UPPER ATMOSPHERE PHYSICS DATA OBTAINED AT SYOWA STATION IN 1994

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1. Introduction

This data book summarizes upper atmosphere physics data acquired by the 35th Japanese Antarctic Research Expedition (JARE-35) with the "Upper Atmosphere Physics Monitoring (UAPM) System" at Syowa Station in 1994. Observation items are as follows:

1) Geomagnetism :
- H-, D- and Z-components of magnetic variations
- Total force of the geomagnetic field
- H-, D- and Z-components of magnetic pulsations

2) ELF-VLF wave :
- Intensities at 0.35, 0.75, 1.2, 2, 4, 8, 30, 60 and 95 kHz
- Wide-band (0-10 kHz) signal of ELF-VLF emissions

3) Ionosphere :
- Cosmic noise absorption at 30 MHz observed with a broad-beam riometer.

4) Aurora :
- All-sky camera :
  Film type : Panchromatic images recorded on color films.
  CCD digital type : Panchromatic digital image, and
  intensity-time profile along magnetic meridian
- Scanning photometers :
  Meridian-scanning record at the following three wavelengths.
  557.7 nm (OI), 630.0 nm (OI) and 486.1 nm (H_β)

An outline of the observation system is given in Section 2. Section 3 describes specifications of the observation instruments and the data acquisition systems. Observation periods are also listed in Section 3. Format of the compiled digital data is shown in Section 4. Summary plots in the period of January 1-December 31, 1994 are given in Appendix.

All-sky camera observation data, magnetograms and summary plots of the monitoring data are available to users on request. The request should be addressed to:

World Data Center C2 for Aurora
National Institute of Polar Research
9-10, Kaga 1-chome, Itabashi-ku,
Tokyo 173, Japan.

Digital and analog data described here are available to researchers who will do collaborative studies with the upper atmosphere physics group of NIPR. The request should be addressed to:

Upper Atmosphere Physics Research Division
National Institute of Polar Research
9-10, Kaga 1-chome, Itabashi-ku,
Tokyo 173, Japan.

2. Upper Atmosphere Physics Monitoring (UAPM) System

A real-time digital data acquisition system for upper atmosphere physics observation was constructed at Syowa Station in January 1981 (Sato *et al.*, 1984). Data obtained from the system have been collected and published annually in the JARE Data Reports (Upper Atmosphere Physics) (Sato *et al.*, 1984, 1991 ; Fujii *et al.*, 1985, 1994; Sakurai *et al.*, 1985; Ono *et al.*, 1986, 1993; Yamagishi *et al.*, 1987; Kikuchi *et al.*, 1988; Miyaoka *et al.*, 1990; Kadokura *et al.*, 1992; Yamazaki *et al.*, 1994; Tonegawa *et al*, 1996). This report is the 14th of this series.

A block diagram of the system, including other ground observations, is shown in Fig. 1. The sensors for measuring weak natural electromagnetic waves such as ELF-VLF emissions, the three components of ULF magnetic pulsations and cosmic radio noise absorption (CNA) have been placed at a remote station on West Ongul Island, located about 5 km from Syowa Station in order to avoid man-made electromagnetic interference. Data of the magnetic pulsations and CNA are transmitted continuously to Syowa Station by a PCM telemeter in VHF band. Wide-band signals of ELF-VLF emissions are transmitted to Syowa Station through an FM telemeter in UHF band.

At the remote station, the electric power which drives all the instruments has been supplied by a solar battery system with maximum output power of 530 W since February 1985. An additional solar battery system with maximum power of 365 W was installed in January 1987 to reinforce the original battery system. The solar battery system consists of eighteen rechargeable car batteries (200 Ah each), five solar panels and three controllers in total. During winter when no sunlight is available, these batteries are charged manually about once a month by using a 10 kVA diesel-engine dynamo, which was installed in 1992 instead of the previous 16 kVA one.

The fluxgate and proton magnetometer sensors are placed at Syowa Station on East Ongul Island, about 150 m apart from the Data Processing Building. All the auroral photometric instruments are placed on the roof of the building, and the data acquisition facilities are installed inside the building. All the outputs obtained from the observation instruments except the auroral photometric ones are transferred to the matrix terminal board and then recorded with pen recorders, analog data recorders and a computer system. These data have been recorded simultaneously with two sets of the TEAC DR-200 digital data logger systems since January 1987. An 8 mm video tape recorder is used to record wide-band VLF emissions, and 24-hour data can be stored on one volume of 8 mm video tape.

Universal time (UT) is supplied from a precise time-keeping system. This system consists of an NNSS satellite timing receiver, a quartz frequency standard with a stability of 2×10^{-11}/day, and time code generators. The time code generators supply the IRIG-A, -B and slow codes for analog data recorders and the 36-bit BCD code for the digital recording systems, respectively. The absolute accuracy of this system is estimated to be about 1 ms.

3. Specifications of Instruments

3.1. Geomagnetism

(1) *Magnetogram*

Magnetic variations were measured by a three-axis fluxgate magnetometer. Full scale ranges were +1250 to -3750 nT for H-component and ± 2500 nT for D- and Z- components, respectively, with the frequency response of DC–2 Hz and noise levels less than 0.5 nT. The magnetometer data were recorded in digital form at the sampling rate of 1 Hz. The H-component data were also recorded on a chart recorder and an R-950L long-term analog data recorder.

(2) *Total force of the geomagnetic field*

Due to the pro-longed trouble with the proton magnetometer since January 1991, the total force observations were made only about once per month in 1994, using the other portable proton magnetometer, which was unable to be linked with the UAPM system. The results are listed in Table 1.

(3) *ULF magnetic pulsations*

The H-, D-, and Z-components of ULF magnetic pulsations are detected by three sets of search coil magnetometers. The search coil sensors have copper wires (0.4 mmϕ, 40000 turns each) wound around permalloy cores (1 cm in diameter × 100 cm in length). Measurable intensity range of the magnetometer is 0.001–5 nT/s and the frequency response is 0.001–3 Hz. The search coil magnetometers are installed at the remote station on West Ongul Island. The output signals transmitted by the PCM telemeter are recorded on an R-950L long-term analog data recorder, a chart recorder and a digital data recorder. The sampling frequency of the digital data is 1 Hz for each component.

(4) *Base line of the magnetic field and K-index*

Base line values of the magnetic field were observed about once per month during a magnetically quiet day. K-indices are calculated for every 3-hour interval measuring the maximum deviations of the H- and D-component magnetic fields from the quiet-day baselines. The definition of the K-indices at Syowa Station is as follows:

K-index		Deviation	K-index		Deviation
0	:	0 - 25 nT	5	:	350 – 600 nT
1	:	25 – 50	6	:	600 – 1000
2	:	50 – 100	7	:	1000 – 1660
3	:	100 – 200	8	:	1660 – 2500
4	:	200 – 350	9	:	2500 and more

The ordinary magnetogram is also available on chart papers with a recording speed of 5 cm/hr. The sensitivity of each component on the chart papers is about 100 nT/cm. Table 1 and 2 give the baseline values and K-indices at Syowa Station in February 1994 – January 1995. Inquiries or requests for the data copies of the magnetic field measurements should be addressed to World Data Center C2 for Aurora in NIPR.

3.2. ELF-VLF waves

The natural ELF-VLF wave receiving system at the remote station has consisted of a triangle-shaped three turn loop antenna (10 m in height, 20 m in the bottom side), a pre-amplifier and a main amplifier with gains of 60 and 40 dB, respectively. The ELF-VLF wave intensities at the frequency bands of 0.35, 0. 75, 1.2, 2, 4, 8, 30, 60, 95 kHz were obtained from wide band waveforms using a 9-channel filter bank and detectors. The ELF-VLF emissions within the intensity range of 10^{-17} to 10^{-13} W/m^2 Hz were detectable with this system. These data were recorded continuously in digital form at the sampling rate of 1 Hz. Some of the wide-band ELF-VLF signals up to 10 kHz were recorded on 8 mm video tape recorders. The wide-band recording was executed during 900 - 1300 UT on Sunday - Friday.

3.3. Ionosphere

Cosmic noise absorption at 30 MHz was observed with a broad-beam riometer, which has been installed at the remote station on West Ongul Island since 1981. Its beam half-width is 60°. Used receiver is made by La Jolla Science, which bandwidth and time constant are 150 kHz and 0.25 s, respectively. The riometer data were recorded in digital form at the sampling rate of 1 Hz in the UAPM system.

Data of ionospheric vertical sounders, broad-beam riometers (20 and 30 MHz), HF field strength receivers (8 and 10 MHz) and the VHF auroral radar (50 and 112 MHz) were recorded with other observation systems at Syowa Station, and the observational results have been published in another JARE Data Report (Ionosphere). Inquiries and requests for the data copies are to be addressed to:

World Data Center C2 for Ionosphere
Communications Research Laboratory
Ministry of Posts and Telecommunications
2-1, Nukui-Kitamachi 4-chome, Koganei-shi,
Tokyo 184, Japan.

3.4. Aurora

(1) *All-sky camera*

A new CCD type all-sky camera system was installed in 1994. Figure 2 briefly shows the configuration of the system. Camera-head part consists of an air-cooled type CCD camera (HAMAMATSU C4880) with a fish-eye lens (F2.8) and a relay lens system and a camera controller. It is set in a temperature-controlled box which has a hemi-spherical glass dome which can be heated by supplying current on conductive coating on the surface. This CCD has a 1000(H) × 1018(V) pixel resolution, and the charge accumulation time can be set to any values by using the controller. The pixel output is A/D converted in 12 bit resolution. Because this system does not use any image intensifying devices, it is possible to observe auroral activity even under moon-light or twilight conditions. An engineering work station (TOSHIBA AS4050GX) has an interface for the camera controller. It sends control signals to and receives digital image data from the controller. Necessary time for receiving one image is 7 s. The work station stores in its hard disk both the 8 bit resolution digital image data and a meridian profile data along 72 degree magnetic longitude. The former data are recorded on an 8 mm tape at every 30 minutes, and the latter on MO disks at every 2 hours. The digital data are converted to video signal at the same time to be displayed on a monitor screen and recorded on an Optical Video Disk (OVD). The camera-head part was placed on the roof of the Data Processing Building, and the data-processing part was installed inside the building. Observations were carried out during clear nights from February 21 until October 7 in 1994. Several charge accumulation times were tried between 1 and 53 s, and mainly used values were 3, 8, 13 and 23 s. Hence the observation interval was variable between 10 and 30 s. Film-type all-sky camera observation was also executed several times so as to back up and compare with the CCD observation. Used film was KODAK-EASTMAN 5226, ISO-500, 400 ft, 35 mm color film. Exposure time was 6 s, and the observation interval was 10, or 30 s. The fish-eye lens of f/1.4 was used in the film-type observation. Observation lists for the CCD-type and the film-type are given in Table 3(a) and 3(b), respectively. Inquiries or requests for the all-sky data should be addressed to World Data Center C2 for Aurora in NIPR.

(2) *Meridian-scanning photometer*

Auroral emissions at the wavelengths of 557.7 nm (OI), 630.0 nm (OI) and 486.1 nm (Hβ) were observed by a meridian-scanning photometer installed in 1987. The interference filter for Hβ was tilted with 1 s period, measuring the Doppler effect of the auroral Hβ emission. The field of view of the photometer was 3° for 557.7 nm and 630.0 nm, and 5° for Hβ emissions. The scanning from the poleward to the equatorward horizon required 30 s. Observations were carried out during clear nights from April 4 until October 1 in 1994. Calibration using a standard light source was executed at every observation night. The meridian-scanning photometer data were recorded with a digital data logger (TEAC DR-200) at a sampling frequency of 10-25 Hz through a line-approximate logarithmic amplifier, and monitored with a pen-recorder (6 ch RECTI-GRAPH). Due to a trouble in the instrument, both scanning and tilting angle data were not recorded.

Observation log for the above mentioned auroral observation, including other specific observations (fixed-direction multi-channel photometer, all-sky SIT-TV camera, and Fabry-Perot Doppler Imaging Sysem), is shown in Table 4.

4. Compiled Digital Tape Format

Data have been digitally recorded continuously since 1981. A similar recording system has been used in Iceland for the geomagnetic conjugate observations. The specifications of the compiled digital tapes are as follows:

Tracks	: 9
Record density	: 6250 BPI
Record format	: FB
Block length	: 28848 bytes
Logical record length	: 48 bytes
Label	: Non-label
Filing	: Multi-file (1 file/day)

24 kinds of upper atmospheric data are recorded every 1 s in the following sequence:

Word No.	Observation item	Word No.	Observation item
1	H-component of magn. field	13	VLF 8 kHz
2	D-component of magn. field	14	VLF 30 kHz
3	Z-component of magn. field	15	VLF 60 kHz
4	H-component of ULF waves	16	VLF 95 kHz
5	D-component of ULF waves	17	NA
6	Z-component of ULF waves	18	NA
7	CNA (30 MHz)	19	NA
8	VLF 350 Hz	20	NA
9	VLF 750 Hz	21	NA
10	VLF 1.2 kHz	22	NA
11	VLF 2 kHz	23	NA
12	VLF 4 kHz	24	NA

Words 17-24 are dummy words. Each word, 12 bit A/D converted value, is recorded in the 2 byte binary form of signed 2's complement. A set of these 24 words makes a logical record of 48 bytes; the 10-min data make a block of 28848 bytes. A file contains one day of data (144 blocks) and a volume contains one month of data (28-31 files), as shown in Fig. 3. At the beginning of each block, the starting time of the observation period is written in the following format (48 bytes):

Sequence	Item	
1	Year	(2 bytes)
2	Total day	(2 bytes)
3	Hour	(2 bytes)
4	Minute	(2 bytes)
5	Station code	(4 bytes)
6	Space	(36 bytes)

The magnetic field data recorded on a compiled tape can be transformed to physical quantities by the following relations:

H-component of the geomagnetic field variation (nT)	= DATA*2500/2048 – 1250
D- and Z-component of the geomagnetic field variation (nT)	= DATA*2500/2048
H-component of ULF waves (nT/s)	= DATA/141
D-component of ULF waves (nT/s)	= DATA/158
Z-component of ULF waves (nT/s)	= DATA/316

For CNA and VLF data, individual calibration values are required to obtain physical values from the recorded data. Inquiries on these calibration values should be addressed to the Upper Atmosphere Physics Research Division of NIPR. For more detailed information on the compiled data, see Uchida *et al.* (1988). These compiled data are also recorded on an Optical Disk (OD) at the sampling rate of 0.5 Hz together with the data from three Icelandic stations for conjugate studies. One volume of the OD can store the data obtained at the four stations during one year. Softwares to handle the OD data are also available to researchers. Details of the OD conjugate data base are described in Yamagishi (1990).

A computer system of the Information Science Center is available to collaborative researchers of NIPR. The center has also been providing various kinds of software such as tape-to-tape copy, displays and spectrum analysis program to the researchers.

Acknowledgments

We would like to acknowledge all the members of the 35th Japanese Antarctic Research Expedition (JARE-35) for their support to the upper atmosphere physics observations at Syowa Station. The publication of this report was supported by the Upper Atmosphere Physics Research Division, WDC-C2 for Aurora and the Information Science Center of the National Institute of Polar Research.

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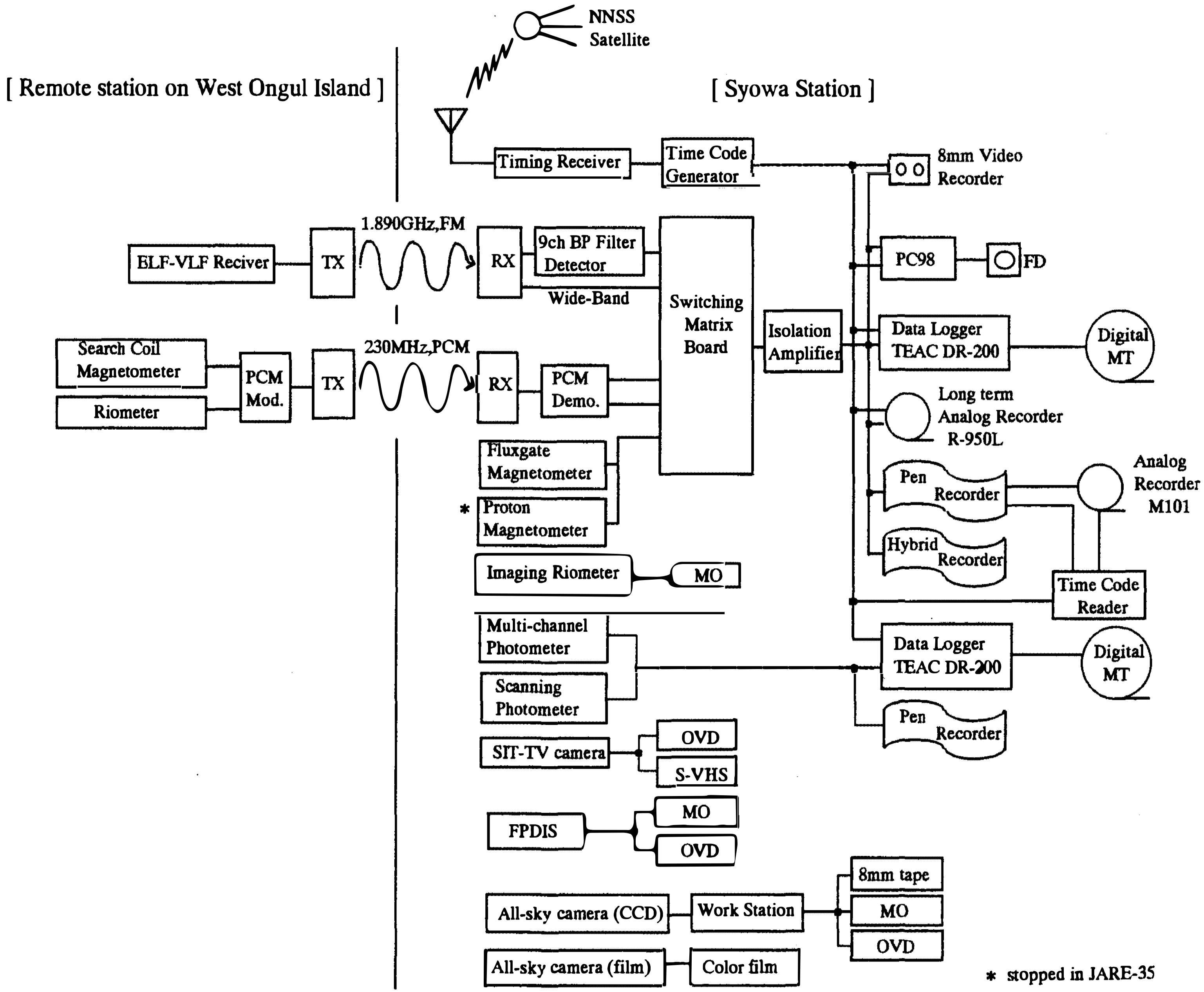


Fig. 1. Block diagram of the "Upper Atmosphere Physics" monitoring system at Syowa Station in 1994.

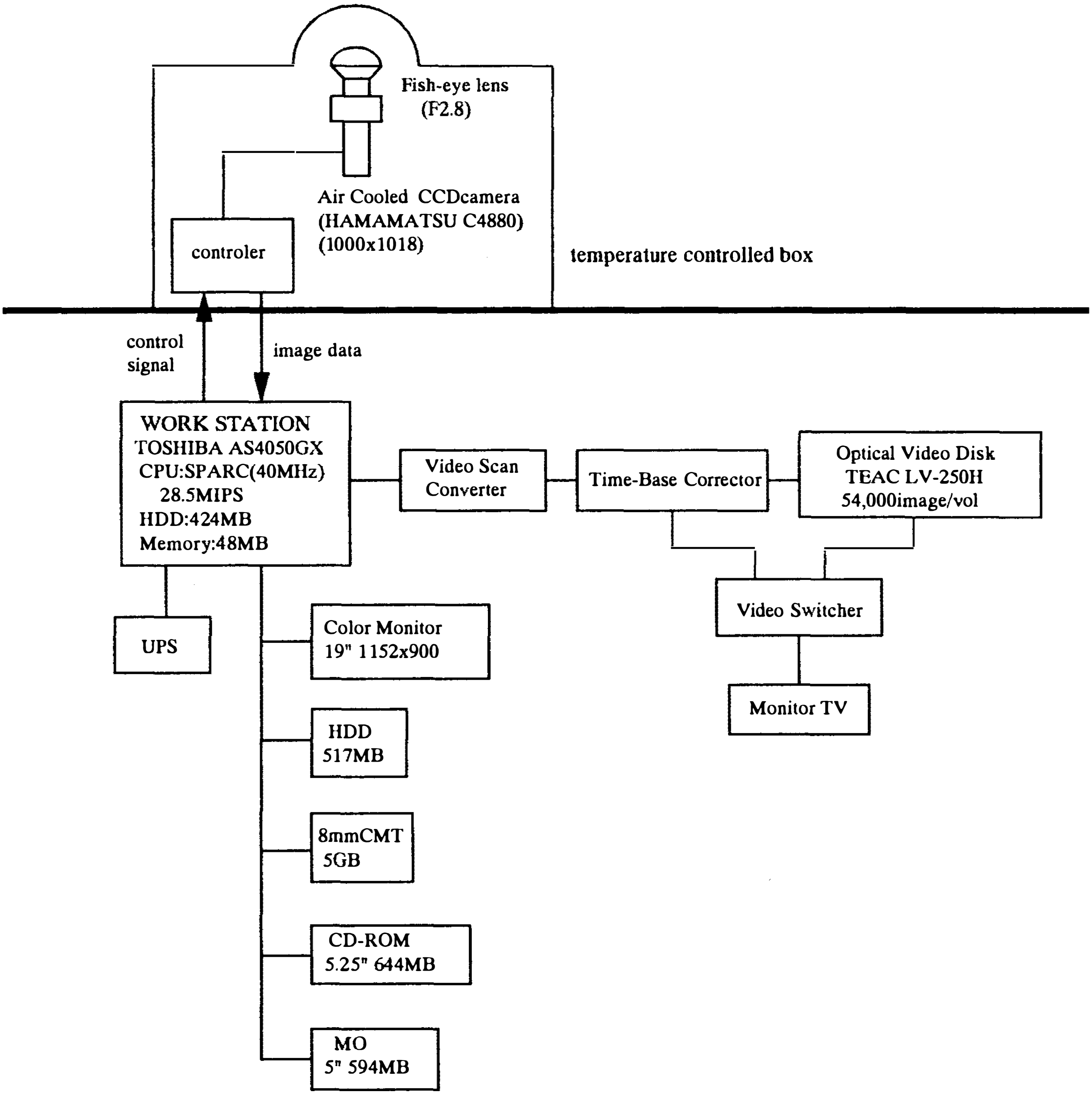


Fig. 2. Block diagram of the CCD All-Sky camera observation system at Syowa Station in 1994.

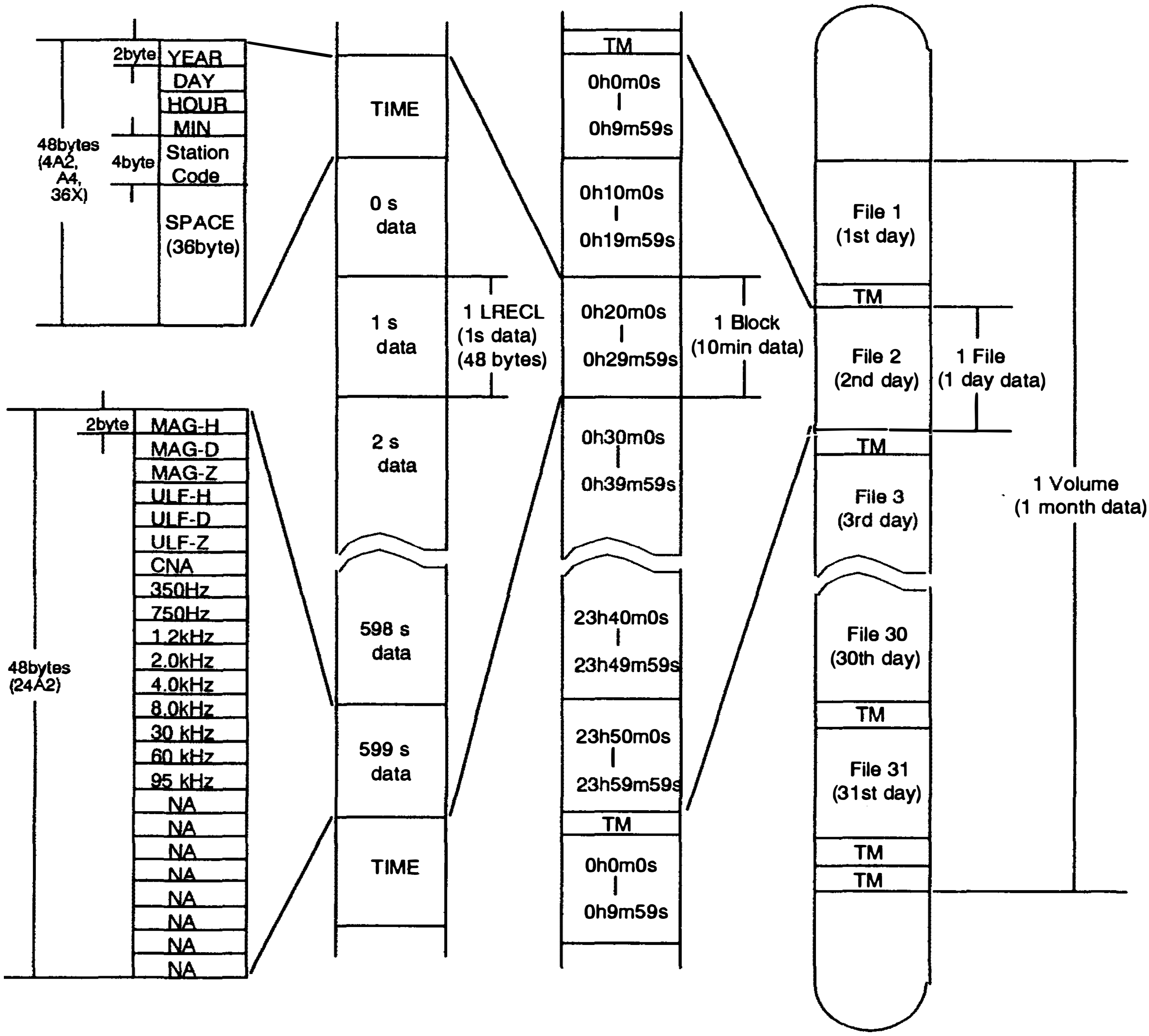


Fig. 3. The structure of the compiled digital tape format for Syowa Station in 1994.

Table 1. Baseline values of the geomagnetic field at Syowa Station in February 1994–January 1995.

DATA	TIME (UT)	TOTAL INT. (nT)	HORI- ZONAL INT. (nT)	VERTICAL INT. (nT)	DECLINATION	DIP ANGLE
FEB. 26 1994	12h 06m	43723.7	19096.2	-39333.2	-47° 40.3′	-64° 6.2′
	12h 21m	43731.0	19101.1	-39338.9	-47° 41.0′	-64° 6.1′
	12h 41m	43719.6	19095.5	-39328.9	-47° 40.7′	-64° 6.1′
	12h 52m	43708.1	19081.6	-39322.9	-47° 40.8′	-64° 6.9′
	12h 30m	43720.6	19093.6	-39331.0	-47° 40.7′	-64° 6.3′
MAR. 27	12h 00m	43717.1	19095.7	-39326.0	-47° 37.3′	-64° 6.0′
	12h 19m	43718.5	19094.4	-39328.3	-47° 38.5′	-64° 6.2′
	12h 51m	43728.2	19100.0	-39336.3	-47° 37.2′	-64° 6.0′
	13h 15m	43719.7	19090.9	-39331.3	-47° 38.3′	-64° 6.5′
	12h 36m	43720.9	19095.2	-39330.5	-47° 37.8′	-64° 6.2′
APR. 23	10h 58m	43721.3	19115.6	-39321.1	-47° 43.6′	-64° 4.4′
	11h 09m	43715.6	19114.8	-39315.1	-47° 44.3′	-64° 4.3′
	11h 23m	43713.2	19105.7	-39316.8	-47° 42.8′	-64° 5.0′
	11h 32m	43717.2	19108.9	-39319.7	-47° 42.9′	-64° 4.8′
	11h 16m	43716.8	19111.2	-39318.2	-47° 43.4′	-64° 4.6′
MAY. 21	11h 03m	43709.0	19106.9	-39311.7	-47° 43.4′	-64° 4.7′
	11h 19m	43710.3	19102.8	-39315.0	-47° 43.5′	-64° 5.1′
	11h 37m	43706.8	19102.2	-39311.4	-47° 42.7′	-64° 5.0′
	11h 45m	43707.0	19100.2	-39312.6	-47° 42.2′	-64° 5.2′
	11h 26m	43708.3	19103.0	-39312.7	-47° 43.0′	-64° 5.0′
JUN. 25	11h 10m	43695.4	19115.6	-39292.2	-47° 44.0′	-64° 3.4′
	11h 20m	43696.8	19114.6	-39294.4	-47° 43.9′	-64° 3.6′
	11h 41m	43697.4	19114.2	-39295.1	-47° 43.9′	-64° 3.6′
	11h 50m	43696.2	19114.5	-39293.6	-47° 43.8′	-64° 3.6′
	11h 30m	43696.4	19114.7	-39293.8	-47° 43.9′	-64° 3.5′
JUL. 27	10h 50m	43712.2	19127.2	-39305.4	-47° 41.5′	-64° 3.1′
	11h 02m	43709.5	19119.1	-39306.2	-47° 40.4′	-64° 3.7′
	11h 21m	43694.4	19111.6	-39293.1	-47° 40.8′	-64° 3.7′
	11h 34m	43702.7	19115.0	-39300.7	-47° 41.8′	-64° 3.8′
	11h 12m	43704.7	19118.2	-39301.4	-47° 41.1′	-64° 3.6′

DATA	TIME (UT)	TOTAL INT. (nT)	HORI-ZONAL INT. (nT)	VERTICAL INT. (nT)	DECLINATION	DIP ANGLE
AUG. 27	10h 51m	43683.2	19108.5	-39282.2	-47° 42.7′	-64° 3.6′
	11h 02m	43691.4	19117.2	-39287.1	-47° 42.6′	-64° 3.1′
	11h 17m	43691.1	19116.0	-39287.3	-47° 42.7′	-64° 3.2′
	11h 29 m	43692.8	19116.4	-39288.9	-47° 42.0′	-64° 3.3′
	11h 09m	43689.6	19114.5	-39286.4	-47° 42.5′	-64° 3.3′
SEP. 29	12h 30m	43689.6	19109.1	-39289.0	-47° 40.8′	-64° 3.8′
	12h 38m	43688.5	19108.0	-39288.3	-47° 41.0′	-64° 3.8′
	12h 56m	43699.0	19115.2	-39296.4	-47° 41.5′	-64° 3.6′
	13h 11m	43709.7	19121.0	-39305.5	-47° 42.1′	-64° 3.5′
	12h 49m	43696.7	19113.3	-39294.8	-47° 41.4′	-64° 3.7′
OCT. 28	10h 56m	43662.2	19102.1	-39262.0	-47° 43.3′	-64° 3.3′
	11h 05m	43665.0	19102.4	-39264.8	-47° 43.6′	-64° 3.4′
	11h 21m	43665.7	19104.4	-39264.5	-47° 43.2′	-64° 3.3′
	11h 30m	43671.8	19107.4	-39270.0	-47° 43.0′	-64° 3.2′
	11h 13m	43666.1	19104.1	-39265.3	-47° 43.3′	-64° 3.3′
NOV. 24	11h 01m	43639.6	19084.0	-39245.6	-47° 44.6′	-64° 4.1′
	11h 11m	46464.0	19086.5	-39251.5	-47° 45.4′	-64° 4.1′
	11h 27m	43648.1	19090.6	-39251.8	-47° 45.0′	-64° 3.8′
	11h 37m	43648.6	19089.1	-39253.1	-47° 44.6′	-64° 4.0′
	11h 19m	43645.6	19087.5	-39250.5	-47° 44.9′	-64° 4.0′
DEC. 21	09h 18m	43642.8	19108.7	-39237.1	-47° 45.4′	-64° 2.0′
	09h 29m	43636.0	19096.0	-39235.8	-47° 44.9′	-64° 2.9′
	09h 45m	43637.6	19097.8	-39236.6	-47° 44.6′	-64° 2.8′
	09h 55m	43638.4	19096.2	-39238.3	-47° 43.3′	-64° 2.9′
	09h 37m	43638.7	19099.7	-39236.9	-47° 44.6′	-64° 2.7′
JAN. 20 1995	10h 49m	43644.5	19099.8	-39243.4	-47° 43.9′	-64° 2.9′
	10h 59m	43647.8	19101.2	-39246.4	-47° 44.0′	-64° 2.9′
	11h 14m	43649.5	19103.7	-39247.0	-47° 43.7′	-64° 2.7′
	11h 22m	43650.0	19105.3	-39246.8	-47° 44.7′	-64° 2.6′
	11h 06m	43648.0	19102.5	-39245.9	-47° 44.1′	-64° 2.8′

Table 2. K-indices at Syowa Station in February 1994–January 1995.

	1994 FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	1995 JANUARY
1	2222 1110	3232 1225	0221 1223	0232 4577	6654 4267	6544 3259	4411 1034	5511 1145	4111 0012	4523 3434	3432 3324	2222 1223
2	1233 3330	6322 2235	5454 5576	5754 3366	5445 4356	4654 3356	4100 0003	5520 1113	2111 1446	6333 3345	4433 4445	2333 2555
3	1222 2333	5554 2122	7664 5577	7654 4566	5643 3355	5433 3226	3100 0012	3310 0004	6665 5565	3422 4334	5332 2233	6543 3445
4	3331 24*4	1121 1111	8754 4366	5644 3346	5544 3345	4422 2244	1000 0001	4001 0000	6443 3447	4633 2454	4222 1232	4442 3345
5	5334 4456	1112 1135	6654 4457	6654 4476	4553 4466	3210 0102	1101 0002	2323 2123	5544 4466	6523 3345	2221 3323	5333 3455
6	5535 5457	4542 1145	6545 5566	6764 3357	5343 3344	4221 1113	2311 0214	2533 3344	6443 4346	6764 4443	3363 3555	3323 3366
7	5754 5556	5554 4666	6655 4457	7655 4365	5444 3335	4643 3234	1000 0003	5553 4476	5543 4675	3221 1333	4432 3333	3322 3234
8	7664 3577	6664 4567	6664 4466	7655 3476	5422 2124	2200 2110	2000 0000	5653 3344	4533 2245	3211 1124	6323 3343	4421 2222
9	6543 3657	7654 4577	7664 4557	4644 4456	4333 1204	0000 0100	1210 0033	5553 4466	5521 1345	3221 4445	4222 1334	3331 1123
10	5544 4556	5553 4366	7644 4477	5664 4466	4423 3234	0010 0000	4421 3454	5453 3235	5432 2255	4642 2334	5422 2334	1221 2244
11	4643 4465	4454 4467	7664 4477	6553 3457	5444 3245	2100 0000	4432 2213	6643 2234	5642 3464	3332 2224	3221 2444	4423 4333
12	5543 4445	5553 5366	5653 4366	6542 2314	5454 4435	3100 0000	5533 3355	4012 2334	4432 1234	3221 1222	4432 3336	4111 1233
13	5443 3476	6643 3237	5653 3456	4431 1125	5322 3445	0120 0002	5552 2446	2421 1126	2322 2225	2222 2222	5432 3323	2422 2222
14	5453 4447	6644 3466	7544 3446	4753 3234	5433 3343	1222 3346	4543 2345	5211 2111	4411 1325	3321 2255	3222 1134	2211 1232
15	6633 3356	6754 4666	5533 2336	3455 5336	4222 1103	6533 2135	5333 3335	4111 1125	6622 2123	2321 2234	4432 5546	3111 1122
16	6642 3334	5543 3446	5643 2365	6554 4456	4000 0000	7545 3357	4312 2135	5521 1133	4321 1112	4220 1321	4433 4322	3322 3443
17	4332 2334	6654 3446	8887 3225	6554 3313	1213 3323	5544 3245	3331 1212	4321 1114	3111 0013	2521 1133	4221 3333	5554 2476
18	1222 1003	6643 3216	5443 4444	6553 4225	4443 2104	5523 3223	2221 3213	4210 1004	2111 0135	2221 2332	3221 2333	5542 2224
19	4443 3344	7542 3235	7443 2223	3543 3212	3234 3235	5452 3125	4110 0101	5110 0122	1111 1144	5663 3553	3332 1113	3421 2221
20	6632 2233	5421 1245	3432 2212	3412 0202	4442 3335	2111 1101	3421 1124	4211 0012	4221 1224	5443 4333	4422 3334	1211 *233
21	4436 6767	3543 3455	3321 1134	1011 1112	3334 3225	4222 2224	4300 1213	4101 1115	3211 0011	3322 2213	3221 2232	3421 1234
22	7755 4325	6423 4234	4211 1114	2111 1124	4431 2111	4431 2011	4100 0014	4411 0022	1112 4447	3321 1233	3311 3111	3222 2233
23	4422 2234	6542 3333	2211 3335	1211 0134	1100 0012	2211 1133	4511 0001	3300 0103	6654 4454	2211 1123	4322 1235	3421 1122
24	2111 2111	4423 3234	3331 0203	5653 3234	2311 0000	3213 0013	1110 0202	4411 0001	6643 3445	1220 1332	5444 4545	2212 1212
25	2333 2233	5122 2565	4421 0103	5643 2225	0010 0002	6422 2125	2433 3321	3210 1155	4442 1132	2221 1122	5432 3334	3211 1222
26	4311 1110	4323 1322	2111 1100	3454 2113	4653 3445	1220 1000	2220 0002	5553 2214	3321 1233	1335 4432	4422 3345	2111 1213
27	1212 2211	3311 1235	0311 0112	4211 1122	6553 3355	5721 1145	5331 1134	5533 2335	2111 1112	4445 4444	4422 3244	2212 2211
28	2122 1125	2331 1434	3100 0000	1002 4565	4322 1347	6632 3245	3532 0011	5633 1123	2111 1135	3333 3332	4222 2324	2211 1123
29		3321 0111	0221 0004	7765 4446	6643 2356	5542 2245	1121 0104	4320 1124	4334 6532	1222 2324	5332 3322	3532 4447
30		2112 3353	0210 0000	6665 4457	4553 3446	5421 1235	2100 0013	3110 1004	3644 4476	4433 3335	3332 3322	5553 3555
31		4412 1100		5654 4367		5312 2116	2100 0116		5554 4454		1111 1223	6542 3465

Table 3a. Observation list of the CCD-type all-sky camera at Syowa Station in 1994.

8m/m tape	OVD			Start			End					Δt	texp
ID	ID	start	end	date	day	time	date	day	time	Duration	Loss	(sec)	(sec)
19940221	939901	17603	18259	94/02/21	52	20:54:00	94/02/21	52	23:00:00	2:06:00		10	2.5
19940221	939901	18332	19411	94/02/25	56	20:00:00	94/02/25	56	22:59:50	2:59:50		10	2.5
19940221	939901	19460	19840	94/03/08	65	20:00:00	94/03/06	85	22:04:15	2:04:15		15	7.5
19940221	939901	19871	20866	94/03/07	68	18:34:00	94/03/07	86	23:29:45	4:55:45		10	3.0
19940221	939901	20887	21381	94/03/08	67	20:40:00	94/03/08	67	22:43:30	2:03:30		15	8.0
19940221	939901	21362	21834	94/03/09	68	20:00:00	94/03/09	68	21:58:00	1:58:00		15	8.0
19940221	939901	22192	22511	94/03/11	70	22:40:00	94/03/11	70	23:59:45	1:19:45		15	8.0
19940317	939901	22766	24564	94/03/17	76	18:30:00	94/03/18	77	0:29:48	5:59:48		12	5.0
19940317	939901	24565	26364	94/03/21	80	18:30:00	94/03/22	81	0:29:48	5:59:48		12	5.0
19940322	940321	10	2109	94/03/22	81	18:00:00	94/03/23	82	0:59:48	6:59:48		12	5.0
19940322	940321	2110		94/03/29	88	20:14:00	94/03/30	89	0:59:48	4:45:48		12	5.0
19940404	940321	2110	5169	94/04/04	94	17:00:00	94/04/05	95	1:30:00	8:30:00		10	3.0
19940405	940321	5170	7869	94/04/05	95	17:00:00	94/04/06	96	1:59:48	8:59:48		12	5.0
19940413	940321	7870	9269	94/04/13	103	18:02:00	94/04/14	104	1:59:00	7:57:00		12	5.0
19940413	940321	9270	12219	94/04/18	108	16:30:00	94/04/19	109	2:19:48	9:49:48		12	5.0
19940419	940321	12291	12434	94/04/19	109	19:35:00	94/04/19	109	20:11:00	0:36:00		15	7.5
19940420	940321	12435	14385	94/04/20	110	16:00:00	94/04/21	111	0:07:40	8:07:40		15	8.0
19940421	940321	14386	14724	94/04/21	111	17:14:00	94/04/21	111	19:13:10	1:59:10		10	3.0
19940421	940321	14725	16044	94/04/21	111	19:30:00	94/04/22	112	1:12:00	5:42:00		15	7.5
19940422	940321	16045	16996	94/04/22	112	19:00:00	94/04/22	112	22:58:00	3:58:00		15	7.5
19940422	940321	16997	17475	94/04/25	115	17:38:00	94/04/26	116	2:15:45	8:37:45		10	2.5
19940426	940321	17476	17480	94/04/28	118	21:40:00	94/04/27	117	2:07:50	4:27:50		15	2.5
19940426	940321	17481	19619	94/05/01	121	15:18:00	94/05/02	122	2:59:45	11:41:45		15	7.5
19940503	940321	19620	20254	94/05/03	123	18:45:00	94/05/03	123	20:51:48	2:06:48		12	5.0
19940503	940321	20255	23326	94/05/06	126	14:42:00	94/05/07	127	3:29:45	12:47:45		15	7.5
19940507	940321	23327	26508	94/05/07	127	14:45:00	94/05/08	128	3:59:45	13:14:45		15	7.5
19940508	940508	11	3835	94/05/08	128	14:45:00	94/05/09	129	1:22:30	10:37:30		10	3.0
19940509	940508	3836	4565	94/05/09	129	14:45:00	94/05/09	129	17:11:04	2:26:04		12	5.0
19940509	940508	4566	6448	94/05/11	131	18:20:00	94/05/12	132	0:36:00	6:16:00		12	5.0
19940513	940508	6449	7812	94/05/13	133	15:00:00	94/05/13	133	20:58:45	5:58:45		15	8.0
19940513	940508	7813	11070	94/05/18	138	14:15:00	94/05/19	139	4:14:45	13:59:45		15	8.0
19940519	940508	11071	12855	94/05/19	139	14:15:00	94/05/19	139	22:09:00	7:54:00		15	8.0
19940520	940508	12856	12871	94/05/20	140	17:30:00	94/05/20	140	17:33:45	0:03:45		15	8.0
19940520	940508	12872	12995	94/05/24	144	23:52:00	94/05/25	145	0:14:45	0:22:45		15	1.0
19940525	940508	12996	15245	94/05/25	145	20:30:00	94/05/26	148	3:59:48	7:29:48		12	5.0
19940526	940508	15246	18995	94/05/26	146	16:00:00	94/05/27	147	4:29:48	12:29:48		12	5.0
19940520	940508	18996	20795	94/05/27	147	18:30:00	94/05/27	147	23:29:50	4:59:50		10	3.0
19940528	940508	20796	24825	94/05/28	148	15:44:00	94/05/29	149	4:29:00	12:45:00		12	5.0
19940529	940529	11	4051	94/05/29	149	13:30:00	94/05/30	150	4:11:00	14:41:00		12	5.0
19940530	940529	4052	7835	94/05/30	150	13:30:00	94/05/31	151	2:06:00	12:36:00		12	5.0
19940531	940529	7836	9388	94/05/31	151	17:00:00	94/05/31	151	21:10:00	4:10:00		12	5.0
19940601	940529	9389	13779	94/06/01	152	13:30:00	94/06/02	153	4:08:00	14:38:00		12	5.0
19940602	940529	13780	15768	94/06/02	153	13:30:00	94/06/03	154	0:55:00	11:25:00		15	8.0
19940603	940529	15769	19408	94/06/03	154	13:50:00	94/06/04	155	4:59:45	15:09:45		15	8.0
19940604	940529	19409	22693	94/06/04	155	13:50:00	94/08/05	158	4:07:00	14:17:00		15	8.0
19940605	940529	22694	23533	94/06/05	156	13:30:00	94/06/05	158	17:00:00	3:30:00		15	8.0
19940605	940529	23534	25201	94/06/06	157	14:15:00	94/06/06	157	23:45:00	9:30:00		15	8.0
19940608	940607	11	3571	94/06/08	159	13:30:00	94/06/09	160	4:59:45	15:29:45		15	8.0
19940609	940607	3572	7251	94/06/09	160	13:40:00	94/06/10	181	4:59:45	15:19:45		15	8.0
19940610	940607	7252	10891	94/06/10	181	13:40:00	94/06/11	162	4:00:00	14:20:00		15	8.0
19940611	940607	10692	14371	94/06/11	162	13:40:00	94/06/12	163	4:59:45	15:19:45		15	8.0
19940612	940607	14372	17847	94/06/12	163	13:40:00	94/06/13	184	4:09:00	14:29:00		15	8.0
19940613	940607	17848	18821	94/06/13	164	17:15:00	94/08/13	164	21:18:00	4:03:00		15	8.0
19940615	940607	18822	20455	94/06/15	168	16:30:00	94/06/16	167	4:59:45	12:29:45		15	8.0
19940616	940607	20456	23989	94/06/18	167	3:40:00	94/06/18	167	4:59:45	1:19:45		15	8.0
19940617	940617	11	1901	94/06/17	168	13:30:00	94/06/18	169	1:20:00	11:50:00		15	8.0
19940620	940617	1902	2164	94/06/20	171	19:21:00	94/06/20	171	20:26:00	1:05:00		15	7.0
19940620				94/06/23	174	13:30:00	94/06/23	174	2:08:00	12:38:00		15	7.0
19940624	940617	2165	5397	94/06/24	175	13:50:00	94/06/25	178	3:18:00	13:28:00		15	7.0
19940626	940817	5398	7452	94/06/26	177	14:02:00	94/06/26	177	22:35:00	8:33:00		15	7.0
19940628	940617	7453	9428	94/06/28	179	20:21:00	94/08/29	180	4:35:00	8:14:00		15	7.0
19940629	940617	9429	13084	94/06/29	180	13:49:00	94/06/30	181	4:50:00	15:01:00		15	8.0
19940630	940817	13085	16764	94/06/30	181	13:40:00	94/07/01	182	4:59:00	15:19:00			8.0
19940701	940617	16765	20435	94/07/01	182	13:40:00	94/07/02	183	4:58:00	15:18:00		15	8.0
19940702	940617	20436	21815	94/07/02	183	13:40:00	94/07/02	183	19:25:00	5:45:00		15	8.0
19940705	940617	21816	23483	94/07/05	186	13:40:00	94/07/05	186	22:08:00	8:28:00		15	8.0
19940710	940708	11	2930	94/07/10	191	15:05:00	94/07/11	192	3:15:00	12:10:00		15	8.0

8m/m tape	OVD			Start			End					△t	texp
ID	ID	start	end	date	day	time	date	day	time	Duration	Loss	(sec)	(sec)
19940711	940706	2931	6468	94/07/11	192	14:00:00	94/07/12	193	4:44:00	14:44:00		15	8.0
19940712	940706	6469	8593	94/07/12	193	14:00:00	94/07/12	193	22:51:00	8:51:00		15	8.0
19940713	940706	8596	12119	94/07/13	194	14:10:00	94/07/14	195	4:51:00	14:41:00		15	8.0
19940714	940706	12121	14824	94/07/14	195	14:10:00	94/07/15	196	2:01:00	11:51:00		15	8.0
19940715	940706	14825	17857	94/07/15	196	16:14:00	94/07/16	197	4:45:00	12:31:00		15	7.0
19940716	940706	17858	21887	94/07/16	197	15:19:00	94/07/17	198	4:30:00	13:11:00		12	5.0
19940726	940706	22020	24274	94/07/26	207	15:12:00	94/07/27	208	0:36:00	9:24:00		15	7.0
19940730	940730	11	3288	94/07/30	211	14:35:00	94/07/31	212	4:00:00	13:25:00		15	8.0
19940804	940730	3289	5996	94/08/04	216	16:40:00	94/08/05	217	3:56:00	11:16:00		15	8.0
19940805	940730	5997	9165	94/08/05	217	14:45:00	94/08/06	218	3:57:00	13:12:00		15	8.0
19940806	940730	9166	12302	94/08/06	218	14:45:00	94/08/07	219	3:49:00	13:04:00		15	8.0
19940807	940730	12400	14060	94/08/07	219	16:43:00	94/08/08	220	1:56:00	9:13:00		20	13.0
19940810	940730	14061	17158	94/08/10	222	14:50:00	94/08/11	223	3:44:00	12:54:00		15	8.0
19940811	940730	17159	17528	94/08/11	223	14:50:00	94/08/11	223	16:22:00	1:32:00		15	8.0
19940811	940730	17529	19081	94/08/12	224	14:52:00	94/08/12	224	21:20:00	6:28:00		15	8.0
19940813	940730	19082	21580	94/08/13	225	16:40:00	94/08/14	226	3:41:00	11:01:00	0:37:00	15	8.0
19940814	940730	21581	24248	94/08/14	226	16:10:00	94/08/15	227	3:15:00	11:05:00		15	8.0
19940815	940815	11	2095	94/08/15	227	16:15:00	94/08/16	228	0:55:00	8:40:00		15	8.0
19940822	940815	2955	5164	94/08/22	234	15:40:00	94/08/23	235	0:52:15	9:12:15		15	8.0
19940823	940815	5165	7572	94/08/23	235	15:40:00	94/08/24	236	1:42:00	10:02:00		15	8.0
19940824	940815	7573	10198	94/08/24	236	15:45:00	94/08/25	237	2:41:00	10:56:00		15	8.0
19940826	940815	10199	10788	94/08/26	238	15:50:00	94/08/27	239	0:28:00	8:38:00		20	13.0
19940827	940815	10791	11426	94/08/27	239	16:10:00	94/08/28	240	2:39:00	10:29:00		60	53.0
19940828	940815	11427	13347	94/08/28	240	16:00:00	94/08/29	241	2:35:00	10:35:00		20	13.0
19940829	940815	13348	14475	94/08/29	241	16:00:00	94/08/30	242	2:35:00	10:35:00	0:34:00	30	23.0
19940830	940815	14476	15714	94/08/30	242	16:15:00	94/08/31	243	2:29:30	10:14:30		30	23.0
19940831	940815	15719	16940	94/08/31	243	16:15:00	94/09/01	244	2:21:00	10:06:00		30	23.0
19940901	940815	16941	18146	94/09/01	244	16:19:00	94/09/02	245	2:17:00	9:58:00		30	23.0
19940902	940815	18147	19330	94/09/02	245	16:24:00	94/09/03	246	2:11:00	9:47:00		30	23.0
19940903	940815	19331	20498	94/09/03	246	16:28:00	94/09/04	247	2:07:00	9:39:00		30	23.0
19940904	940815	20499	21562	94/09/04	247	16:31:00	94/09/05	248	1:18:00	8:47:00		30	23.0
19940905	940815	21563	22569	94/09/05	248	16:36:00	94/09/06	249	0:54:00	8:18:00		30	23.0
19940907	940815	22570	23513	94/09/07	250	18:00:00	94/09/08	251	1:46:00	7:46:00		30	23.0
19940909	940815	23514	25110	94/09/09	252	16:54:00	94/09/10	253	1:41:00	8:47:00		20	13.0
19940910	940815	25111	26223	94/09/10	253	16:59:00	94/09/10	253	23:04:00	6:05:00		20	13.0
19940911	940911	11	1528	94/09/11	254	17:15:00	94/09/12	255	1:32:00	8:17:00		20	13.0
19940912	940911	1529	2702	94/09/12	255	17:10:00	94/09/13	256	1:26:00	8:16:00		20	13.0
19940913	940911	2703	4177	94/09/13	256	17:14:00	94/09/14	257	1:20:00	8:06:00		20	13.0
19940914	940911	4178	5639	94/09/14	257	17:18:00	94/09/15	258	1:15:00	7:57:00		20	13.0
19940915	940911	5640	7036	94/09/15	258	17:27:00	94/09/16	259	1:07:00	7:40:00		20	13.0
19940916	940911	7037	8425	94/09/16	259	17:24:00	94/09/17	260	1:02:00	7:38:00		20	13.0
19940917	940911	8426	9778	94/09/17	260	17:35:00	94/09/18	261	1:01:00	7:26:00		20	13.0
19940918	940911	9779	11062	94/09/18	261	17:42:00	94/09/19	262	0:45:00	8:03:00		20	13.0
19940921	940911	11063	12238	94/09/21	264	18:01:00	94/09/22	265	0:26:00	6:25:00		20	13.0
19940922	940911	12239	13374	94/09/22	265	18:16:00	94/09/23	266	0:29:00	6:13:00		20	13.0
19940924	940911	13375	14039	94/09/24	267	18:37:00	94/09/25	268	0:04:00	5:27:00		30	23.0
19940925	940911	14040	14747	94/09/25	268	18:15:00	94/09/26	269	0:04:00	5:49:00		30	23.0
19940926	940911	14748	15812	94/09/26	269	18:23:00	94/09/27	270	0:13:00	5:50:00		20	13.0
19940927	940911	15813	16827	94/09/27	270	18:24:00	94/09/27	270	23:57:00	5:33:00		20	13.0
19940928	940911	16828	17764	94/09/28	271	18:38:00	94/09/28	271	23:46:00	5:08:00		20	13.0
19940929	940911	17765	18655	94/09/29	272	18:54:00	94/09/29	272	23:46:00	4:52:00		20	13.0
19940930	940911	18656	19205	94/09/30	273	18:56:00	94/09/30	273	23:26:00	4:30:00		30	23.0
19941001	940911	19206	19753	94/10/01	274	19:00:00	94/10/01	274	23:29:00	4:29:00		30	23.0
19941003	940911	19754	20311	94/10/03	276	22:26:00	94/10/03	276	23:45:00	1:19:00		10	3.0
19941003	940911	20312	21973	94/10/04	277	19:00:00	94/10/04	277	23:31:00	4:31:00		10	3.0
19941006	940911	21974	22705	94/10/06	279	19:58:00	94/10/06	279	23:01:00	3:03:00		15	8.0
19941007	940911	22706	23516	94/10/07	280	19:28:00	94/10/07	280	22:50:00	3:22:00		15	8.0

Table 3b. Observation periods of a 35 mm film-type all-sky camera at Syowa Station in 1994.

Date	Hours (Universal Time)			K-Index	
	h m s	h m s	h m s		
FEB. 25		22 52 00	-23 20 06	2333	2233
MAR. 6		20 00 00	-22 00 06	4542	1145
9		20 00 00	-22 00 06	7654	4577
14		19 00 00	-19 23 06	6644	3466
17			18 30 00	6654	3446
18	-00 30 06			6643	3216
21			18 30 00	3543	3455
22	-00 23 06		18 00 00	6423	4234
23	-01 00 06			6542	3333
APR. 4			17 00 00	8754	4366
5	-01 30 06			6654	4457
14			21 47 00	7544	3446
15	-01 30 06	16 00 00	-18 55 06	5533	2336
17			16 00 00	8887	3225
18	-02 45 06		16 00 00	5443	4444
19	-02 50 06		18 40 00	7443	2223
20	-03 00 06	16 02 00	-16 50 06	3432	2212
20			22 42 00	3432	2212
21	-00 06 06		19 30 00	3321	1134
22	-01 12 06	19 00 00	-23 00 06	4211	1114
MAY 6		.	20 40 00	6764	3357
7	-03 30 06			7655	4365
JUL. 12		14 40 00	-22 32 06	3100	0000
13		14 35 00	-17 21 36	0120	0002
14			14 40 00	1222	3346
15	-02 26 06		16 20 00	6533	2135
16	-04 30 06			7545	3357

Table 4. Observation log of the auroral optical observation at Syowa Station in 1994.

Date	Observation Item				FPDIS		Break-up	ΣKp	Comments
YYYY/MM/DD	All-sky	SIT	Photometer	FPDIS	5577	6300		Pre/Next	
1994/ 2/21	○				–	–	–	44/37	
25	○							22/14	
3/ 6	○							18/43	
7	○							43/41	
8	○							41/43	
9	○							43/40	
11	○							37/36	
17	○							35/27	
21	○							31/26	
22	○			○	○			26/27	
29	○							11/22	
4/ 4	○	○	○	○	○	○		40/37	
5	○	○	○	○	○		○	37/40	
13	○	○						33/31	
14	△	○	△	△	○	○		31/26	All-Sky trouble
15	○	○	○	○	○	○		26/31	cloudy
17	○	○	○	○	○	○	○	44/29	
18	○	○	○	○		○	○	29/23	
19	○	○	○	○	○		○	23/16	
20	○	○	○	○	○			16/16	
21	○	○	○	○	○	○	○	16/15	
22	○							15/18	
5/ 1	○	○						32/27	
3	○	○						37/30	
6	○	○	○	○	○		○	34/36	
7	○	○	○	○	○	○	○	36/35	
8	○	○	○	○	○	○	○	35/31	
11	○→×	○→×	○→×	○	○			31/17	latter half cloudy
12		○		○	○	○		17/13	cloudy
13	○→×	○→×	○→×	○	○			13/26	cloudy
18	○	×→○	△	△	○	○		26/18	
19	○→×							18/12	All-Sky trouble
25	○							25/18	All-Sky test
26	○							18/ 9	
27	○							9/27	All-Sky test
28	○	○						27/37	
29	○	○						37/41	
30	○	○	○	○	○	○		41/32	
6/ 1	○→△	○→△	○→△	○→△	○	○	○	30/30	
2	○	○→×	○→×	○→×	○	○		30/29	
3	○	○	○	○	○	○	○	29/27	
4	○	○	○	○	○	○	○	27/28	
6	○→×	△→×						26/24	
8	○	○	○	○	○		○	17/16	
9	○	○	○	○	○	○		16/24	
10	○	○	○	○	○	○	○	24/23	
11	○	○	○	○	○	○	○	23/30	
12	○	○	○	○	○	○	○	30/22	
15	○→×					○		13/ 9	
16	○→△	○→△	○→△	○→△				9/15	
23	○							5/ 7	
26	○	○→×						31/22	
28	○	○						22/31	
29	○	○	○	○	○	○	○	31/27	

Date	Observation Item				FPDIS		Break-up	ΣKp	Comments
YYYY/MM/DD	All-sky	SIT	Photometer	FPDIS	5577	6300		Pre/Next	
1994/ 6/30	○	○	○	○→×	○	○	○	27/30	
7/ 1	○	○	○	○	○	○	○	30/31	
2	○→×	○→×	○→×	○→×	○	○		31/20	
10	○	○	○	○	○	○		8/ 8	
11	○	○	○	○	○	○		8/ 4	
12	○→×	○→×	○→×	○→×	○	○		4/ 8	
13	○	○	○	○	○	○		8/29	
14	○	△						29/26	
15	○	○	○	○	○	○	○	26/33	
26	○→×	○→×						8/18	
8/ 4	○	○	○	○				5/10	
5	○	○	○	○	○	○		10/ 8	
6	○	○	○	○	○	○		8/ 7	
7	○→×	○→×	○→×	○→×	○	○		7/ 3	
10	○	○	○	○				20/23	
12	○				○	○		26/31	
13	○	○	○	○				31/30	
14	○				○	○		30/22	
15	○→×							22/17	
22	○→×							16/11	
23	○	○→×						11/12	
24	○	○→×	○→×	○→×				12/18	
26	○	○	○	○	○	○		12/17	
27	○	○	○	○	○		○	17/12	
28	○	○	○	○		○		12/ 9	
29	○	○	○→×	○	○		○	9/ 7	
30	○	○	○	○		○	○	7/11	
31	○	△→○	×→△	×→△	○			11/19	
9/ 1	○	○	○	○		○		19/10	conjugate observation (- 9/18)
2	○→×	○→×		○	○			10/13	cloudy
3	○→△	○→△	○→×	○		○		13/ 9	cloudy
4	○→×	○→×	○→×	○	○			9/18	cloudy
5	△→×			○		○		18/22	cloudy
9	○	○	○	○	○	○	○	35/26	
11	○	○	○					24/20	
13	△							20/14	
14	△→○							14/15	
15	○							15/19	
16	△→○							19/18	
17	○							18/12	
18	○							12/12	
21	○							13/10	
22	○							10/ 8	
24	△							12/19	
25	○	○	○	○	○		○	19/26	
26	○	○	○	○		○		26/26	
27	○	○	○					26/21	
28	○	○	○					21/13	
29	○	○	○					13/ 9	
30	○	○	○					9/ 8	
10/ 1	○	○	○					8/18	
4	○	○						35/37	
6	○							36/38	
7	○							38/27	

Appendix

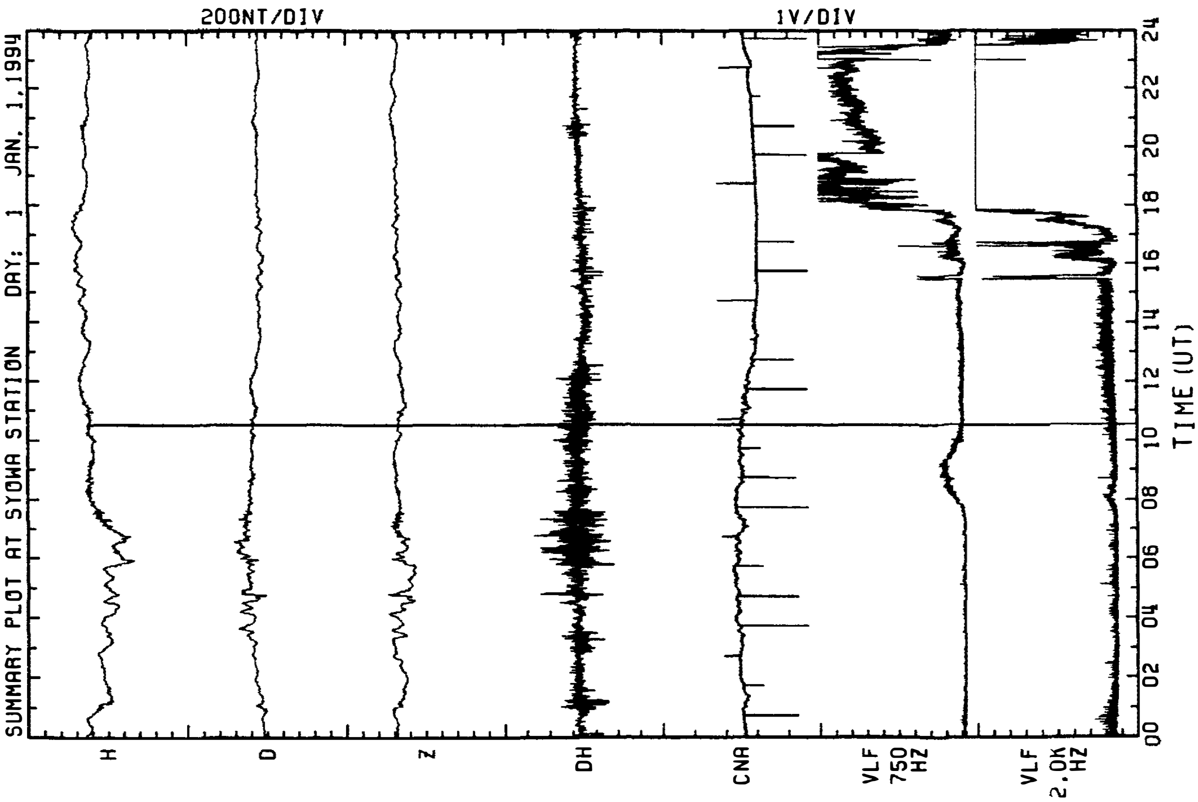
Summary plots of the Upper Atmosphere Physics Monitoring data in 1994

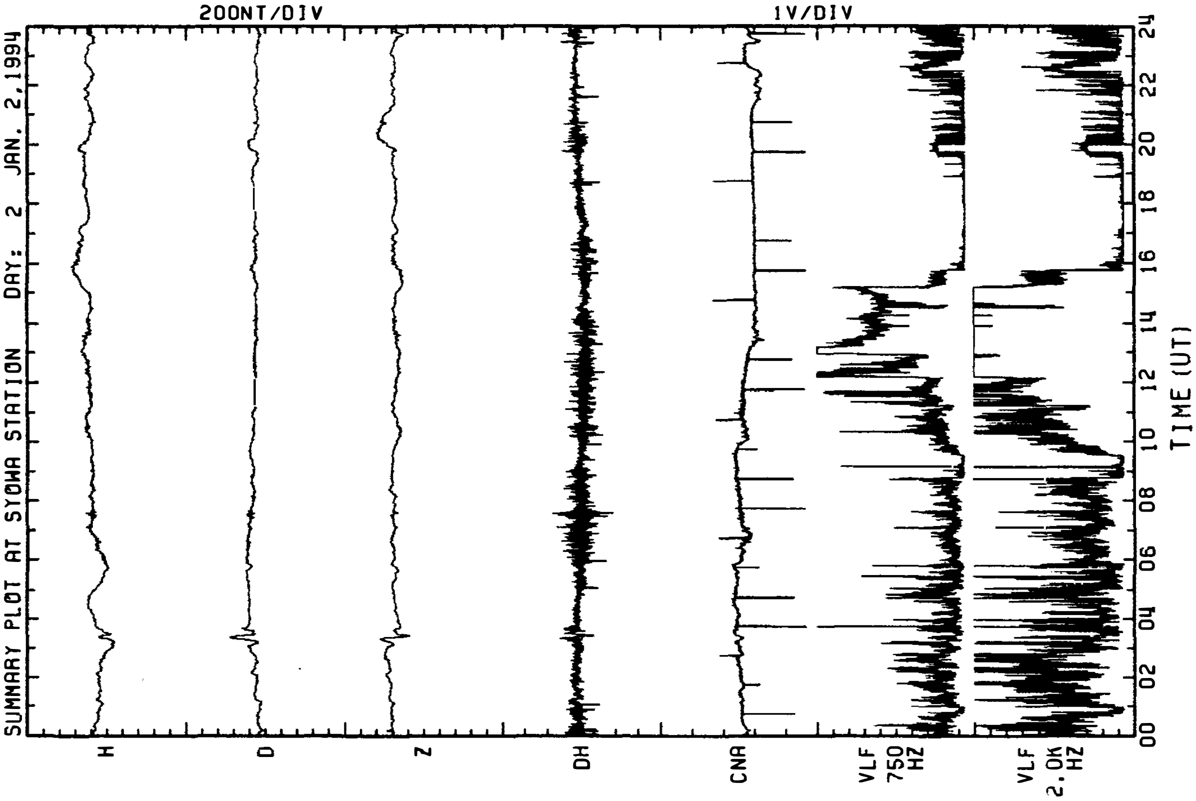
- Plotted data from top:

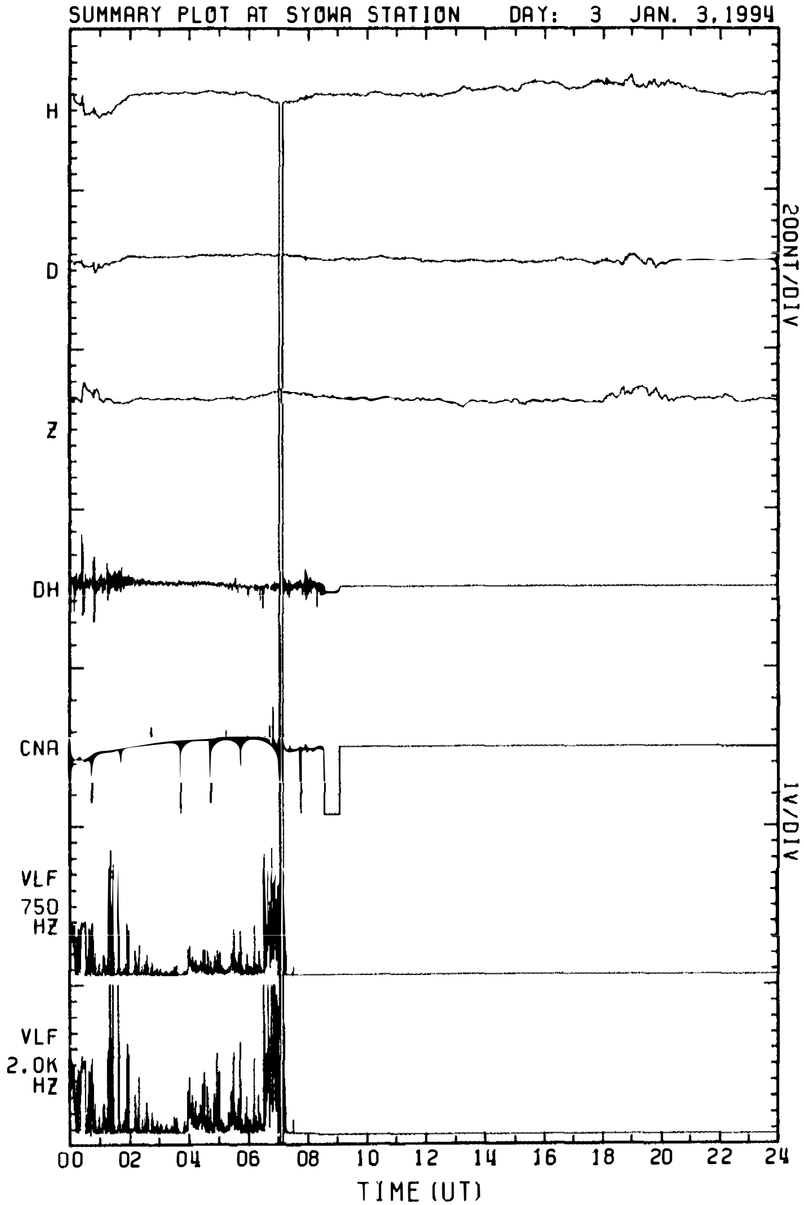
H	:	northward component of the magnetic variation
D	:	westward component of the magnetic variation
Z	:	downward component of the magnetic variation
DH	:	northward component of the ULF magnetic pulsation
CNA	:	output of the wide-beam 30 MHz riometer
VLF 750Hz	:	intensity of 750 Hz VLF wave
VLF 2.0 kHz	:	intensity of 2.0 kHz VLF wave

- Plotting vertical scale:

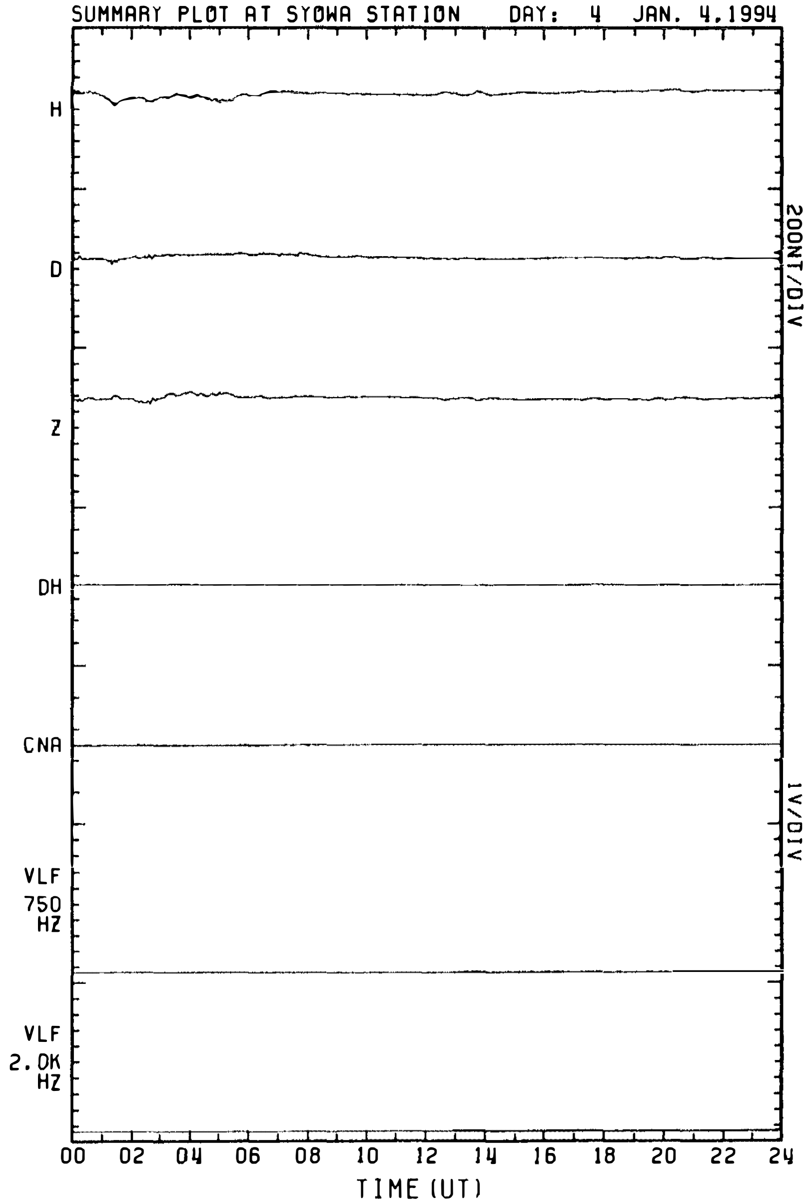
H, D, Z	:	200 nT/div
others	:	1.0 V/div


SUMMARY PLOT AT SYOWA STATION DAY: 1 JAN. 1,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

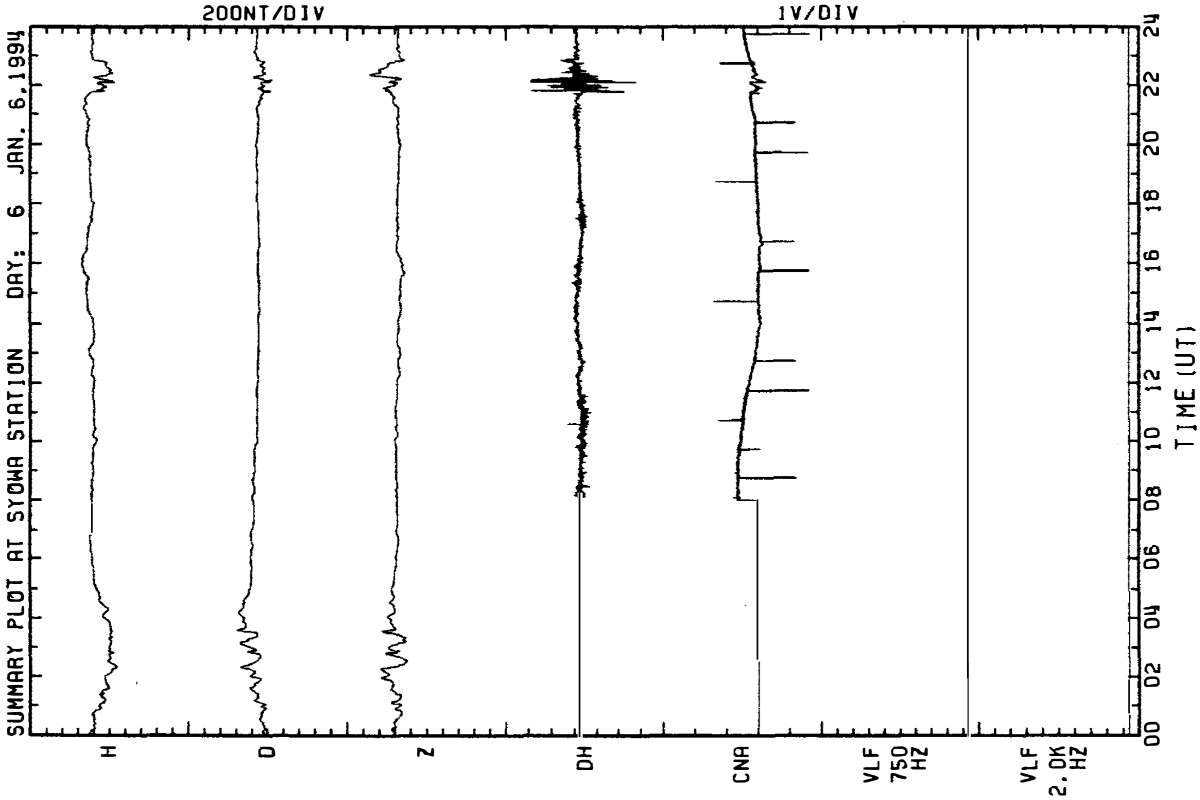

SUMMARY PLOT AT SYOWA STATION DAY: 2 JAN. 2,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

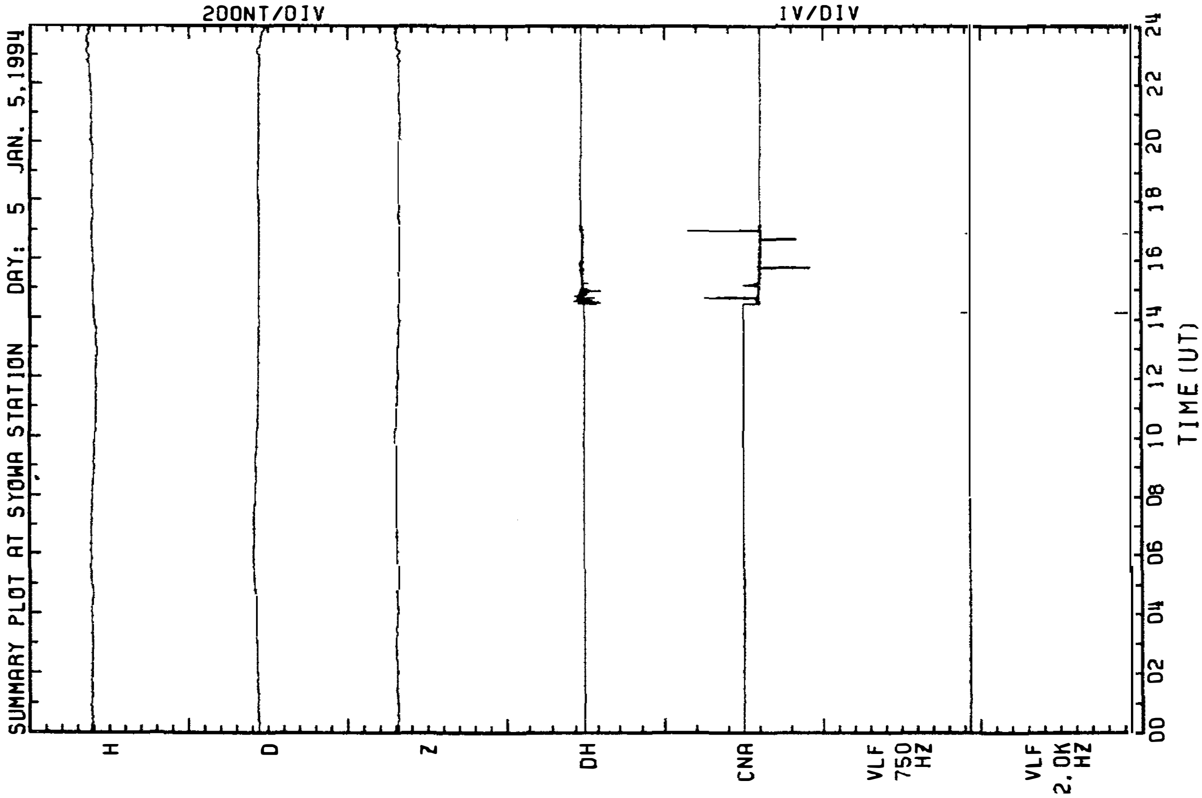


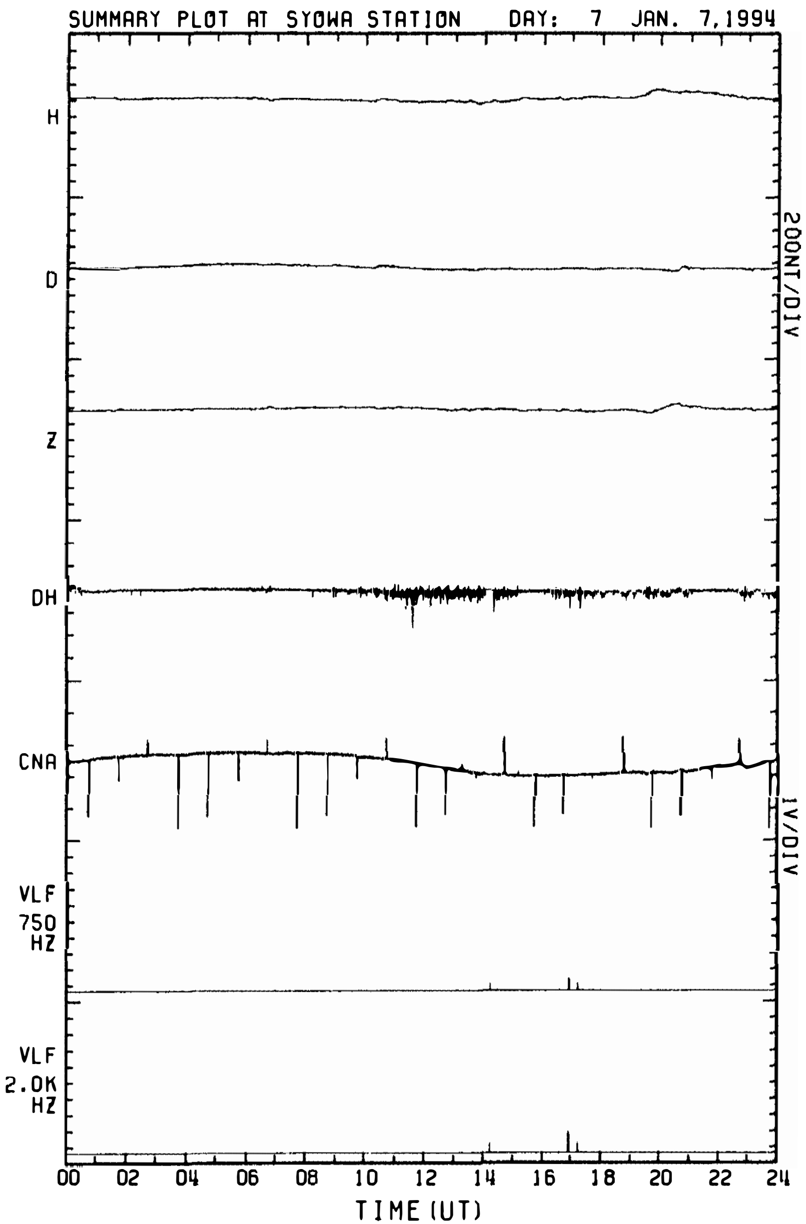
SUMMARY PLOT AT SYOWA STATION DAY: 3 JAN. 3,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

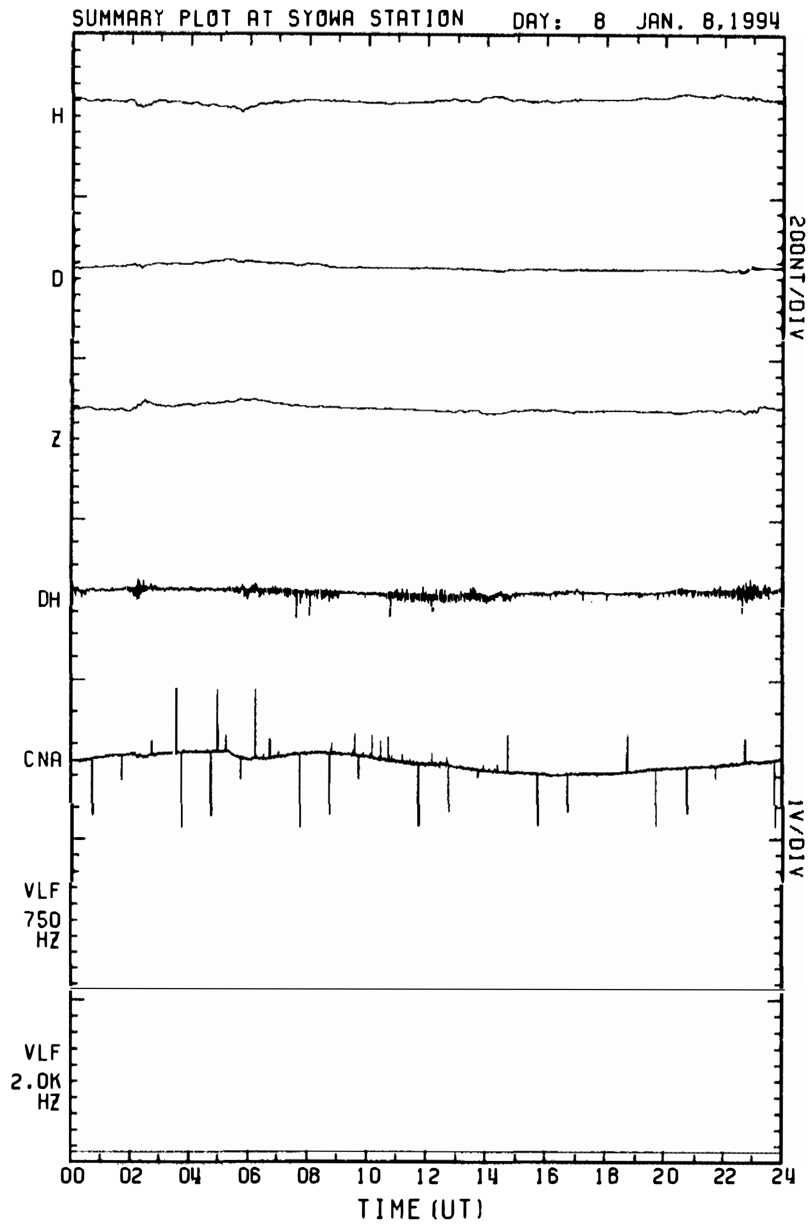


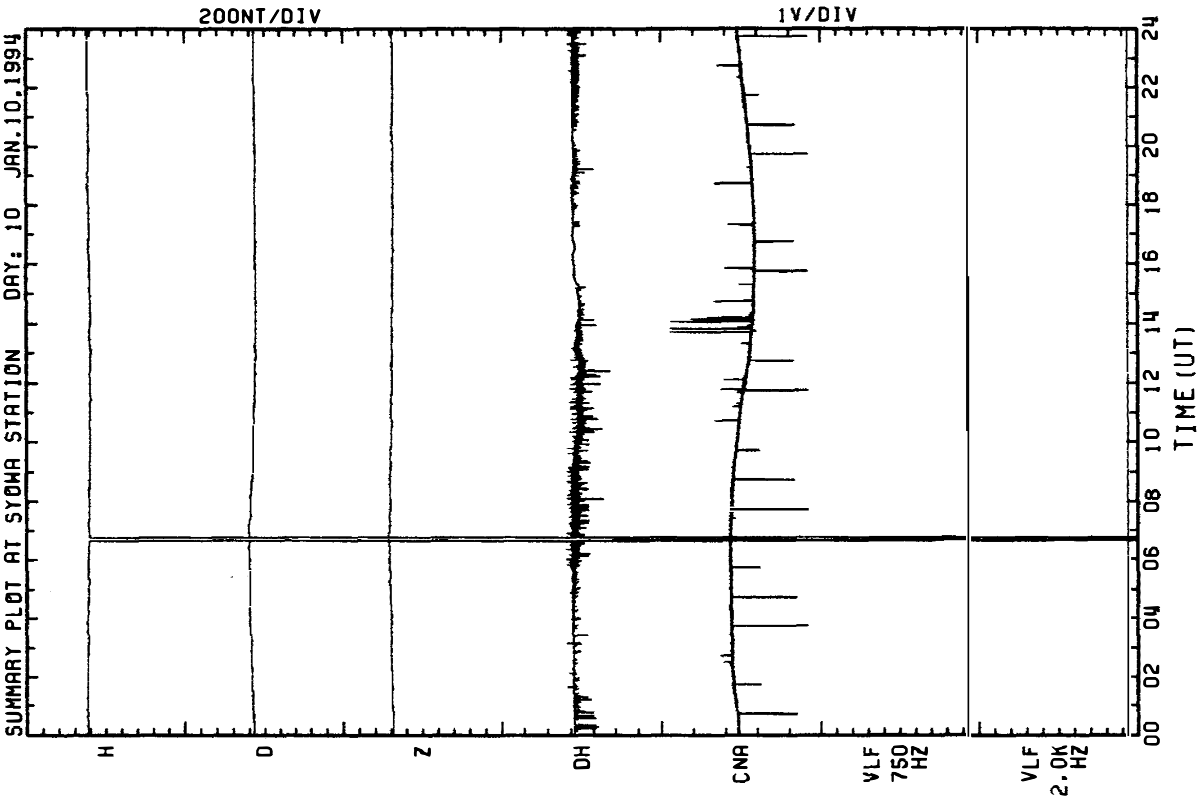
SUMMARY PLOT AT SYOWA STATION DAY: 4 JAN. 4,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

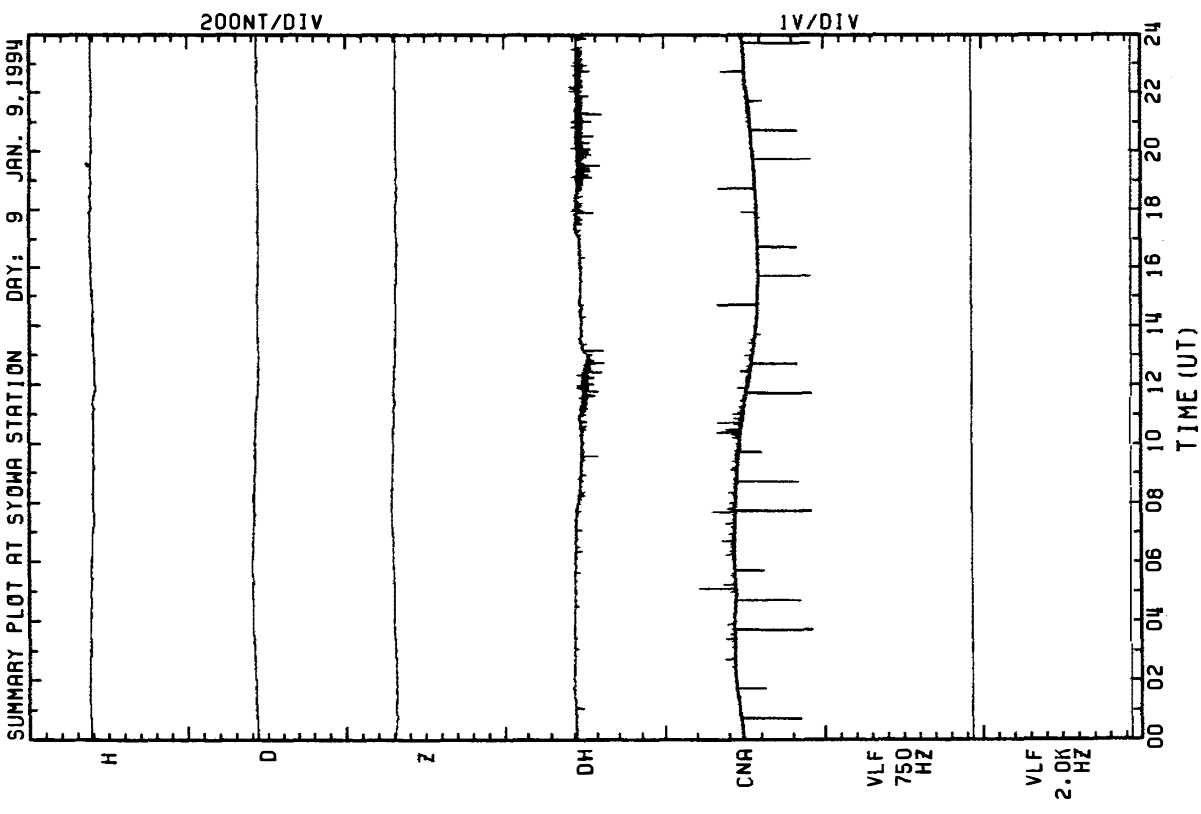

SUMMARY PLOT AT SYOWA STATION DAY: 6 JAN. 6,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 5 JAN. 5,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

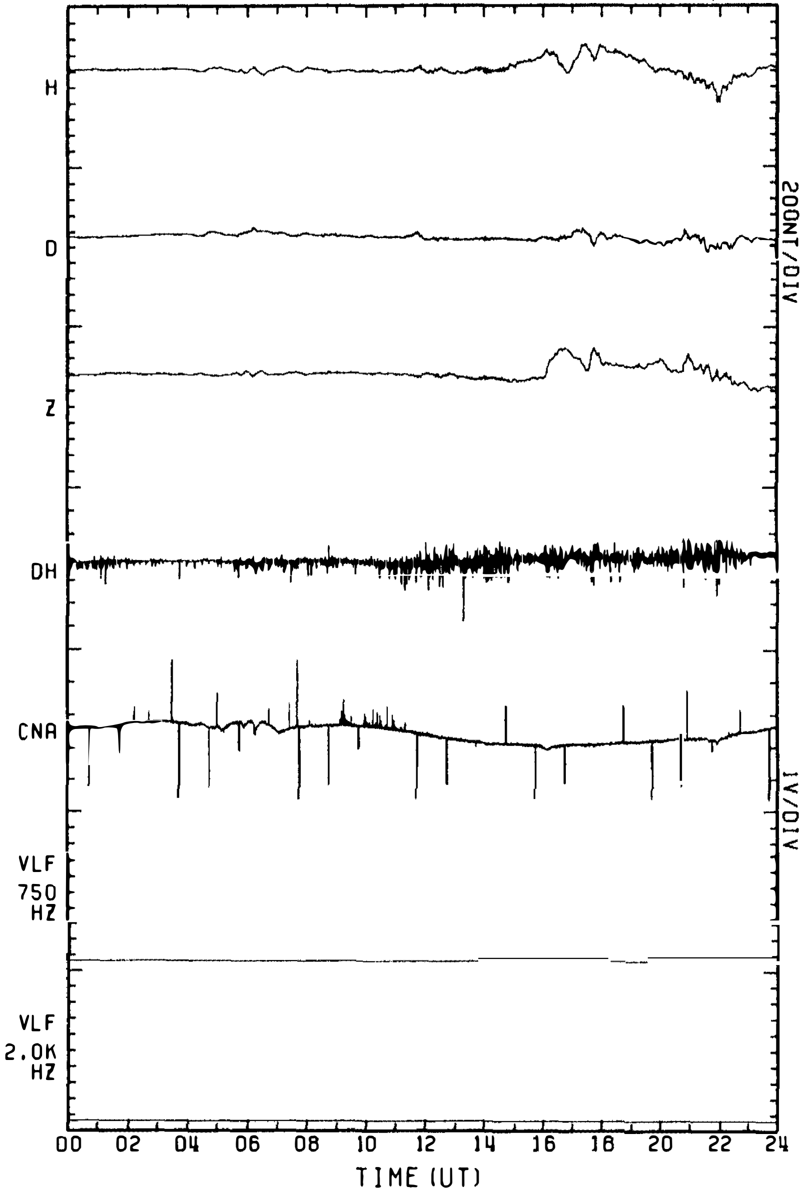

SUMMARY PLOT AT SYOWA STATION DAY: 7 JAN. 7,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)


SUMMARY PLOT AT SYOWA STATION DAY: 8 JAN. 8,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

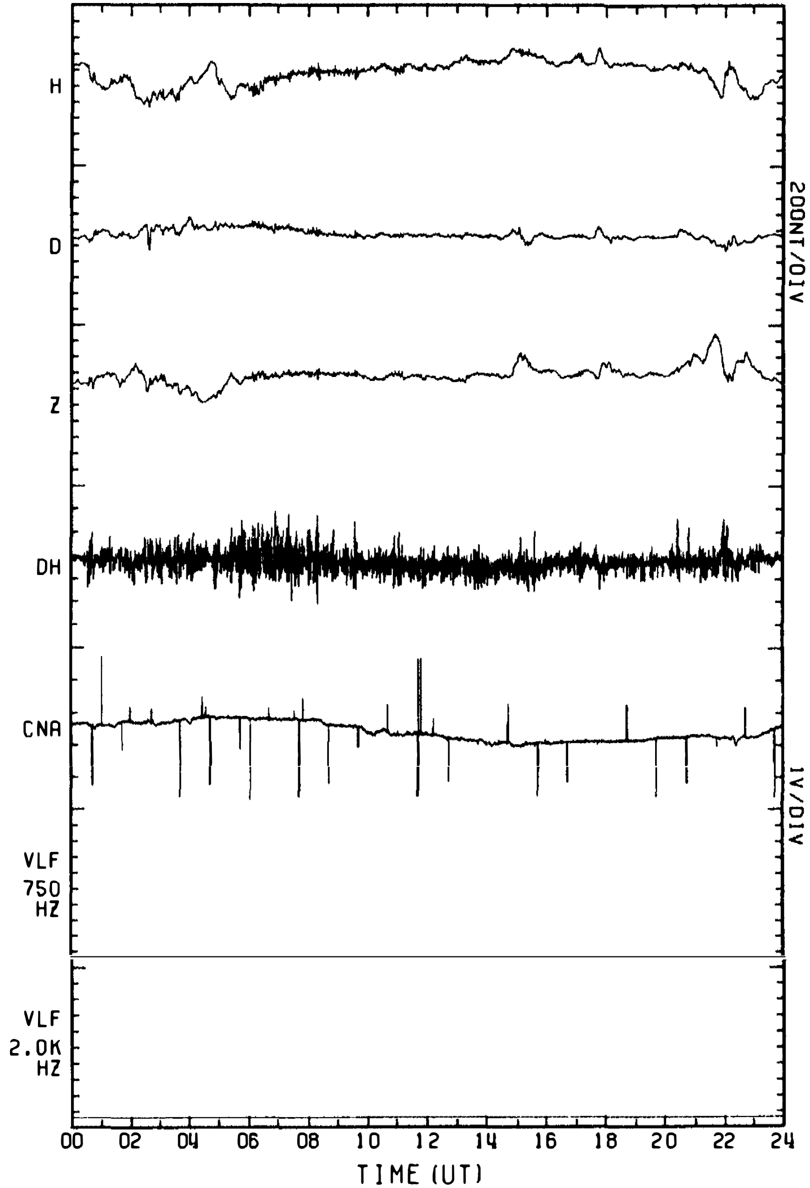

SUMMARY PLOT AT SYOWA STATION DAY: 10 JAN.10,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 9 JAN. 9,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

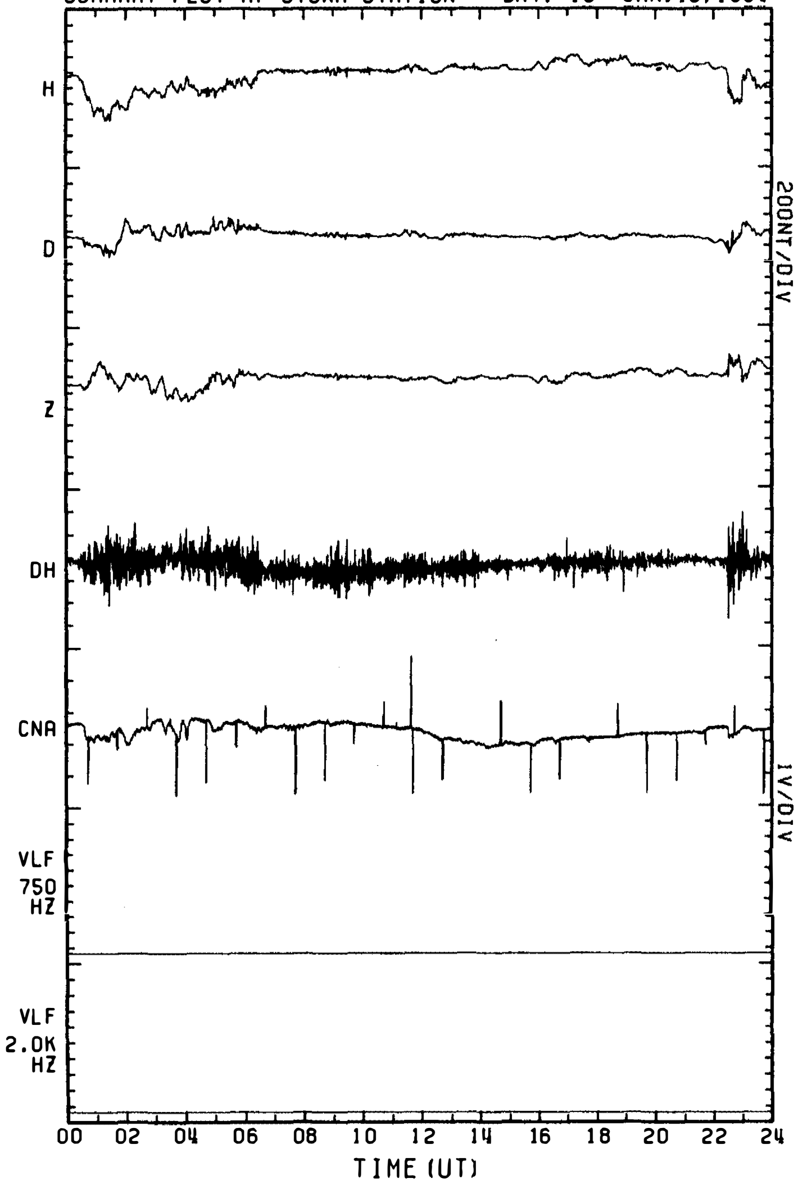
SUMMARY PLOT AT SYOWA STATION DAY: 11 JAN.11,1994



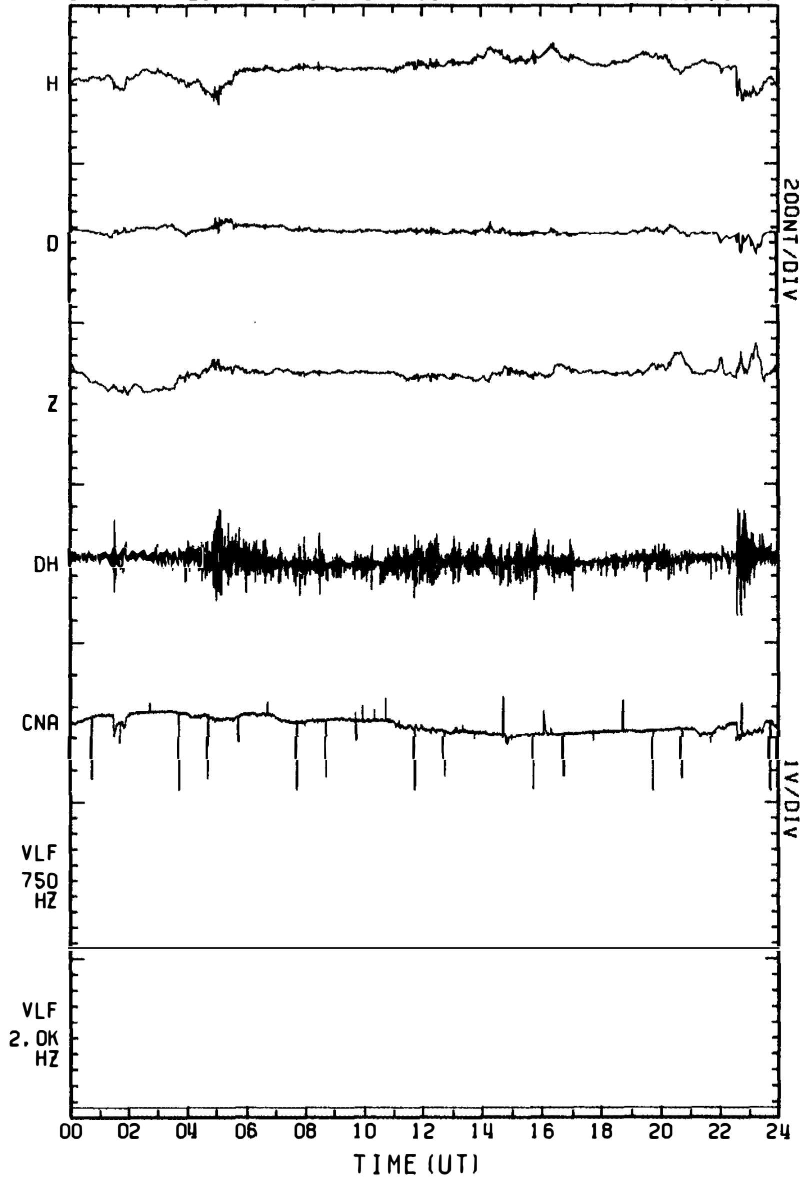
SUMMARY PLOT AT SYOWA STATION DAY: 12 JAN.12,1994

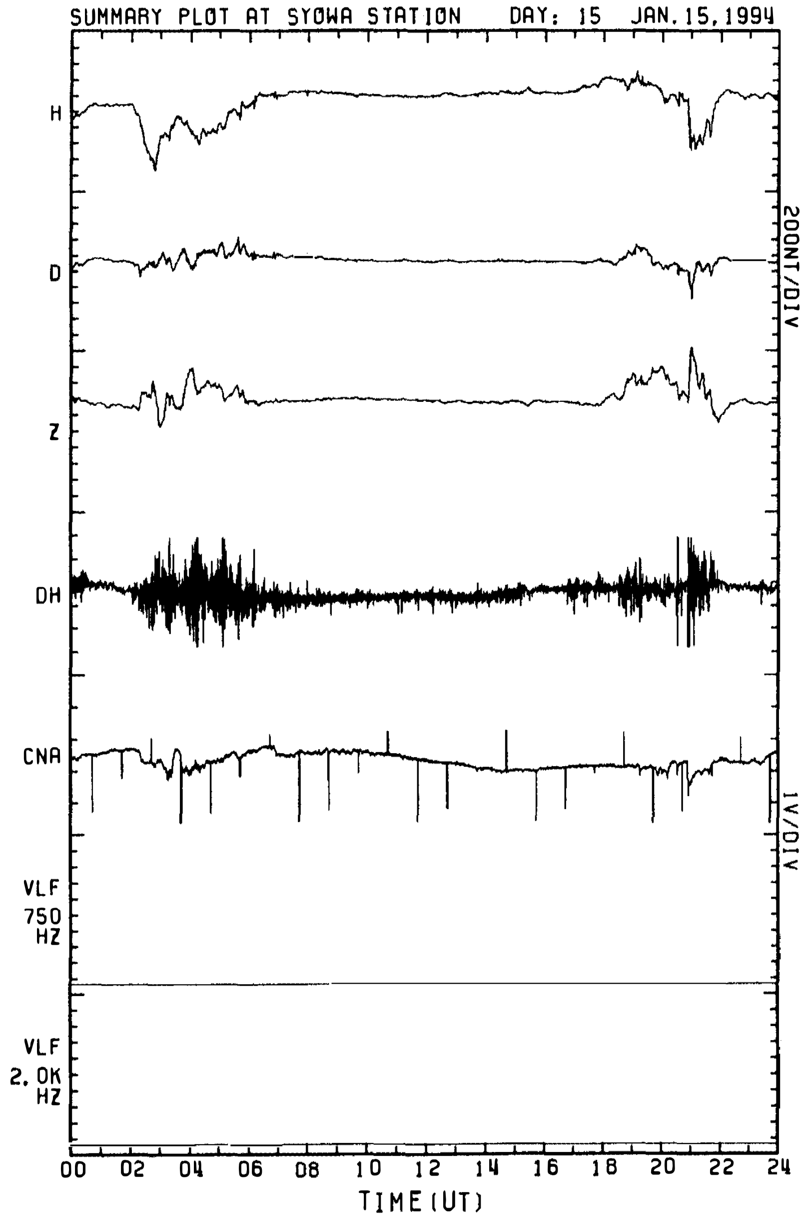


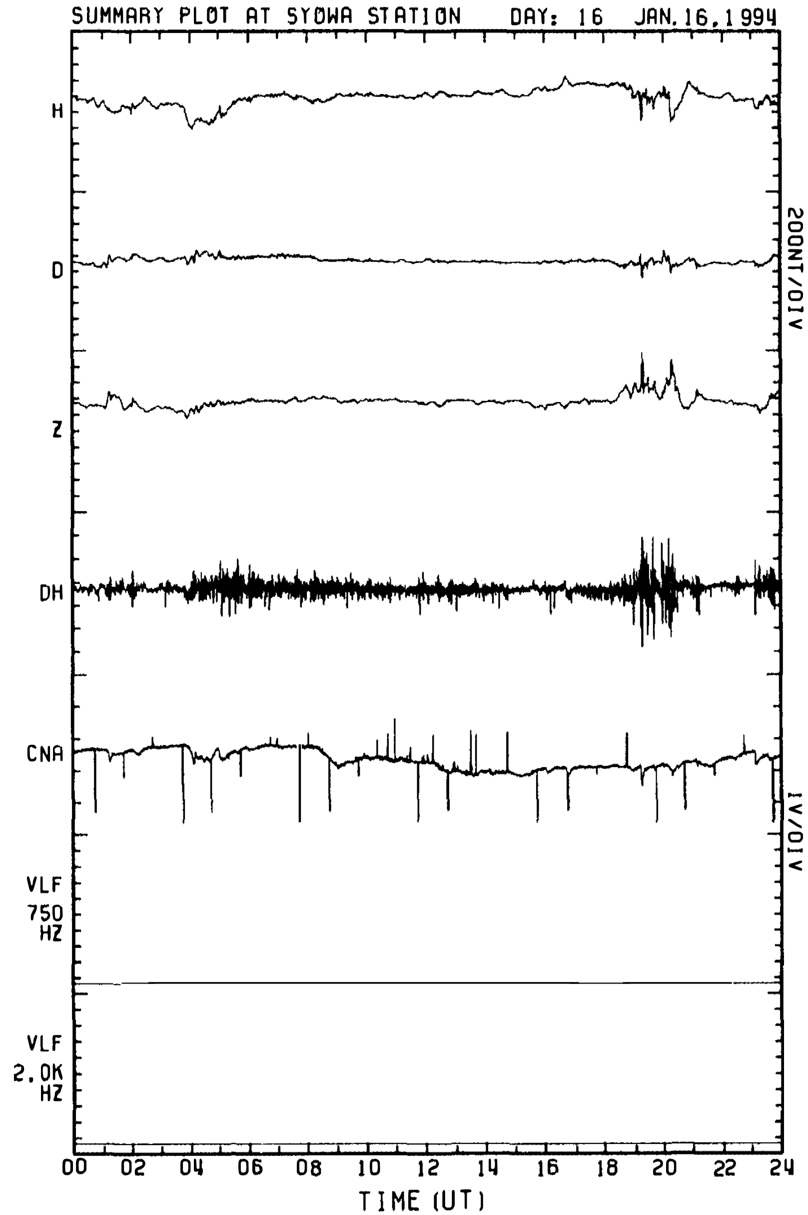
SUMMARY PLOT AT SYOWA STATION DAY: 13 JAN.13,1994

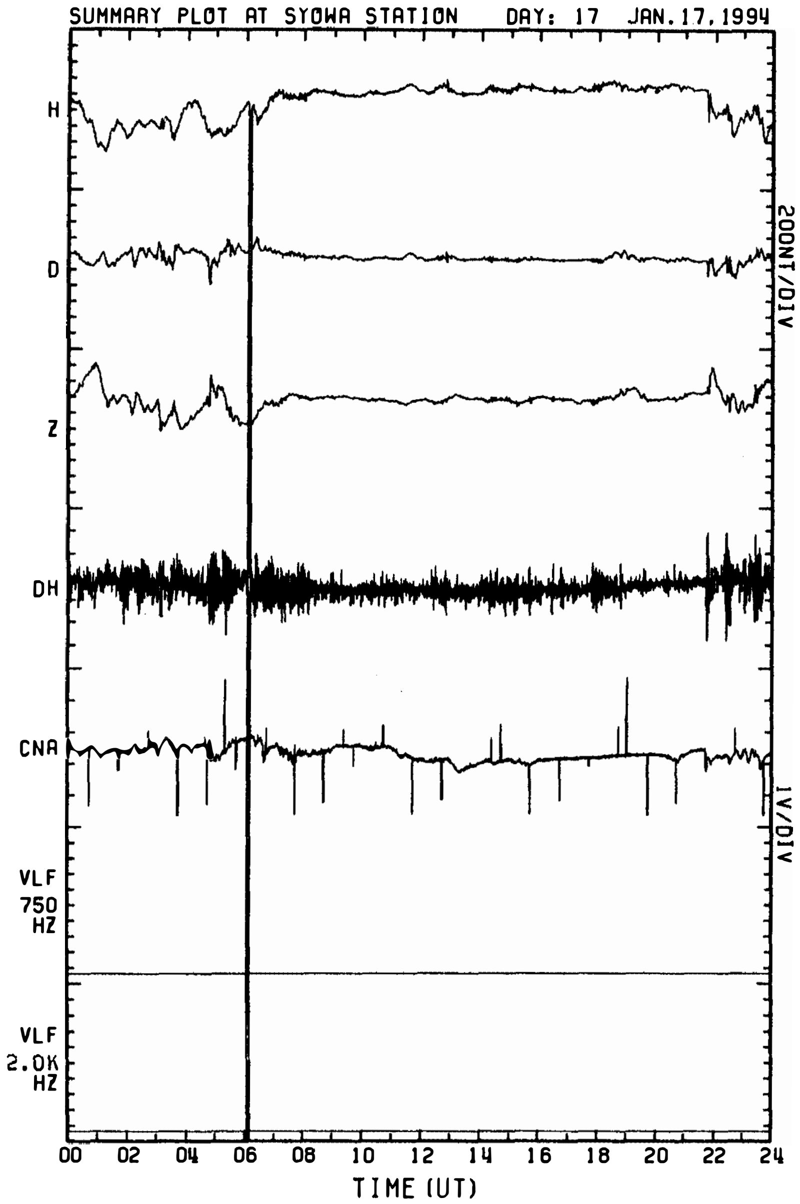


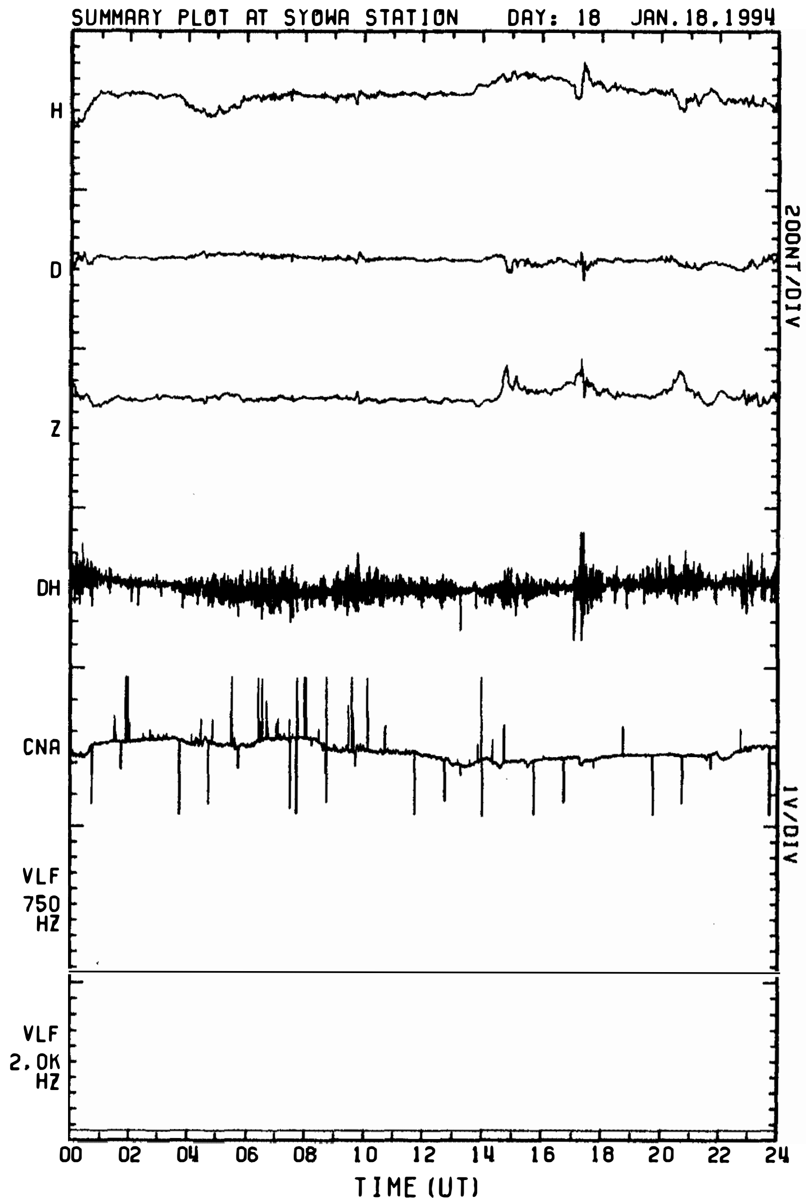
SUMMARY PLOT AT SYOWA STATION DAY: 14 JAN.14,1994



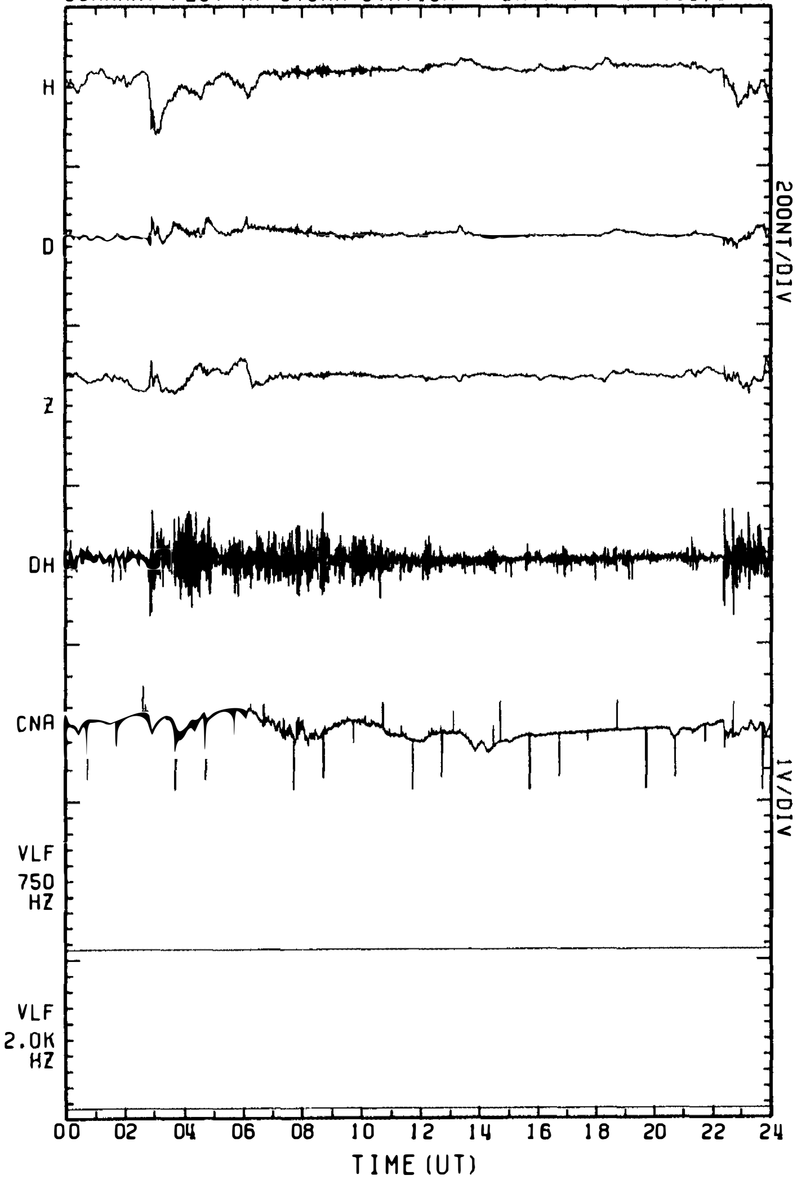

SUMMARY PLOT AT SYOWA STATION DAY: 15 JAN.15,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)


SUMMARY PLOT AT SYOWA STATION DAY: 16 JAN.16,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

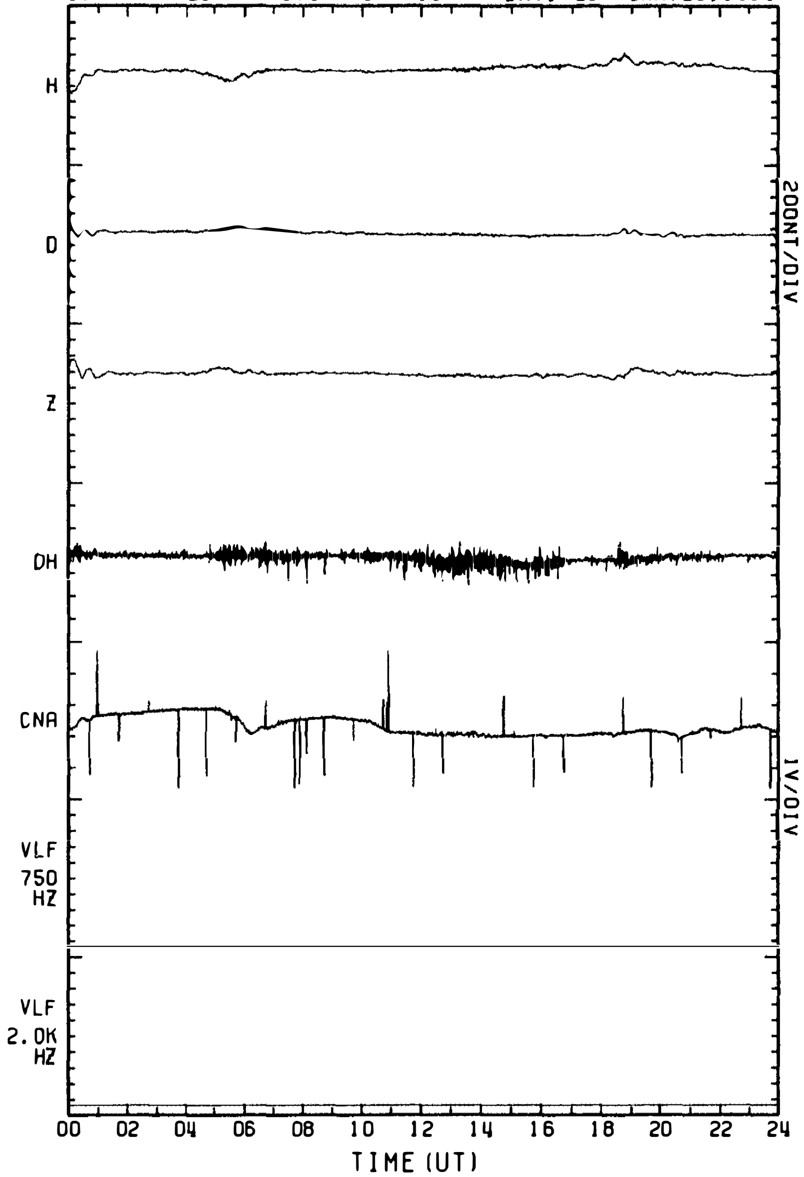

SUMMARY PLOT AT SYOWA STATION DAY: 17 JAN.17,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

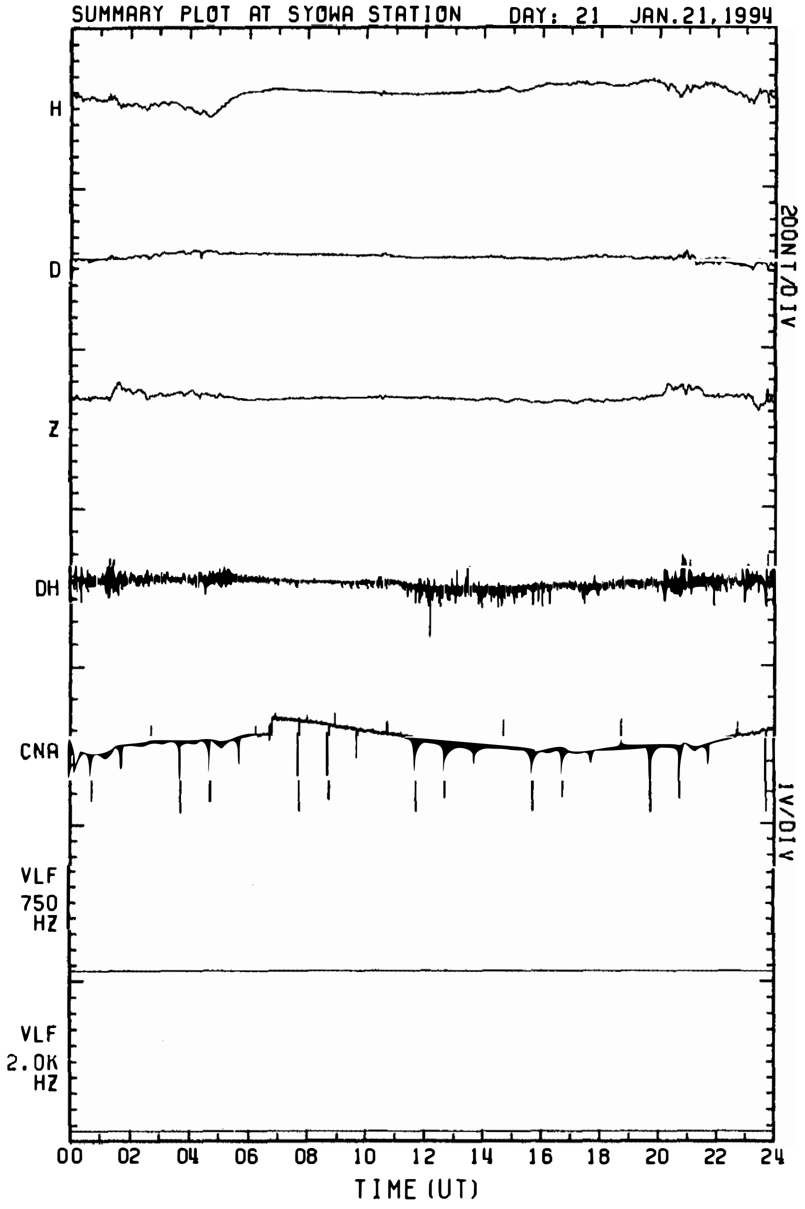

SUMMARY PLOT AT SYOWA STATION DAY: 18 JAN.18,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

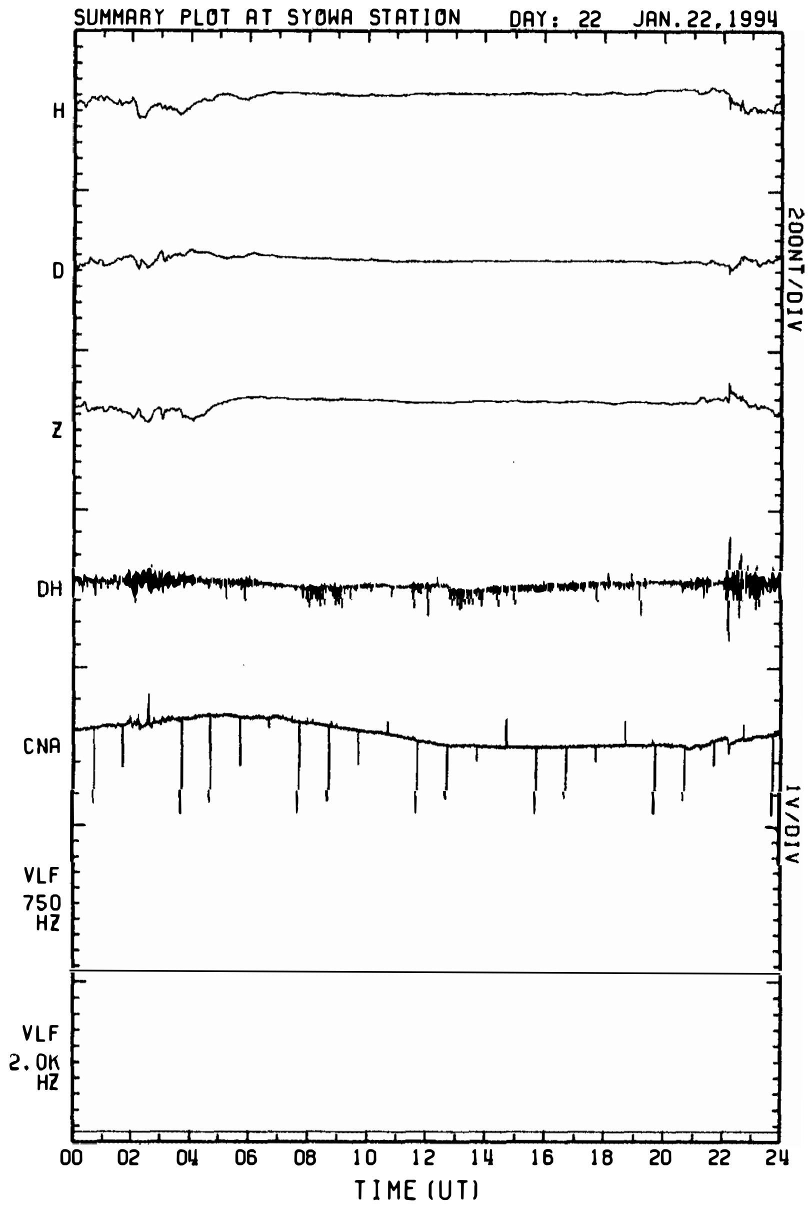
SUMMARY PLOT AT SYOWA STATION DAY: 19 JAN.19,1994

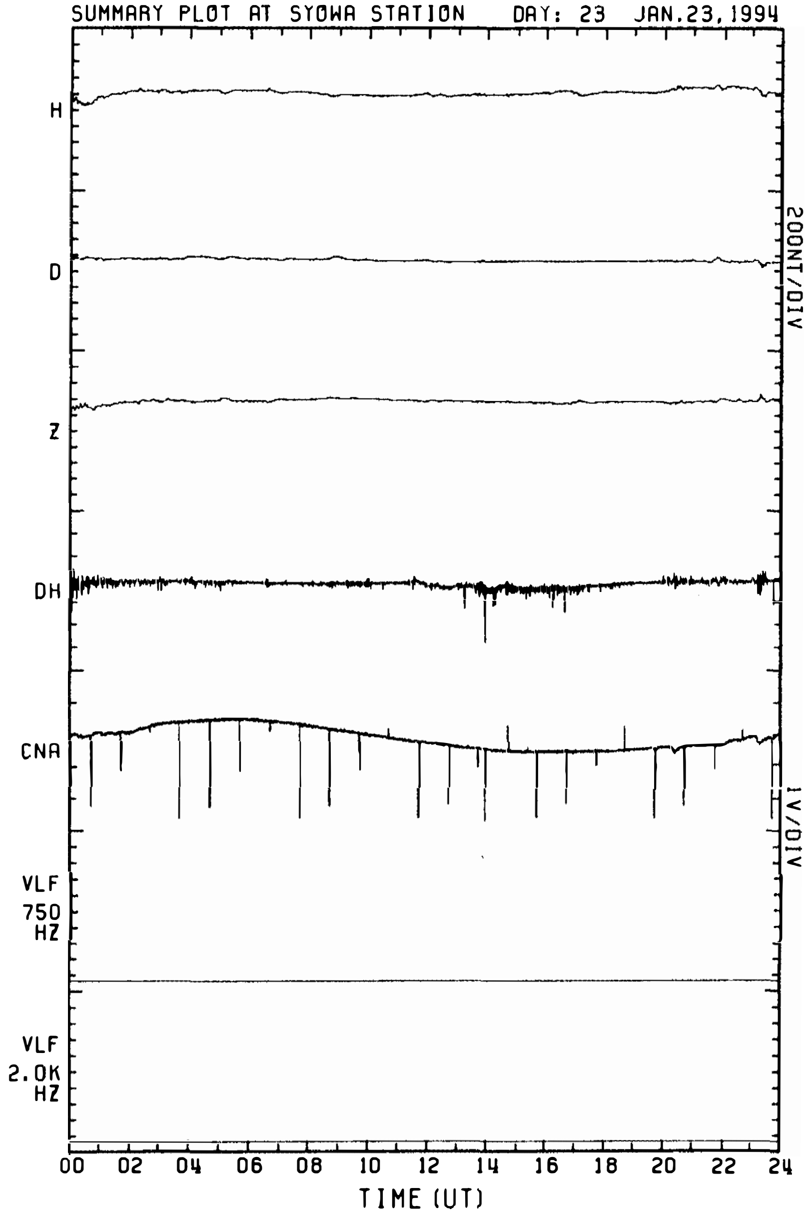


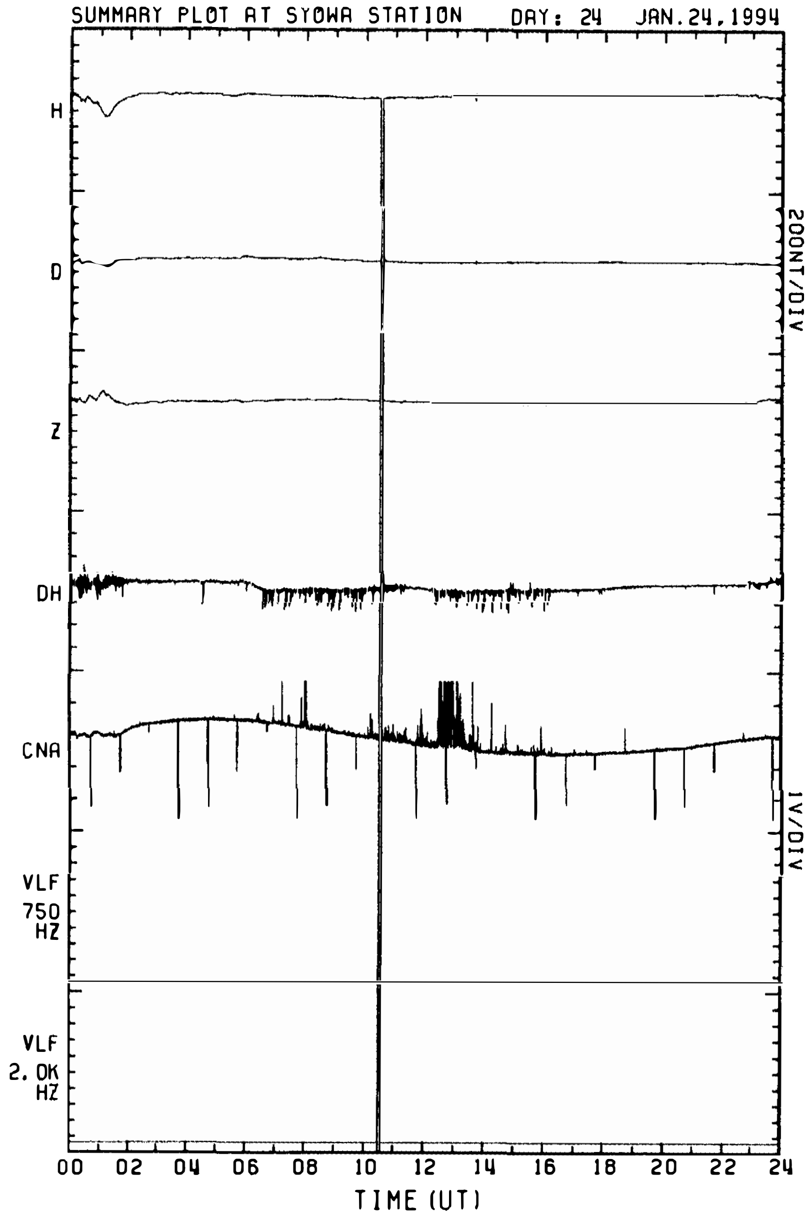
SUMMARY PLOT AT SYOWA STATION DAY: 20 JAN.20,1994

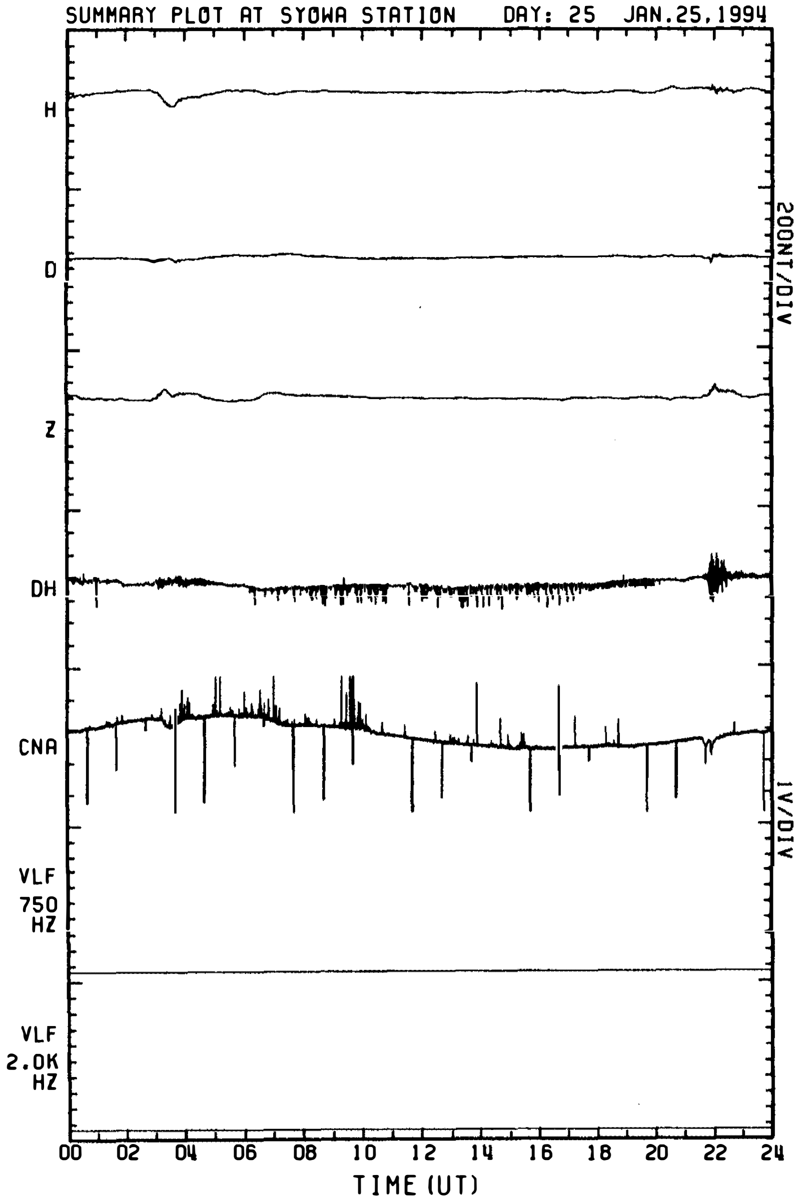


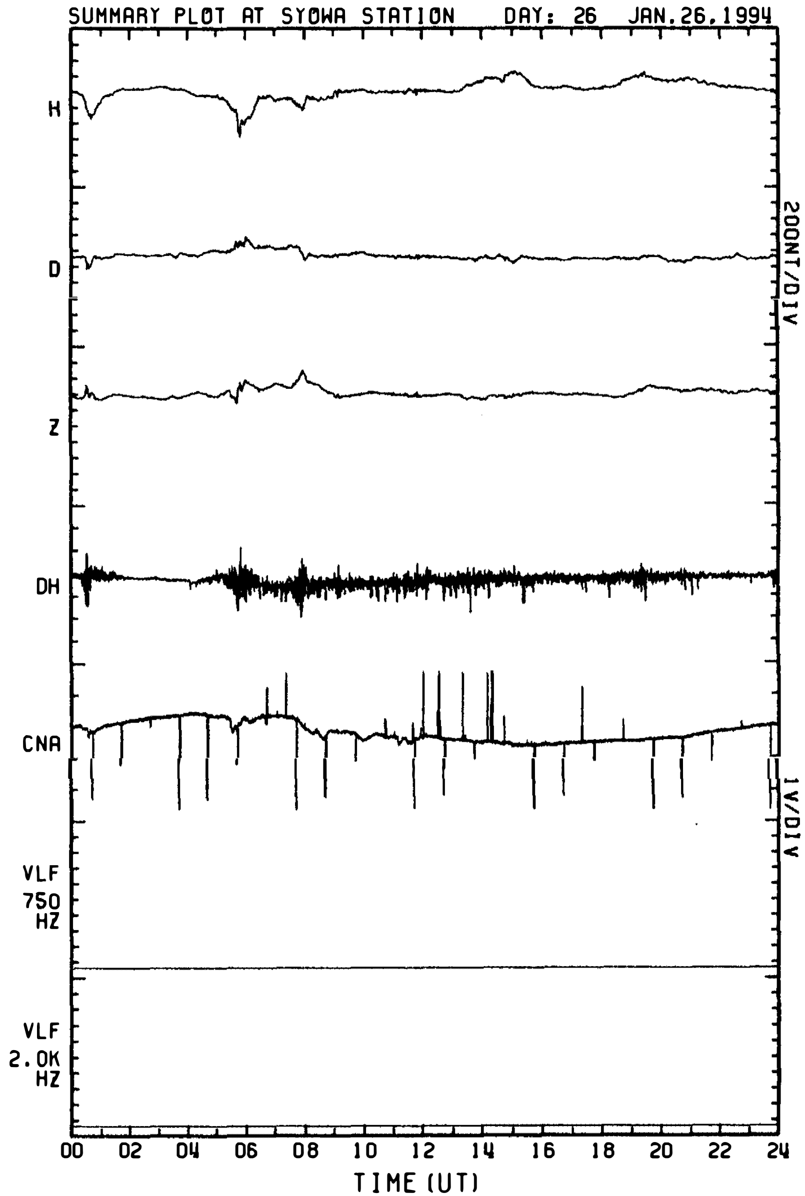

SUMMARY PLOT AT SYOWA STATION DAY: 21 JAN.21,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 22 JAN.22,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

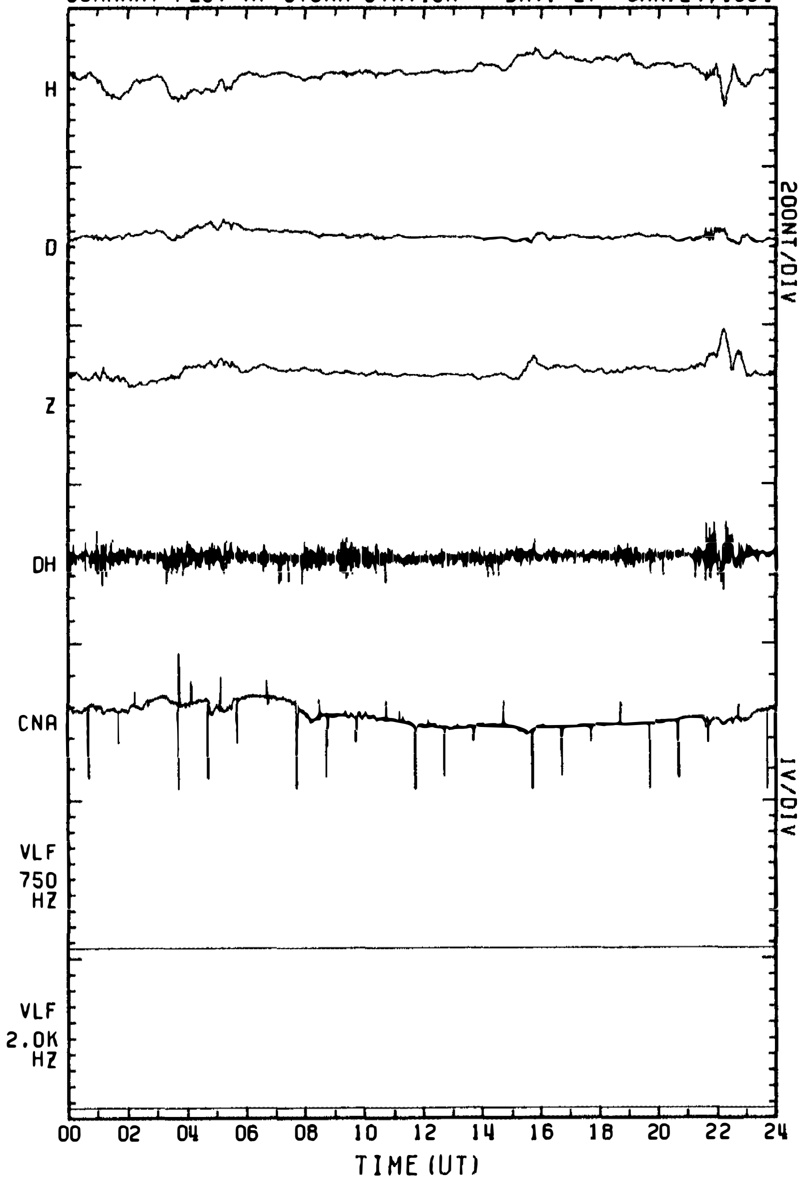

SUMMARY PLOT AT SYOWA STATION DAY: 23 JAN.23,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 24 JAN.24,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

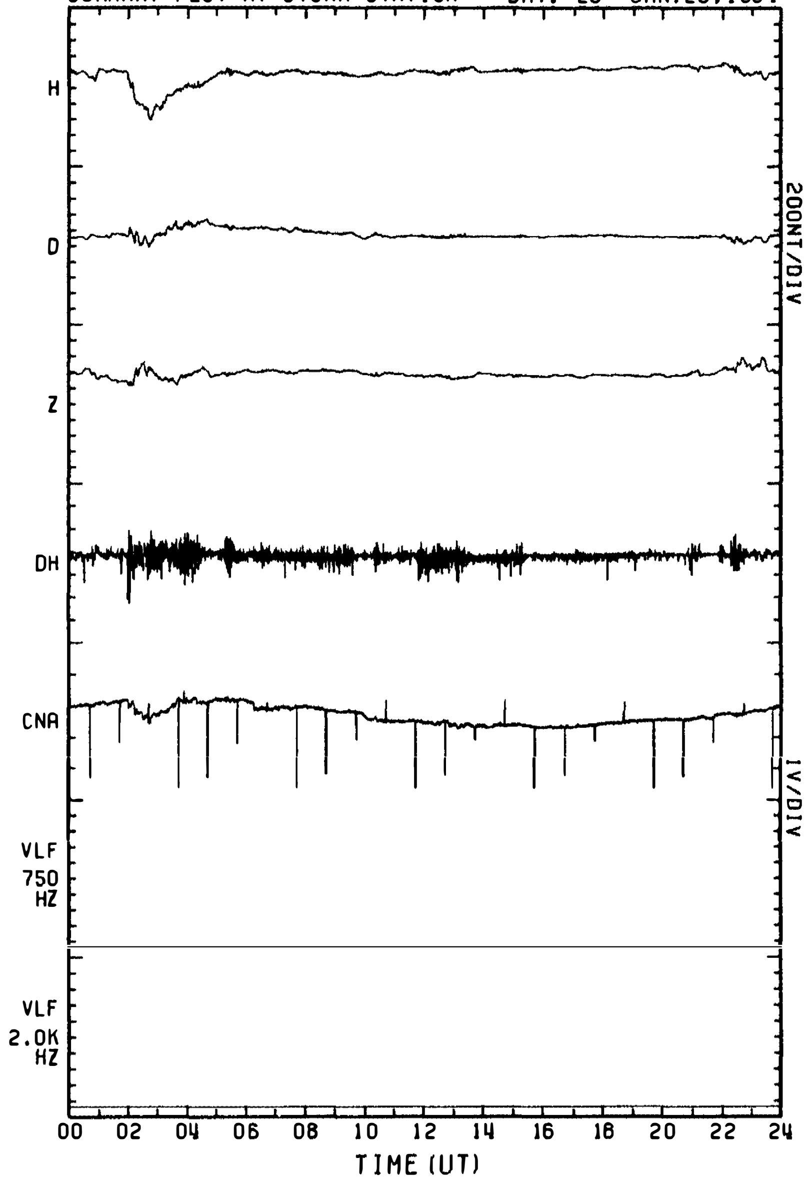

SUMMARY PLOT AT SYOWA STATION DAY: 25 JAN.25,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

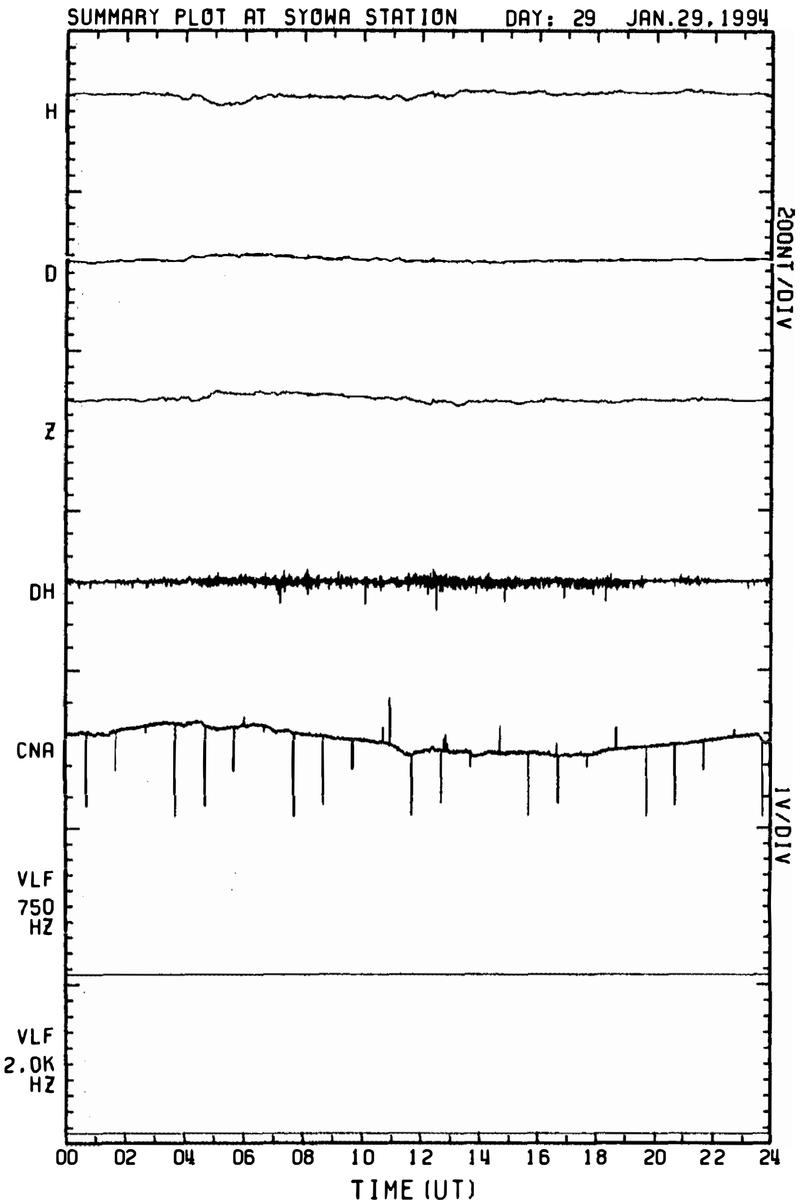

SUMMARY PLOT AT SYOWA STATION DAY: 26 JAN.26,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

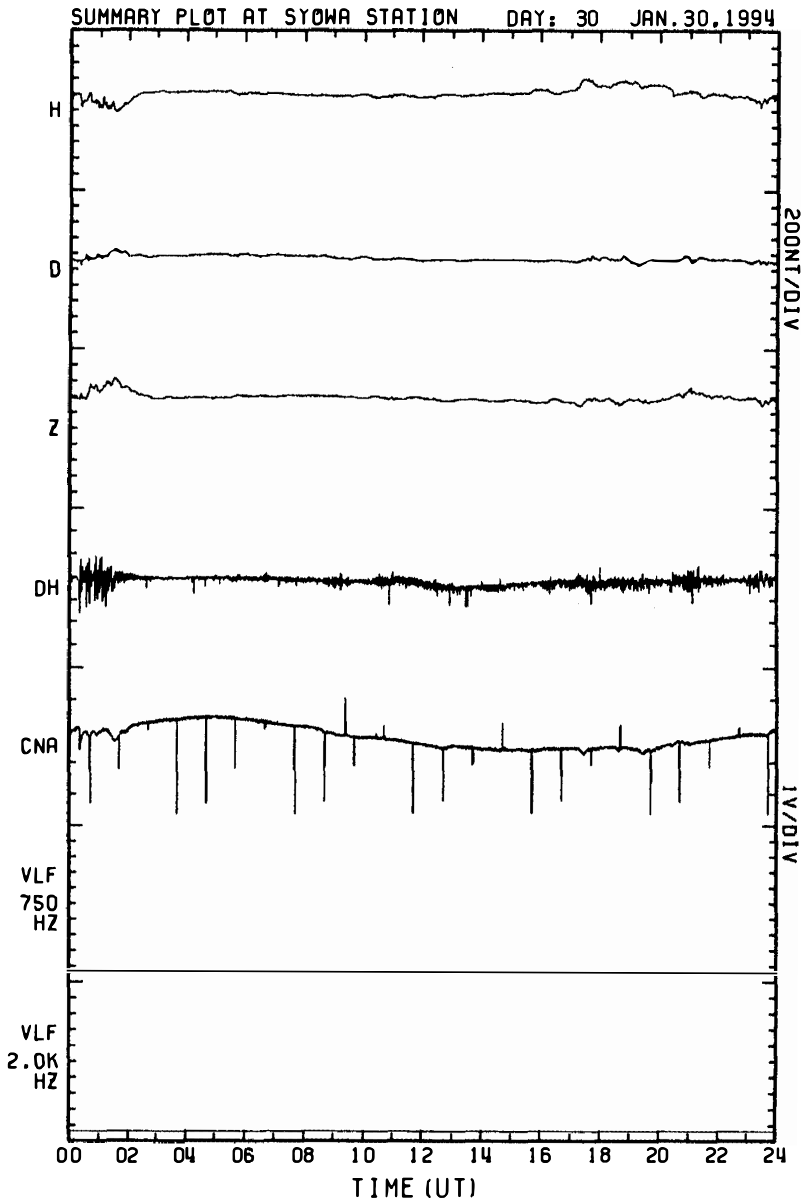
SUMMARY PLOT AT SYOWA STATION DAY: 27 JAN.27,1994

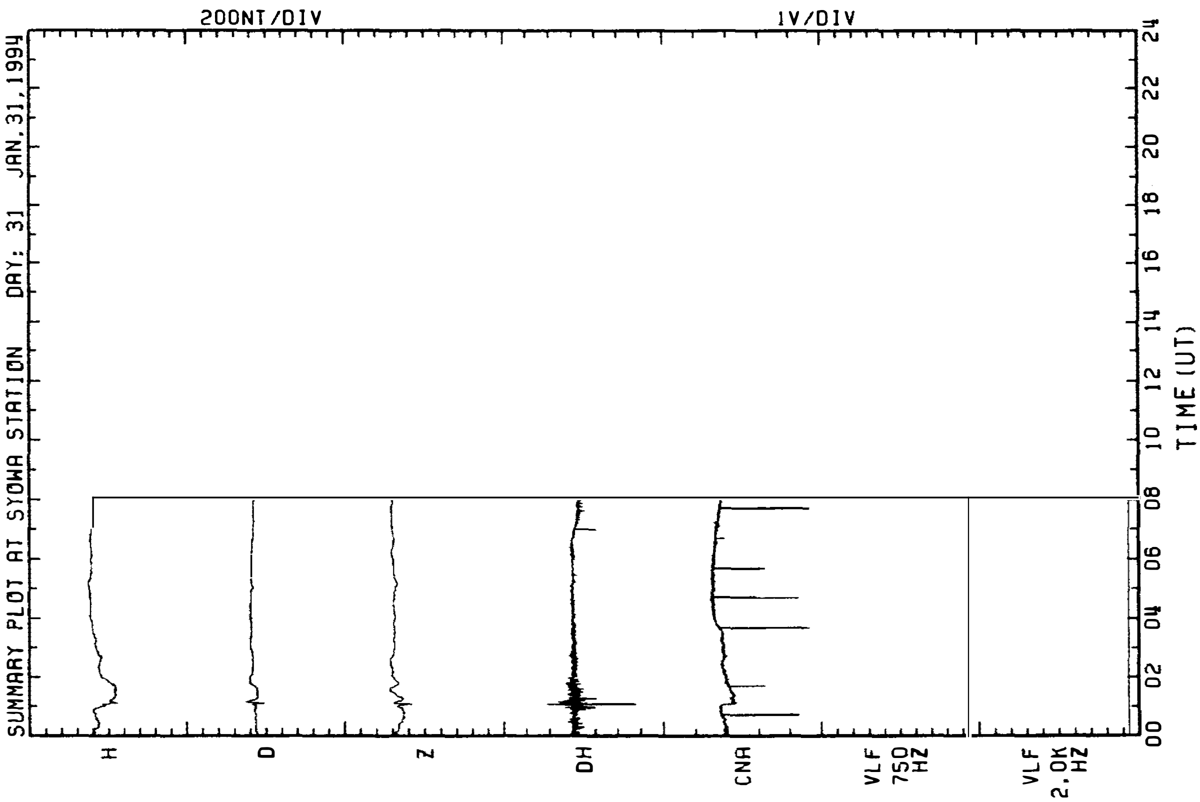


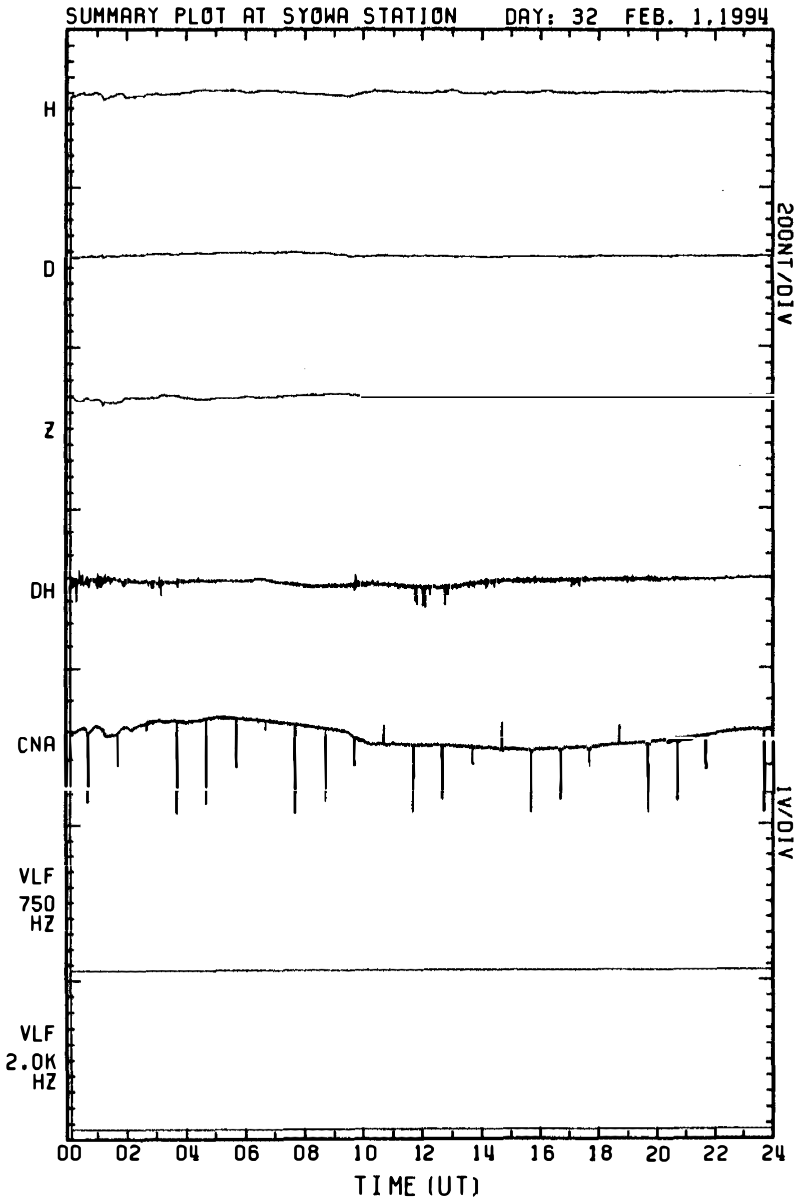
SUMMARY PLOT AT SYOWA STATION DAY: 28 JAN.28,1994

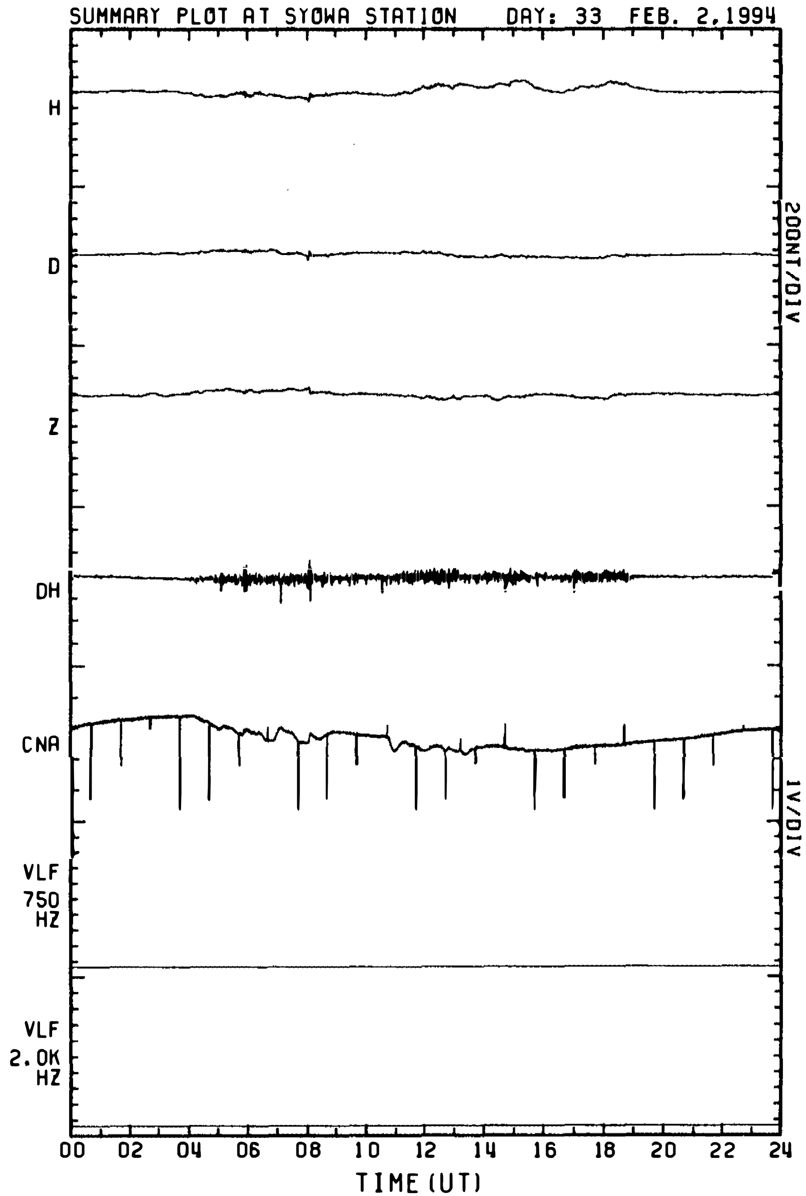



SUMMARY PLOT AT SYOWA STATION DAY: 29 JAN.29,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

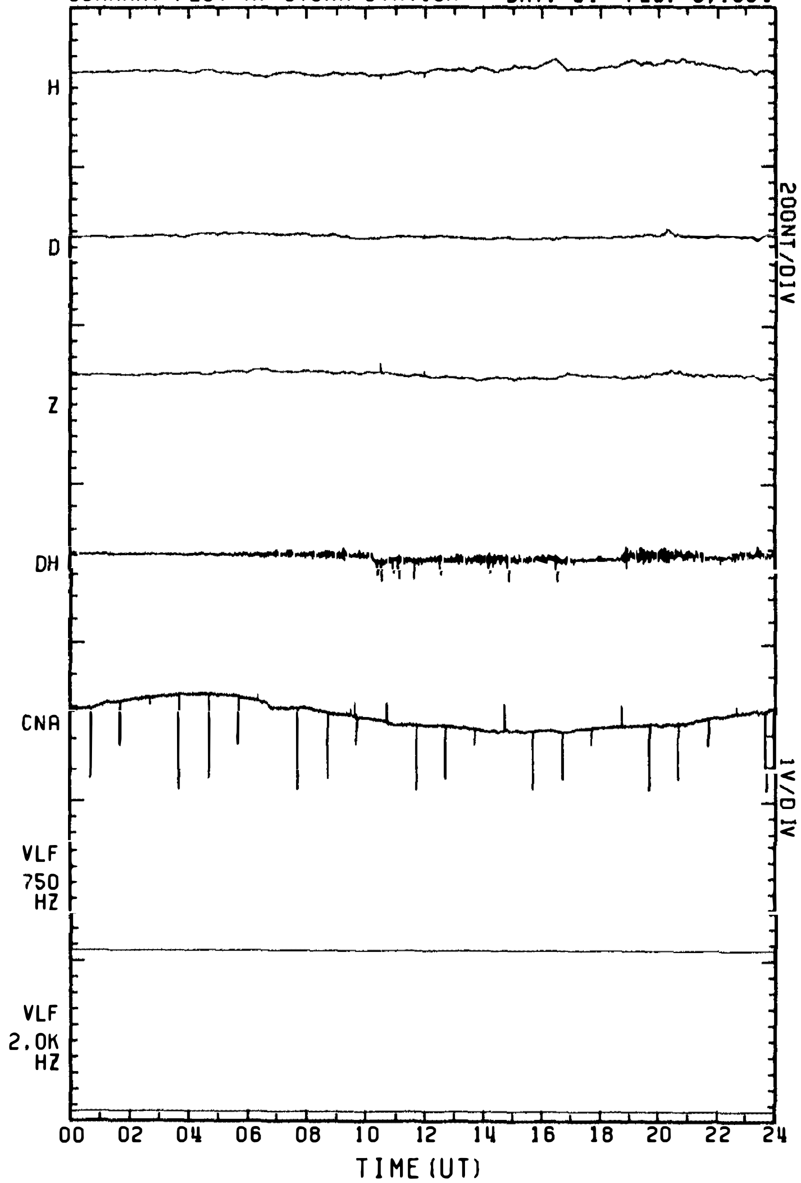

SUMMARY PLOT AT SYOWA STATION DAY: 30 JAN.30,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 31 JAN.31,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00
02
04
06
08
10
12
14
16
18
20
22
24
TIME (UT)

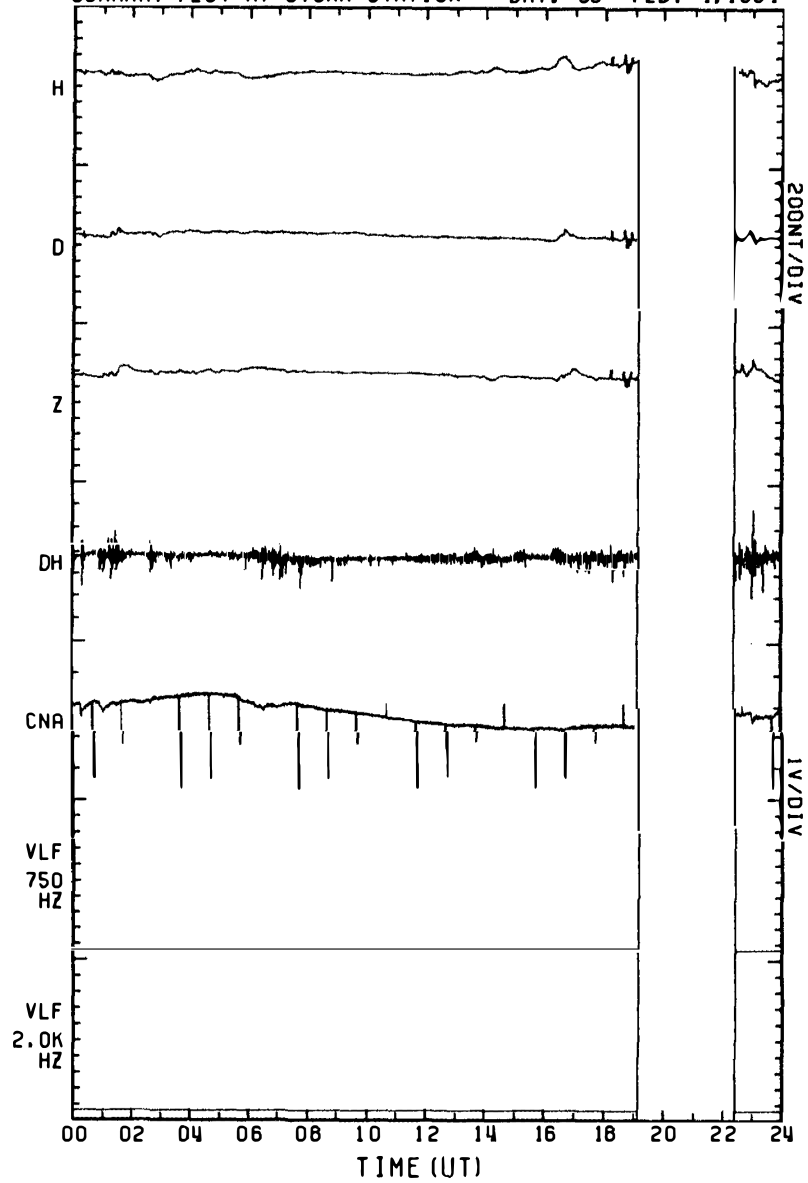

SUMMARY PLOT AT SYOWA STATION DAY: 32 FEB. 1,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
20ONT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

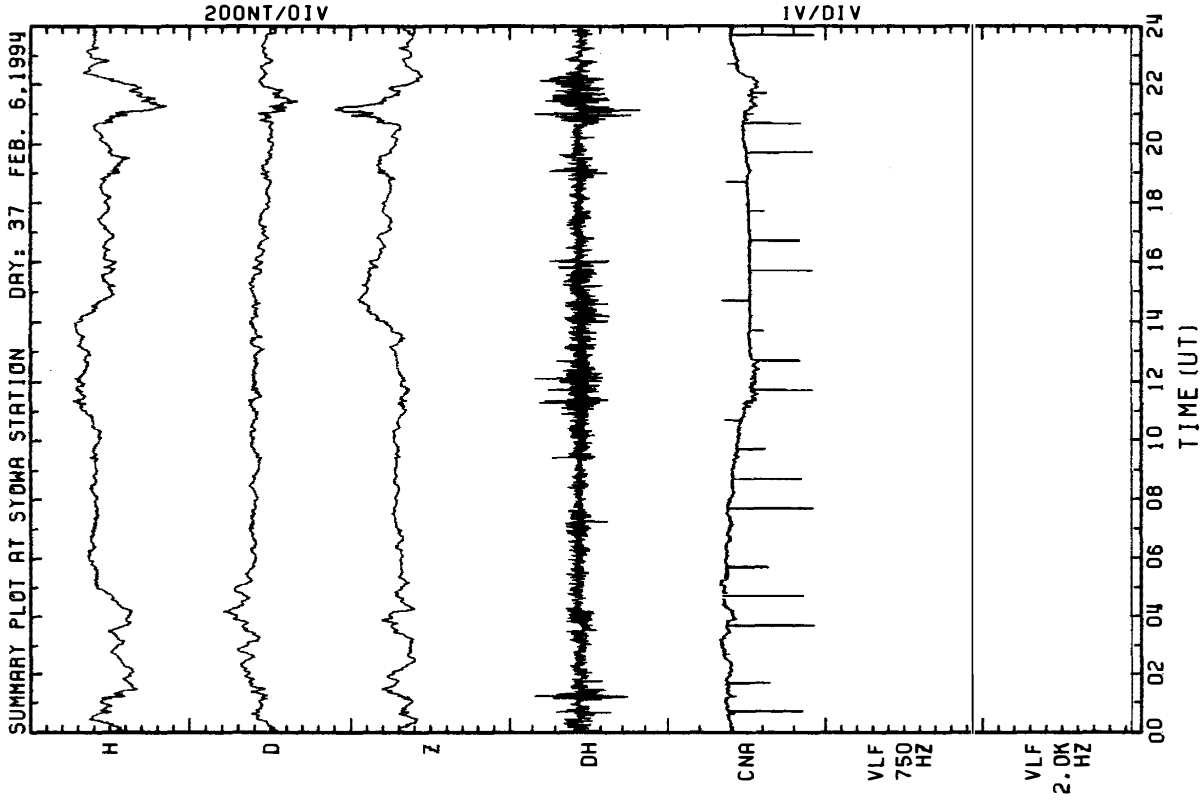

SUMMARY PLOT AT SYOWA STATION DAY: 33 FEB. 2,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
20ONT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

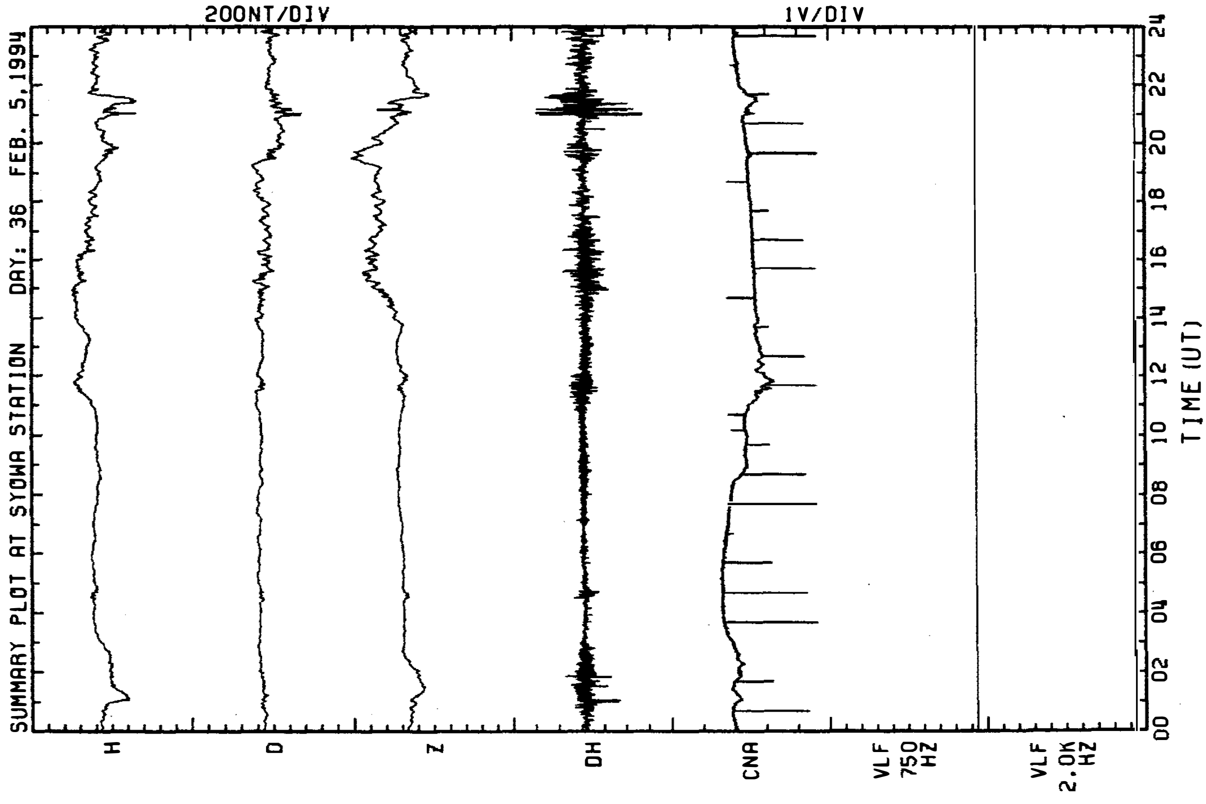
SUMMARY PLOT AT SYOWA STATION DAY: 34 FEB. 3,1994

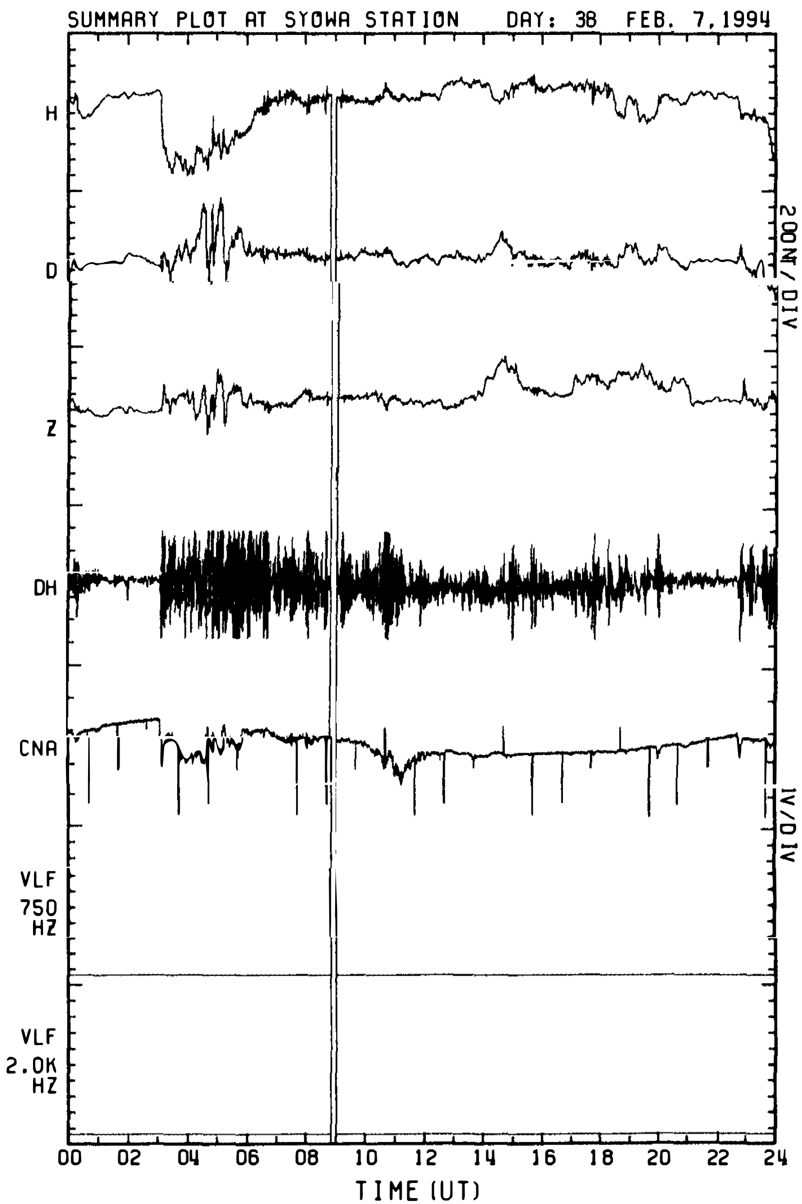


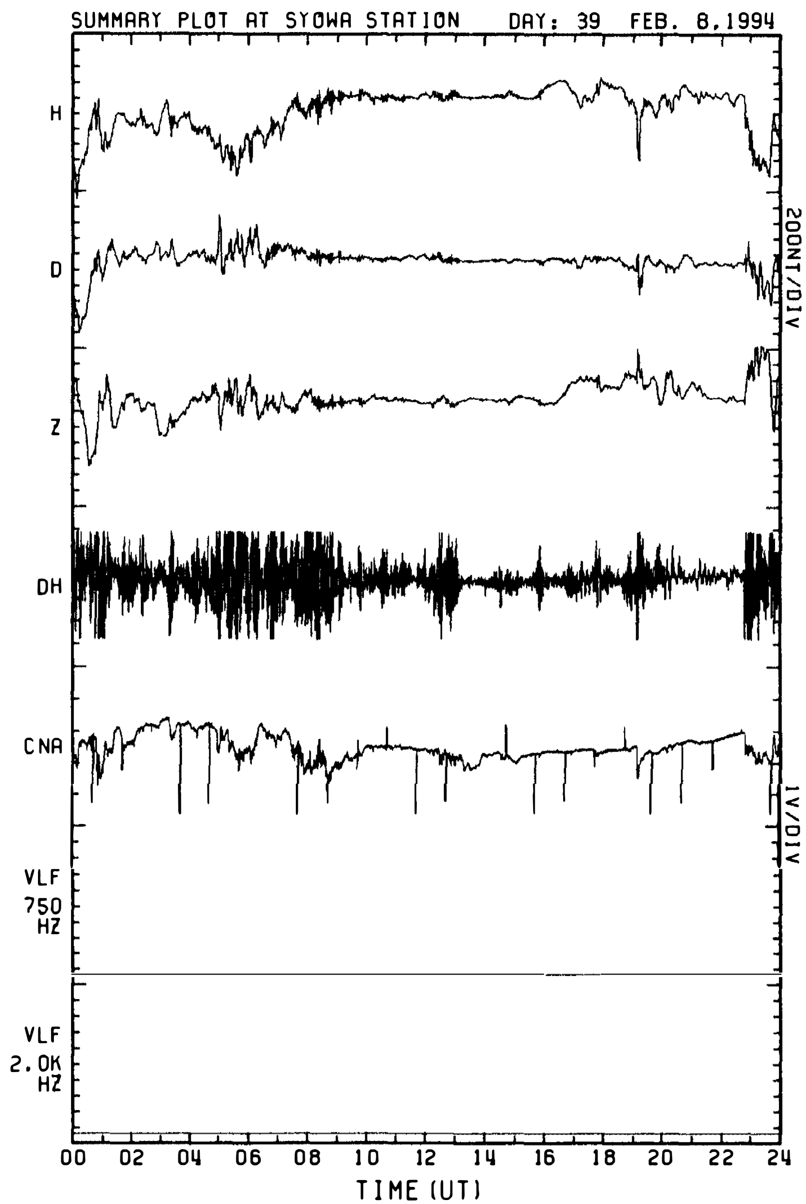
SUMMARY PLOT AT SYOWA STATION DAY: 35 FEB. 4,1994

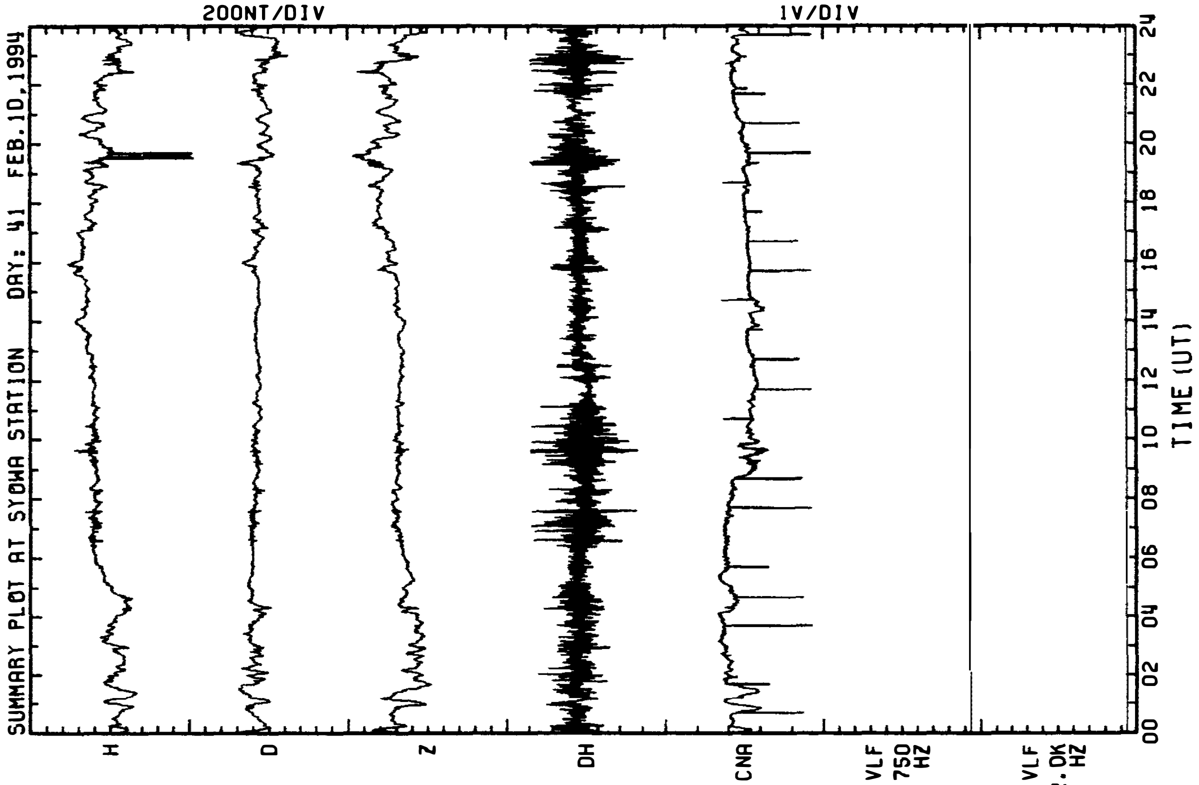


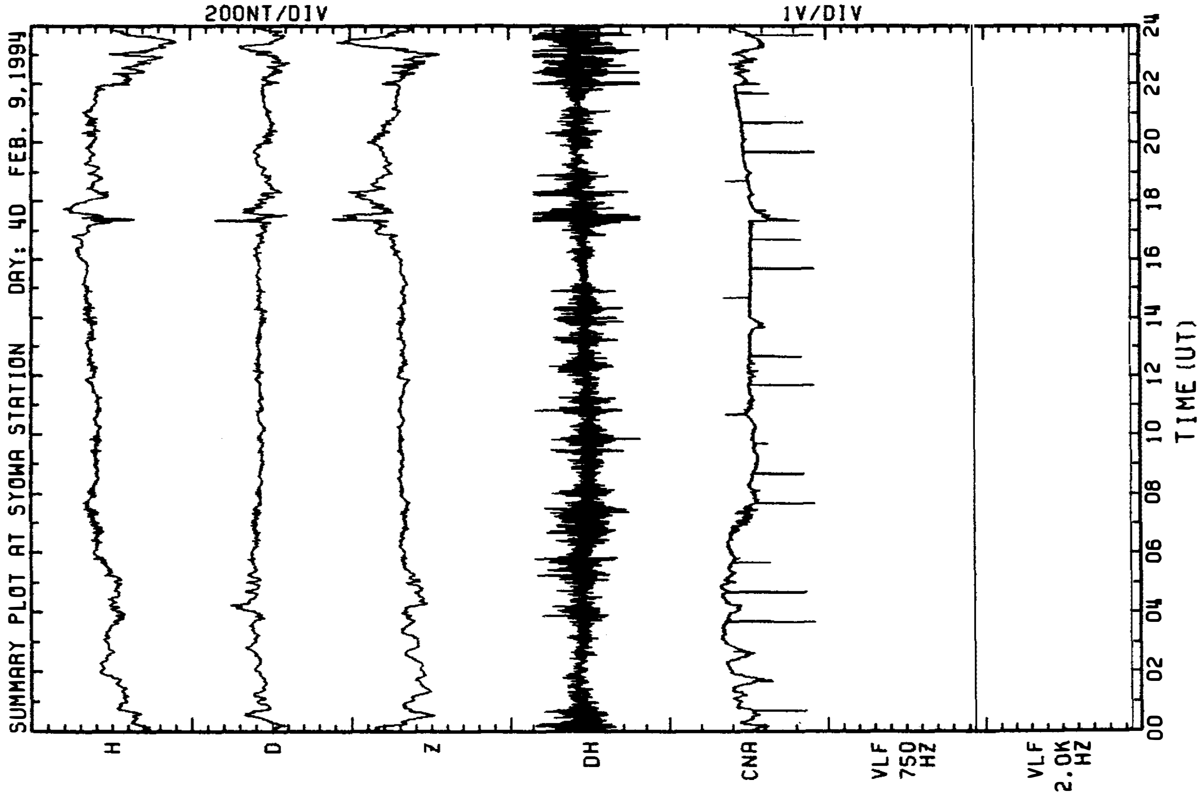

SUMMARY PLOT AT SYOWA STATION DAY: 37 FEB. 6,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

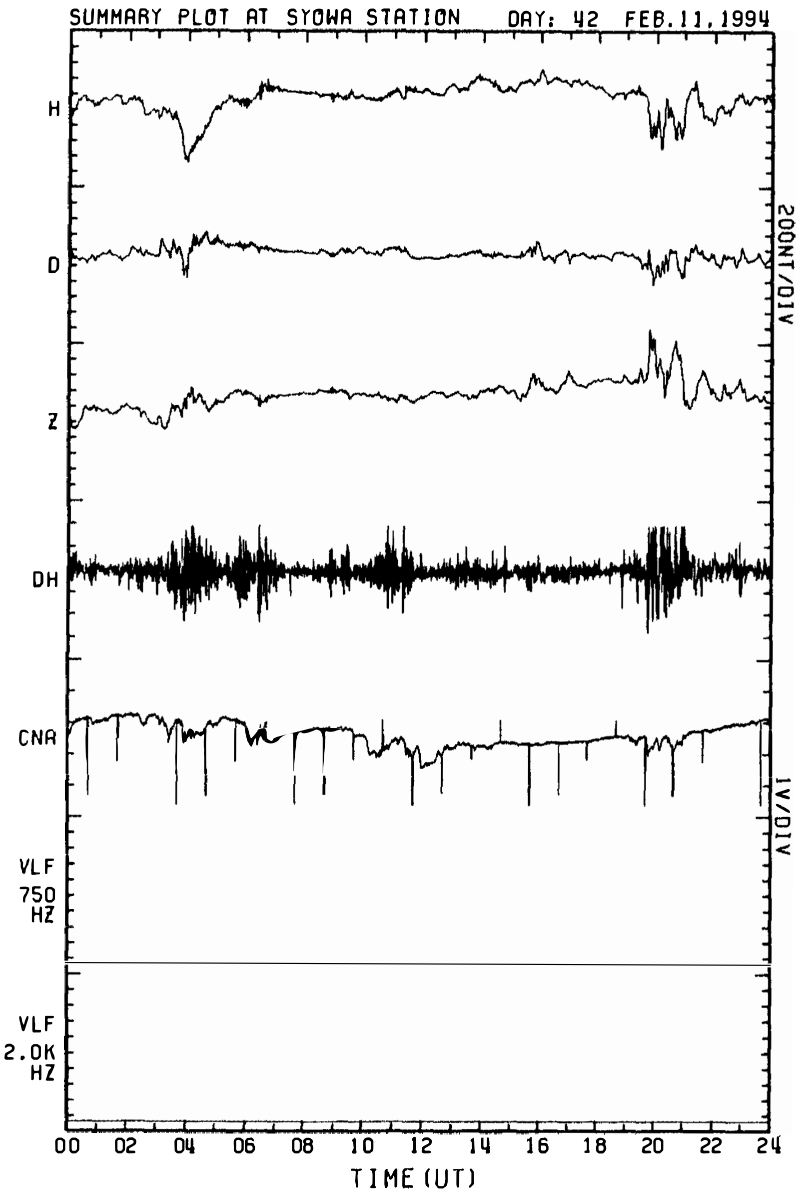

SUMMARY PLOT AT SYOWA STATION DAY: 36 FEB. 5,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

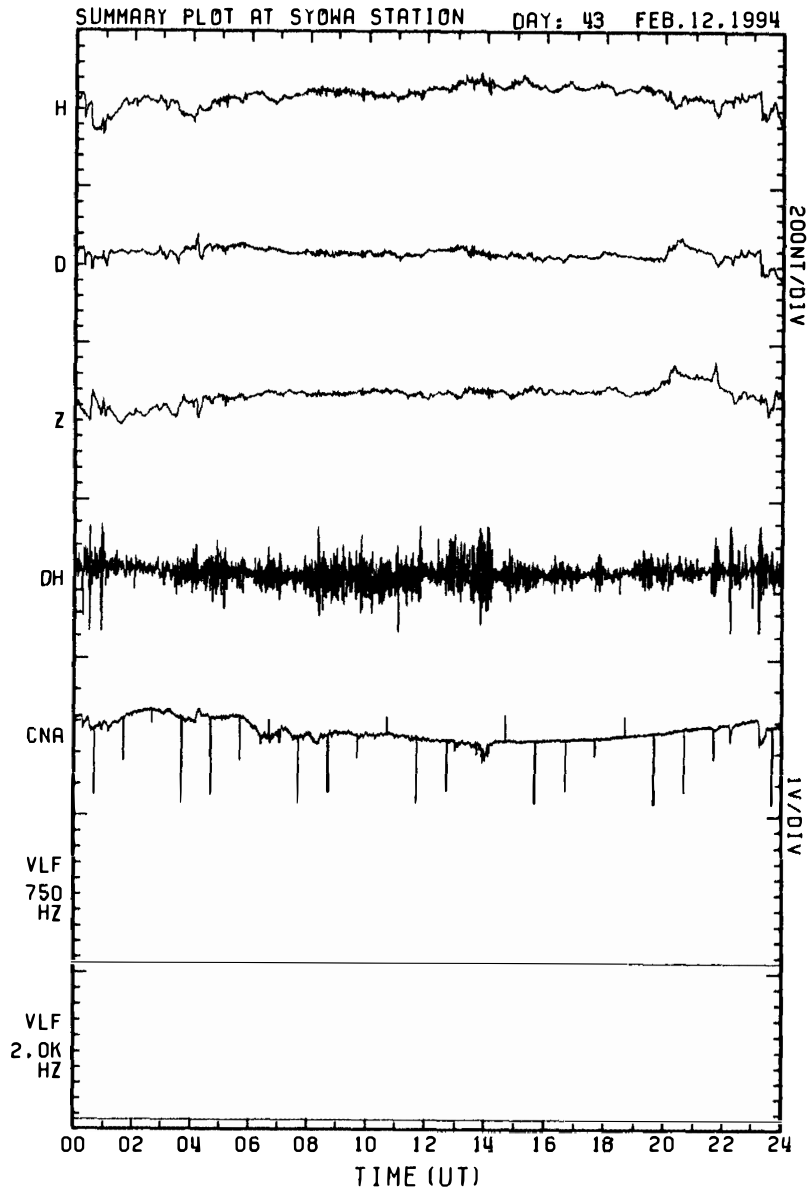

SUMMARY PLOT AT SYOWA STATION DAY: 38 FEB. 7,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

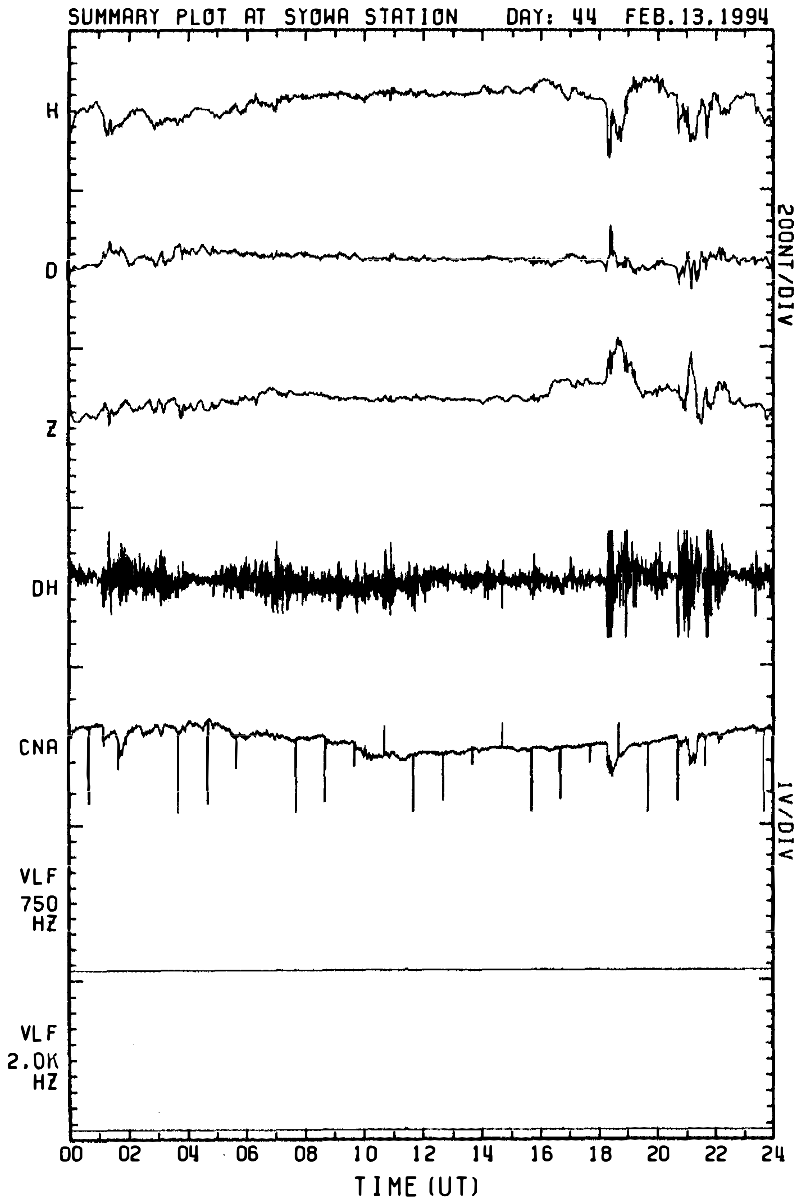

SUMMARY PLOT AT SYOWA STATION DAY: 39 FEB. 8,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

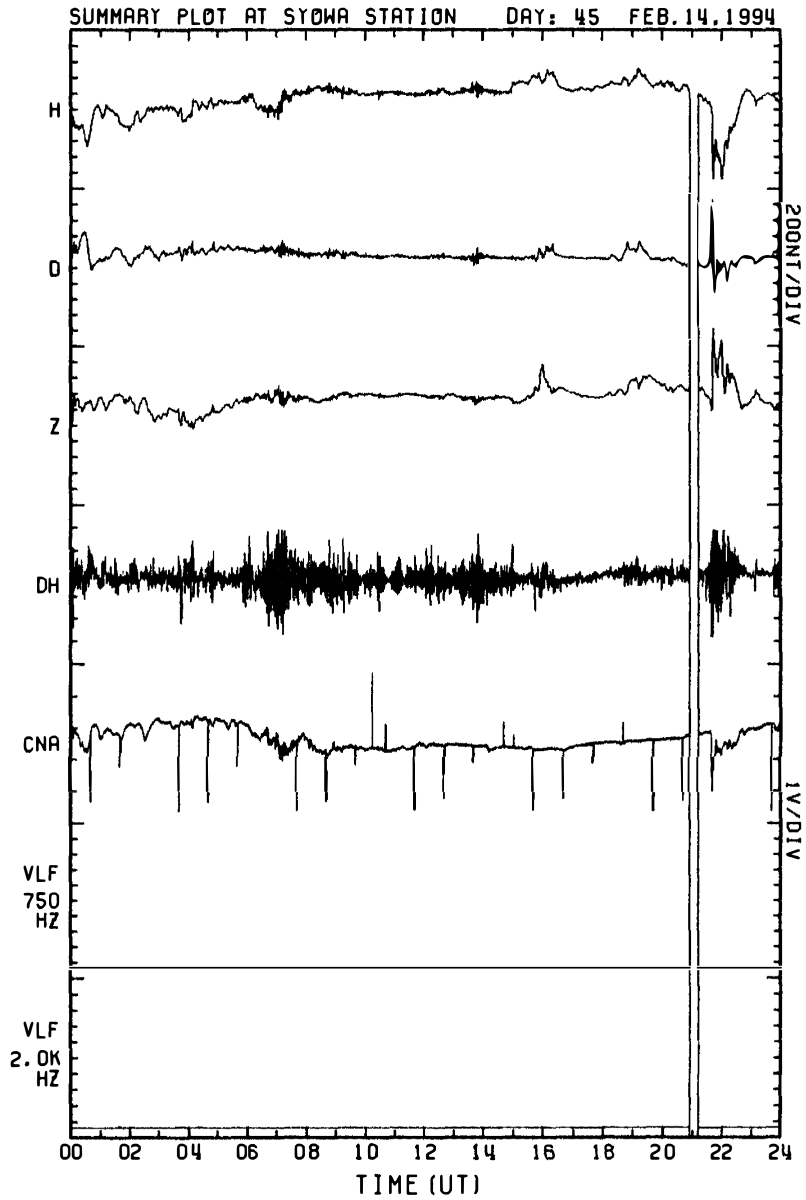

SUMMARY PLOT AT SYOWA STATION DAY: 41 FEB.10,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

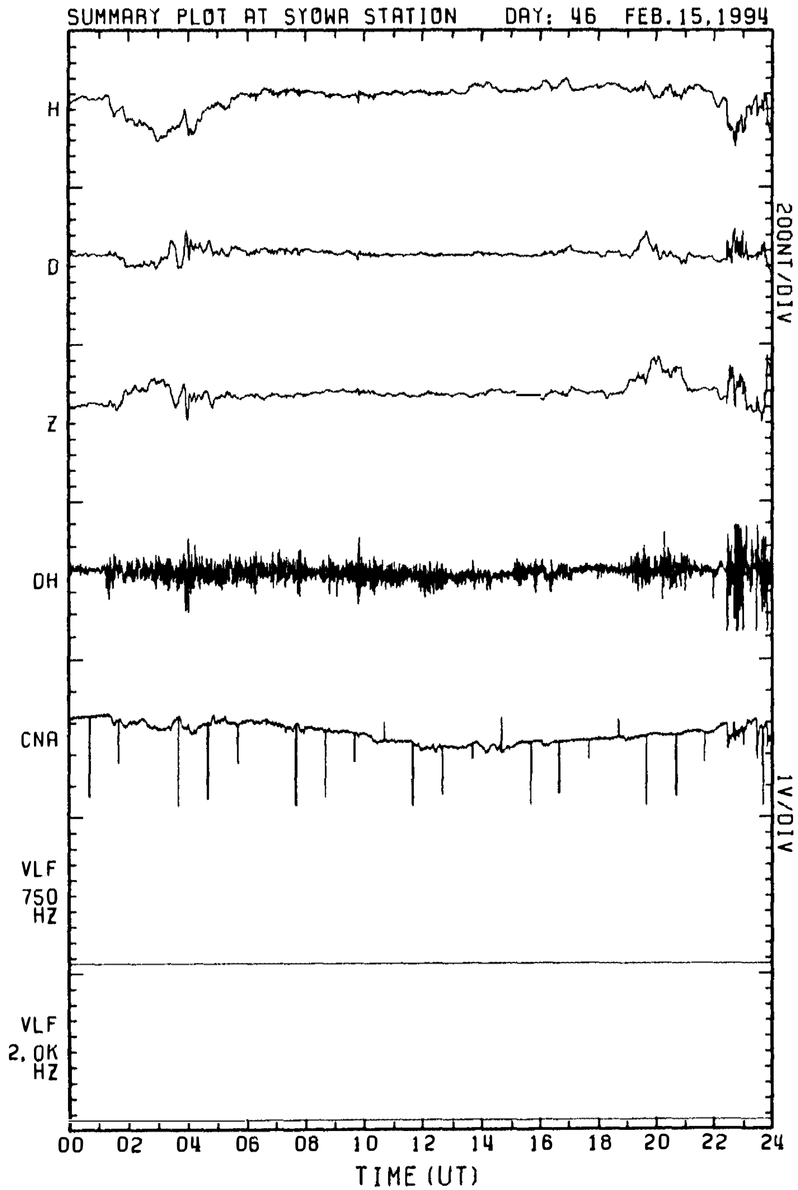

SUMMARY PLOT AT SYOWA STATION DAY: 40 FEB. 9,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

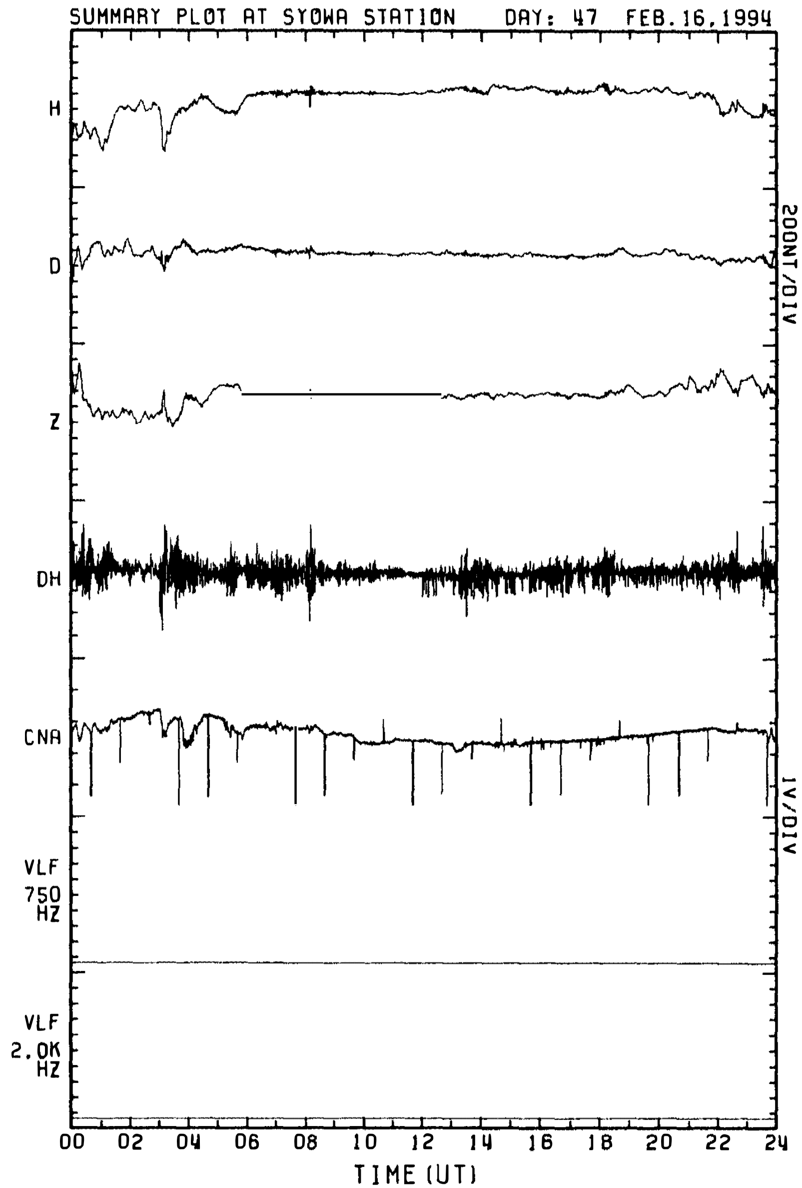

SUMMARY PLOT AT SYOWA STATION DAY: 42 FEB.11,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

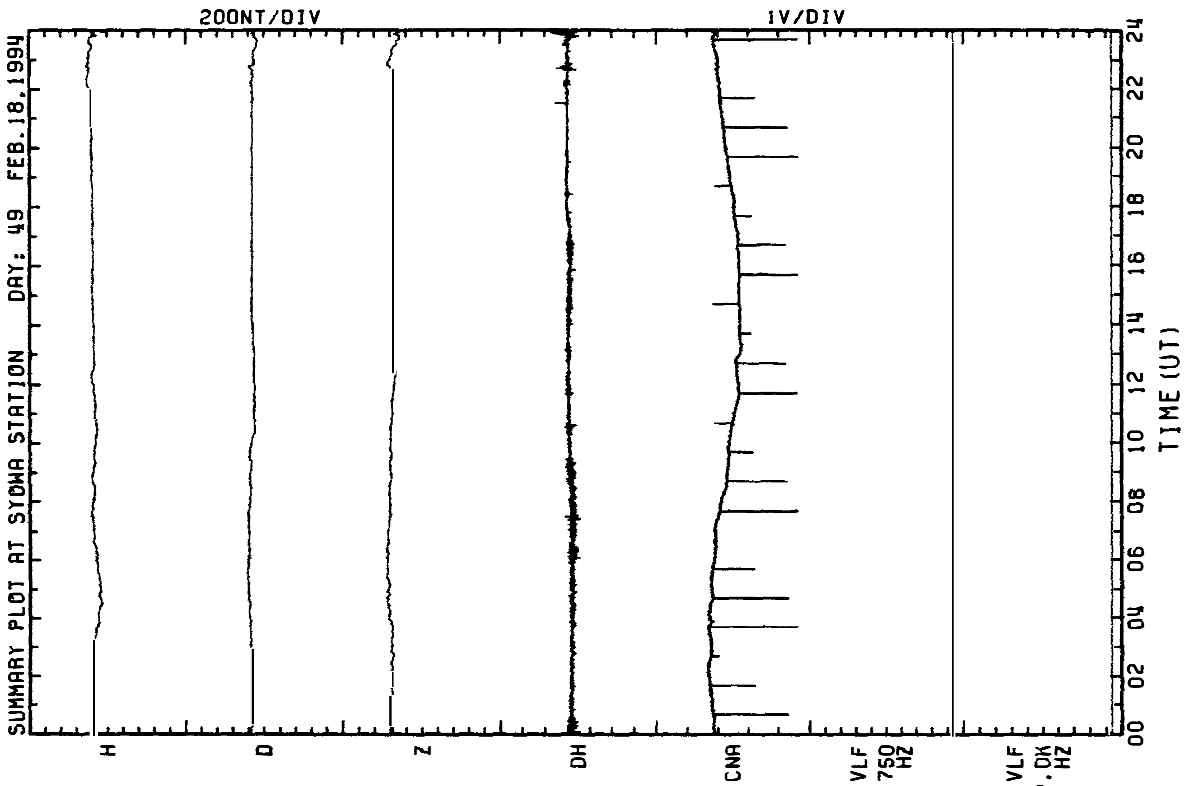

SUMMARY PLOT AT SYOWA STATION DAY: 43 FEB.12,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

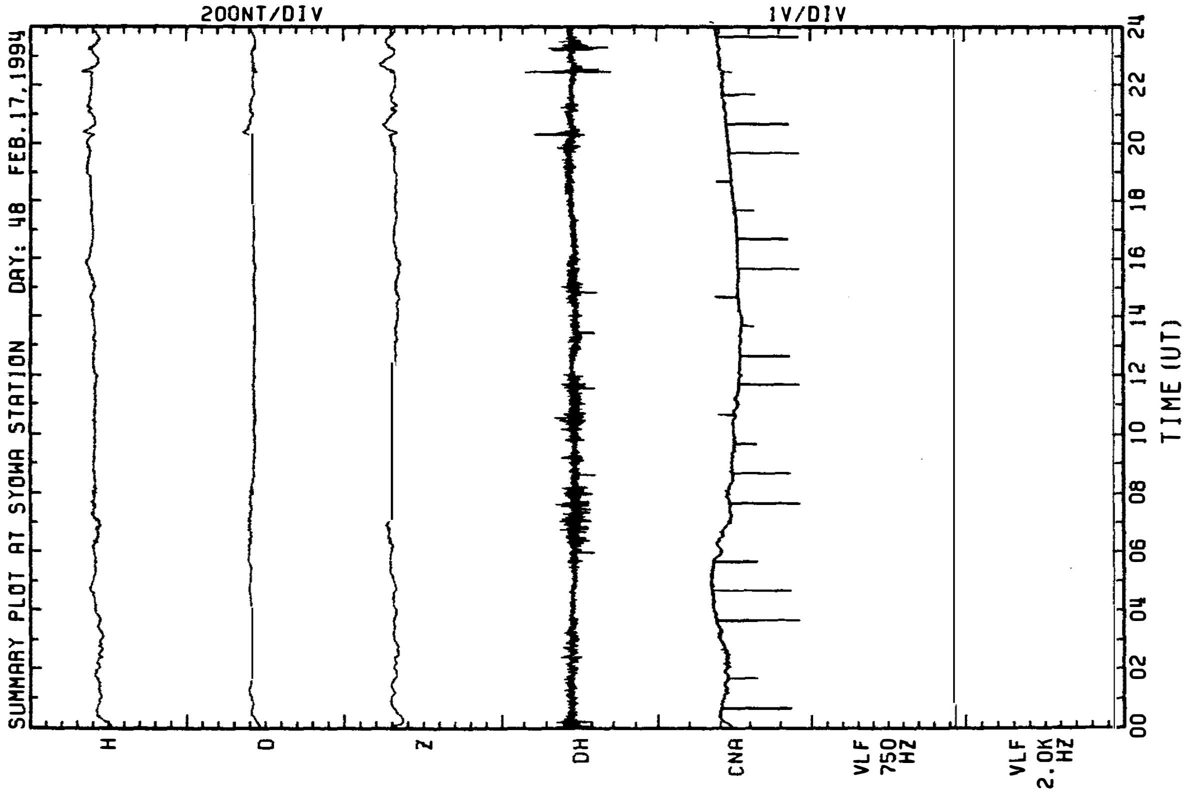

SUMMARY PLOT AT SYOWA STATION DAY: 44 FEB.13,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

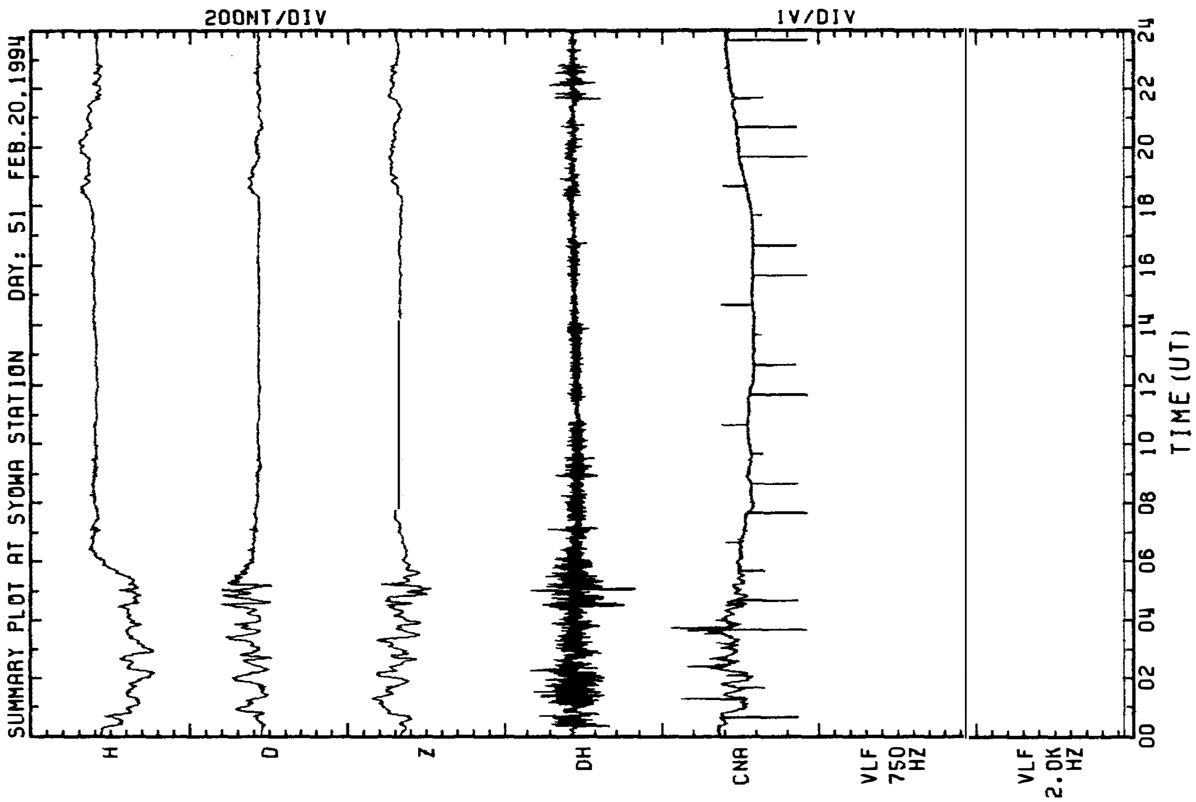

SUMMARY PLOT AT SYOWA STATION DAY: 45 FEB.14,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

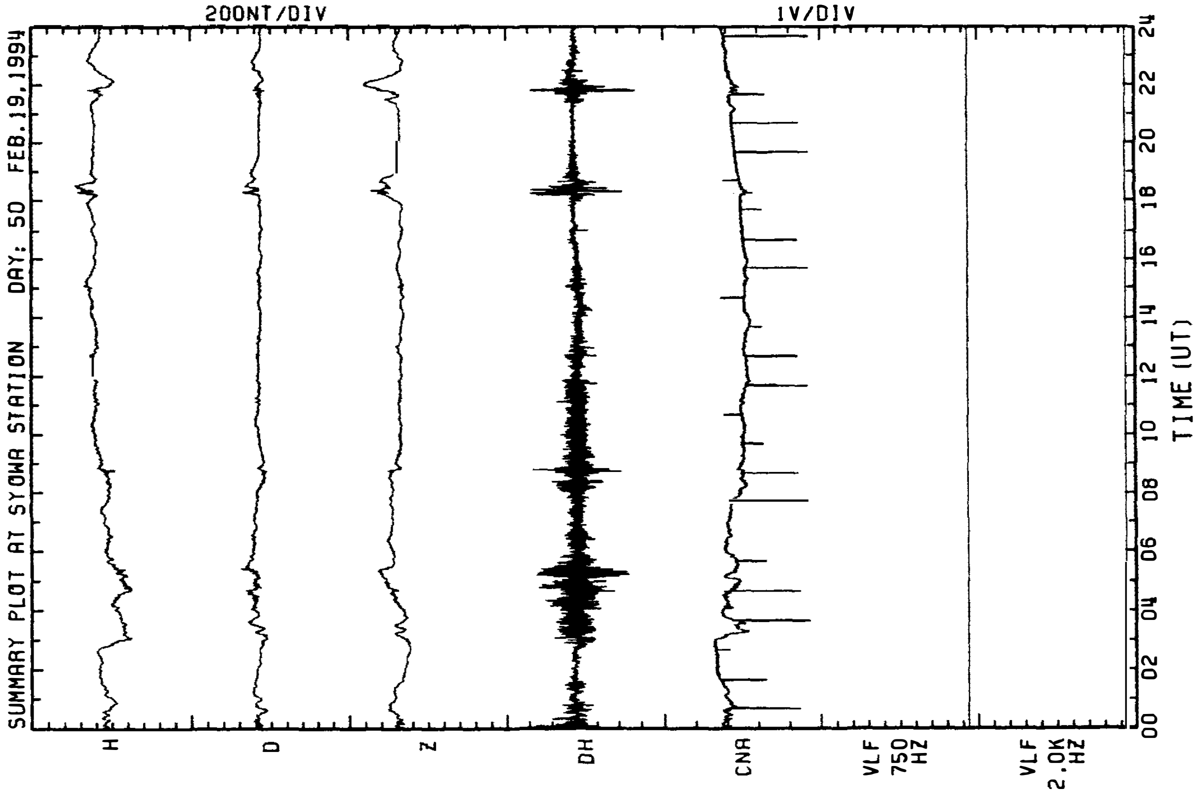

SUMMARY PLOT AT SYOWA STATION DAY: 46 FEB.15,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

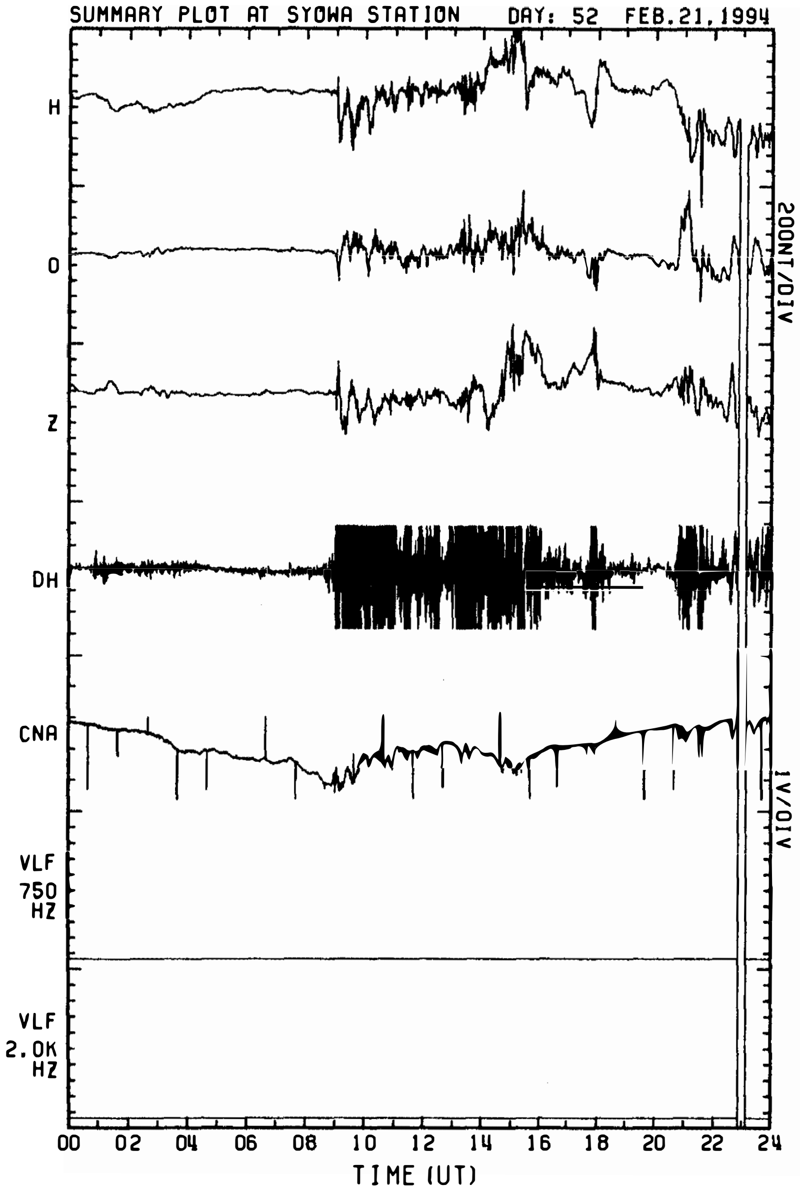

SUMMARY PLOT AT SYOWA STATION DAY: 47 FEB.16,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

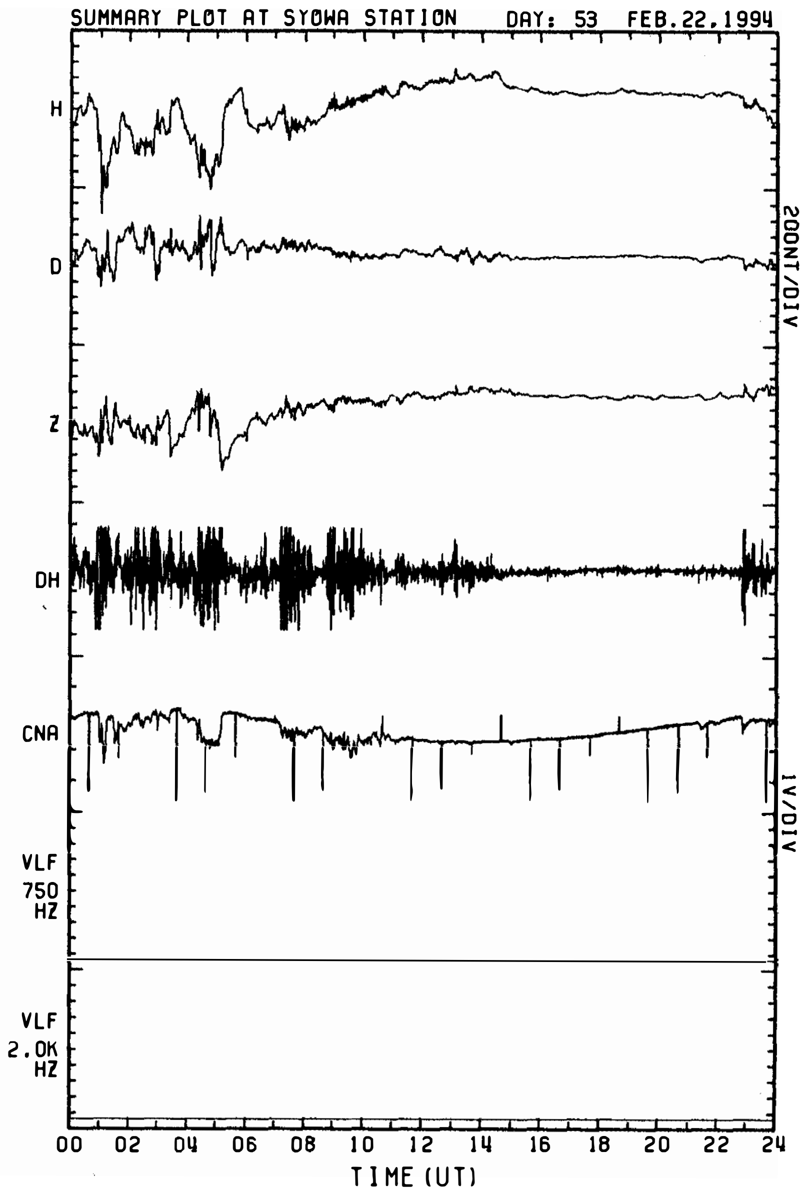

SUMMARY PLOT AT SYOWA STATION DAY: 49 FEB.18,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

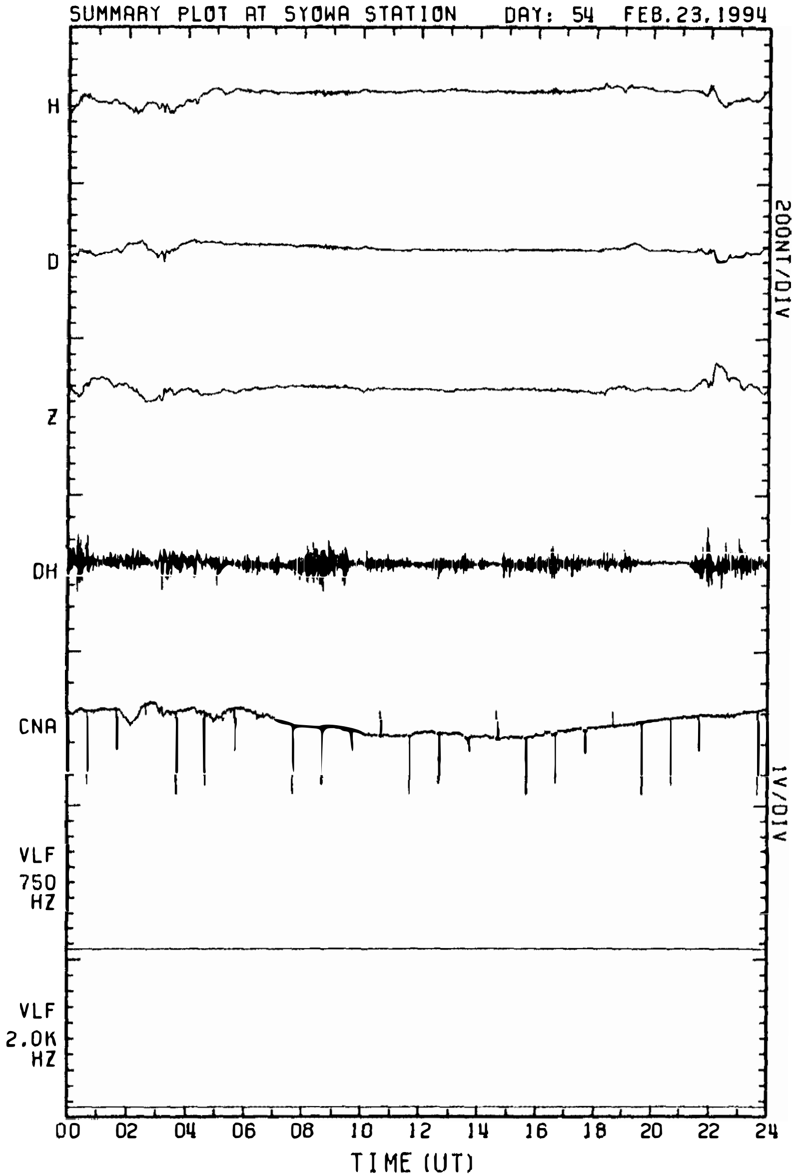

SUMMARY PLOT AT SYOWA STATION DAY: 48 FEB.17,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

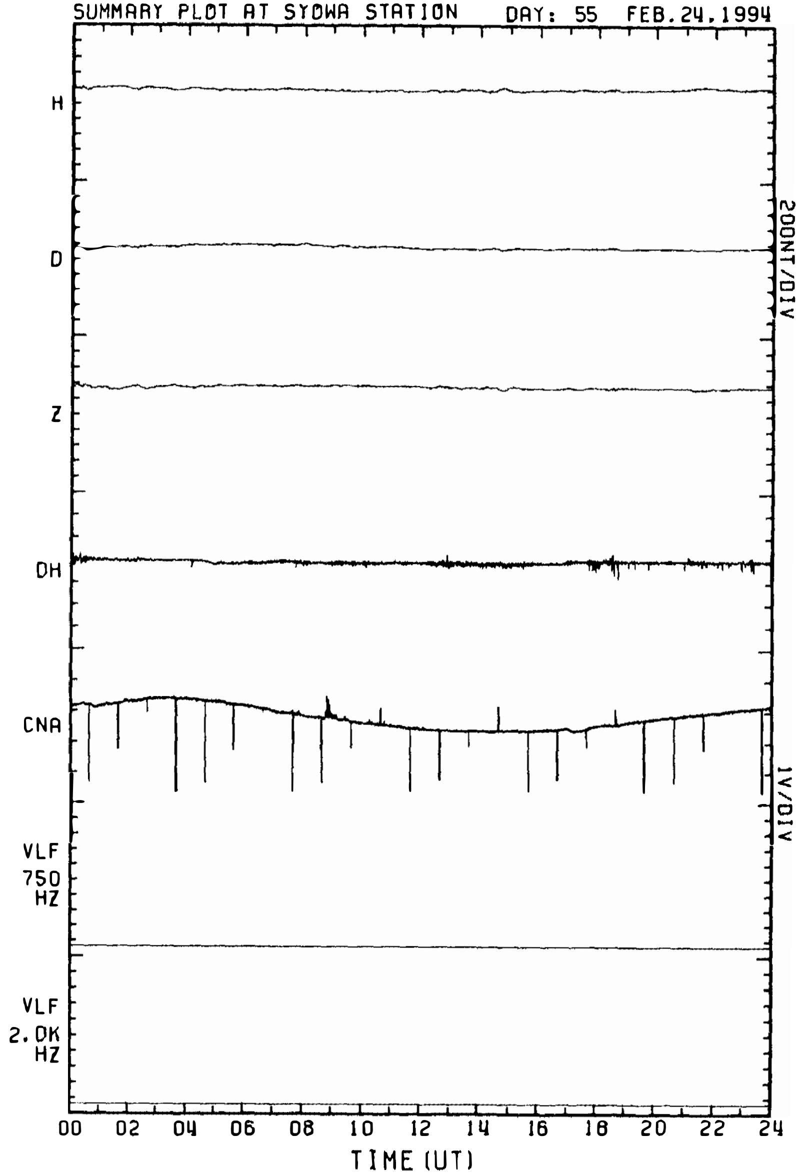

SUMMARY PLOT AT SYOWA STATION DAY: 51 FEB.20,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

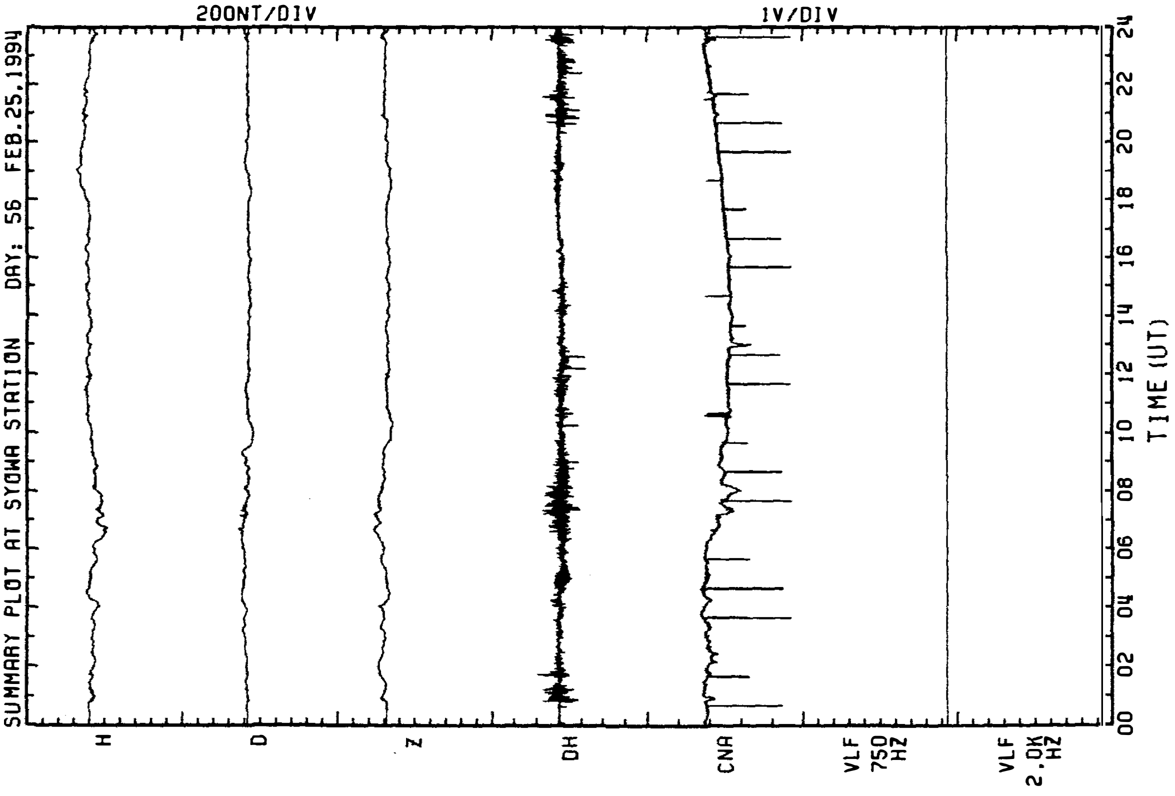

SUMMARY PLOT AT SYOWA STATION DAY: 50 FEB.19,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

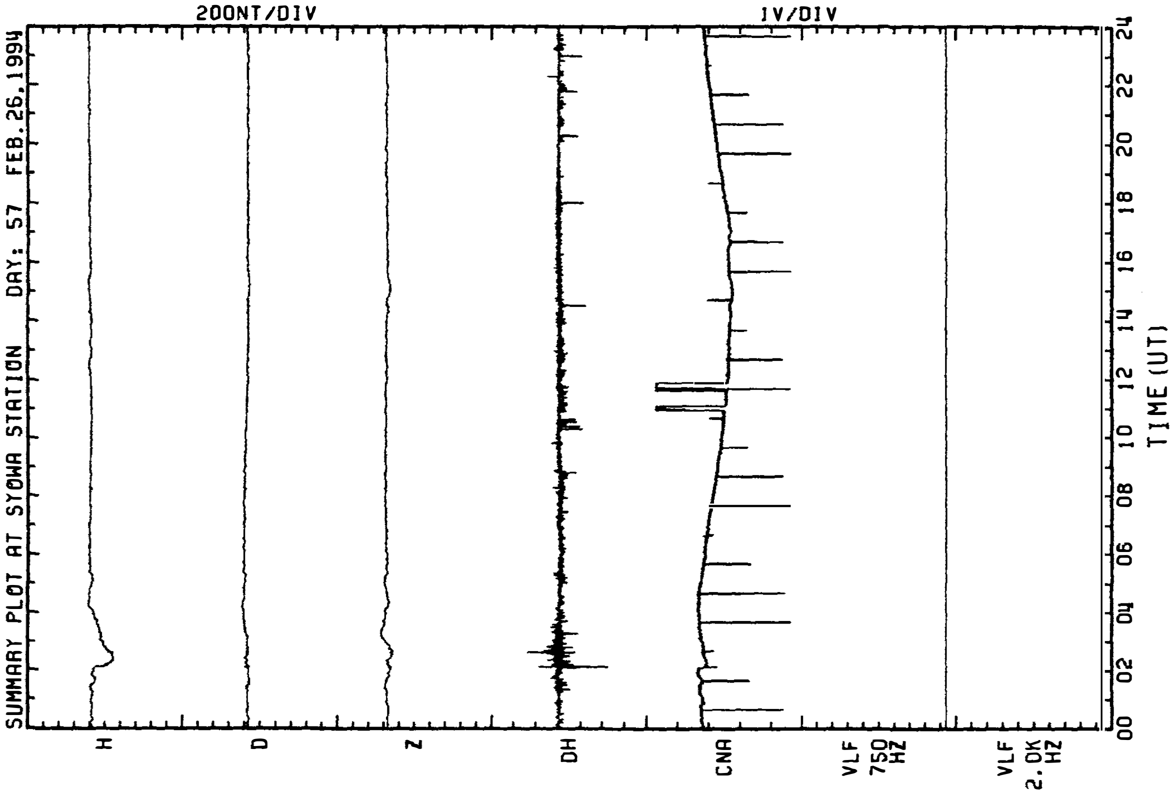

SUMMARY PLOT AT SYOWA STATION DAY: 52 FEB.21,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 53 FEB.22,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

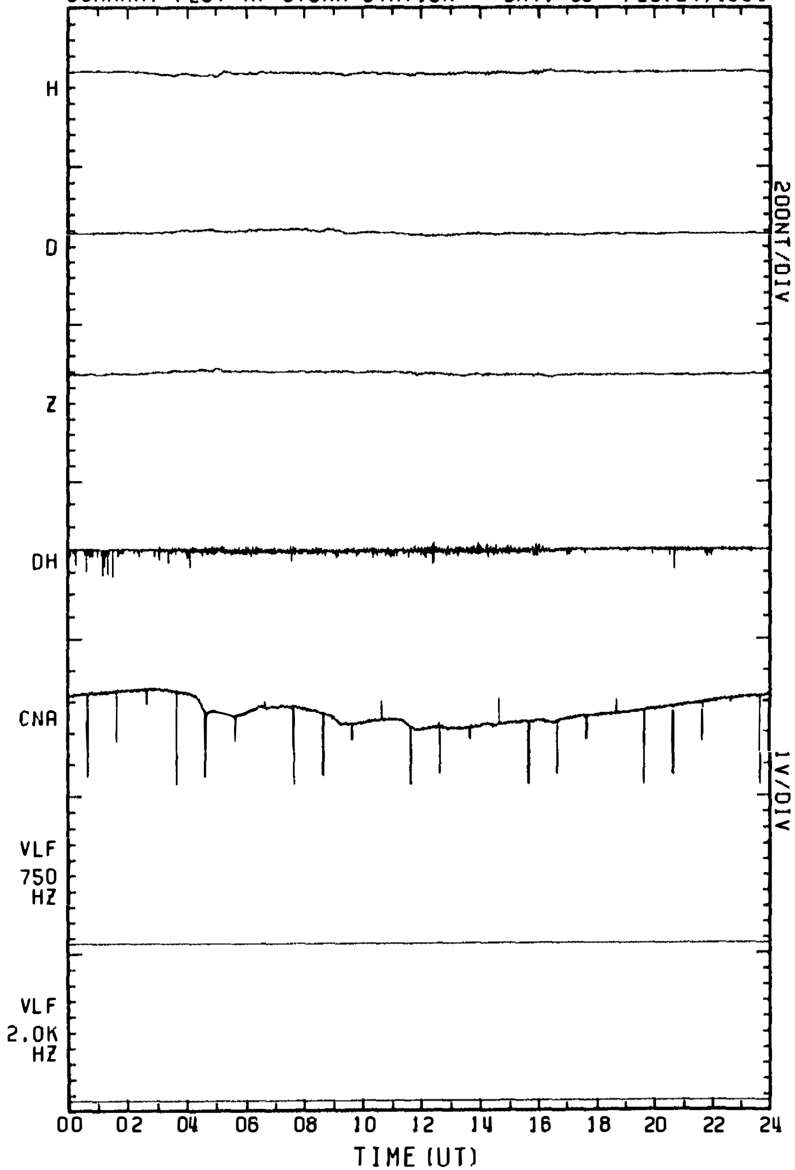

SUMMARY PLOT AT SYOWA STATION DAY: 54 FEB.23.1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 55 FEB.24.1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

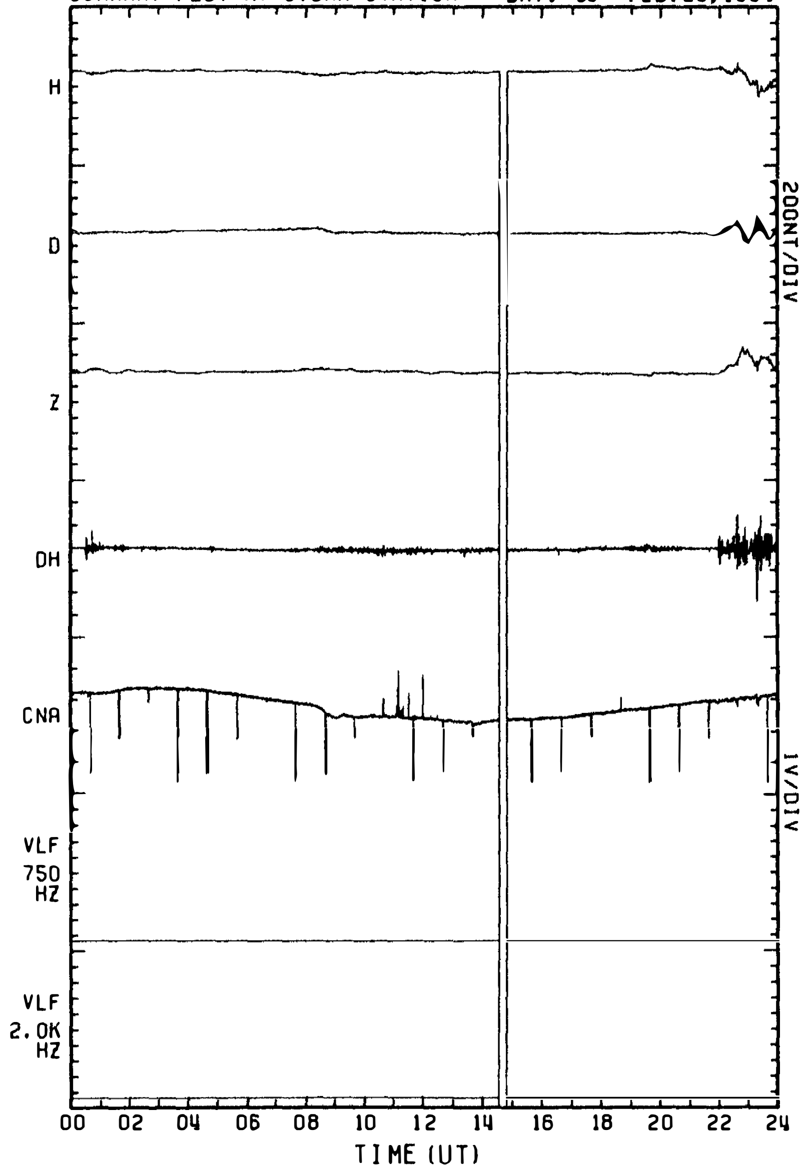

SUMMARY PLOT AT SYOWA STATION DAY: 56 FEB.25,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

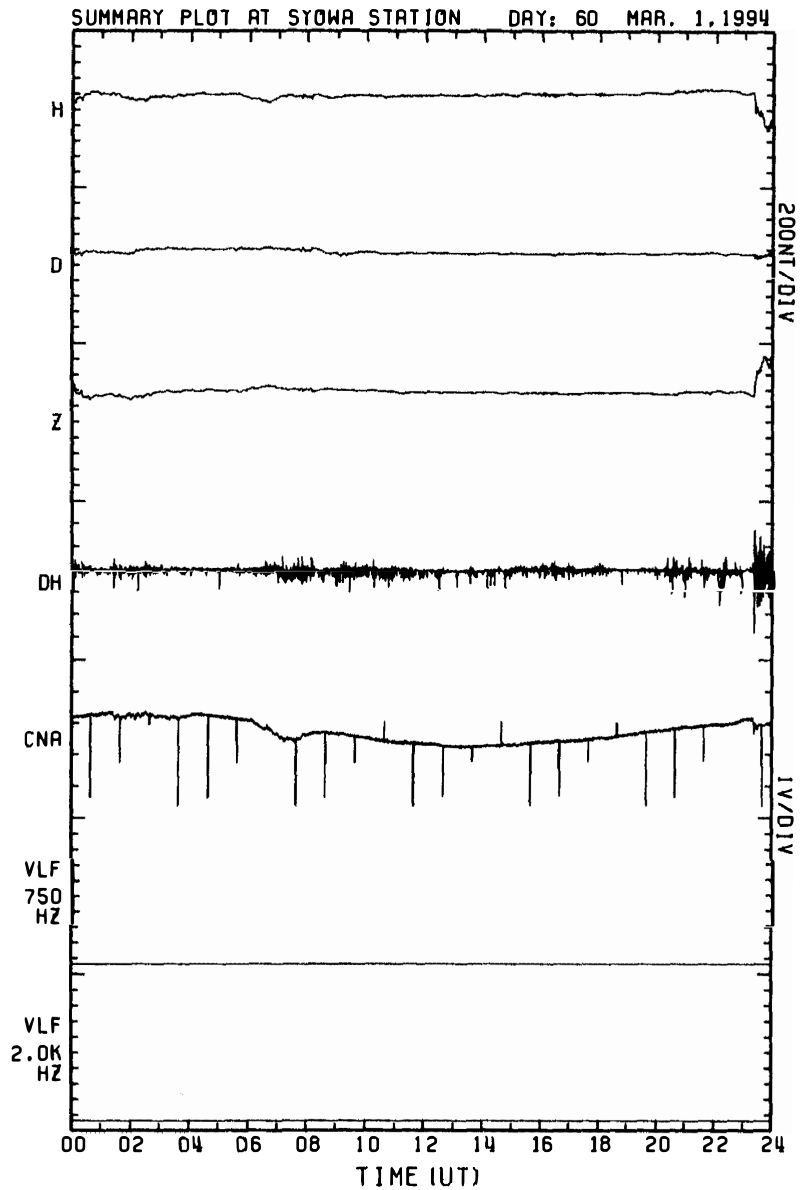

SUMMARY PLOT AT SYOWA STATION DAY: 57 FEB.26,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

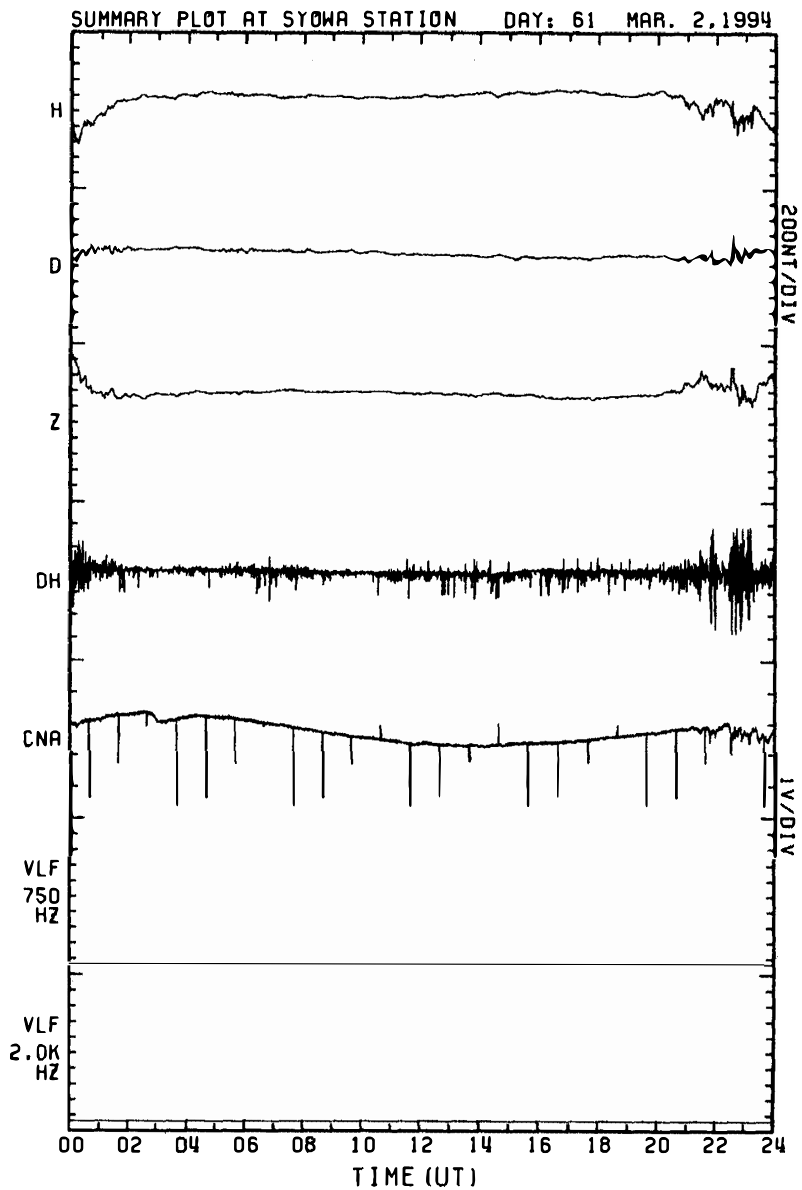
SUMMARY PLOT AT SYOWA STATION DAY: 58 FEB.27,1994

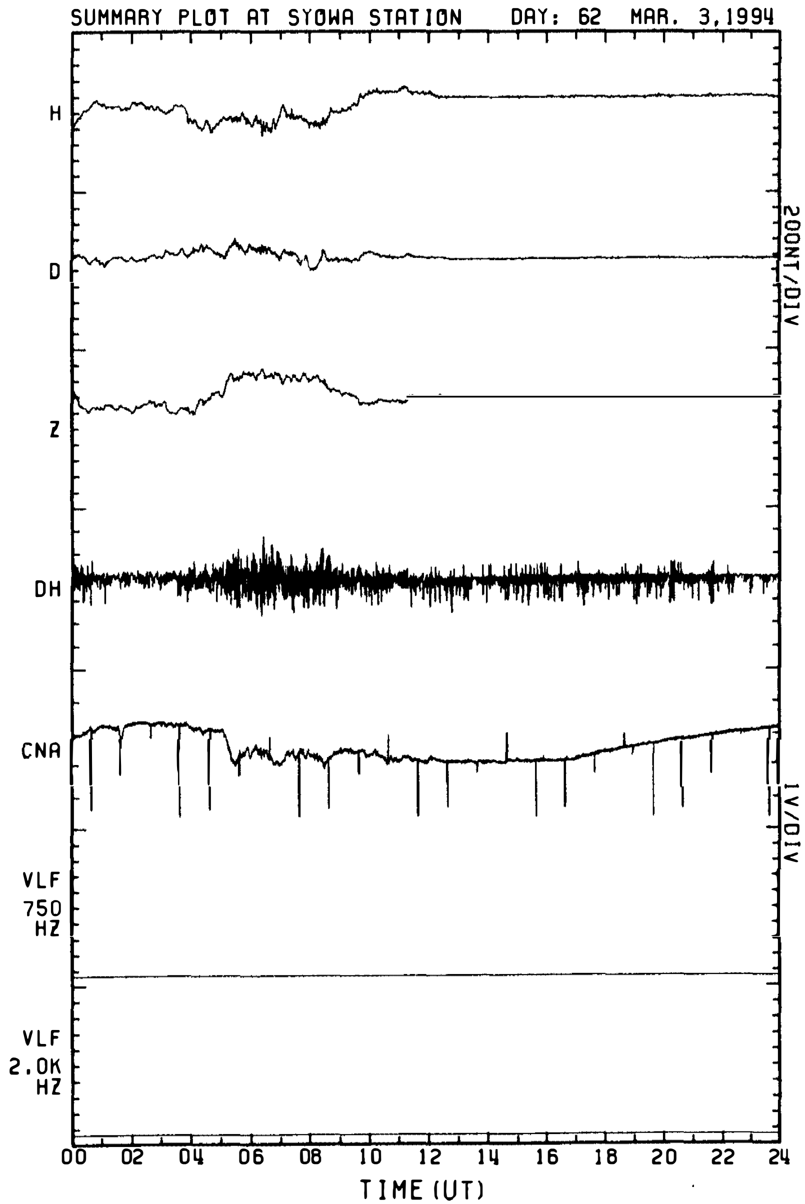


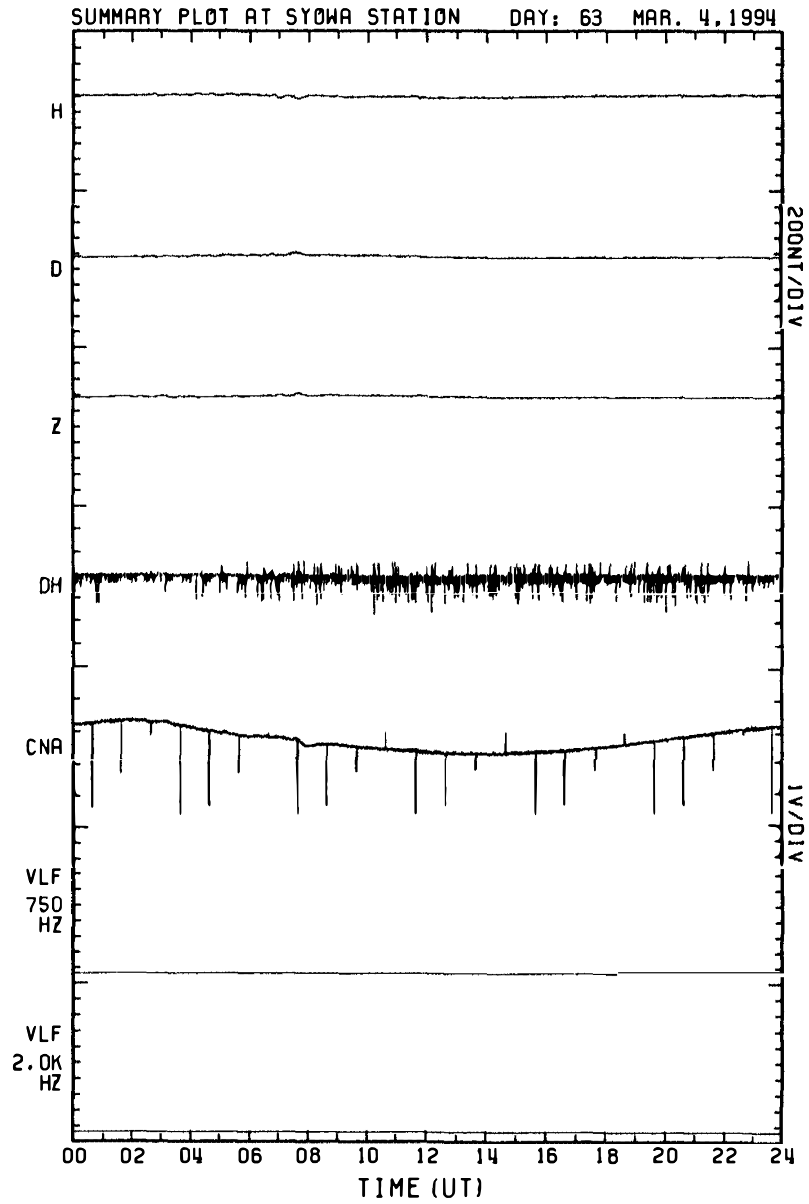
SUMMARY PLOT AT SYOWA STATION DAY: 59 FEB.28,1994

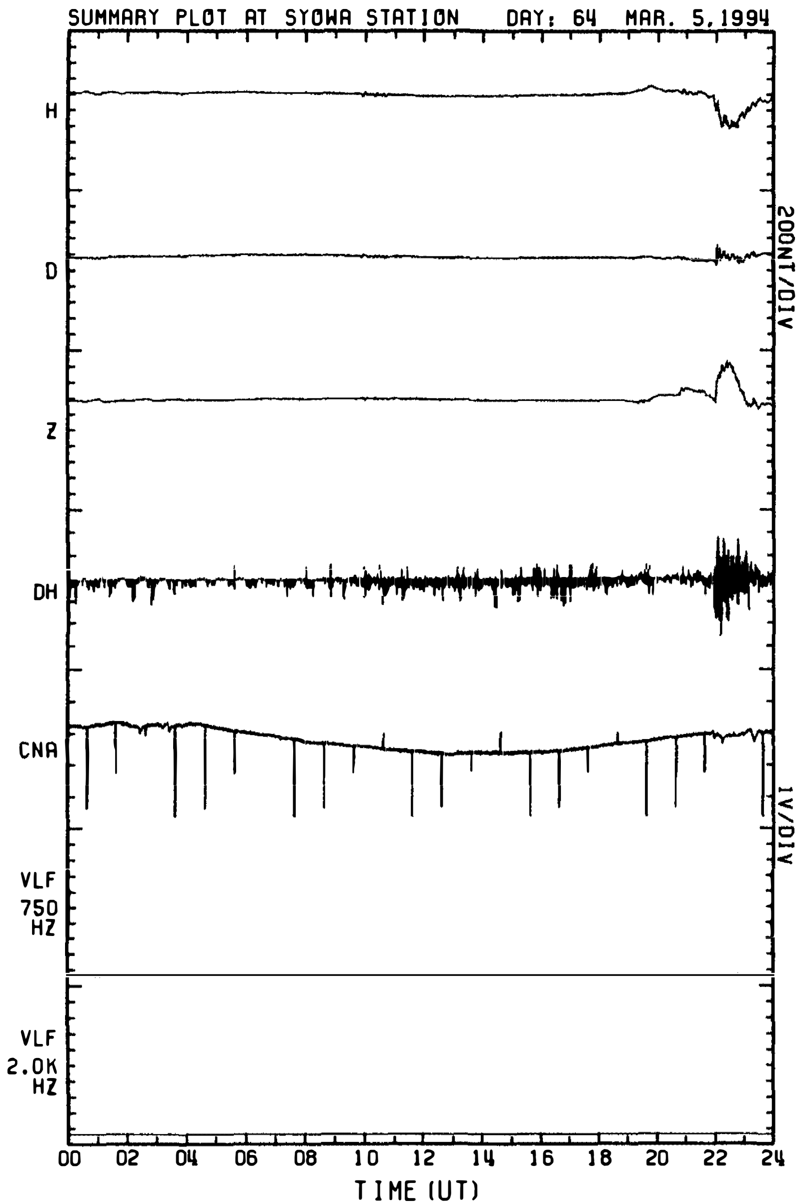


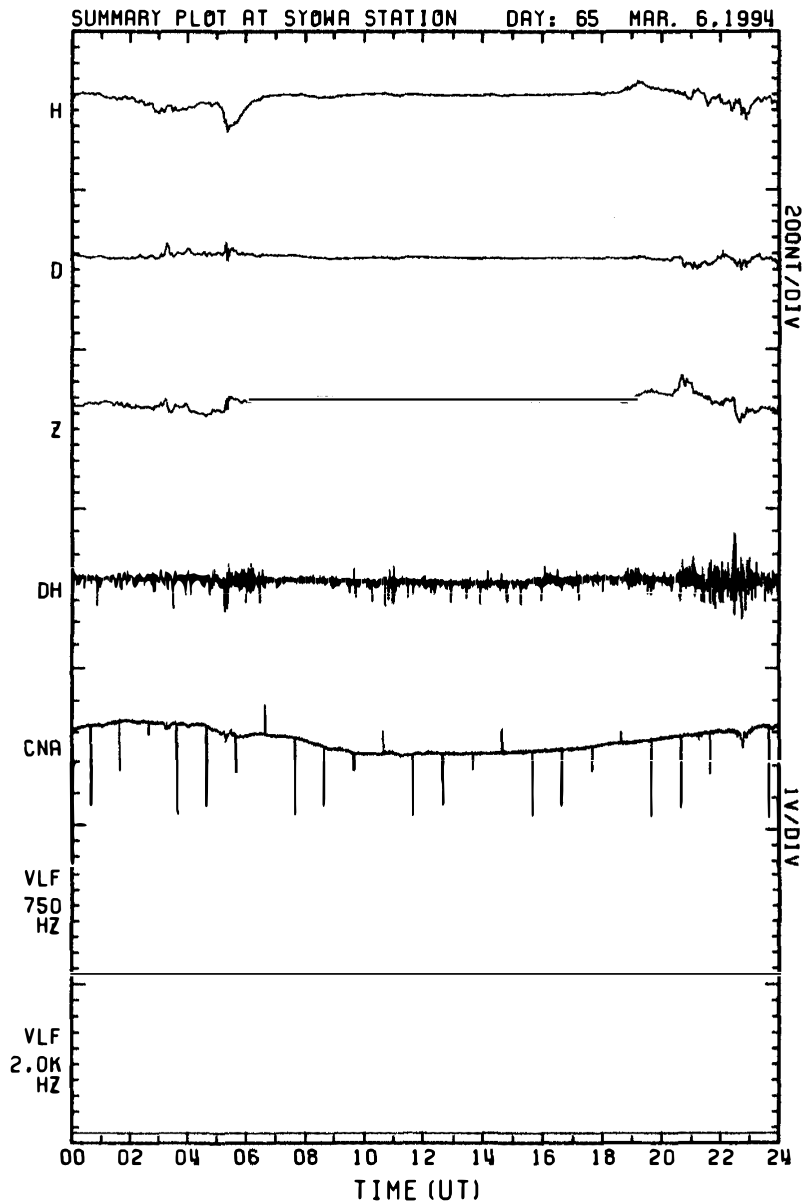

SUMMARY PLOT AT SYOWA STATION DAY: 60 MAR. 1,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

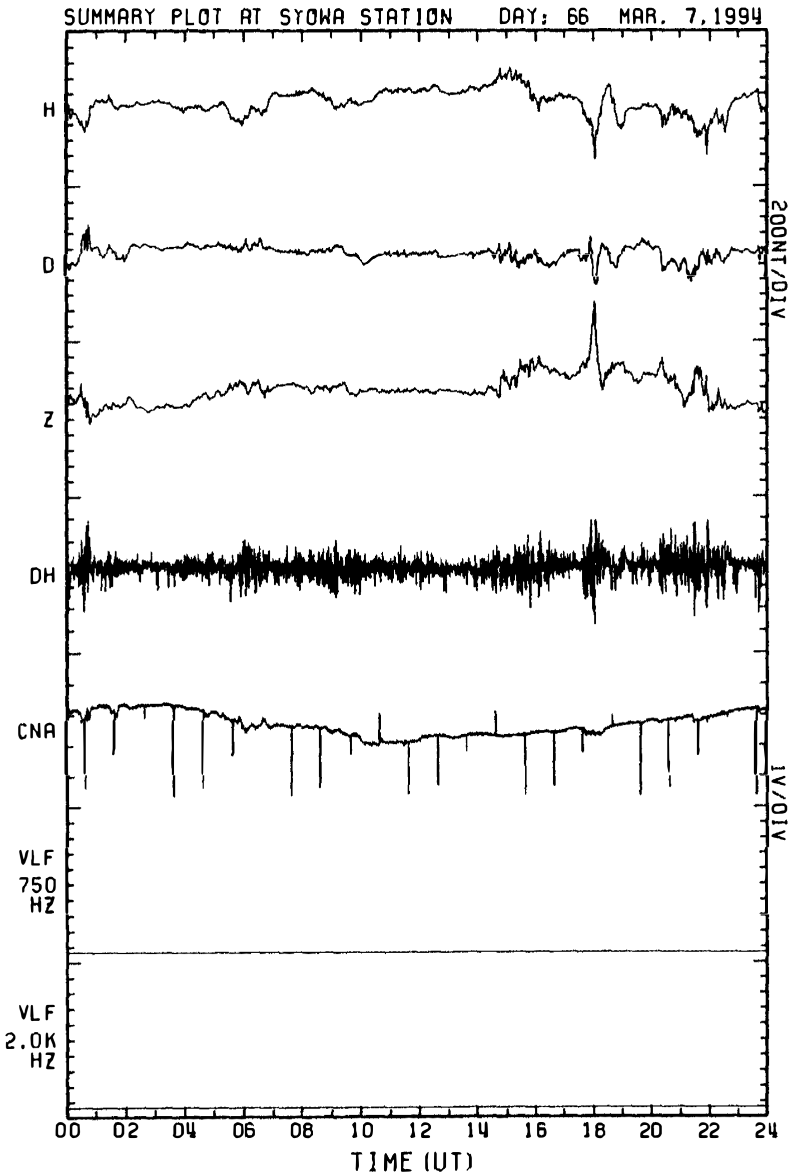

SUMMARY PLOT AT SYOWA STATION DAY: 61 MAR. 2,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

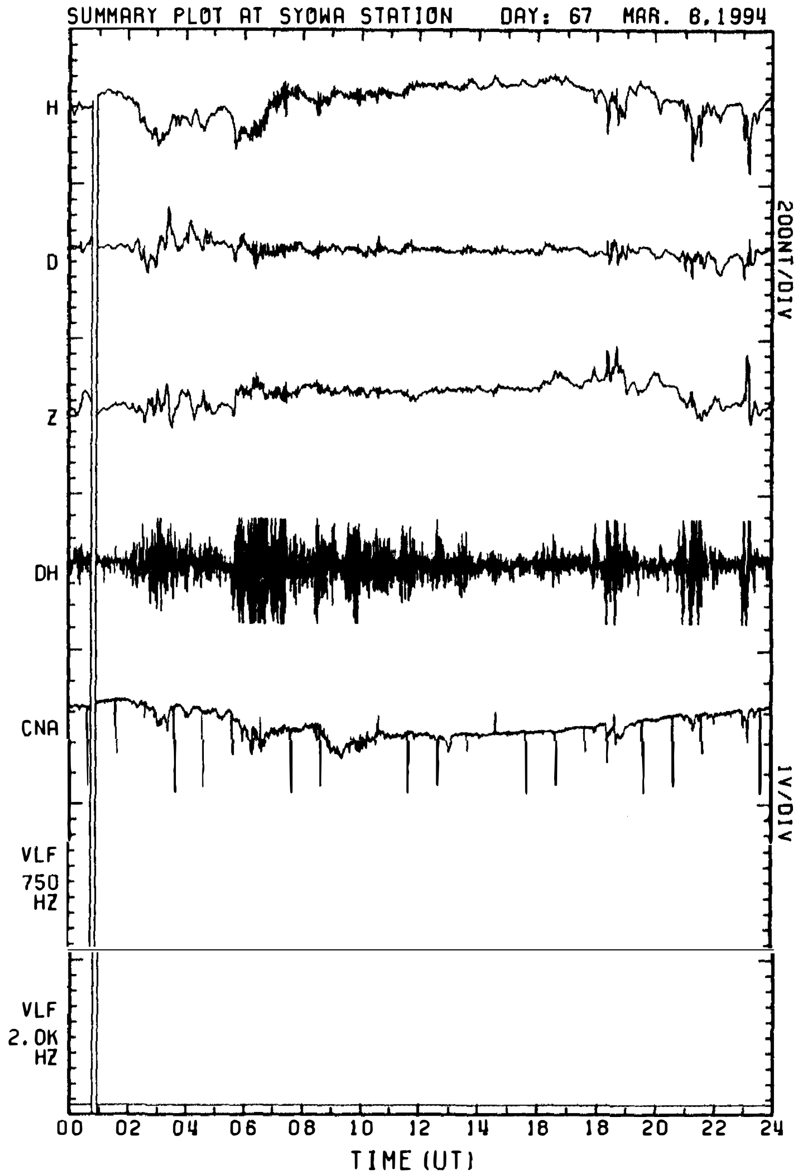

SUMMARY PLOT AT SYOWA STATION DAY: 62 MAR. 3,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

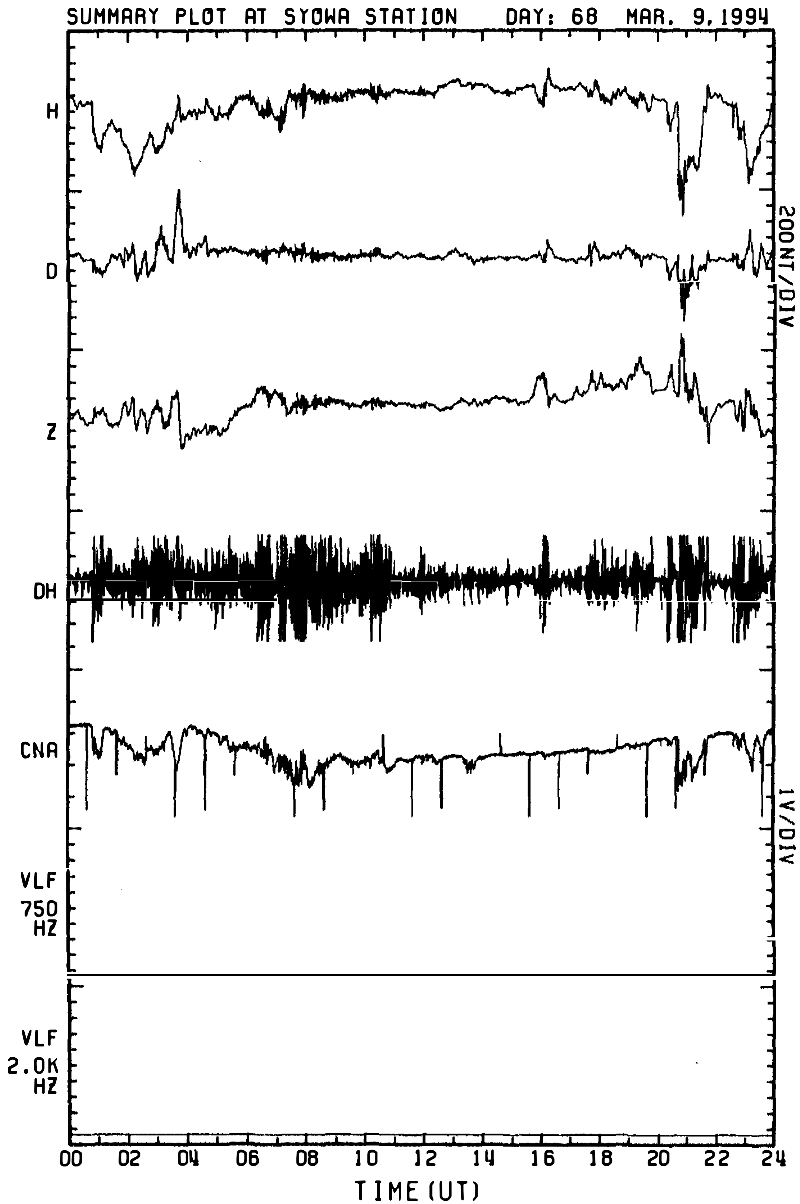

SUMMARY PLOT AT SYOWA STATION DAY: 63 MAR. 4,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

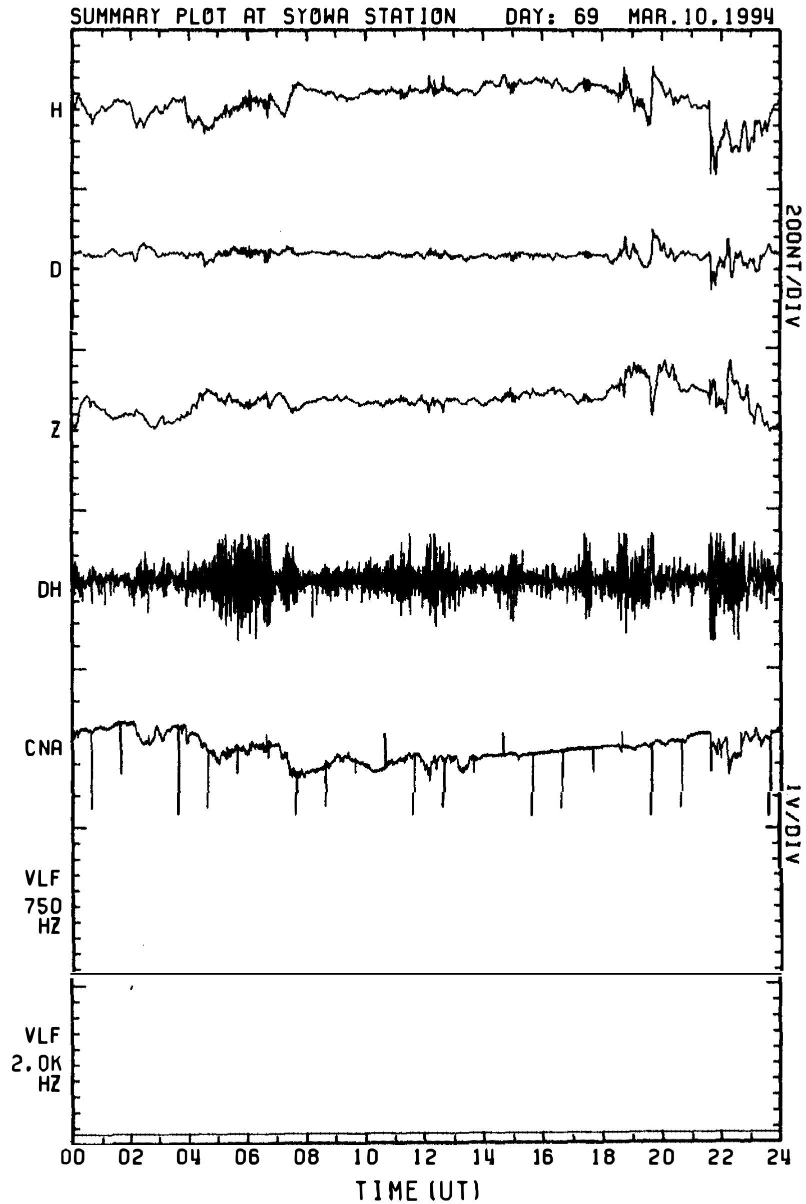

SUMMARY PLOT AT SYOWA STATION DAY: 64 MAR. 5,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

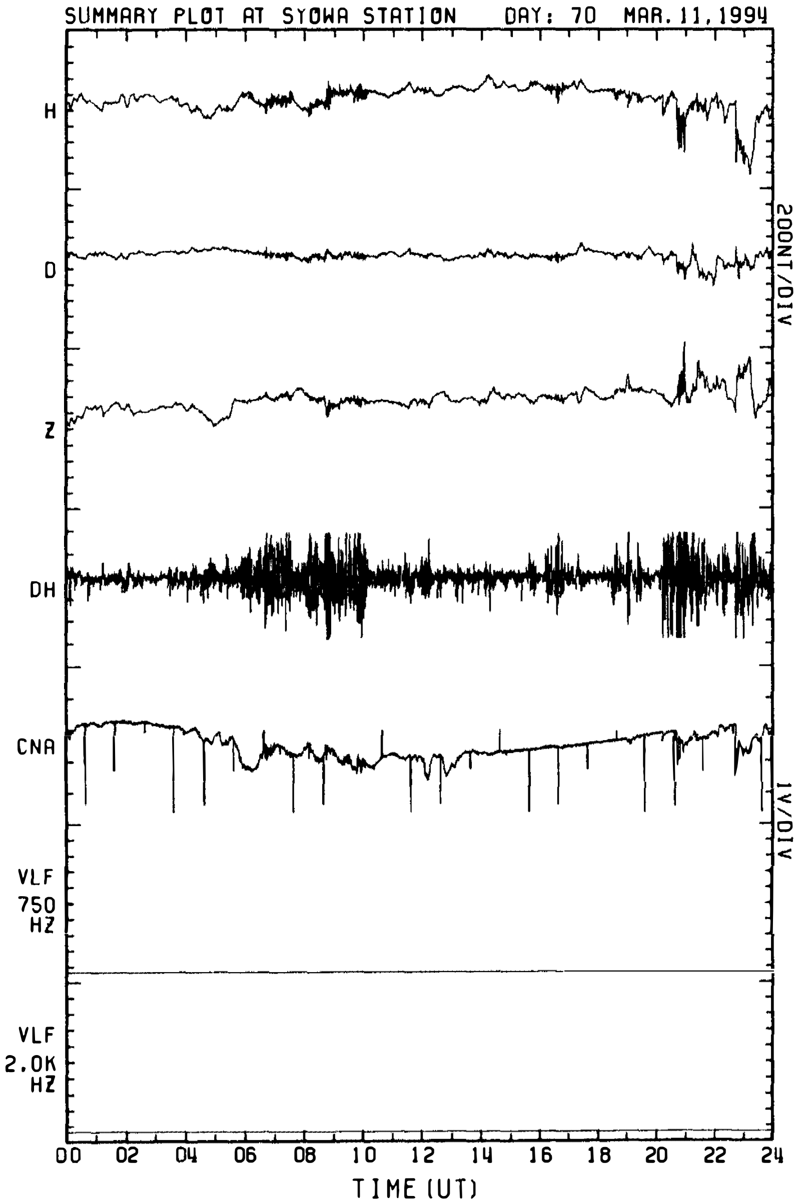

SUMMARY PLOT AT SYOWA STATION DAY: 65 MAR. 6,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

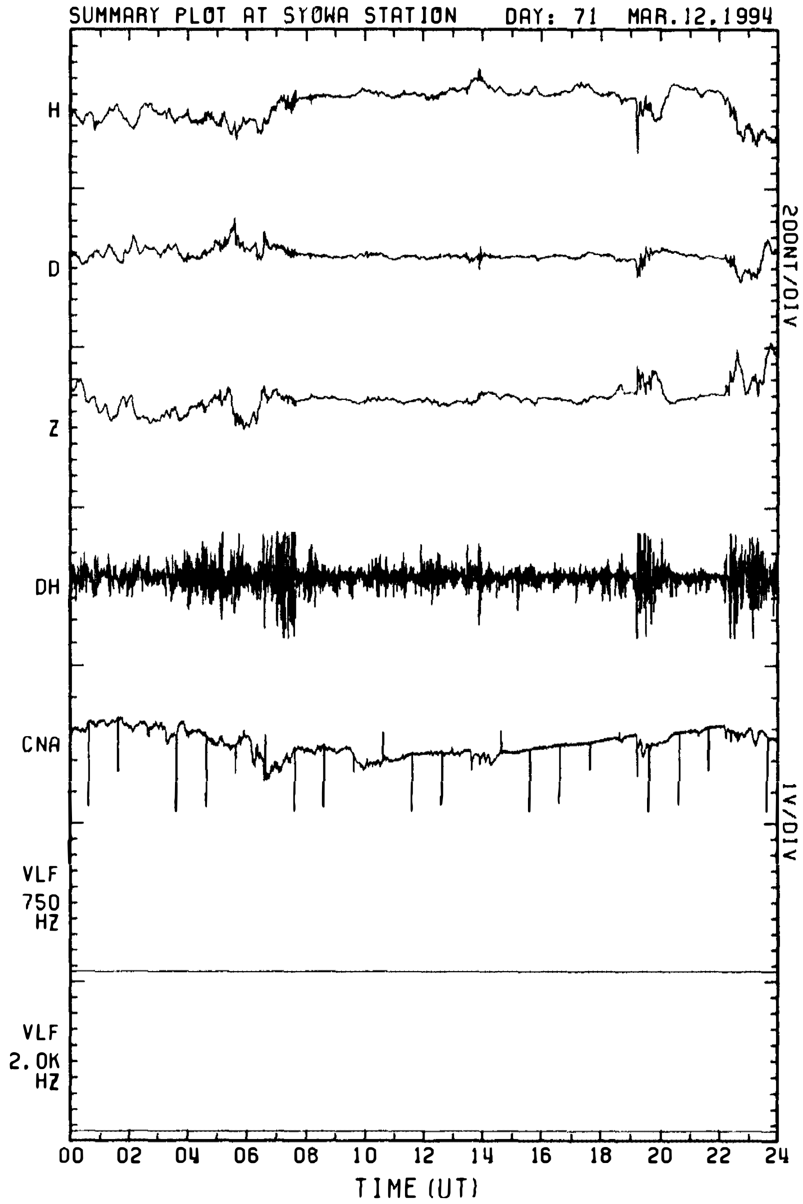

SUMMARY PLOT AT SYOWA STATION DAY: 66 MAR. 7,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

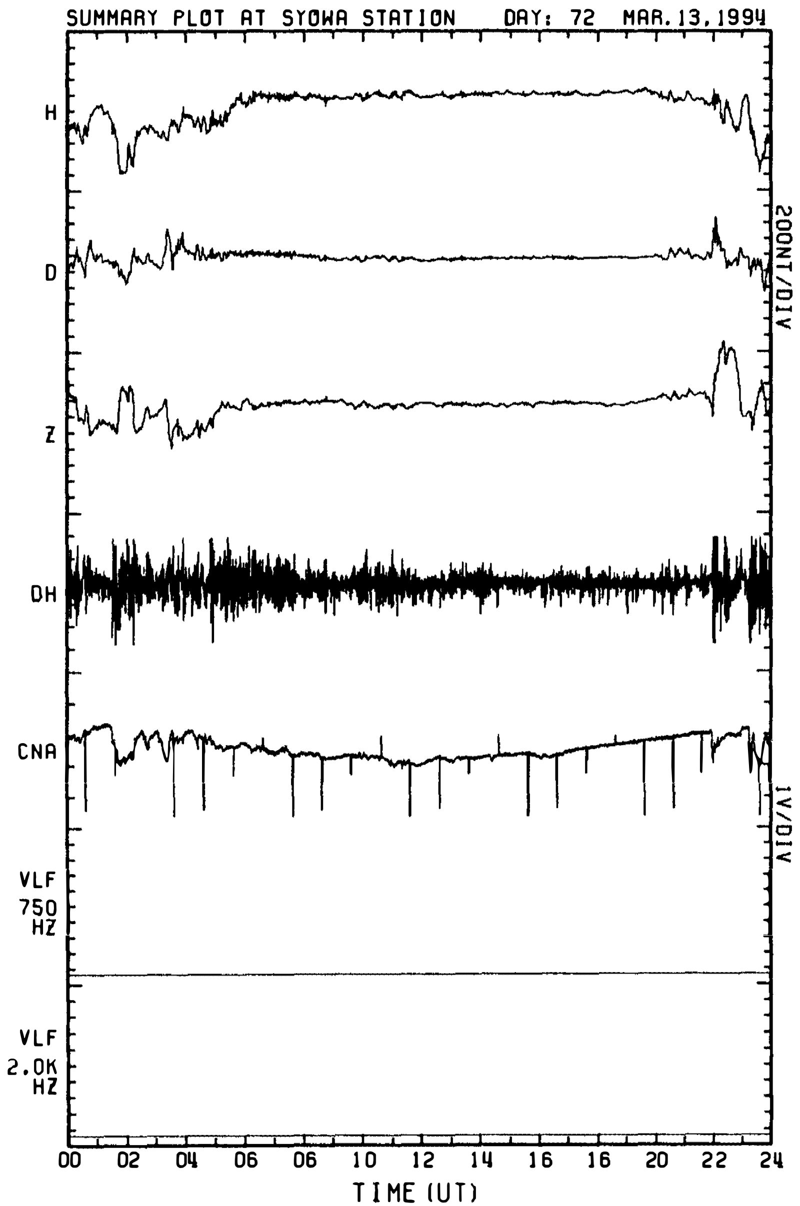

SUMMARY PLOT AT SYOWA STATION DAY: 67 MAR. 8,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 68 MAR. 9, 1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

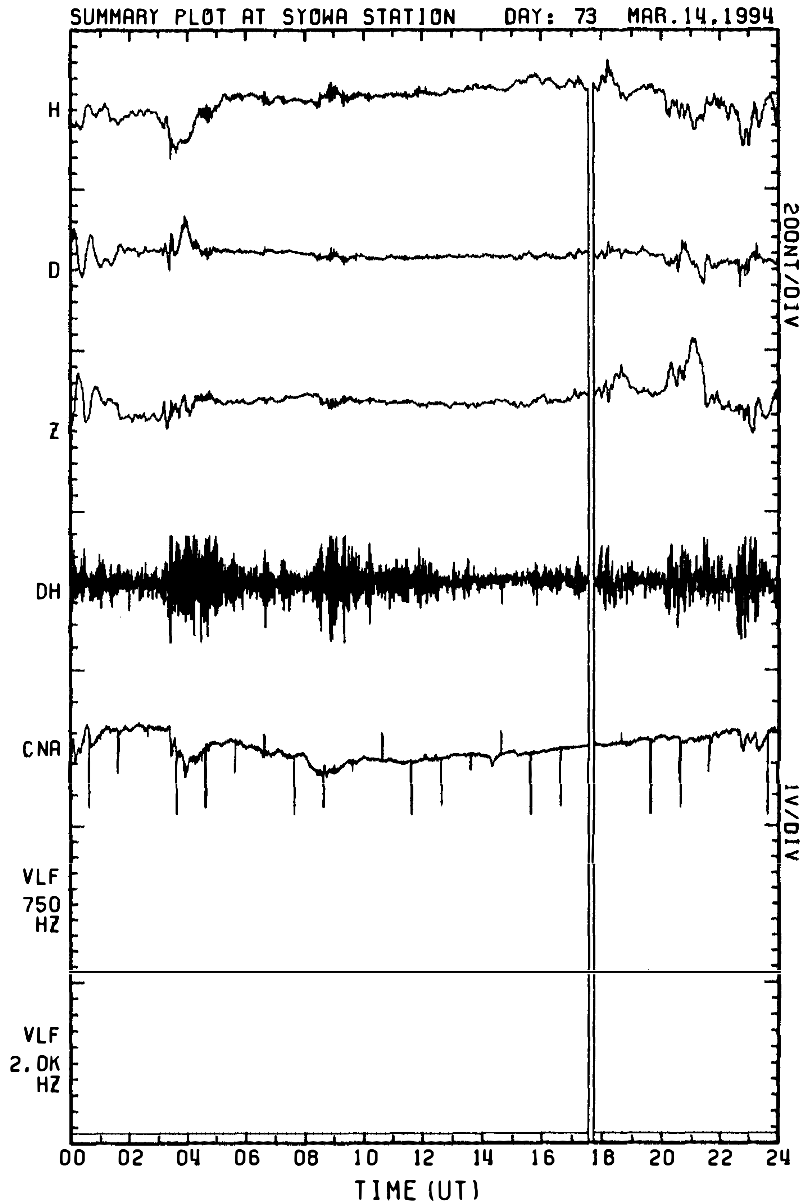

SUMMARY PLOT AT SYOWA STATION DAY: 69 MAR. 10, 1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 70 MAR.11,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 71 MAR.12,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

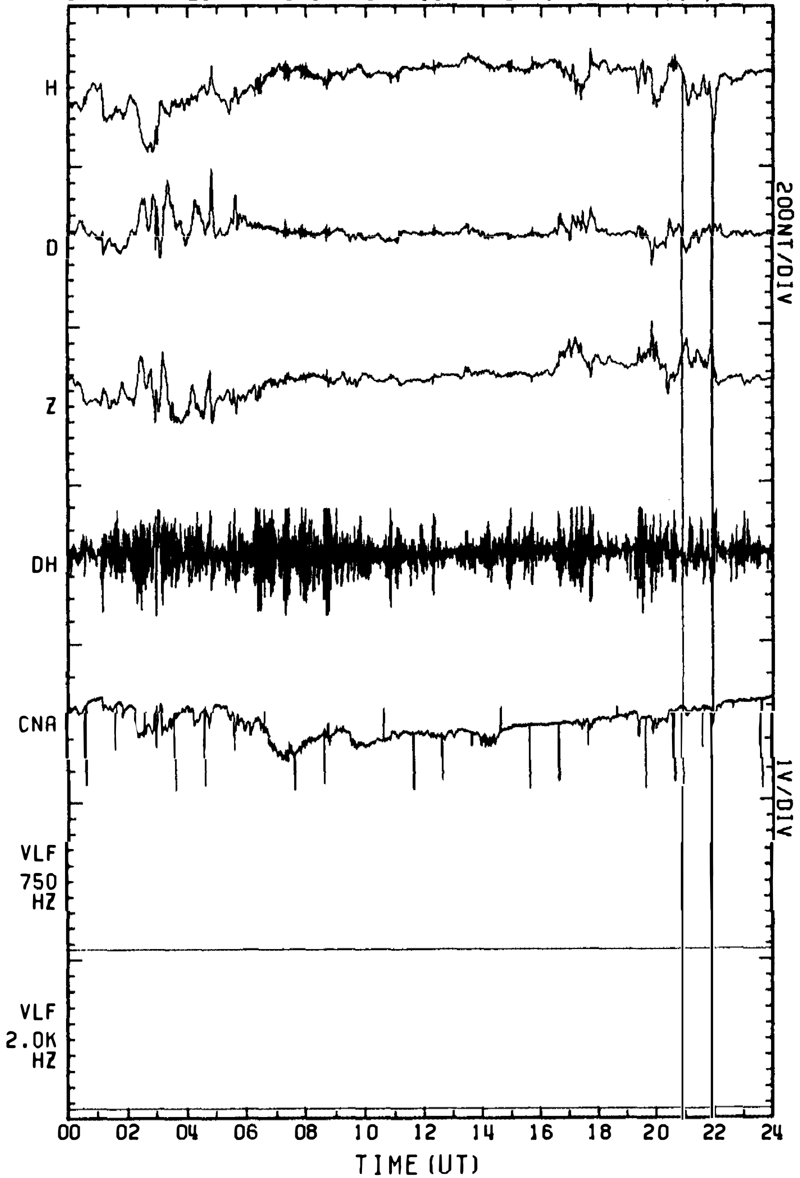


SUMMARY PLOT AT SYOWA STATION DAY: 72 MAR.13,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 06 10 12 14 16 16 20 22 24
TIME (UT)

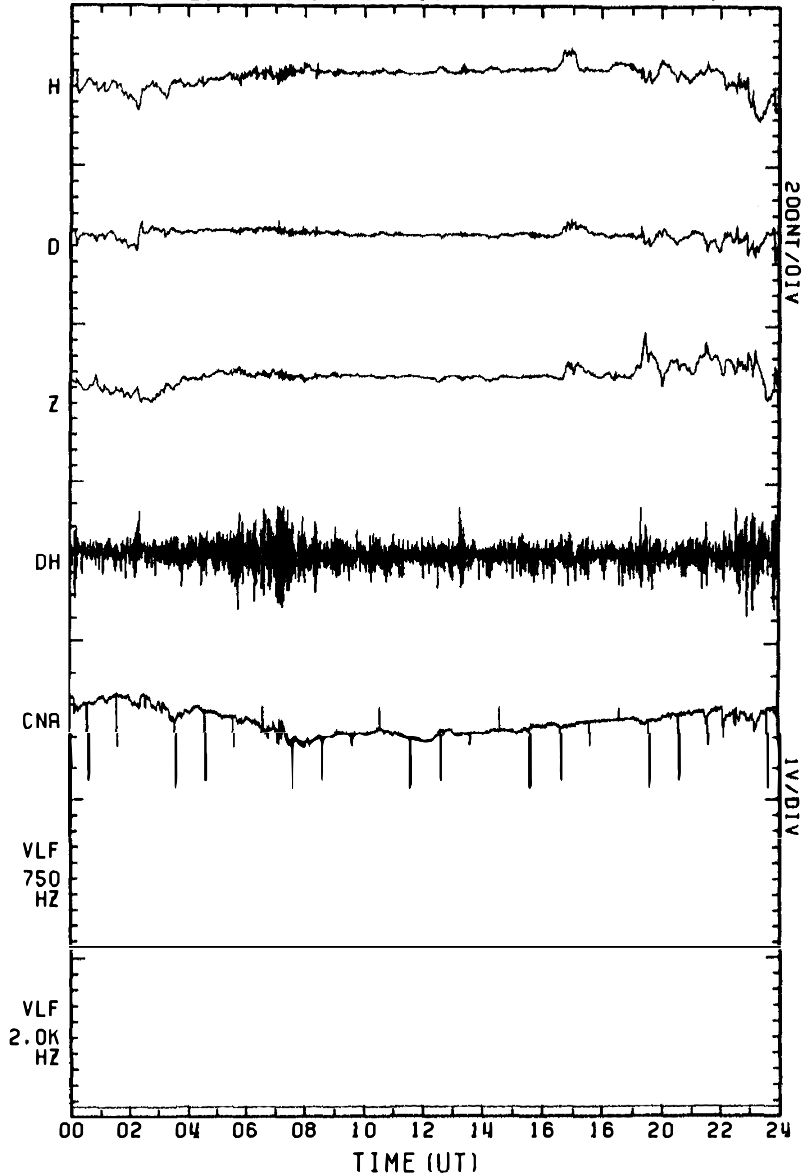


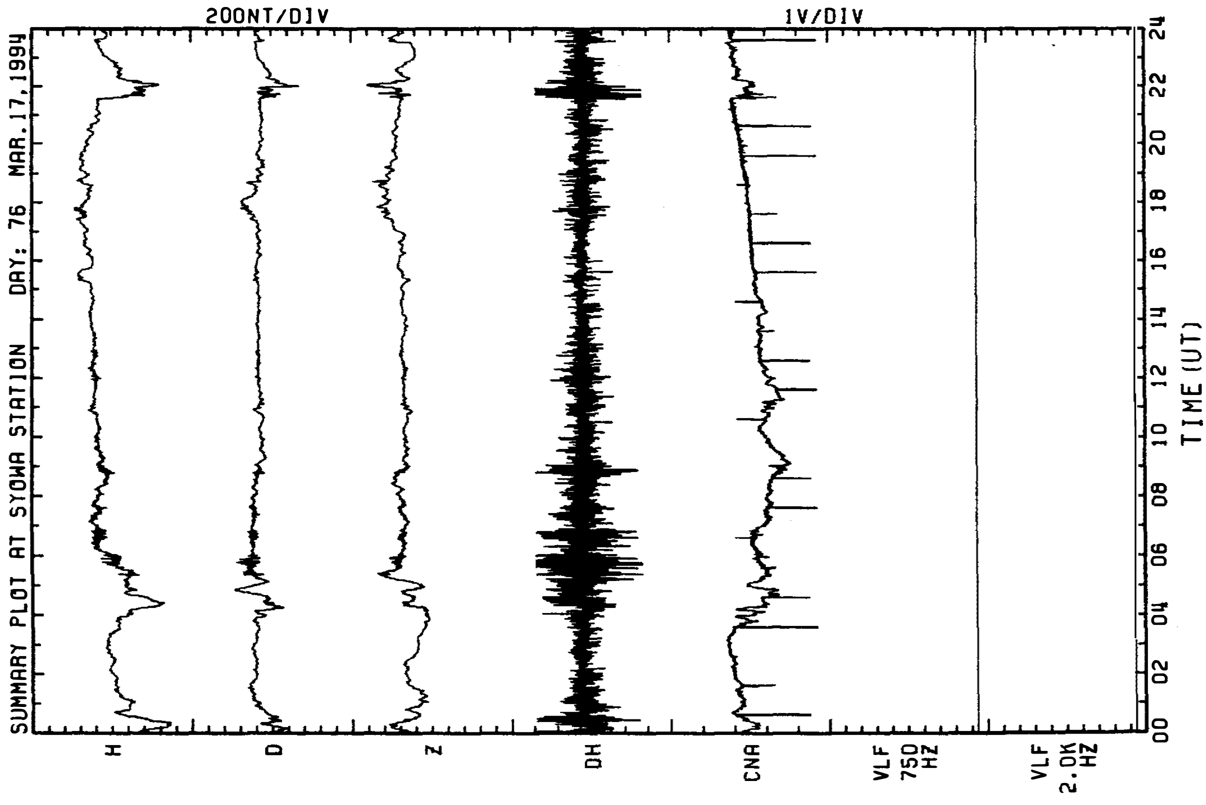
SUMMARY PLOT AT SYOWA STATION DAY: 73 MAR.14,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

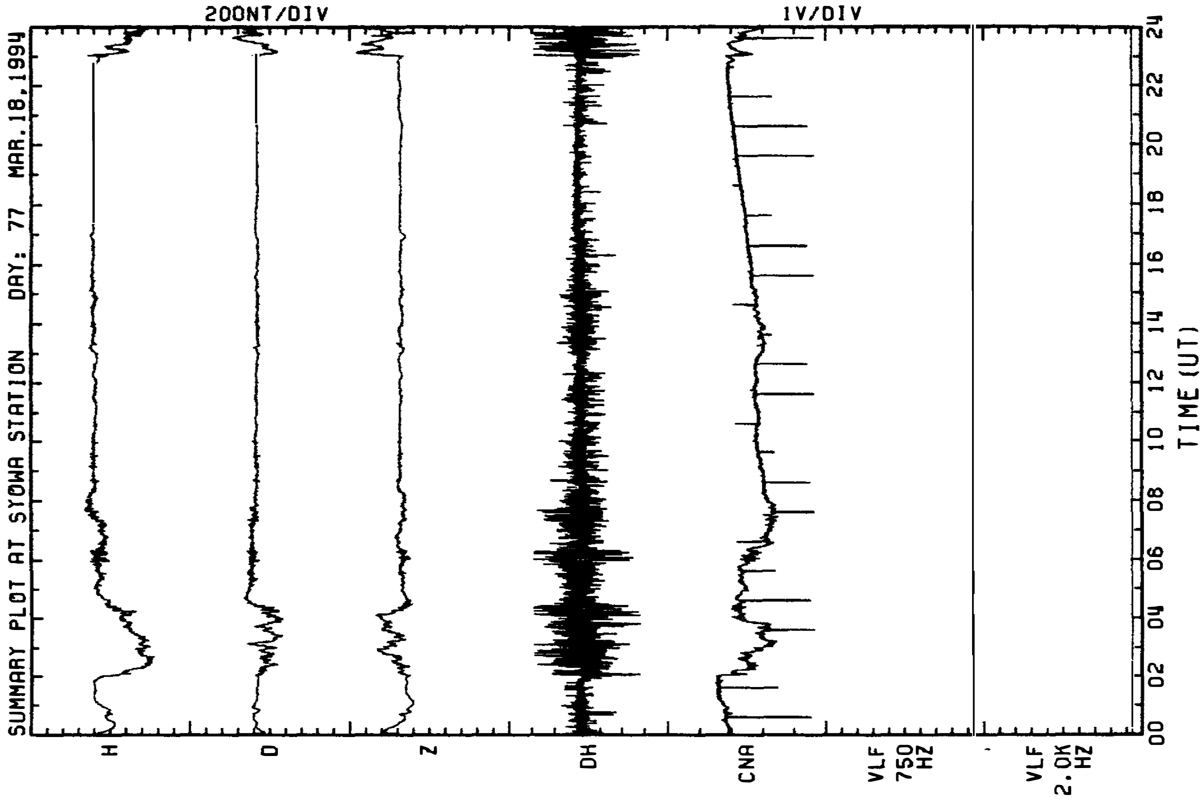
SUMMARY PLOT AT SYOWA STATION DAY: 74 MAR.15,1994

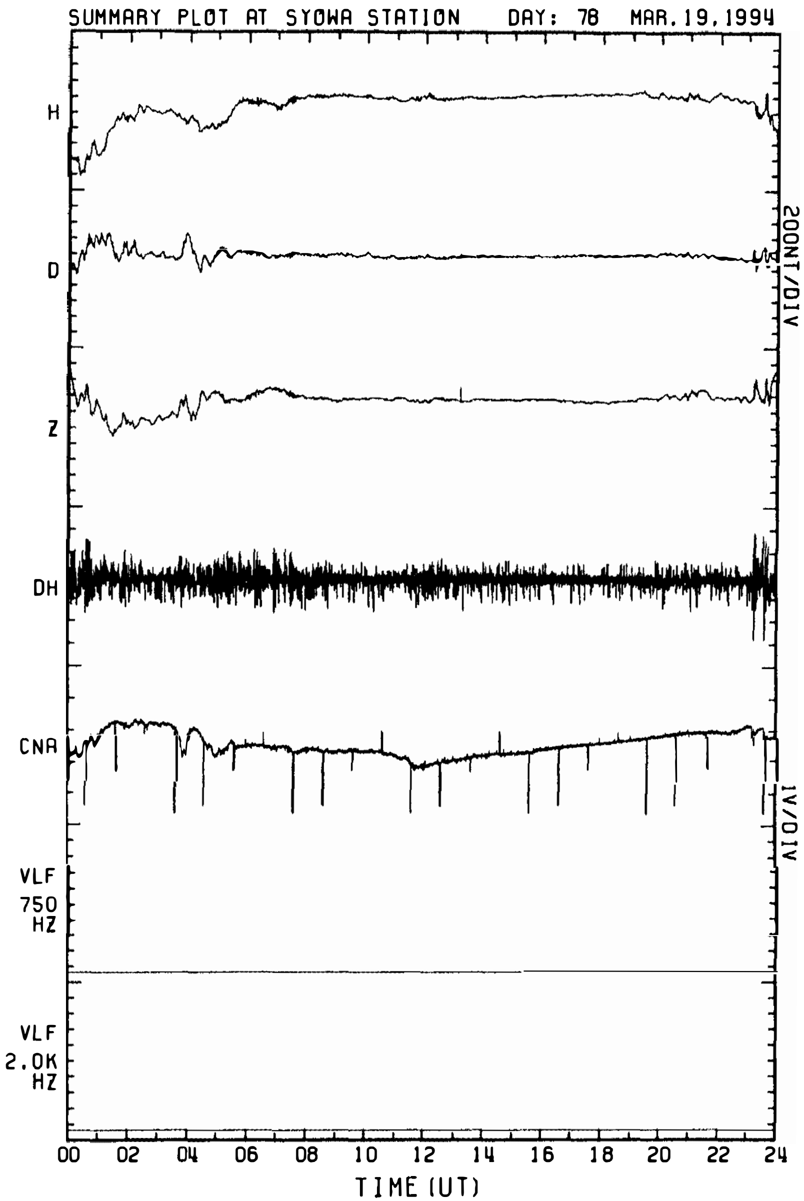


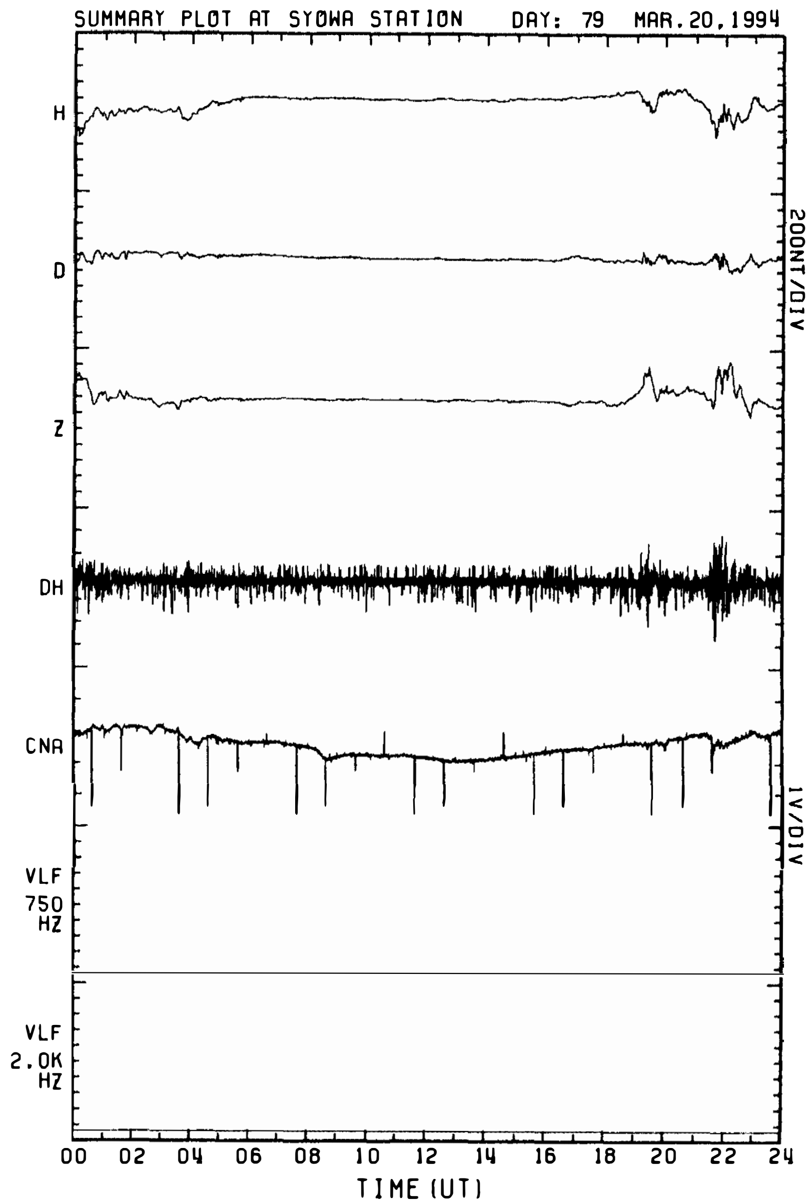
SUMMARY PLOT AT SYOWA STATION DAY: 75 MAR.16,1994



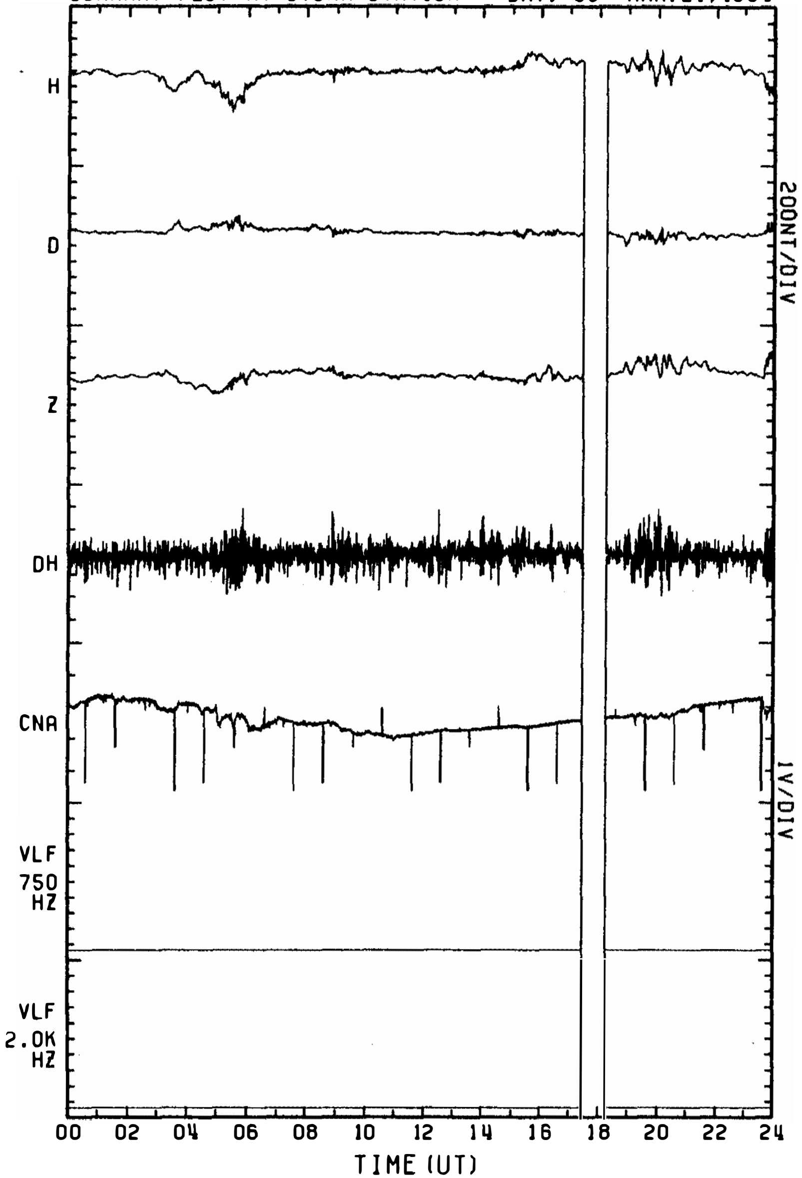

SUMMARY PLOT AT SYOWA STATION DAY: 76 MAR.17,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 77 MAR.18,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

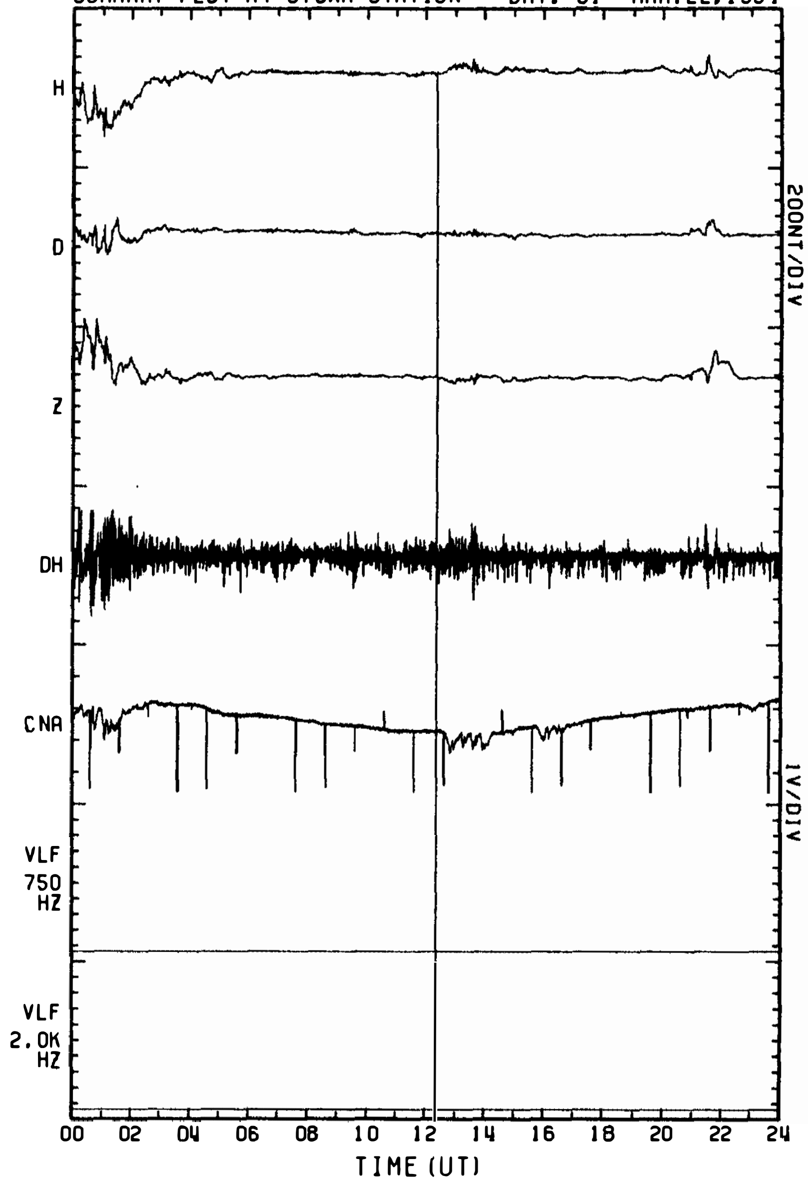

SUMMARY PLOT AT SYOWA STATION DAY: 78 MAR.19,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 79 MAR.20,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

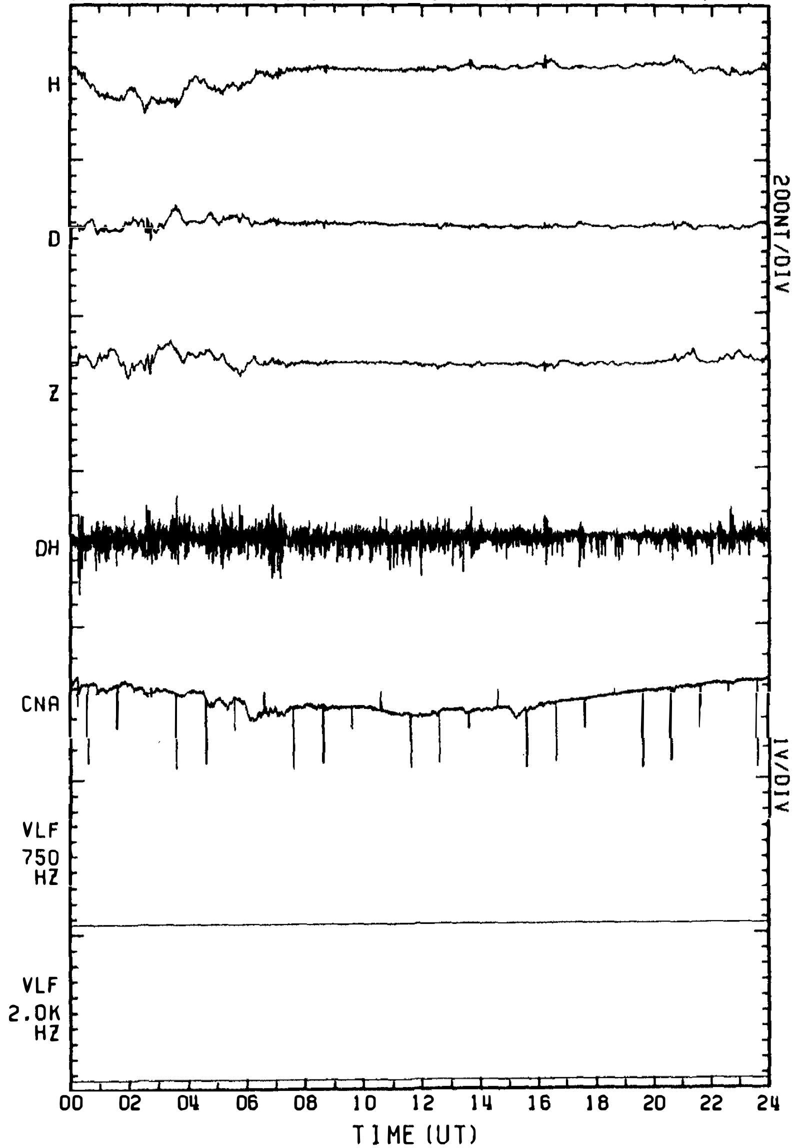
SUMMARY PLOT AT SYOWA STATION DAY: 80 MAR.21,1994



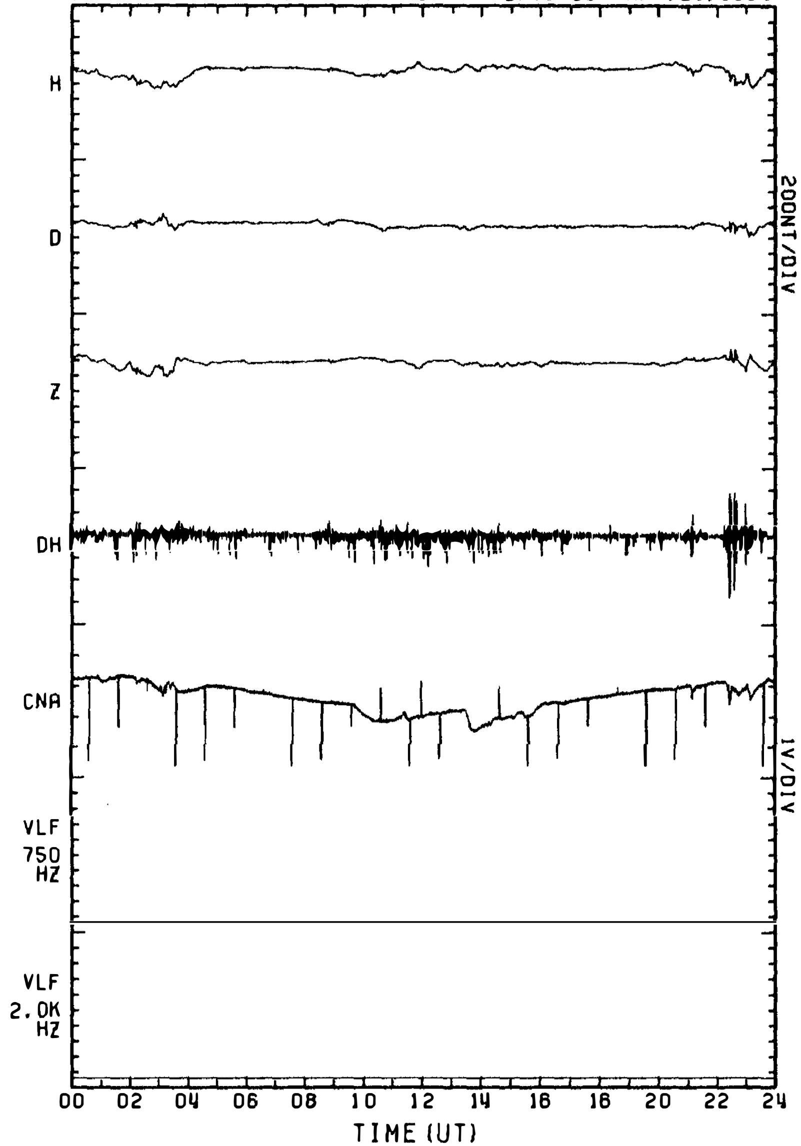
SUMMARY PLOT AT SYOWA STATION DAY: 81 MAR.22,1994

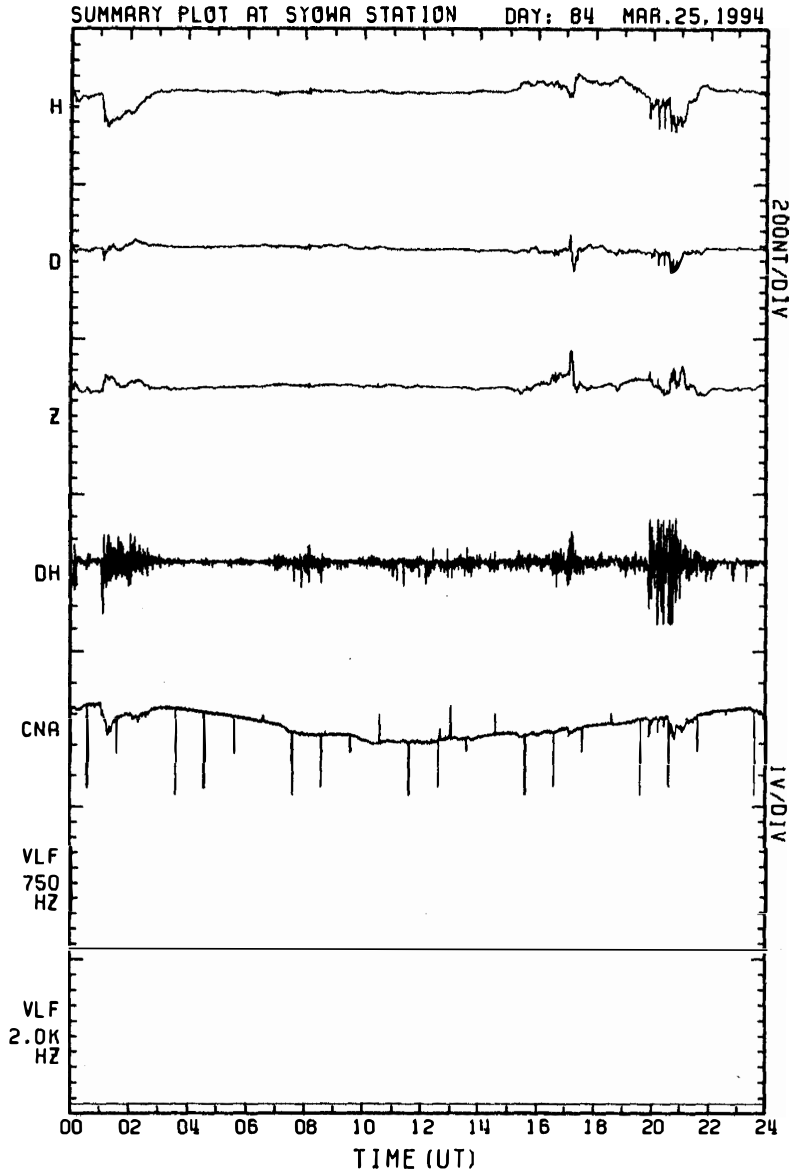


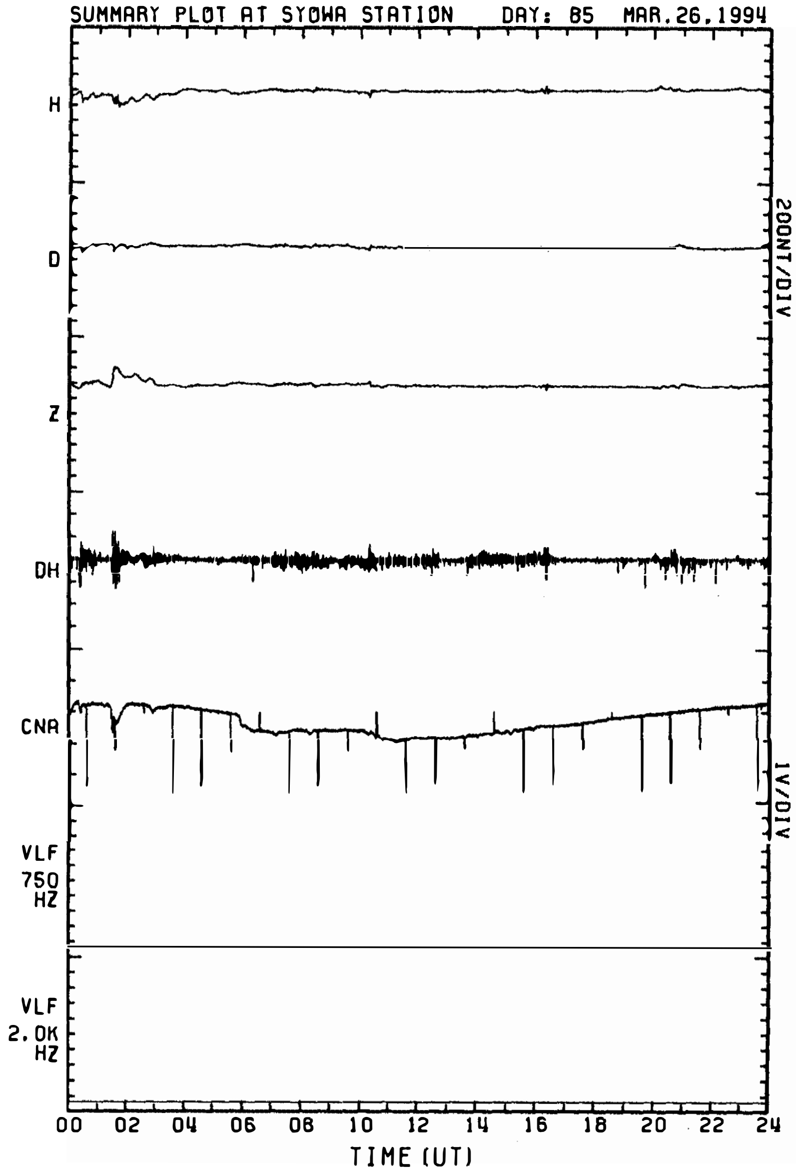
SUMMARY PLOT AT SYOWA STATION DAY: 82 MAR.23,1994

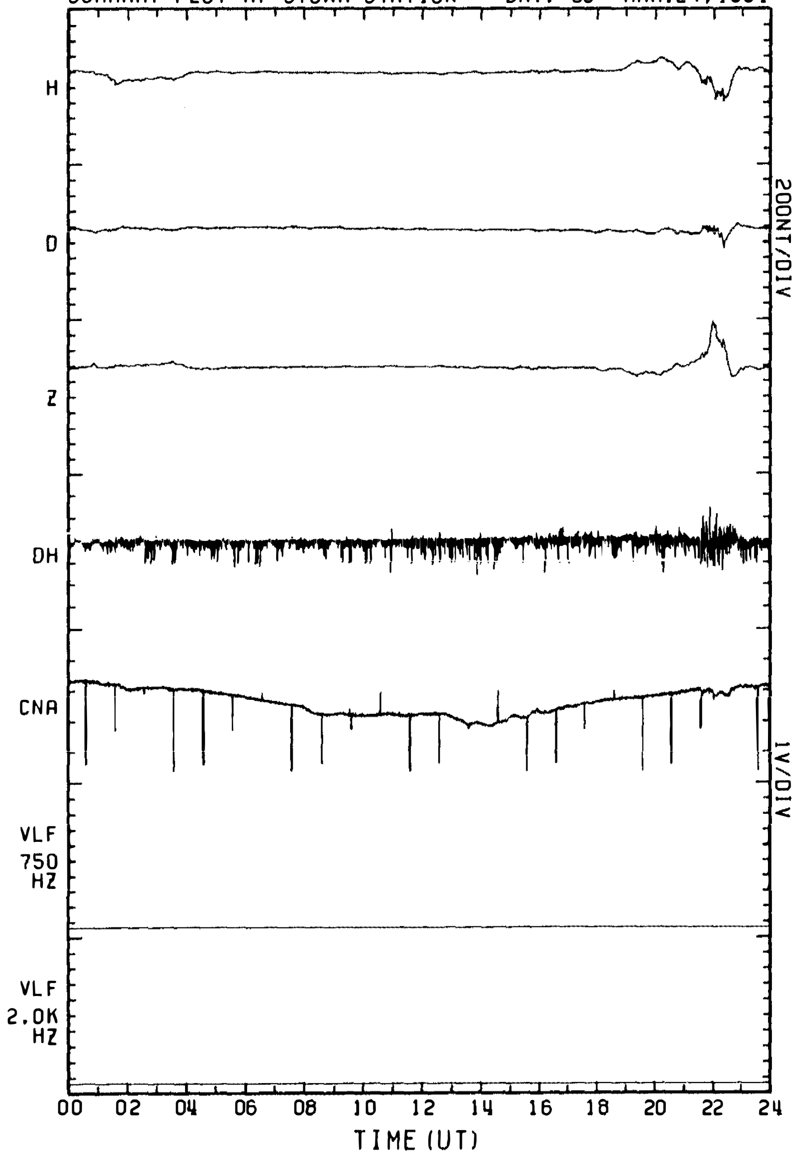


SUMMARY PLOT AT SYOWA STATION DAY: 83 MAR.24,1994

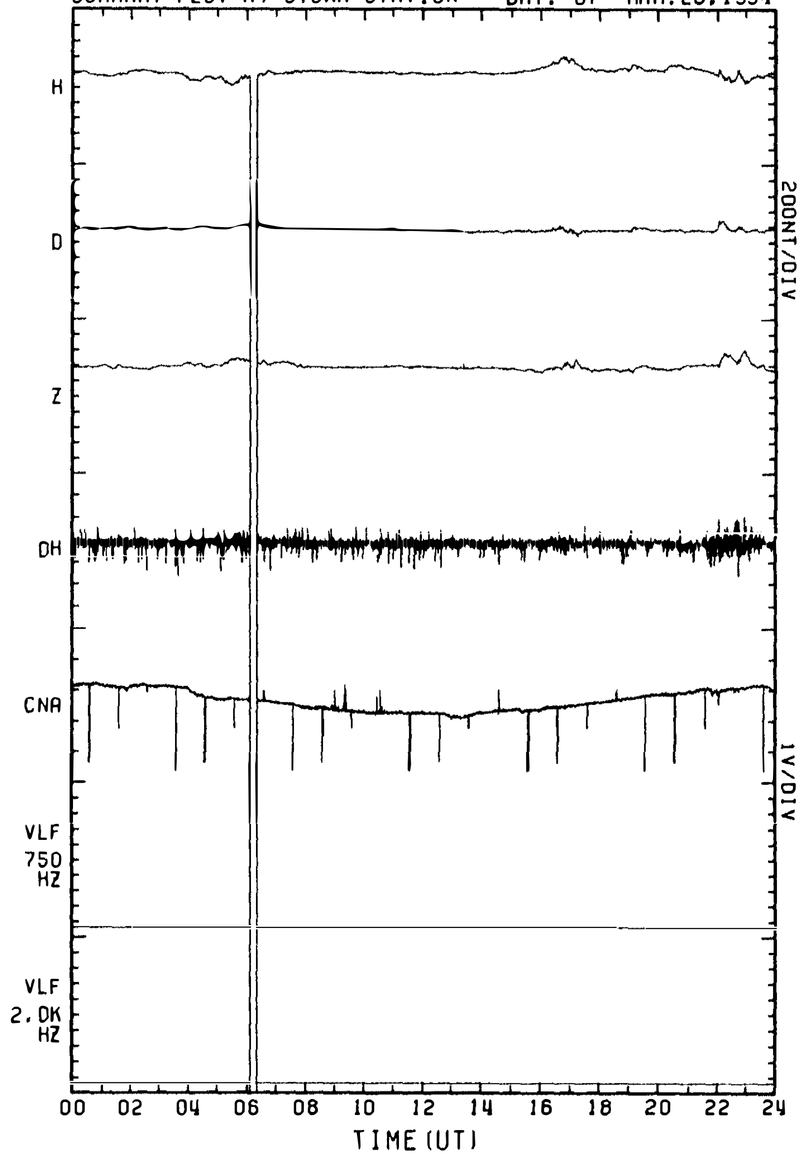



SUMMARY PLOT AT SYOWA STATION DAY: 84 MAR.25,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

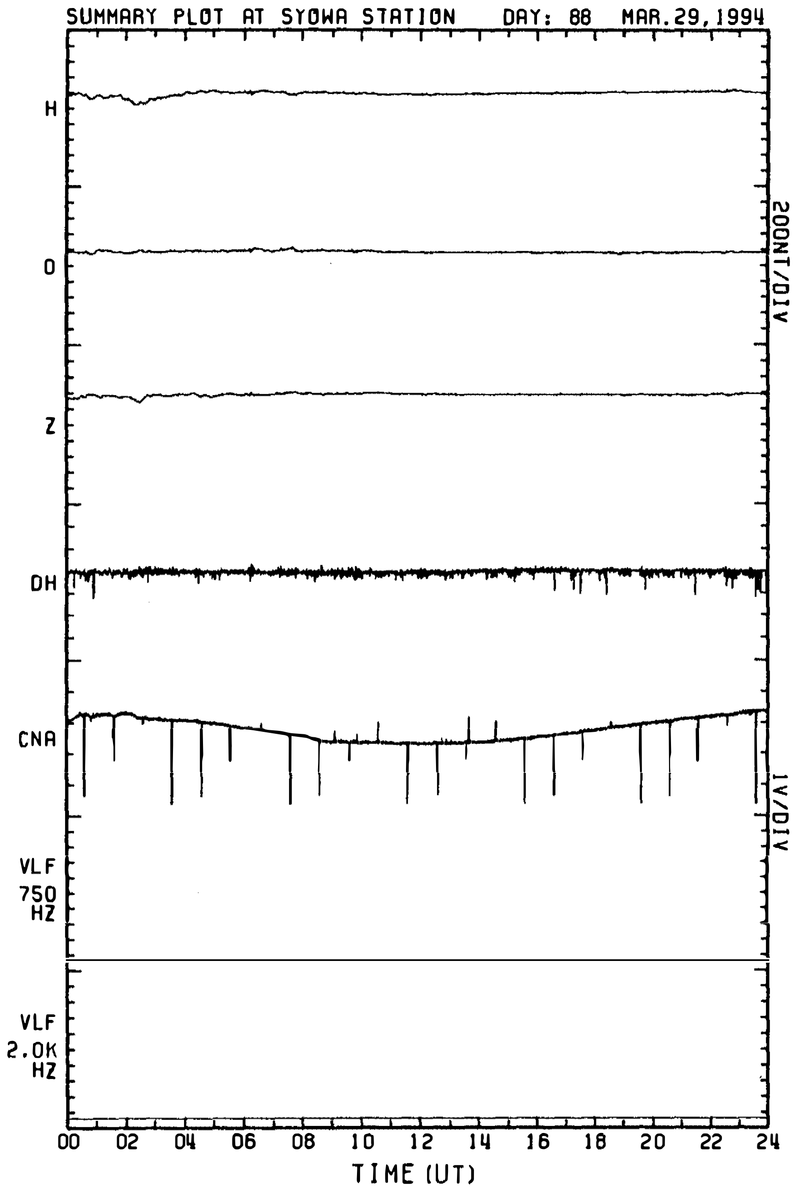

SUMMARY PLOT AT SYOWA STATION DAY: 85 MAR.26,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

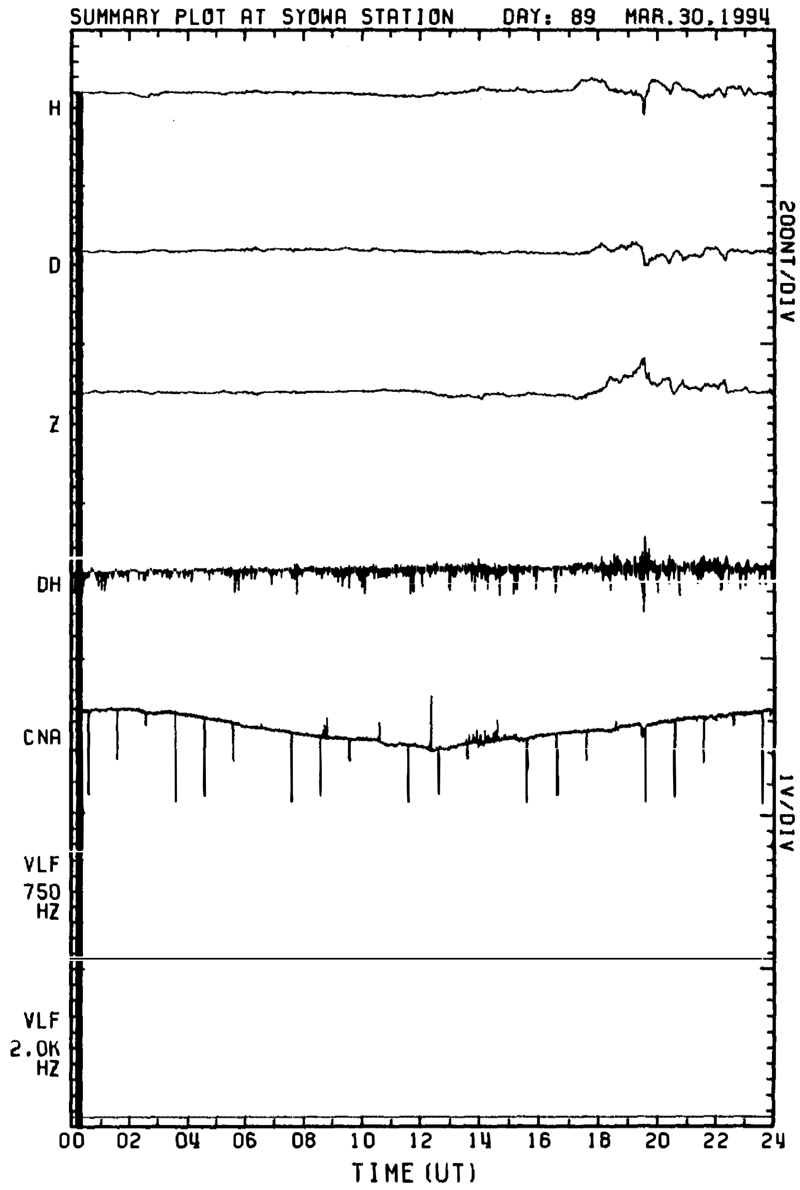


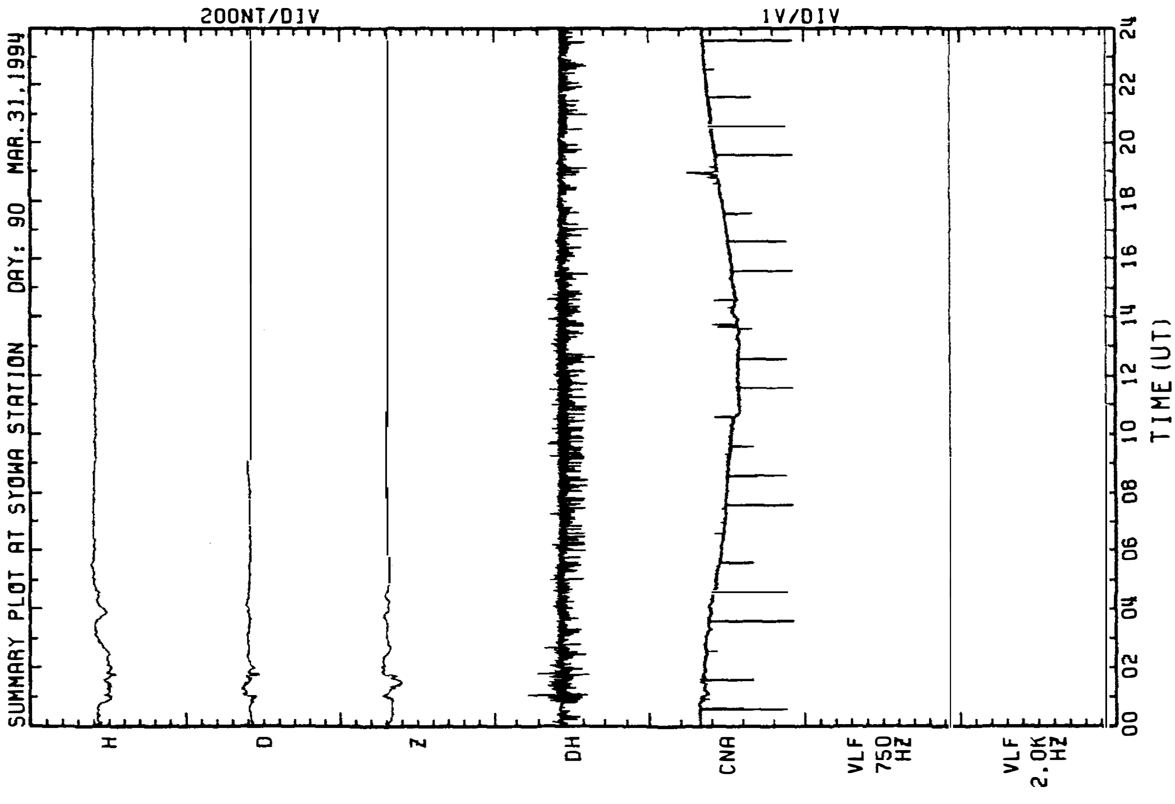
SUMMARY PLOT AT SYOWA STATION DAY: 86 MAR.27,1994

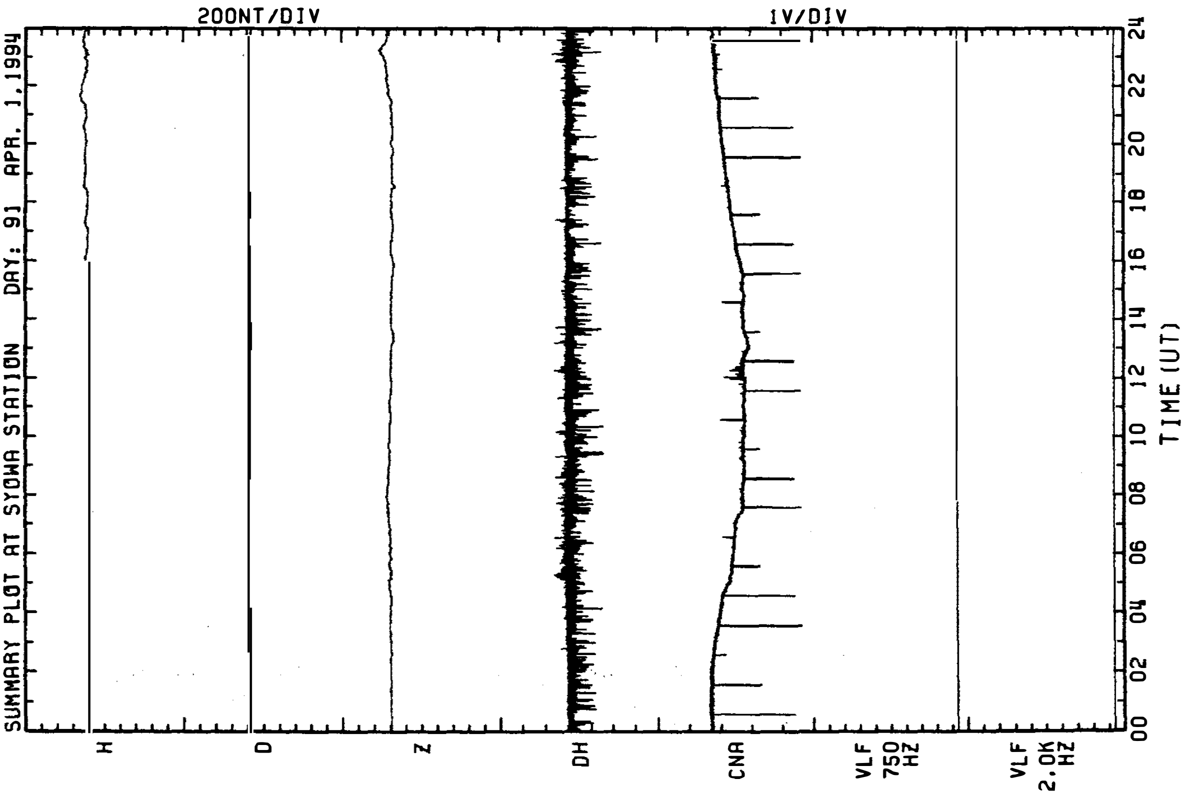


SUMMARY PLOT AT SYOWA STATION DAY: 87 MAR.28,1994

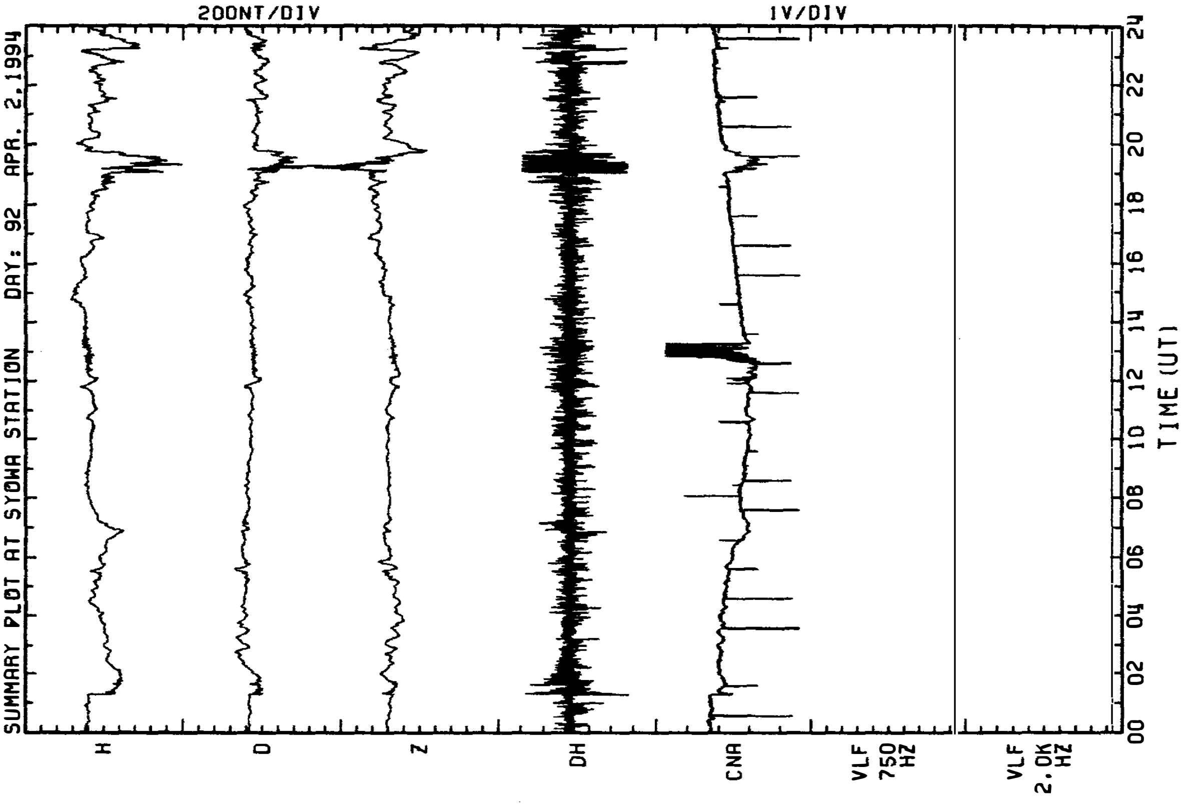

SUMMARY PLOT AT SYOWA STATION DAY: 88 MAR.29,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 89 MAR.30,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

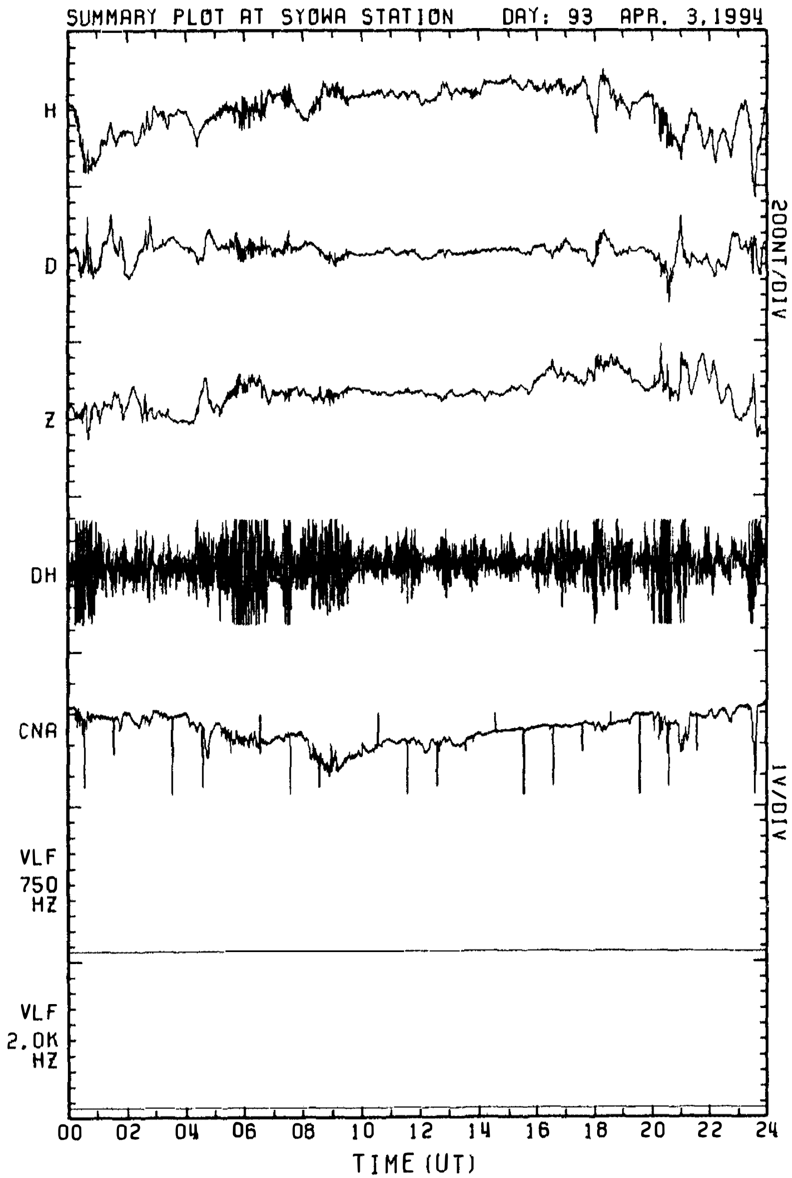

SUMMARY PLOT AT SYOWA STATION DAY: 90 MAR.31,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
00
02
04
06
08
10
12
14
16
18
20
22
24
TIME (UT)

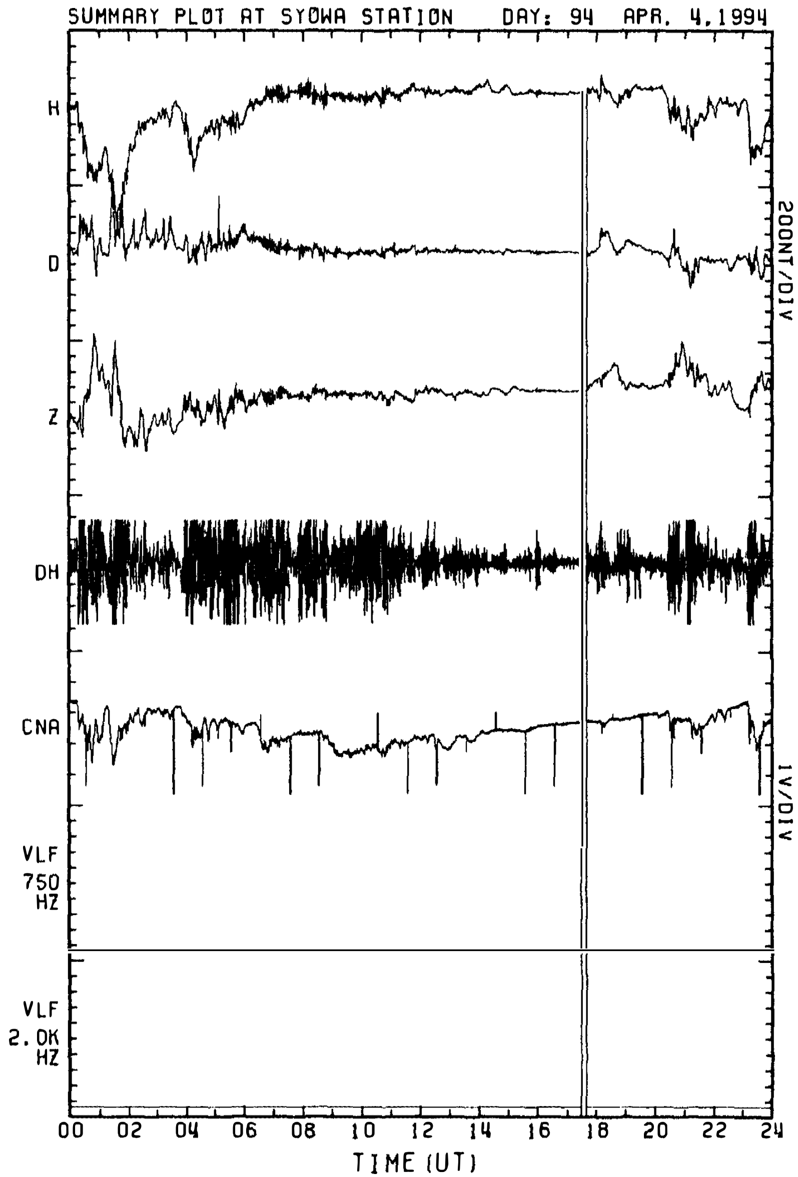


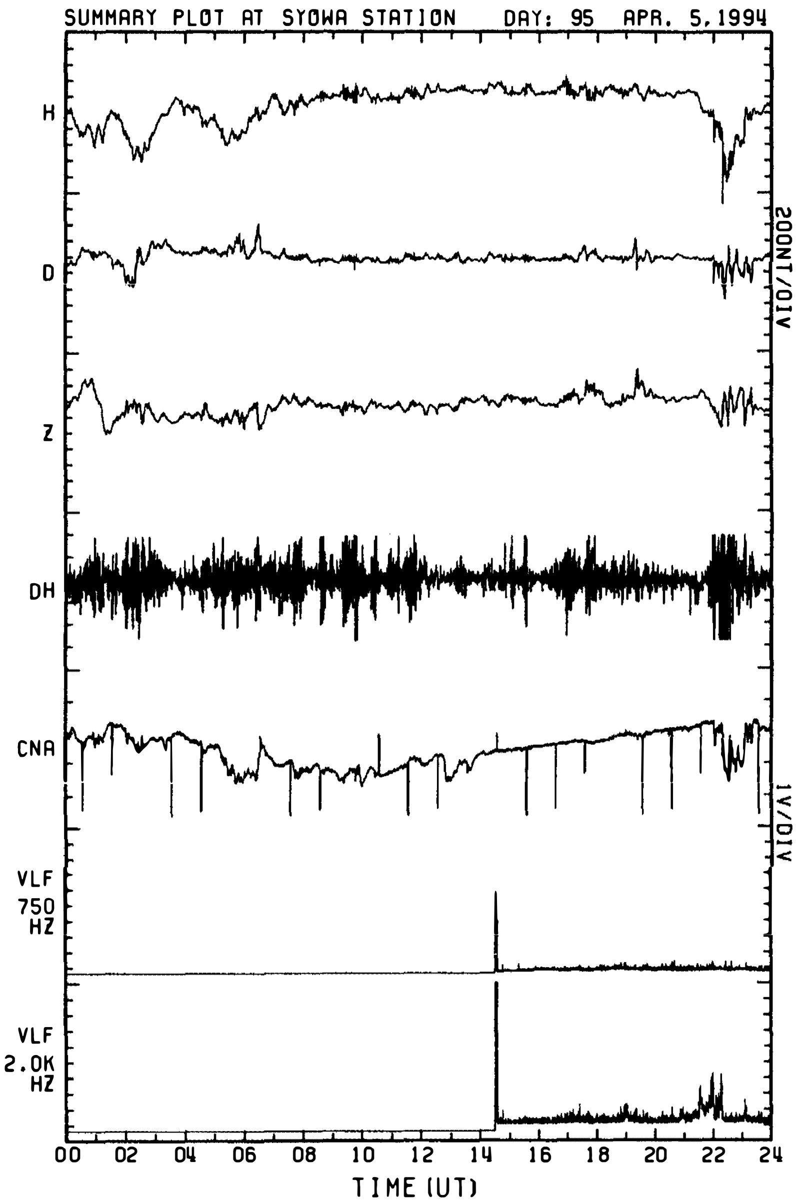
SUMMARY PLOT AT SYOWA STATION DAY: 91 APR. 1,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)



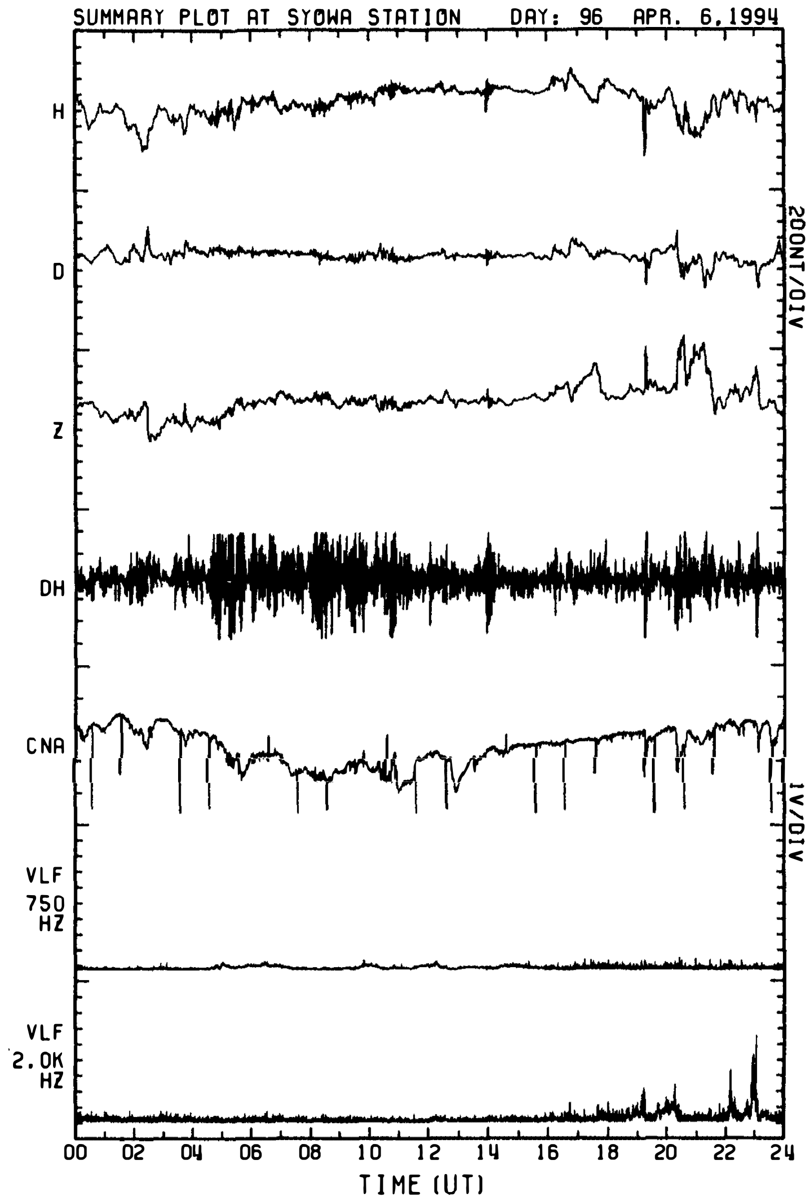
SUMMARY PLOT AT SYOWA STATION DAY: 92 APR. 2,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY: 93 APR. 3,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

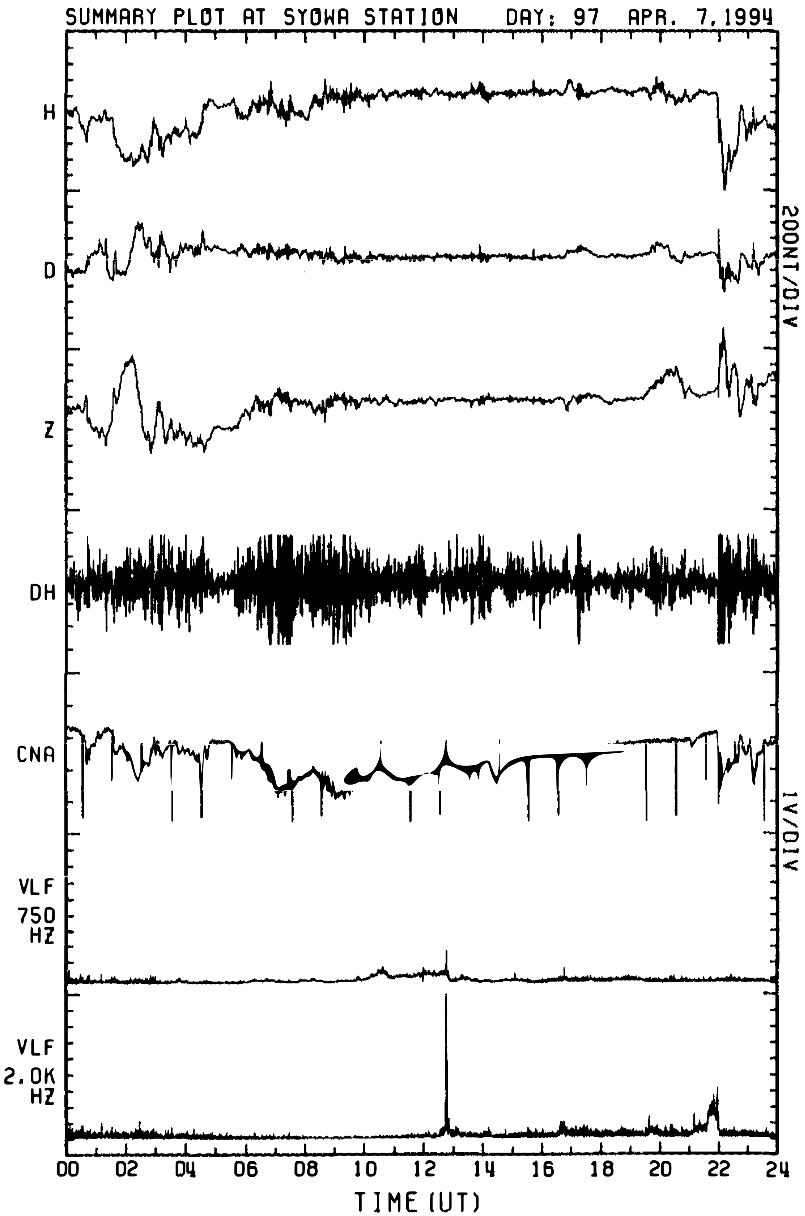

SUMMARY PLOT AT SYOWA STATION DAY: 94 APR. 4,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

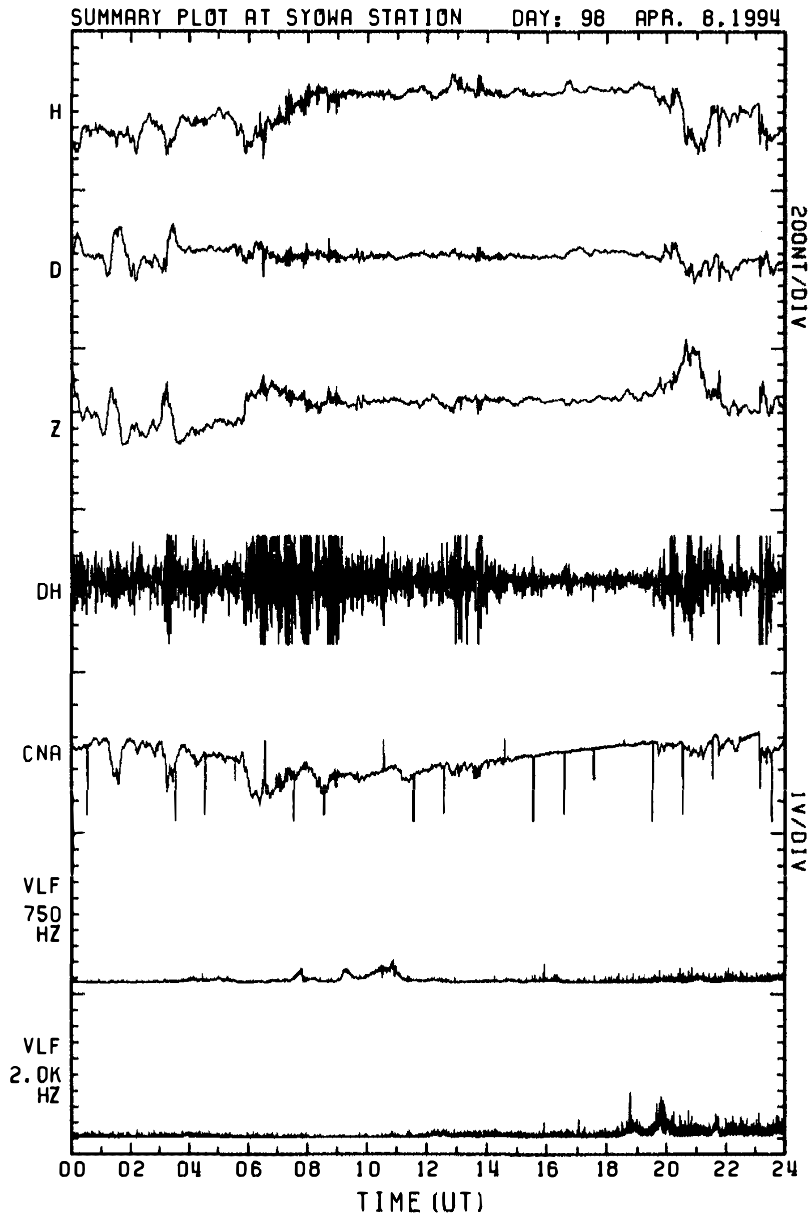


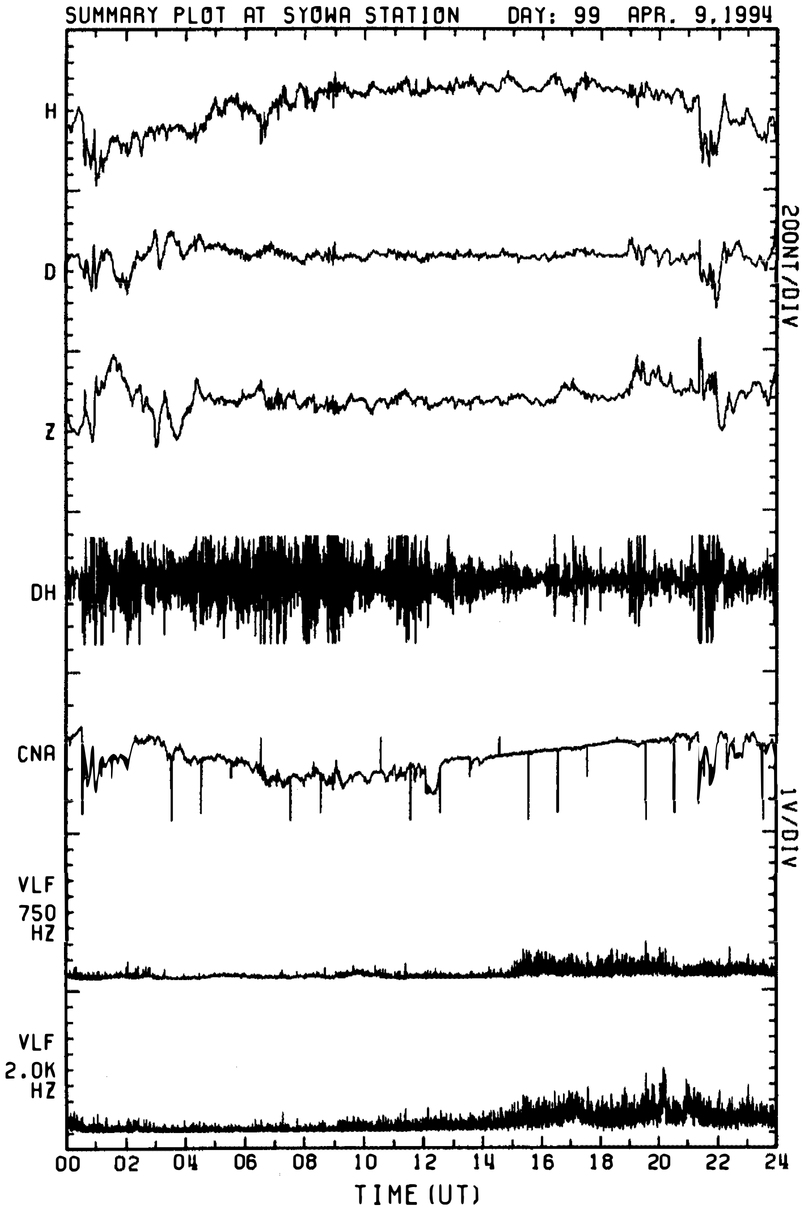
SUMMARY PLOT AT SYOWA STATION DAY: 95 APR. 5,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

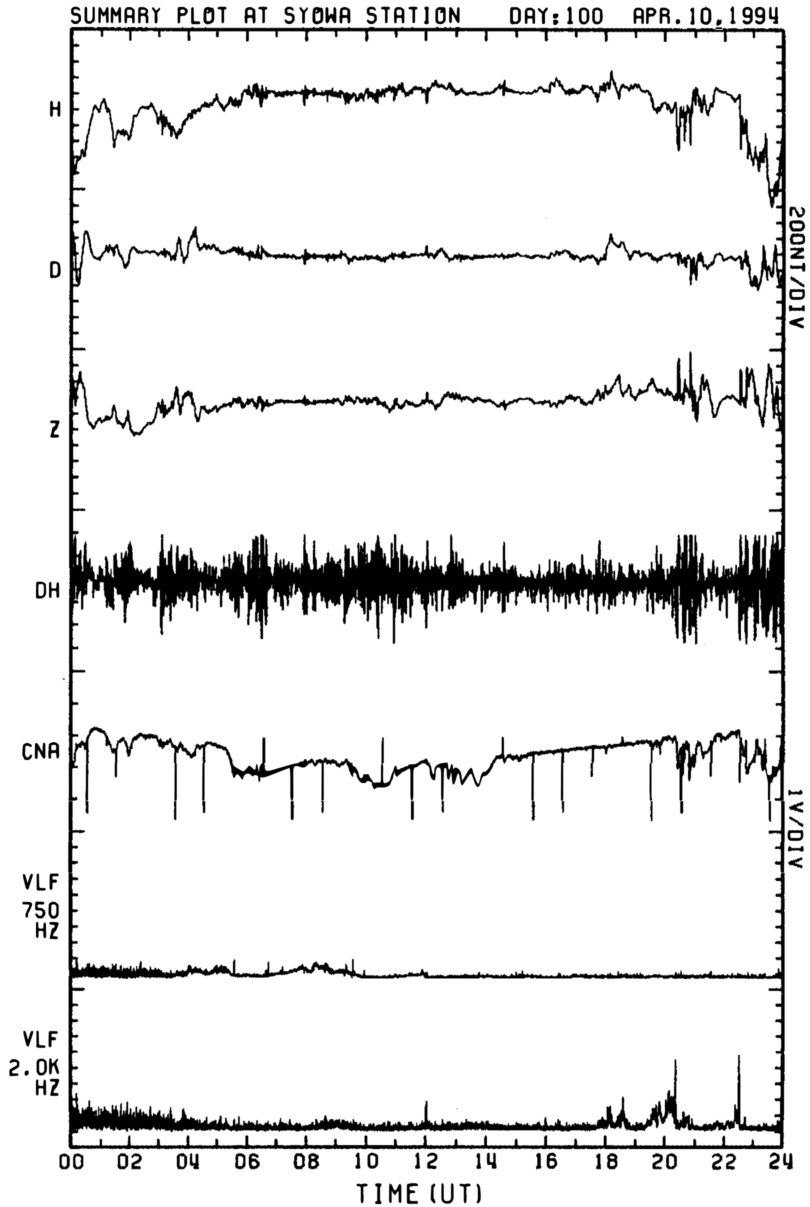


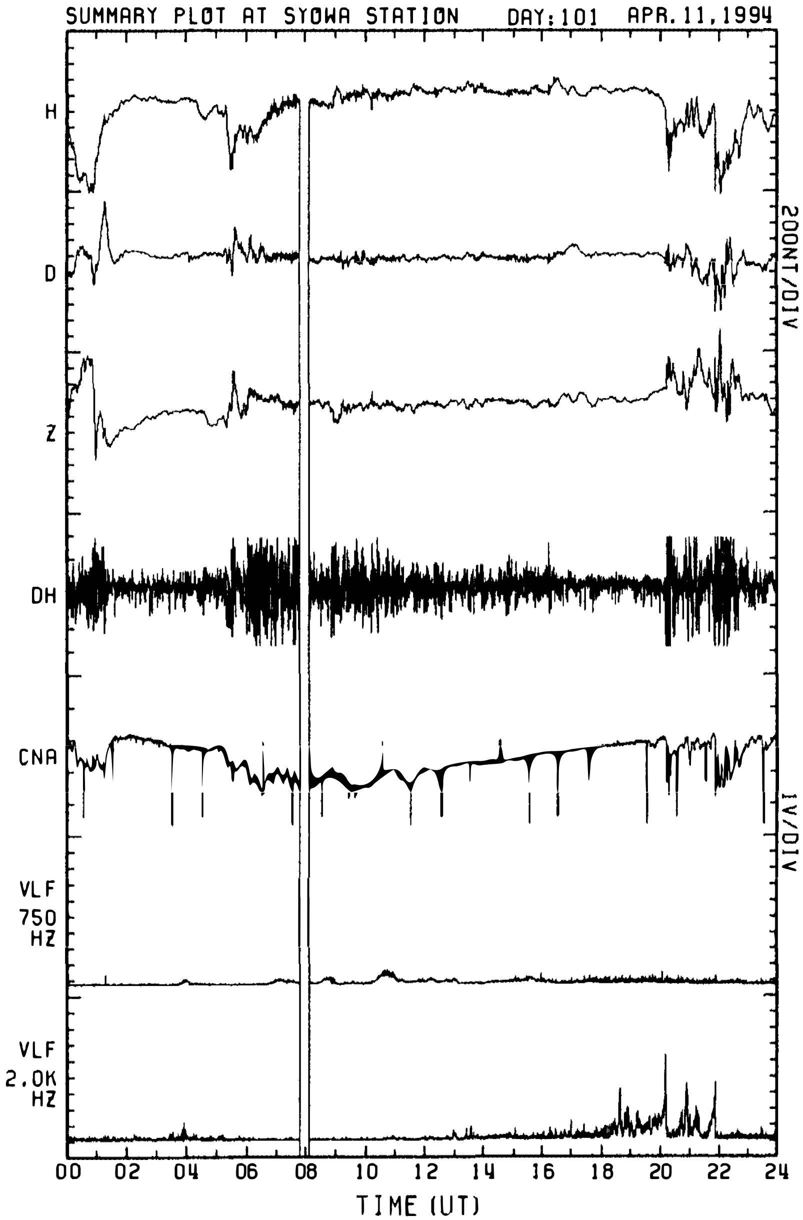
SUMMARY PLOT AT SYOWA STATION DAY: 96 APR. 6,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

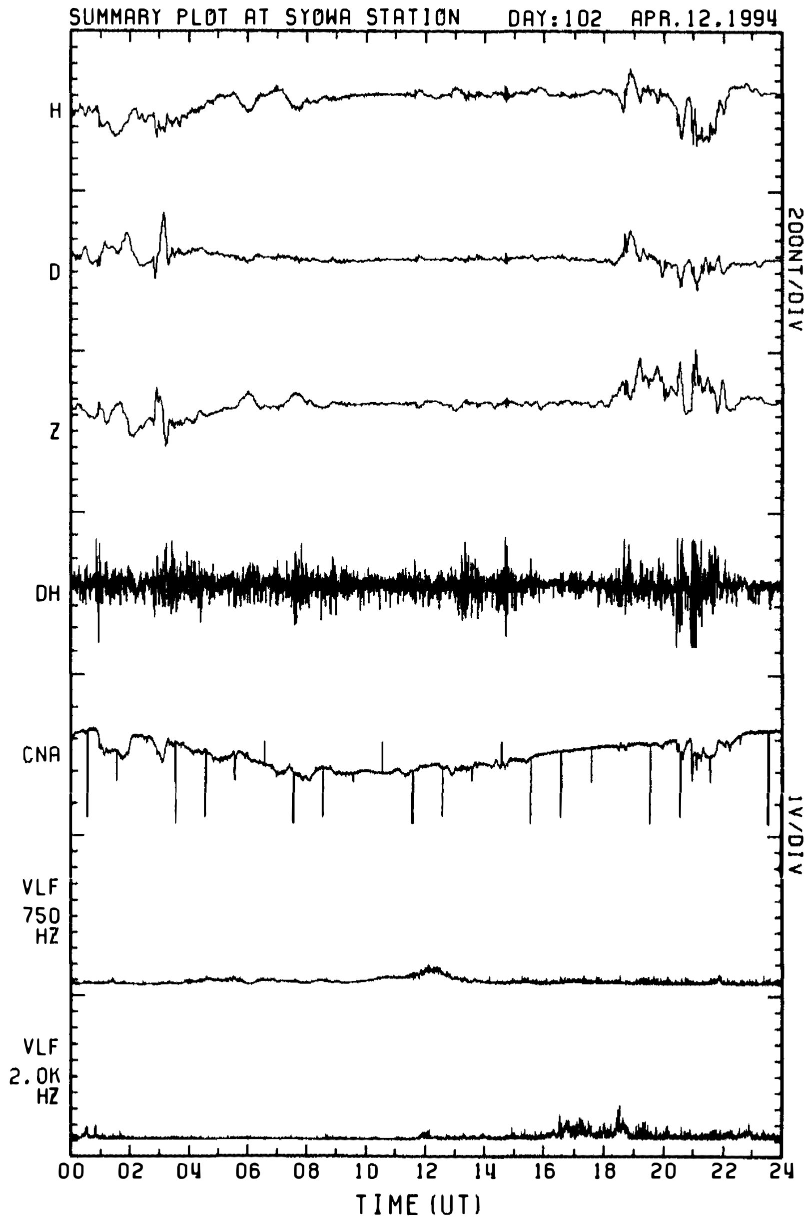

SUMMARY PLOT AT SYOWA STATION DAY: 97 APR. 7,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

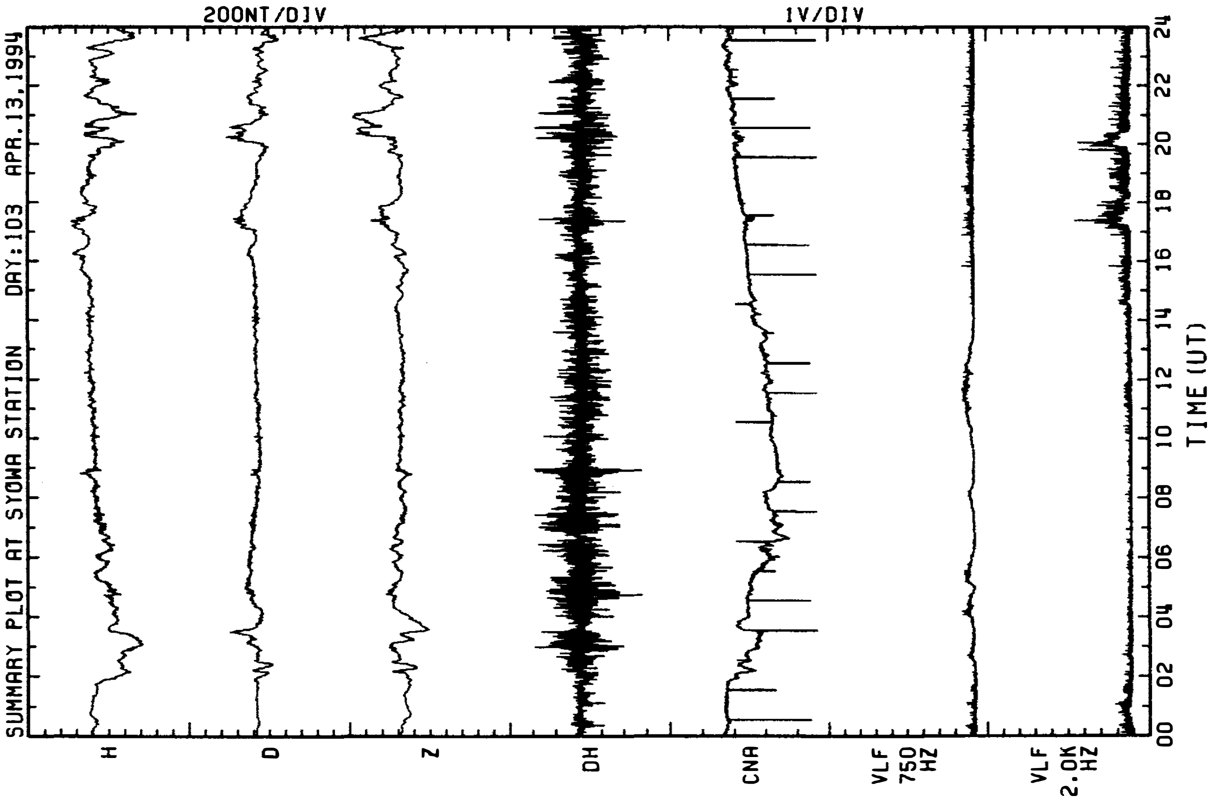

SUMMARY PLOT AT SYOWA STATION DAY: 98 APR. 8,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

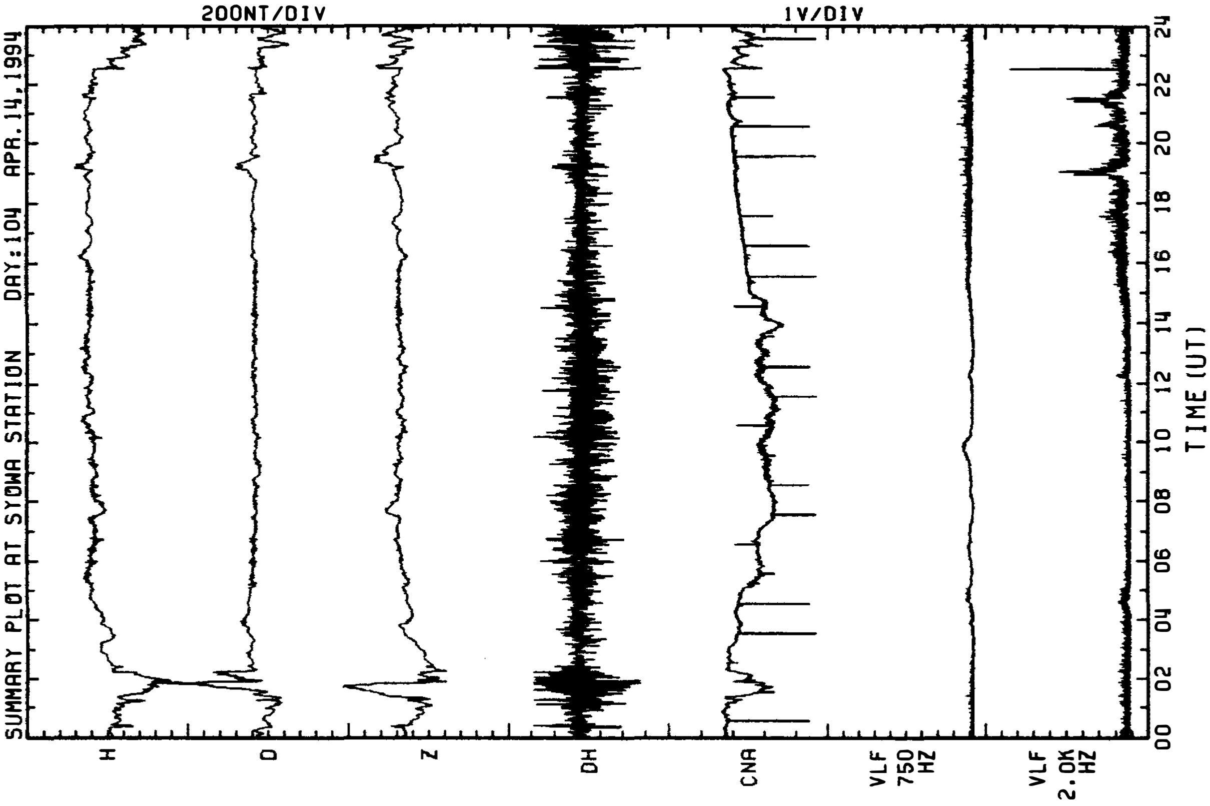

SUMMARY PLØT AT SYØWA STATIØN DAY: 99 APR. 9,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

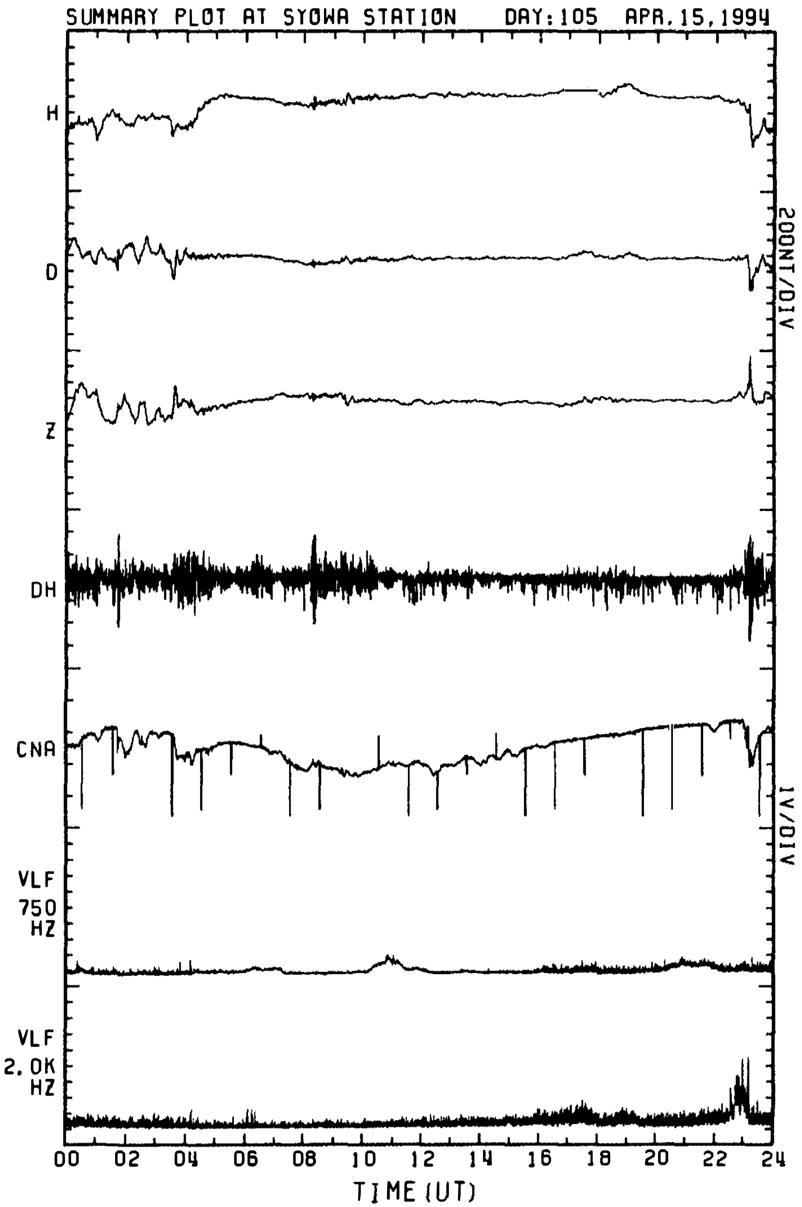

SUMMARY PLØT AT SYØWA STATIØN DAY:100 APR.10,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

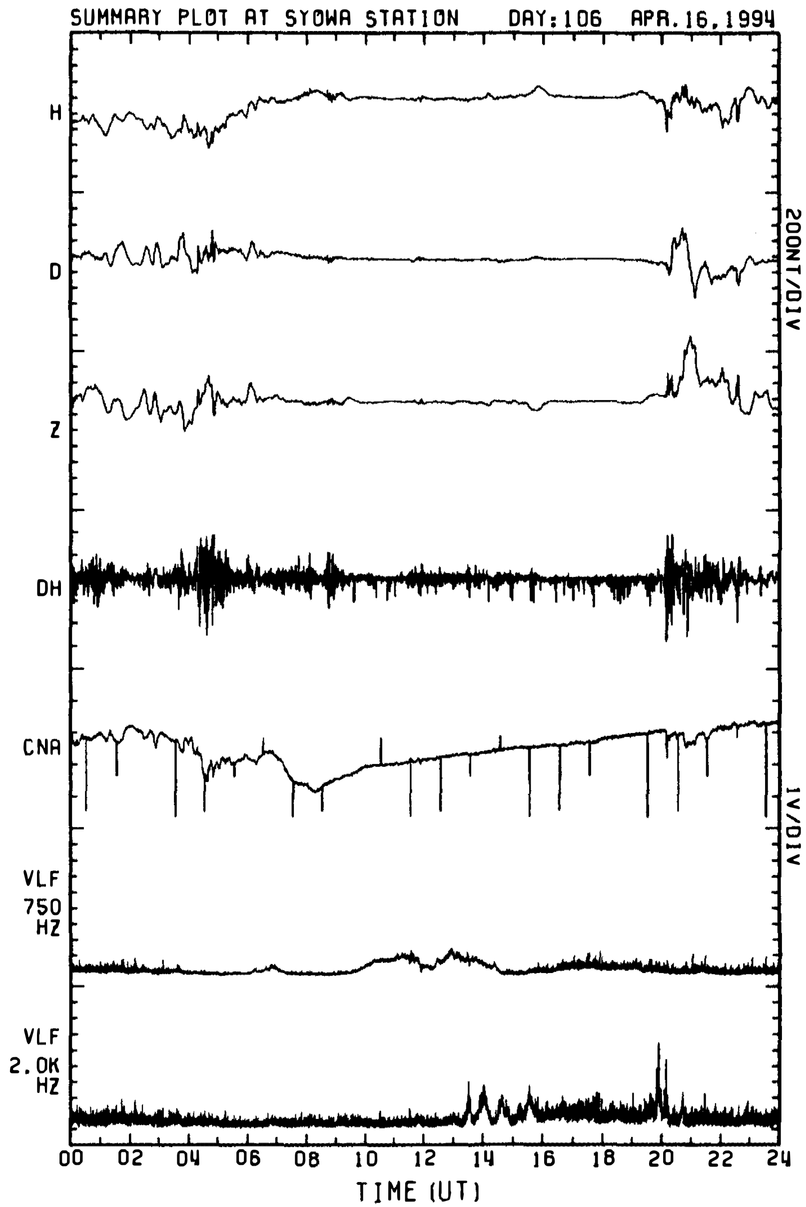

SUMMARY PLOT AT SYOWA STATION DAY:101 APR.11,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

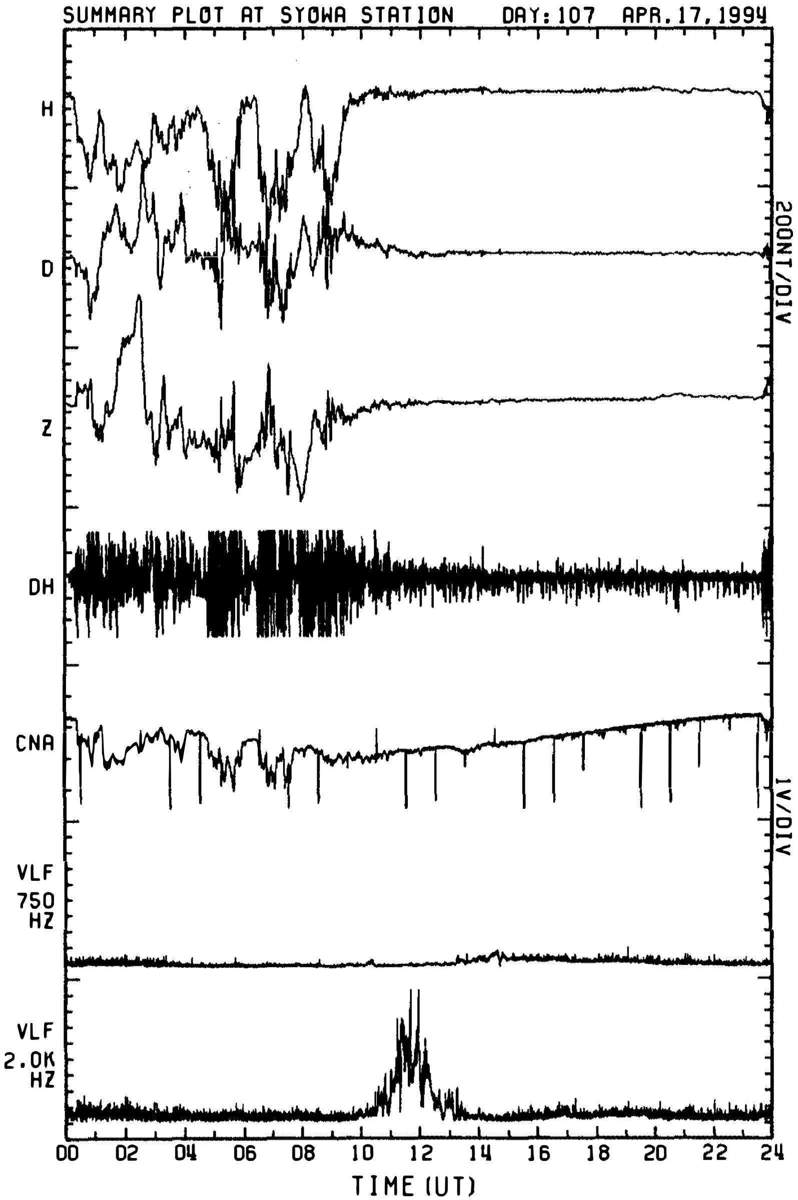

SUMMARY PLOT AT SYOWA STATION DAY:102 APR.12,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

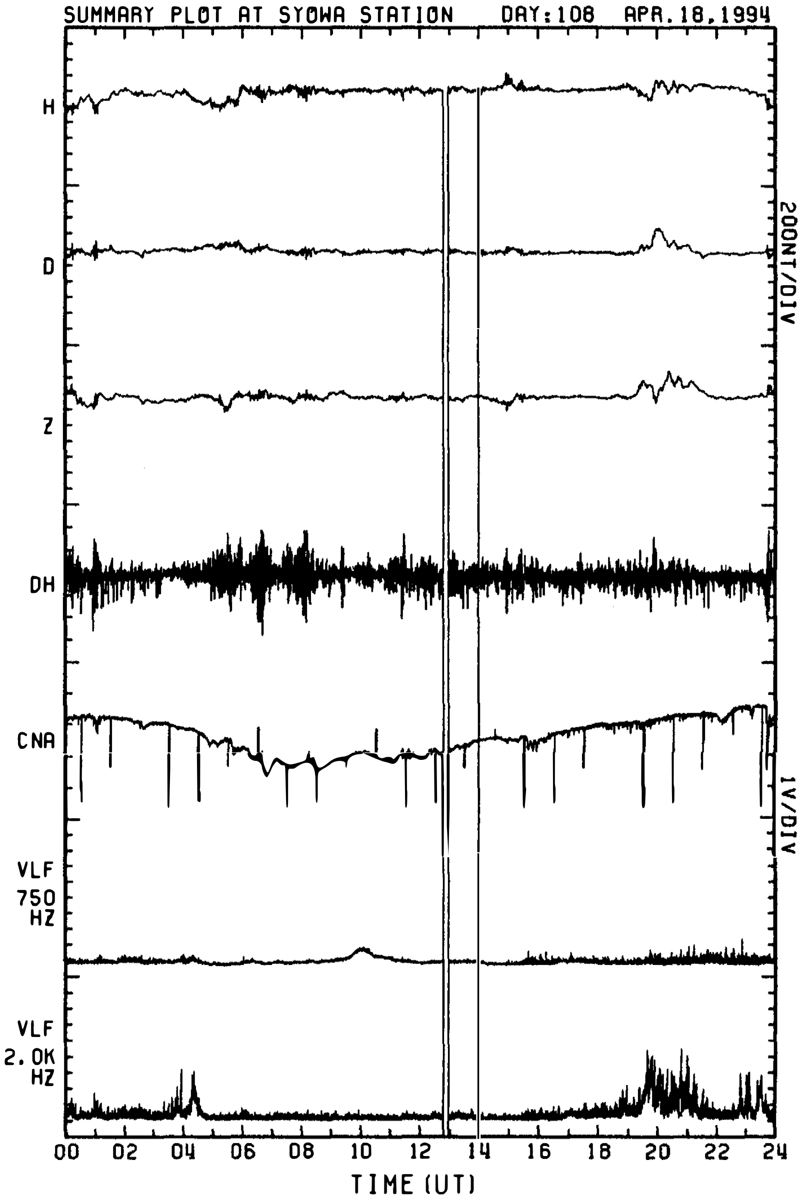

SUMMARY PLOT AT SYOWA STATION DAY:103 APR.13,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:104 APR.14,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

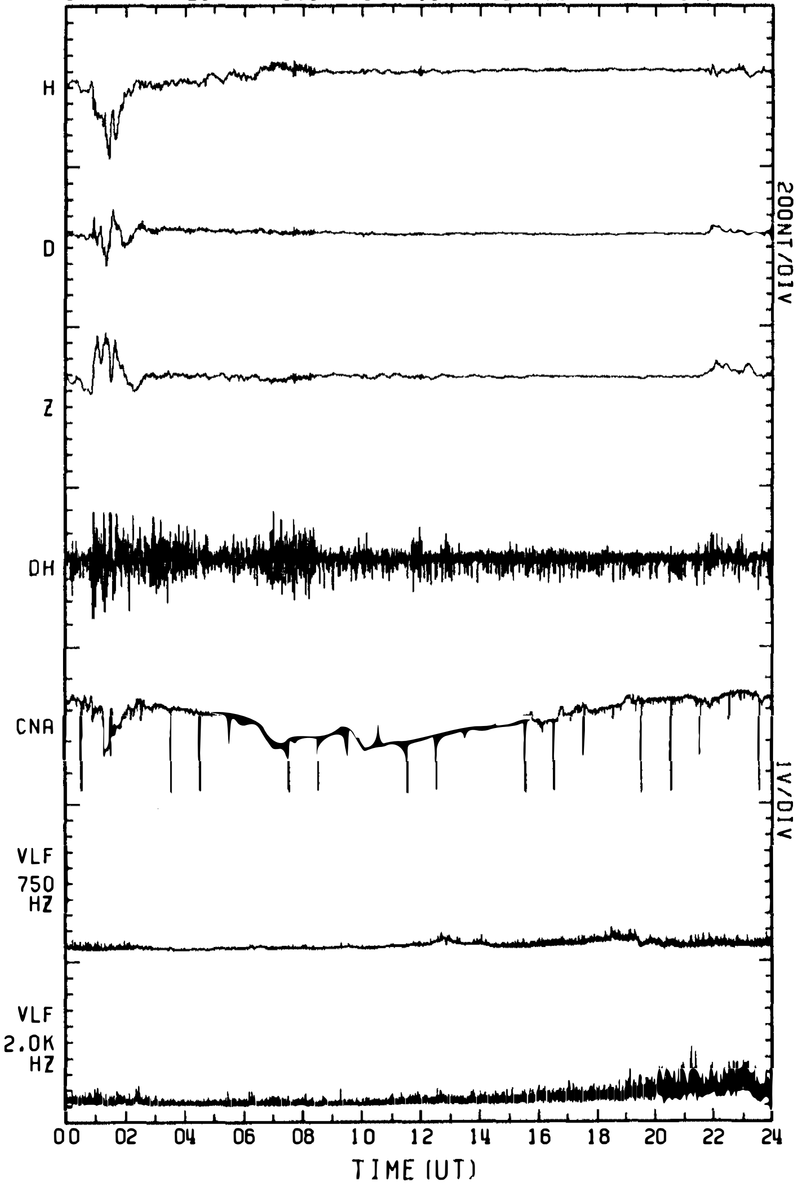

SUMMARY PLOT AT SYOWA STATION DAY:105 APR.15,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)


SUMMARY PLOT AT SYOWA STATION DAY:106 APR.16,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

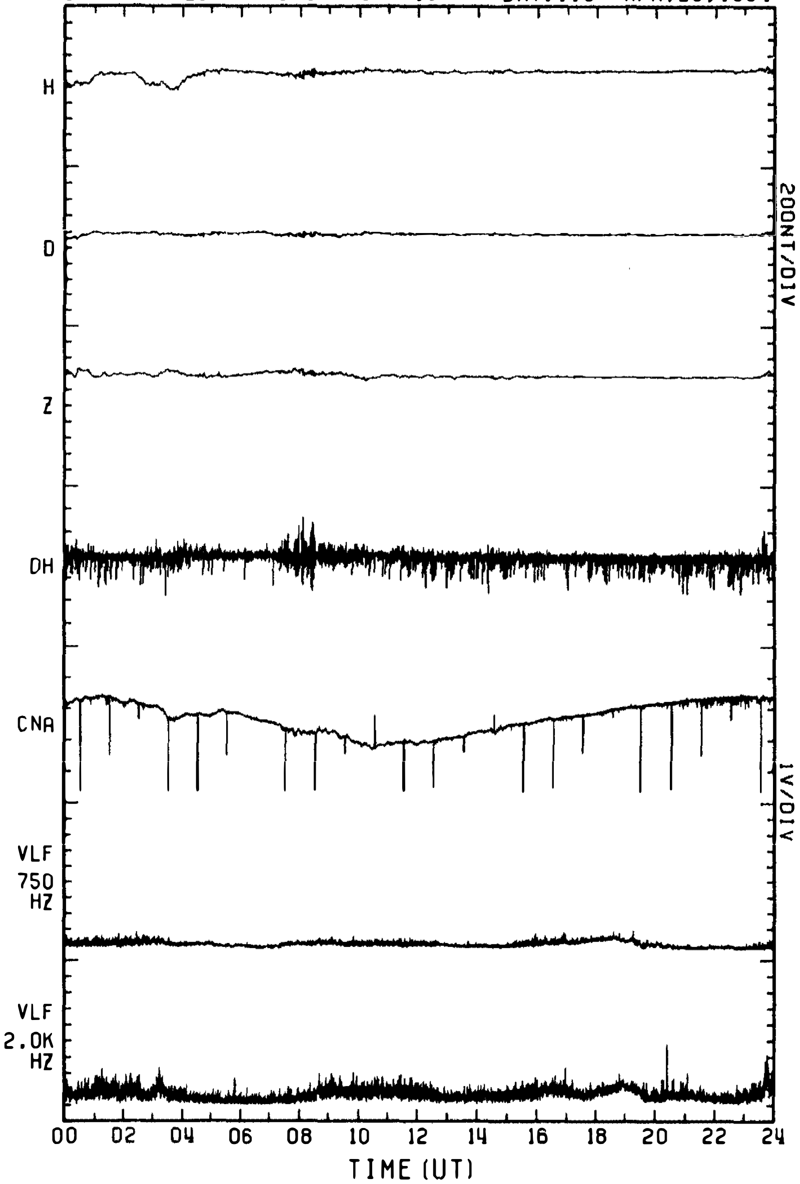

SUMMARY PLOT AT SYOWA STATION DAY:107 APR.17,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:108 APR.18,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

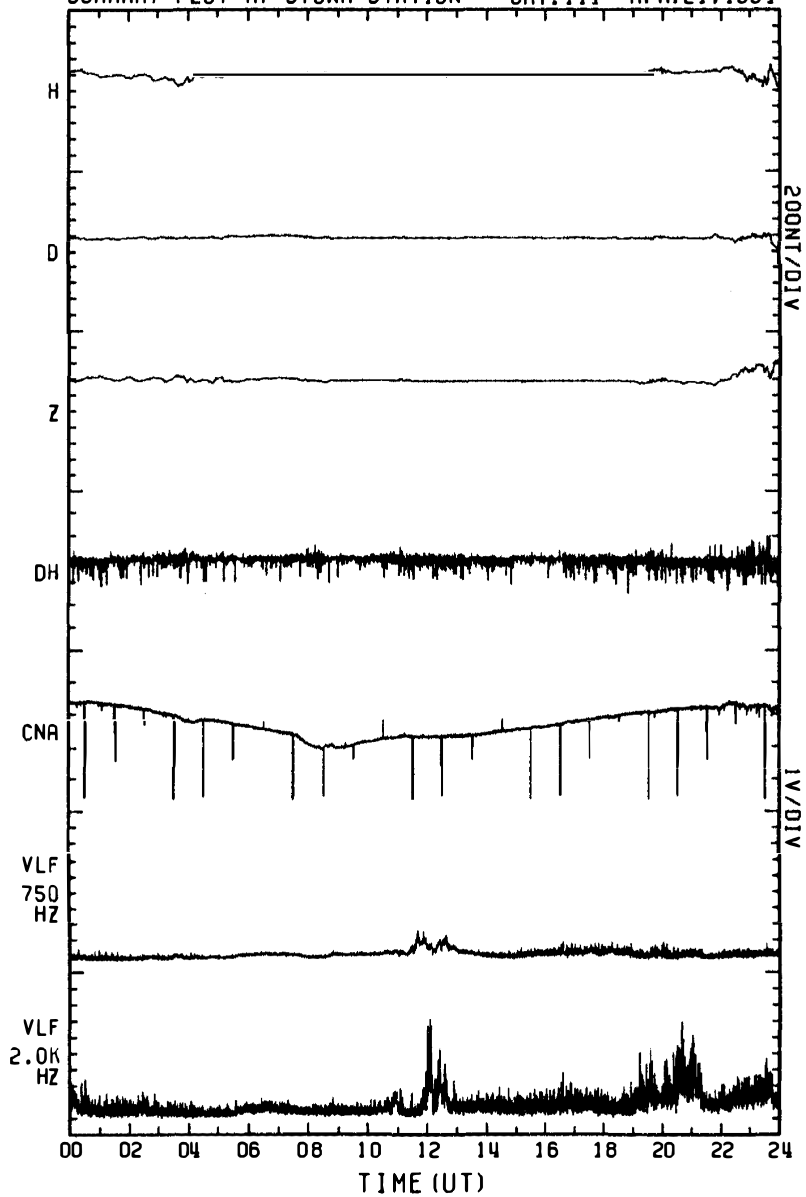
SUMMARY PLOT AT SYOWA STATION DAY:109 APR.19,1994



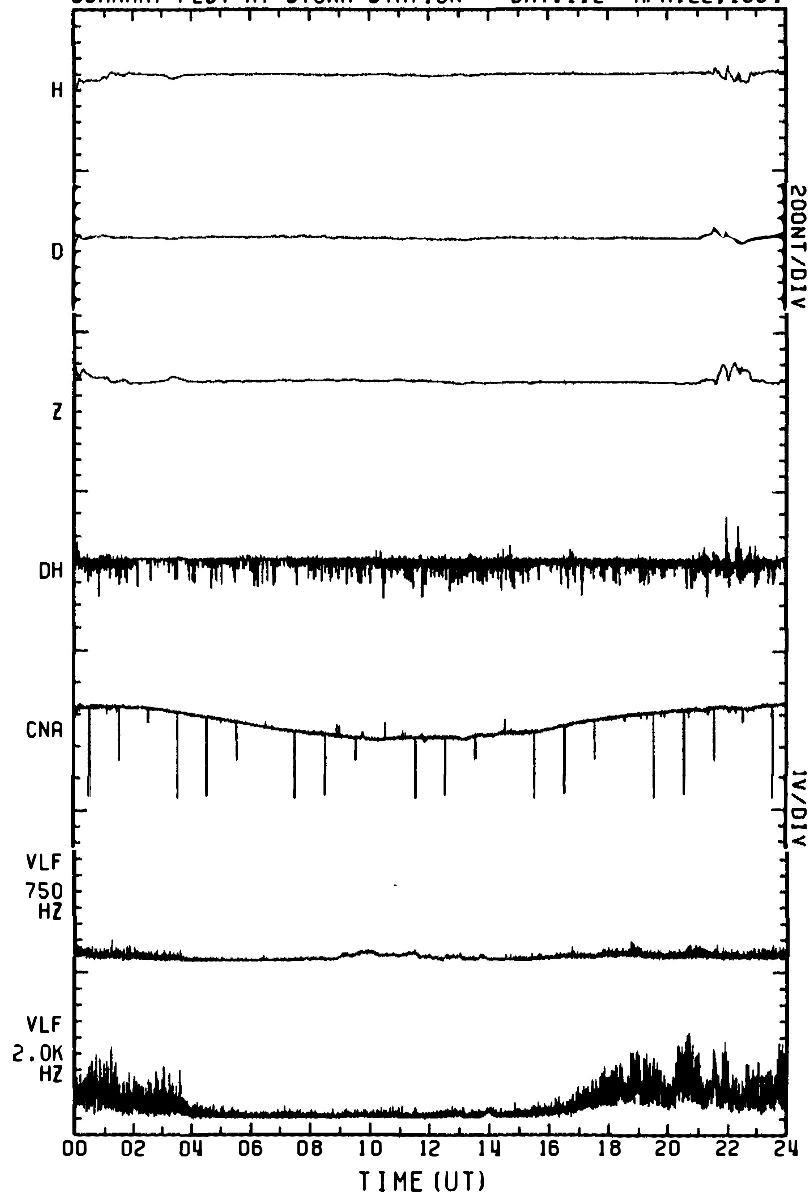
SUMMARY PLOT AT SYOWA STATION DAY:110 APR.20,1994

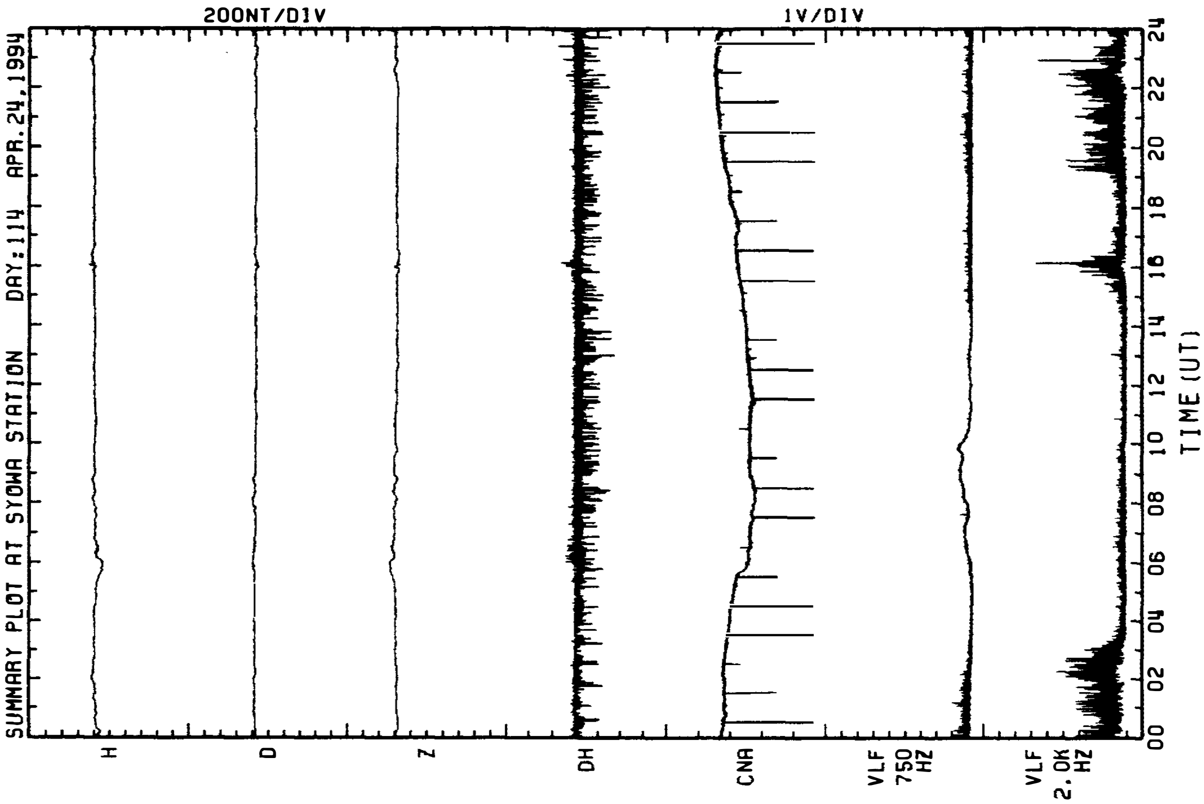


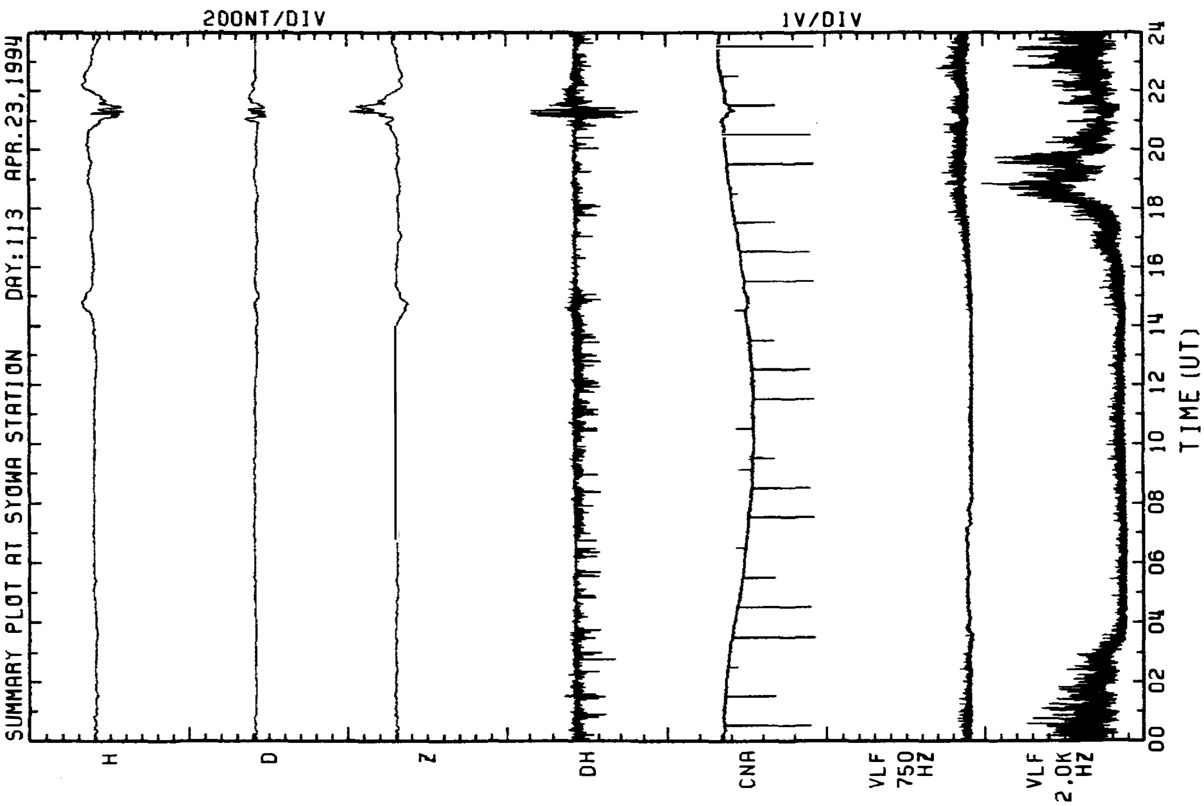
SUMMARY PLOT AT SYOWA STATION DAY:111 APR.21.1994

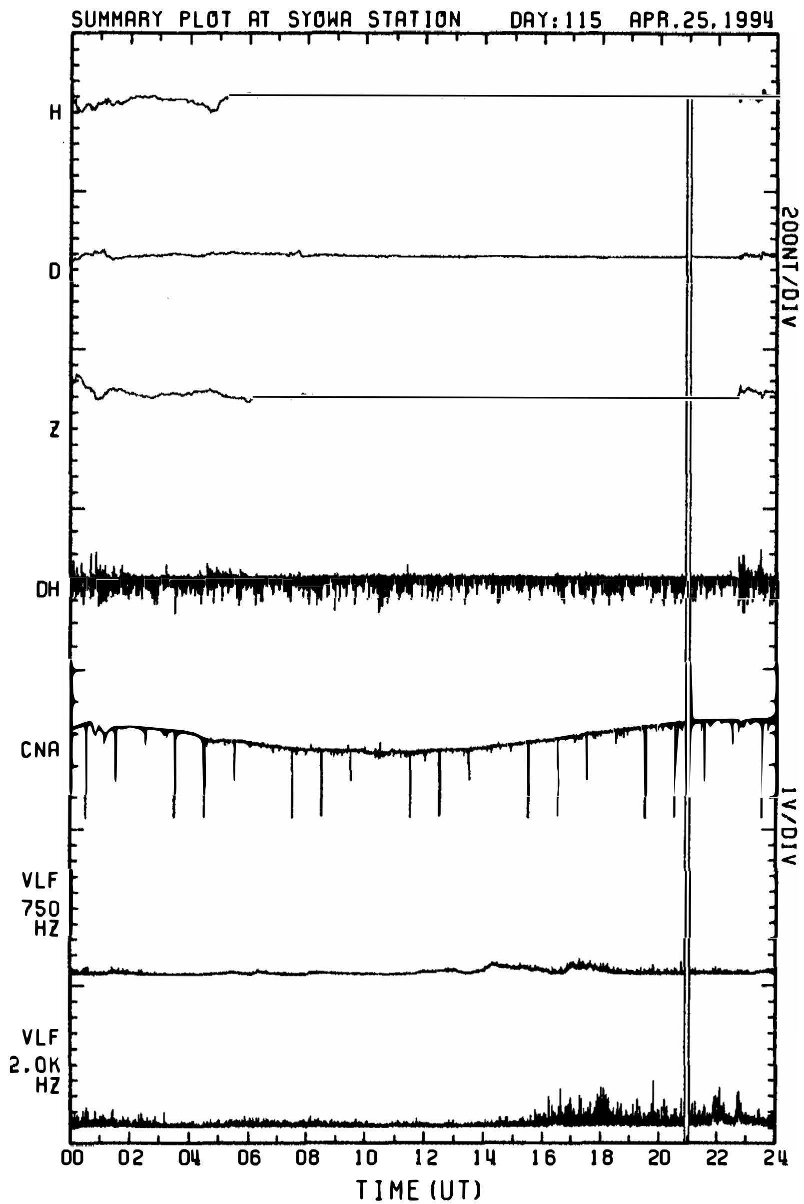


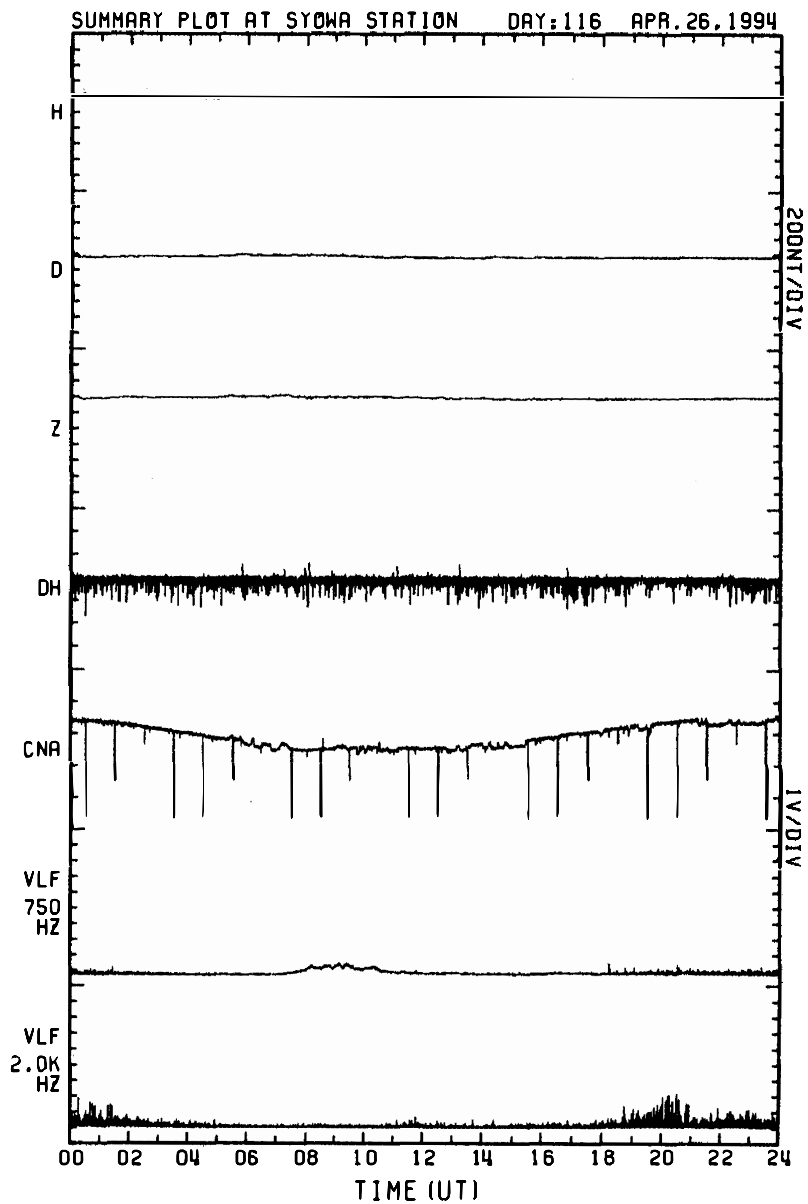
SUMMARY PLOT AT SYOWA STATION DAY:112 APR.22.1994

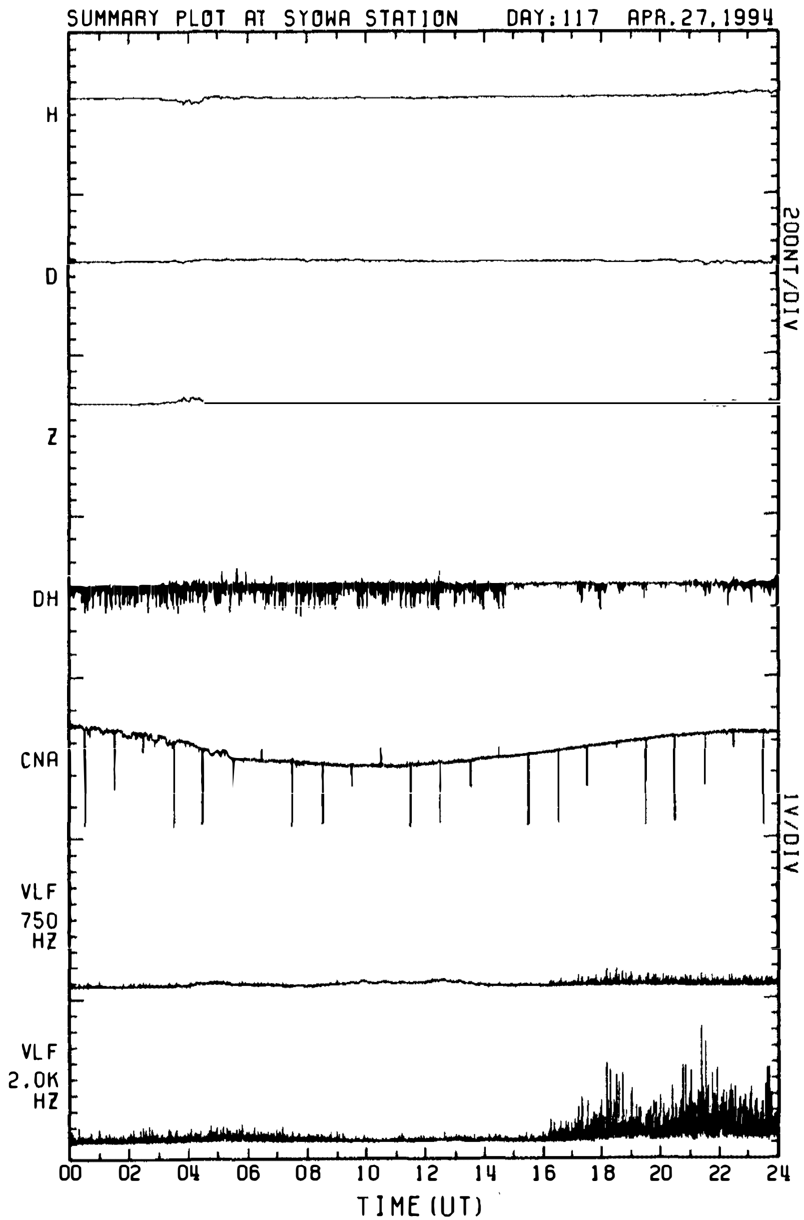


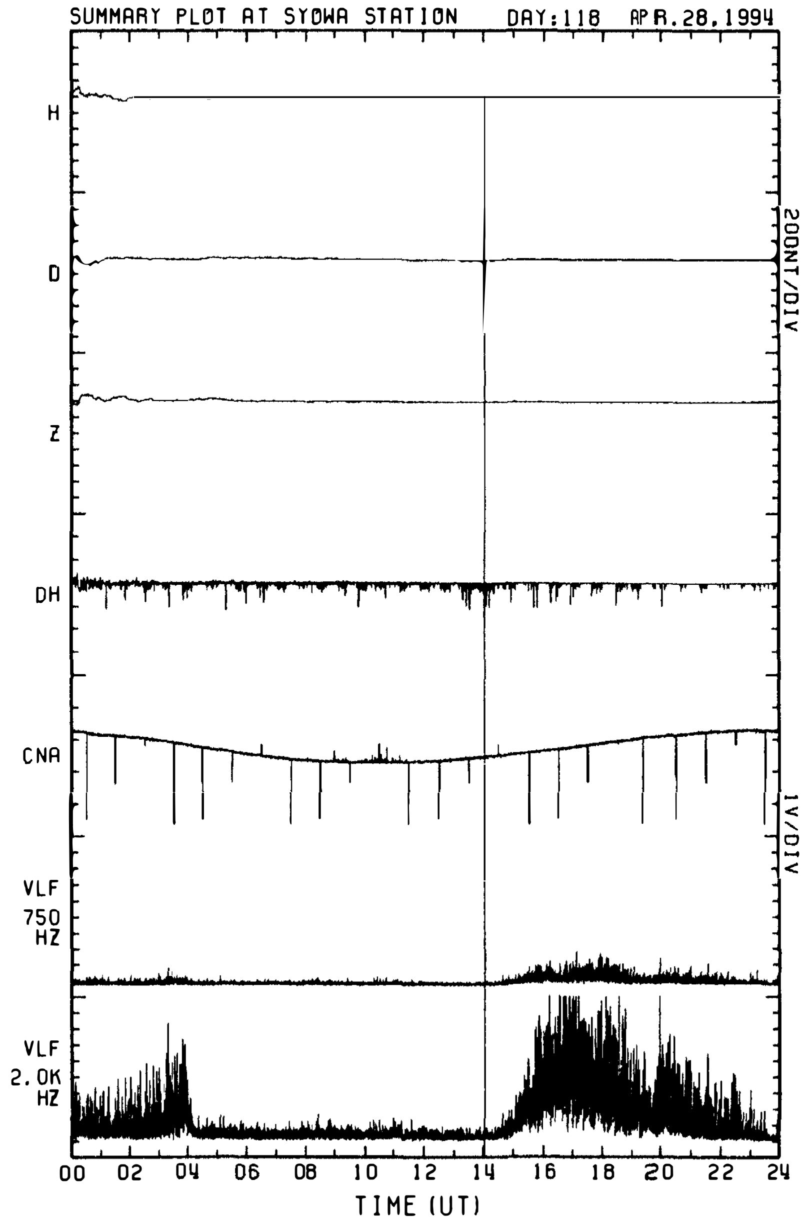

SUMMARY PLOT AT SYOWA STATION DAY:114 APR.24,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:113 APR.23,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

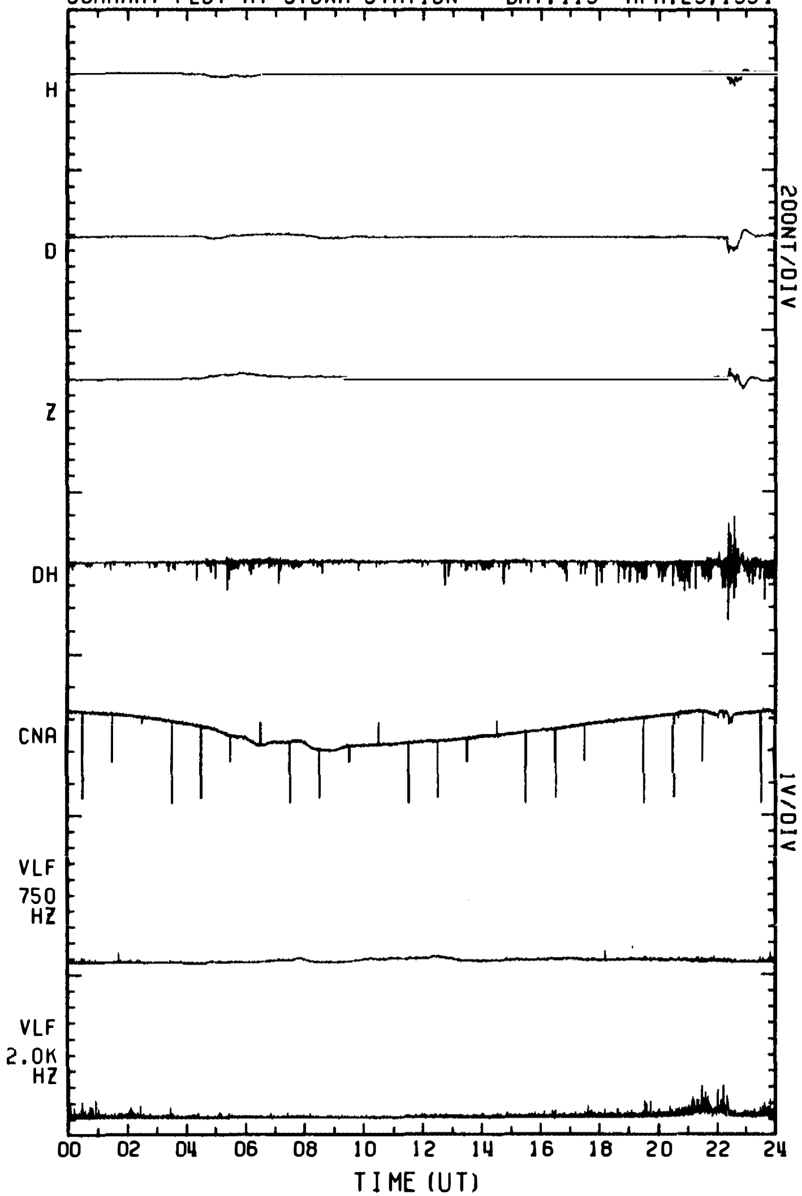

SUMMARY PLOT AT SYOWA STATION DAY:115 APR.25,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:116 APR.26,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

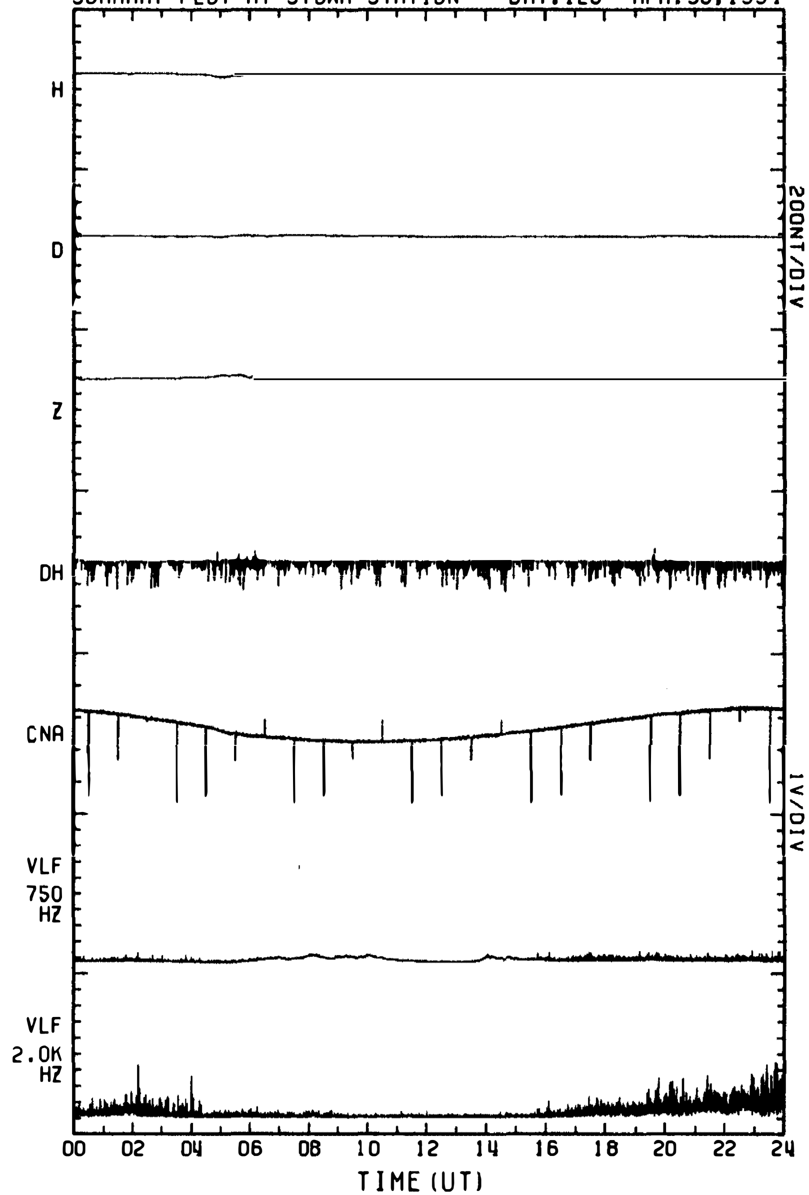

SUMMARY PLOT AT SYOWA STATION DAY:117 APR.27,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

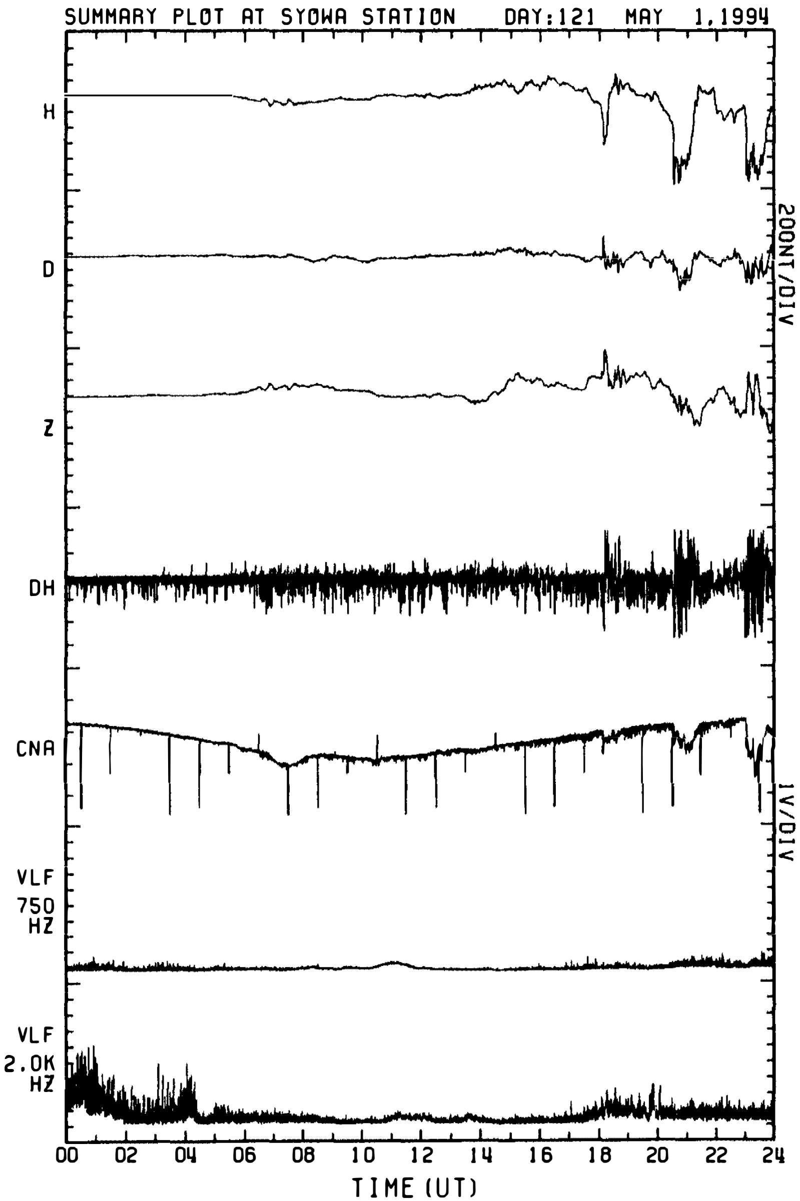

SUMMARY PLOT AT SYOWA STATION DAY:118 APR.28,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

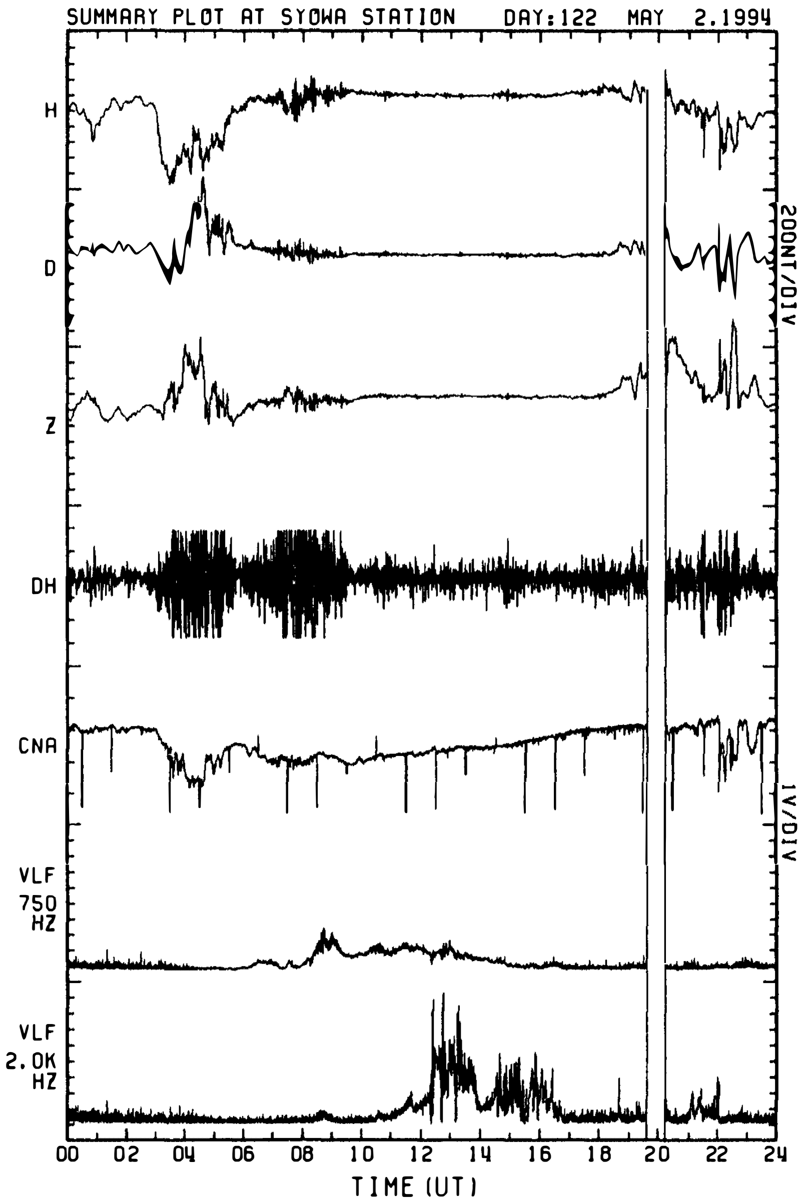
SUMMARY PLOT AT SYOWA STATION DAY:119 APR.29,1994

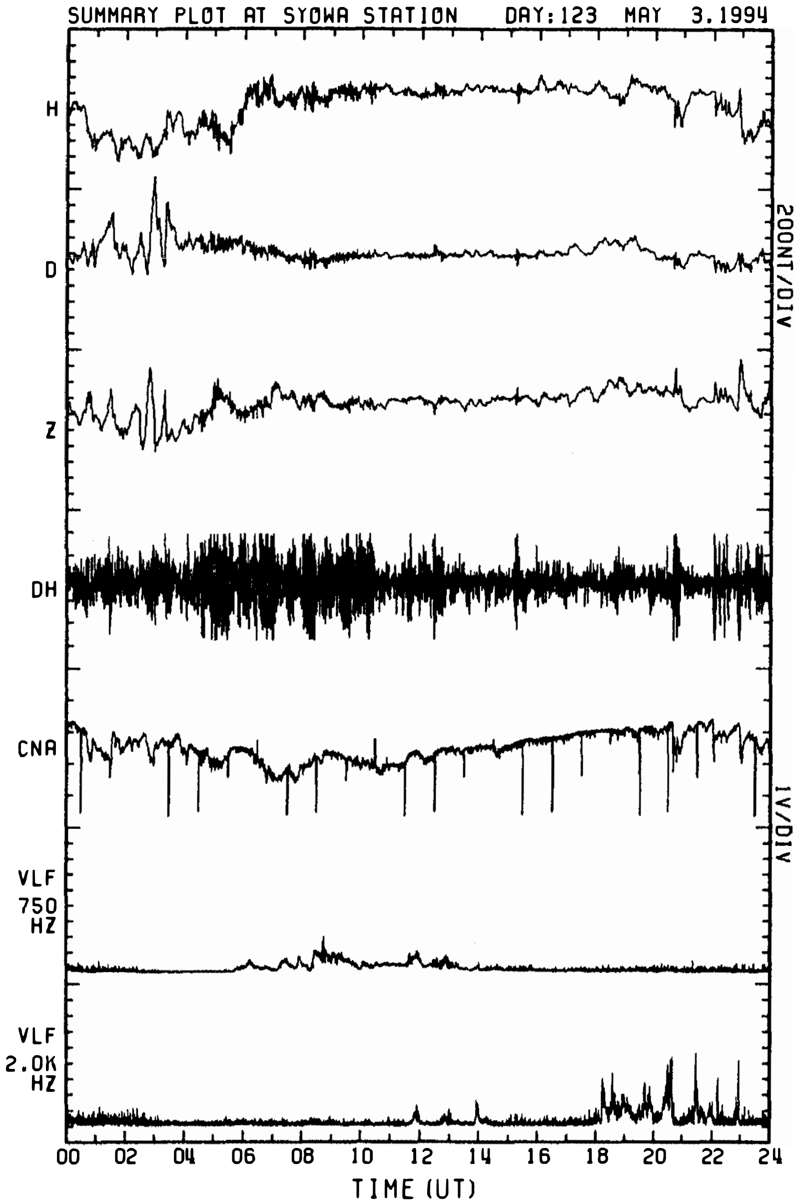


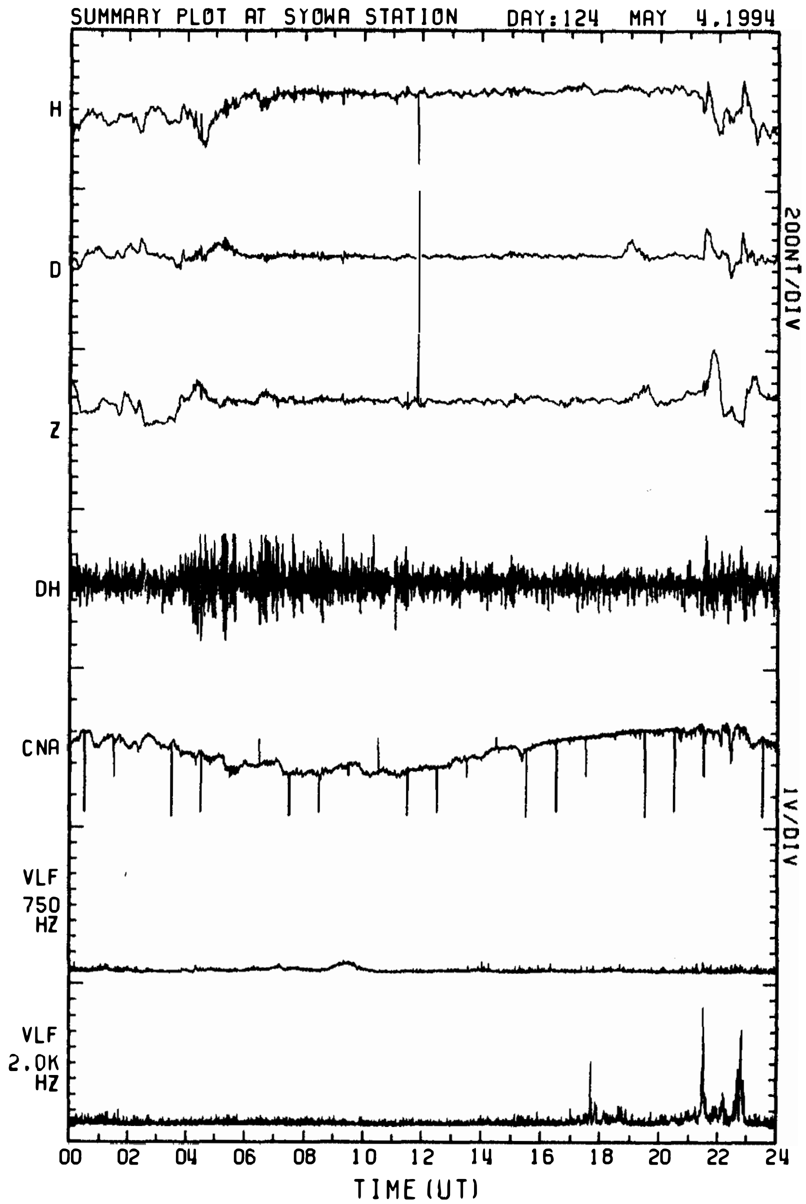
SUMMARY PLOT AT SYOWA STATION DAY:120 APR.30,1994

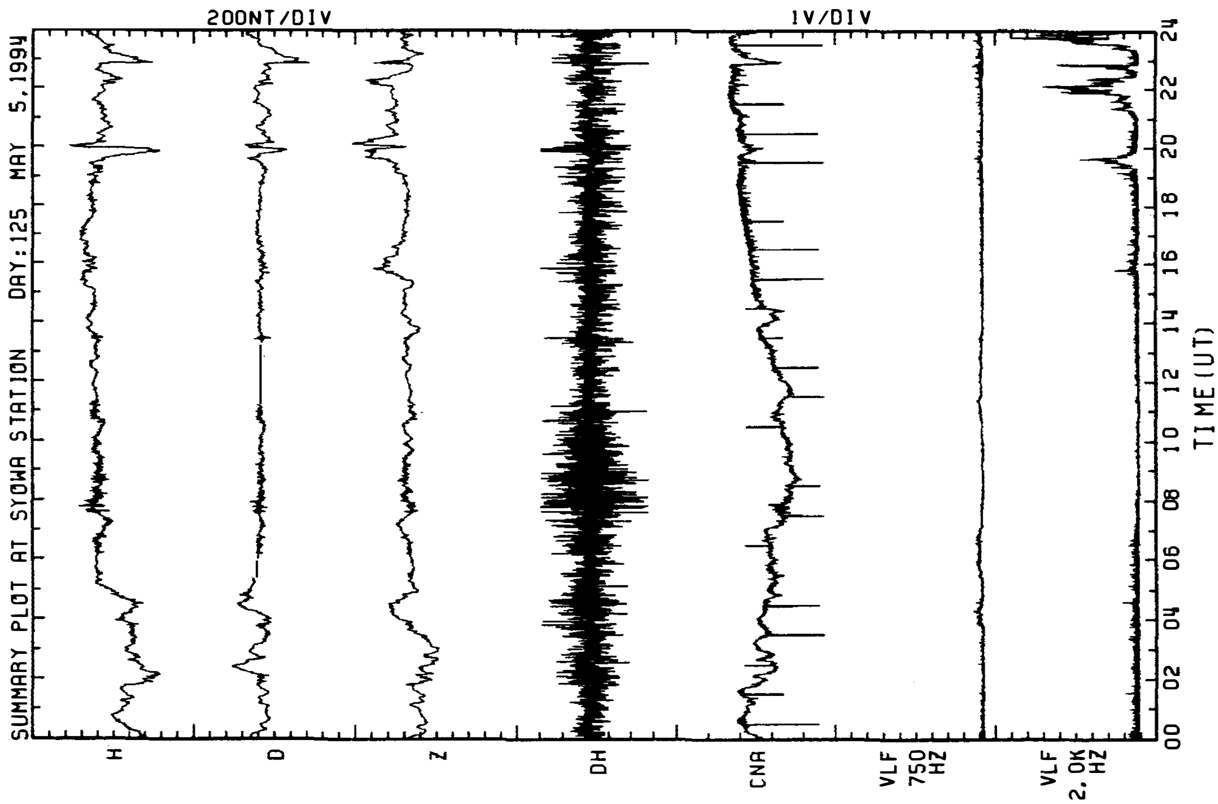


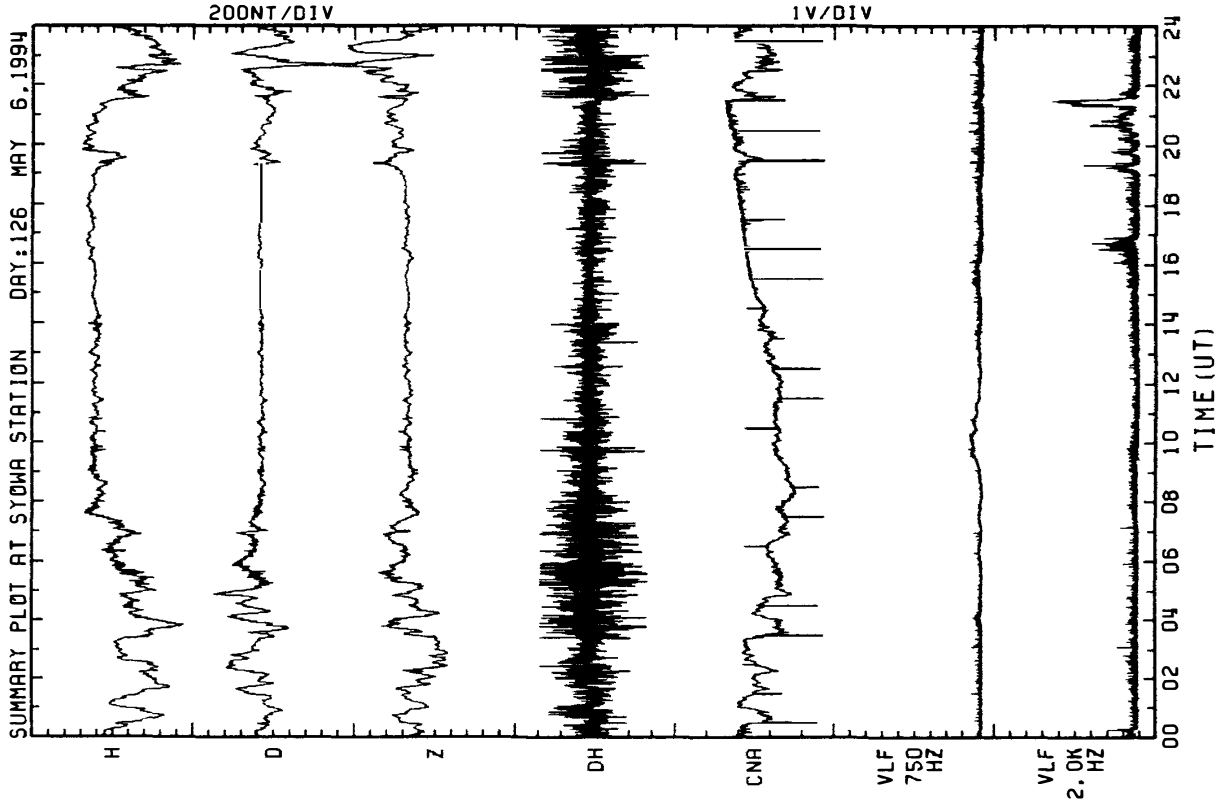

SUMMARY PLOT AT SYOWA STATION DAY:121 MAY 1,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

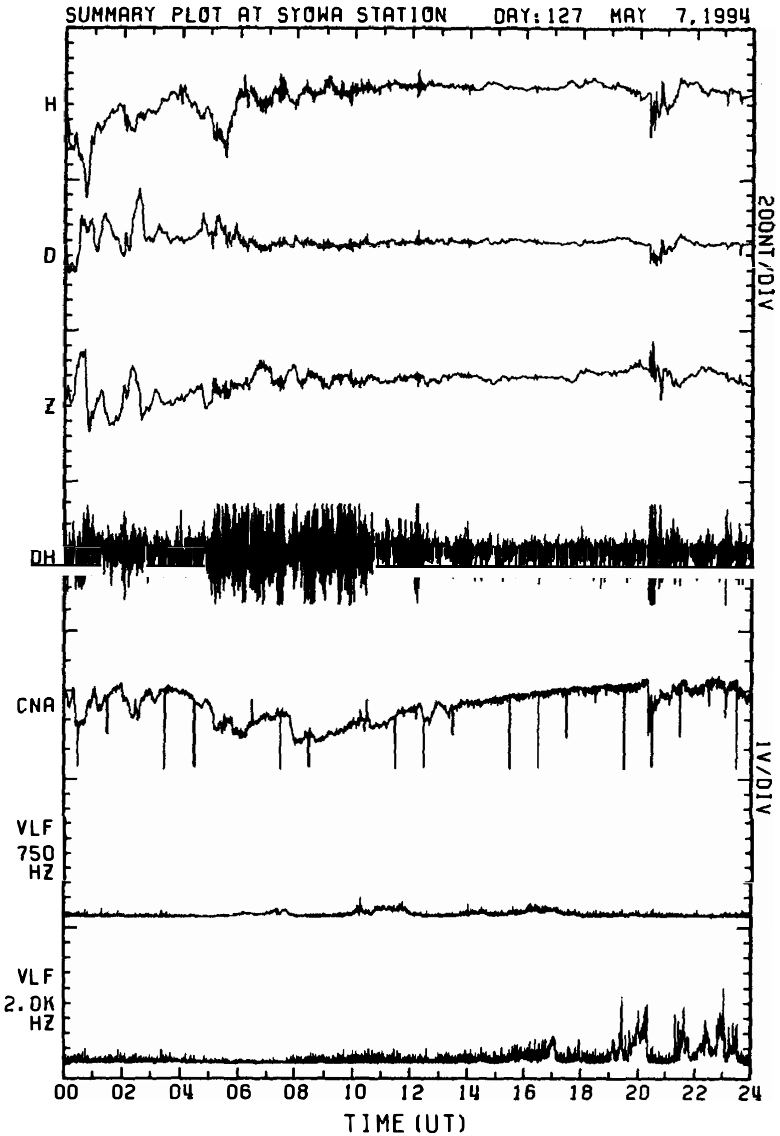

SUMMARY PLOT AT SYOWA STATION DAY:122 MAY 2.1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:123 MAY 3.1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

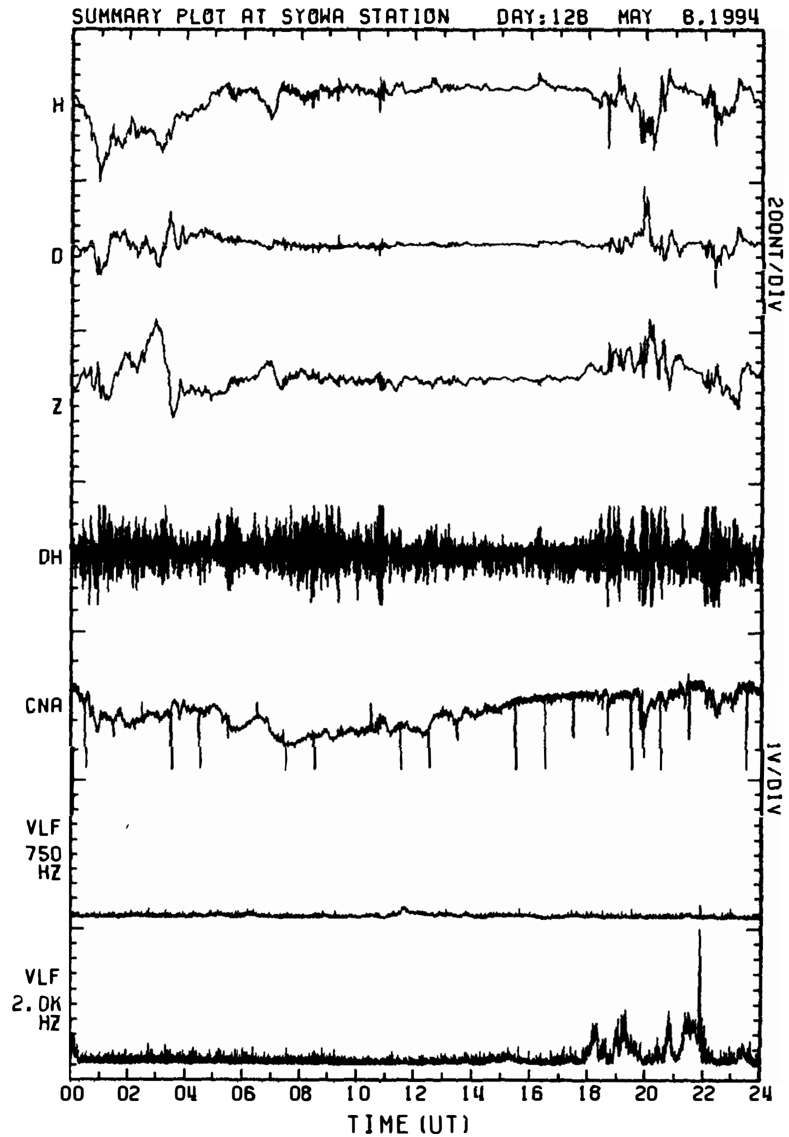

SUMMARY PLOT AT SYOWA STATION DAY:124 MAY 4.1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:125 MAY 5,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

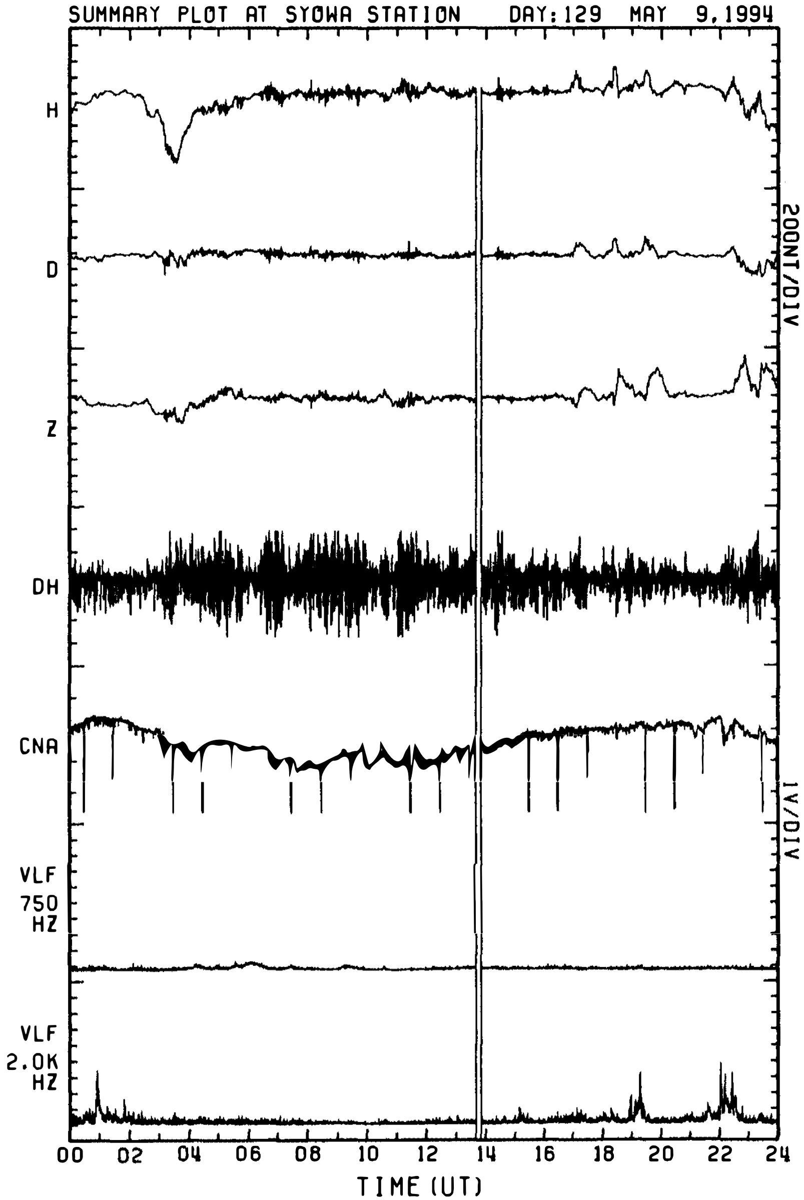

SUMMARY PLOT AT SYOWA STATION DAY:126 MAY 6,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

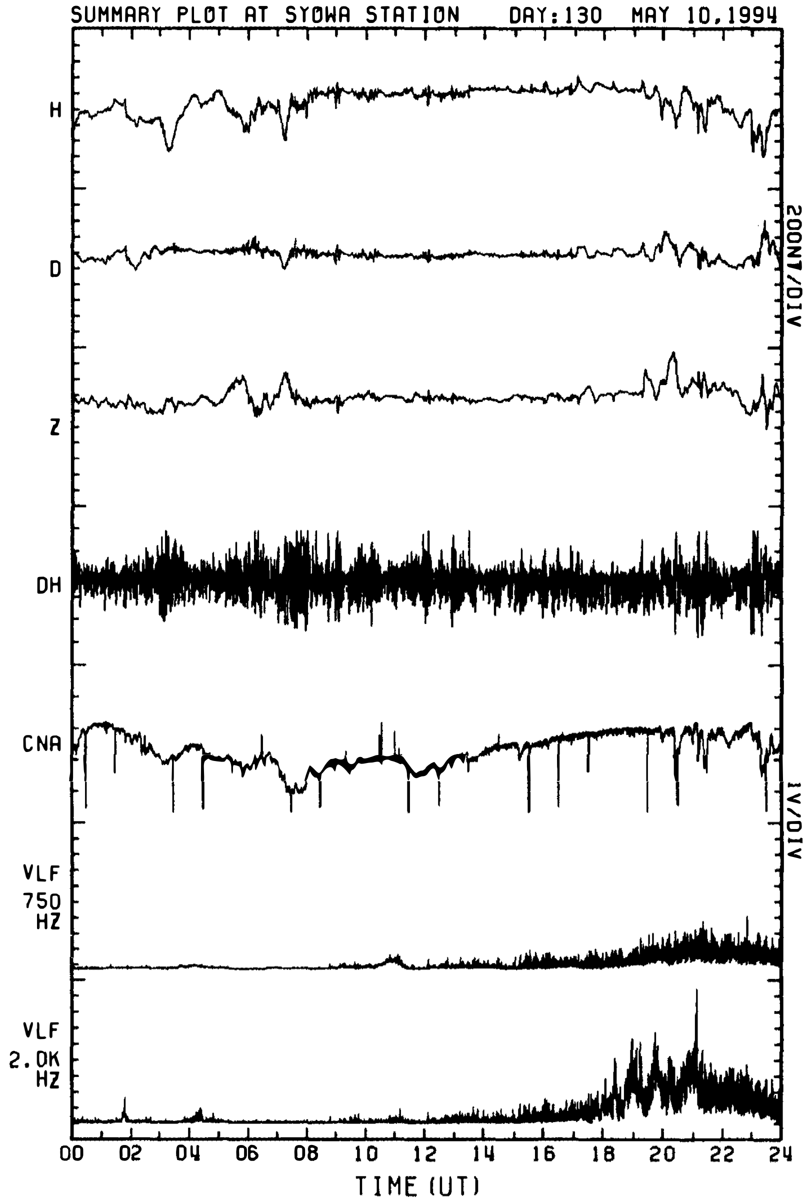


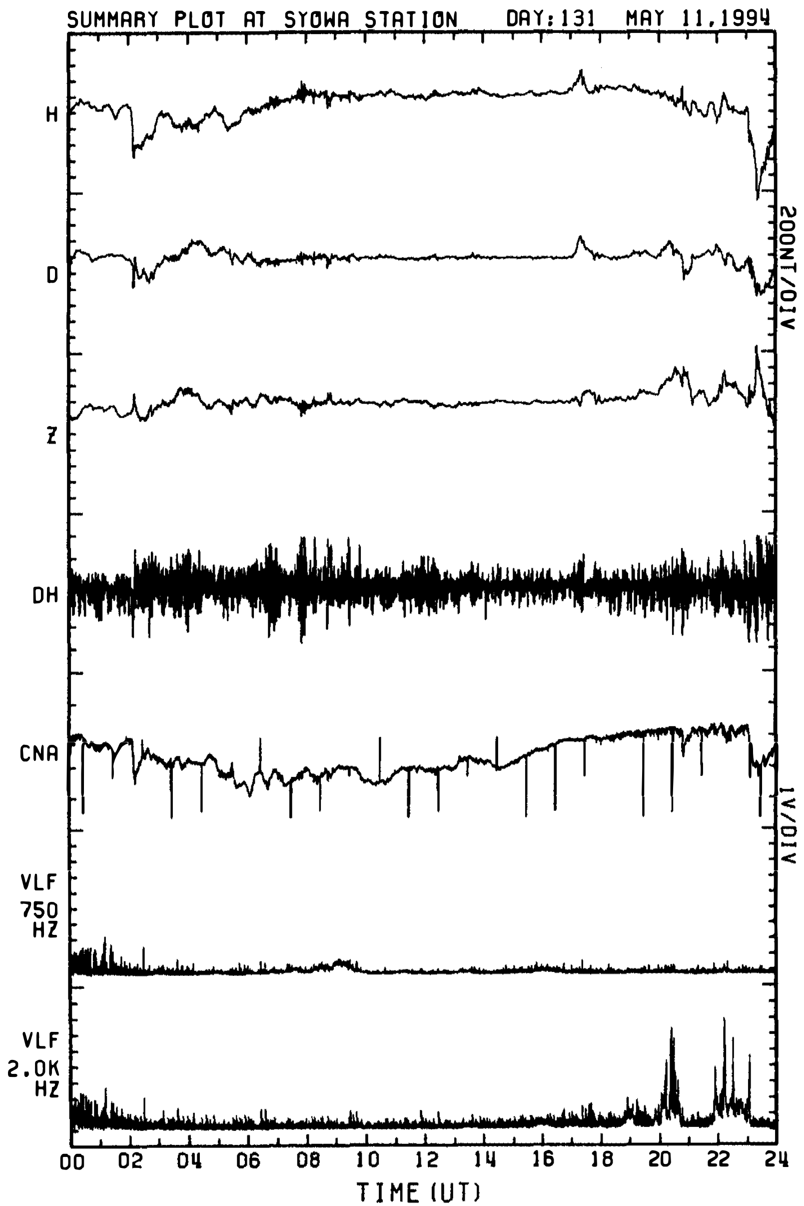
SUMMARY PLOT AT SYOWA STATION DAY:127 MAY 7,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

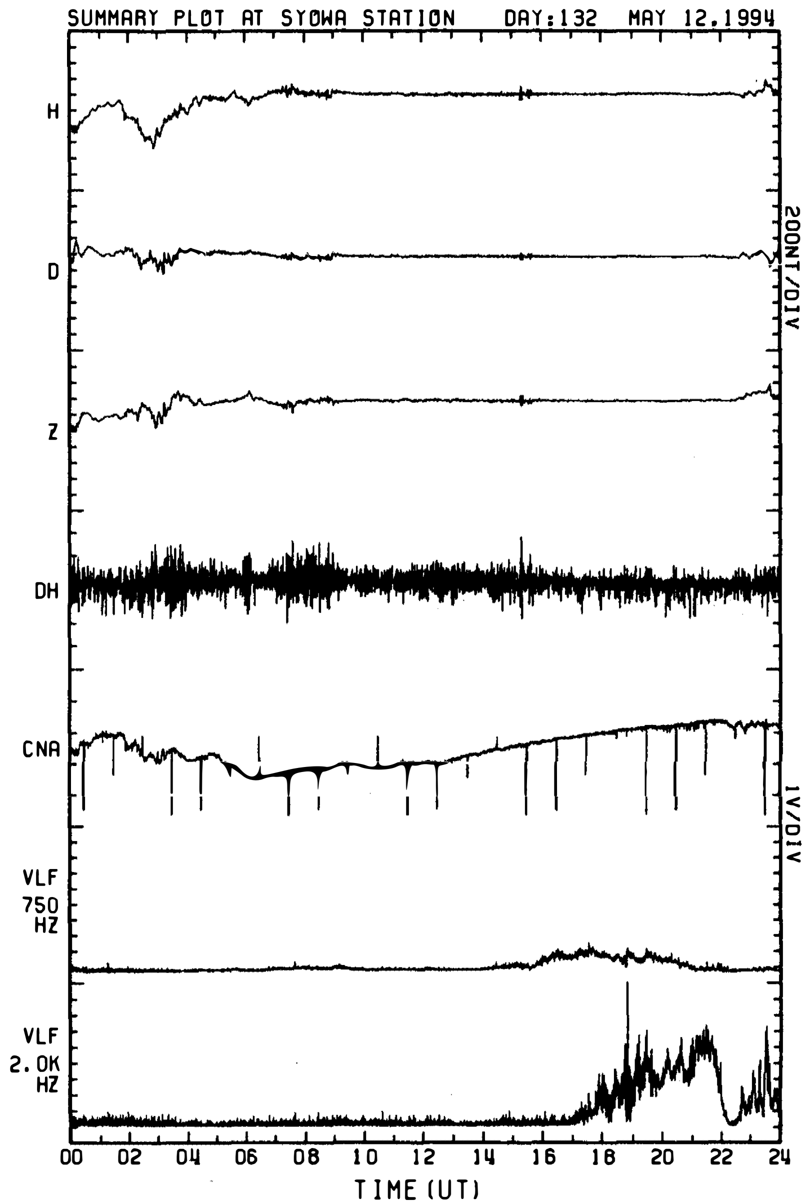


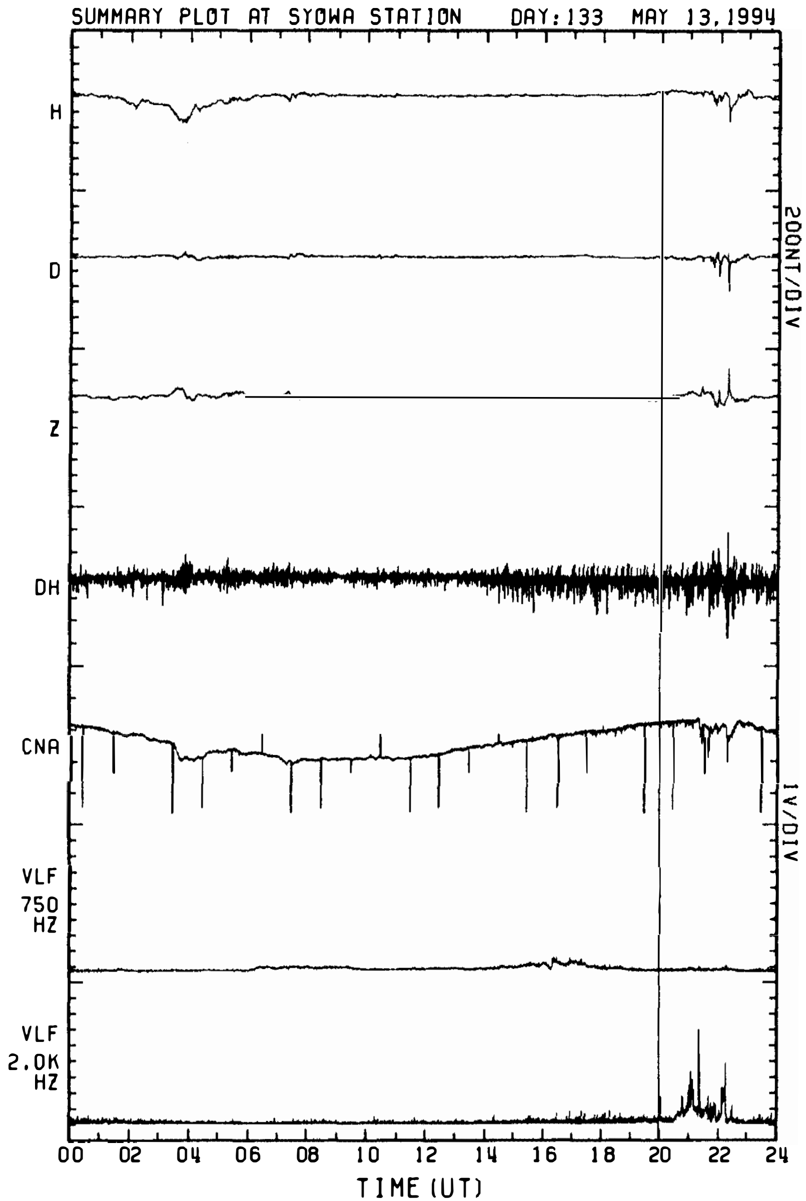
SUMMARY PLOT AT SYOWA STATION DAY:128 MAY 8,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

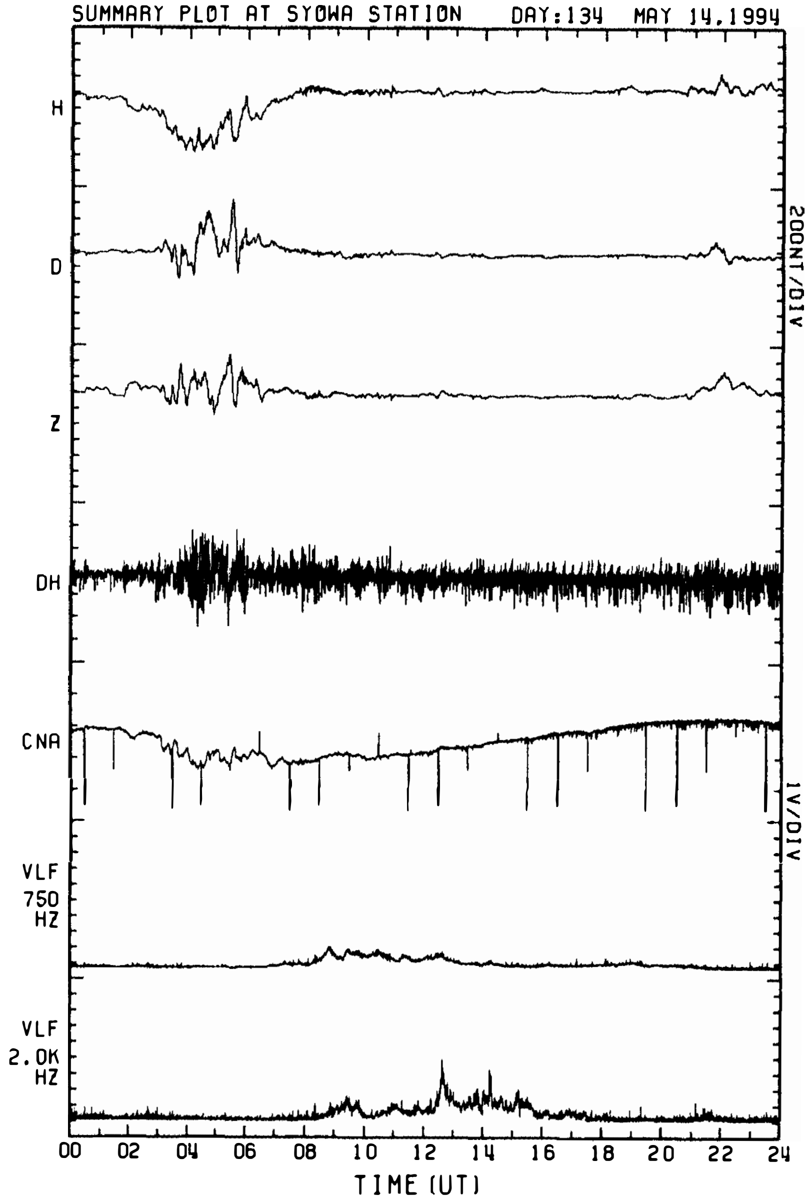

SUMMARY PLOT AT SYOWA STATION DAY:129 MAY 9,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:130 MAY 10,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

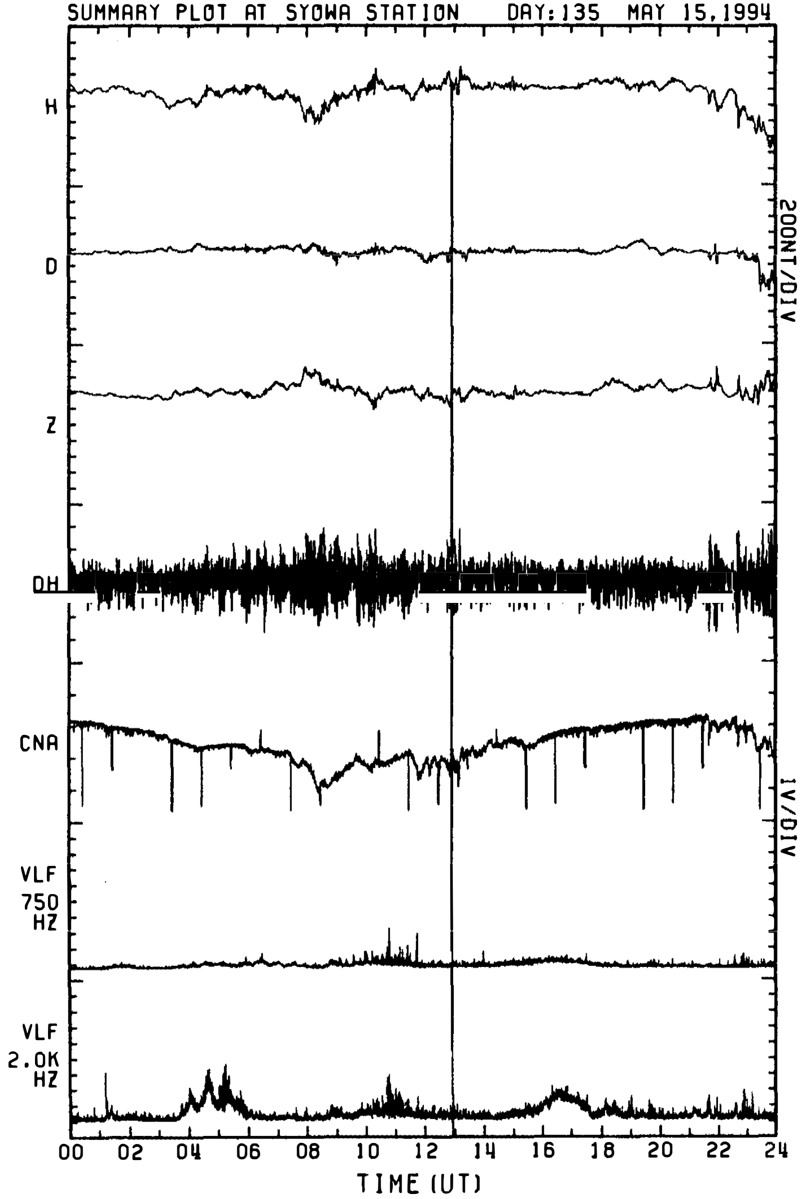

SUMMARY PLOT AT SYOWA STATION DAY:131 MAY 11,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:132 MAY 12,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

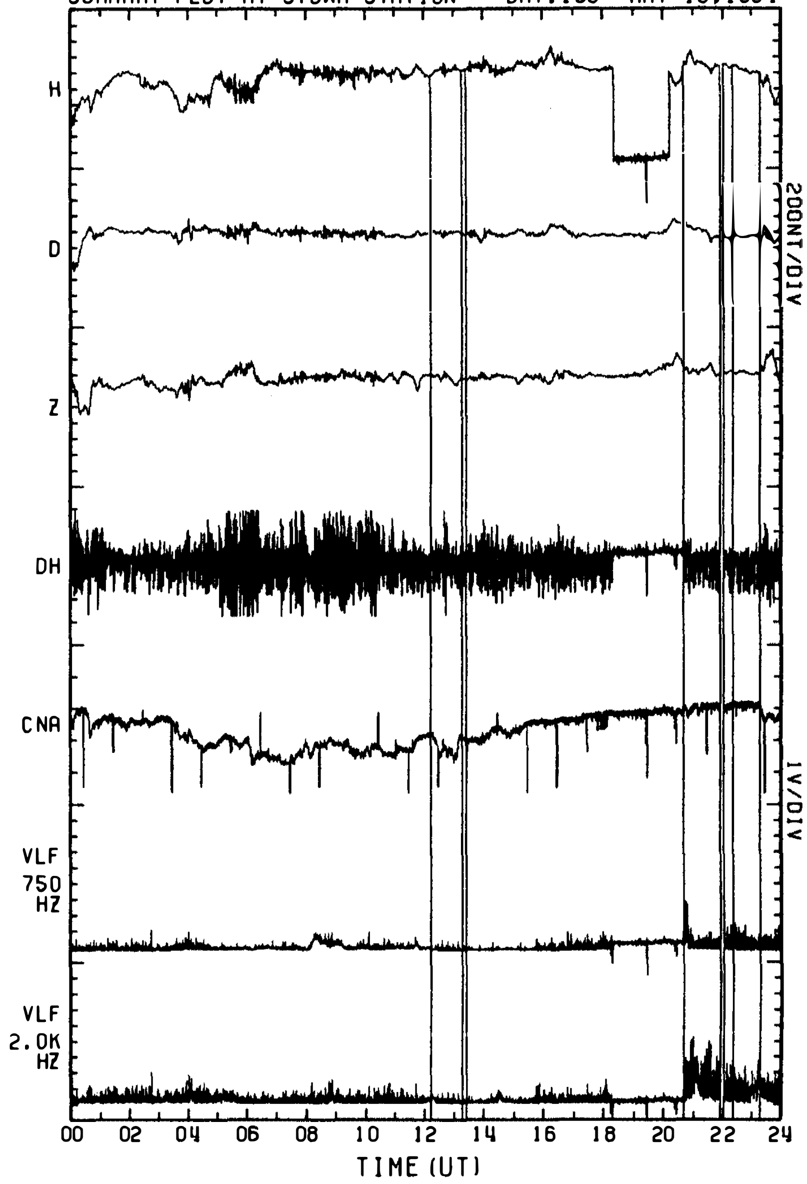

SUMMARY PLOT AT SYOWA STATION DAY:133 MAY 13,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

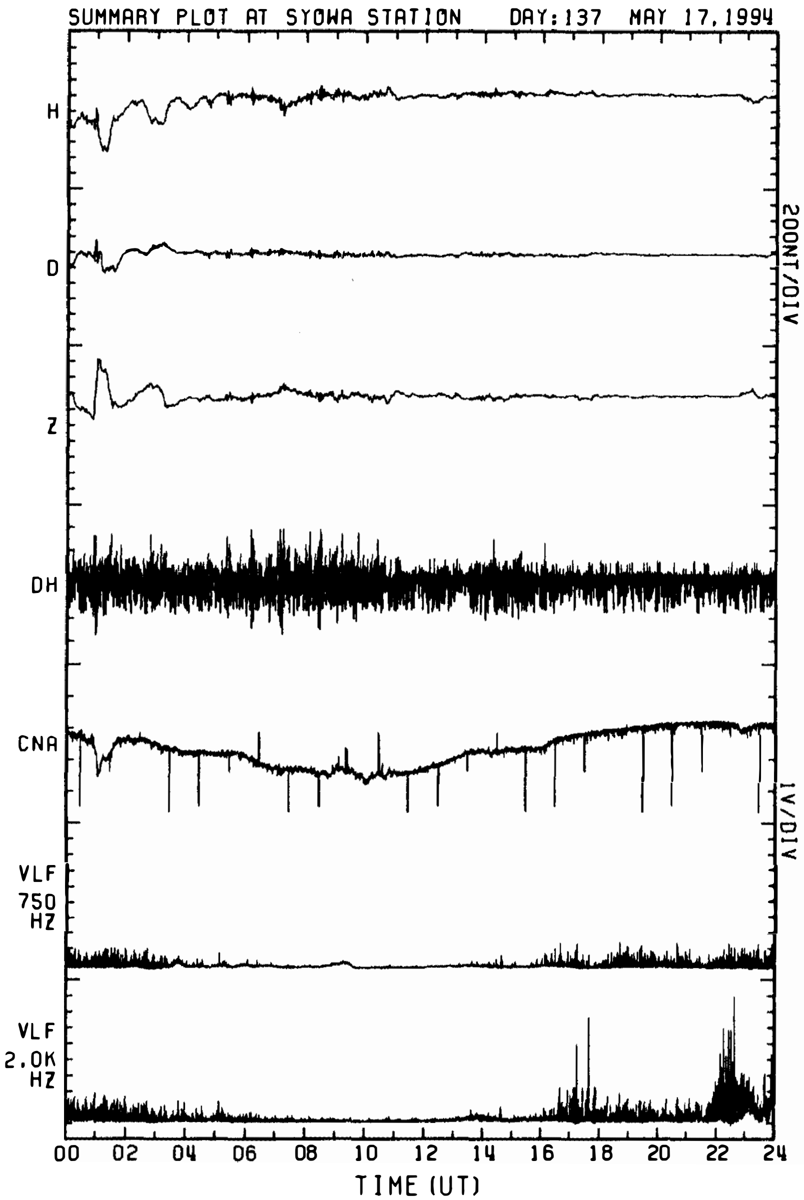

SUMMARY PLOT AT SYOWA STATION DAY:134 MAY 14,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

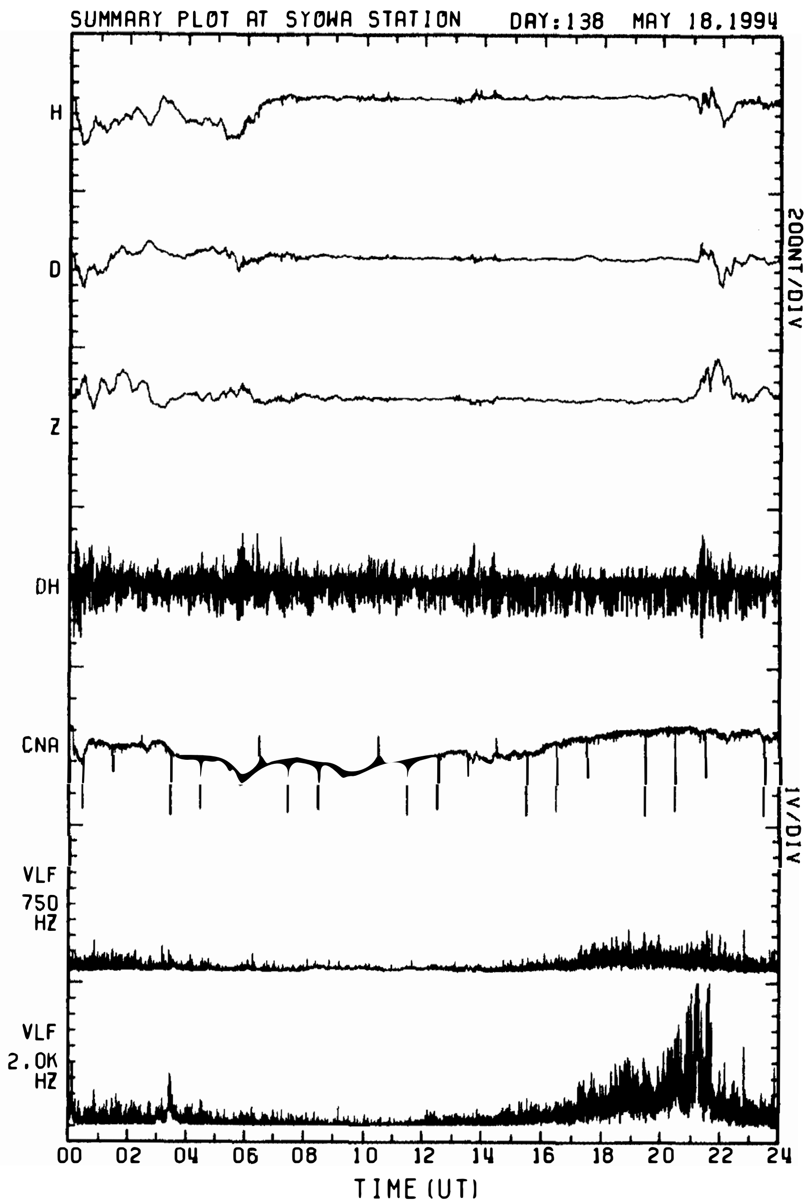
SUMMARY PLOT AT SYOWA STATION DAY:135 MAY 15,1994

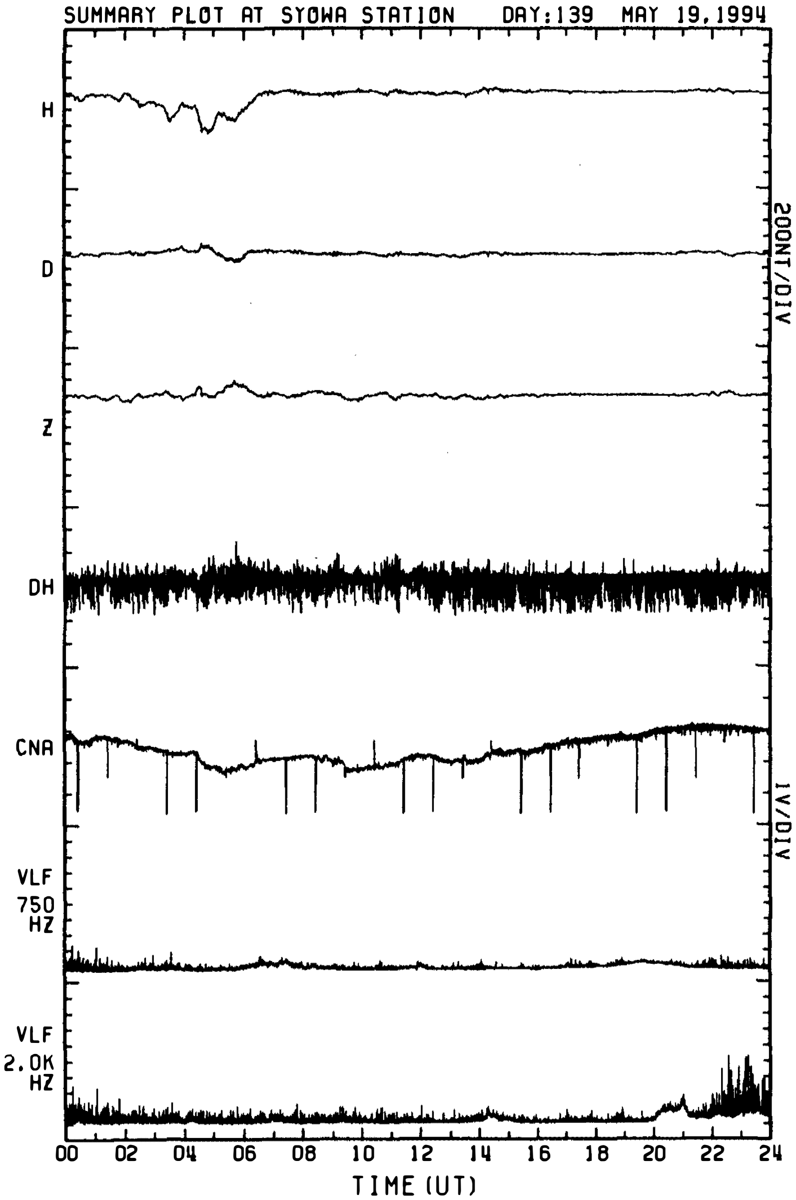


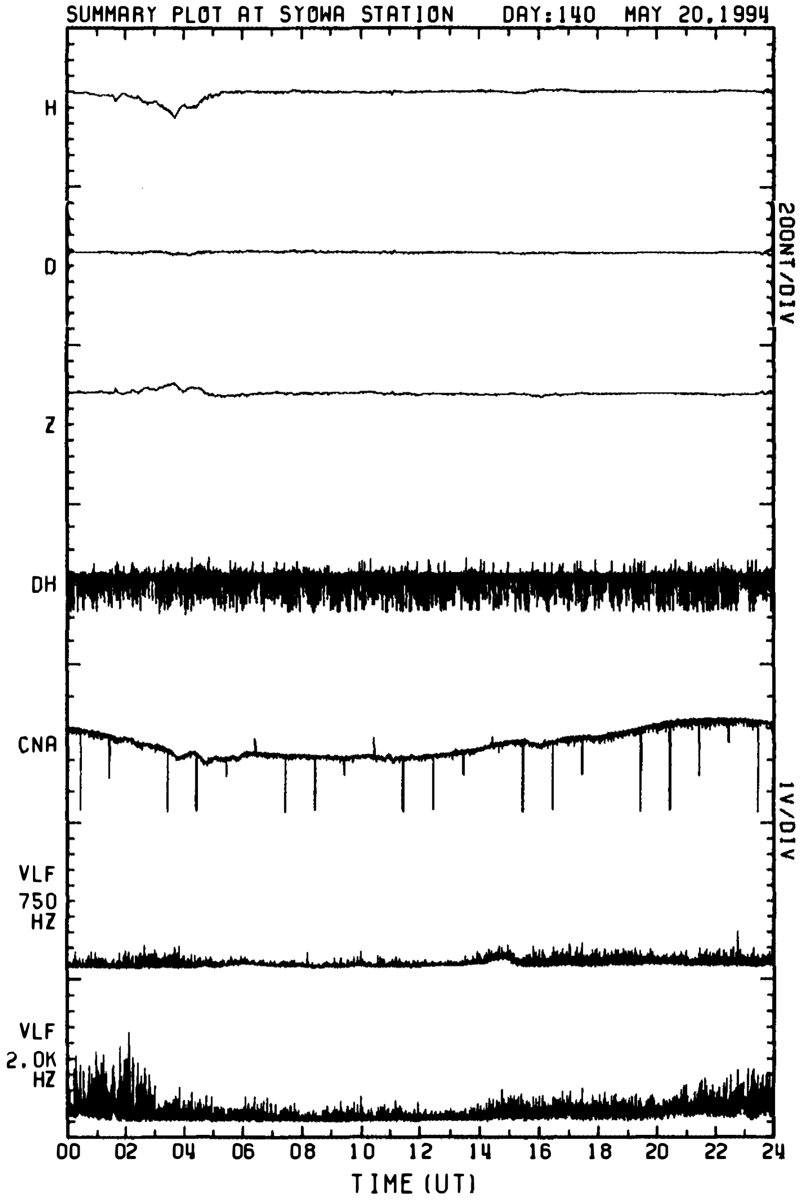
SUMMARY PLOT AT SYOWA STATION DAY:136 MAY 16,1994

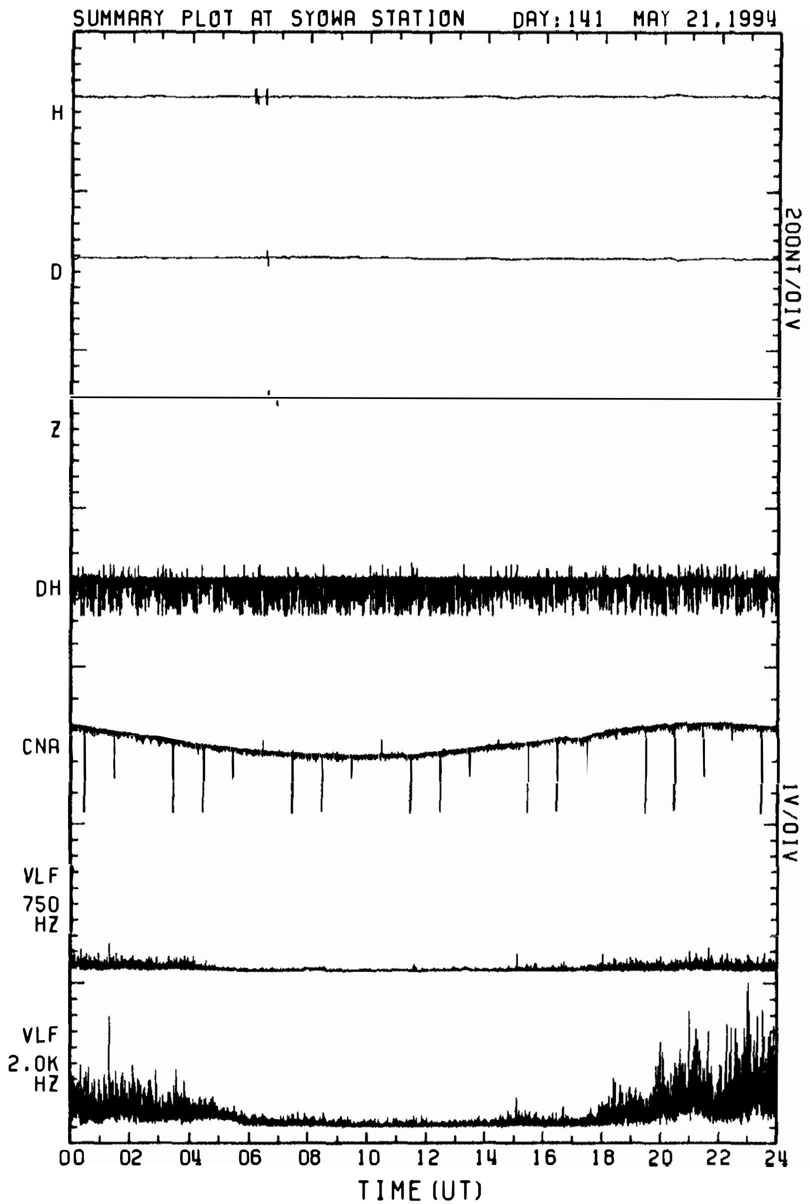


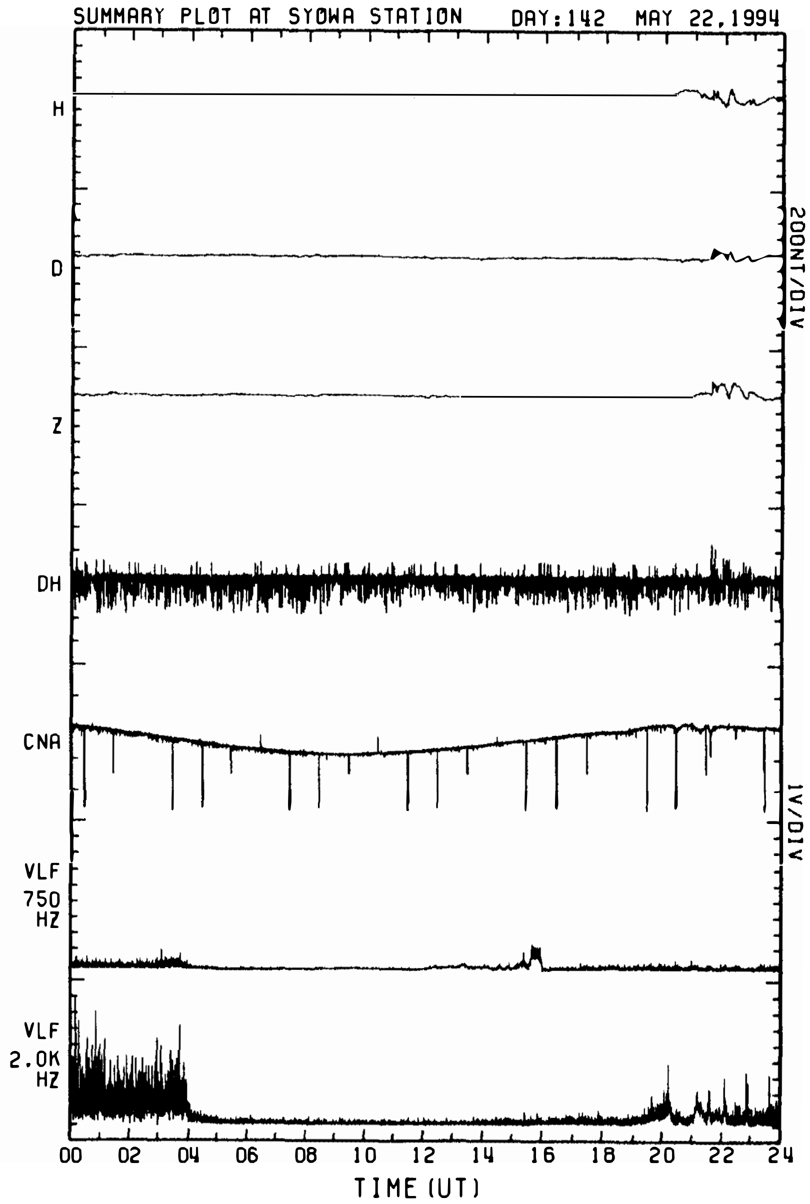

SUMMARY PLOT AT SYOWA STATION DAY:137 MAY 17,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

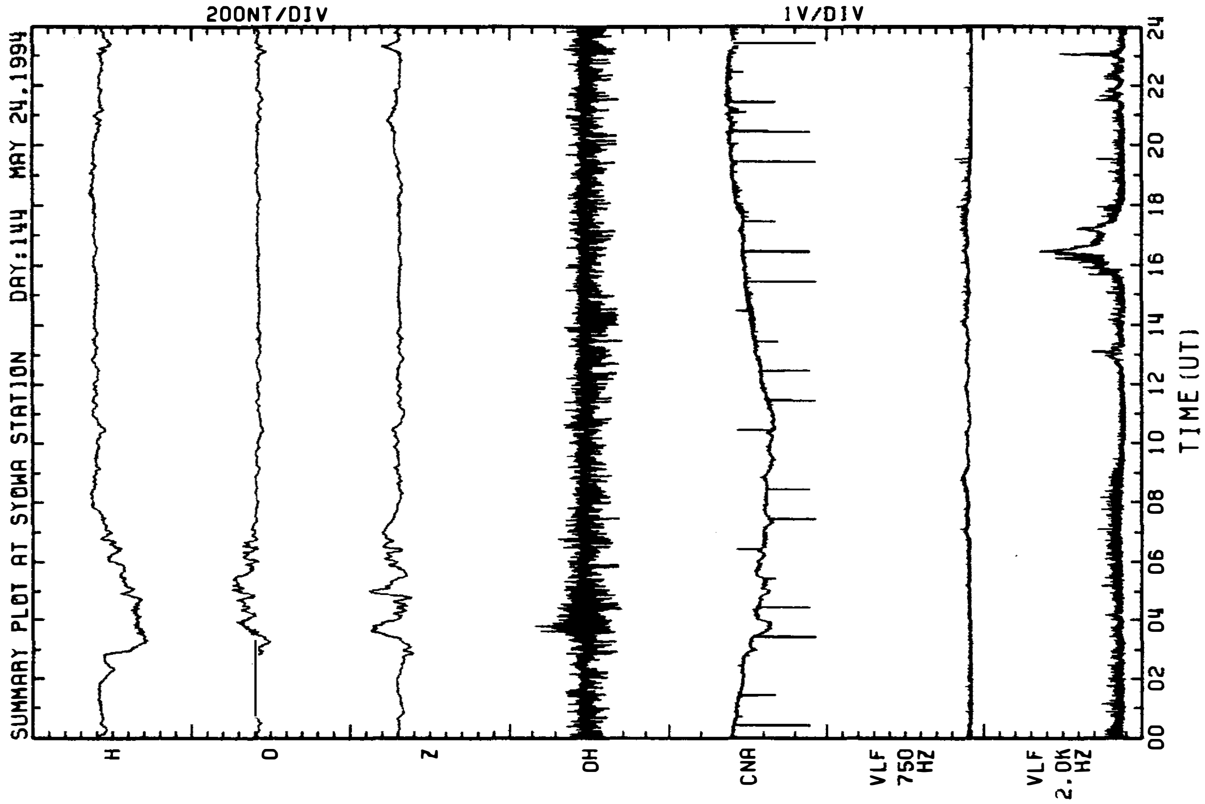

SUMMARY PLOT AT SYOWA STATION DAY:138 MAY 18,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

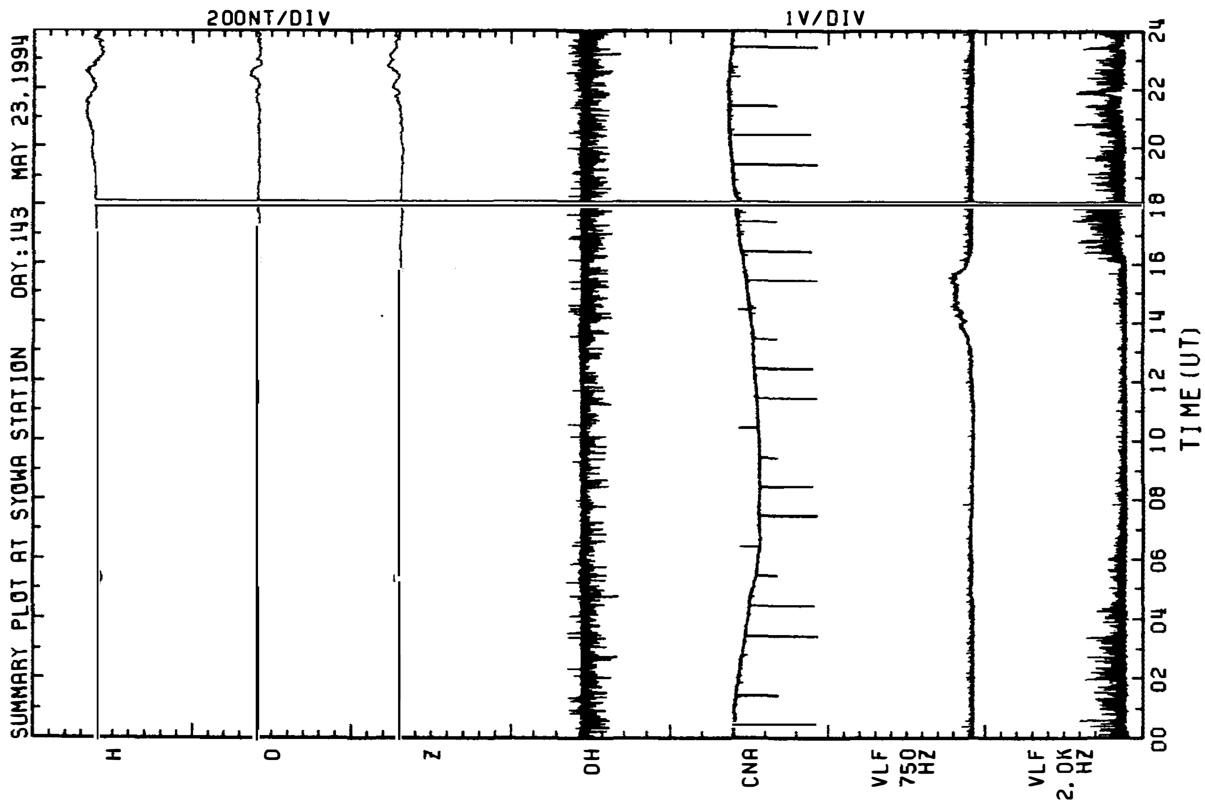

SUMMARY PLOT AT SYOWA STATION DAY:139 MAY 19,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

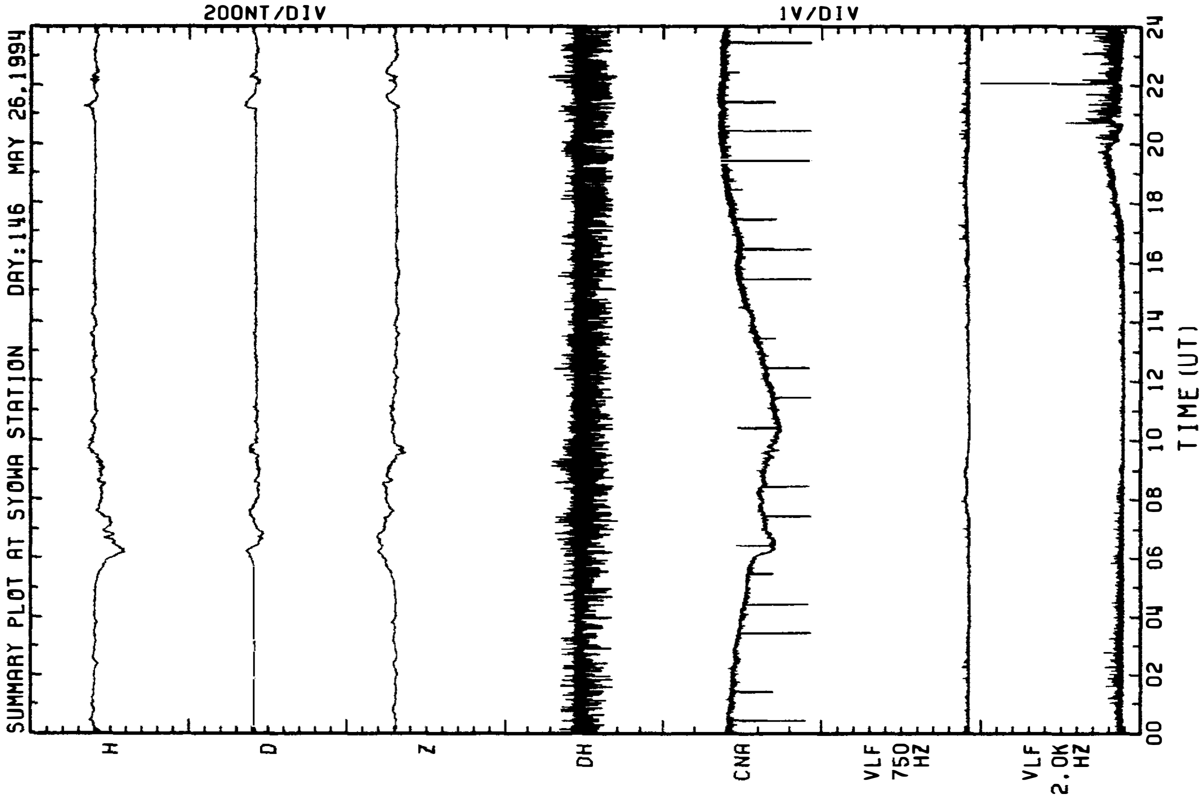

SUMMARY PLOT AT SYOWA STATION DAY:140 MAY 20,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

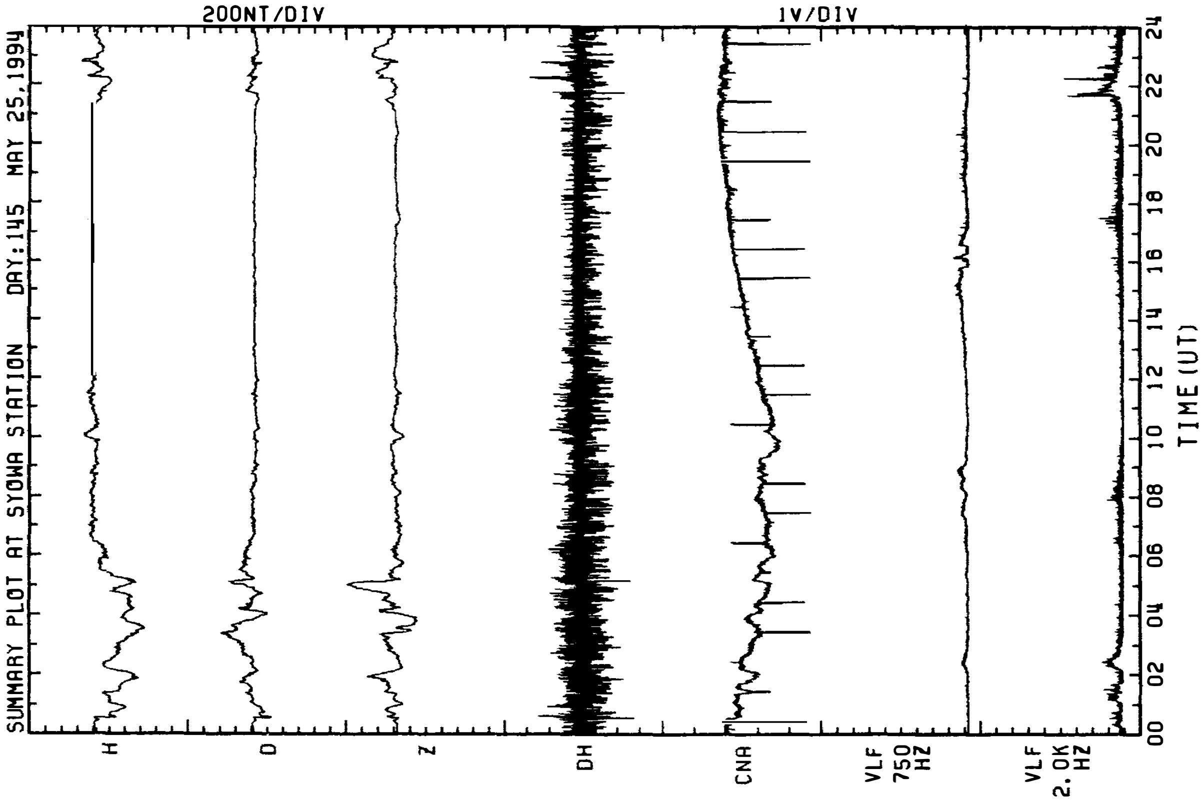

SUMMARY PLOT AT SYOWA STATION DAY:141 MAY 21,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

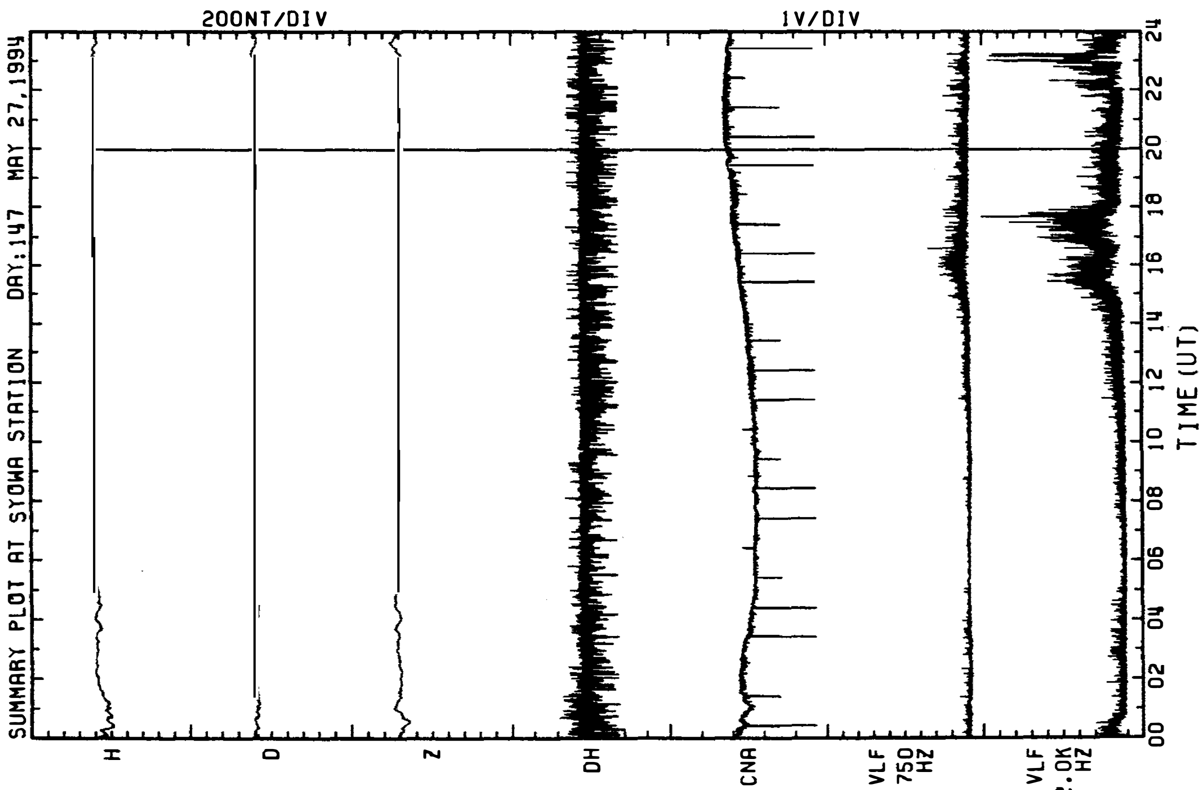

SUMMARY PLOT AT SYOWA STATION DAY:142 MAY 22,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

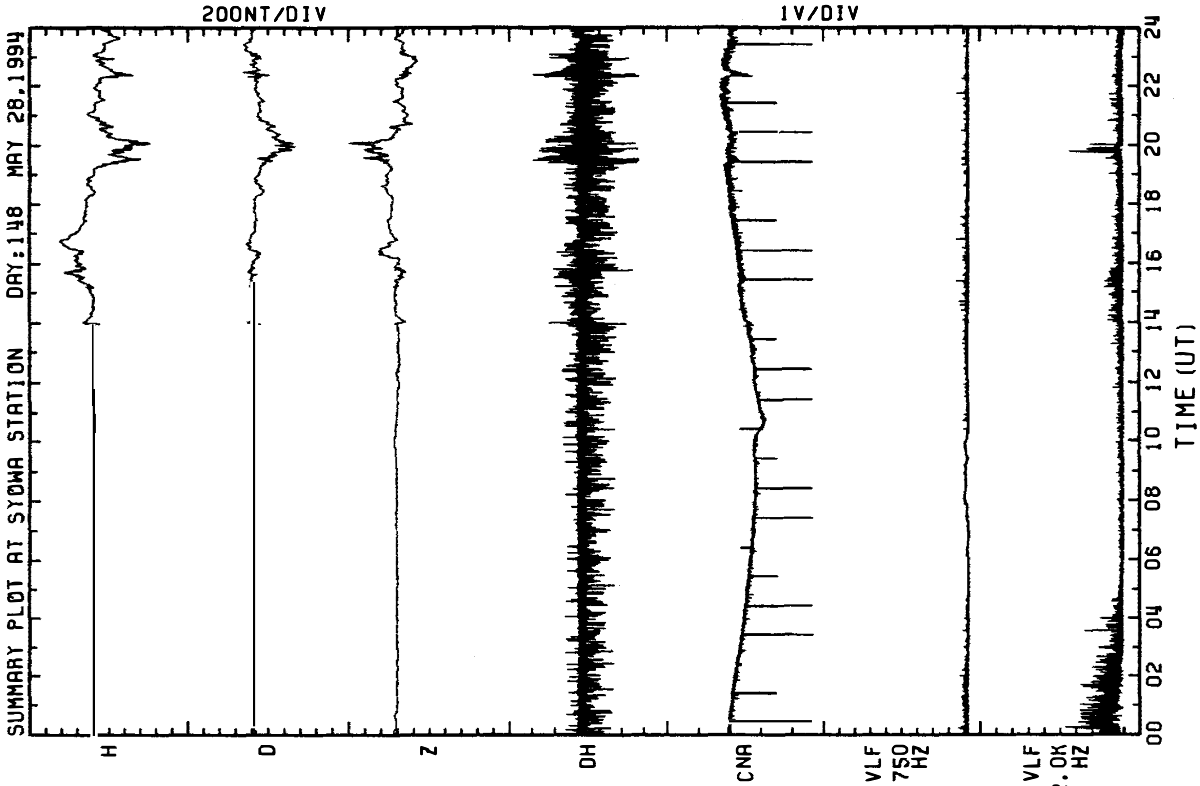

SUMMARY PLOT AT SYOWA STATION DAY:144 MAY 24,1994
200NT/DIV
1V/DIV
H
D
Z
OH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

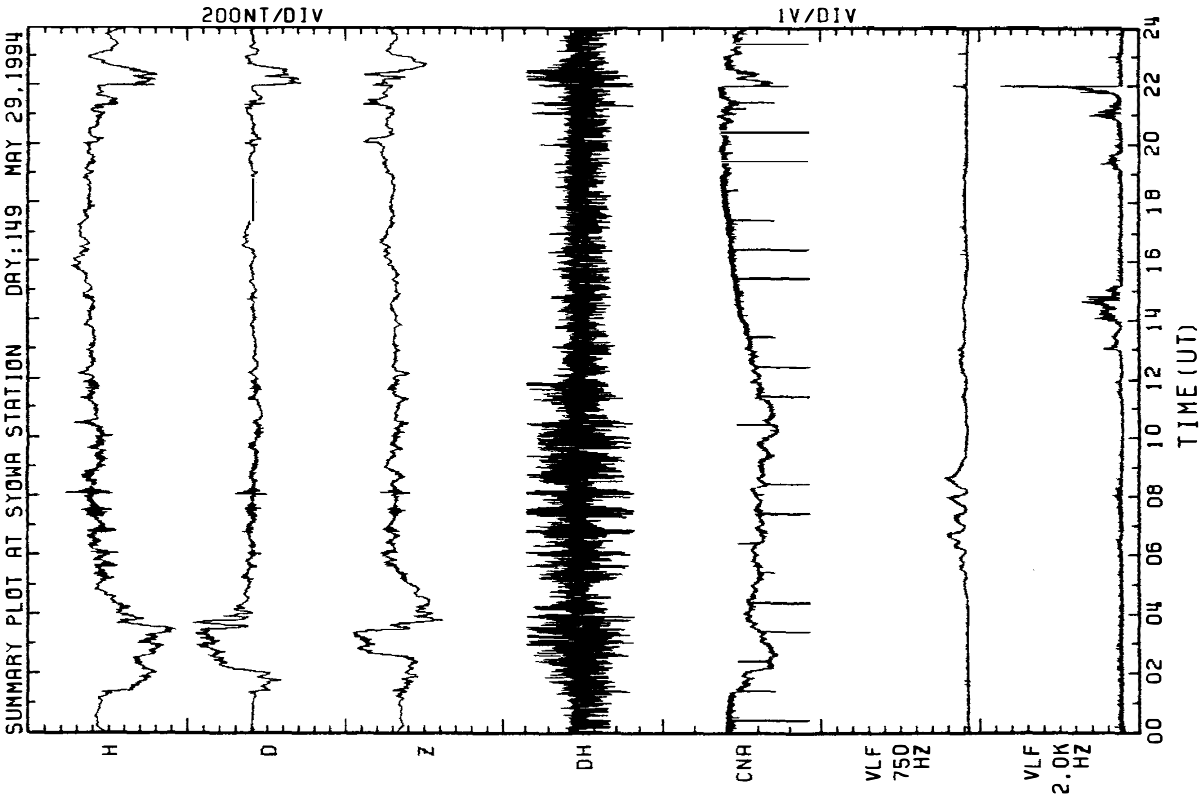

SUMMARY PLOT AT SYOWA STATION DAY:143 MAY 23,1994
200NT/DIV
1V/DIV
H
D
Z
OH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:146 MAY 26,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

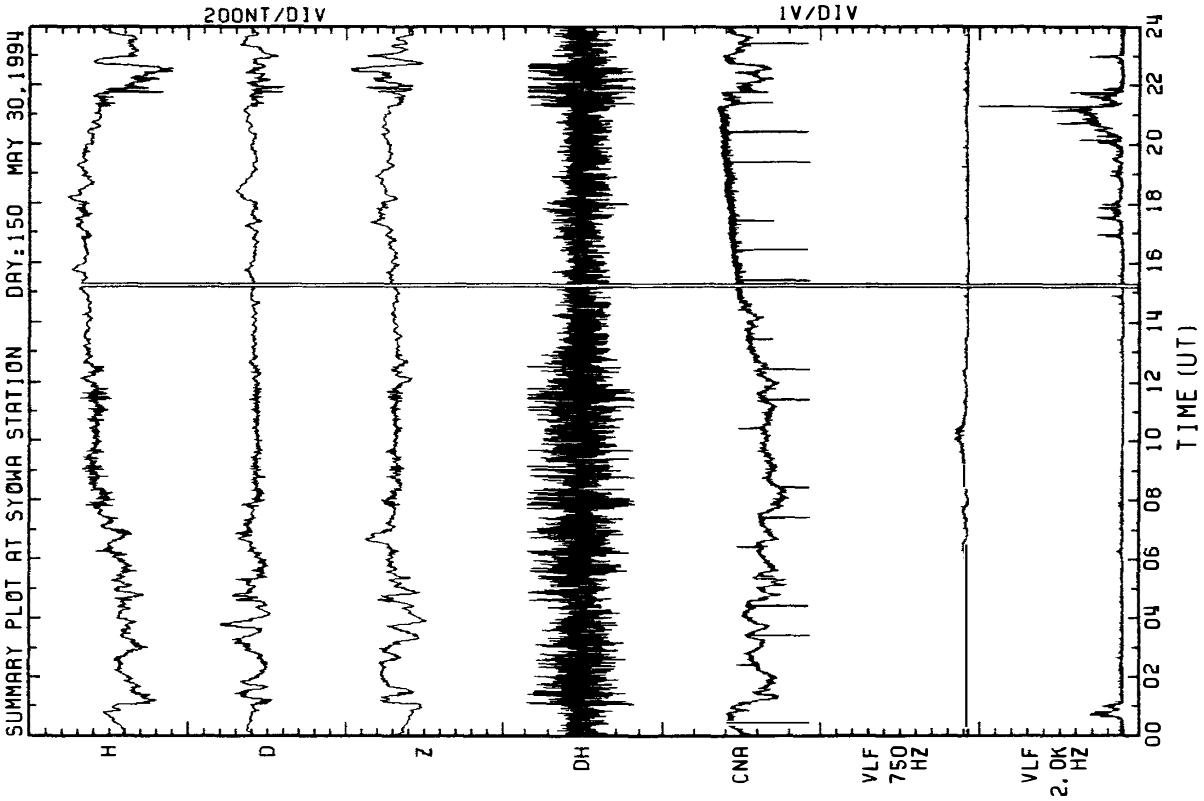

SUMMARY PLOT AT SYOWA STATION DAY:145 MAY 25,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:147 MAY 27,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

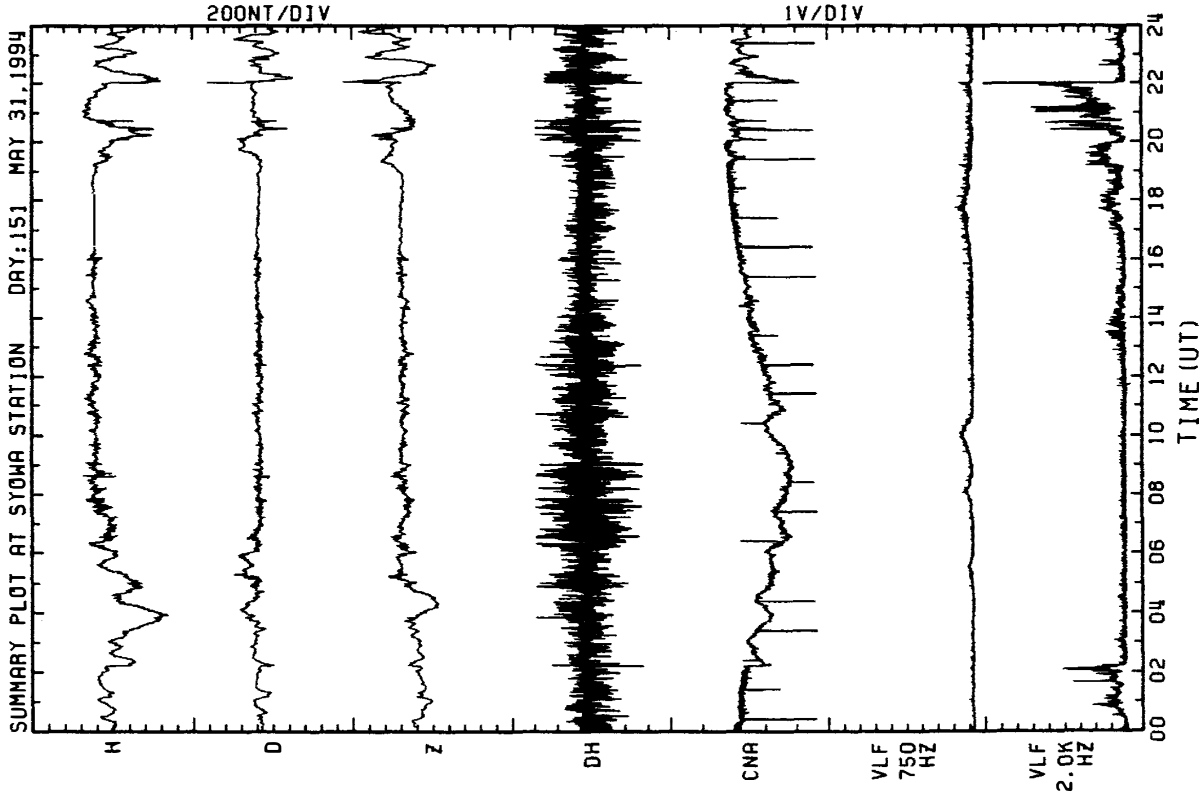

SUMMARY PLOT AT SYOWA STATION DAY:148 MAY 28,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

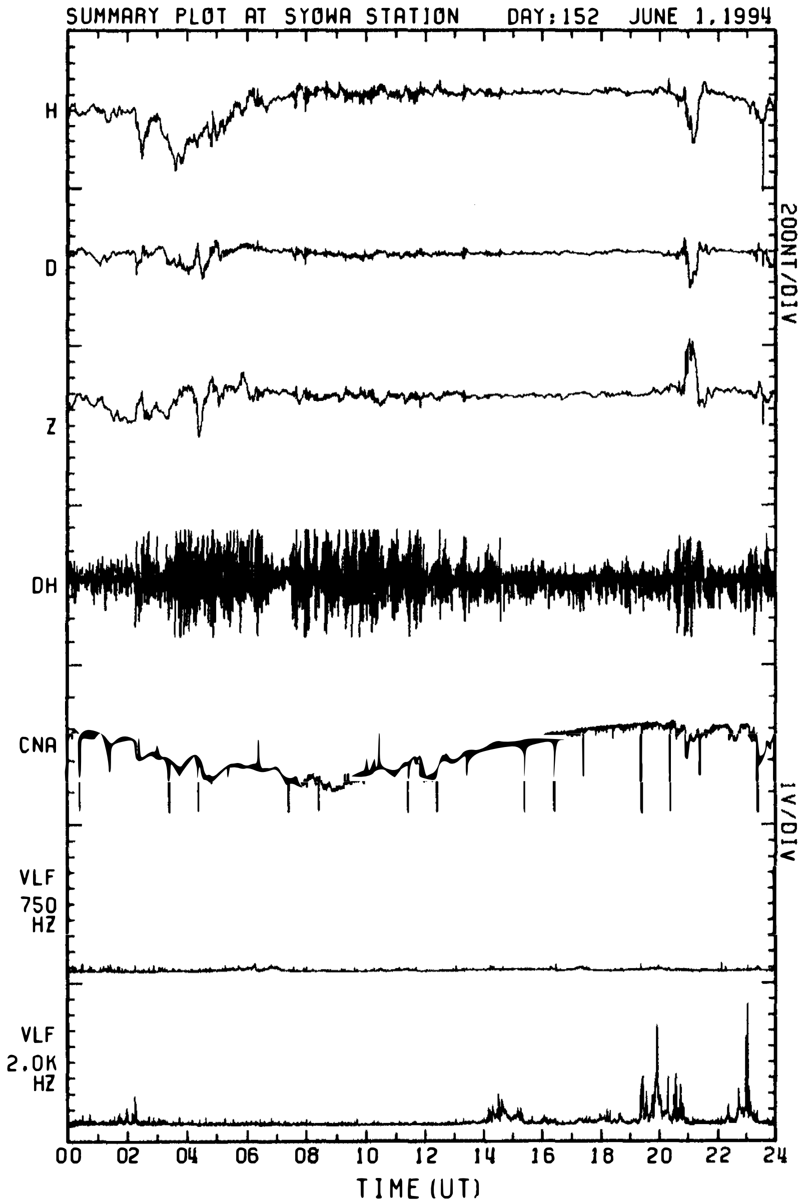


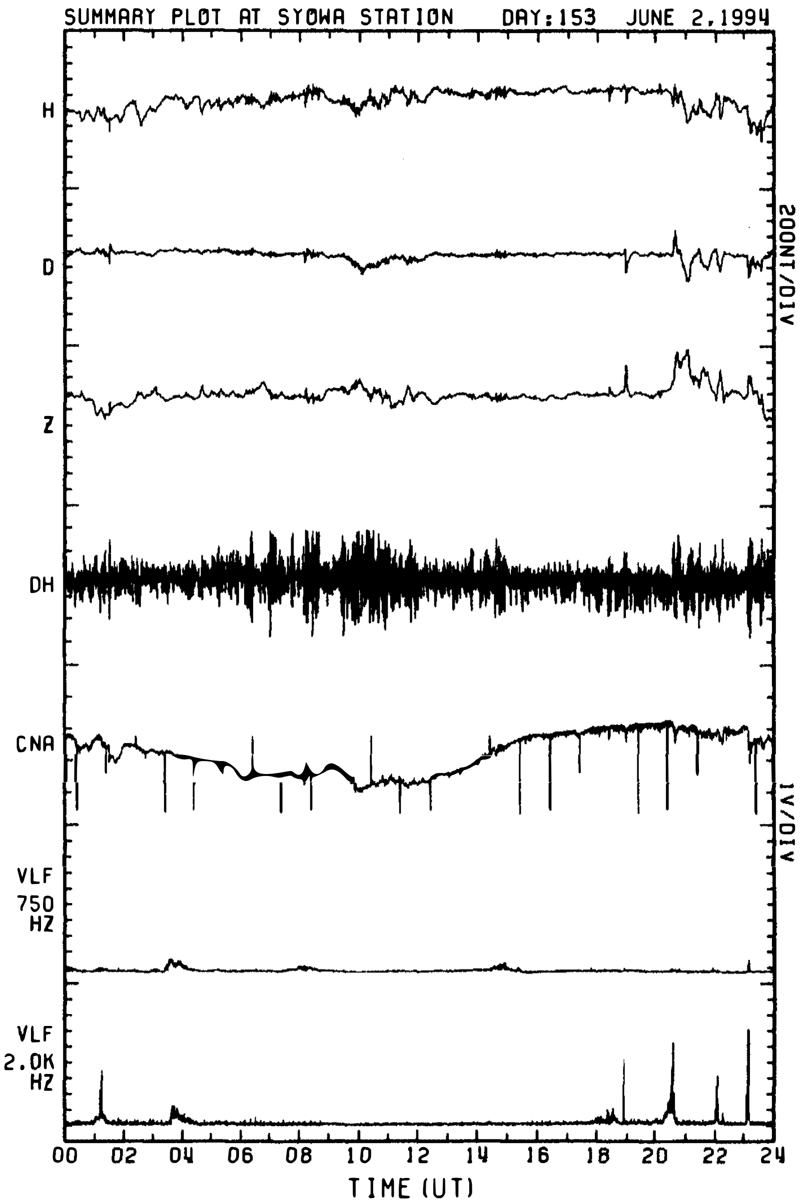
SUMMARY PLOT AT SYOWA STATION DAY:149 MAY 29,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)



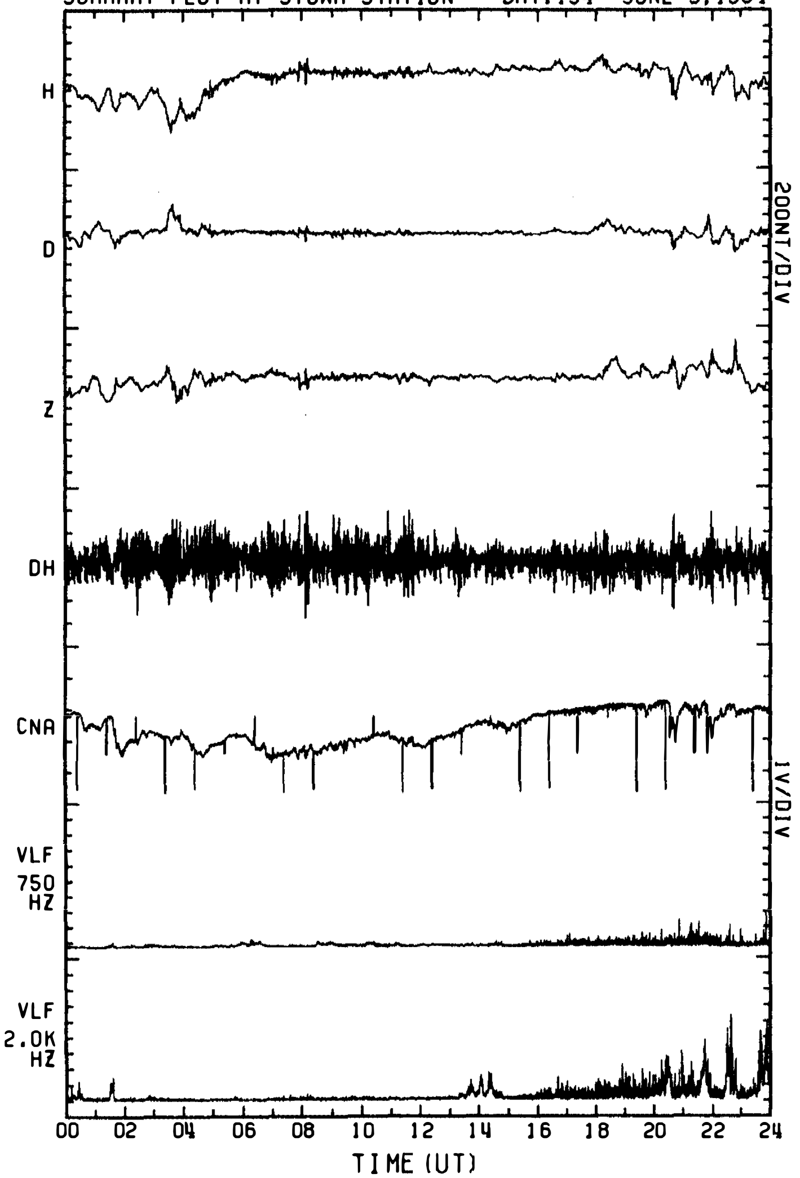
SUMMARY PLOT AT SYOWA STATION DAY:150 MAY 30,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)


SUMMARY PLOT AT SYOWA STATION DAY:151 MAY 31,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
00
02
04
06
08
10
12
14
16
18
20
22
24
TIME (UT)

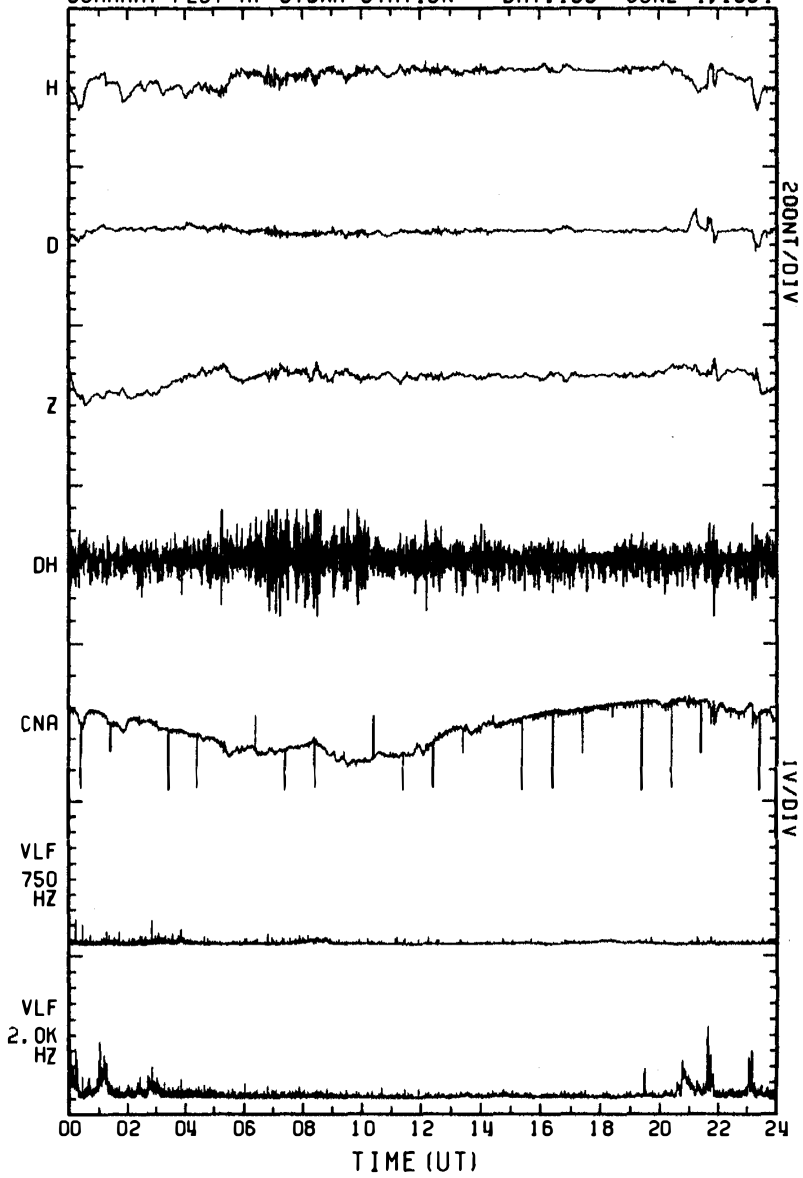

SUMMARY PLOT AT SYOWA STATION DAY:152 JUNE 1,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

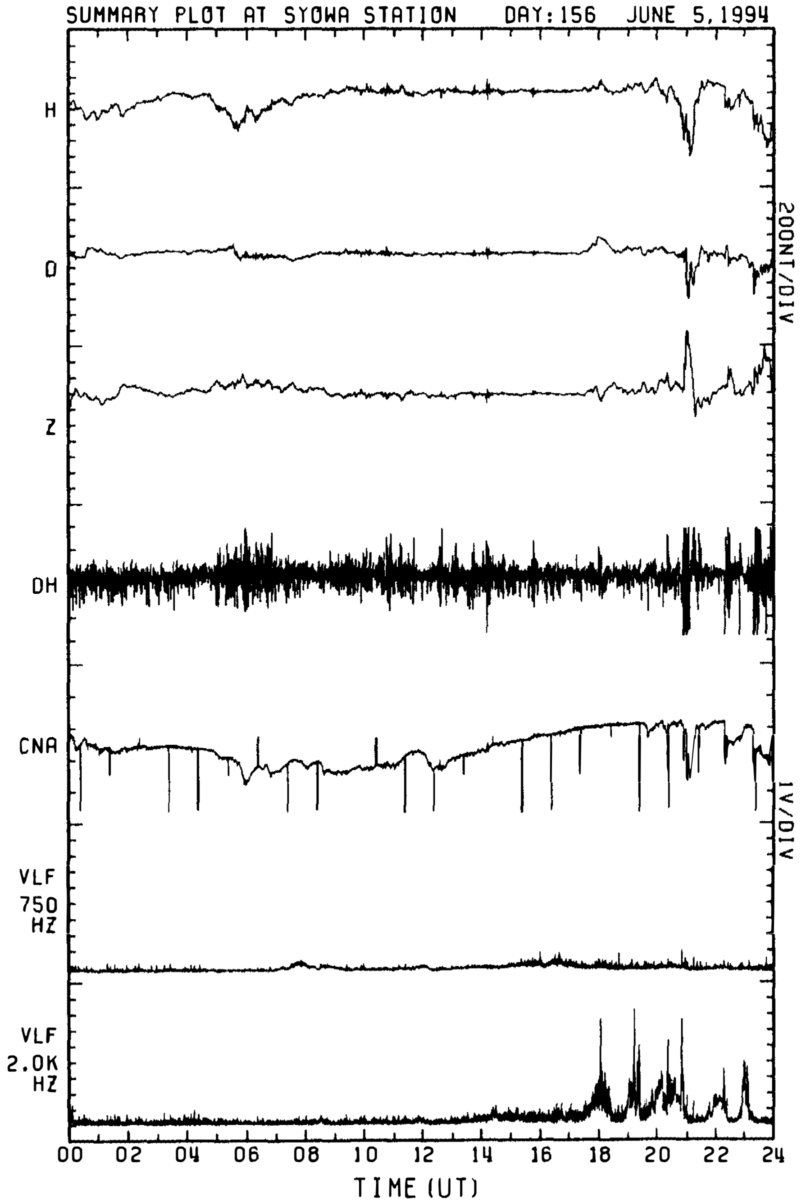

SUMMARY PLOT AT SYOWA STATION DAY:153 JUNE 2,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

SUMMARY PLOT AT SYOWA STATION DAY:154 JUNE 3,1994

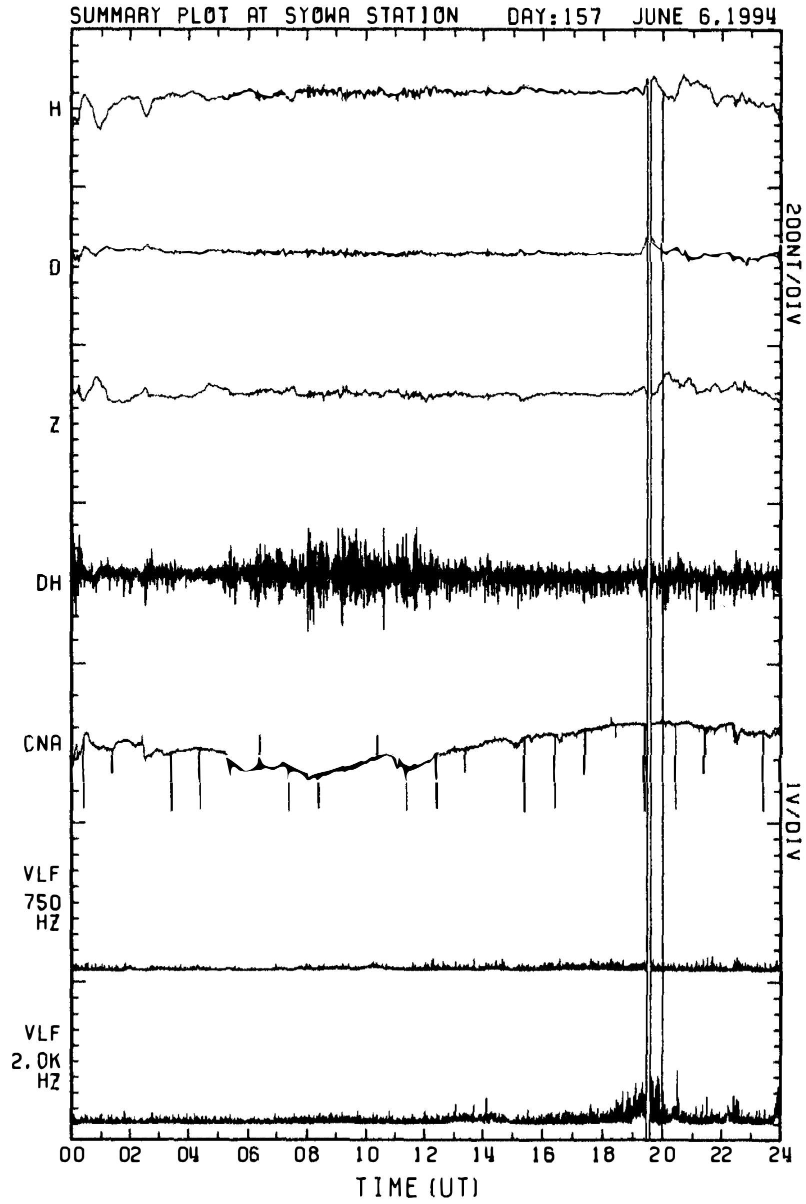


SUMMARY PLOT AT SYOWA STATION DAY:155 JUNE 4,1994

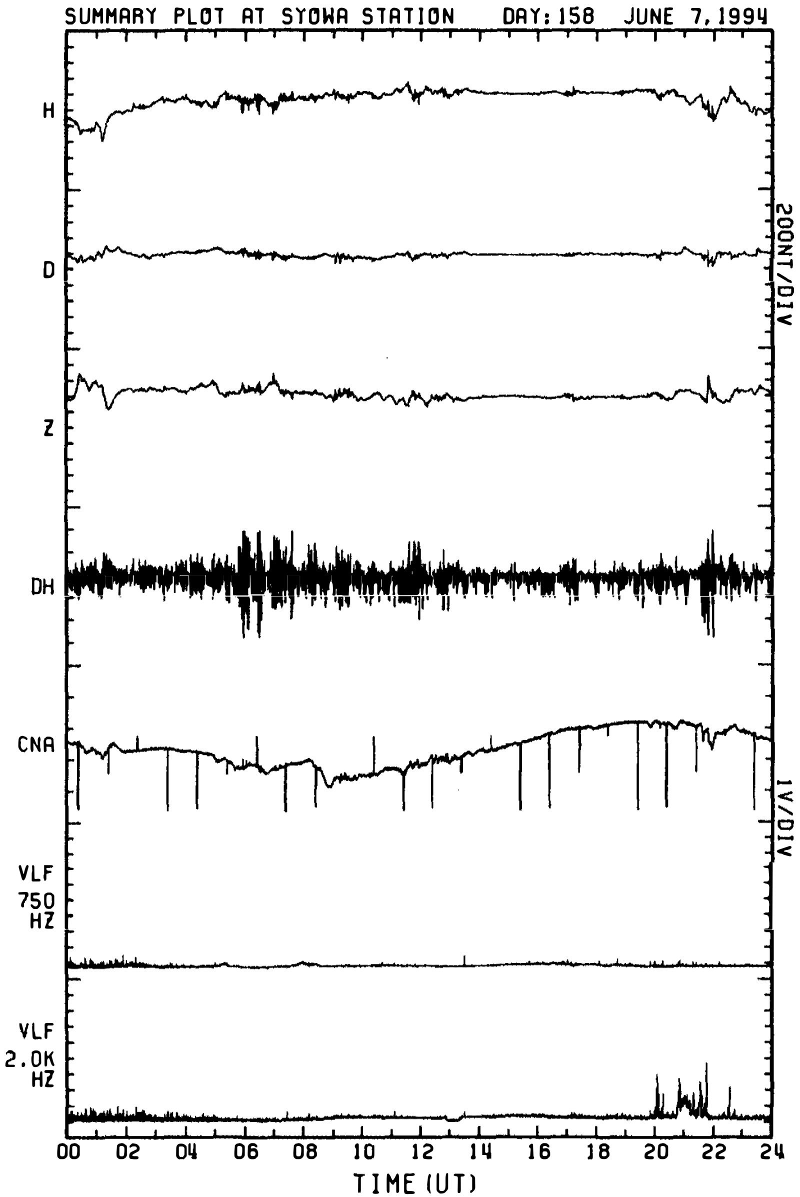


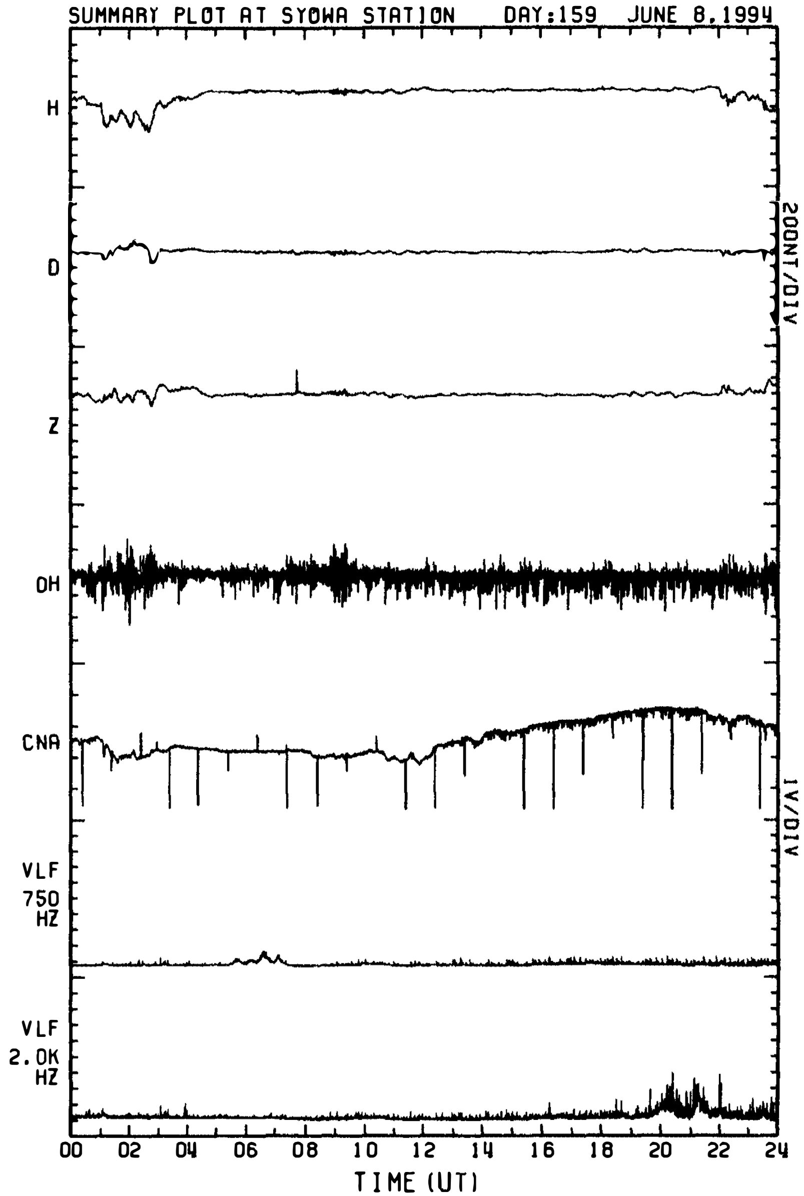


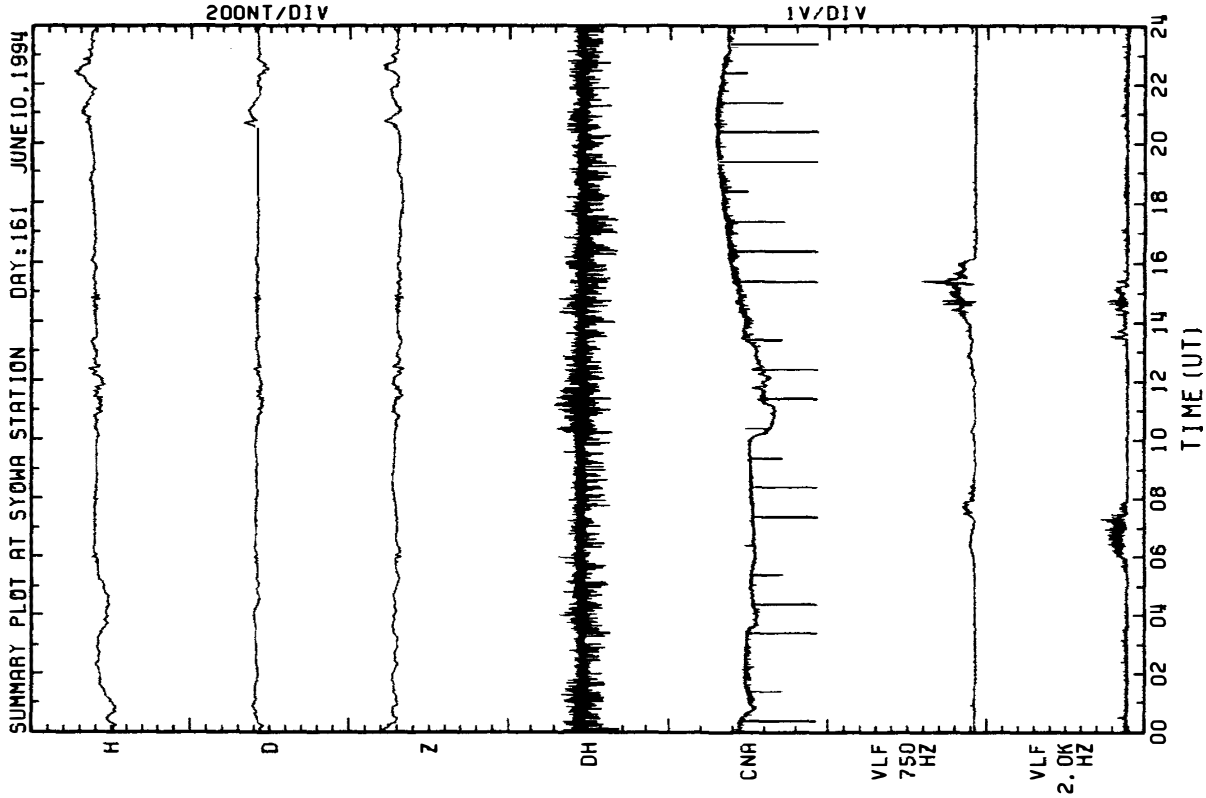
SUMMARY PLOT AT SYOWA STATION DAY:156 JUNE 5,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

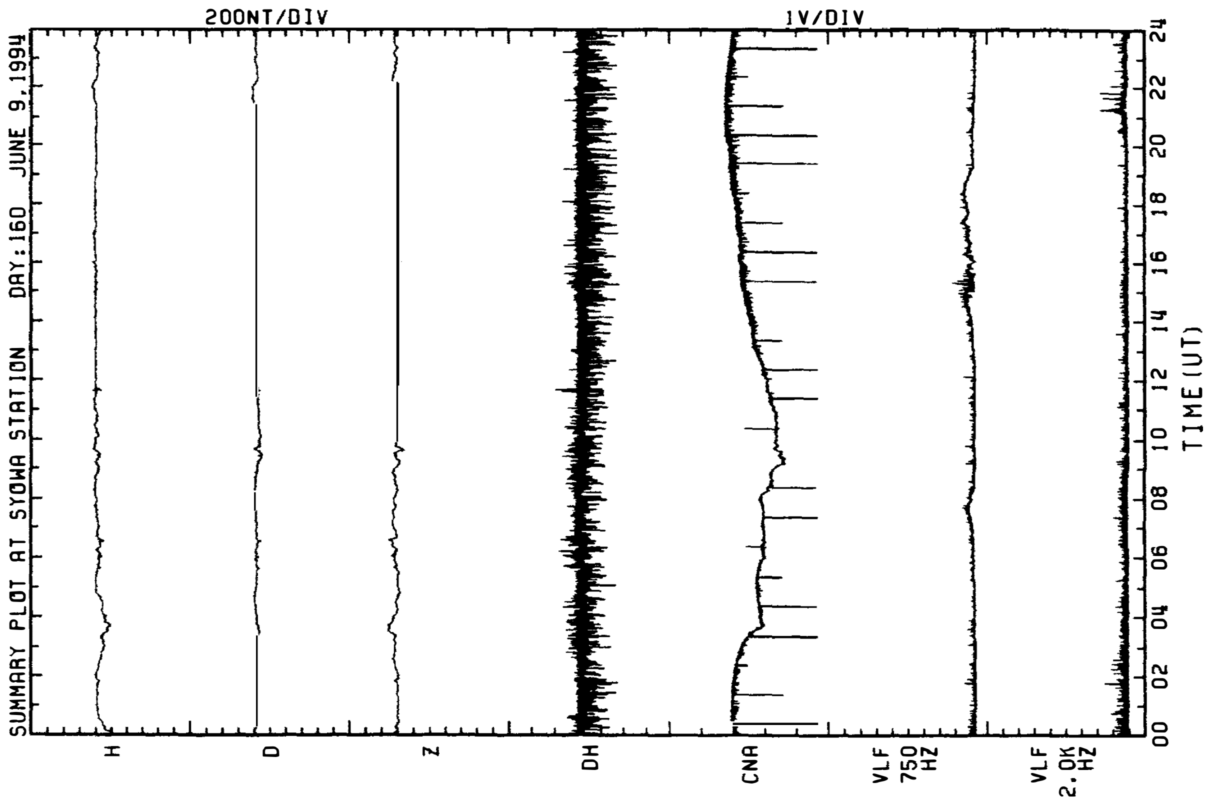


SUMMARY PLOT AT SYOWA STATION DAY:157 JUNE 6,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

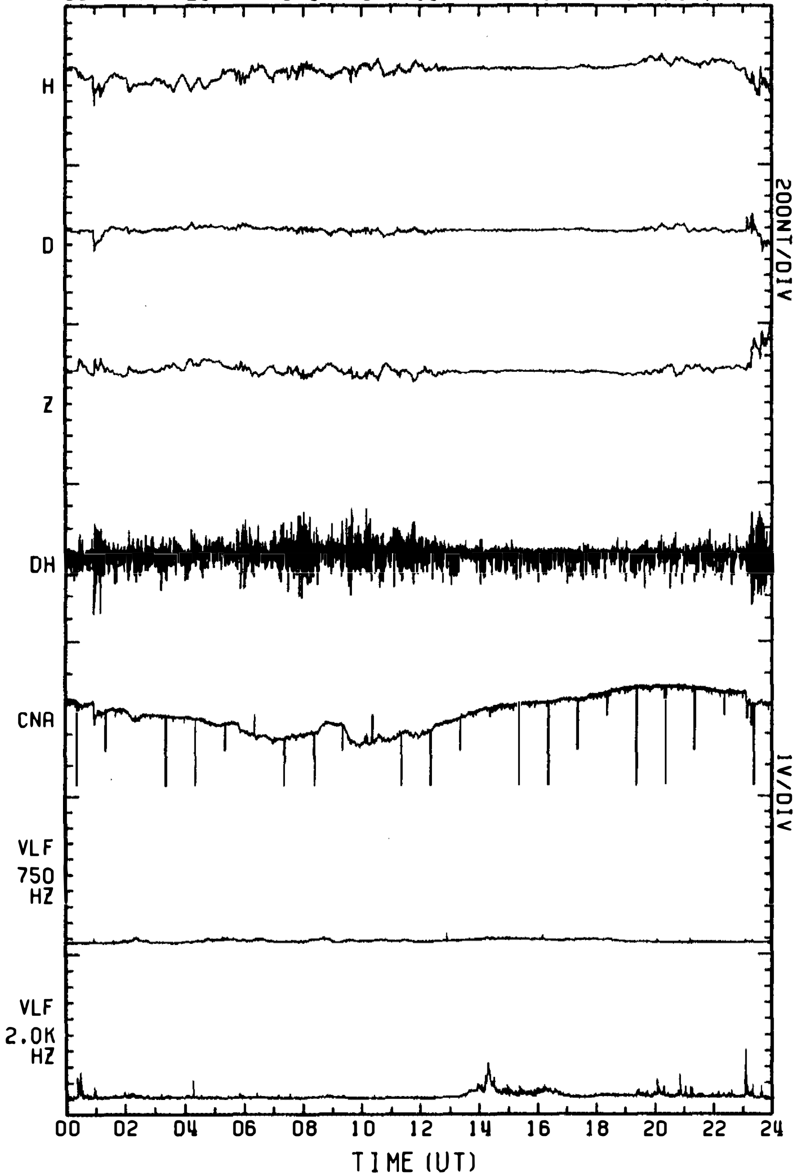

SUMMARY PLOT AT SYOWA STATION DAY:158 JUNE 7,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:159 JUNE 8,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

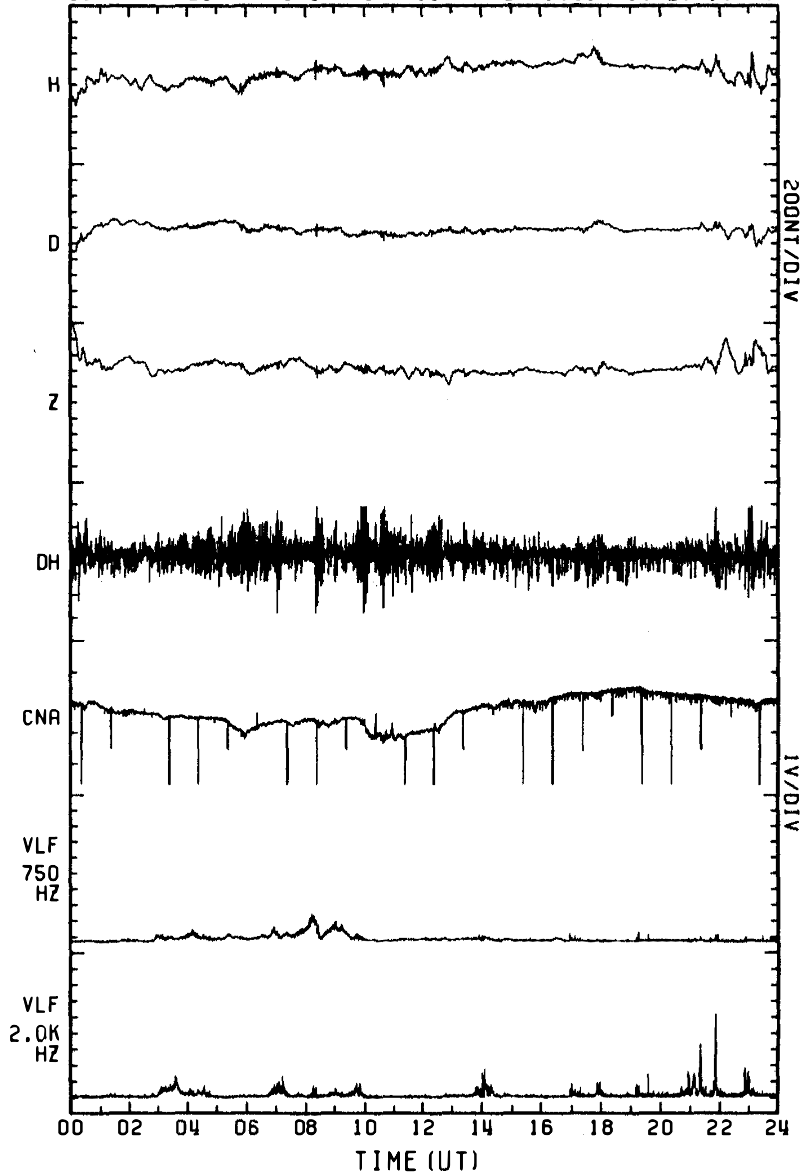

SUMMARY PLOT AT SYOWA STATION DAY:161 JUNE10,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

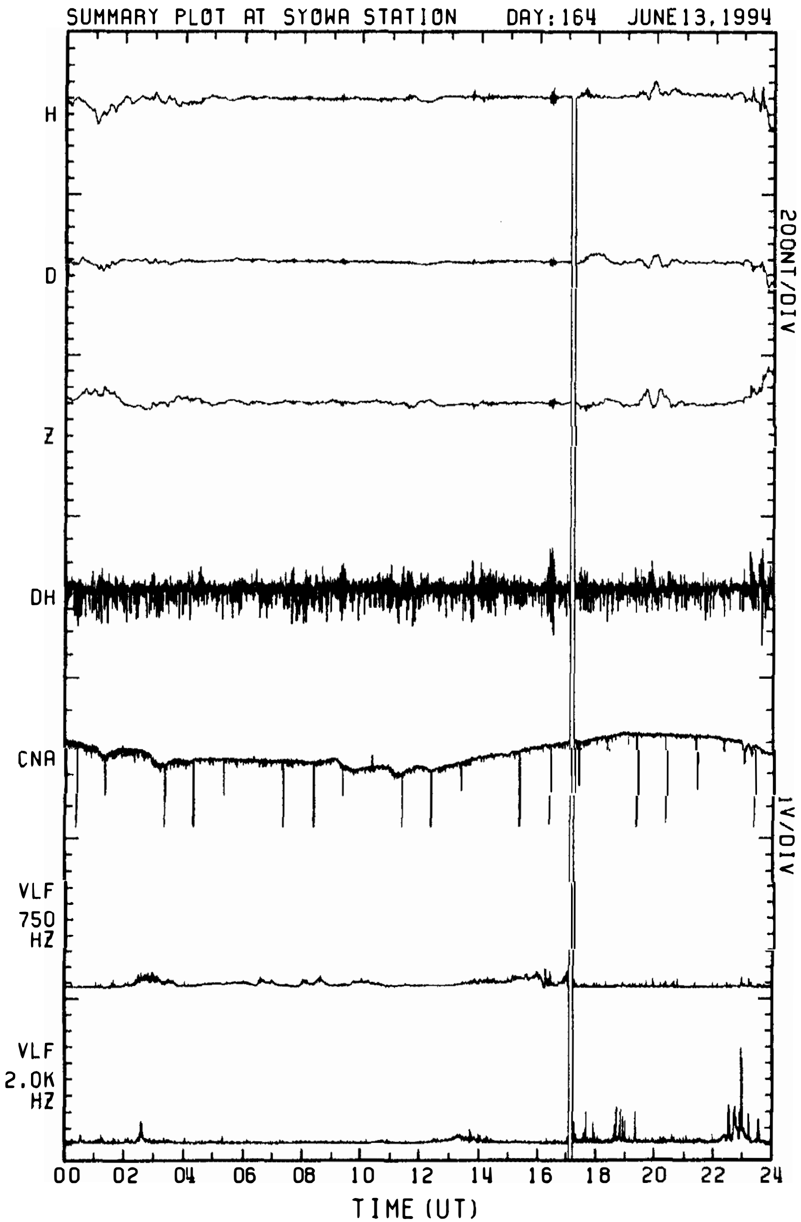

SUMMARY PLOT AT SYOWA STATION DAY:160 JUNE 9,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

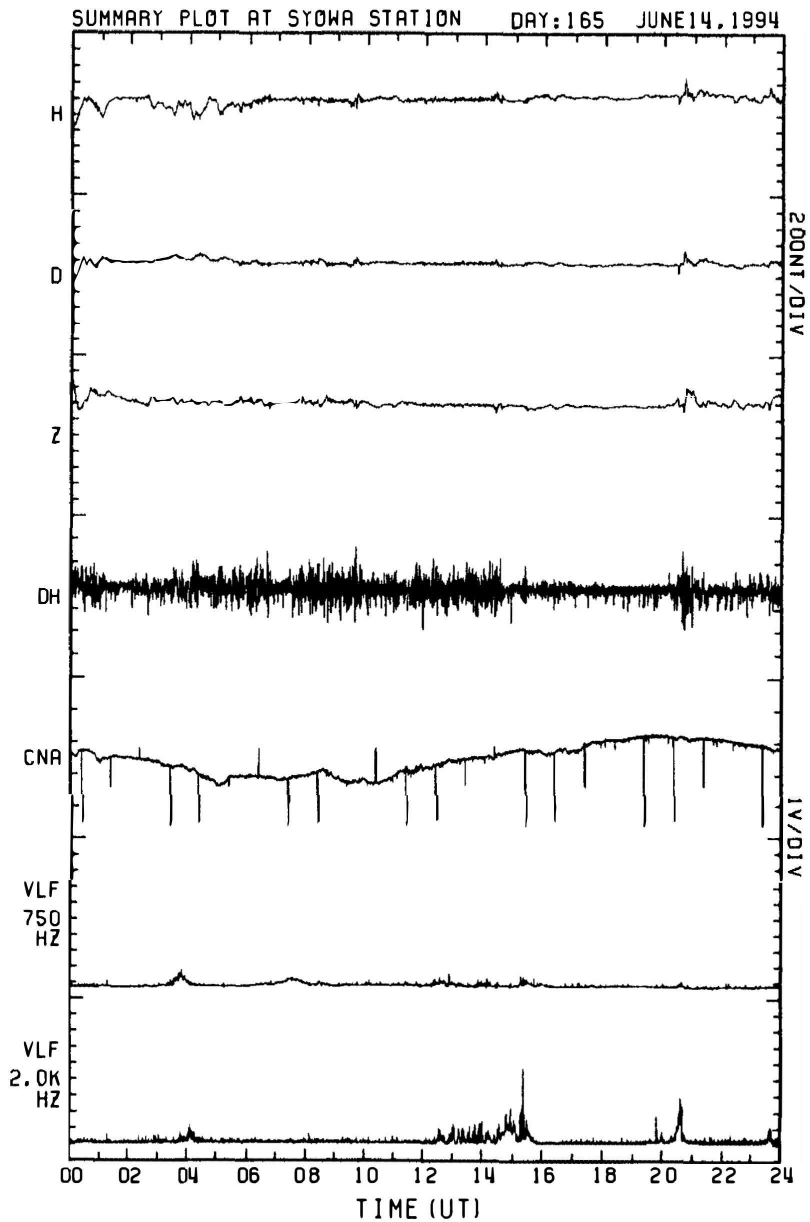
SUMMARY PLOT AT SYOWA STATION DAY:162 JUNE11,1994

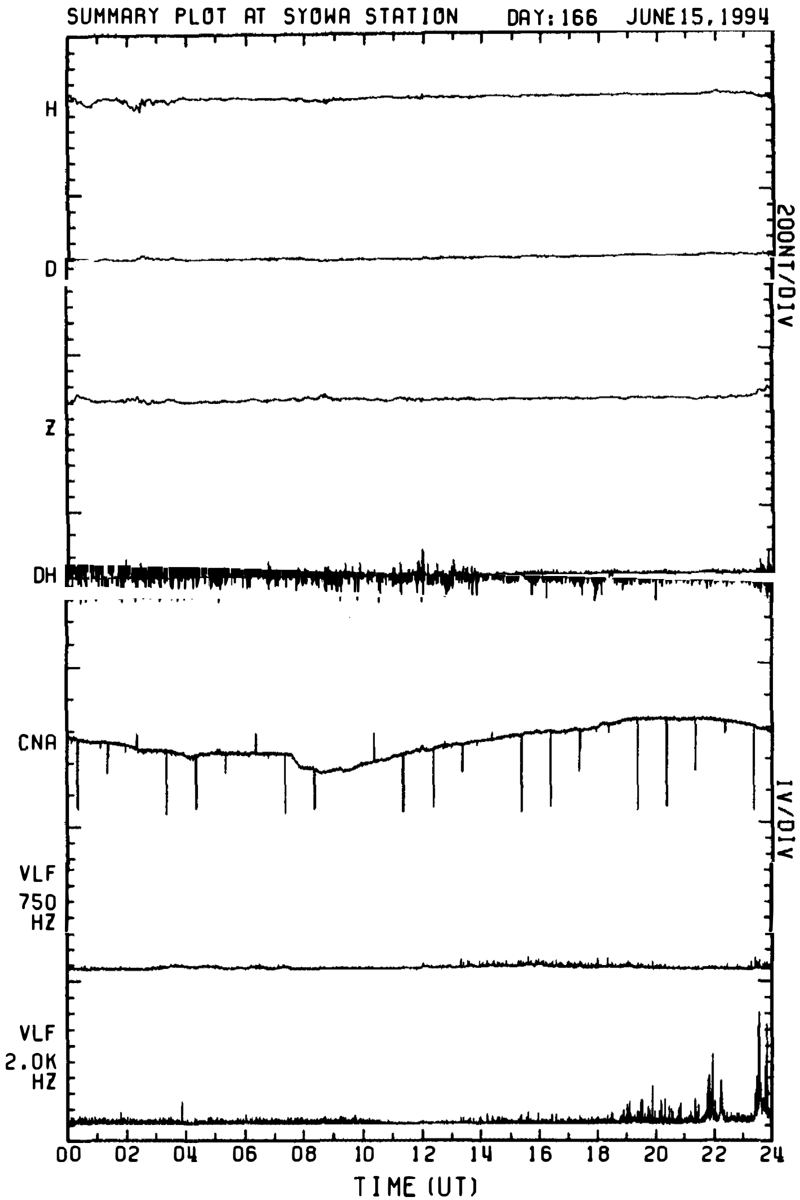


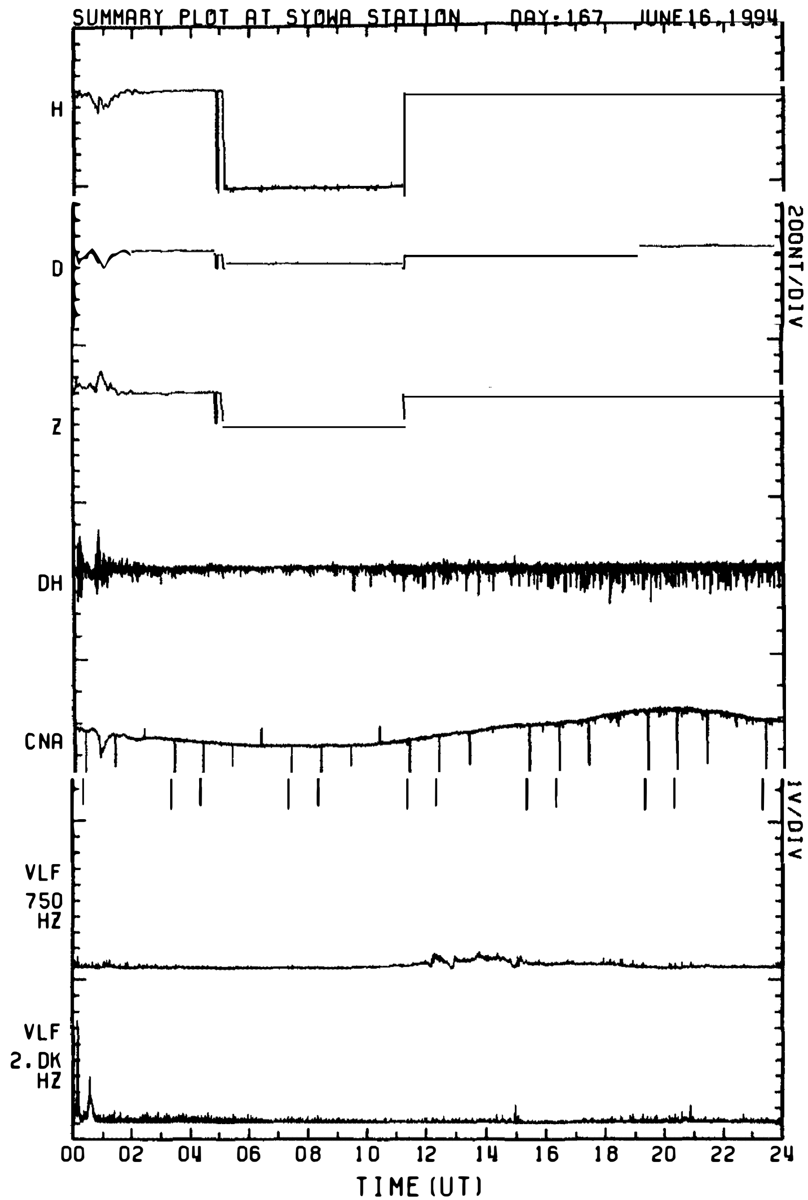
SUMMARY PLOT AT SYOWA STATION DAY:163 JUNE12,1994



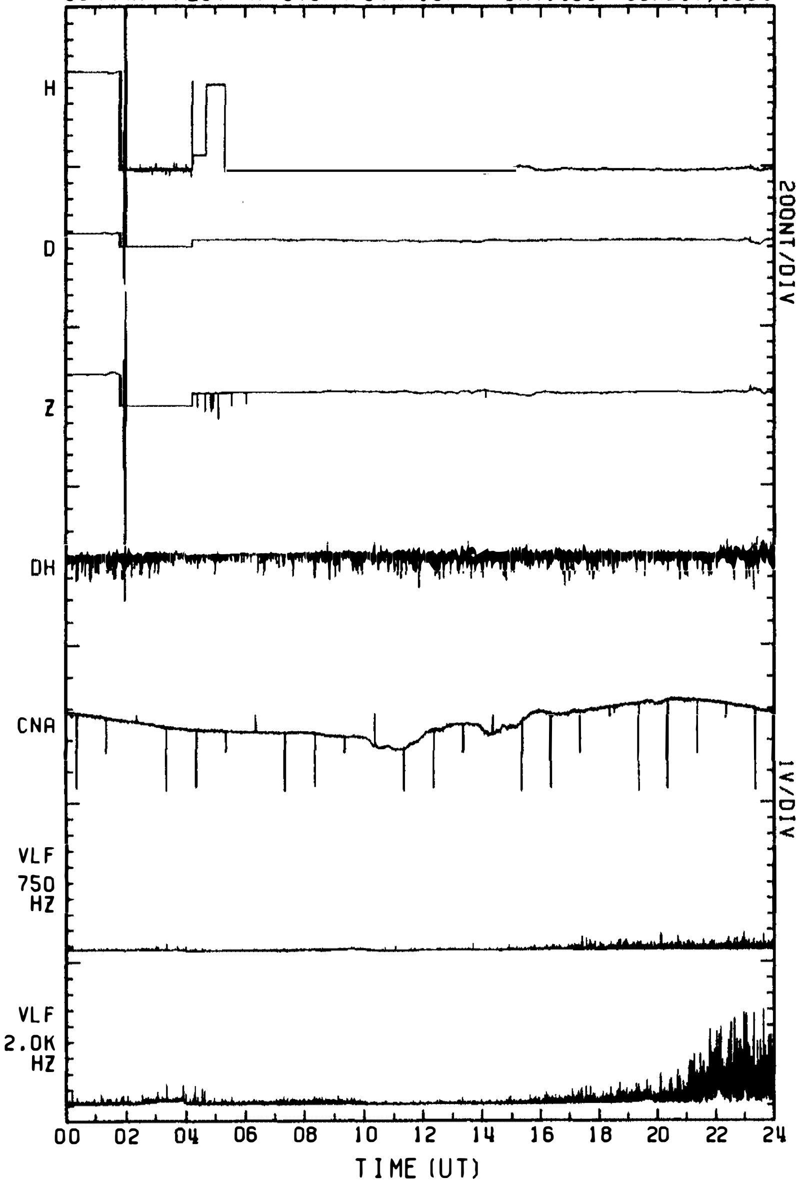

SUMMARY PLOT AT SYOWA STATION
DAY:164
JUNE13,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION
DAY:165
JUNE14,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

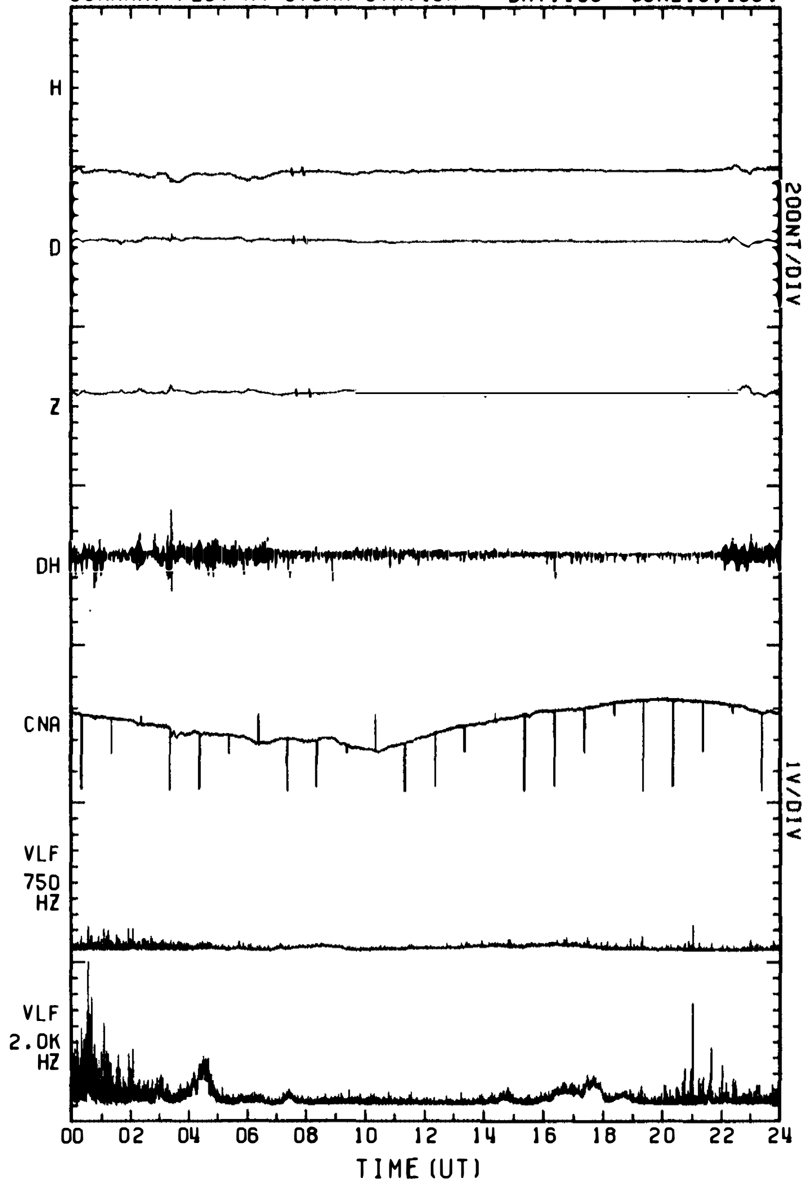

SUMMARY PLOT AT SYOWA STATION DAY:166 JUNE15,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

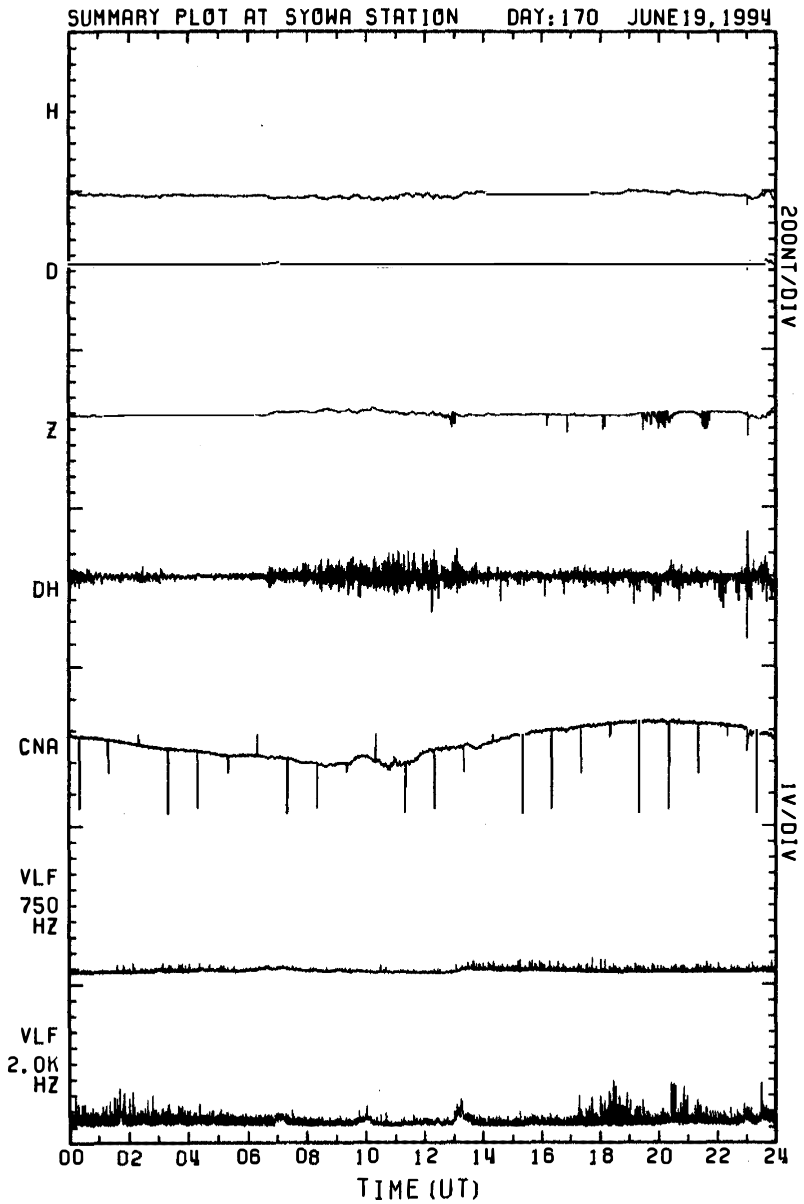

SUMMARY PLOT AT SYOWA STATION DAY:167 JUNE16,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

SUMMARY PLOT AT SYOWA STATION DAY:168 JUNE17,1994

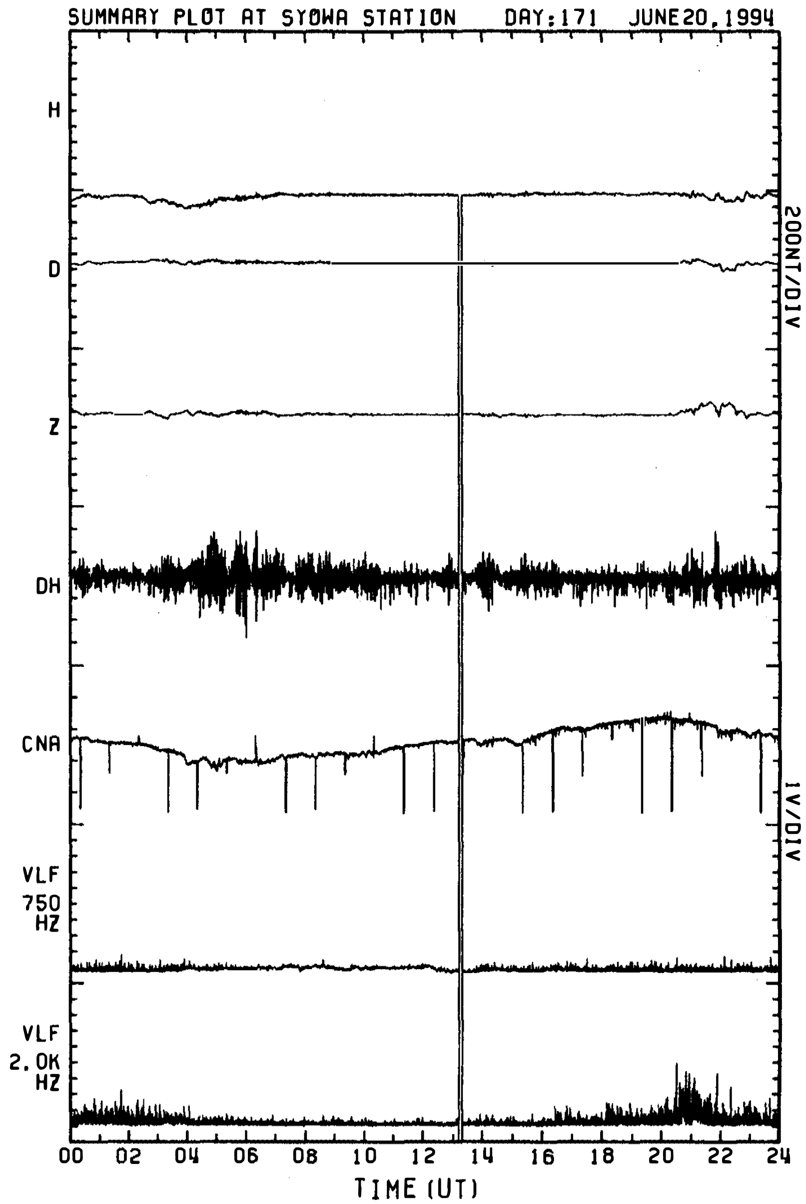


SUMMARY PLOT AT SYOWA STATION DAY:169 JUNE18,1994

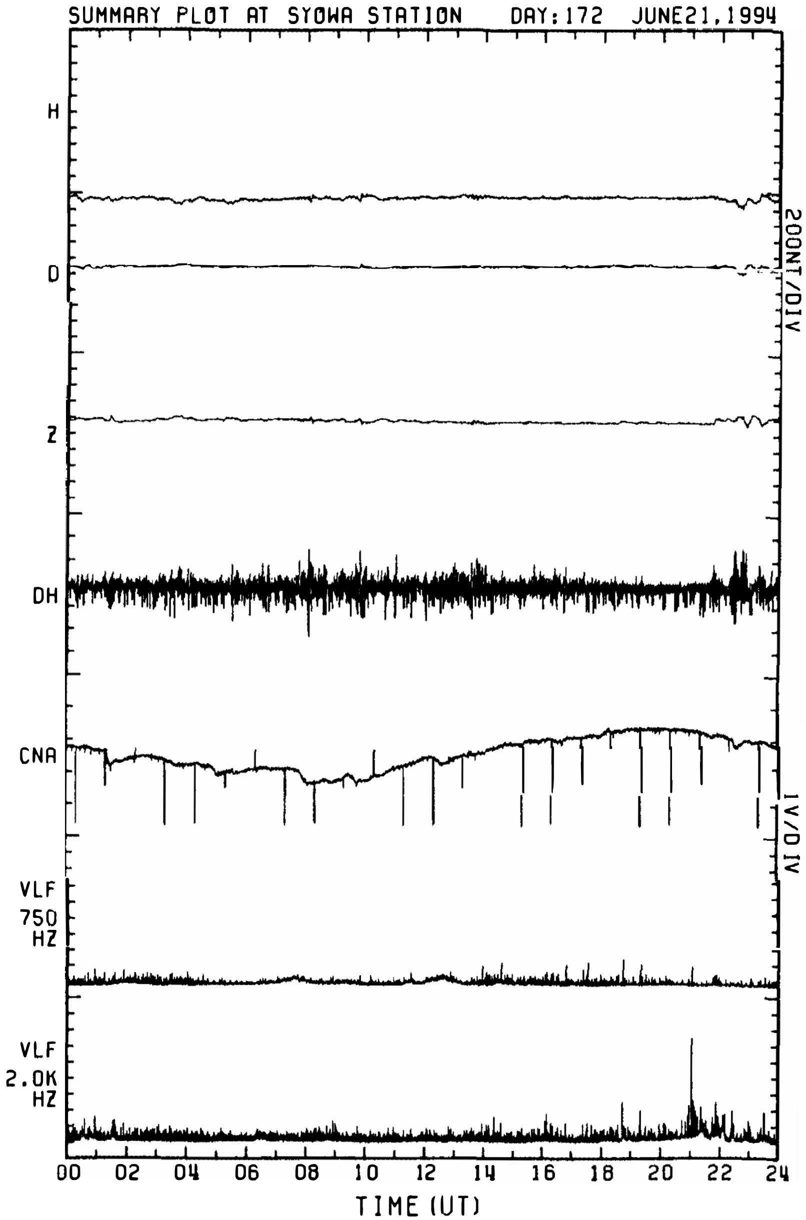


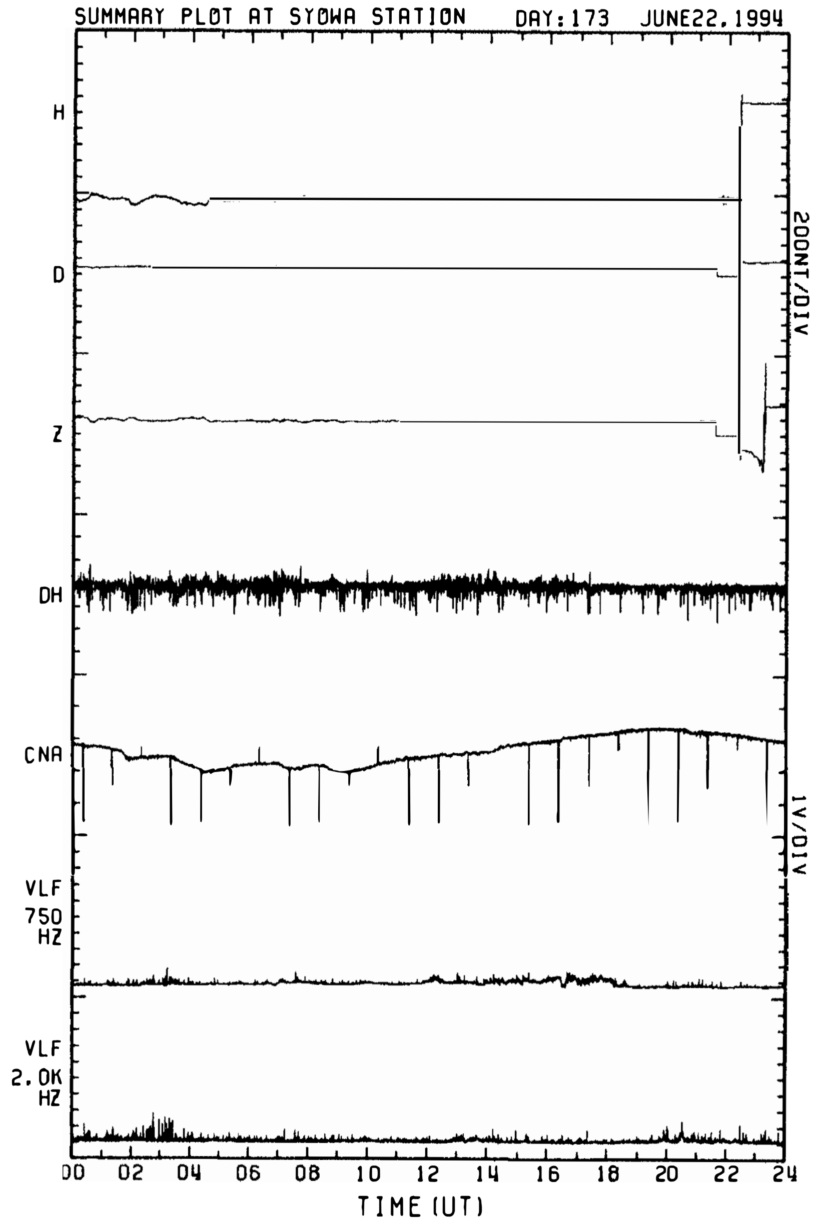


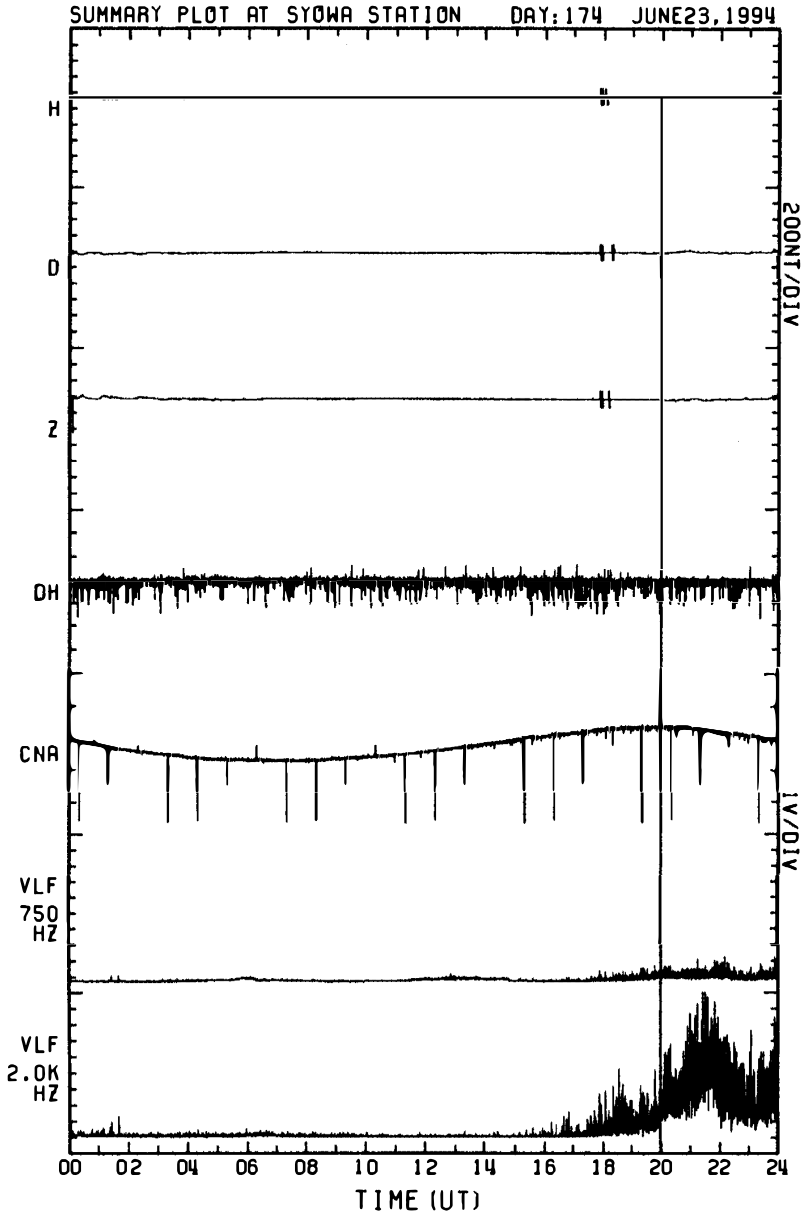
SUMMARY PLOT AT SYOWA STATION DAY:170 JUNE19,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

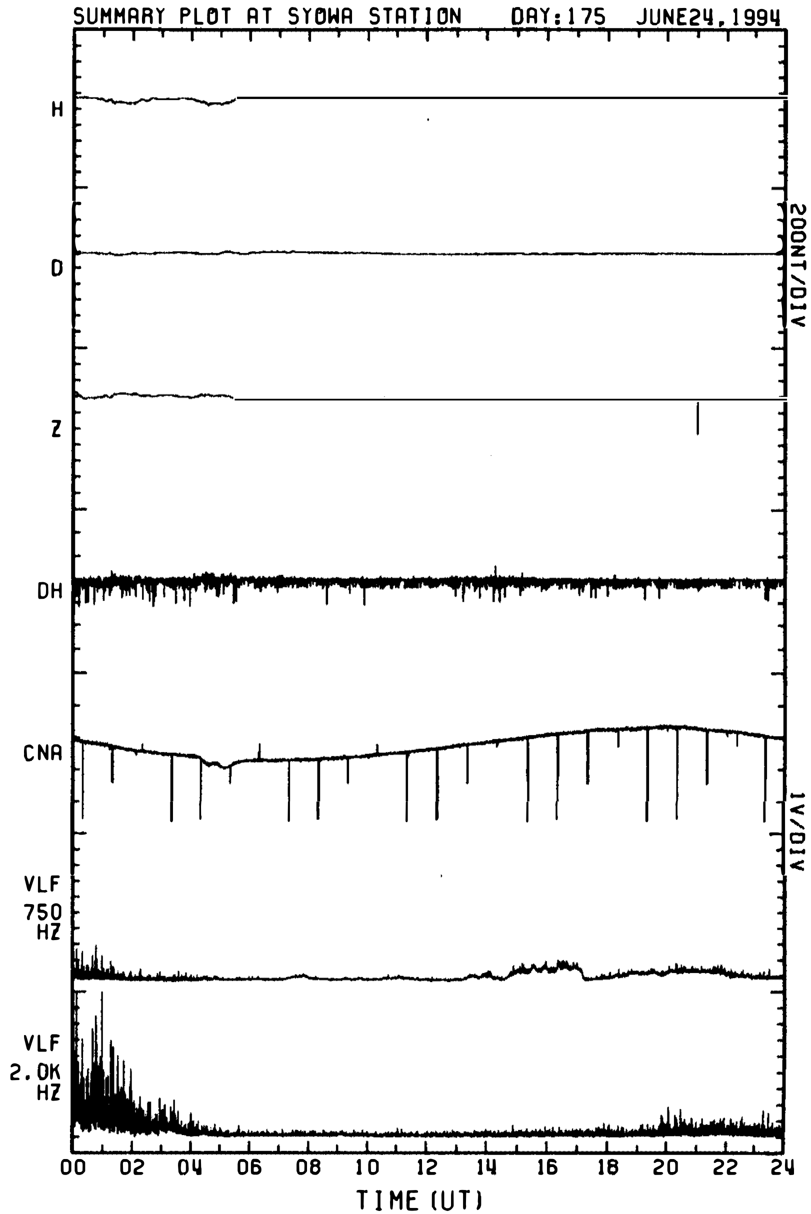


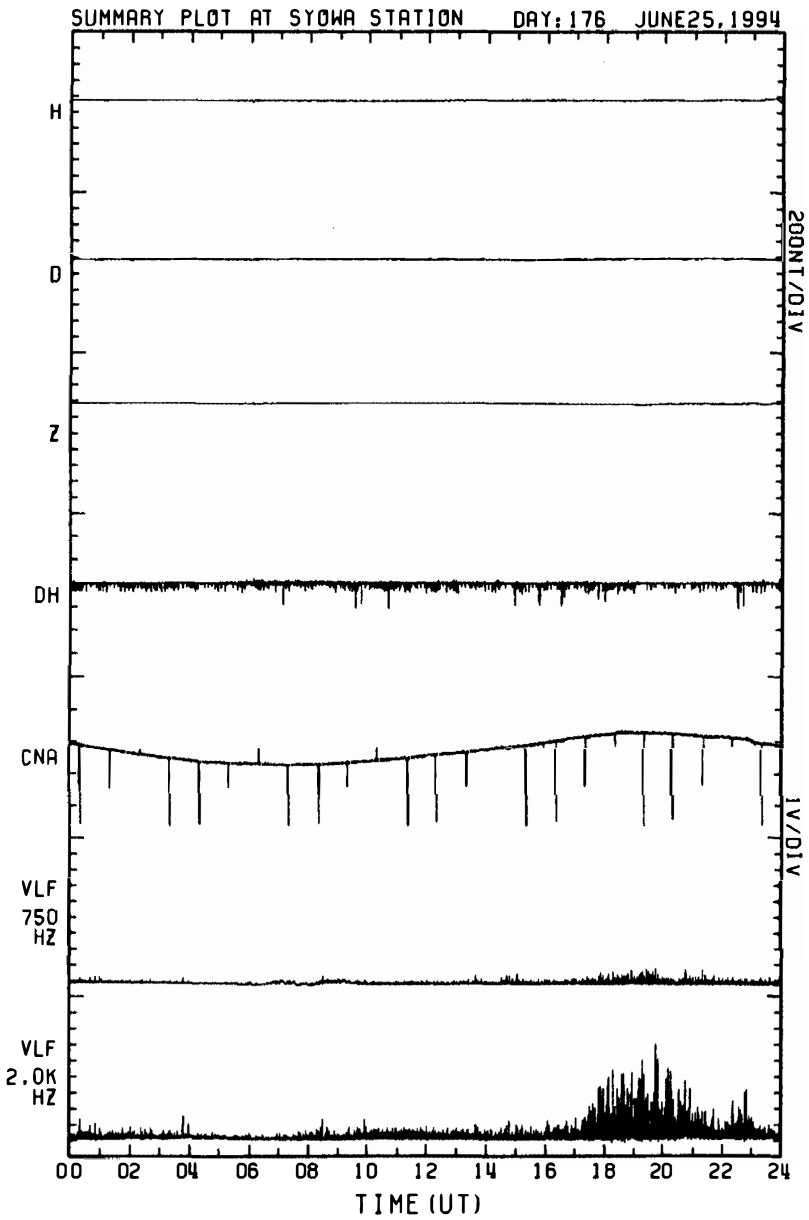
SUMMARY PLOT AT SYOWA STATION DAY:171 JUNE20,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

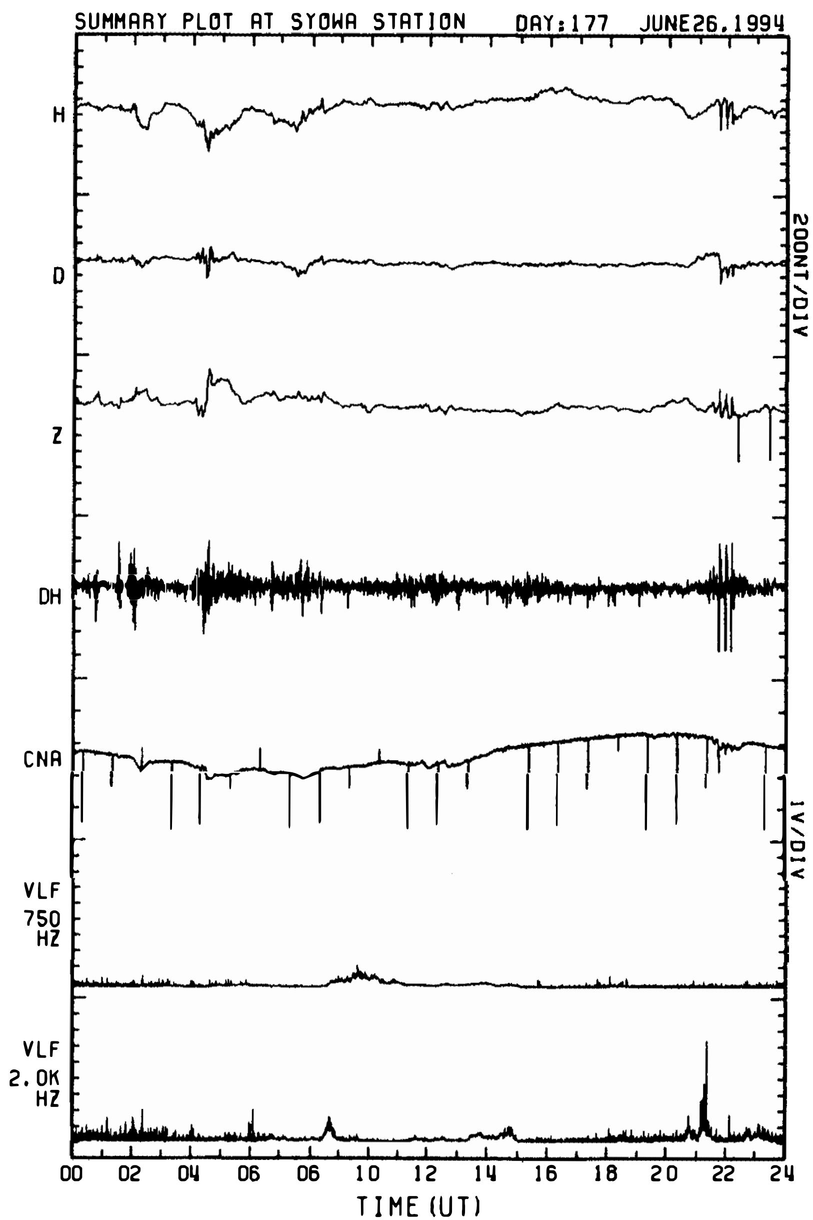

SUMMARY PLOT AT SYOWA STATION DAY:172 JUNE21,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

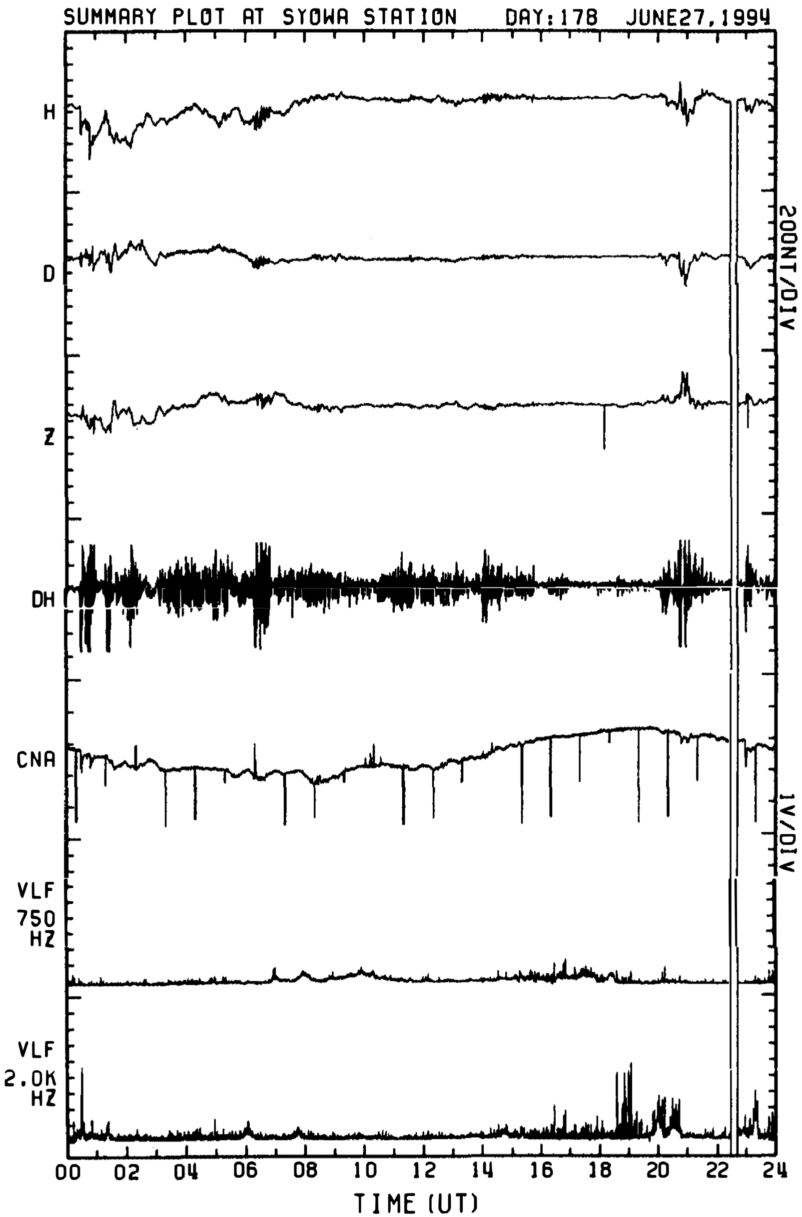

SUMMARY PLOT AT SYOWA STATION DAY:173 JUNE22,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

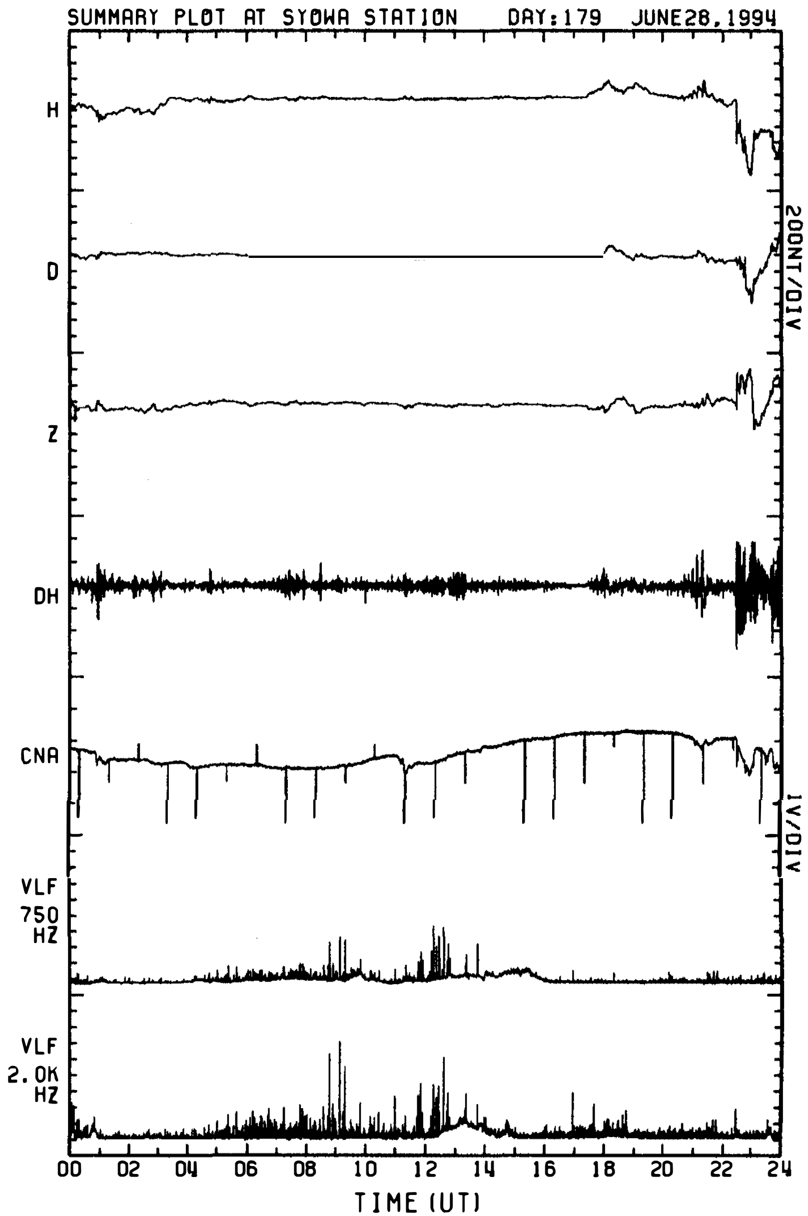

SUMMARY PLOT AT SYOWA STATION DAY:174 JUNE23,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:175 JUNE24,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

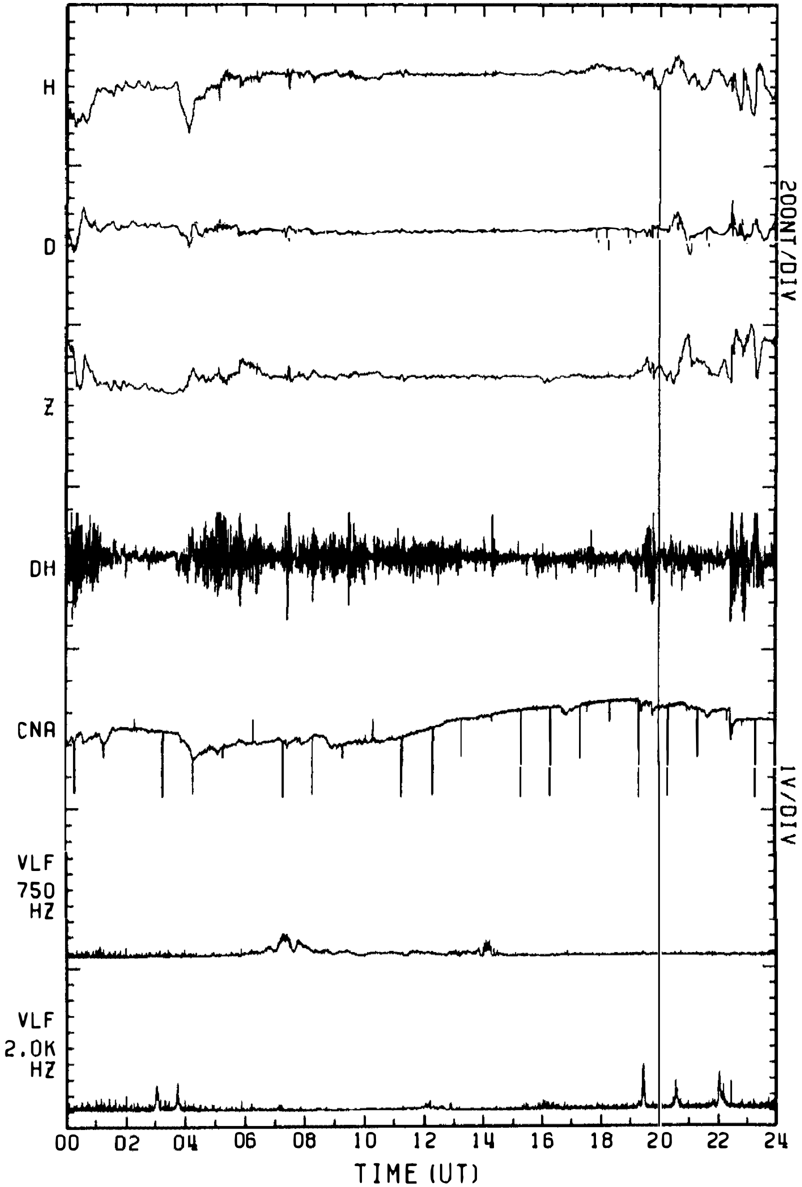

SUMMARY PLOT AT SYOWA STATION DAY:176 JUNE25,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)


SUMMARY PLOT AT SYOWA STATION DAY:177 JUNE26,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

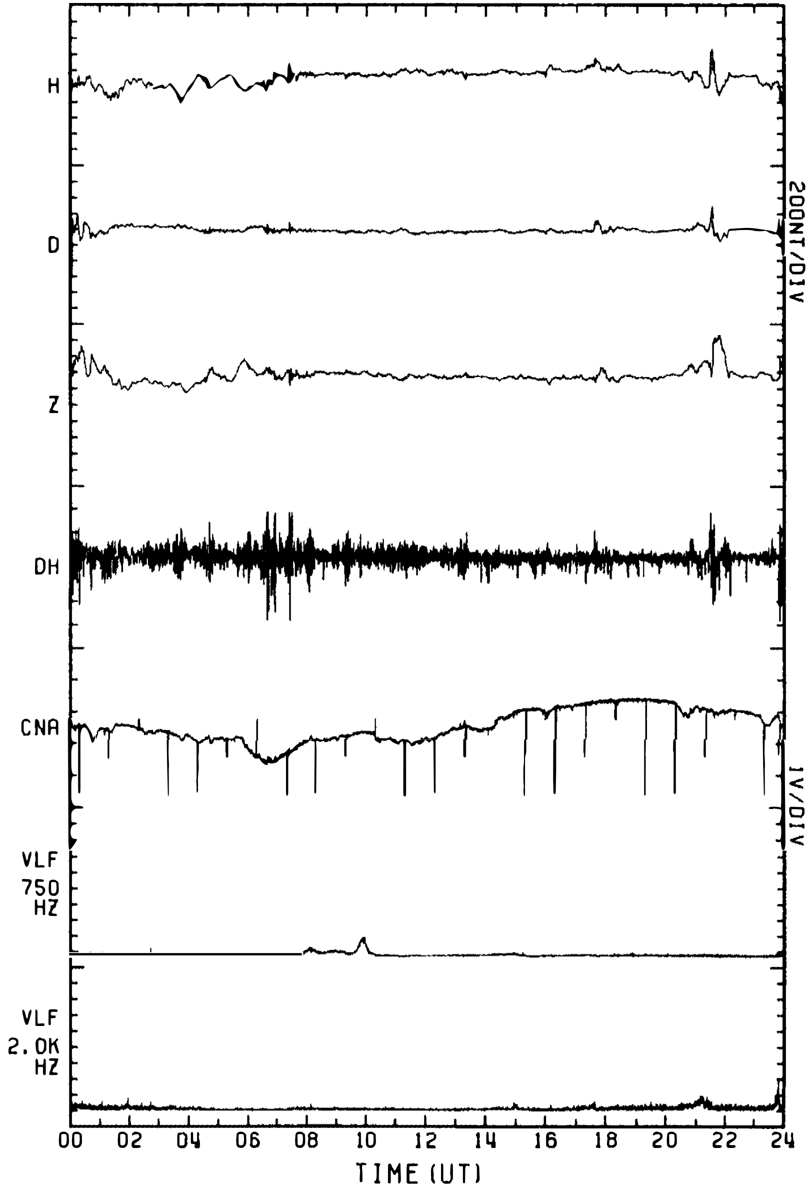

SUMMARY PLOT AT SYOWA STATION DAY:178 JUNE27,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

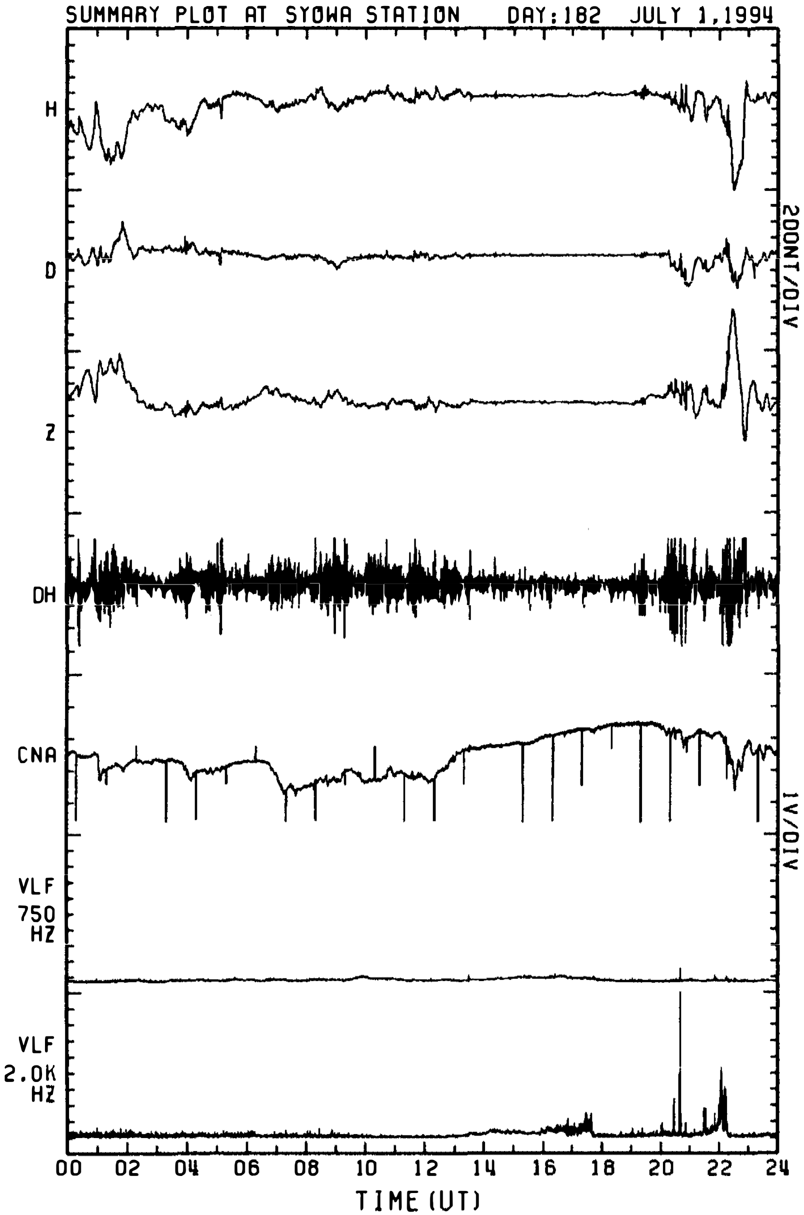

SUMMARY PLOT AT SYOWA STATION DAY:179 JUNE28,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

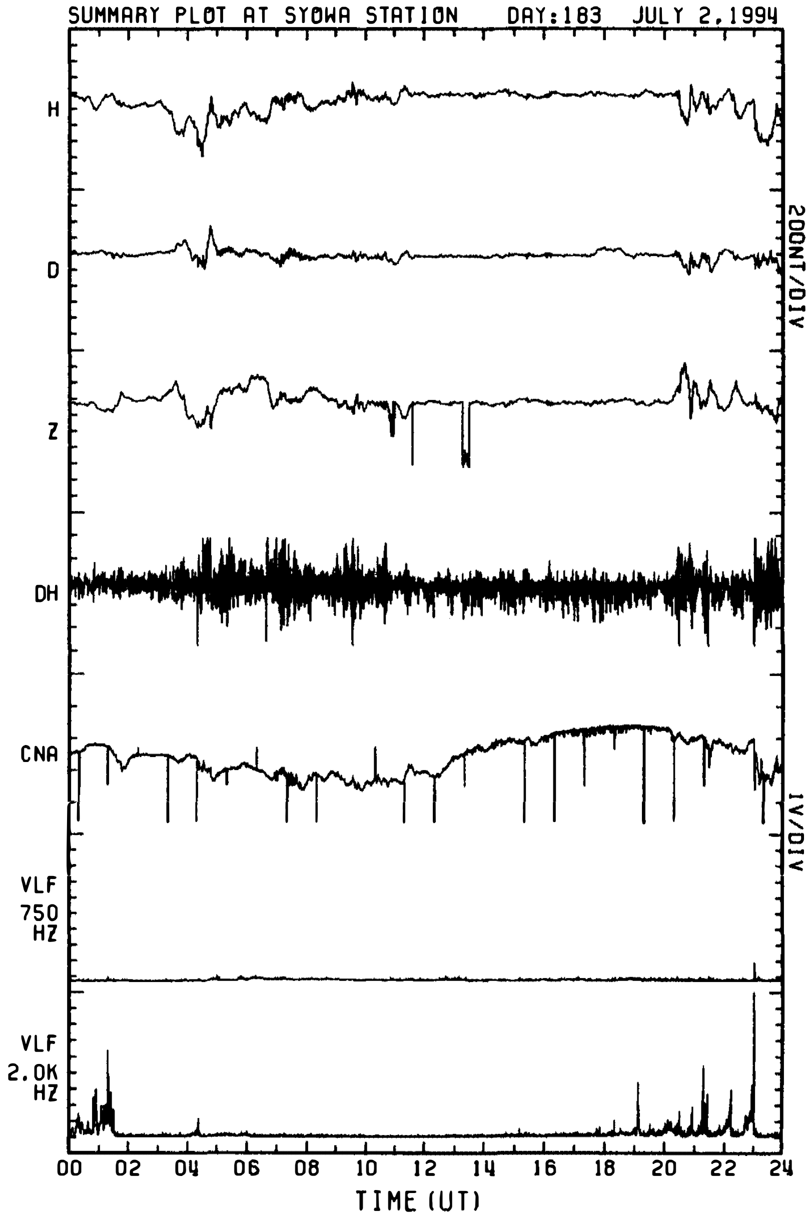
SUMMARY PLOT AT SYOWA STATION DAY:180 JUNE29,1994

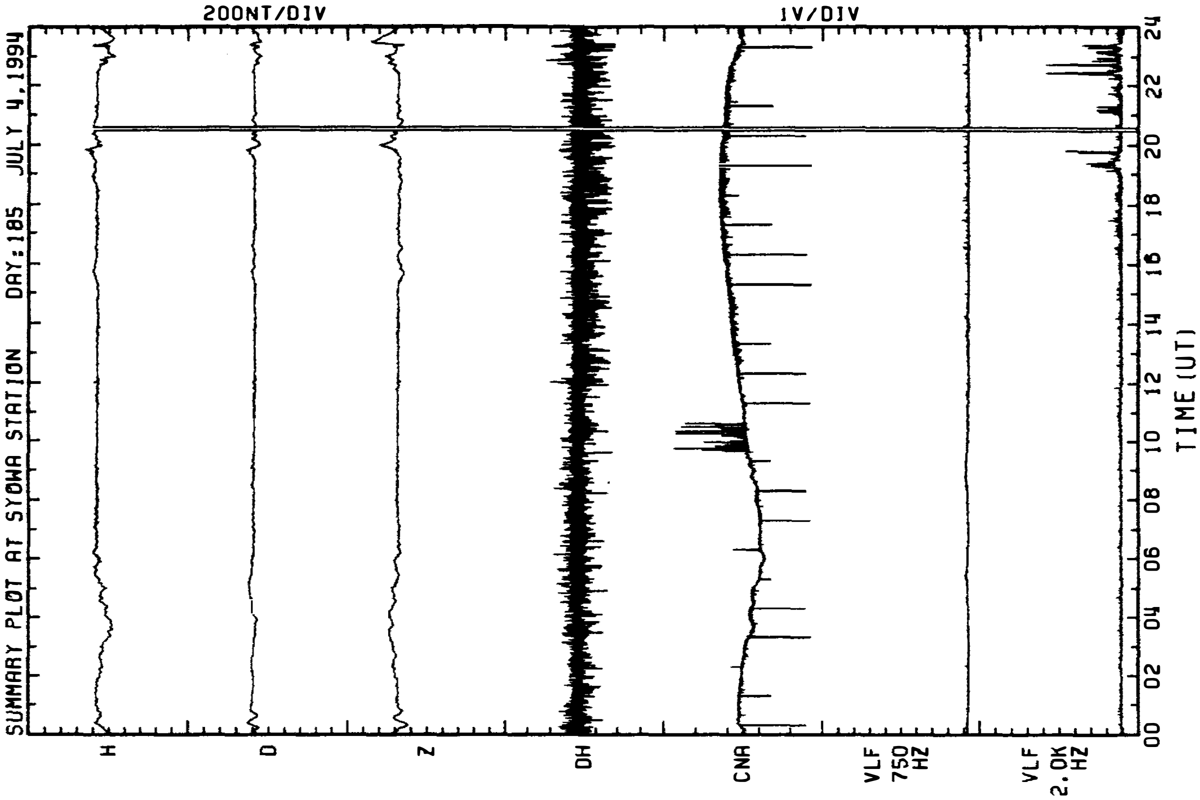


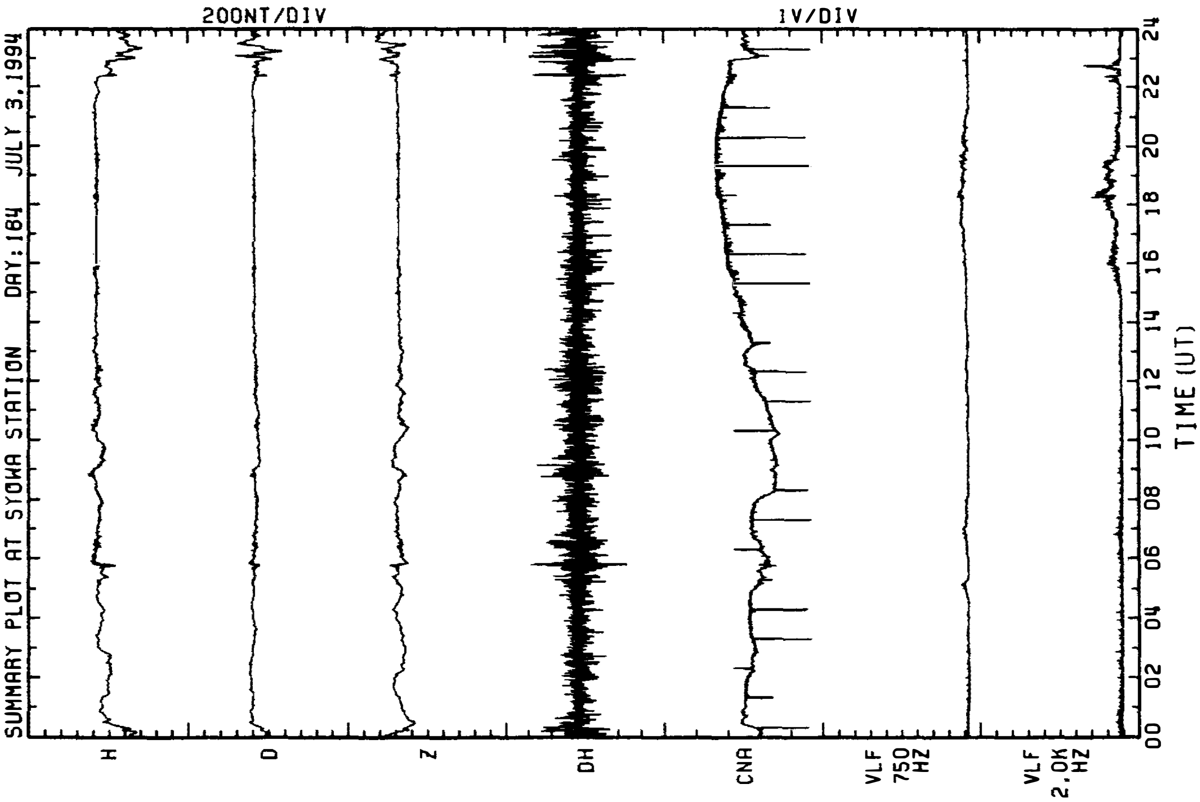
SUMMARY PLOT AT SYOWA STATION DAY:181 JUNE30,1994

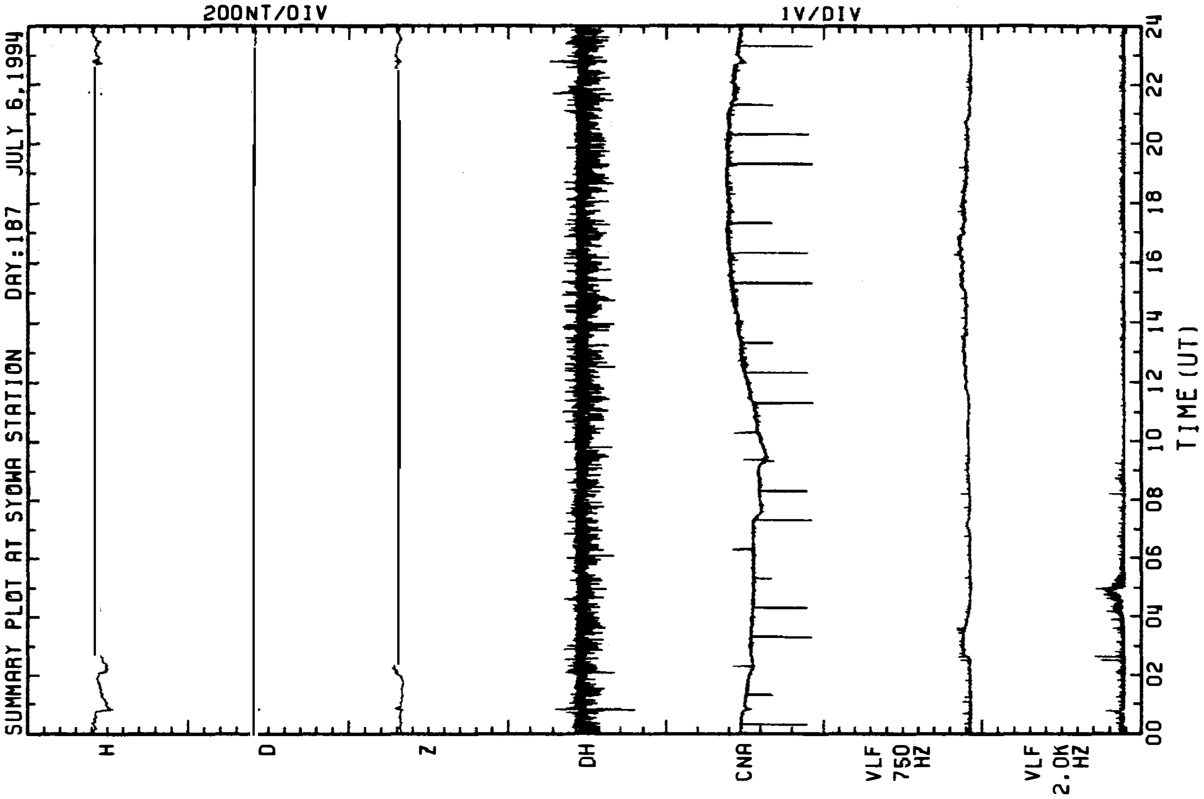


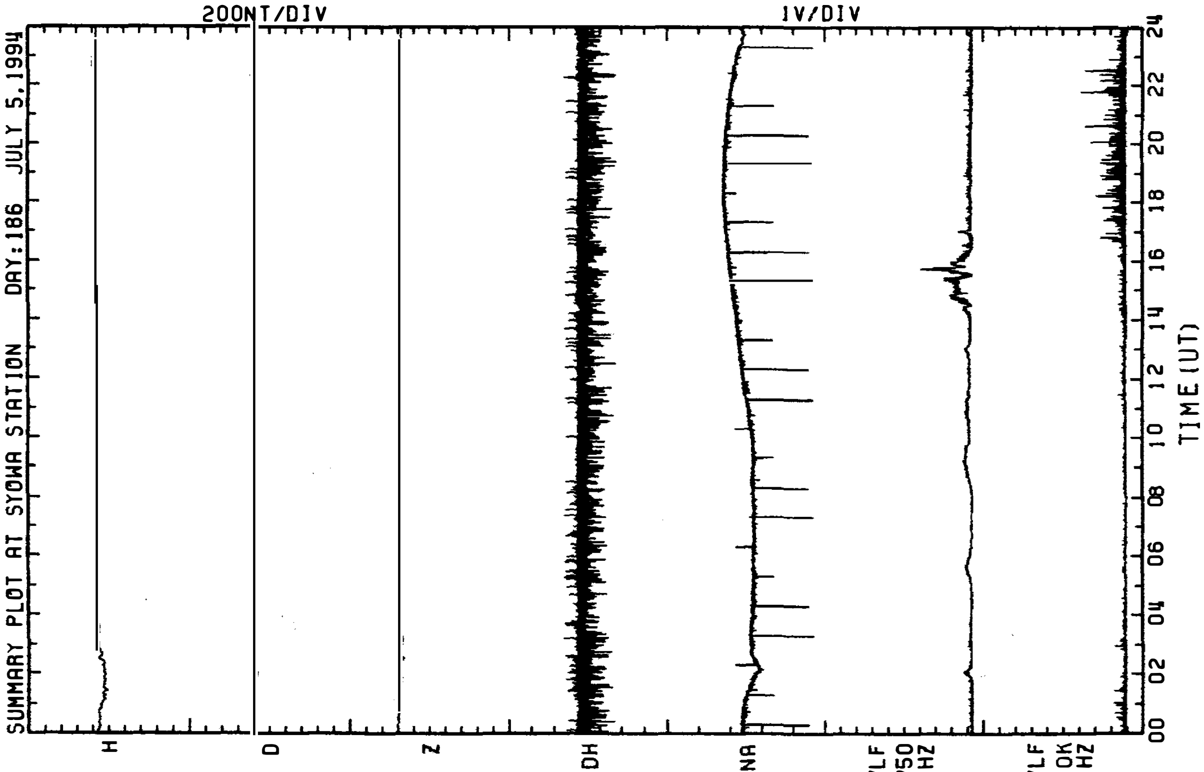

SUMMARY PLOT AT SYOWA STATION DAY:182 JULY 1,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:183 JULY 2,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

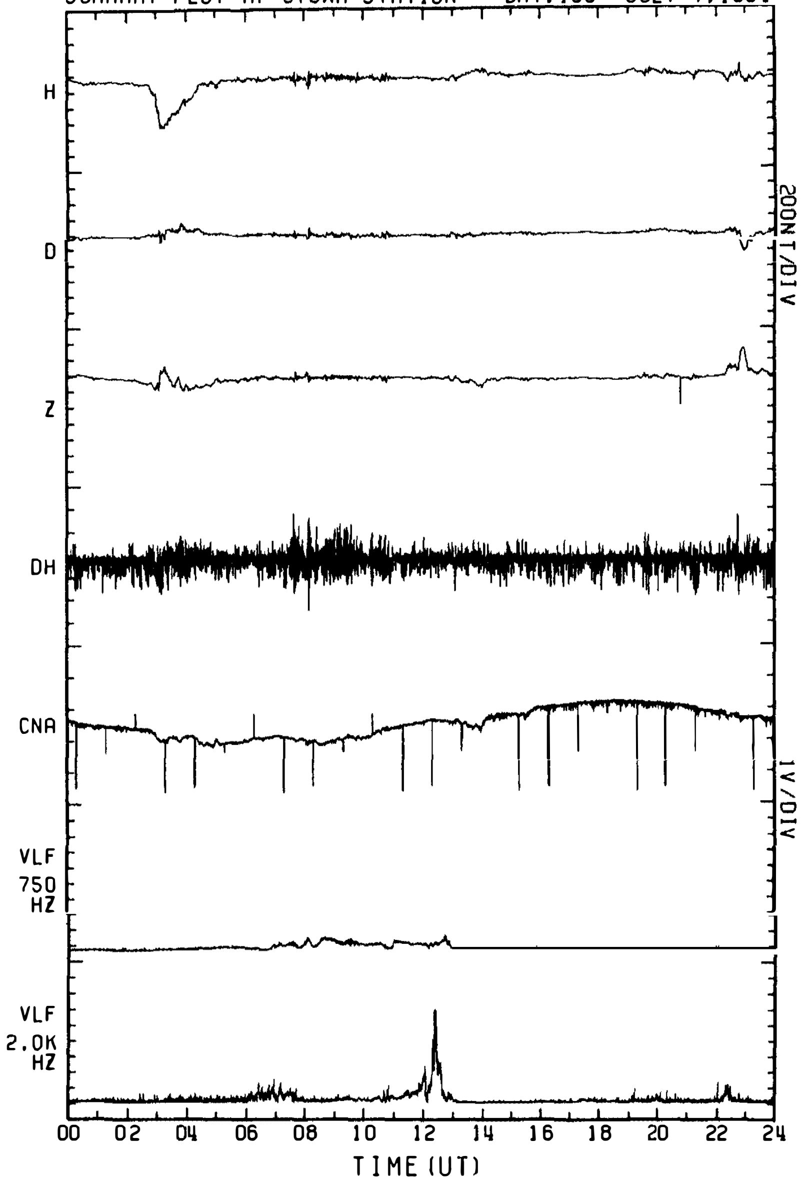

SUMMARY PLOT AT SYOWA STATION DAY:185 JULY 4,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:184 JULY 3,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

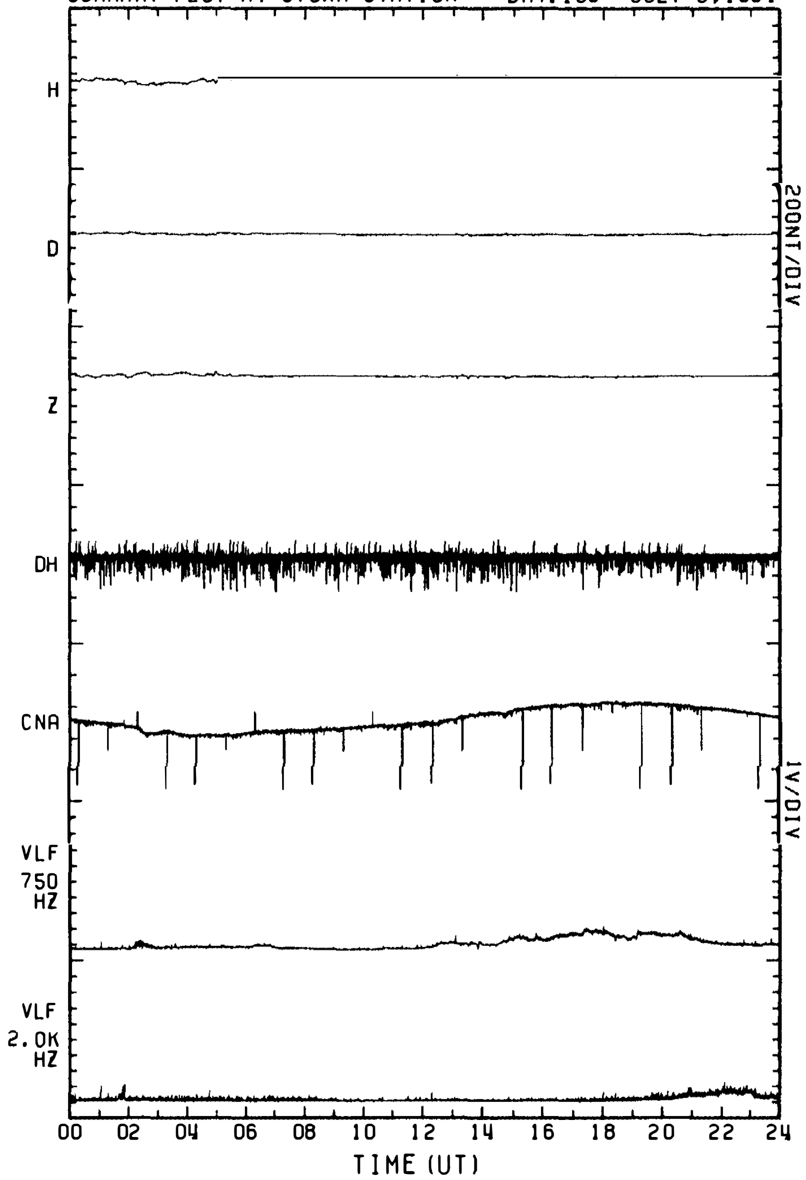

SUMMARY PLOT AT SYOWA STATION DAY:187 JULY 6,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

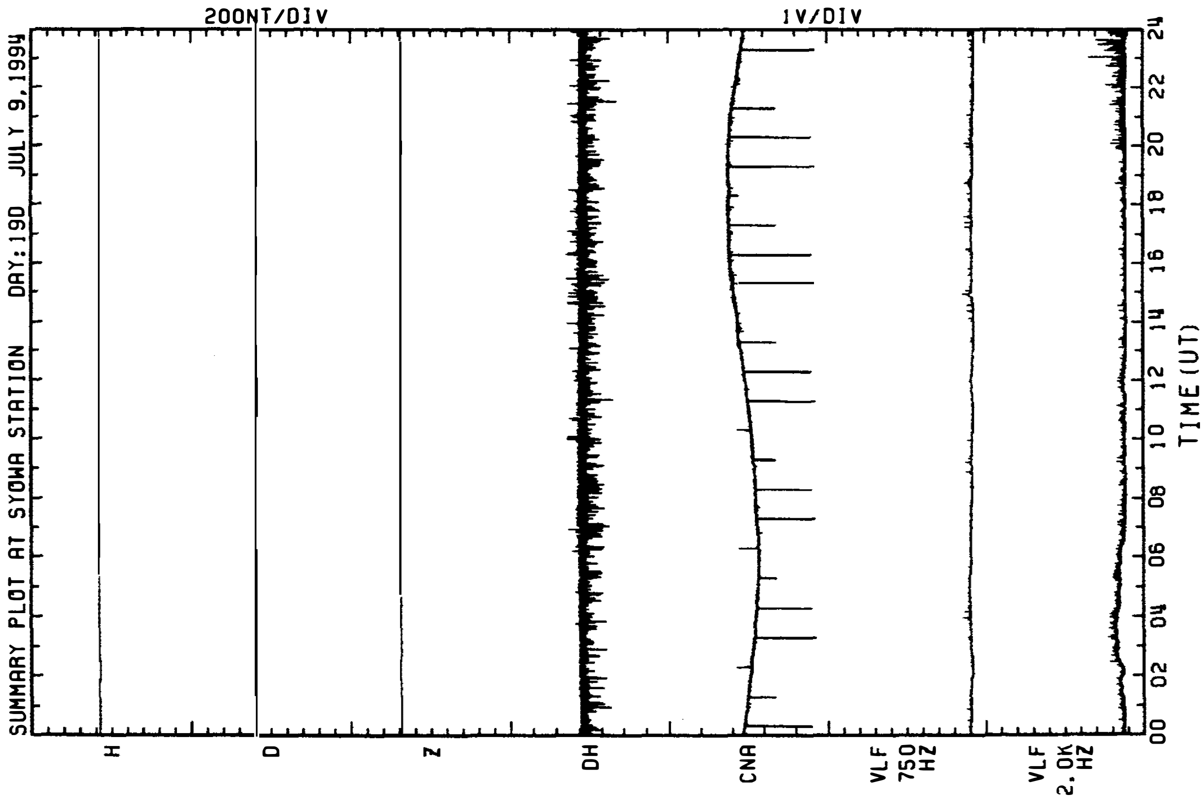

SUMMARY PLOT AT SYOWA STATION DAY:186 JULY 5,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

SUMMARY PLOT AT SYOWA STATION DAY:188 JULY 7,1994

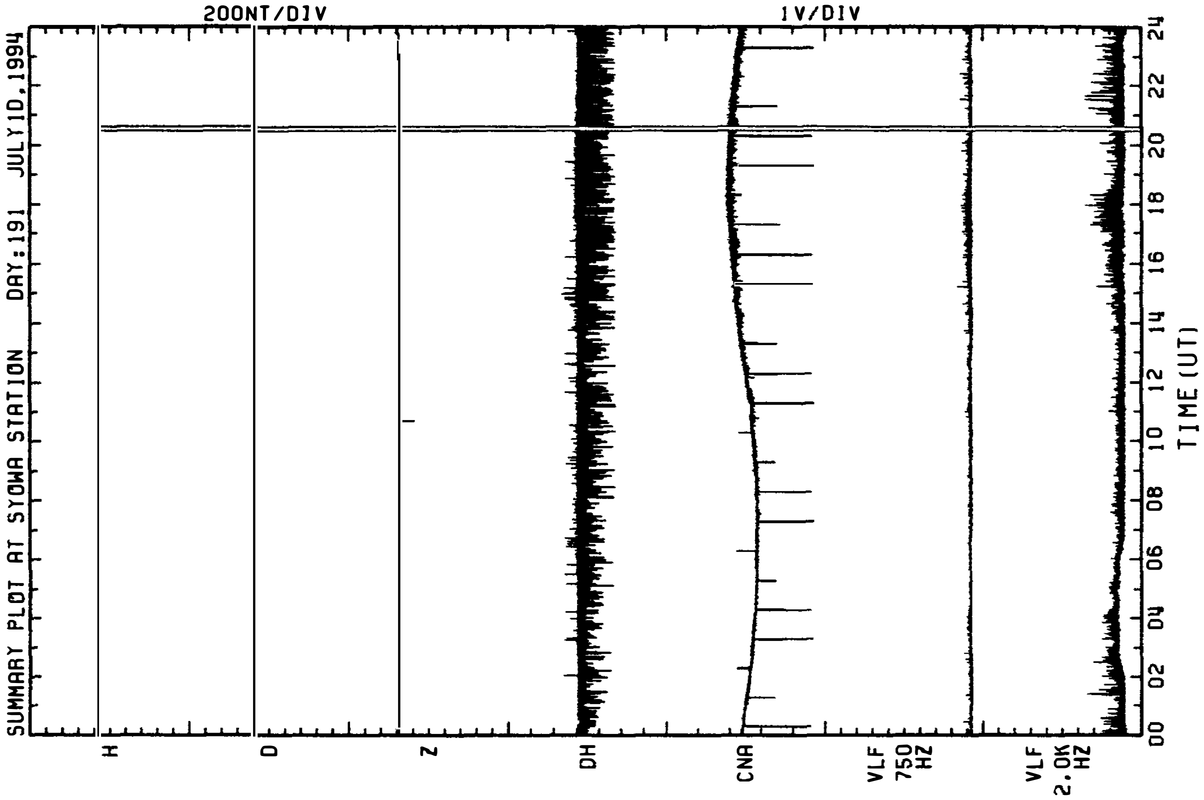


SUMMARY PLOT AT SYOWA STATION DAY:189 JULY 8,1994



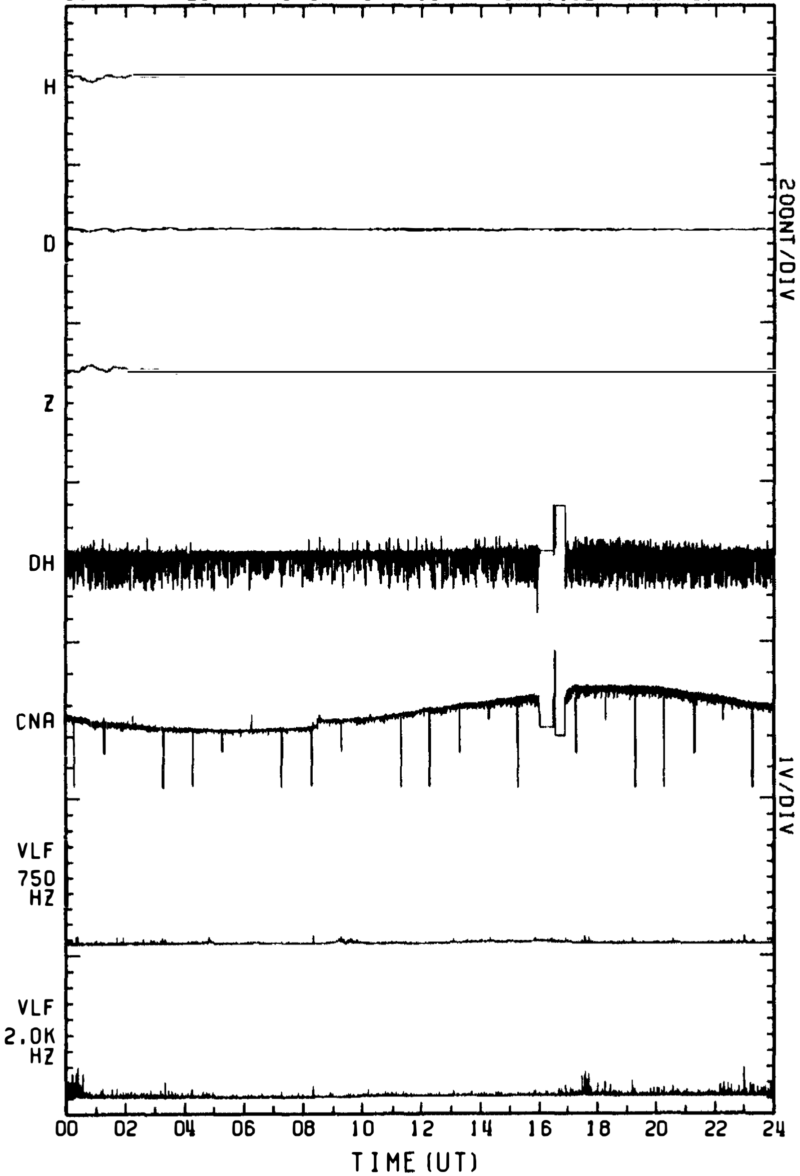


SUMMARY PLOT AT SYOWA STATION DAY:190 JULY 9,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

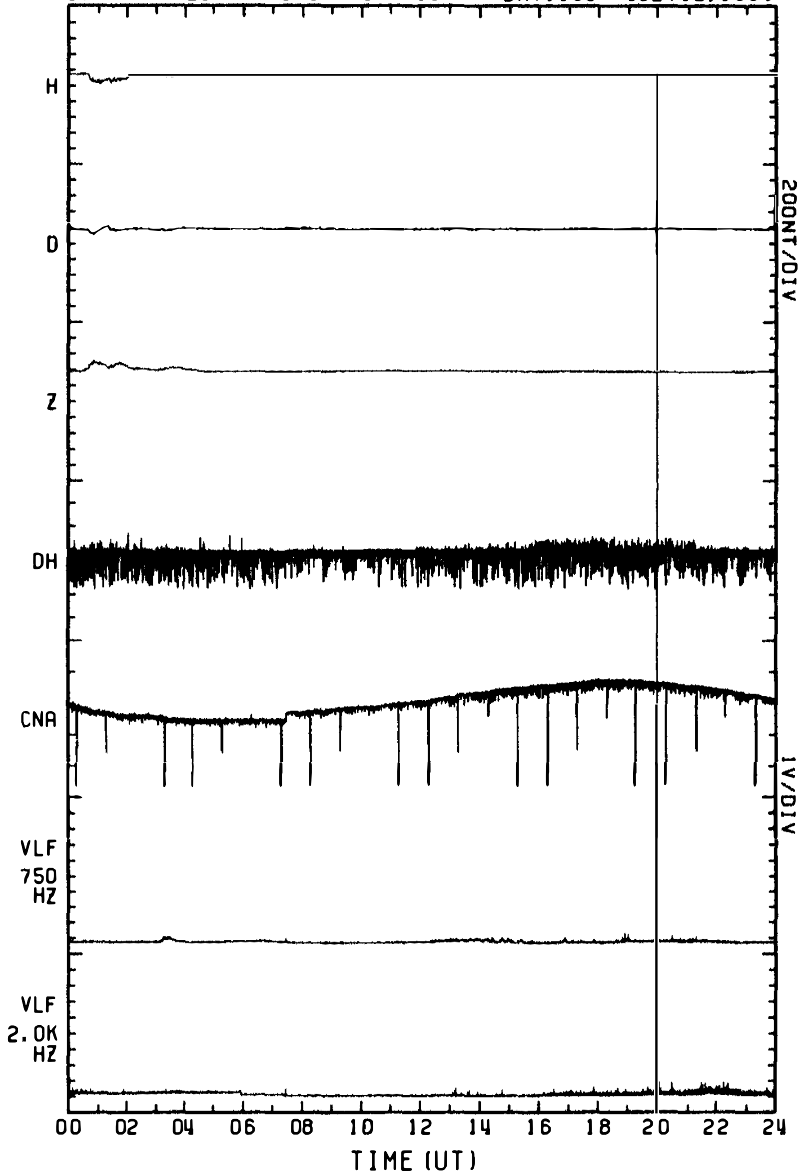


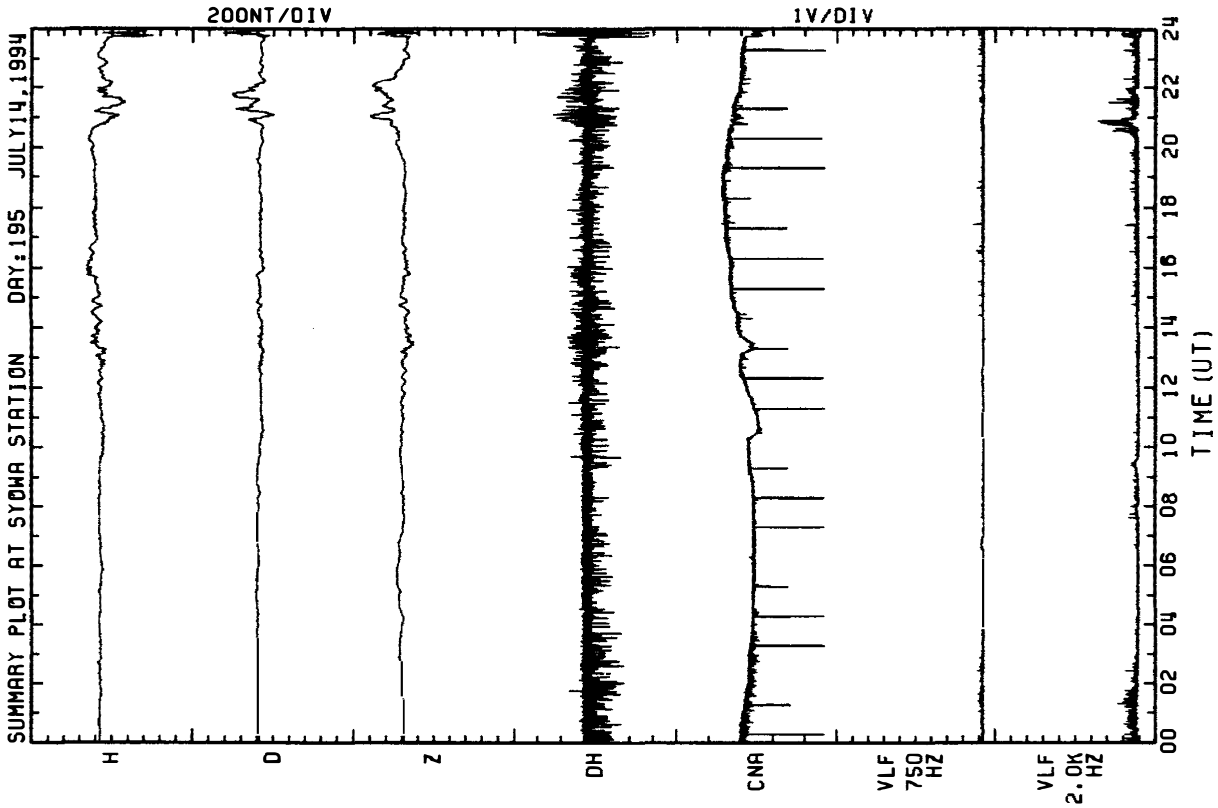
SUMMARY PLOT AT SYOWA STATION DAY:191 JULY10,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

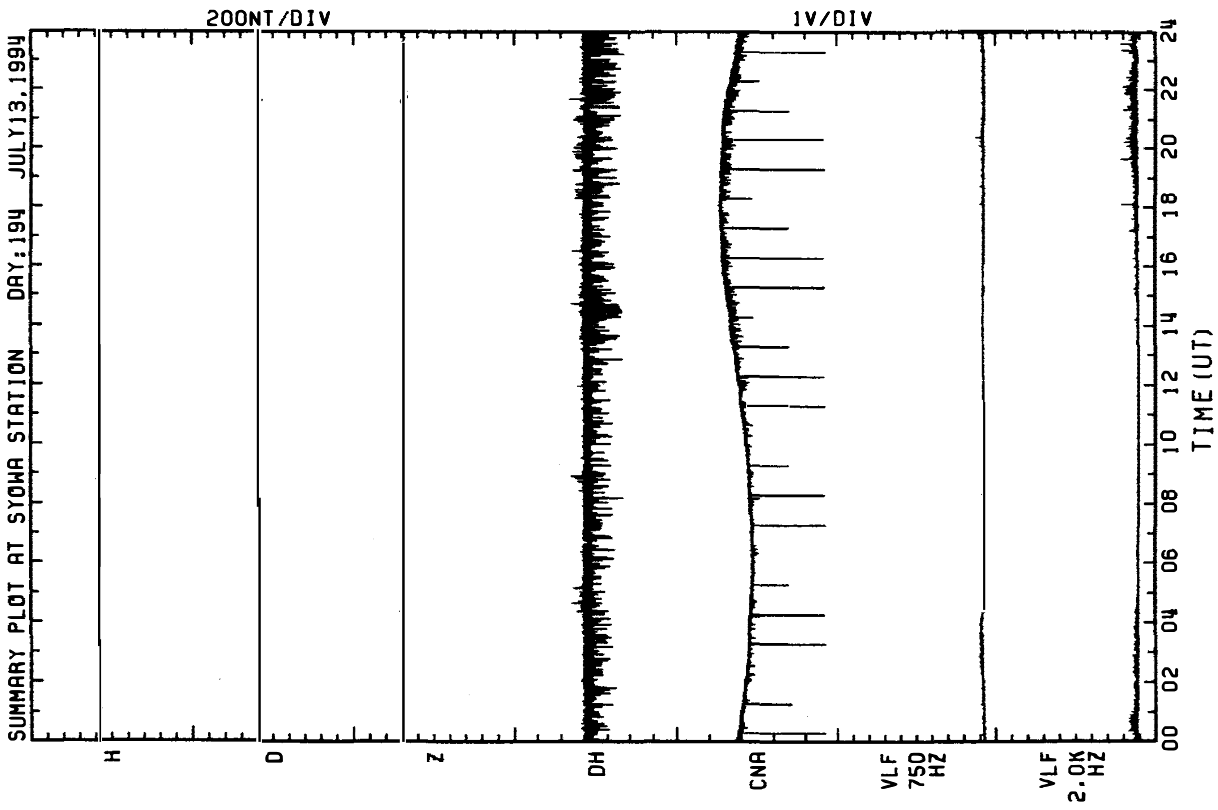
SUMMARY PLOT AT SYOWA STATION DAY:192 JULY11,1994

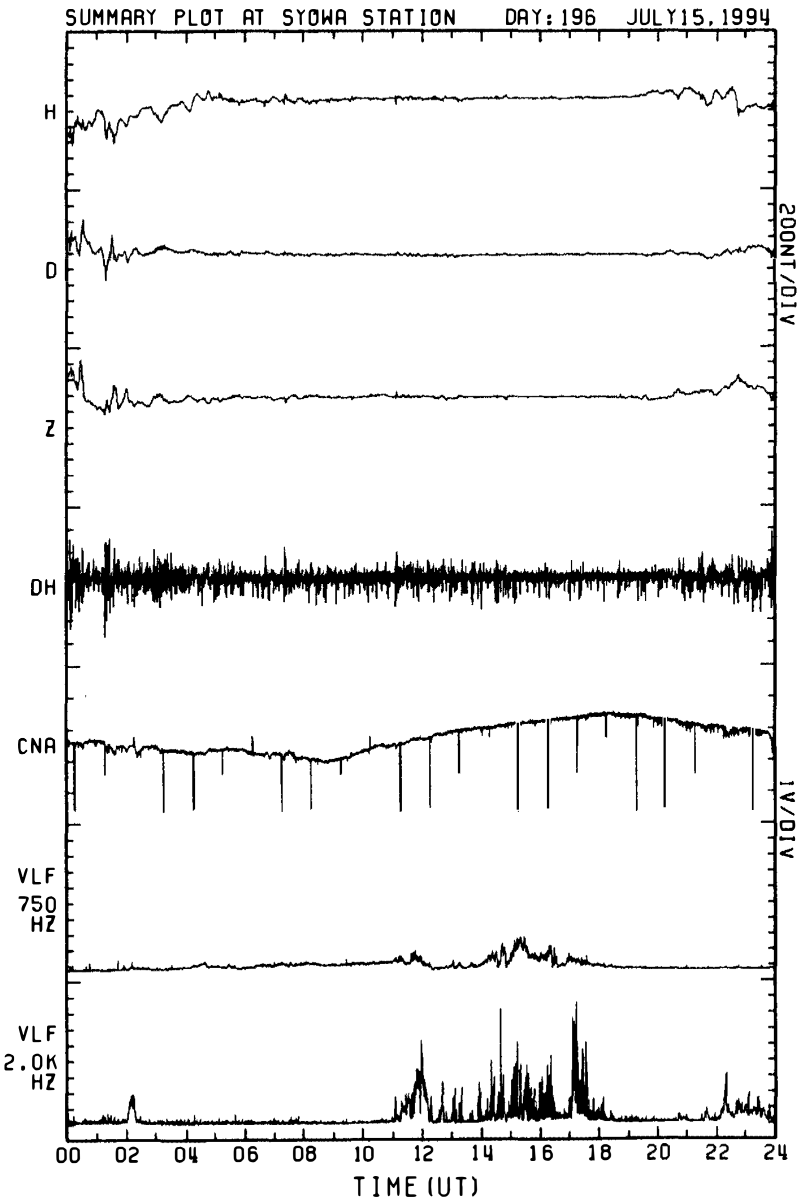


SUMMARY PLOT AT SYOWA STATION DAY:193 JULY12,1994

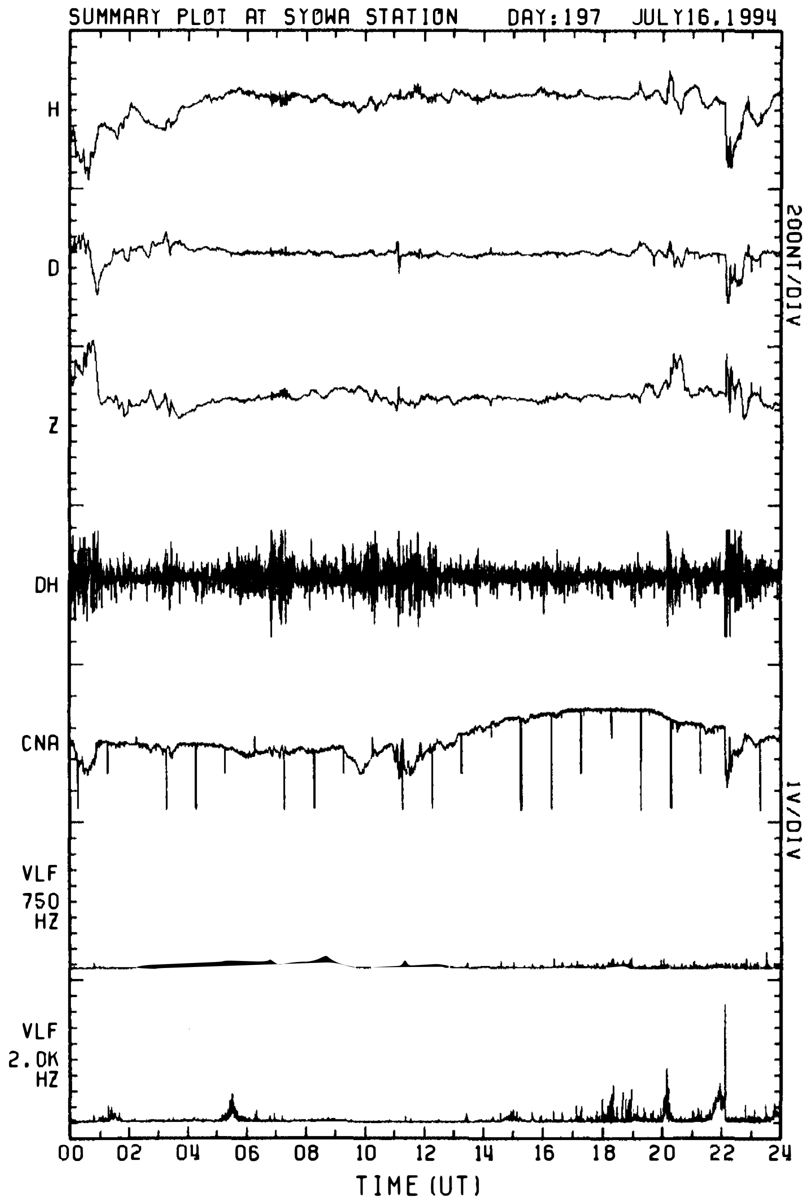



SUMMARY PLOT AT SYOWA STATION DAY:195 JULY14,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

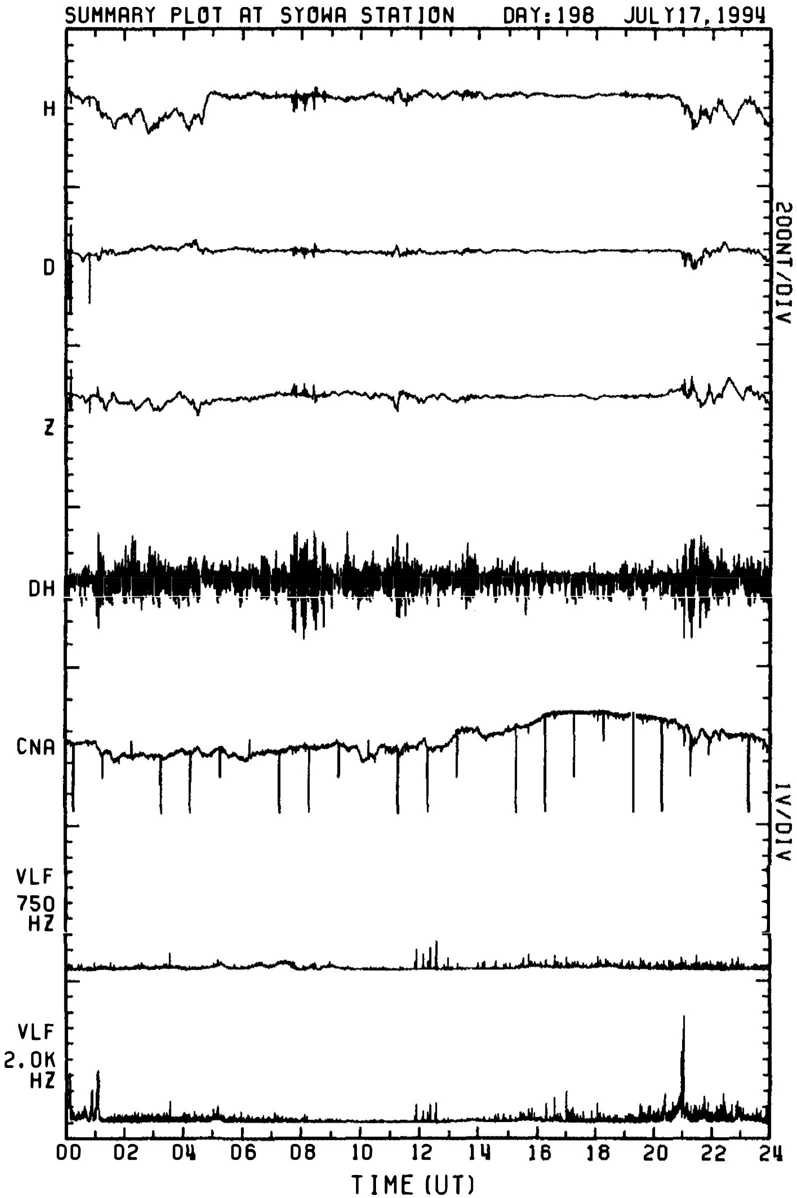

SUMMARY PLOT AT SYOWA STATION DAY:194 JULY13,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

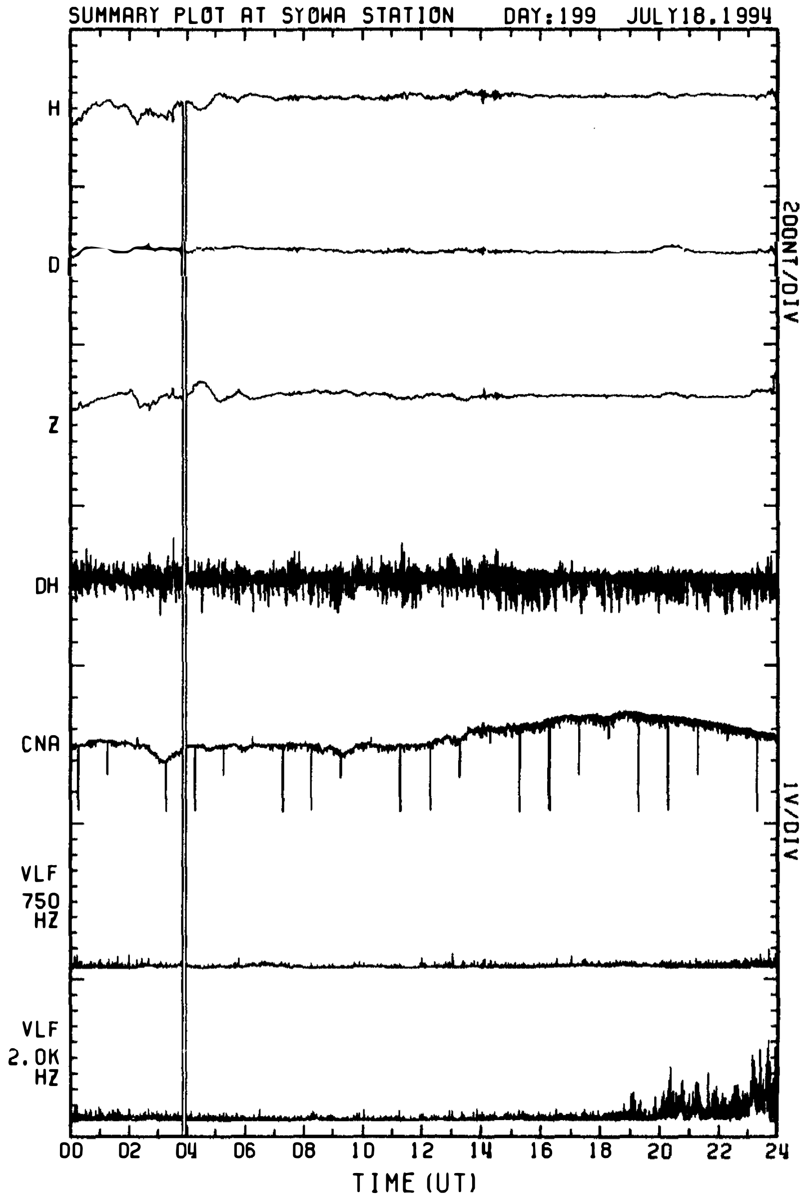


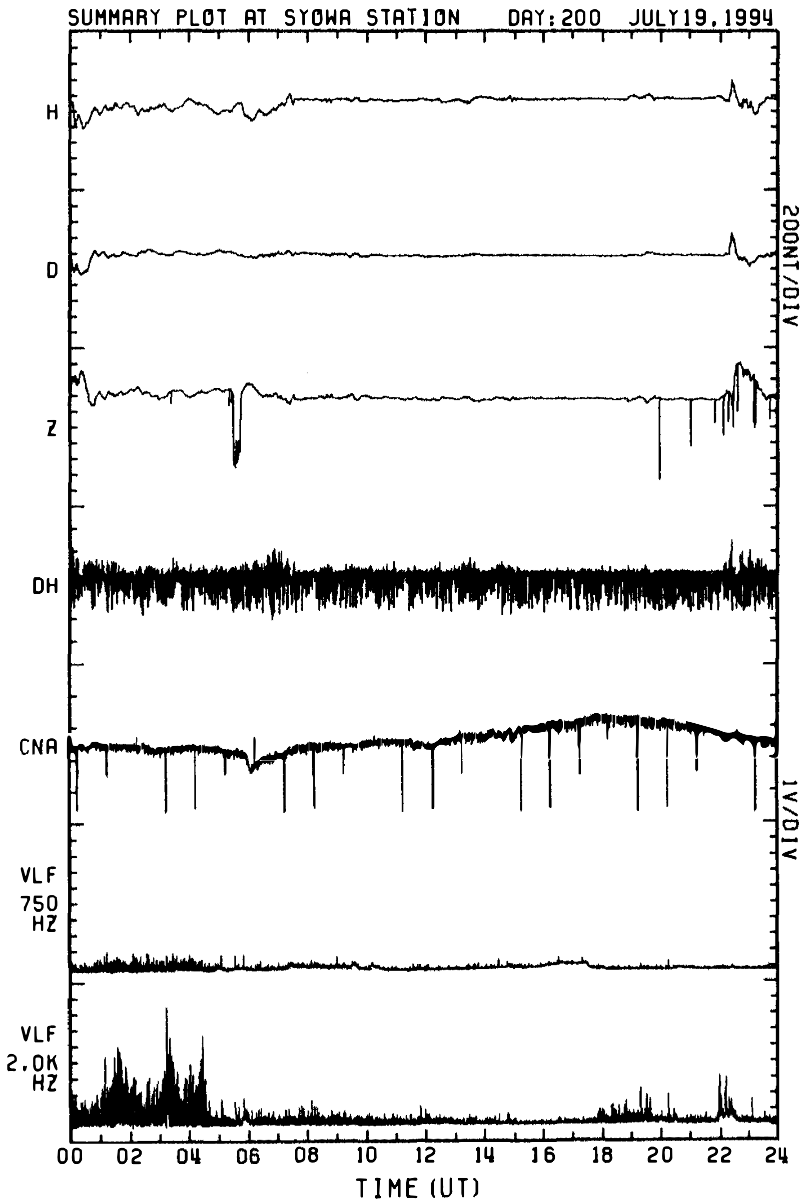
SUMMARY PLOT AT SYOWA STATION DAY:196 JULY15,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

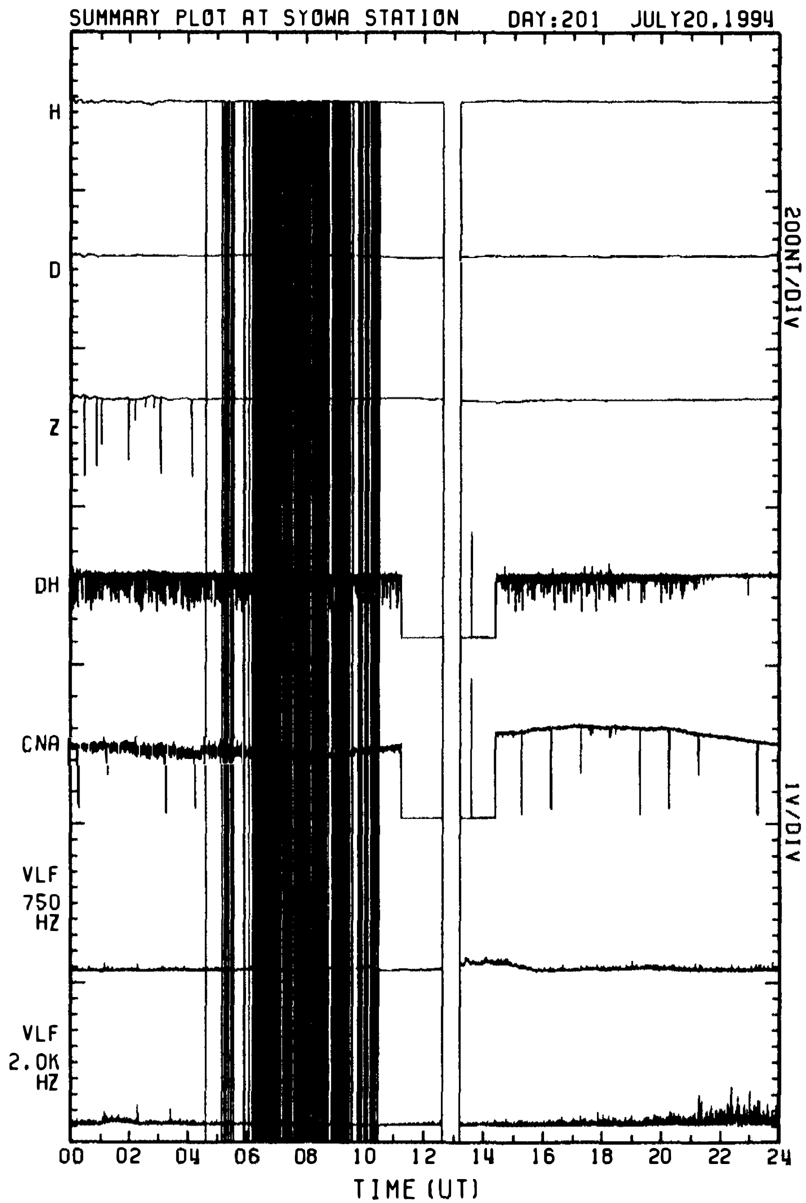


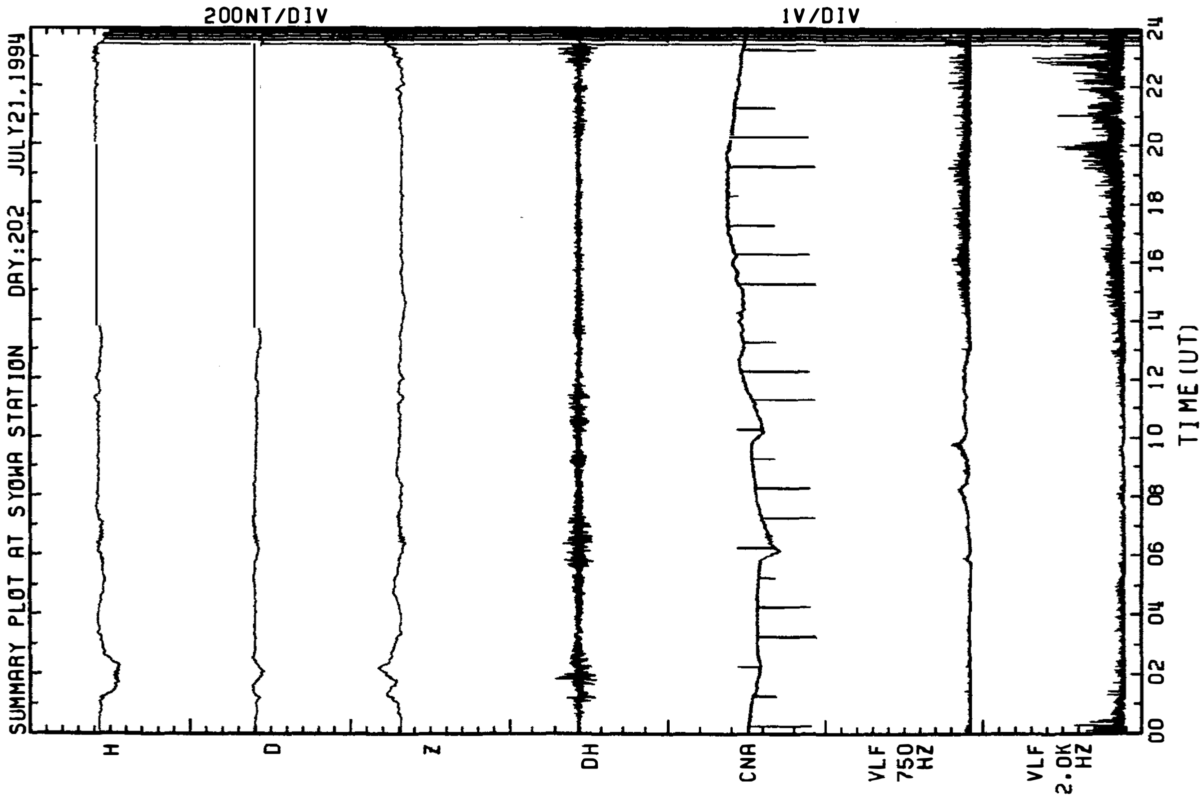
SUMMARY PLOT AT SYOWA STATION DAY:197 JULY16,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

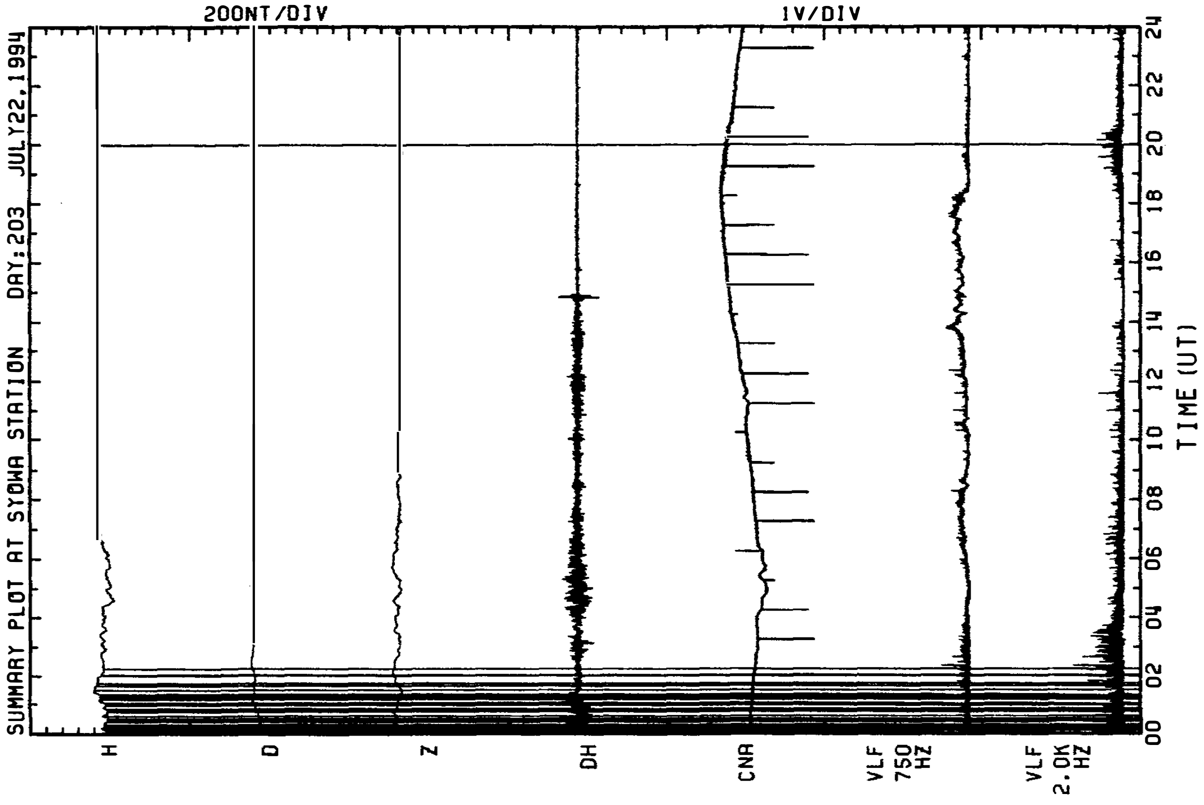

SUMMARY PLOT AT SYOWA STATION DAY:198 JULY17,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

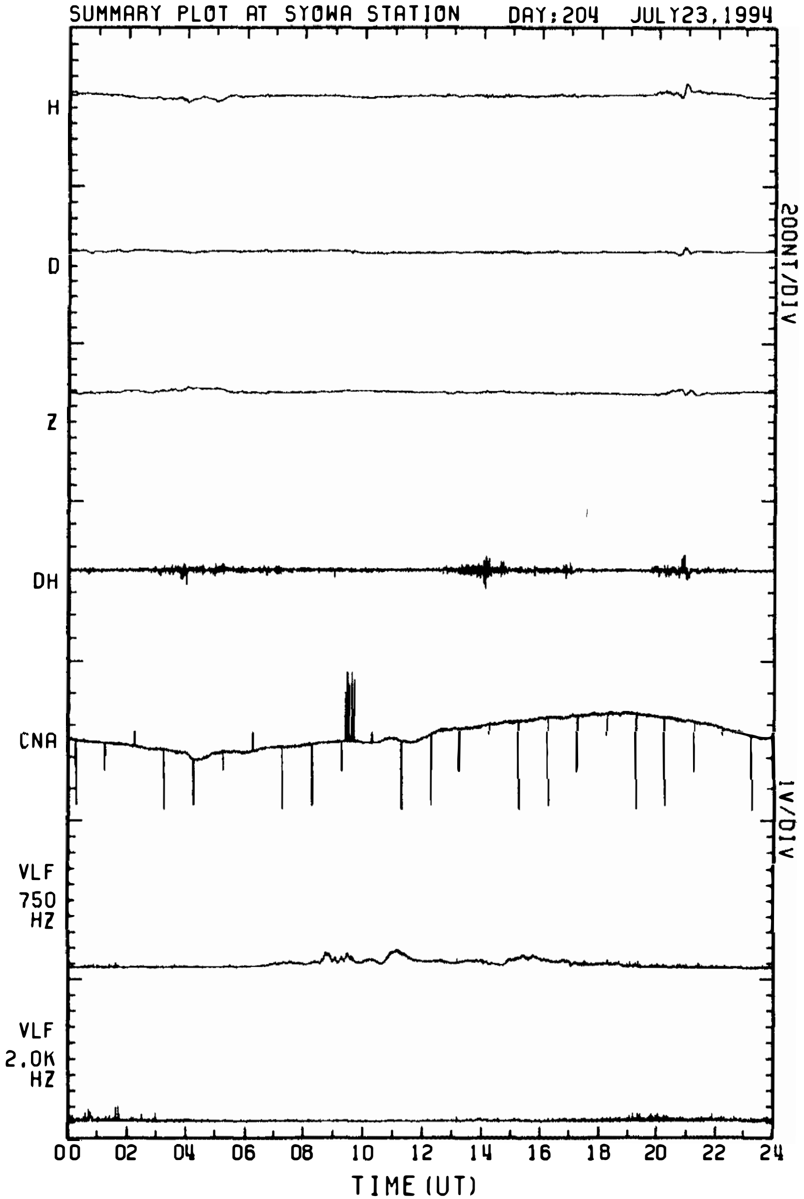

SUMMARY PLOT AT SYOWA STATION DAY:199 JULY18,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

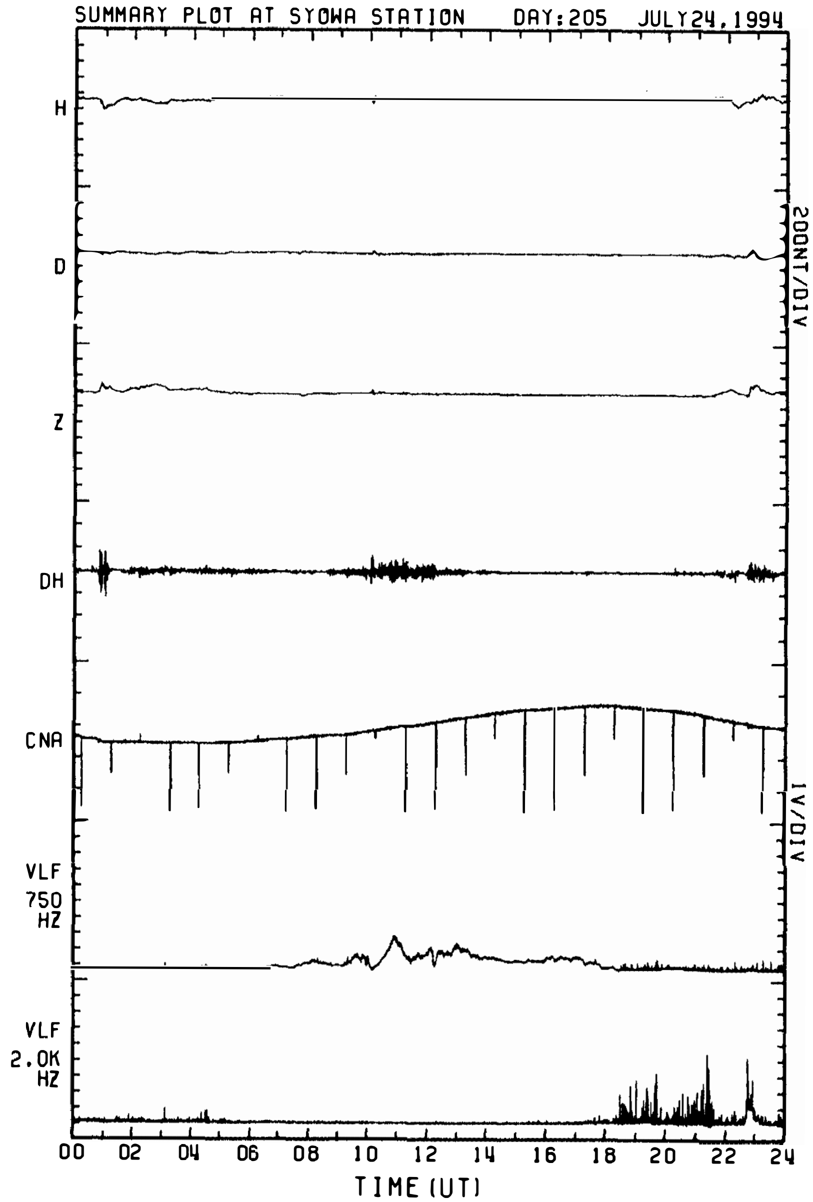

SUMMARY PLOT AT SYOWA STATION DAY:200 JULY19,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

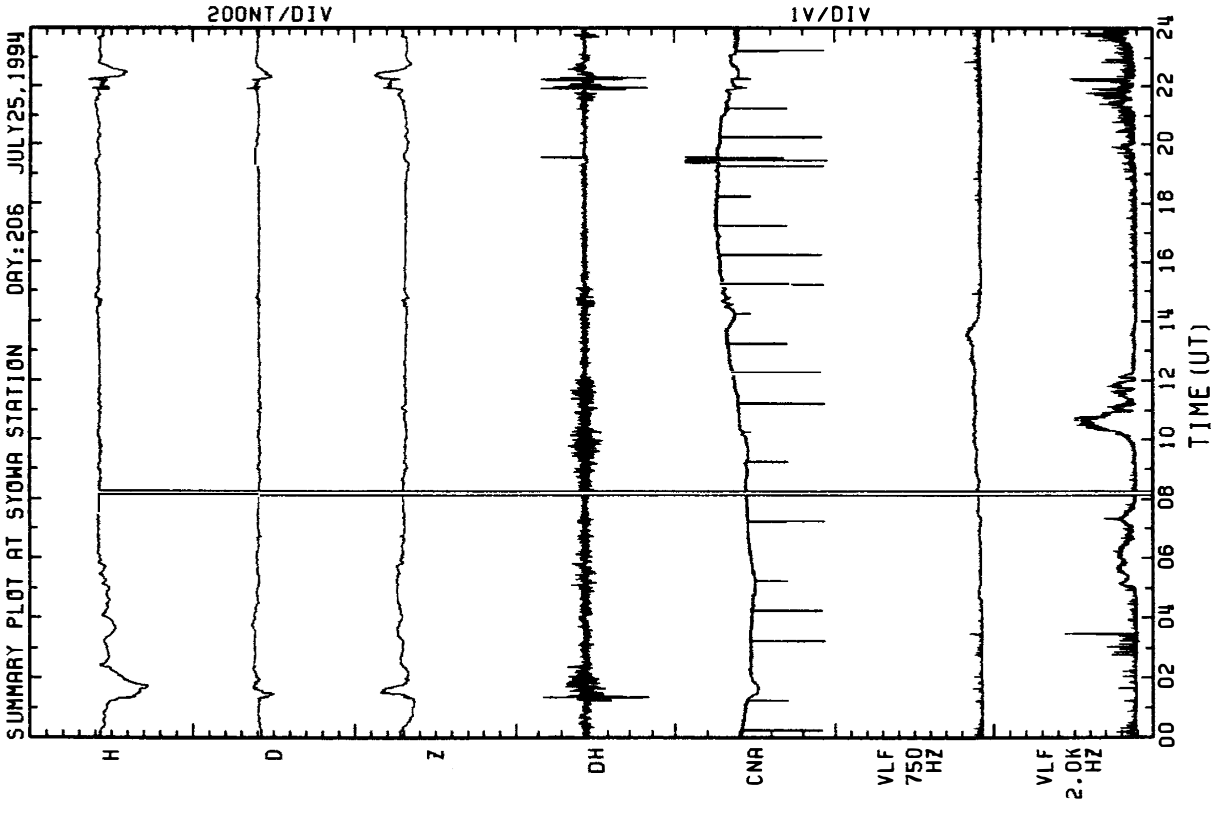

SUMMARY PLOT AT SYOWA STATION DAY:201 JULY20,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

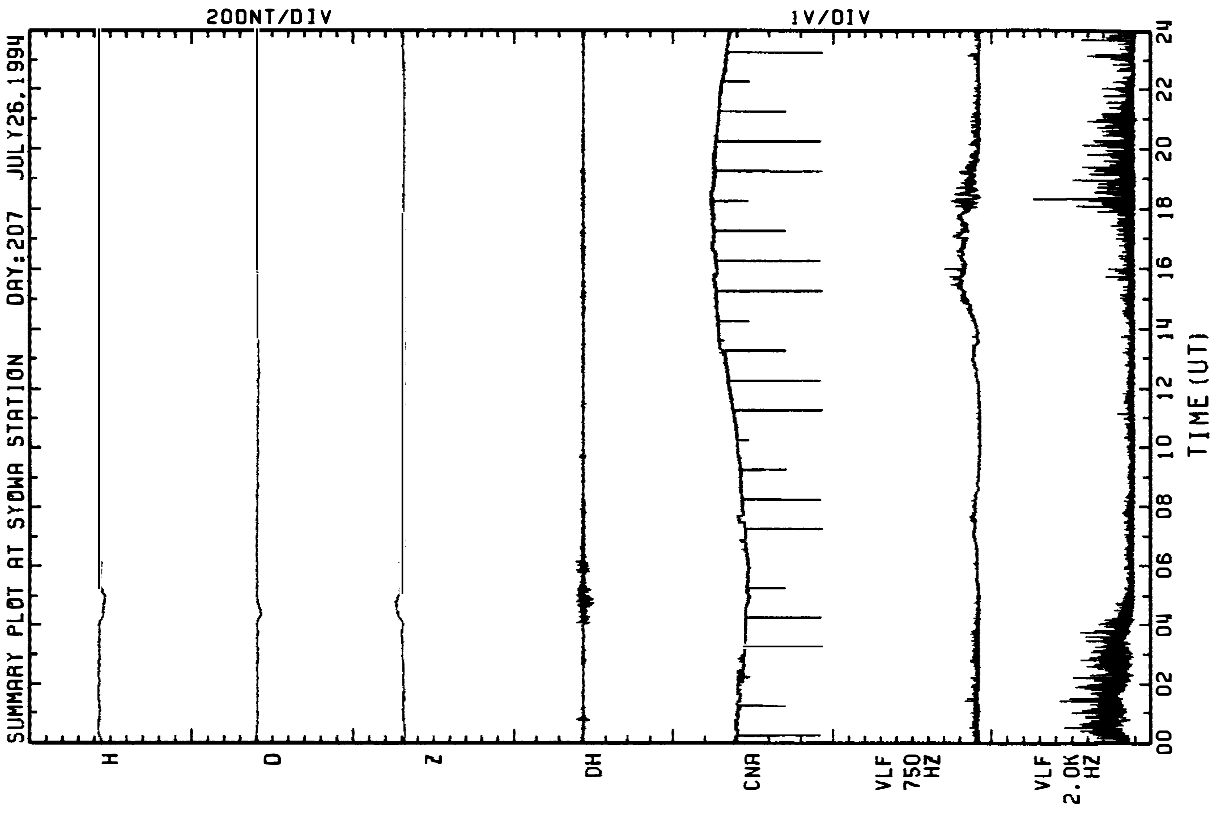

SUMMARY PLOT AT SYOWA STATION DAY:202 JULY21,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

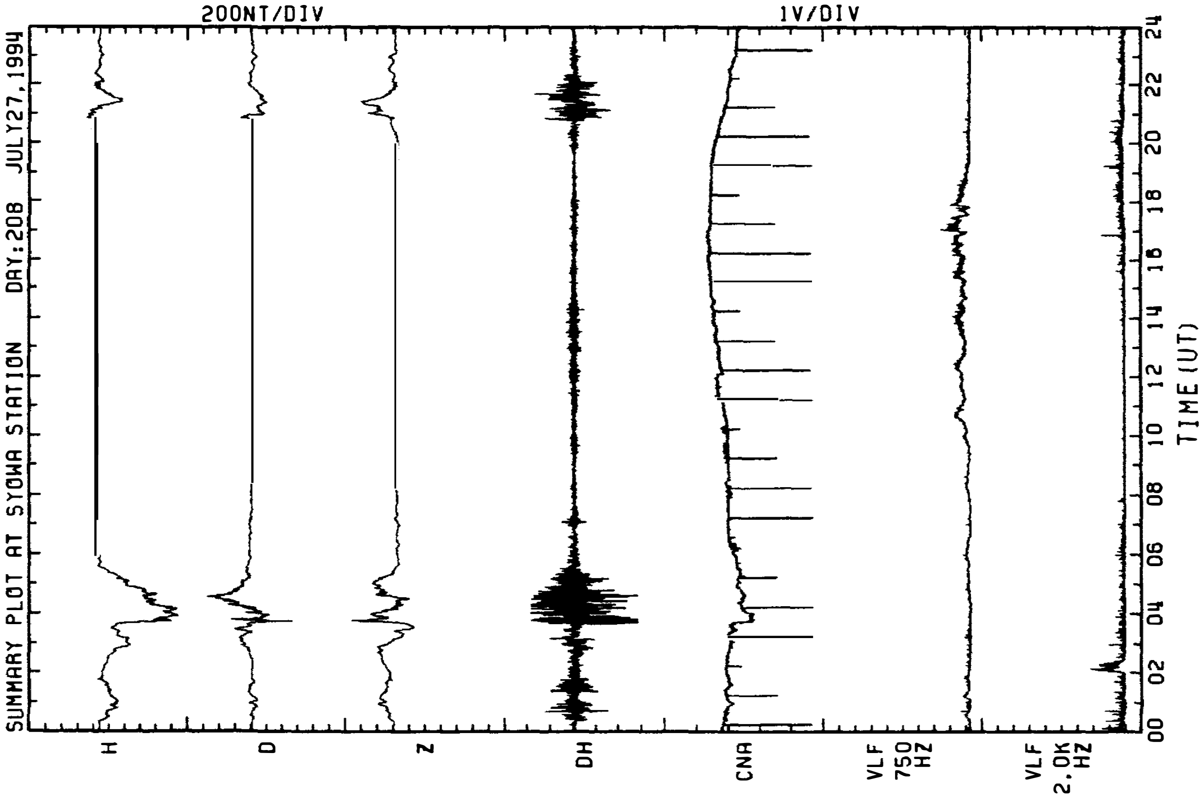

SUMMARY PLOT AT SYOWA STATION DAY:203 JULY22,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

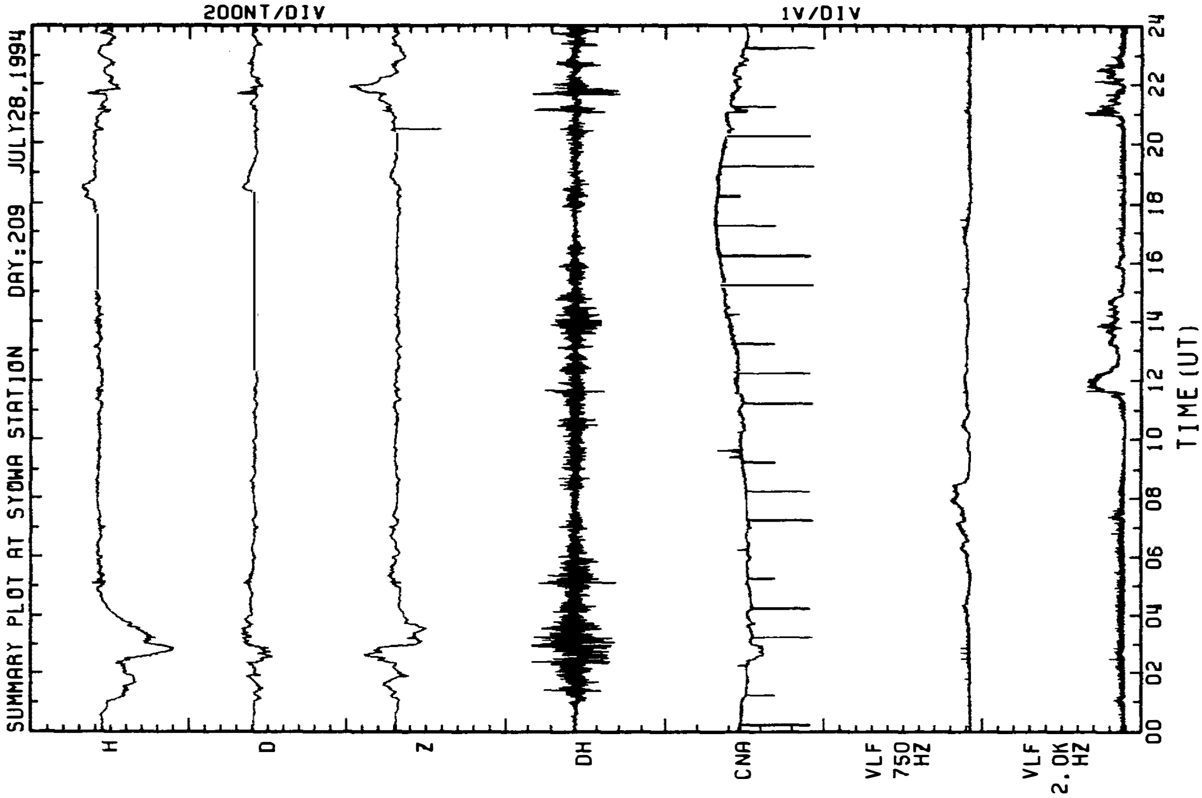

SUMMARY PLOT AT SYOWA STATION DAY:204 JULY23,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

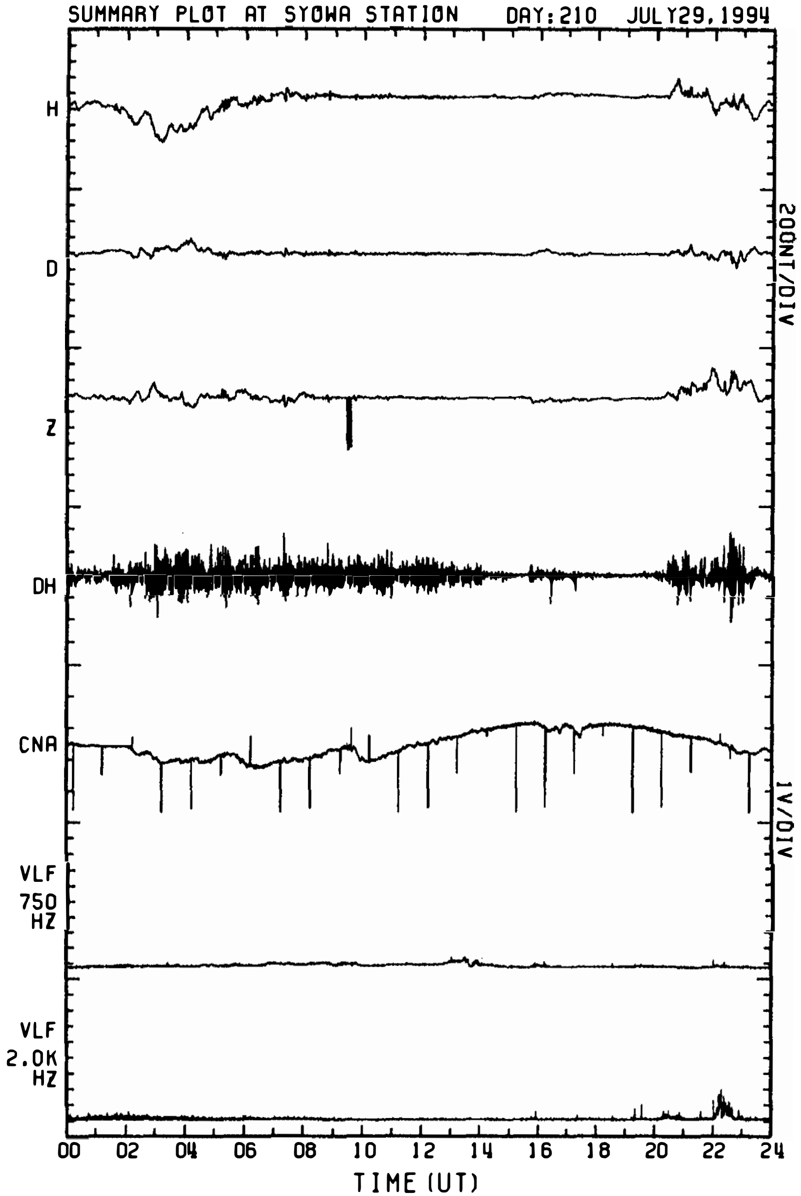

SUMMARY PLOT AT SYOWA STATION DAY:205 JULY24,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

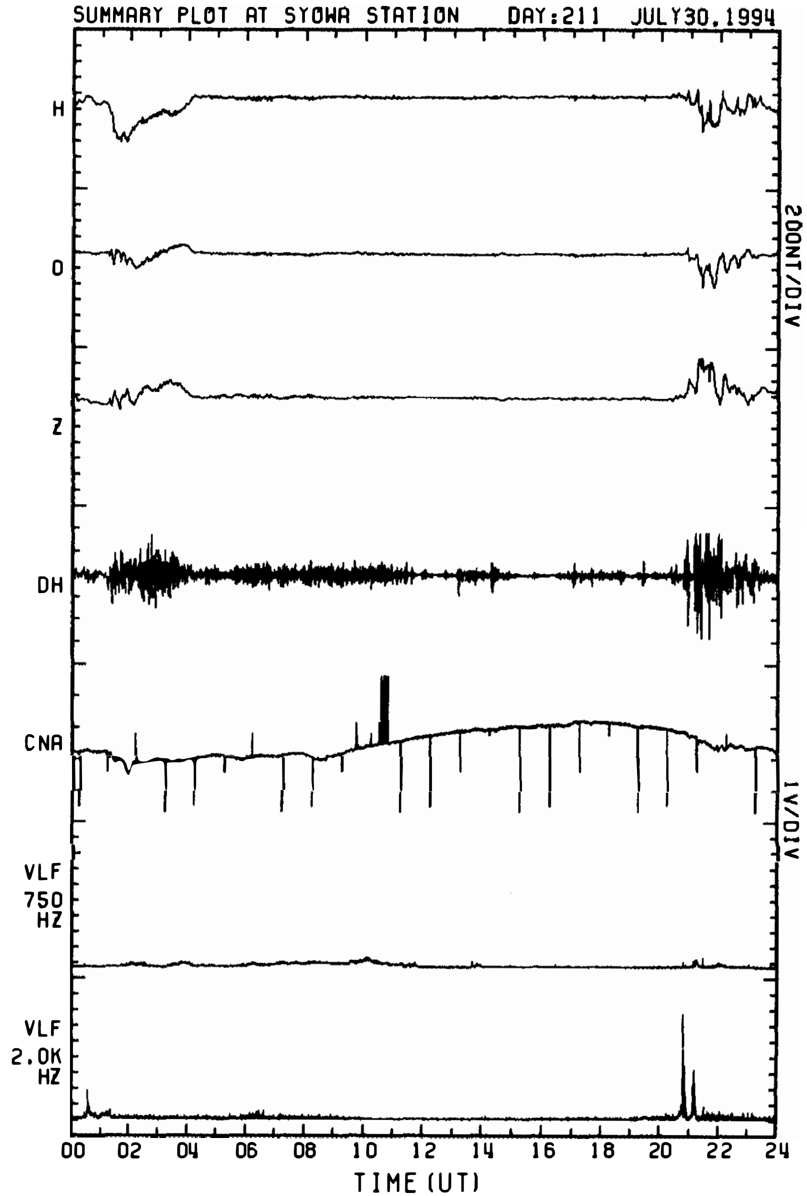

SUMMARY PLOT AT SYOWA STATION DAY:206 JULY25,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:207 JULY26,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

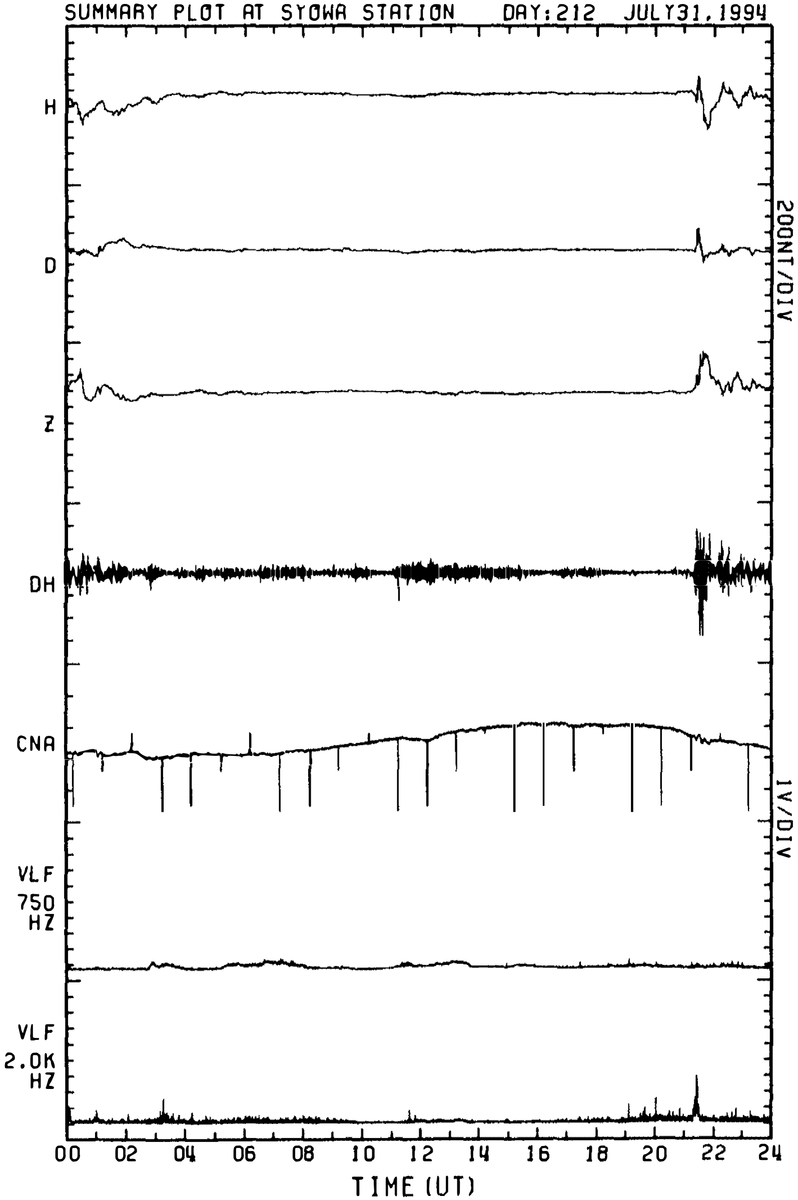

SUMMARY PLOT AT SYOWA STATION DAY:208 JULY27,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

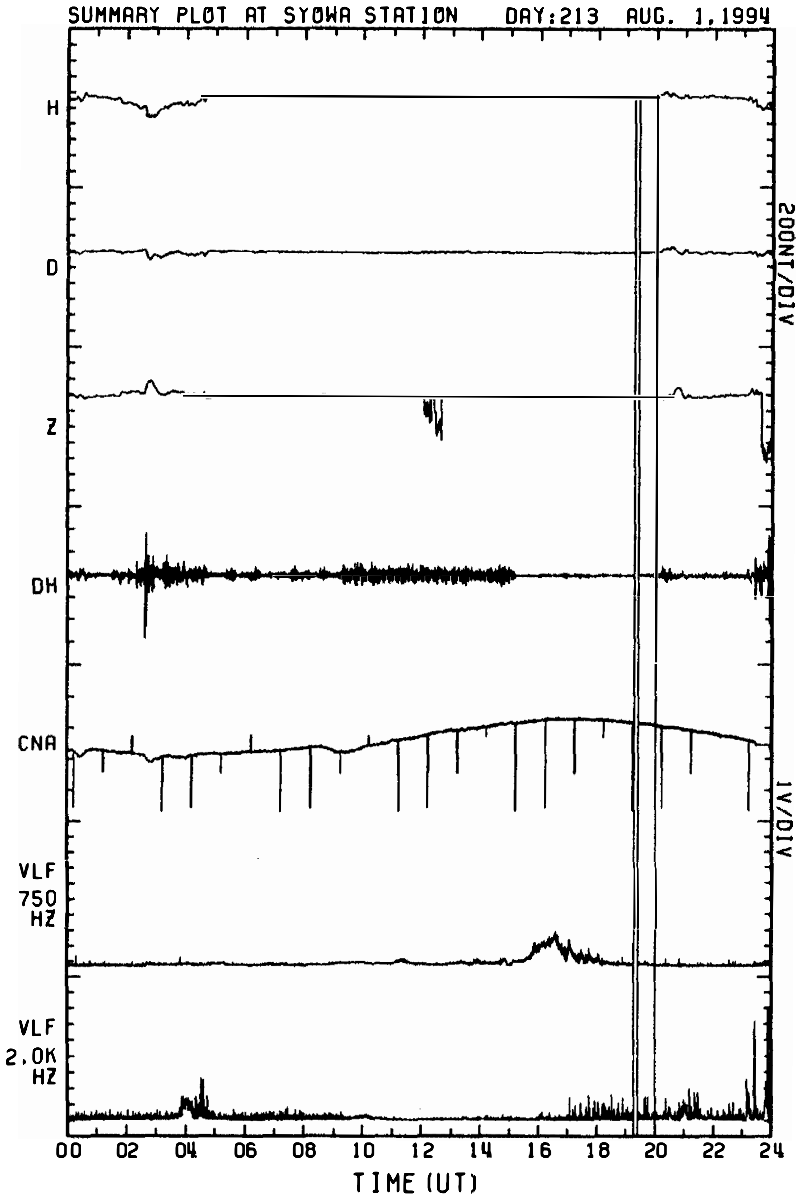

SUMMARY PLOT AT SYOWA STATION DAY:209 JULY28,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

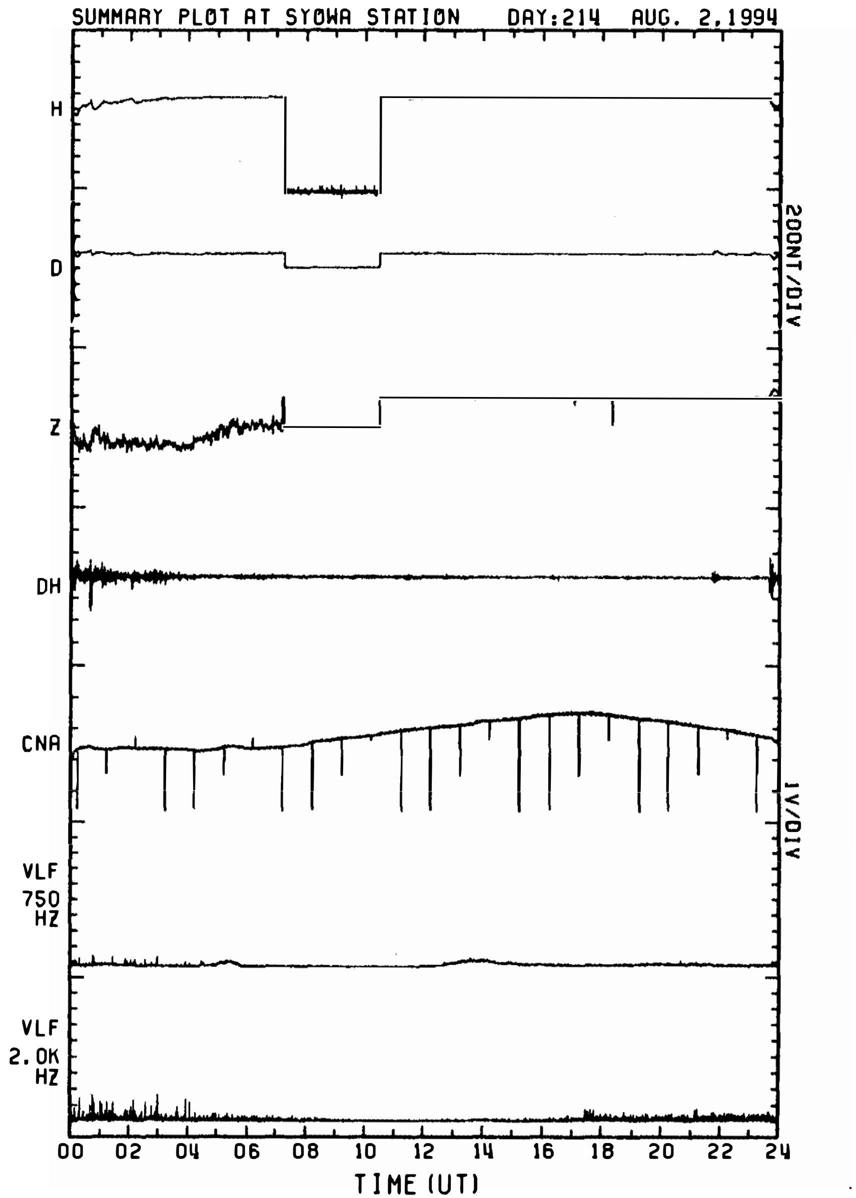

SUMMARY PLOT AT SYOWA STATION DAY:210 JULY29,1994
H
D
Z
DH
200NT/DIV
CNA
VLF 750 HZ
VLF 2.0K HZ
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

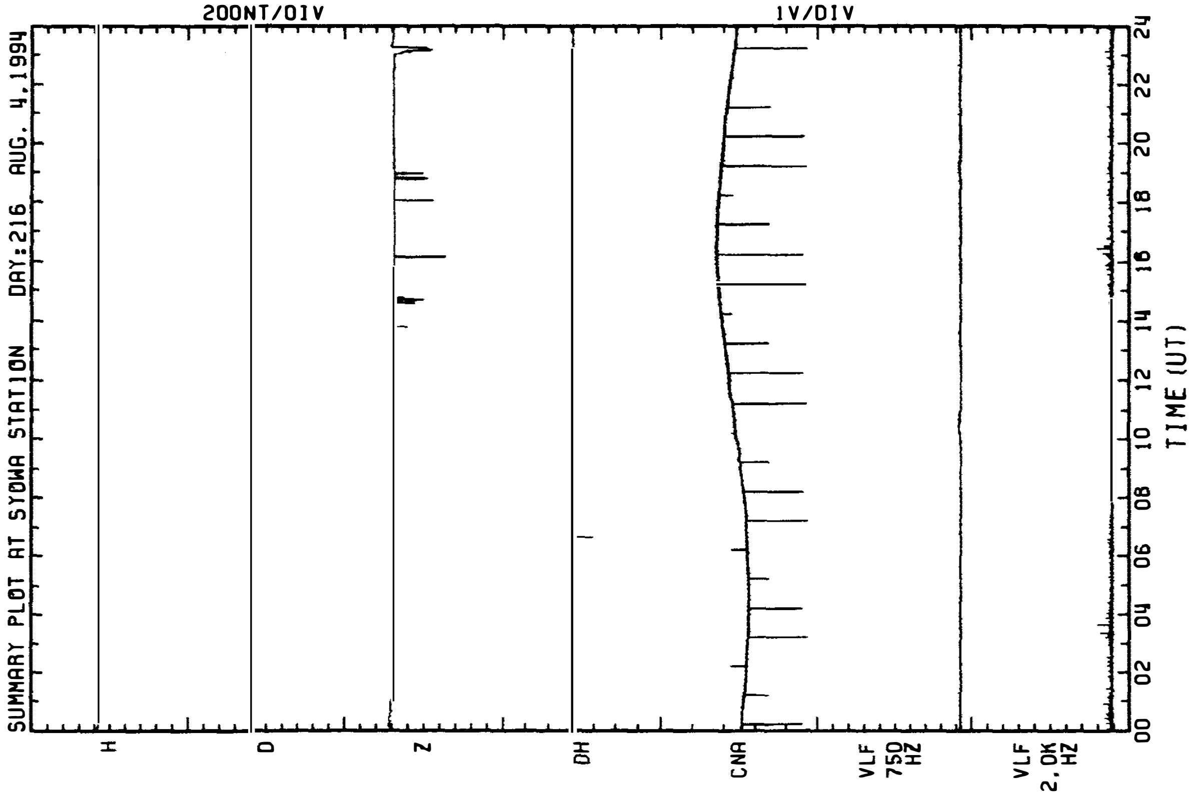

SUMMARY PLOT AT SYOWA STATION DAY:211 JULY30,1994
H
D
Z
DH
200NT/DIV
CNA
VLF 750 HZ
VLF 2.0K HZ
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

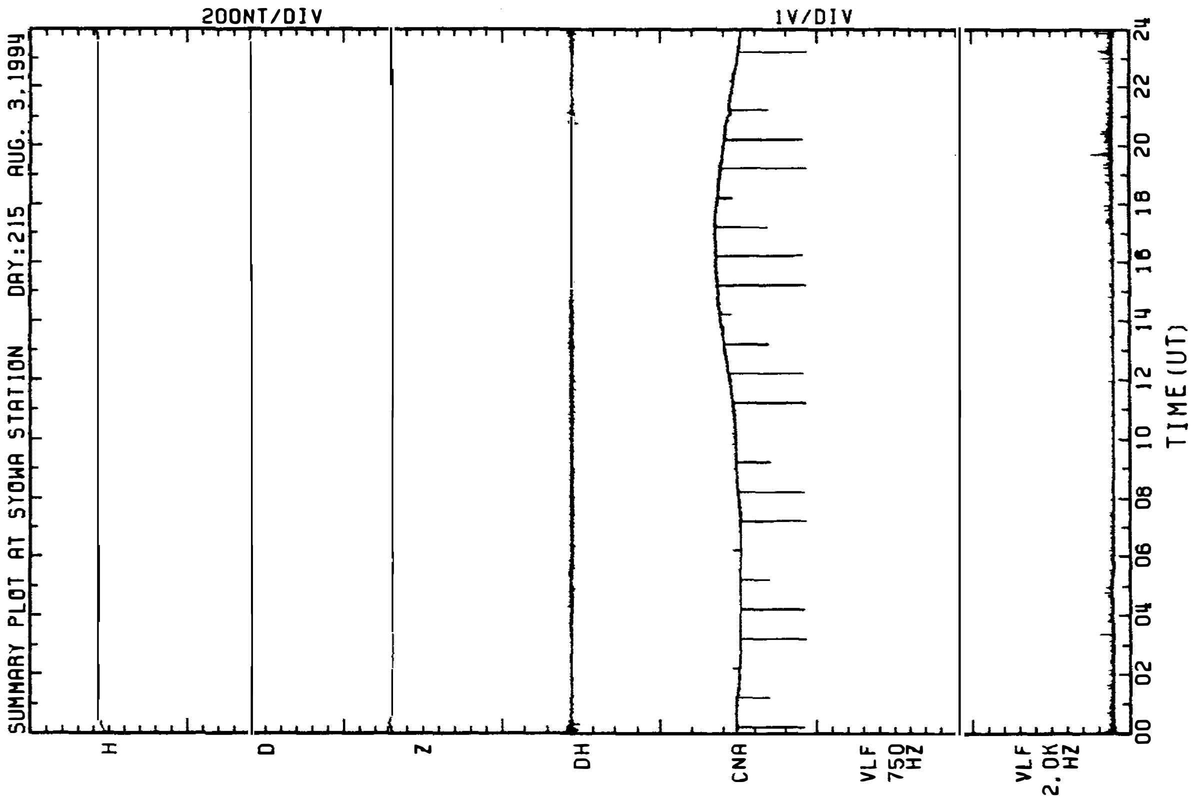
SUMMARY PLOT AT SYOWA STATION DAY:212 JULY31,1994

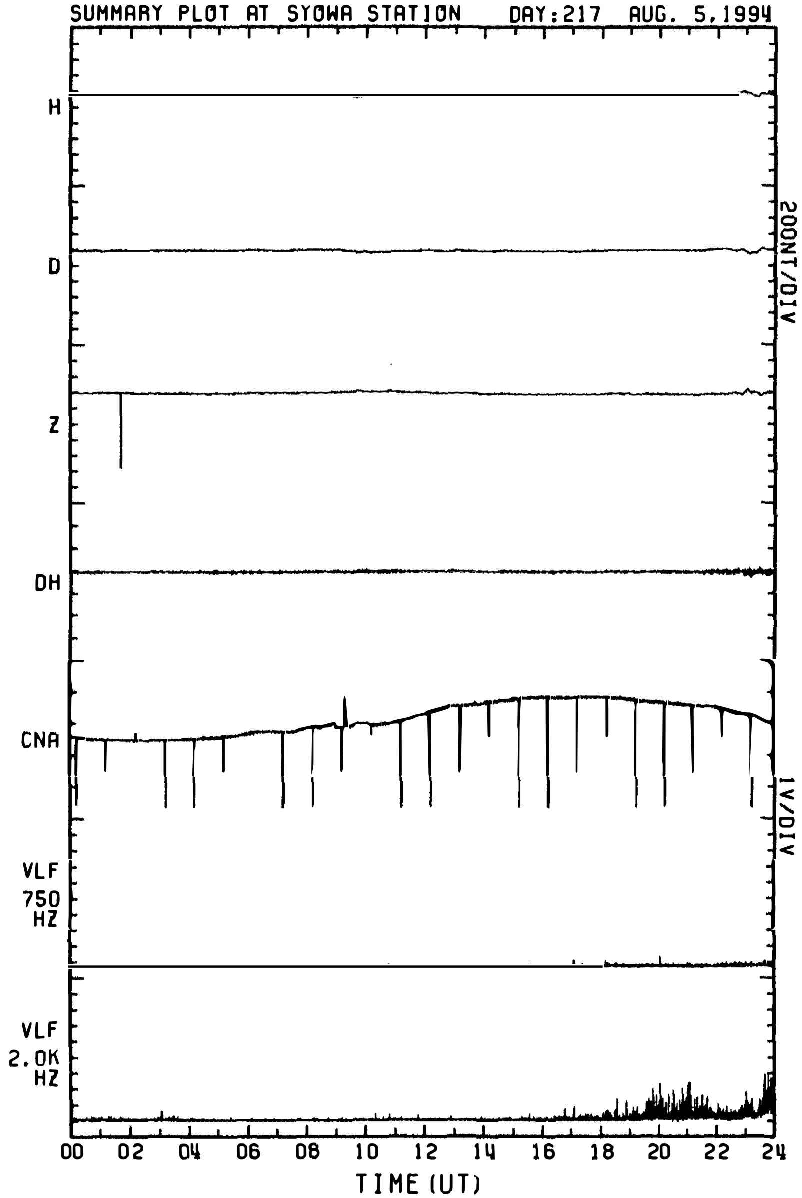


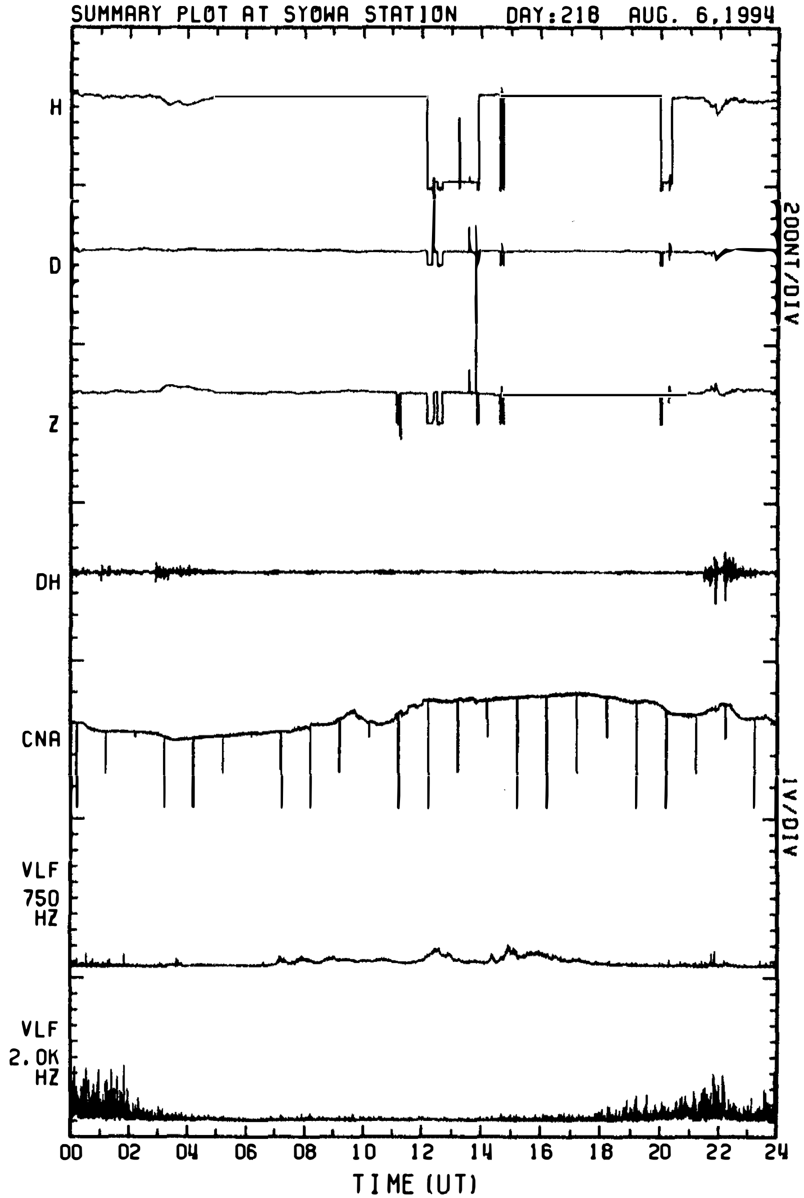

SUMMARY PLOT AT SYOWA STATION DAY:213 AUG. 1,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

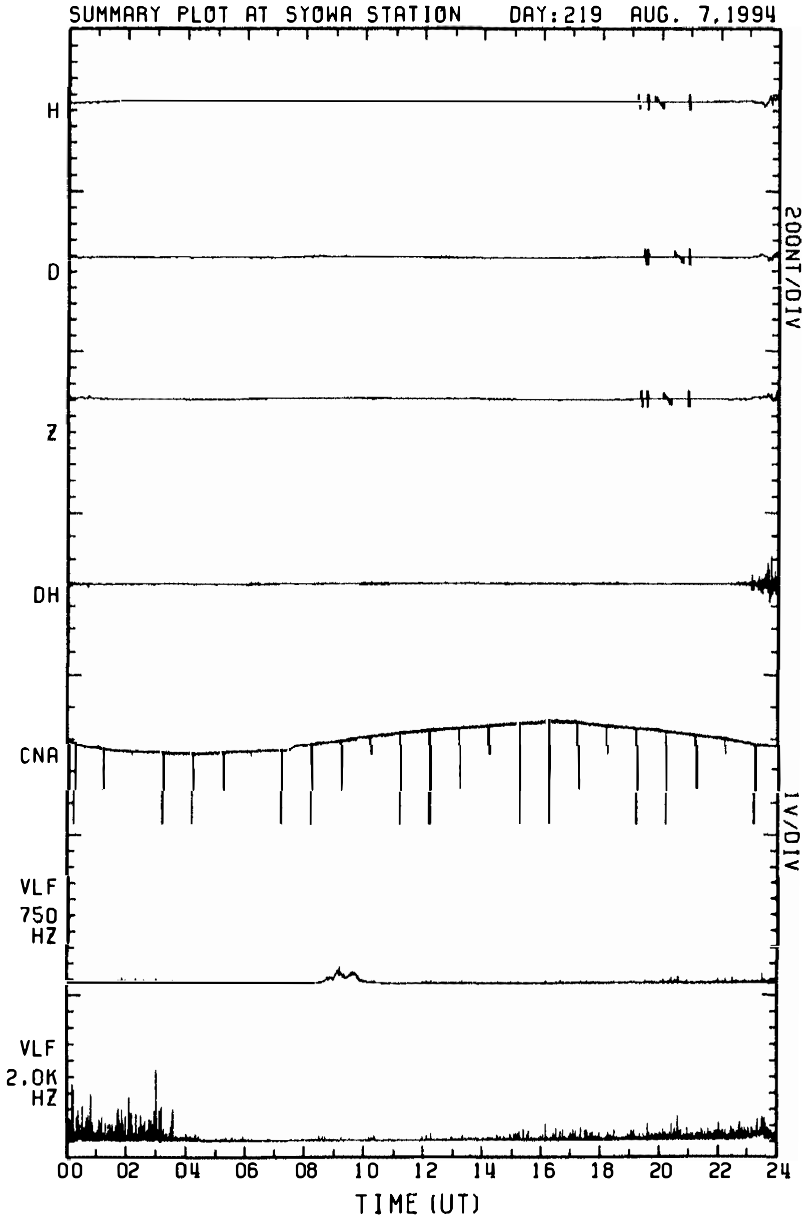

SUMMARY PLOT AT SYOWA STATION DAY:214 AUG. 2,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:216 AUG. 4,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

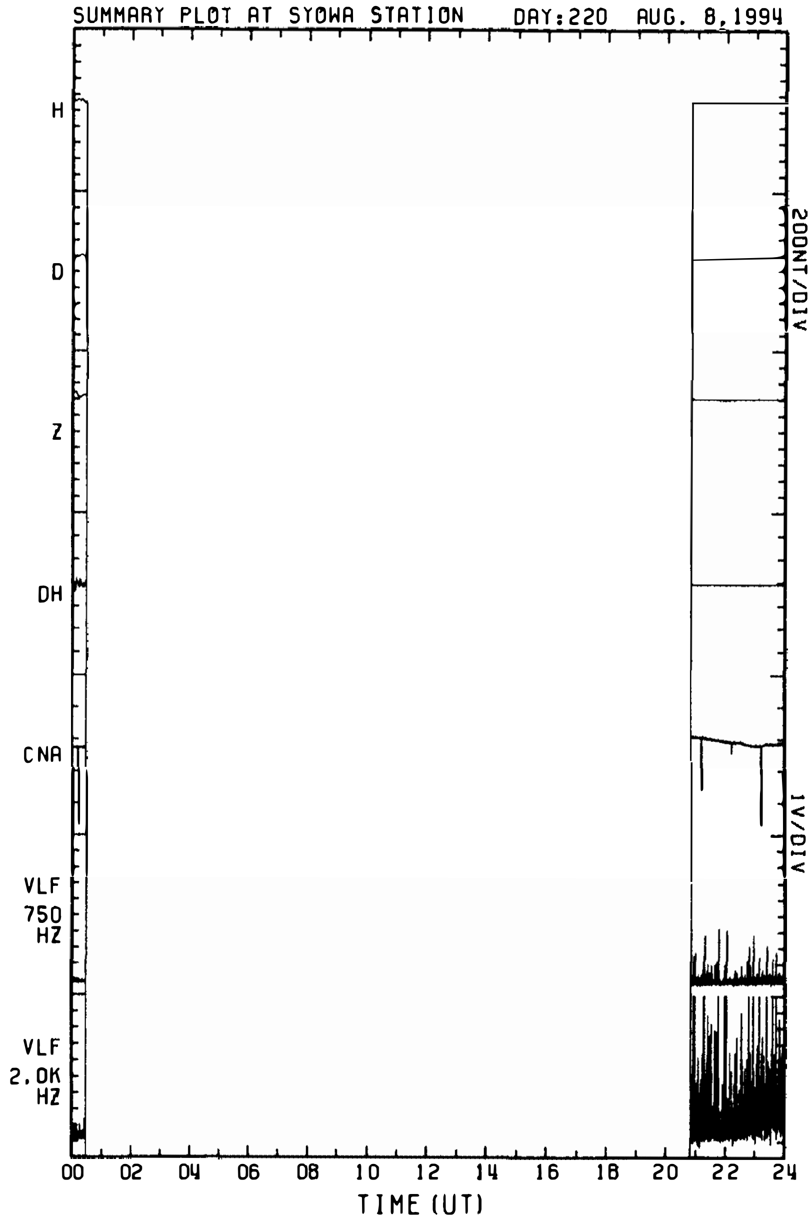

SUMMARY PLOT AT SYOWA STATION DAY:215 AUG. 3,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:217 AUG. 5,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

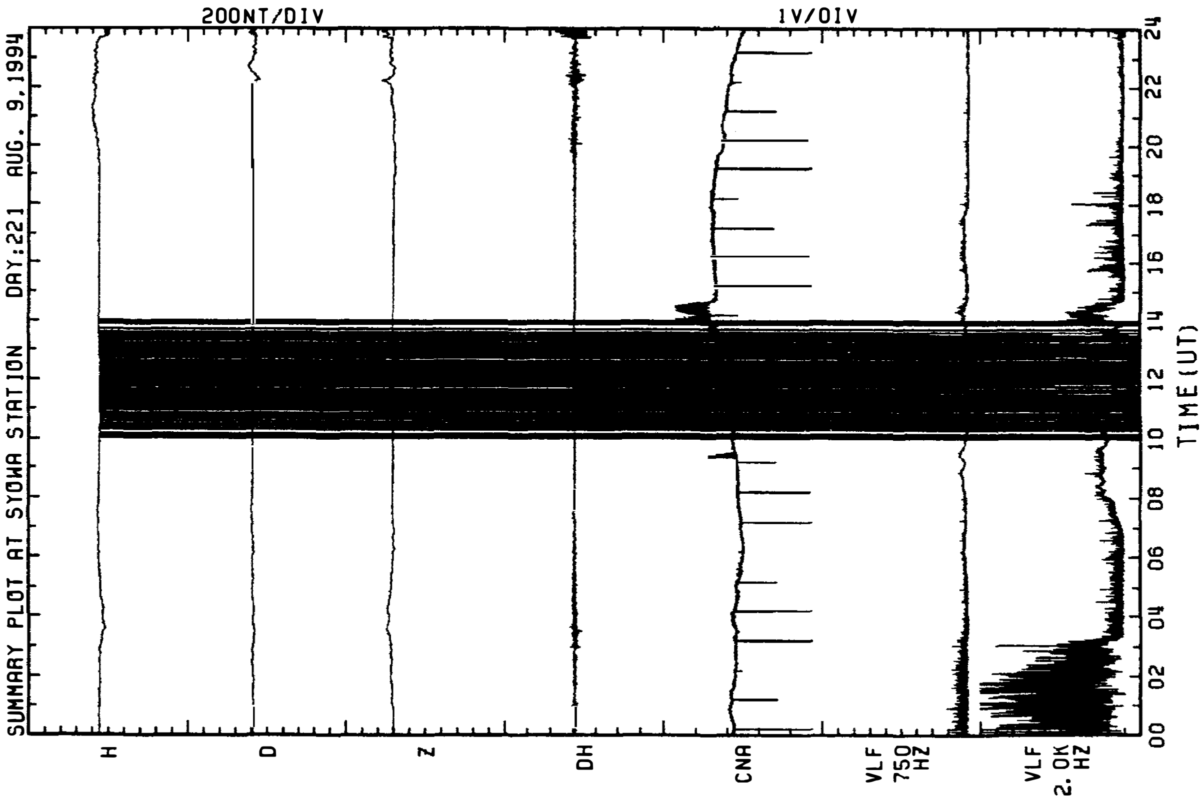

SUMMARY PLOT AT SYOWA STATION DAY:218 AUG. 6,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

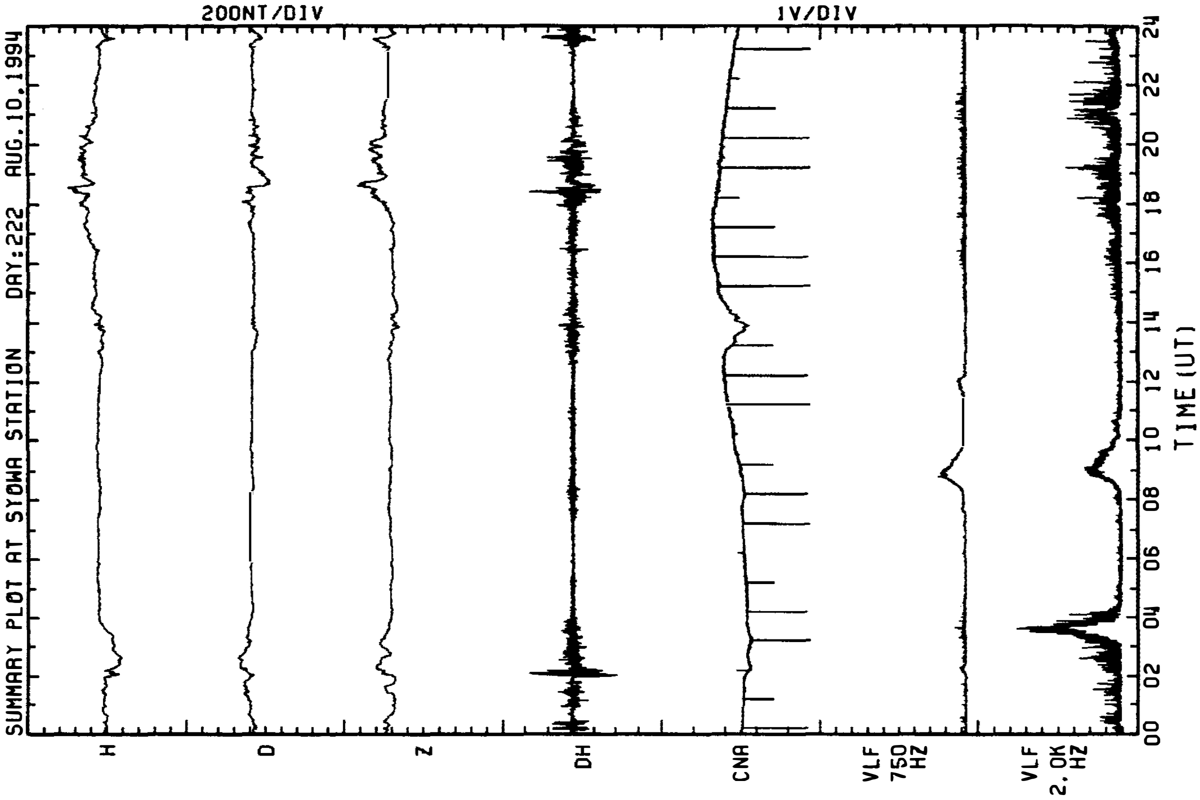


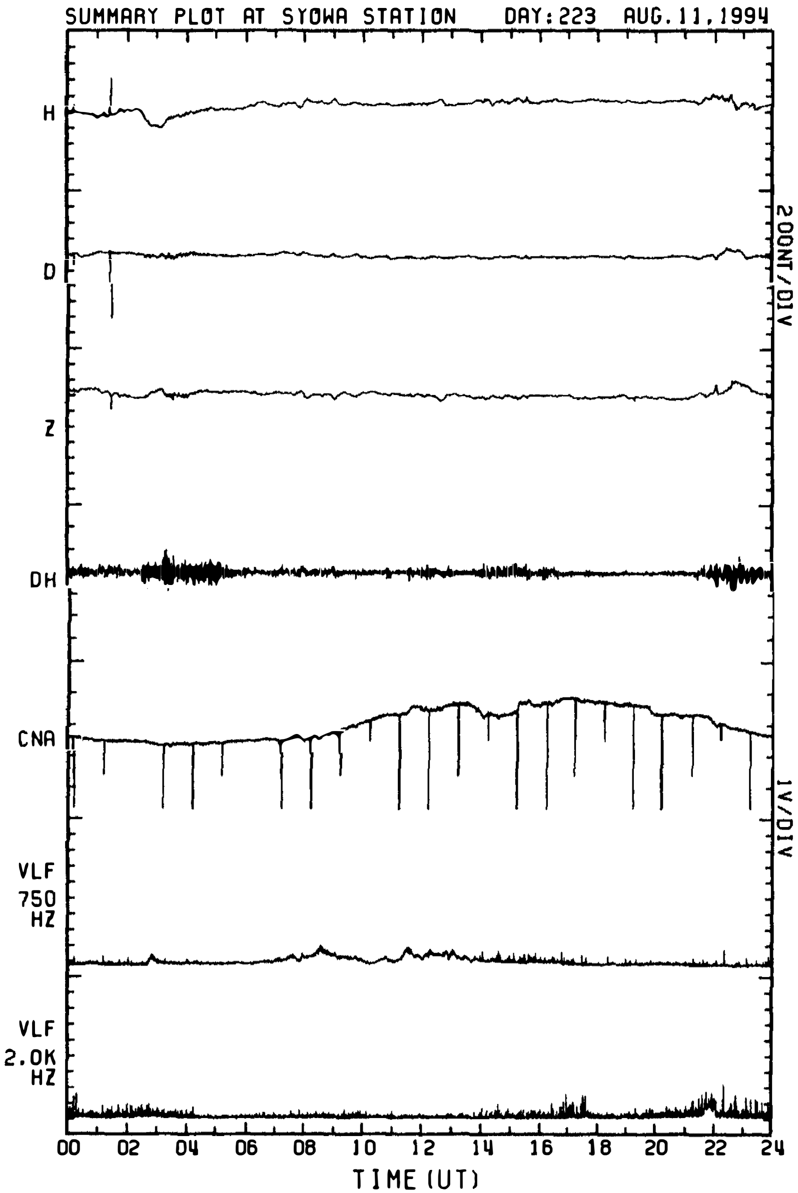
SUMMARY PLOT AT SYOWA STATION DAY:219 AUG. 7,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

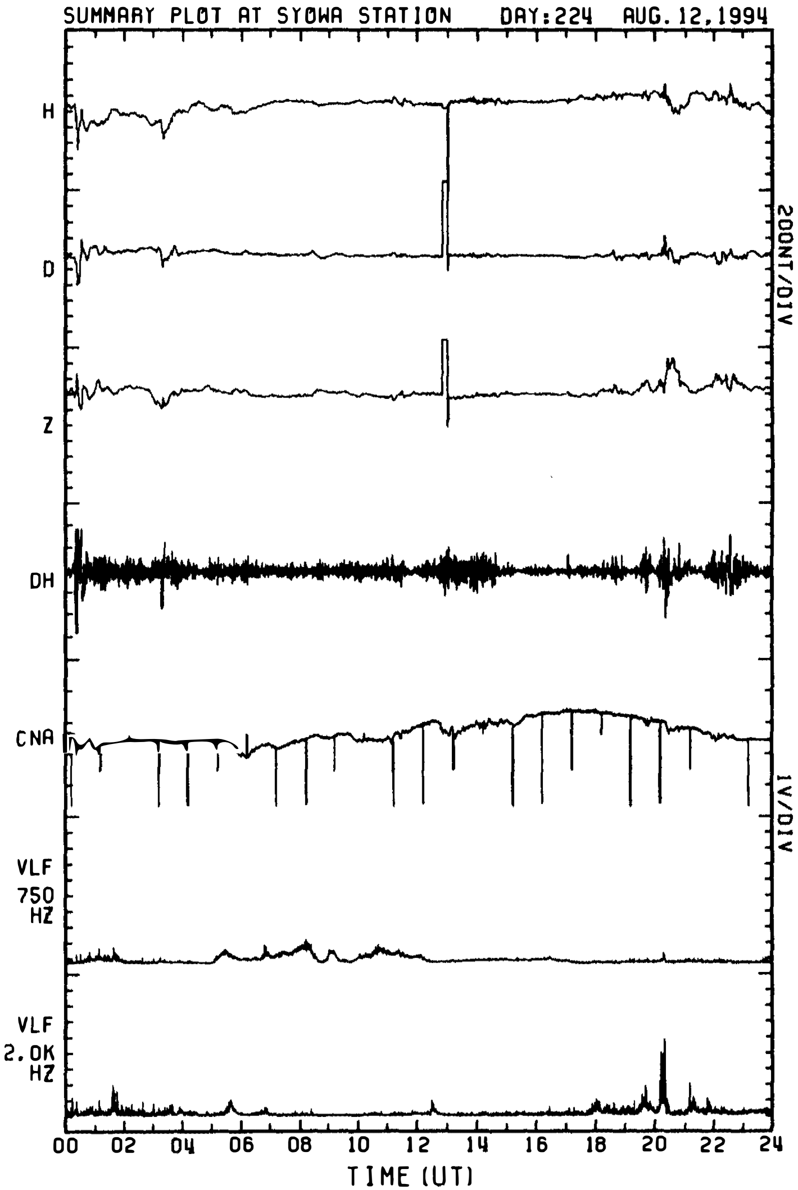


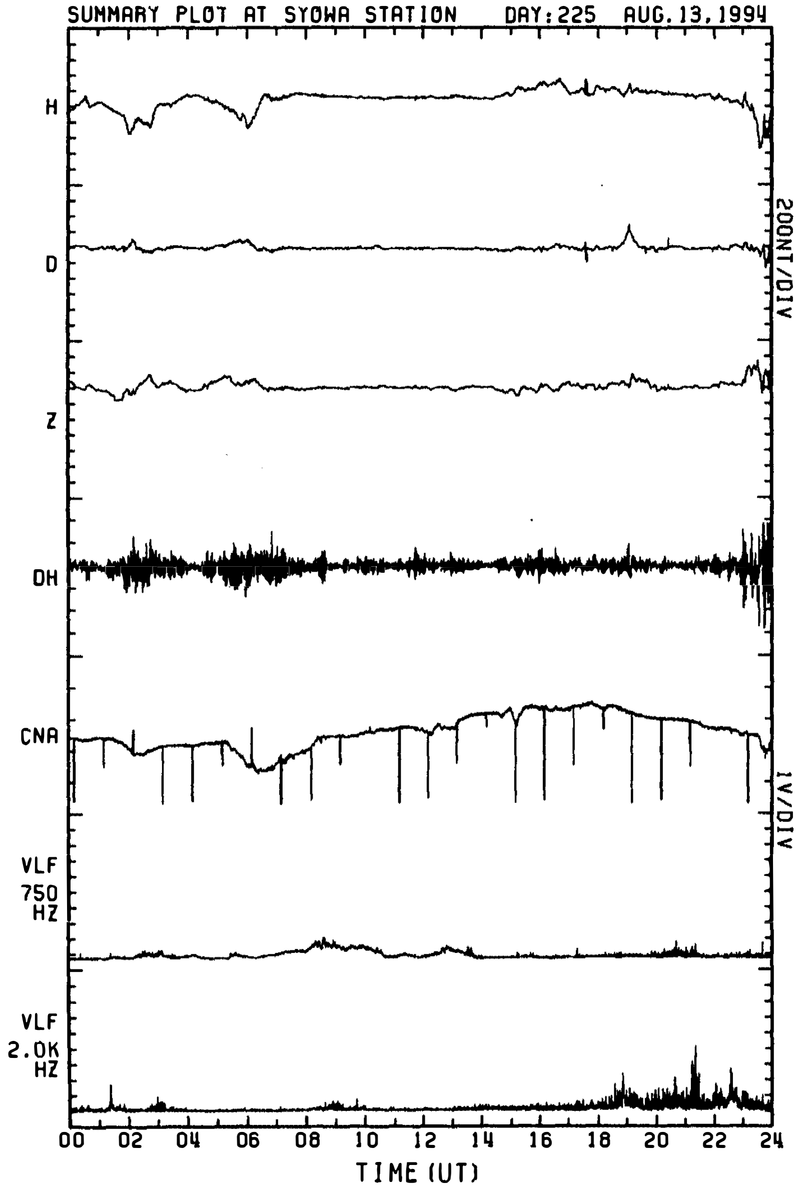
SUMMARY PLOT AT SYOWA STATION DAY:220 AUG. 8,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

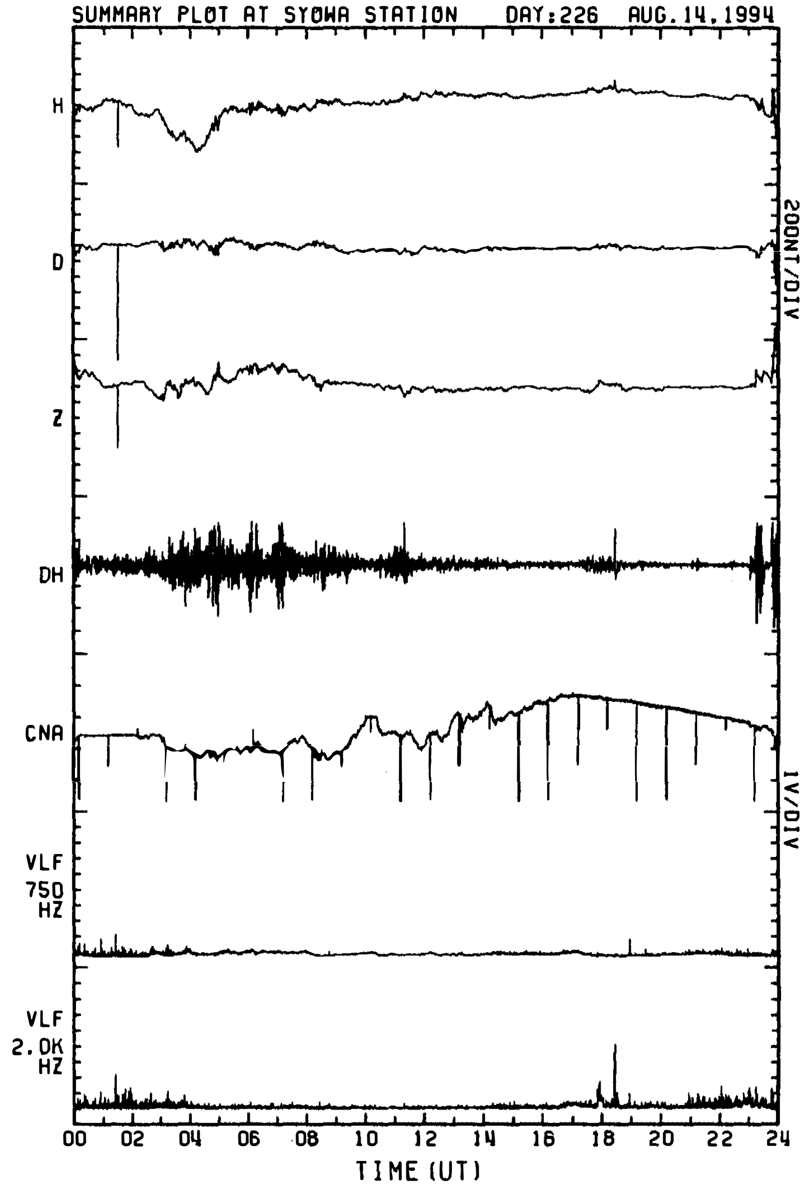

SUMMARY PLOT AT SYOWA STATION DAY:221 AUG. 9,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

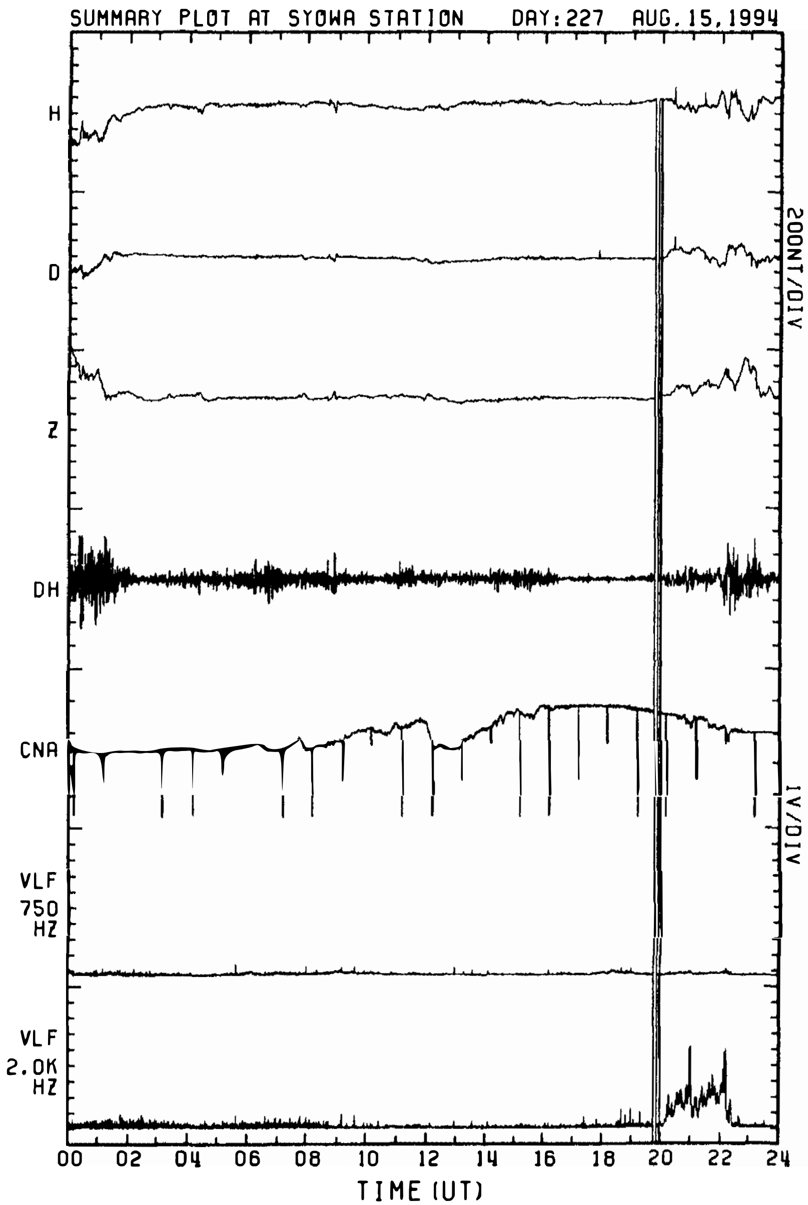

SUMMARY PLOT AT SYOWA STATION DAY:222 AUG.10,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

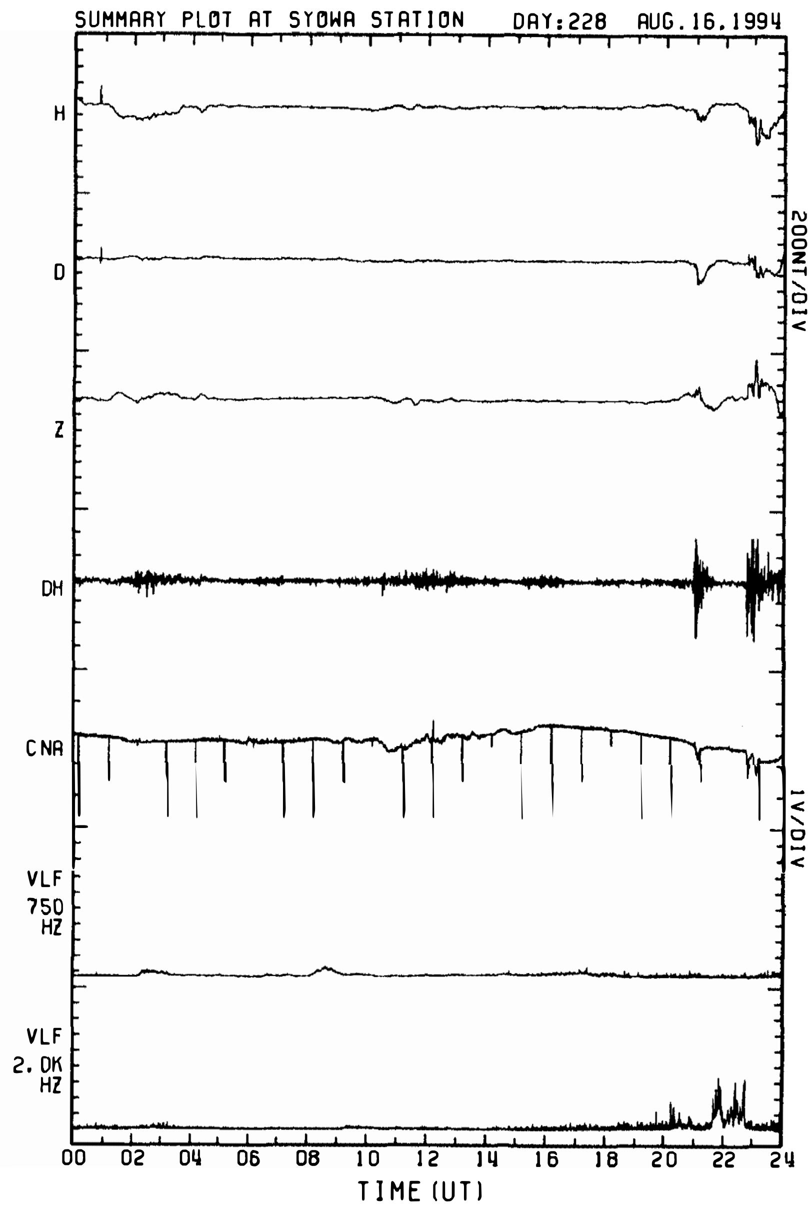

SUMMARY PLOT AT SYOWA STATION DAY:223 AUG.11,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

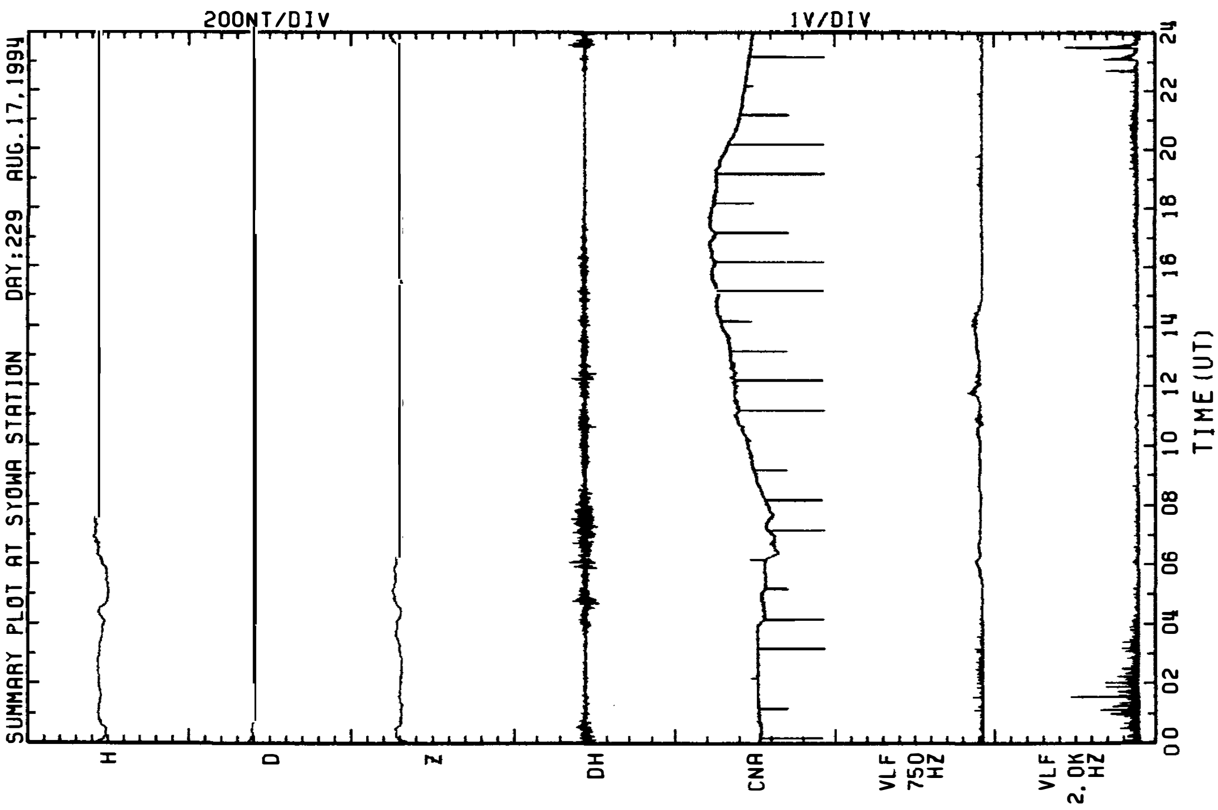

SUMMARY PLOT AT SYOWA STATION DAY:224 AUG.12,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

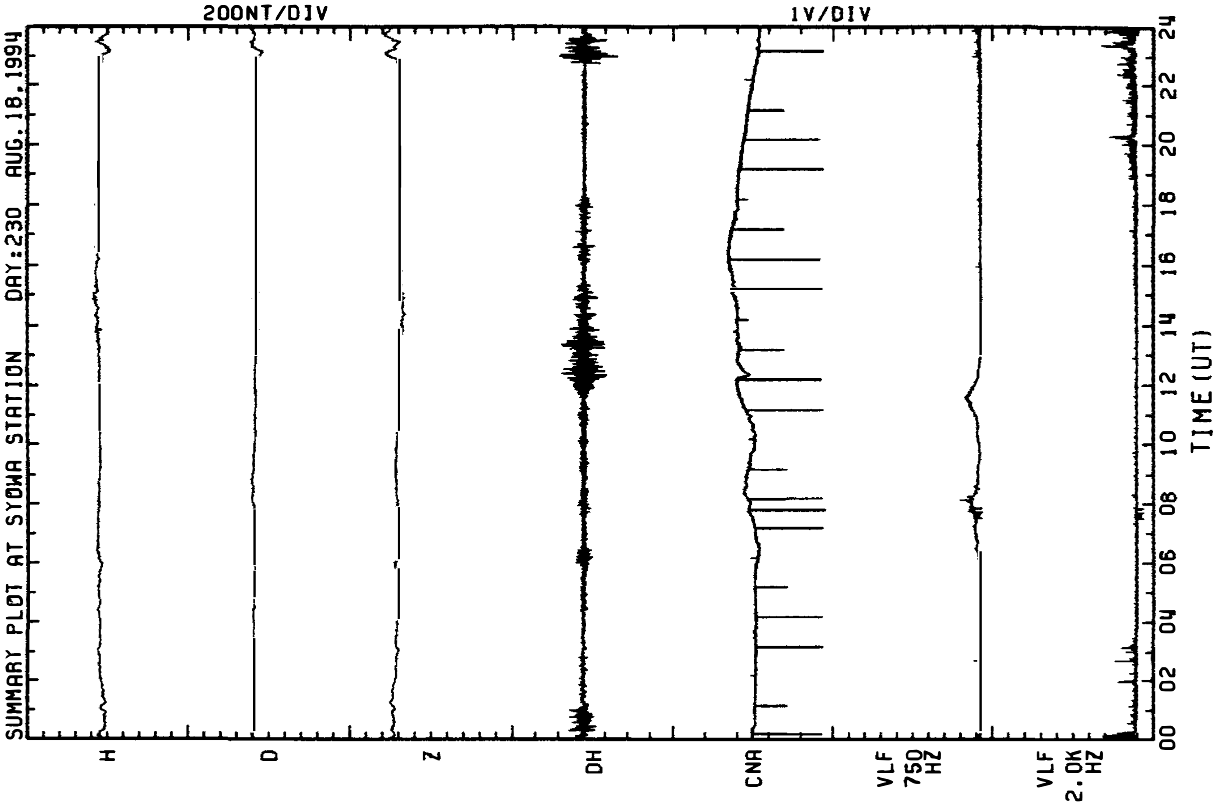

SUMMARY PLOT AT SYOWA STATION DAY:225 AUG.13,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:226 AUG.14,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

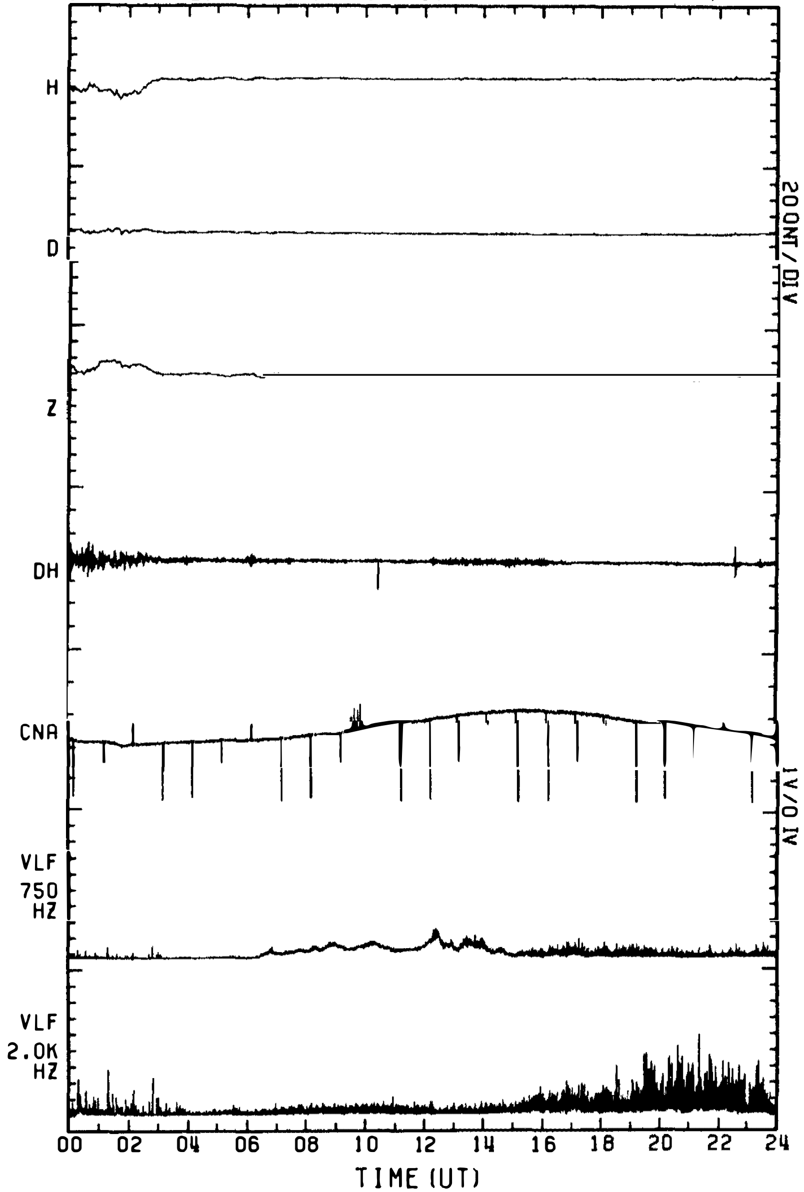

SUMMARY PLOT AT SYOWA STATION DAY:227 AUG.15,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:228 AUG.16.1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

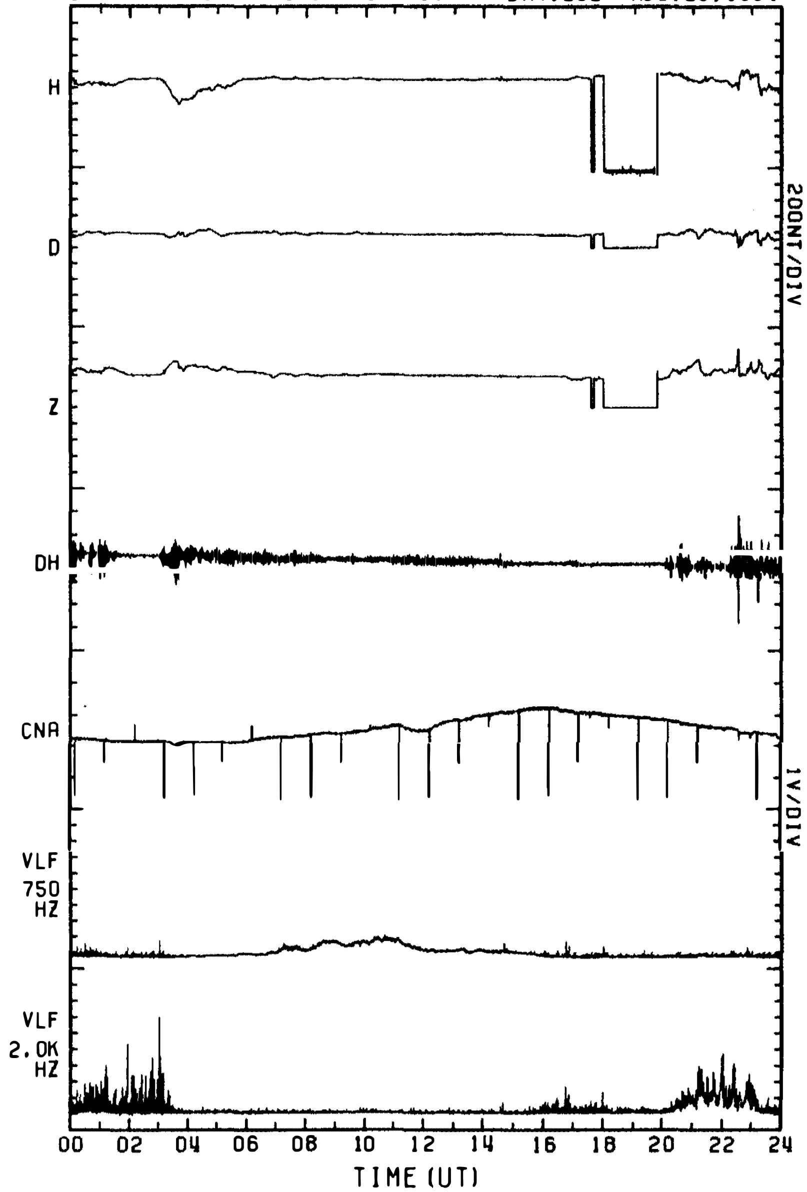

SUMMARY PLOT AT SYOWA STATION DAY:229 AUG.17,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

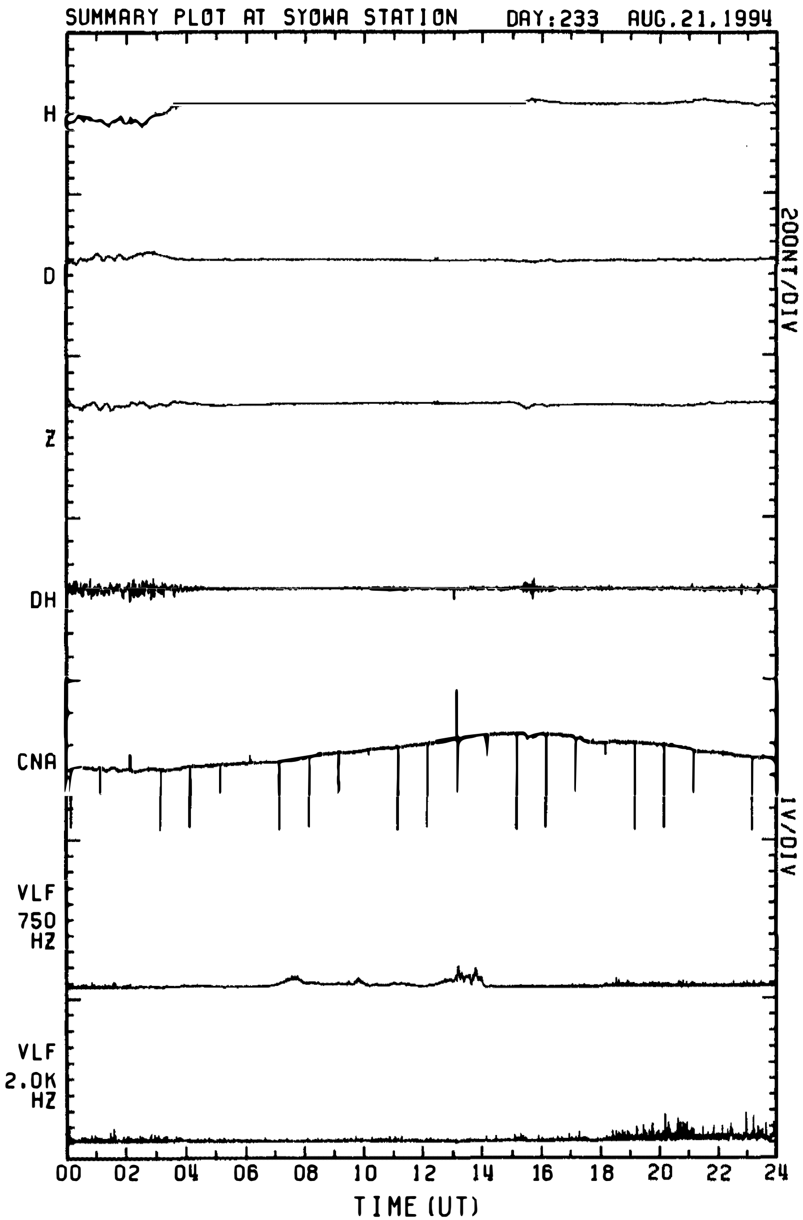

SUMMARY PLOT AT SYOWA STATION DAY:230 AUG.18,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

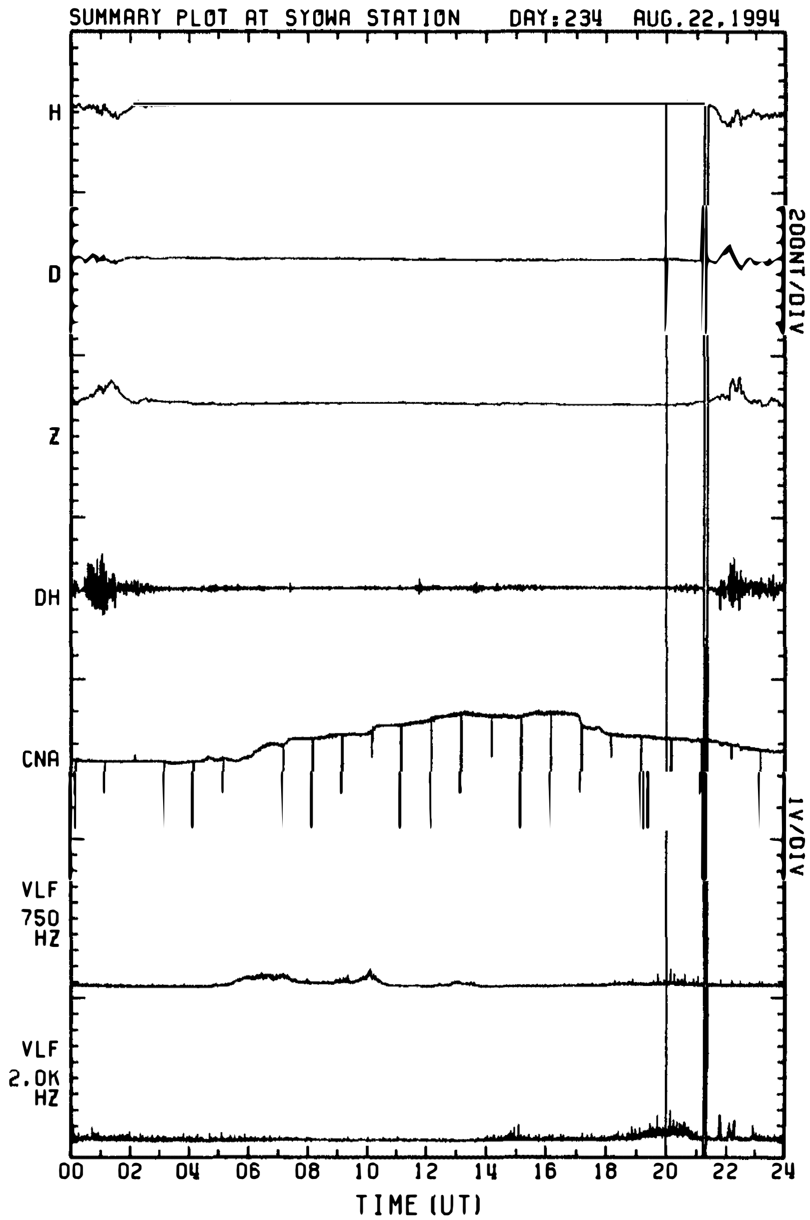
SUMMARY PLOT AT SYOWA STATION DAY:231 AUG.19,1994

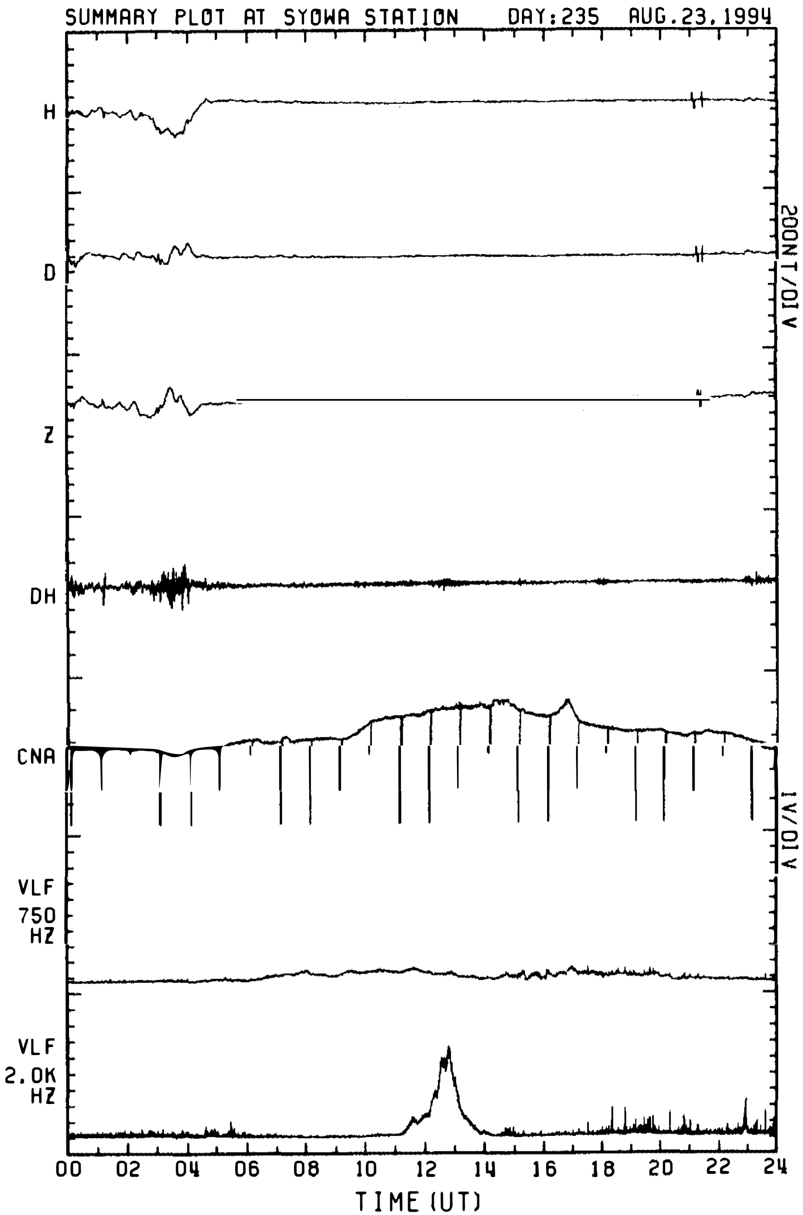


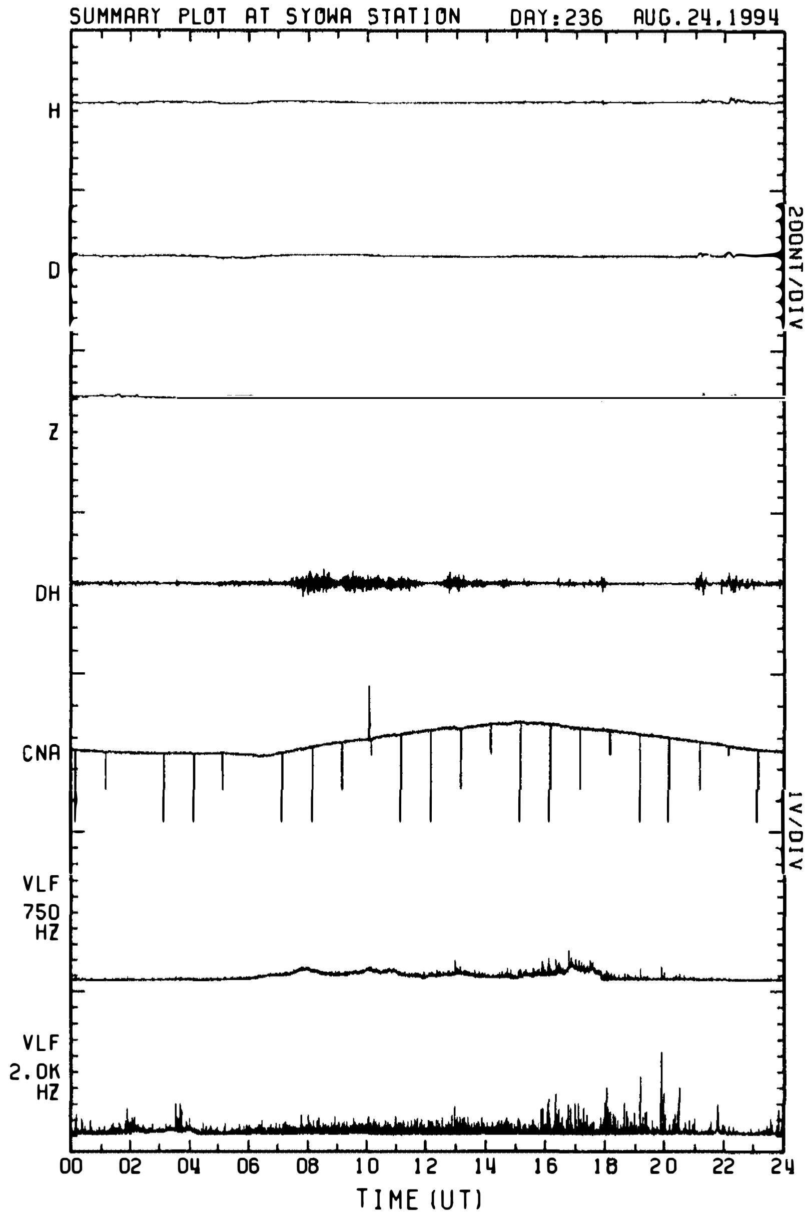
SUMMARY PLOT AT SYOWA STATION DAY:232 AUG.20,1994



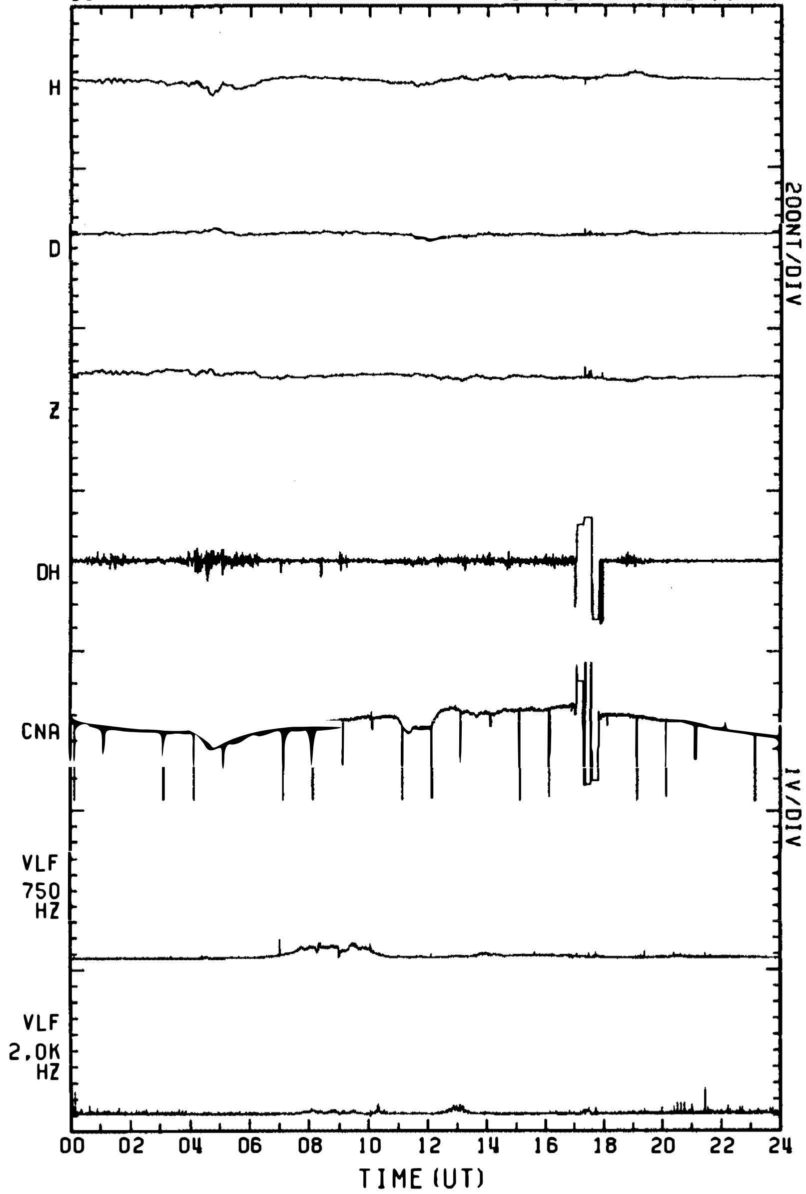

SUMMARY PLOT AT SYOWA STATION DAY:233 AUG.21,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
20ONT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:234 AUG.22,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
20ONT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

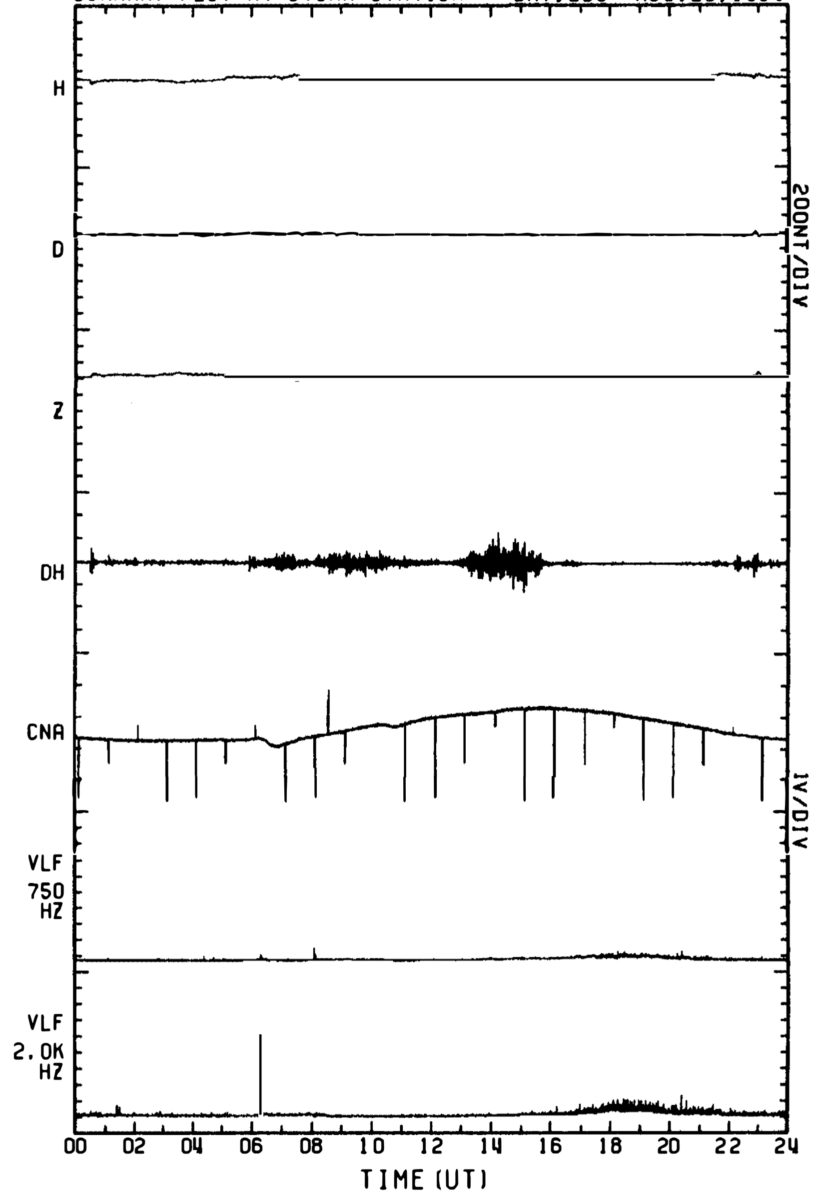

SUMMARY PLOT AT SYOWA STATION DAY:235 AUG.23,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

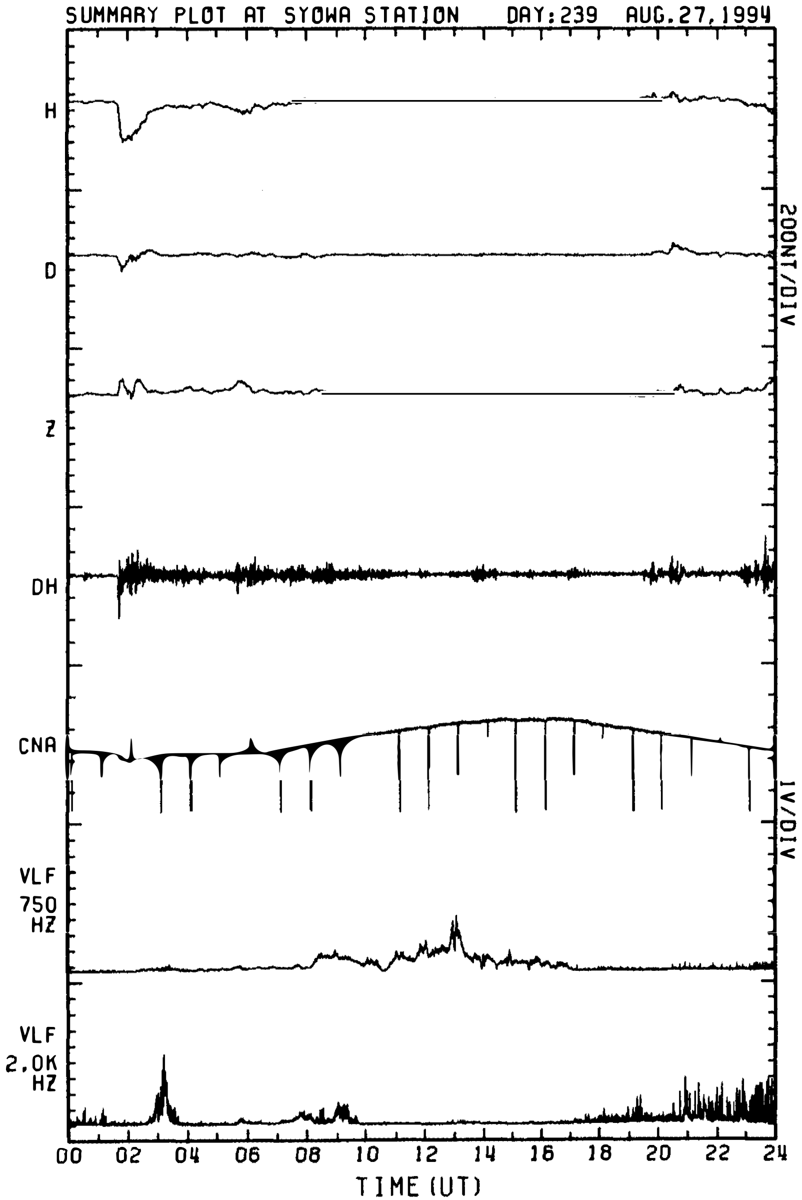

SUMMARY PLOT AT SYOWA STATION DAY:236 AUG.24,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

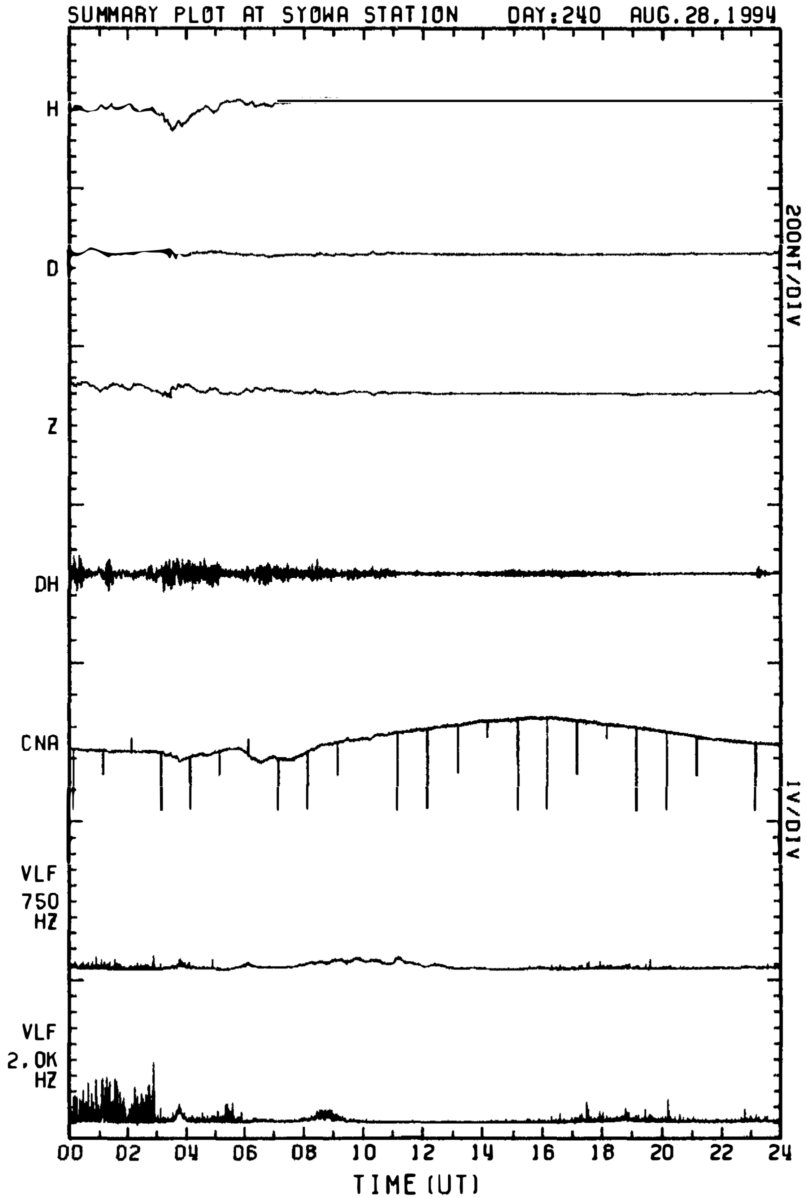
SUMMARY PLOT AT SYOWA STATION DAY:237 AUG.25,1994

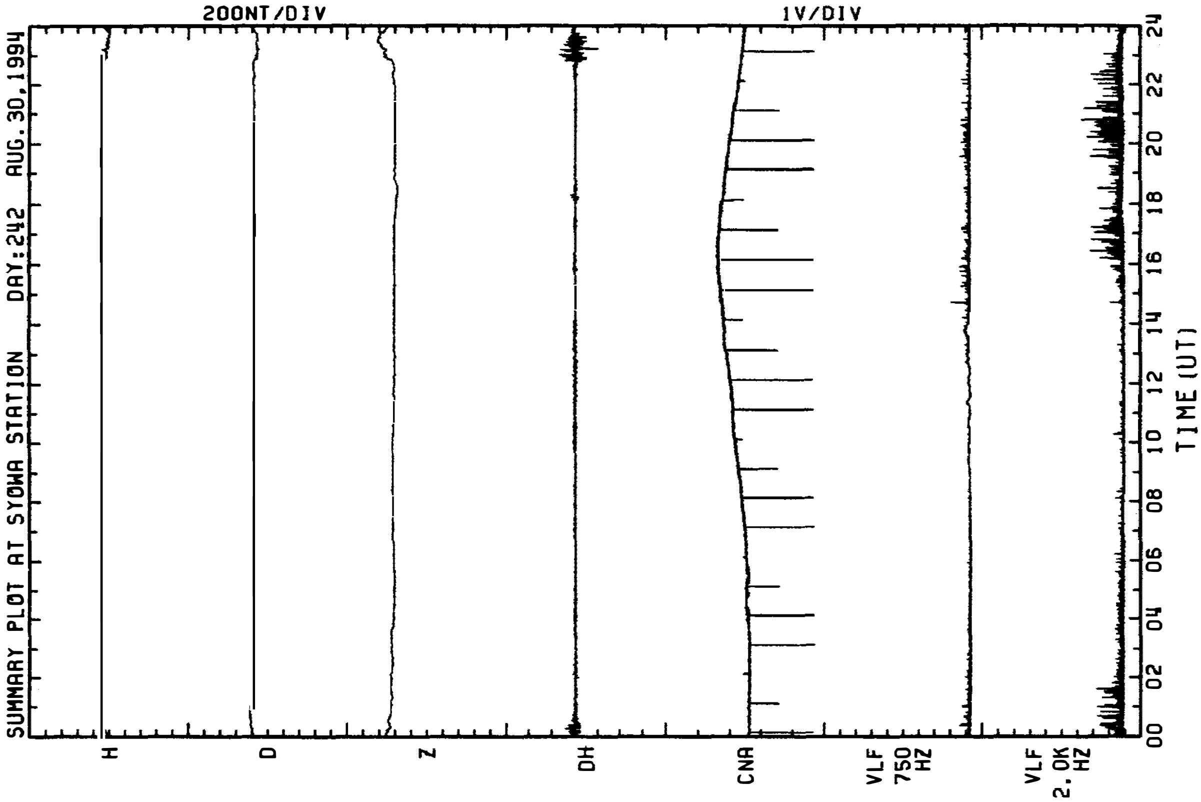


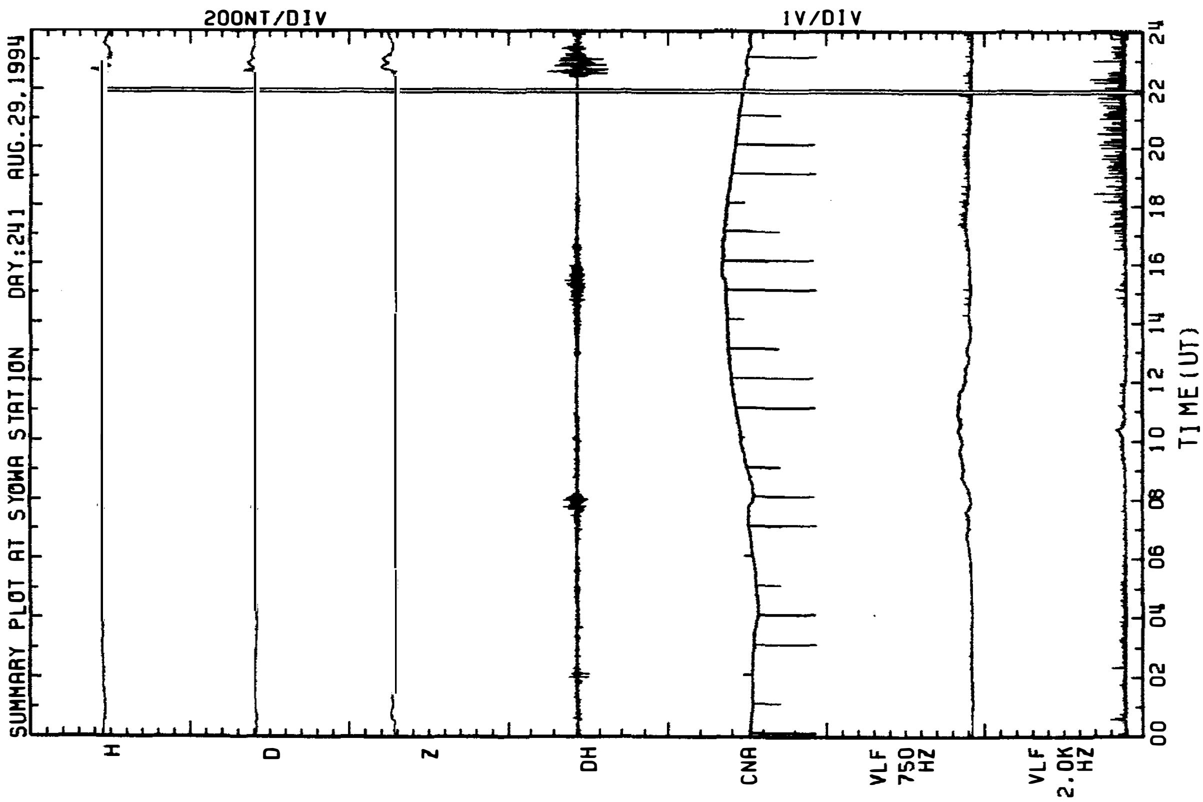
SUMMARY PLOT AT SYOWA STATION DAY:238 AUG.26,1994

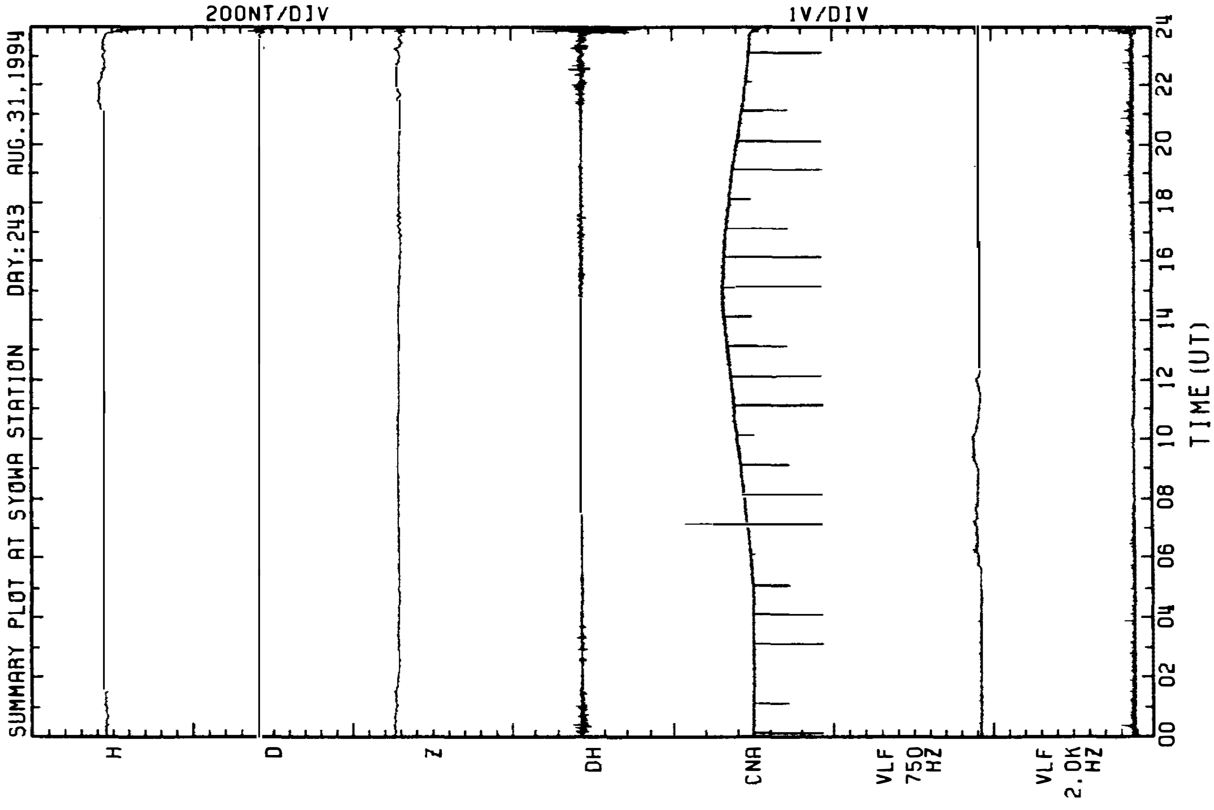


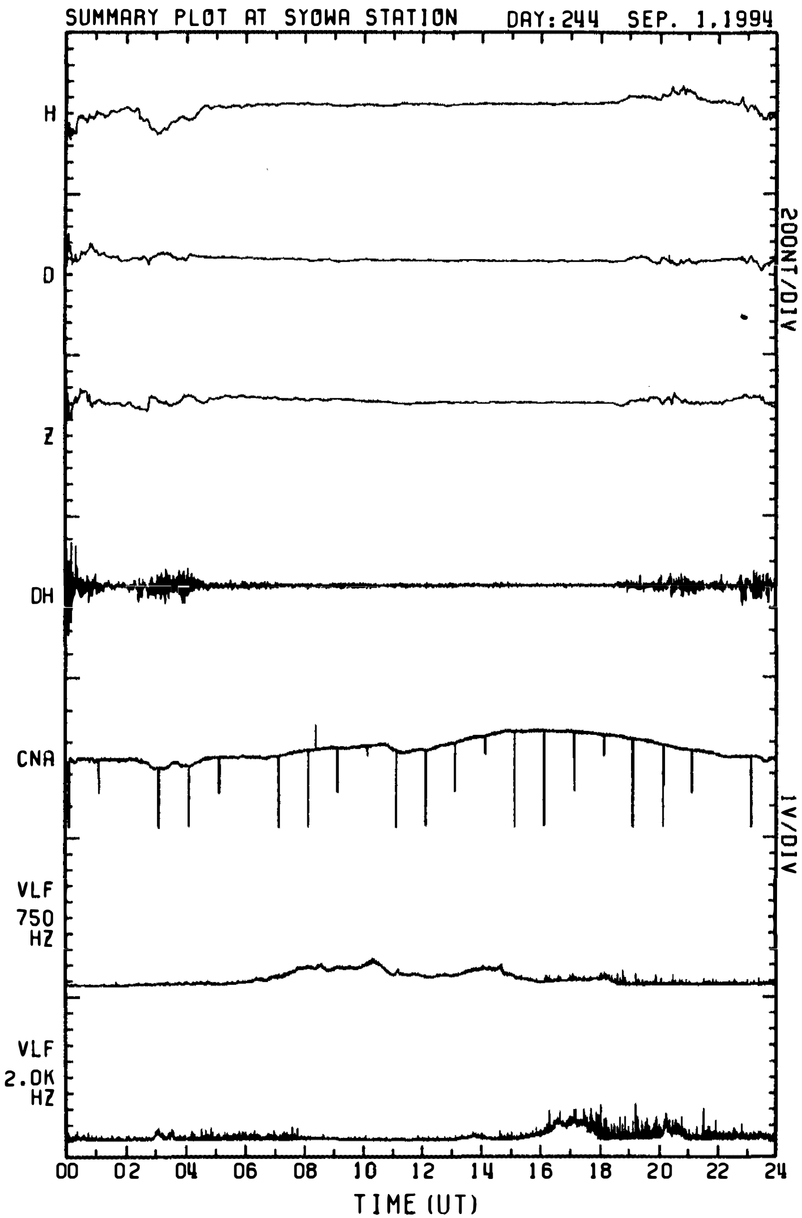

SUMMARY PLOT AT SYOWA STATION DAY:239 AUG.27,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2,0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

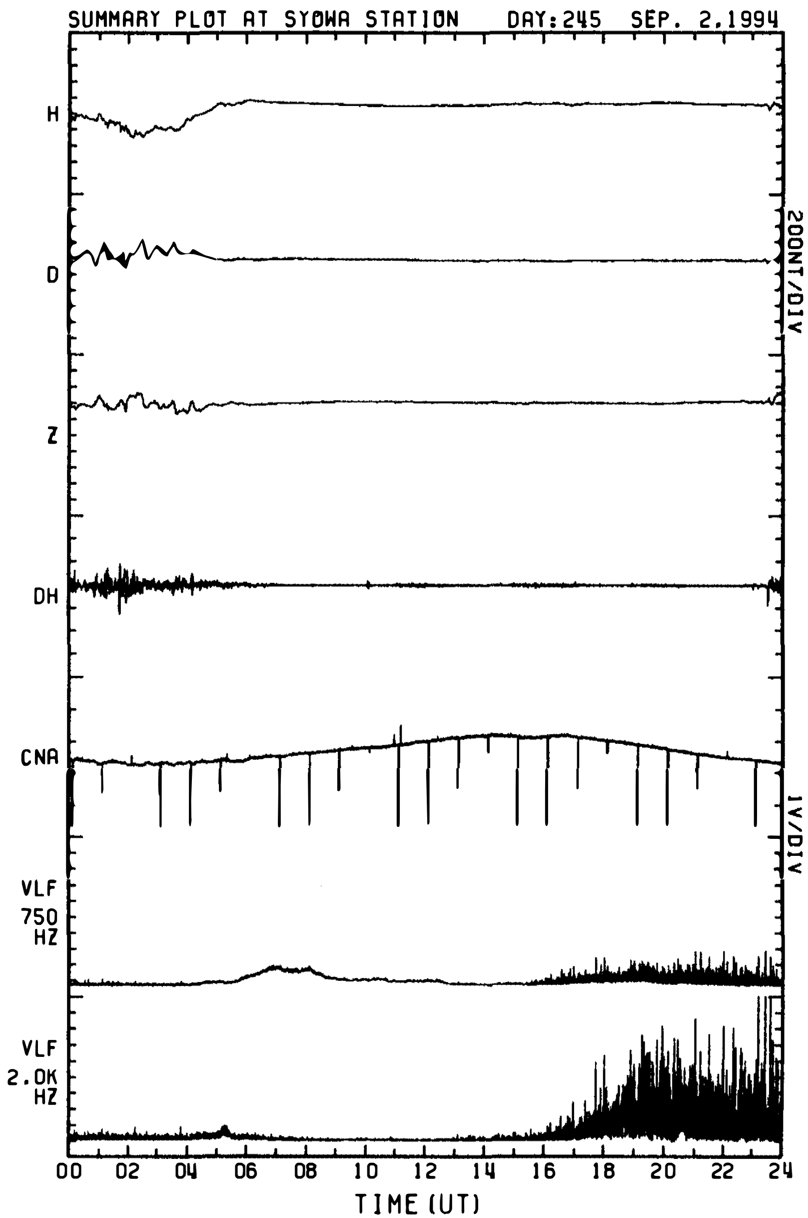

SUMMARY PLOT AT SYOWA STATION DAY:240 AUG.28,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2,0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

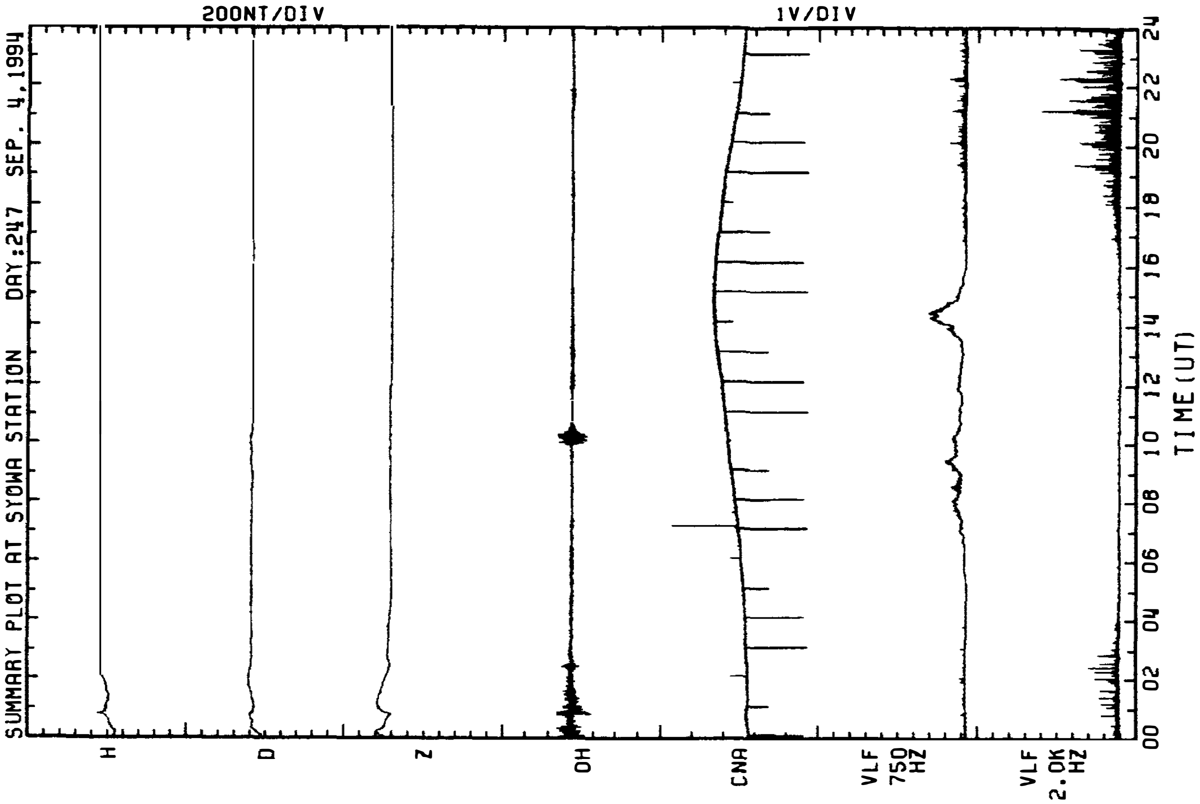

SUMMARY PLOT AT SYOWA STATION DAY:242 AUG.30,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

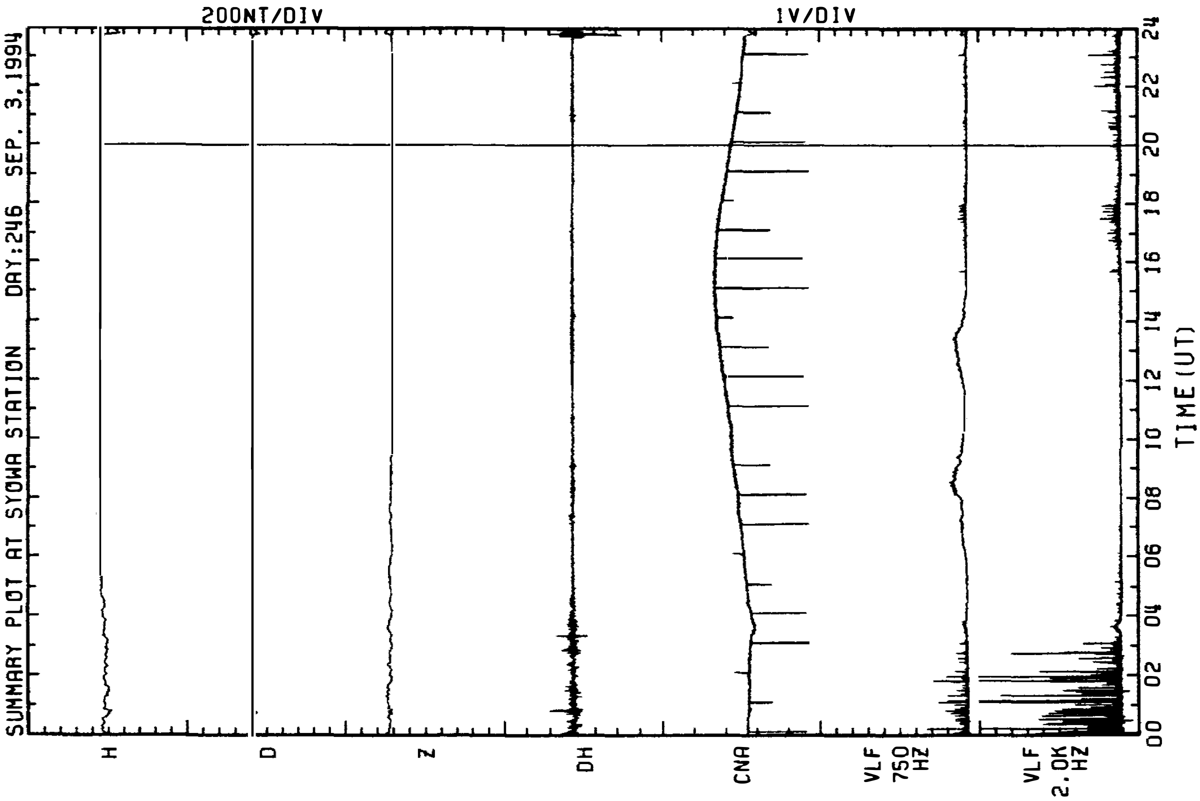

SUMMARY PLOT AT SYOWA STATION DAY:241 AUG.29,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

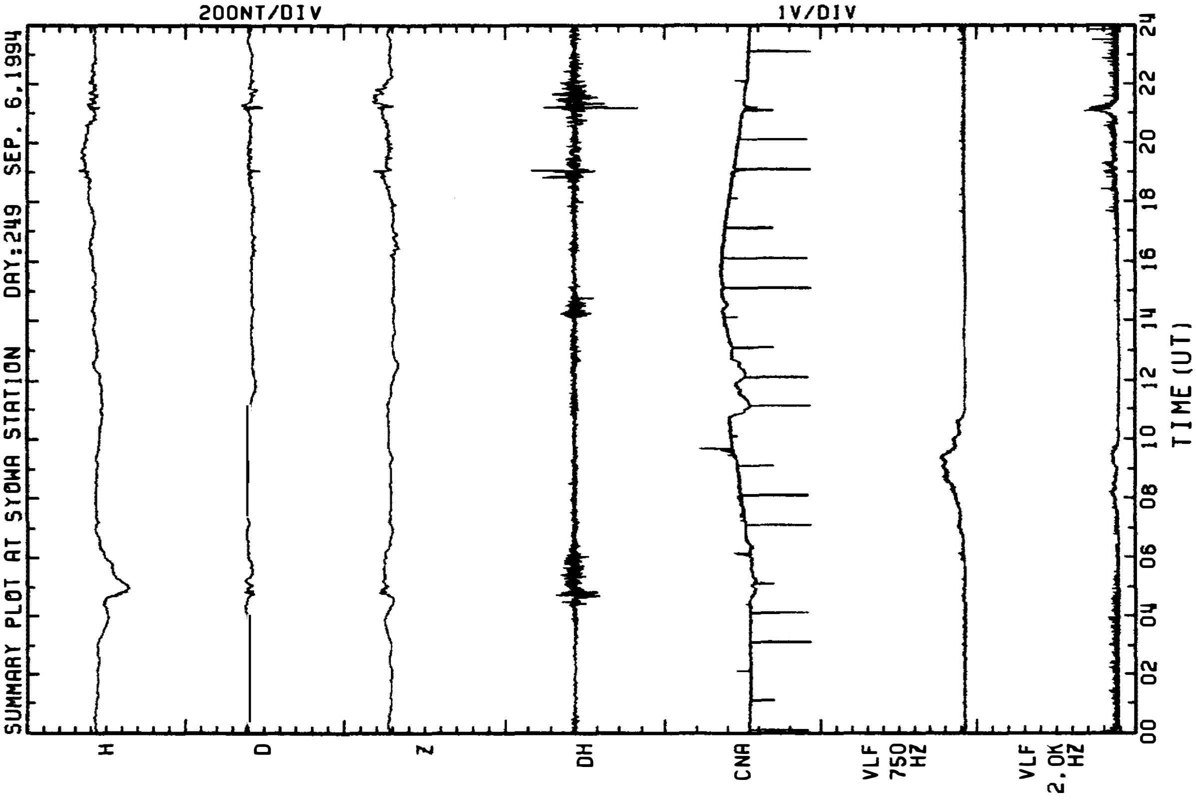

SUMMARY PLOT AT SYOWA STATION DAY:243 AUG.31,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

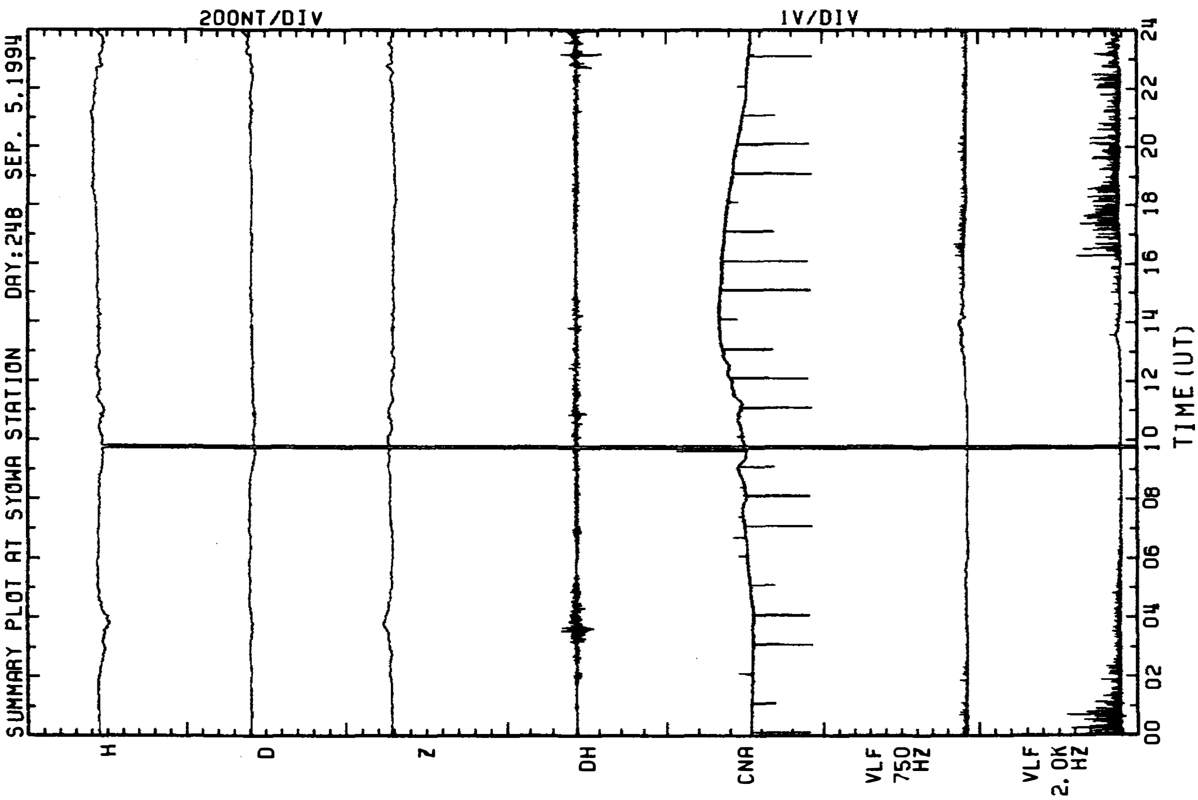

SUMMARY PLOT AT SYOWA STATION DAY:244 SEP. 1,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
20ONT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

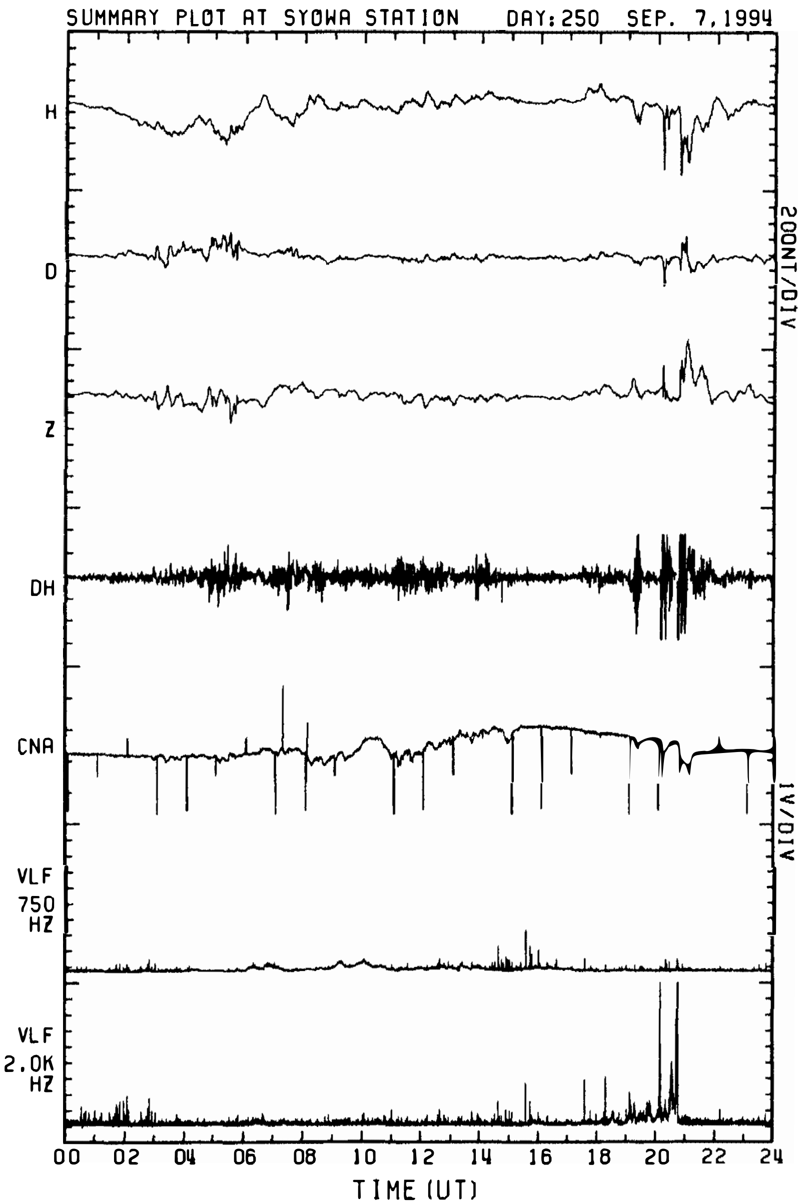

SUMMARY PLOT AT SYOWA STATION DAY:245 SEP. 2,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
20ONT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

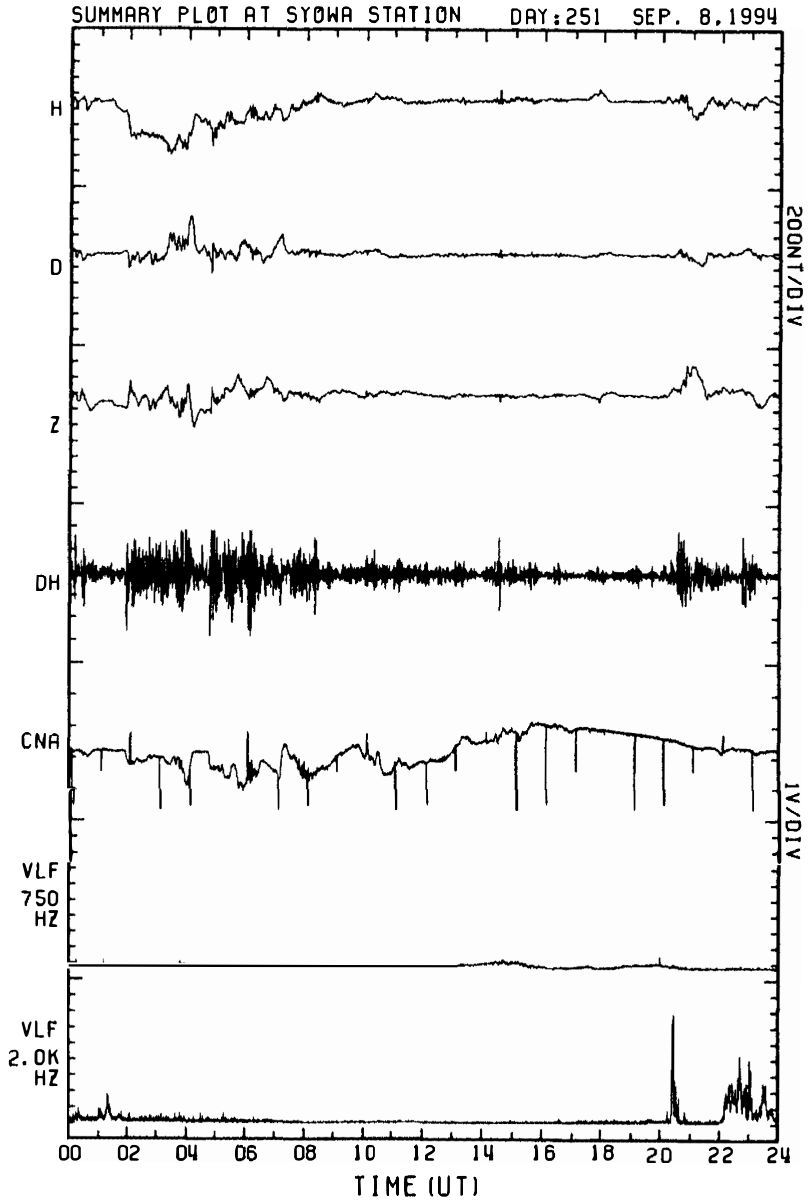

SUMMARY PLOT AT SYOWA STATION DAY:247 SEP. 4,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:246 SEP. 3,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

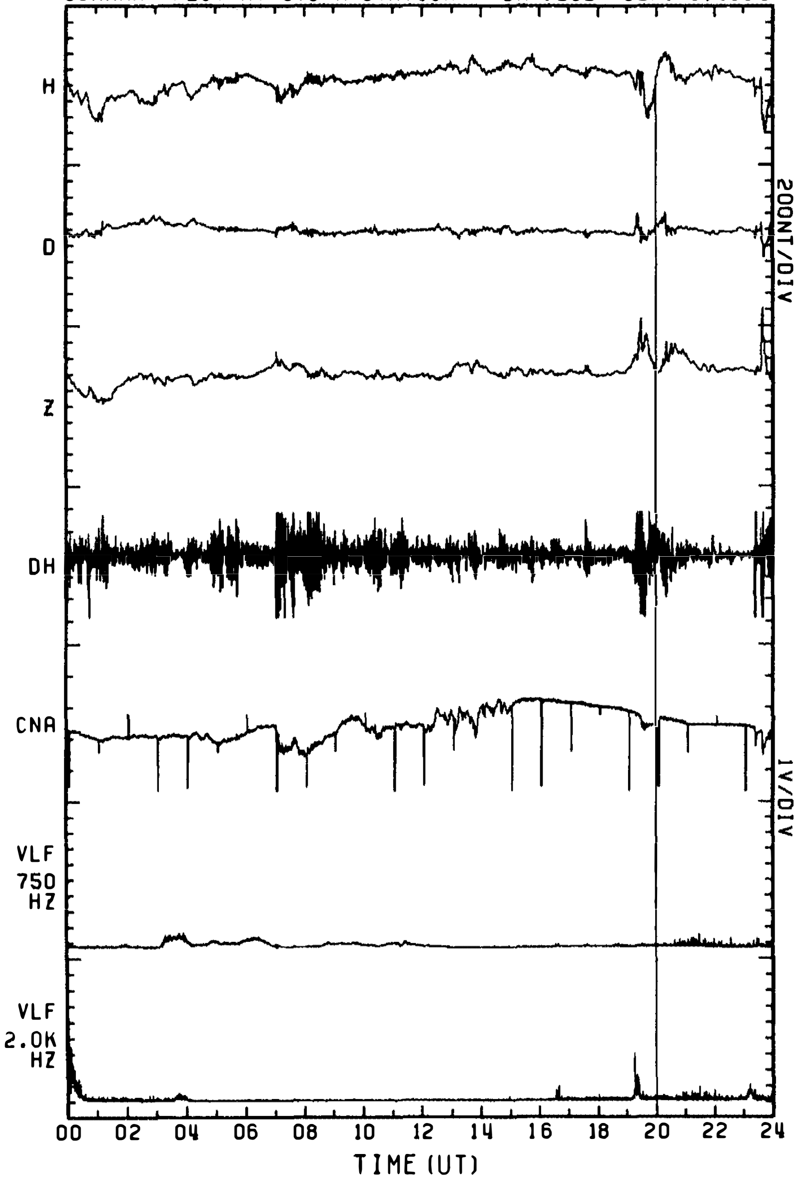

SUMMARY PLOT AT SYOWA STATION DAY:249 SEP. 6,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:248 SEP. 5,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

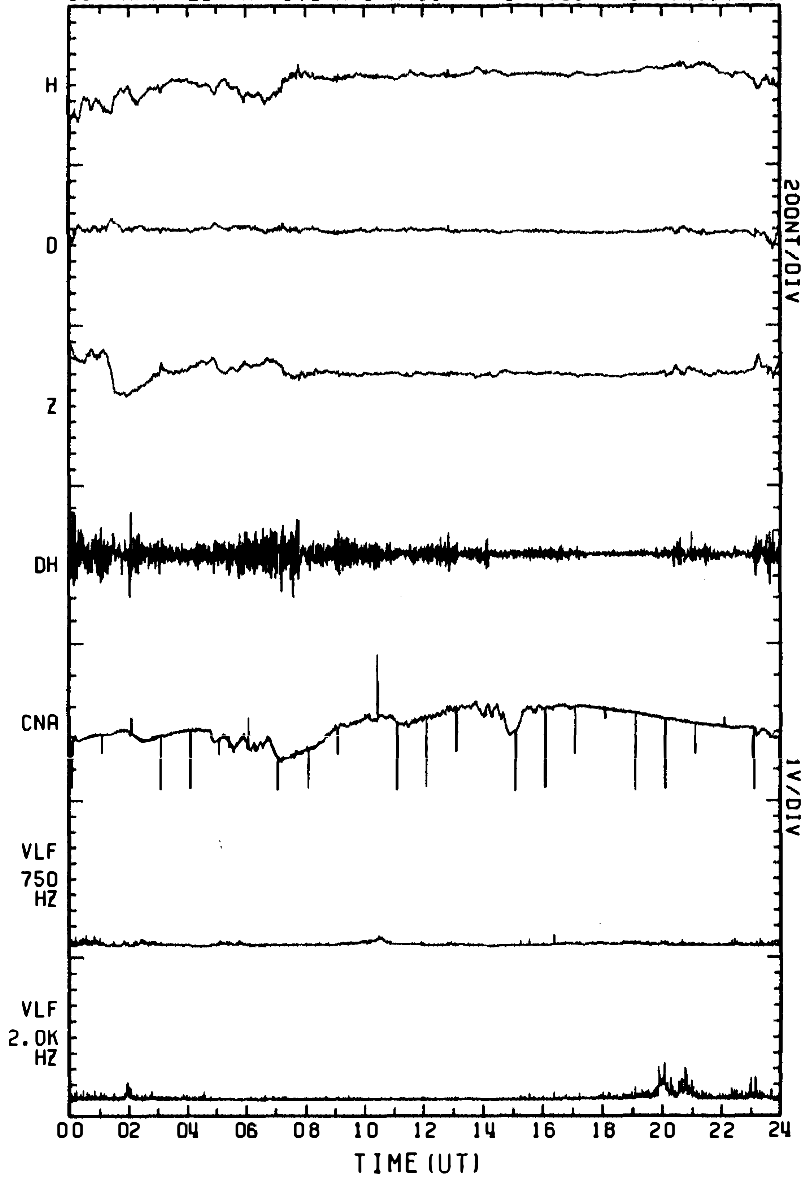

SUMMARY PLOT AT SYOWA STATION DAY:250 SEP. 7,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

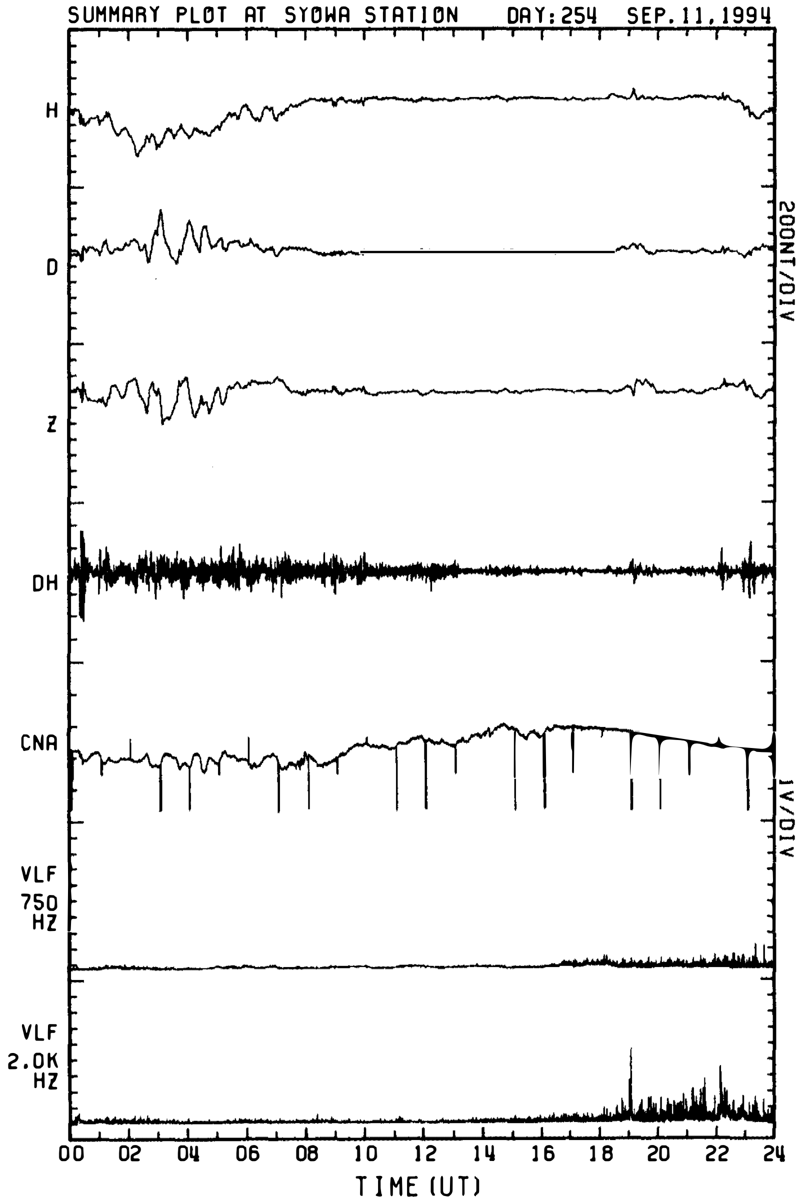

SUMMARY PLOT AT SYOWA STATION DAY:251 SEP. 8,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

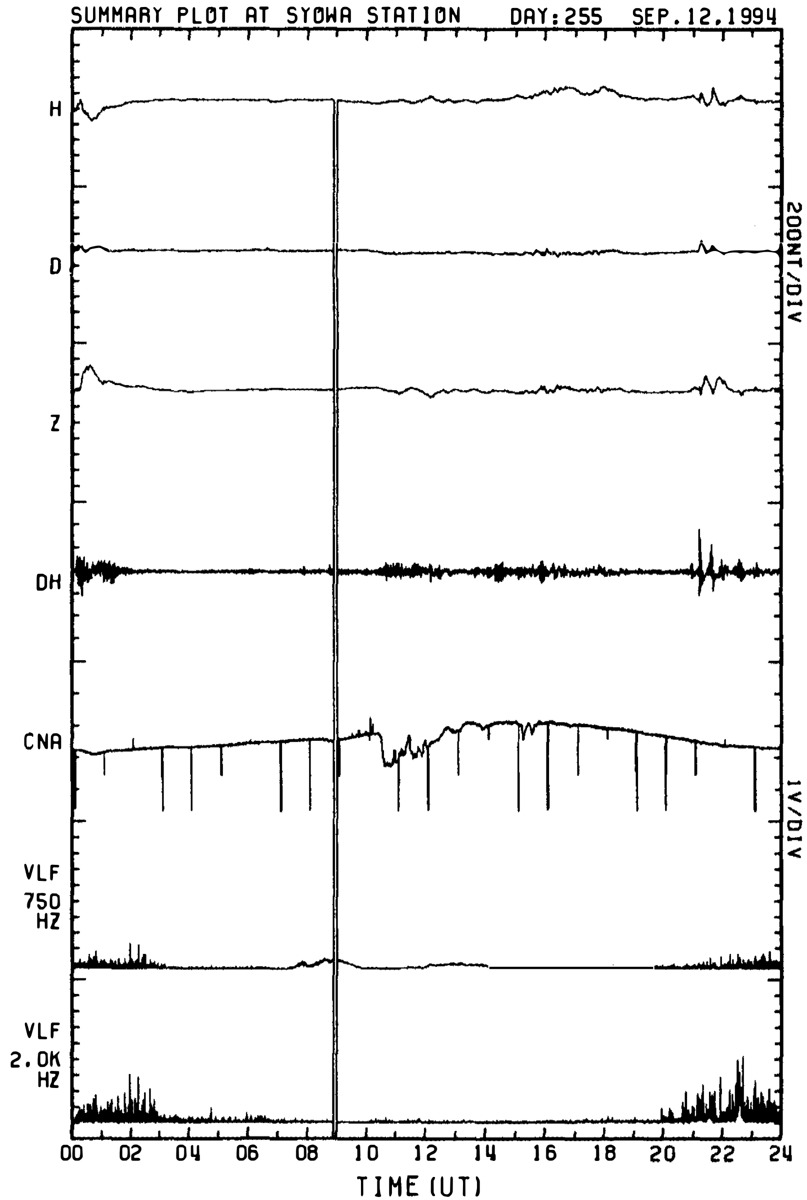
SUMMARY PLOT AT SYOWA STATION DAY:252 SEP. 9,1994

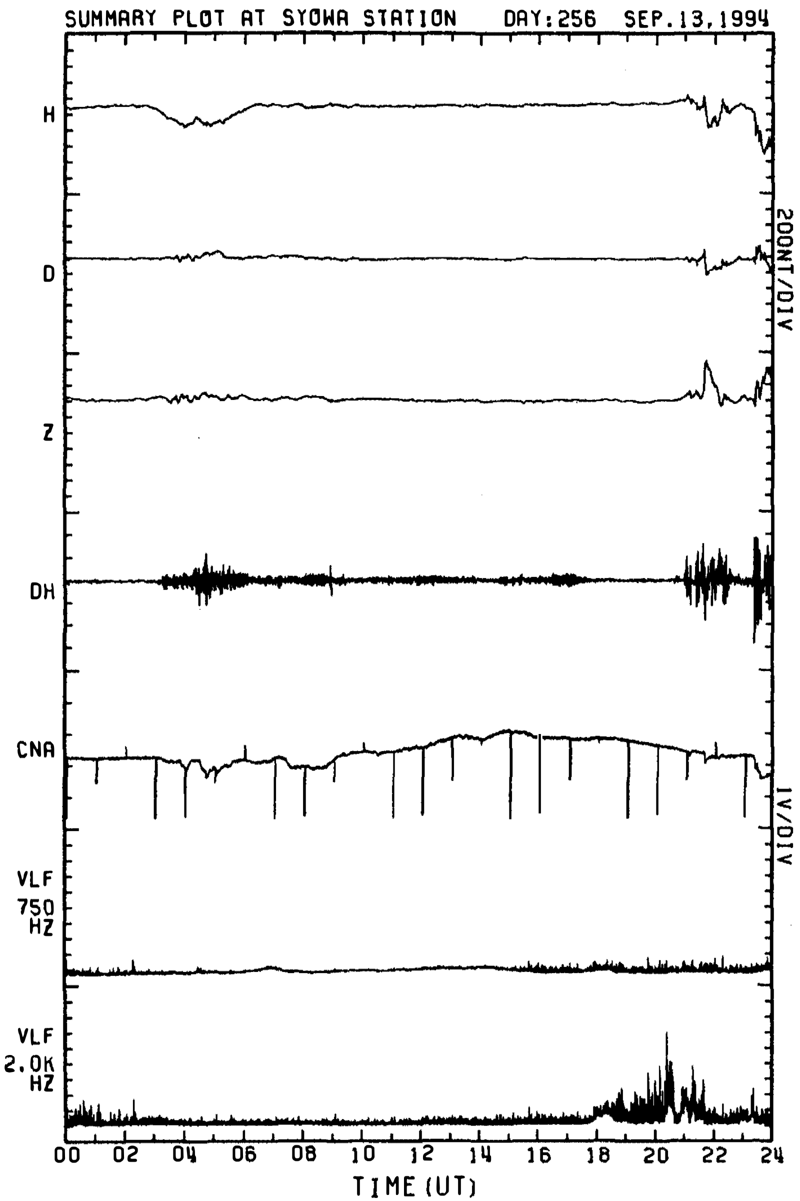


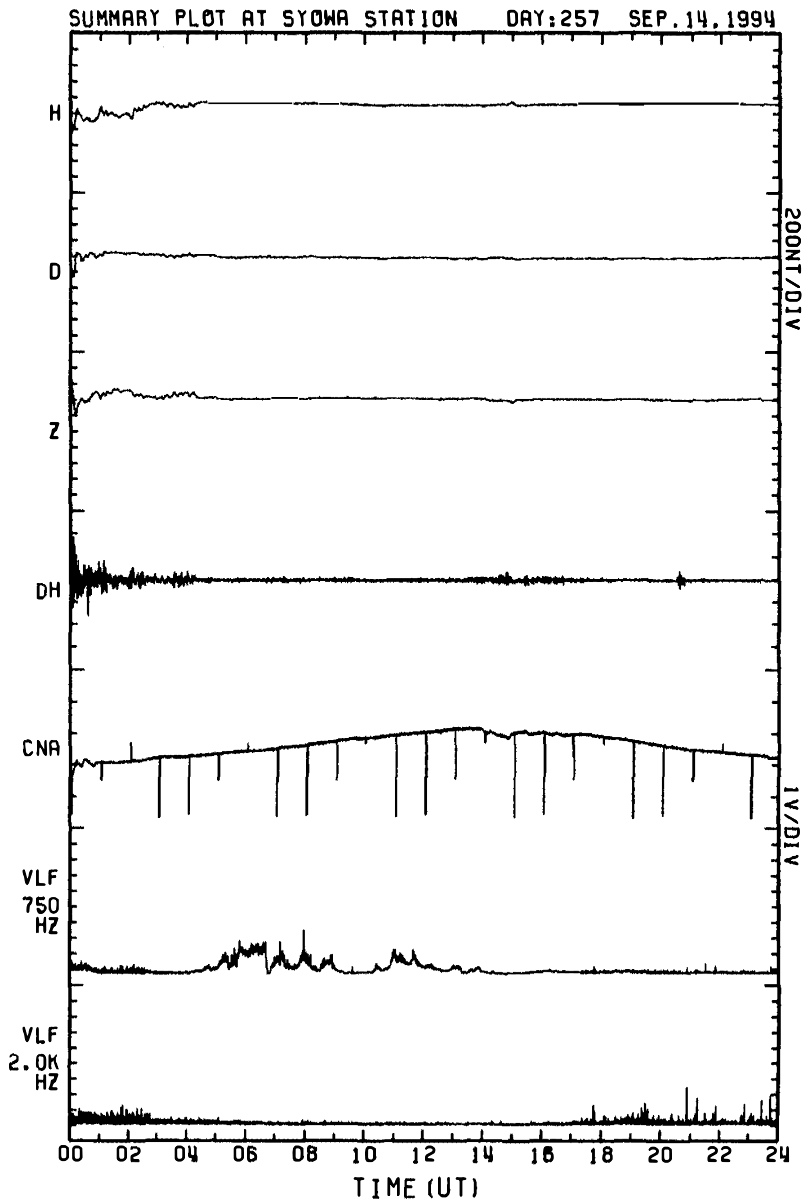
SUMMARY PLOT AT SYOWA STATION DAY:253 SEP.10,1994

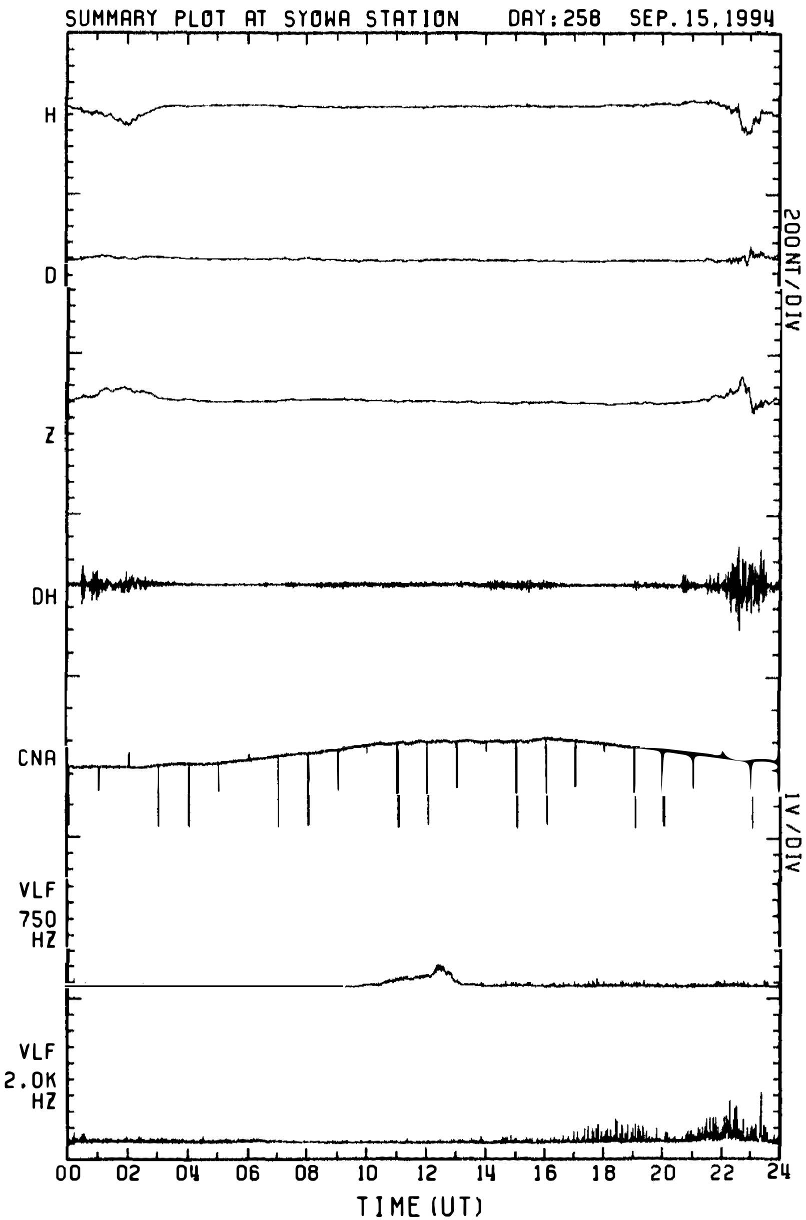



SUMMARY PLOT AT SYOWA STATION DAY:254 SEP.11,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

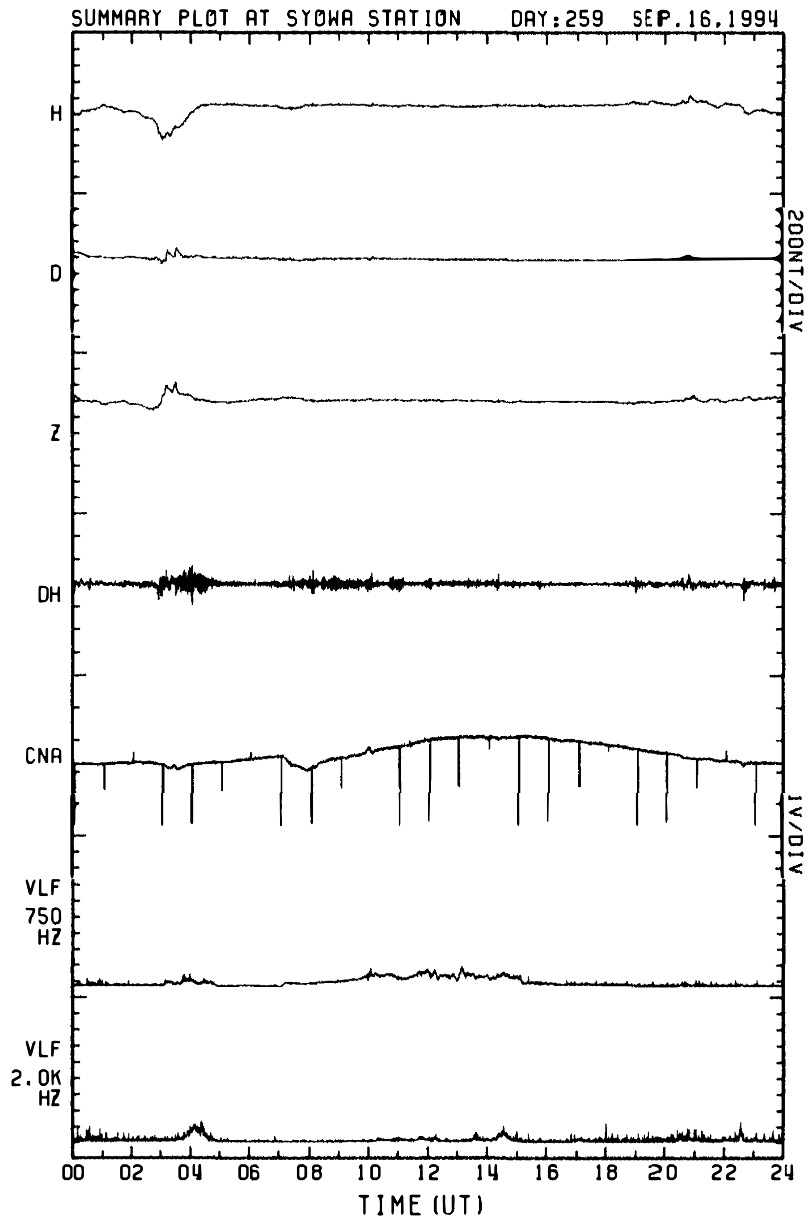

SUMMARY PLOT AT SYOWA STATION DAY:255 SEP.12,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:256 SEP.13,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:257 SEP.14,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

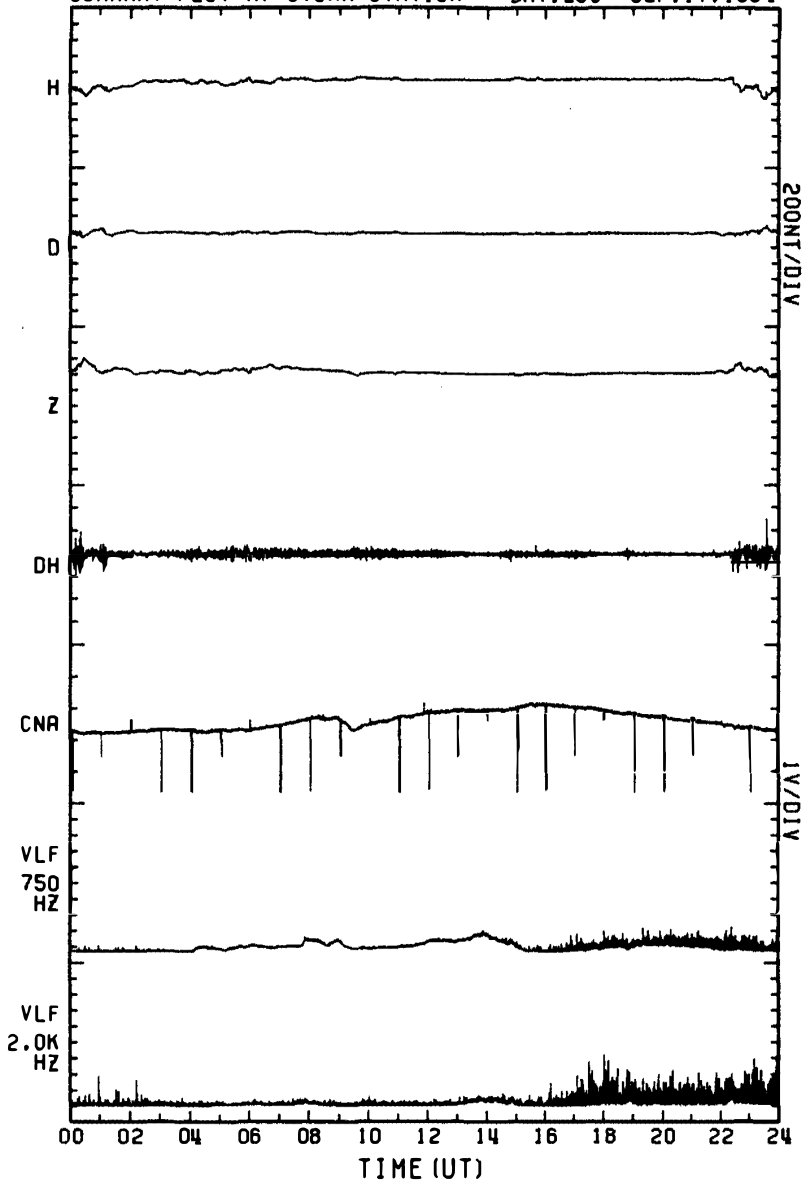


SUMMARY PLOT AT SYOWA STATION DAY:258 SEP.15,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

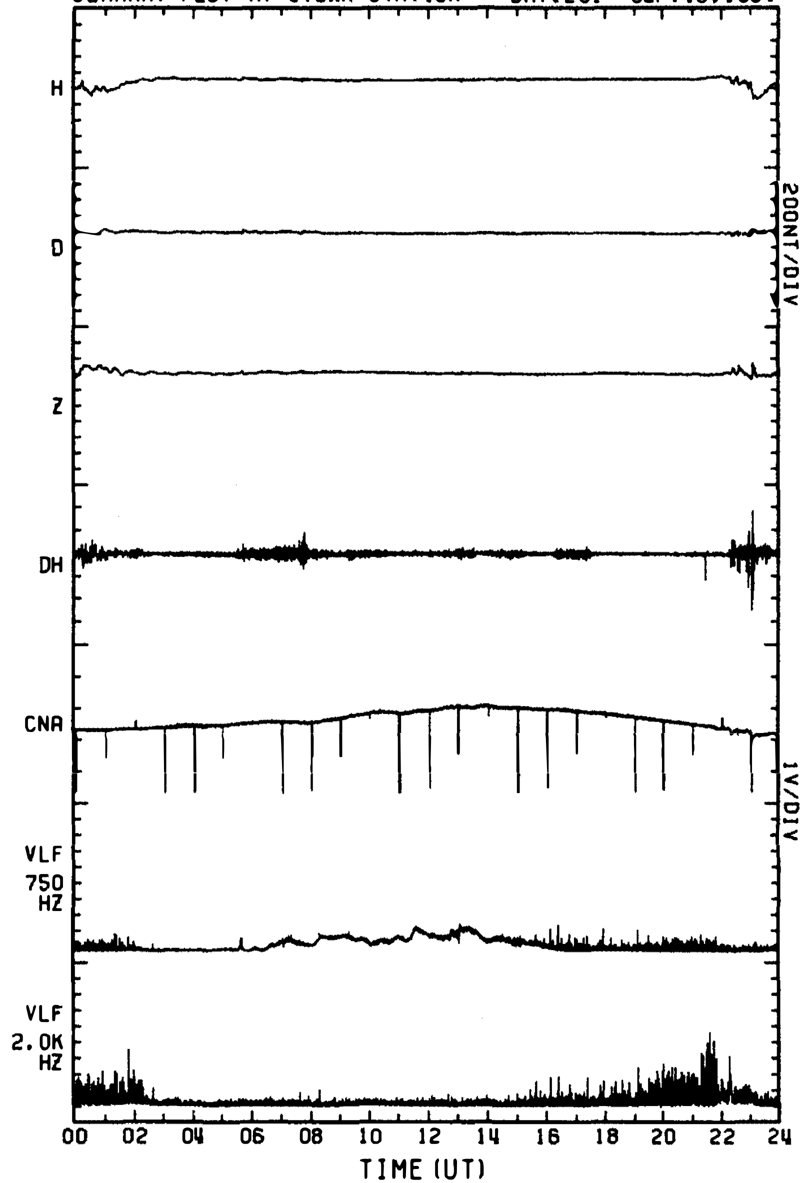


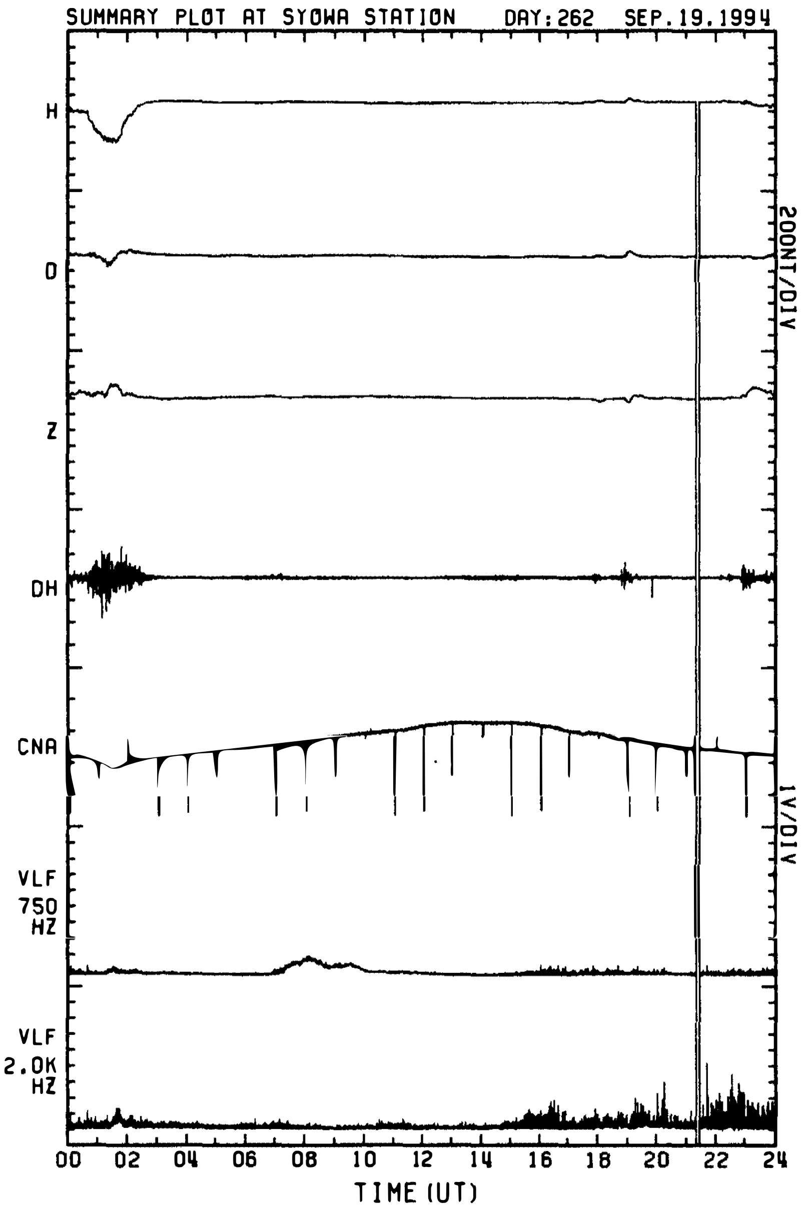
SUMMARY PLOT AT SYOWA STATION DAY:259 SEP.16,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

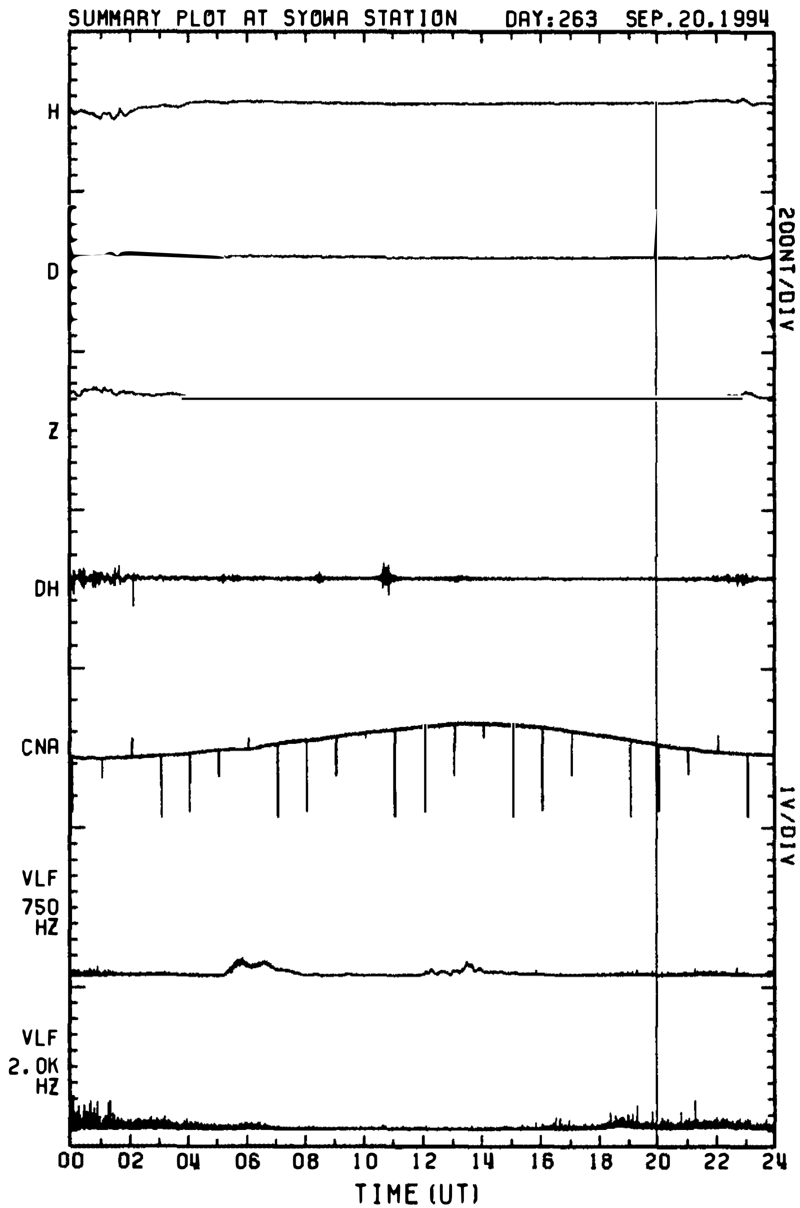
SUMMARY PLOT AT SYOWA STATION DAY:260 SEP.17.1994

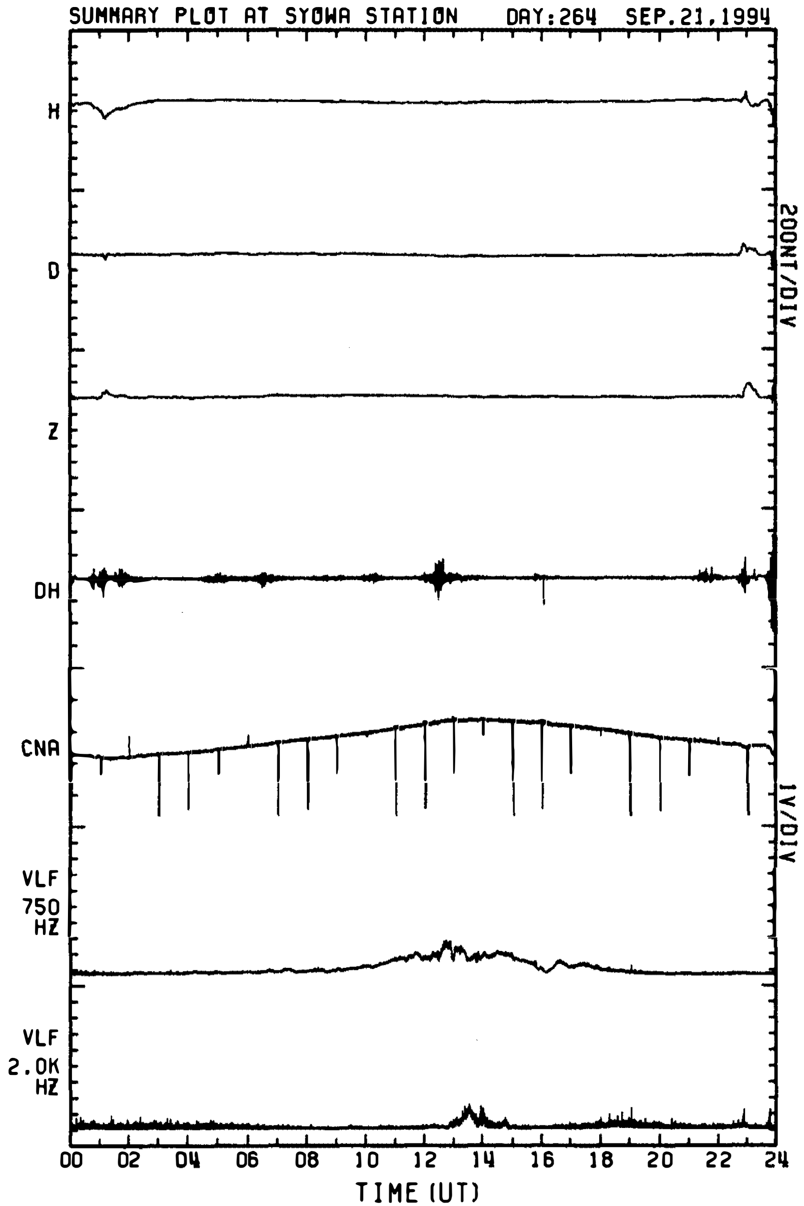


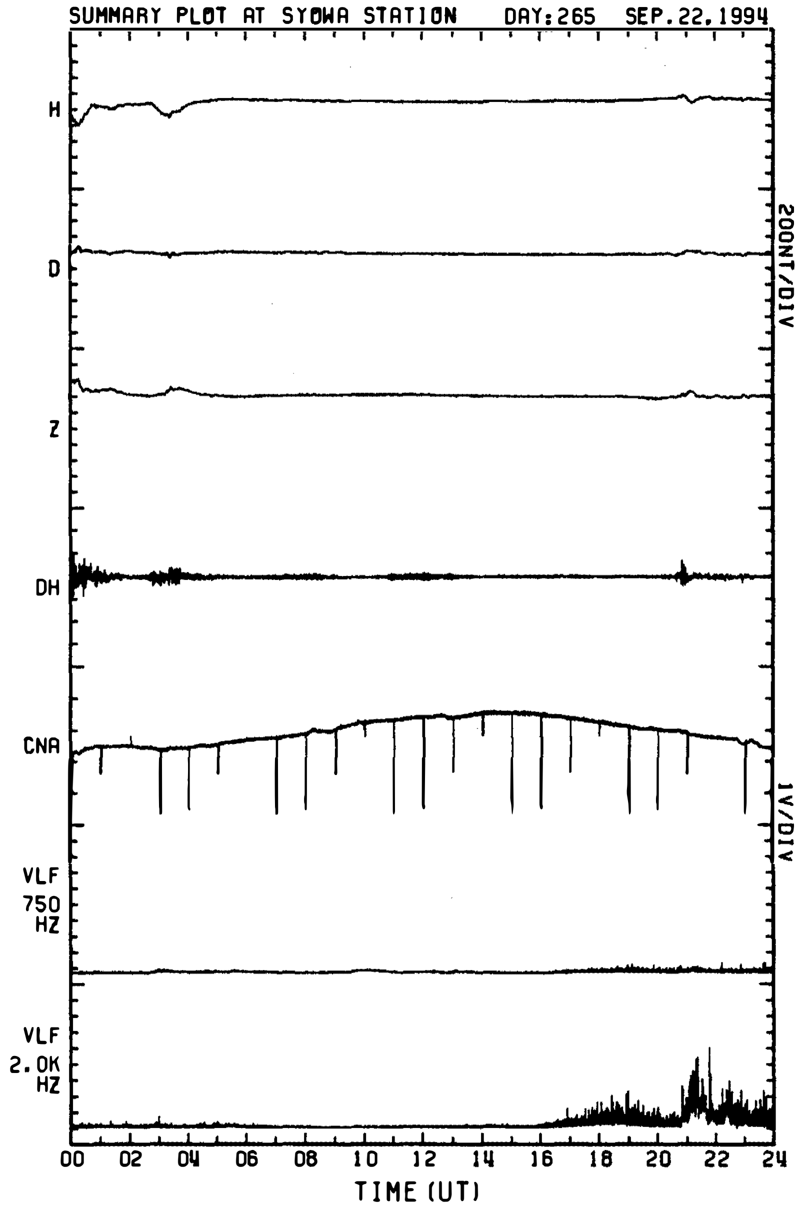
SUMMARY PLOT AT SYOWA STATION DAY:261 SEP.18.1994

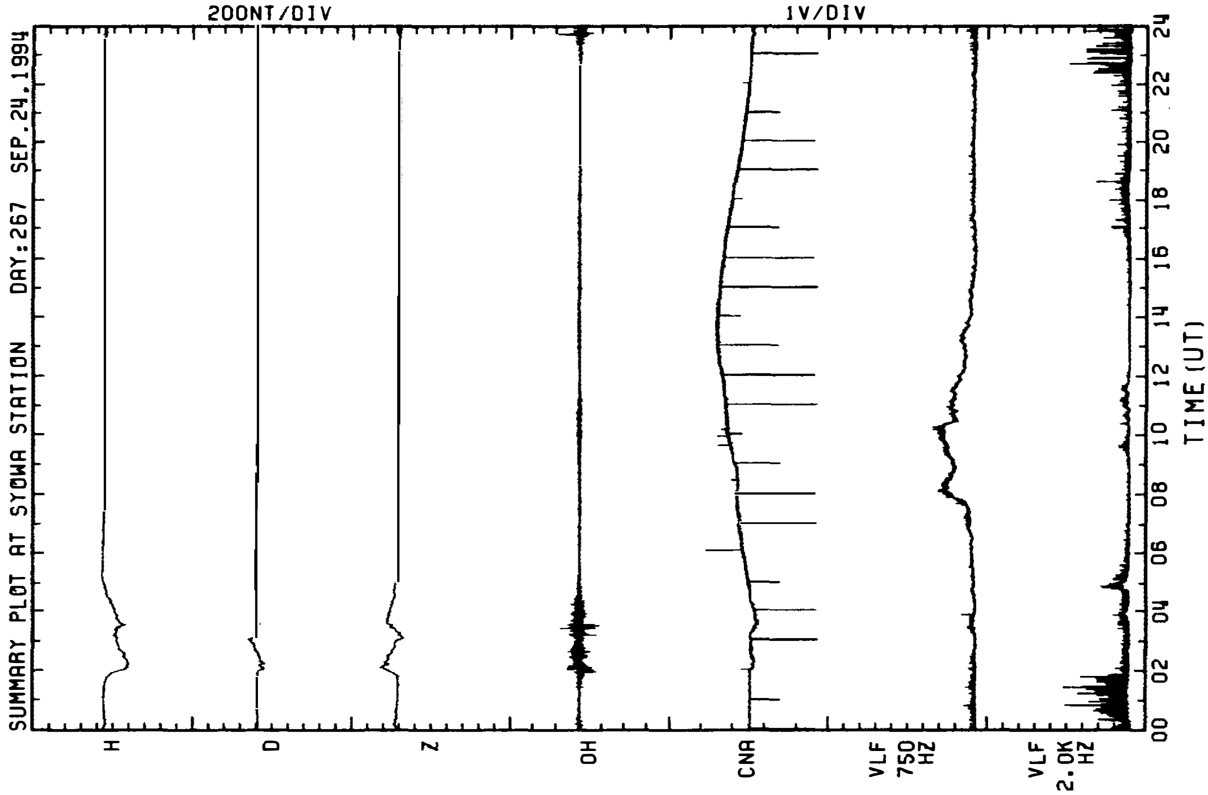


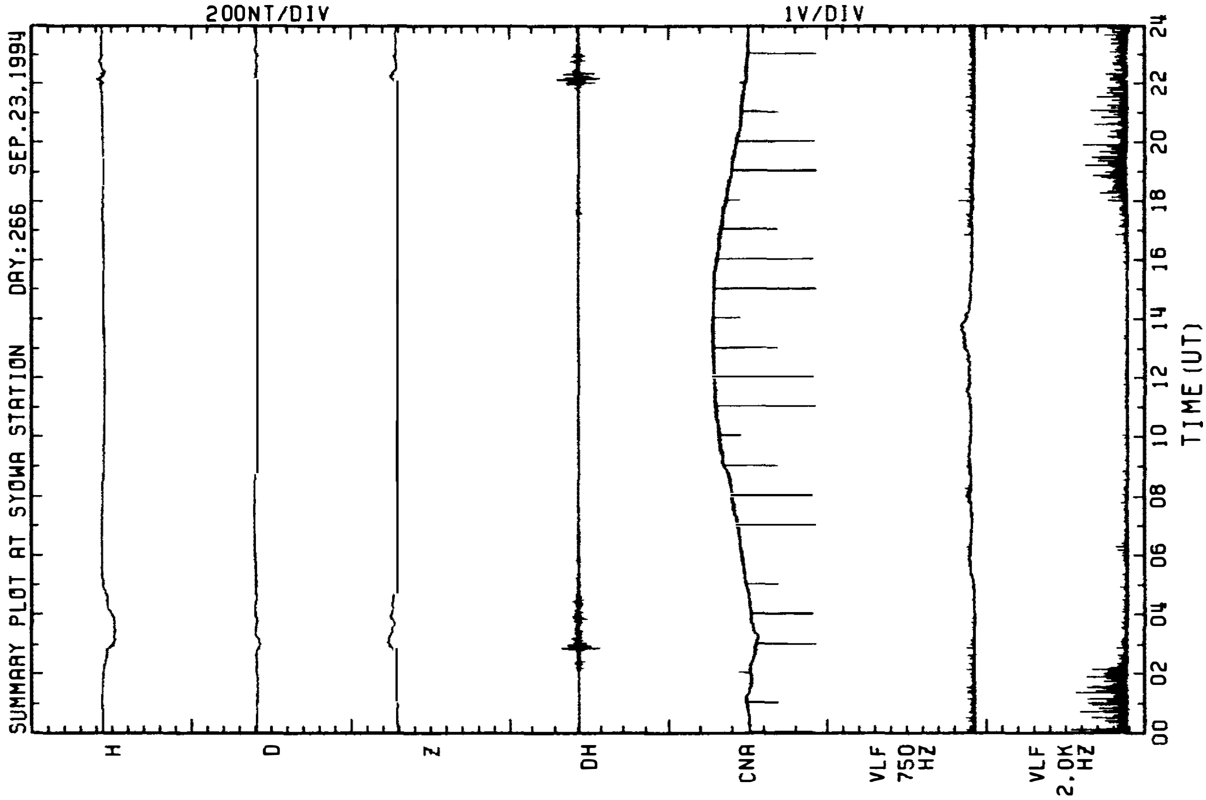

SUMMARY PLOT AT SYOWA STATION DAY:262 SEP.19.1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

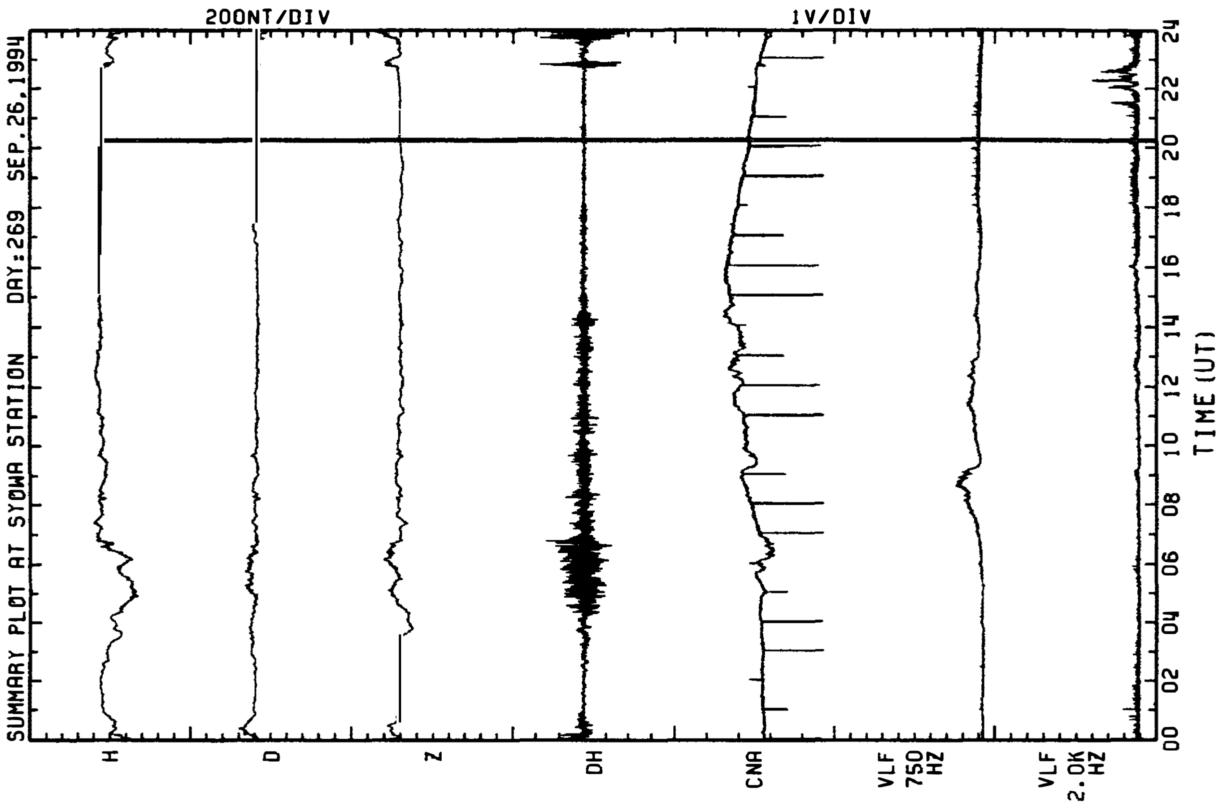

SUMMARY PLOT AT SYOWA STATION DAY:263 SEP.20.1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

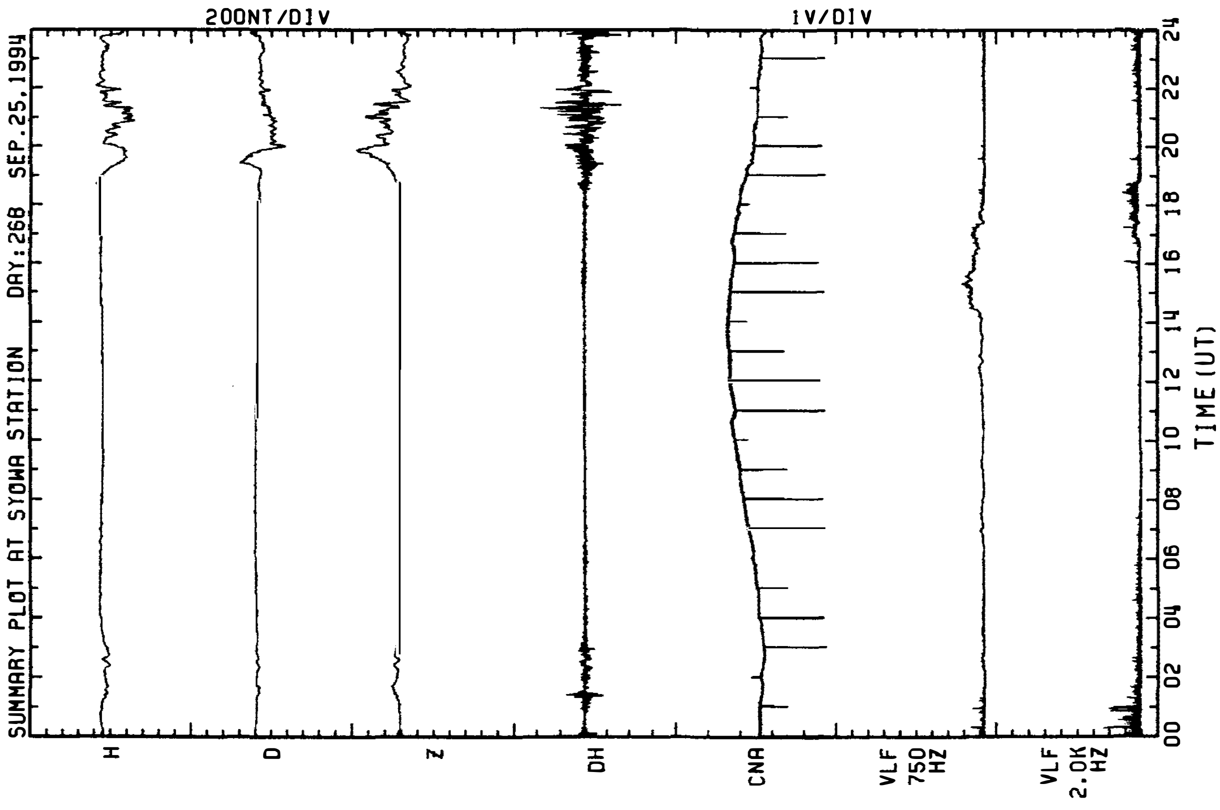

SUMMARY PLOT AT SYOWA STATION DAY:264 SEP.21,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

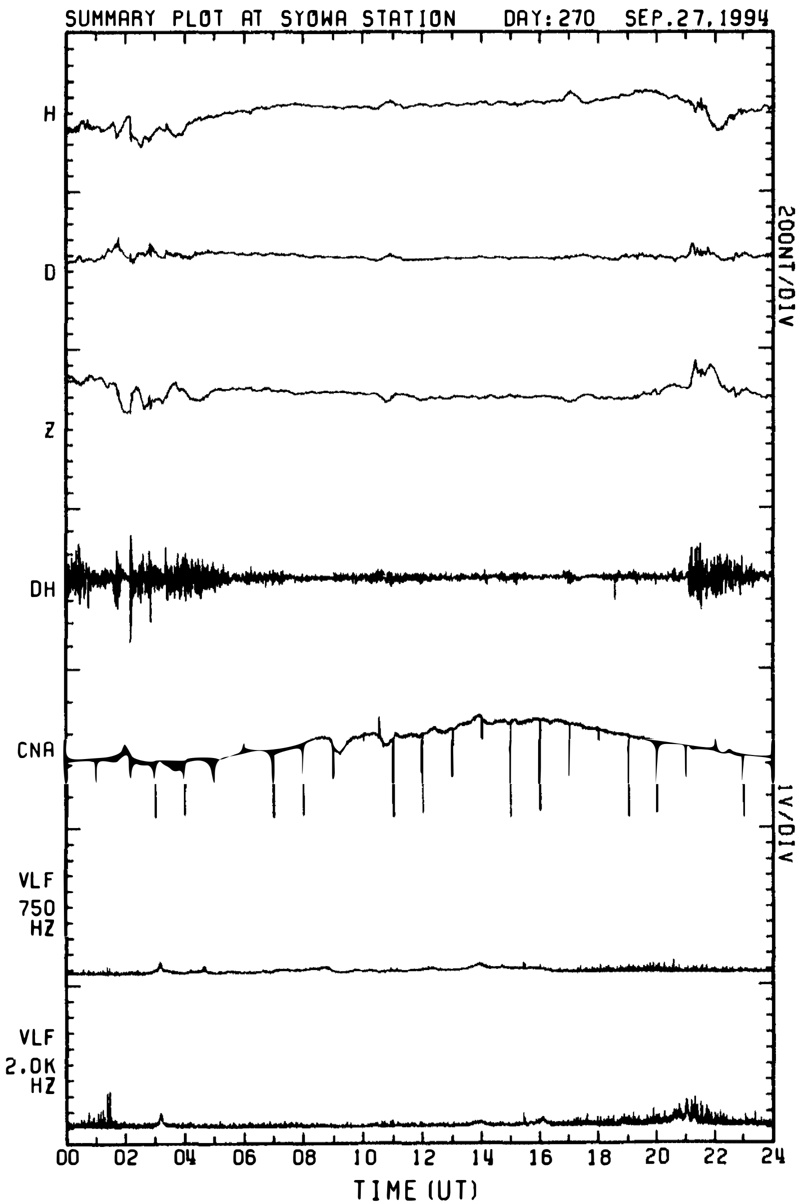

SUMMARY PLOT AT SYOWA STATION DAY:265 SEP.22,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:267 SEP.24,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

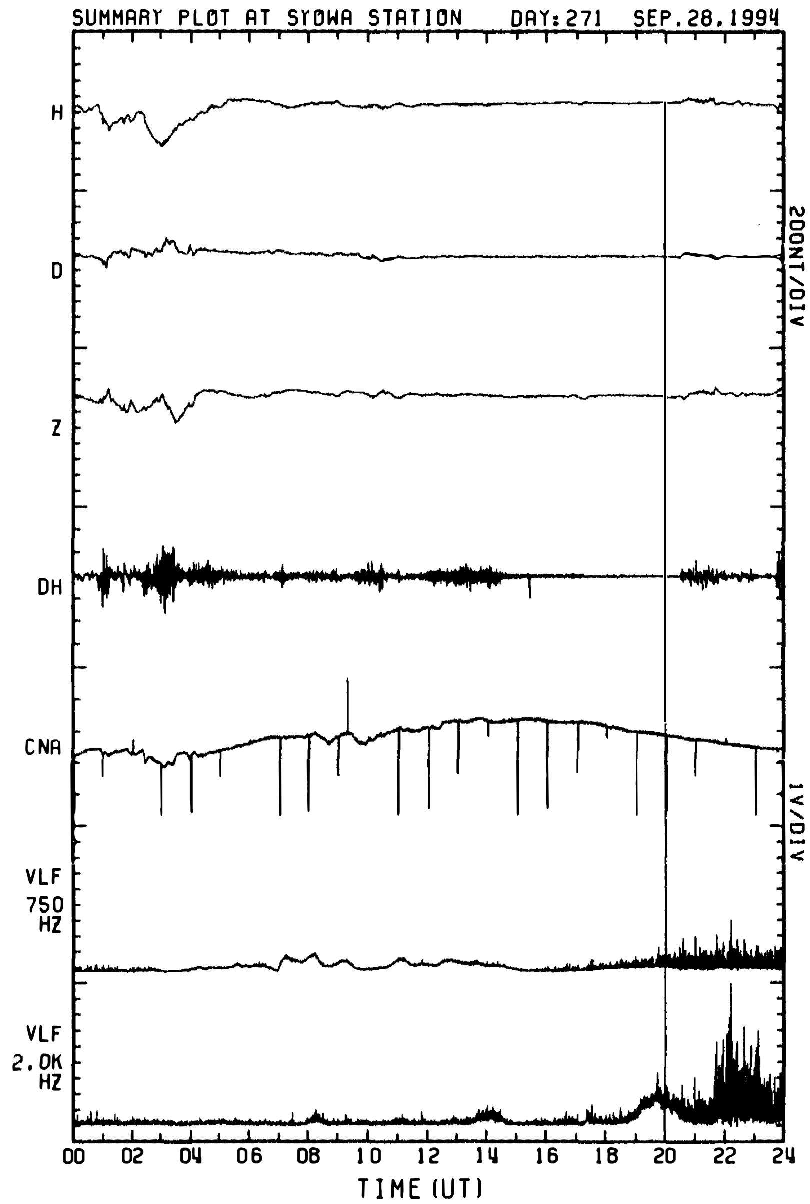

SUMMARY PLOT AT SYOWA STATION DAY:266 SEP.23,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:269 SEP.26,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

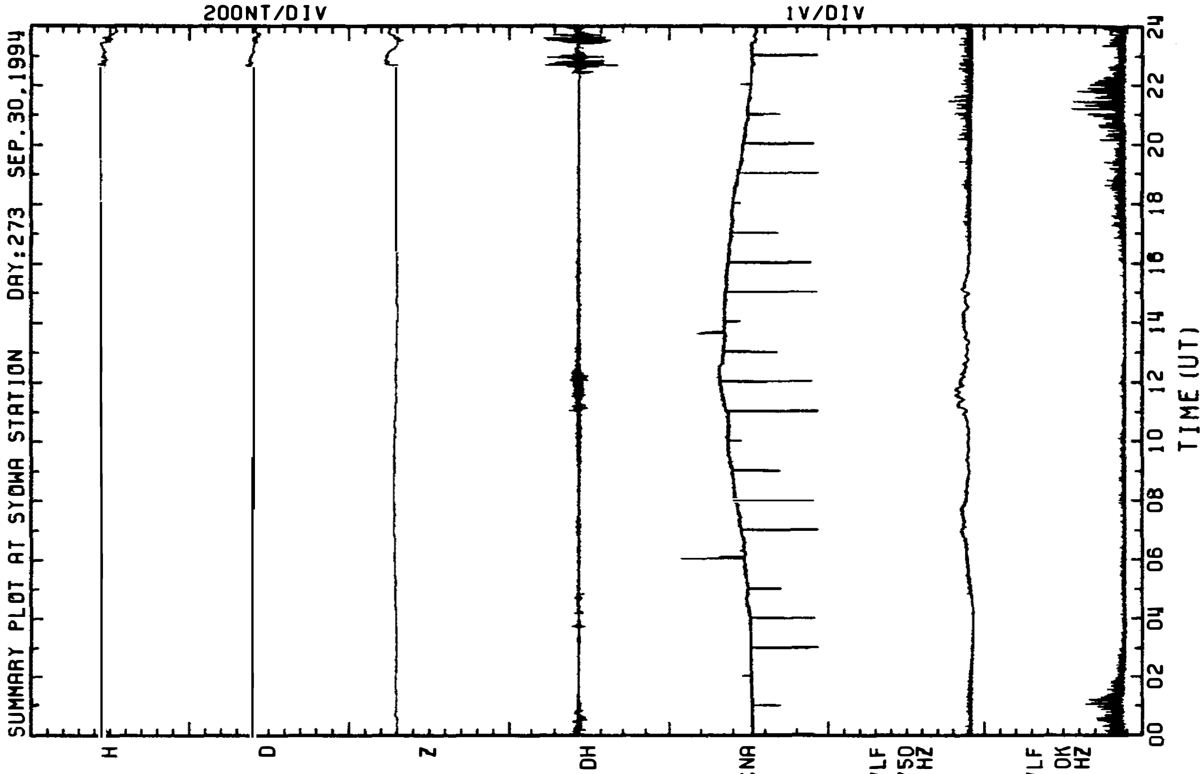

SUMMARY PLOT AT SYOWA STATION DAY:268 SEP.25,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

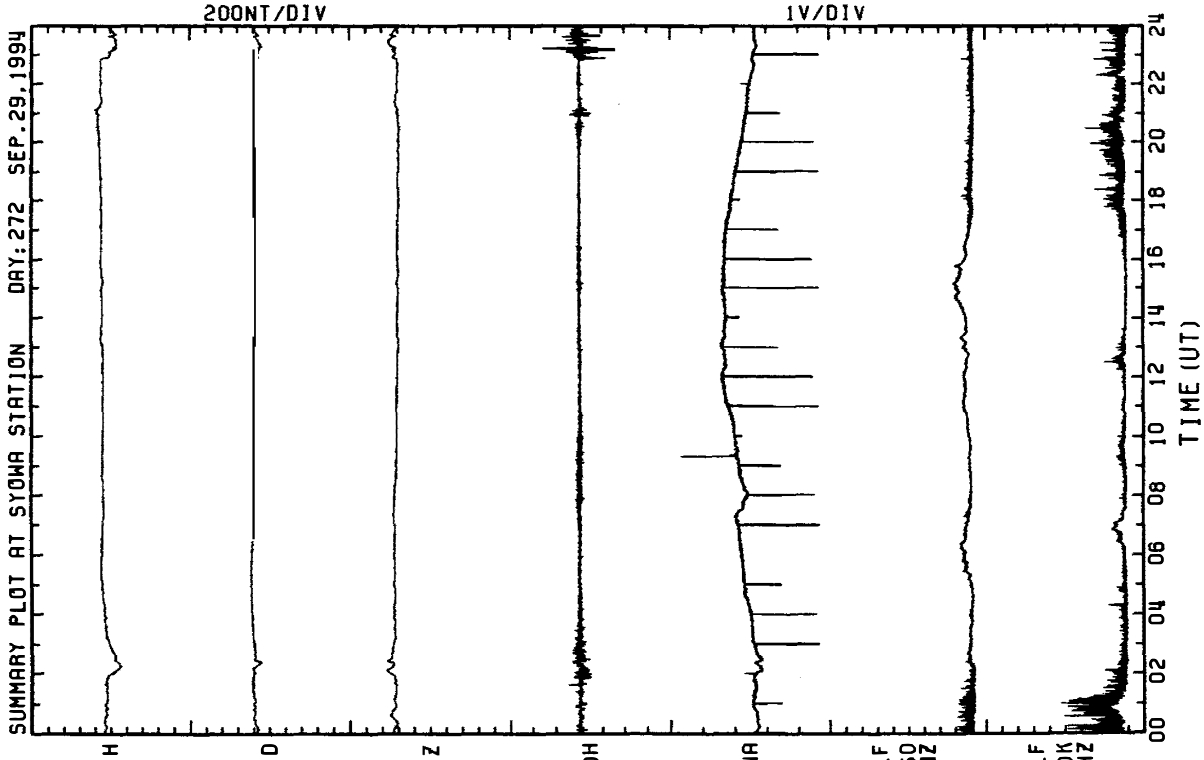


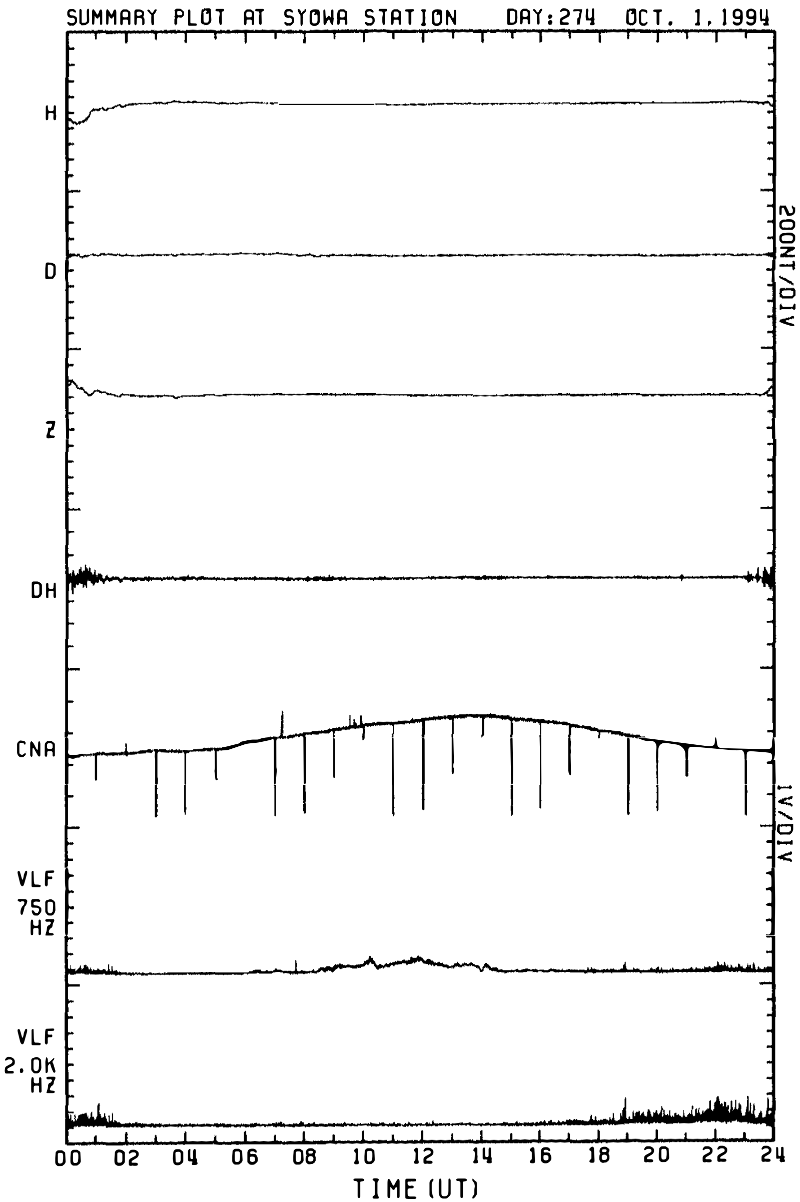
SUMMARY PLOT AT SYOWA STATION DAY:270 SEP.27,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

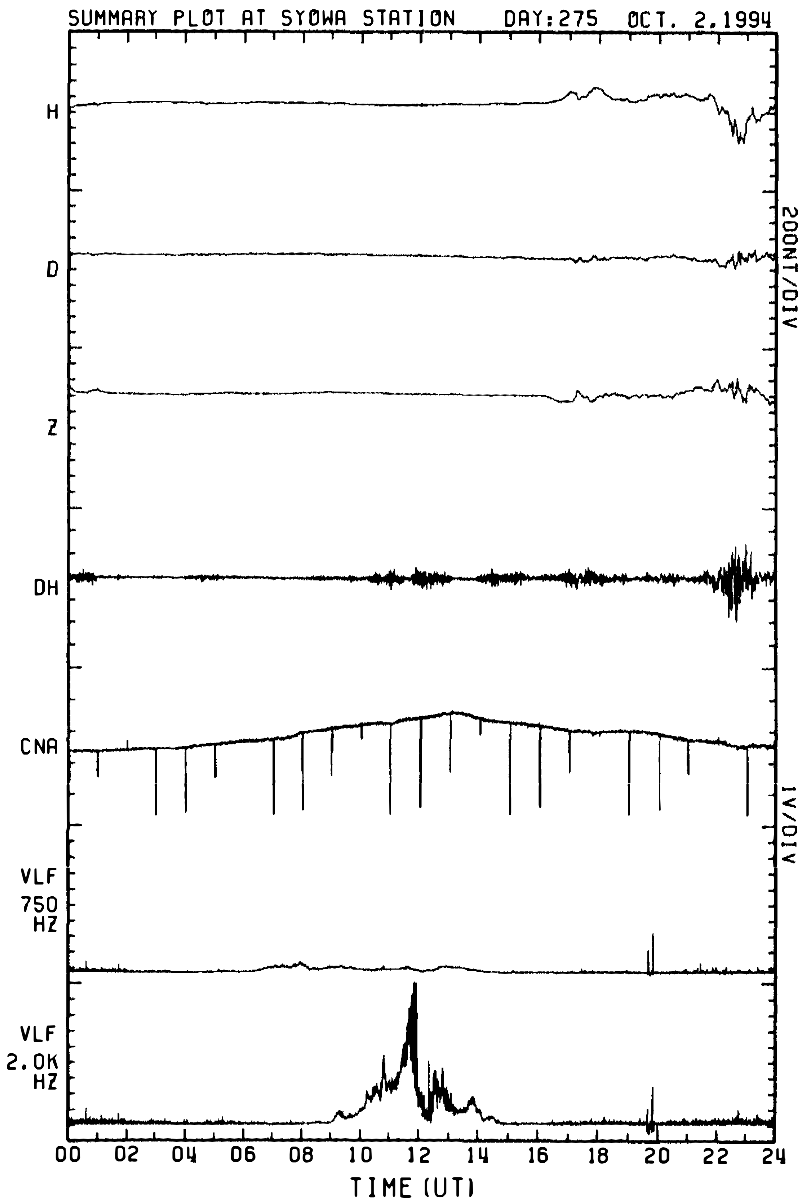


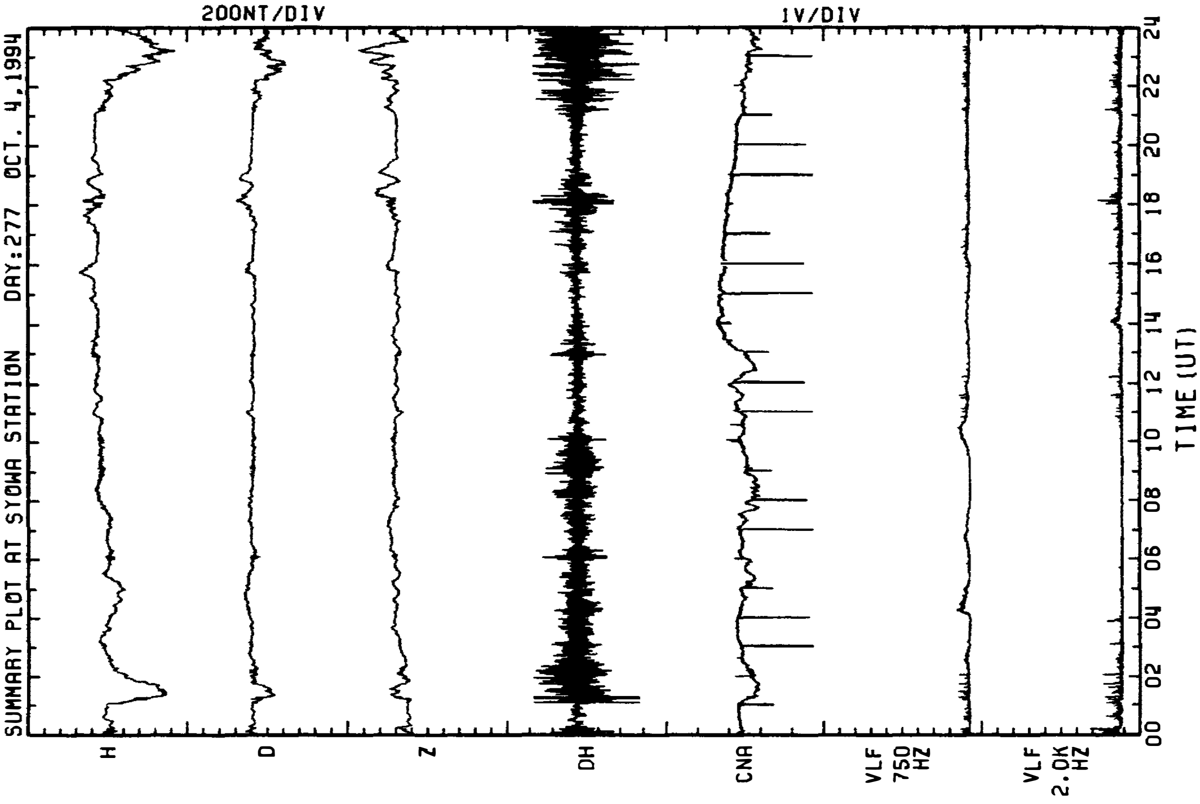
SUMMARY PLOT AT SYOWA STATION DAY:271 SEP.28,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:273 SEP.30,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

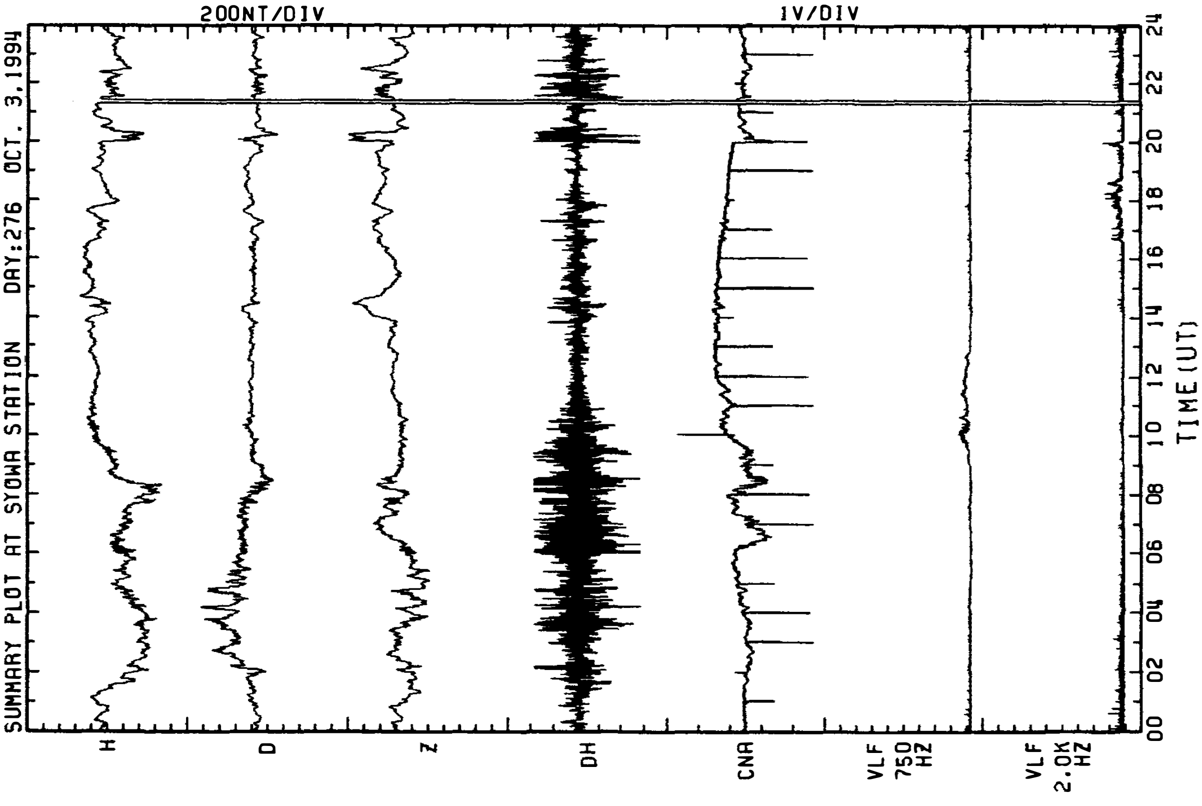

SUMMARY PLOT AT SYOWA STATION DAY:272 SEP.29,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:274 OCT. 1, 1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

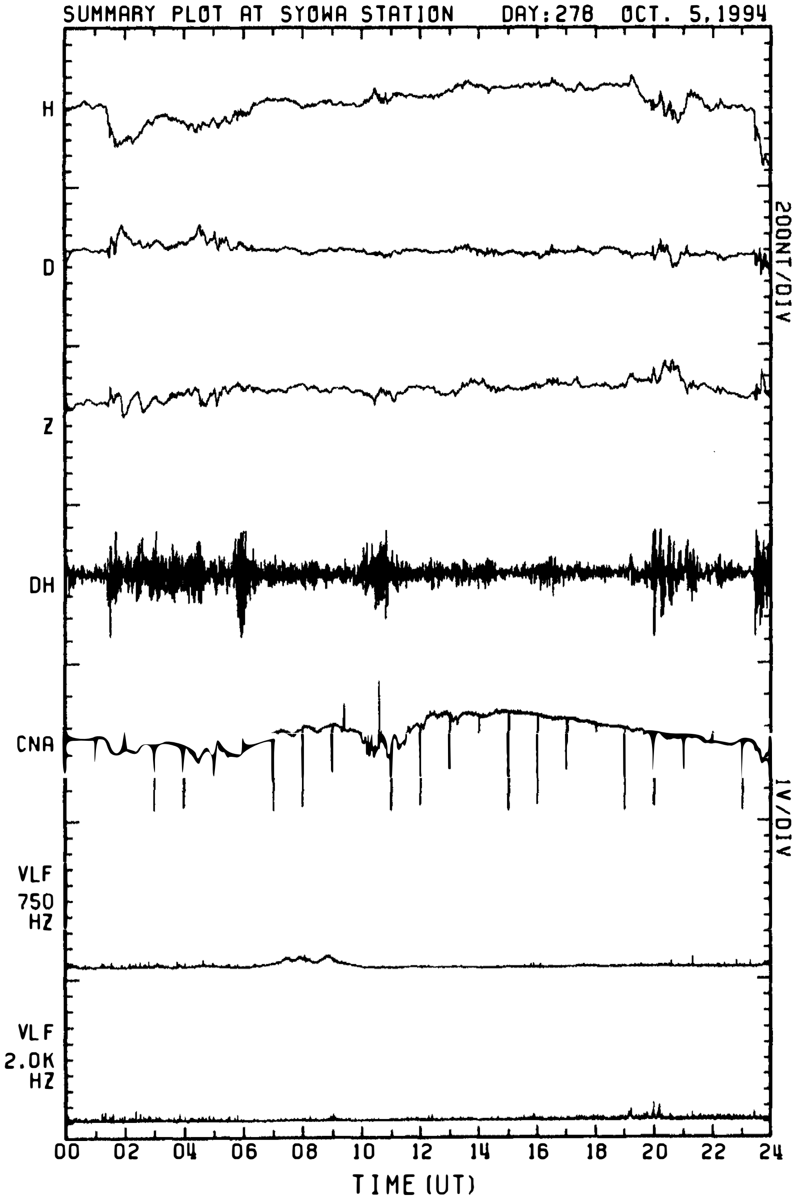

SUMMARY PLOT AT SYOWA STATION DAY:275 OCT. 2, 1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

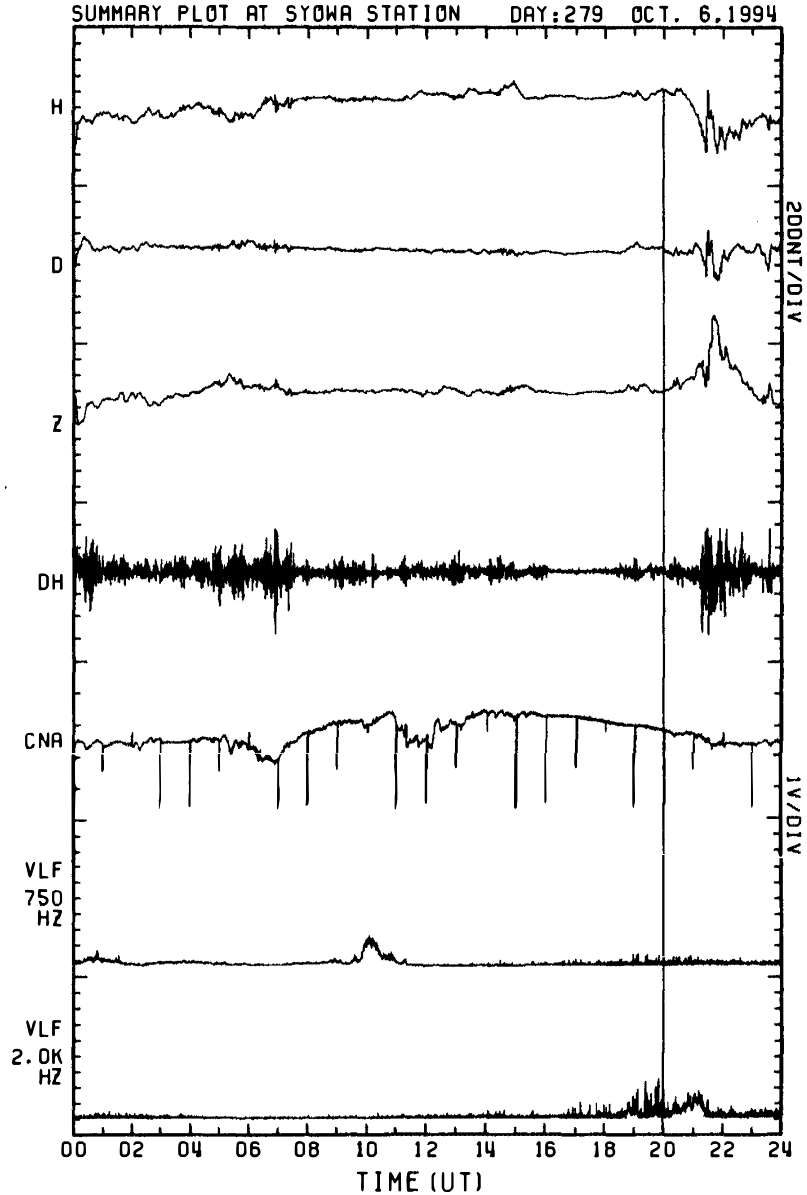


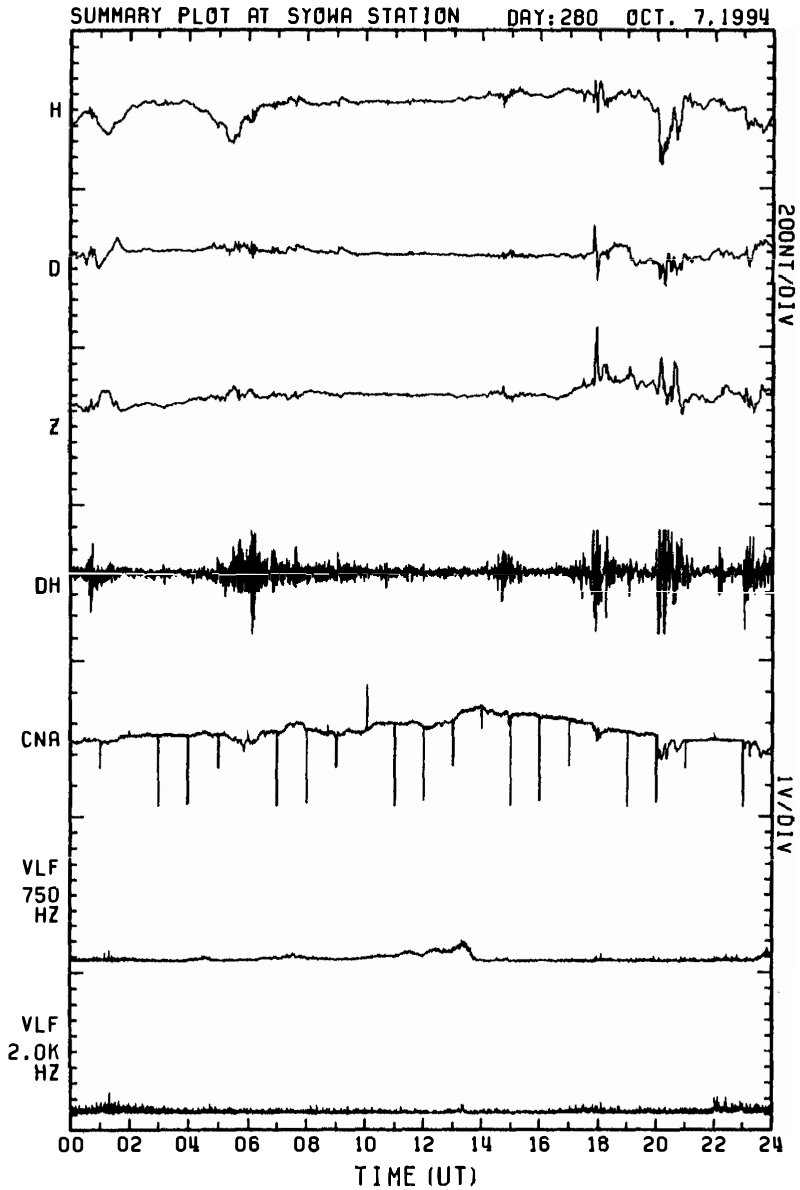
SUMMARY PLOT AT SYOWA STATION DAY:277 OCT. 4,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

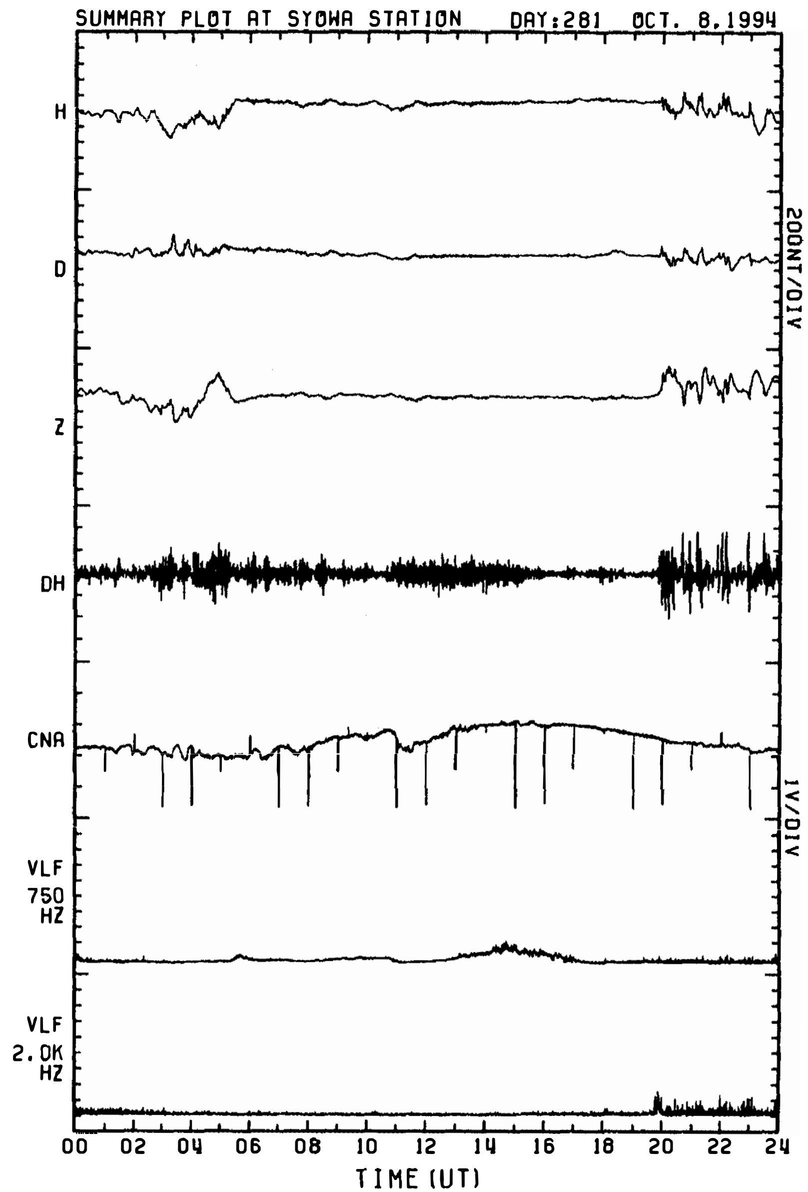


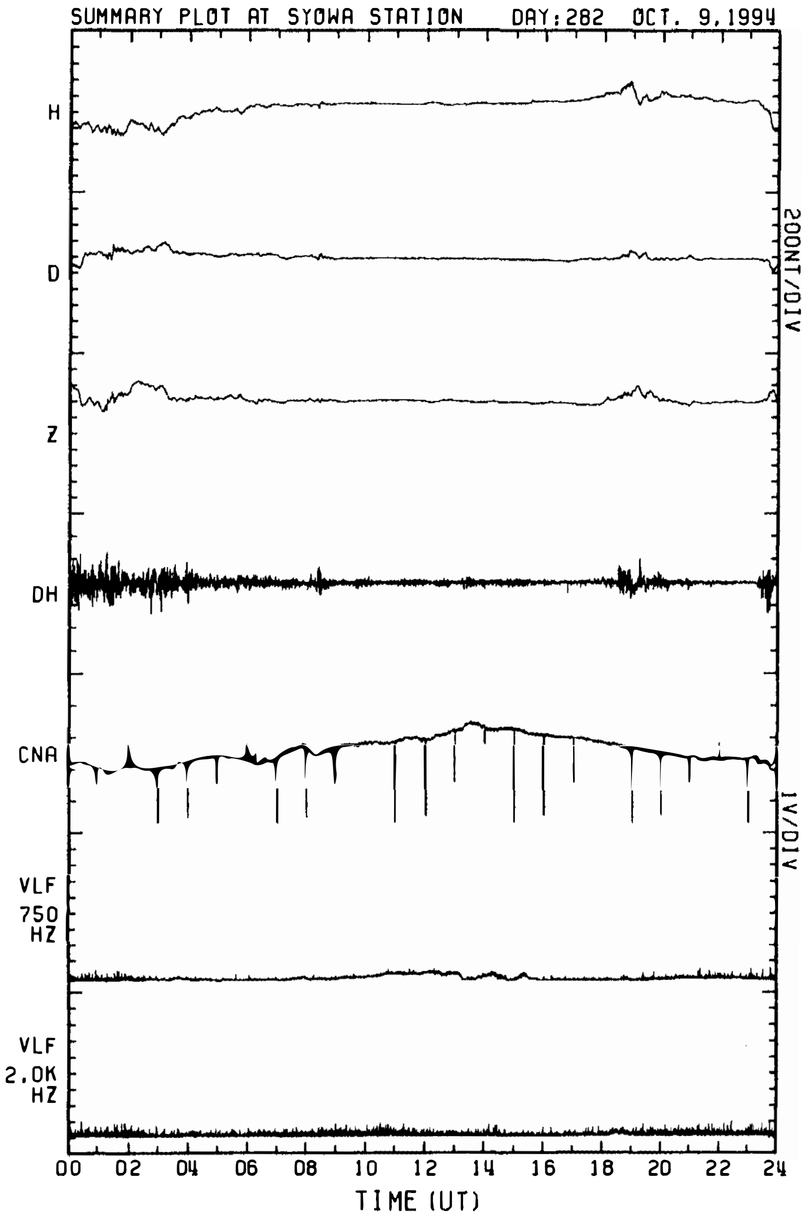
SUMMARY PLOT AT SYOWA STATION DAY:276 OCT. 3,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:278 OCT. 5,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

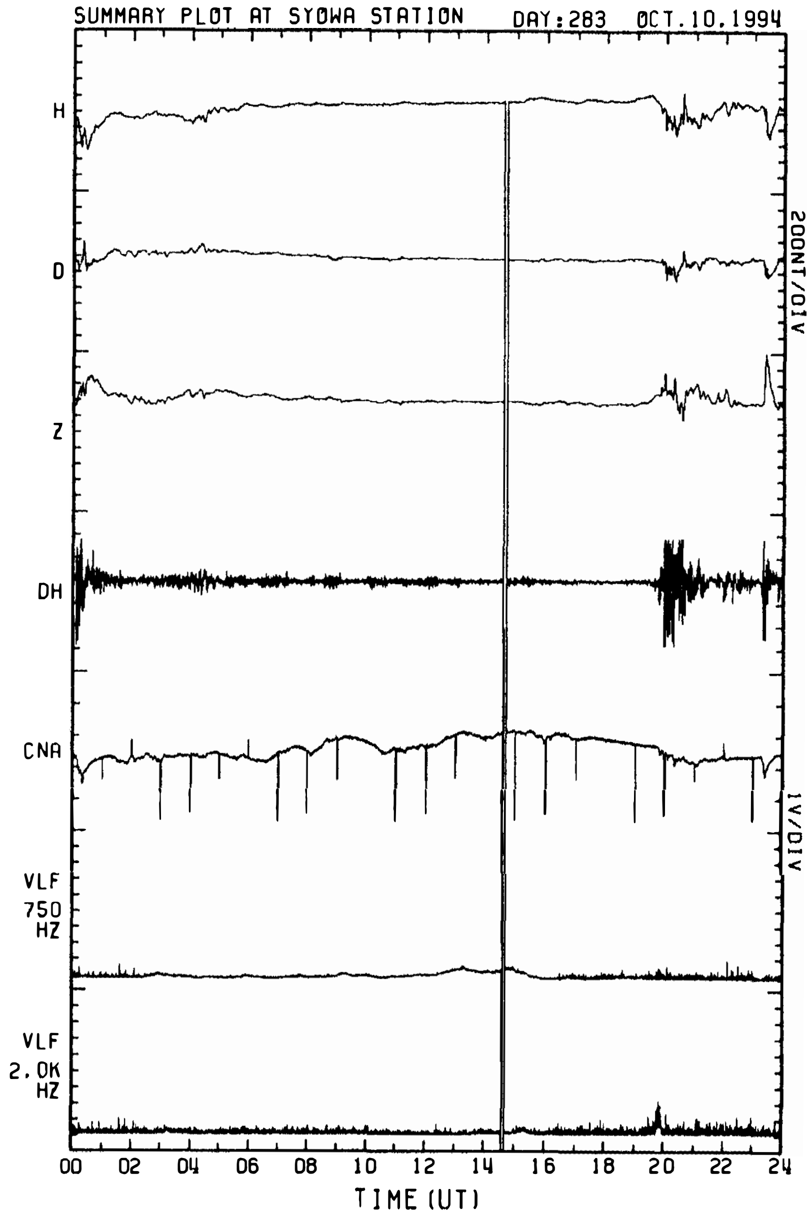

SUMMARY PLOT AT SYOWA STATION DAY:279 OCT. 6,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:280 OCT. 7,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

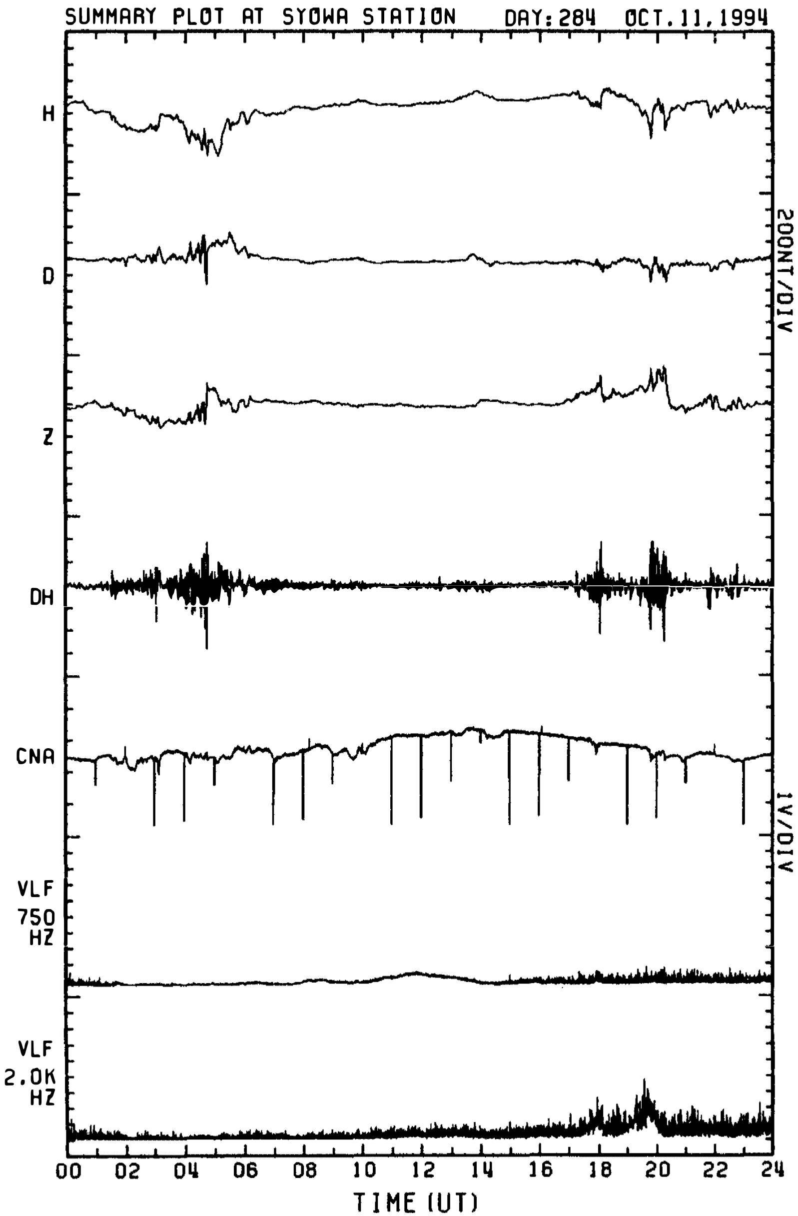

SUMMARY PLOT AT SYOWA STATION DAY:281 OCT. 8,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

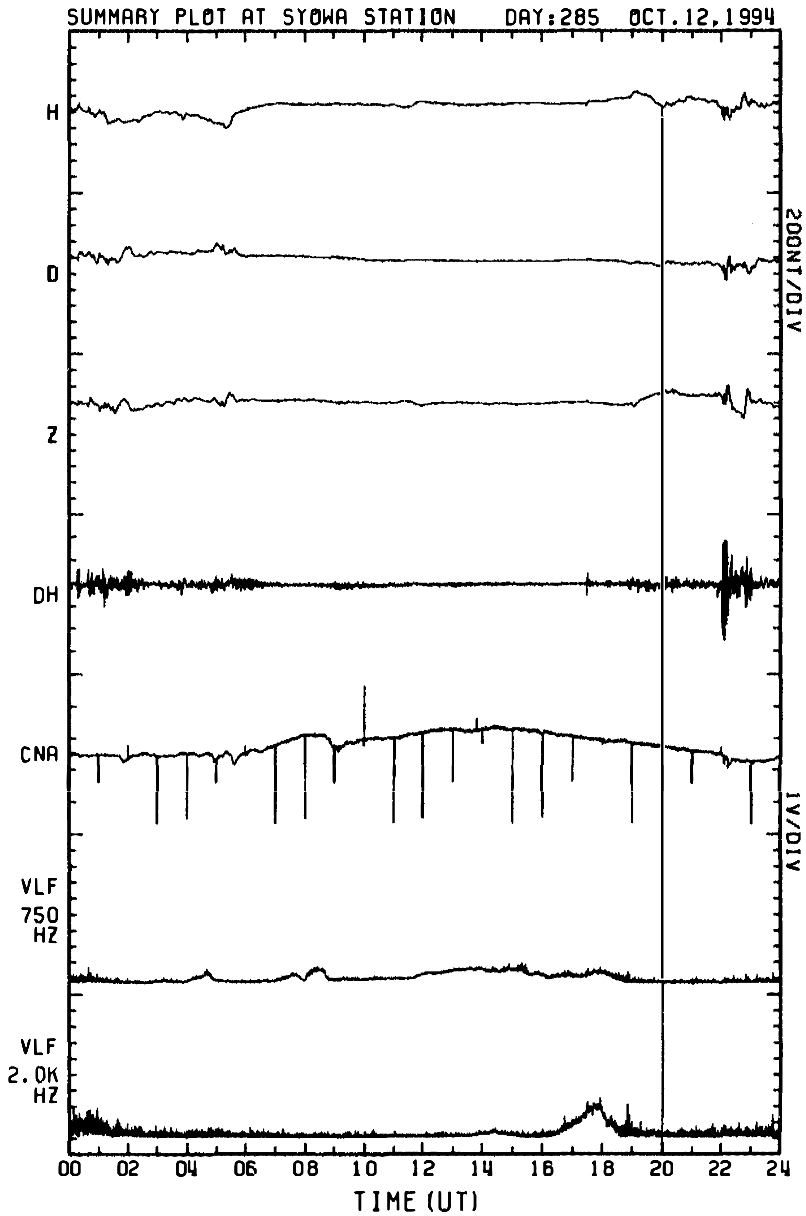


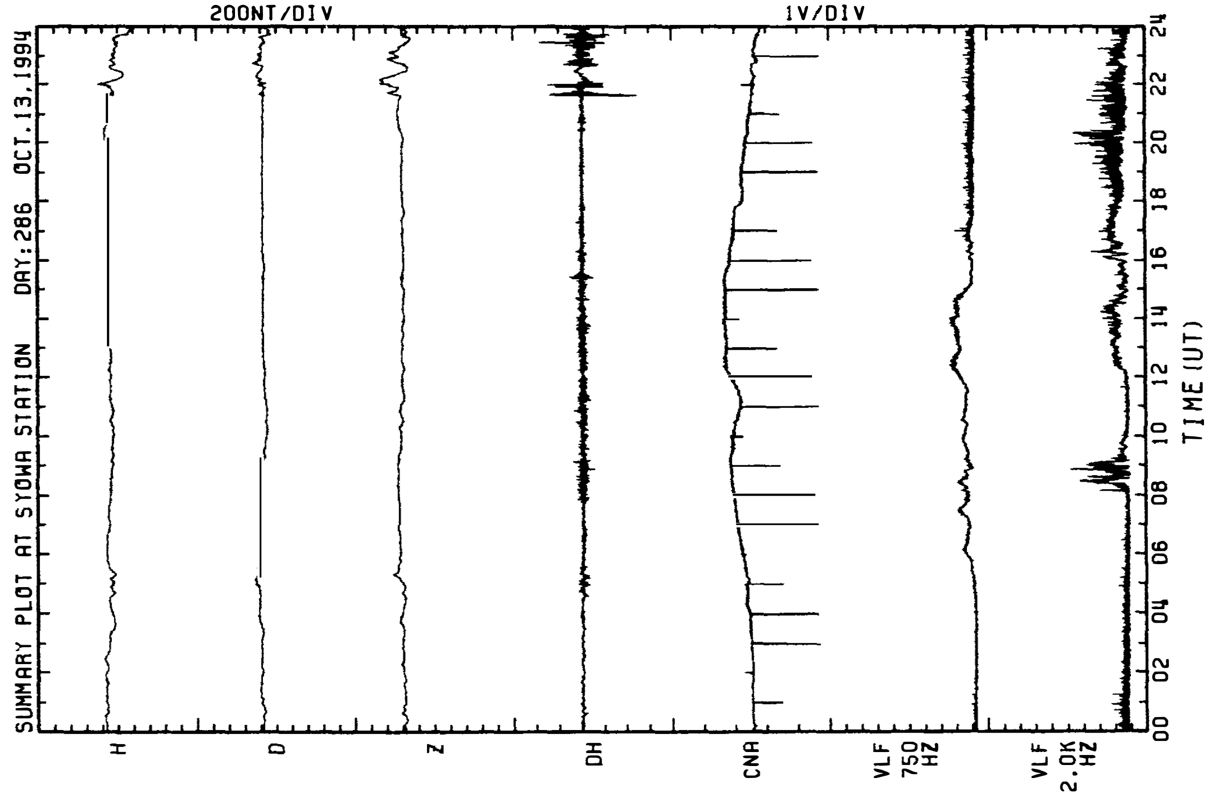
SUMMARY PLOT AT SYOWA STATION DAY:282 OCT. 9,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

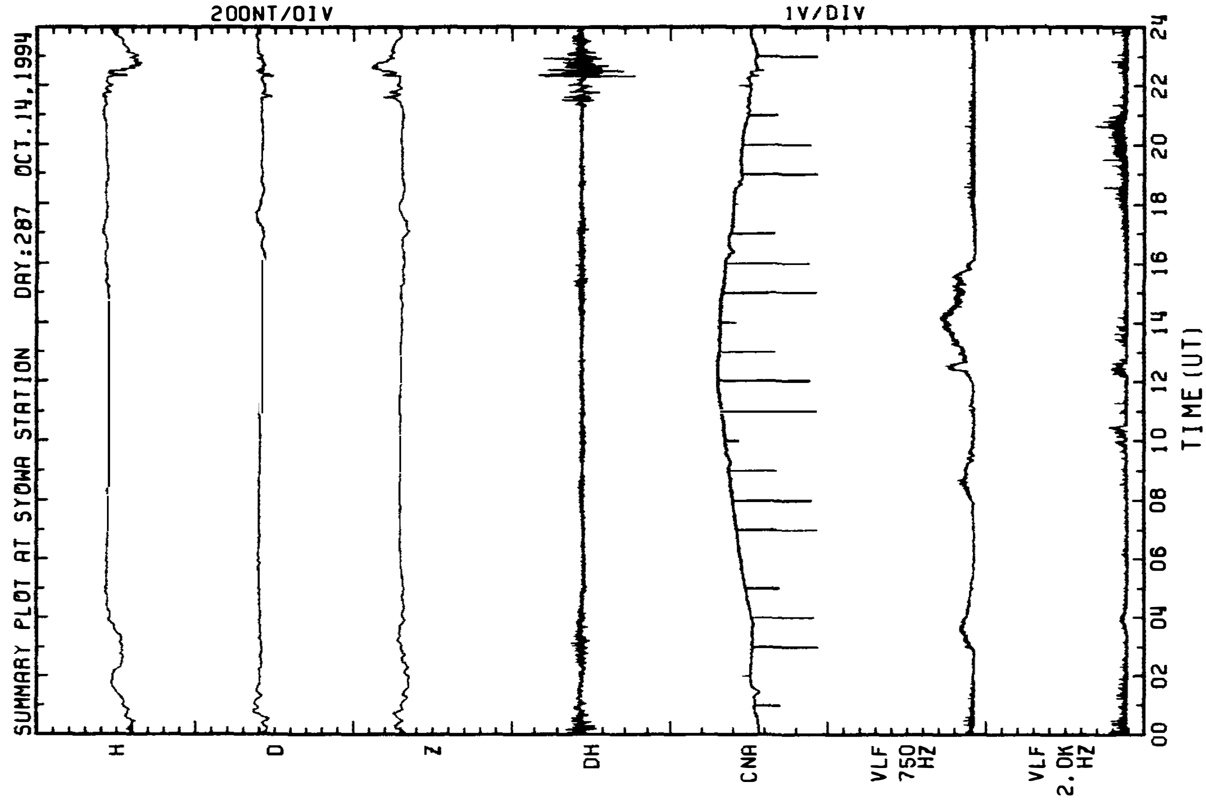


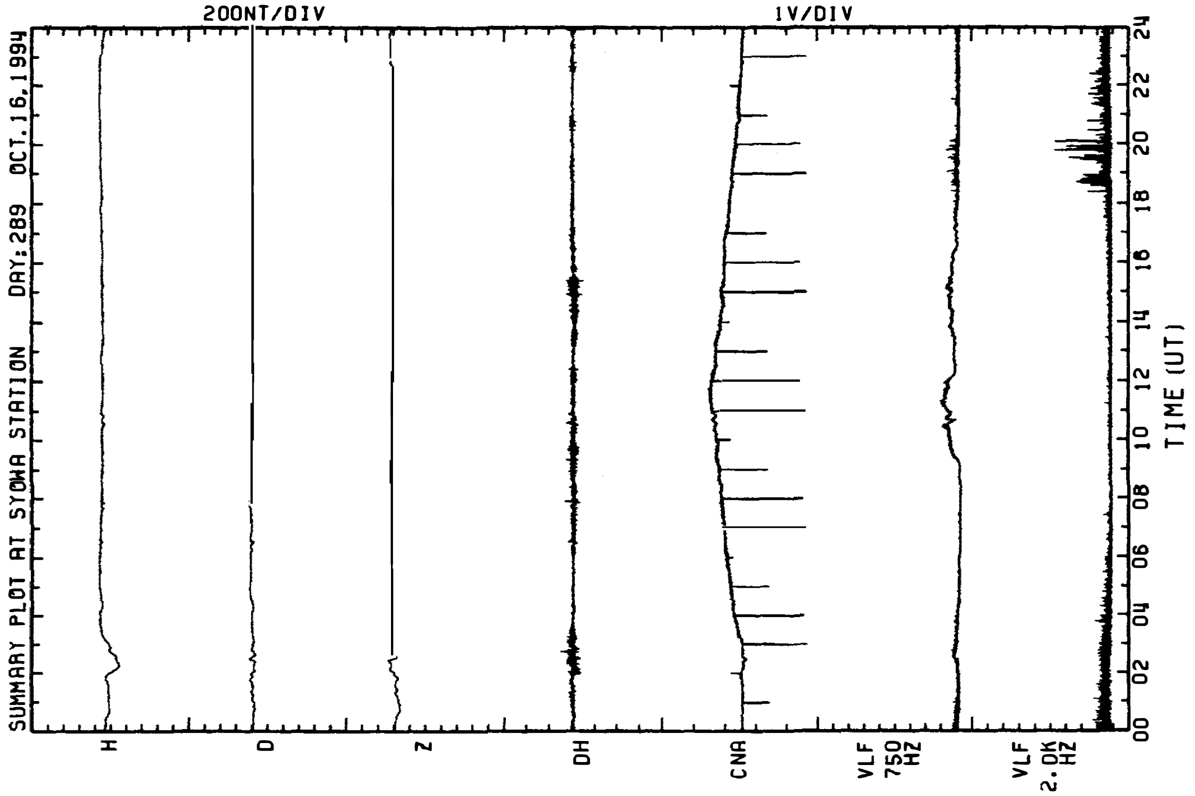
SUMMARY PLOT AT SYOWA STATION DAY:283 OCT.10,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

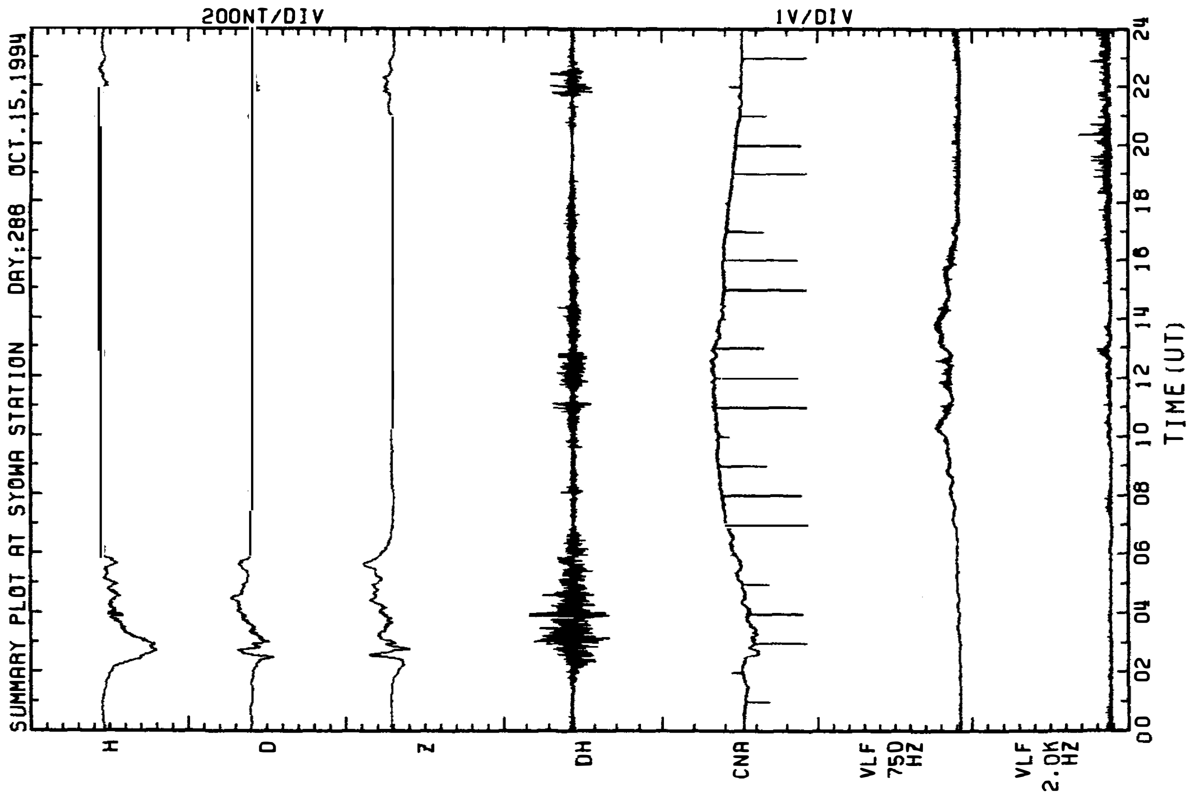

SUMMARY PLOT AT SYOWA STATION DAY:284 OCT.11,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:285 OCT.12,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

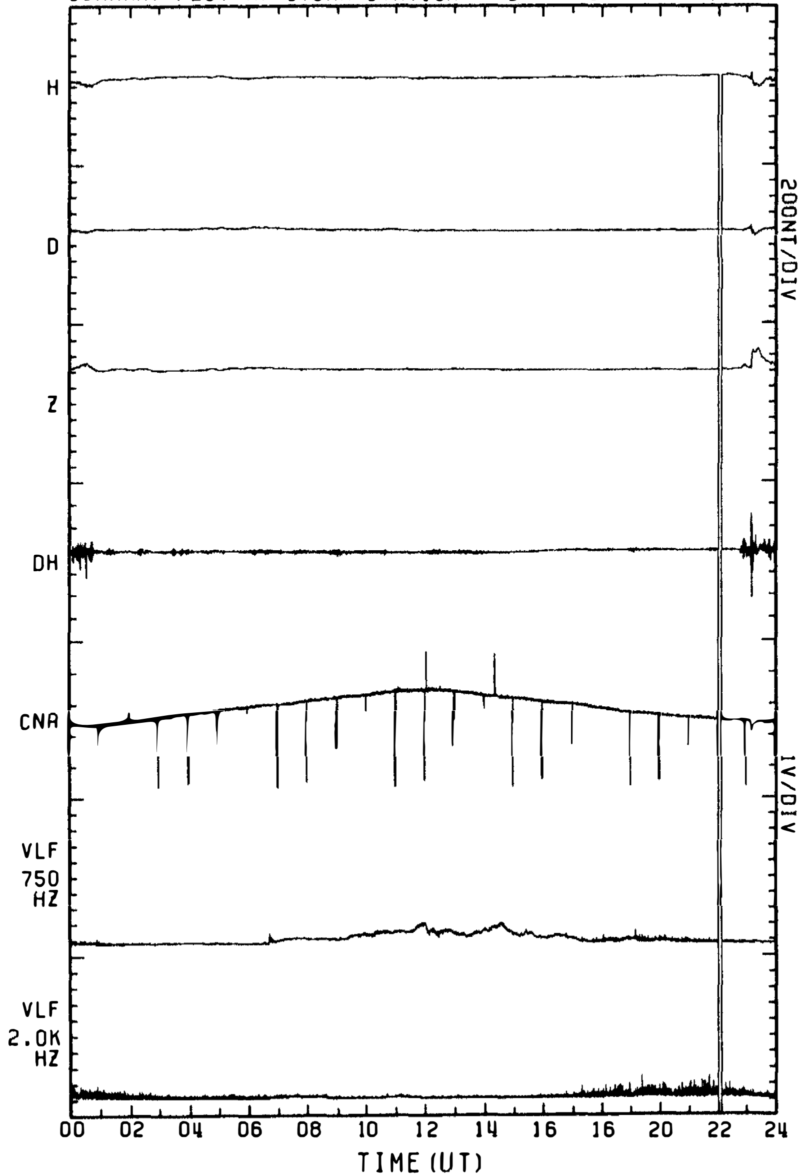

SUMMARY PLOT AT SYOWA STATION DAY:286 OCT.13,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:287 OCT.14,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

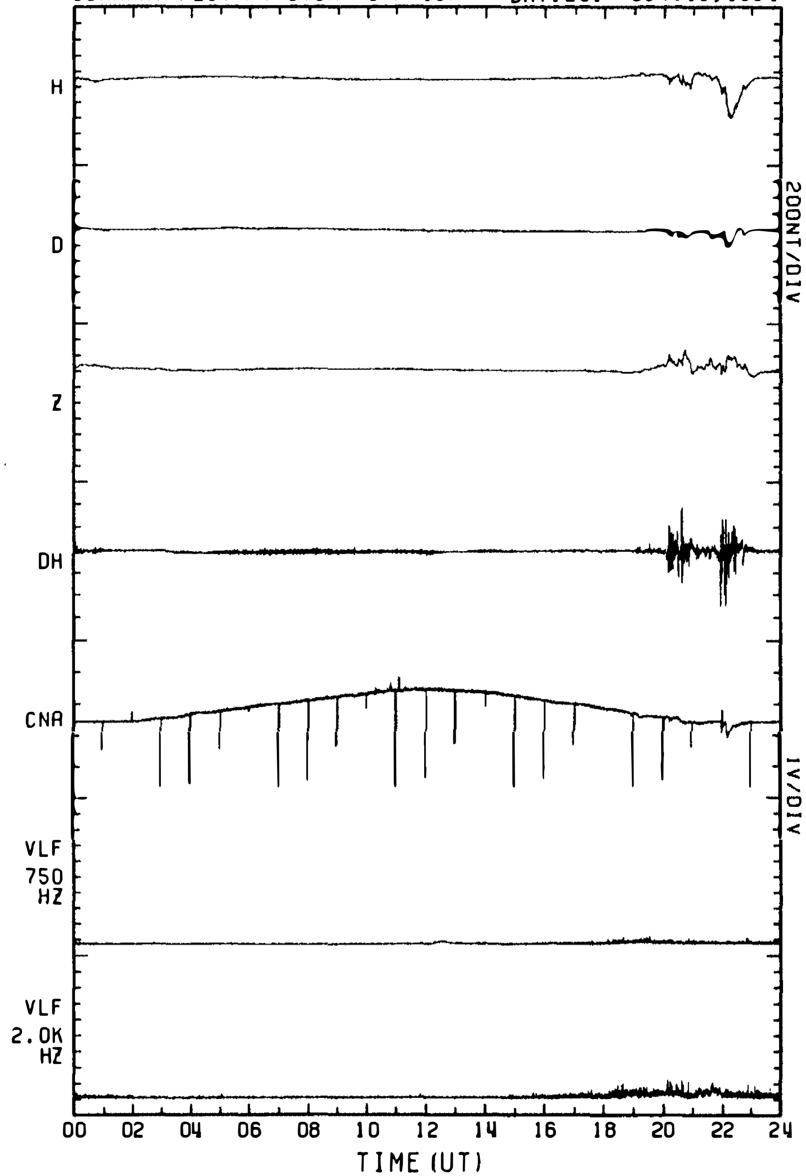

SUMMARY PLOT AT SYOWA STATION DAY:289 OCT.16,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

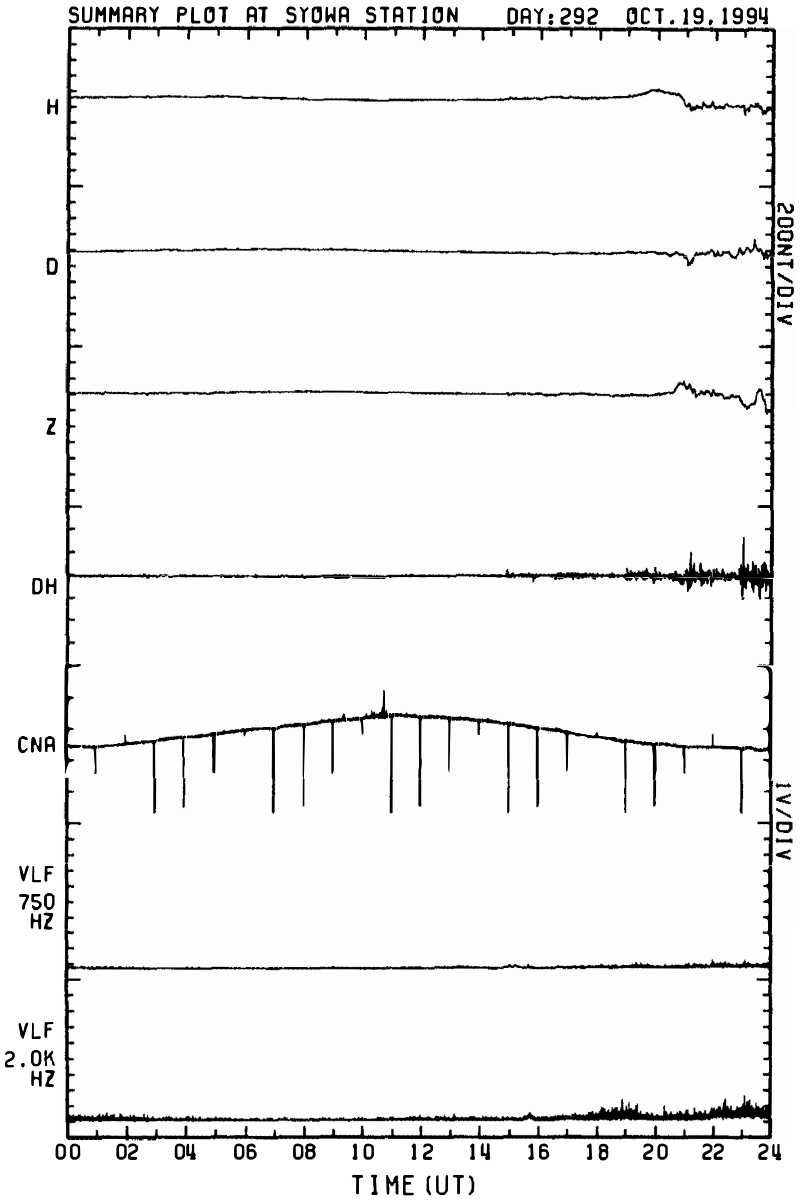

SUMMARY PLOT AT SYOWA STATION DAY:288 OCT.15,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

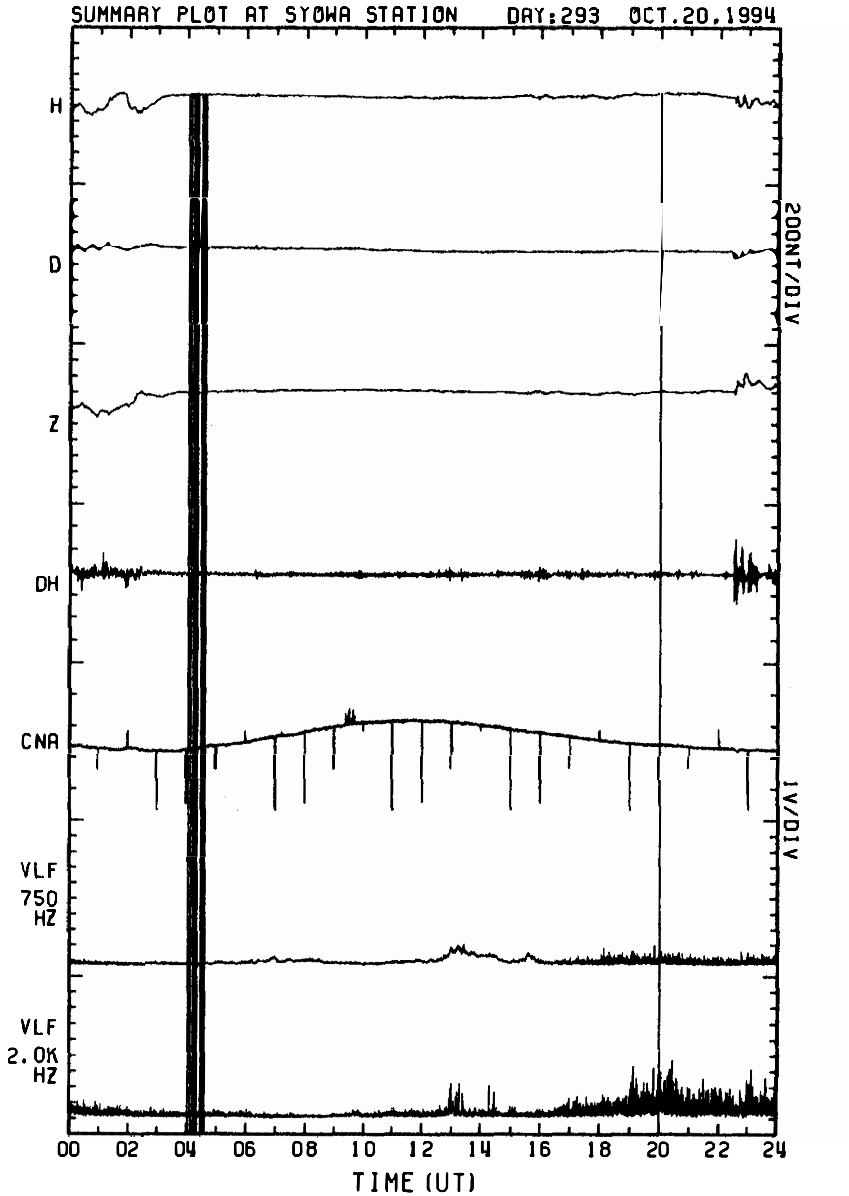
SUMMARY PLOT AT SYOWA STATION DAY:290 OCT.17,1994

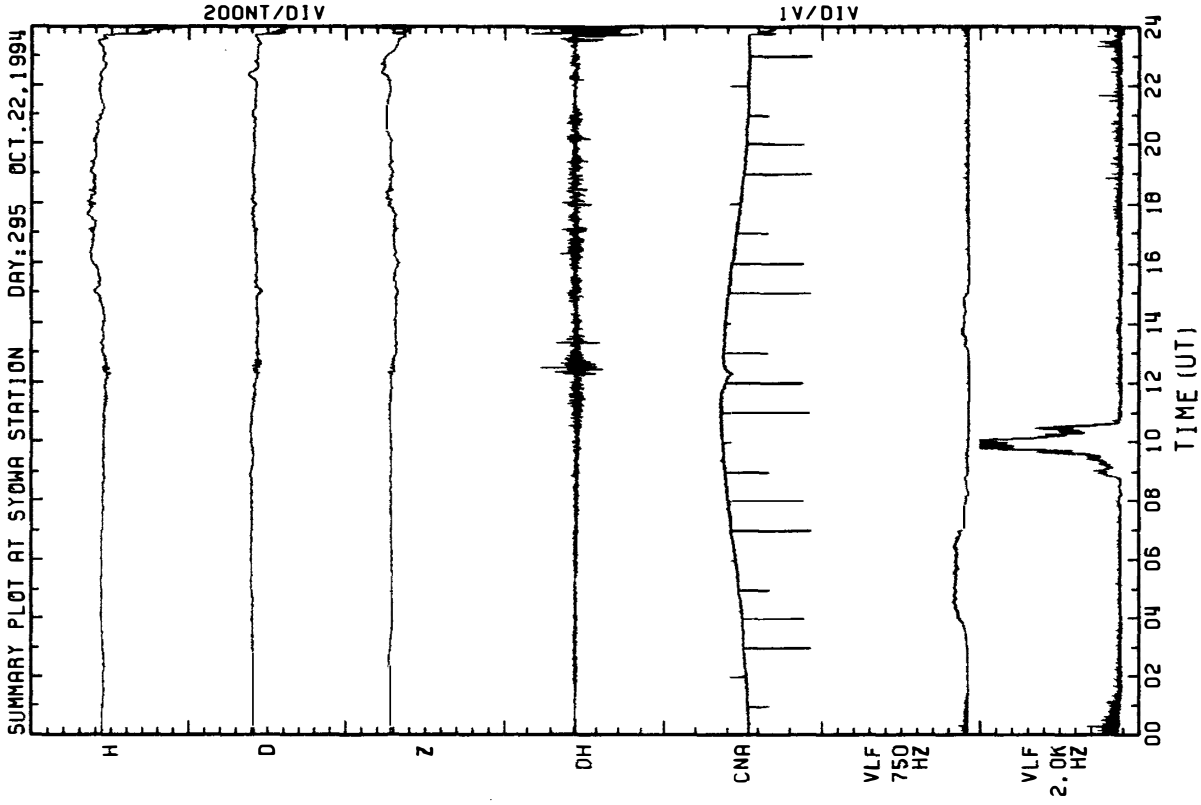


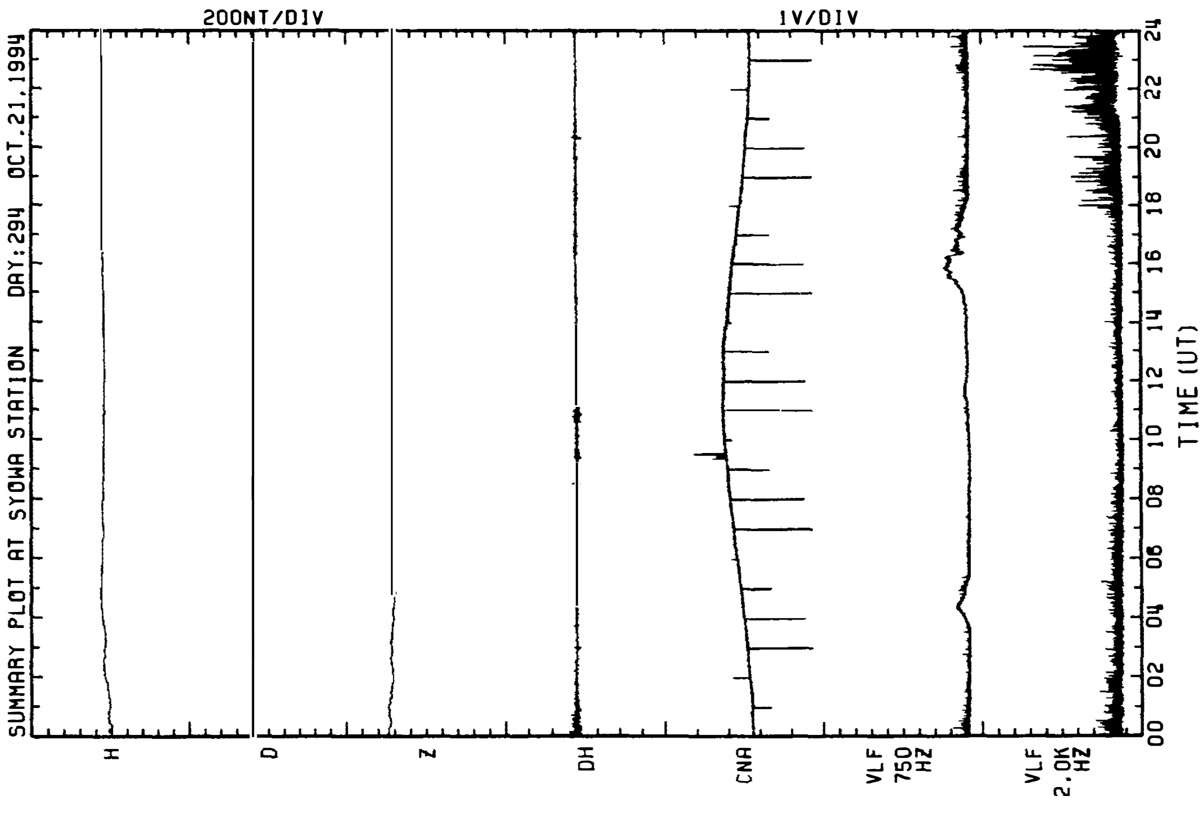
SUMMARY PLOT AT SYOWA STATION DAY:291 OCT.18,1994

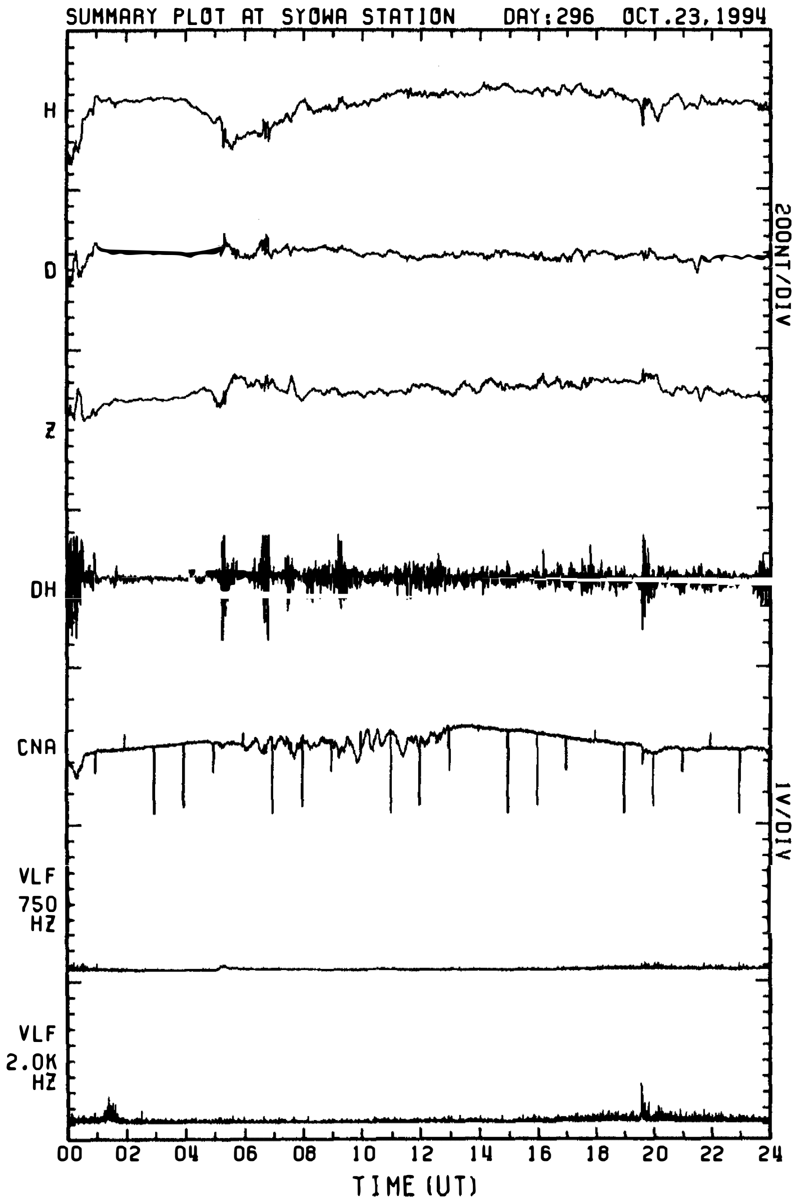


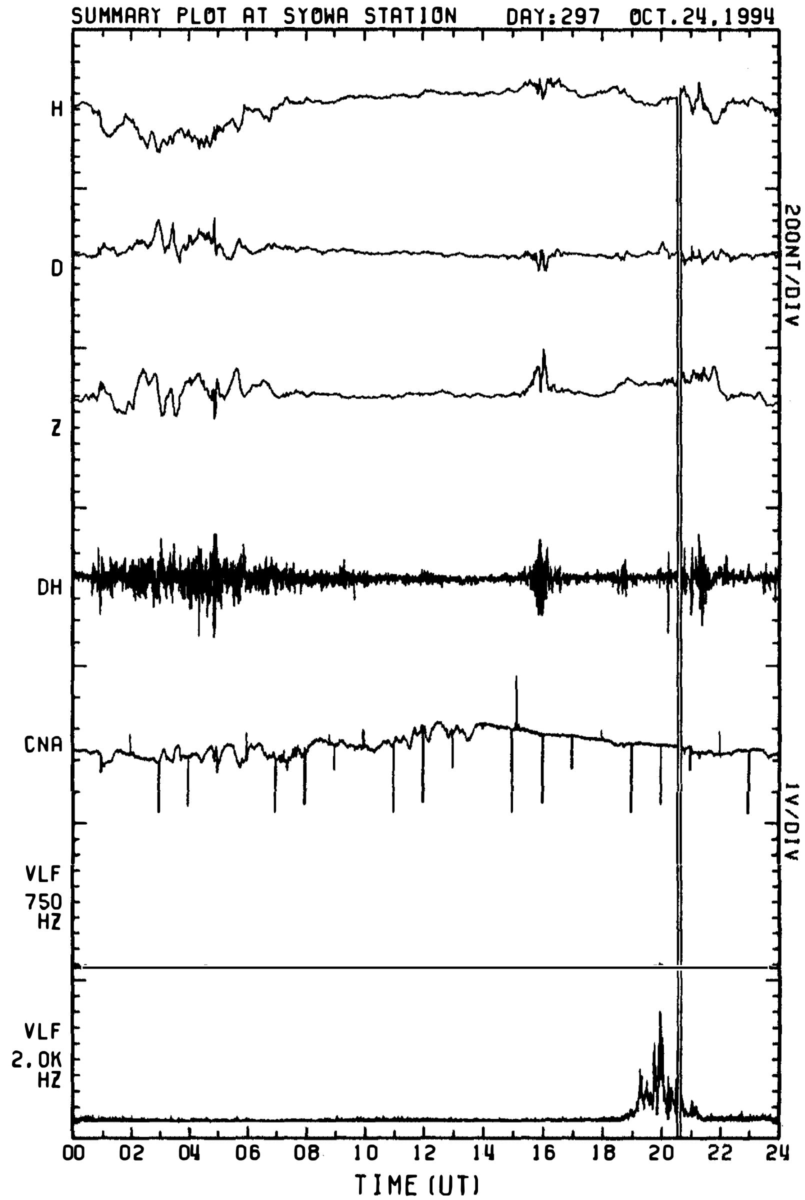

SUMMARY PLOT AT SYOWA STATION DAY:292 OCT.19,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

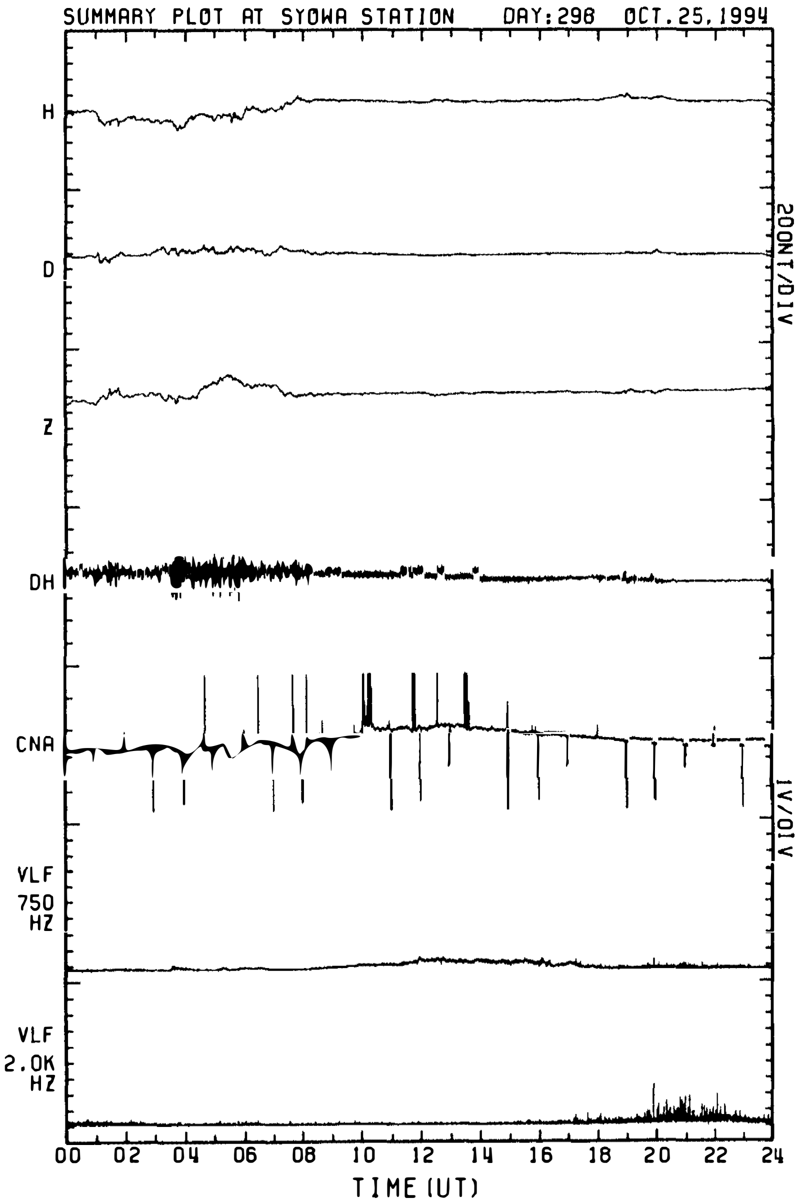

SUMMARY PLOT AT SYOWA STATION DAY:293 OCT.20,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

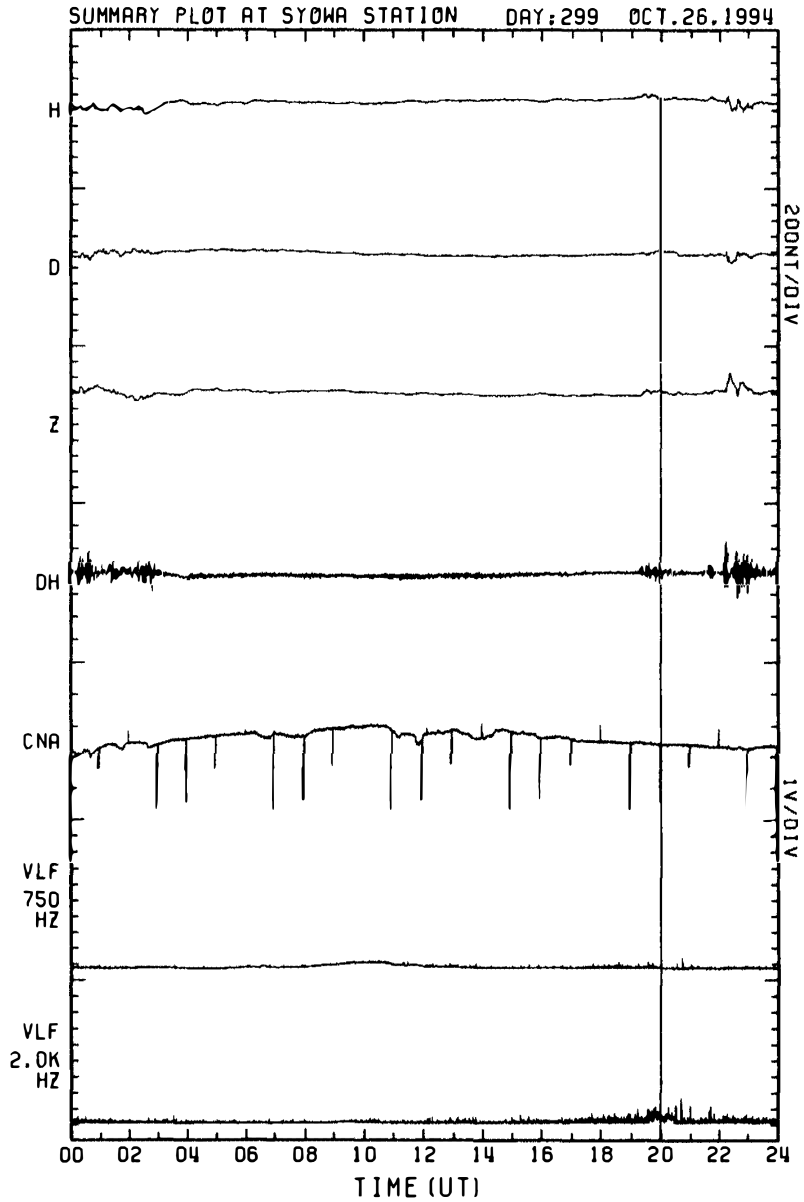

SUMMARY PLOT AT SYOWA STATION DAY:295 OCT.22,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

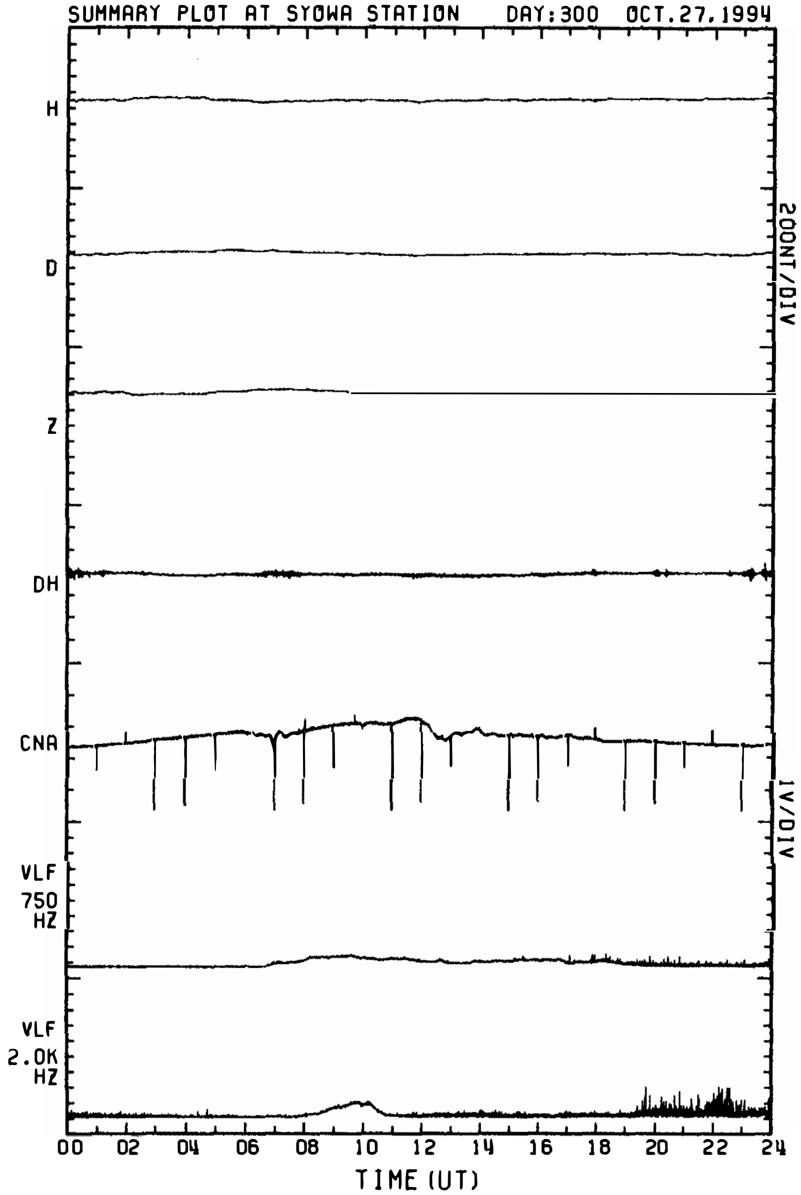

SUMMARY PLOT AT SYOWA STATION DAY:294 OCT.21,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

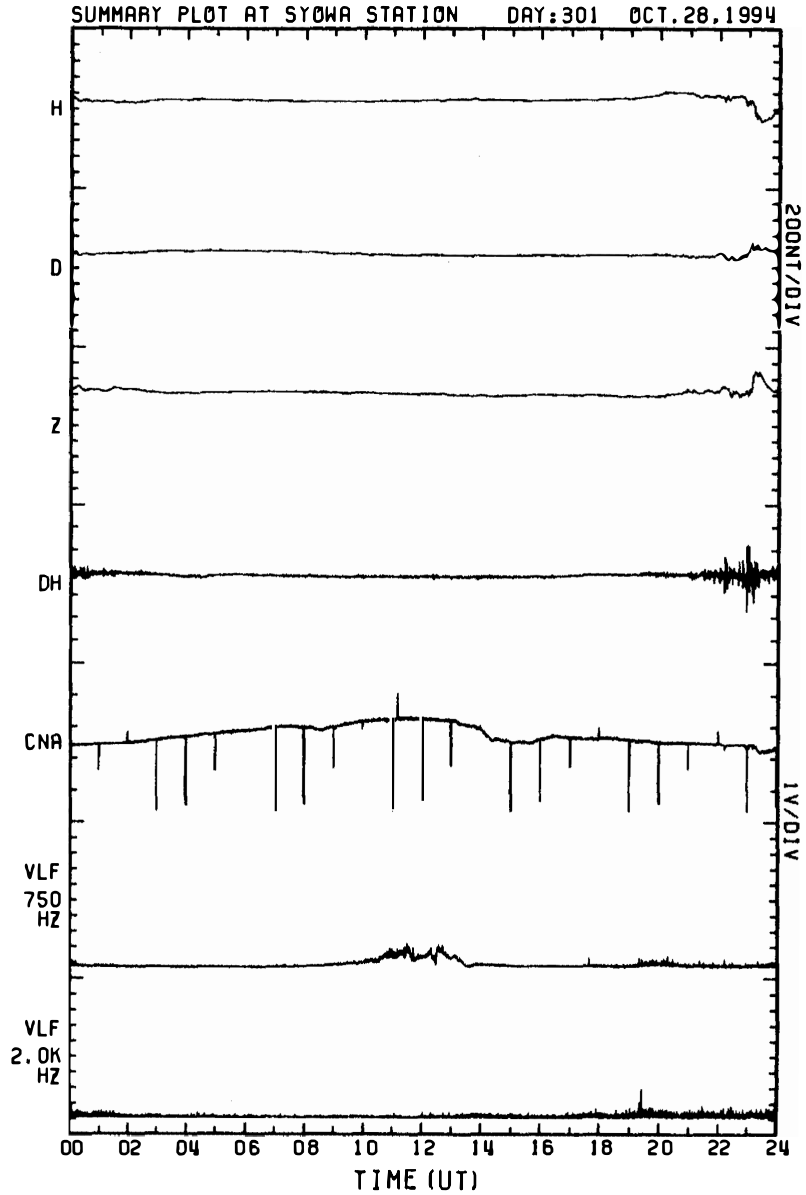

SUMMARY PLOT AT SYOWA STATION DAY:296 OCT.23,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:297 OCT.24,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

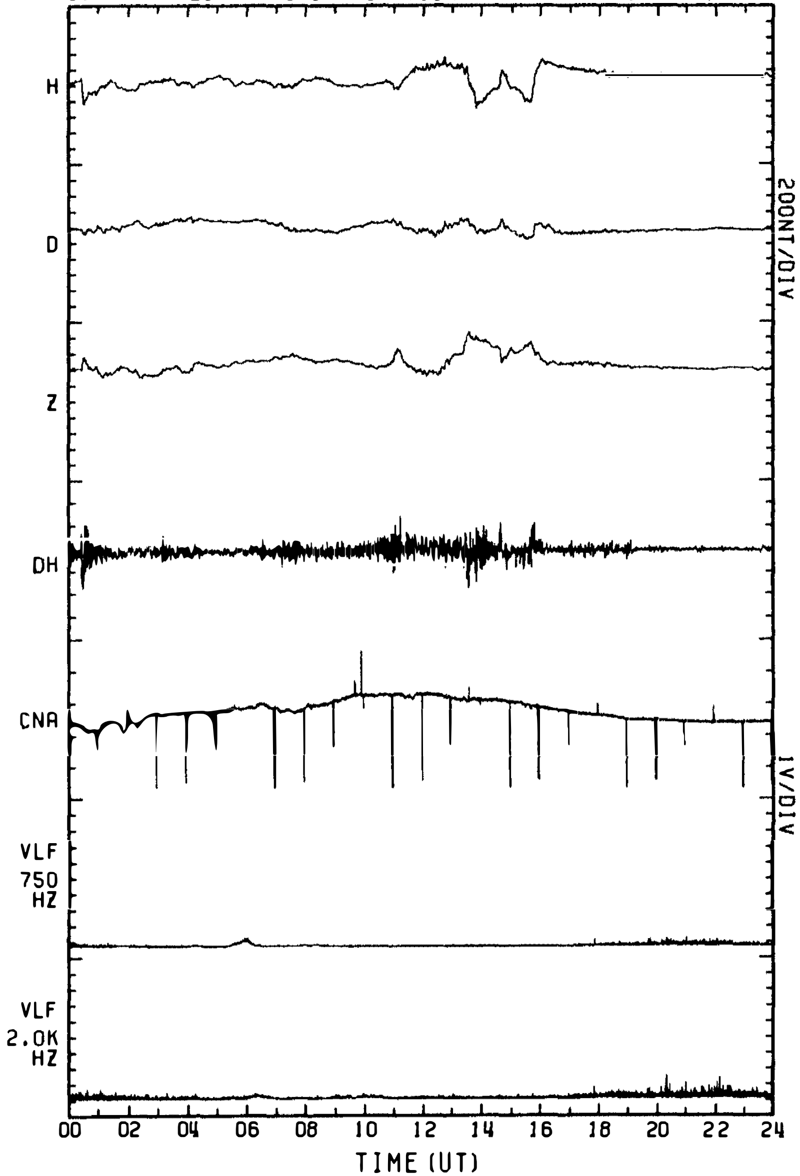

SUMMARY PLOT AT SYOWA STATION DAY:298 OCT.25,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:299 OCT.26,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

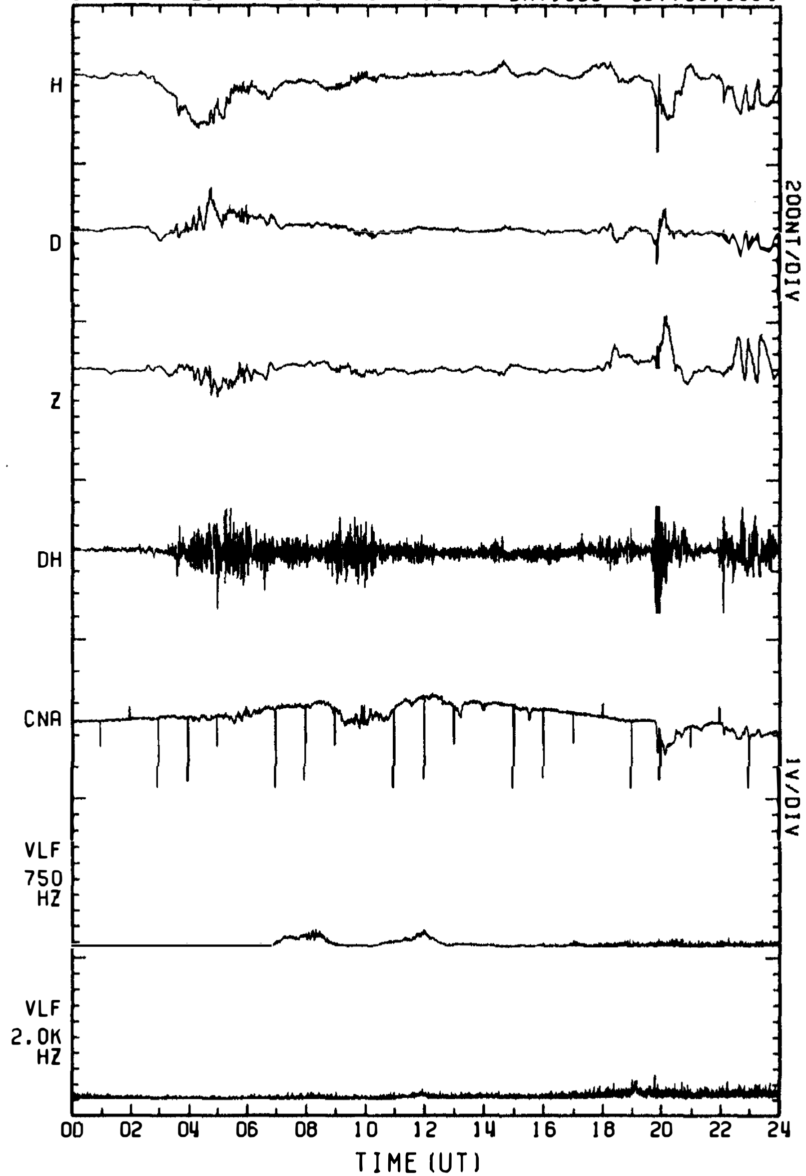

SUMMARY PLOT AT SYOWA STATION DAY:300 OCT.27,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

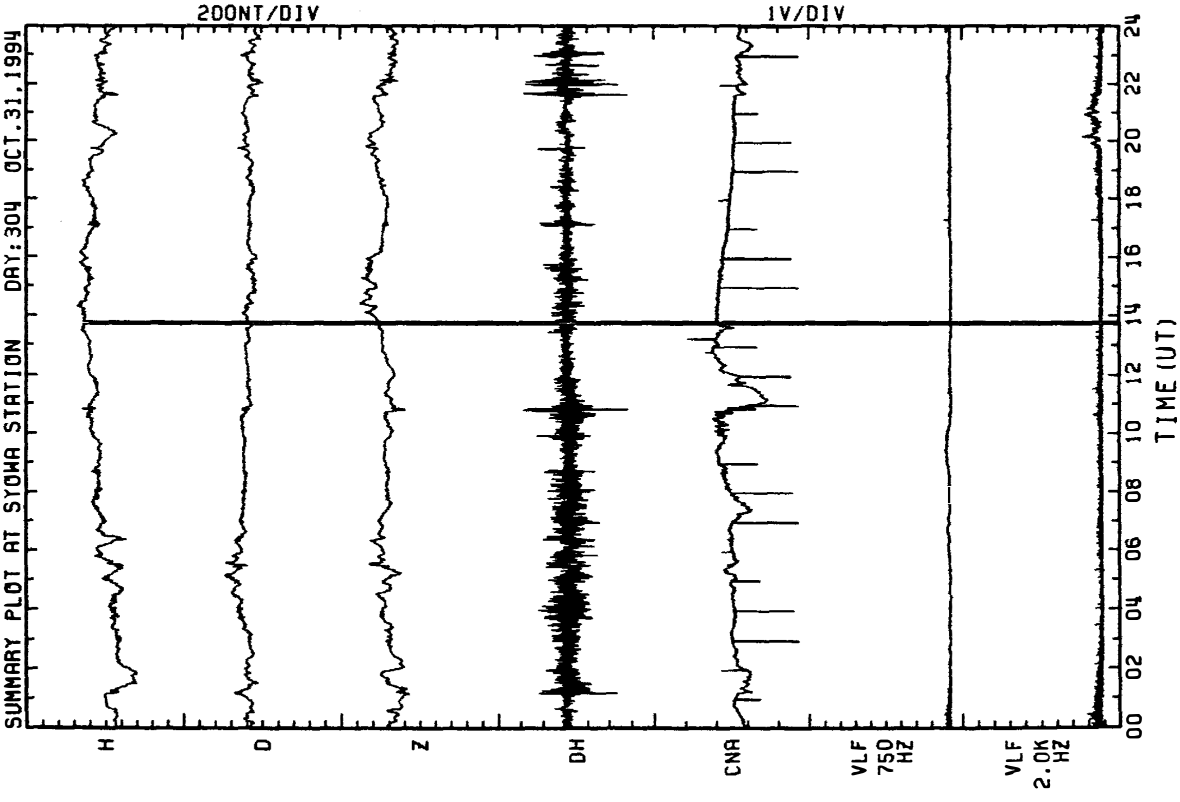

SUMMARY PLOT AT SYOWA STATION DAY:301 OCT.28,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

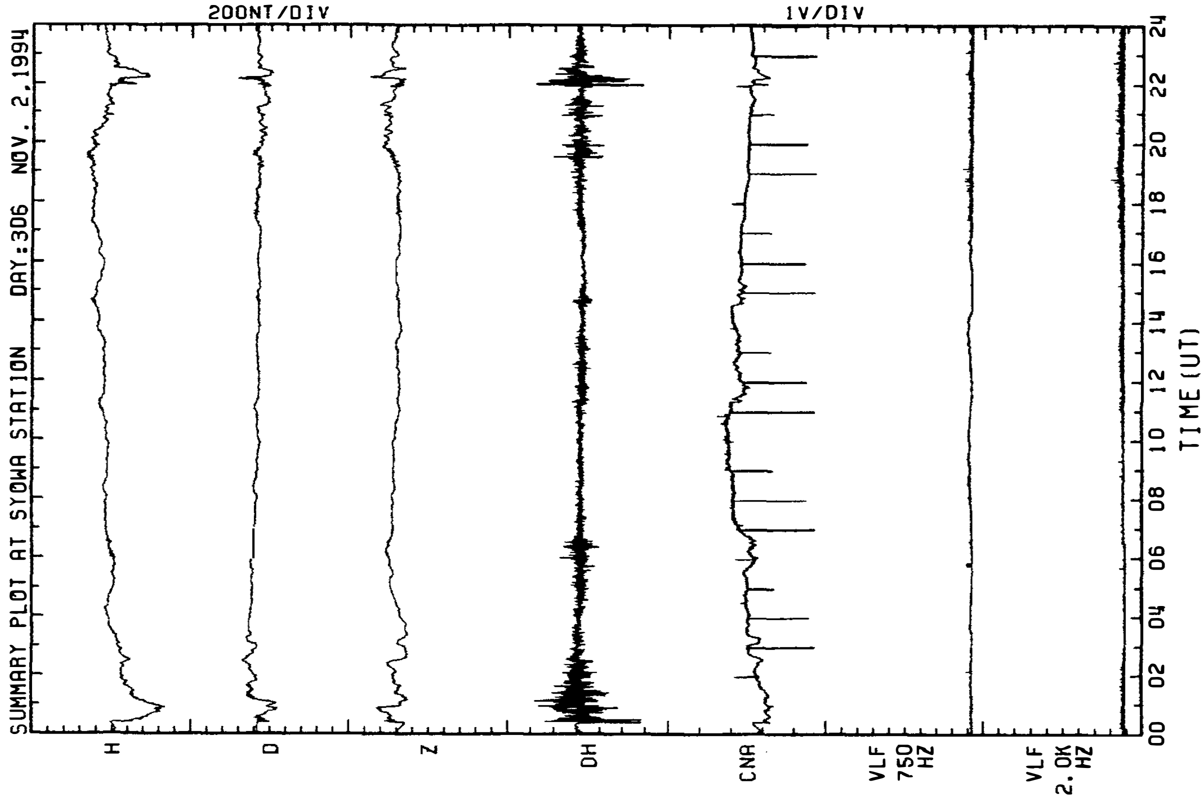
SUMMARY PLOT AT SYOWA STATION DAY:302 OCT.29,1994

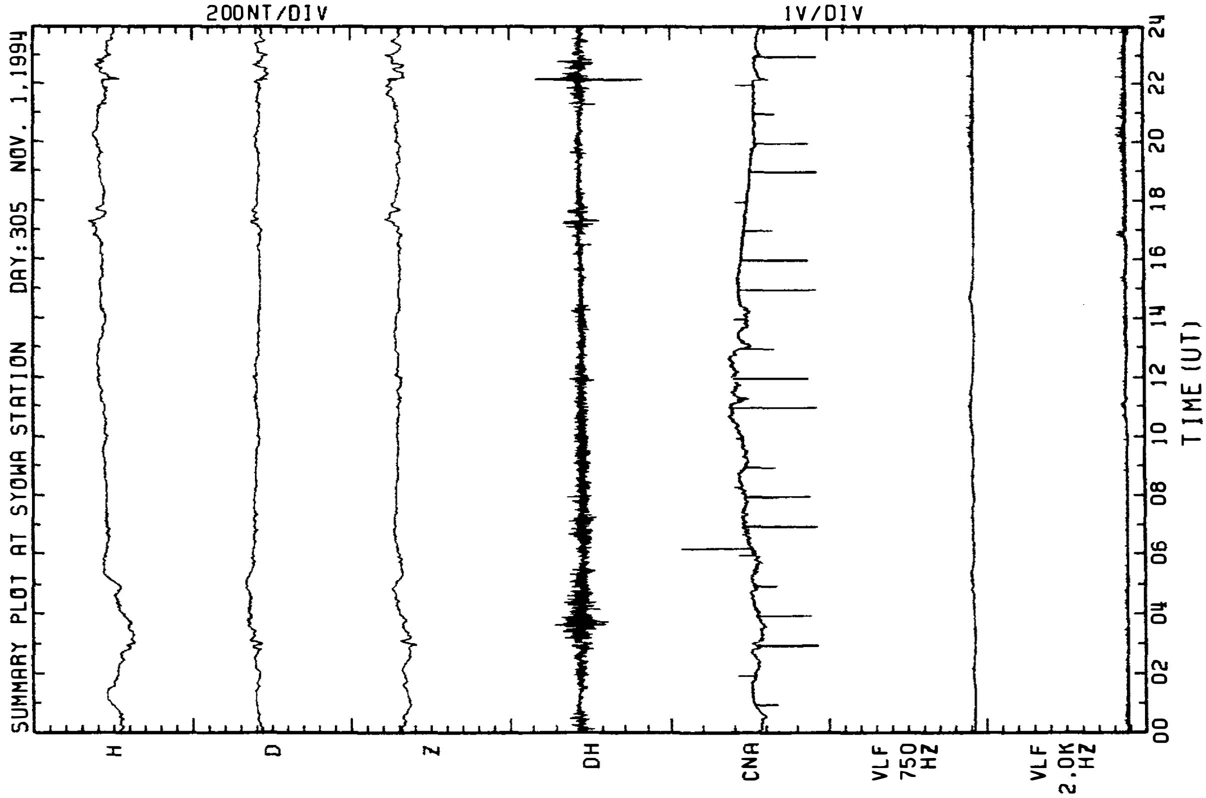


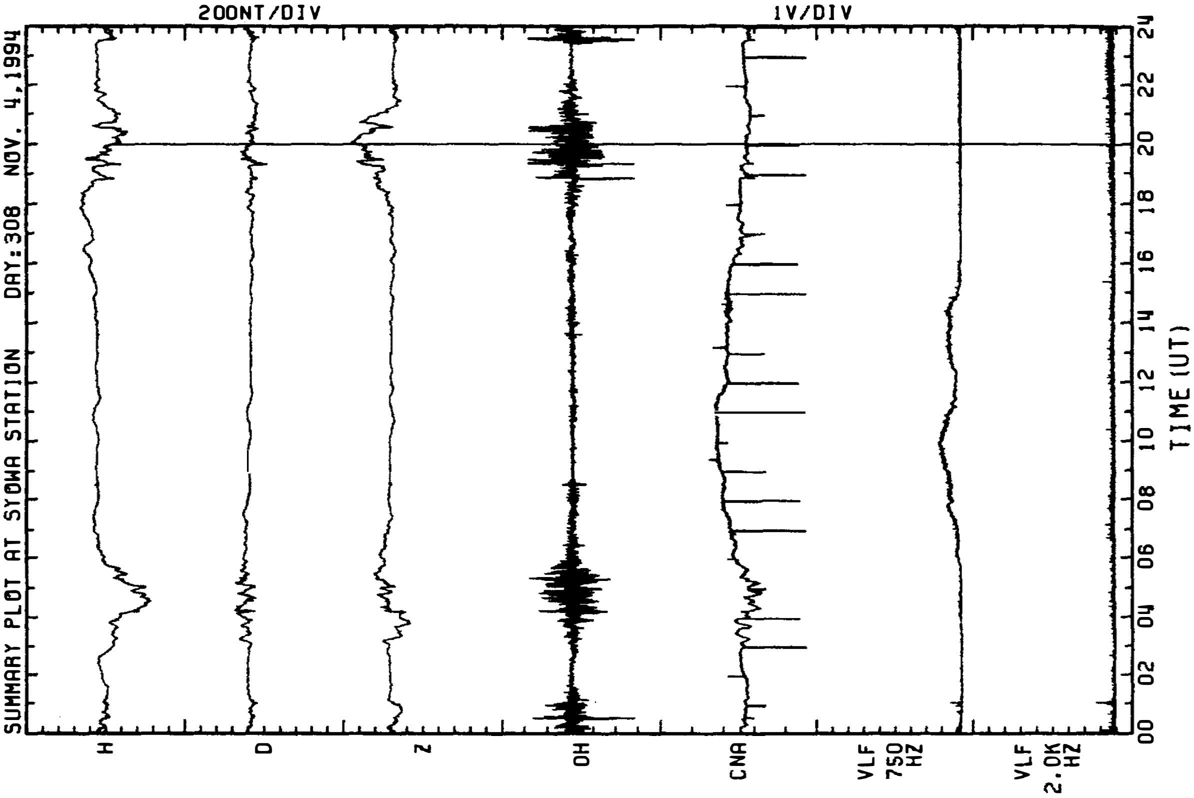
SUMMARY PLOT AT SYOWA STATION DAY:303 OCT.30,1994

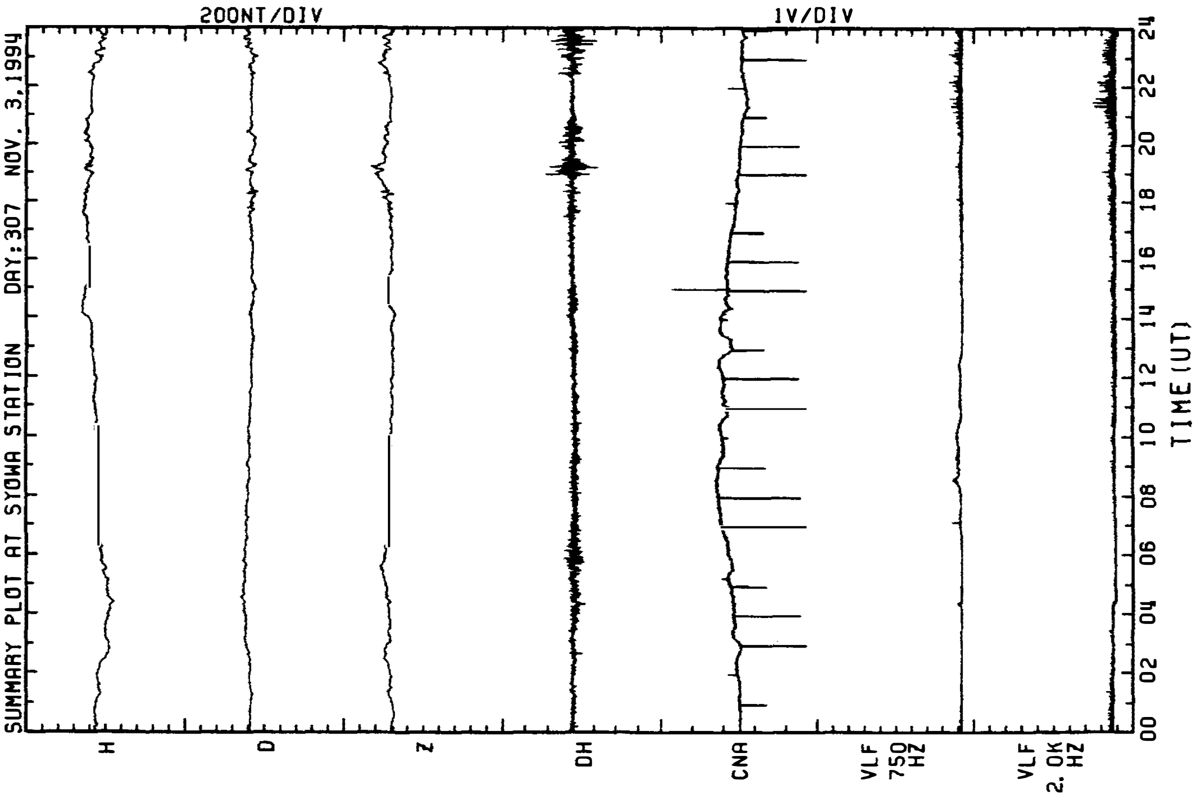


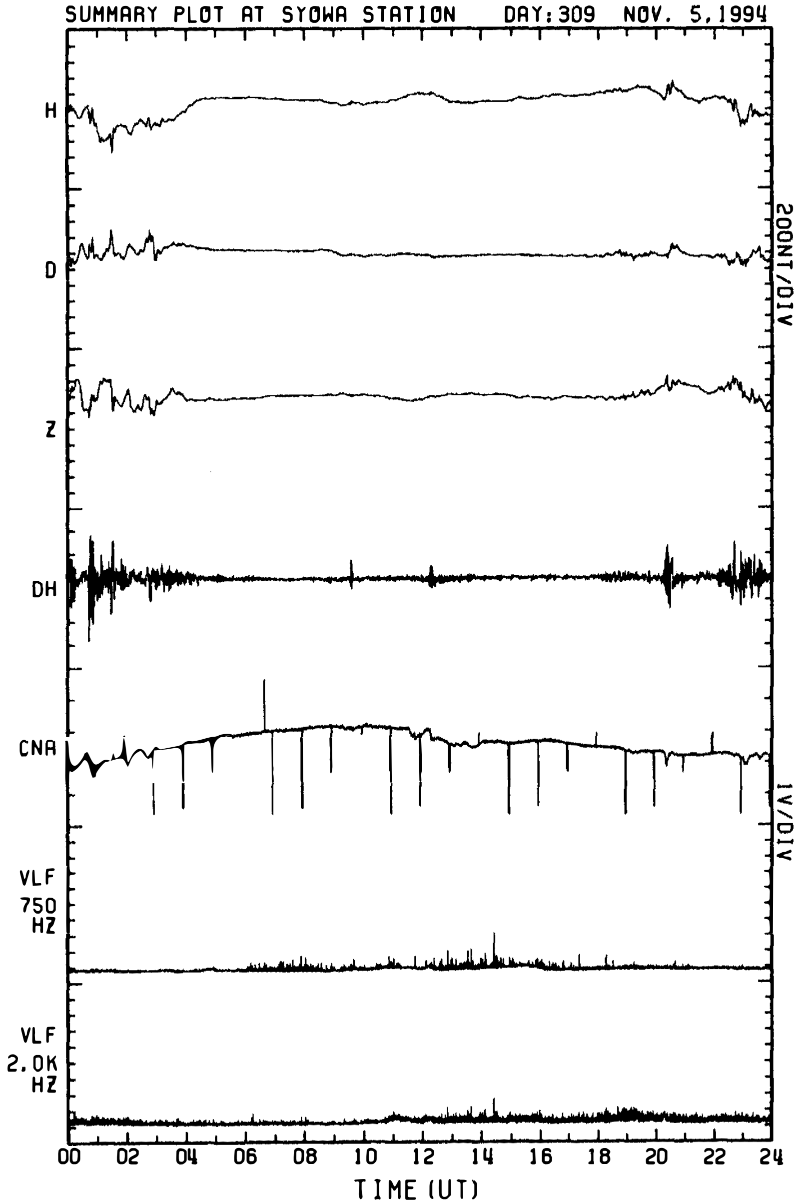

SUMMARY PLOT AT SYOWA STATION DAY:304 OCT.31,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

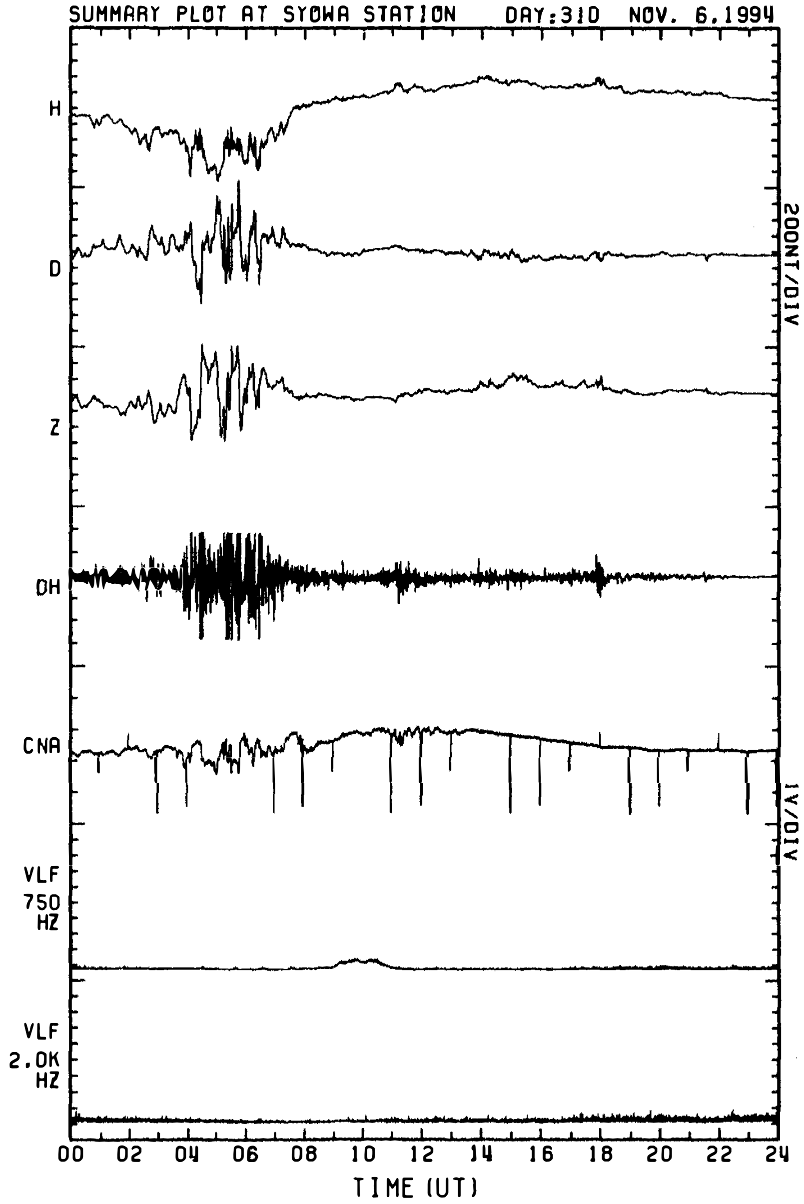

SUMMARY PLOT AT SYOWA STATION DAY:306 NOV. 2,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

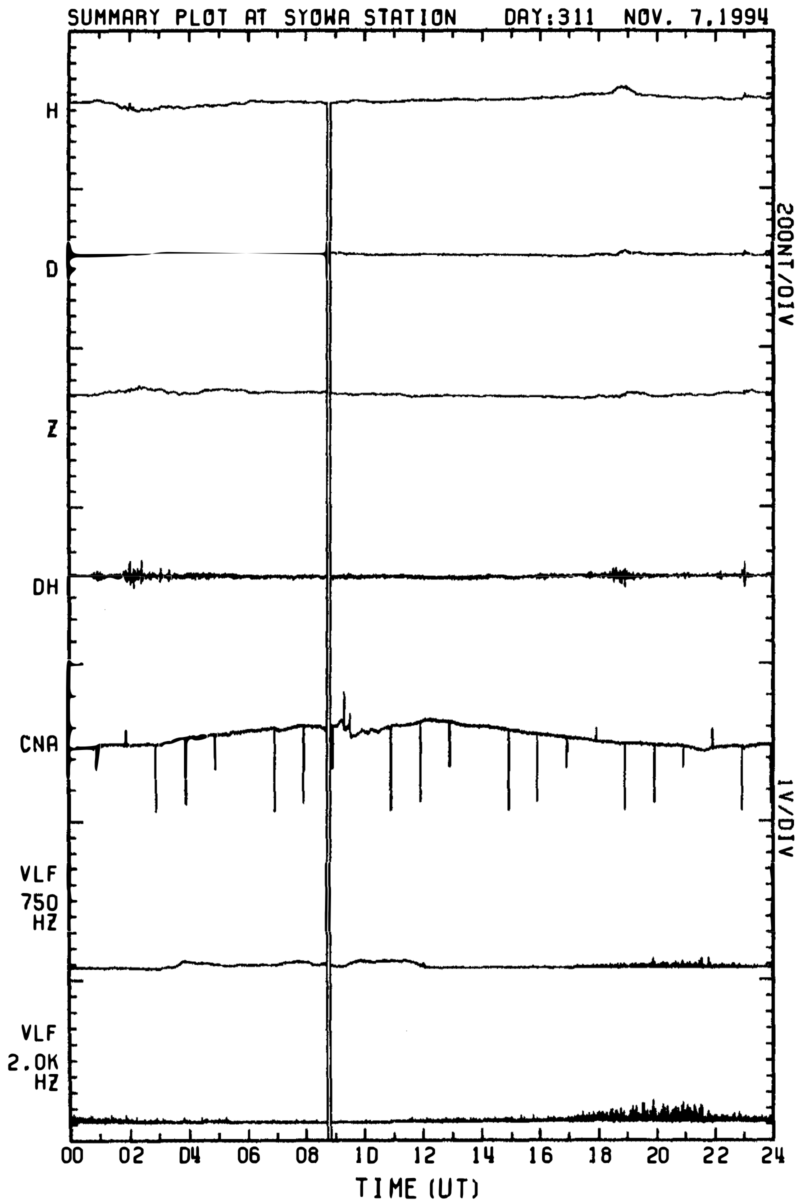

SUMMARY PLOT AT SYOWA STATION DAY:305 NOV. 1,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

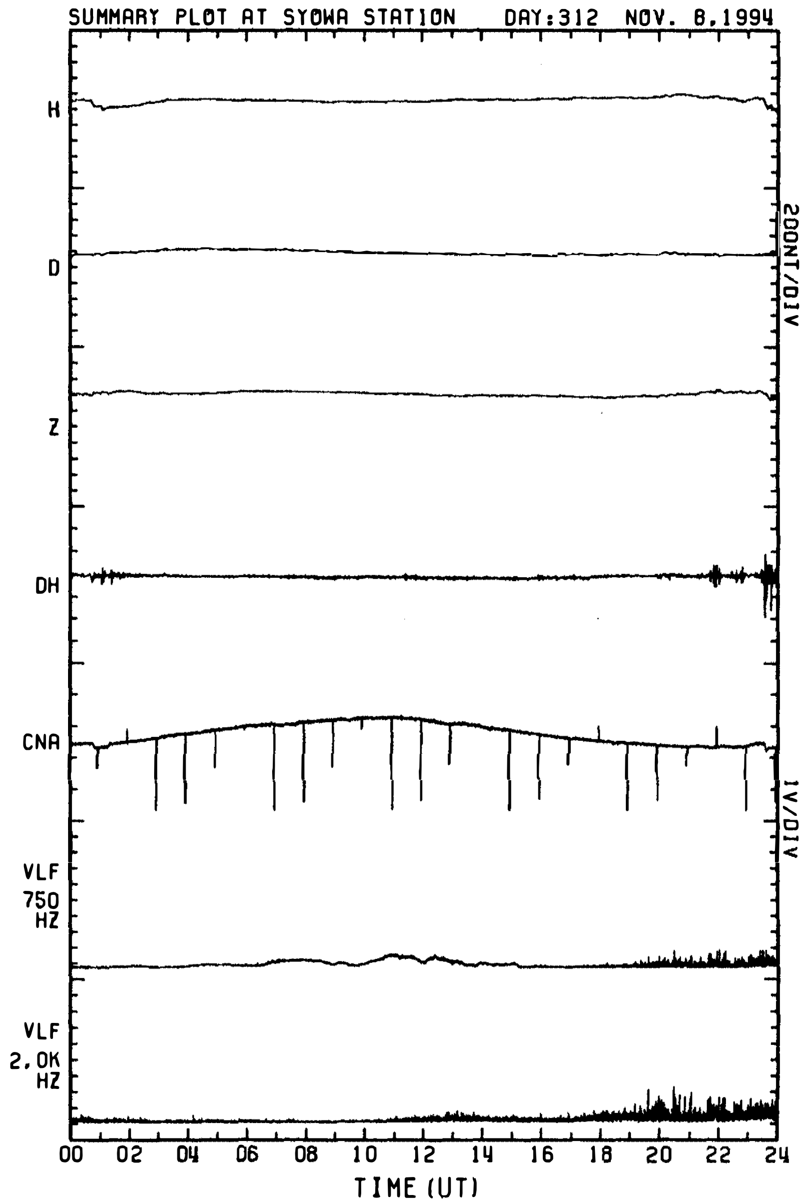

SUMMARY PLOT AT SYOWA STATION DAY:308 NOV. 4,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

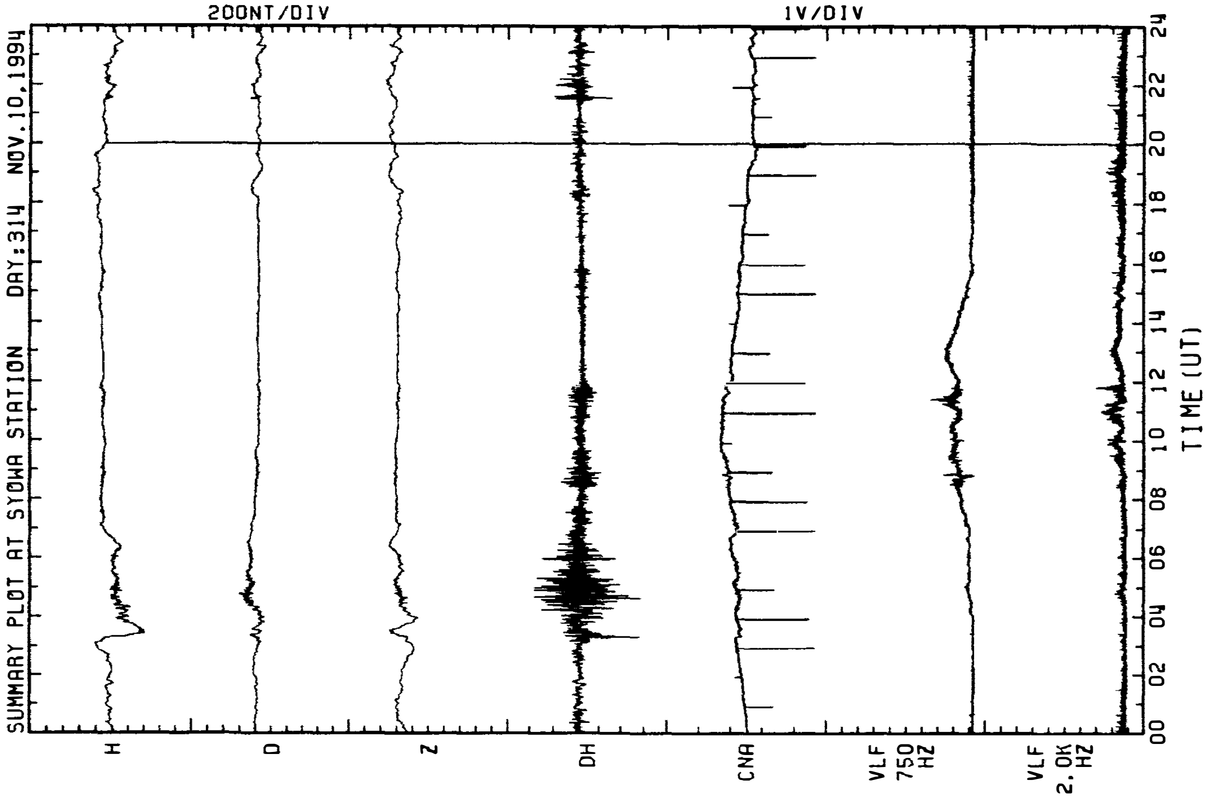

SUMMARY PLOT AT SYOWA STATION DAY:307 NOV. 3,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

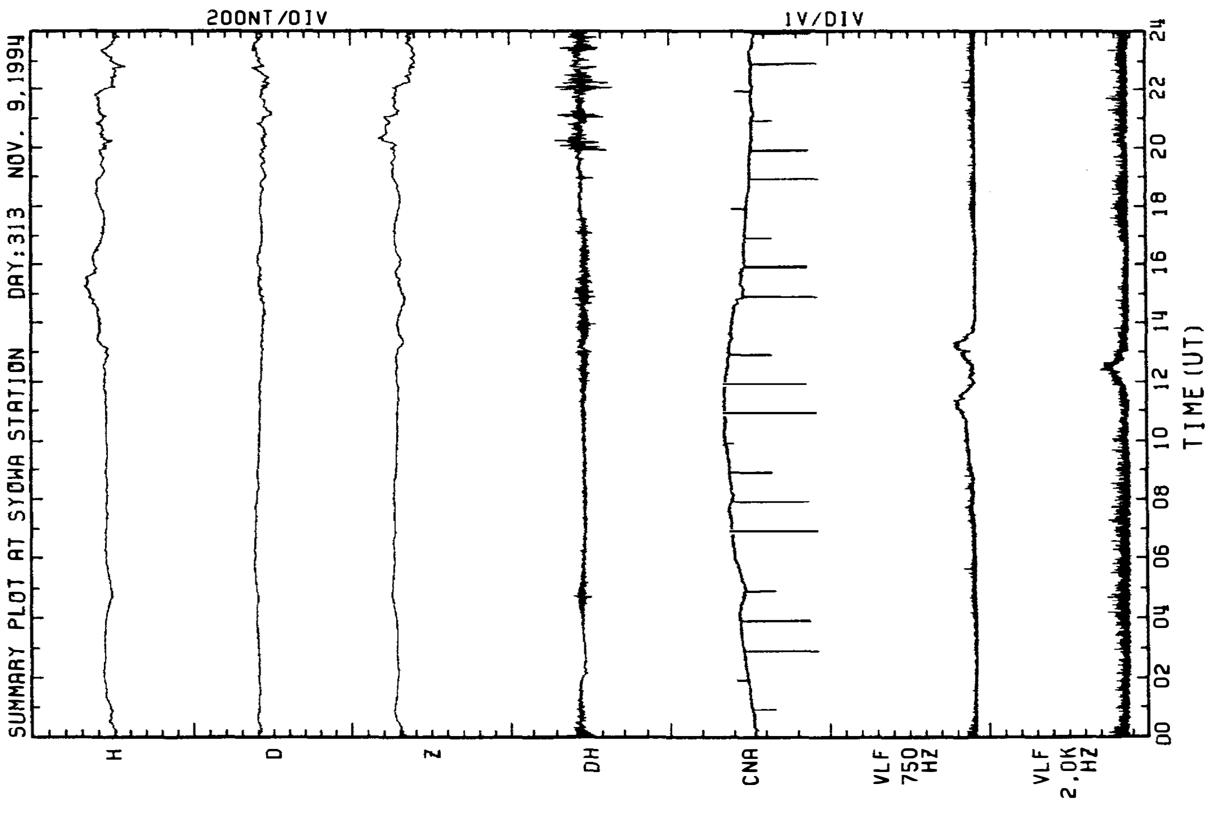

SUMMARY PLOT AT SYOWA STATION DAY:309 NOV. 5,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

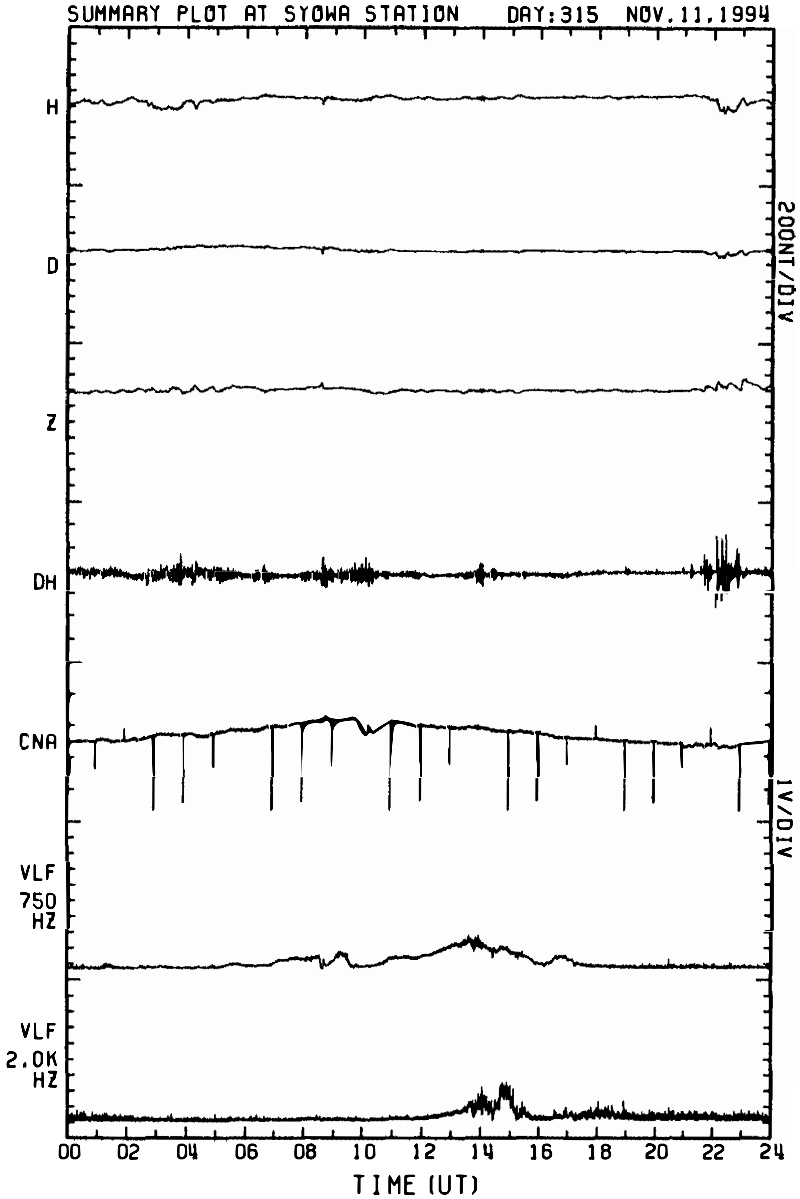

SUMMARY PLOT AT SYOWA STATION DAY:310 NOV. 6,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:311 NOV. 7,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:312 NOV. 8,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:314 NOV.10,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:313 NOV. 9,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:315 NOV.11,1994
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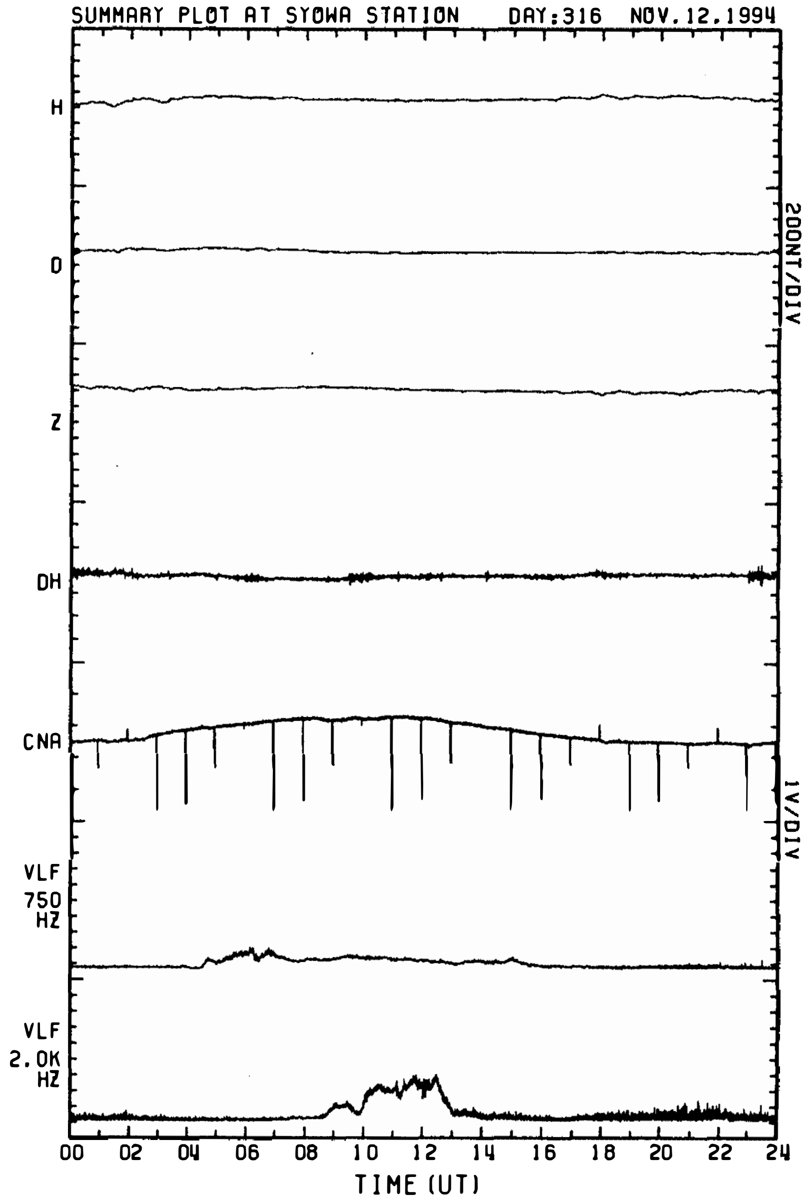
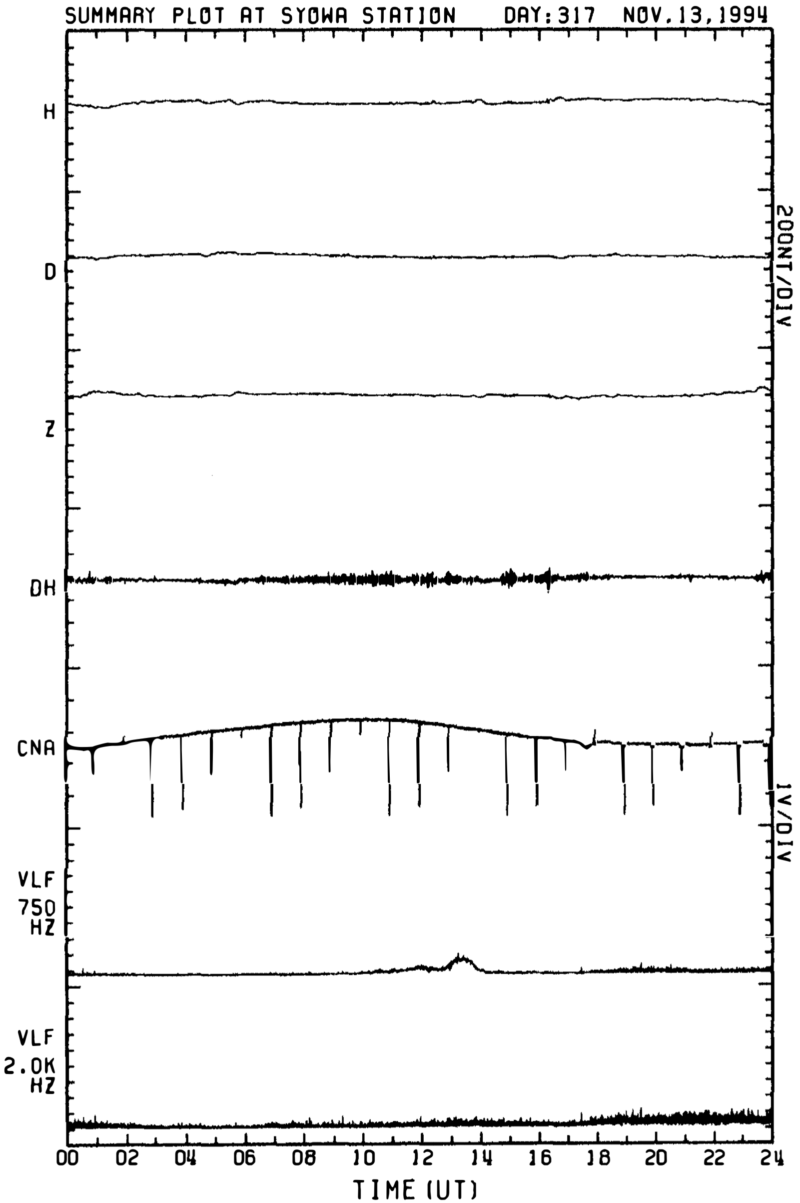
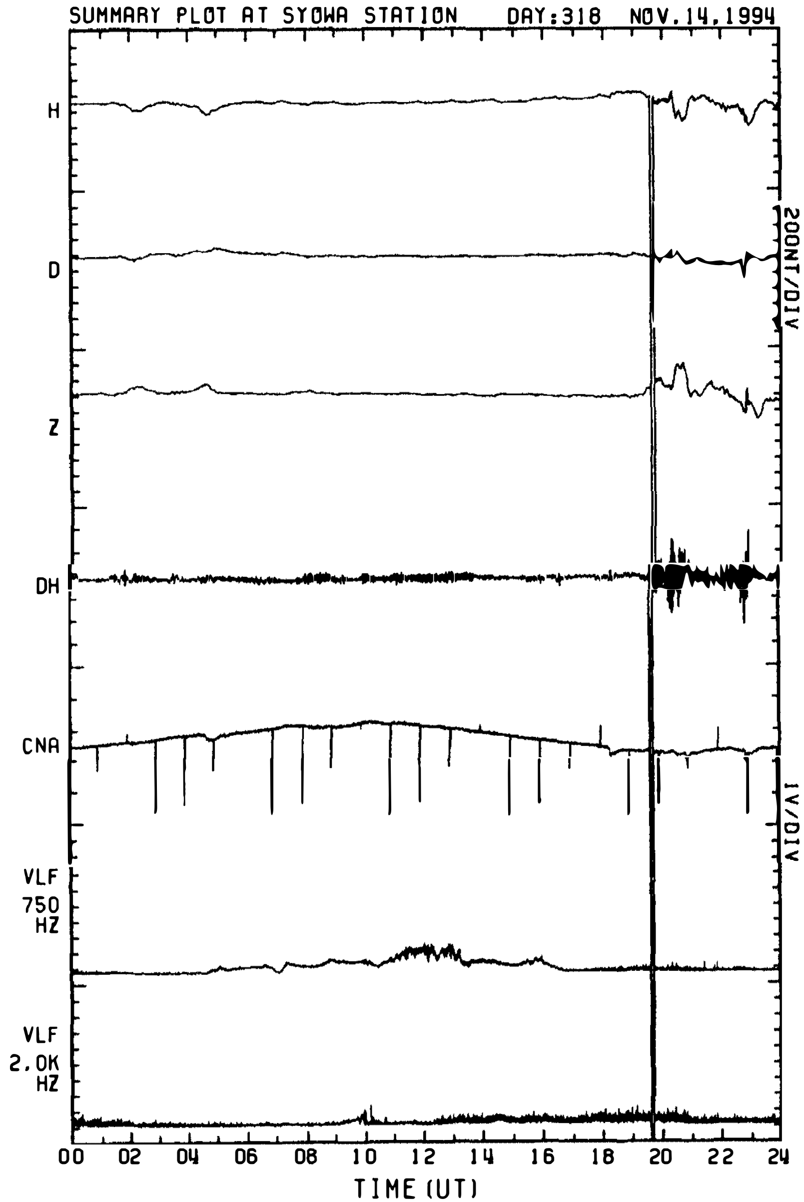
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:316 NOV.12,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:317 NOV.13,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:318 NOV.14,1994
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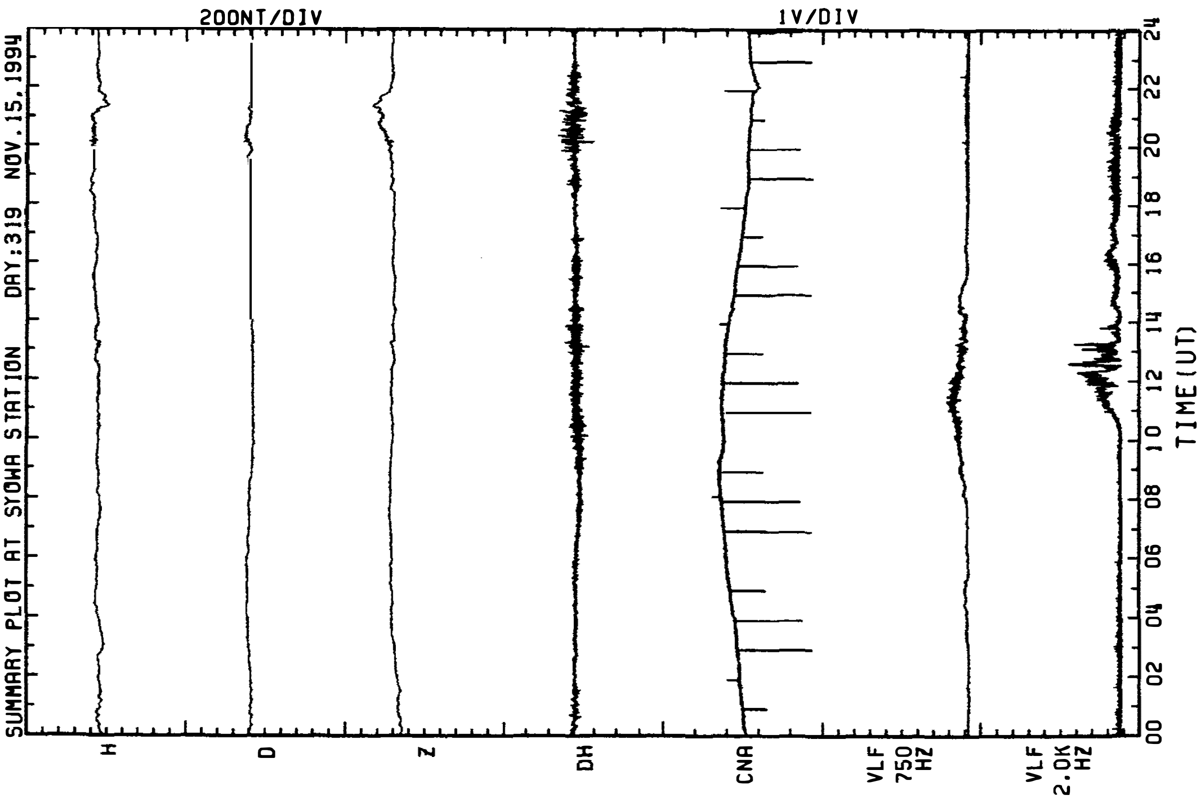
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:319 NOV.15,1994
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1V/DIV
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D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
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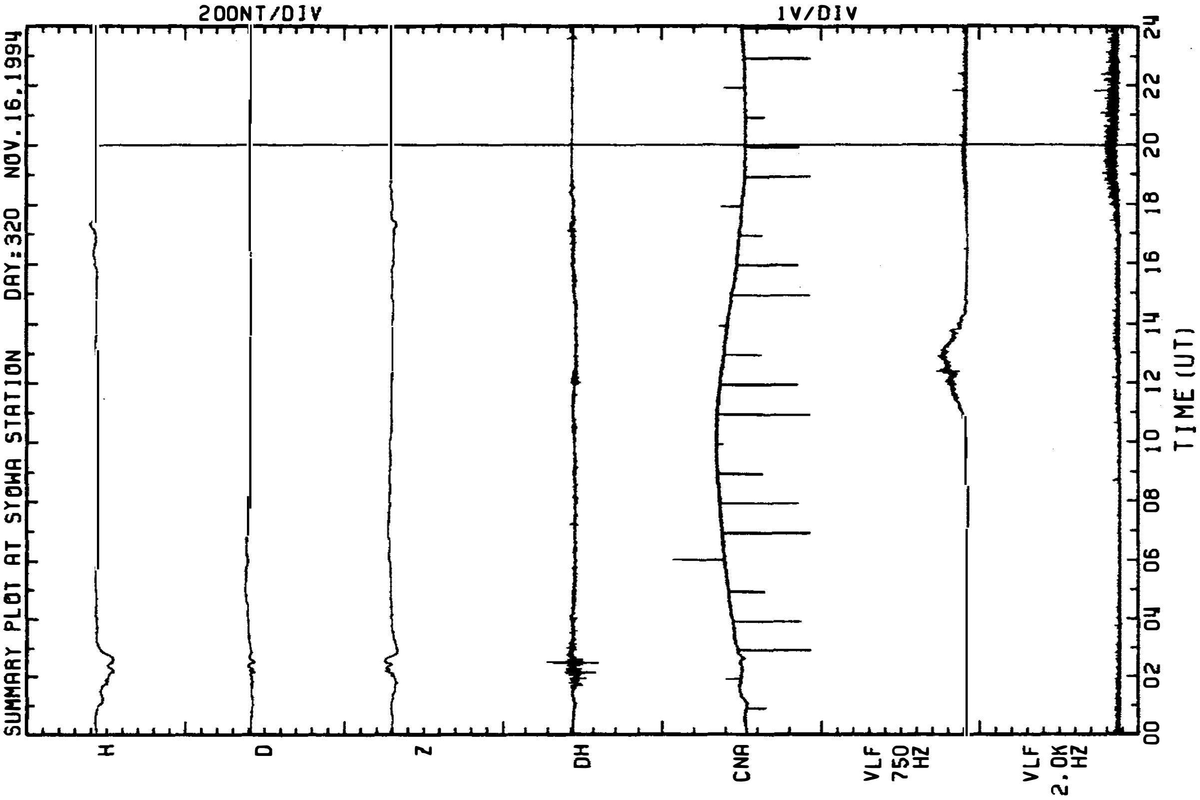
TIME(UT)


SUMMARY PLOT AT SYOWA STATION DAY:320 NOV.16,1994
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1V/DIV
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D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
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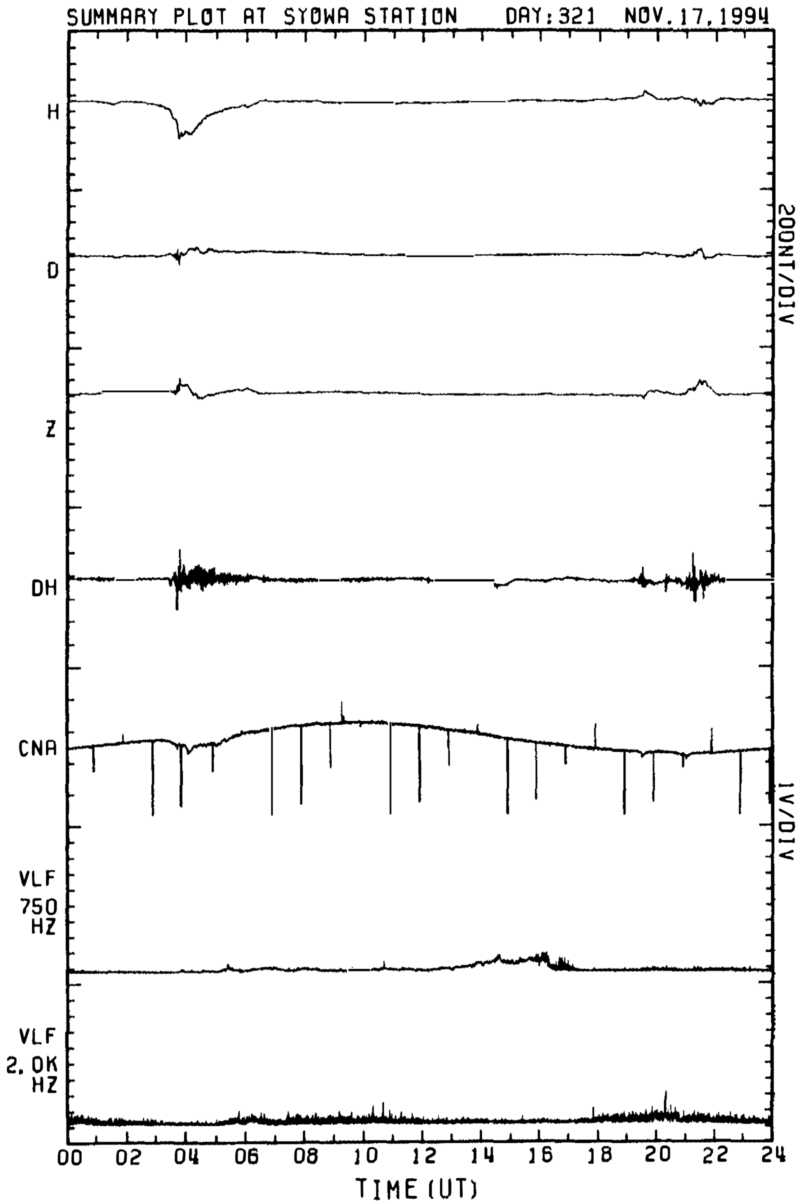
TIME(UT)


SUMMARY PLOT AT SYOWA STATION DAY:321 NOV.17,1994
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D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
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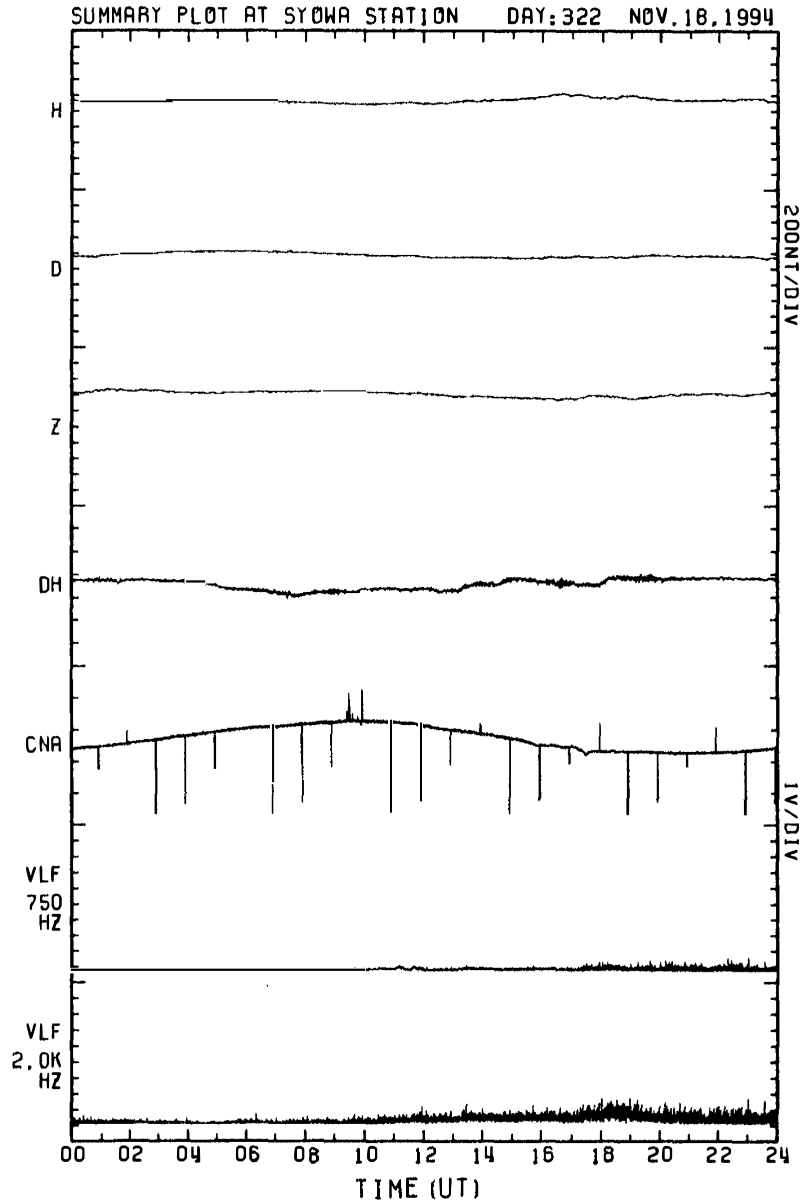
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:322 NOV.18,1994
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D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
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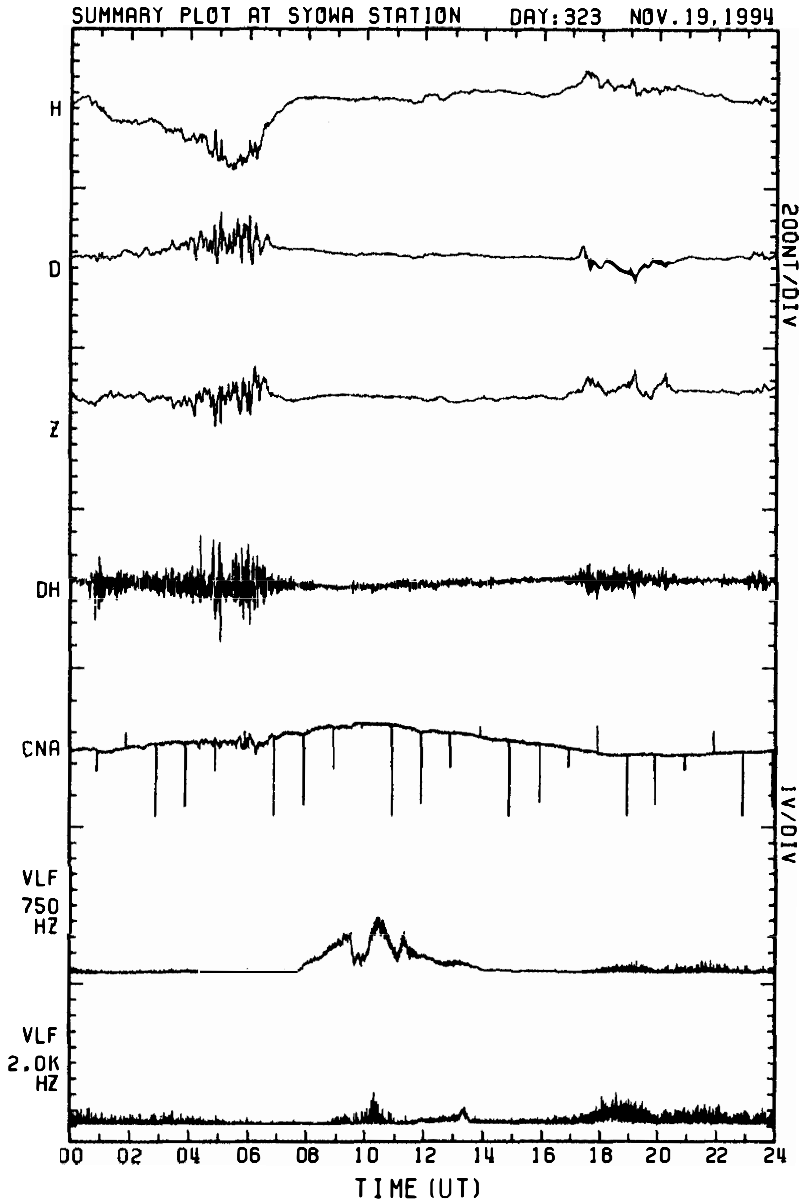
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:323 NOV.19,1994
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D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
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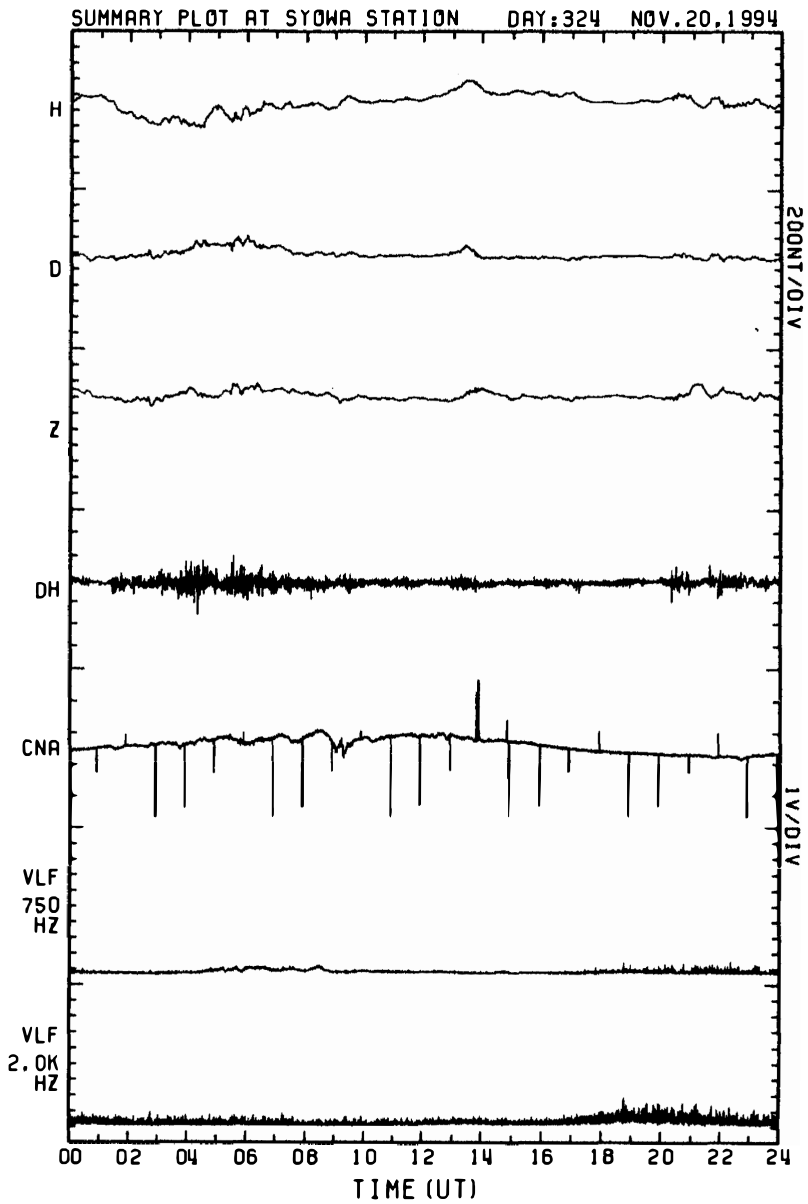
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:324 NOV.20,1994
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D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
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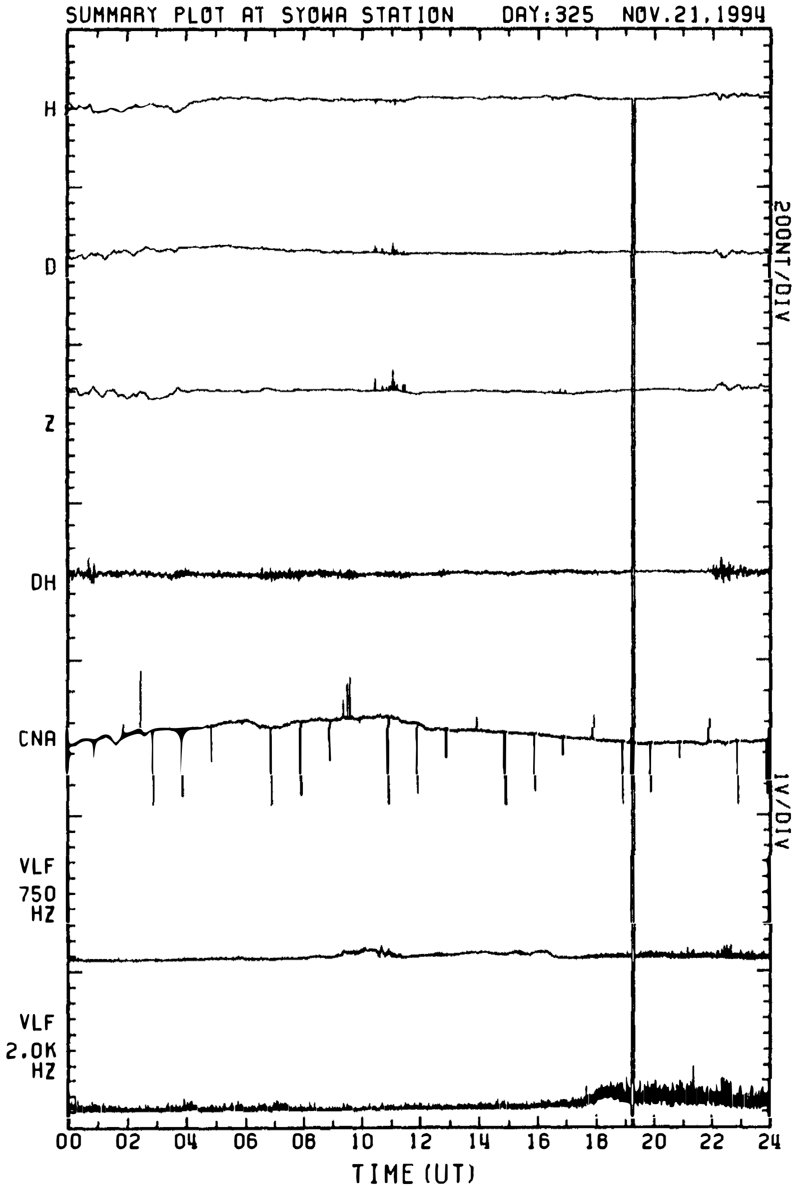
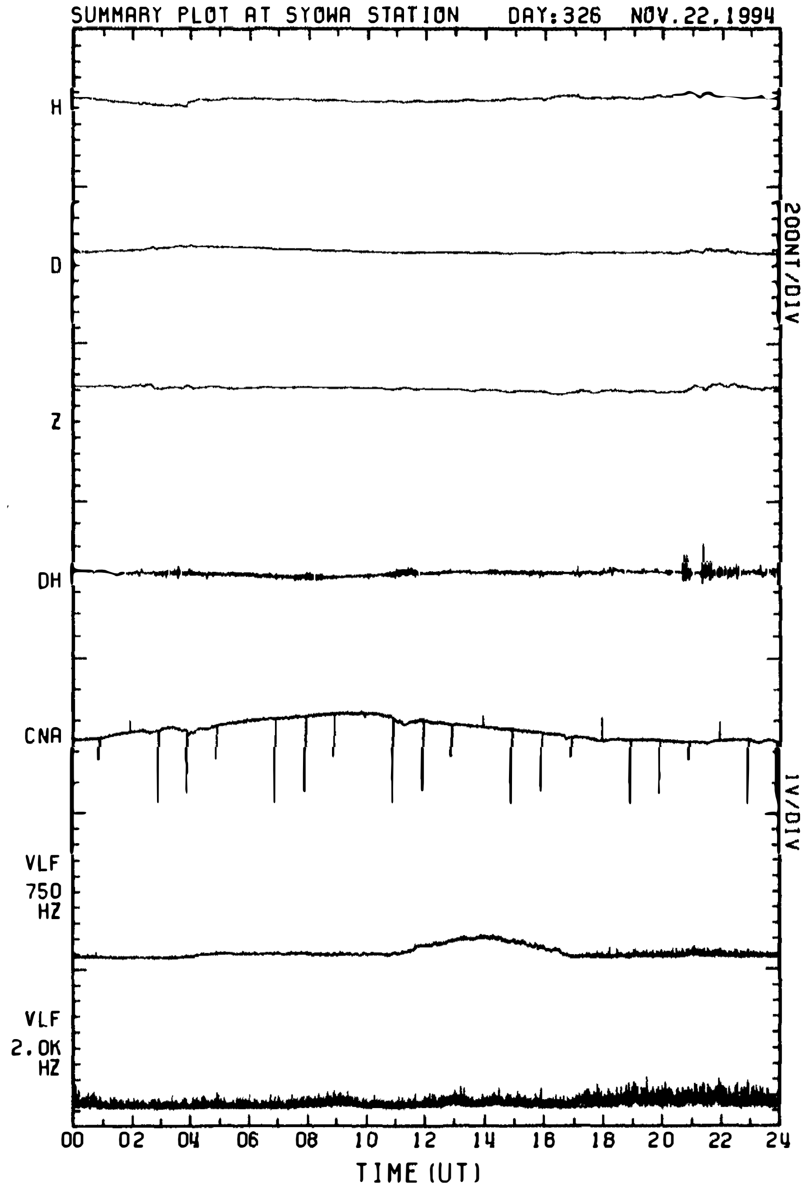
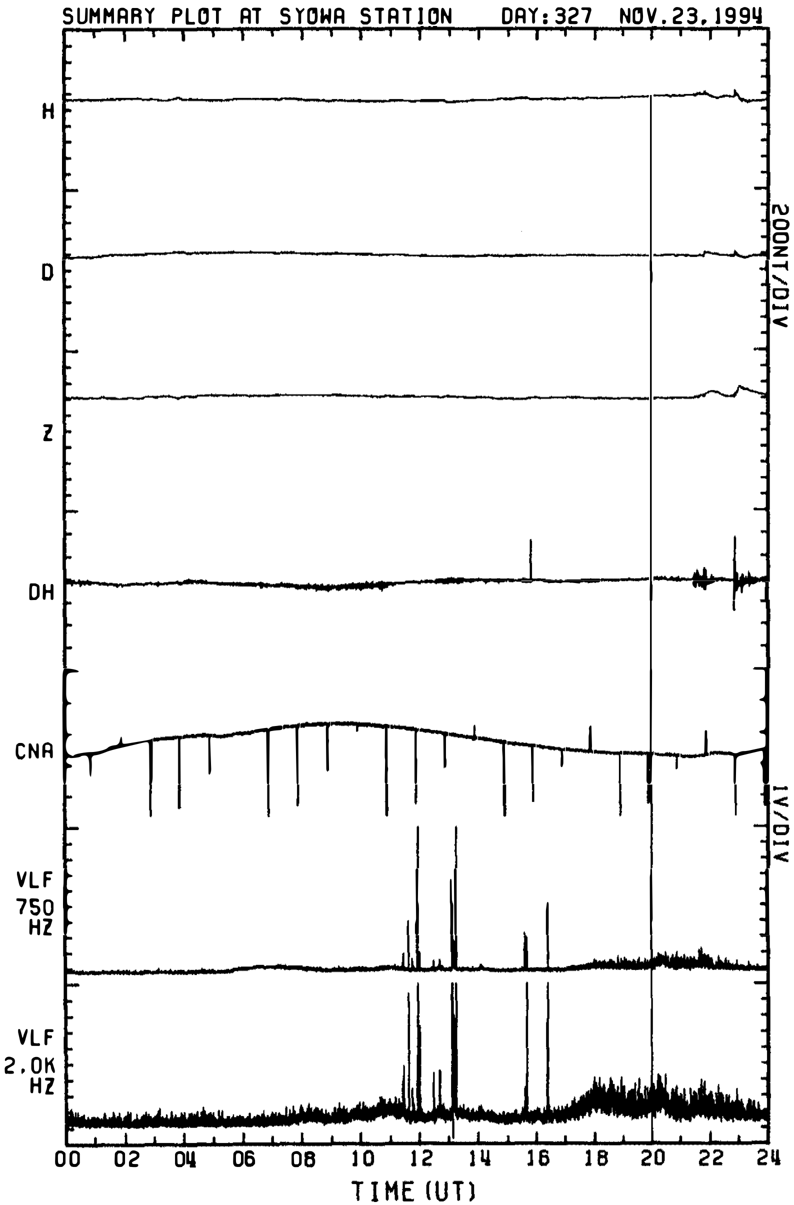
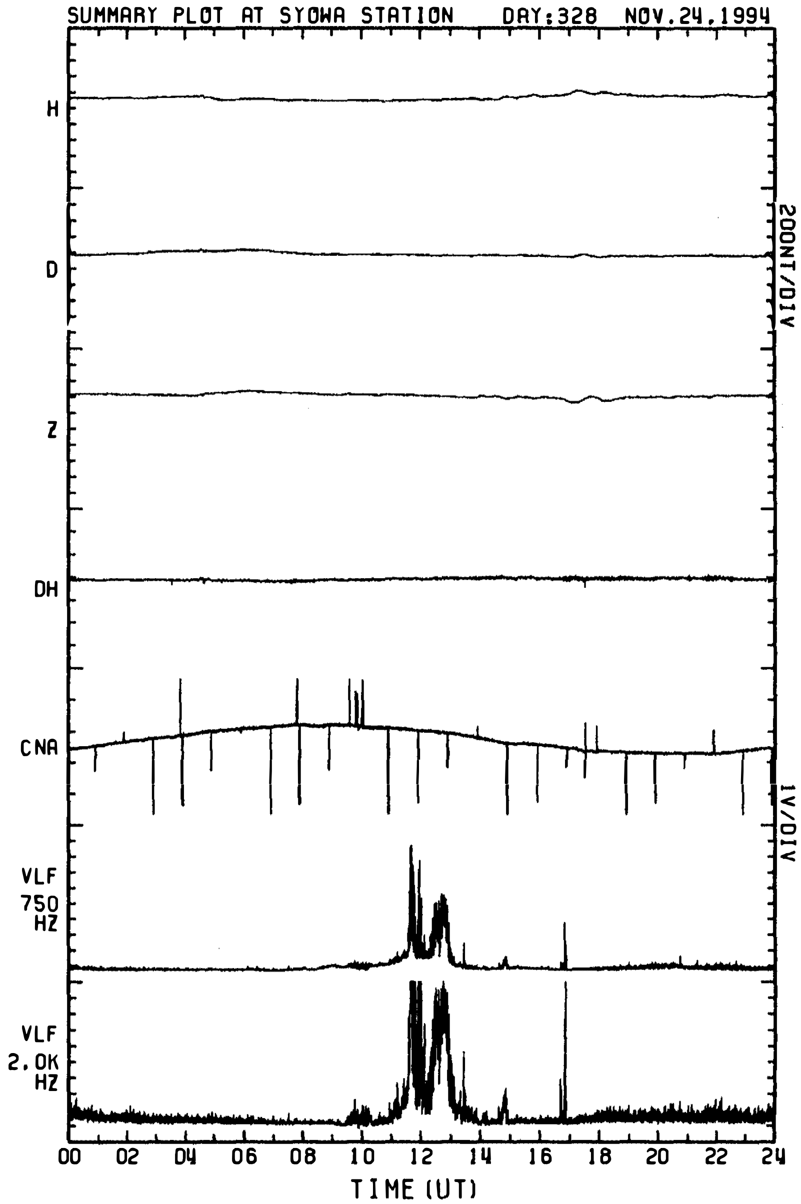
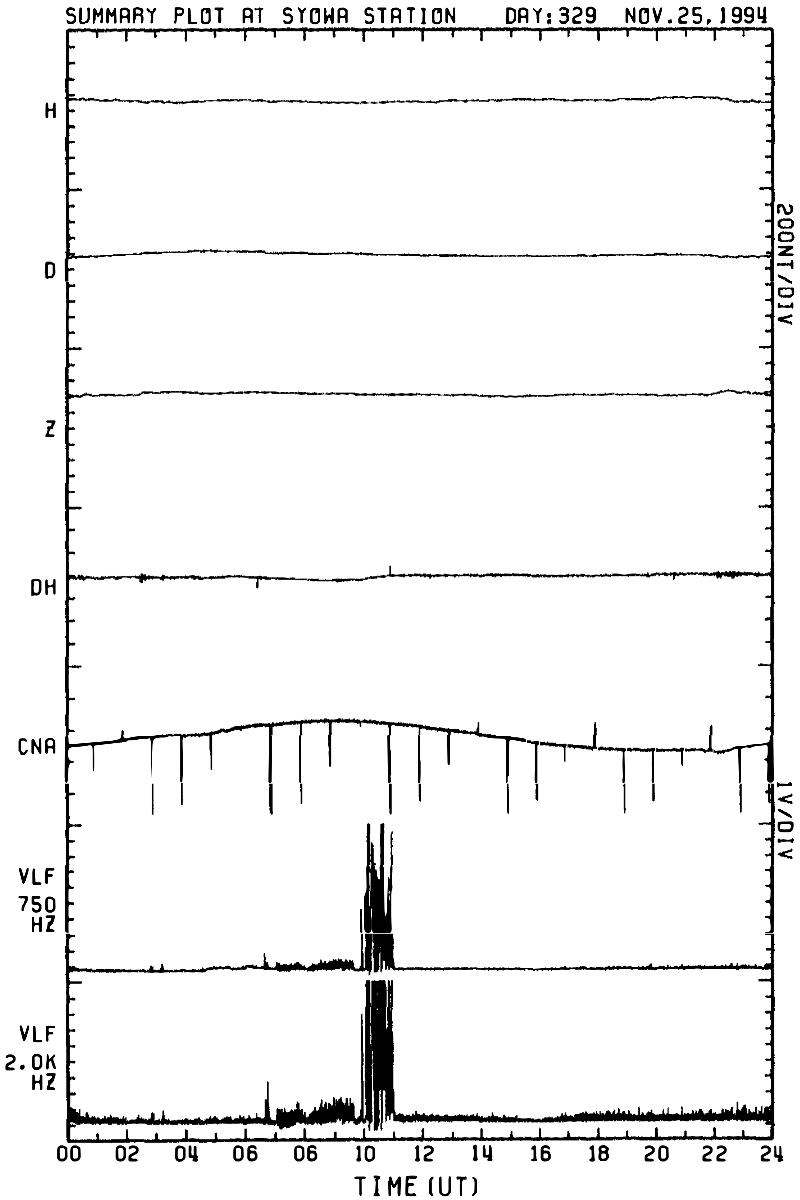
TIME (UT)

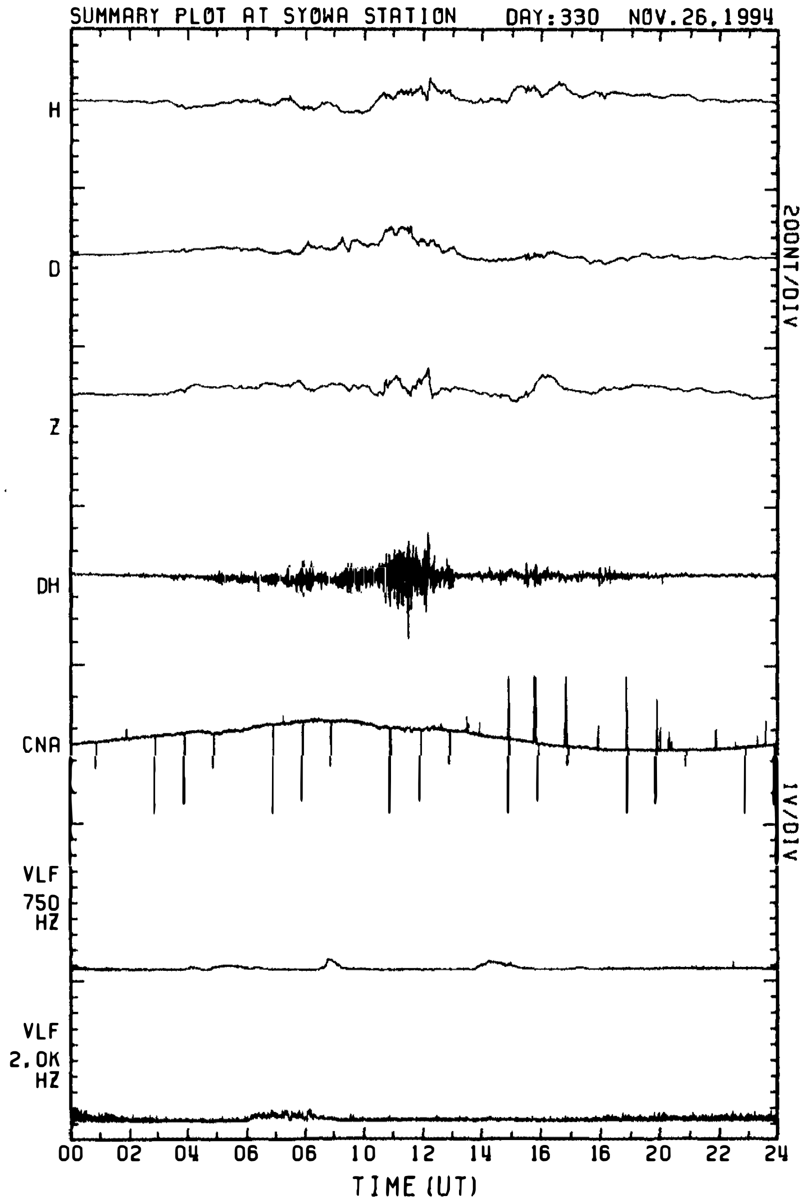

SUMMARY PLOT AT SYOWA STATION DAY:325 NOV.21,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

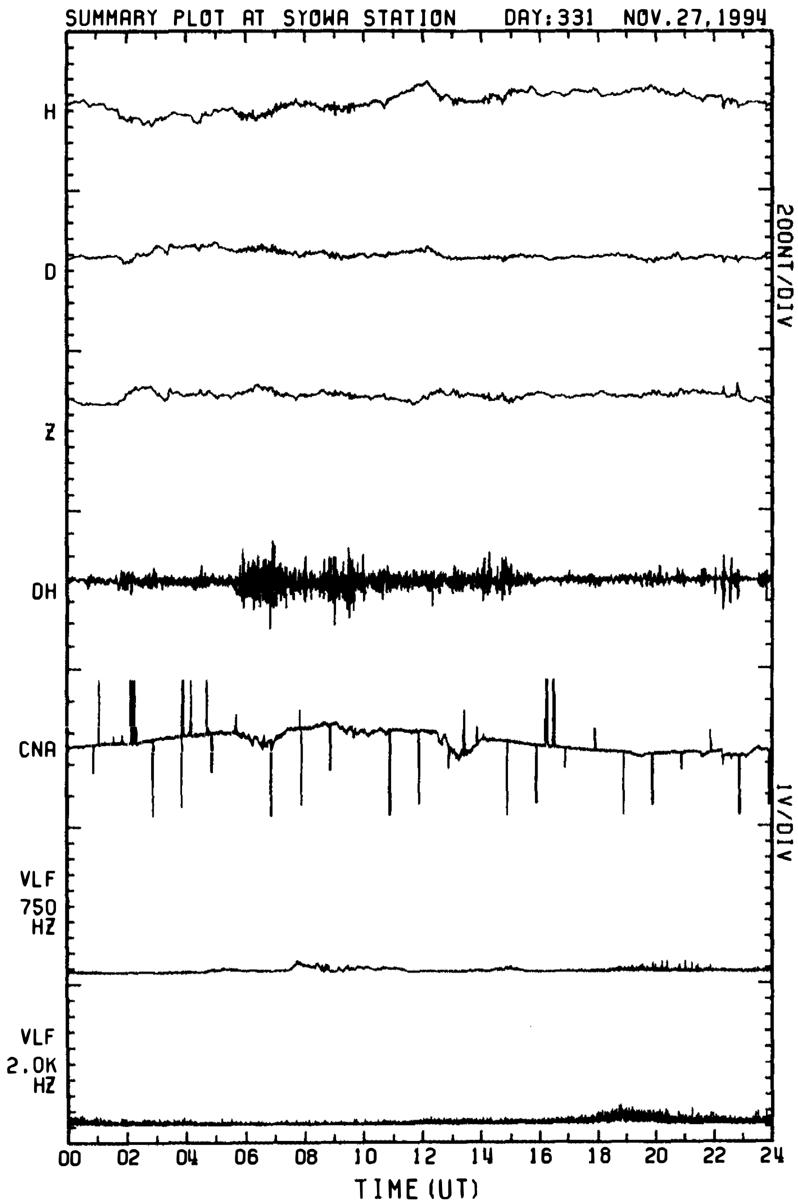

SUMMARY PLOT AT SYOWA STATION DAY:326 NOV.22,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

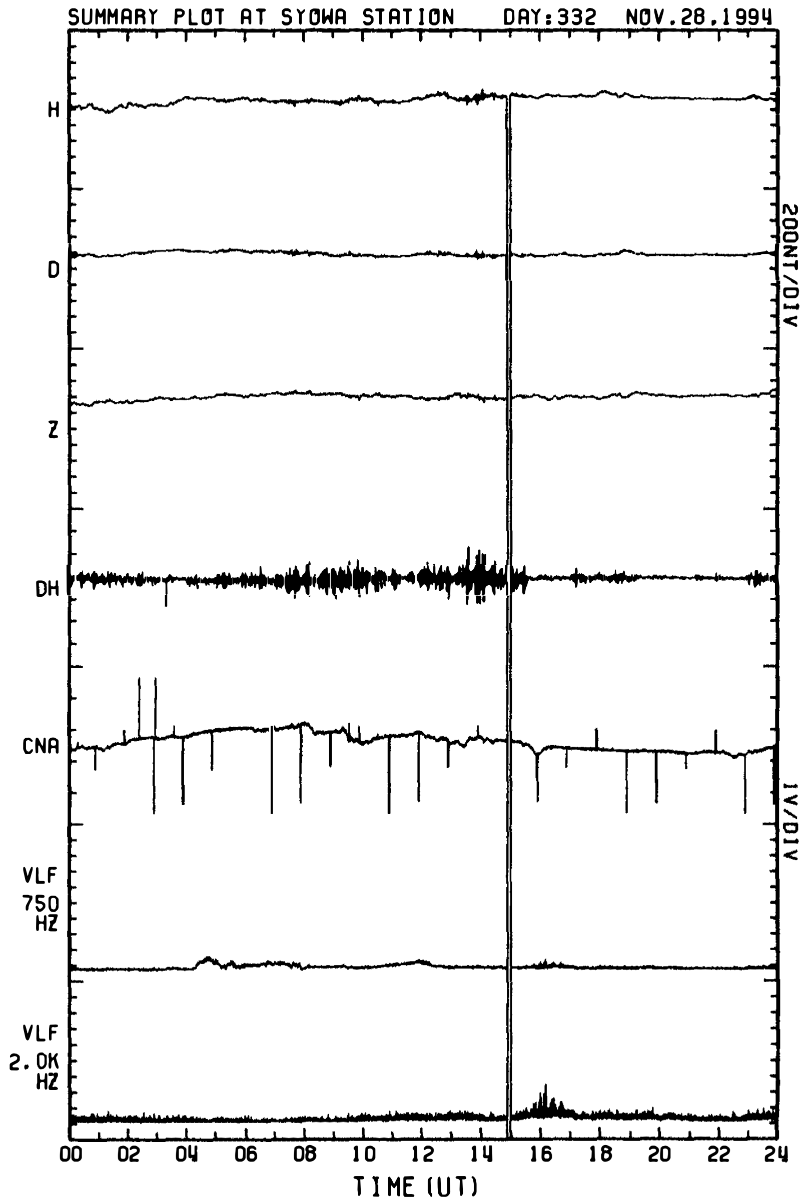

SUMMARY PLOT AT SYOWA STATION DAY:327 NOV.23,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

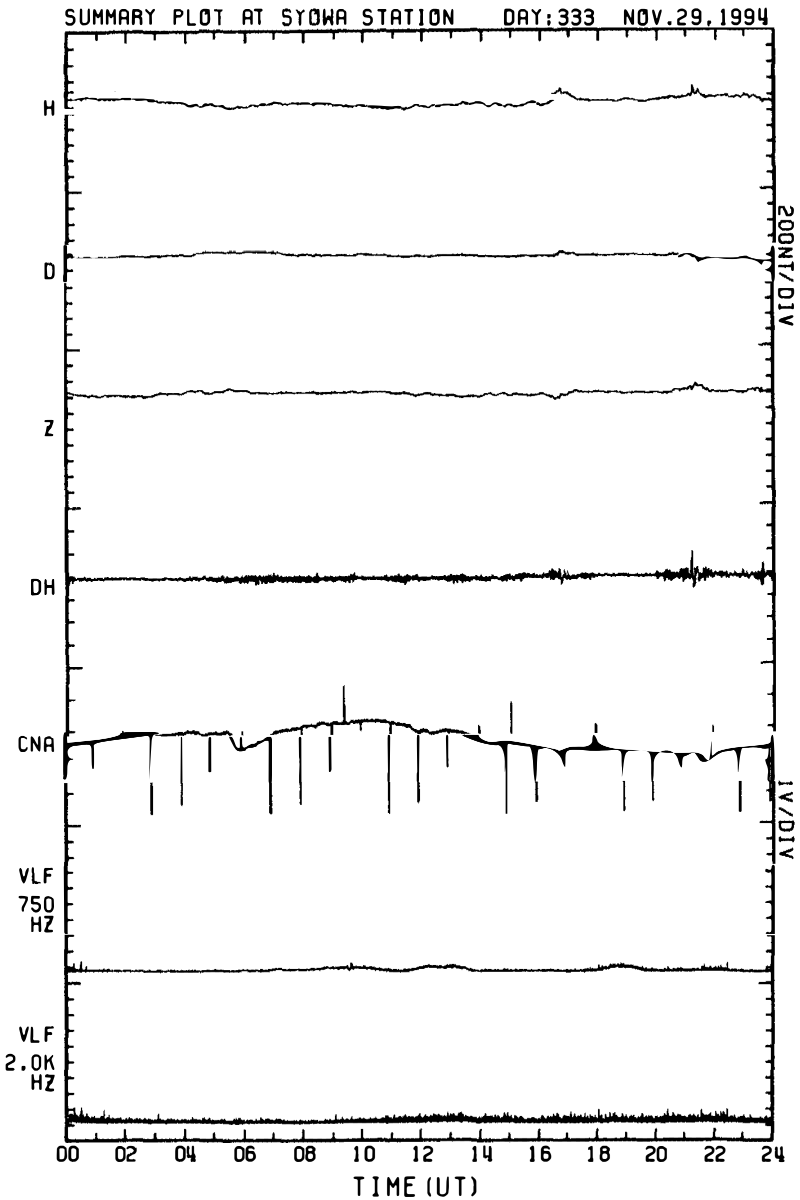

SUMMARY PLOT AT SYOWA STATION DAY:328 NOV.24,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

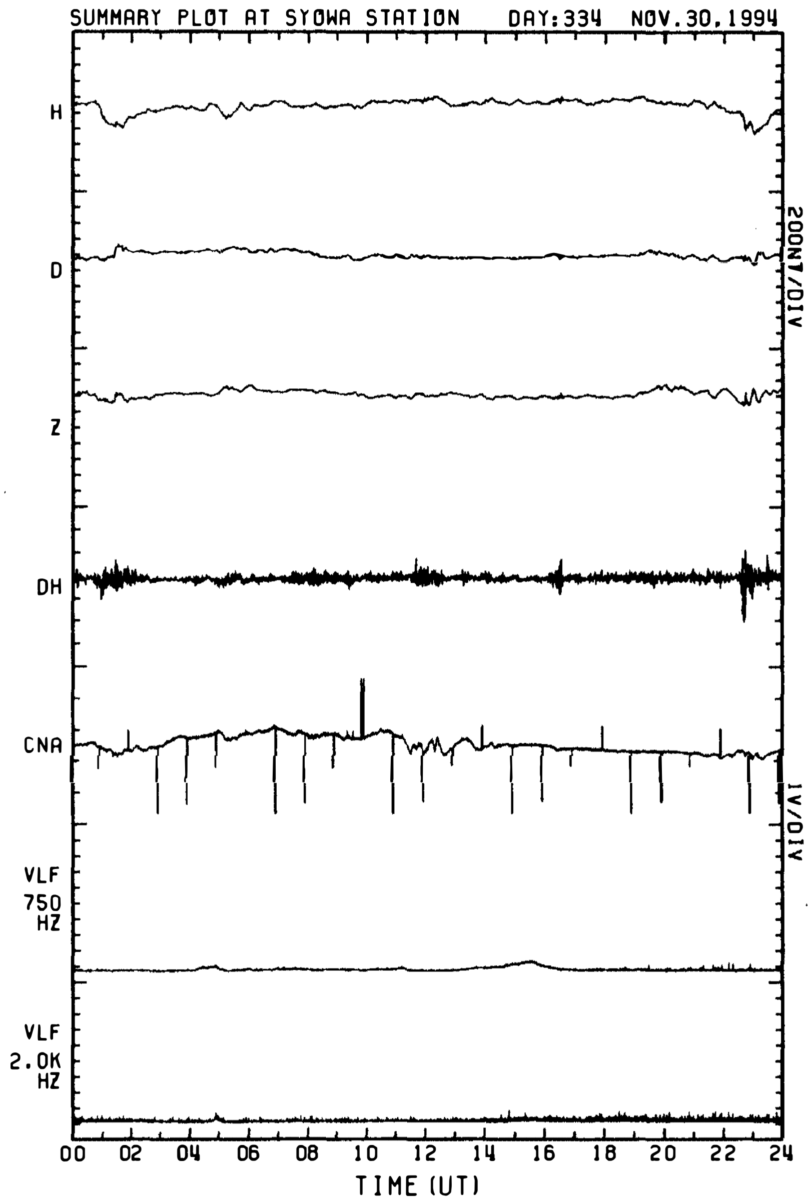

SUMMARY PLOT AT SYOWA STATION DAY:329 NOV.25,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 06 10 12 14 16 18 20 22 24
TIME (UT)

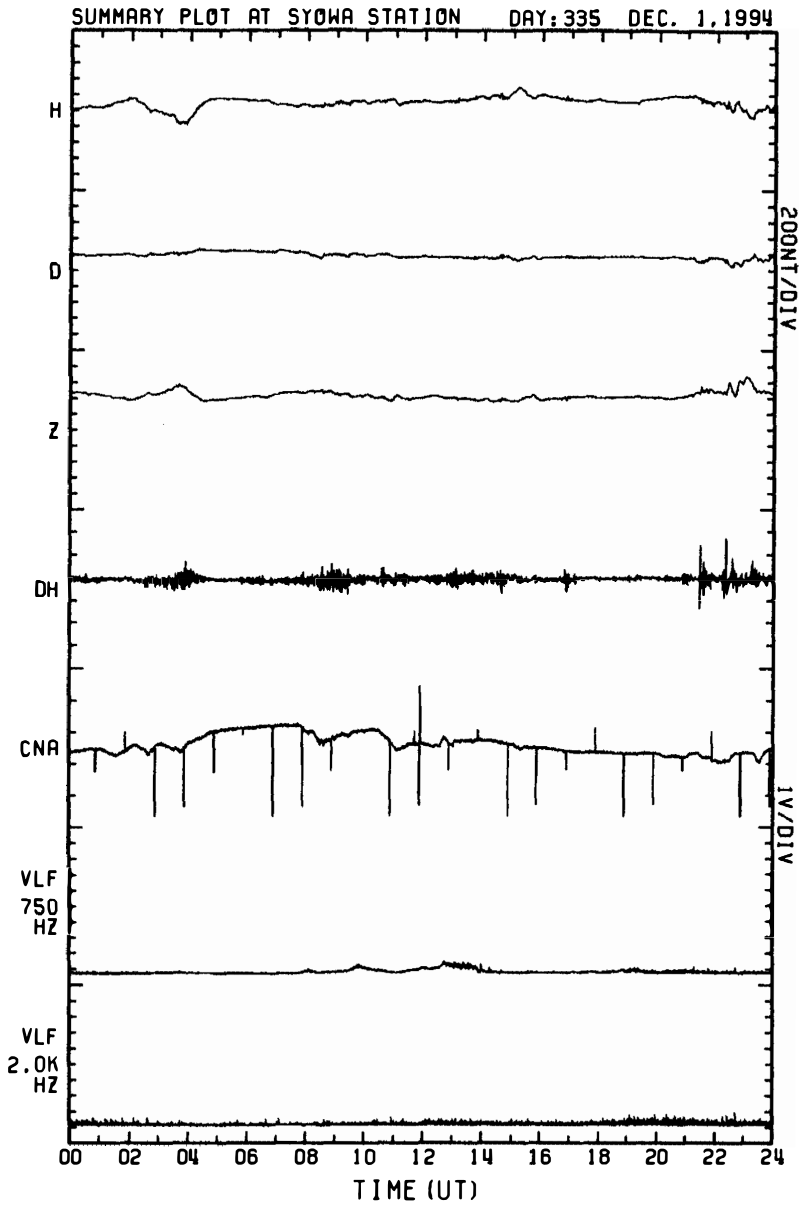

SUMMARY PLOT AT SYOWA STATION DAY:330 NOV.26,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 06 10 12 14 16 16 20 22 24
TIME (UT)

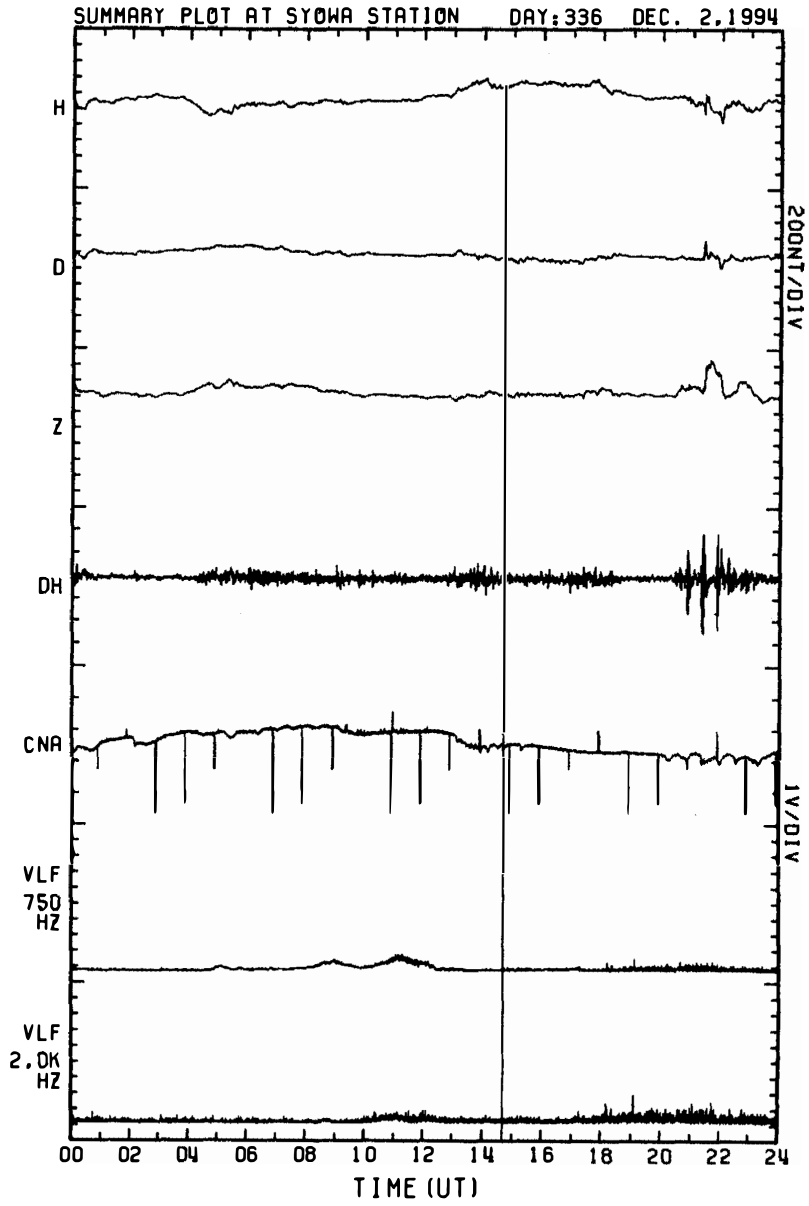

SUMMARY PLOT AT SYOWA STATION DAY:331 NOV.27,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

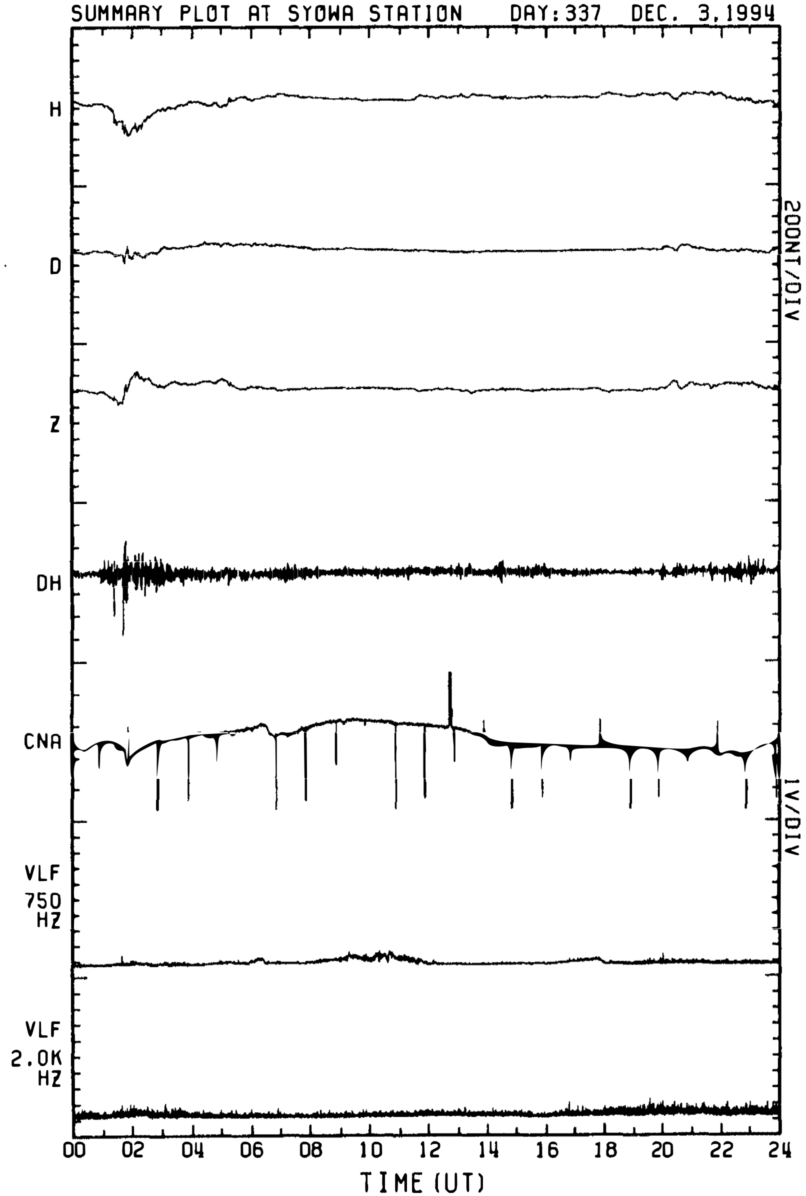

SUMMARY PLOT AT SYOWA STATION DAY:332 NOV.28,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

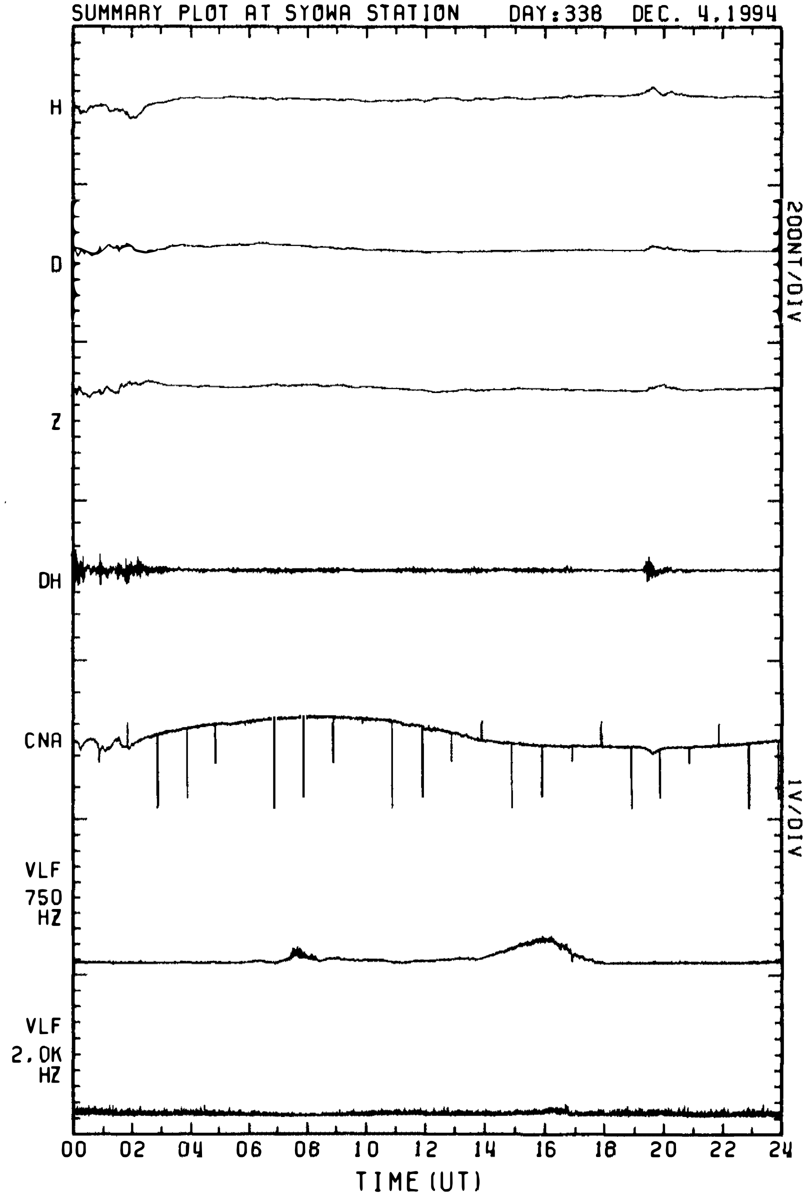

SUMMARY PLOT AT SYOWA STATION DAY:333 NOV.29,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:334 NOV.30,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

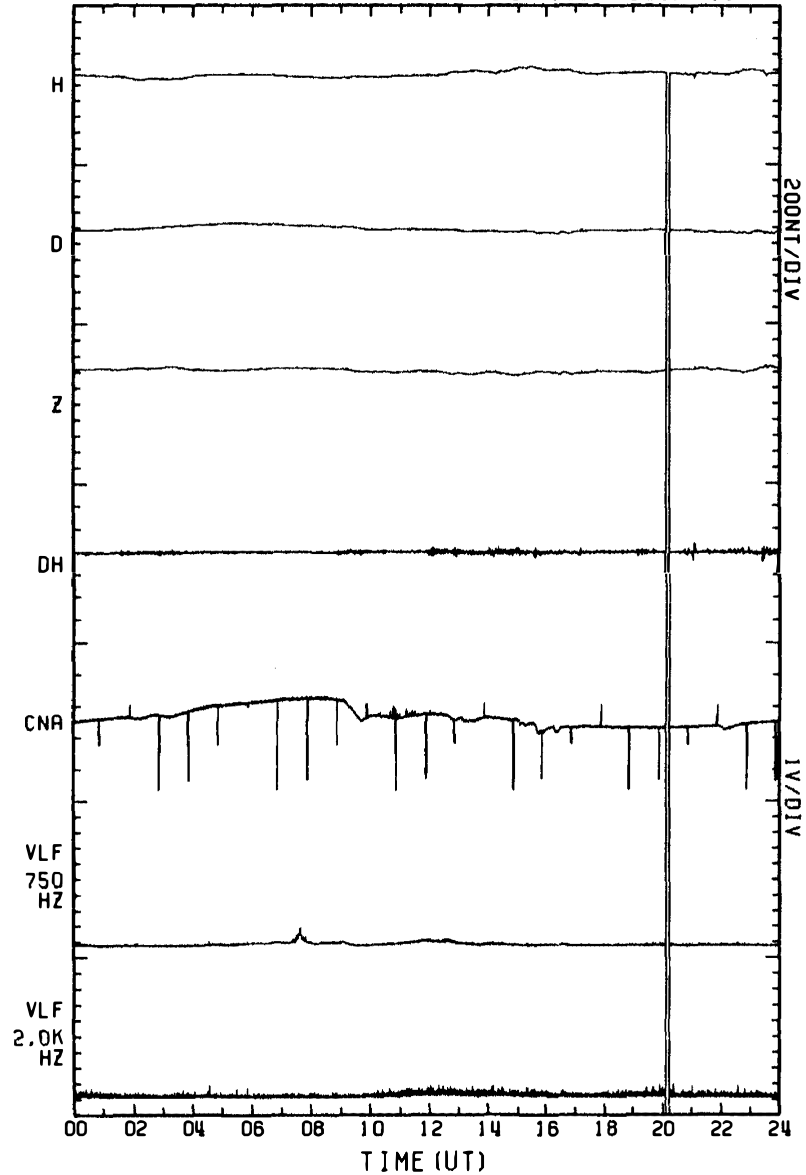

SUMMARY PLOT AT SYOWA STATION DAY:335 DEC. 1,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:336 DEC. 2,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

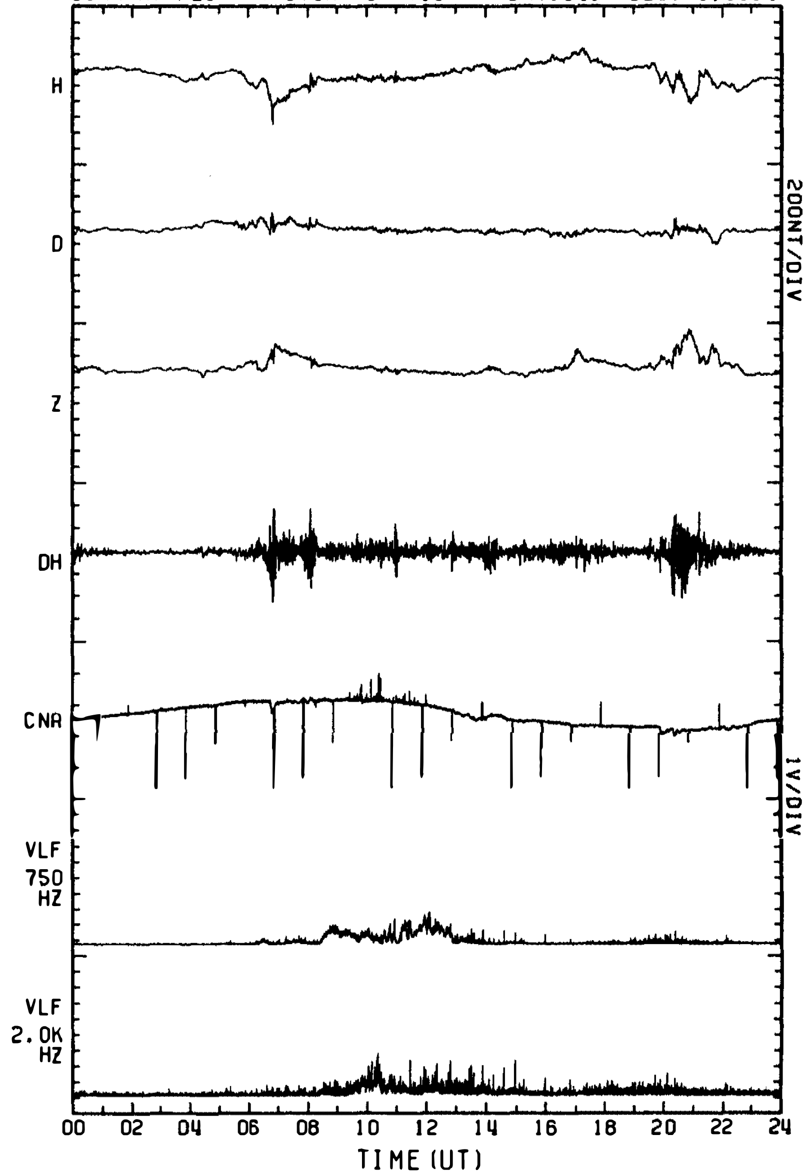

SUMMARY PLOT AT SYOWA STATION DAY:337 DEC. 3,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

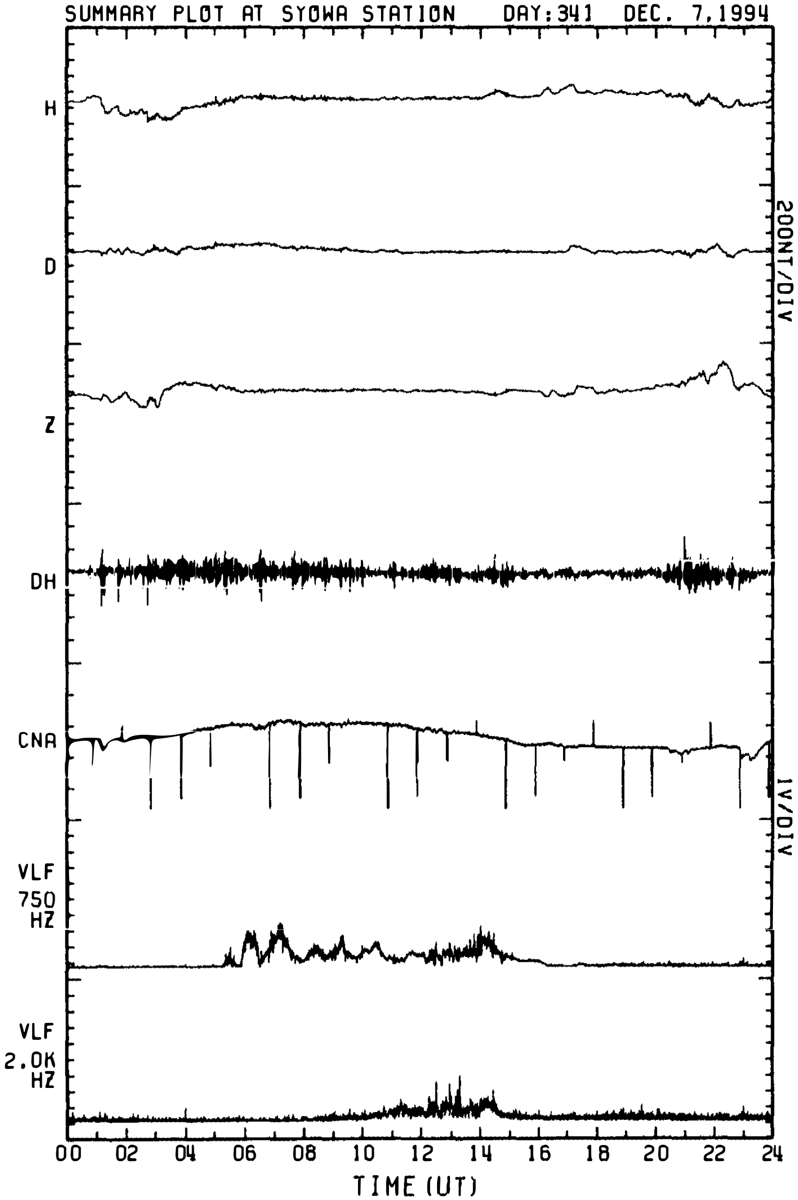

SUMMARY PLOT AT SYOWA STATION DAY:338 DEC. 4,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

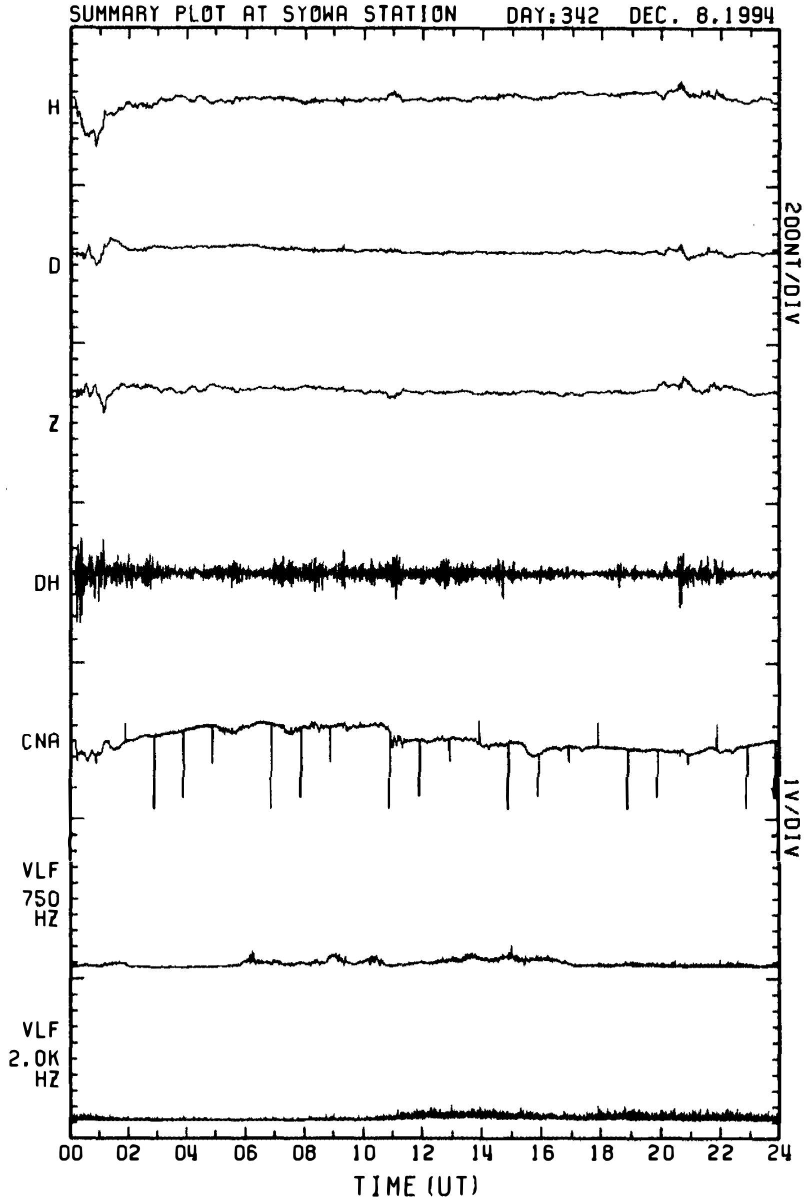
SUMMARY PLOT AT SYOWA STATION DAY:339 DEC. 5,1994

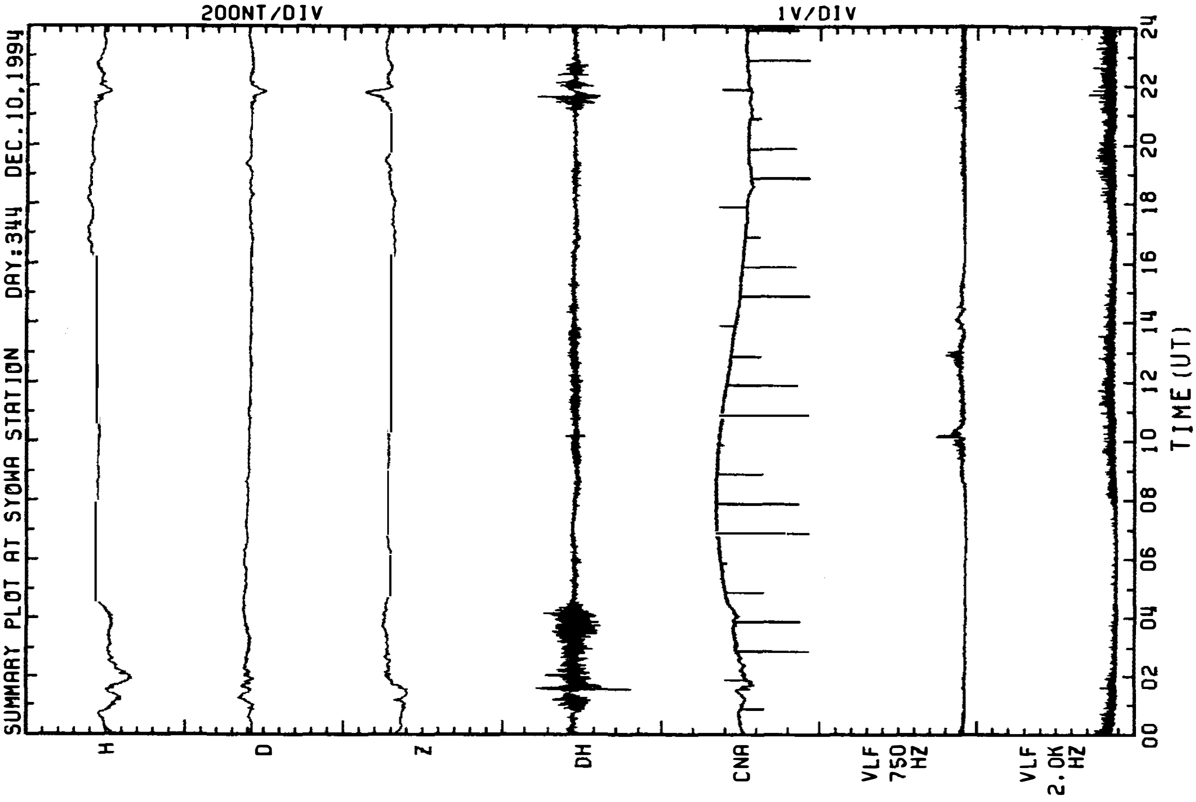


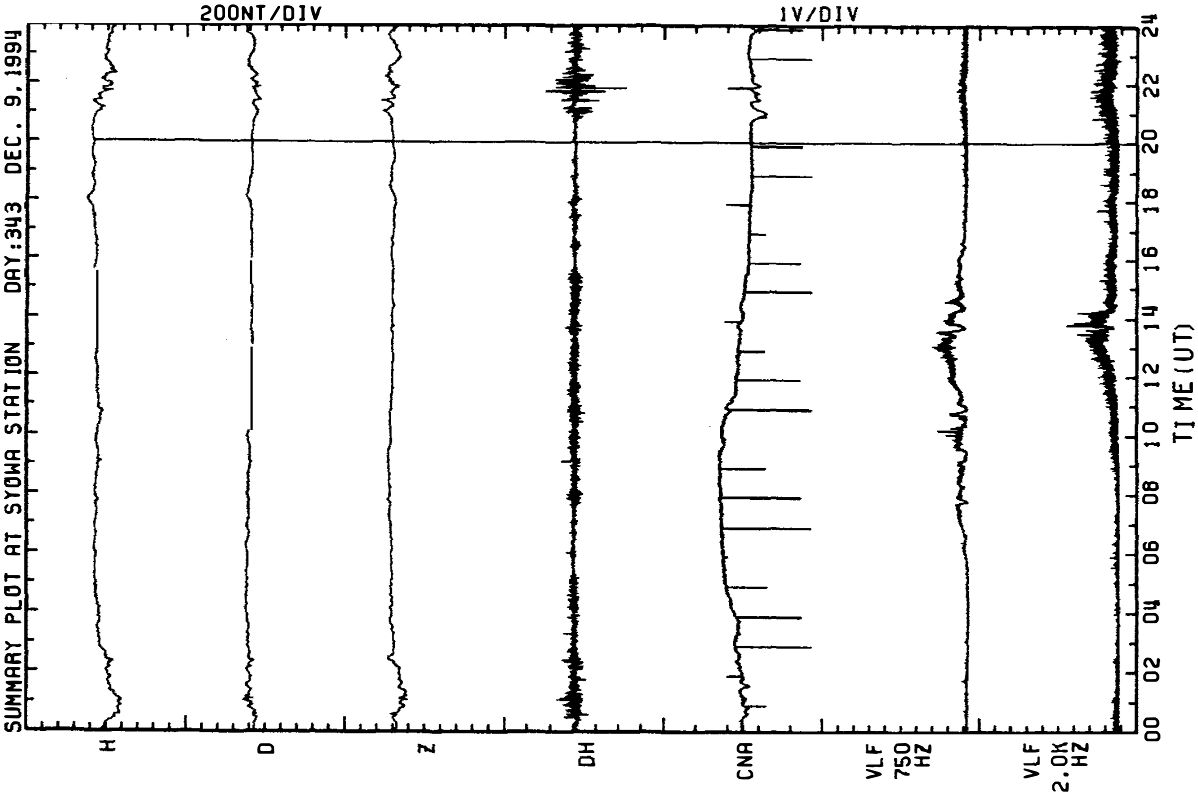
SUMMARY PLOT AT SYOWA STATION DAY:340 DEC. 6,1994

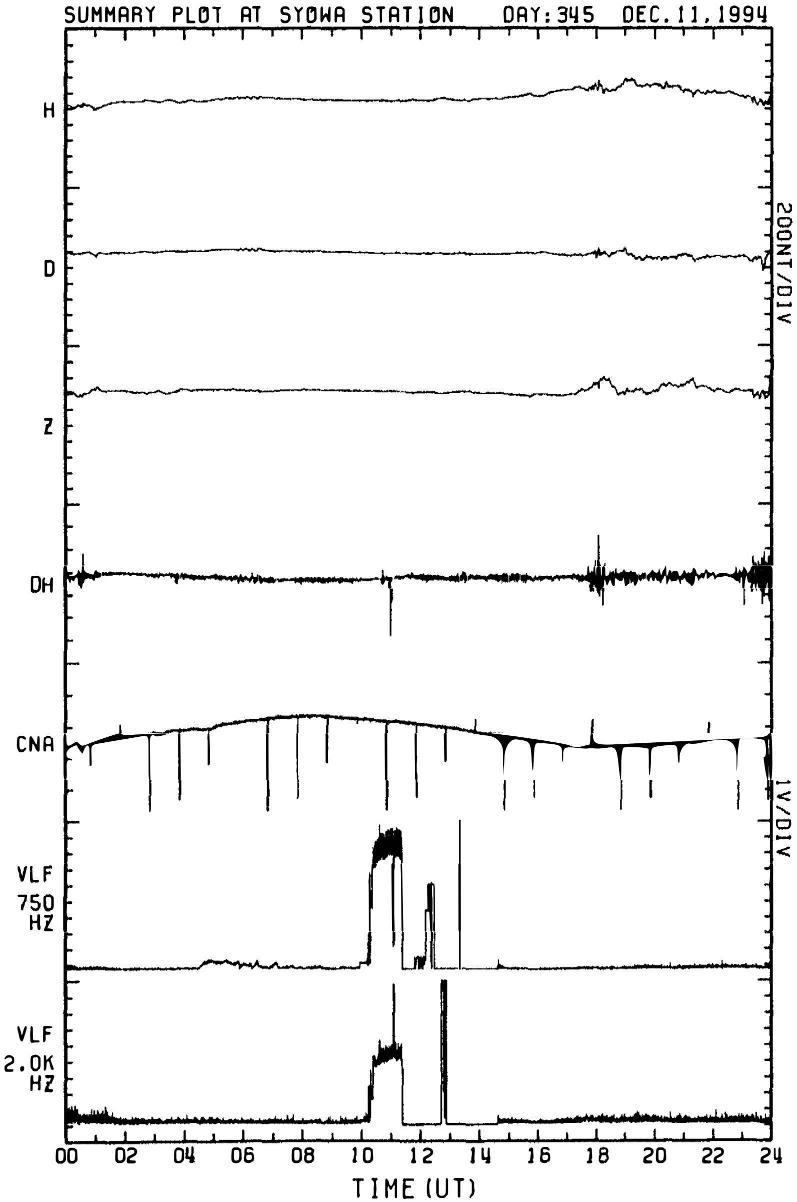


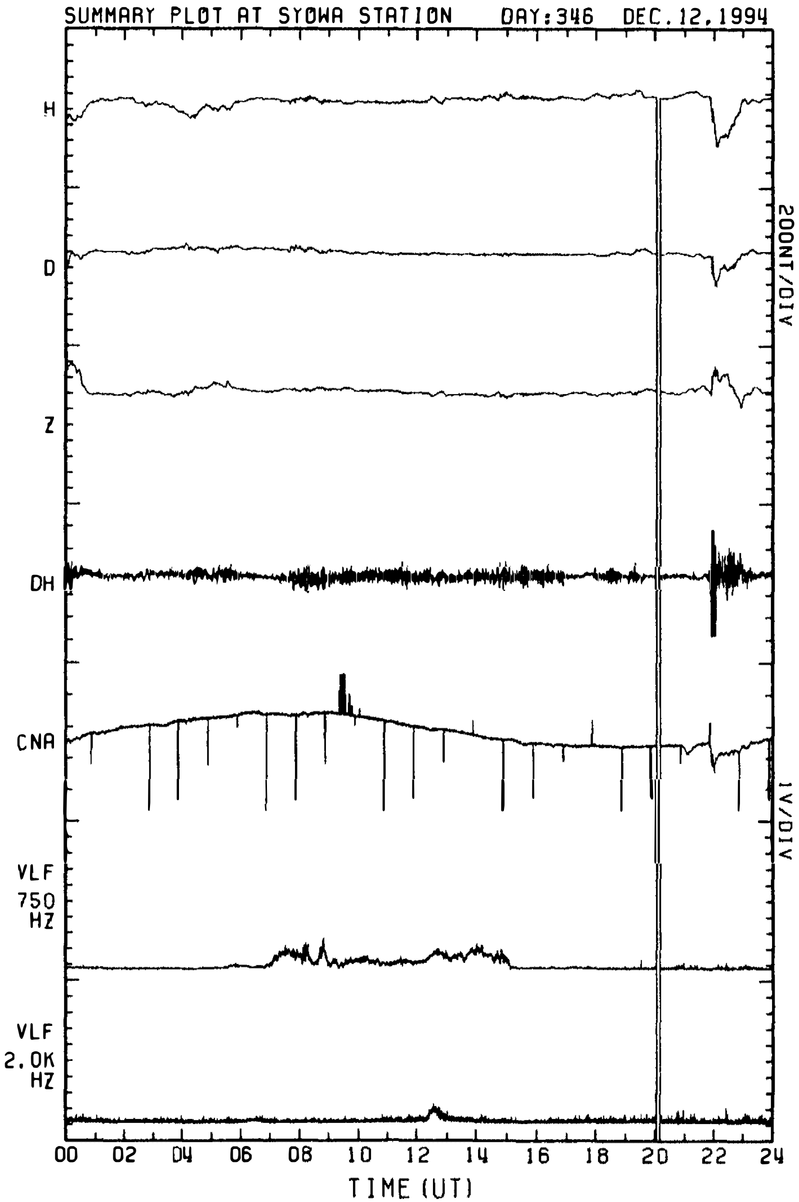

SUMMARY PLOT AT SYOWA STATION DAY:341 DEC. 7,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

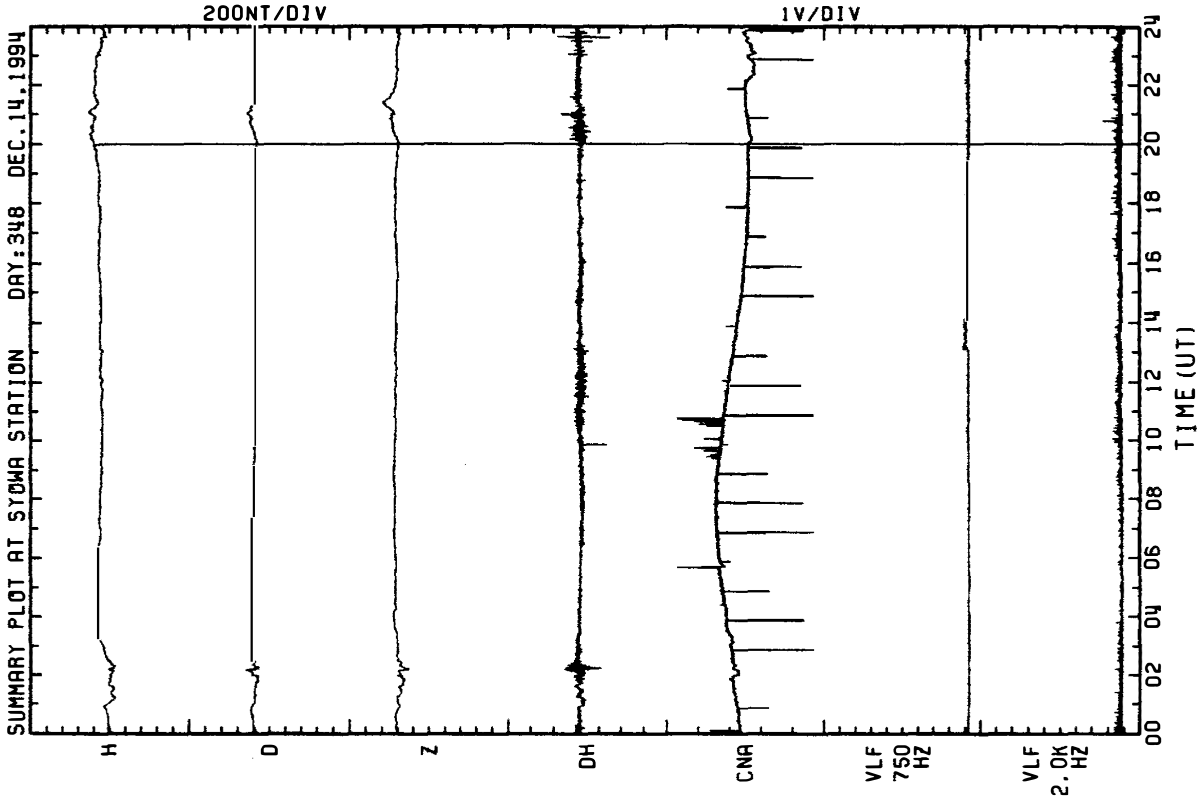

SUMMARY PLOT AT SYOWA STATION DAY:342 DEC. 8,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

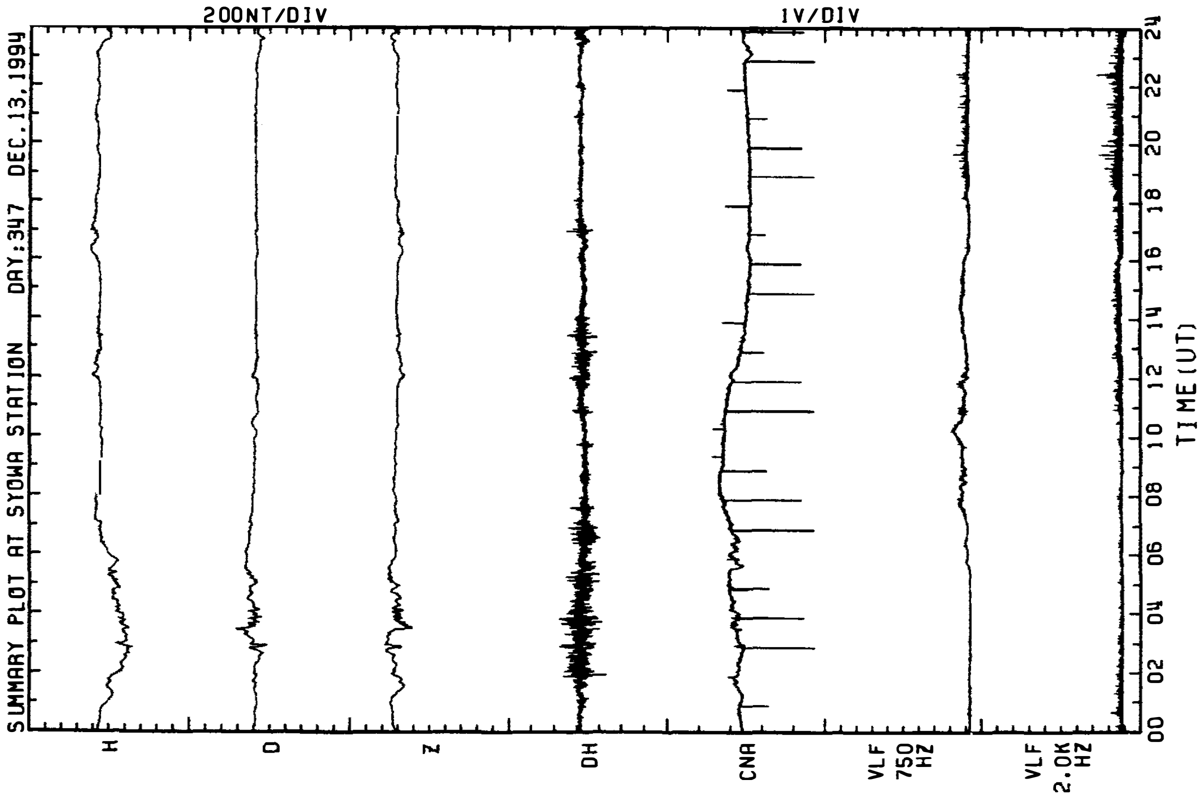

SUMMARY PLOT AT SYOWA STATION DAY:344 DEC.10,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

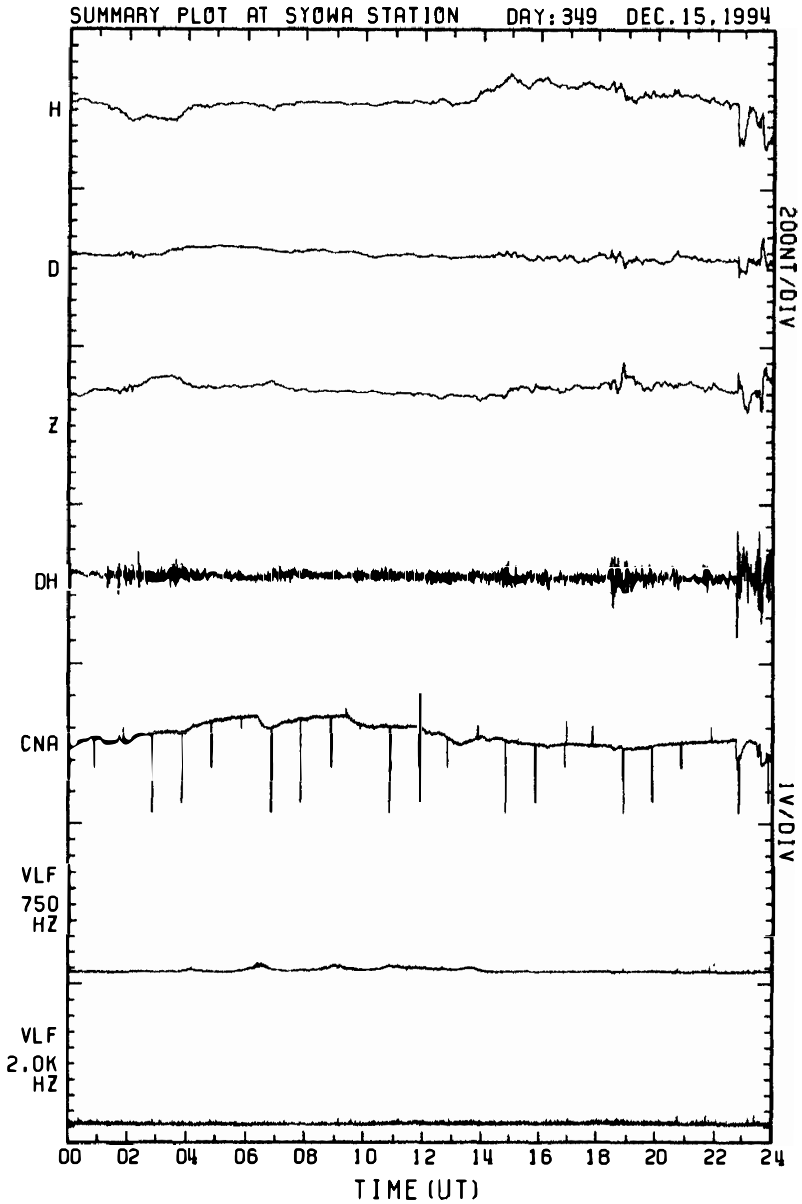

SUMMARY PLOT AT SYOWA STATION DAY:343 DEC. 9,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

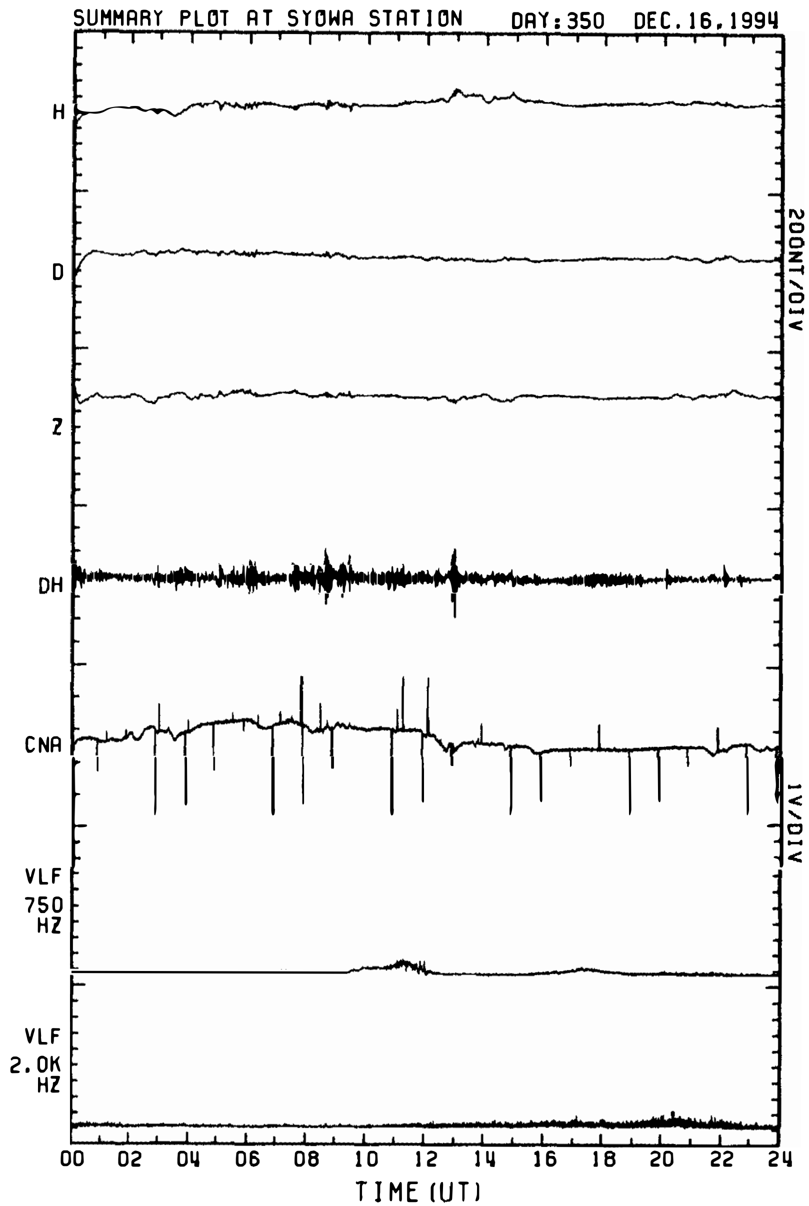

SUMMARY PLOT AT SYOWA STATION DAY:345 DEC.11,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

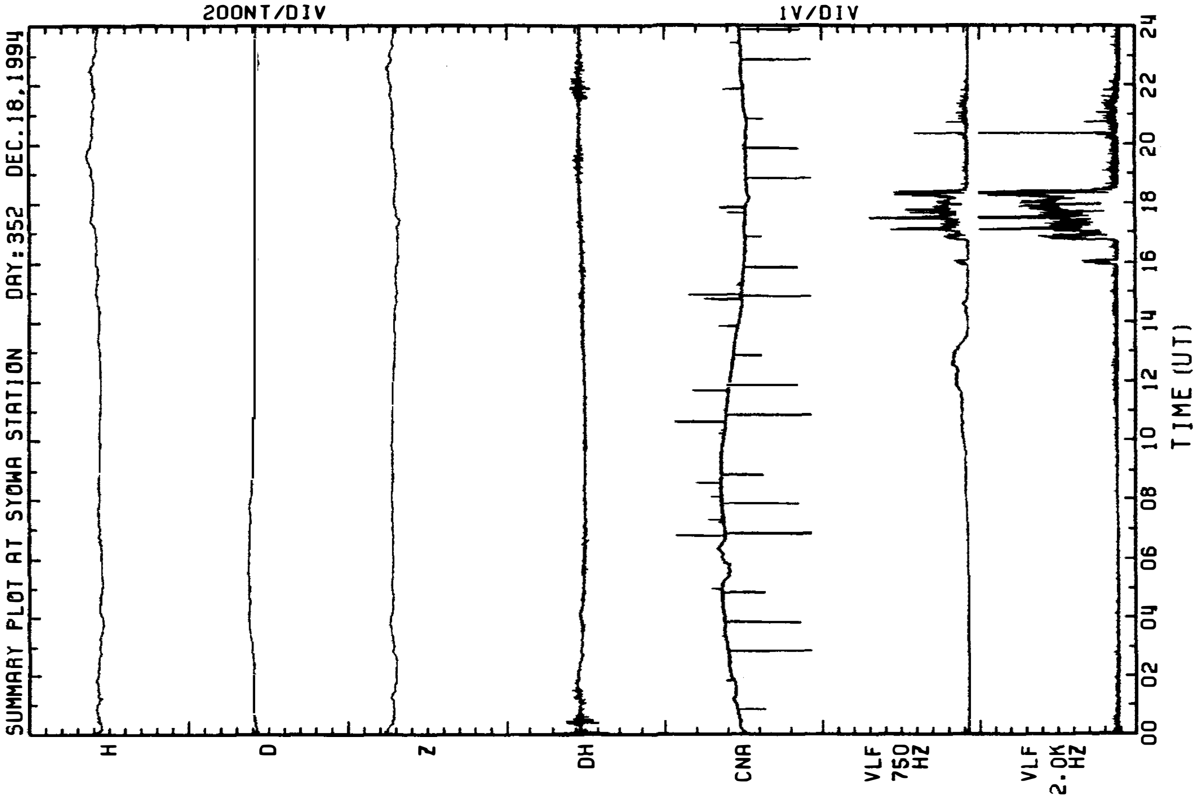

SUMMARY PLOT AT SYOWA STATION DAY:346 DEC.12,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

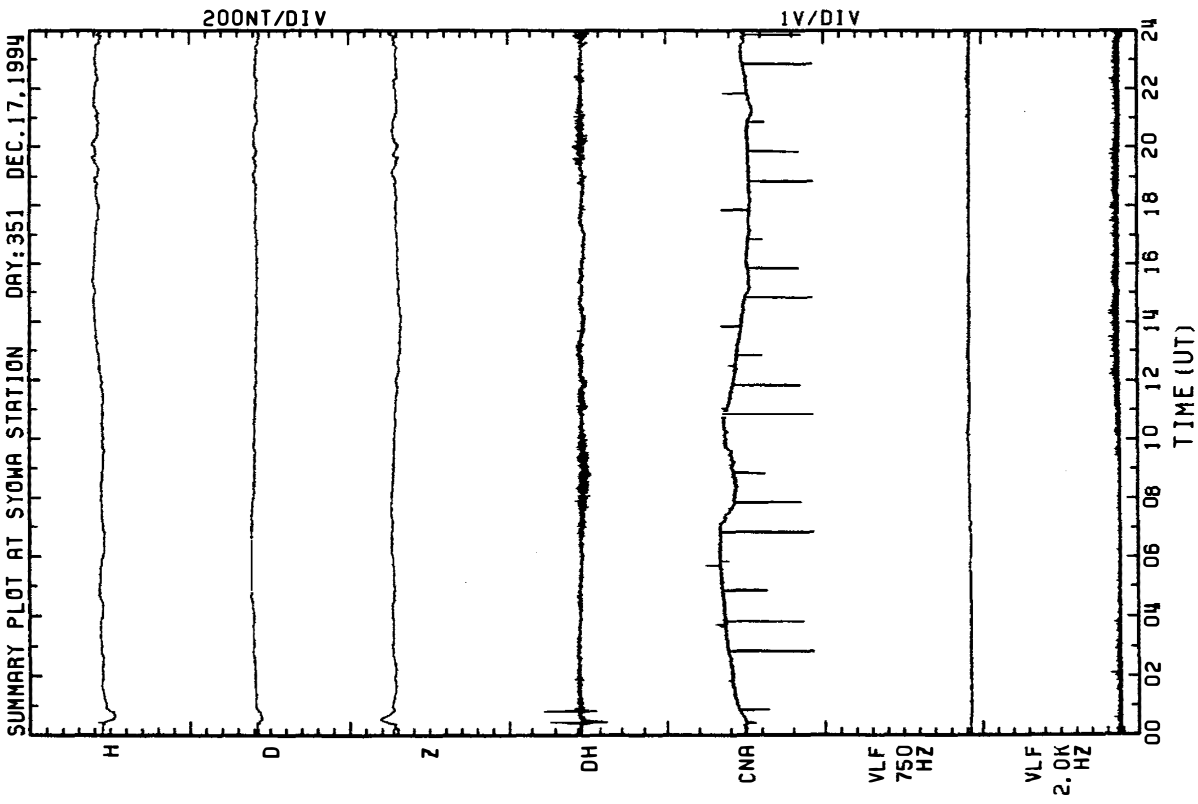

SUMMARY PLOT AT SYOWA STATION DAY:348 DEC.14,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)


SUMMARY PLOT AT SYOWA STATION DAY:347 DEC.13,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME(UT)

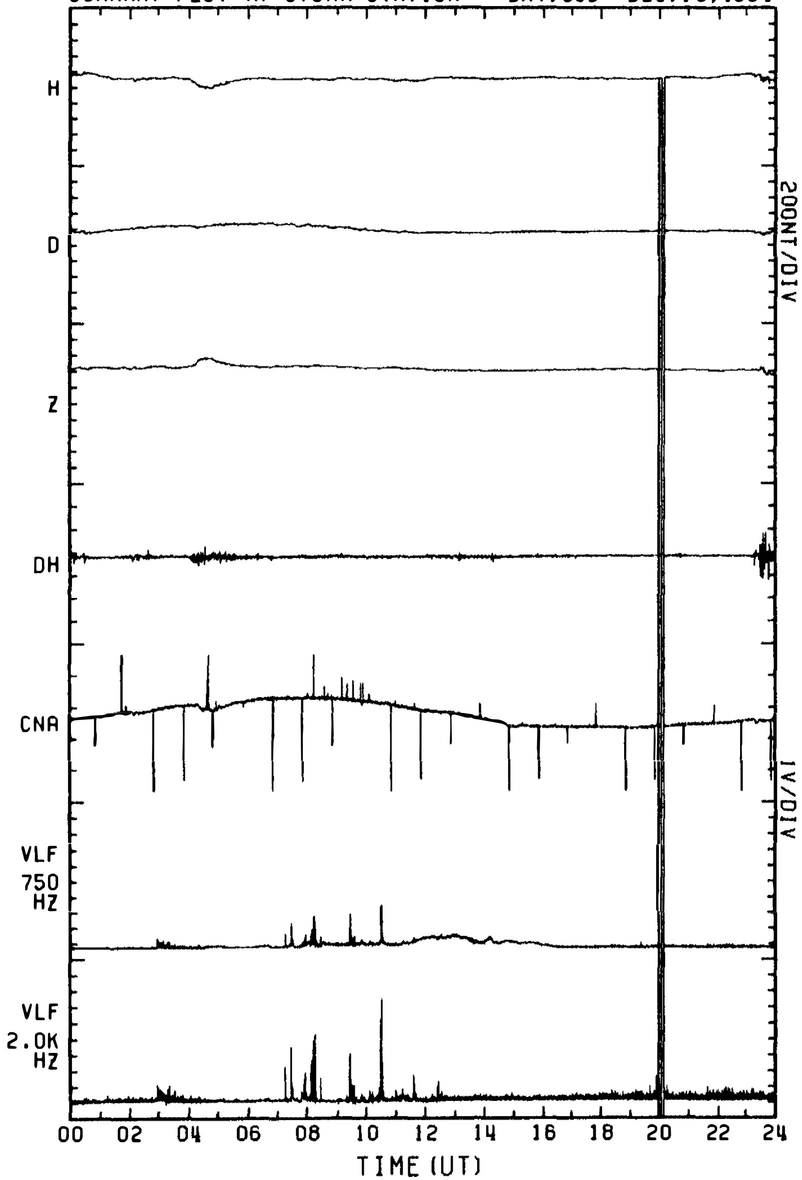

SUMMARY PLOT AT SYOWA STATION DAY:349 DEC.15,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:350 DEC.16,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

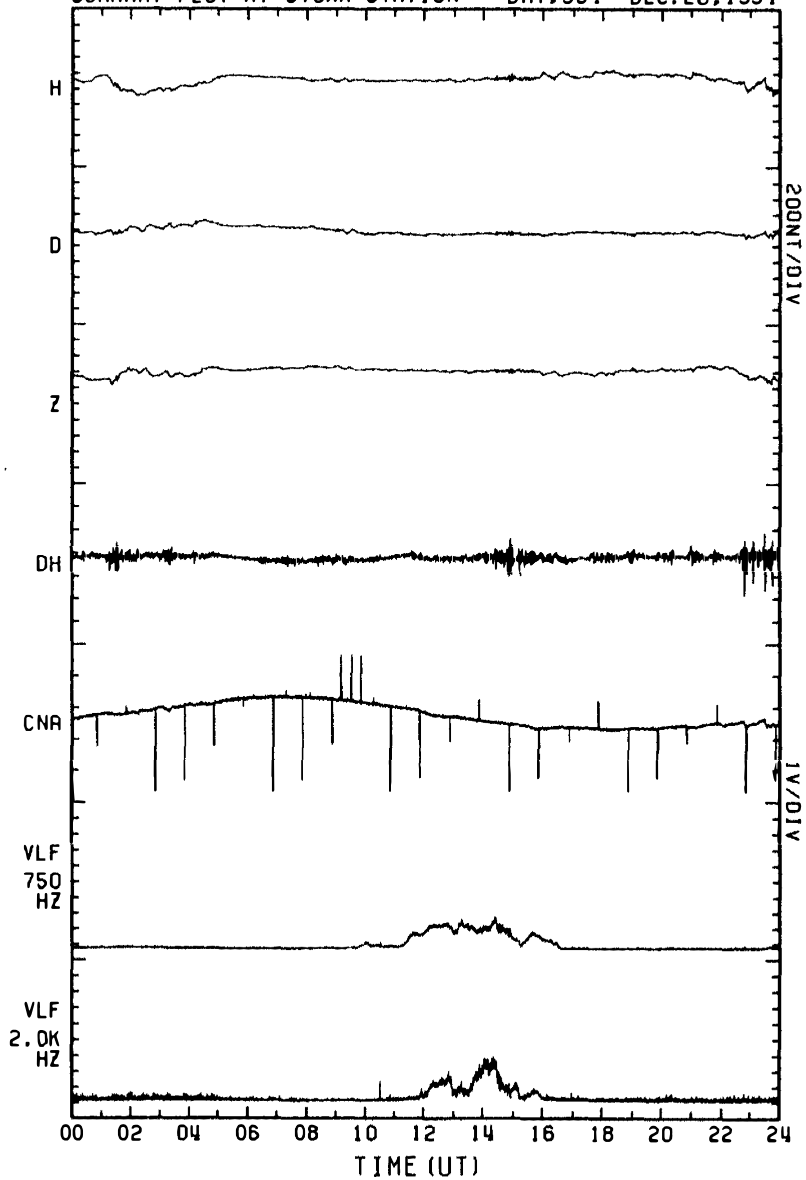

SUMMARY PLOT AT SYOWA STATION DAY:352 DEC.18,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

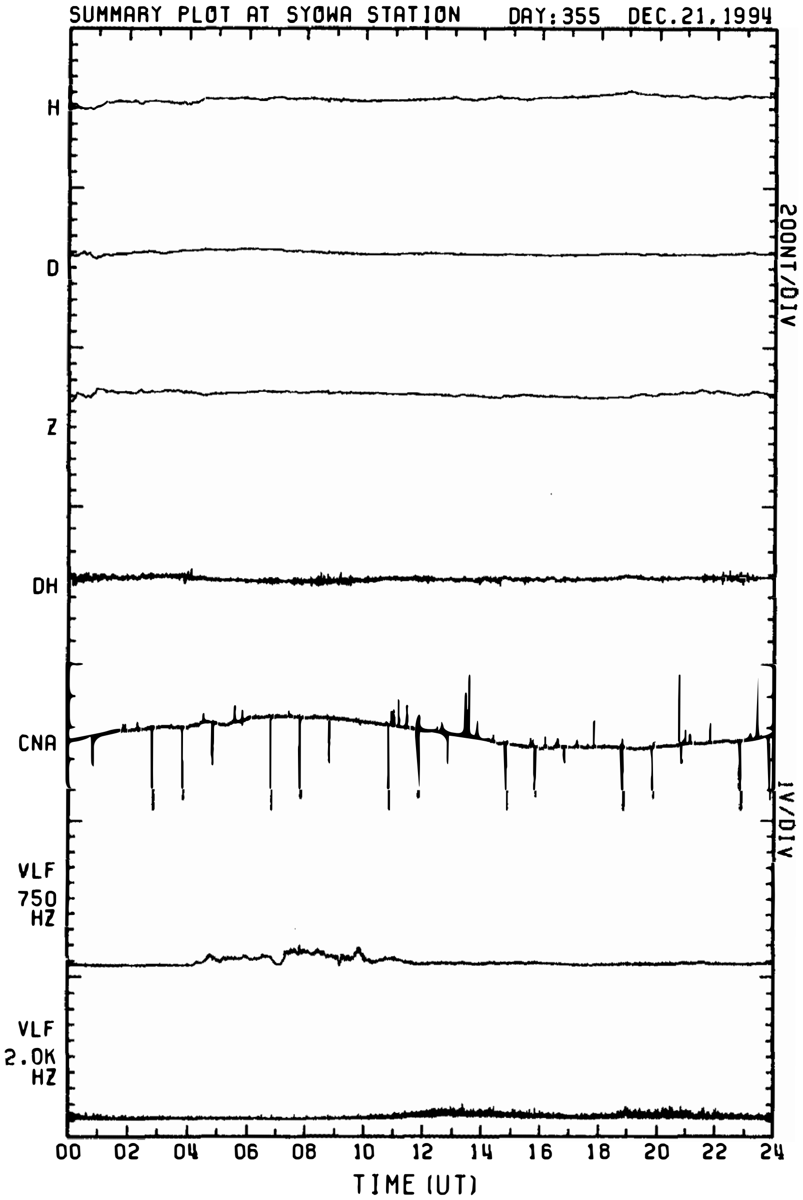

SUMMARY PLOT AT SYOWA STATION DAY:351 DEC.17,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

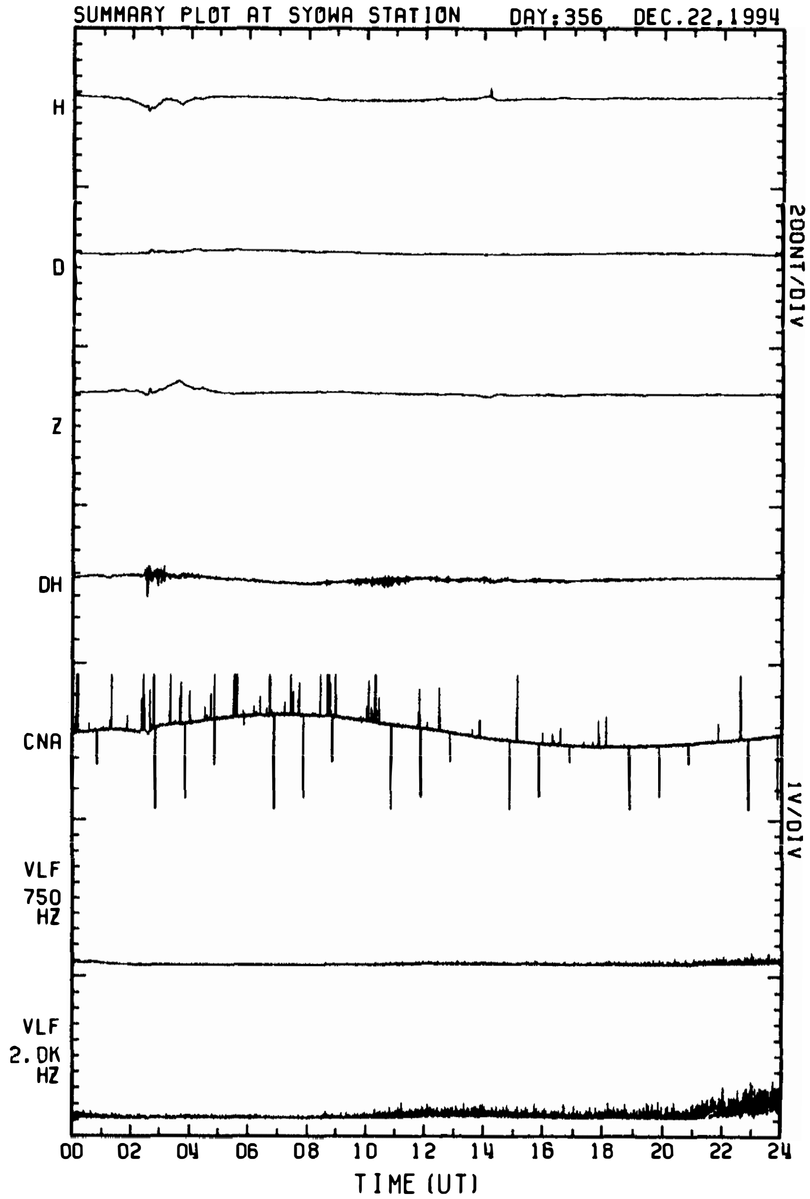
SUMMARY PLOT AT SYOWA STATION DAY:353 DEC.19,1994

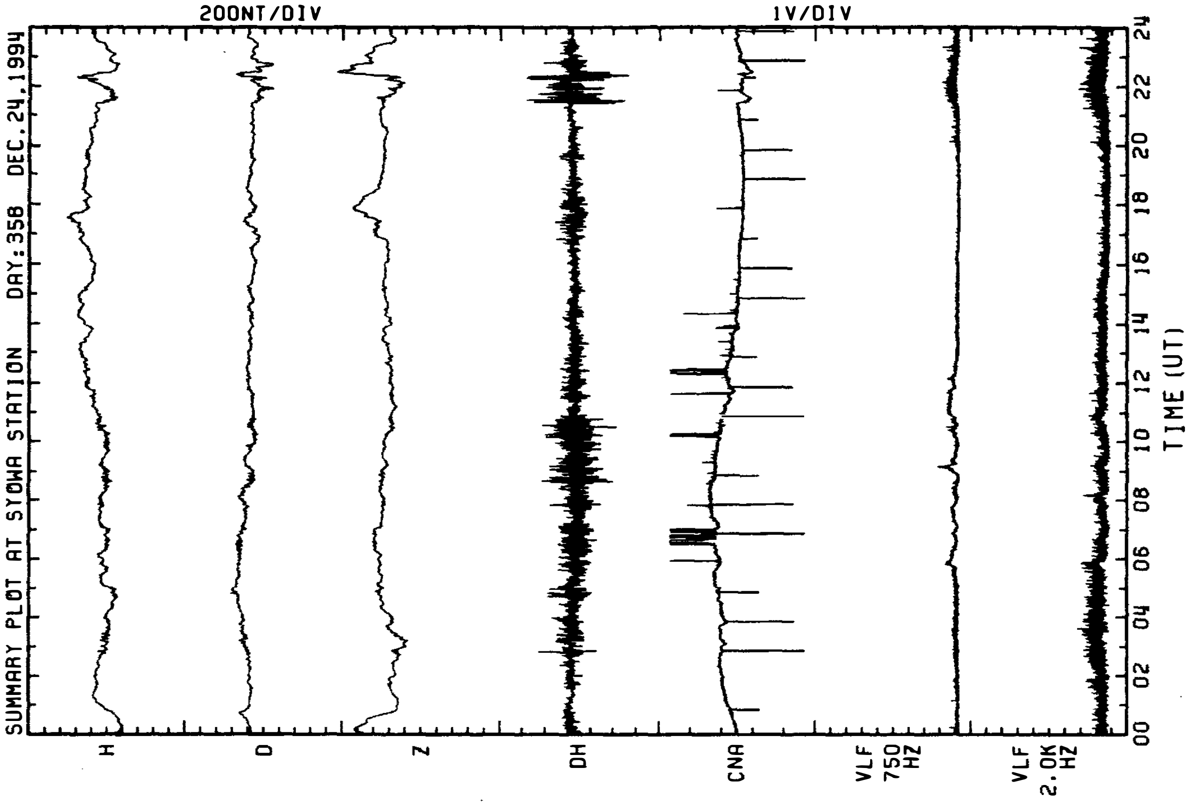


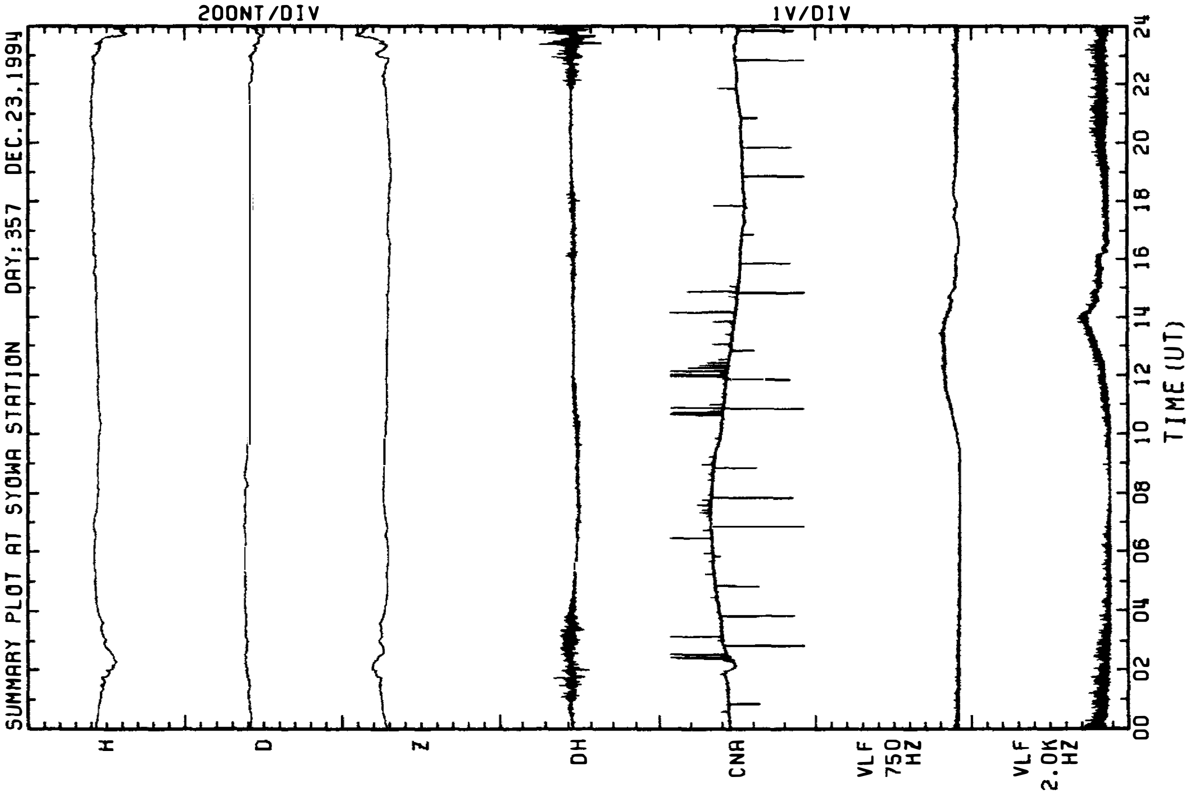
SUMMARY PLOT AT SYOWA STATION DAY:354 DEC.20,1994

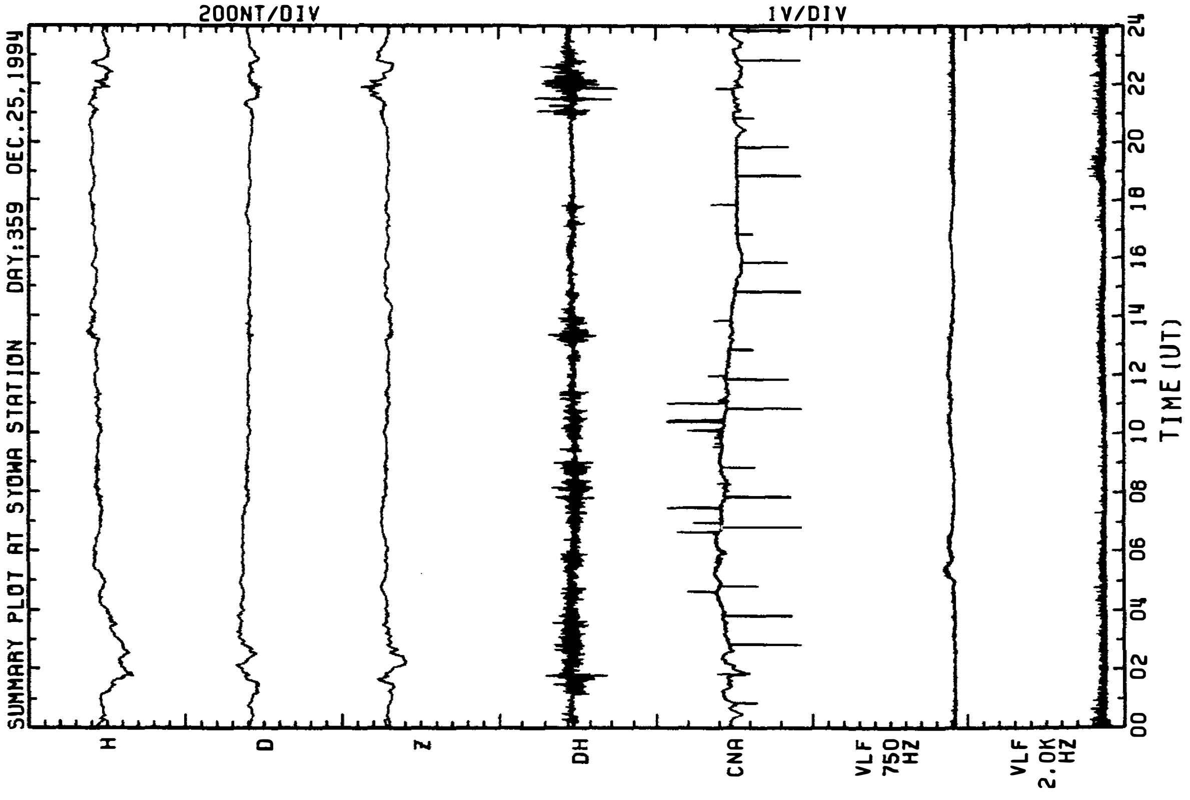


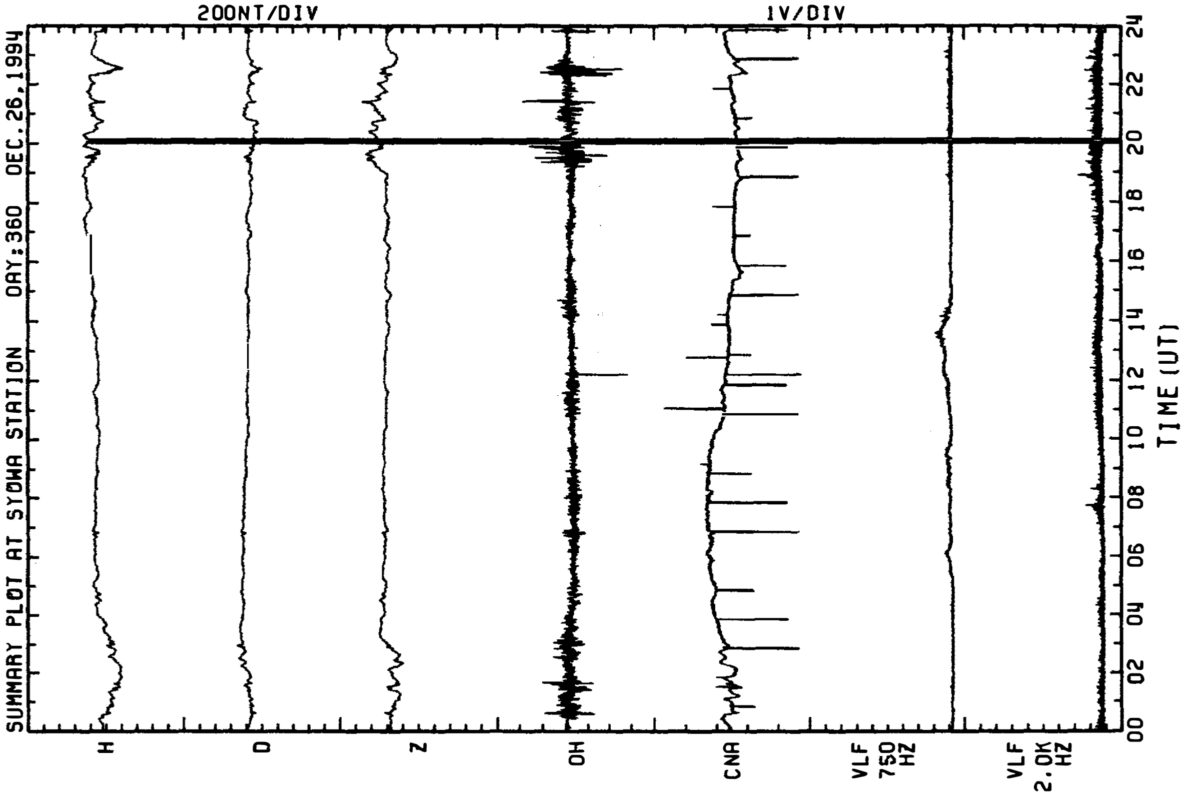

SUMMARY PLOT AT SYOWA STATION DAY:355 DEC.21,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

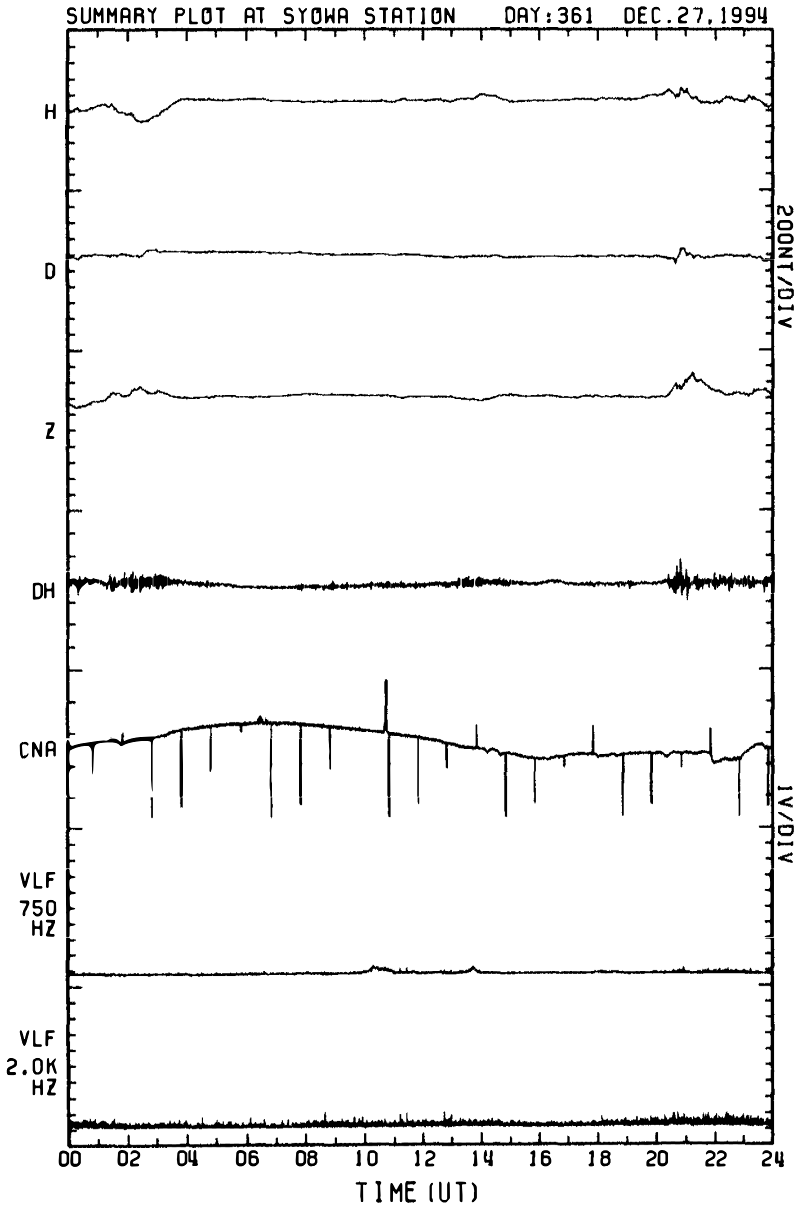

SUMMARY PLOT AT SYOWA STATION DAY:356 DEC.22,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

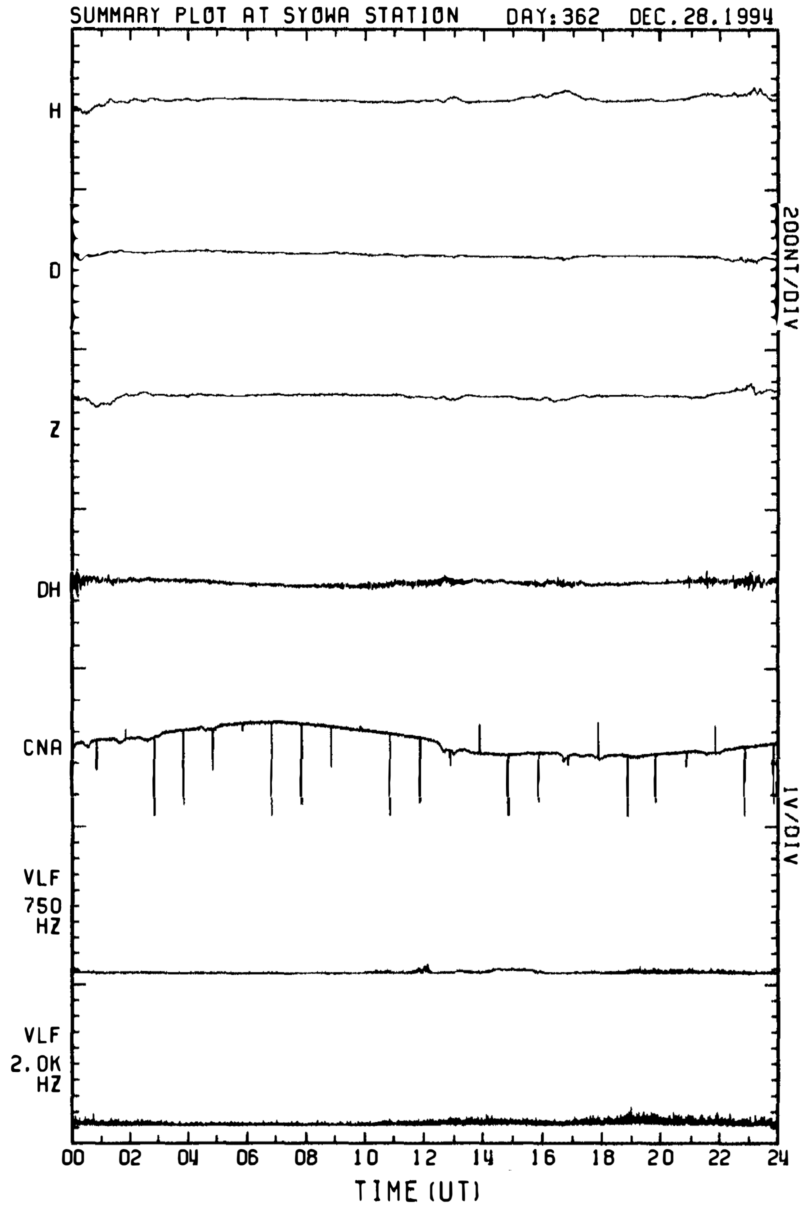

SUMMARY PLOT AT SYOWA STATION DAY:358 DEC.24,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

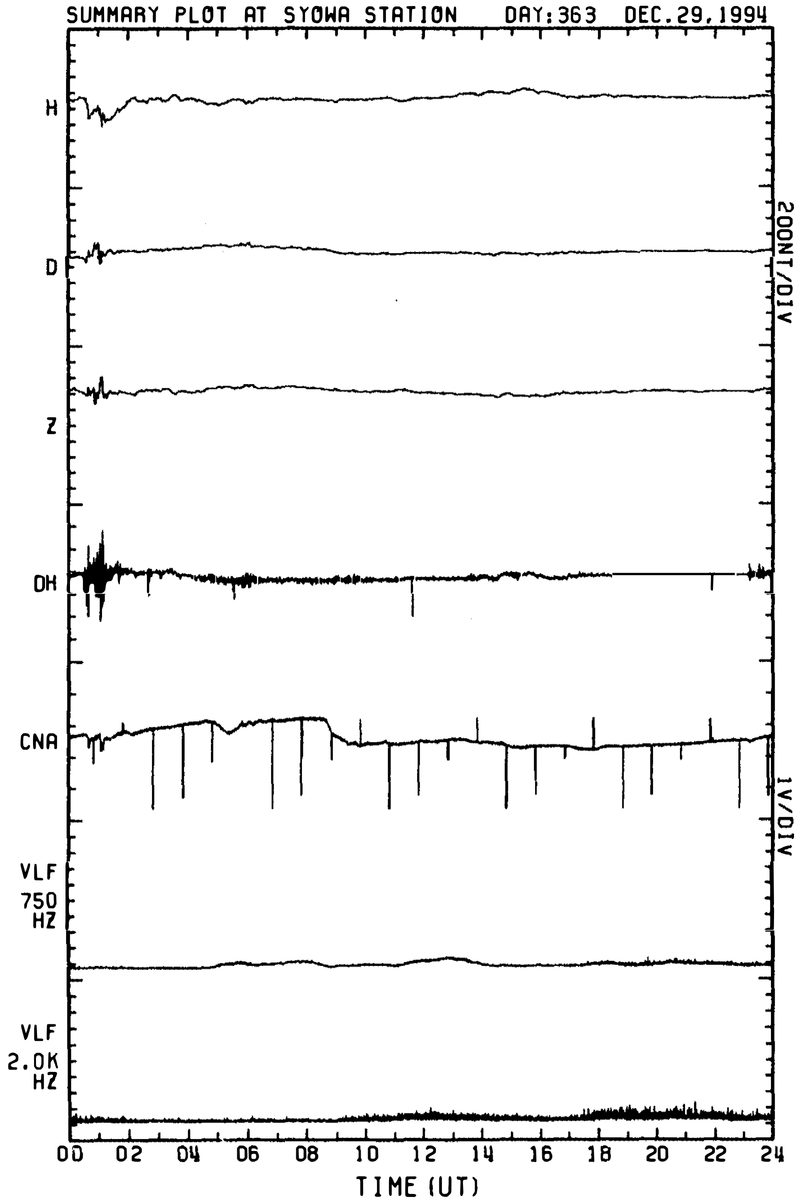

SUMMARY PLOT AT SYOWA STATION DAY:357 DEC.23,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

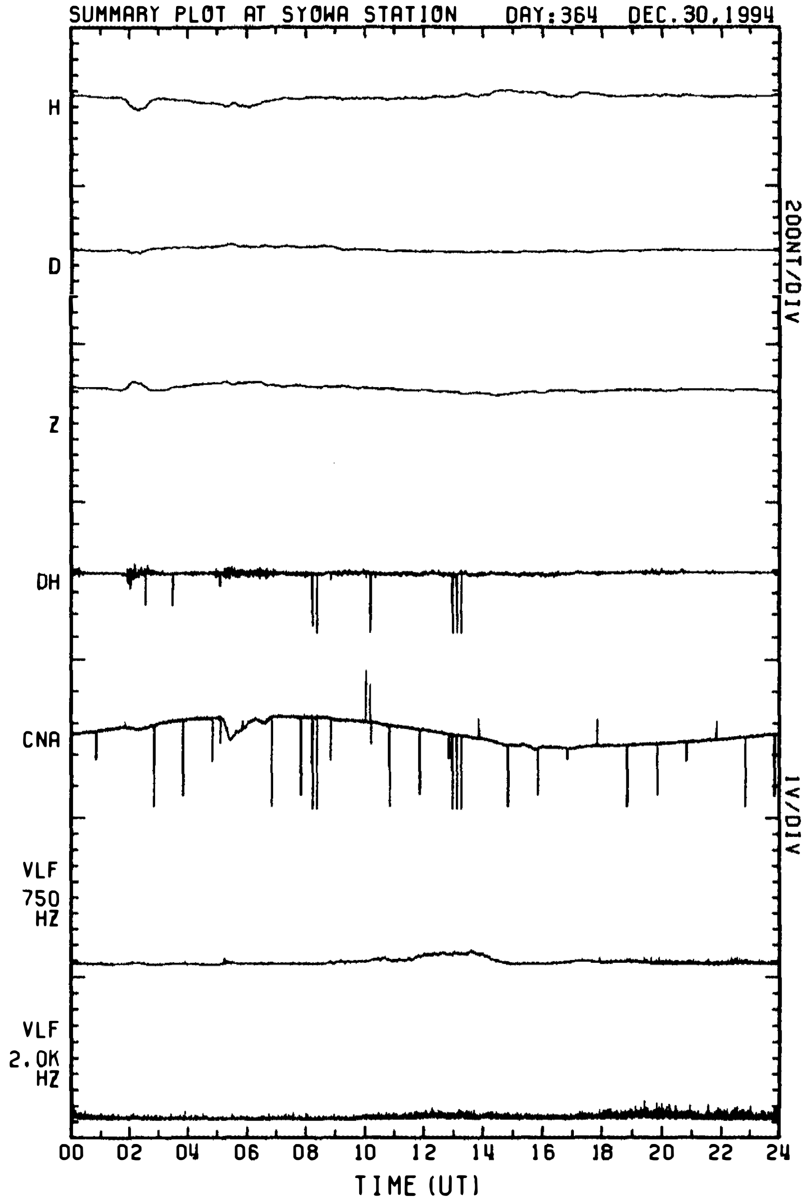

SUMMARY PLOT AT SYOWA STATION DAY:359 DEC.25,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)

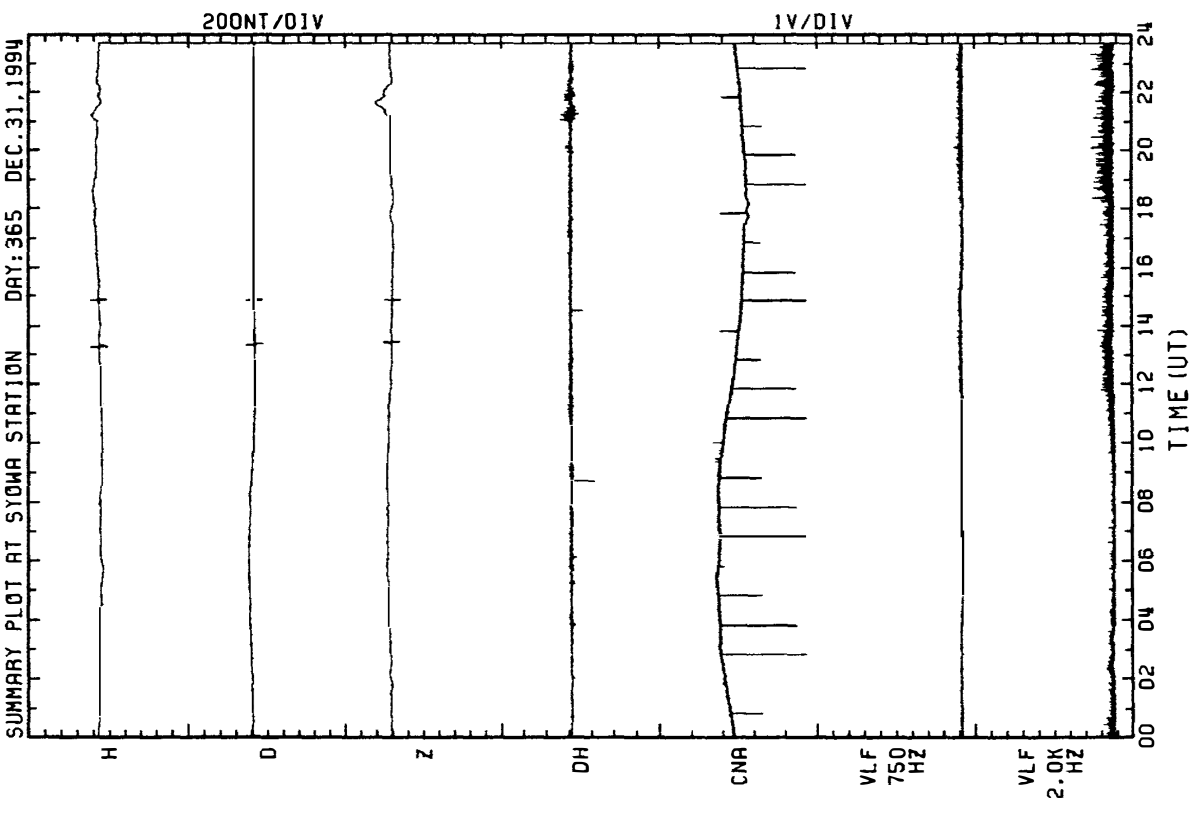

SUMMARY PLOT AT SYOWA STATION DAY:360 DEC.26,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:361 DEC.27,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:362 DEC.28,1994
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:363 DEC.29,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:364 DEC.30,1994
H
D
Z
DH
CNA
VLF
750
HZ
VLF
2.0K
HZ
200NT/DIV
1V/DIV
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)


SUMMARY PLOT AT SYOWA STATION DAY:365 DEC.31,1994
200NT/DIV
1V/DIV
H
D
Z
DH
CNA
VLF 750 HZ
VLF 2.0K HZ
00 02 04 06 08 10 12 14 16 18 20 22 24
TIME (UT)