUNJI TOKYO



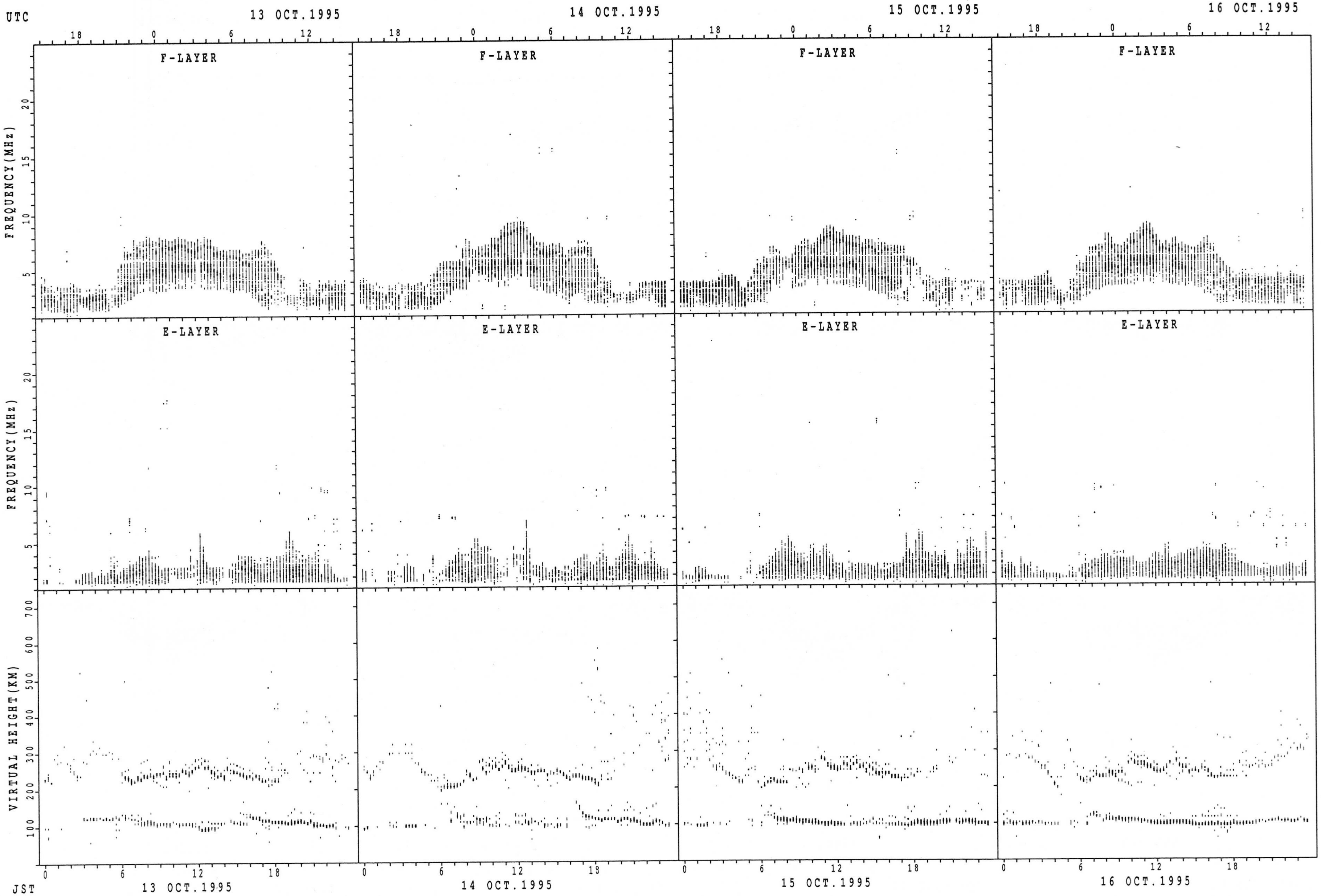
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT KOKUBUNJI TOKYO



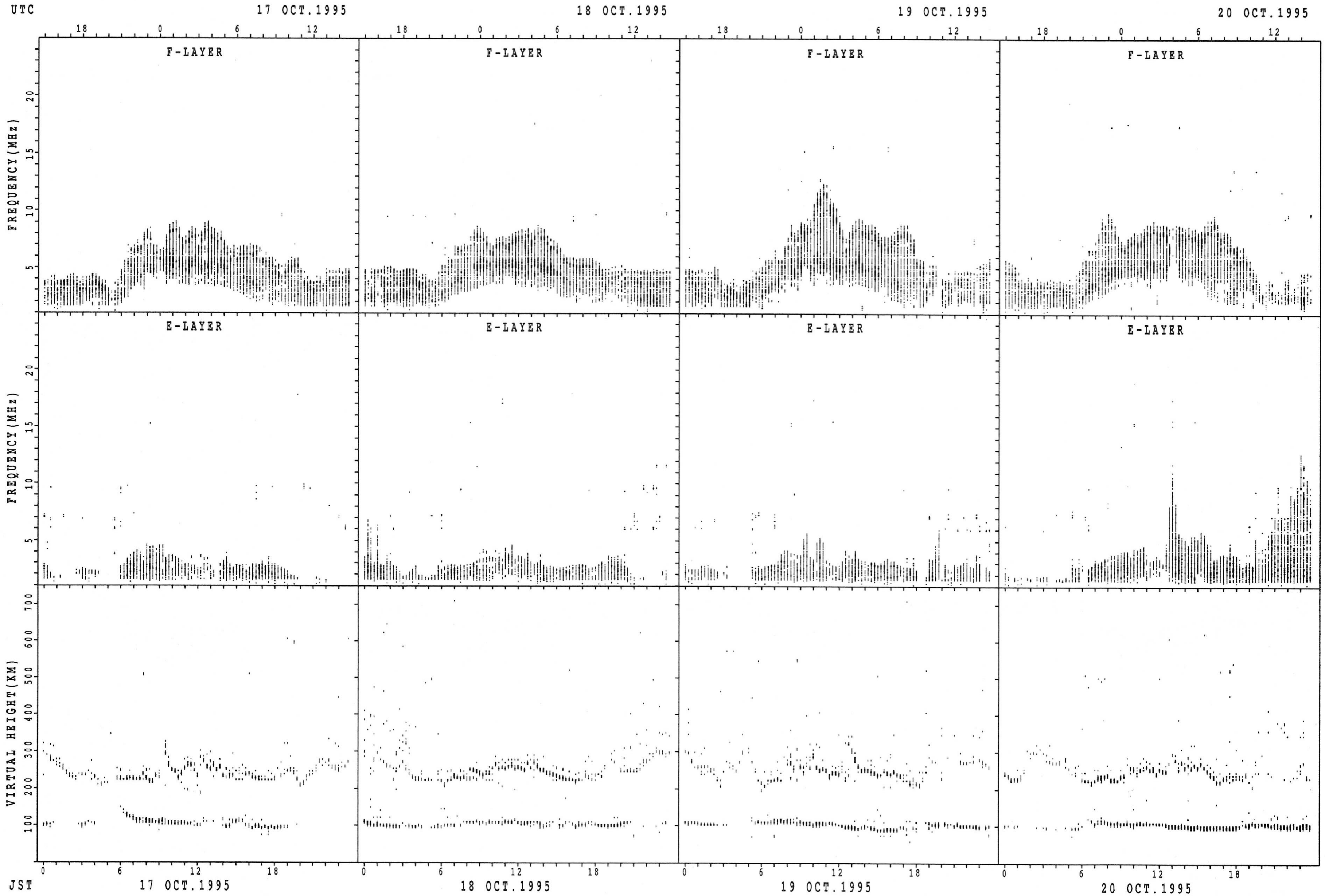
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT KOKUBUNJI TOKYO



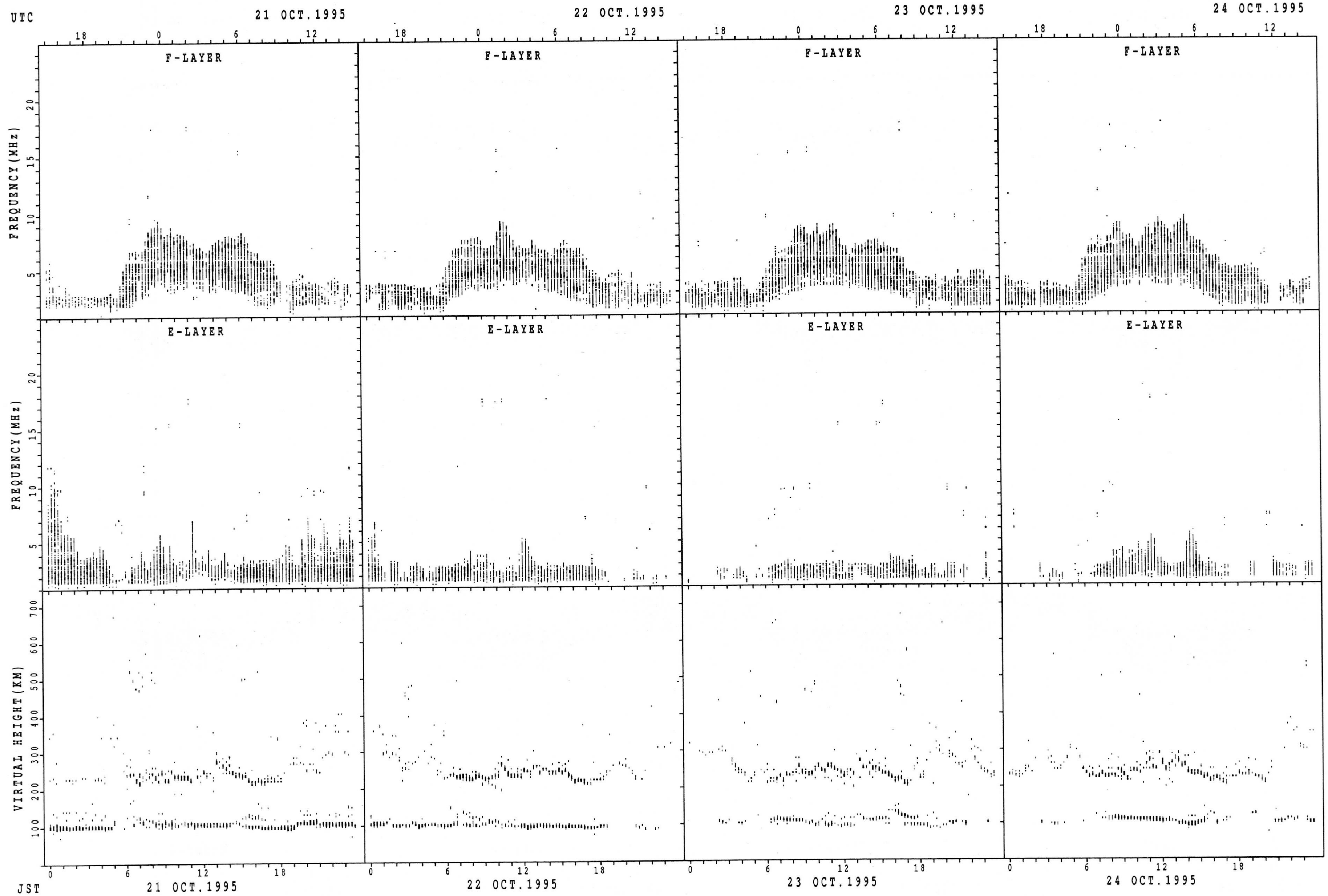
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT KOKUBUNJI TOKYO



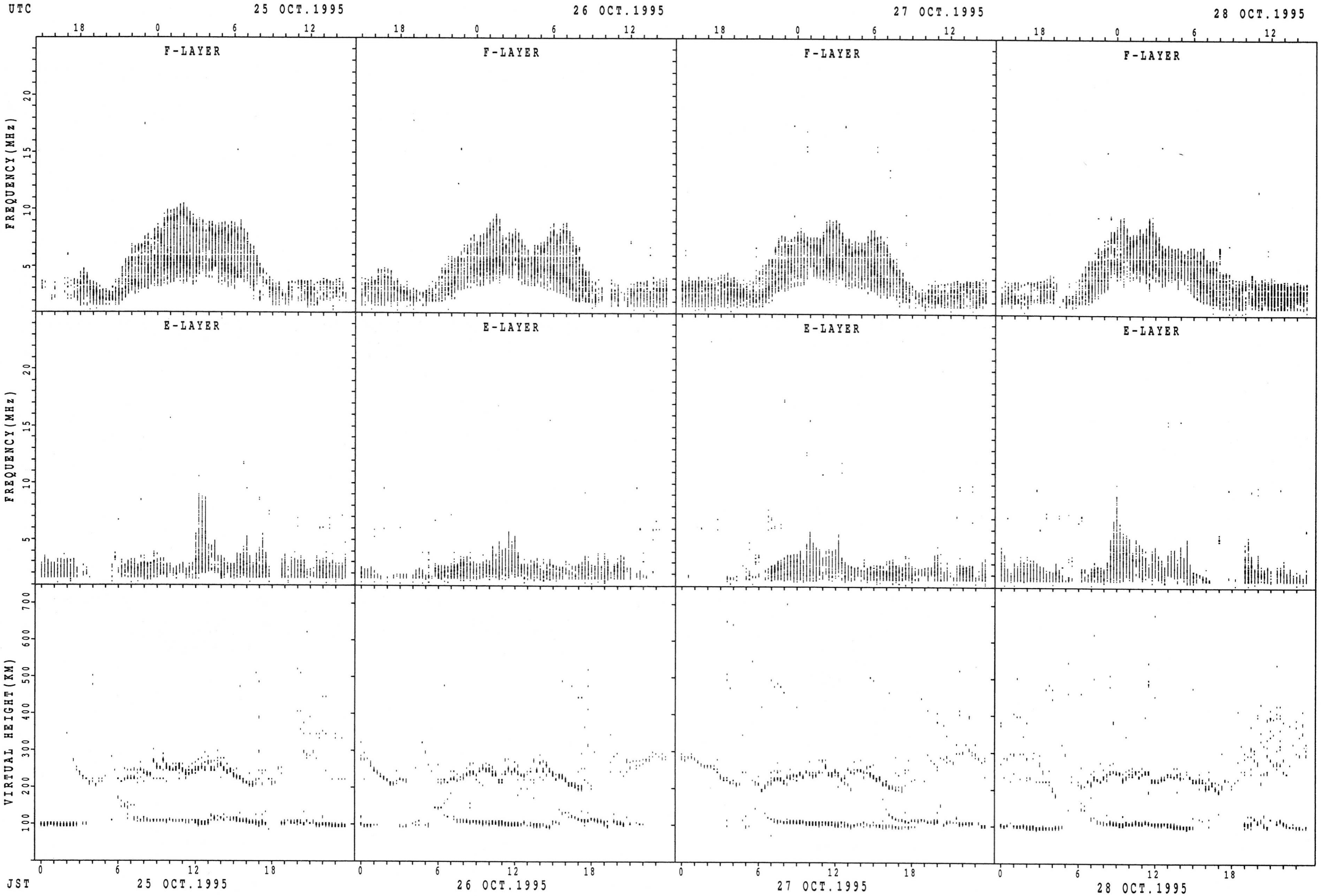
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT KOKUBUNJI TOKYO

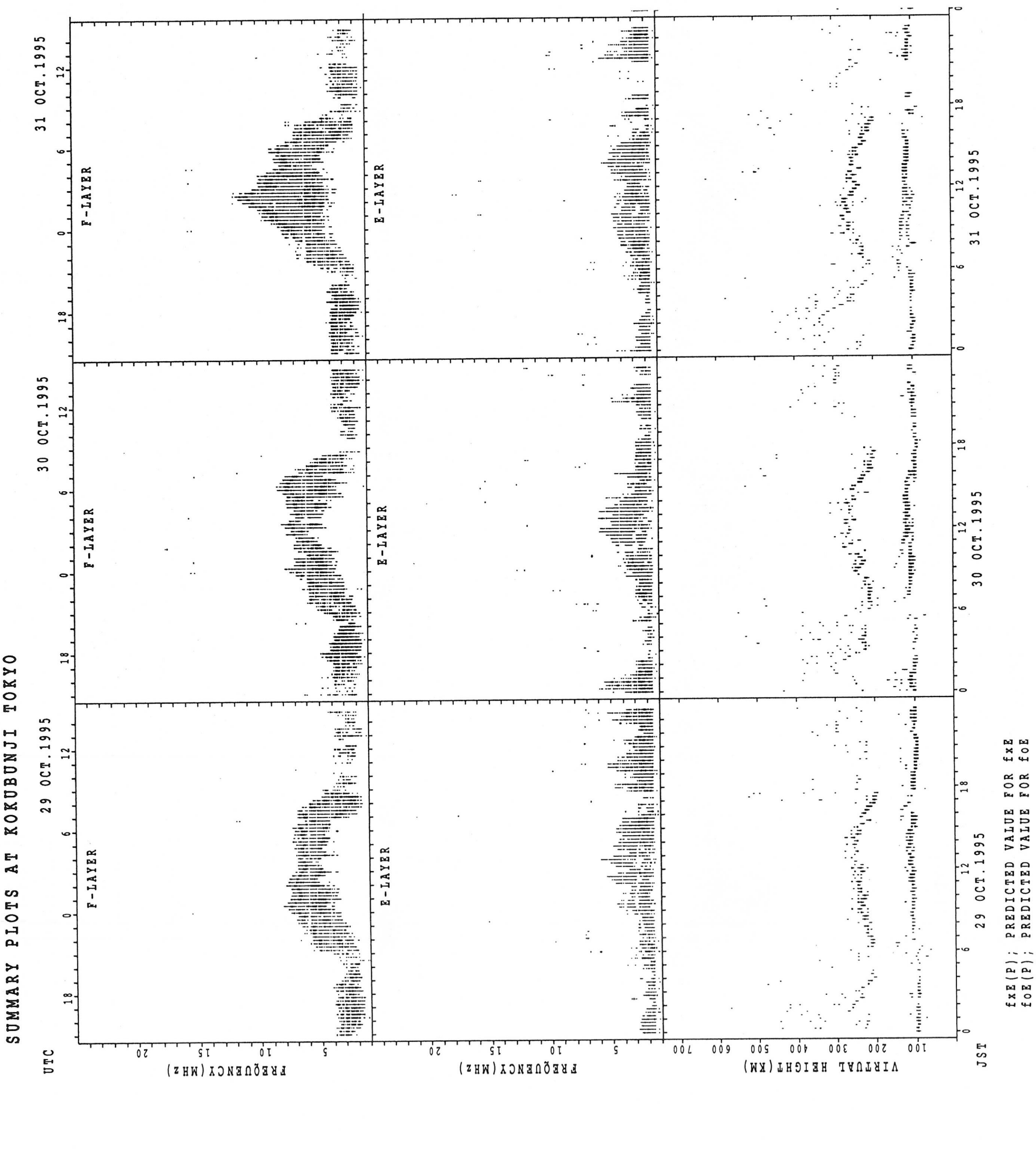


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

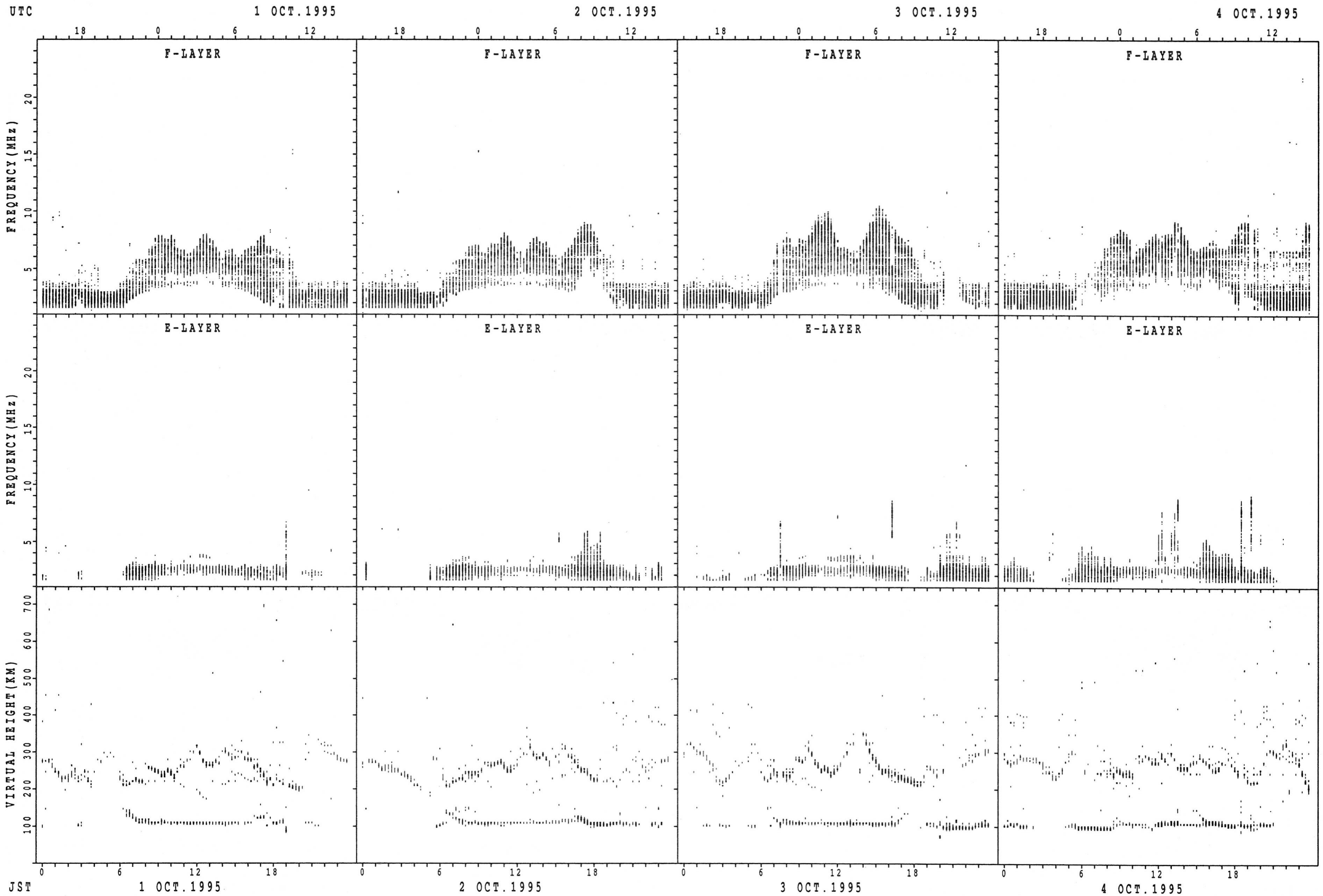
SUMMARY PLOTS AT KOKUBUNJI TOKYO



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

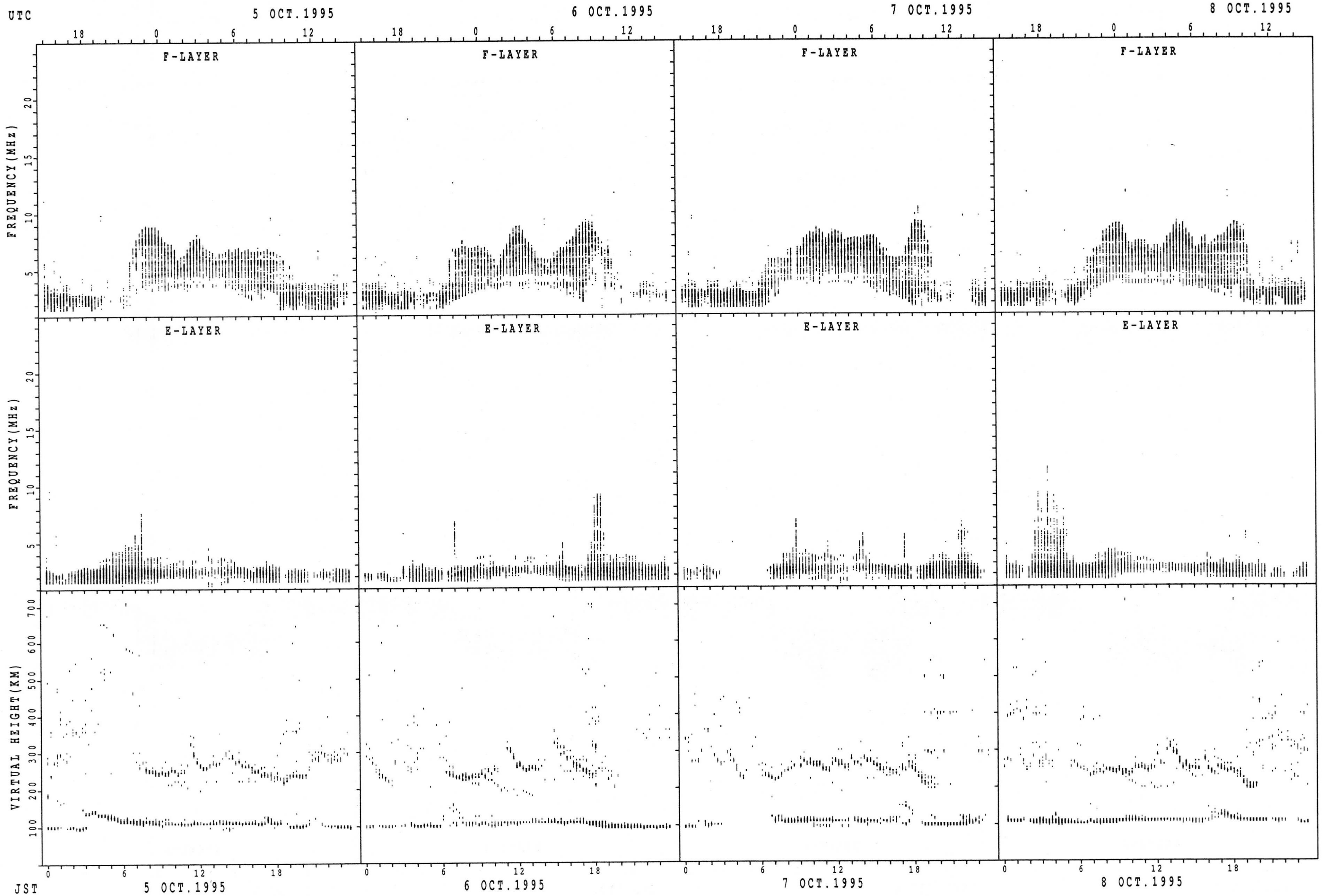

SUMMARY PLOTS AT KOKUBUNJI TOKYO
UTC
29 OCT.1995
30 OCT.1995
31 OCT.1995
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT YAMAGAWA



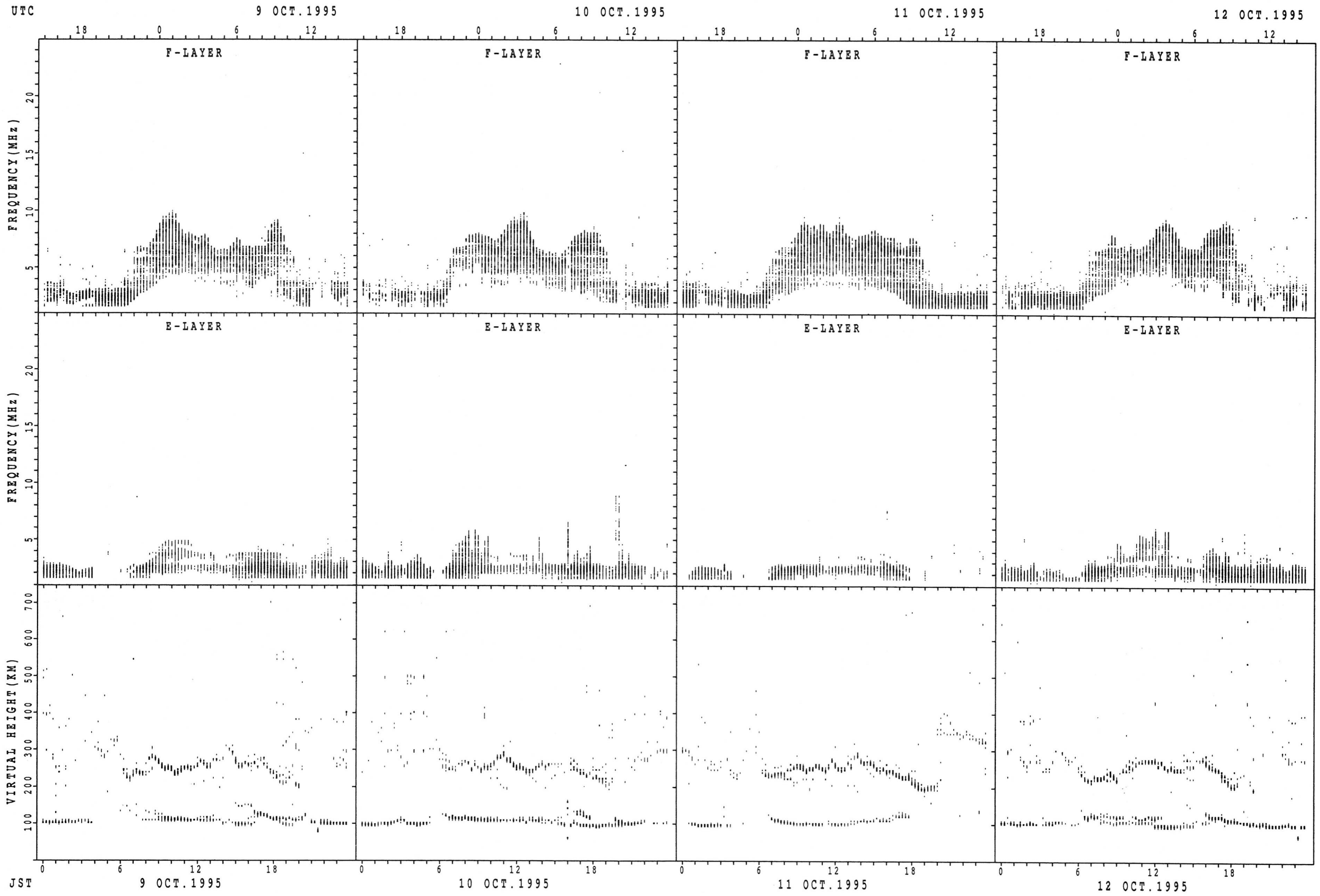
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT YAMAGAWA



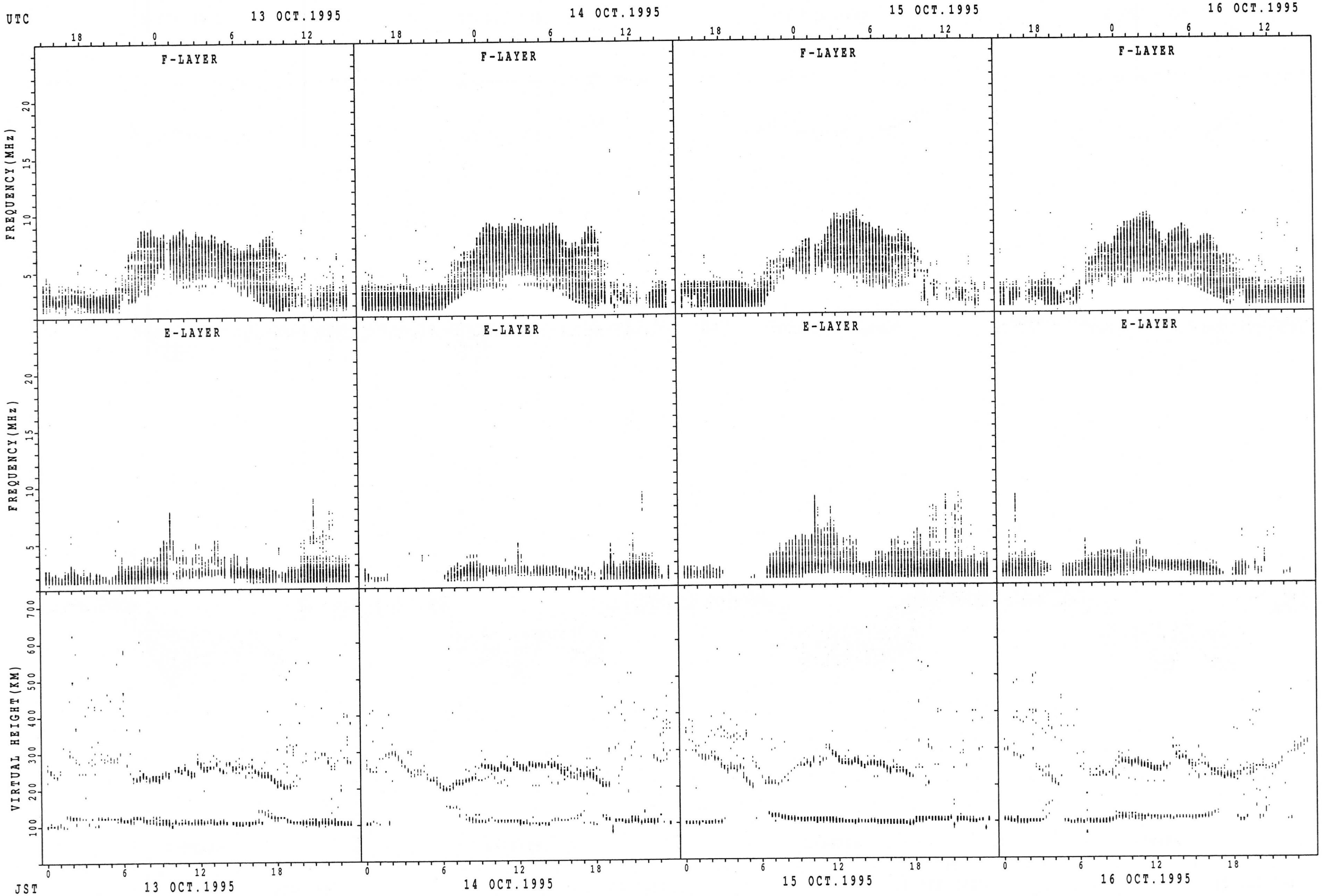
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT YAMAGAWA



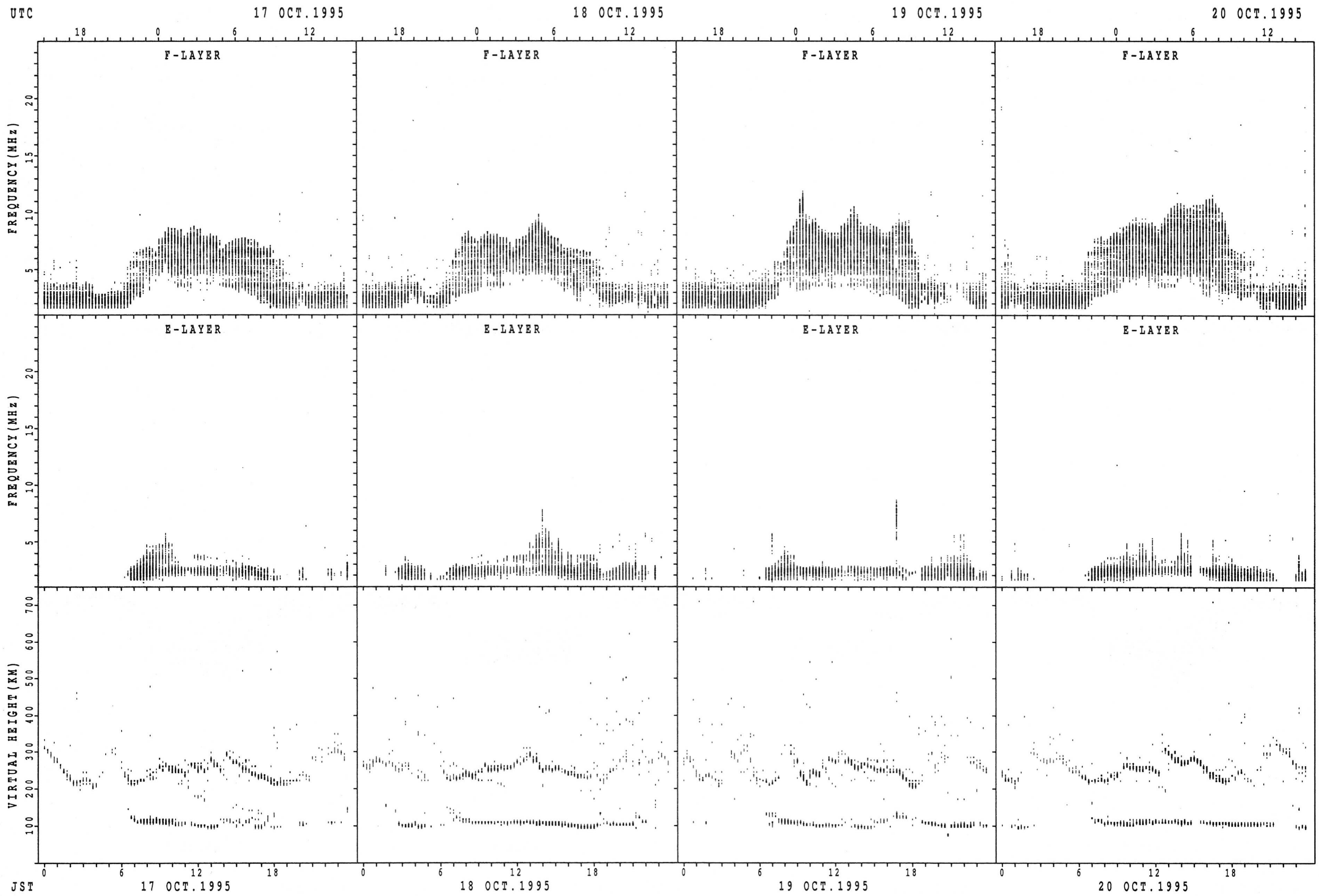
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT YAMAGAWA



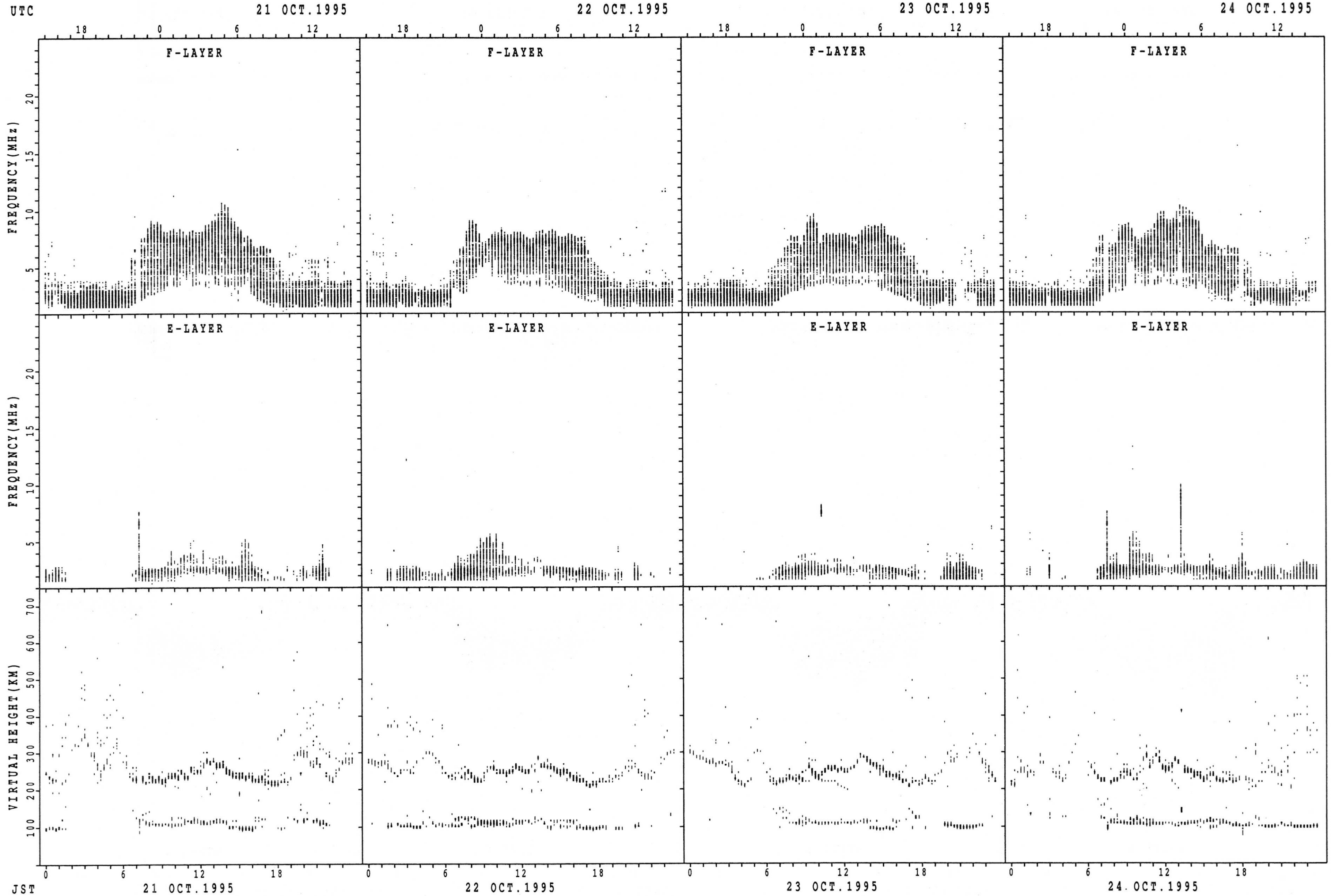
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT YAMAGAWA



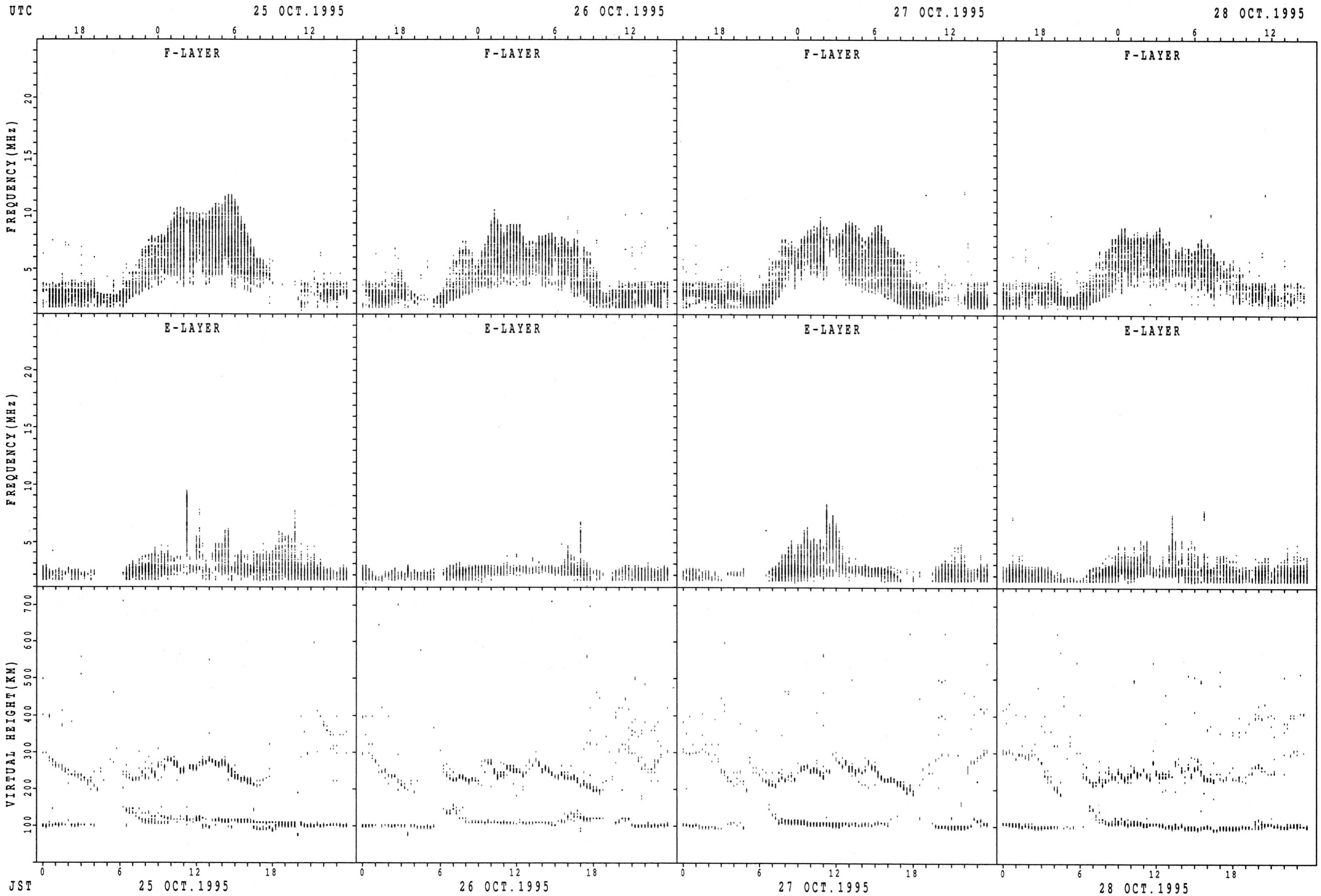
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT YAMAGAWA

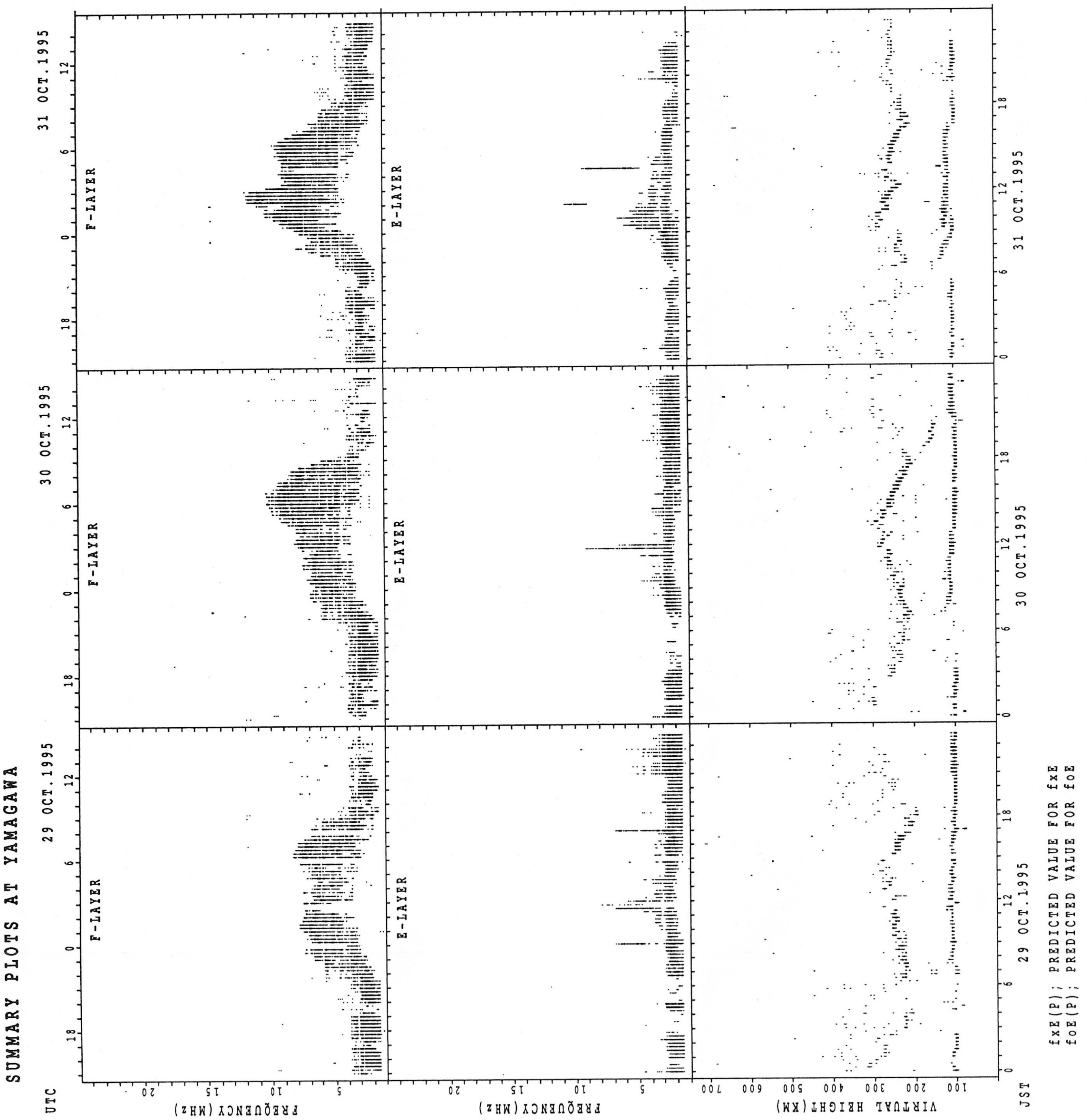


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

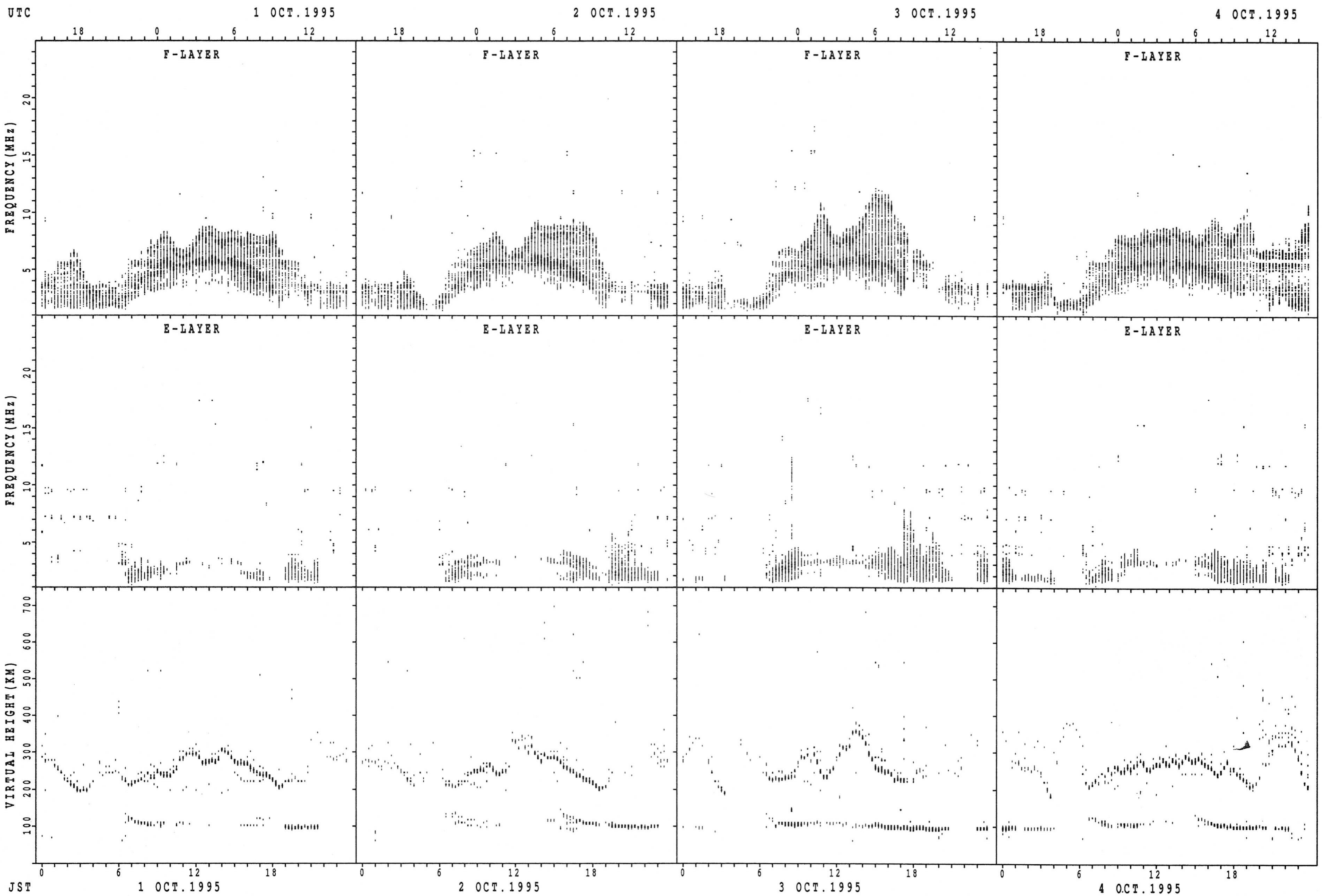
SUMMARY PLOTS AT YAMAGAWA



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

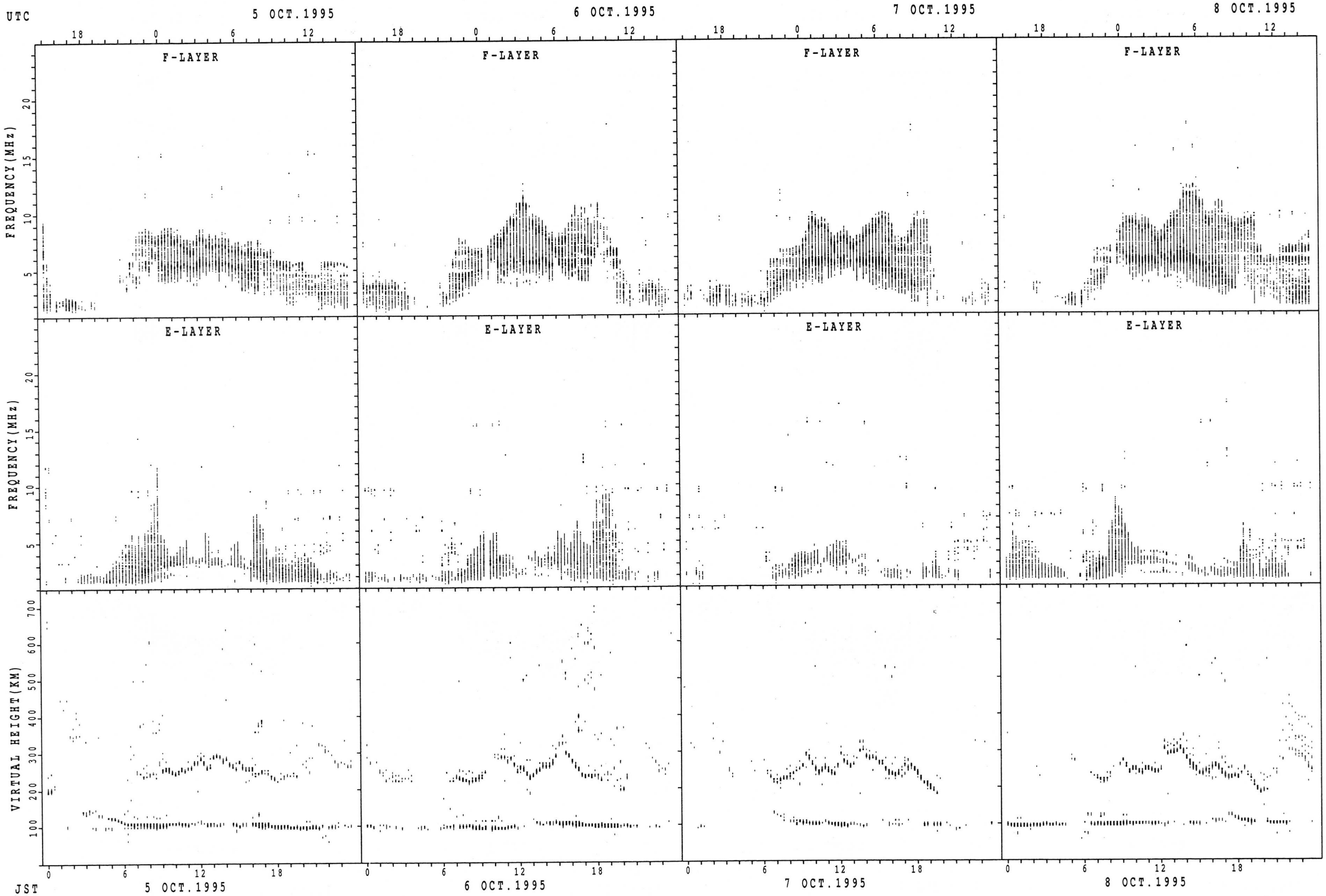

SUMMARY PLOTS AT YAMAGAWA
29 OCT.1995
30 OCT.1995
31 OCT.1995
UTC
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT OKINAWA



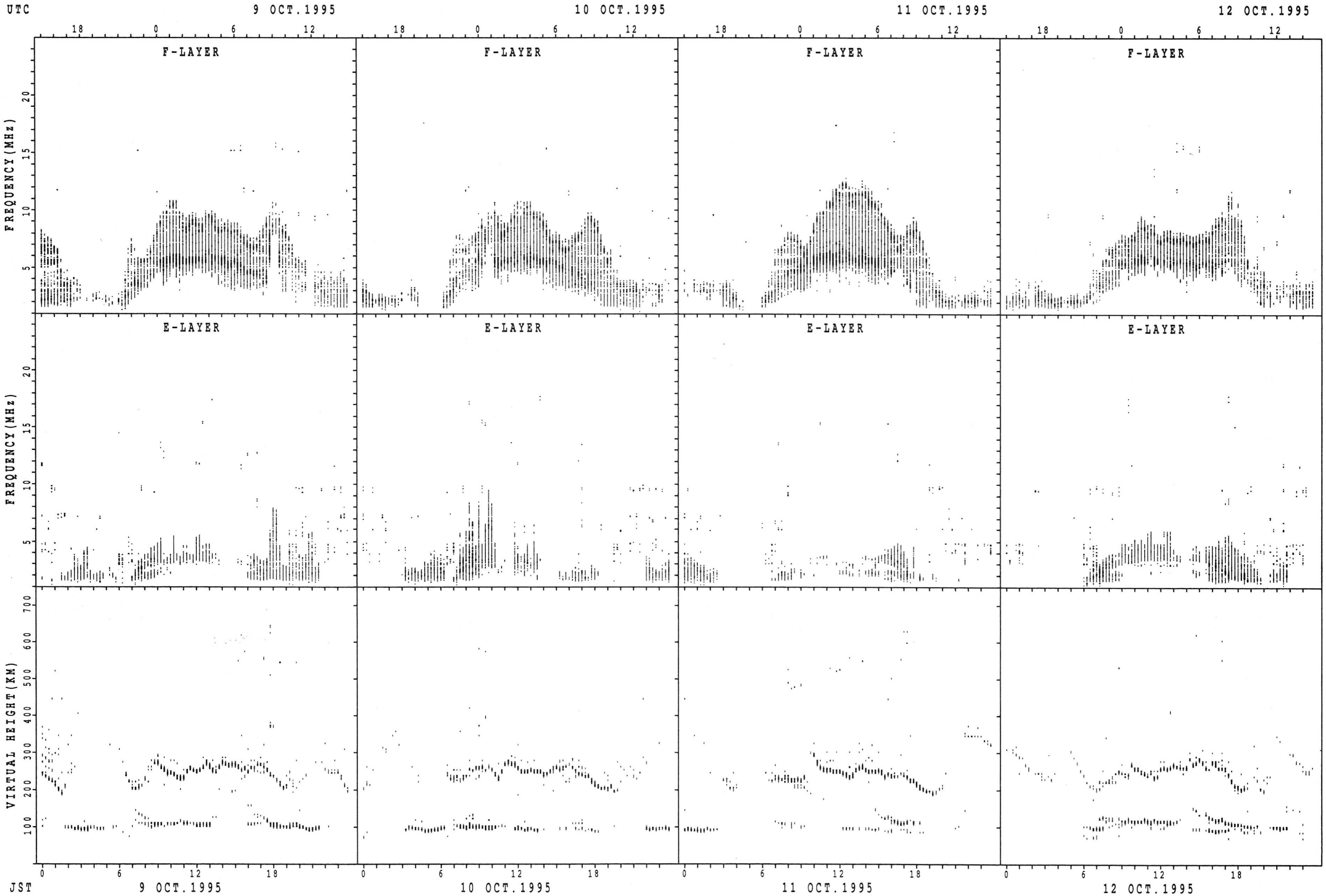
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

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
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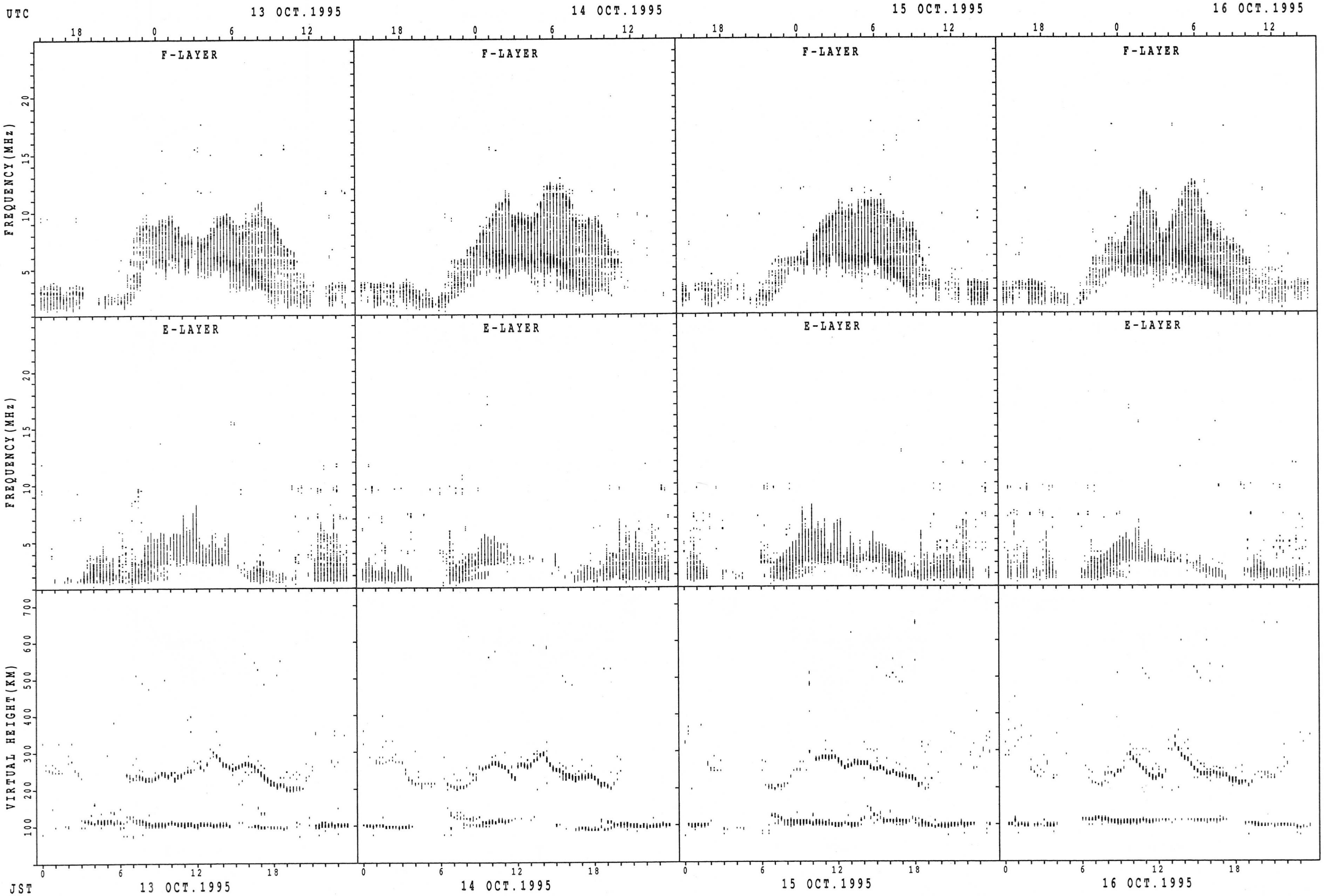
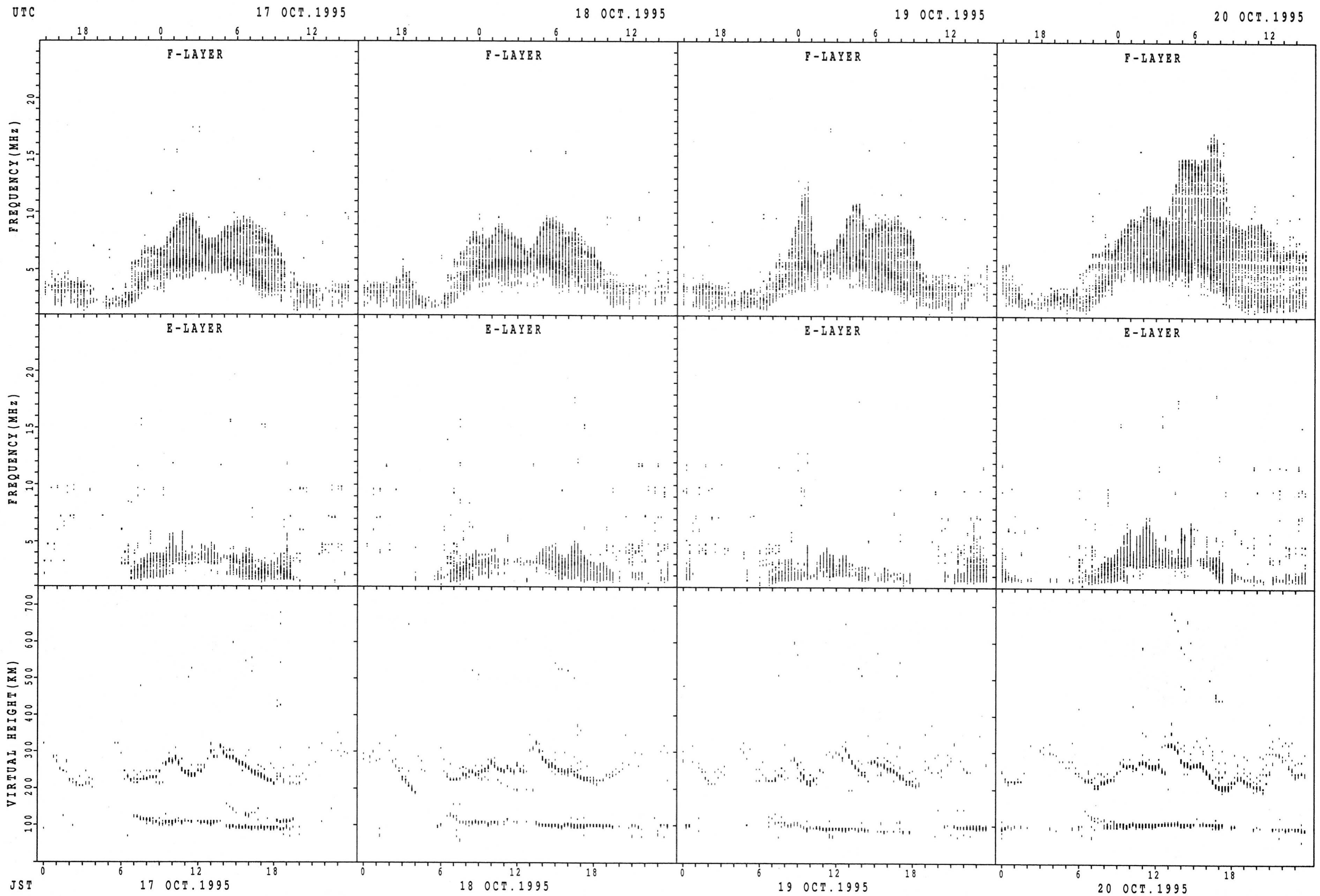
SUMMARY PLOTS AT OKINAWA



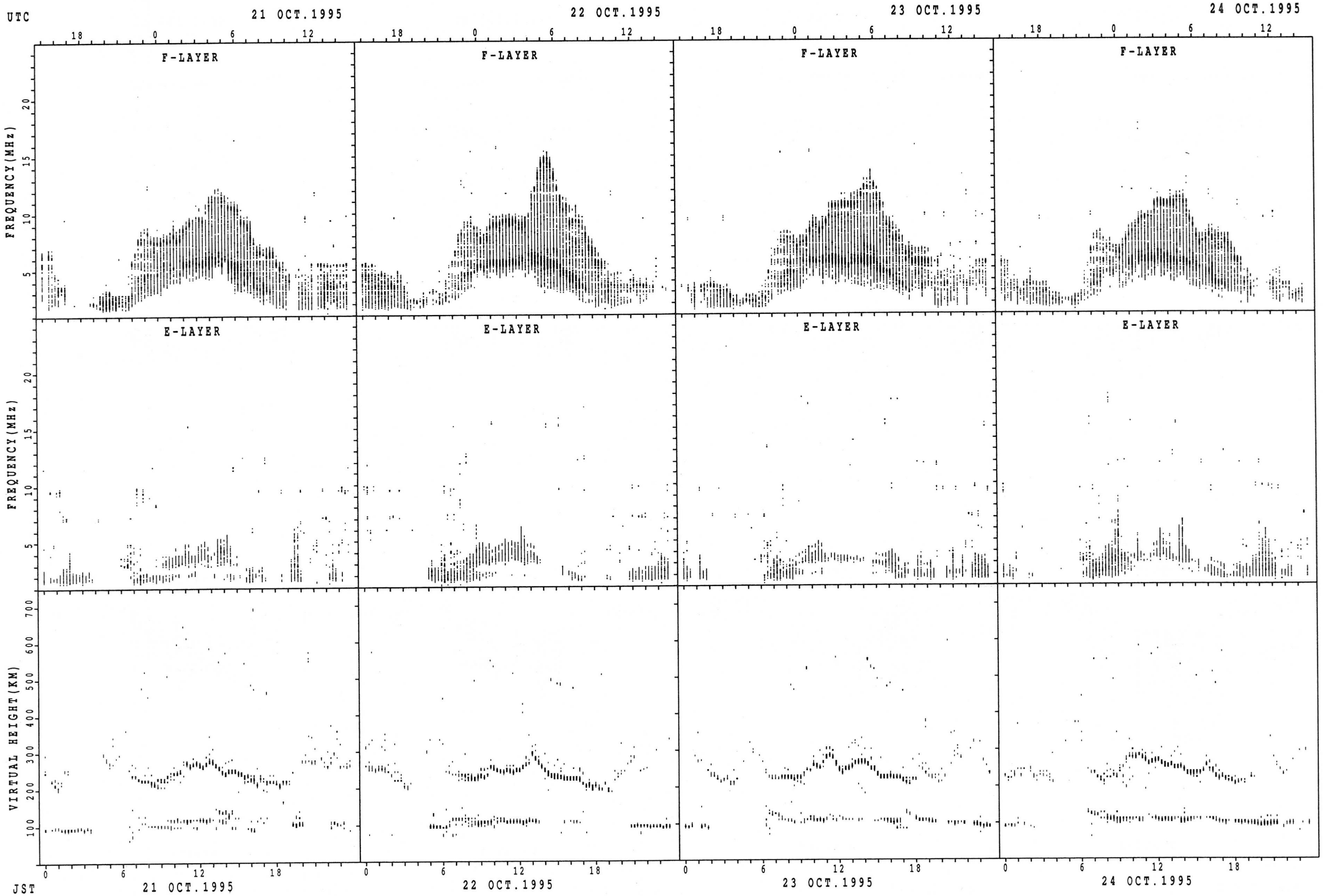
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT OKINAWA



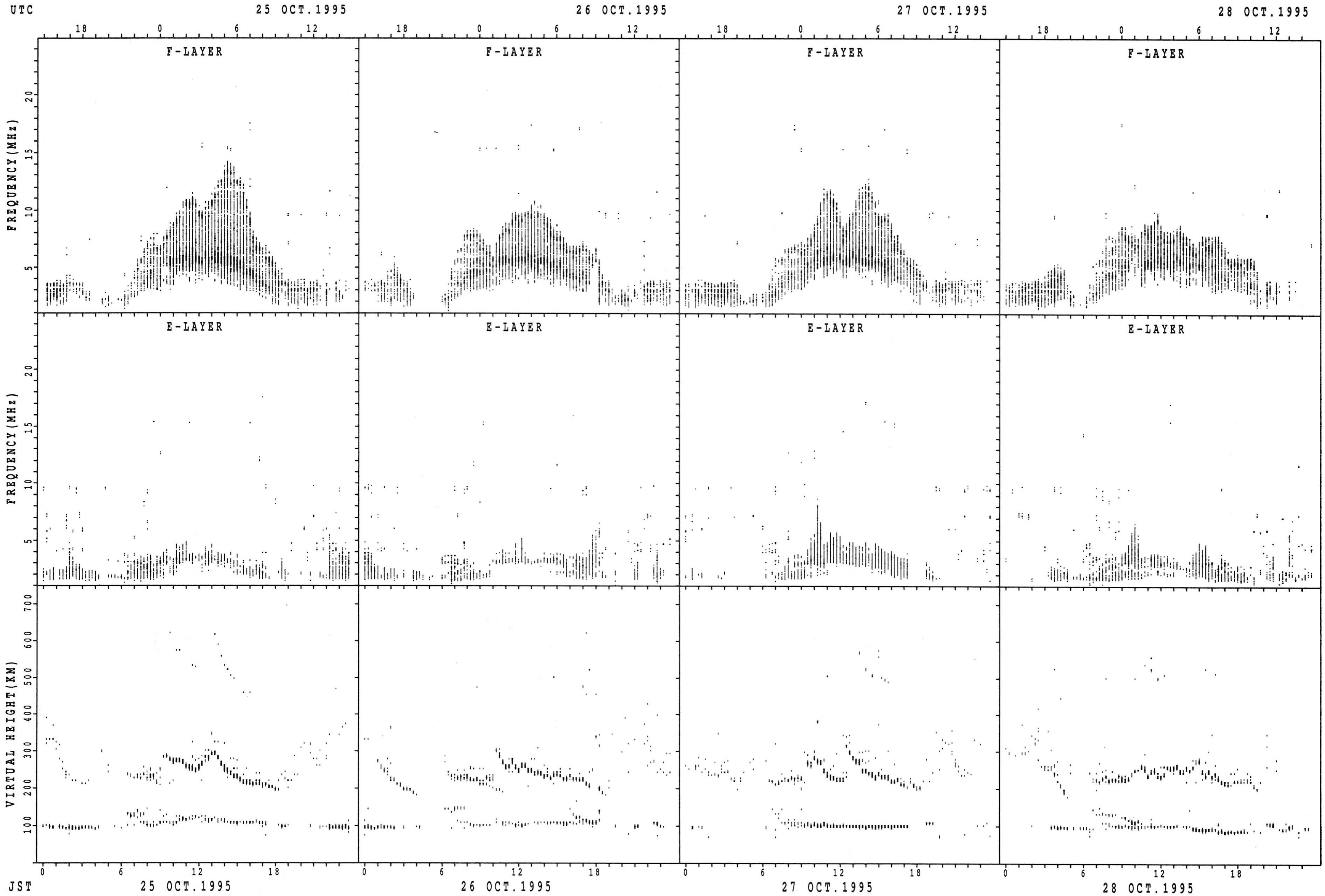
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT OKINAWA



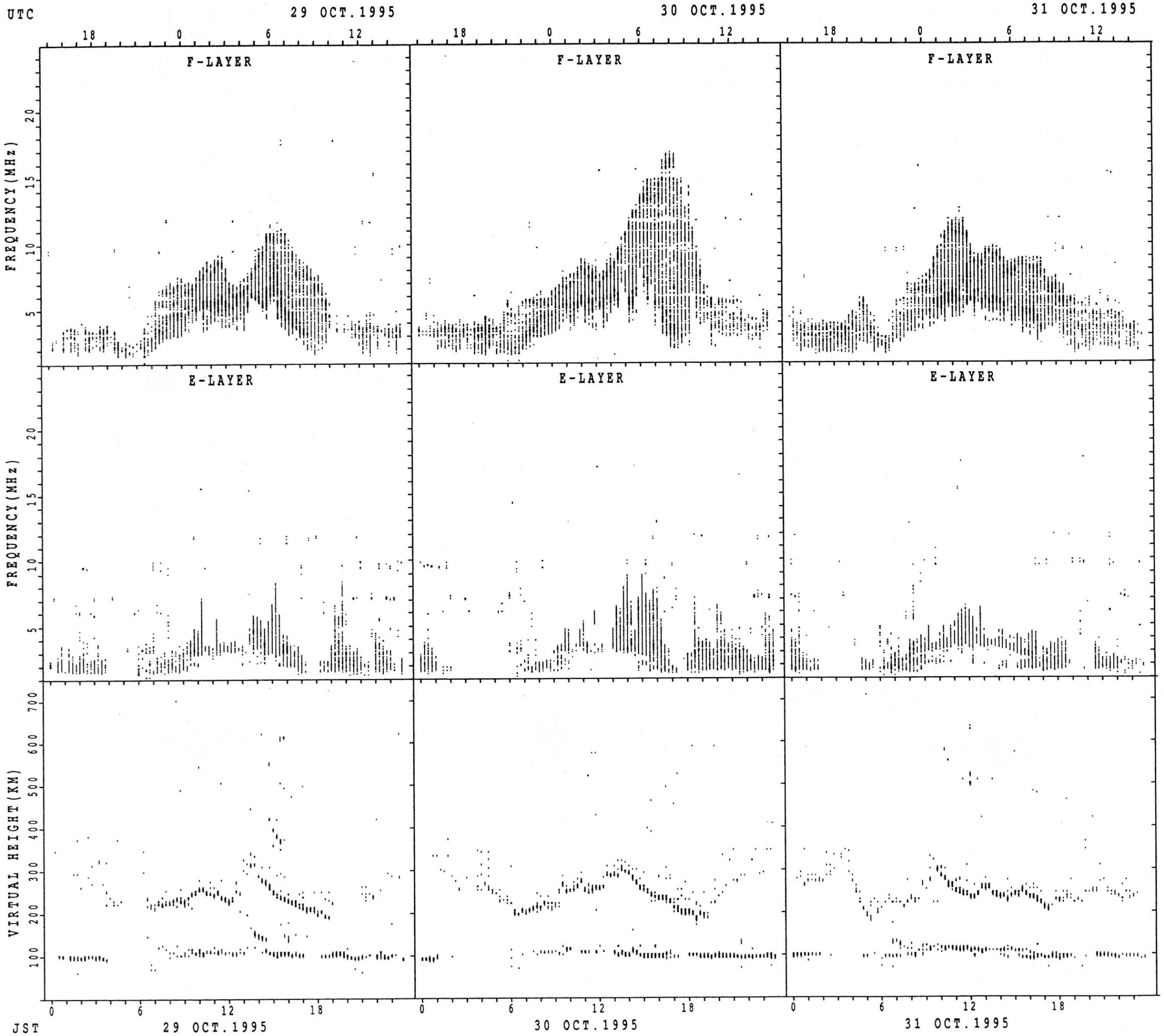
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT OKINAWA



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

SUMMARY PLOTS AT OKINAWA



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

MONTHLY MEDIANS OF h'F AND h'Es

OCT.1995 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

STATION WAKKANAI LAT. 45.4N LON. 141.7E

h'F

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									11	22	24	24	23	19	16	15	12							
MED									252	250	257	255	244	256	268	254	250							
U Q									272	264	285	272	256	272	271	260	261							
L Q									232	238	244	233	238	240	261	248	235							

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	18	16	13	13	18	16	16	28	29	31	30	30	29	30	28	31	27	23	24	23	19	19	15	18
MED	105	105	107	107	114	112	115	125	113	111	107	107	107	105	105	105	103	103	107	109	107	105	105	103
U Q	113	112	124	114	119	123	151	140	119	113	111	109	109	111	111	117	125	117	114	117	115	113	111	111
L Q	99	101	105	105	107	108	111	113	111	107	107	103	104	103	100	101	101	101	103	103	107	97	99	101

STATION KOKUBUNJI LAT. 35.7N LON. 139.5E

h'F

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								17	24	26	23	24	26	20	20	21	17	12						
MED								258	257	246	254	255	254	263	264	256	246	250						
U Q								264	263	258	272	273	274	280	274	264	261	264						
L Q								247	239	232	246	247	248	254	253	239	229	247						

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	17	14	15	11	11		14	28	29	29	28	28	25	27	29	30	27	24	22	24	19	17	20	14
MED	103	106	103	103	103		134	121	115	113	111	107	109	109	111	115	119	107	104	105	107	107	105	104
U Q	110	109	107	125	107		147	134	119	117	113	112	113	115	118	123	131	120	107	112	113	109	111	107
L Q	100	99	101	99	103		113	113	113	109	107	105	105	101	102	103	107	101	97	99	101	105	103	99

STATION YAMAGAWA LAT. 31.2N LON. 130.6E

h'F

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									28	28	31	29	31	28	27	27	29	25	15					
MED									249	252	254	254	260	280	270	260	254	254	244					
U Q									260	274	266	275	272	293	286	280	271	259	260					
L Q									240	243	248	246	252	263	256	254	243	244	240					

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	19	18	17	17	12			31	31	31	31	30	30	30	30	29	30	30	24	23	28	25	23	20
MED	103	107	105	109	106			131	119	115	113	111	113	113	111	113	115	120	108	109	107	105	105	105
U Q	107	111	106	124	113			145	125	121	113	113	115	115	113	115	131	129	114	111	112	112	109	108
L Q	103	103	102	103	104			117	113	113	111	107	109	107	107	107	111	107	100	103	105	103	103	103

MONTHLY MEDIANS OF h'F AND h'Es

OCT.1995 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

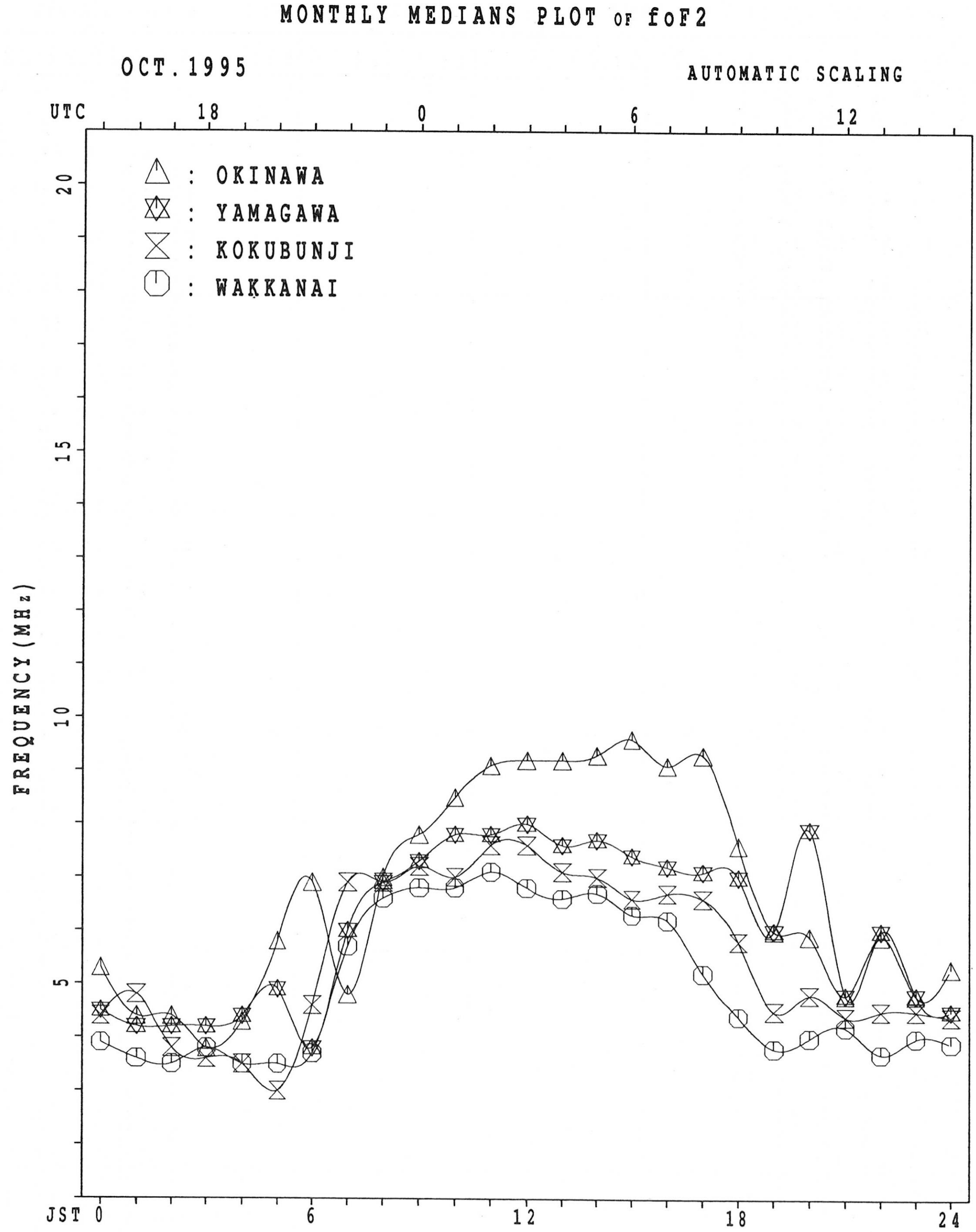
STATION OKINAWA LAT. 26.3N LON. 127.8E

h'F

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									17	27	28	29	30	30	30	31	29	27	25					
MED									236	248	262	250	259	274	268	256	246	238	234					
U Q									244	268	270	269	270	294	284	274	258	250	240					
L Q									232	234	249	242	248	258	254	240	231	228	225					

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	14	11		10				27	28	30	26	26	24	25	19	24	27	25	21	18	15	19	16	14
MED	96	99		97				123	113	108	111	109	111	107	111	110	109	107	103	102	101	99	99	97
U Q	101	101		99				131	118	111	113	115	116	115	145	117	119	115	108	105	107	101	101	103
L Q	95	95		95				115	110	105	107	105	105	103	105	102	101	100	92	99	97	97	97	97


MONTHLY MEDIANS PLOT OF foF2
OCT.1995
AUTOMATIC SCALING
UTC
18
0
6
12
: OKINAWA
: YAMAGAWA
: KOKUBUNJI
: WAKKANAI
FREQUENCY(MHz)
20
15
10
5
JST 0
6
12
18
24

IONOSPHERIC DATA STATION Kokubunji

OCT.1995 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 25.0MHz IN 24.0SEC 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 48	X 47	X 40	X 38	X 36	X 36													S	C	C	C	C	C
2	C	C	C	C	C	C													X 72	X 67	X 56	X 44	X 43	X 40
3	X 37	X 40	X 40	X 47	X 38	X 34													X 57	X 44	51	44	45	44
4	X 44	X 40	X 41	X 40	X 39	X 38													X 85	X 78	58	70	61	71
5	52	38	34	A	X 33	X 33													X 65	X 45	X 44	42	43	X 36
6	X 36	X 35	X 33	X 34	X 30	X 31													X 86	X 65	41	40	40	X 38
7	X 38	X 35	X 38	X 34	X 35	X 33													X 78	X 79	X 43	X 41	X 40	X 45
8	X 40	X 41	X 42	X 41	X 37	X 38													X 78	X 58	X 40	X 39	X 39	X 41
9	X 40	X 43	X 34	X 34	X 34	X 31													X 74	X 48	X 43	X 47	X 43	X 46
10	A	X 36	X 35	X 35	A	X 31													X 66	X 48	X 43	X 42	X 40	X 39
11	42	43	X 42	X 41	X 36	X 36													X 65	X 40	X 32	X 36	X 37	X 38
12	X 40	X 36	X 37	40	X 36	X 34													X 65	X 55	X 49	X 48	X 47	X 48
13	X 49	X 38	X 43	X 38	X 37	X 37													X 68	A	X 41	X 44	X 45	X 43
14	X 47	X 41	X 39	X 40	X 41	X 40													X 71	X 45	X 38	40	41	40
15	39	40	40	45	45	36													X 64	X 46	X 42	X 41	X 40	X 40
16	X 40	X 40	X 41	X 42	X 45	X 30													X 50	X 48	X 47	X 46	X 45	X 45
17	X 46	X 46	X 47	X 44	X 46	X 35													X 60	X 59	X 56	X 46	X 48	X 49
18	X 50	50	53	X 50	50	X 40													X 58	X 50	X 52	X 50	50	51
19	51	X 48	X 50	X 40	X 39	40													X 66	X 56	X 44	X 49	X 52	X 56
20	X 60	X 50	X 44	X 44	X 43	X 43													X 76	X 61	X 43	X 45	48	51
21	56	A	32	X 34	X 34	X 32													X 52	X 46	X 48	X 44	42	43
22	43	X 40	X 40	X 38	37	X 36													X 49	X 48	X 50	R	X 39	X 40
23	X 40	X 40	X 39	X 40	X 43	X 28													X 45	X 46	X 46	X 49	X 46	X 50
24	X 45	X 41	X 36	X 38	X 38	X 37													X 52	X 52	X 42	X 36	X 36	X 40
25	X 39	X 38	X 40	X 47	X 40	X 31													X 41	X 37	X 39	X 39	41	41
26	X 44	X 48	X 50	X 39	X 32	X 34													X 42	X 38	X 39	X 40	X 43	X 43
27	X 44	X 44	X 44	X 46	X 44	X 38													X 37	X 36	X 40	X 40	X 41	X 40
28	X 42	X 40	X 40	X 41	X 45	X 29												X 53	X 45	X 45	44	41	41	38
29	39	38	41	X 39	X 37	X 32												X 61	X 48	X 40	O X 39	X 41	X 42	42
30	45	46	43	50	40	34												X 59	X 34	X 36	X 36	X 39	39	X 39
31	42	41	41	41	X 40	X 39												X 60	X 34	X 41	X 46	X 48	X 42	X 43
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	30	29	29	30												4	30	29	30	29	30	30
MED	X 43	X 40	X 40	X 40	X 38	X 34												X 60	X 62	X 48	X 43	X 42	X 42	X 42
U Q	X 48	X 45	X 43	X 44	X 43	X 38												X 60	X 71	X 57	X 48	X 46	X 45	X 46
L Q	X 40	X 38	X 38	X 38	X 36	X 32												X 56	X 48	X 42	X 40	X 40	X 40	X 40

IONOSPHERIC DATA STATION Kokubunji

OCT.1995 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 25.0MHz IN 24.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	42	41	H 34	32	30	30	J S 48	J R 59	J R 66	C	C	C	C	C	U C 56	C	J R 62	U R 64	S	C	C	C	C	C
2	C	C	C	C	C	C	U S 46	C	R	C	C	62	66	60	56	57	57	60	66	61	50	38	37	34
3	32	34	34	41	32	28	43	63	66	74	92	89	66	59	64	85	97	64	51	38	F 42	F 34	F 39	F 36
4	38	34	35	34	33	32	50	R 44	71	76	59	H 66	74	79	70	61	64	61	79	72	F 49	F 61	J F 53	J F 66
5	F 47	F 29	F 28	A	27	27	37	65	R 74	60	48	60	58	52	54	54	56	59	59	39	38	F 35	F 36	30
6	30	29	27	28	24	25	39	64	70	57	52	63	77	58	50	58	64	72	80	59	F 35	F 34	F 33	32
7	32	29	32	28	29	27	50	58	68	62	58	64	80	75	70	56	56	53	72	73	37	35	34	39
8	34	36	37	35	31	32	50	73	88	73	68	68	60	56	67	61	60	66	72	52	34	33	33	35
9	34	37	28	28	28	25	51	55	59	70	70	66	66	56	54	R 63	59	61	68	42	37	41	37	40
10	A	30	29	29	A	25	A	62	60	64	67	A	60	63	56	56	56	64	60	42	37	36	34	33
11	F 36	F 34	36	35	30	30	46	54	70	87	68	68	71	71	61	75	66	75	59	34	V 26	30	31	32
12	34	32	31	F 32	30	28	42	66	69	74	60	70	81	74	66	63	70	70	59	49	43	42	41	42
13	43	32	37	32	31	31	48	70	74	72	74	77	71	76	64	66	62	71	62	A	35	38	38	37
14	41	35	33	34	35	34	50	55	66	64	70	83	90	83	70	68	61	71	65	39	32	F 33	F 33	F 32
15	F 31	F 32	F 34	F 34	F 39	F 25	48	65	57	65	71	76	81	76	73	70	69	65	58	40	36	35	34	34
16	34	34	35	36	39	24	R 46	62	70	67	70	80	79	68	68	61	71	56	44	42	41	40	39	39
17	40	40	41	38	40	29	46	66	80	61	85	74	72	81	70	63	66	64	54	53	50	40	42	V 43
18	44	F 43	F 44	F 42	42	34	48	66	65	81	66	73	82	78	81	67	57	56	52	44	47	44	F 43	F 42
19	F 42	42	44	34	33	F 34	48	64	73	90	102	119	90	84	85	77	77	84	60	50	38	43	46	50
20	54	44	38	38	37	37	53	72	95	72	79	87	85	83	82	79	90	82	70	55	37	U A 39	F 40	F 43
21	F 49	A	F 24	28	28	26	48	68	82	86	80	73	68	70	78	78	63	59	46	40	42	37	F 34	F 36
22	F 36	34	34	32	F 30	30	41	66	72	72	H 72	86	70	73	63	H 65	64	59	43	42	44	R	33	34
23	34	R 34	33	34	37	22	40	R 62	65	82	V 78	80	74	62	70	68	65	54	39	40	40	43	40	44
24	39	35	30	32	32	31	51	71	74	87	71	80	90	76	90	70	58	48	46	46	36	30	30	34
25	33	32	34	41	34	25	40	62	74	82	95	101	88	86	85	84	75	49	35	31	33	33	F 33	F 34
26	38	42	44	33	26	V 28	40	54	65	72	85	H 74	79	60	68	83	86	62	36	Z 32	33	34	37	37
27	38	38	38	40	38	32	44	64	74	80	73	79	88	71	70	81	66	46	31	30	34	34	35	34
28	36	34	34	35	39	23	38	57	72	82	76	V 82	78	68	63	65	55	46	39	39	F 35	F 33	F 33	F 32
29	F 32	F 32	F 32	33	31	26	40	55	62	72	71	74	69	66	68	68	66	55	42	34	33	35	36	F 34
30	F 38	F 37	F 34	F 40	F 34	F 26	41	59	58	72	68	65	69	68	74	80	73	53	28	30	30	33	F 32	33
31	F 35	F 33	F 33	F 33	35	34	34	R 63	62	78	92	109	100	93	81	85	65	54	28	35	40	42	36	37
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	30	29	29	30	30	30	30	29	29	29	30	30	31	30	31	31	30	29	30	29	30	30
MED	36	34	34	34	32	28	46	63	70	72	71	74	76	71	68	68	64	61	56	42	37	35	36	36
U Q	42	38	37	37	37	32	48	66	74	82	80	82	82	78	74	78	70	66	65	51	42	40	39	40
L Q	34	32	32	32	30	25	40	58	65	66	68	67	69	62	63	61	59	54	42	36	34	34	33	34

IONOSPHERIC DATA STATION Kokubunji

OCT.1995 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 25.0MHz IN 24.0SEC 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									C	C	C	C	C	C	C	C	L							
2								C	C	C	C	444	432L	440L	L	U396L	L							
3								L	U404L	440L	440	444L	A	452L	U440L	408	U348L							
4									408	424L	412L	U404A	456L	U436L	U460L	L								
5								368L	380	400	L	424	420	416L	412L	U400L	328L							
6								352L	U400L	420L	U424L	476L	440	420	U400L	404L	U372L							
7								L	404L	420L	440L	440L	440L	420	U424L		L							
8								U388L	U416L	420L	428L	A	432L	L	420	L								
9									420L	412	440L	440	416	432L	U404L	L								
10							A		A	432L	440	A	440L	432L	U400L	L								
11									U404L	440L	444L	452L	448L	440L	L	L	L							
12								L	L	424L	U444L	452L	U444L	A	L	L	L							
13									L	440L	452L	448L	U460L	U448L	L	L								
14									L	L	460L	460L	U460L	L	U432L	L								
15									L	L	U464L	460L	440L	U456L	U432L	L	L							
16								L	L	U440L	U460L	444L	440L	U468L	U432L	L	U336L							
17									A	L	440L	U452L	440L	U448L	U424L	L	L							
18								L	L	U452L	460L	452L	U452L	U448L	432L	U392L								
19								U284L	L	432L	480L	468L	U448L	U504L	L	L								
20									L	L	L	440L	U468L	A	L	L	L							
21								L	U424L	400	U432L	U424L	U464L	460L	L	L								
22								L	L	L	432L	448L	460L	U460L	L	L	U312L							
23								L	L	420L	444L	L	444L	L	L	L								
24									U360L	420L	U420L	452L	432	L	416L	U376L	U288L							
25									L	U440L	432L	460L	440L	U464L	U428L	U396L								
26									L	L	432L	U436L	A	428L	U428L	U404L	L							
27									L	L	A	L	440L	U468L	U412L	L								
28								U272L	L	432L	432L	440L	428L	L	L	L								
29								L	320	U440L	U440L	U452L	U428L	A	L	A								
30								U284L	L	U392L	420L	444	460L	L	L	U404L	L							
31									L	L	L	472L	U432L	A	A	L								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								6	11	21	25	26	28	20	17	9	6							
MED								U318L	U404L	424L	440L	448L	440L	448L	U424L	U400L	U332L							
U Q								368L	U416L	U440L	448L	452L	U454L	U460L	U432L	U404L	U348L							
L Q								U284L	380	420	432L	440L	432L	432L	U412L	U394L	U312L							

IONOSPHERIC DATA STATION Kokubunji

OCT.1995 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 25.0MHz IN 24.0SEC 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							C	C	C	C	C	C	C	C	C	C	C	C						
2							C	C	C	C	C	A	R 328	R 316	296	276	240	160						
3							A	240	280	300	A 316	332	324	316	296	276	248	B						
4							184	H 232	268	296	308	A	U A 324	A 316	304	264	228	B						
5							A	224	268	296	308	R 312	R 320	308	292	A 268	216	B						
6							168	212	256	288	308	A	R 328	316	296	268	A	B						
7							B	A 220	A 268	A 300	U A 312	A 320	A	312	292	264	224	A 156						
8							164	228	U A 272	U R 312	308	A	A	A	A	A	224	B						
9							164	228	268	300	R 312	R 324	R	A	A	264	A	B						
10							A	216	268	296	312	A	A	A 304	292	U A 264	A	B						
11							A	232	280	308	U R 324	R 336	U R 332	332	308	280	224	B						
12							A	A	272	296	320	336	336	328	312	272	228	B						
13							A	232	280	304	R 328	R	328	324	304	276	232	B						
14							B	H 236	H 276	304	320	340	A 340	A 336	308	268	232	A 172						
15							168	232	A	A	A	A	328	320	304	276	232	B						
16							B	252	A 280	A	A 296	R 328	332	324	A	A	A	B						
17							B	240	A 276	292	308	R	328	312	R 280	264	220	B						
18							B	H 228	276	300	316	336	A	A	A	264	A	B						
19							A	A	268	296	308	A	R	A	280	A 256	A	B						
20							B	216	A 268	A	A	A	A	A	A	A	A	B						
21							B	224	256	284	316	A	A	A	A	268	224	B						
22							B	232	H 264	292	R 312	324	A	R 316	288	A	A	B						
23							B	216	A	300	308	R 324	328	316	296	264	200	B						
24							B	216	276	A 296	A	A	A	R 304	A	260	204	B						
25							B	208	H 276	296	R 320	U R 332	328	A	292	A 264	A	B						
26							B	220	276	A	308	A	A	308	296	256	204	B						
27							B	236	A 292	A	U A 312	A	A	A	280	256	212	B						
28							B	224	284	A	A	A	A	A	A	260	204							
29							B	208	260	300	312	A 316	312	300	280	256	216							
30							B	208	264	292	A 304	316	316	312	296	A	A							
31							B	H 216	264	288	308	316	A	A 304	A	A	A							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							5	27	27	23	25	15	16	21	21	24	19	3						
MED							168	224	272	296	312	324	328	316	296	264	224	A 160						
U Q							176	232	276	300	316	336	330	322	304	270	232	A 172						
L Q							164	216	268	292	308	316	324	308	290	262	212	A 156						

IONOSPHERIC DATA STATION Kokubunji

OCT. 1995 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 25.0MHz IN 24.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 15	E B 15	E B 13	E B 14	E B 13	E B 16	E C 27	E C 30	E C 46	C	C	C	C	C	E C 43	C	E C 27	E C 27	E C 27	C	C	C	C	C
2	C	C	C	C	C	C	E C 27	C	E C 42	C	C	34	G 29	G	33	G	29	25	J A 26	J A 27	J A 19	22	22	E B 15
3	16	18	18	E B 14	E B 14	E B 14	22	31	35	35	33	36	J A 48	41	36	32	J A 38	56	37	30	J A 44	J A 31	26	20
4	E B 14	E B 14	24	28	J A 22	22	G	33	J A 46	35	35	42	38	39	34	34	33	20	60	28	E B 12	E B 15	E B 15	18
5	18	J A 22	24	J A 40	J A 22	J A 20	J A 28	J A 30	28	34	34	34	G	33	34	28	25	24	22	J A 33	J A 31	30	J A 22	J A 19
6	20	19	J A 21	E B 14	E B 15	E B 13	J A 22	25	G 22	32	33	40	G 32	33	34	30	31	21	24	34	J A 27	J A 41	J A 20	J A 22
7	E B 13	23	E B 15	E B 14	16	E B 14	E B 16	J A 26	32	35	36	36	35	G 20	G 18	30	29	25	J A 32	J A 42	J A 46	30	32	J A 34
8	J A 45	J A 34	J A 34	25	18	26	G	28	J A 40	G 29	35	60	J A 43	J A 37	J A 33	36	26	23	22	J A 23	22	E B 14	E B 14	20
9	20	17	18	E B 13	E B 14	J A 20	G	28	36	J A 40	G	G 26	G 32	34	39	J A 38	J A 34	36	J A 27	J A 27	20	E B 16	E B 16	E B 14
10	J A 39	J A 52	J A 44	32	J A 30	J A 49	J A 70	J A 41	J A 48	35	G	J A 110	J A 41	38	31	31	39	J A 23	J A 33	27	J A 23	J A 18	E B 15	24
11	21	23	E B 14	E B 13	E B 12	E B 14	23	J A 25	30	G	G 20	G	G	G 26	33	32	31	21	19	E B 14	19	22	J A 21	18
12	E B 14	E B 14	J A 27	J A 29	E B 14	19	J A 22	26	30	38	40	J A 45	42	J A 48	36	37	28	44	J A 22	J A 24	J A 23	J A 17	J A 21	J A 18
13	20	E B 13	E B 14	J A 18	22	J A 20	20	27	34	32	G	G 31	37	G 24	33	34	33	J A 27	J A 30	55	J A 31	J A 32	33	21
14	J A 22	20	J A 20	J A 20	J A 23	E B 15	E B 17	28	34	J A 48	38	G	40	40	G 25	J G 26	29	J A 32	J A 26	J A 31	J A 32	J A 45	J A 27	J A 24
15	24	J A 21	J A 14	18	E B 13	J A 22	J A 23	31	J A 42	36	J A 40	J A 39	G 28	G 22	G 21	G 22	J G 18	J A 28	J A 33	J A 38	J A 28	19	J A 34	J A 39
16	J A 34	26	J A 20	21	20	18	J A 19	G 23	32	35	35	G 27	G 30	J A 43	37	40	J A 37	40	J A 32	J A 22	23	25	27	25
17	J A 25	20	E B 14	J A 20	J A 18	E B 15	J A 22	34	J A 42	J A 42	38	G 25	G 22	G	30	29	J A 22	J A 28	J A 22	J A 18	E B 14	E B 14	E B 14	E B 15
18	J A 33	J A 52	J A 29	21	27	18	20	26	30	34	37	J A 41	38	34	30	G	25	J A 24	J A 22	J A 32	J A 32	E B 14	E B 13	E B 14
19	J A 24	J A 19	J A 20	23	E B 12	E B 13	J A 21	J A 26	37	J A 38	36	35	G 26	36	34	32	J A 28	J A 22	26	J A 32	J A 18	J A 25	J A 28	J A 27
20	23	19	18	21	18	E B 13	J A 25	J A 30	32	J A 38	40	38	36	J A 121	J A 49	J A 48	J A 43	J A 39	J A 33	J A 28	J A 47	J A 66	J A 64	J A 123
21	J A 80	J A 71	J A 52	J A 34	J A 47	J A 22	E B 14	28	30	J A 43	36	37	J A 35	32	29	32	30	J A 28	J A 31	J A 31	J A 32	J A 26	J A 44	J A 51
22	J A 48	J A 26	J A 29	22	J A 27	J A 19	J A 22	28	J A 38	34	G	G 21	J A 48	J G 28	32	27	J A 25	J A 23	J A 20	E B 14	19	24	E B 14	E B 15
23	E B 13	E B 13	16	J A 19	J A 21	E B 14	J A 16	G 22	J A 26	G 25	33	G 26	G 21	G	G	30	28	J A 26	22	J A 28	J A 21	E B 14	E B 14	E B 14
24	E B 15	18	E B 14	E B 14	18	E B 16	E B 14	G	29	37	37	J A 47	35	G 26	J A 42	J A 32	24	J A 22	E B 13	J A 24	E B 15	J A 25	J A 21	E B 13
25	J A 24	J A 28	J A 27	E B 14	E B 13	E B 14	J A 20	26	31	33	G	G 30	J A 51	J A 49	38	29	J A 48	J A 37	E B 15	J A 32	J A 27	J A 22	J A 28	J A 28
26	J A 21	J A 20	18	20	19	20	J A 22	25	32	32	34	J A 40	J A 50	G 23	32	29	26	J A 24	28	J A 34	J A 28	J A 22	20	E B 14
27	E B 13	E B 12	E B 13	17	18	J A 23	E B 15	26	J A 32	J A 34	J A 54	37	J A 38	32	G 26	G 24	26	J A 24	28	J A 21	J A 40	J A 18	J A 24	20
28	J A 42	J A 27	J A 30	J A 24	24	18	J A 16	24	G	J A 97	J A 50	41	J A 42	J A 36	J A 43	G 22	G 19	E B 13	E B 14	J A 46	J A 32	J A 22	J A 30	24
29	28	J A 24	19	25	20	20	22	24	G 24	34	36	41	39	J A 45	J A 40	J A 42	27	E B 14	J A 49	32	J A 42	J A 27	24	J A 43
30	J A 40	J A 42	J A 25	22	J A 16	E B 13	E B 14	24	30	35	39	J A 43	J A 53	J A 43	37	31	J A 41	J A 24	J A 23	J A 17	J A 19	J A 27	J A 22	E B 14
31	J A 28	J A 23	J A 25	19	20	23	26	27	34	40	41	38	35	J A 42	J A 46	J A 39	24	20	18	E B 14	E B 14	E B 15	J A 46	J A 33
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	31	30	31	29	29	30	30	30	31	30	31	31	31	30	30	30	30	30
MED	22	20	20	20	18	18	20	26	32	35	36	37	36	34	34	31	28	24	26	J A 28	J A 25	J A 22	22	20
U Q	J A 33	J A 26	J A 27	24	J A 22	J A 20	23	30	J A 38	J A 38	38	J A 41	J A 42	J A 41	J A 38	34	J A 33	28	J A 32	J A 32	J A 32	J A 27	J A 28	J A 27
L Q	E B 16	E B 18	E B 15	E B 14	E B 14	E B 14	G	25	30	34	G 33	G	G 32	G	G 30	G 28	25	22	22	J A 23	19	E B 17	E B 16	E B 15

IONOSPHERIC DATA STATION Kokubunji

OCT.1995 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 25.0MHz IN 24.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 15	E B 15	E B 13	E B 14	E B 13	E B 16	E C 27	E C 30	E C 46	C	C	C	C	C	E C 43	C	E C 27	E C 27	E C 27	C	C	C	C	C
2	C	C	C	C	C	C	E C 27	C	E C 42	C	C	U Y 32	G 28	G	32	G	27	22	20	19	E B 14	16	E B 13	E B 15
3	16	E B 13	E B 13	E B 14	E B 14	E B 14	20	28	33	34	33	36	47	41	34	30	32	41	30	21	26	18	E B 13	16
4	E B 14	E B 14	E B 14	19	E B 15	16	G	30	36	34	35	40	36	35	33	33	30	18	54	18	E B 12	E B 15	E B 15	17
5	16	E B 14	16	A A 40	20	17	24	28	28	33	34	34	G	33	32	28	24	21	17	17	16	17	17	16
6	16	17	E B 14	E B 14	E B 15	E B 13	G 11	24	G 22	32	32	40	U G 32	32	33	30	25	18	E B 14	31	19	26	16	E B 15
7	E B 13	E B 15	E B 15	E B 14	14	E B 14	E B 16	24	31	34	34	34	34	G 20	G 17	29	27	20	25	20	20	20	23	18
8	29	16	16	18	E B 13	E B 14	G	26	36	G 29	33	56	36	34	30	29	24	20	E B 16	20	13	E B 14	E B 14	15
9	E B 14	16	16	E B 13	E B 14	E B 14	G	26	35	35	G	G 24	U G 32	33	34	G 22	28	23	24	22	U Y 20	E B 16	E B 16	E B 14
10	A A 39	18	18	22	A A 30	18	A A 70	34	41	32	G	A A 110	37	34	31	30	33	18	20	E B 15	17	16	E B 15	18
11	17	E B 12	E B 14	E B 13	E B 12	E B 14	18	G 18	29	G	G 18	G	G	G 24	32	31	29	19	E B 16	E B 14	16	E B 14	17	E B 15
12	E B 14	E B 14	16	19	E B 14	17	20	24	30	33	38	37	41	48	35	35	28	35	20	E B 14	18	16	17	E B 13
13	18	E B 13	E B 14	18	17	17	19	26	30	32	G	U G 30	U Y 37	G 22	33	32	31	24	27	A A 55	18	19	17	17
14	20	E B 13	16	E B 14	17	E B 15	E B 17	27	33	42	36	G	U Y 40	40	G 24	G 19	26	28	23	18	19	E B 15	21	17
15	18	17	E B 14	16	E B 13	E B 15	G	28	29	34	34	37	G 23	G 22	G 20	G 21	G 16	18	18	19	17	17	19	20
16	24	16	15	E B 13	18	15	18	G 22	30	32	33	G 26	G 26	G 26	31	32	22	33	27	18	18	16	17	E B 14
17	19	E B 14	E B 14	17	E B 12	E B 15	18	G 19	41	40	37	G 24	G 20	G	30	28	G 16	20	19	E B 15	E B 14	E B 14	E B 14	E B 15
18	E B 14	18	20	E B 13	18	E B 13	18	25	29	34	36	G 28	36	34	30	G	22	18	18	29	E B 14	E B 14	E B 13	E B 14
19	16	18	18	11	E B 12	E B 13	20	24	32	34	34	34	U G 26	32	33	30	23	E B 16	22	26	18	18	20	20
20	E B 13	E B 13	E B 13	E B 13	E B 15	E B 13	E B 14	G 12	30	33	35	36	35	62	33	40	24	22	20	20	18	U A 20	20	16
21	30	A A 71	18	22	20	17	E B 14	25	28	34	35	34	33	31	29	32	28	18	26	17	17	18	20	17
22	20	17	21	E B 14	17	E B 13	18	26	33	U Y 33	G	G 18	35	G 24	32	27	22	19	18	E B 14	U Y 19	22	E B 14	E B 15
23	E B 13	E B 13	16	E B 13	E B 13	E B 14	E B 15	G 19	26	G 23	32	G 23	G 19	G	G	29	26	21	E B 14	17	18	E B 14	E B 14	E B 14
24	E B 15	E B 14	E B 14	E B 14	16	E B 16	E B 14	G	28	33	34	34	33	G 25	34	G 19	23	E B 16	E B 13	20	E B 15	22	18	E B 13
25	19	22	23	E B 14	E B 13	E B 14	E B 15	25	30	32	G	G 30	G 26	34	34	27	28	28	E B 15	E B 13	18	16	18	21
26	E B 15	E B 13	15	E B 14	E B 14	17	19	24	30	32	33	35	46	G 18	31	29	25	20	27	20	17	18	E B 14	E B 14
27	E B 13	E B 12	E B 13	E B 13	E B 13	18	E B 15	25	G	32	50	35	35	30	G 24	G 19	23	19	18	E B 15	19	16	17	17
28	E B 15	18	16	21	24	16	E B 15	24	G	35	34	34	34	31	36	G 18	G 16	E B 13	E B 14	16	16	17	17	16
29	21	18	E B 14	18	E B 14	17	18	23	G 21	34	34	38	35	42	38	35	G 17	E B 14	24	20	30	22	E B 15	21
30	20	21	18	16	E B 12	E B 13	E B 14	24	30	34	36	40	44	39	34	27	27	E B 14	20	16	17	E B 14	18	E B 14
31	17	20	16	16	E B 14	20	17	26	33	36	39	35	34	42	44	35	20	17	E B 15	E B 14	E B 14	E B 15	30	17
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	31	30	31	29	29	30	30	30	31	30	31	31	31	30	30	30	30	30
MED	16	16	16	† B 14	† B 14	† B 15	16	24	30	33	34	34	34	32	32	29	25	20	20	18	18	16	17	16
U Q	20	18	16	18	17	17	19	26	33	34	36	37	36	35	34	32	28	23	25	20	19	18	18	17
L Q	E B 14	E B 13	E B 14	E B 13	E B 13	E B 14	G 14	G 24	28	32	G 32	G 30	G 32	G 26	G 30	G	22	E B 18	E B 16	E B 15	E B 16	E B 15	E B 14	E B 14

IONOSPHERIC DATA STATION Kokubunji

OCT.1995 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 25.0MHz IN 24.0SEC 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	15	13	14	13	16	E C 27	E C 30	E C 46	C	C	C	C	C	E C 43	C	E C 27	E C 27	E C 27	C	C	C	C	C
2	C	C	C	C	C	C	E C 27	C	E C 42	C	C	15	16	17	18	16	15	12	15	14	14	13	13	15
3	14	13	13	14	14	14	15	14	15	14	15	16	16	20	16	14	12	15	16	15	16	14	13	12
4	14	14	14	14	15	14	14	14	15	14	15	16	17	15	16	15	13	14	14	14	12	15	15	14
5	15	14	13	14	15	14	16	15	15	15	22	17	24	24	18	14	14	15	14	14	13	14	14	14
6	14	15	14	14	15	13	14	14	15	16	14	16	21	20	18	15	14	16	14	15	12	13	12	15
7	13	15	15	14	12	14	16	14	15	15	17	14	E S 27	13	14	13	14	12	14	16	15	14	15	13
8	14	14	13	14	13	14	13	14	14	15	13	15	15	14	14	15	14	17	16	13	13	14	14	13
9	14	13	13	13	14	14	14	16	14	14	15	16	15	16	13	15	15	15	14	14	16	16	16	14
10	14	15	14	16	13	15	15	13	14	15	16	14	14	15	14	14	14	14	15	15	15	15	15	14
11	12	12	14	13	12	14	14	13	14	14	15	18	19	17	16	14	14	15	16	14	14	14	15	15
12	14	14	13	15	14	14	16	13	13	13	16	15	14	16	16	16	14	15	12	14	14	14	14	13
13	14	13	14	14	14	13	15	13	14	15	17	18	16	16	16	14	16	15	14	14	15	15	14	14
14	14	13	13	14	14	15	17	14	13	16	14	19	27	22	14	14	14	16	15	15	14	15	14	14
15	15	14	14	12	13	15	13	15	14	13	14	16	15	14	15	15	14	15	15	16	15	14	14	14
16	15	14	14	13	14	14	15	14	14	15	15	14	15	15	15	13	13	16	15	13	14	14	14	14
17	14	14	14	14	12	15	15	14	15	16	15	15	16	19	16	12	14	16	15	15	14	14	14	15
18	14	13	14	13	14	13	14	15	14	15	14	14	15	18	15	17	15	14	13	14	14	14	13	14
19	14	12	13	11	12	13	15	13	15	16	14	15	15	13	14	13	15	16	14	13	14	14	14	13
20	13	13	13	13	15	13	14	14	14	14	14	16	16	15	14	20	15	14	15	13	14	14	15	13
21	15	14	13	14	13	13	14	14	15	14	16	17	19	18	16	14	13	15	12	13	14	14	14	12
22	12	14	14	14	15	13	15	14	14	14	15	14	14	14	14	14	14	13	14	14	14	13	14	15
23	13	13	13	13	13	14	15	15	14	16	14	15	14	19	17	14	16	15	14	15	14	14	14	14
24	15	14	14	14	13	16	14	13	15	14	16	16	16	18	13	15	14	16	13	14	15	14	12	13
25	14	14	13	14	13	14	15	15	15	16	14	18	16	19	16	15	15	16	15	13	14	14	13	14
26	15	13	13	14	14	14	16	14	15	15	15	14	18	15	16	14	16	16	16	14	15	14	14	14
27	13	12	13	13	13	13	15	16	13	15	13	14	16	15	14	15	14	14	13	15	13	12	15	14
28	15	14	13	15	14	14	15	16	13	14	16	15	16	15	17	14	14	13	14	14	15	14	16	14
29	13	14	14	14	14	14	15	14	15	15	18	15	15	16	16	13	15	14	16	13	13	14	15	14
30	14	12	14	13	12	13	14	16	13	14	13	16	15	20	17	16	16	14	15	13	15	14	15	14
31	14	13	13	14	14	14	15	14	14	16	14	15	15	14	16	15	14	15	15	14	14	15	12	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	30	31	30	31	29	29	30	30	30	31	30	31	31	31	30	30	30	30	30
MED	14	14	13	14	14	14	15	14	14	15	15	15	16	16	16	14	14	15	14	14	14	14	14	14
U Q	15	14	14	14	14	14	15	15	15	16	16	16	17	19	16	15	15	16	15	15	15	14	15	14
L Q	14	13	13	13	13	13	14	14	14	14	14	15	15	15	14	14	14	14	14	13	14	14	14	13

IONOSPHERIC DATA STATION Kokubunji

OCT.1995 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 25.0MHz IN 24.0SEC 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	325	338	H 311	338	320	324	JS 429	JR 405	JR 378	C	C	C	C	C	UC 344	C	JR 372	UR 350	S	C	C	C	C	C
2	C	C	C	C	C	C	US 359	C	R	C	C	345	345	335	335	330	346	334	341	354	327	308	315	331
3	282	291	309	348	358	307	348	349	353	322	327	348	345	316	316	313	359	355	352	285	F 293	F 314	F 330	F 307
4	314	305	293	309	308	303	371	R 374	347	371	332	H 318	320	341	330	334	352	313	337	334	F 260	F 291	JF 283	JF 331
5	F 362	F 328	F 315	A	293	297	298	313	R 333	341	302	332	350	349	337	328	347	345	338	333	287	F 319	F 307	296
6	301	319	312	330	321	322	343	349	375	390	341	310	365	369	344	320	326	331	351	370	F 294	F 279	F 306	322
7	317	304	301	310	306	301	359	362	361	368	329	307	341	350	354	350	351	305	335	355	343	293	295	285
8	A	286	310	323	321	324	350	351	362	377	357	357	350	314	345	359	353	342	358	358	328	289	303	294
9	293	349	317	298	294	285	373	329	312	353	350	366	373	364	334	R 356	357	341	341	342	303	296	308	323
10	A	326	294	317	A	312	A	342	333	336	334	A	352	349	357	336	341	341	356	342	313	321	322	299
11	F 308	F 302	321	315	333	338	351	361	352	366	370	336	345	353	342	347	354	351	357	382	V 302	281	279	288
12	307	295	302	F 305	326	326	366	344	360	381	331	308	344	348	353	356	347	350	347	330	308	293	301	290
13	327	301	326	308	301	297	339	346	360	357	359	354	342	356	372	350	353	348	352	A	290	310	304	301
14	327	316	312	315	305	324	386	391	349	337	330	335	342	350	342	348	348	344	379	357	303	F 305	F 290	F 301
15	F 337	F 315	F 331	F 312	F 362	F 334	374	372	379	354	349	332	343	335	353	362	356	351	364	358	303	315	312	305
16	302	314	317	318	391	305	R 353	365	349	360	333	344	362	348	354	356	351	366	348	321	320	315	305	296
17	295	310	338	334	351	356	345	354	372	370	357	325	337	347	369	333	356	344	333	315	348	306	303	V 302
18	289	F 313	F 323	F 319	340	339	358	361	344	365	345	344	326	328	352	363	360	341	340	311	323	327	F 308	F 291
19	F 296	314	329	315	313	F 314	368	348	313	318	306	344	328	309	332	348	322	336	339	299	316	272	289	291
20	328	337	291	297	305	316	344	352	363	356	341	337	330	317	321	325	338	345	322	341	273	A	F 277	F 303
21	F 314	A	F 291	273	315	293	320	358	335	365	356	360	346	332	330	350	363	358	353	301	311	330	F 316	F 312
22	F 286	304	314	327	F 314	317	337	363	374	379	H 317	368	357	343	354	H 340	365	360	330	309	321	R	287	293
23	295	R 307	309	308	335	363	353	R 369	353	373	V 353	346	365	331	335	356	348	370	349	283	305	322	296	330
24	326	321	290	318	308	292	346	363	349	377	366	340	345	329	368	365	349	338	326	339	362	283	289	293
25	311	312	301	341	361	326	357	350	335	339	342	350	342	332	328	360	385	374	349	314	301	305	F 291	F 296
26	298	325	370	357	338	V 311	359	367	348	331	343	H 355	356	353	336	363	371	388	396	Z 302	314	312	310	297
27	305	314	313	351	351	317	360	329	358	340	361	328	350	356	343	367	380	381	356	298	310	313	290	315
28	311	316	329	326	377	313	354	353	354	364	349	V 336	373	354	363	371	376	366	337	324	F 326	F 317	F 351	F 311
29	F 305	F 290	F 331	335	345	342	359	375	352	353	368	361	359	345	348	348	350	362	354	306	332	321	317	F 326
30	F 307	F 285	F 296	F 337	F 341	F 365	356	380	339	358	364	373	346	330	347	353	381	364	334	316	330	312	F 299	310
31	F 304	F 298	F 294	F 315	336	351	362	R 357	353	330	322	327	351	350	343	369	366	371	334	298	300	336	318	319
	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	29	30	29	29	30	30	30	30	29	29	29	30	30	31	30	31	31	30	29	30	28	30	30
MED	307	313	312	318	326	317	356	358	352	358	343	344	346	346	344	350	353	350	348	324	310	311	304	302
U Q	321	320	323	334	348	334	362	367	361	370	357	354	356	350	354	360	365	364	354	348	326	318	312	315
L Q	297	302	301	310	308	305	346	349	344	340	330	330	342	331	335	336	348	341	337	304	301	293	290	294

IONOSPHERIC DATA STATION Kokubunji

OCT.1995 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 25.0MHz IN 24.0SEC 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									C	C	C	C	C	C	C	C	L							
2								C	C	C	C	373	L 396	L 375	L	U L 349	L							
3								L	U L 379	L 342	366	L 377	A	A 343	U L 348	349	A							
4									360	L 382	L 410	A	L 378	U L 363	L	L								
5								L 339	342	375	L	388	370	L 367	L 362	U L 355	L 358							
6								L 378	U L 377	L 393	U L 401	A 333	369	380	U L 390	L 345	U L 371							
7								L	L 382	L 384	L 383	L 383	L 372	397	H 369		L							
8								L	A 390	L 395	L 404	A	L 391	L	355	L								
9									L 348	394	L 355	396	413	L 387	A 379	L								
10							A		A	L 364	380	A	L 385	L 368	U L 375	L								
11									U L 376	L 376	L 385	L 394	L 378	L 380	L	L	L							
12								L	L	L 381	U L 401	L 386	A	A	L	L	L							
13									L	L 365	L 375	L 388	U L 368	U L 366	L	L								
14									L	L	L 366	L 371	A	L	U L 367	L								
15									L	L	U L 351	L 370	L 388	U L 367	U L 378	L	L							
16								L	L	U L 386	U L 372	L 388	L 398	U L 374	U L 369	L	L							
17									A	L	L 359	U L 396	L 391	U L 353	H 370	L	L							
18								L	L	U L 363	L 372	L 376	U L 373	U L 352	L 354	L								
19								L	L	L 361	H 367	L 361	U L 376	U L 345	L	L								
20									L	L	L	L 382	U L 358	A	L	L	L							
21								L	L	411	U L 380	U L 383	U L 367	L 359	L	L								
22								L	L	L	L 401	L 380	L 381	U L 360	L	L	U L 359							
23								L	L	L 368	L 372	L	L 382	L	L	L								
24									L	L 372	U L 379	L 363	388	L	A 382	L	U L 408							
25									L	U L 359	L 357	L 364	L 391	U L 354	U L 362	L								
26									L	L	L 376	L	A	L 384	U L 367	L	L							
27									L	L	A	L	L 366	U L 382	U L 368	L								
28								U L 426	L	L 366	L 387	L 375	L 377	L	L	L								
29								L	416	U L 370	U L 374	A 377	U L 380	A	L	A								
30								U L 403	L	U L 391	A 385	A 390	A 405	L	L	L	L							
31									L	L	L	L 357	U L 367	A	A	L								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								4	9	21	25	24	26	20	16	4	4							
MED								L 390	L 377	L 375	L 376	L 378	L 379	L 367	U L 368	L 349	U L 365							
U Q								U L 414	386	L 388	L 386	L 388	L 391	L 380	U L 376	U L 352	U L 390							
L Q								L 358	354	L 364	L 366	L 370	U L 370	U L 356	L 362	347	L 358							

IONOSPHERIC DATA STATION Kokubunji

OCT. 1995 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 25.0MHz IN 24.0SEC 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									244	C	C	C	C	C	288	C	272							
2								C	248	C	C	268	268	280	L 280	270	256							
3								238	246	286	276	246	254	334	302	300	230							
4									264	238	280	256	298	260	284	258								
5								304	274	266	UL 336	302	280	284	298	292	260							
6								242	236	234	266	340	246	242	276	298	262							
7								246	242	246	276	296	256	260	248		242							
8								248	236	230	256	A 258	258	L 274	268	250								
9									324	266	262	248	250	256	266	250								
10							A		270	276	286	A	264	268	252	274								
11									258	230	230	278	254	260	250	260	236							
12								246	228	234	254	268	256	254	248	248	252							
13									242	246	244	250	268	252	236	256								
14									254	L 280	260	272	258	244	252	256								
15									218	254	256	276	248	254	258	244	238							
16								244	246	238	272	258	240	266	254	248	240							
17									230	236	254	262	238	254	242	250	246							
18								242	242	246	262	258	262	264	252	238								
19								226	284	262	292	254	244	308	254	242								
20									240	238	262	266	258	EA 292	262	264	244							
21								H 236	248	230	240	230	252	278	276	238								
22								236	230	230	238	236	254	268	252	244	220							
23								232	238	242	258	258	228	248	268	242								
24									232	232	244	272	266	280	240	232	220							
25									248	256	252	250	250	272	264	238								
26									242	240	252	220	252	252	272	242	228							
27									220	240	244	282	250	258	258	238								
28								222	238	248	240	246	230	246	238	228								
29								220	226	248	232	244	244	252	252	246								
30								216	234	240	246	238	254	254	254	252	220							
31									240	264	258	272	236	256	254	228								
	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								15	31	29	29	29	30	30	31	29	16							
MED								238	242	242	256	258	254	260	254	248	241							
U Q								246	248	259	269	272	258	274	272	259	254							
L Q								226	234	235	244	247	246	254	252	240	229							

IONOSPHERIC DATA STATION Kokubunji

OCT. 1995 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 25.0MHz IN 24.0SEC 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	258	246	230	246	248	282	234	230	C	C	C	C	C	C	C	C	240 EC	236	224	C	C	C	C	C
2	C	C	C	C	C	C	218	C	C	C	C	216	202	202	224	196	250	248	226	228	226	236	248	242
3	312	306	292	228	226	274	224	240 A	238 A	228	210 H	200	A	A	242 A	240	A	236	232	302	324	288	266	284
4	266	288	302	294	284	276	204	240	262 A	242	198	A	188	214	248	244 A	244	256	256 A	248	368	296	328	238
5	216	288	288	A	346	334	290 A	254 A	252	238	220	204	198	222	228	224	220	240	230	226	290	278	270	306
6	294	258	260	258	272	298	246	228	218	220	208	A	188	186 H	230	248	232	244	220	218	316	386 EA	292	268
7	282	272	296	304	286	300	234	230	230	222	202	196	198	204	190 H	240	244	262	244	226	236	314	330 A	292
8	A	304	264	260	234	254	238	228	246 A	210	196 H	A	220	218	204	246	242	244	228	208	236	304	312	296
9	302	228	266	282	314	334	236	236 H	262 A	224	242	208	202	204	228 A	252	250	248	226	236	278	298	278	254
10	A	278	334	292 A	A	332 A	A	252	A	214	218 H	A	218	198	206	218	244	230	226	226	262	260	256	292
11	280	260	248	258	244	246	230	228	214	228	212	190 H	186 H	210	234	248	240 A	226	208	202	270	338	328	324
12	286	298	292	314 A	246	260	220	224	222	214	216	212	A	A	250 A	242 A	248	240	224	230	248	294	290	282
13	234	268	256	266 A	304	302	250	228	242	220	220	202	238 Y	234	234	246	238	230	220	A	316	290	292	274
14	258	244	282	288	276	232	202	212	216	240 A	232 A	220	A	A	208	214	230	232	220	228 A	270	284	330 A	326
15	270	270	264	252	222	234	208	222	216	216	202	208	206	224	234	236	240	222	220	224	262	258	296	316
16	318 A	278	272	254	210	272	224	224	230	216	202	198 H	190	220	234	236 A	218	220	236	252	254	256	276	298
17	306	268	232	236	224	218	228	230	A	A	238 A	206	208	184 H	178 H	224	236	226	230	244	208	240	270	248
18	290	294	258	262	228	216	222	232	228	232 A	220	236 A	200	202	228	226	228	226	230	280 A	252	242	266	298
19	300	260	258	230	242	296	222	238 A	246	238	204 H	228	214	206	248	240	242	226	214	290 A	220	310	274	288
20	246	230	284	286	274	258	232	226	244	230	226	214	200	A	228	A	250	232	234	228	274	A	348	272
21	296	A	354	430 A	308	326 A	246	222	230	204	214 A	216	208	204	188 H	238	220	226	230	276	258	240	300 A	306
22	286	300	290	266	268	266	240	234	230 A	216	200	186	218	184 H	238	226 H	204	214	226	258	266	232	298	302
23	308	296	298	282	240	226	214	184	214	206	216	216 H	212	214	238	242	220	208	228	304	282	262	284	246
24	238	232	262	272	254	302	238	228	222	238 A	216	222	212	224	252 EA	234	210	210	234	238	212	340 EA	346 A	296
25	310	282 A	314 A	236	218	222	224	226	218	222	218	212	212	222	228	224 H	216	214	210	250	308	280	320	318
26	280	250	222	216	248	274	216	228	228	224	216	226	A	206	232	228	234	206	214	330 A	264	258	266	284
27	282	280	260	232	216	232	216	220	224	222	A	190 H	218 A	216	184 H	182 H	216	208	220	256	262	274	296	292
28	274	296	286	276	210	276	220	210	238	240 A	218	210	228 A	212	A	228	212	202	210	246	276	284	244	284
29	322 A	324	266	240	208	246	220	222	198	224	230	A	220	A	A	A	232	206	232	252	A	268	298	296
30	326	318 EA	304	230	226	218	216	212	210	222 A	A	A	232 A	248 EA	248 A	234	220	200	270 A	266	250	276	318	290
31	296	320	326	298	248	220	222	232	238 A	252 A	A	216	210	A	A	A	214	198	222	302	288	240	316 A	282
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	29	30	29	29	30	30	30	27	28	26	24	26	24	27	27	30	31	31	29	29	29	30	30
MED	286	278	277	262	246	269	224	228	230	223	216	211	209	210	229	236	232	226	226	246	264	276	294	291
U Q	304	297	296	287	275	298	236	232	242	235 A	220	216	218	221	238 A	242	242	240	232	271	285	297	318	298
L Q	268	259	260	238	225	232	218	222	218	216	204	201	200	203	208 H	224	220	210	220	227	249	257	270	274

IONOSPHERIC DATA STATION Kokubunji

OCT.1995 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 25.0MHz IN 24.0SEC 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							C	C	C	C	C	C	C	C	C	C	C	C						
2							C	C	C	C	C	A	A 128	112	116	118	114	138						
3							A	126	116	116	112	110	114	114	114	114	A 130	B						
4							140	124	118	108	114	114	116	112	A 116	114	118	B						
5							A	124	116	120	120	116	126	126	116	114	114	B						
6							130	124	A 128	122	120	114	A	122	116	128	A	B						
7							B	118	118	114	114	118	A	118	116	116	120	132						
8							138	A 128	116	130	110	A	106	A	A	A	A 122	B						
9							152	126	122	114	114	118	A	A	A	E A 142	A	B						
10							A	118	114	114	116	110	110	112	114	114	116	B						
11							A	A 128	A 122	112	114	116	116	124	114	114	120	B						
12							A	A	114	114	114	122	116	116	120	116	124	B						
13							A	122	116	112	116	A	106	114	118	116	E A 146	B						
14							B	124	116	112	116	110	A	A	122	122	118	140						
15							126	118	A	A	A	A	A 122	118	114	120	124	B						
16							B	A 136	118	A	110	122	120	A 124	A	A	A	B						
17							B	128	112	122	124	118	114	120	112	A 132	A 126	B						
18							B	116	124	114	110	A 138	114	A	A	116	A	B						
19							A	A	114	112	112	A	A	A	A 130	A	A	B						
20							B	E B 138	114	A	A	112	A	A	A	A	A	B						
21							B	120	120	A 116	116	112	112	A	A	120	A 132	B						
22							B	128	A 120	114	116	116	A	A 126	126	A	A	B						
23							B	A 130	A	122	120	A 118	116	122	114	118	122	B						
24							B	124	120	112	A	A	A	120	A	A 124	122	B						
25							B	118	116	A 126	114	132	A 130	A	118	118	A	B						
26							B	126	A	A	A 128	A	A	118	126	A 134	E B 136	B						
27							B	118	116	A	110	A	A	A	A 138	120	122	B						
28							B	126	116	A	A	A	A	A	A	A 128	128							
29							B	130	126	116	114	116	A 130	126	118	A 126	A 132							
30							B	144	126	130	A	E A 136	120	122	120	A	A							
31							B	122	A 122	122	118	116	A	116	116	A	A							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							5	27	26	23	24	21	18	20	22	23	20	3						
MED							138	124	117	114	114	116	116	119	116	118	122	138						
U Q							146	A 128	122	122	117	120	A 122	123	120	A 126	A 129	140						
L Q							128	120	116	112	113	113	114	115	114	116	119	132						

IONOSPHERIC DATA STATION Kokubunji

OCT. 1995 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 25.0MHz IN 24.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	C	130	116	G	184	G	148	136	108	96	102	98	104	B
3	160	108	112	B	B	B	138	134	124	122	126	130	118	124	124	166	132	102	120	104	102	104	106	110
4	B	B	110	102	106	114	G	144	128	130	120	114	120	116	174	136	122	122	108	114	B	B	B	110
5	106	152	154	126	124	124	120	122	132	122	122	126	G	124	120	120	146	126	100	130	122	120	118	114
6	114	108	122	B	B	B	112	166	116	130	126	114	116	130	188 EG	192 EG	112	114	104	100	98	114	118	116
7	B	108	B	B	146	B	B	124	116	118	118	120	118	100	102	172	148	130	122	102	126	122	114	110
8	110	110	112	112	114	108	G	126	118	110	124	106	108	102	98	98	138	118	126	112	120	B	B	104
9	102	104	106	B	B	96	G	142	124	124	G	108	114	114	98	100	132	128	122	116	102	B	B	B
10	102	110	126	106	104	120	116	116	116	120	G	108	112	112	120	118	108	112	106	106	108	108	B	100
11	100	108	B	B	B	B	110	108	138	G	102	G	G	112	198 EG	152	132	126	130	B	122	110	94	118
12	B	B	106	102	B	112	130	142	128	130	126	128	128	126	148	128	140	120	116	140	106	110	106	100
13	104	B	B	126	130	124	138	136	120	126	G	110	120	100	194 EG	150	130	122	116	116	118	110	106	106
14	98	102	112	110	104	B	B	140	128	120	124	G	126	136	104	102	174	136	124	120	116	116	102	116
15	106	102	118	104	B	116	104	124	114	114	106	102	102	100	102	106	102	116	112	110	106	108	106	104
16	100	102	102	100	102	102	152	122	120	116	114	110	100	100	104	96	96	96	98	98	104	108	108	106
17	106	112	B	102	110	B	140	126	120	116	116	110	104	G	114	154	98	96	96	98	B	B	B	B
18	116	106	102	110	102	102	148	156	138	128	122	112	116	112	112	G	116	106	108	102	108	B	B	B
19	112	110	108	108	B	B	114	116	118	120	120	114	106	98	176	138	94	98	114	110	108	108	104	100
20	104	110	102	102	98	B	102	108	118	116	112	114	112	102	104	106	120	100	102	108	110	106	102	104
21	104	104	104	106	104	118	B	126	120	118	192	118	110	110	110	140	130	102	98	104	112	110	108	108
22	132	110	106	104	104	108	106	146	120	122	G	104	102	102	180 EG	100	102	98	98	B	102	100	B	B
23	B	B	108	118	106	B	118	118	116	110	164	100	100	G	G	156	136	120	96	128	96	B	B	B
24	B	104	B	B	104	B	B	G	138	118	116	110	108	106	98	104	126	112	B	124	B	104	112	B
25	102	102	102	B	B	B	174	156	138	140	G	112	110	108	124	120	112	106	B	106	112	106	104	100
26	104	106	104	102	104	102	144	172	156	112	152	106	106	104	186 EG	156	134	120	120	110	110	110	110	B
27	B	B	B	102	118	126	B	172	128	120	108	110	108	108	108	112	150	126	118	118	118	118	110	112
28	108	106	104	100	102	106	164	186	G	112	112	114	114	110	104	102	112	B	B	112	116	124	114	106
29	106	100	104	98	100	100	106	168	112	144	130	116	124	120	120	118	112	B	124	108	102	100	112	116
30	118	114	108	106	100	B	B	166	170	146	136	124	120	122	118	118	110	100	96	108	102	108	112	B
31	108	100	100	108	108	104	130	144	132	126	120	124	120	120	112	114	120	104	98	B	B	B	116	106
	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	24	23	22	21	17	20	28	28	28	24	28	28	27	29	28	30	28	27	27	26	23	22	21
MED	106	107	106	105	104	108	125	138	122	120	121	113	113	110	113	118	124	115	108	110	108	108	108	106
U Q	112	110	112	110	112	119	142	156	132	127	126	119	119	120	175 EG	151	136	124	120	116	116	114	112	113
L Q	102	103	104	102	102	102	111	123	118	116	115	109	107	102	104	105	112	102	98	104	102	106	104	104

IONOSPHERIC DATA STATION Kokubunji

OCT.1995 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 25.0MHz IN 24.0SEC 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																								
2												HCL 11	L 1		H 1		H 2	C 3	F 3	F 2	F 1	F 1	F 1	
3	F 1	F 1	F 1				C 2	C 3	C 2	C 1	C 1	C 1	CH 21	C 2	C 1	H 1	HL 21	L 3	FFF 32	F 4	F 3	F 3	FF 11	F 1
4			F 1	F 5	F 2	F 1		H 2	C 1	H 2	C 1	C 2	C 1	C 1	HL 11	H 1	C 2	C 1	F 4	F 2				F 1
5	F 1	F 1	F 1	FR 41	F 4	F 2	L 4	C 2	C 1	CL 11	C 1	CL 11		C 1	C 1	C 1	H 1	CL 32	F 1	FF 11	F 2	F 2	F 2	F 2
6	F 1	F 1	F 1				L 1	H 1	L 1	CL 11	CL 11	C 1	L 1	CL 11	HC 11	HC 11	C 2	L 2	F 2	F 2	F 2	F 3	FF 11	F 1
7		F 1			F 1			C 1	C 1	C 1	C 2	CL 11	C 1	L 1	L 1	H 1	H 2	C 3	FF 22	F 3	FF 13	FF 22	F 3	F 4
8	F 4	F 2	F 2	F 2	F 1	F 2		CL 12	C 2	L 1	C 1	CL 21	C 2	C 2	L 3	L 3	HCL 11	CL 22	FF 11	FF 31	F 1			F 2
9	F 2	F 1	F 1			F 1		H 2	CL 21	C 1		L 1	LL 11	CL 12	L 3	LH 21	HL 12	CL 22	FF 22	FF 21	F 1			
10	F 3	F 2	FF 12	F 6	F 6	FF 41	L 4	C 4	C 2	C 1		C 2	C 1	C 1	C 1	C 1	L 2	L 2	F 2	FF 11	F 1	F 1		F 2
11	F 1	F 1					L 1	L 1	CL 11		L 1			L 1	H 1	H 1	C 3	C 2	F 1		F 1	F 2	F 2	F 1
12			F 2	F 4		FF 11	CL 21	CL 21	CL 11	CL 11	CL 21	CL 12	CL 11	CL 21	H 1	C 2	CL 21	CL 41	FF 31	FF 11	F 2	F 1	F 2	F 2
13	F 2			F 3	F 2	F 2	C 2	C 1	C 2	C 1		L 1	C 1	L 1	H 1	H 1	CL 31	C 3	F 6	F 3	F 2	F 2	F 3	F 1
14	F 2	F 1	F 1	F 1	F 3			CL 21	C 1	C 2	CL 11		CL 11	CL 21	L 2	L 1	H 1	C 3	FF 31	FF 31	F 2	F 2	F 4	F 2
15	F 2	F 2	FF 11	F 2		F 1	L 1	C 2	C 2	L 1	L 1	L 2	L 1	L 1	L 1	L 1	L 1	CL 12	FF 12	FF 22	FQ 11	F 1	F 2	F 2
16	F 5	F 2	F 2	F 2	F 2	F 1	C 1	L 1	C 1	C 1	C 1	L 1	L 2	L 1	L 2	L 3	L 3	L 5	F 3	F 3	F 1	F 2	F 2	F 1
17	F 3	F 1		F 1	F 1		C 1	LC 21	C 2	CL 21	CL 21	L 1	L 1		CL 11	HL 11	L 1	L 2	F 2	F 1				
18	F 2	F 2	F 3	F 1	F 3	F 1	HL 11	HL 11	HL 11	C 1	C 1	L 1	C 1	C 1	CL 11		C 1	L 2	F 2	F 4	F 2			
19	F 1	F 1	F 3	F 1			C 2	C 2	C 2	C 1	CL 11	C 1	L 1	L 2	HL 11	HL 23	L 2	L 1	FF 11	FF 41	F 1	F 2	F 3	F 3
20	F 2	F 1	F 1	F 1	F 1		L 1	L 1	C 1	C 2	C 1	C 1	C 1	L 3	L 2	L 1	CL 12	L 2	F 2	F 2	FF 23	F 3	F 3	F 2
21	F 3	F 4	F 3	F 4	F 3	F 2		C 2	C 1	CL 21	HC 11	C 1	C 1	C 1	L 2	HL 21	CL 22	L 2	F 2	F 1	F 2	F 2	F 2	F 3
22	FF 12	F 2	F 3	F 1	F 2	F 1	L 2	C 1	CL 22	C 2		L 1	L 1	L 1	HL 11	L 2	L 2	L 3	F 2		F 1	F 1		
23			F 1	F 1	F 2		C 1	L 2	L 2	L 1	HL 11	L 1	L 1			H 1	H 2	C 3	F 2	FFF 12	F 2			
24		F 1			F 1				C 1	C 2	C 1	C 1	L 1	L 1	L 3	LC 11	C 2	L 1		F 2		F 3	F 1	
25	F 2	F 3	F 3				H 1	H 1	HL 11	CL 11		L 1	LC 11	L 1	C 1	C 1	C 2	L 5		F 2	F 2	F 1	F 3	F 3
26	FF 21	F 2	F 1	F 2	F 1	F 1	C 1	HL 11	HL 11	L 2	HCL 11	L 2	L 2	L 1	HL 11	HL 12	C 2	C 4	F 2	F 3	F 3	F 2	F 1	
27				F 1	F 1	FF 11		H 1	C 1	C 2	C 2	C 1	C 1	CL 21	L 1	L 1	HL 11	CL 31	FF 31	F 2	F 2	F 1	F 2	F 1
28	F 3	F 4	F 3	F 5	F 3	F 1	H 1	H 1		C 2	C 2	C 2	C 1	L 1	L 2	L 1	L 1			F 2	F 2	F 2	F 1	F 1
29	F 5	F 3	F 2	F 3	F 2	F 1	L 1	HL 11	L 2	HL 11	C 1	C 1	CL 11	CL 11	C 2	CL 21	L 1		FF 12	F 3	F 3	F 4	F 1	FF 22
30	FF 23	F 3	F 2	F 1	F 1			HL 11	HL 11	HL 12	CL 12	CL 21	CL 21	C 1	C 1	C 1	CL 11	FR 11	F 2	F 1	F 1	F 2	F 2	
31	F 3	F 4	F 3	F 1	F 1	F 2	CL 11	C 2	CL 21	CL 11	C 1	CL 11	CL 11	C 1	C 2	C 3	CL 21	F 1	F 1				F 4	F 3
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

f-PLOTS OF IONOSPHERIC DATA

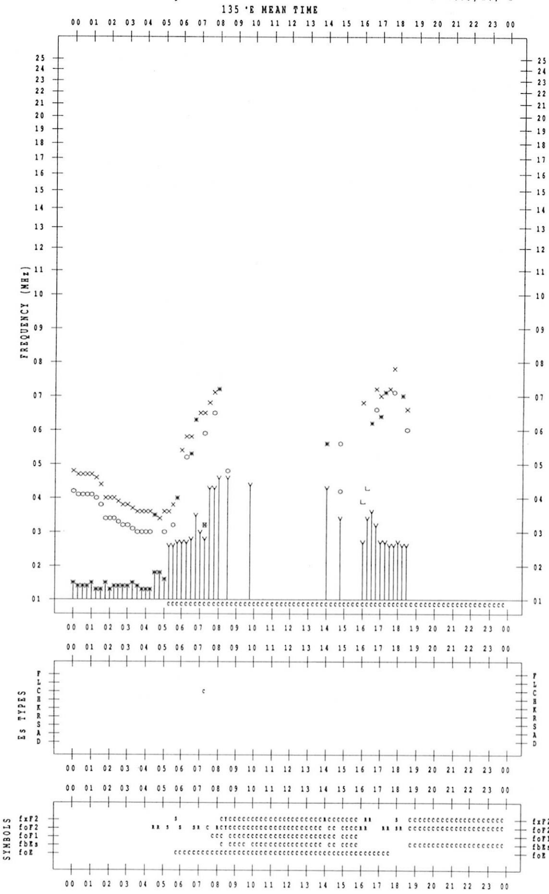
KEY OF f-PLOT	
|	SPREAD
⬡	foF2, foF1, foE
╳	fxF2
✳	DOUBTFUL foF2, foF1, foE
⌛	fbEs
∟	ESTIMATED foF1
⍏, Y	fmin
∧	GREATER THAN
∨	LESS THAN

f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/ 1

135 °E MEAN TIME

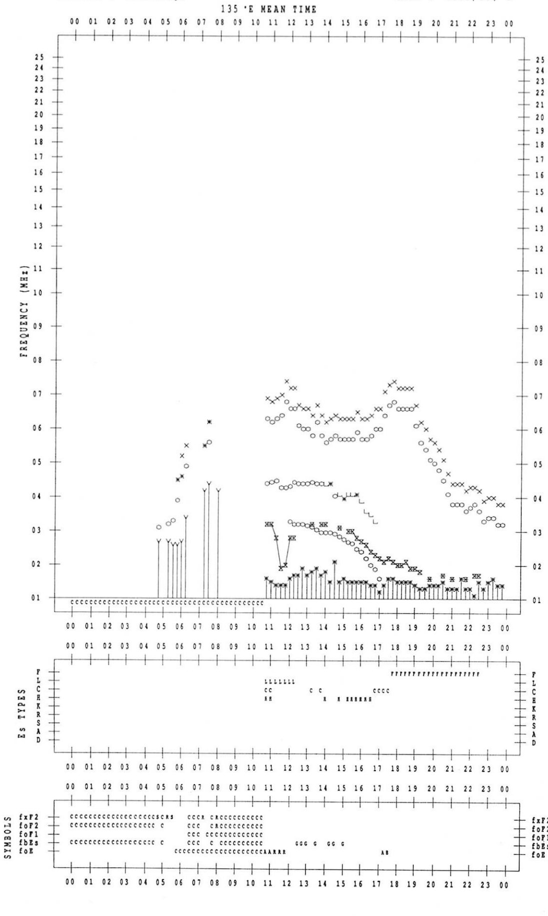


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/ 2

135 °E MEAN TIME

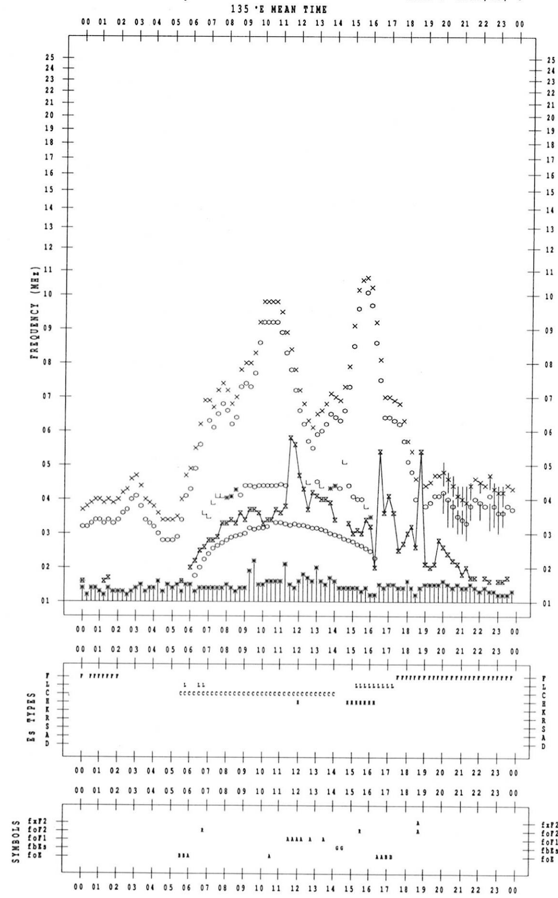


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/ 3

135 °E MEAN TIME

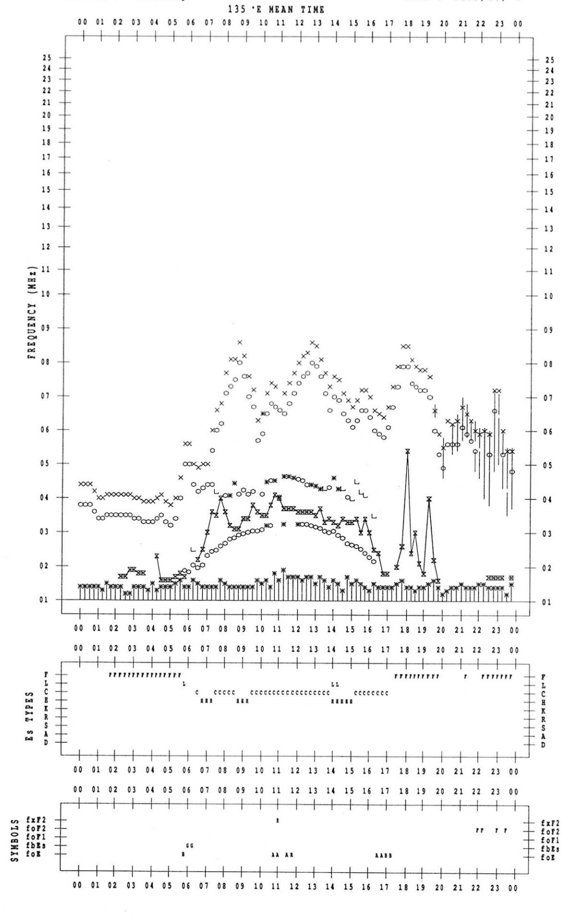


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/ 4

135 °E MEAN TIME



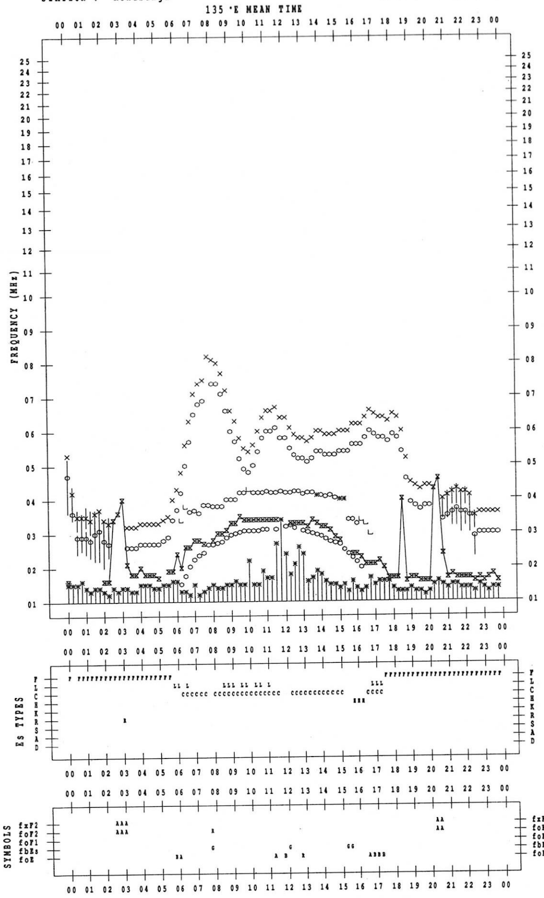
f-PLOT DATA

SCALER :

STATION : Kokubunji

DATE : 1995/10/ 5

135 °E MEAN TIME



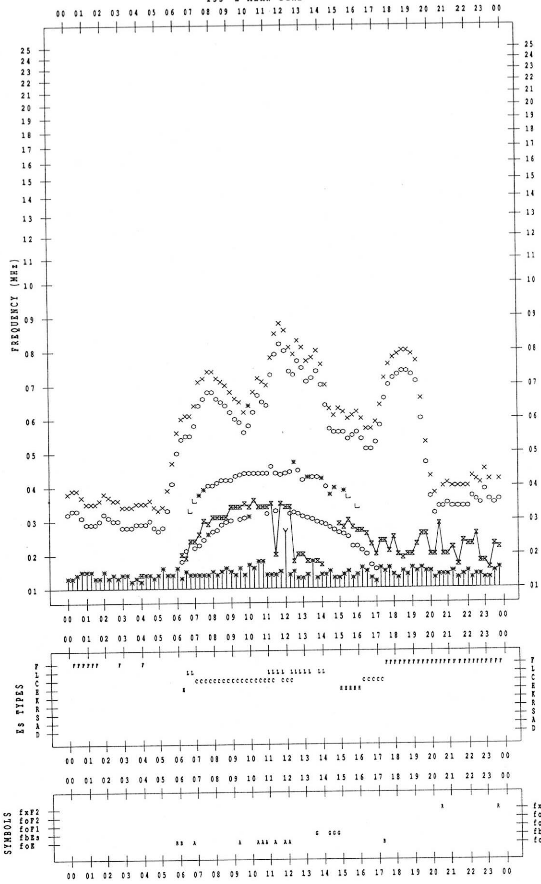
f-PLOT DATA

SCALER :

STATION : Kokubunji

DATE : 1995/10/ 7

135 °E MEAN TIME



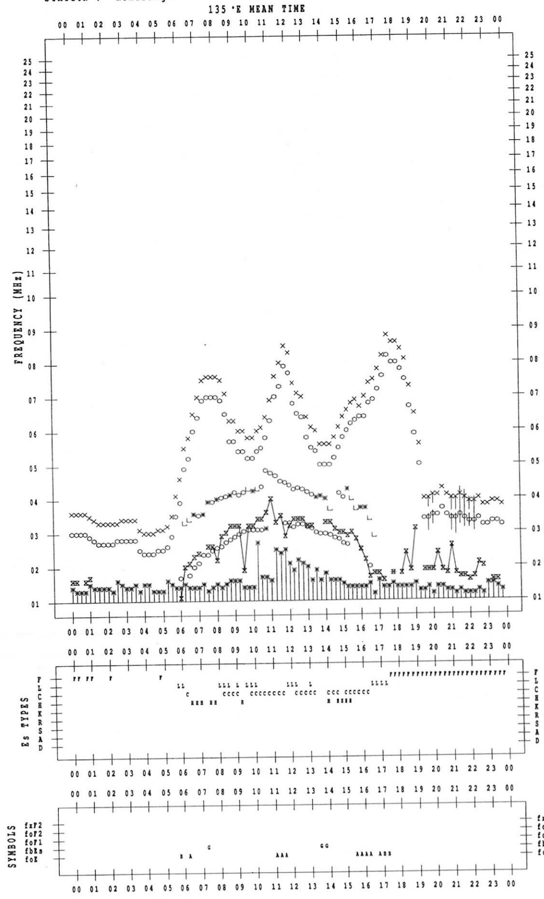
f-PLOT DATA

SCALER :

STATION : Kokubunji

DATE : 1995/10/ 6

135 °E MEAN TIME



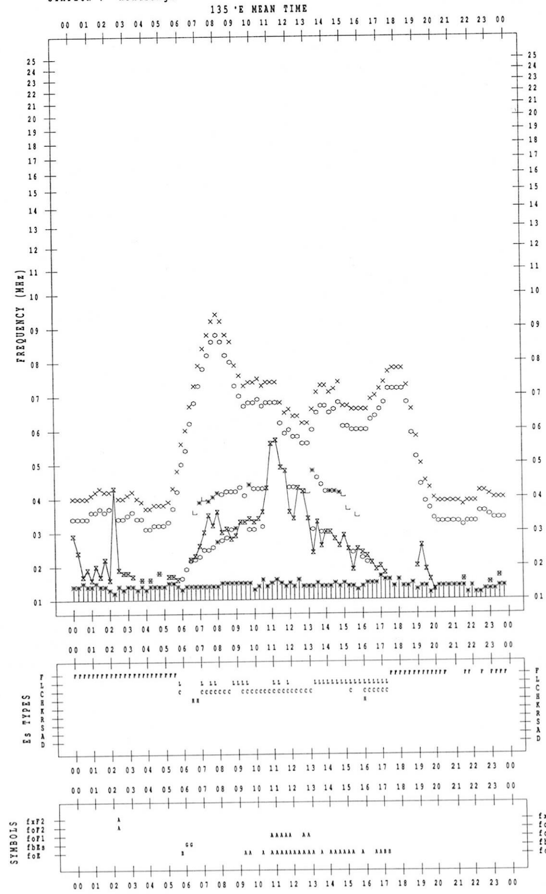
f-PLOT DATA

SCALER :

STATION : Kokubunji

DATE : 1995/10/ 8

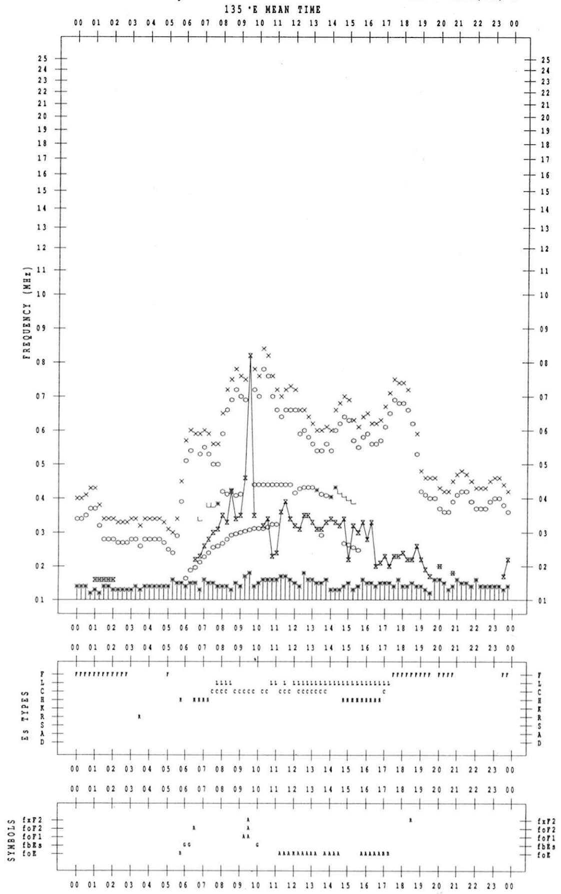
135 °E MEAN TIME



f-PLOT DATA

SCALER :

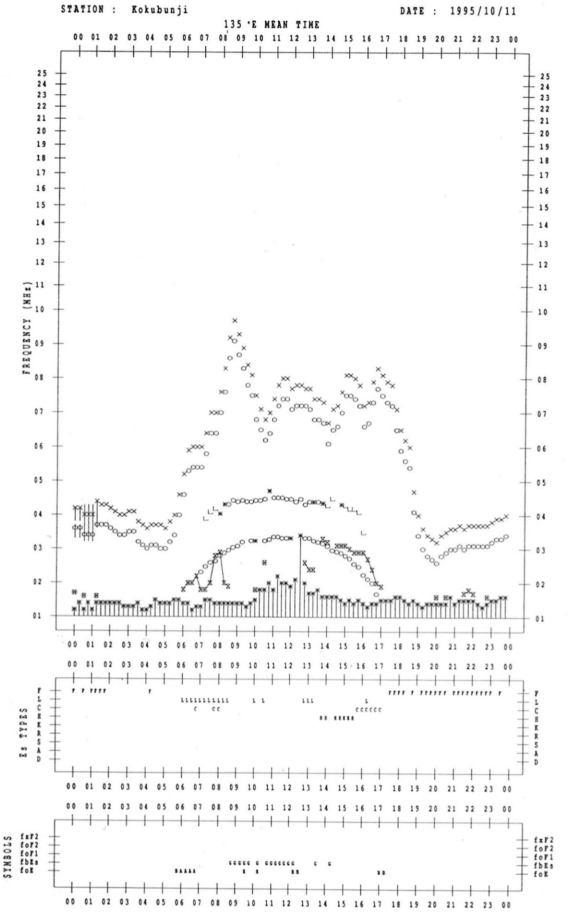
STATION : Kokubunji DATE : 1995/10/ 9



f-PLOT DATA

SCALER :

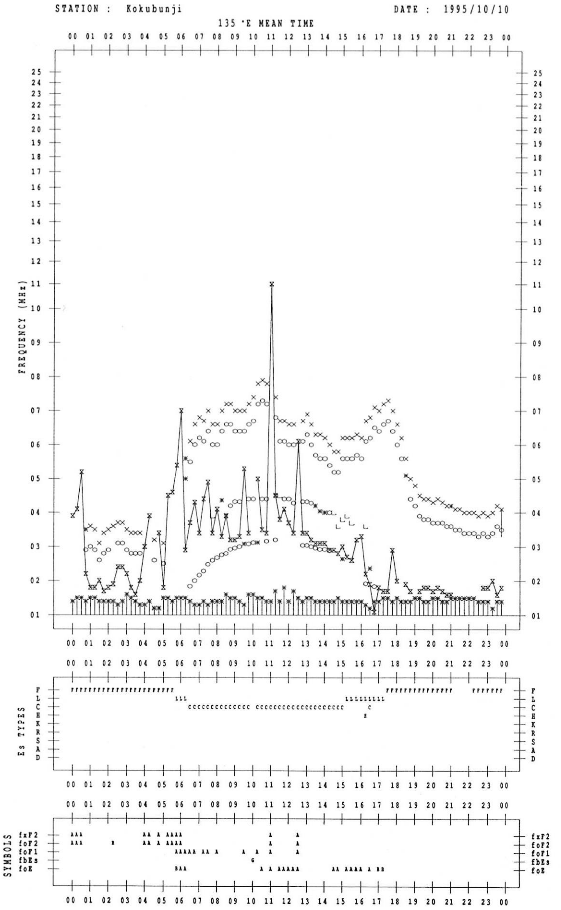
STATION : Kokubunji DATE : 1995/10/11



f-PLOT DATA

SCALER :

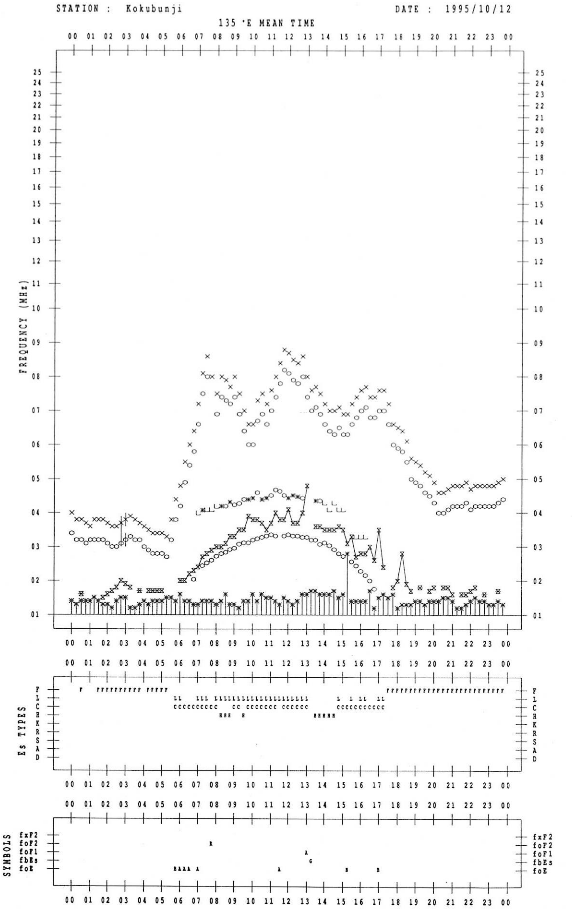
STATION : Kokubunji DATE : 1995/10/10



f-PLOT DATA

SCALER :

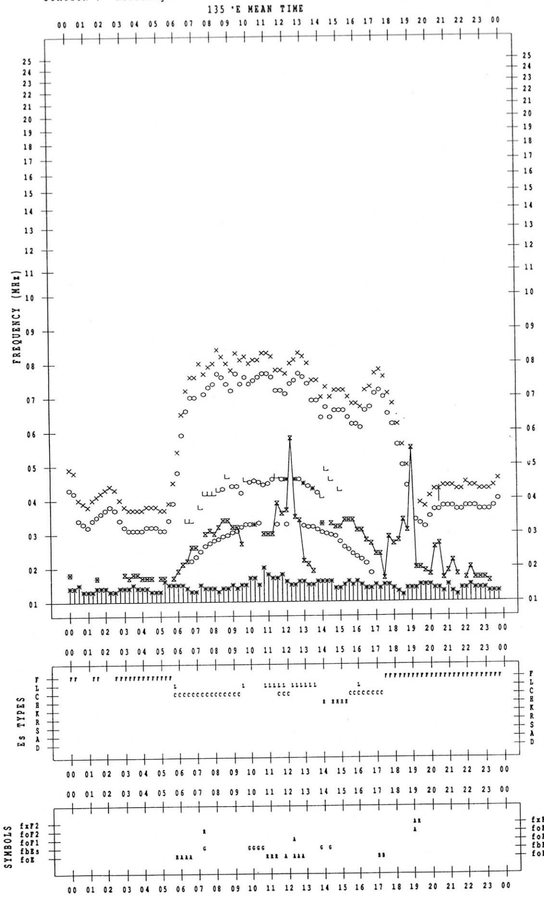
STATION : Kokubunji DATE : 1995/10/12



f-PLOT DATA

SCALER :

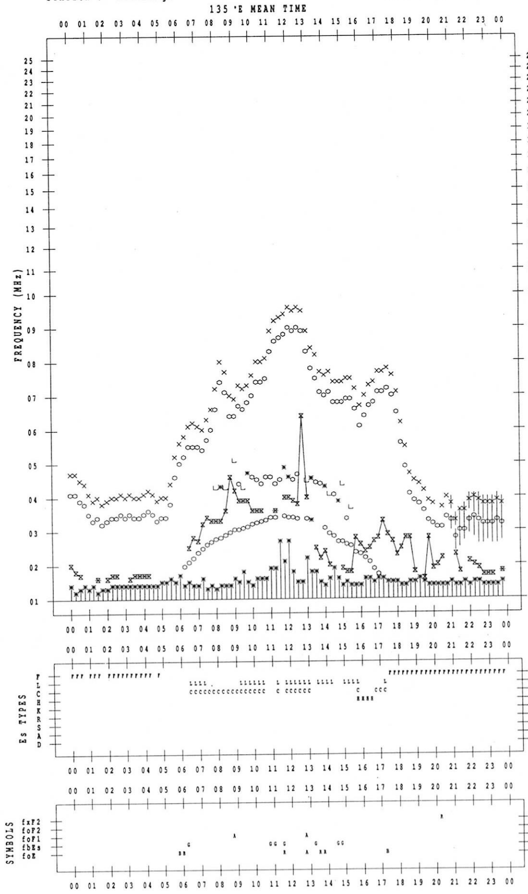
STATION : Kokubunji DATE : 1995/10/13



f-PLOT DATA

SCALER :

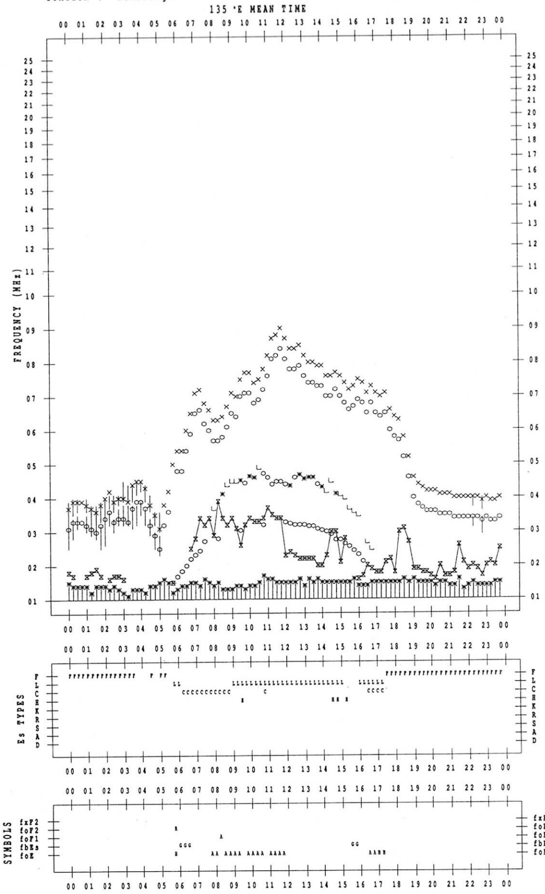
STATION : Kokubunji DATE : 1995/10/14



f-PLOT DATA

SCALER :

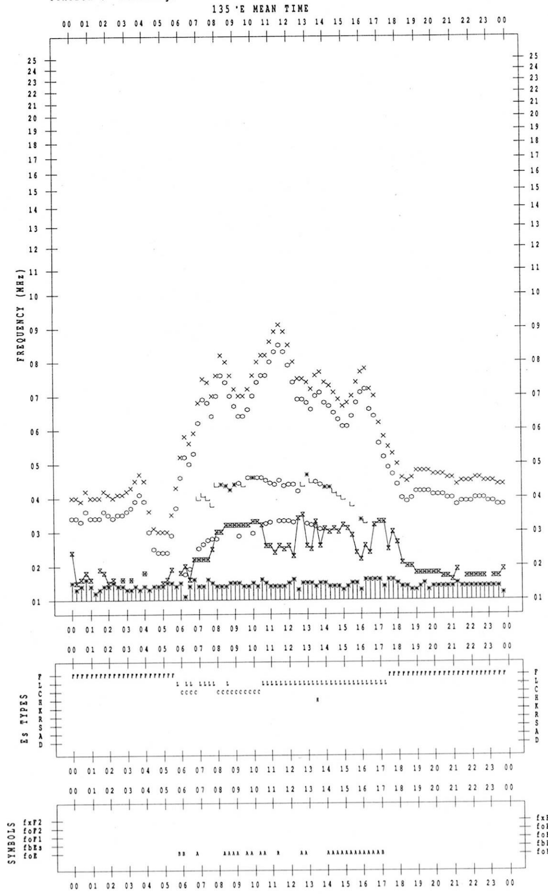
STATION : Kokubunji DATE : 1995/10/15



f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/16

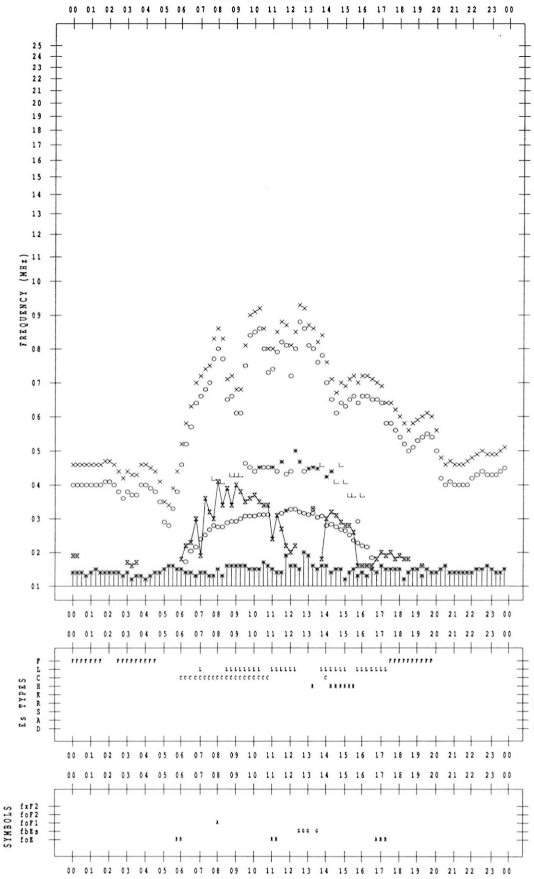


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/17

135 °E MEAN TIME

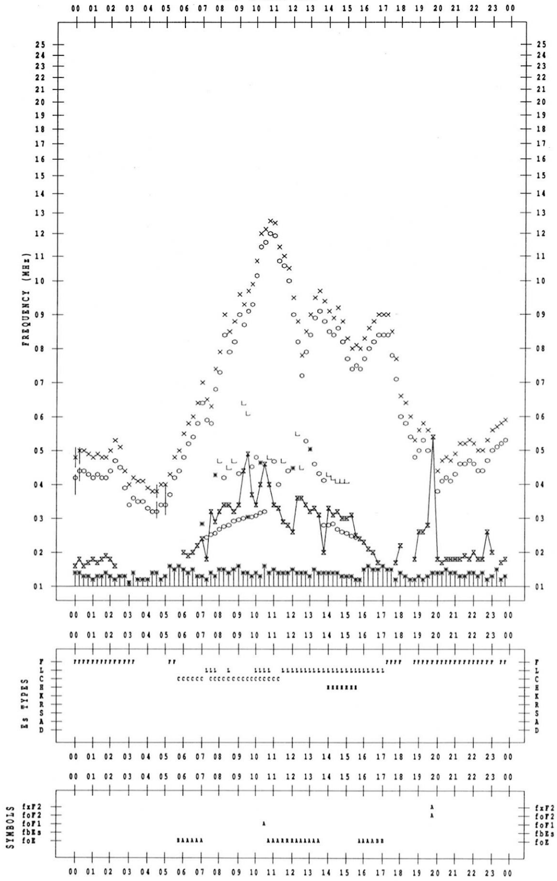


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/19

135 °E MEAN TIME

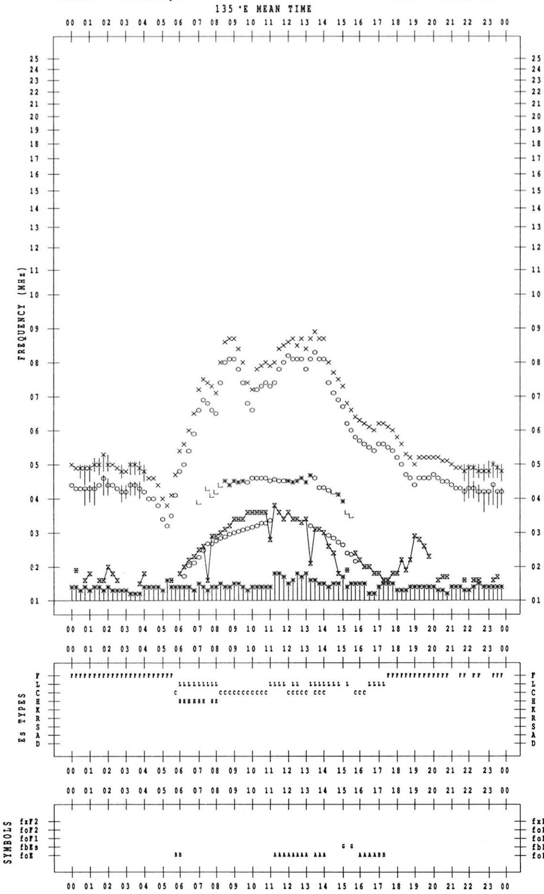


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/18

135 °E MEAN TIME

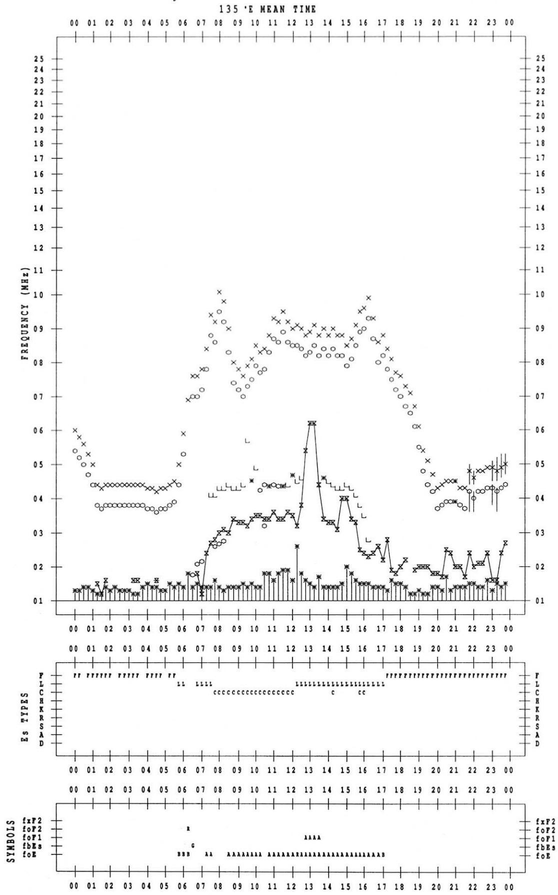


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/20

135 °E MEAN TIME

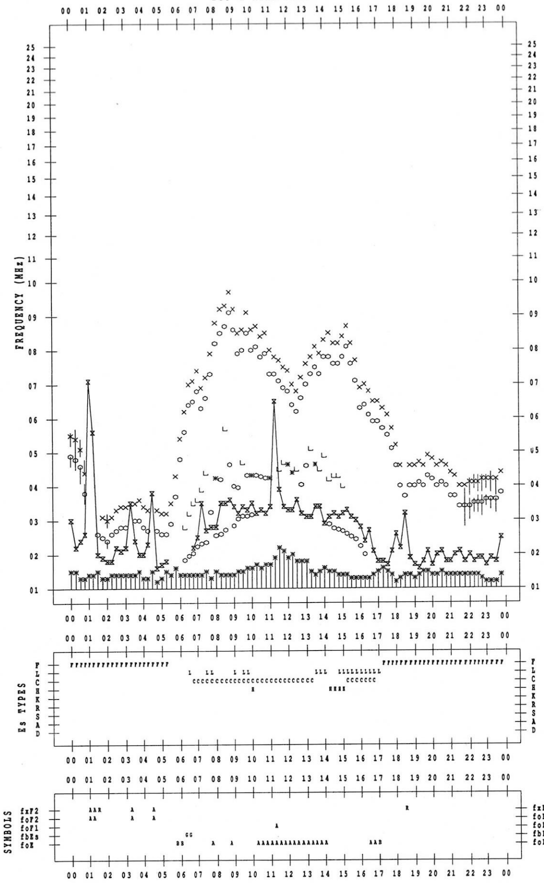


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/21

135°E MEAN TIME

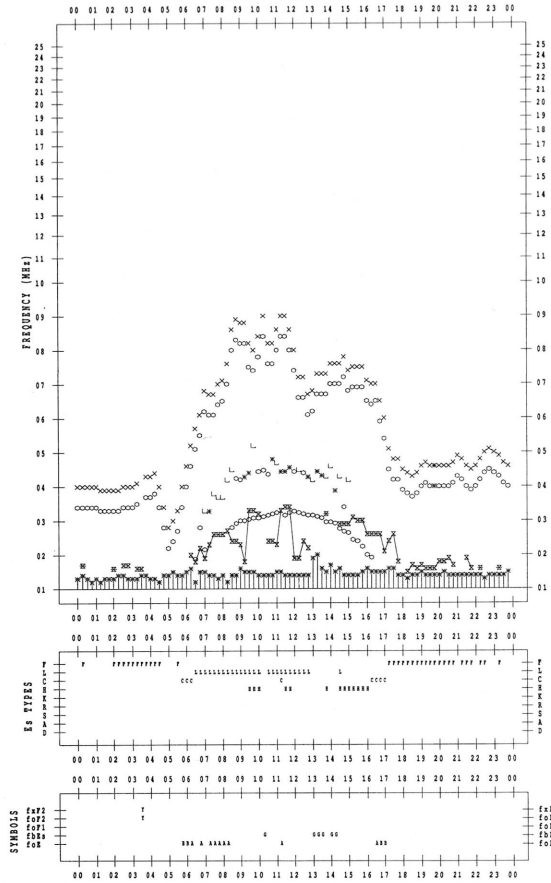


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/23

135°E MEAN TIME

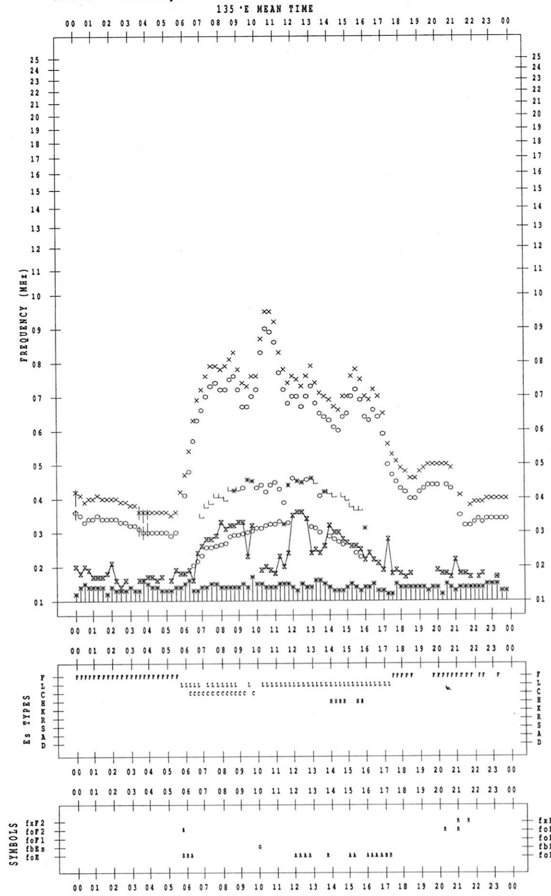


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/22

135°E MEAN TIME

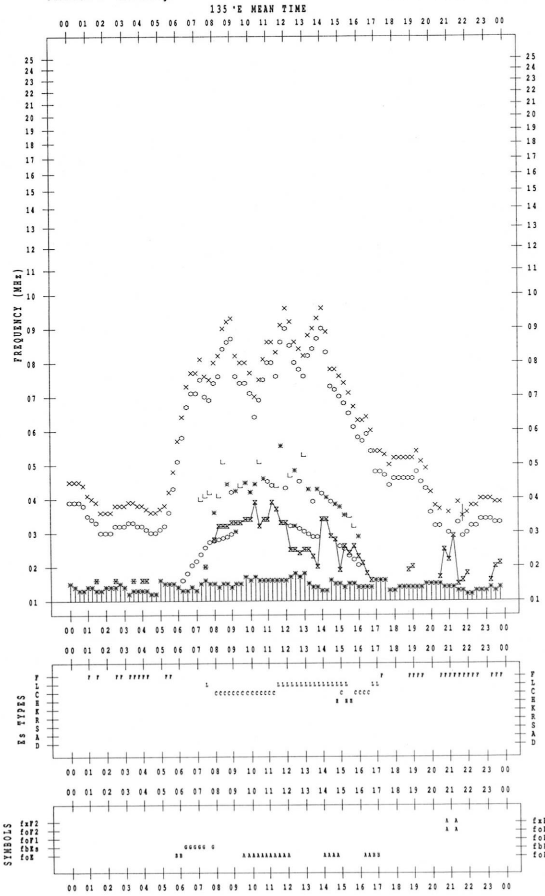


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/24

135°E MEAN TIME

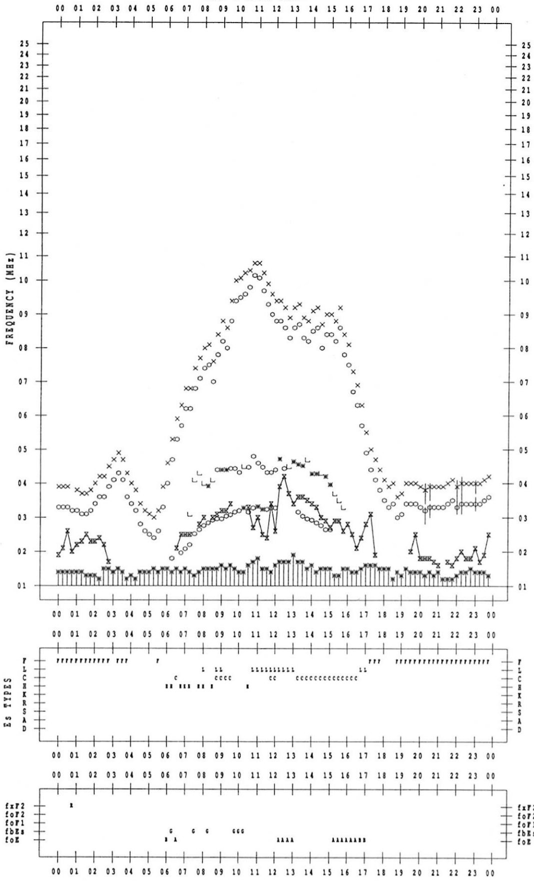


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/25

135 °E MEAN TIME

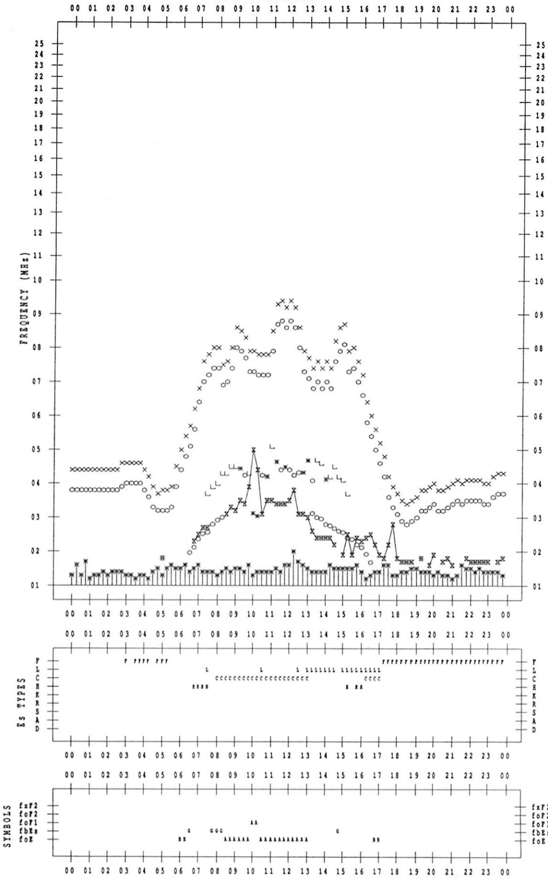


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/27

135 °E MEAN TIME



f-PLOT DATA

SCALER :

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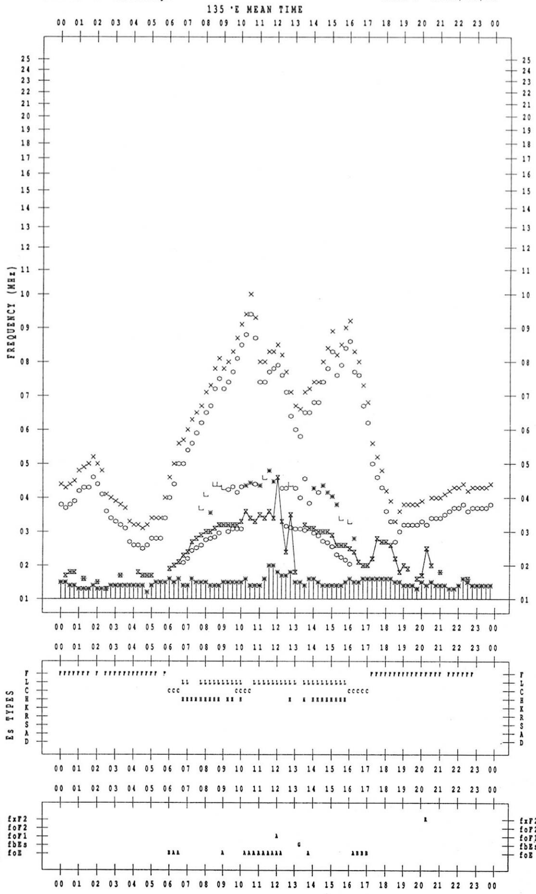
135 °E MEAN TIME

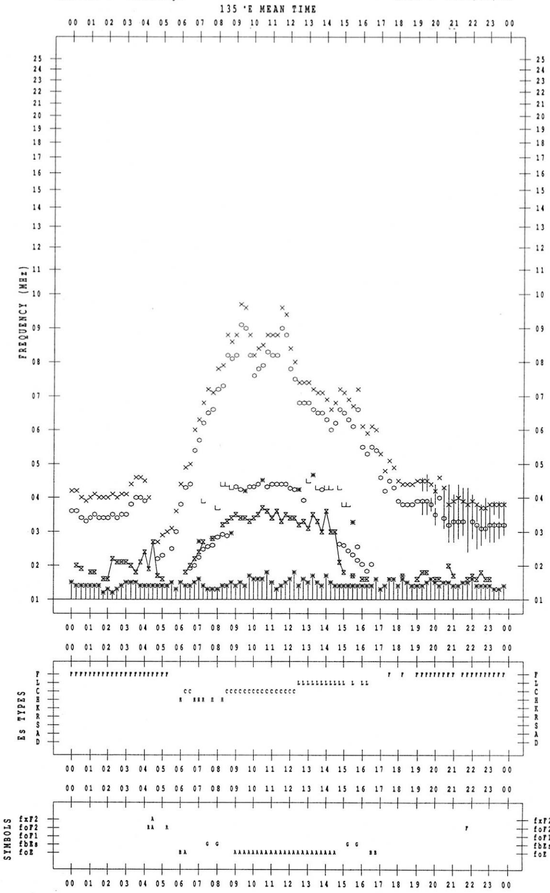


f-PLOT DATA

SCALER :

STATION : Kokubunji DATE : 1995/10/28

135 °E MEAN TIME

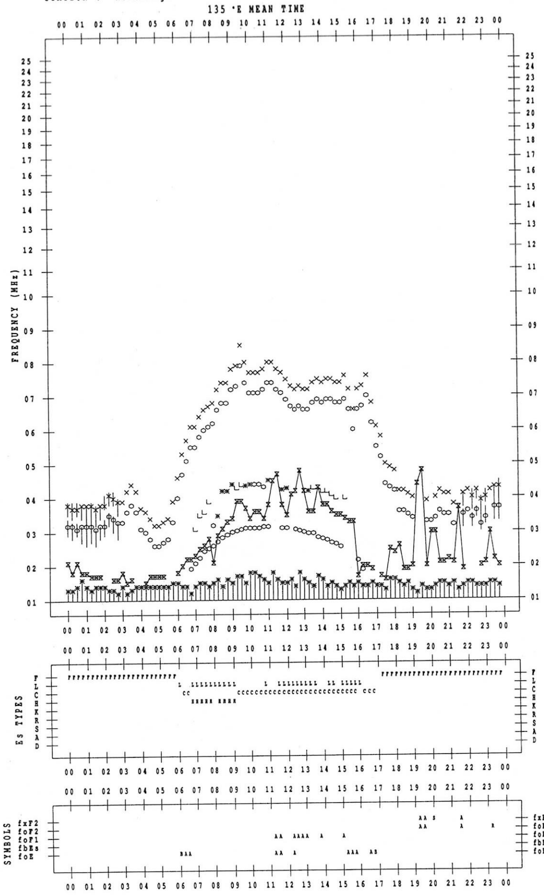


f-PLOT DATA

SCALER :

STATION : Kokubunji

DATE : 1995/10/29

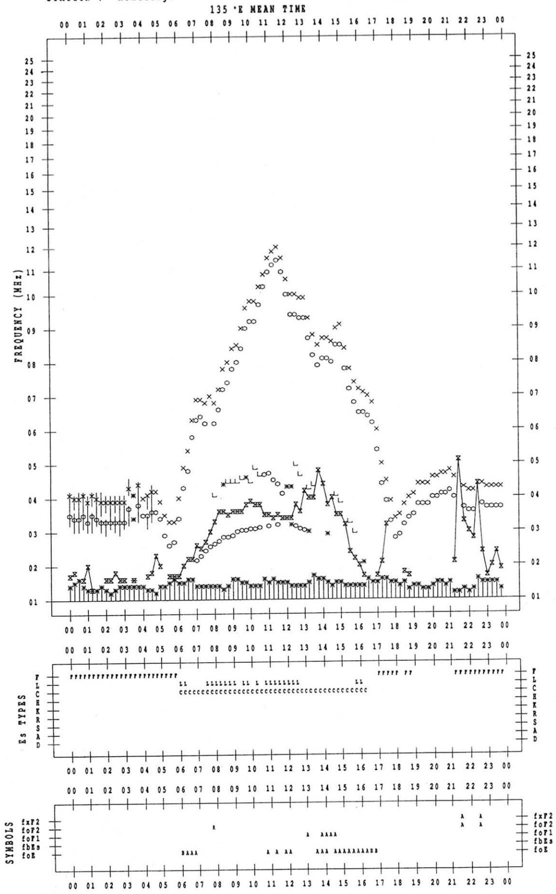


f-PLOT DATA

SCALER :

STATION : Kokubunji

DATE : 1995/10/31

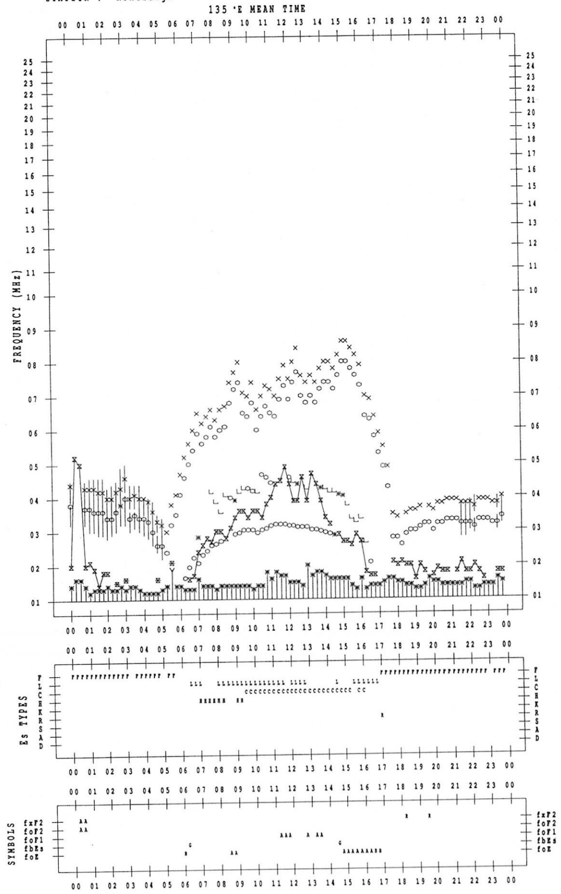


f-PLOT DATA

SCALER :

STATION : Kokubunji

DATE : 1995/10/30



B. Solar Radio Emission

B1. Daily Data at Hiraiso

200 MHz

Not available until system improvement is completed.

B. Solar Radio Emission

B1. Daily Data at Hiraiso

500 MHz

Hiraiso October 1995

Single-frequency total flux observations at 500 MHz					
Flux density: $10^{-22}Wm^{-2}Hz^{-1}$					
UT	00-03	03-06	06-09	21-24	Day
Date					
1	-	-	-	-	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-
11	-	-	-	-	-
12	-	-	-	-	-
13	-	-	-	-	-
14	-	-	-	-	-
15	-	-	-	-	-
16	-	-	-	-	-
17	-	-	-	-	-
18	-	-	-	-	-
19	-	-	-	-	-
20	-	-	-	-	-
21	-	-	-	-	-
22	-	-	-	-	-
23	-	-	-	-	-
24	-	-	-	-	-
25	-	-	-	-	-
26	-	-	-	-	-
27	-	-	-	-	-
28	-	-	-	-	-
29	-	-	-	-	-
30	-	-	-	-	-
31	-	-	-	-	-

Note: No observations during the following periods.

1st 0000 - 31st 2400

B. Solar Radio Emission

B2. Outstanding Occurrences at Hiraiso

Hiraiso October 1995

Single-frequency observations

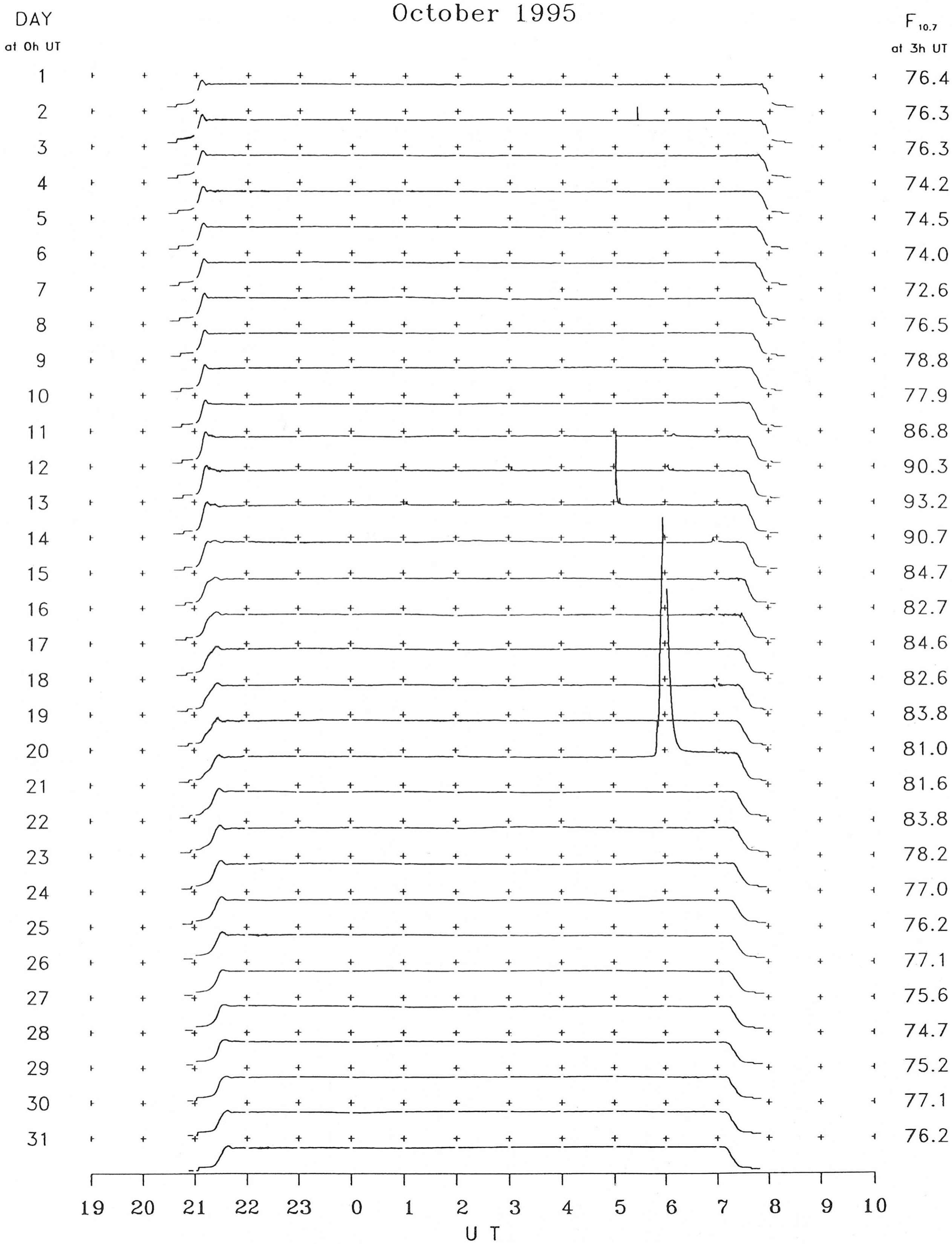
Normal observing period: 2040 - 0800 U.T. (sunrise to sunset)

OCT. 1995	FREQ. (MHz)	TYPE	START TIME (U.T.)	TIME OF MAXIMUM (U.T.)	DUR. (MIN.)	FLUX DENSITY ($10^{-22}Wm^{-2}Hz^{-1}$) PEAK	MEAN	POLARIZATION REMARKS
6	200	42 SER	2350.0	2350.3	1.0	34	-	0
7	200	42 SER	0103.5	0107.5	10	11	-	WL
	200	41 F	0343.7	0344.0	6.0	14	-	0
11	2800	1 S	0355.7	0357.4	3.0	4	2	0
	200	8 S	0357.0	0357.4	0.9	25	-	0
	2800	1 S	0607.2	0609.2	5.0	7	3	0
	200	6 S	0610.0	0610.3	1.0	25	13	0
12	200	46 C	0302.5	0303.0	2.0	148	45	0
	2800	46 C	0302.5	0303.6	2.0	12	7	WR
	200	46 C	0306.5	0307.6	2.0	26	17	0
	200	46 C	0600.0	0602.7	3.0	3	1	0
	2800	46 C	0600.9	0603.4	4.0	19	11	0
	200	48 C	0605.3	0606.9	5.0	1135	550	0
	200	44 NS	2040E	2201.0	110D	6	3	WR
	200	43 NS	2256.0	0108.0	260	20	3	WR
13	2800	1 S	0057.5	0059.3	3.0	21	13	0
	2800	1 S	0104.2	0104.5	1.0	11	7	WR
	2800	46 C	0501.3	0502.4	6.0	205	110	0
	200	46 C	0502.2	0502.4	6.0	310	50	0
14	200	8 S	0517.7	0518.0	0.5	25	-	0
	2800	1 S	0654.1	0655.3	3.0	15	10	0
	200	46 C	0655.3	0655.8	1.0	270	95	0
	2800	1 S	0658.1	0659.6	2.0	11	6	0
15	200	42 SER	0031.0	0037.0	6.5	27	-	0
	200	46 C	0040.7	0041.0	5.0	37	10	WR
	200	8 S	0443.0	0443.5	0.8	18	-	0
	200	44 NS	2045E	2244.2	660D	55	5	MR
18	200	6 S	0216.1	0216.7	1.0	21	13	0
19	2800	1 S	2156.1	2157.2	3.0	6	2	0
	200	46 C	2156.9	2157.8	3.0	9	5	0
	200	46 C	2313.9	2314.2	2.0	108	52	0
	200	43 NS	2349.0	0130.0	480D	42	4	WR
20	200	8 S	0202.5	0202.6	0.5	45	-	0
	200	48 C	0533.9	0558.6	75	125	30	WL
	2800	47 GB	0548.2	0557.4	35	682	265	0

B. Solar Radio Emission

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

October 1995



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

C. RADIO PROPAGATION

C1. H.F. FIELD STRENGTH (UPPER SIDE-BAND OF WWV)

OCT 1995 FREQUENCY 15 MHZ BANDWIDTH 80 HZ RECEIVING ANTENNA ROD 4.5 M

MEASURED AT HIRAISO

UT DAY	00H 17M	01H 17M	02H 17M	03H 17M	04H 17M	05H 17M	06H 17M	07H 17M	08H 17M	09H 17M	10H 17M	11H 17M	12H 17M	13H 17M	14H 17M	15H 17M	16H 17M	17H 17M	18H 17M	19H 17M	20H 17M	21H 17M	22H 17M	23H 17M
1	ES -25	-2	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25
2	ES -25	0	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-9	ES -25
3	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-15
4	ES -25	ES -25	-15	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-15	ES -25	ES -25
5	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-15	ES -25
6	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-15	ES -25	-15
7	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-15	ES -25
8	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-21	ES -25
9	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25
10	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-4
11	-4	-6	ES -25	ES -25	-15	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	1	-15
12	-15	1	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25
13	ES -25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	-15	-9	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-15	-15	-15
17	-4	1	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-1	ES -25	-9
18	1	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-4	ES -25	ES -25	ES -25	5	4
19	-1	3	-15	-15	ES -25	ES -25	ES -25	ES -25	ES -24	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25
20	ES -25	-1	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	3	3	-1
21	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-2	5	-9
22	ES -24	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-2	1	1
23	1	-4	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-9	3	-2
24	0	4	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	3	2	2
25	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-3	-3	-3
26	-6	4	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-3	2	-1
27	-14	-14	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-3	-14	ES -24
28	ES -24	-1	ES -24	ES -23	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	2	ES -24	ES -24	ES -24	-8	-2
29	-3	1	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	9	-3	ES -24	-1	2	0
30	-1	3	1	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	3	2	2
31	2	7	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-1	ES -24	2	4	2	3
CNT	29	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
MED	US -24	-8	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-15	-12	-12
UD	1	4	-15	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-1	ES -24	ES -24	3	3	2
LD	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25

C. RADIO PROPAGATION

C1. H.F. FIELD STRENGTH (UPPER SIDE-BAND OF WWVH)

OCT 1995 FREQUENCY 15 MHZ BANDWIDTH 80 HZ RECEIVING ANTENNA ROD 4.5 M

MEASURED AT HIRAISO

UT DAY	00H 46M	01H 46M	02H 46M	03H 46M	04H 46M	05H 46M	06H 46M	07H 46M	08H 46M	09H 46M	10H 46M	11H 46M	12H 46M	13H 46M	14H 46M	15H 46M	16H 46M	17H 46M	18H 46M	19H 46M	20H 46M	21H 46M	22H 46M	23H 46M
1	5	9	9	13	6	14	2	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	7	6	4	3
2	4	4	4	16	13	19	ES -25	ES -25	ES -25	ES -25	4	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	2	1	11	9	7
3	6	12	6	3	11	13	16	-4	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	8	4	1	6
4	1	2	6	12	11	17	18	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	3	-1	-9
5	-15	-15	1	11	-1	16	-1	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	1	2	6	-1
6	-1	3	9	13	5	3	9	-15	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-4	16	-4	-15
7	6	3	8	8	12	8	-15	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-15	5	11	1	3
8	3	11	12	14	13	3	1	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	6	4	6	5
9	-4	3	11	4	12	7	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-9	4	8	10	3
10	8	1	3	10	16	-4	-4	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	3	9	4	6
11	11	4	9	8	16	8	8	-15	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-15	3	4	5	1
12	3	6	5	6	9	2	-15	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-4	8	5	5	6
13	6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	16	8	10	10	11	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	10	-1	16	3	1
17	2	9	9	13	16	-1	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-15	ES -25	5	6	7	6	11
18	3	9	11	-4	-8	-4	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	1	ES -25	ES -25	6	5	1	6
19	6	4	3	12	23	9	13	14	3	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	7	14	6	8	8
20	5	8	11	17	14	-8	-9	11	12	-1	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-2	14	1	3	5
21	4	1	3	9	14	9	3	1	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-9	-1	8	6	4
22	3	8	8	8	11	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	5	1	5	8	8	9
23	5	8	11	8	15	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	7	-1	6	4	9
24	3	5	10	12	17	14	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	4	8	14	14	13
25	14	13	11	13	15	14	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-8	8	6	13	9
26	9	15	13	13	12	7	6	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	3	7	19	9
27	12	15	13	19	8	-1	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-1	5	0	6
28	13	17	14	17	14	5	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	13	9	-14	9	6	8	9
29	9	10	11	15	21	1	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	7	14	9	5
30	5	11	13	13	13	10	-14	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	4	6	4	12	9
31	13	10	20	13	15	6	-14	-3	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	9	ES -24	2	13	7	8	7
CNT	29	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
MED	5	8	10	12	13	6	-14	ES -24	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-12	6	6	6	6
UD	13	15	13	17	17	16	13	1	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	1	ES -24	7	13	14	13	9
LD	-1	1	3	4	5	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	ES -25	-1	3	0	-1

C. Radio Propagation

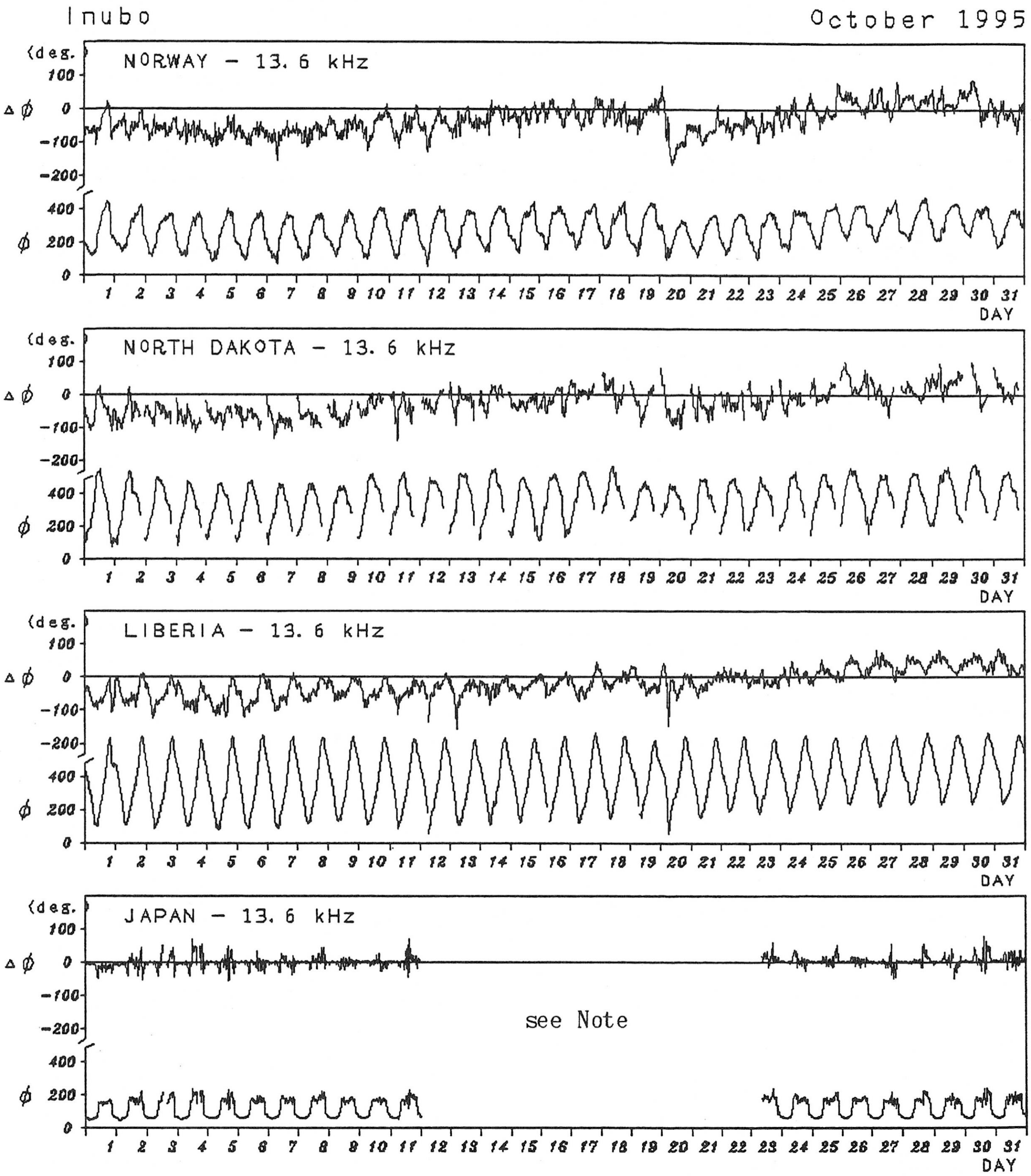
C2. Radio Propagation Quality Figures at Hiraiso

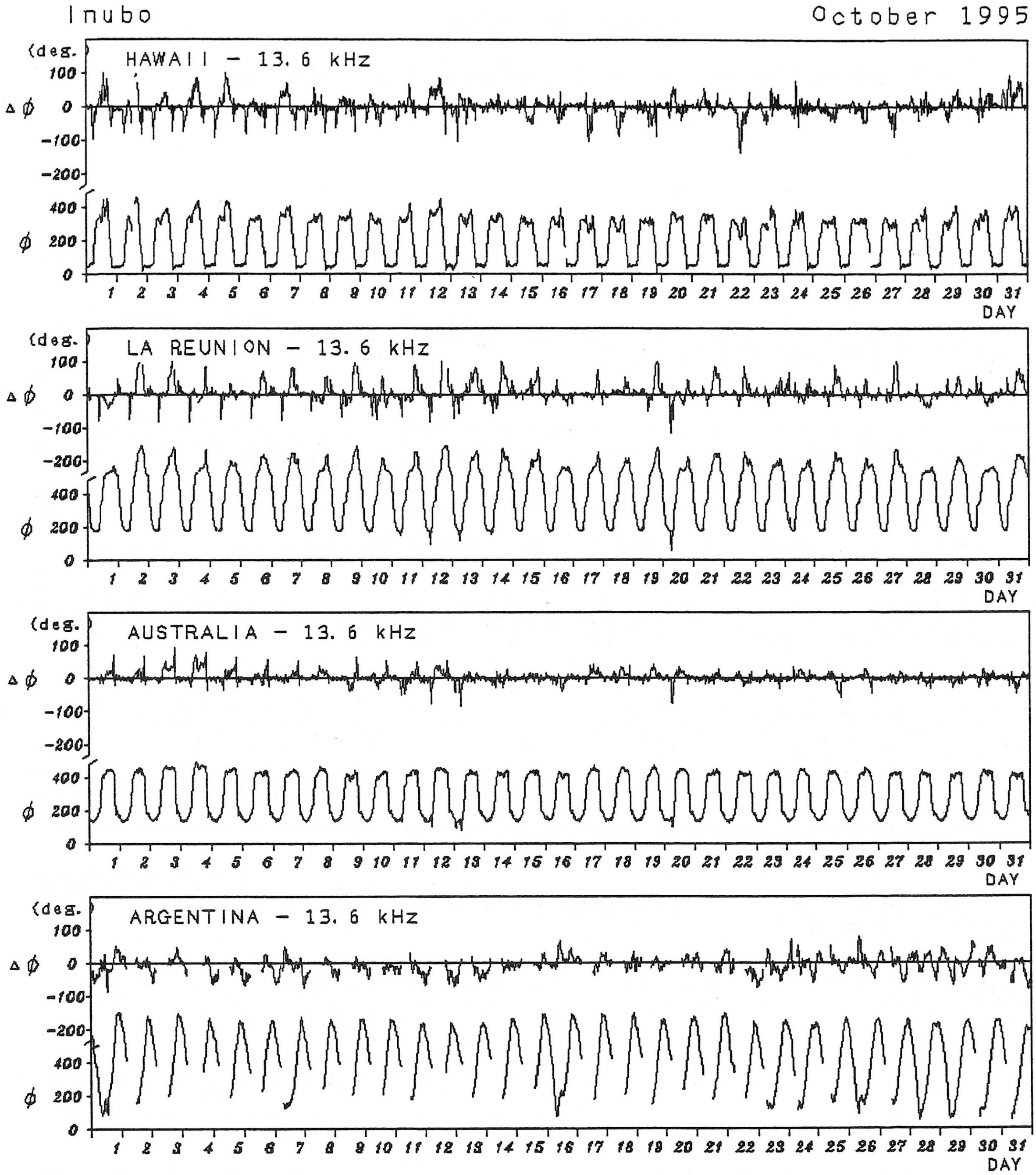
Hiraiso | Time in U.T.

Oct. 1995	Whole Day Figure	WWV 00-06	WWV 06-12	WWV 12-18	WWV 18-24	WWVH 00-06	WWVH 06-12	WWVH 12-18	WWVH 18-24	Condition 00-06	Condition 06-12	Condition 12-18	Condition 18-24	Principal Geomagnetic Start h m	Principal Geomagnetic End h	Storms Range nT
1	4- U	4U	-	-	3U	4	-	-	4	N	N	N	N			
2	4- U	4U	-	-	3U	4	4U	-	4	N	N	N	N			
3	4- U	3U	-	-	3U	4	5U	-	4	N	N	N	N			
4	3+ U	4U	-	-	3U	4	-	-	2	N	N	N	N	03.4 -	21.0	115
5	3o U	3U	-	-	3U	3	-	-	3	N	U	U	U			---
6	4- U	3U	-	-	3U	4	5U	-	3	U	U	U	U			
7	3+ U	3U	-	-	3U	4	-	-	4	U	U	U	U			
8	3+ U	3U	-	-	3U	4	-	-	4	U	U	U	U			
9	3+ U	3U	-	-	3U	3	-	-	4	U	U	U	U			
10	4- U	3U	-	-	4U	4	-	-	4	U	U	U	U			
11	4+ U	5U	-	-	4	4	5U	-	4	U	U	U	U			
12	4o U	5U	-	-	3U	4	-	-	4	U	U	U	U			
13	C	C	C	C	C	C	C	C	C	U	N	N	N			
14	C	C	C	C	C	C	C	C	C	N	N	N	N			
15	C	C	C	C	C	C	C	C	C	N	N	N	N			
16	4o U	4U	-	-	4	4	-	-	4	N	N	N	N			
17	4+ U	5U	-	-	4	4	-	-	4	N	N	N	N			
18	4- U	3U	-	-	5U	3	-	-	4	N	N	N	N	1121	----	143
19	4+ U	5U	-	-	4U	4	5U	-	4	N	N	N	N	----	----	
20	4+ U	4U	-	-	4U	4	5U	-	4	N	N	N	N	----	24	SSC
21	4o U	3U	-	-	4	4	5U	-	4	N	N	N	N			
22	4o U	3U	-	-	5	4	-	-	4	N	N	N	N			
23	4+ U	4U	-	-	5	4	-	-	4	N	N	N	N			
24	4+ U	5U	-	-	4U	4	-	-	5	N	N	N	N			
25	4o U	3U	-	-	5	4	-	-	4	N	N	N	N			
26	4+ U	5U	-	-	5	4	-	-	4	N	N	N	N			
27	4o U	4U	-	-	4U	4	-	-	4	N	N	N	N			
28	4o U	4U	-	-	4U	4	-	-	4	N	N	N	N			
29	4+ U	5U	-	-	5	4	-	-	4	N	N	N	N			
30	4+ U	5U	-	-	5	4	-	-	4	N	N	N	N			
31	5- U	5U	-	-	5U	4	5U	-	4	N	N	N	N			

C. Radio Propagation

C3. Phase Variation in OMEGA Radio Waves at Inubo





Note : As for JAPAN-13.6kHz, no record during 12 October 0000 UT to 23 October 0900 UT, due to the maintenance of transmitter.

Polar Cap Phase Anomaly (PCPA) on Norway-Inubo Circuit

Start (U. T.)	End (U. T.)	Max. (U. T.)	Max. Phase Deviation (negative value, deg.)
Oct. 20/0800	Oct. 20/2000	Oct. 20/1100	170

C. Radio Propagation

C4. Sudden Ionospheric Disturbance

(a) Short Wave Fade-out (SWF) at Hiraiso

Hiraiso Time in U.T.

Oct. 1995	SWF									Correspondence	
	Drop-out Intensities(dB)					Start	Dur.	Type	Imp.	Solar * Flare	Solar Burst
	CO	HA	AUS	MOS	BBC						
12		>47	17			0308	7	S	1+	x	C
13			15			0100	10	S	1	x	C
13			40D			0503	27	S	3+	x	C
20		>46				0552	88	G	3+	x	C

NOTE CO:Colorade(WWV) HA:Hawaii(WWVH) AUS:Australia MOS:Moscow BBC:London
* Optical and X-ray Flares

(b) Sudden Phase Anomaly (SPA) at Inubo

Inubo

Oct.	S		P			A			
1995	Phase Advance (degrees)						Time (U. T.)		
Date	Ω/N	Ω/L	Ω/LR	Ω/AU	Ω/H	Ω/ND	Start	End	Maximum
2		48					1448	1544	1512
11			7	14			0354	0440	0404
11			43	47	18	–	0608	0710	0616
11			58				0838	0859	0845
12			22	25	11		0304	0352	0312
12	47	–	166	94	22	29	0559	0702	0612
12			7				0735	0804	0743
12		15					1410	1440	1420
13	26	–	18	84	66	29	0058	0232	0108
13	58	–	196	145	95	35	0500	0650	0507
14			32	14	12		0148	0222D	0200
14			20	17	7		0222E	0256	0232
14			19	27			0655	0750	0659
20	40	–	162	86	11		0534	0820	0610

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