

RADIO OBSERVATION DATA
AT SYOWA STATION, ANTARCTICA DURING 1992

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1. Introduction

We have been observing the absorption of cosmic radio noise with a standard riometer (relative ionospheric opacity meter) at 30 MHz at Syowa Station, Antarctica since February 1966. This report presents the data observed between January 1 and December 31, 1992. Besides the observed riometer data, other observation data are presented in the combined data plots for reference. These plots include geomagnetic field, HF, VLF, and radar observations. For cases where combined data recording is unavailable, only the riometer and geomagnetic field observation data are presented.

Copies of this data in digital form are available to users on request. Requests should be addressed to:

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2. Location

Syowa Station			
Geographic		Geomagnetic	
Latitude	Longitude	Latitude	Longitude
69° 00' S	39° 35' E	-70.0°	80.2°

3. Observer

Mitsuhiro KAMATA (Communications Research Laboratory)

4. Instrumentation

The riometer receiver has a center frequency of 30 MHz and a band width of 7.5 kHz; it is connected to a vertically directed five-element Yagi antenna whose elements are oriented in the east-west direction. The antenna is designed to match the 50-ohm coaxial transmission line (8D-2V), which is 80 m long. Noise from a reference noise diode, with power levels of 20000 K, 16000 K, 12000 K, 8000 K, and 4000 K, is inserted each day at 0800 at 45° EMT (Eastern Meridian Time: UT + 3 hours). The data are recorded on magnetic tape in digital form.

5. Remarks

The cosmic noise power level shows a remarkable sidereal diurnal variation caused by passage of the cosmic radio source across the zenith. Due to the earth's revolution, the time of the zenith passage of a particular cosmic radio source shifts about four minutes earlier each day and returns to its initial time after one year. This diurnal variation of the cosmic noise power is deduced from the record on quiet days.

The ionospheric absorption in dB is obtained as follows:

- 1) The reference sidereal diurnal variation of the cosmic noise power in K, T_0 , is determined from the diurnal variations on several selected quiet days each month.
- 2) Actual received power, T_1 , is read in K.
- 3) Ionospheric absorption in dB, A , is calculated with the following conversion equation:

$$A = -10 \times \log (T_1 / T_0) .$$

The combined data plots also include the variation of the H-component of the geomagnetic field, HF field strength, phase variation of VLF waves, and auroral radar echo intensity at Syowa Station. In the panel of geomagnetic variations, the H-component increases upward and the calibration signals are added each hour as a depression of 200 nT. Because of trouble in the data acquisition system, the variation of H-component of the geomagnetic field does not appear in the combined data plots in 1992. In case of necessity, please refer to another JARE DATA REPORT (Upper Atmosphere Physics Data, Syowa Station, 1992).

This volume also includes the data for January 1 to January 6, 1991 because these plots did not appear in the previous volume.

Inquiries about the data should be addressed to the CRL.

Bibliography relevant to RADIO OBSERVATION DATA AT SYOWA STATION, ANTARCTICA (1)
 (ROMETER RECORDS OF 30 MHZ COSMIC NOISE AT SYOWA STATION, ANTARCTICA)

Observing Period	Observers	Literature		
		JARE Data Reports		
		Volume	Pages	Year
Feb. 1967 - Feb. 1968	Ose, M Nishimuta, I.	2 (Ionosphere 1)	62	1968
Feb. 1968 - Jan. 1969	Ishizawa, K.	7 (Ionosphere 3)	65	1970
1969	Ota, Y.	8 (Ionosphere 4)	74	1970
1970	Shiro, I. Sakamoto, T.	14 (Ionosphere 5)	62	1971
1971	Ogata, T. Ose, M.	18 (Ionosphere 7)	62	1971
1972	Isozaki, S. Miyazaki, S.	20 (Ionosphere 8)	76	1973
1973	Nishimuta, I. Yabuuma, H.	24 (Ionosphere 11)	74	1974
1974	Yamazaki, I. Shiro, I.	29 (Ionosphere 13)	84	1975
1975	Sugiuchi, H. Komiya, N.	35 (Ionosphere 15)	84	1976
1976	Ose M. Yamakoshi, A. Sasaki, T.	41 (Ionosphere 17)	87	1977
1977	Ose M. Nishiyama, N. Sakamoto, J.	46 (Ionosphere 19)	82	1978
1978	Ose M. Igarashi, K. Tsuzurahara, S.	51 (Ionosphere 20)	86	1979
(cont.)				

Bibliography relevant to RADIO OBSERVATION DATA AT SYOWA STATION, ANTARCTICA (2)
 (ROMETER RECORDS OF 30 MHz COSMIC NOISE AT SYOWA STATION, ANTARCTICA)

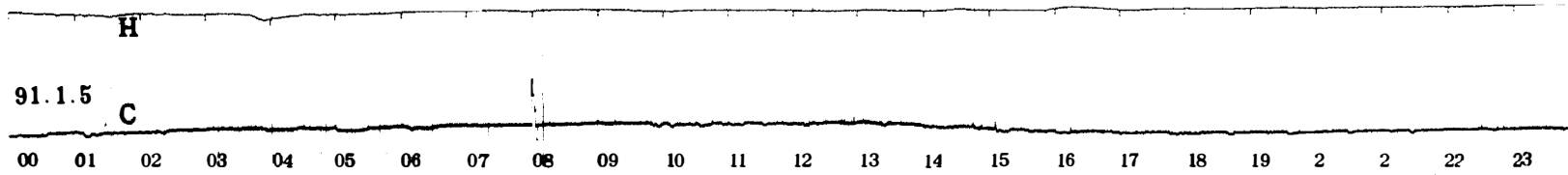
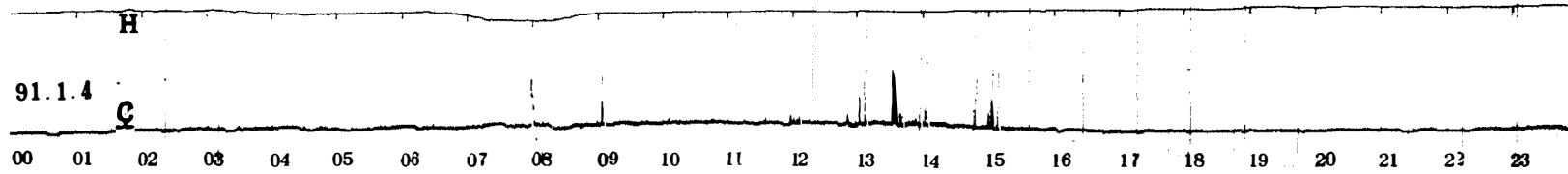
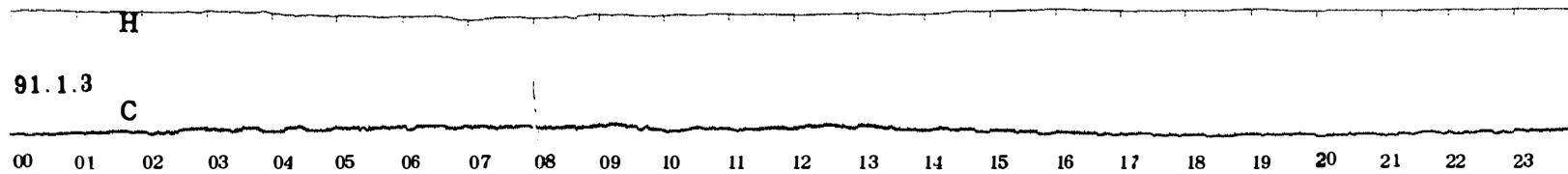
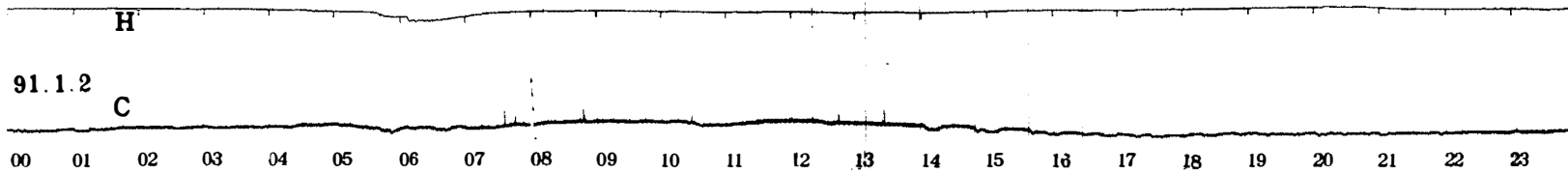
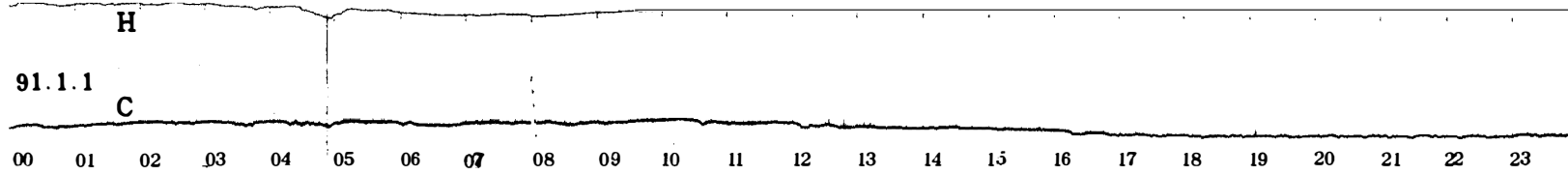
Observing Period	Observers	Literature		
		JARE Data Reports		
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1980	Ose, M. Nozaki, K.	70 (Ionosphere 26)	97	1982
1981	Ose, M. Kurihara, N.	80 (Ionosphere 27)	94	1983
1982	Kuratani, Y. Igarashi, K.	87 (Ionosphere 29)	86	1984
1983	Kuratani, Y. Yamazaki, I. Tanaka, T.	99 (Ionosphere 31)	93	1985
1984	Kuratani, Y. Yamamoto, S.	112 (Ionosphere 33)	95	1986
1985	Kuratani, Y. Maeno, H.	122 (Ionosphere 35)	94	1987
1986	Maeno, H. Suzuki, A.	133 (Ionosphere 37)	96	1988
1987	Maeno, H. Inamori, K.	141 (Ionosphere 39)	99	1989
1988	Maeno, H. Ohtsuka, A.	155 (Ionosphere 42)	98	1990
1989	Maeno, H. Yamamoto, S.	168 (Ionosphere 44)	184	1991
1990	Ohtaka, K. Kunitake, M.	176 (Ionosphere 47)	204	1992
1991	Nozaki, K. Kunitake, M.	189 (Ionosphere 49)	184	1993

Period without combined data plots (1991.Jan1-29)

January	10	1020	-
	30		- 0820

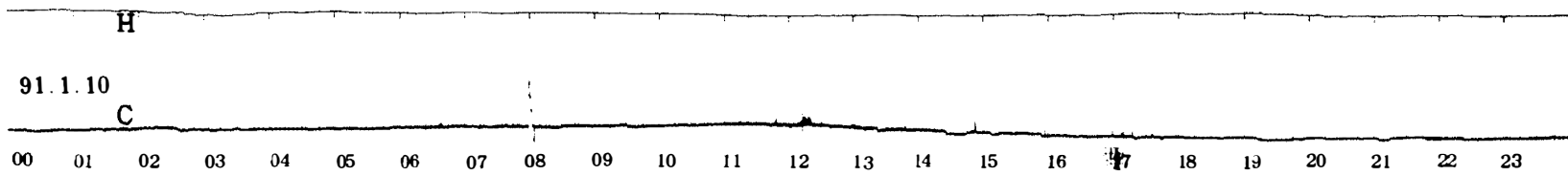
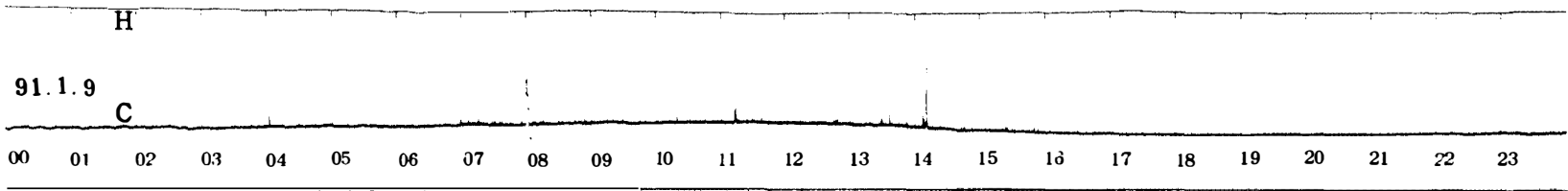
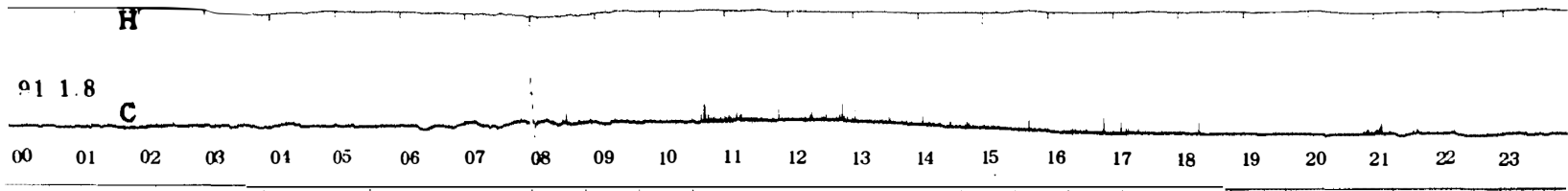
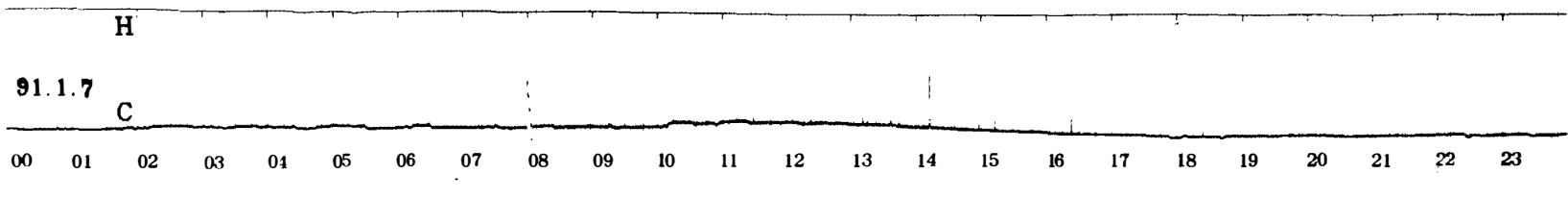
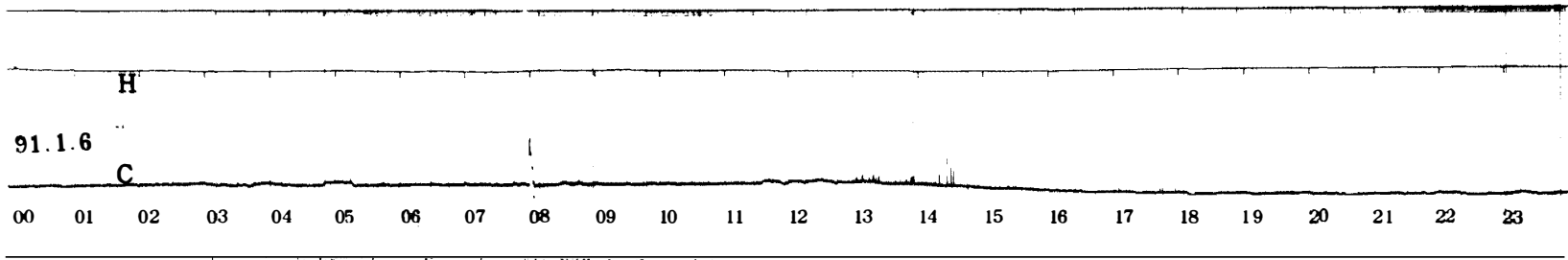
Period without combined data plots (1992)

January	6	0700	- 2400
	7	1610	- 1730
March	4	0610	- 0640
December	26	0910	- 1140



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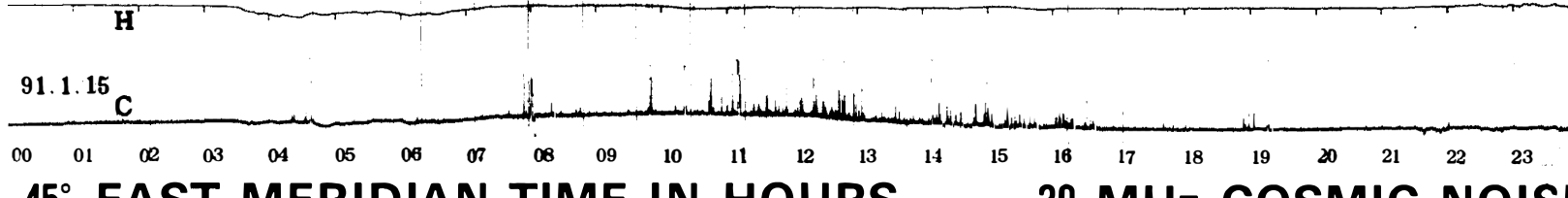
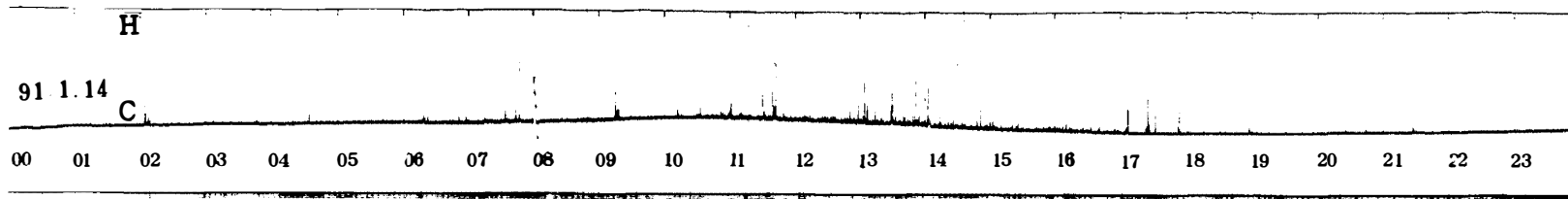
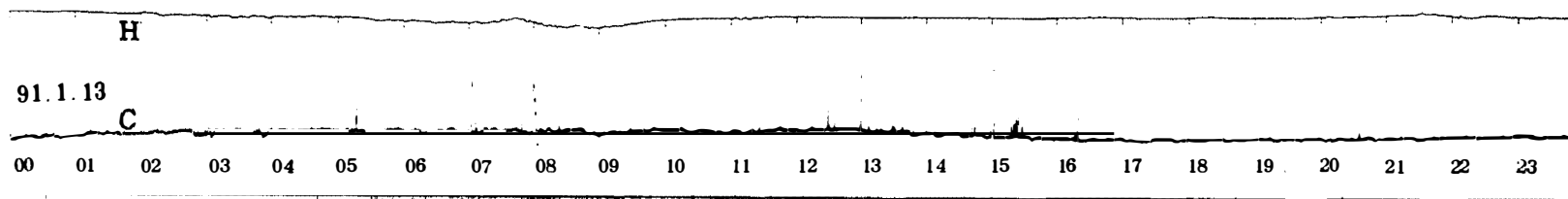
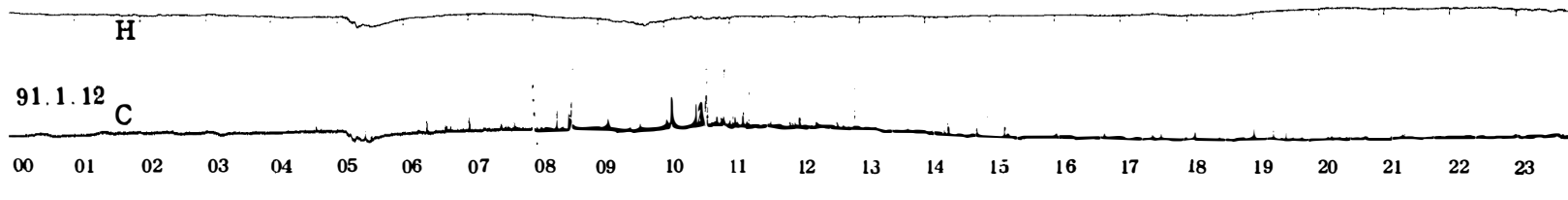
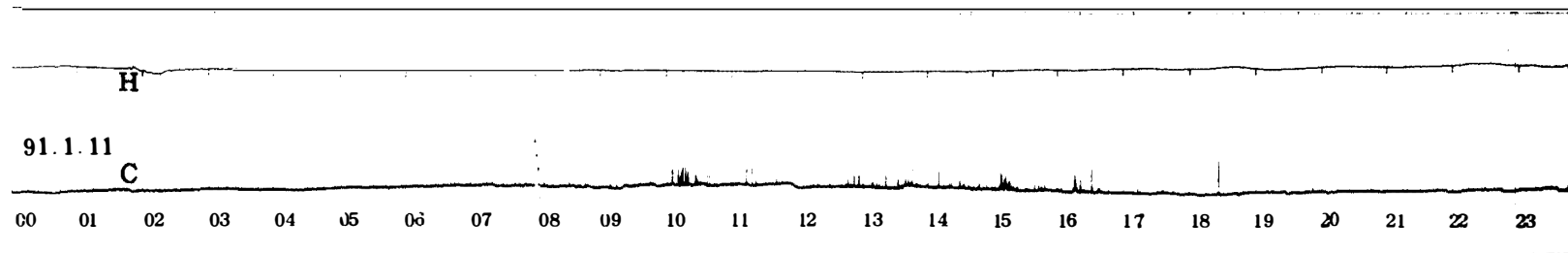
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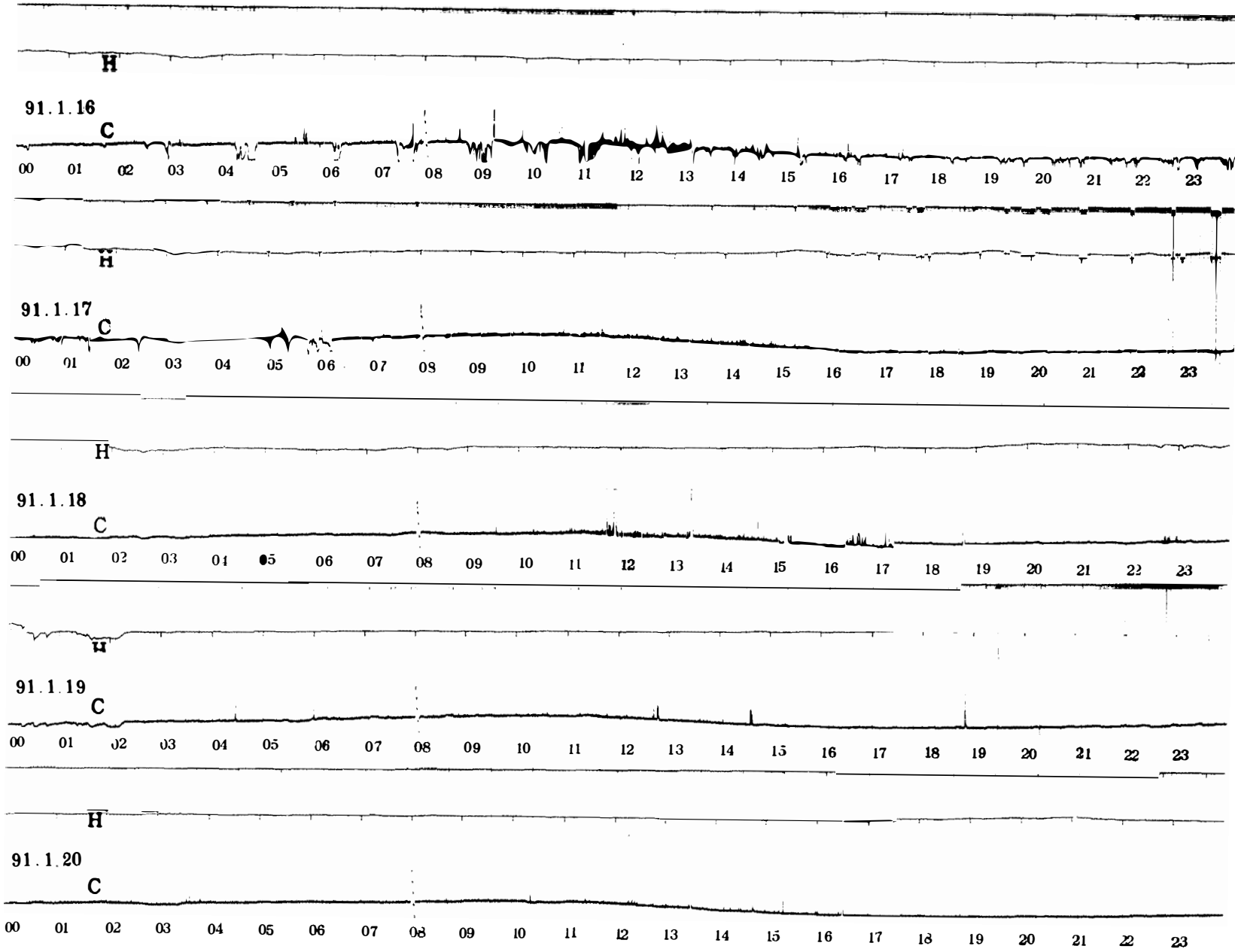
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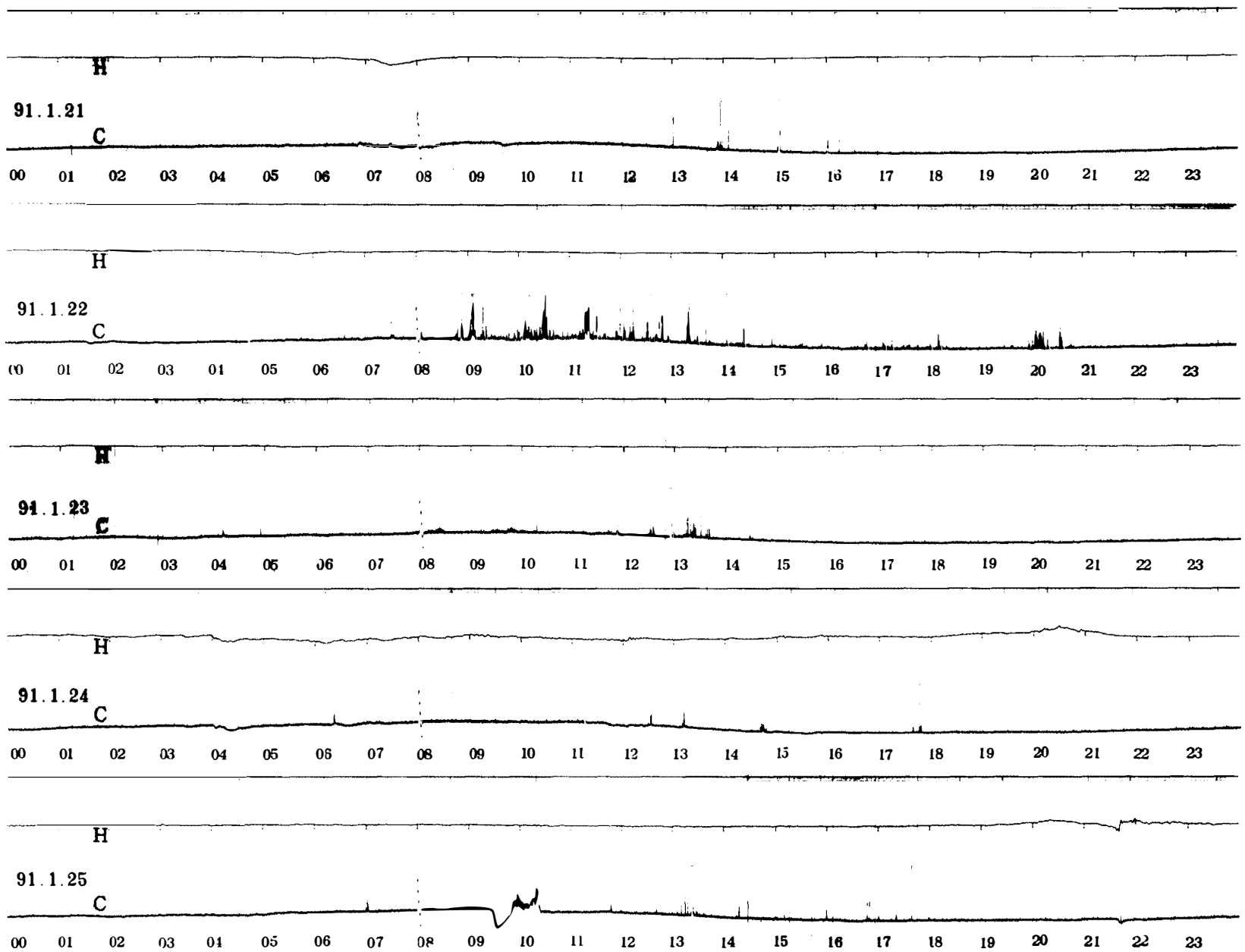
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30 MHz COSMIC NOISE



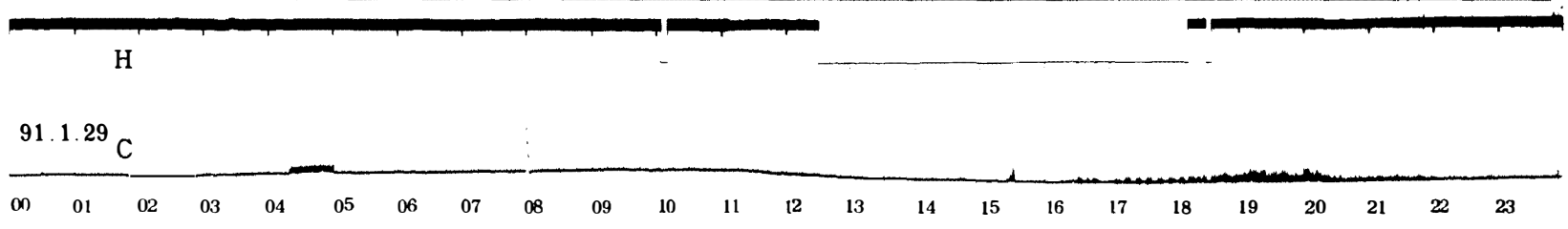
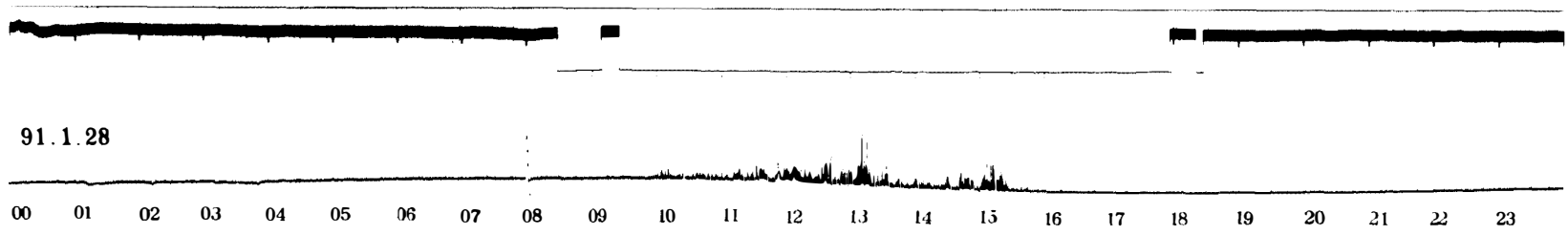
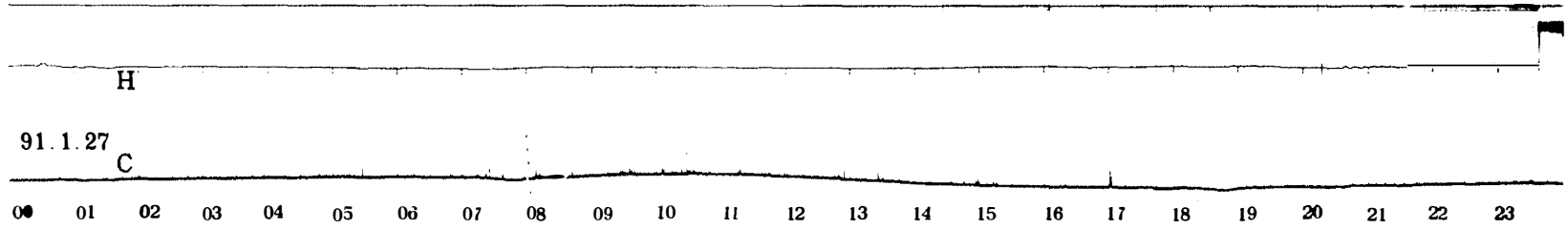
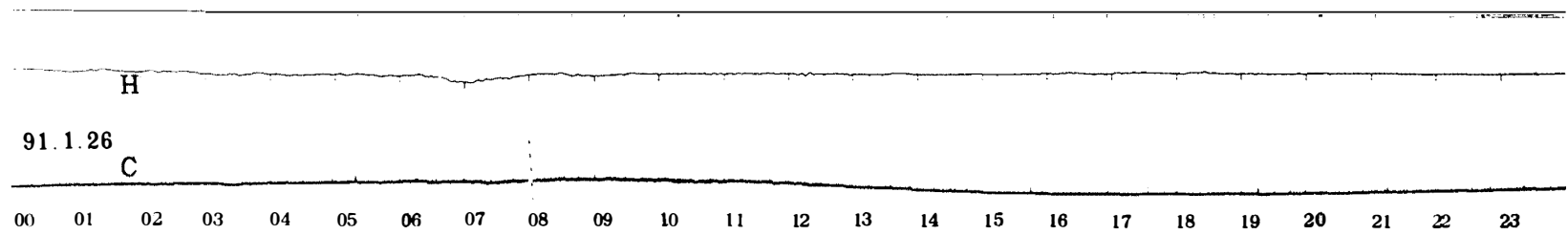
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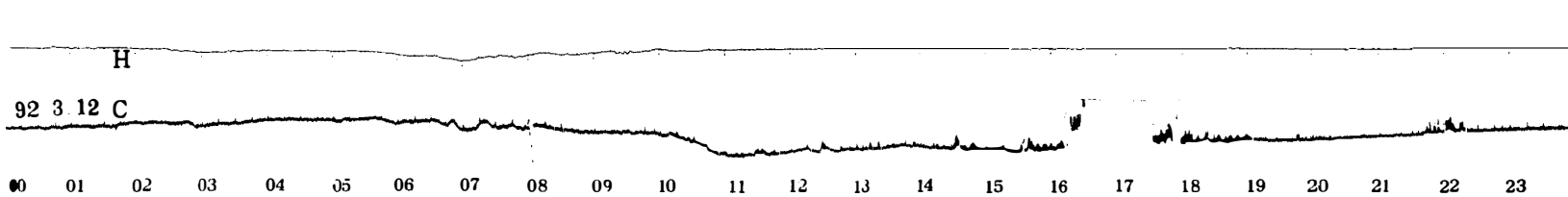
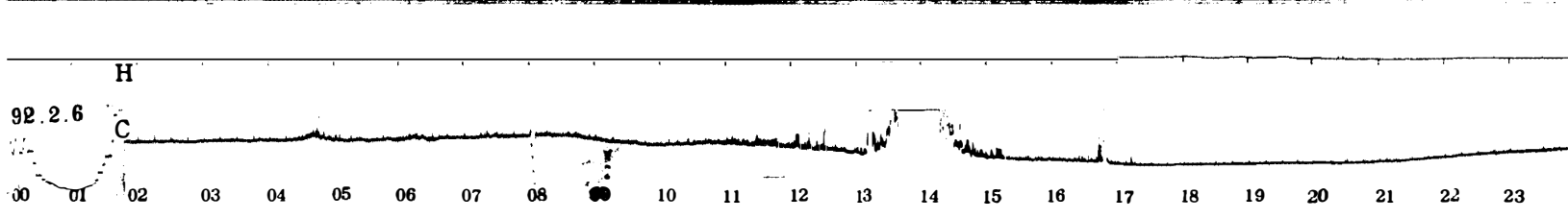
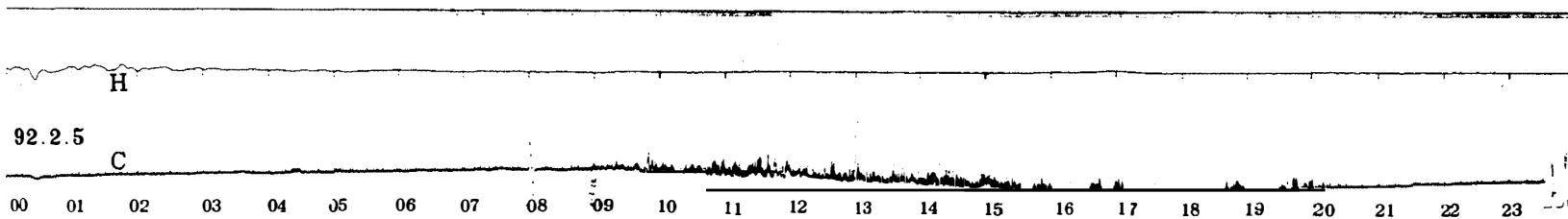
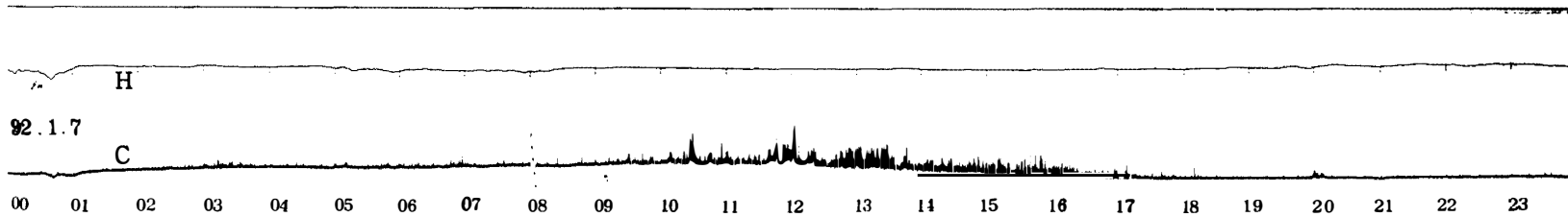
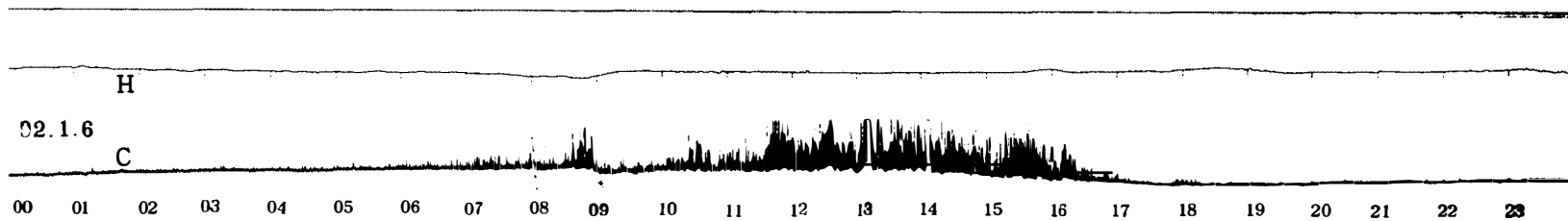
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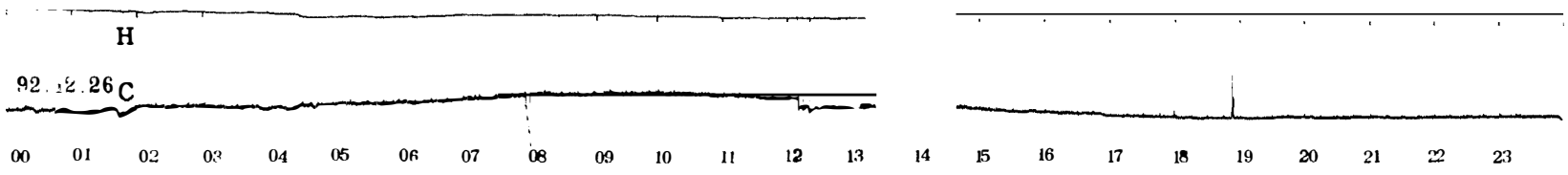
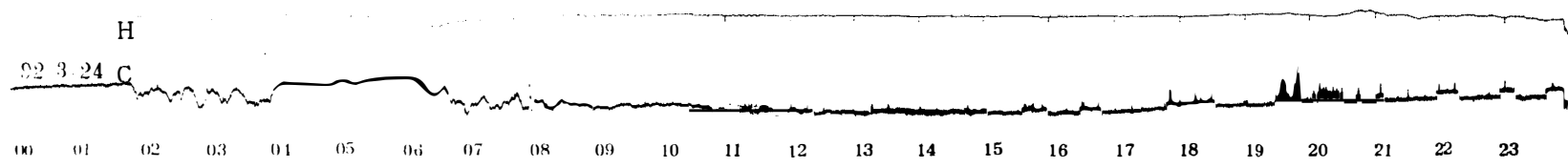
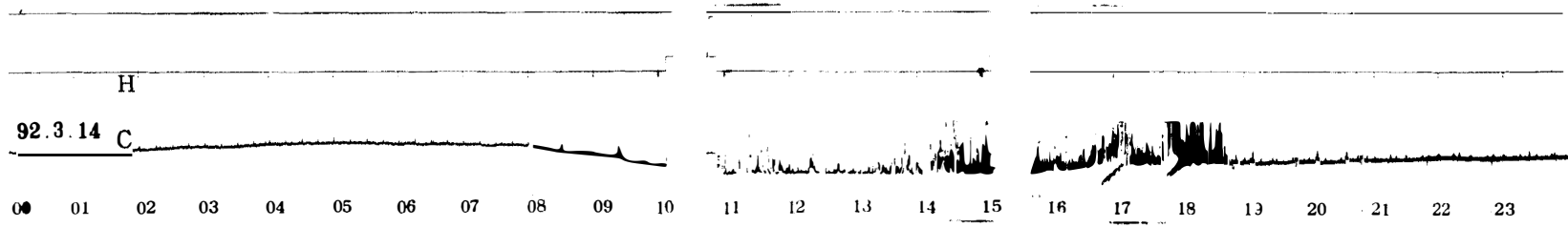
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30 MHz COSMIC NOISE



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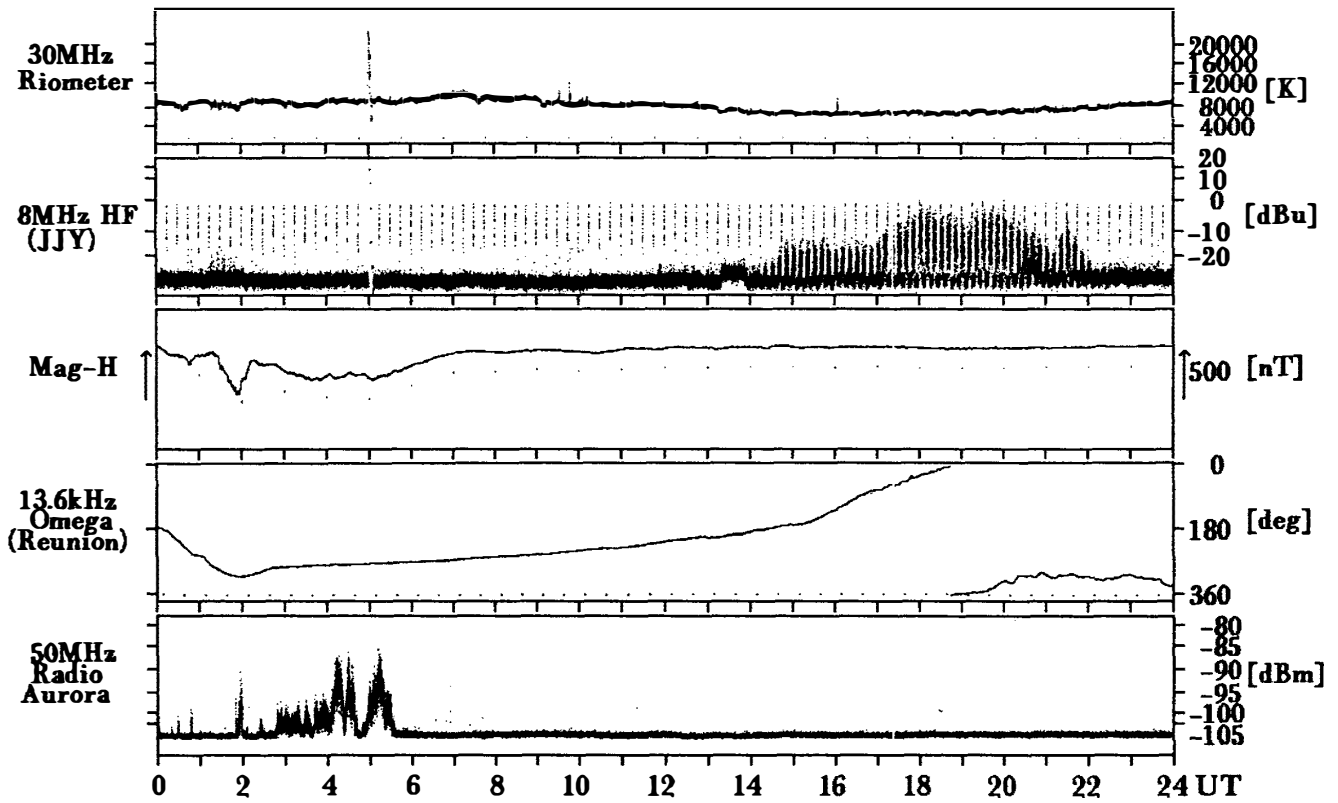


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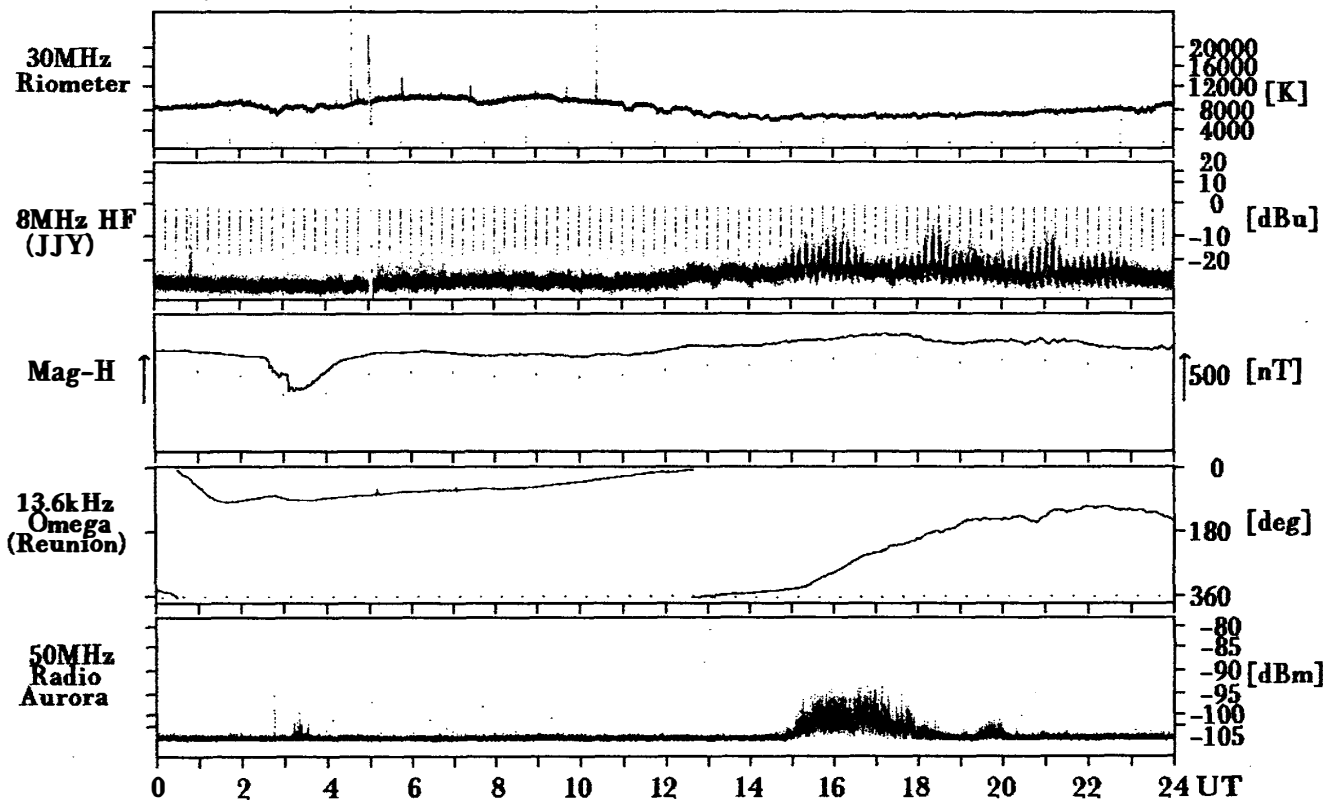
Syowa Station

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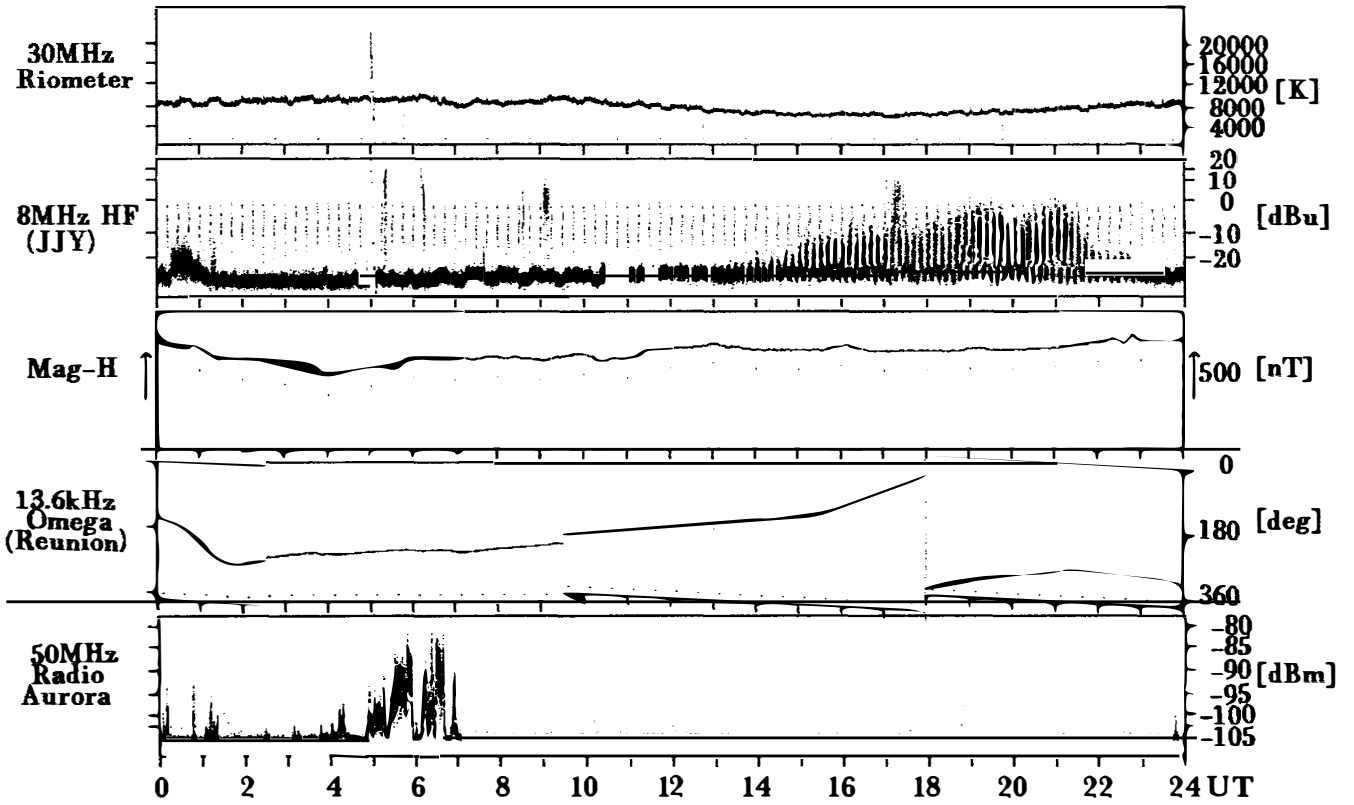
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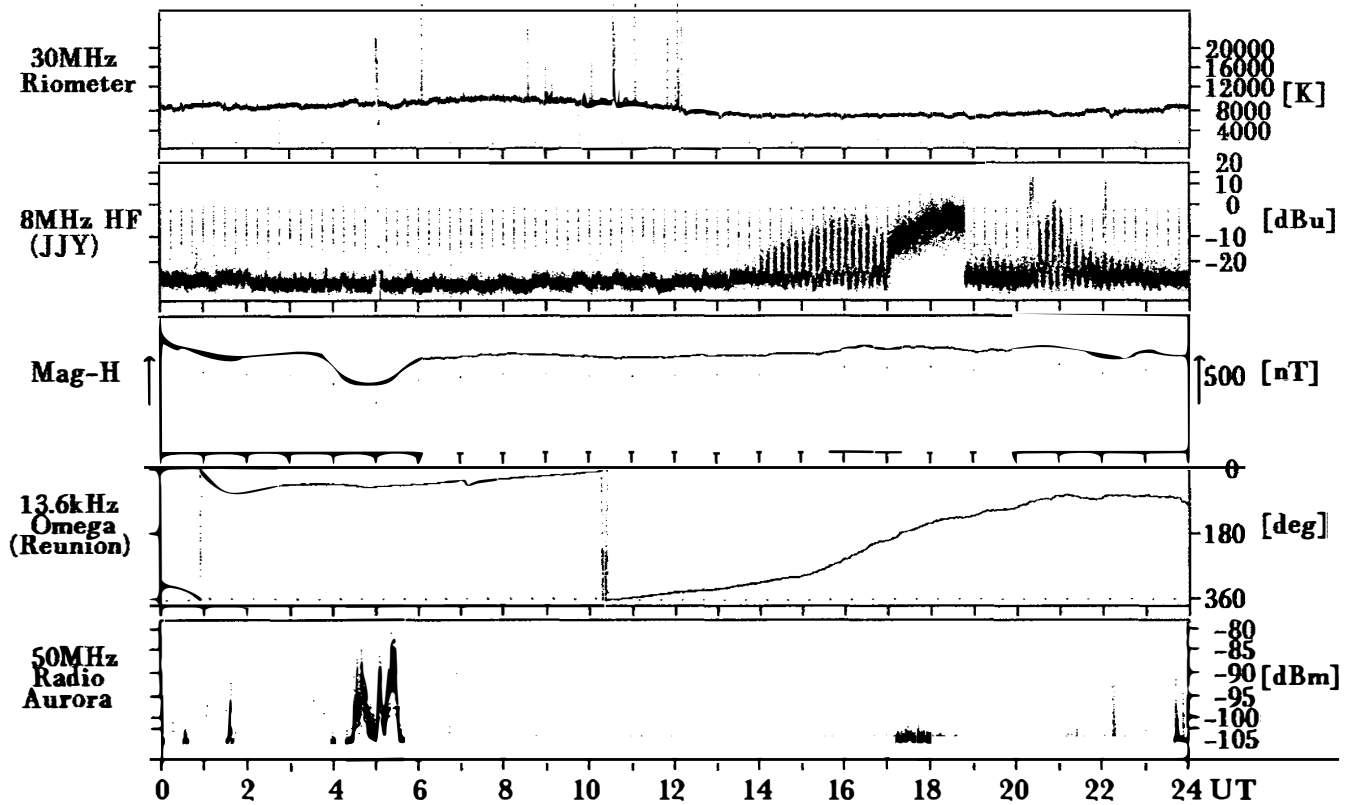
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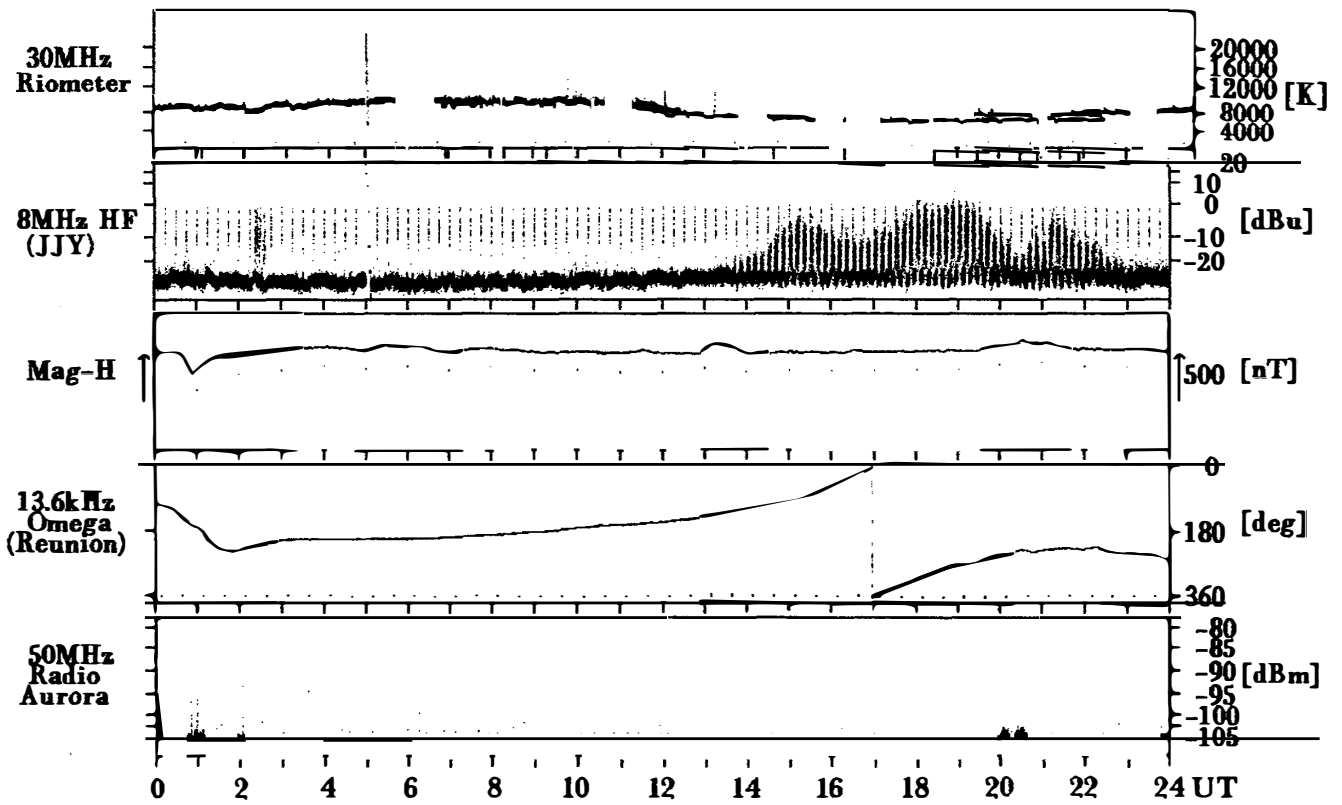
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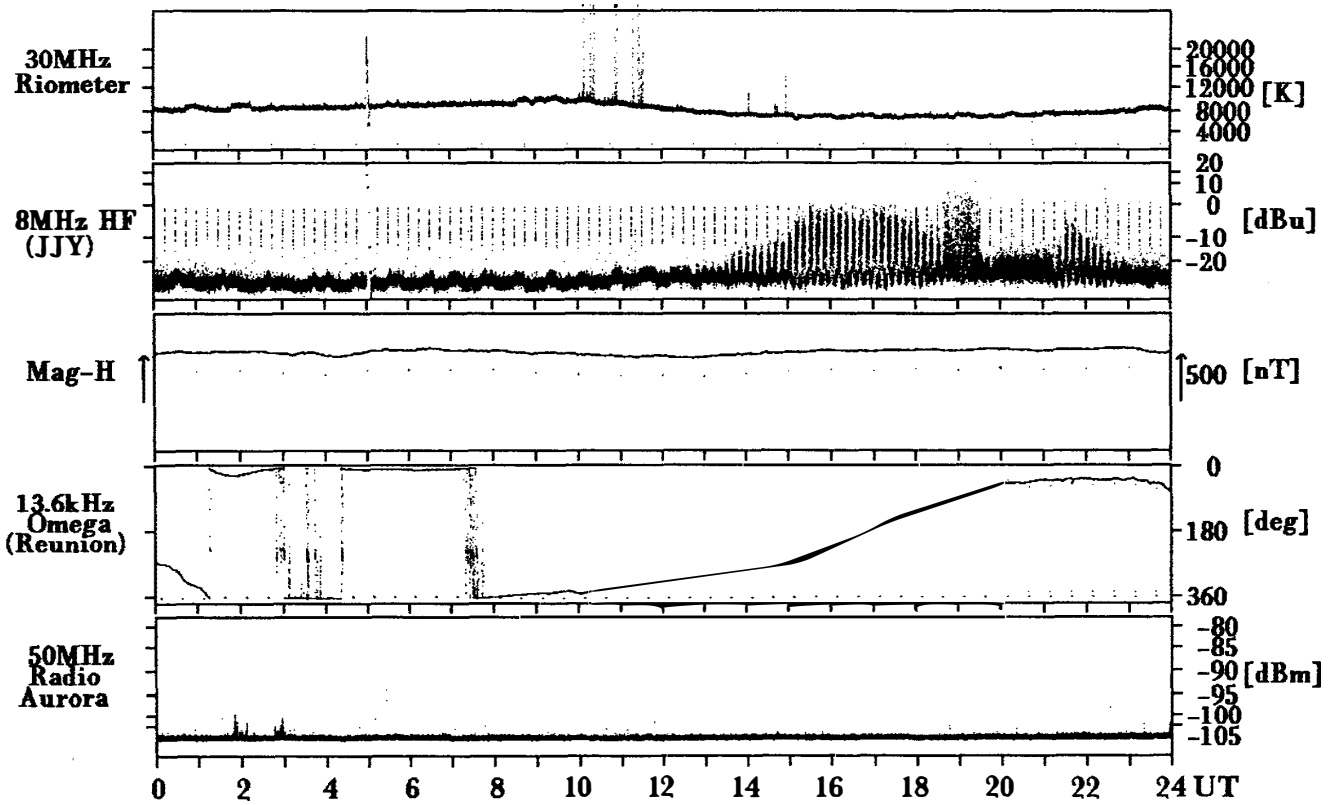
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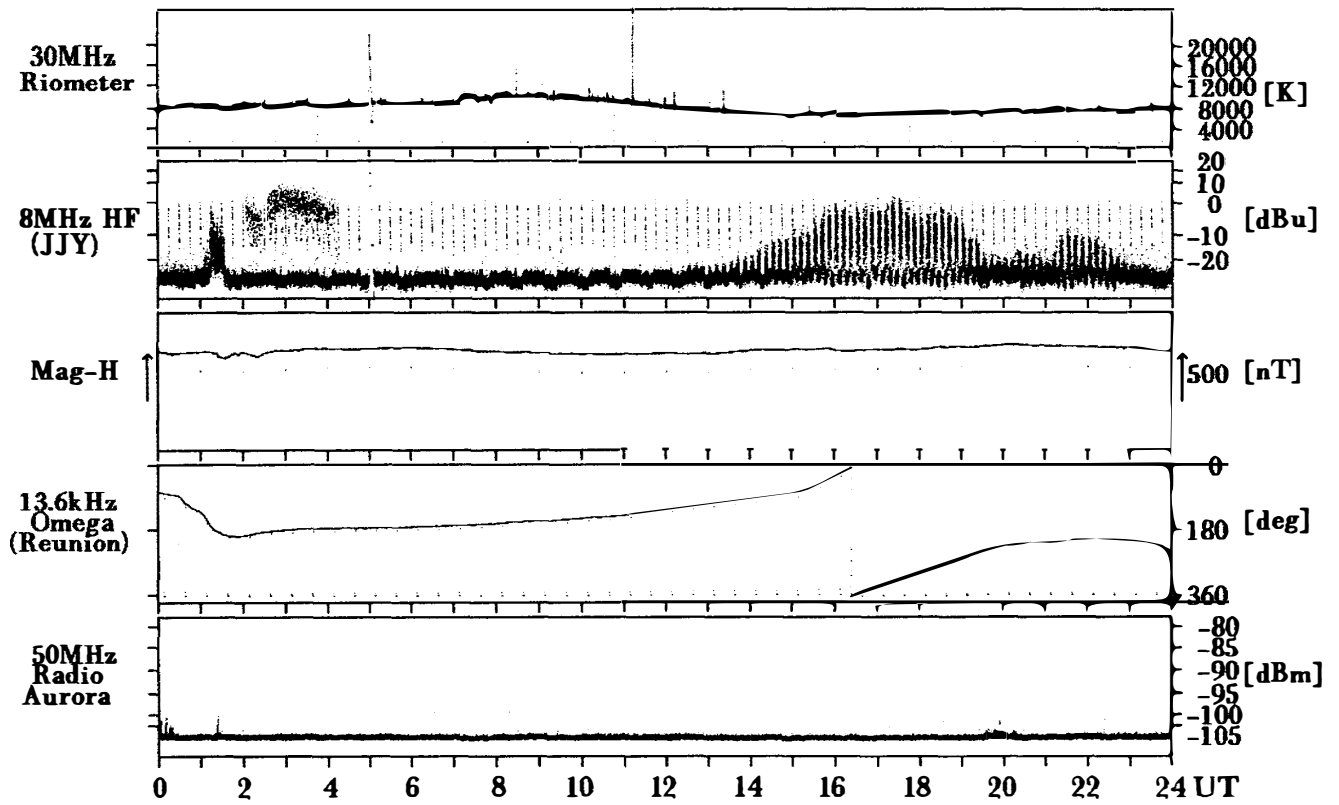
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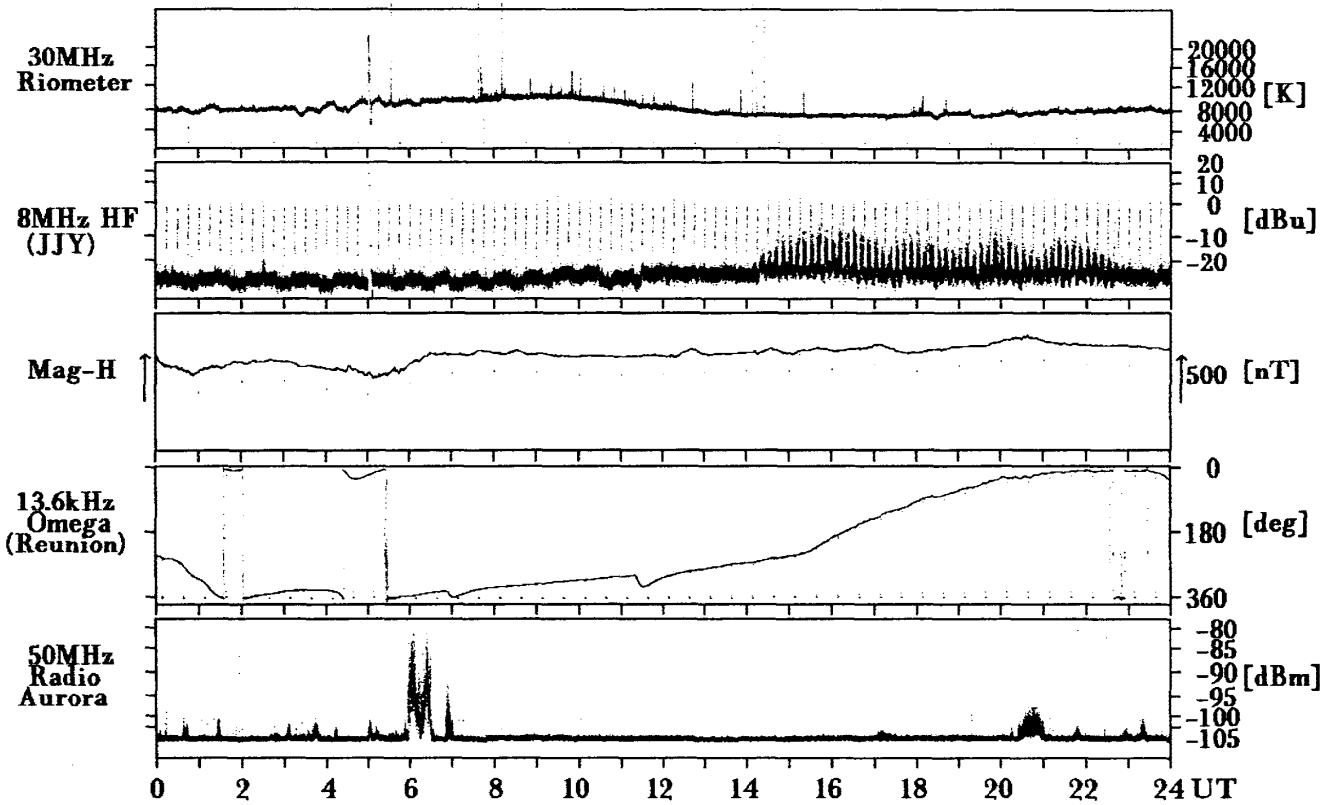
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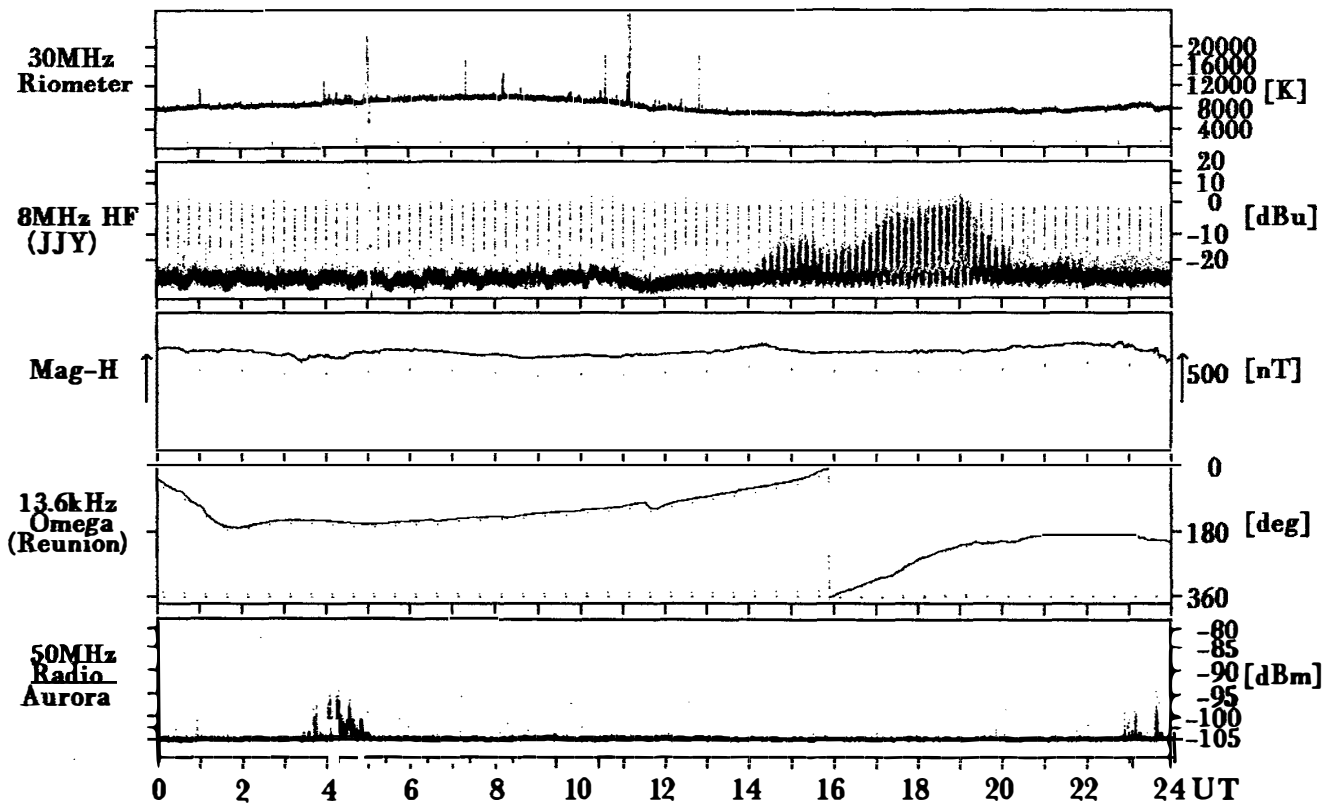
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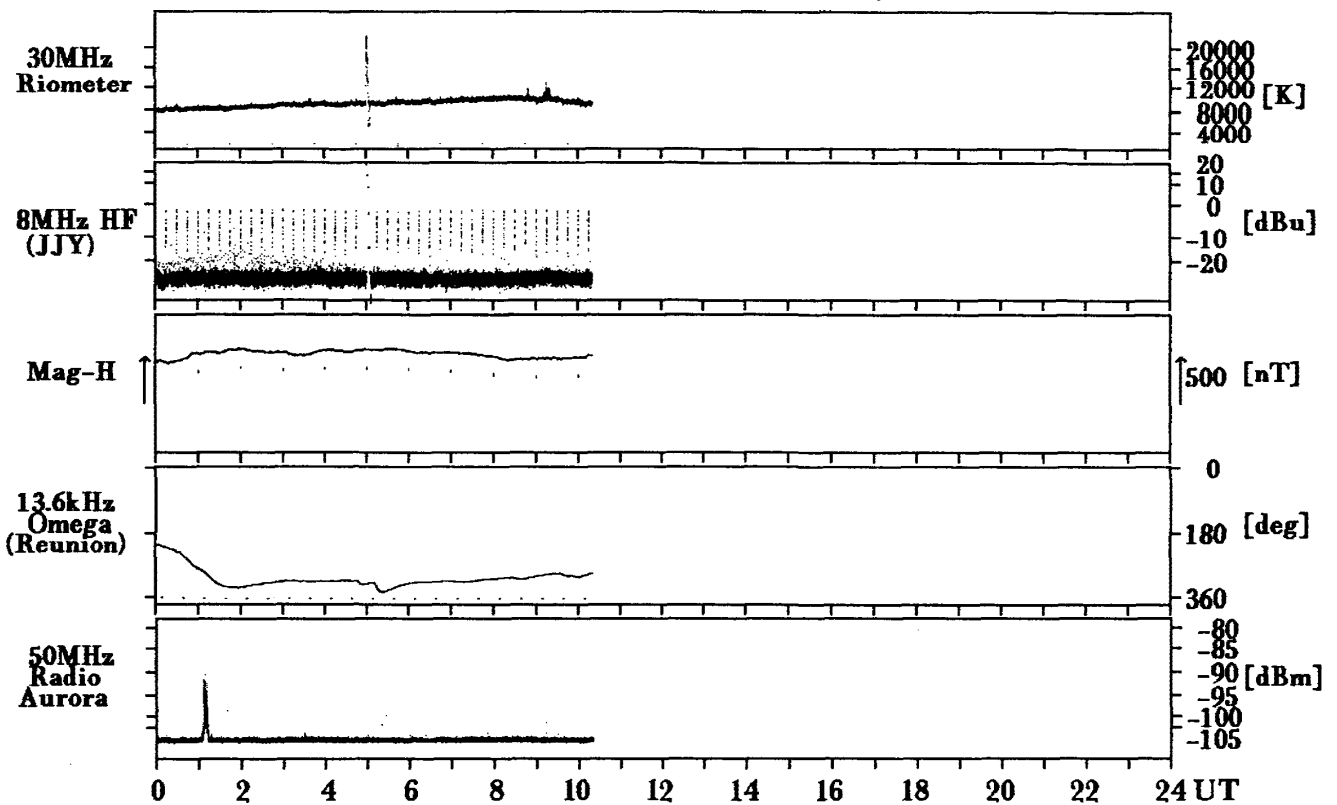
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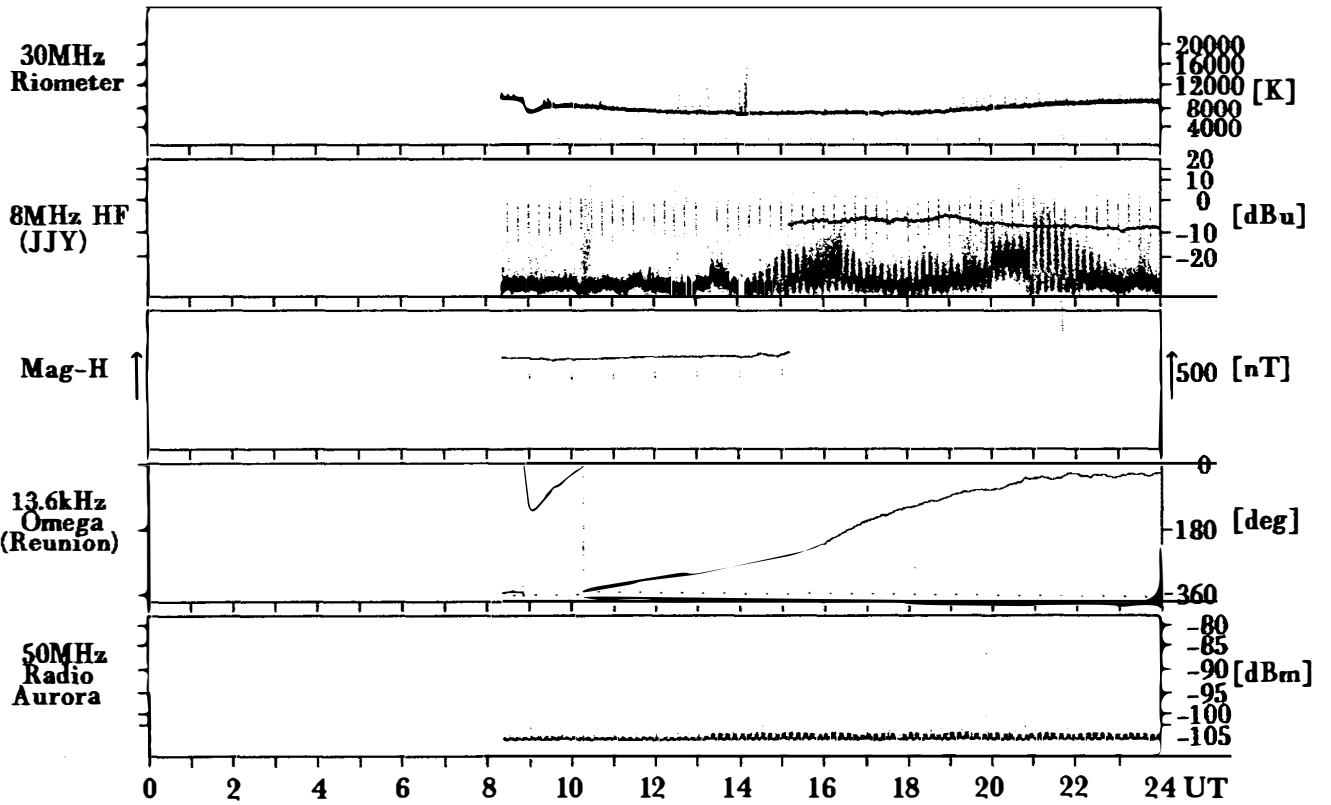
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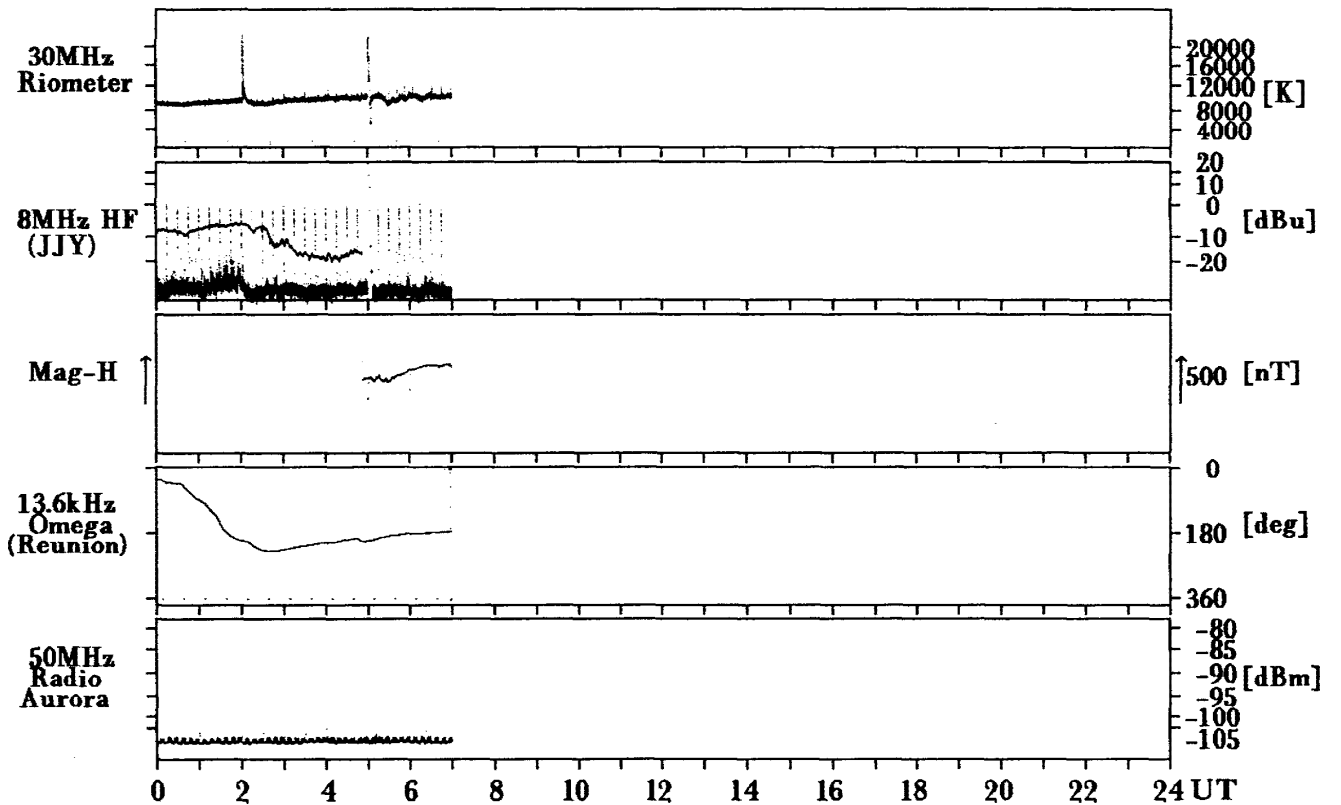
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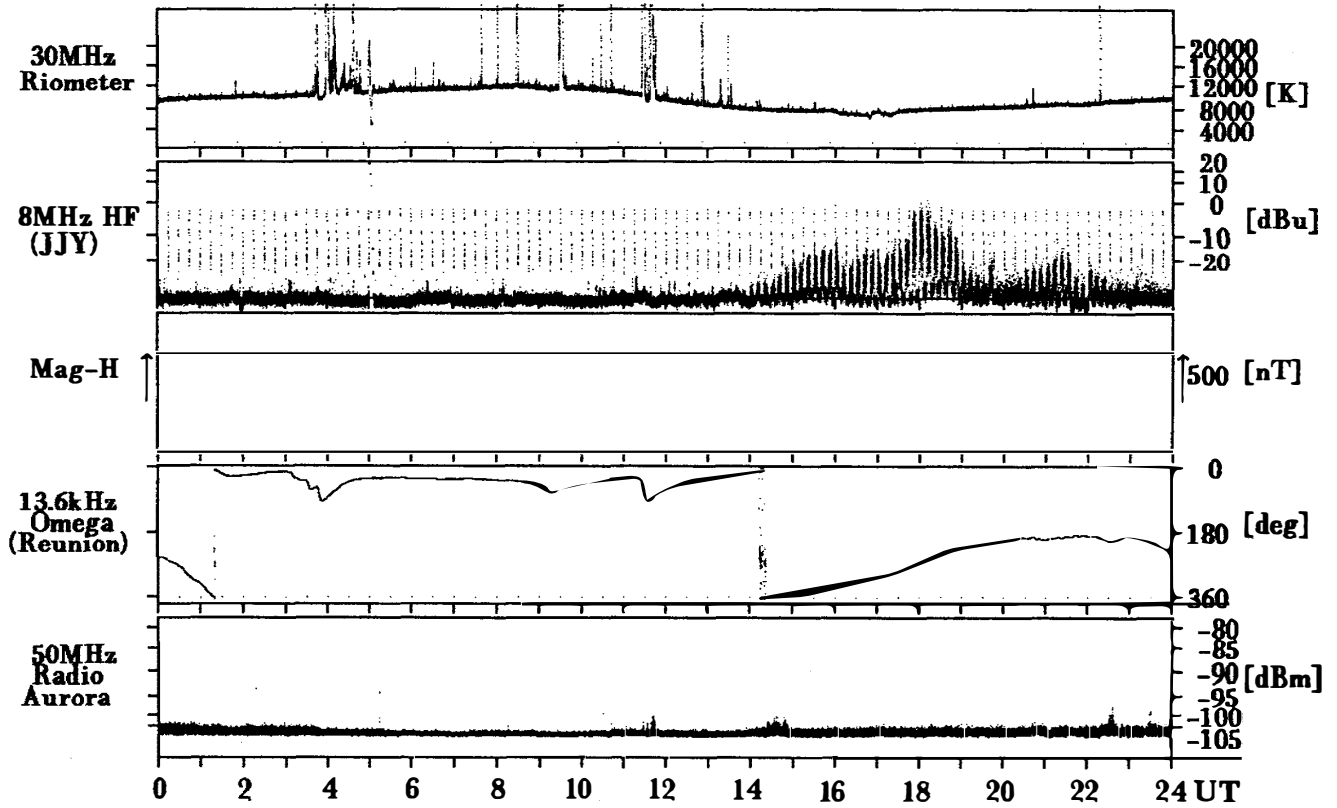
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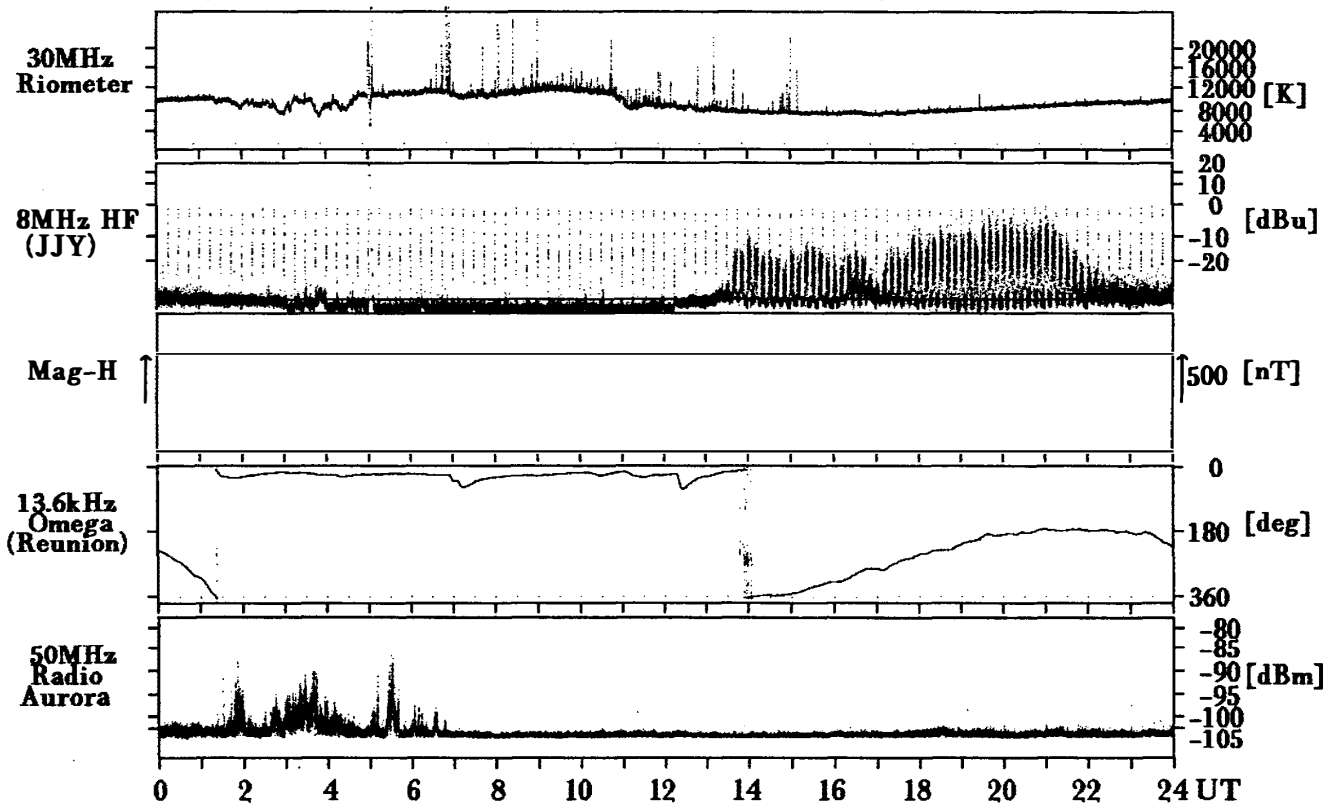
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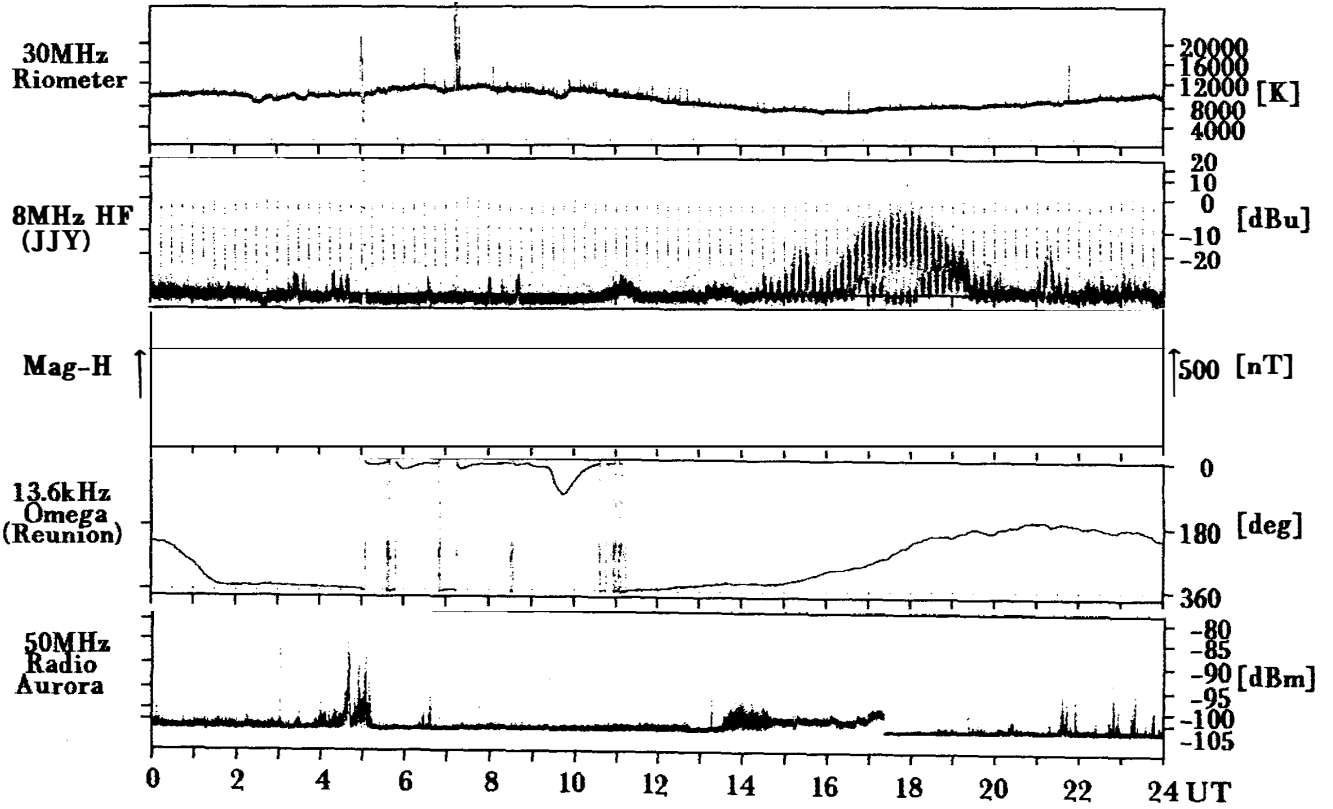
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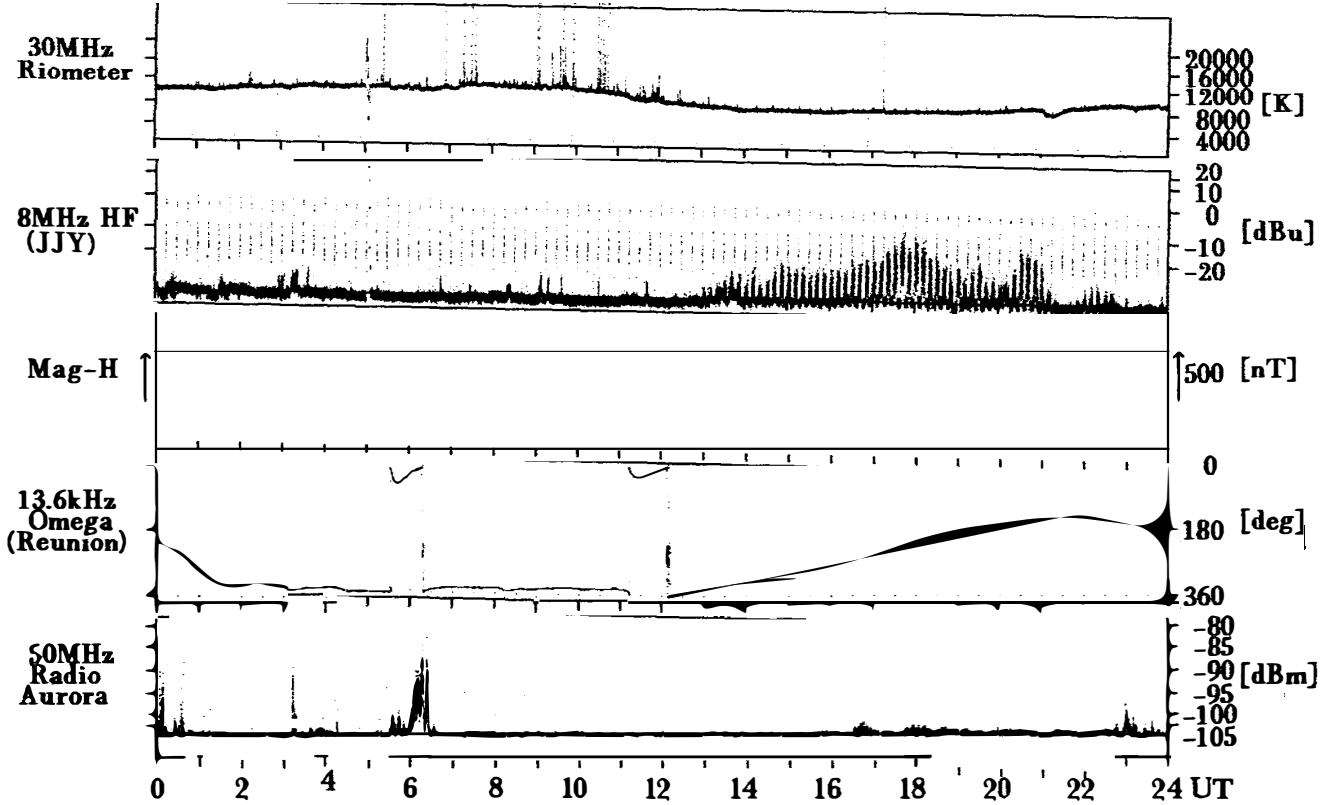
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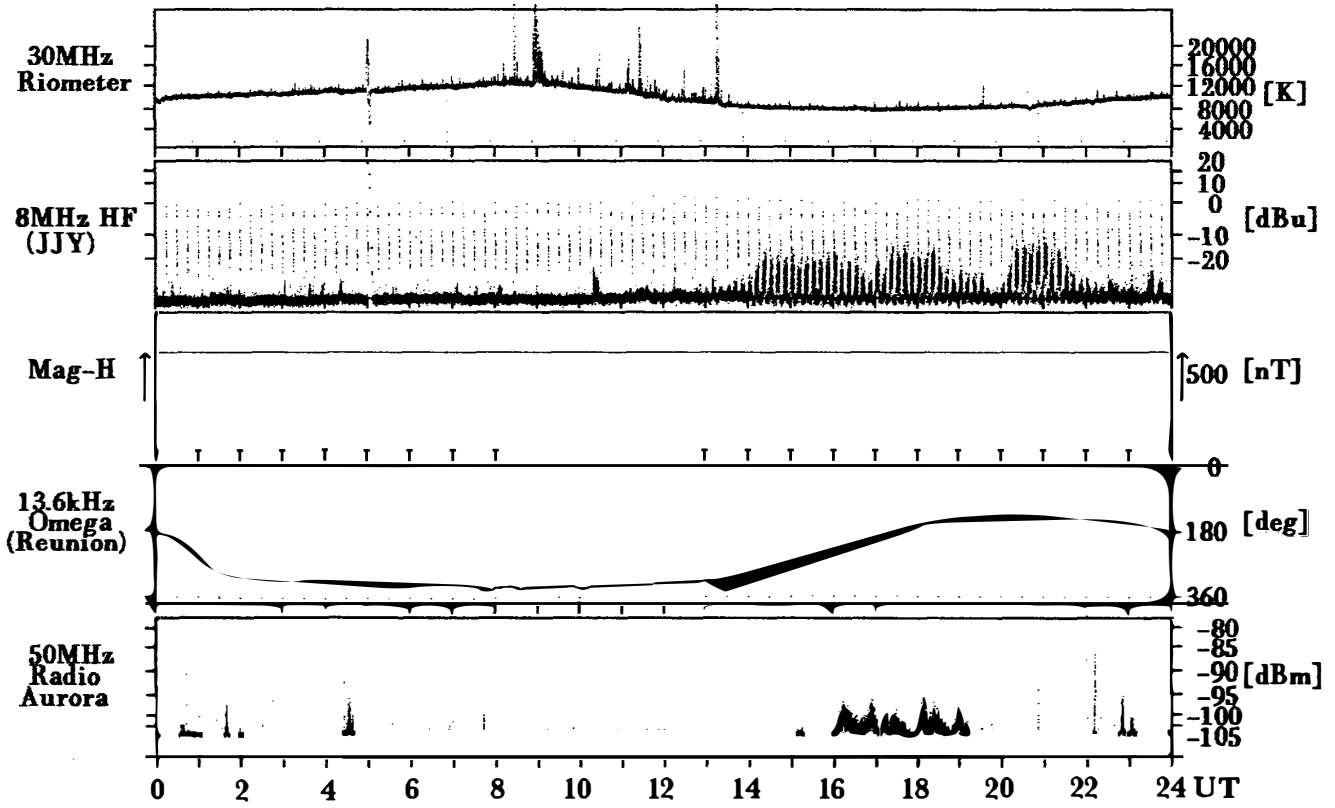
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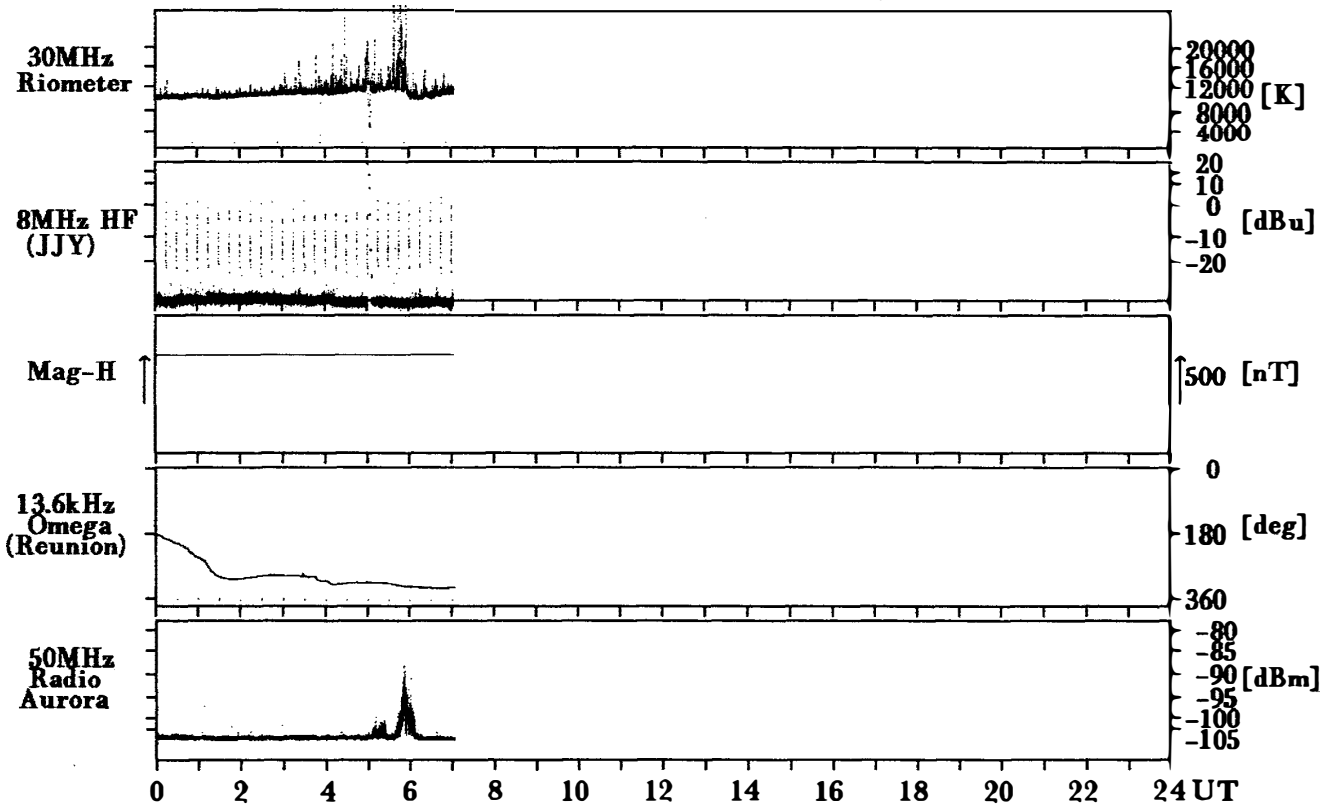
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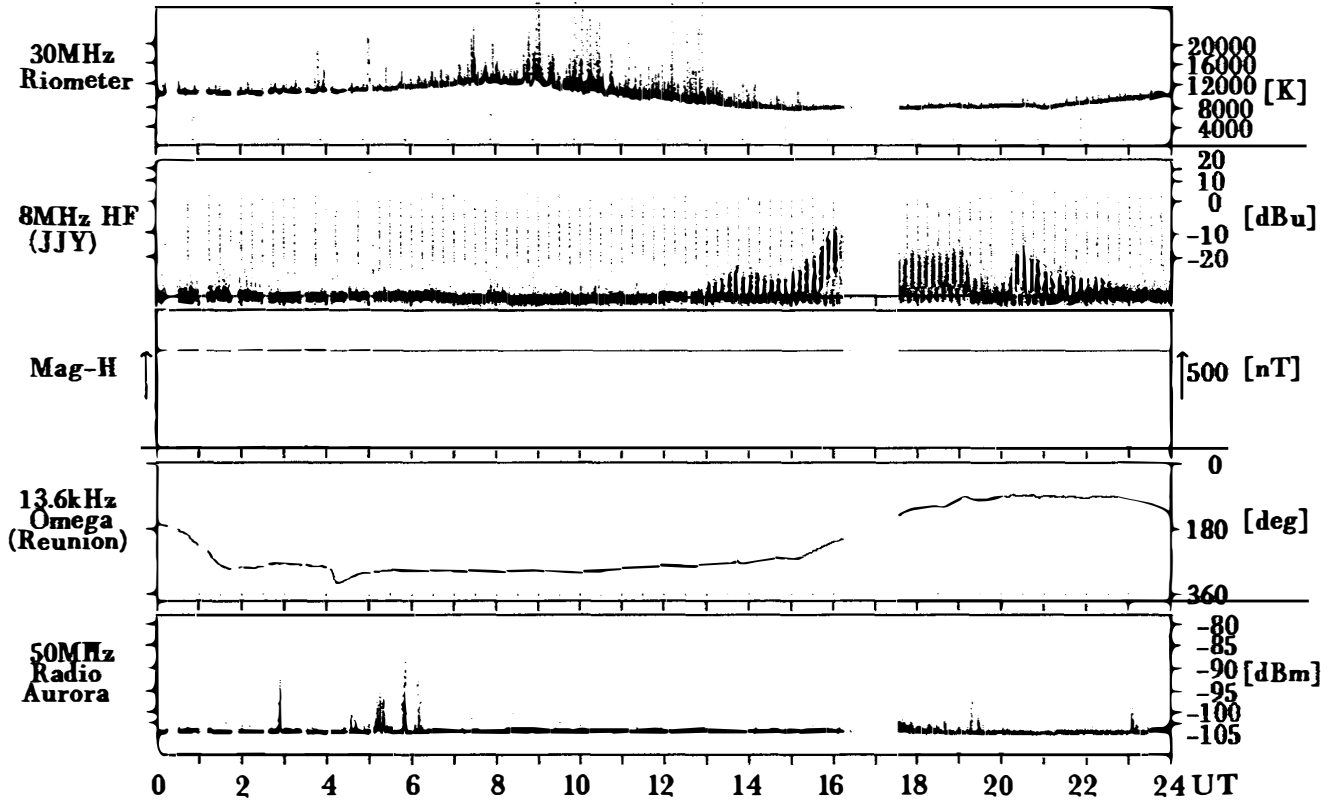
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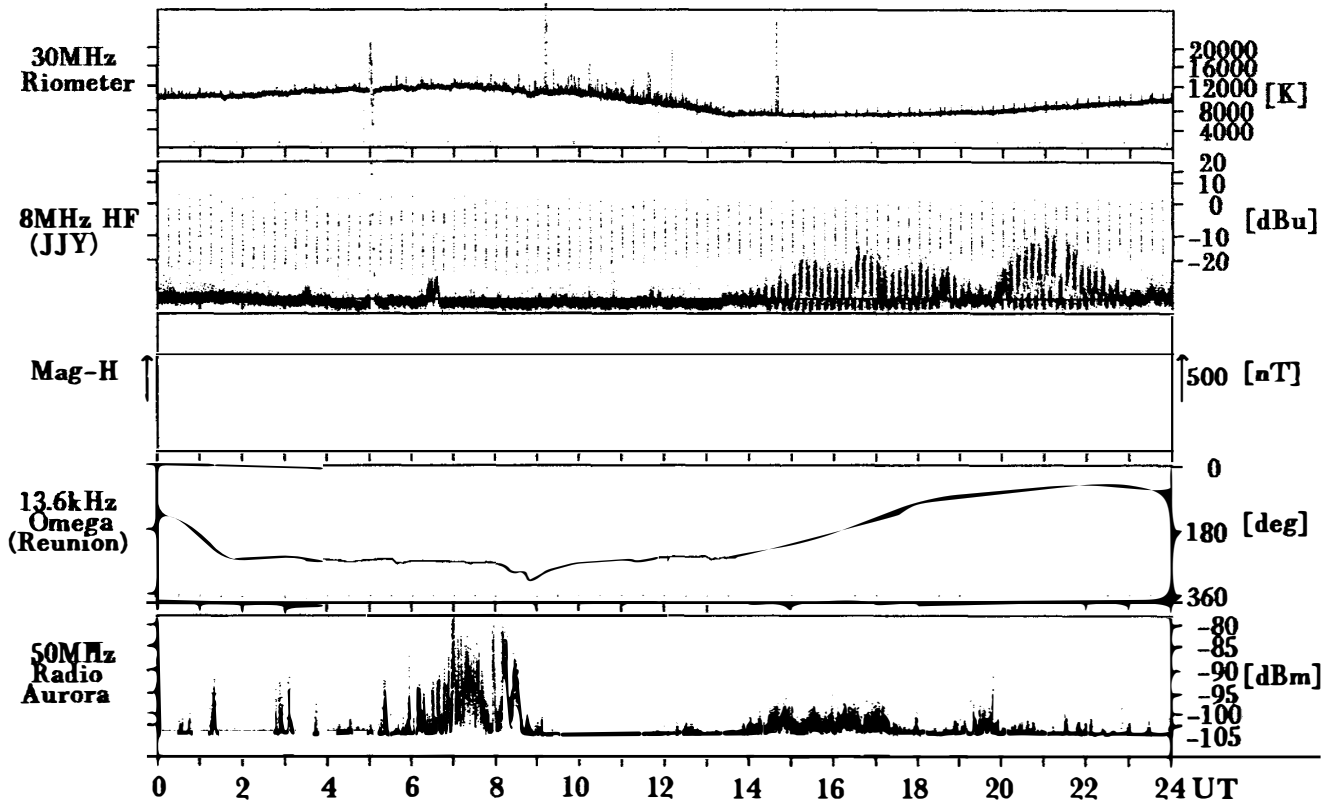
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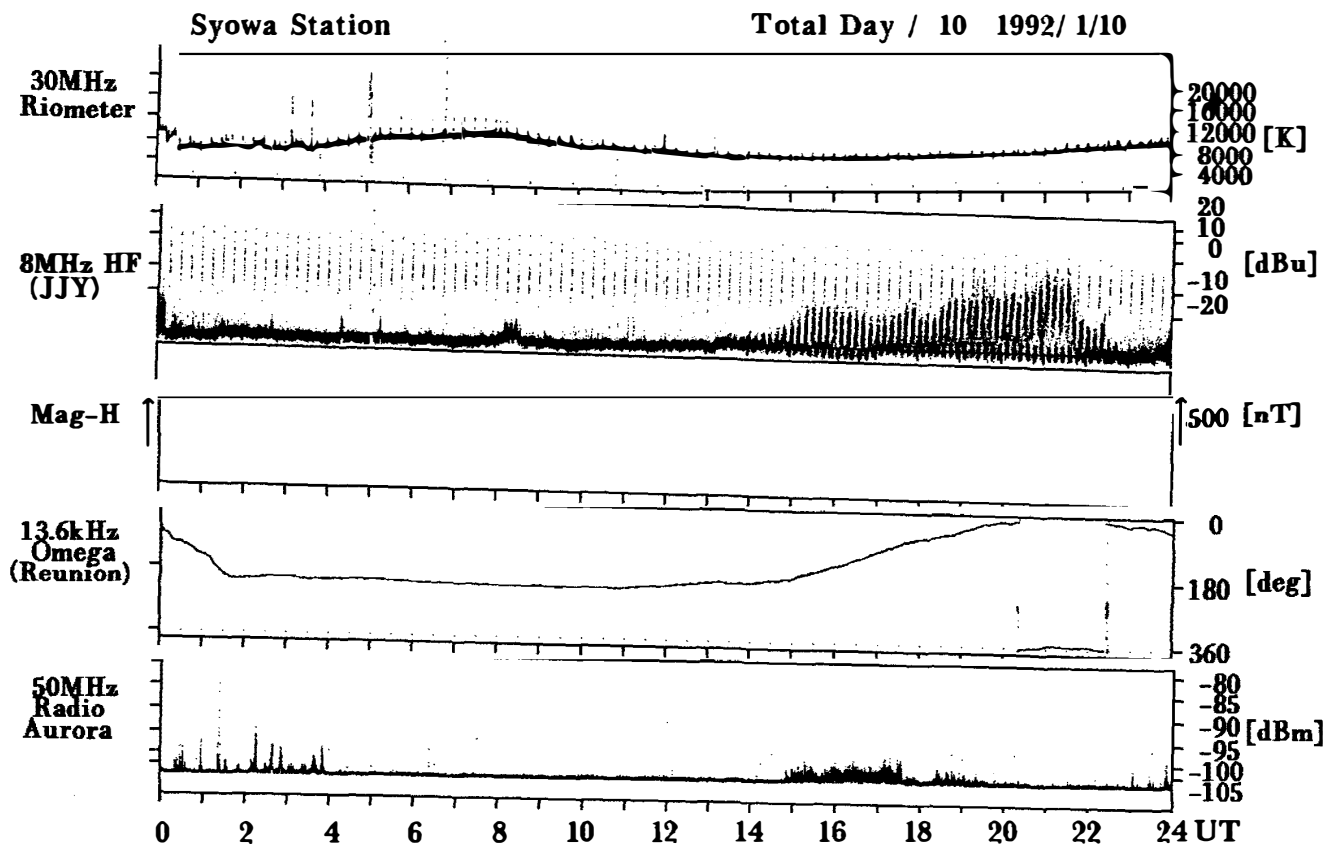
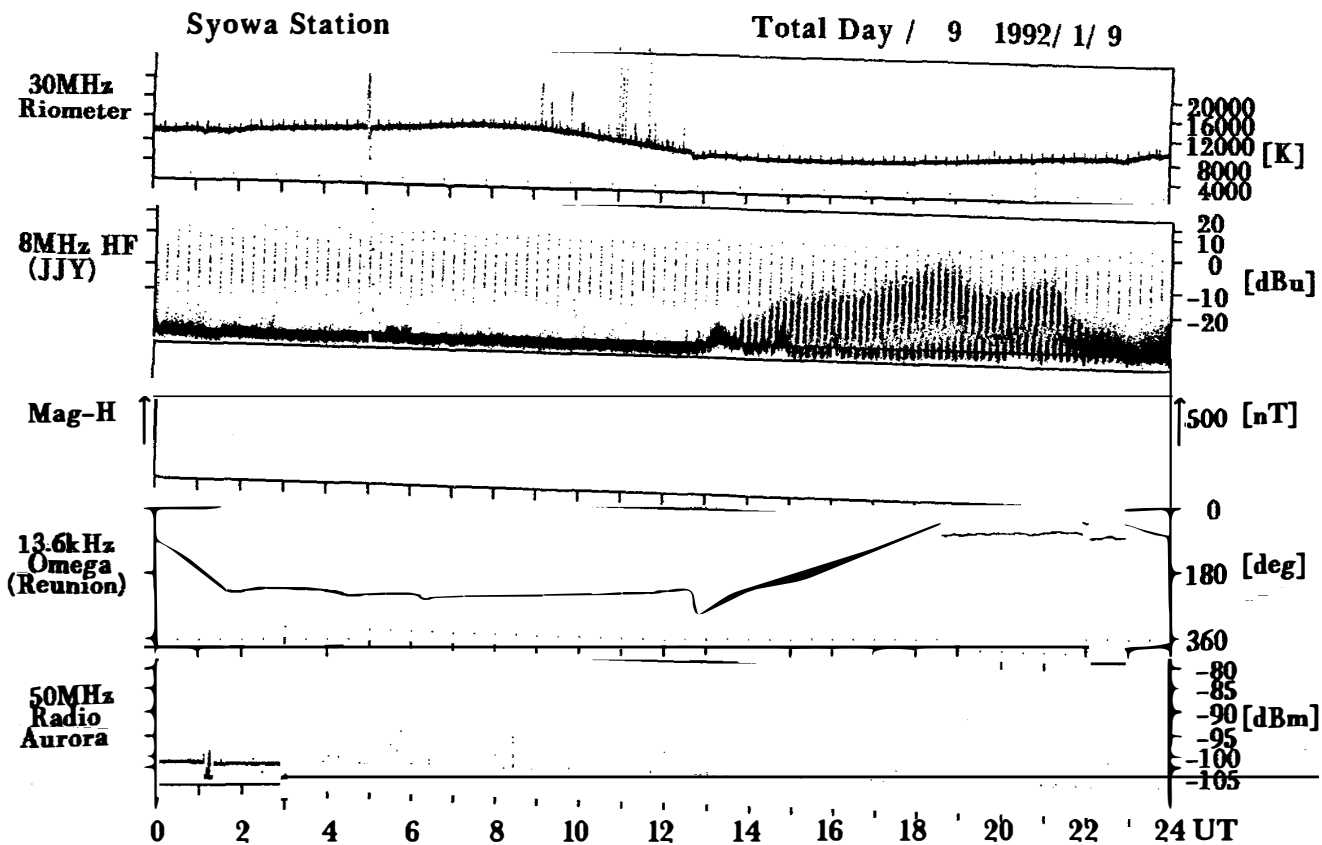
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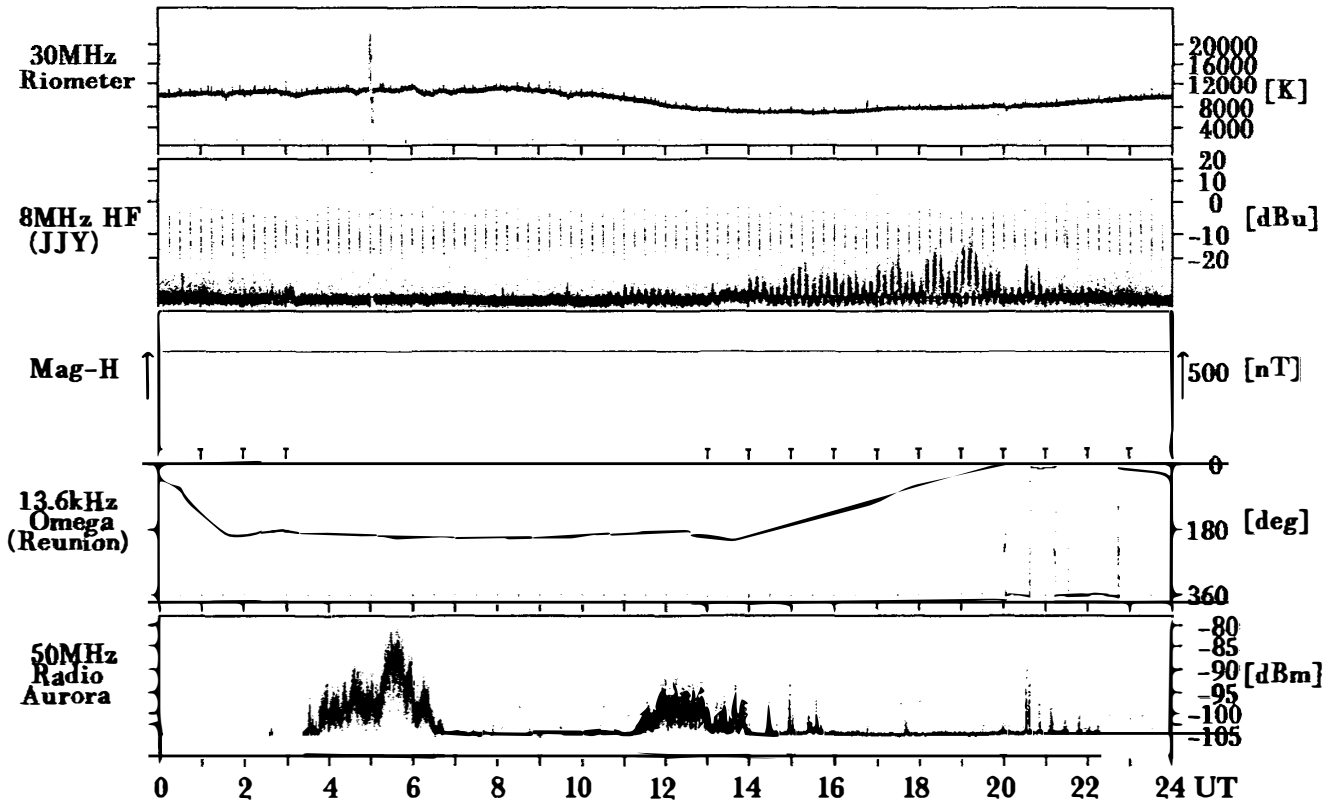
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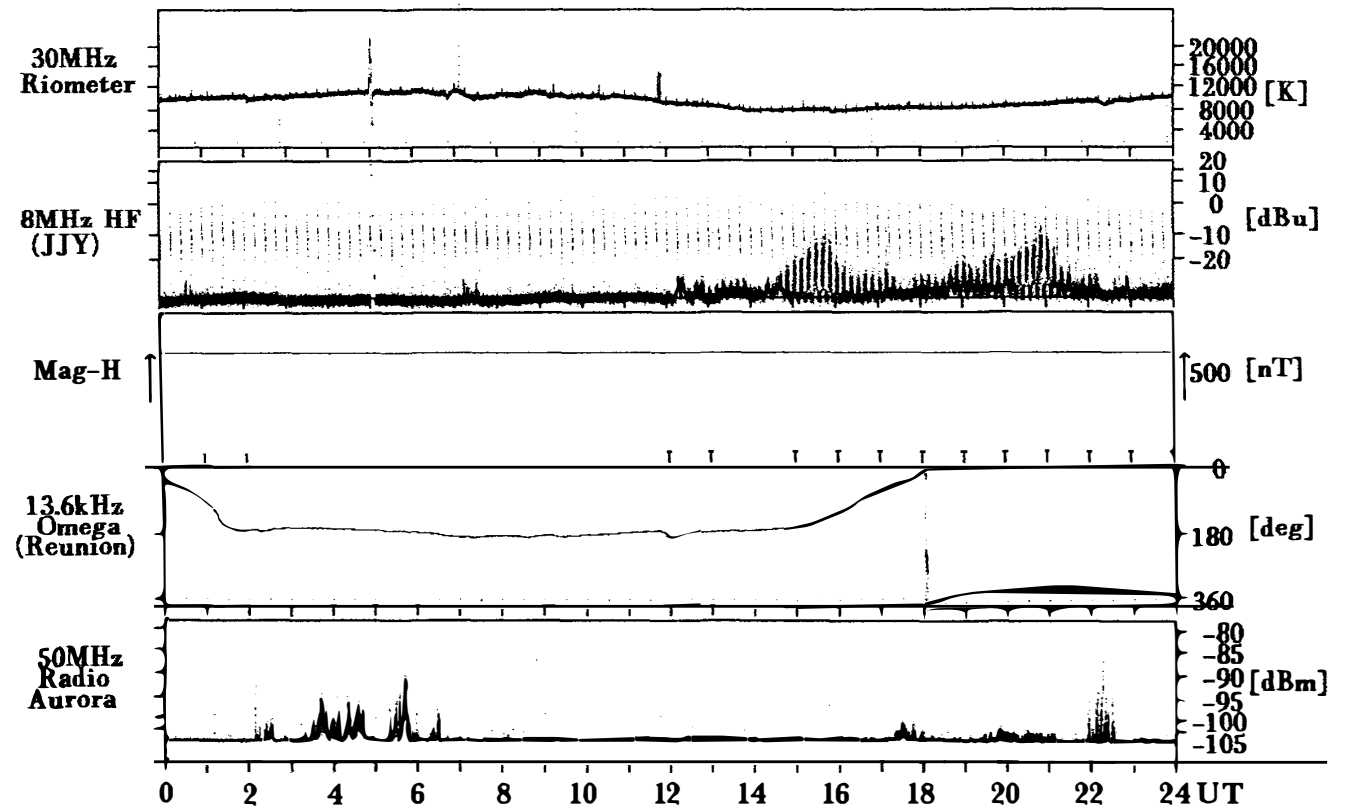
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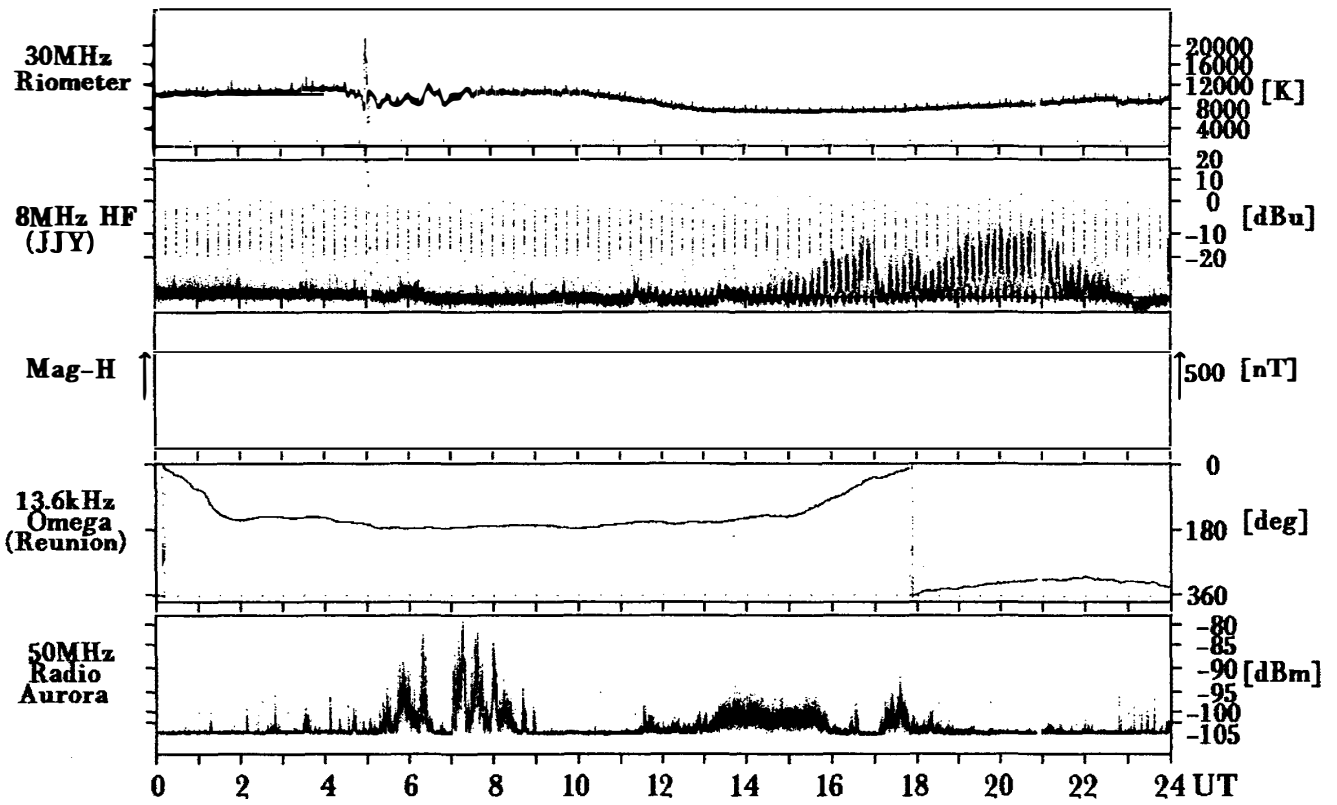
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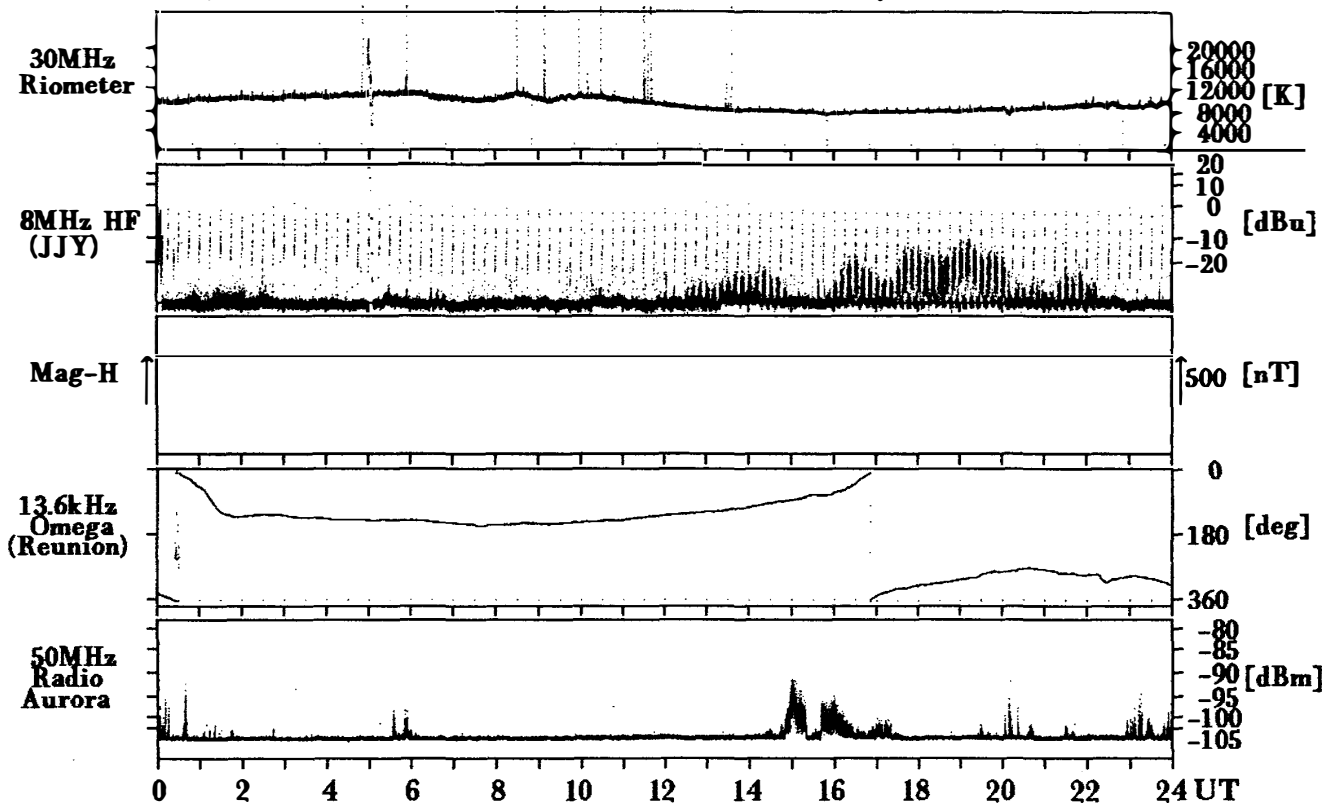
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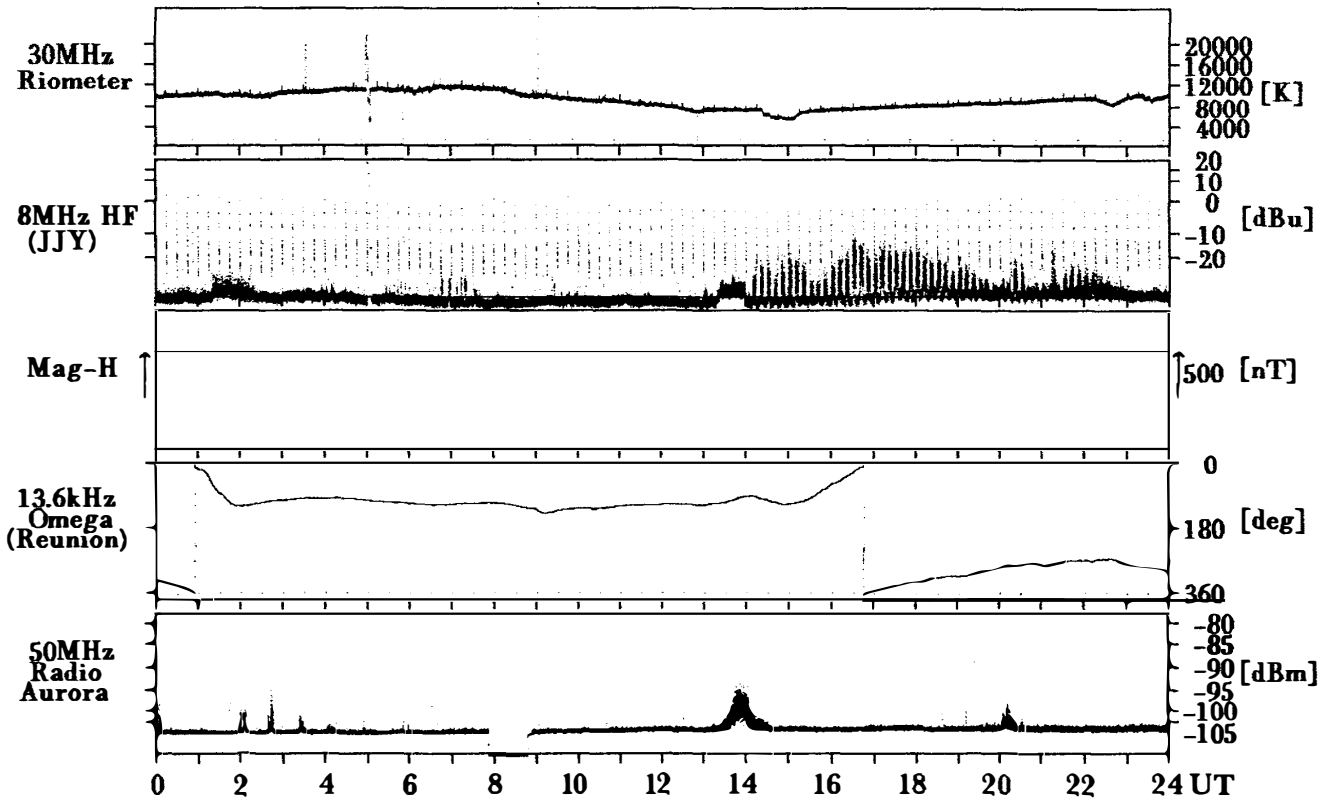
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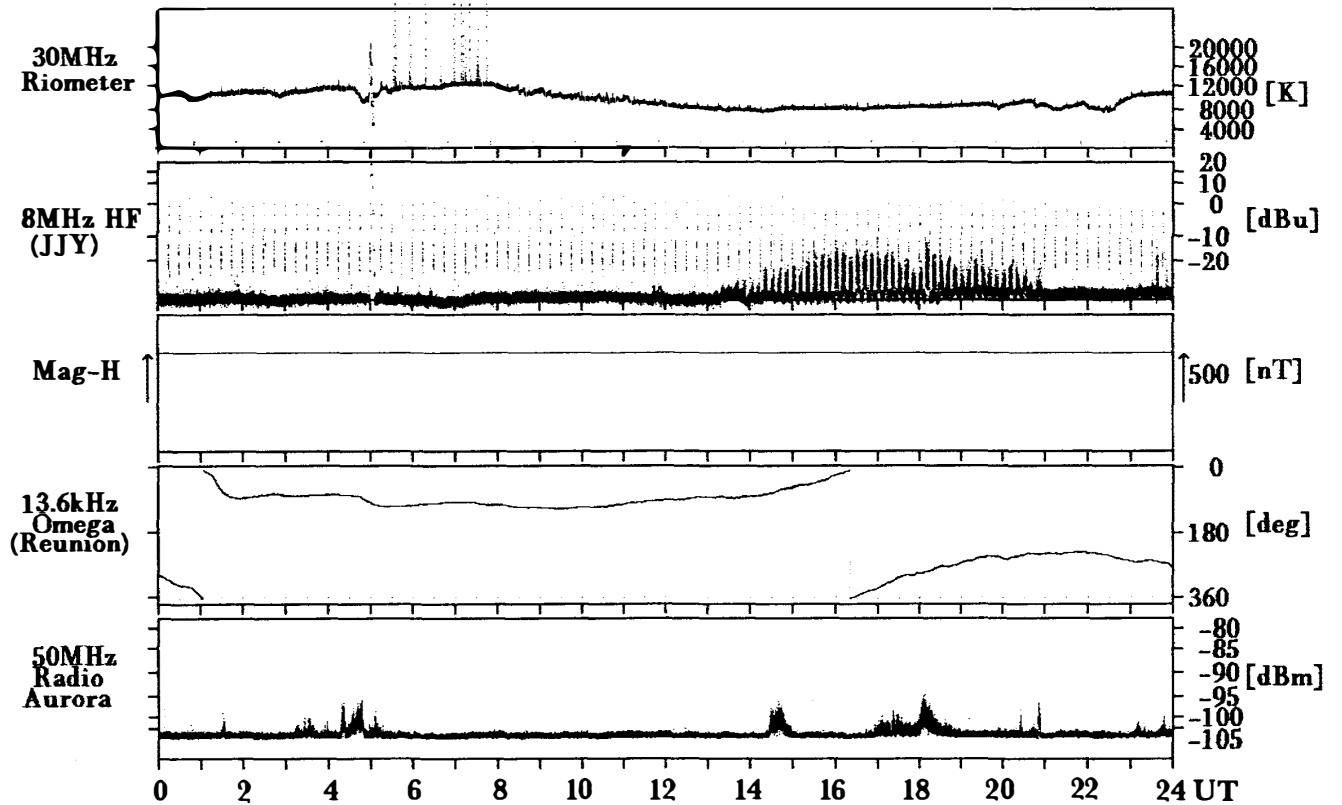
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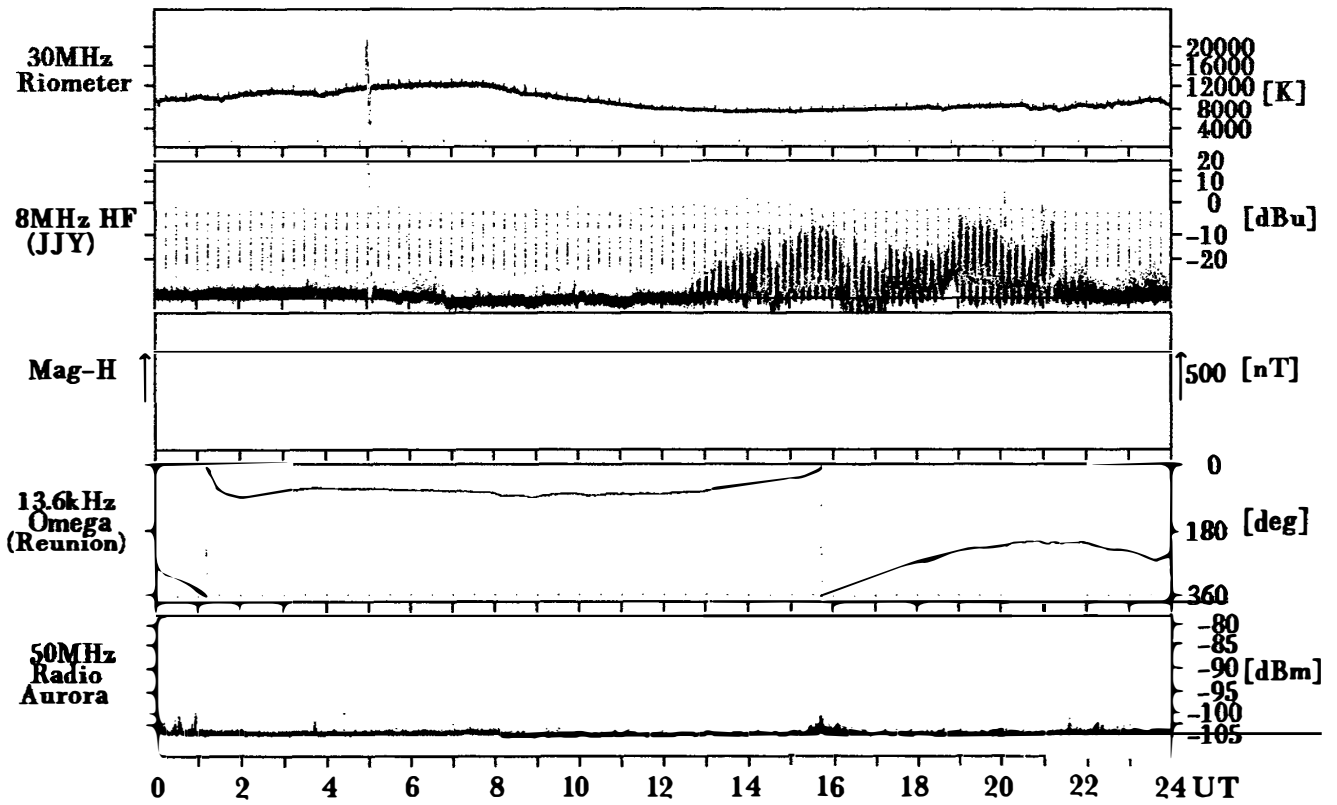
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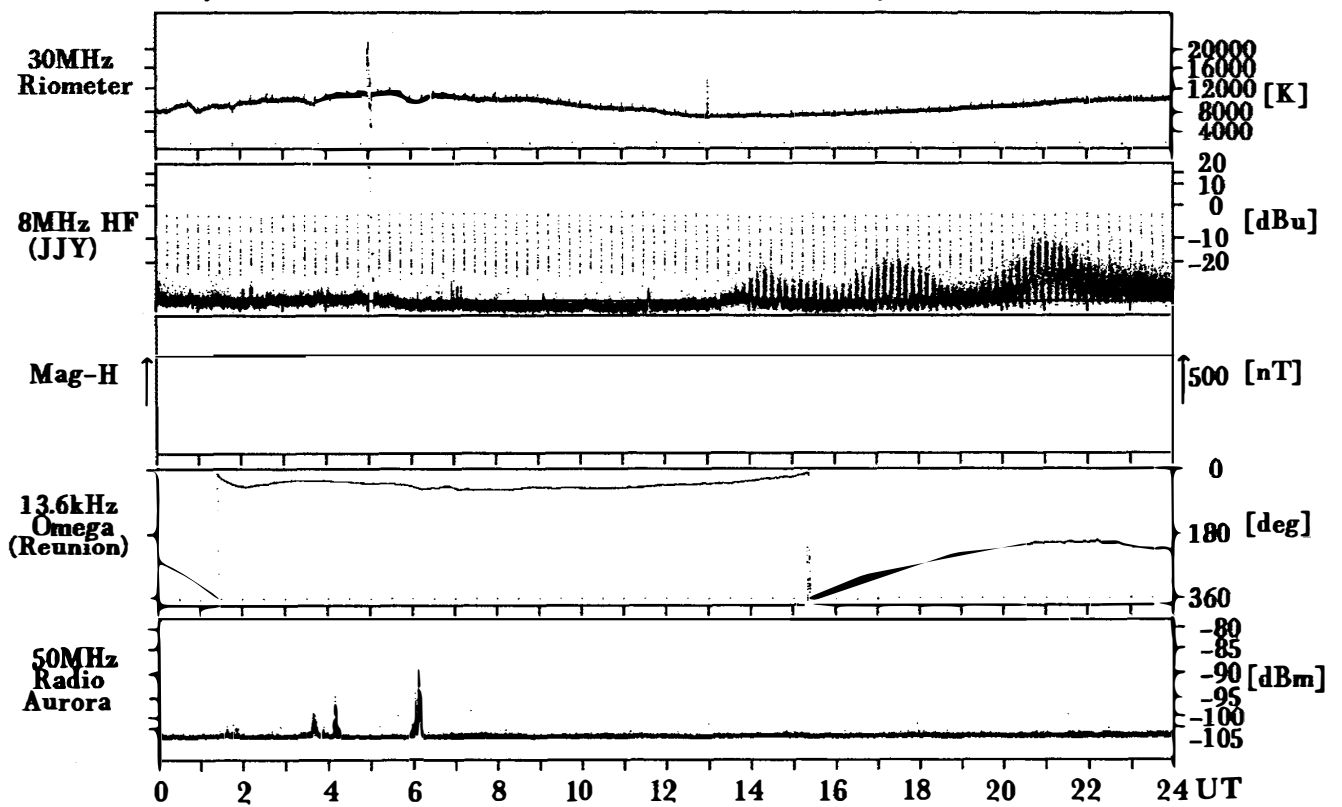
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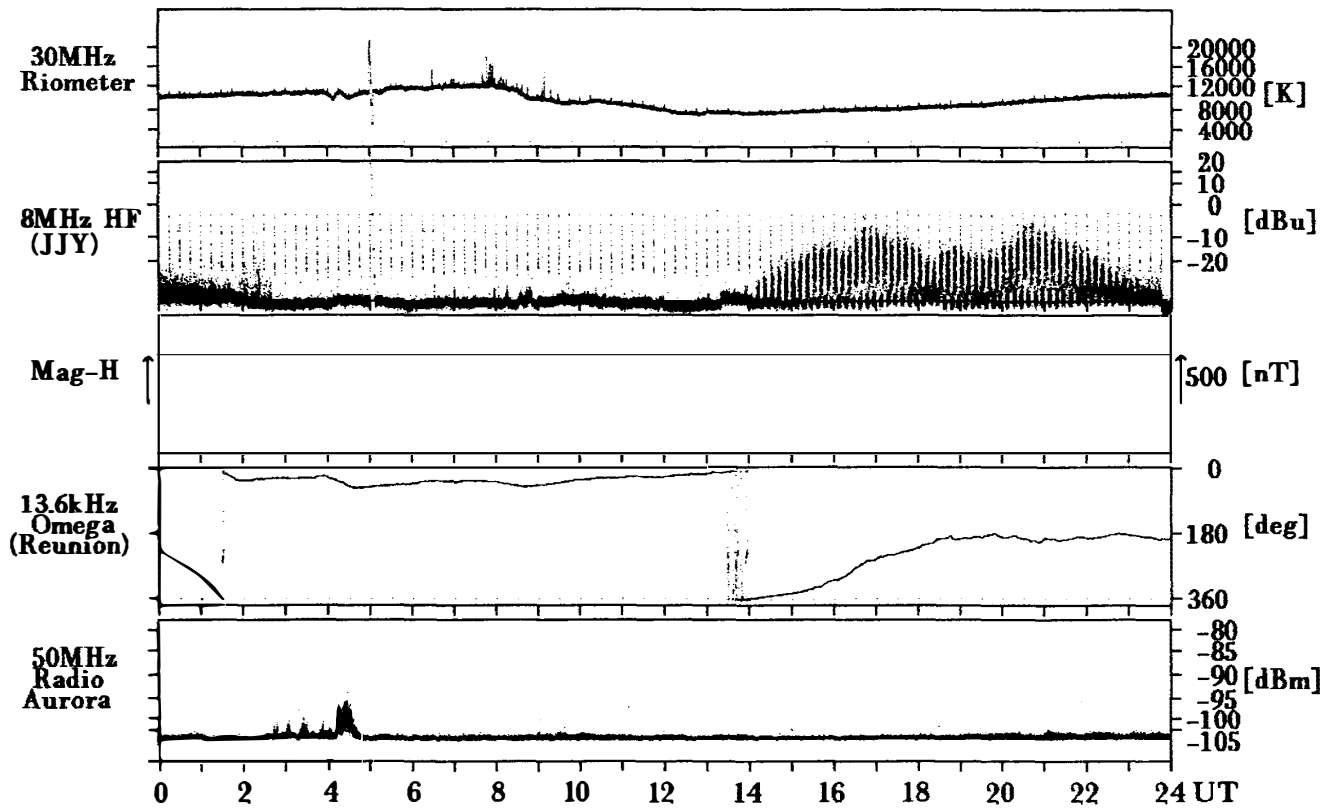
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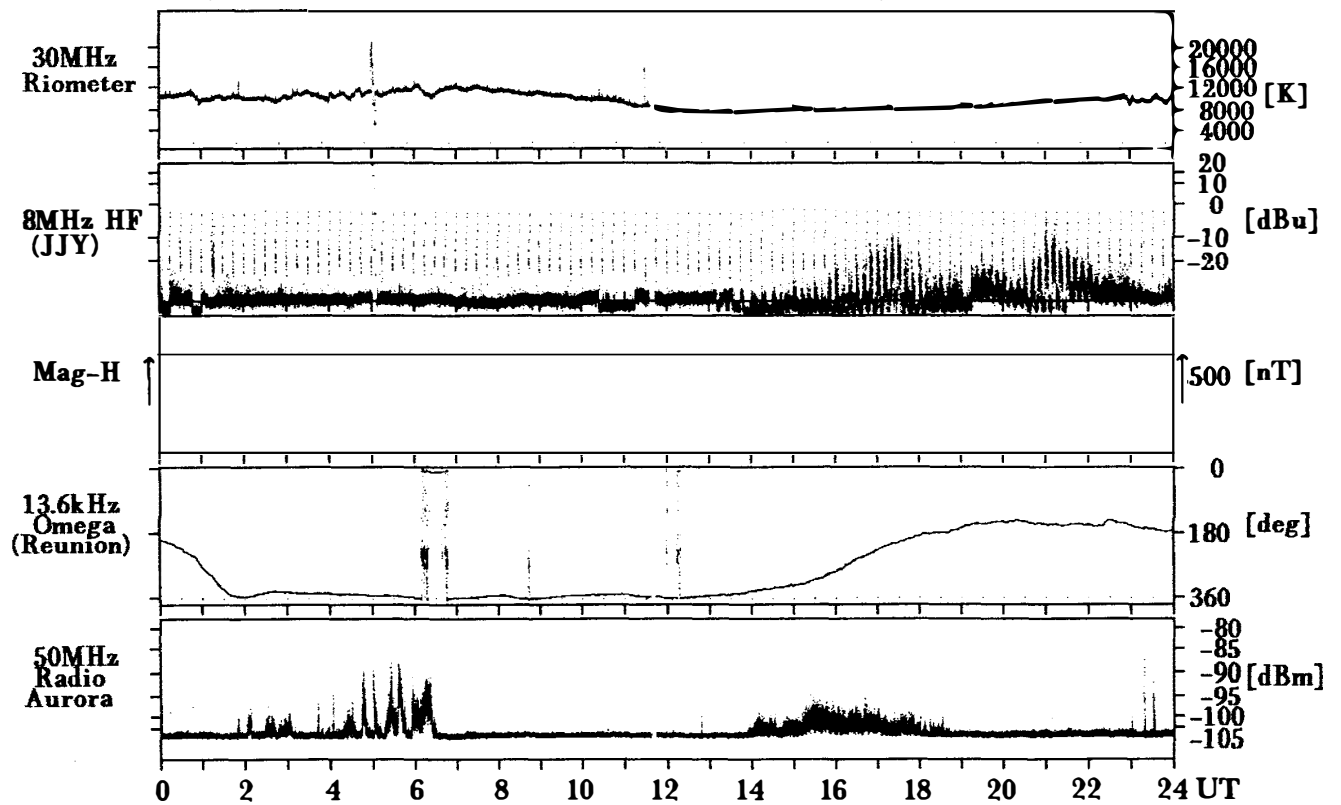
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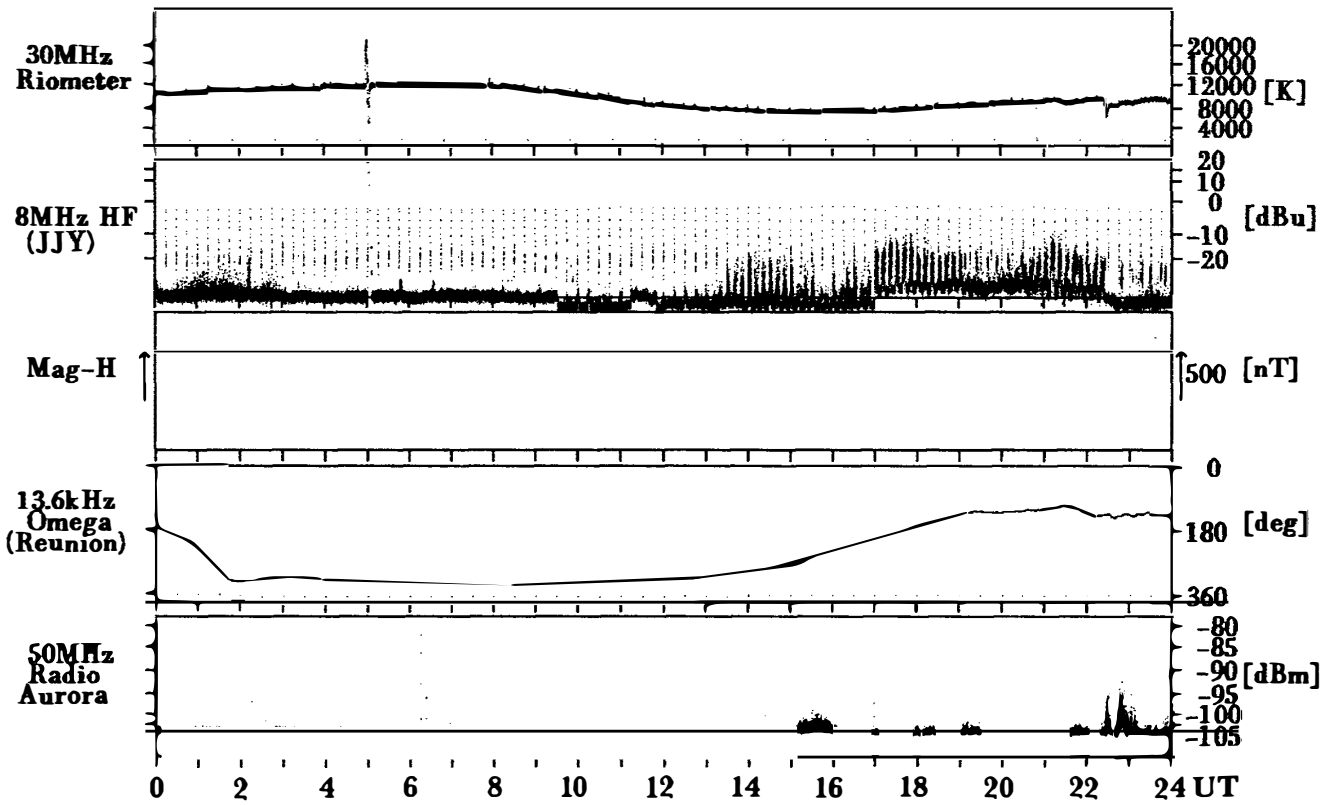
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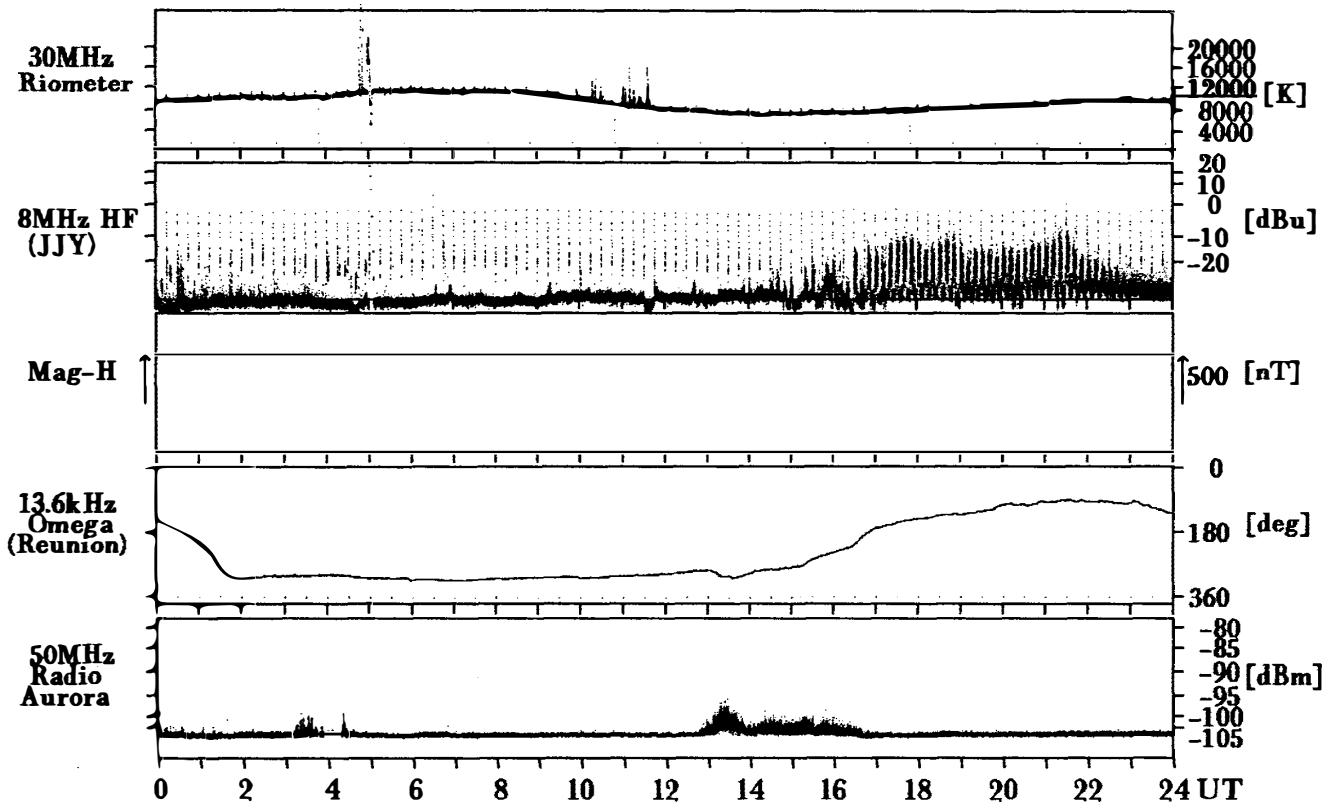
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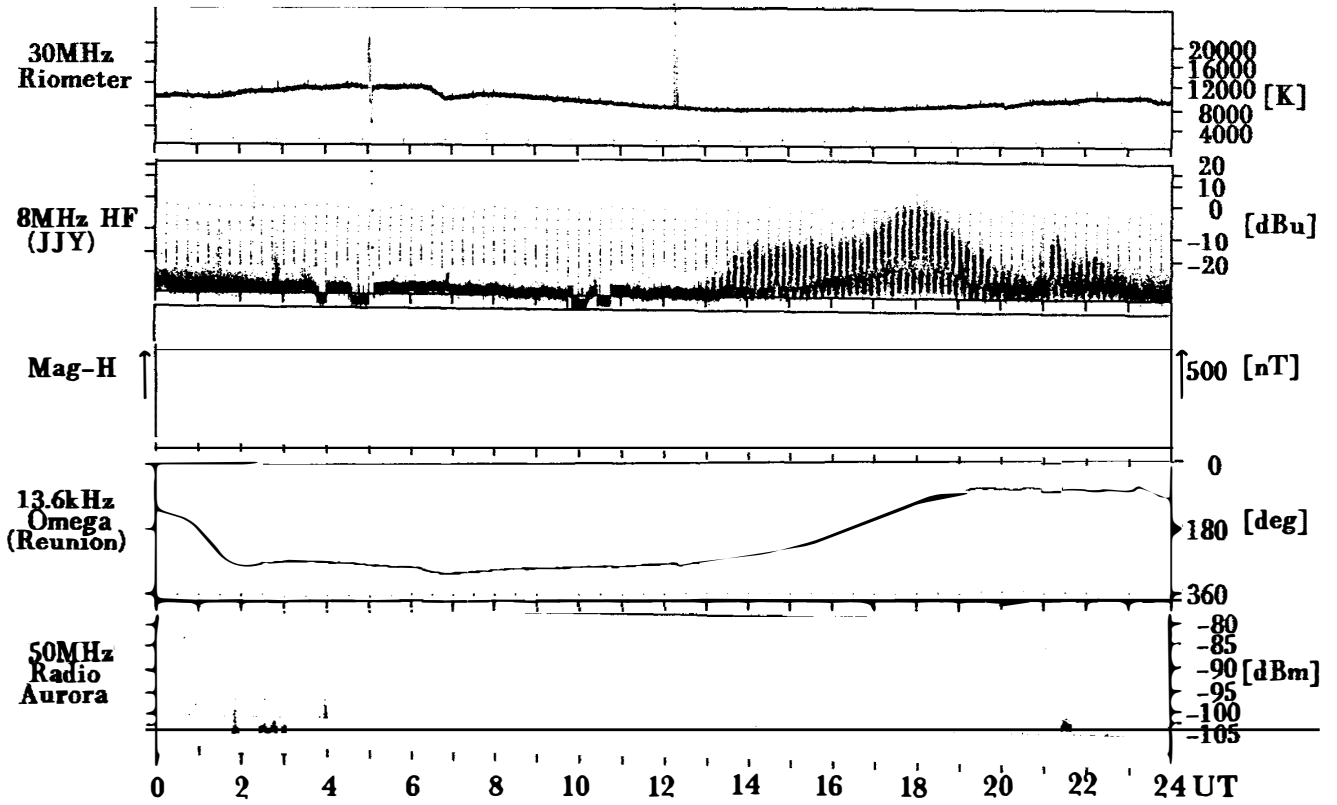
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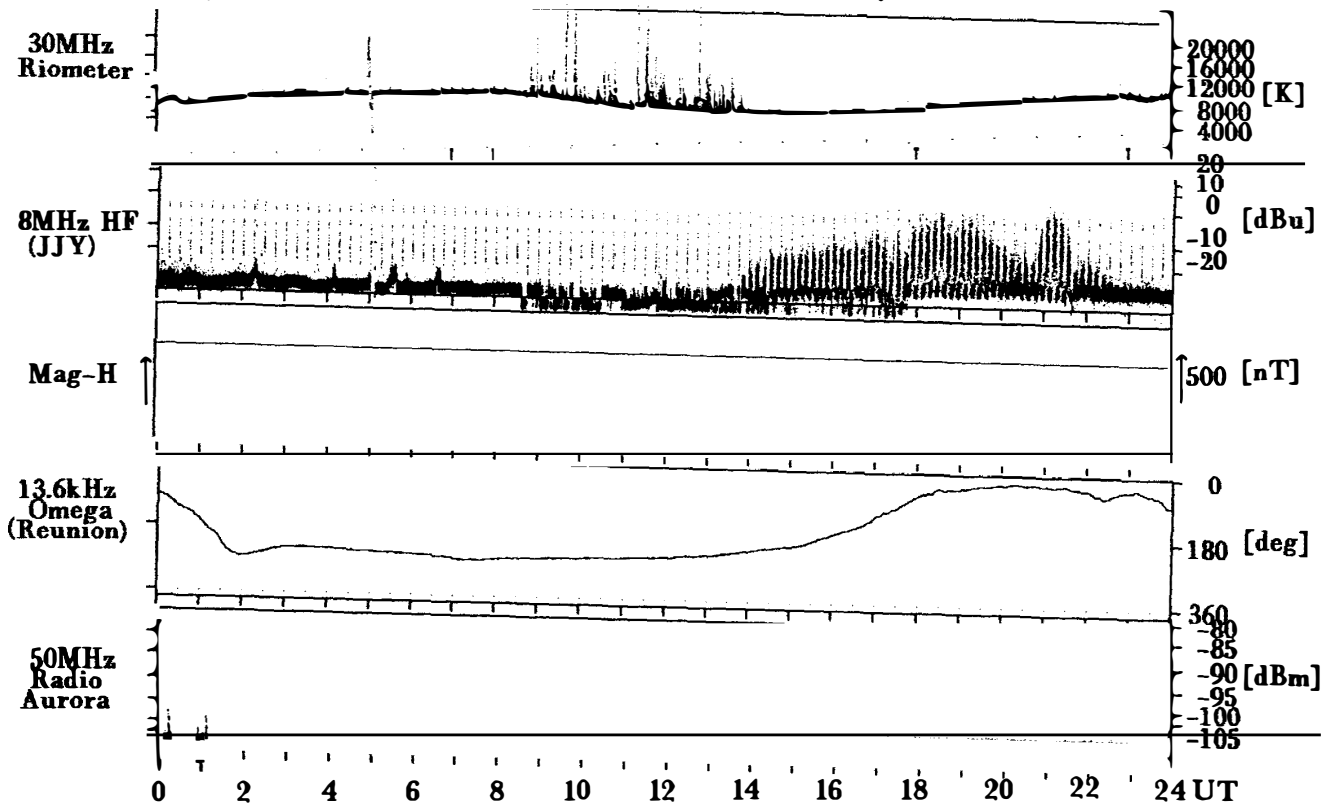
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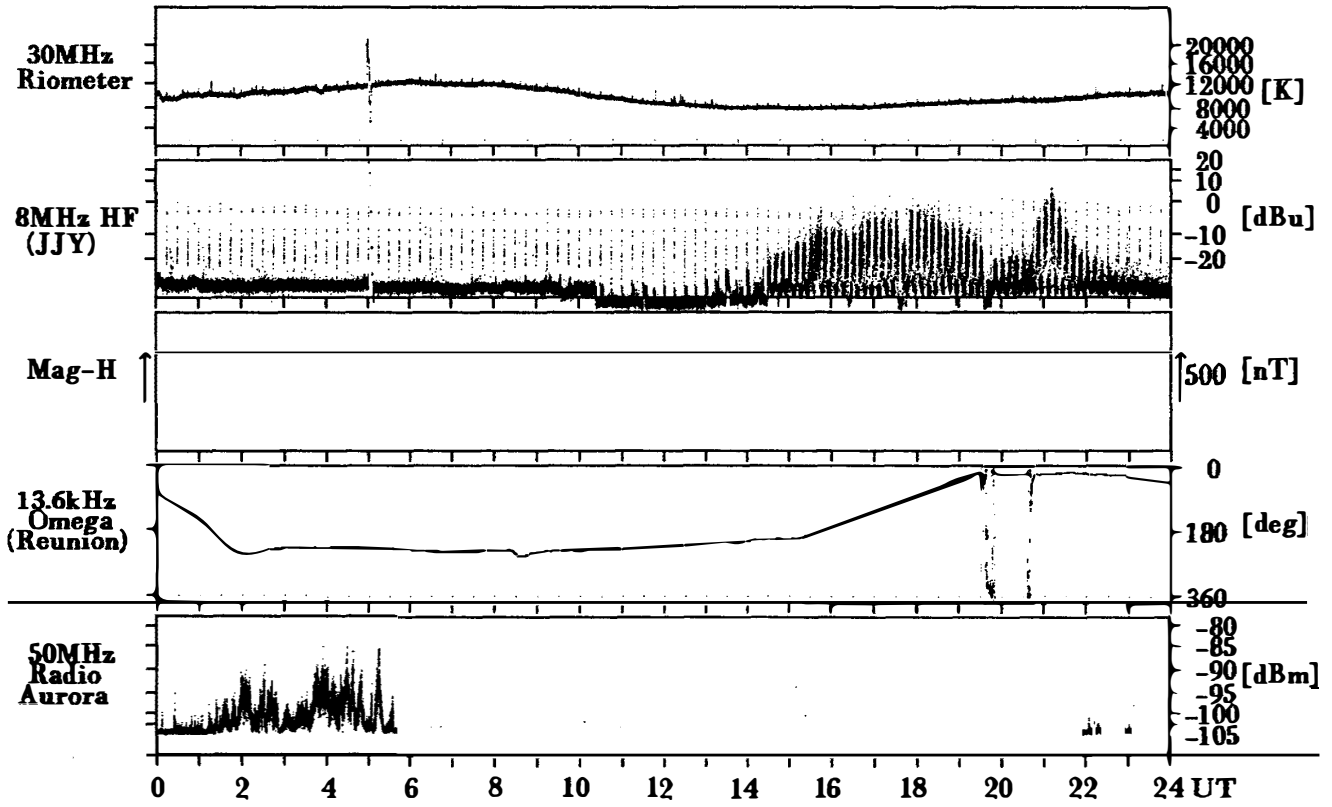
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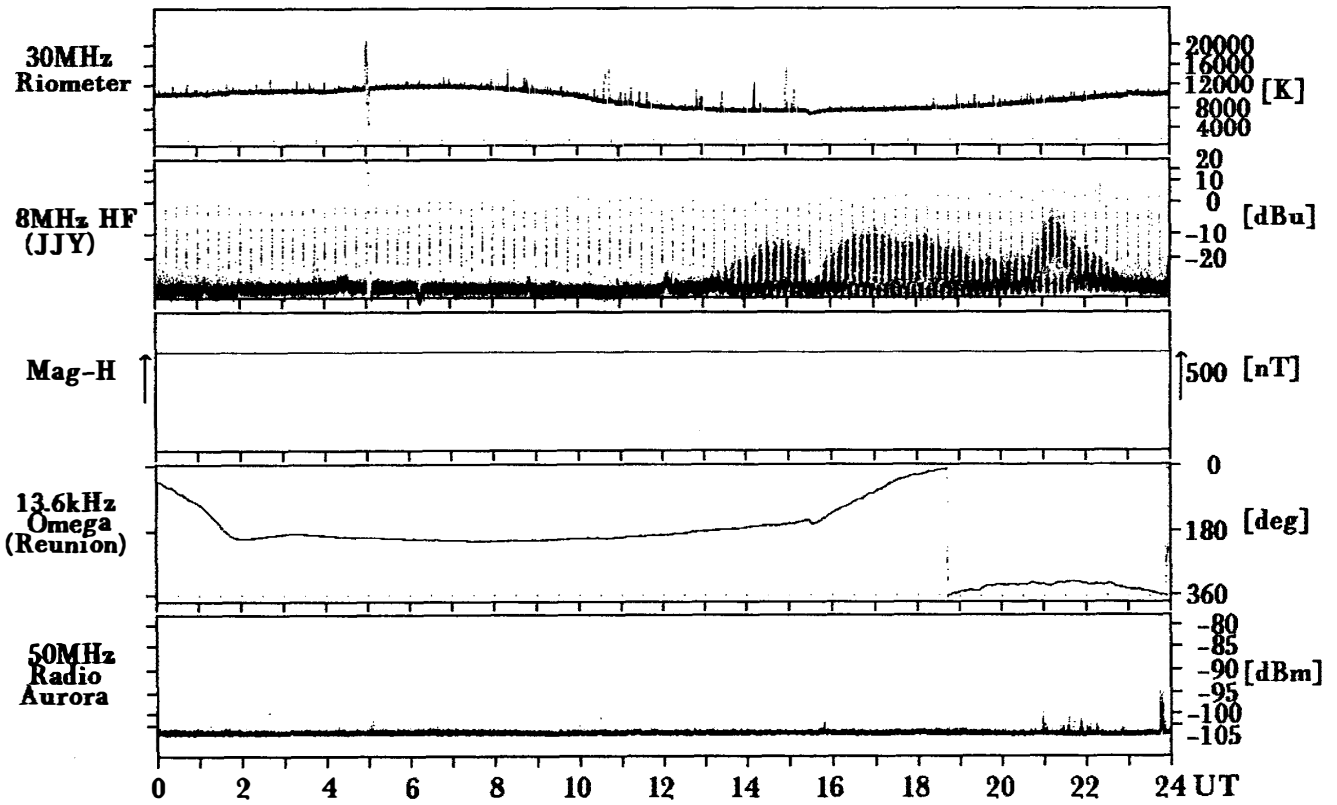
Syowa Station

Total Day / 25 1992/ 1/25



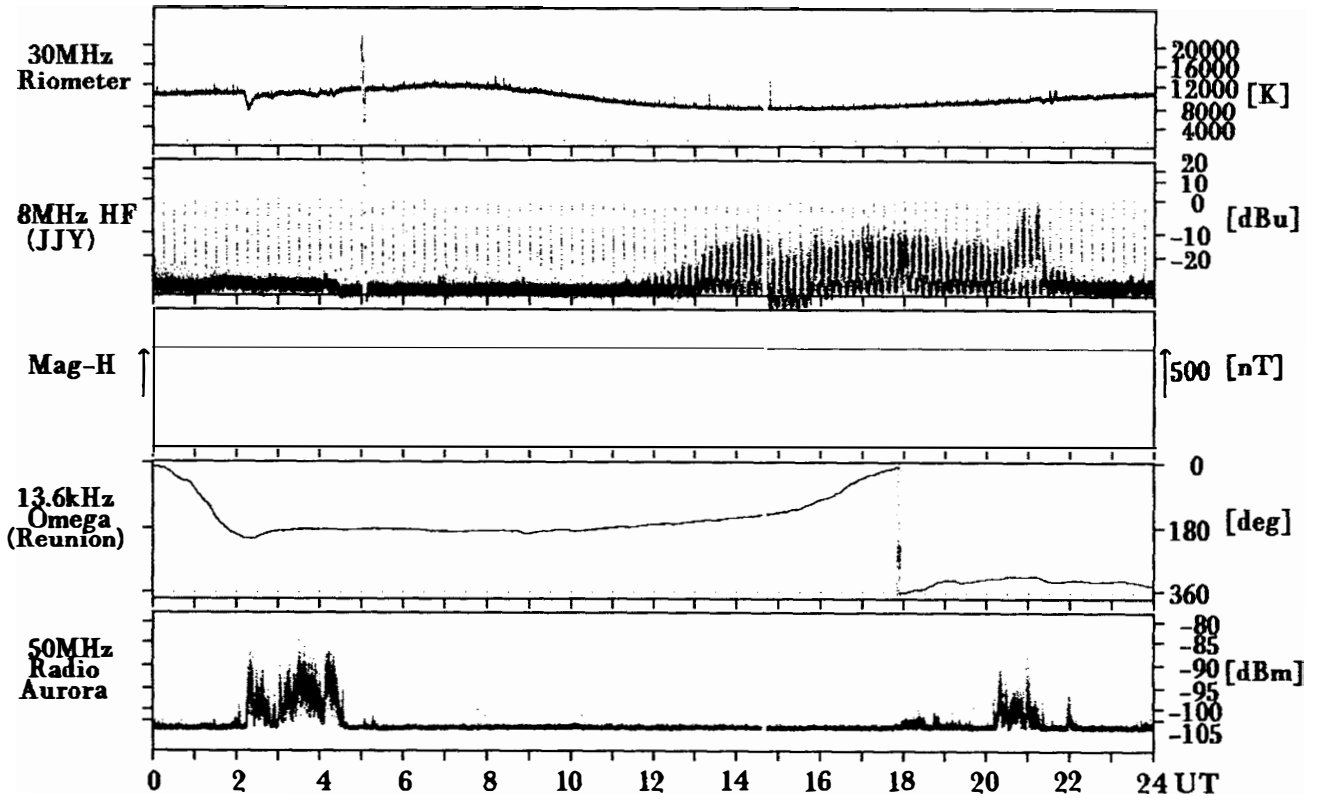
Syowa Station

Total Day / 26 1992/ 1/26



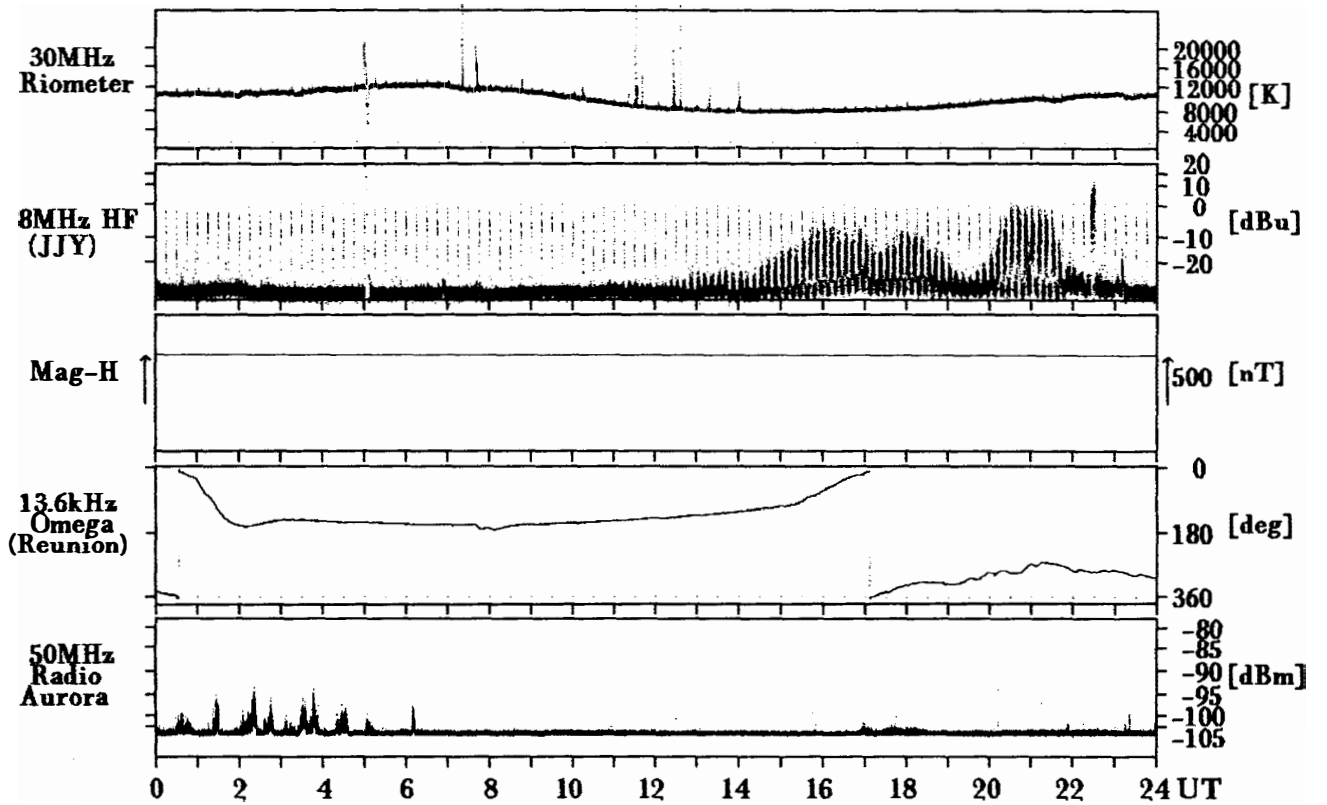
Syowa Station

Total Day / 27 1992/ 1/27



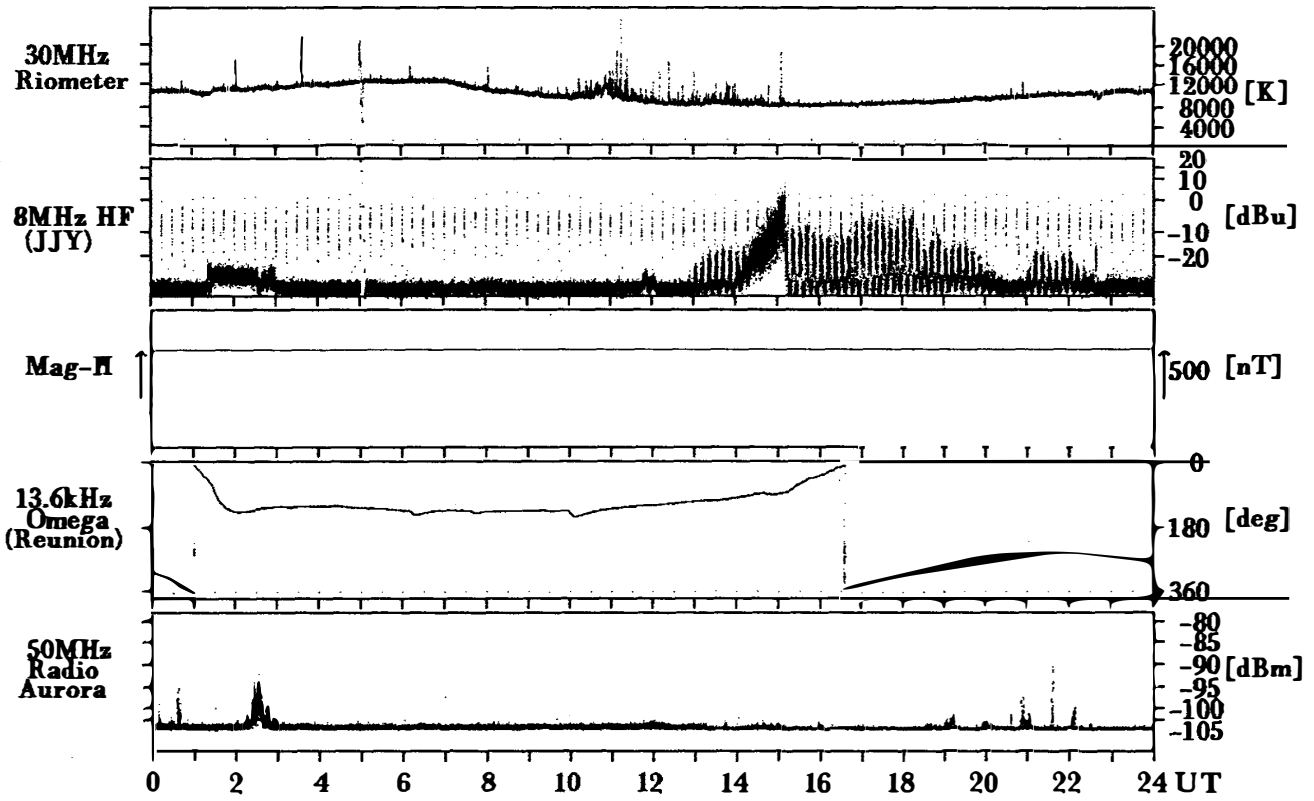
Syowa Station

Total Day / 28 1992/ 1/28



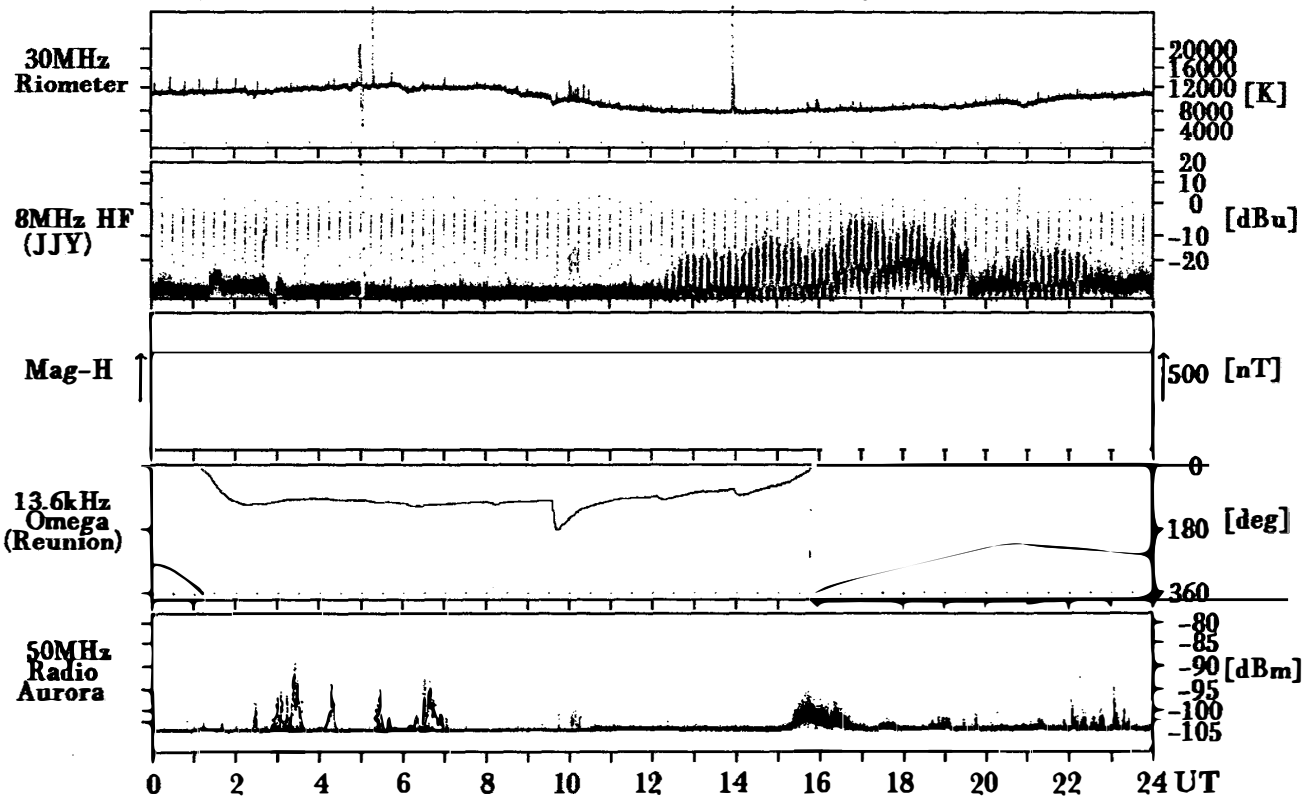
Syowa Station

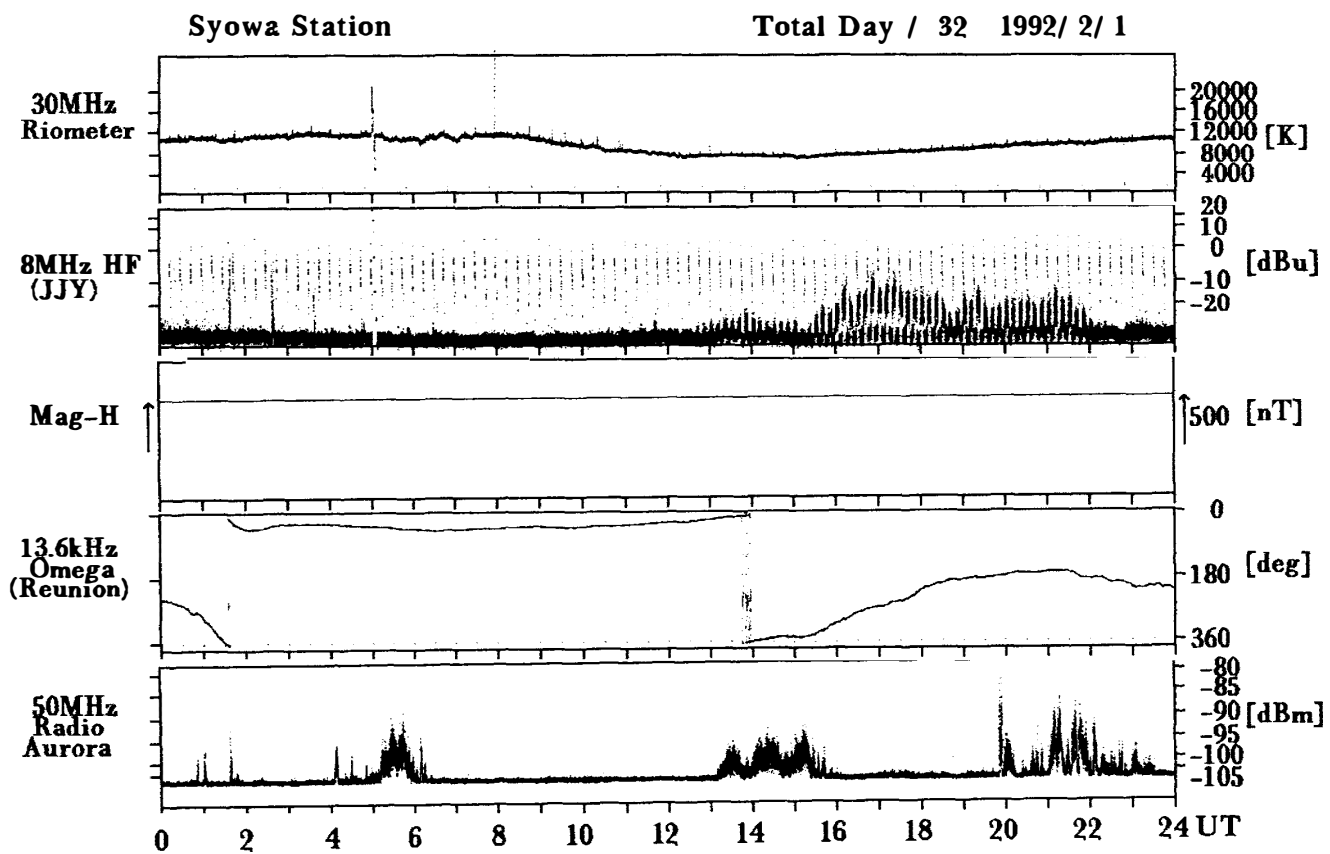
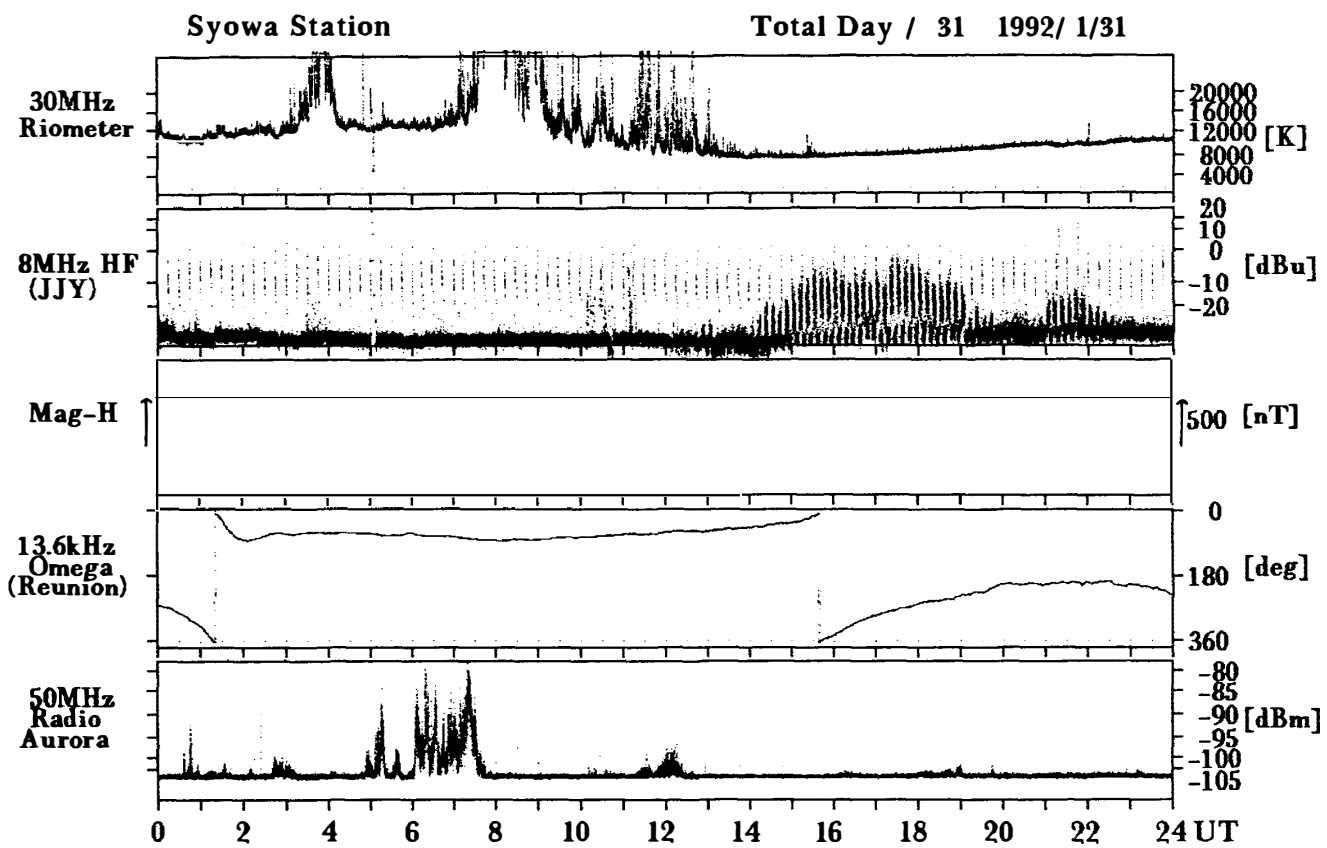
Total Day / 29 1992/ 1/29



Syowa Station

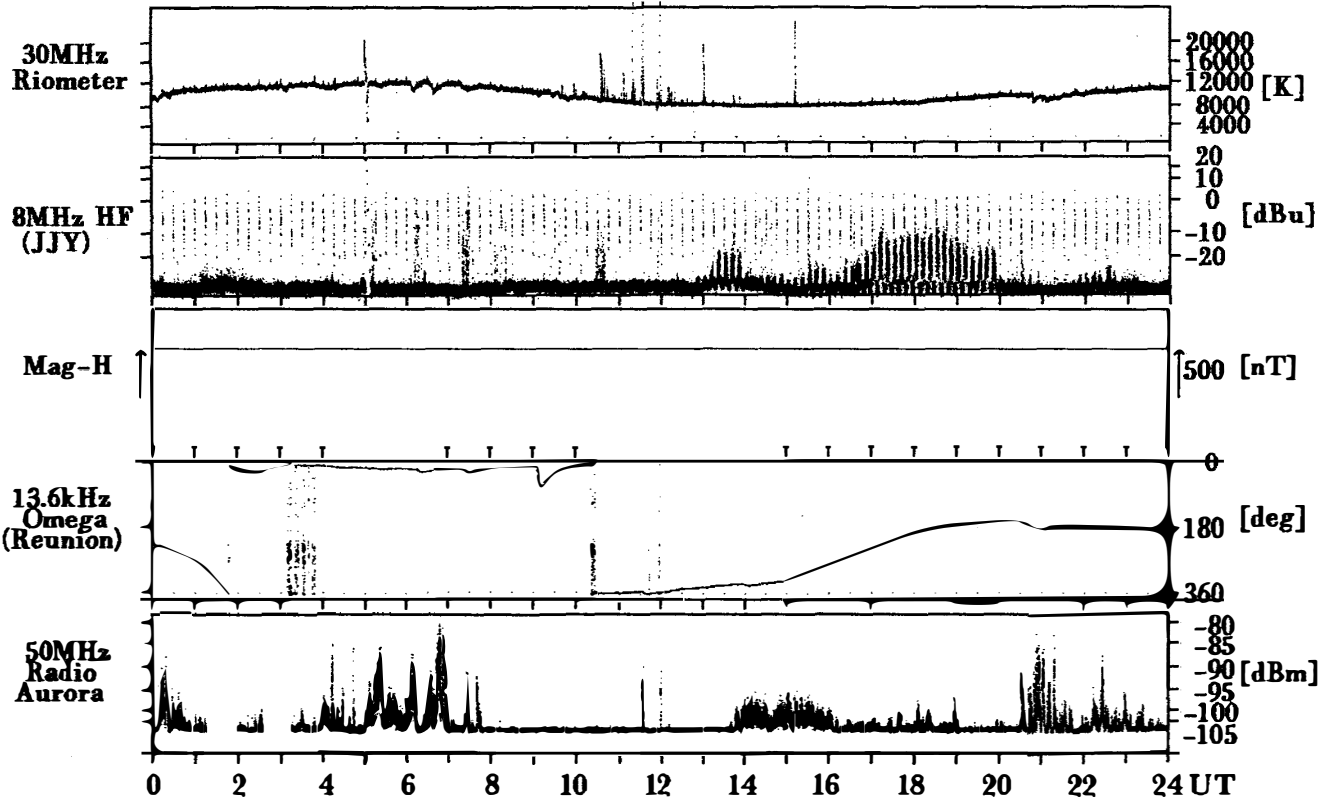
Total Day / 30 1992/ 1/30





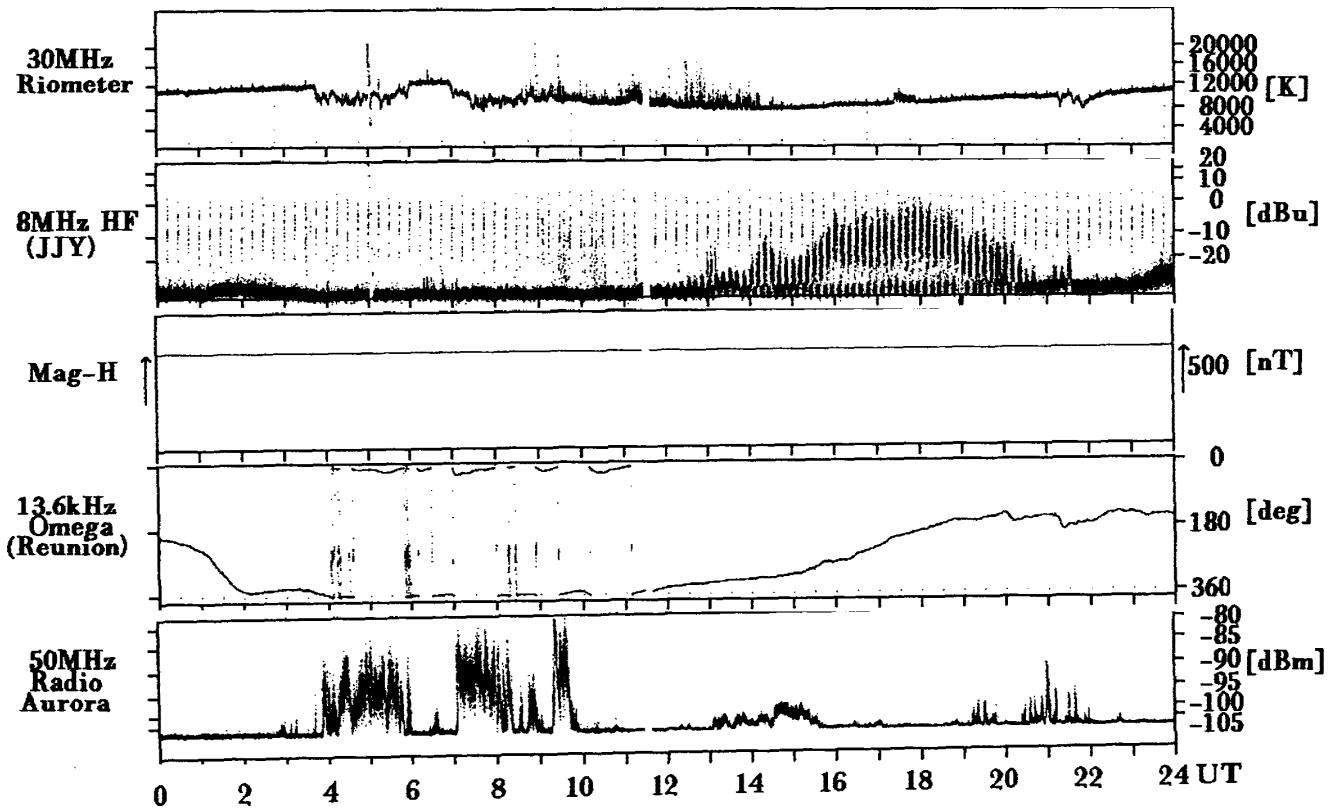
Syowa Station

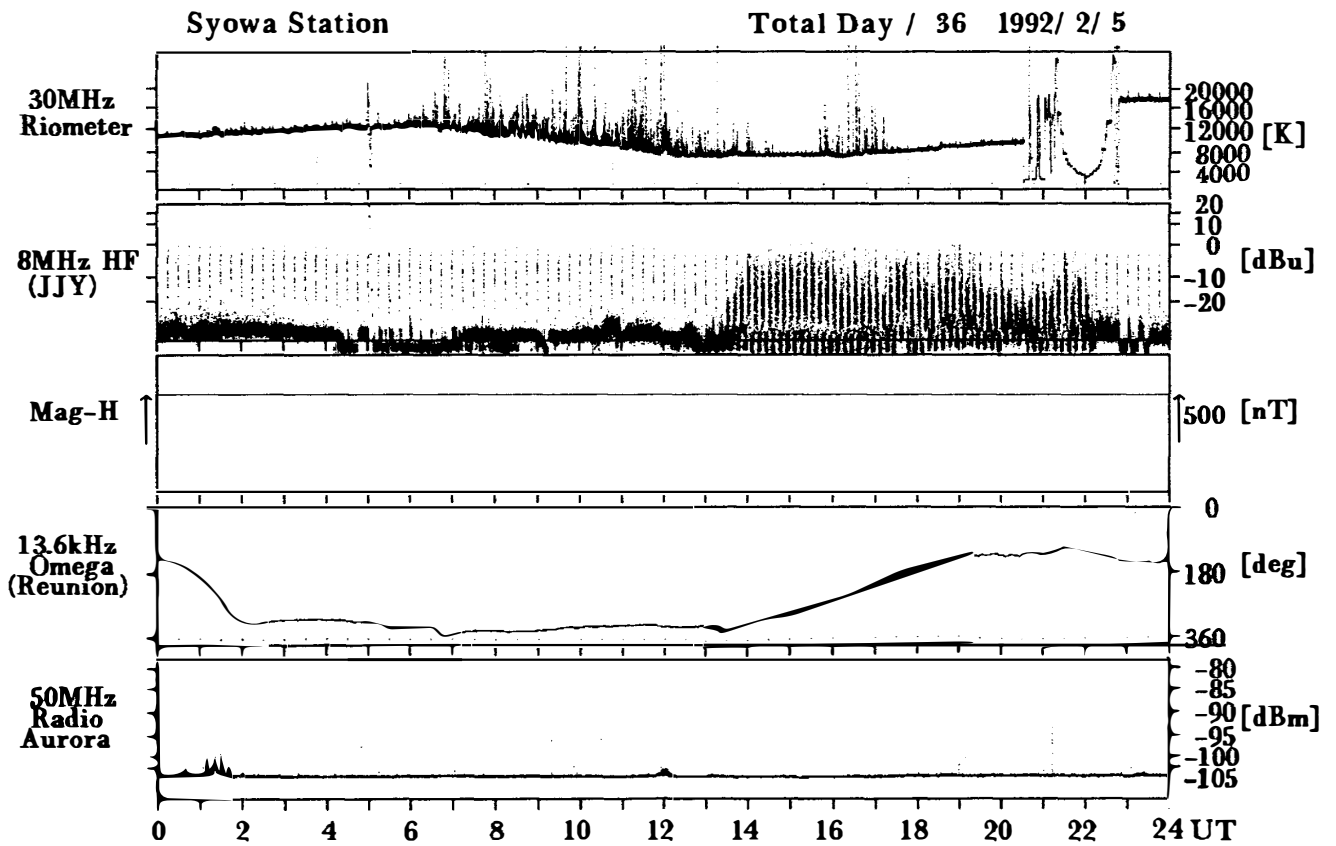
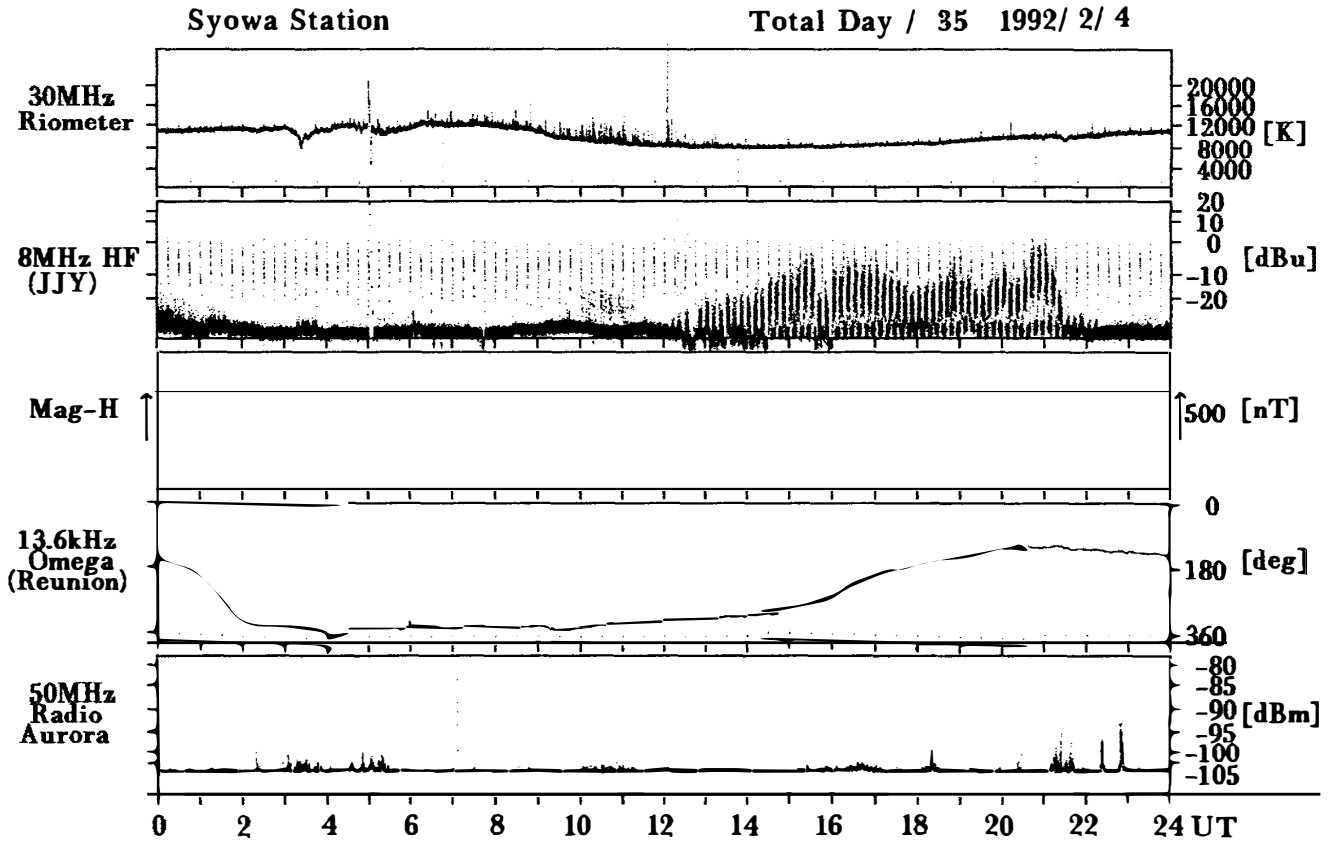
Total Day / 33 1992/ 2/ 2

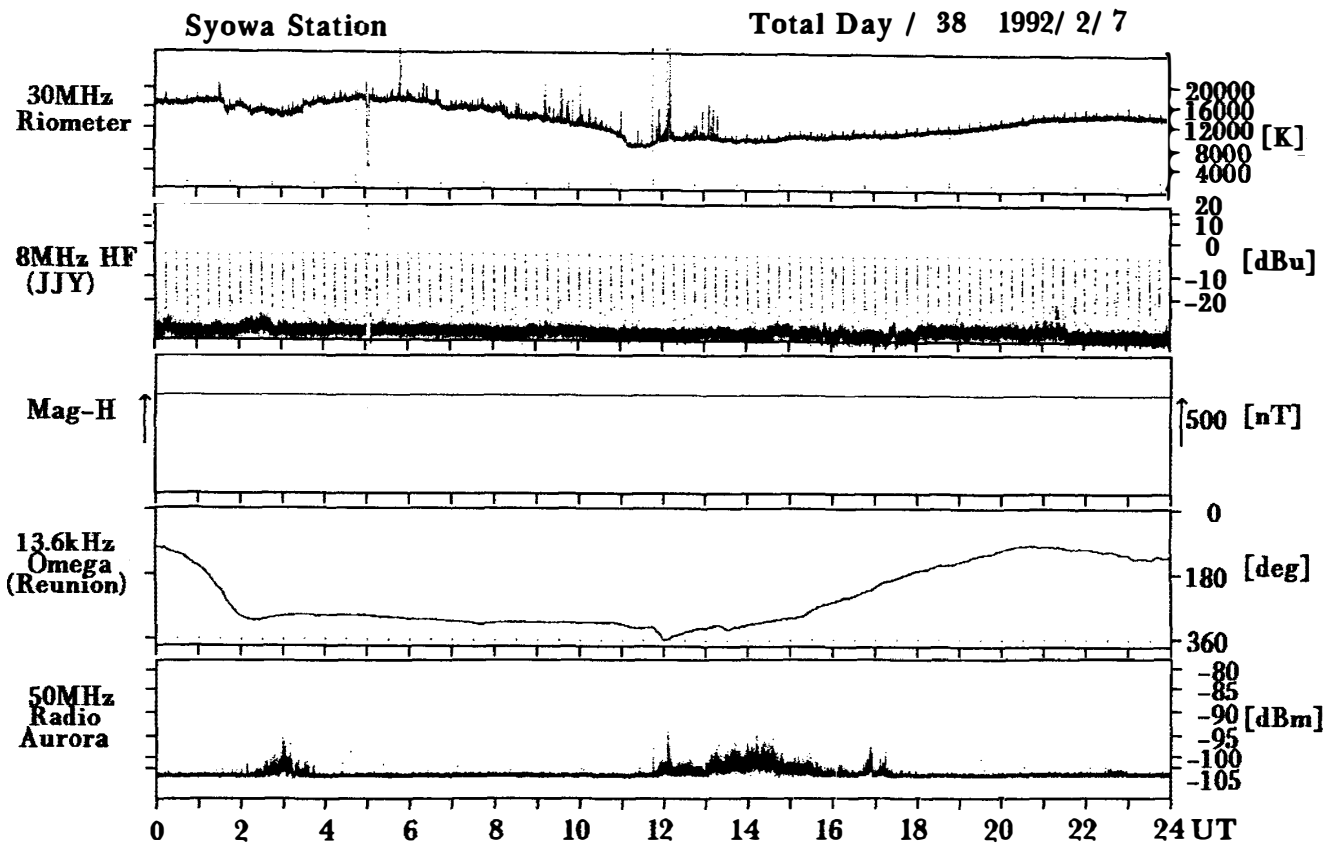
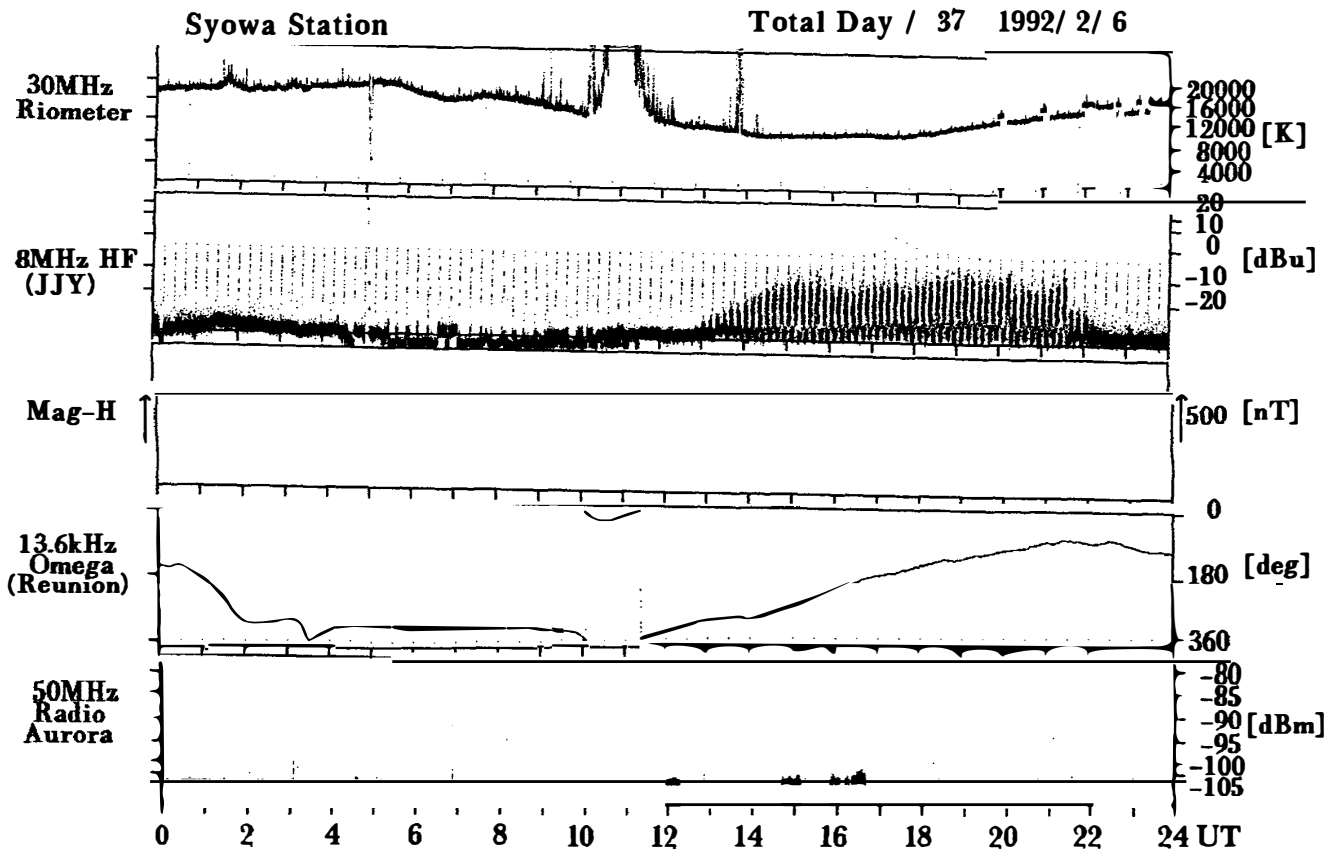


Syowa Station

Total Day / 34 1992/ 2/ 3

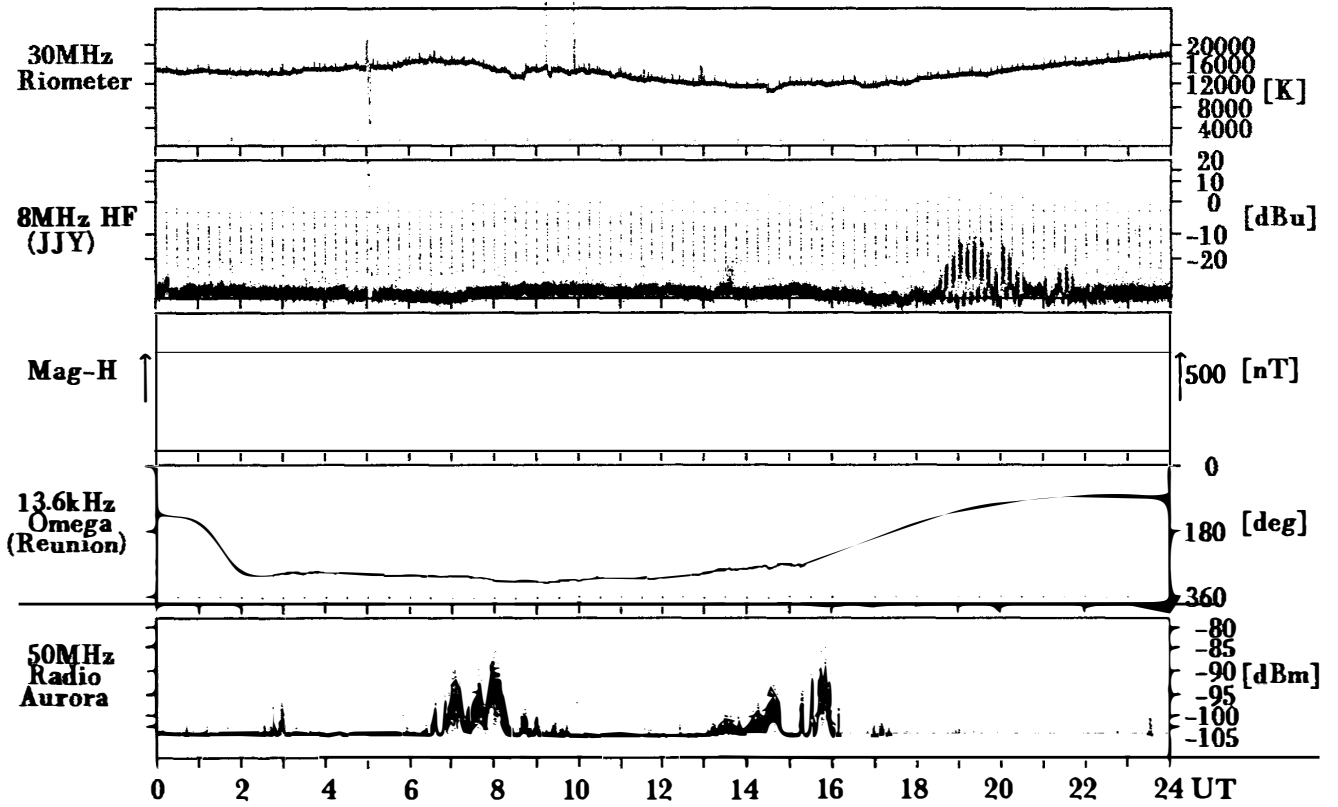






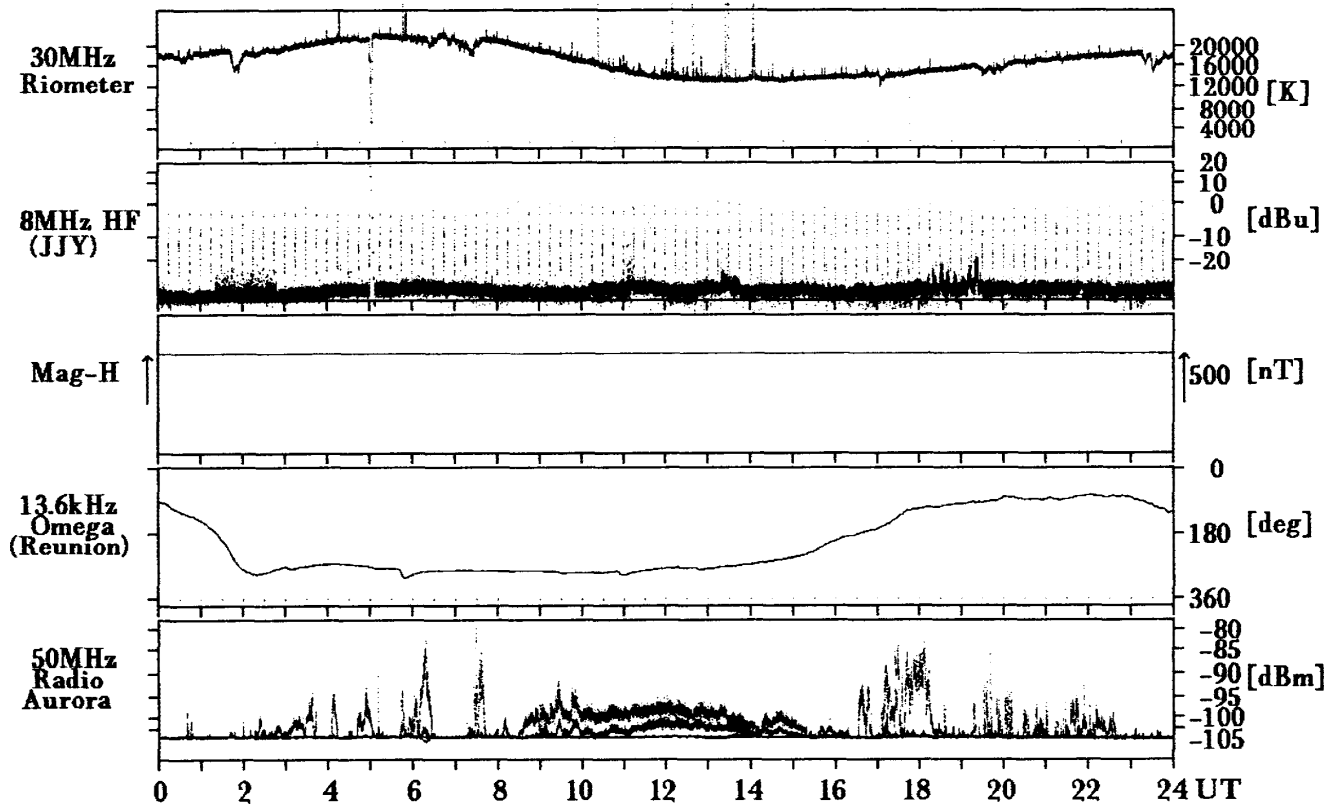
Syowa Station

Total Day / 39 1992/ 2/ 8



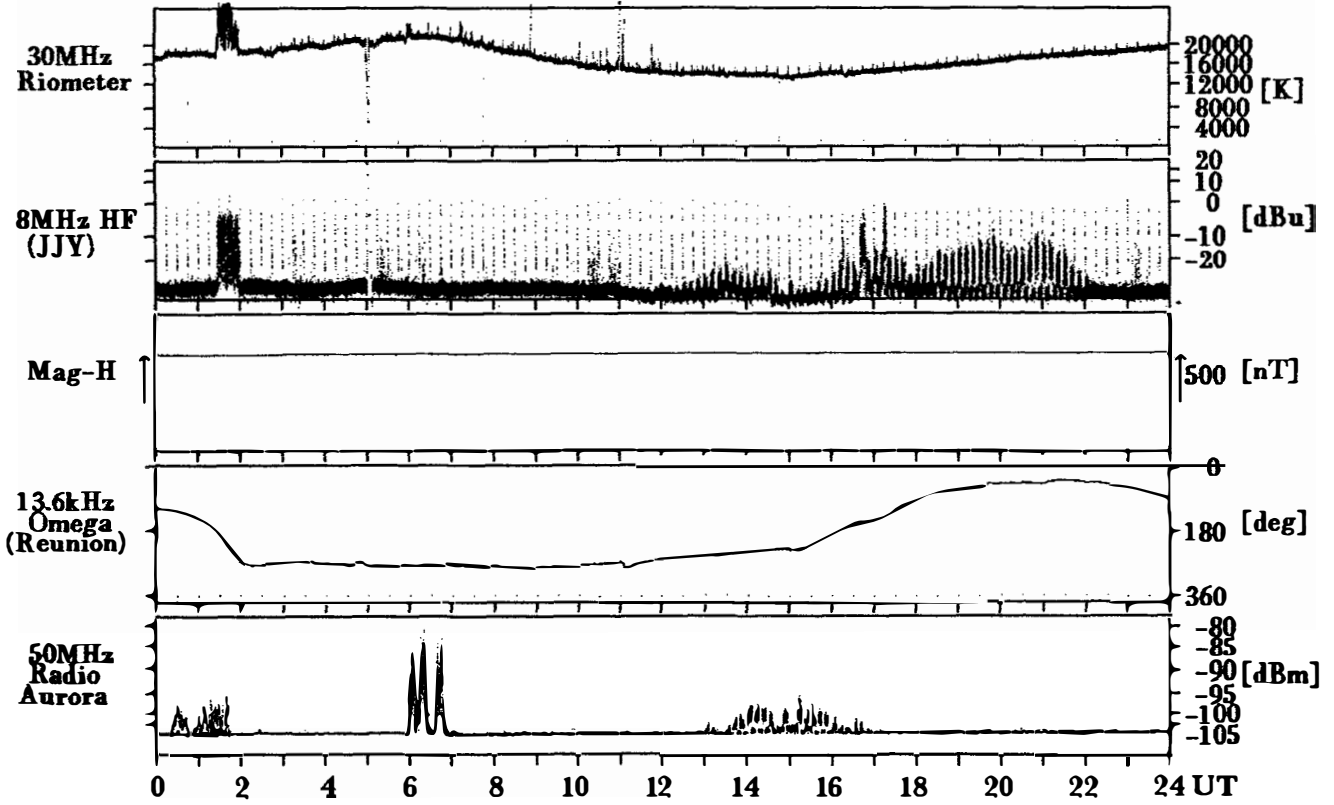
Syowa Station

Total Day / 40 1992/ 2/ 9



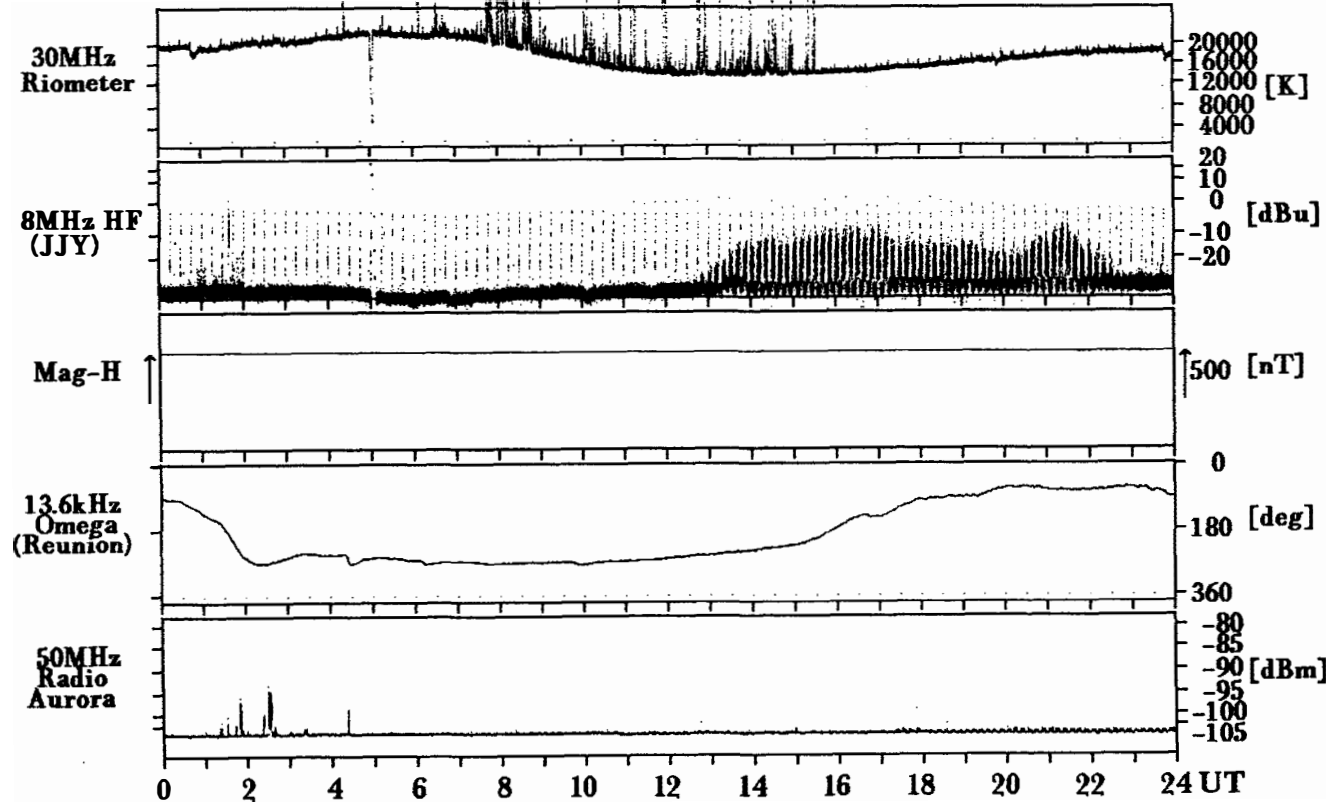
Syowa Station

Total Day / 41 1992/ 2/10



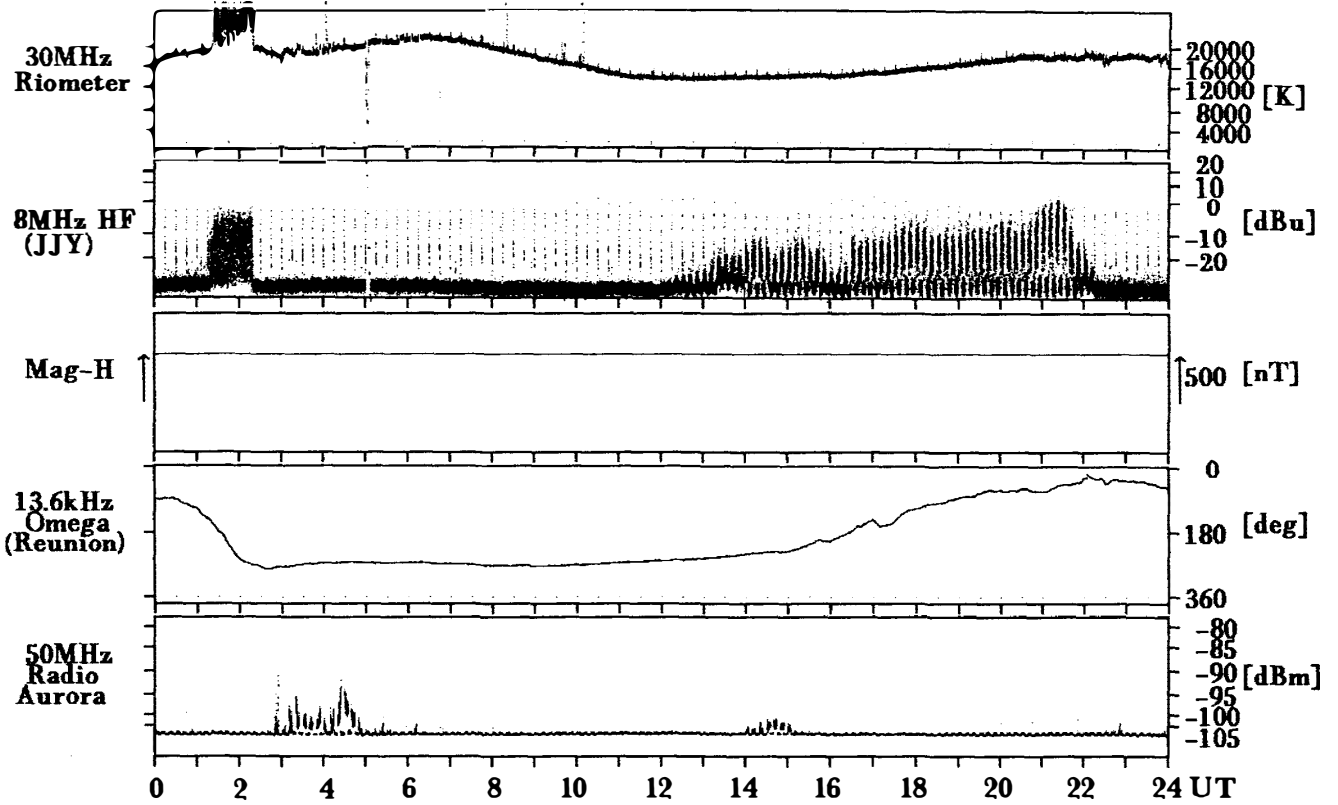
Syowa Station

Total Day / 42 1992/ 2/11



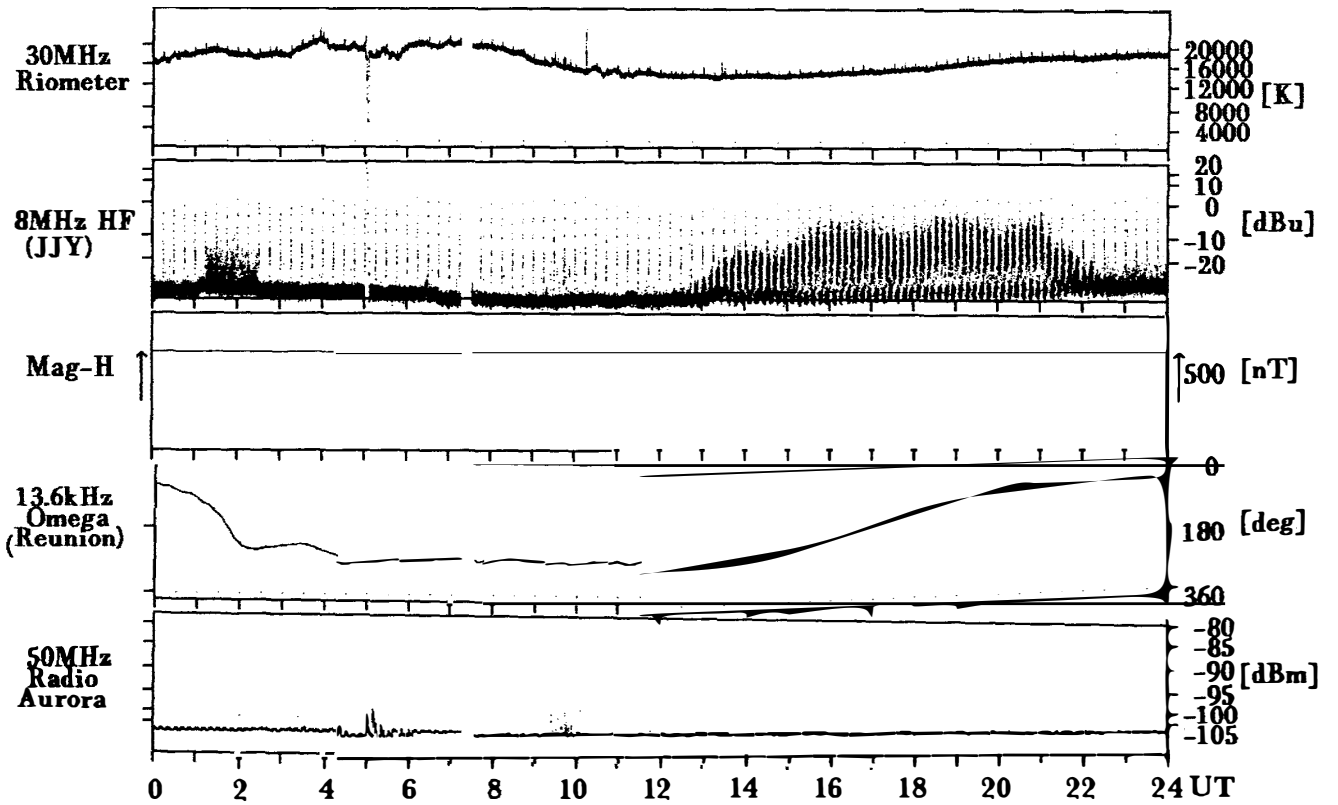
Syowa Station

Total Day / 43 1992/ 2/12



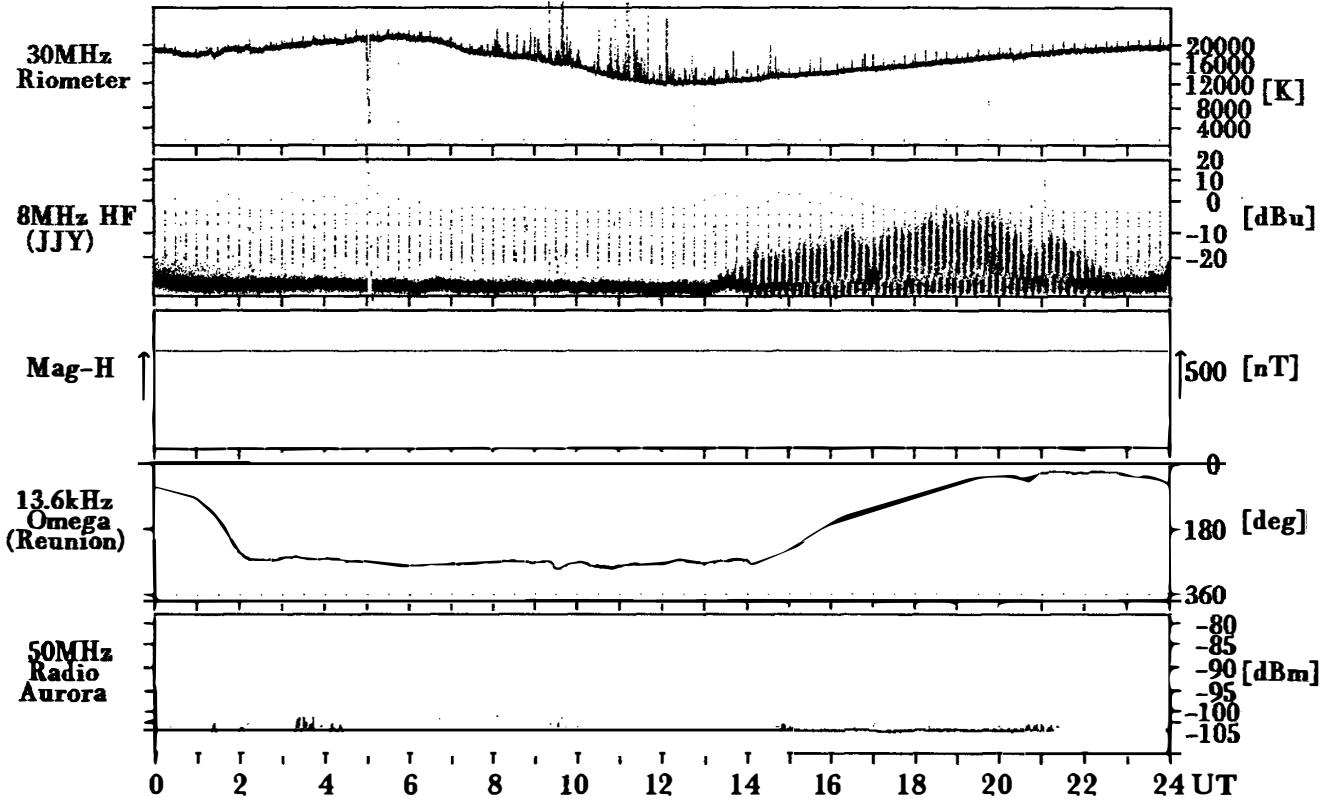
Syowa Station

Total Day / 44 1992/ 2/13



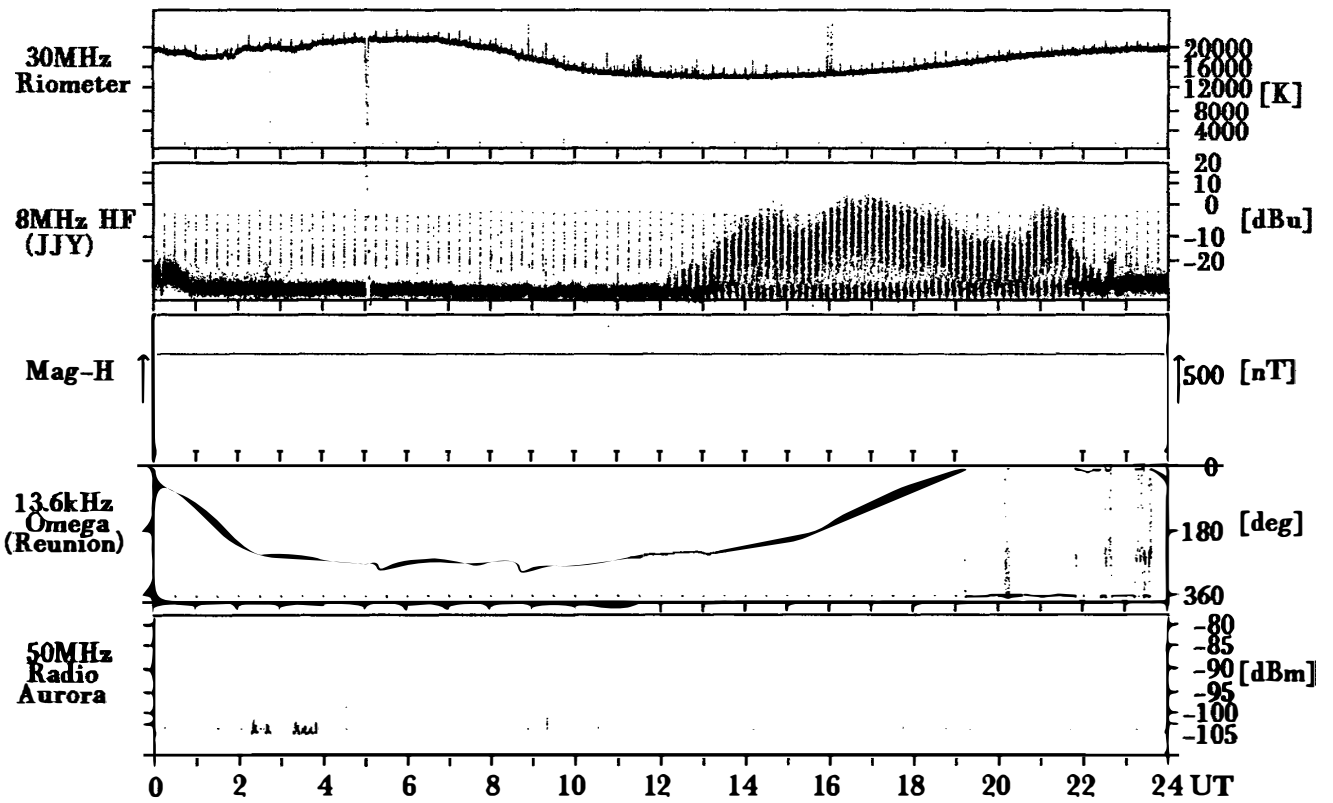
Syowa Station

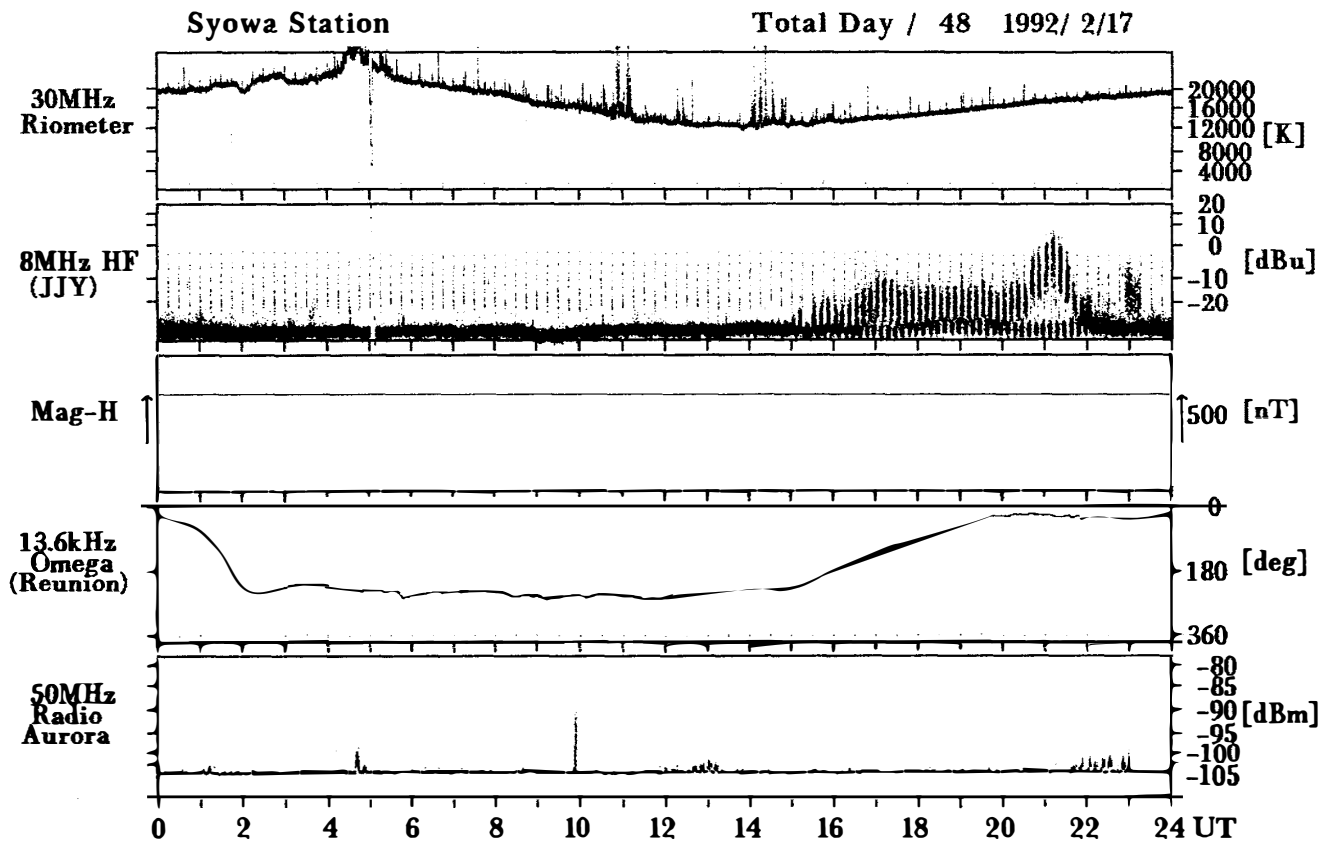
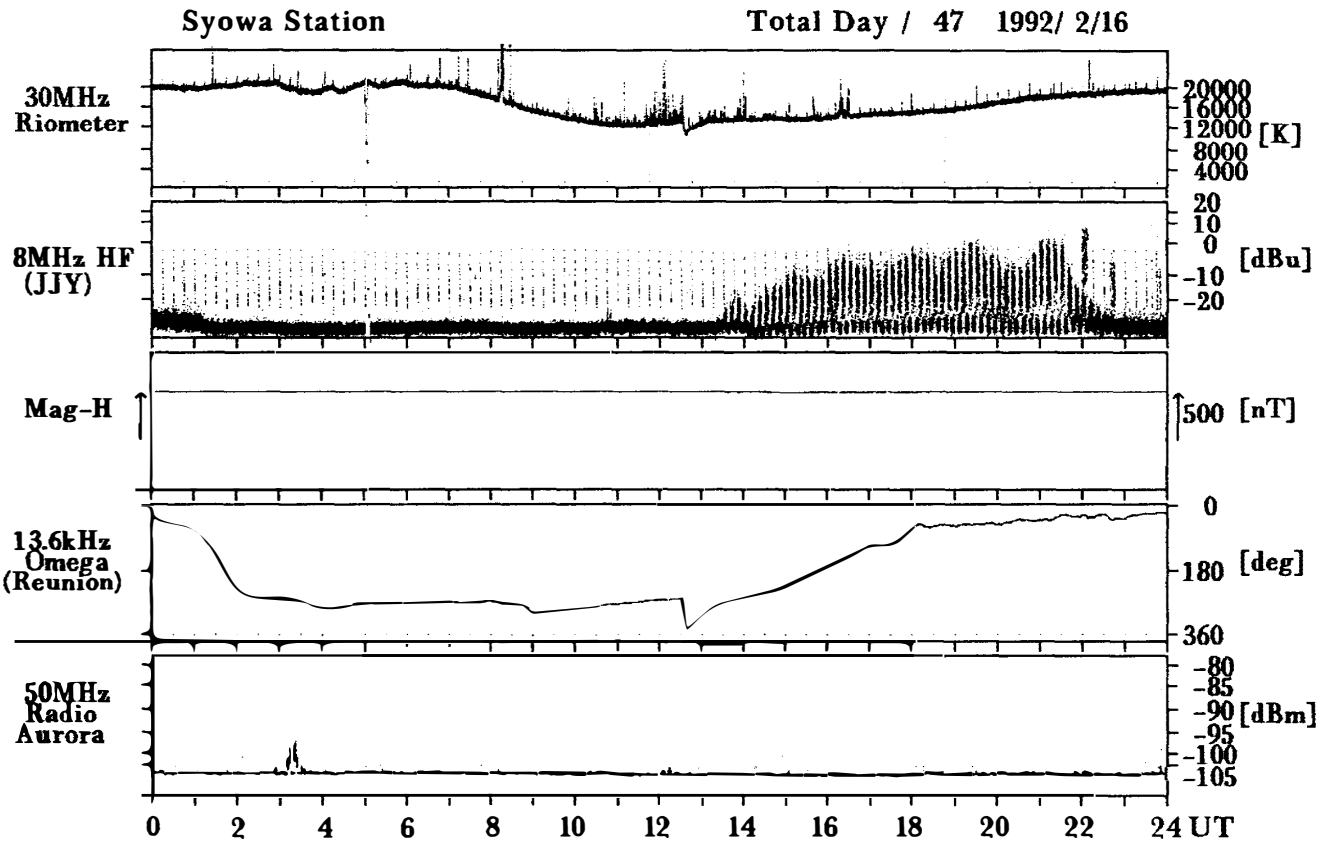
Total Day / 45 1992/ 2/14



Syowa Station

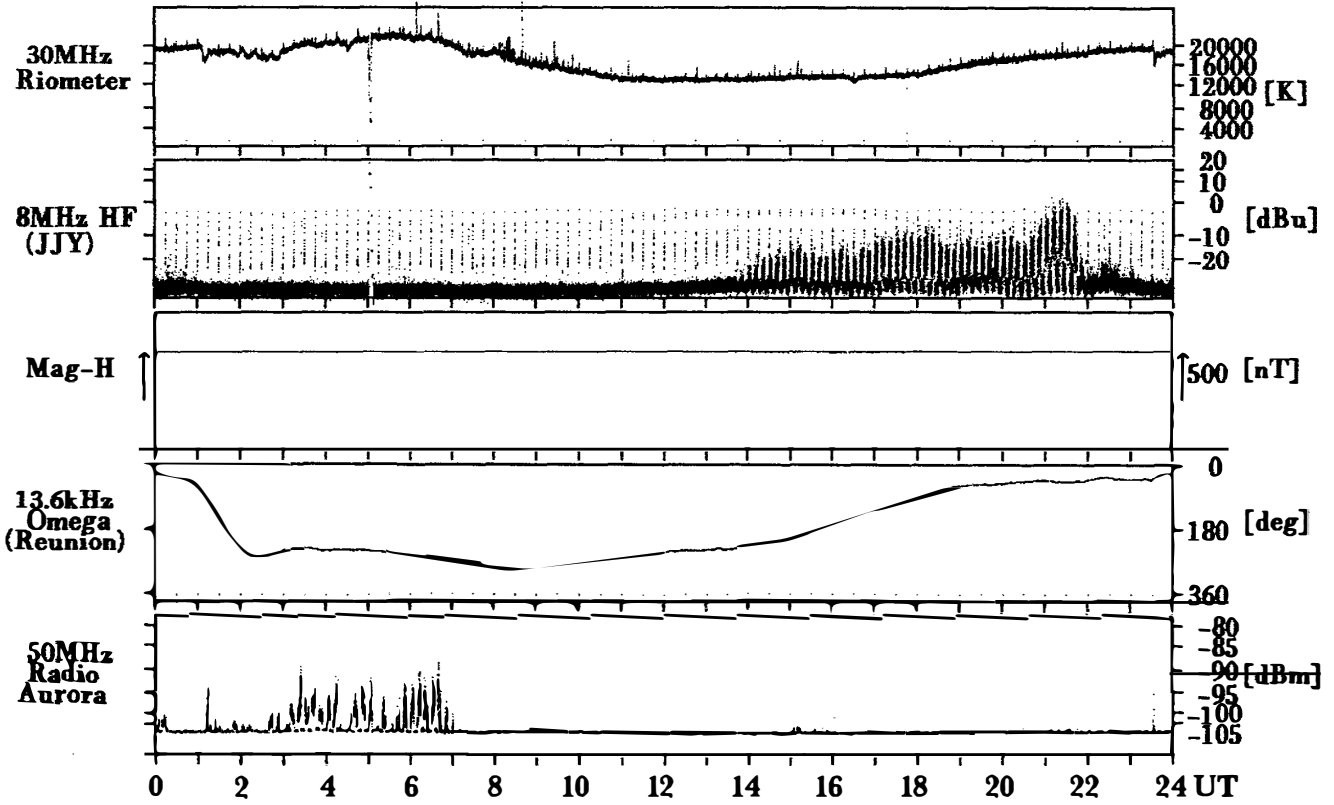
Total Day / 46 1992/ 2/15





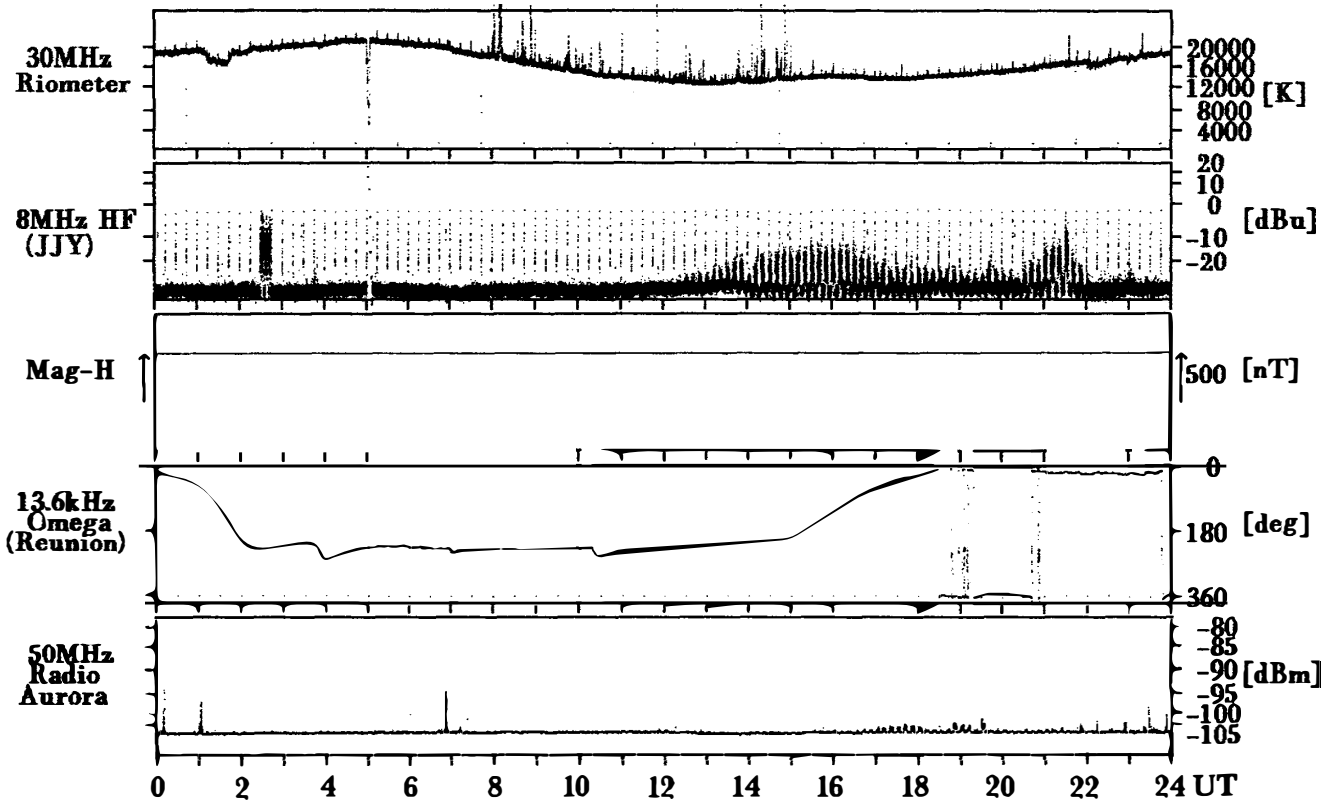
Syowa Station

Total Day / 49 1992/ 2/18



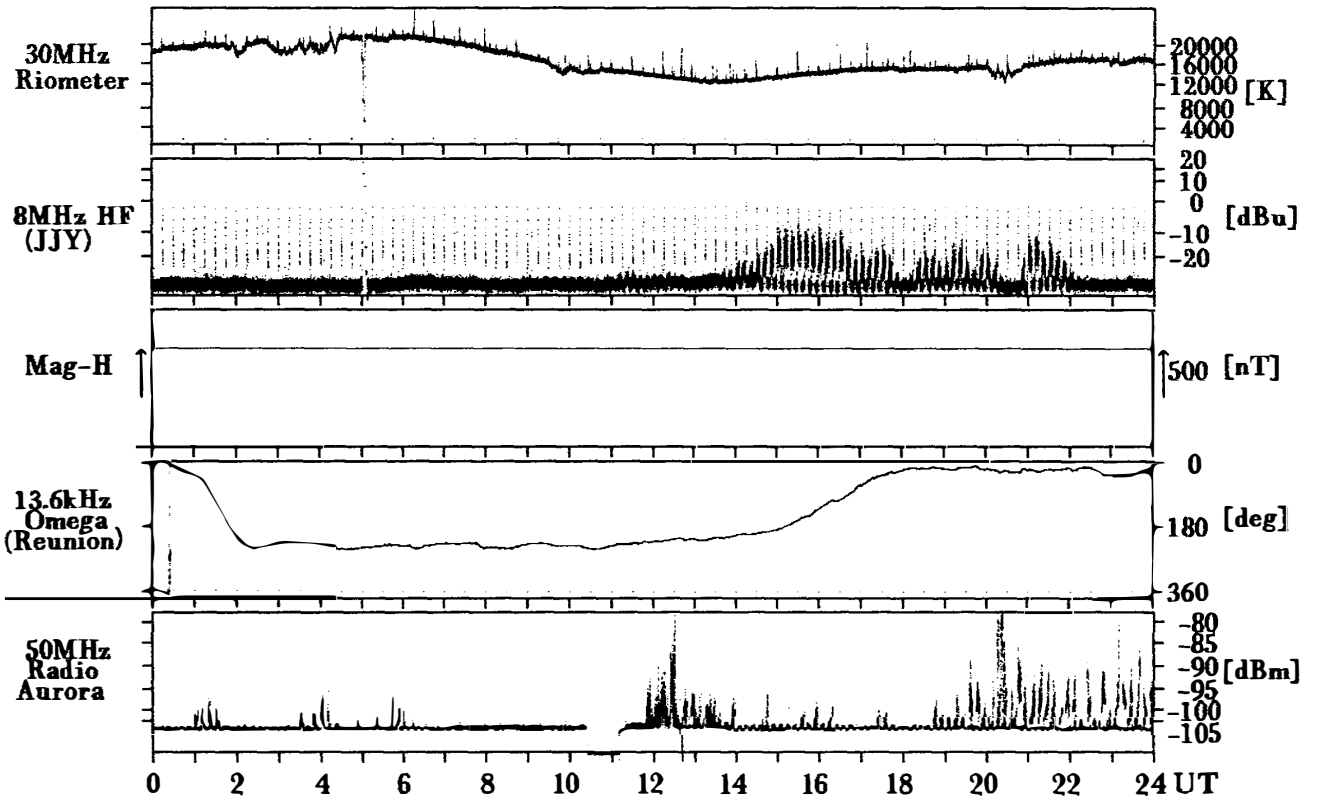
Syowa Station

Total Day / 50 1992/ 2/19



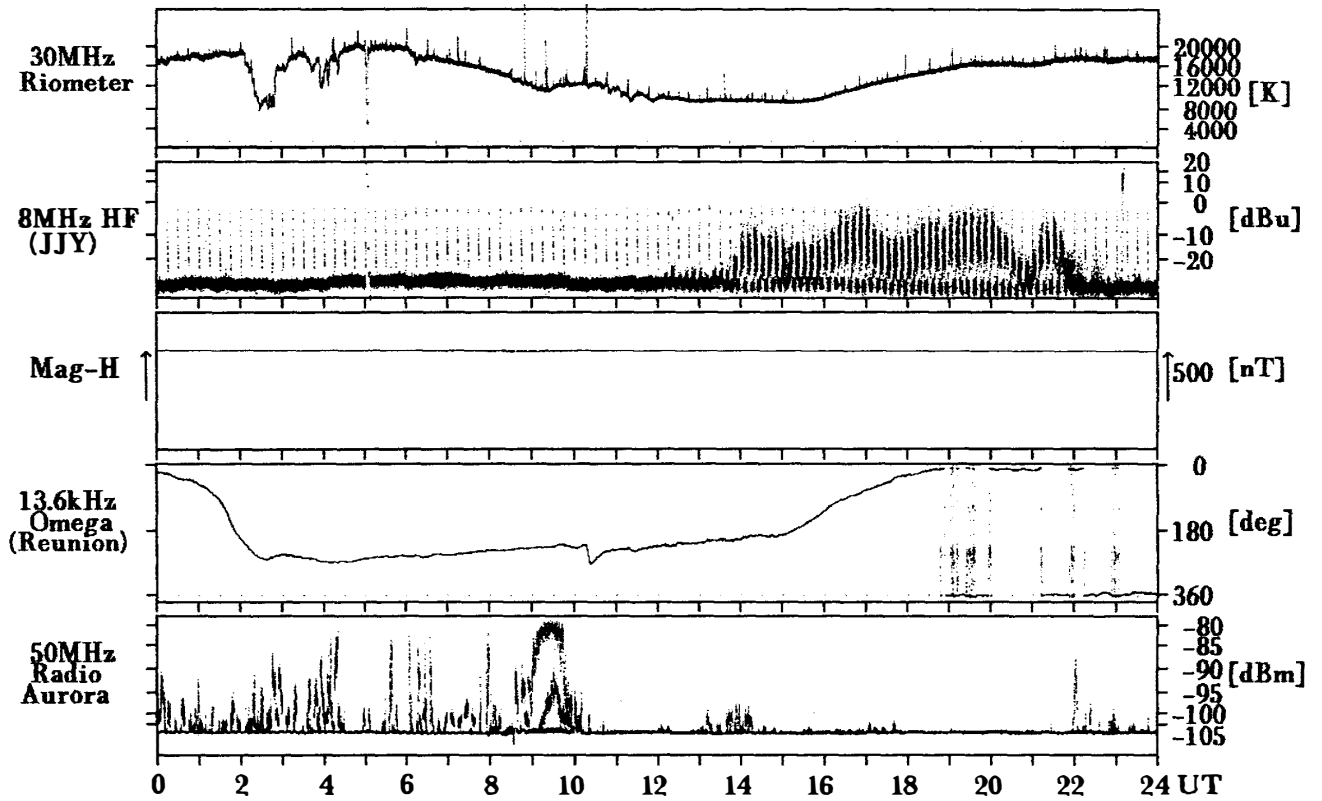
Syowa Station

Total Day / 51 1992/ 2/20



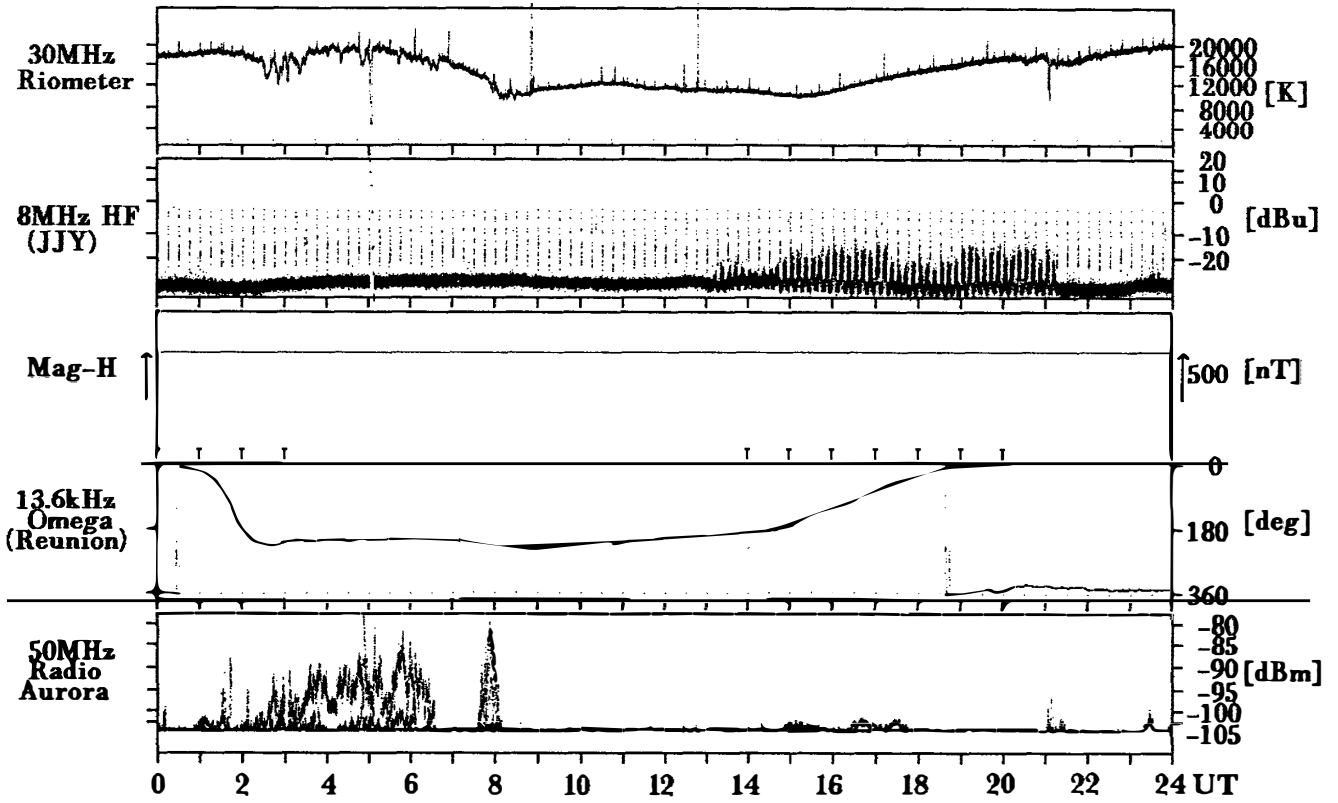
Syowa Station

Total Day / 52 1992/ 2/21



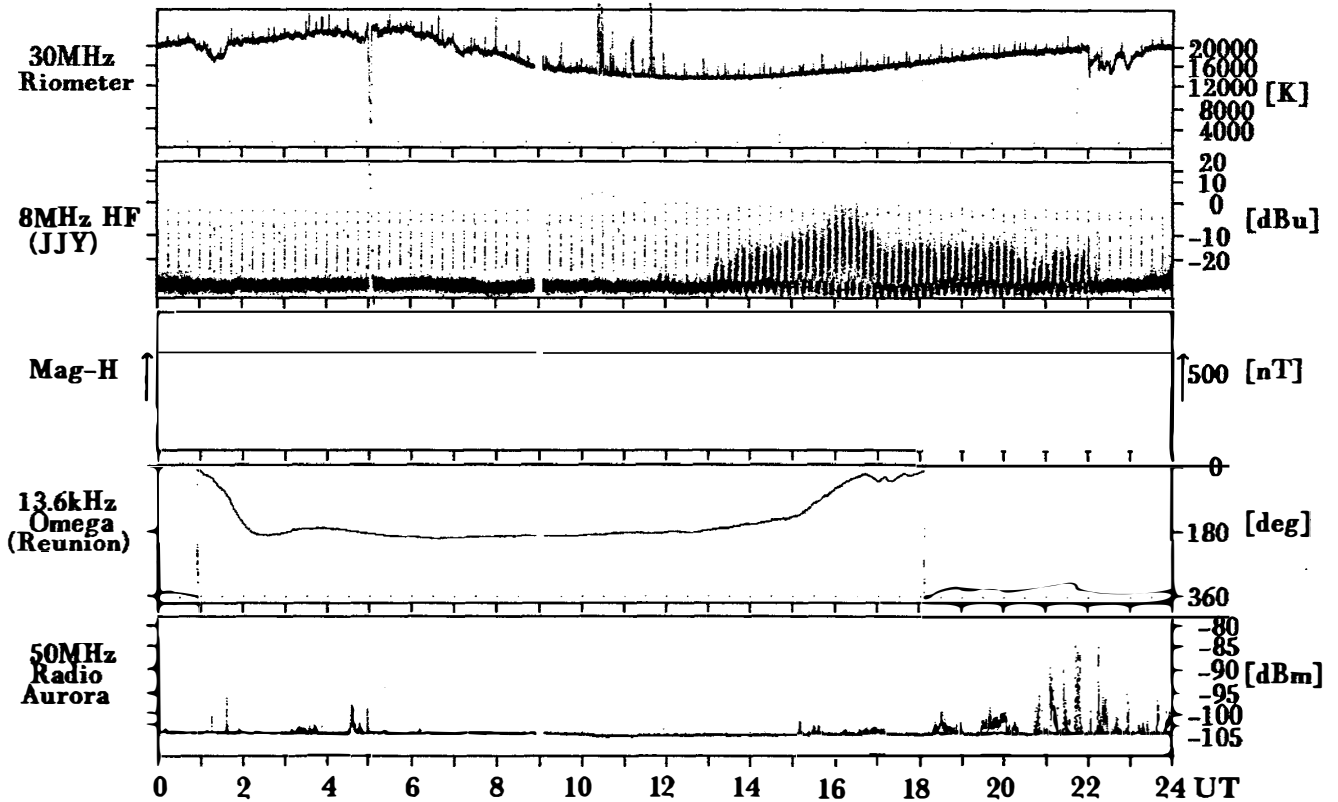
Syowa Station

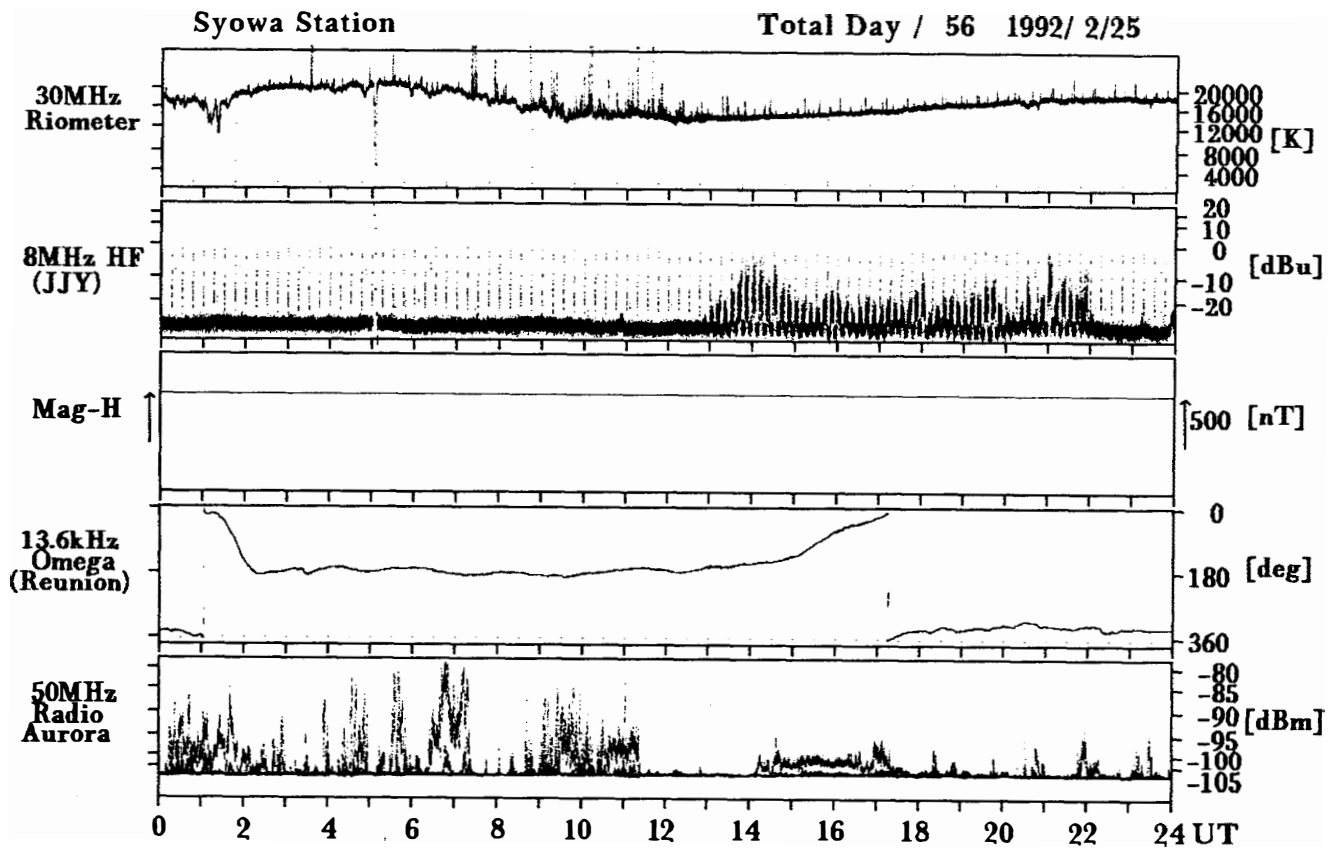
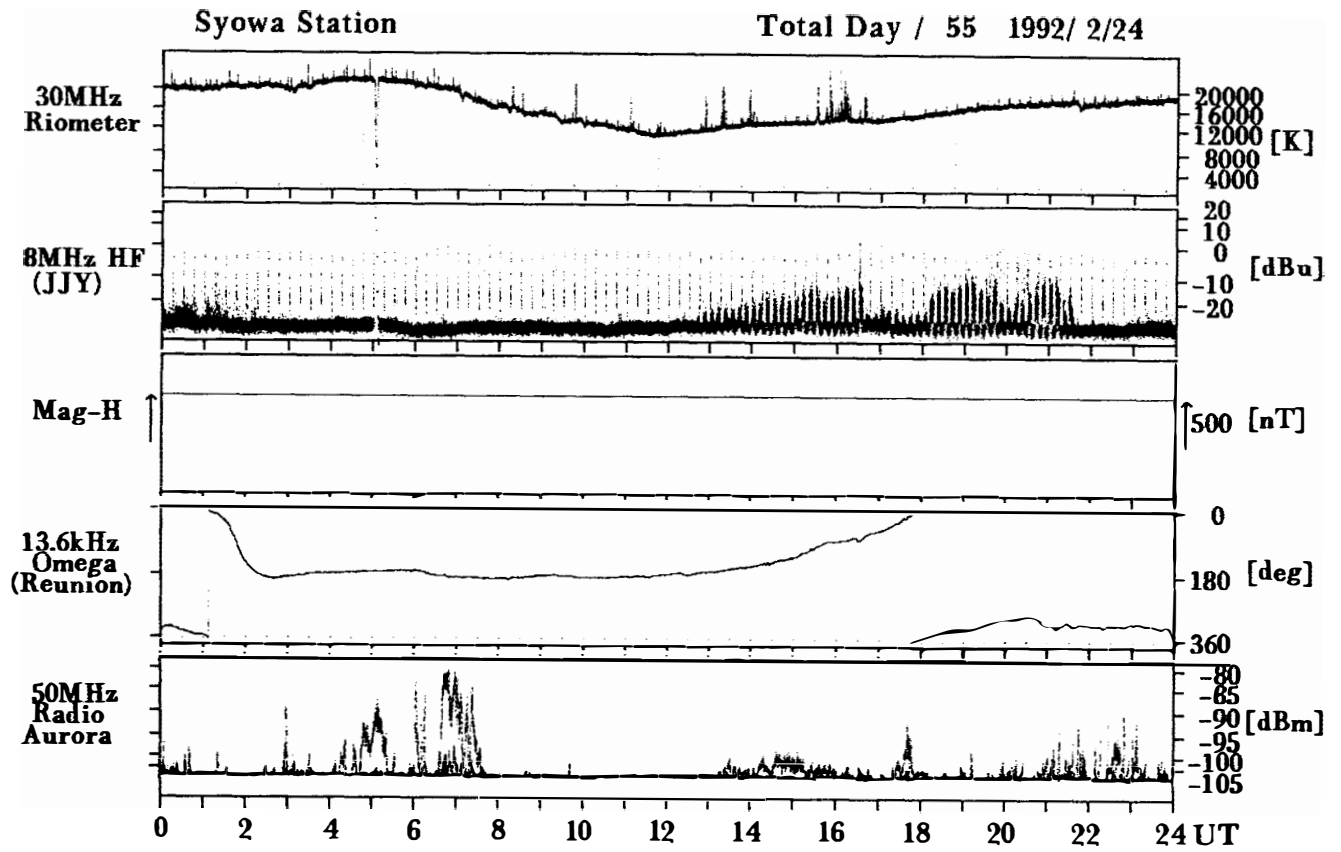
Total Day / 53 1992/ 2/22

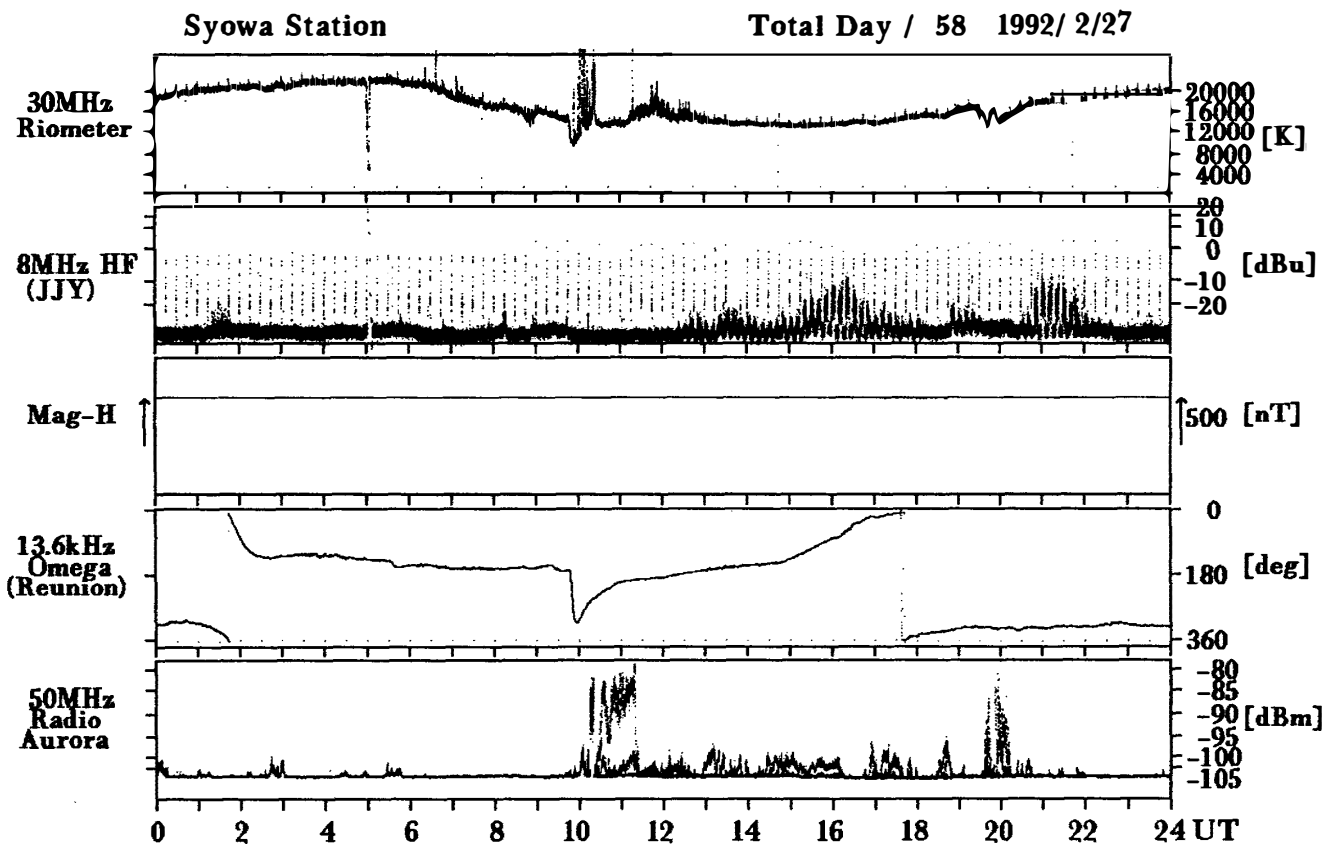
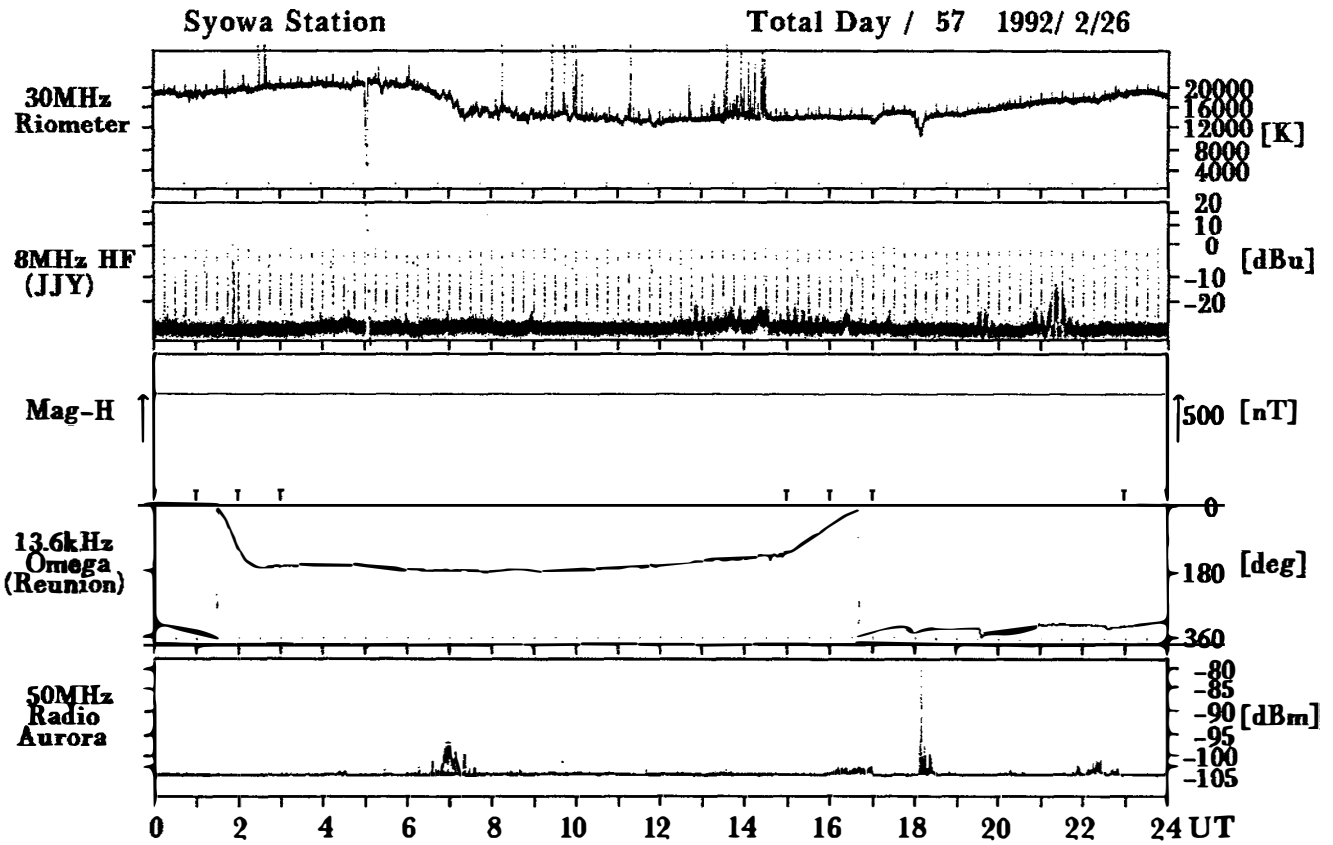


Syowa Station

Total Day / 54 1992/ 2/23

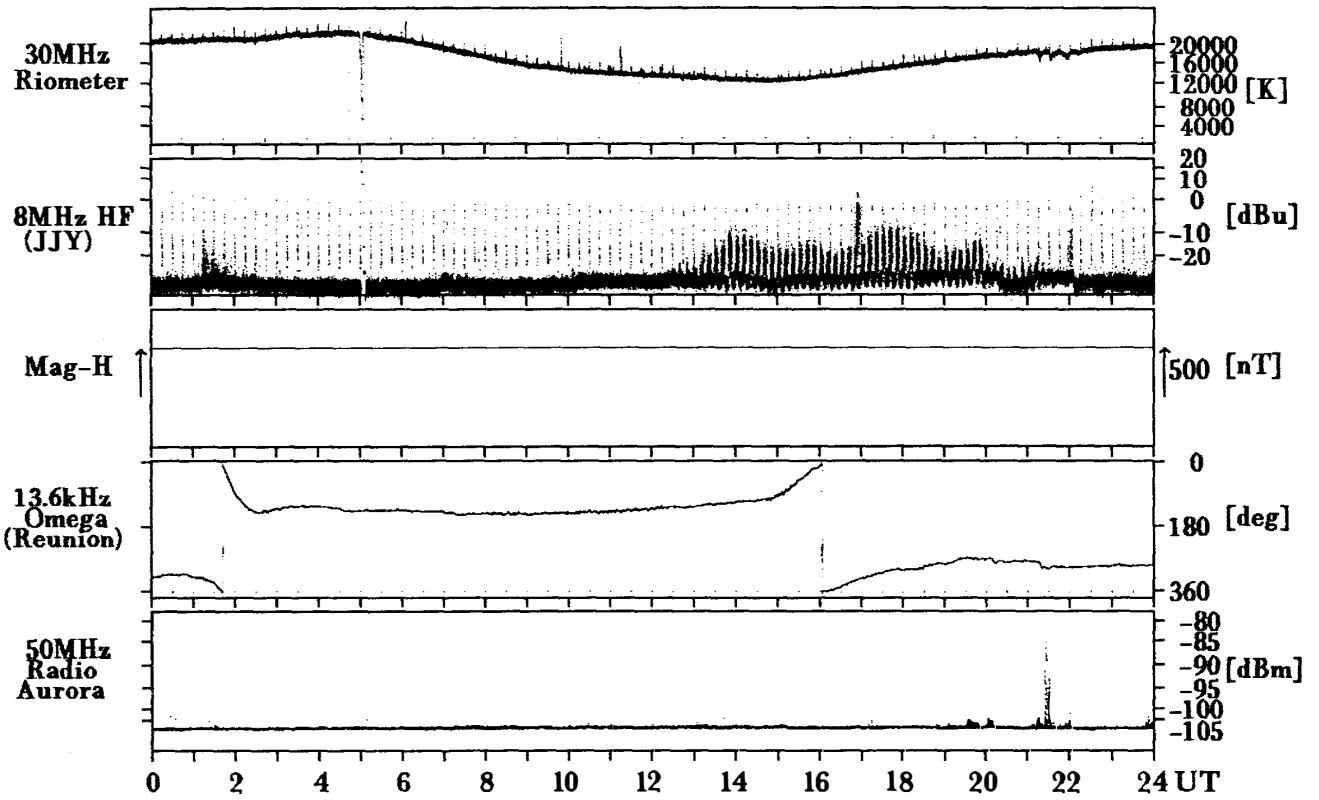






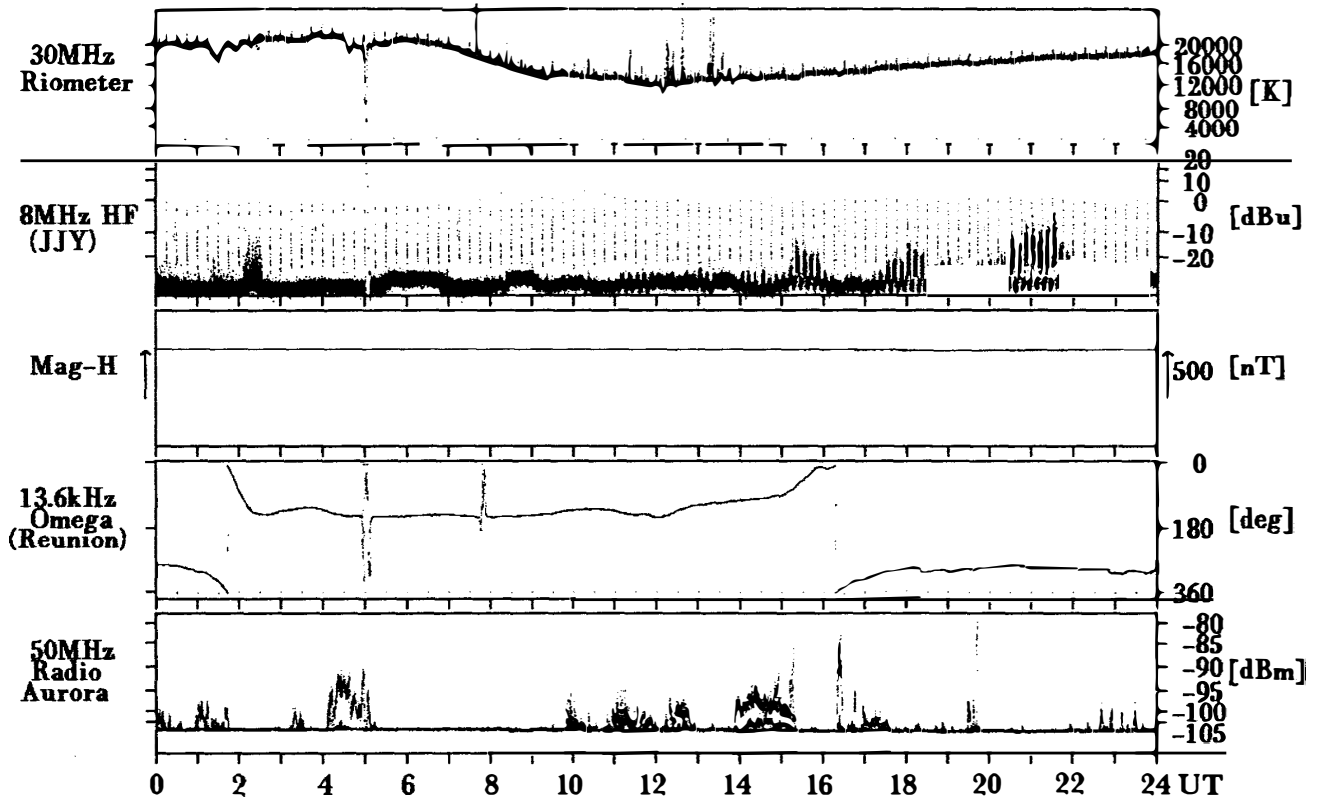
Syowa Station

Total Day / 59 1992/ 2/28



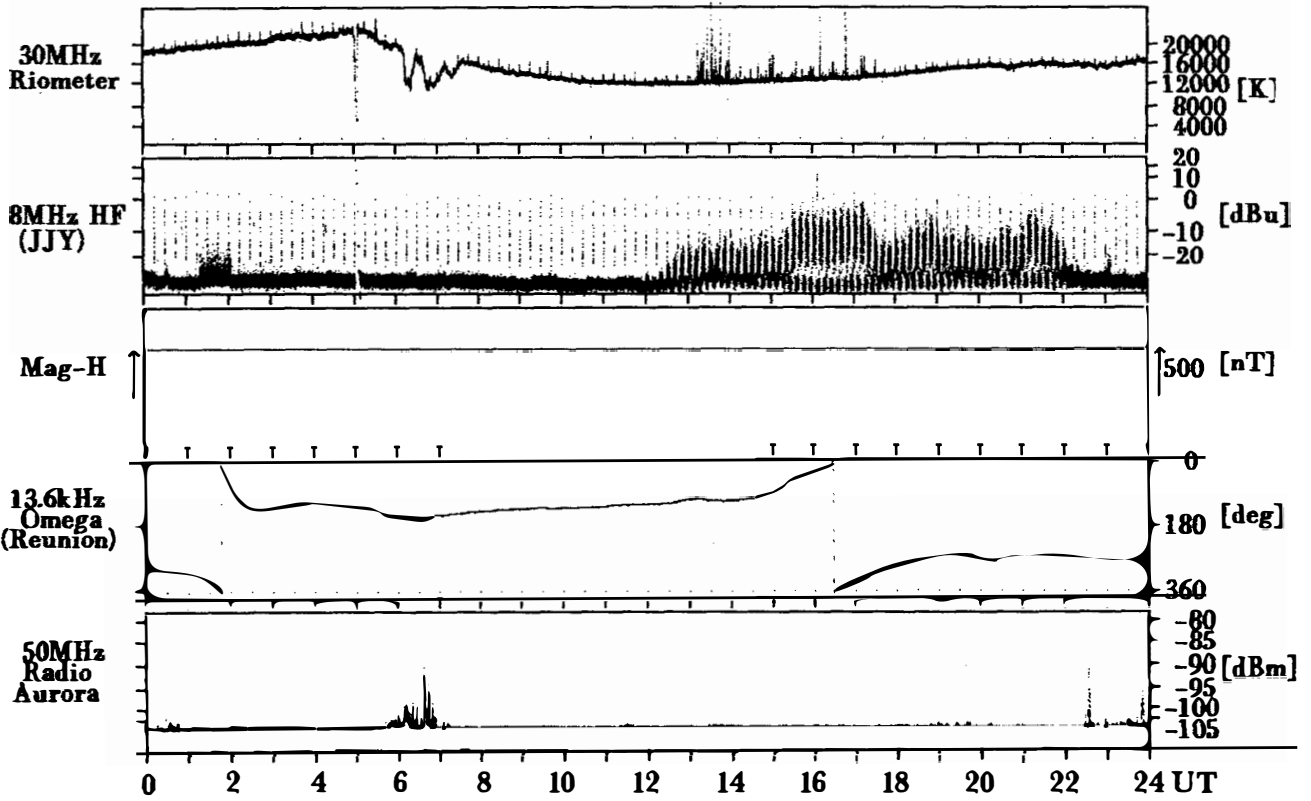
Syowa Station

Total Day / 60 1992/ 2/29



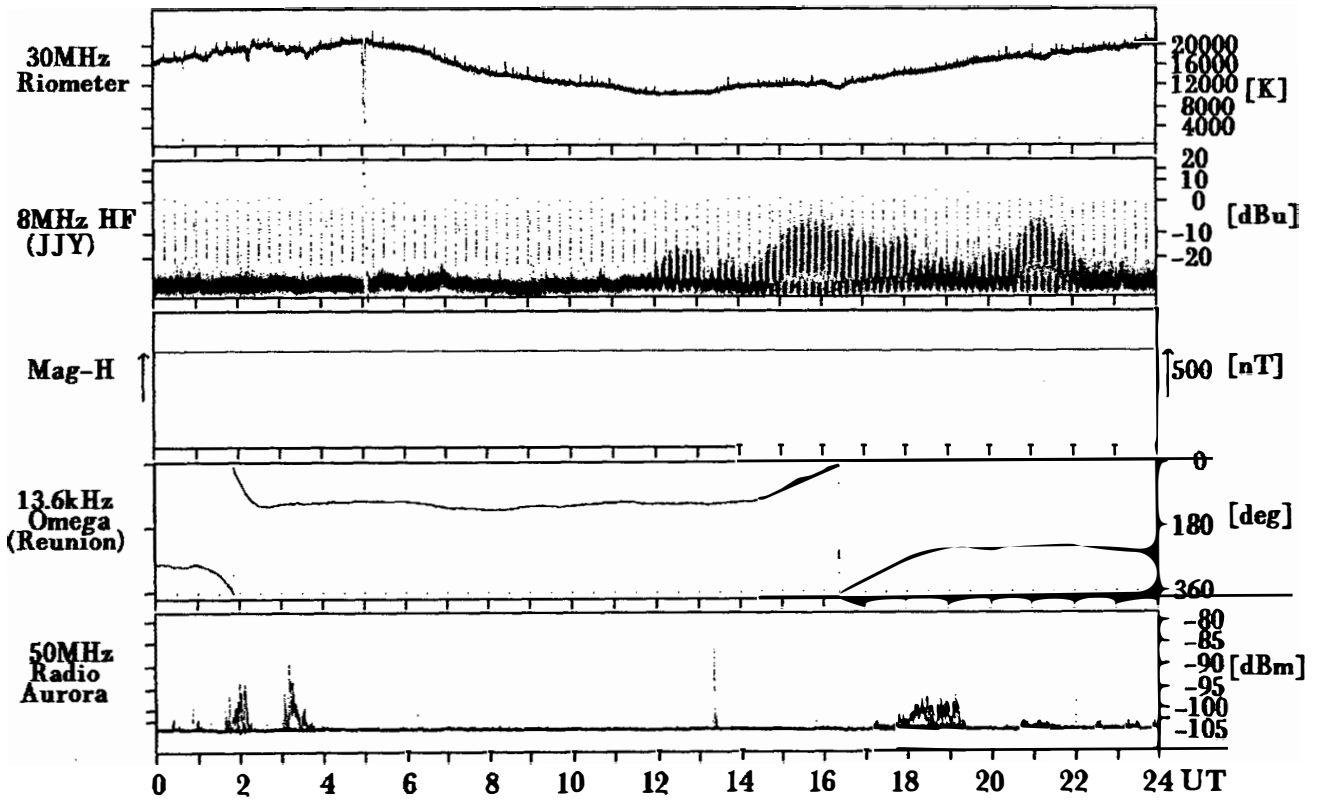
Syowa Station

Total Day / 60 1992/ 3/ 1



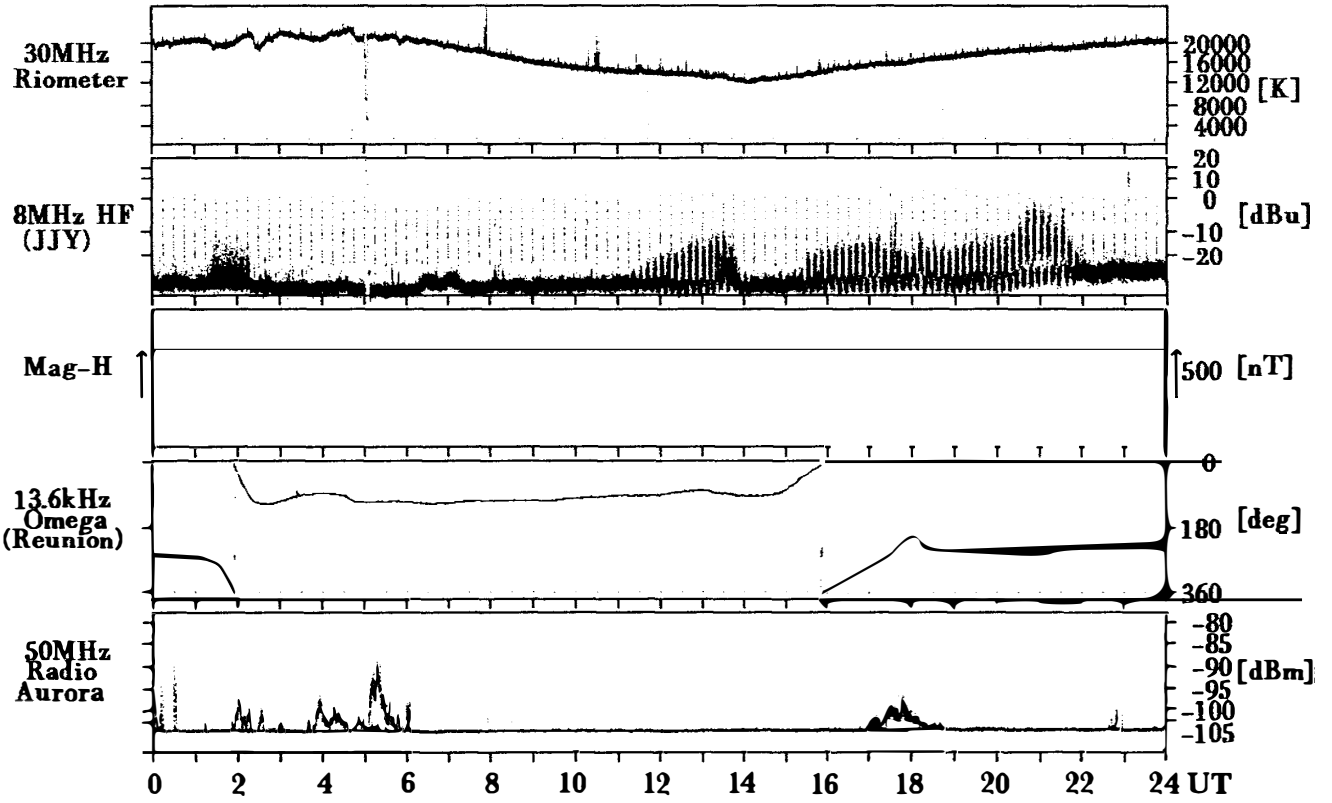
Syowa Station

Total Day / 61 1992/ 3/ 2



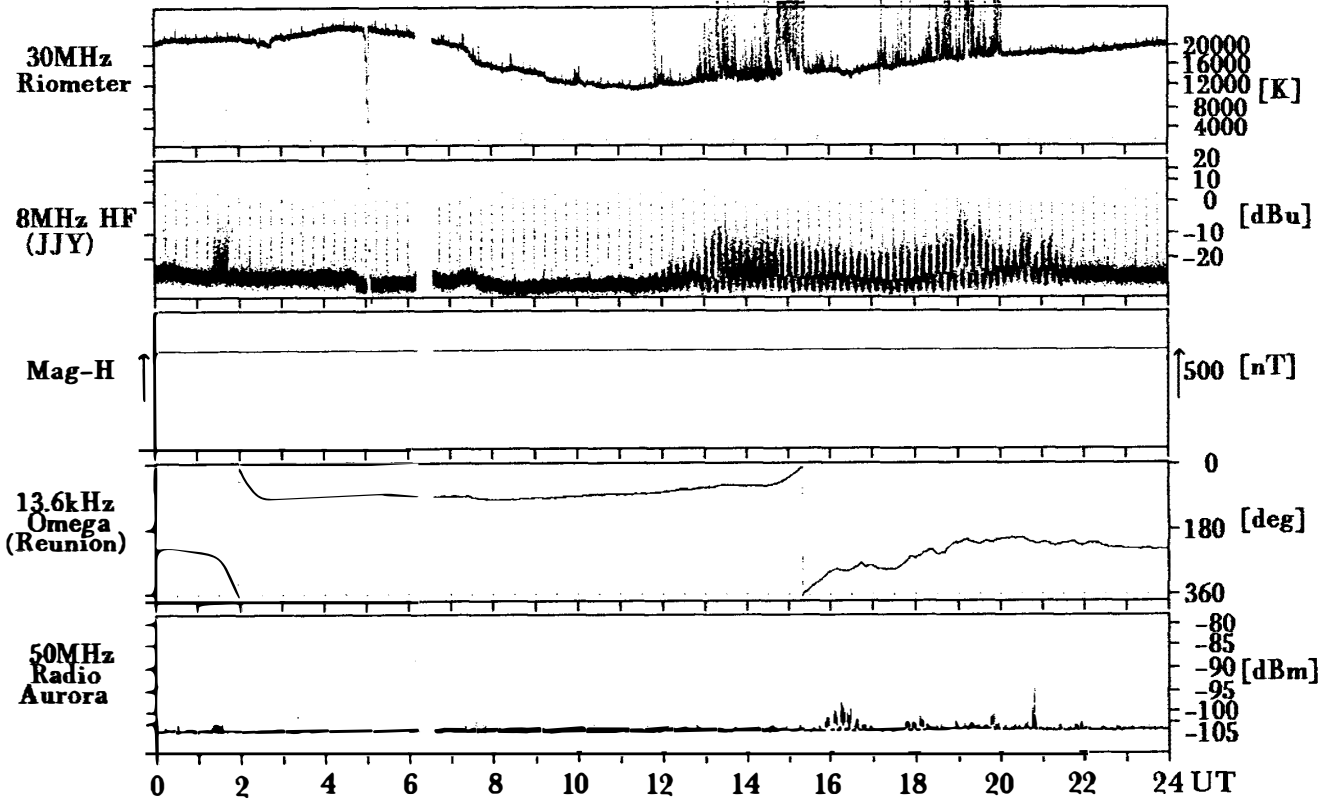
Syowa Station

Total Day / 62 1992/ 3/ 3



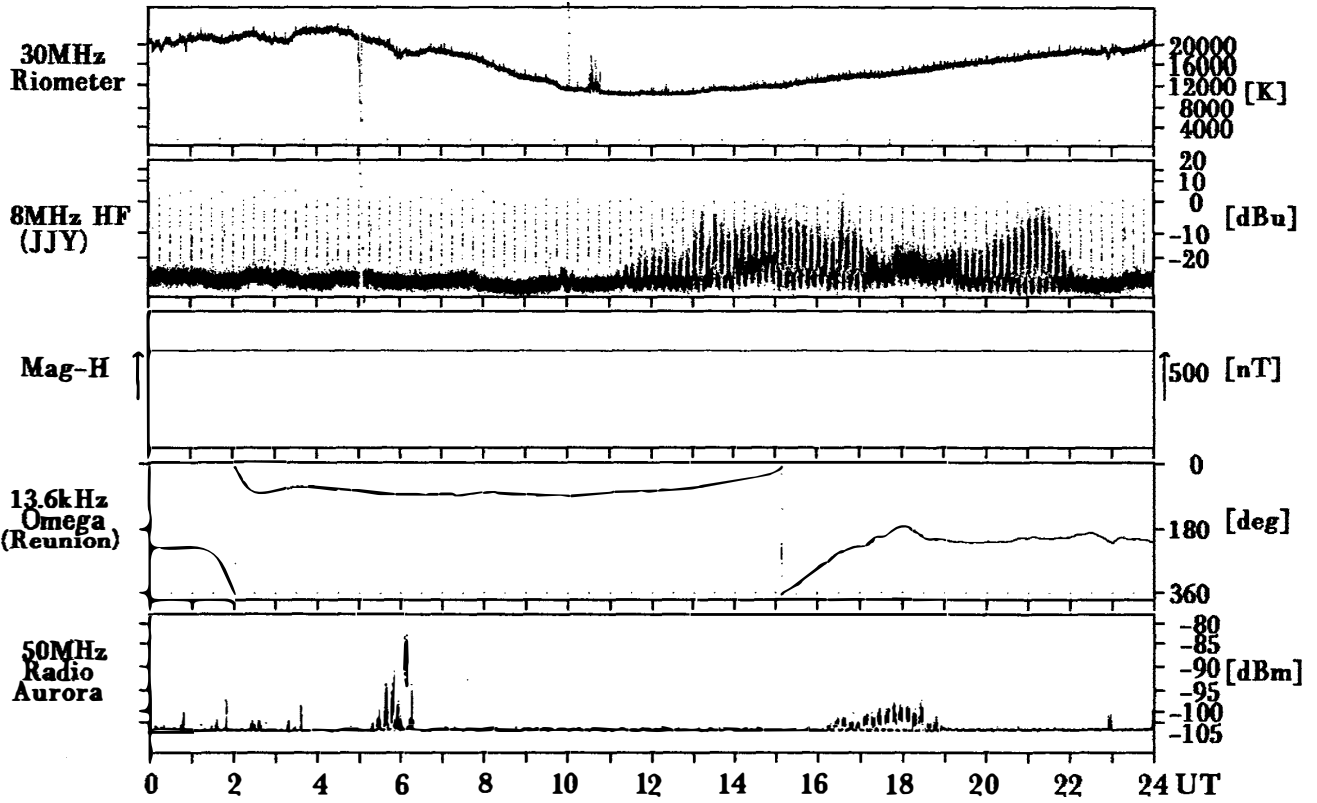
Syowa Station

Total Day / 63 1992/ 3/ 4



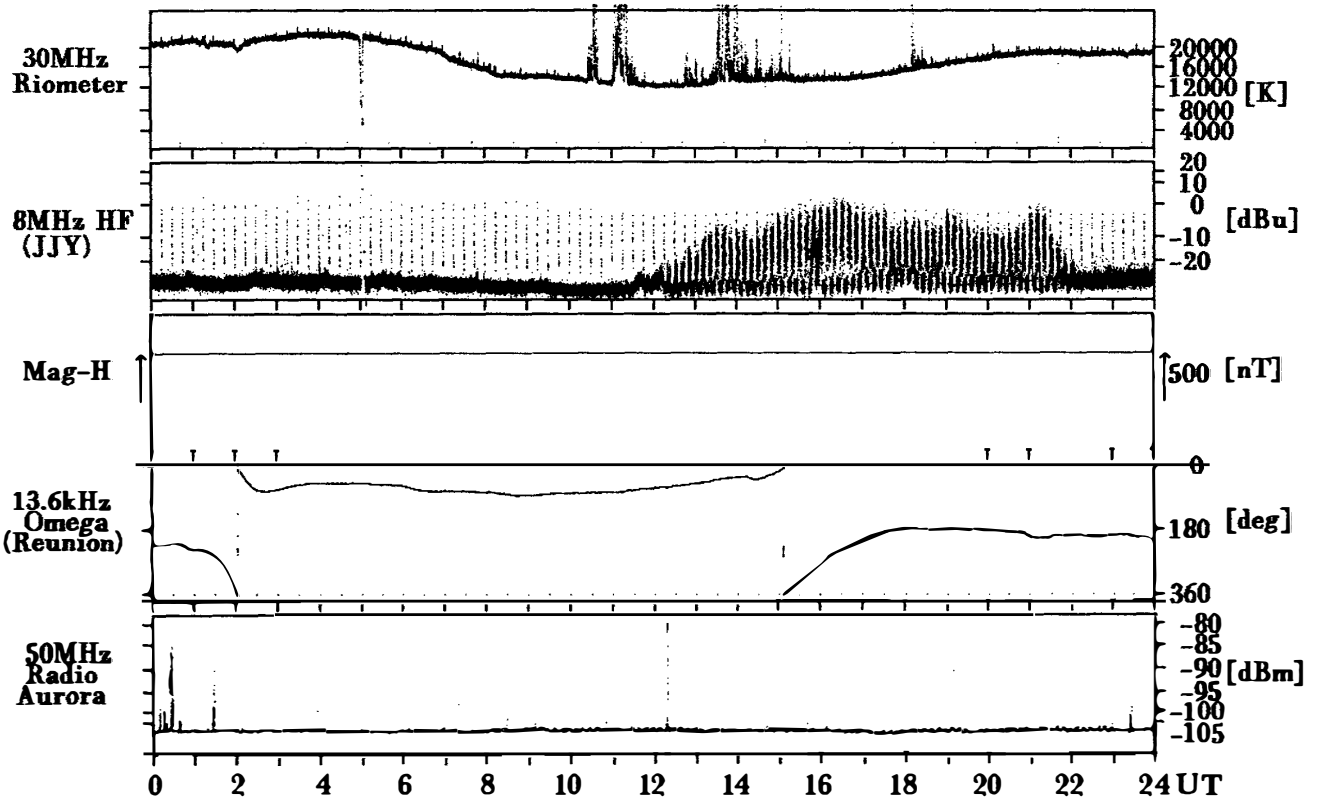
Syowa Station

Total Day / 64 1992/ 3/ 5



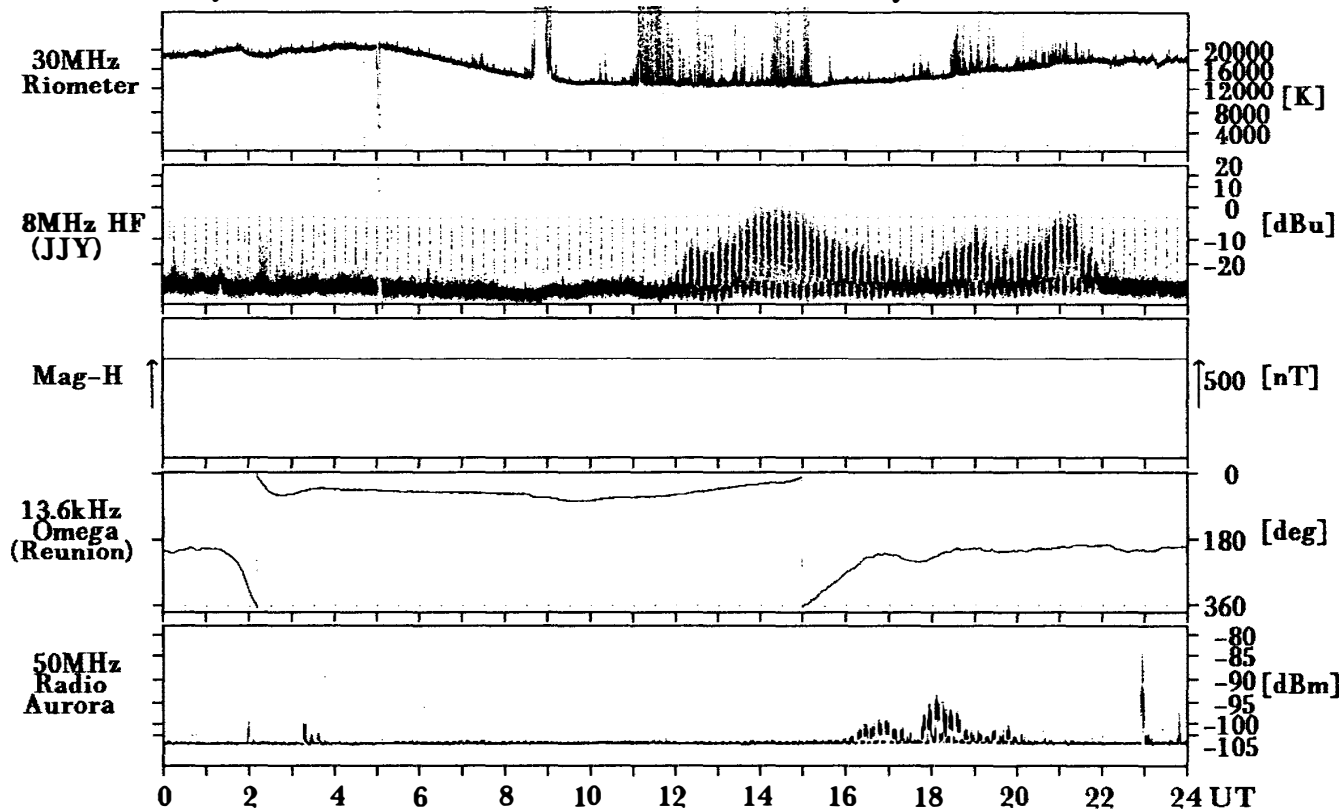
Syowa Station

Total Day / 65 1992/ 3/ 6



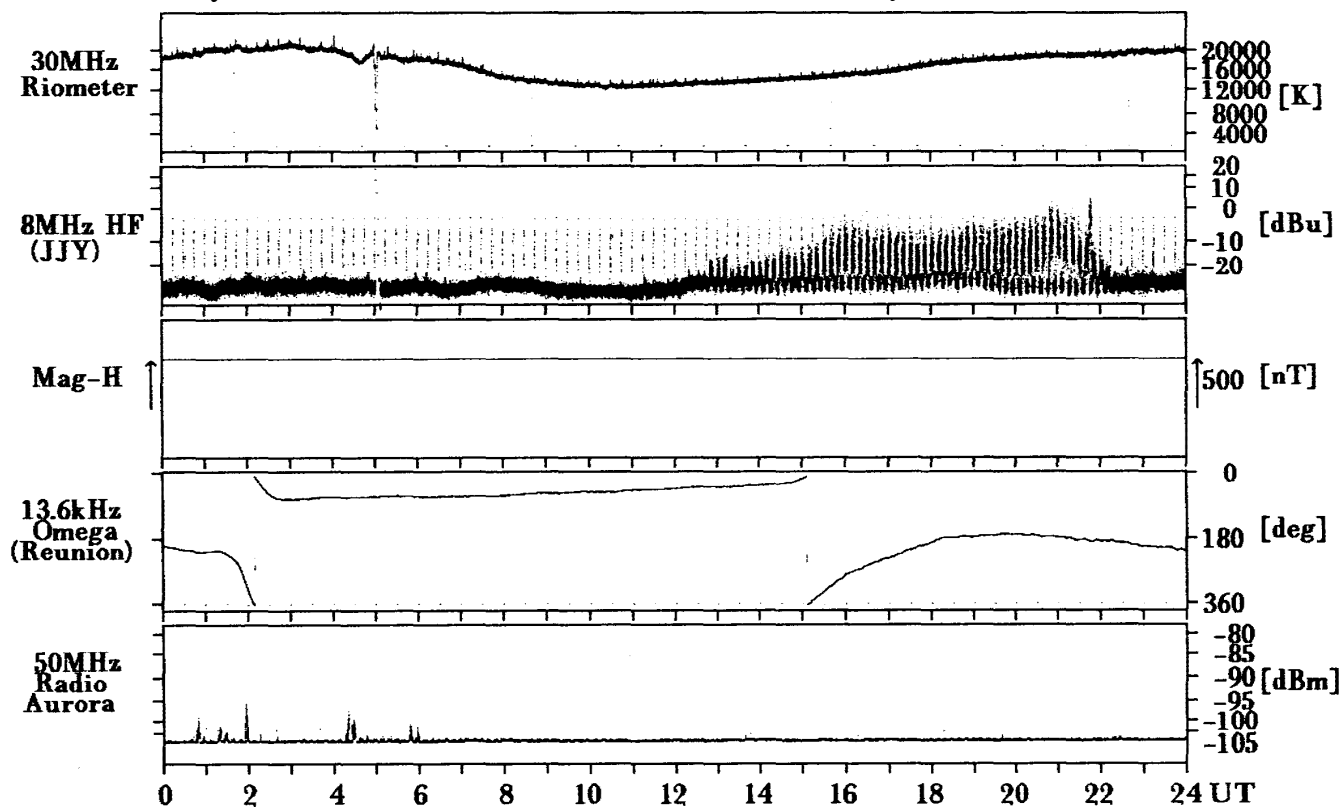
Syowa Station

Total Day / 66 1992/ 3/ 7



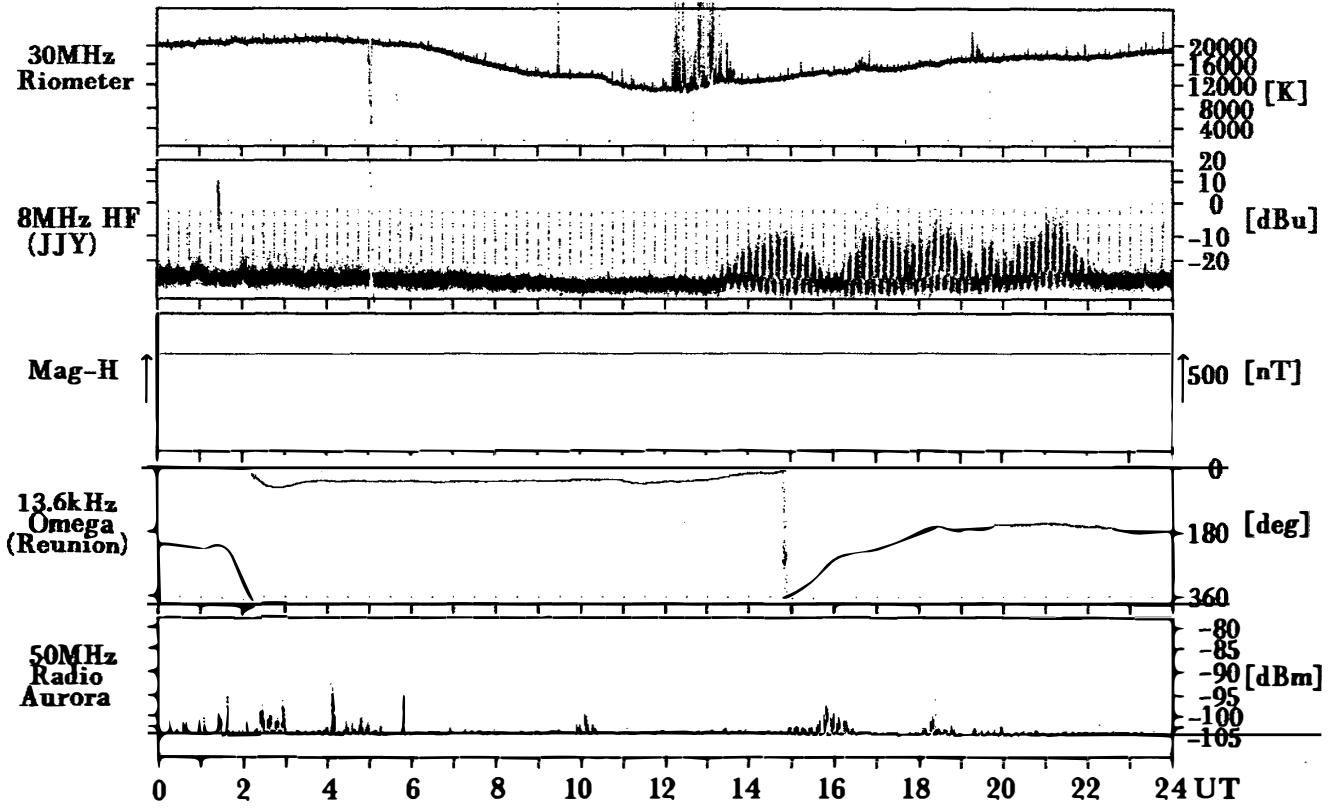
Syowa Station

Total Day / 67 1992/ 3/ 8



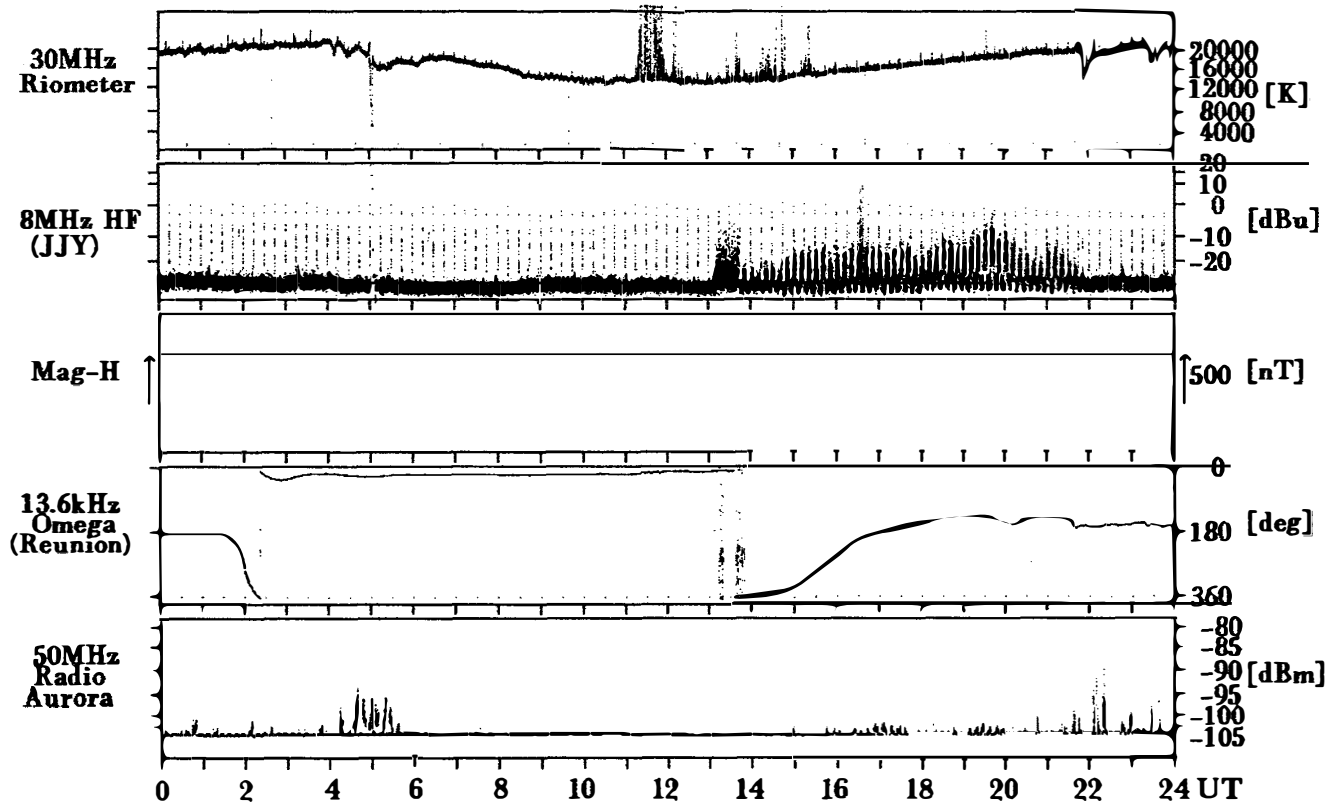
Syowa Station

Total Day / 68 1992/ 3/ 9



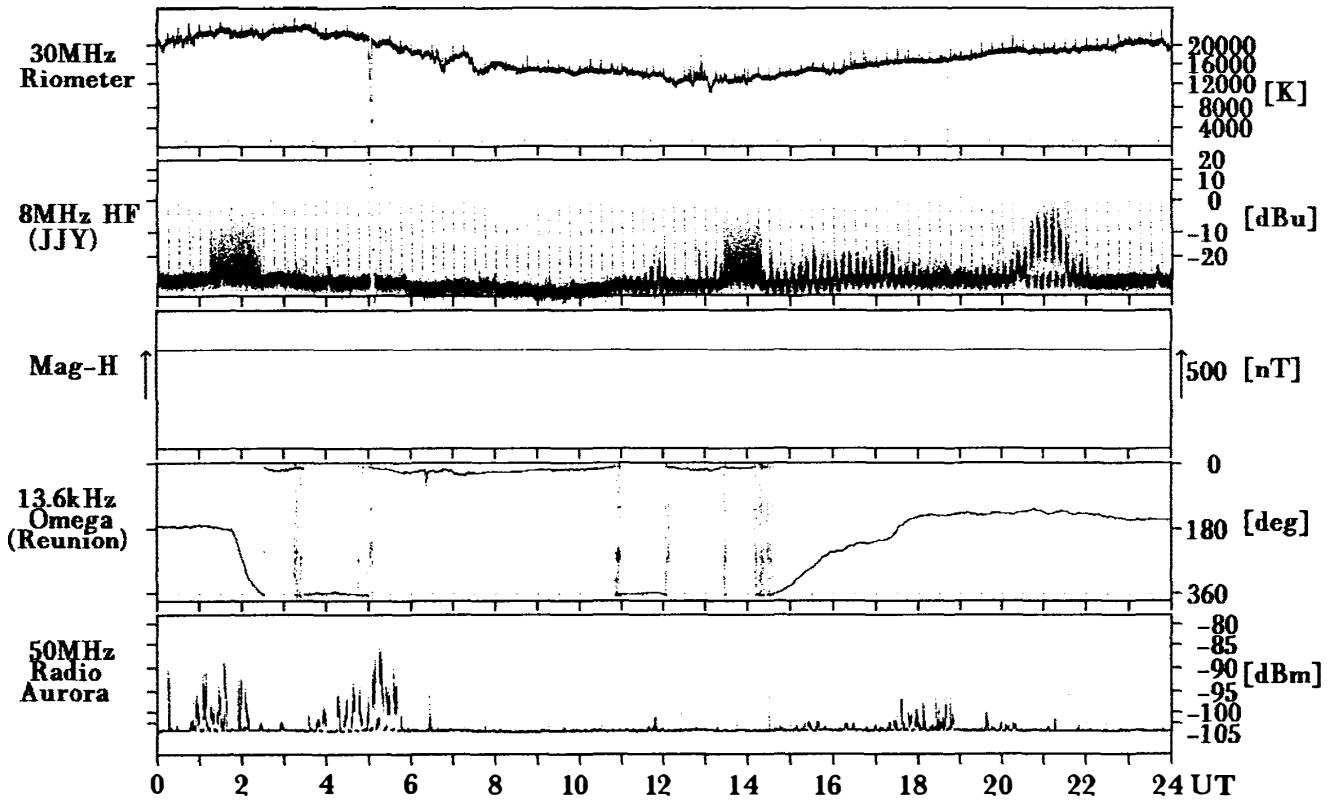
Syowa Station

Total Day / 69 1992/ 3/10



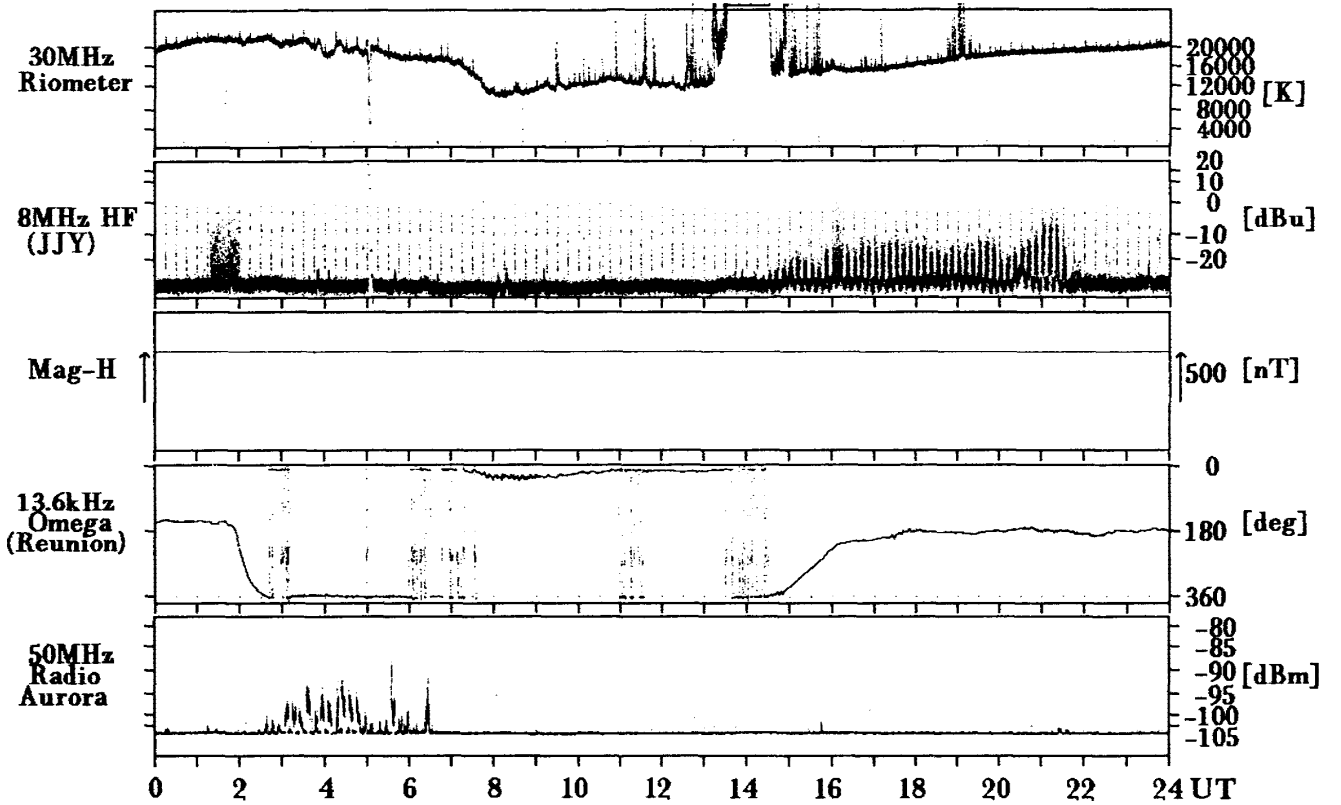
Syowa Station

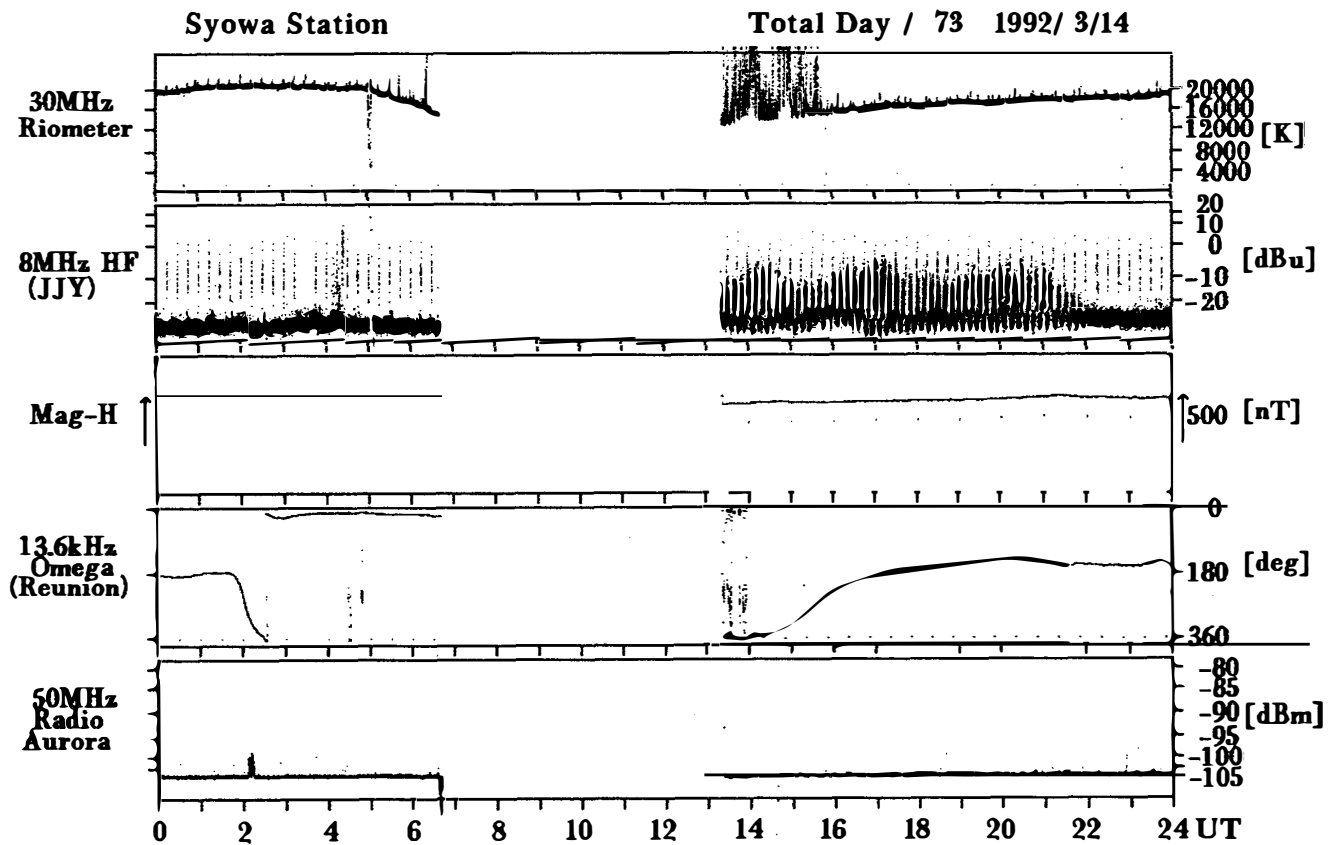
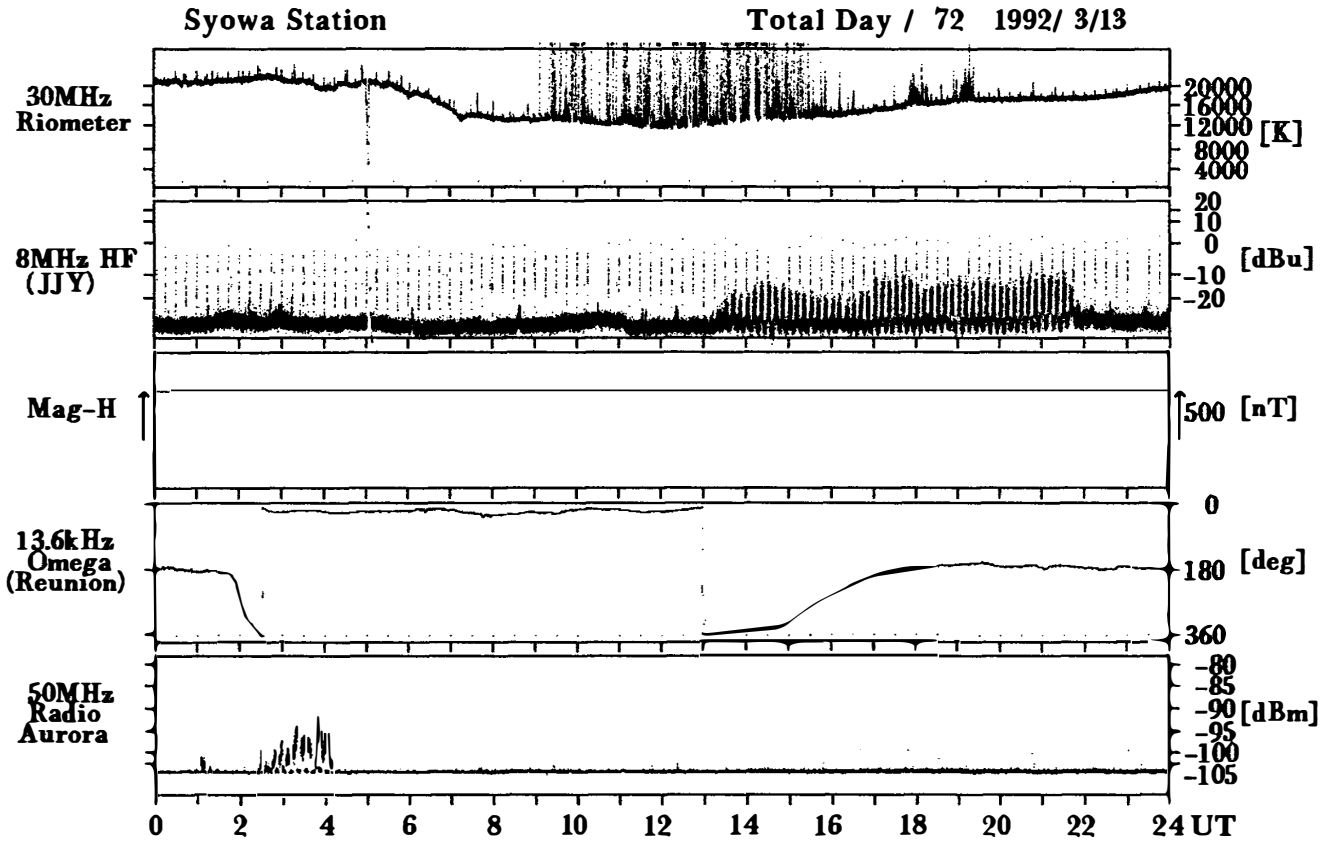
Total Day / 70 1992/ 3/11

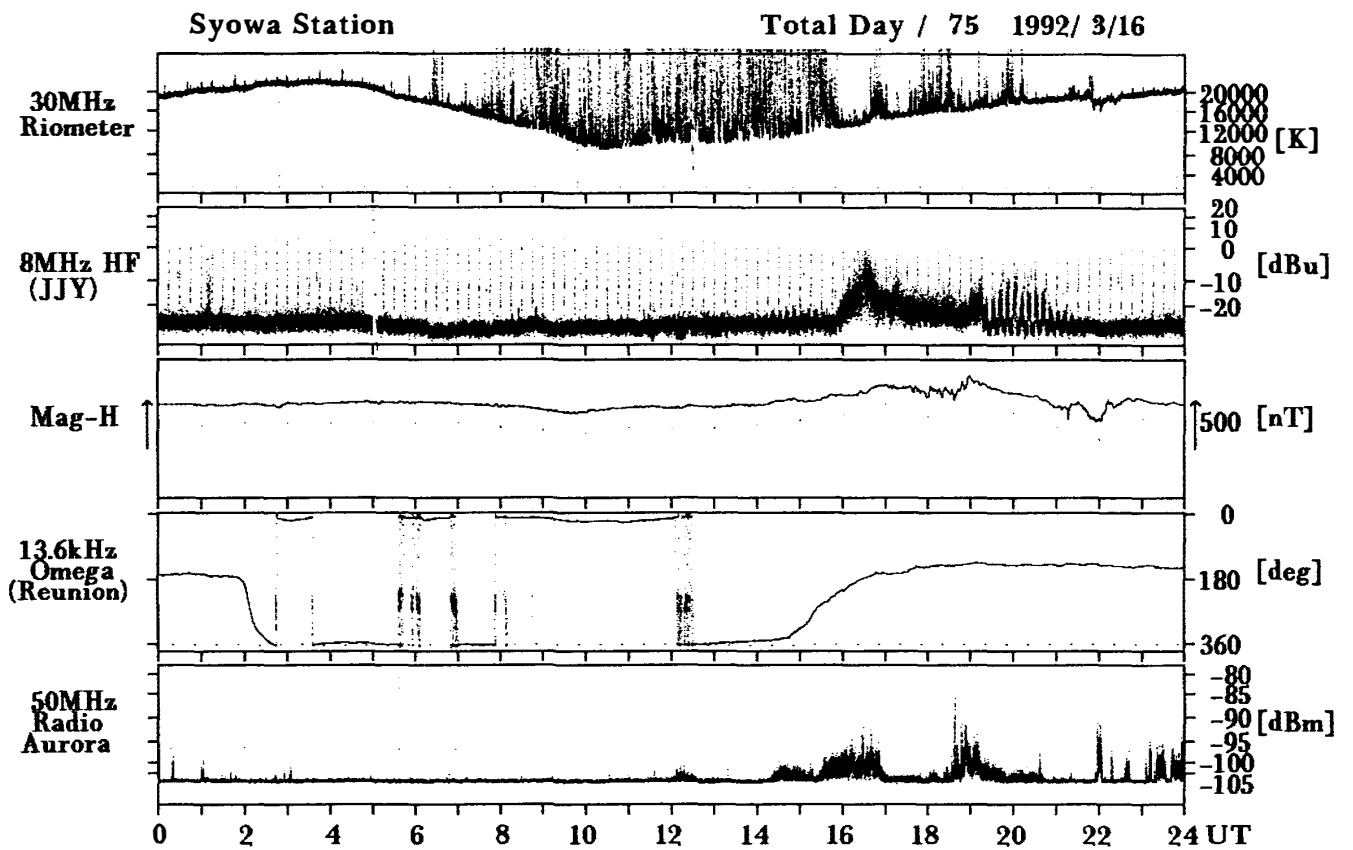
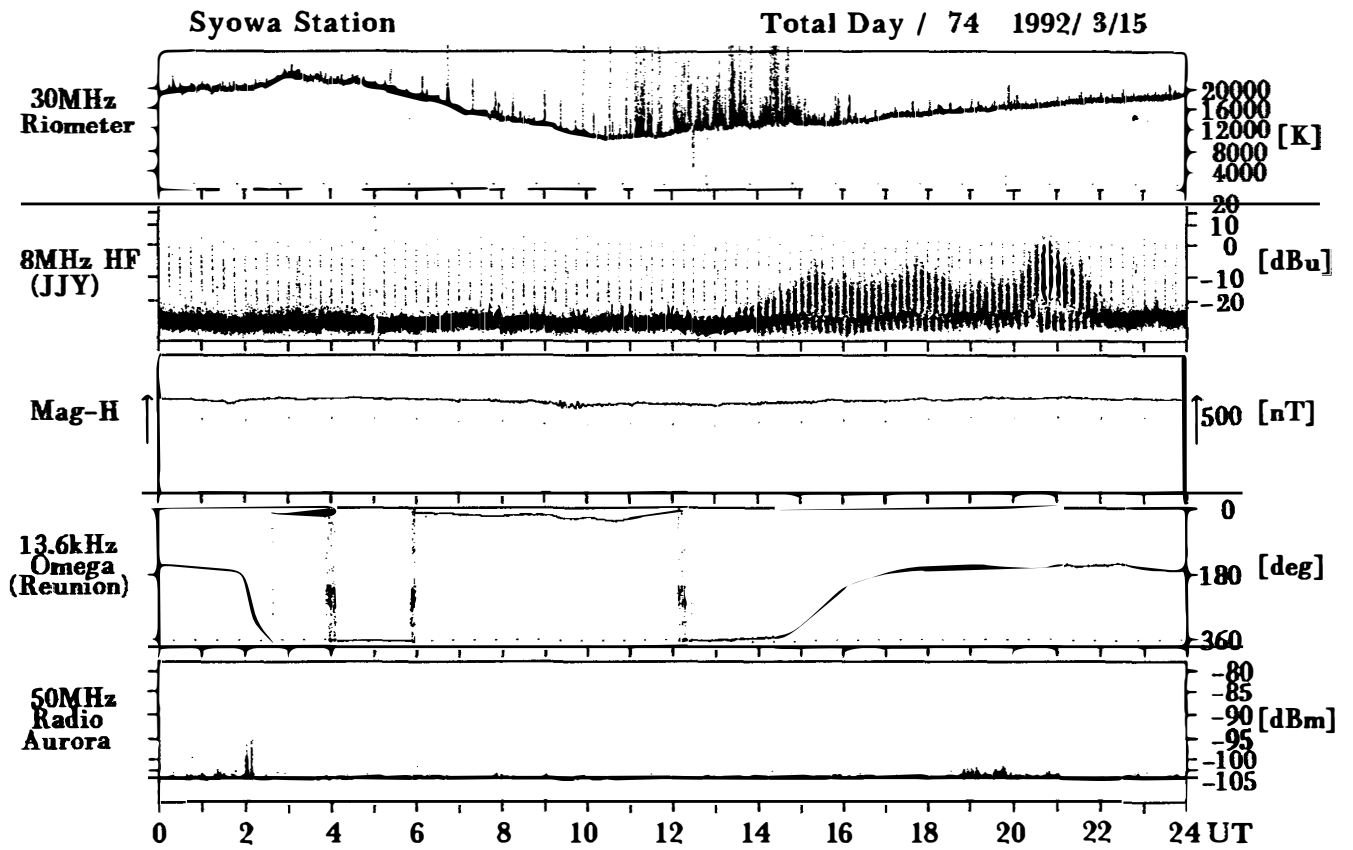


Syowa Station

Total Day / 71 1992/ 3/12

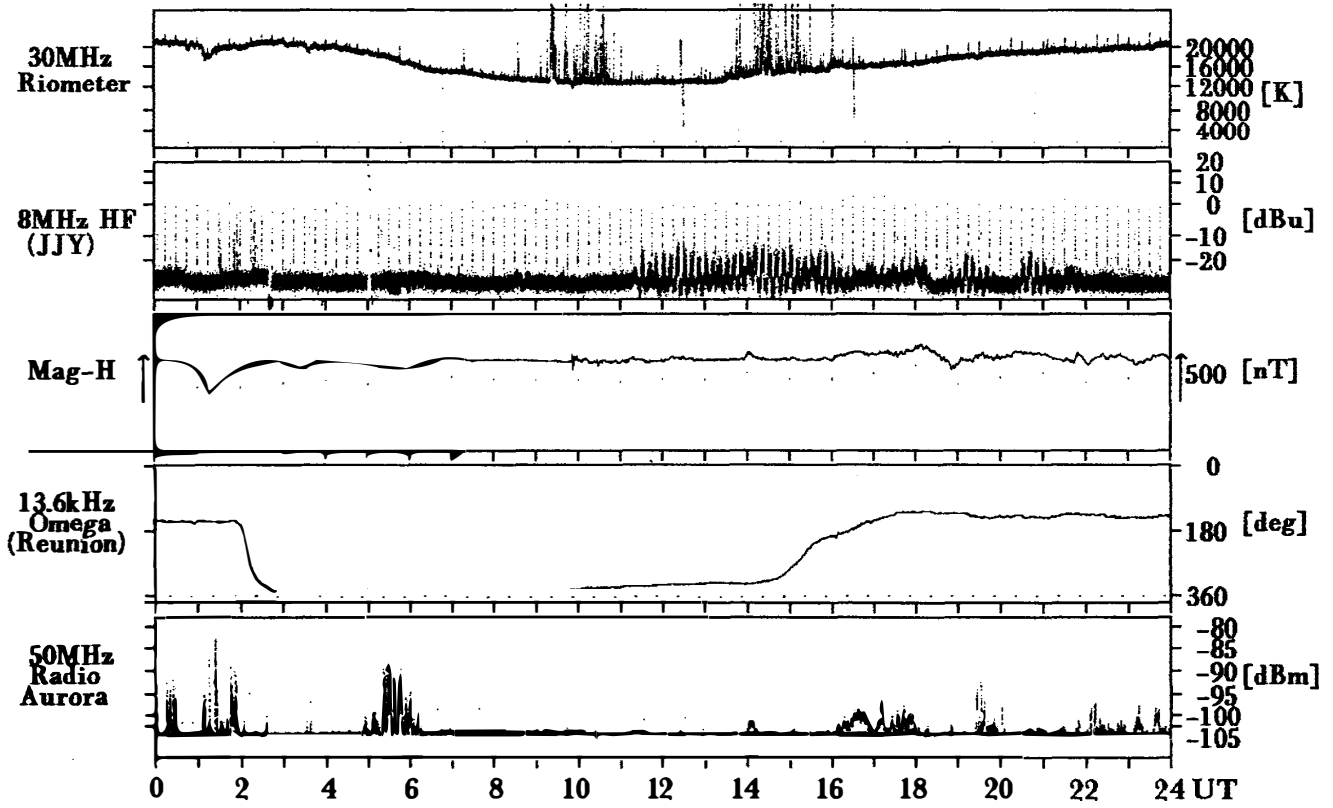






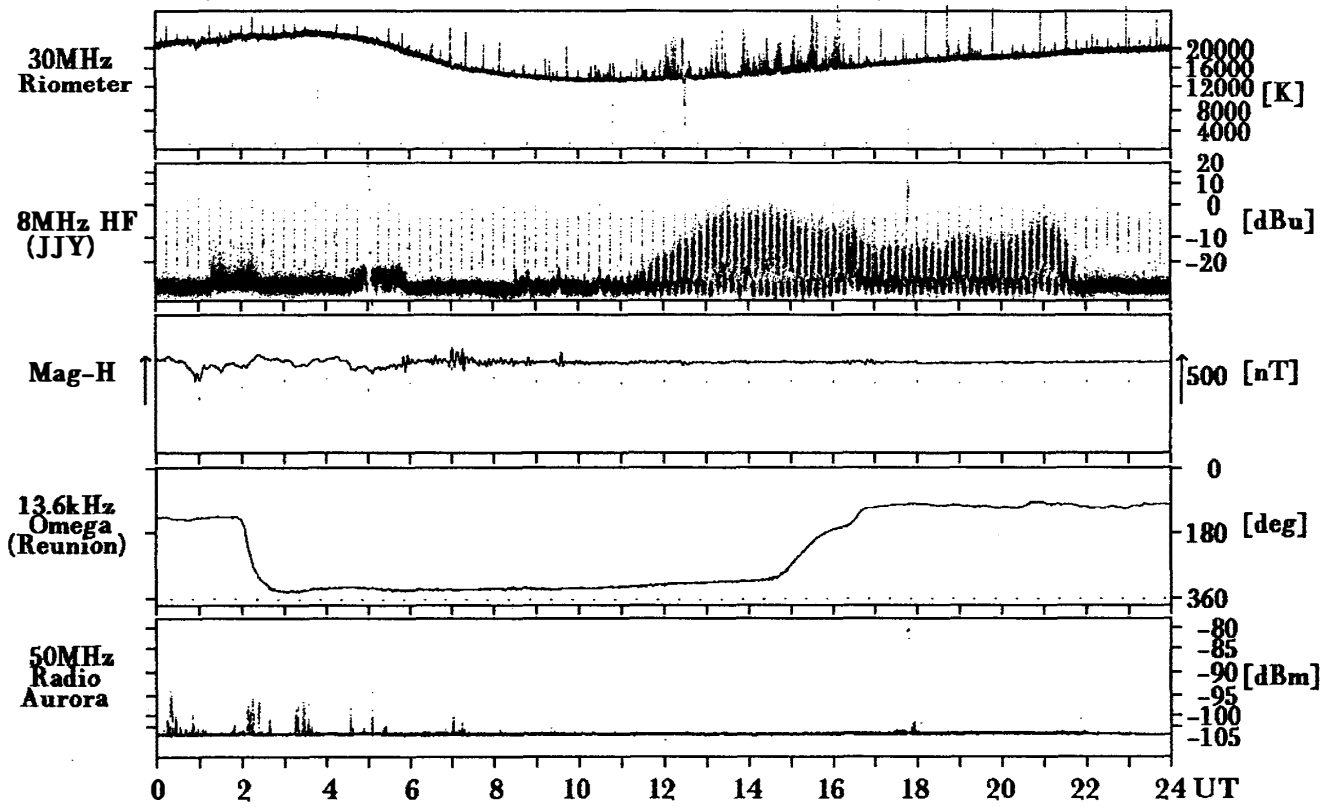
Syowa Station

Total Day / 76 1992/ 3/17



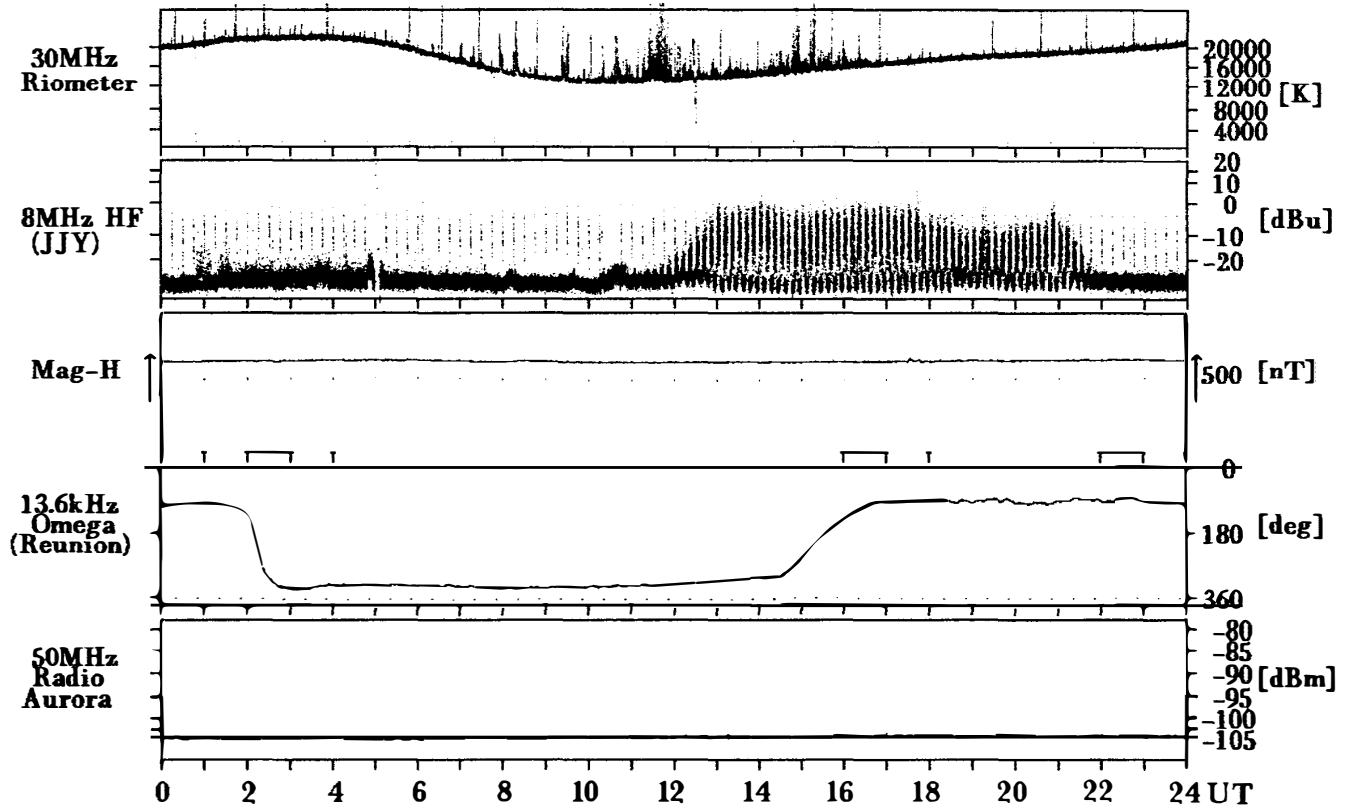
Syowa Station

Total Day / 77 1992/ 3/18



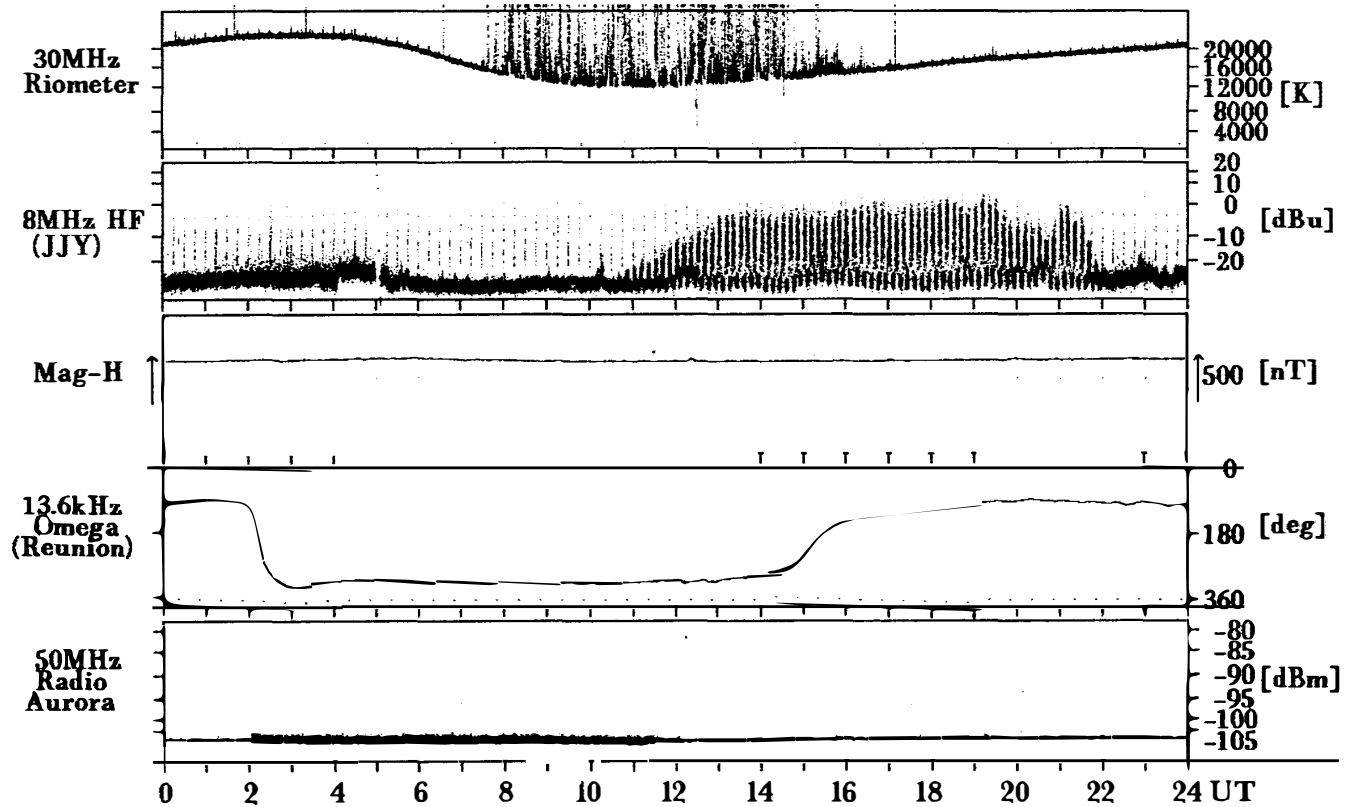
Syowa Station

Total Day / 78 1992/ 3/19



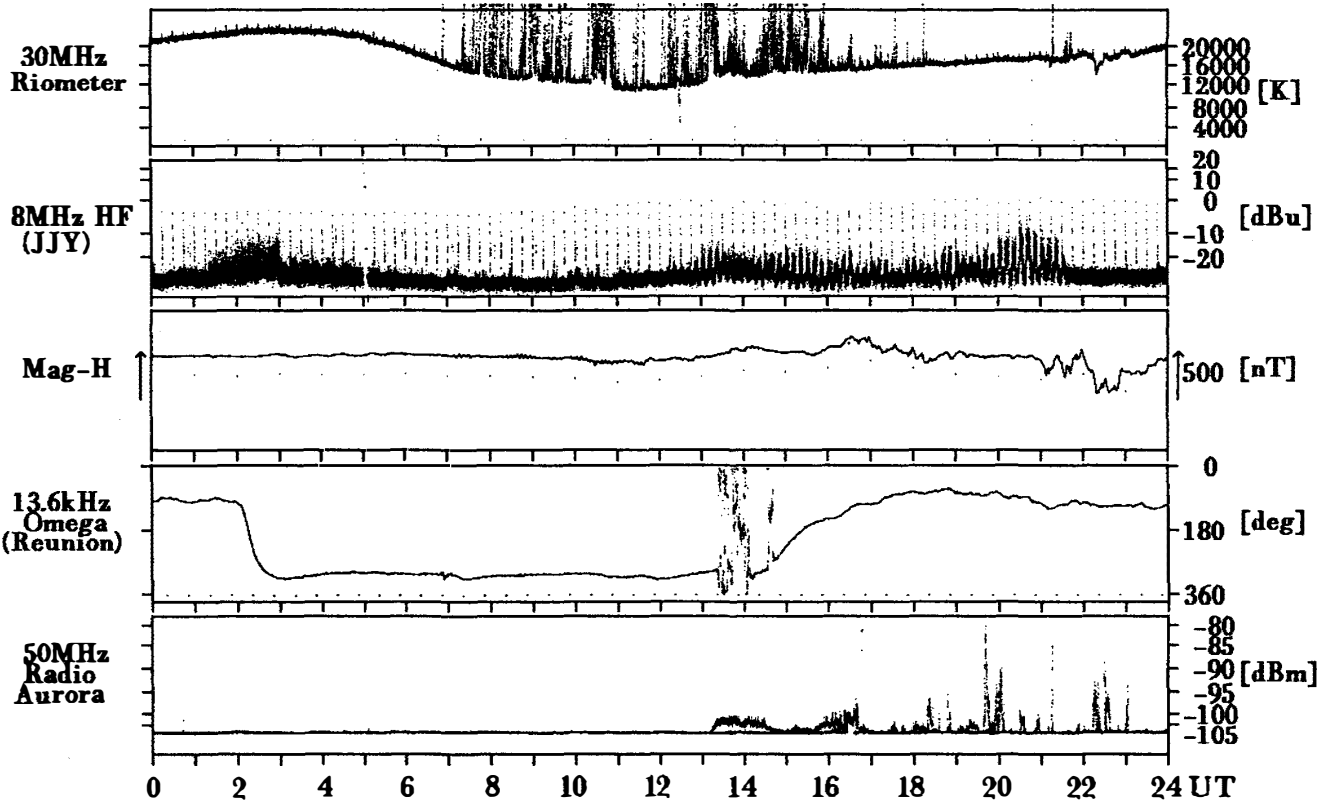
Syowa Station

Total Day / 79 1992/ 3/20



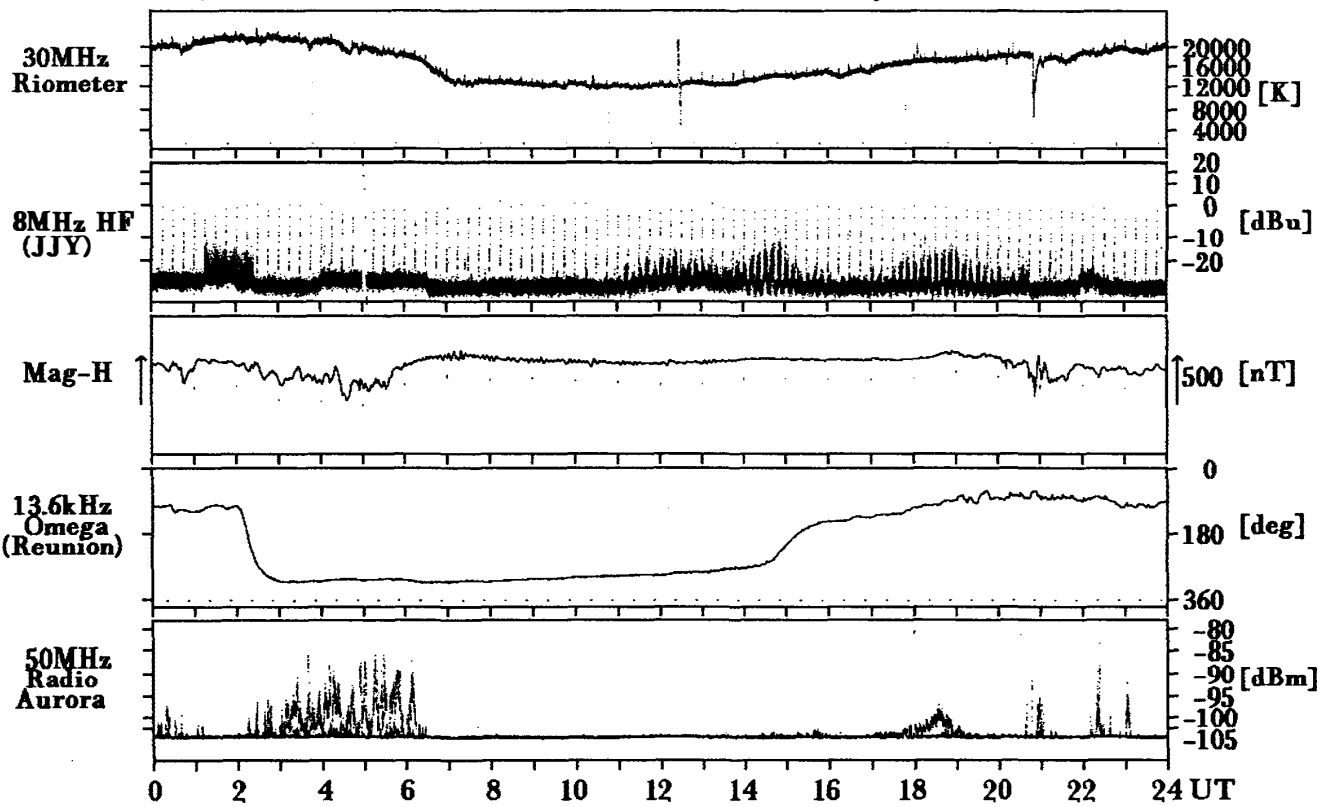
Syowa Station

Total Day / 80 1992/ 3/21



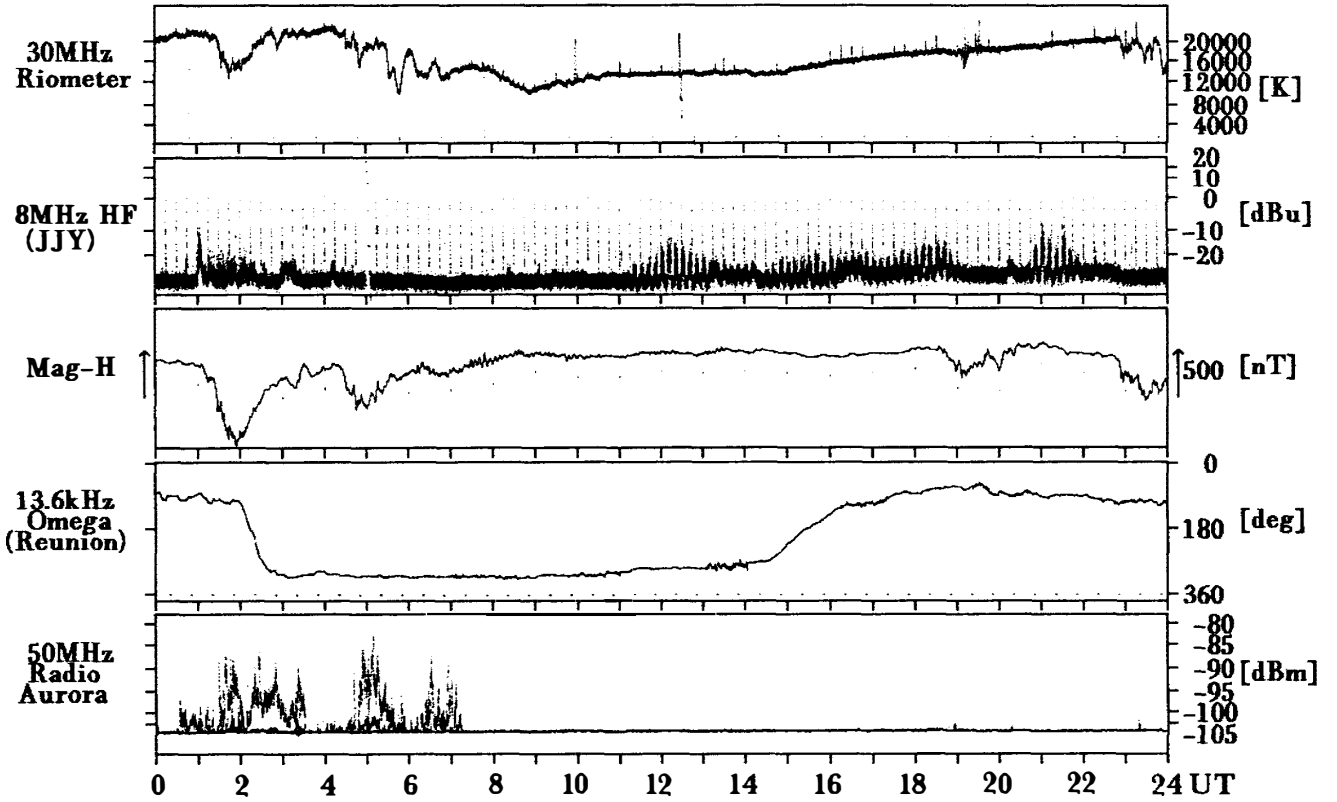
Syowa Station

Total Day / 81 1992/ 3/22



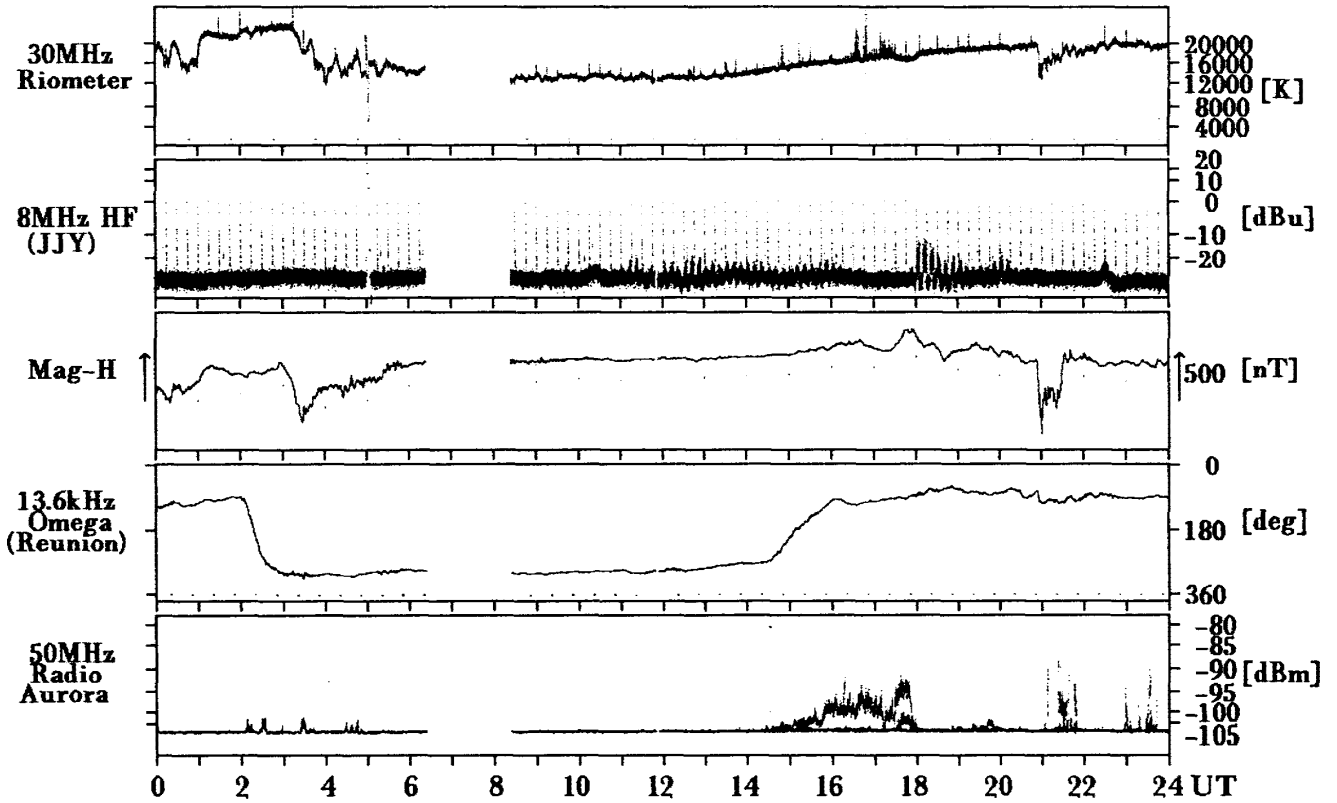
Syowa Station

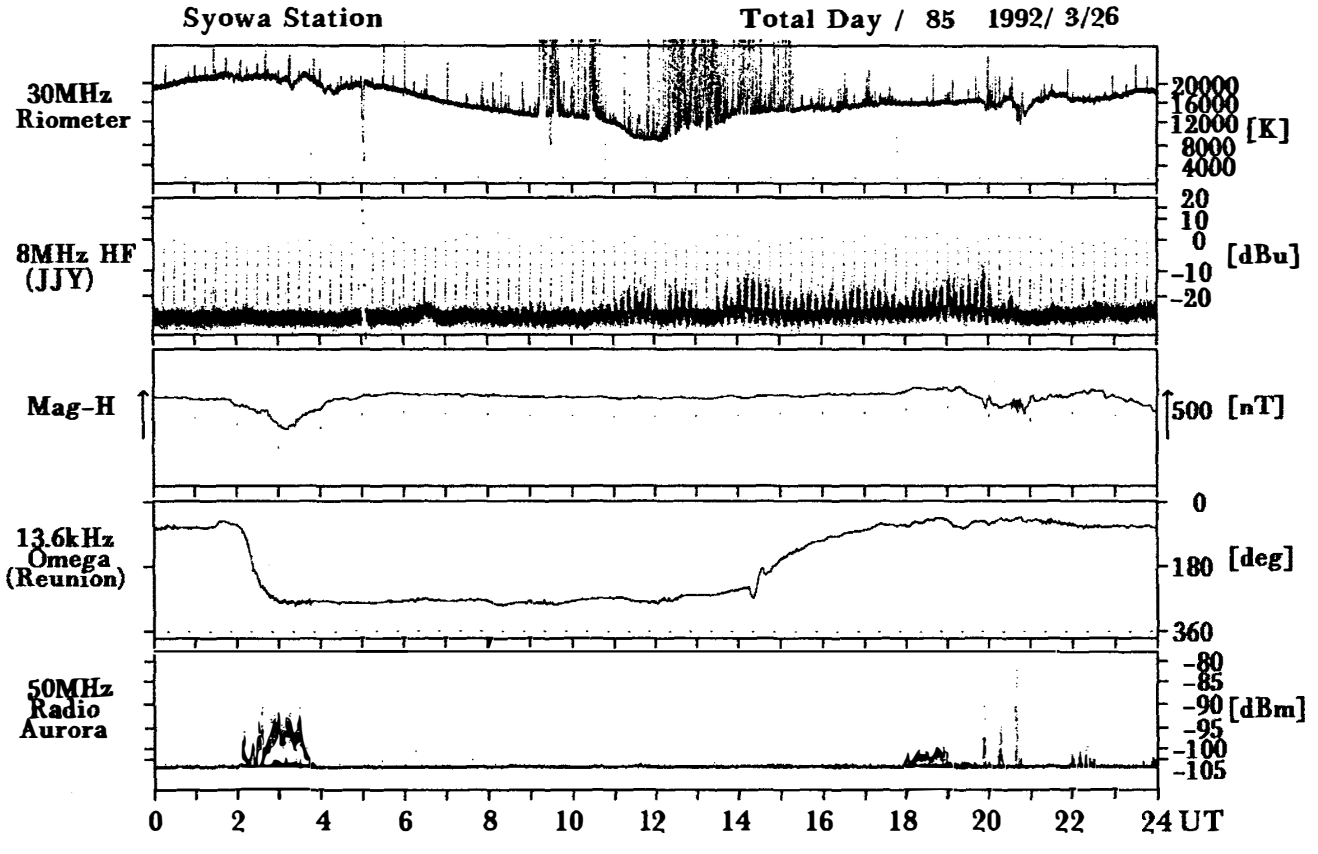
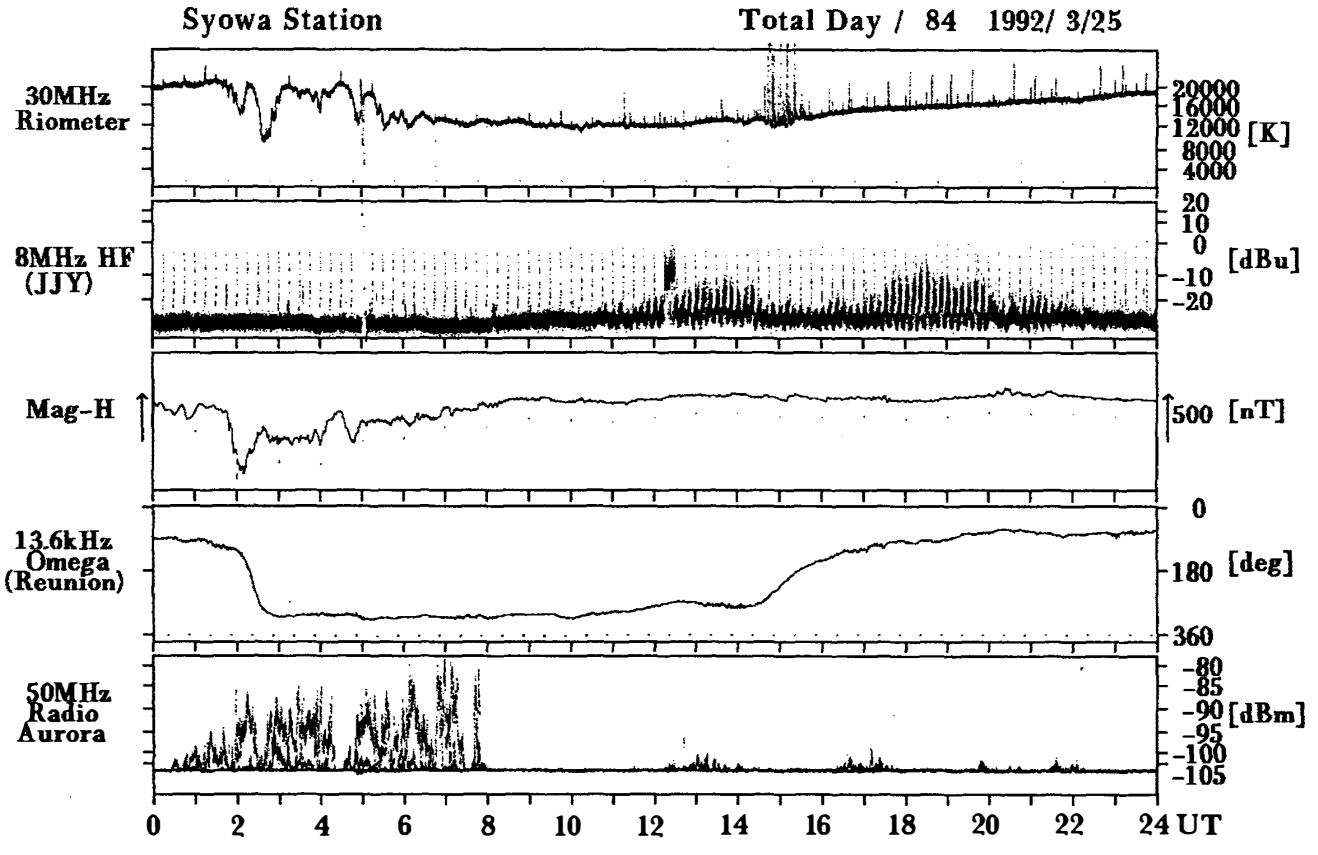
Total Day / 82 1992/ 3/23



Syowa Station

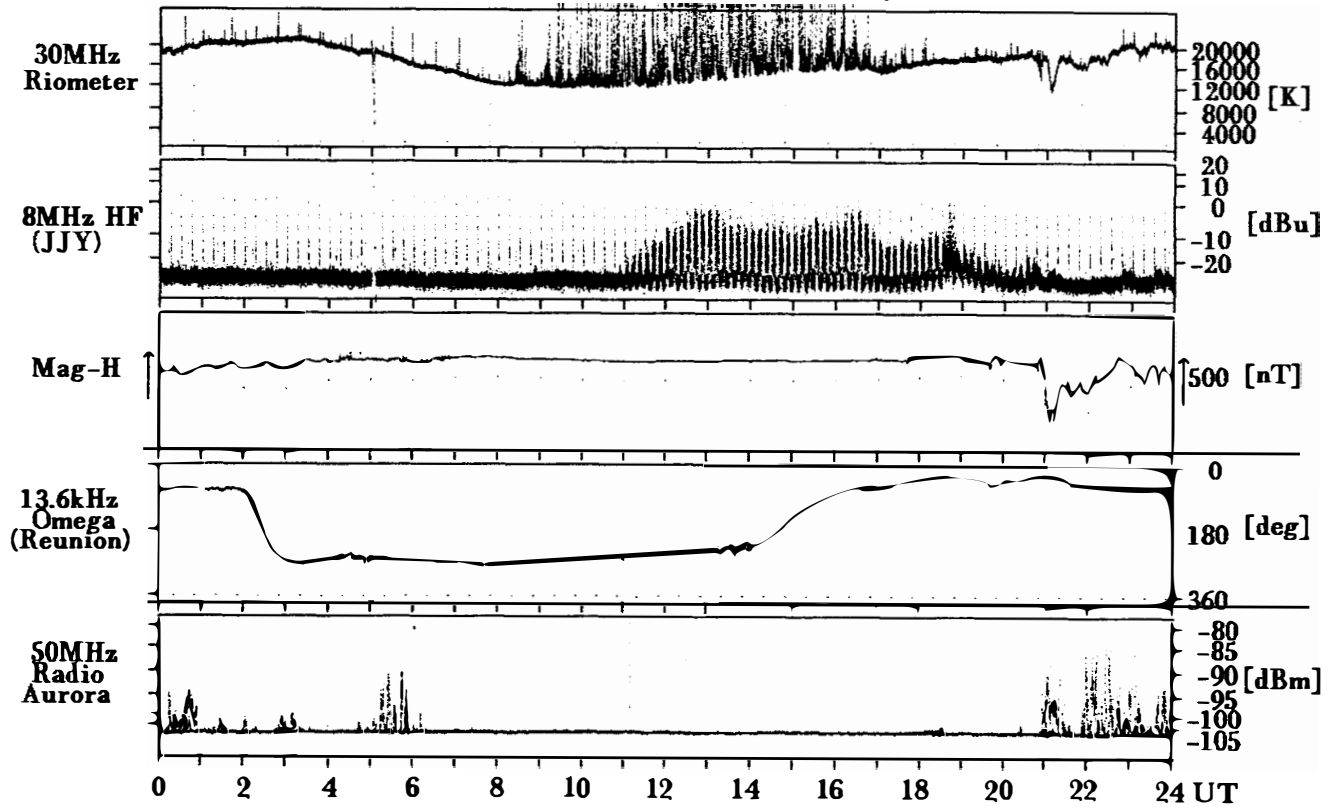
Total Day / 83 1992/ 3/24





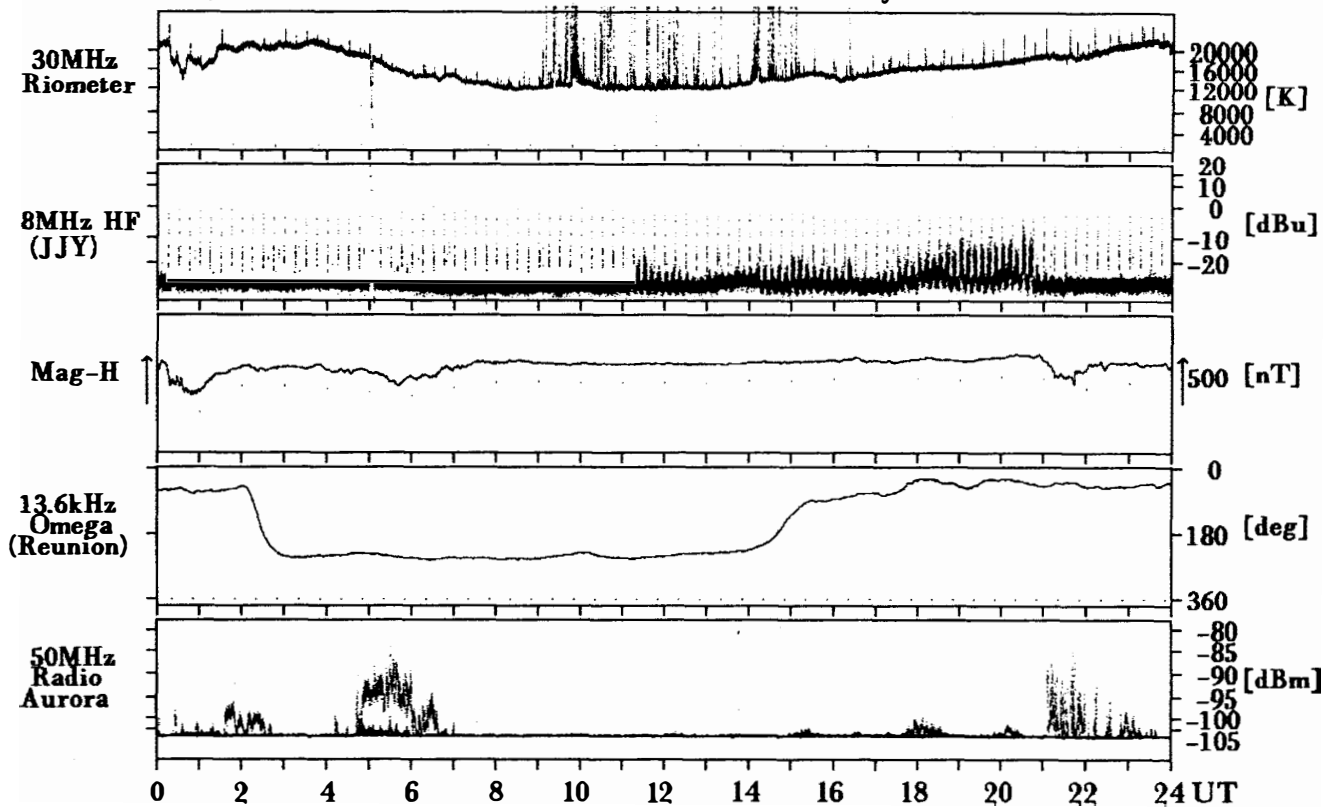
Syowa Station

Total Day / 86 1992/ 3/27



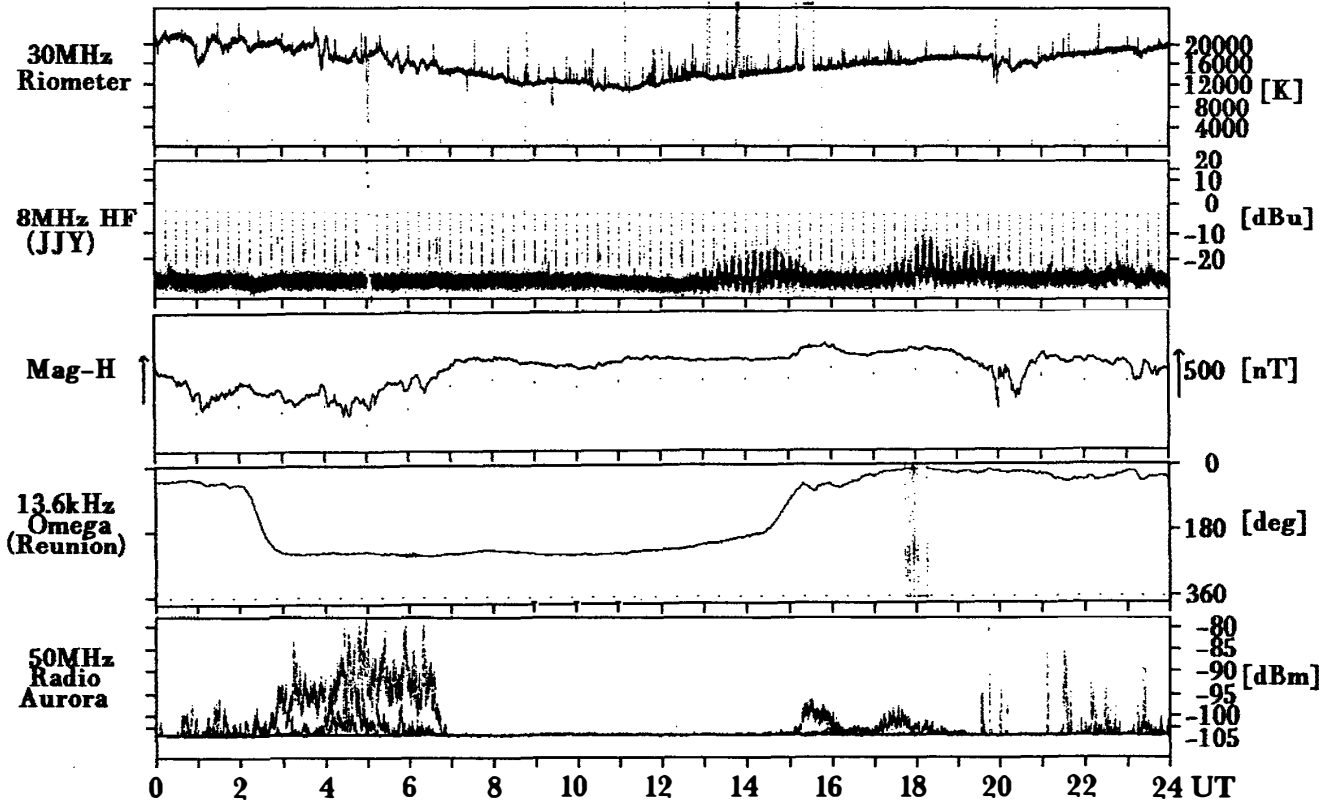
Syowa Station

Total Day / 87 1992/ 3/28



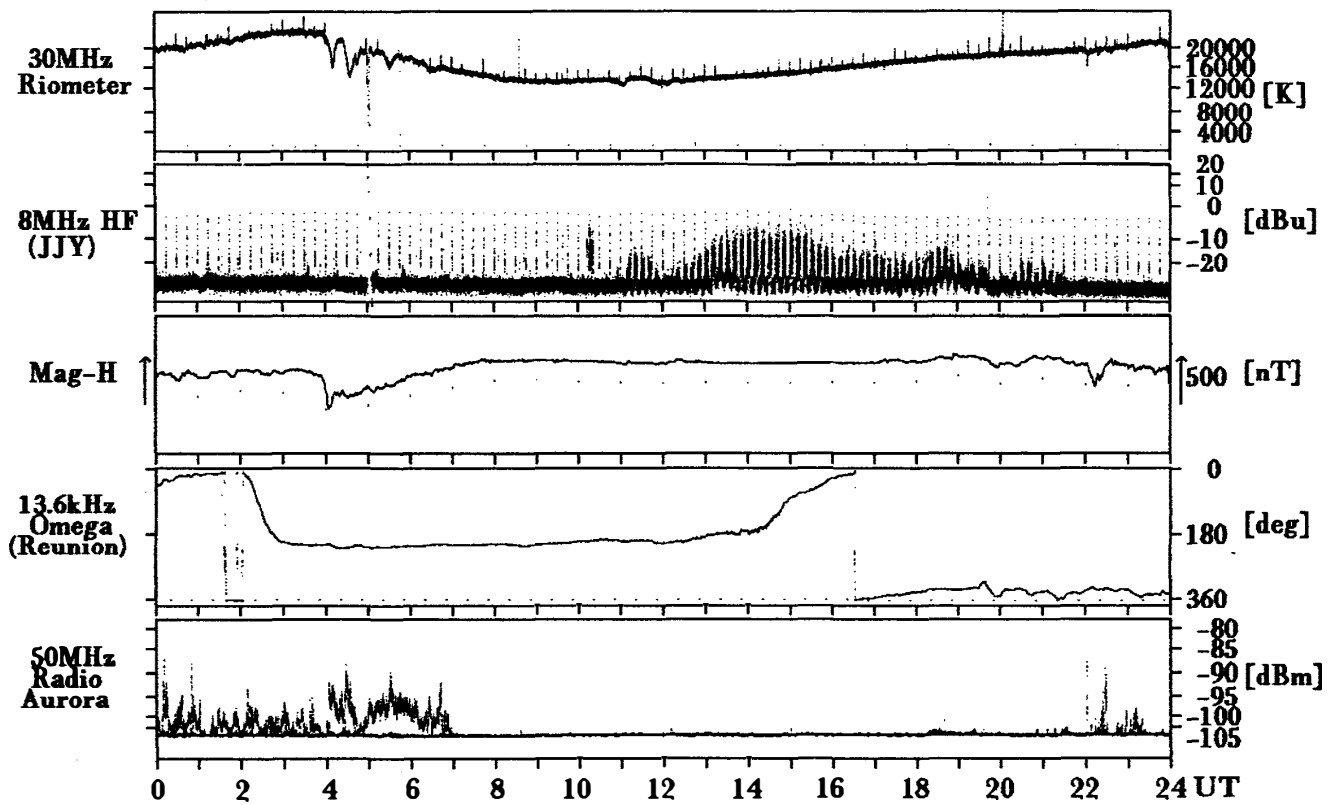
Syowa Station

Total Day / 88 1992/ 3/29



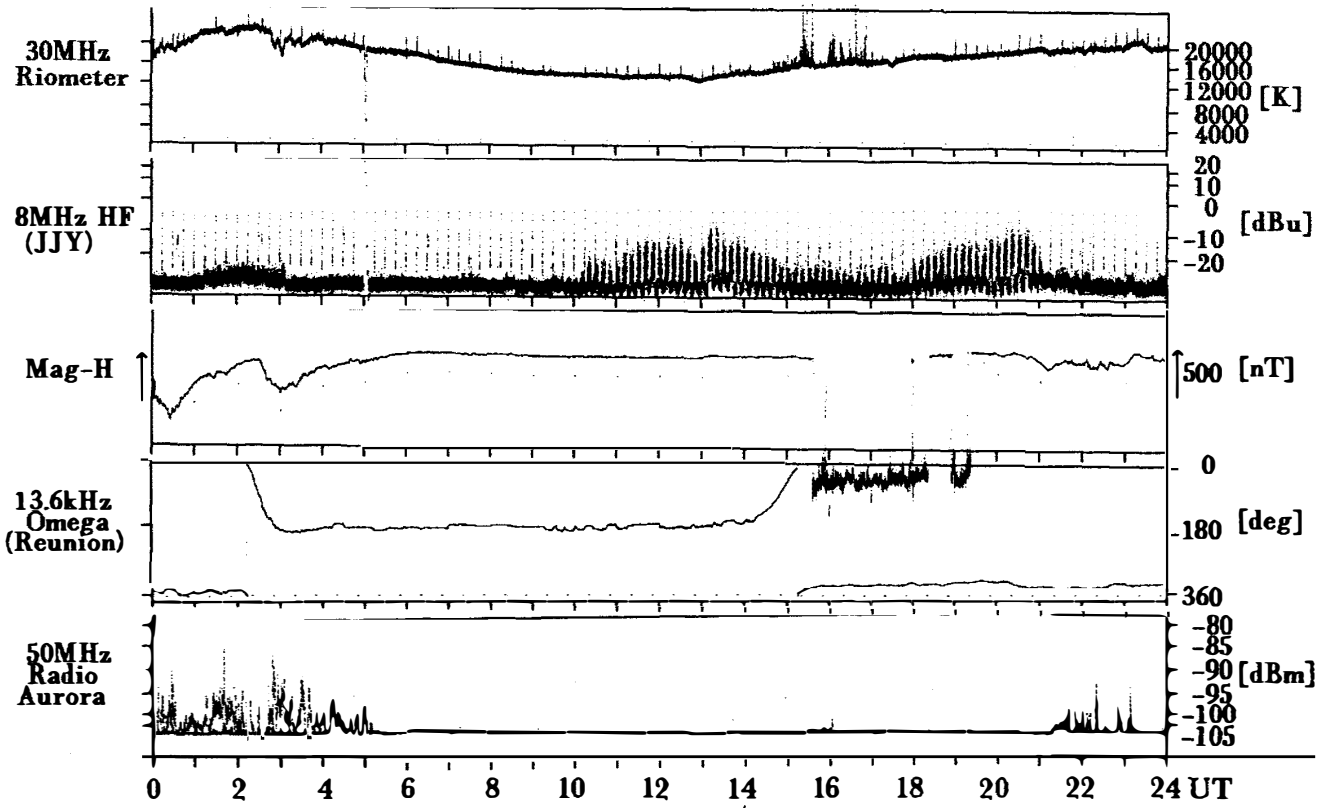
Syowa Station

Total Day / 89 1992/ 3/30



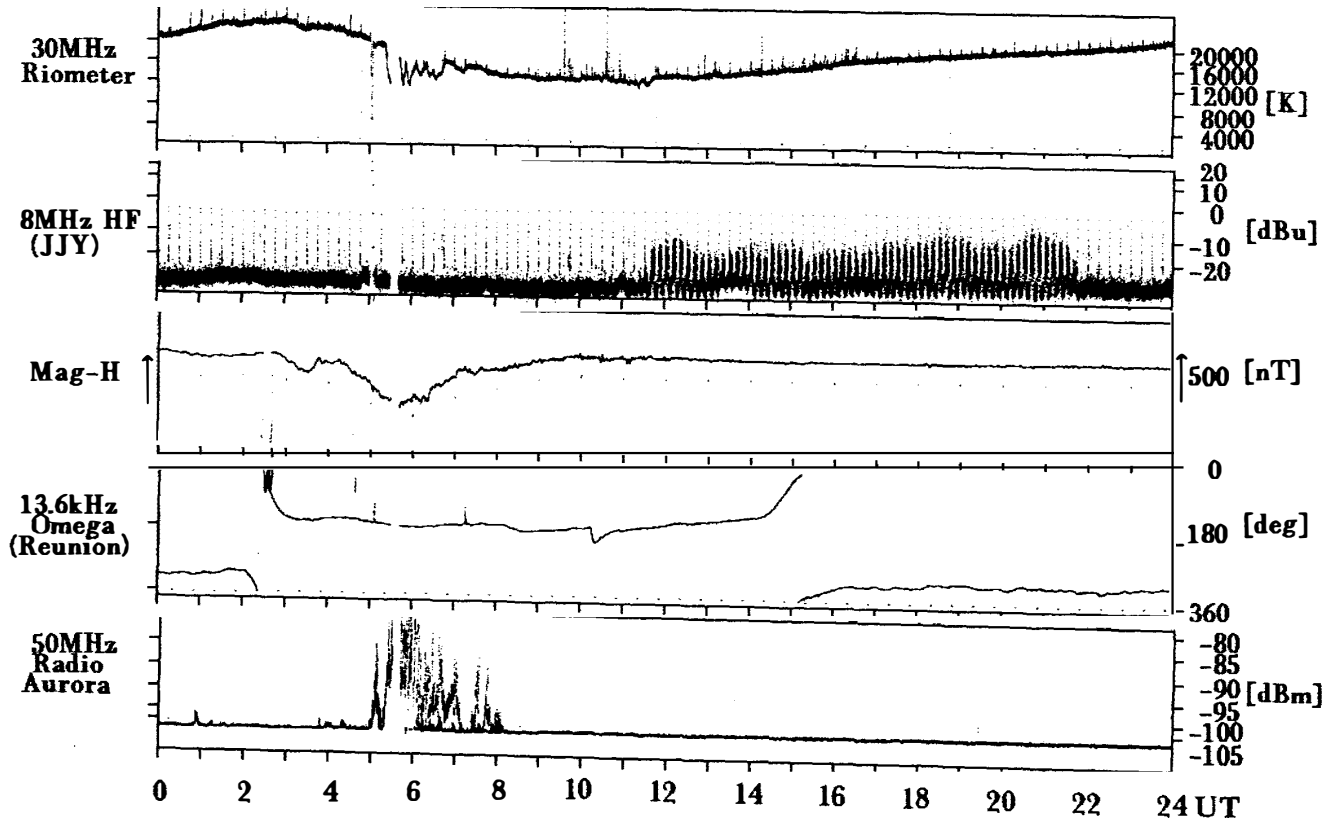
Syowa Station

Total Day / 90 1992/ 3/31



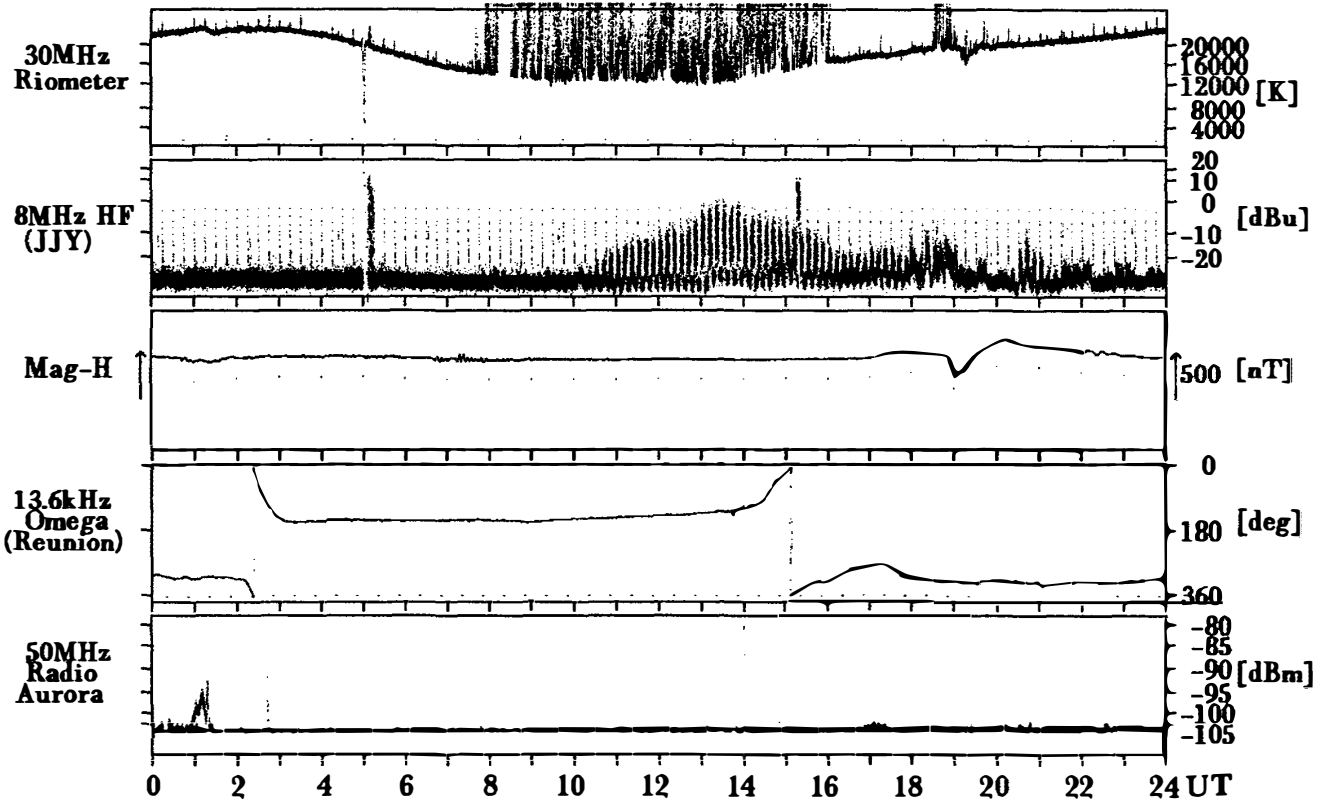
Syowa Station

Total Day / 91 1992/ 4/ 1



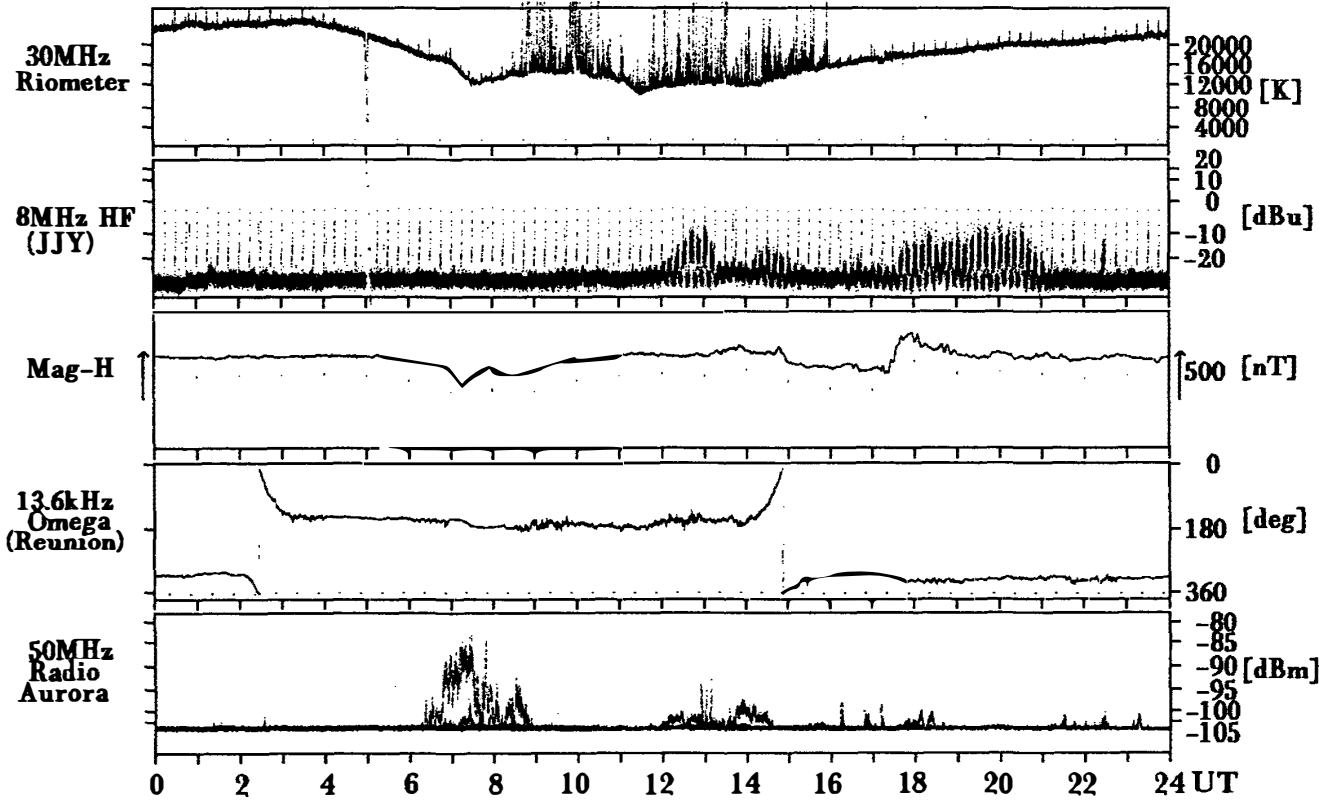
Syowa Station

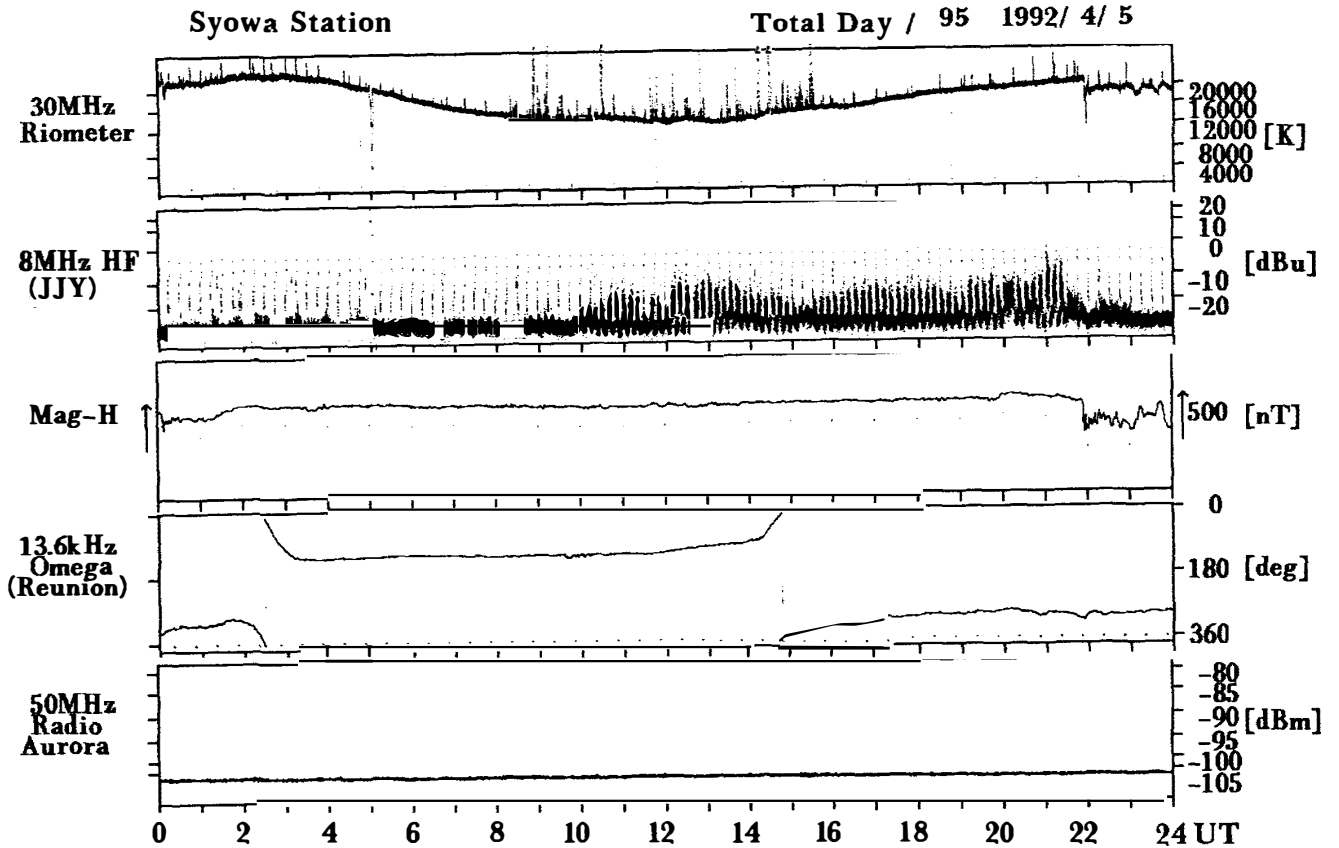
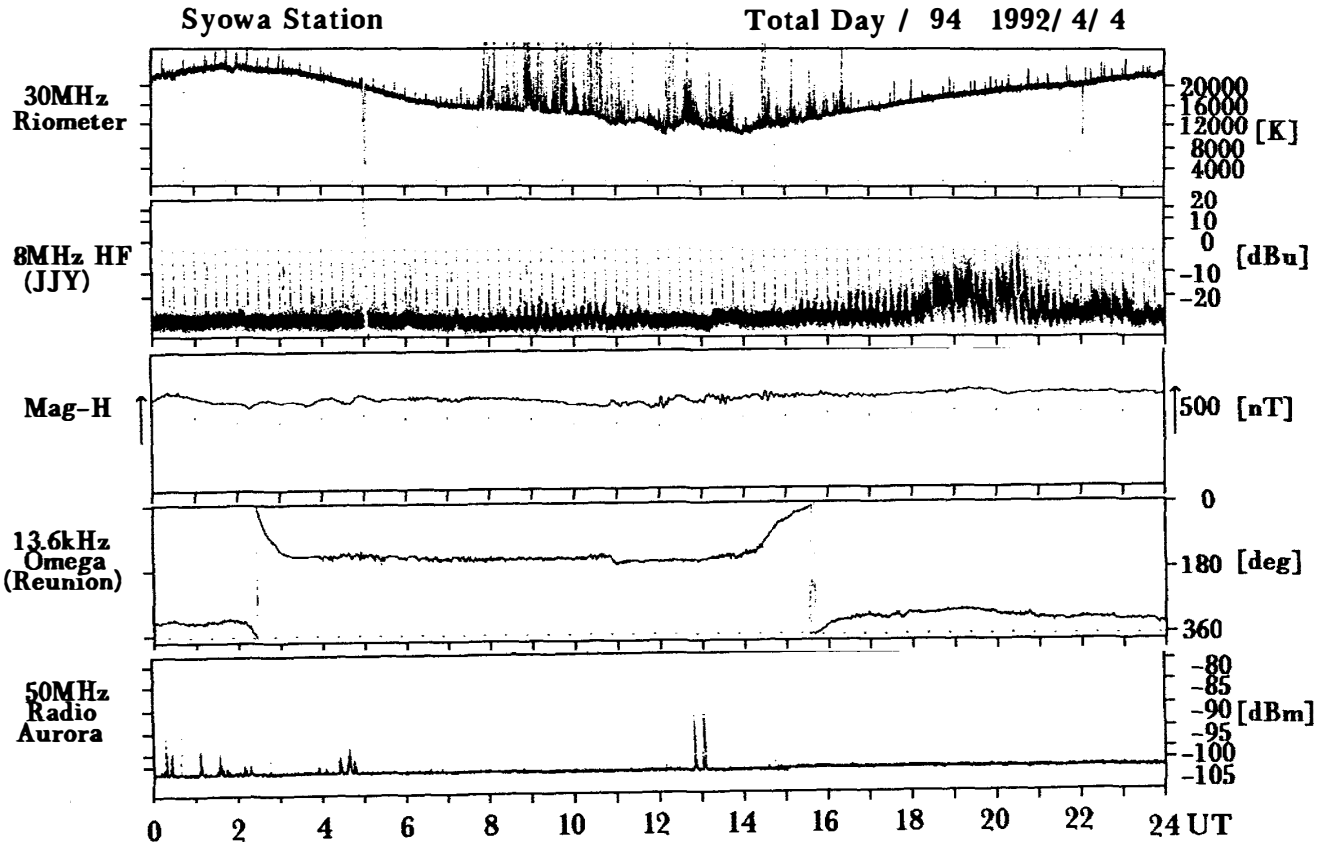
Total Day / 92 1992/ 4/ 2



Syowa Station

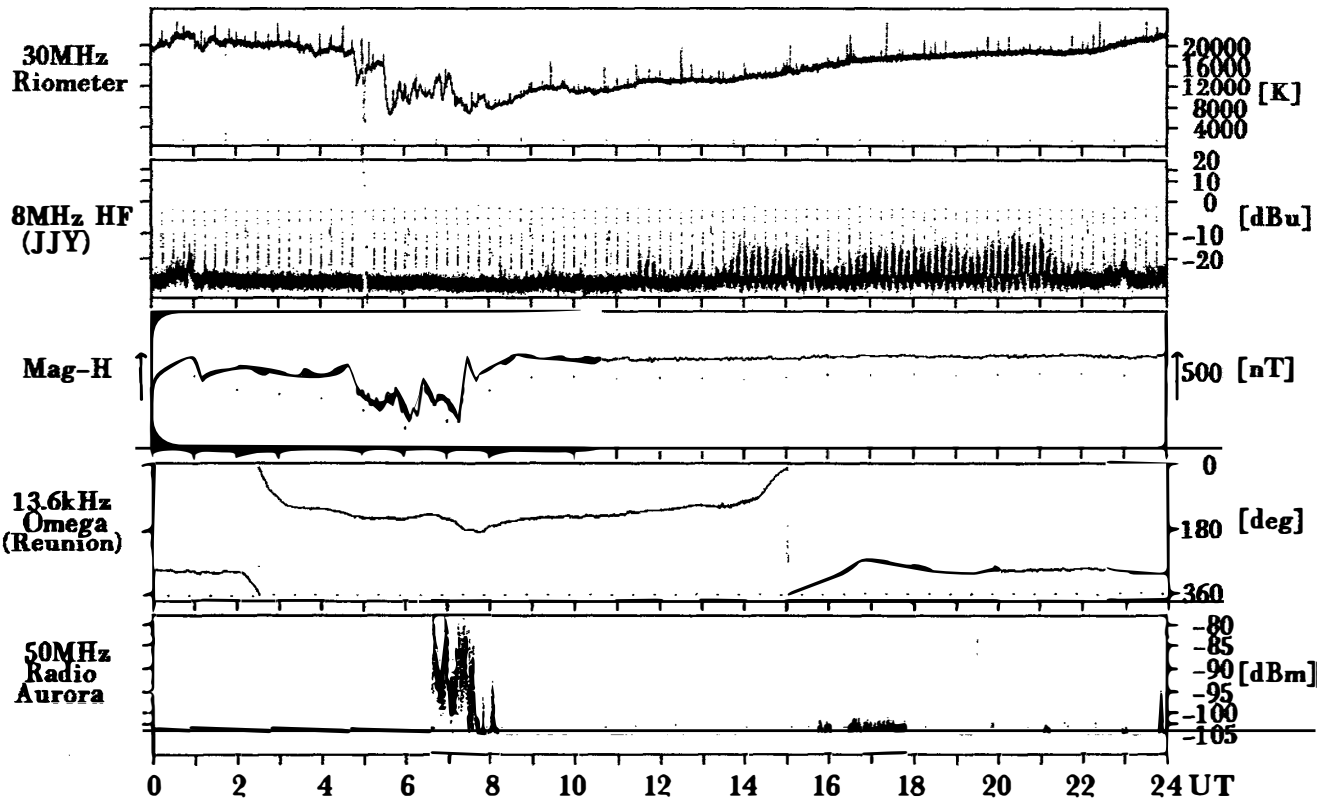
Total Day / 93 1992/ 4/ 3





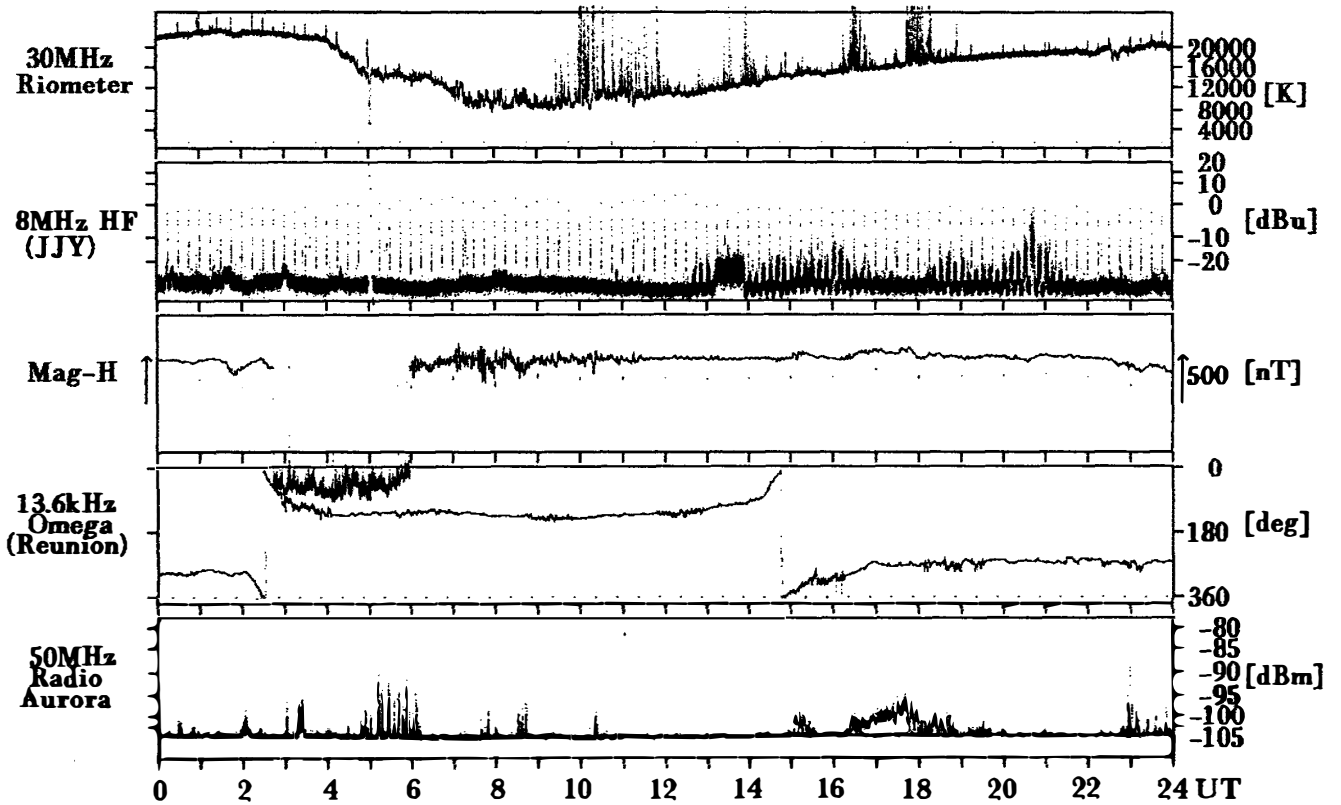
Syowa Station

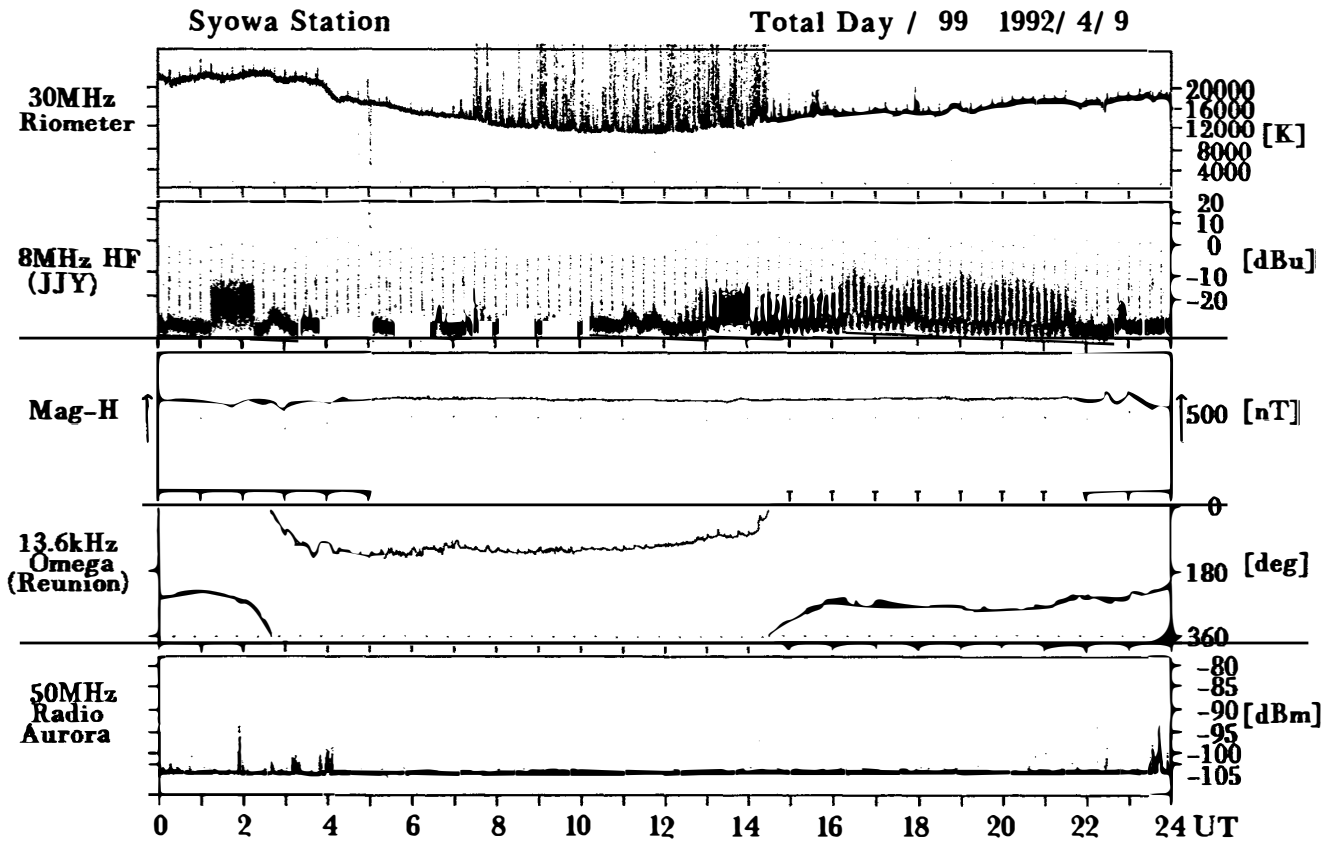
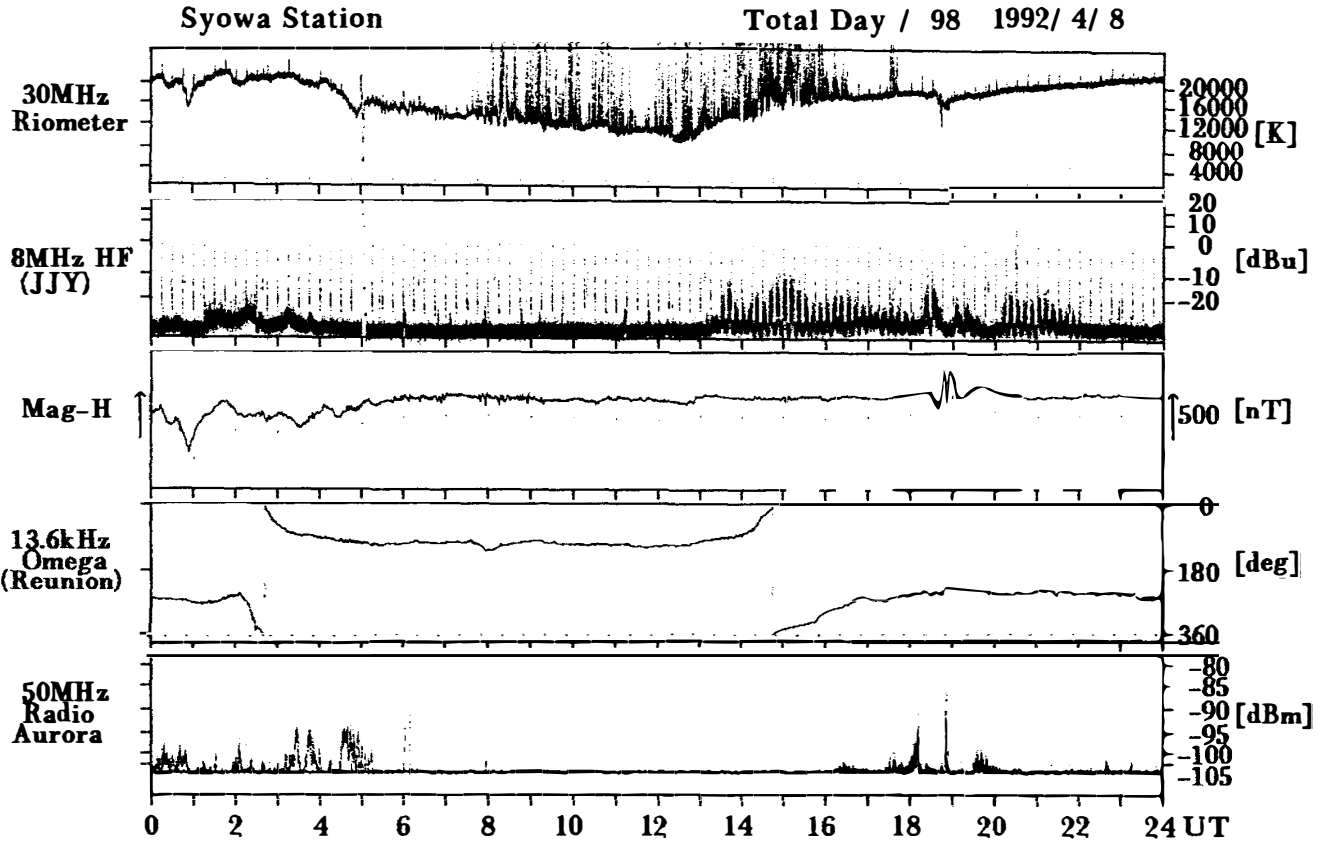
Total Day / 96 1992/ 4/ 6



Syowa Station

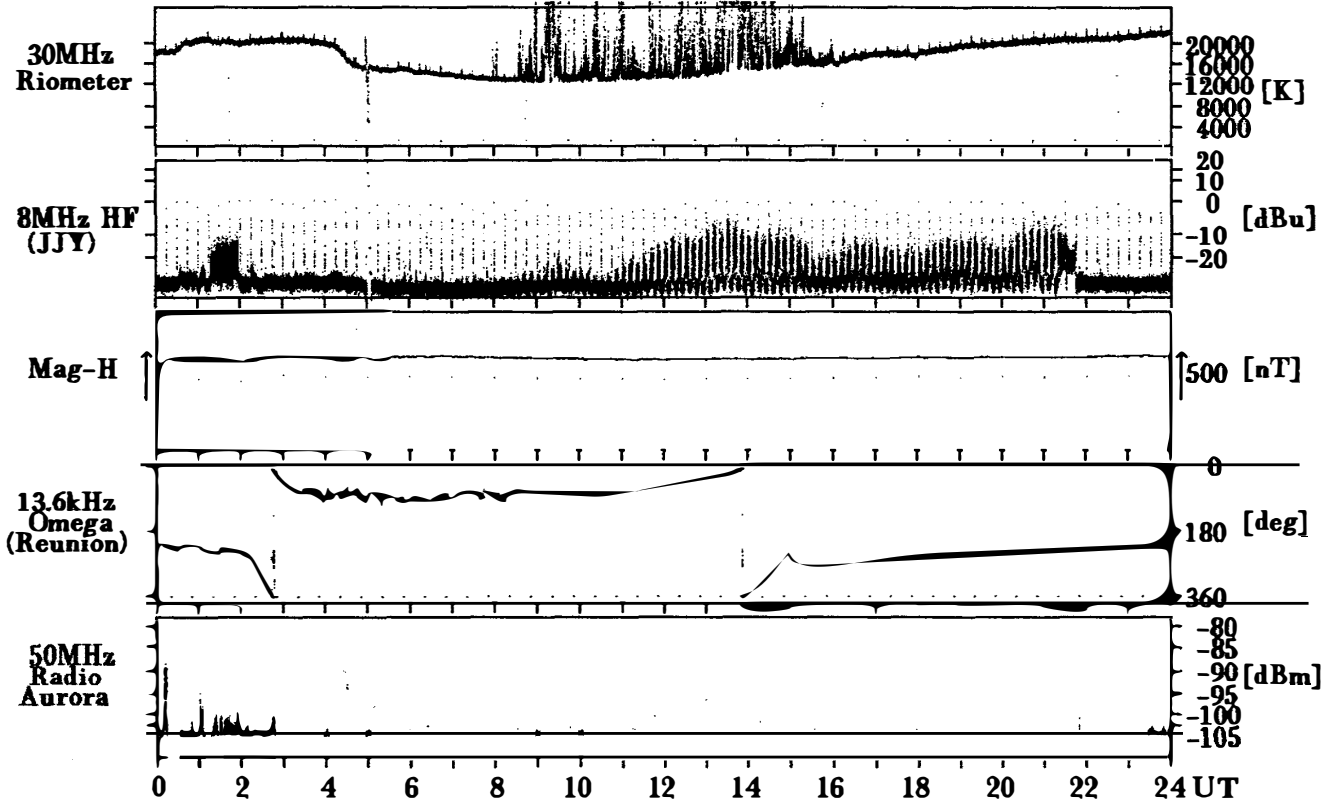
Total Day / 97 1992/ 4/ 7





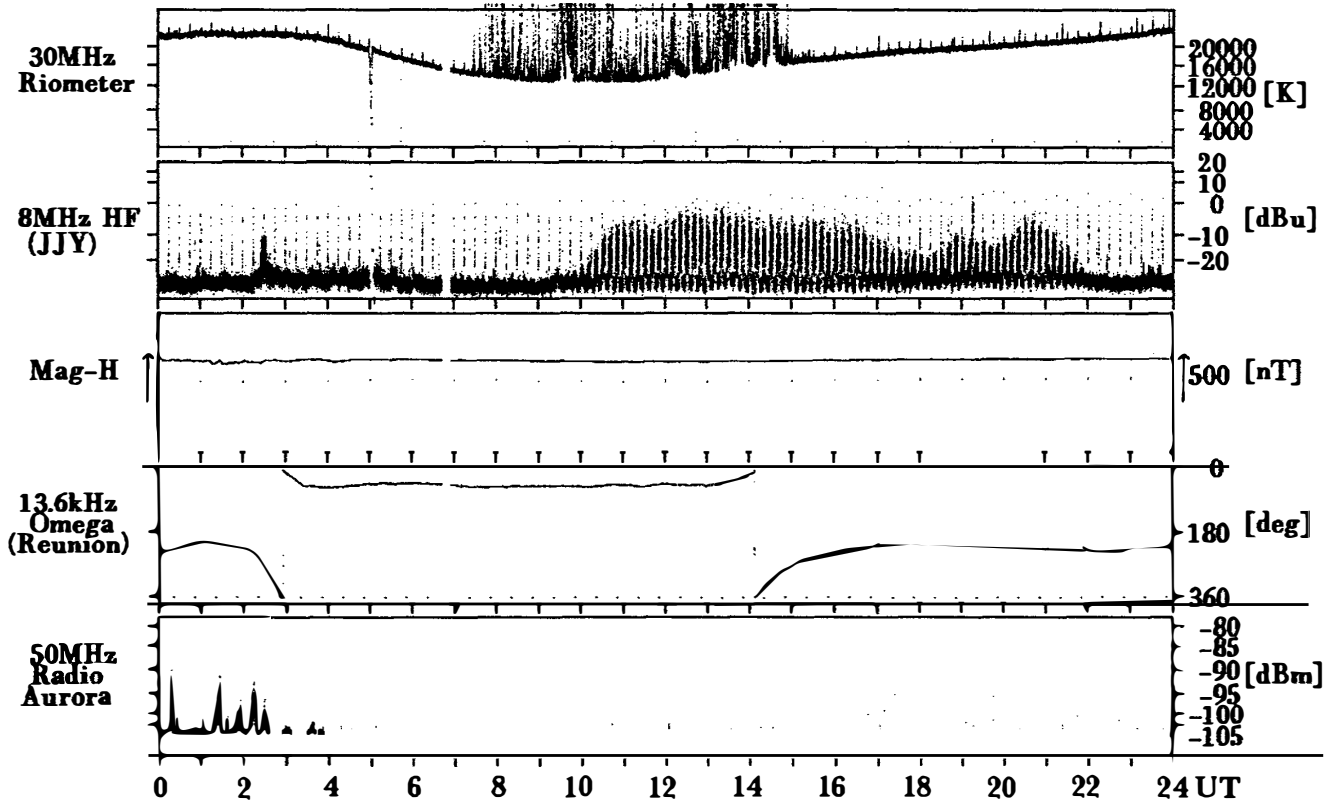
Syowa Station

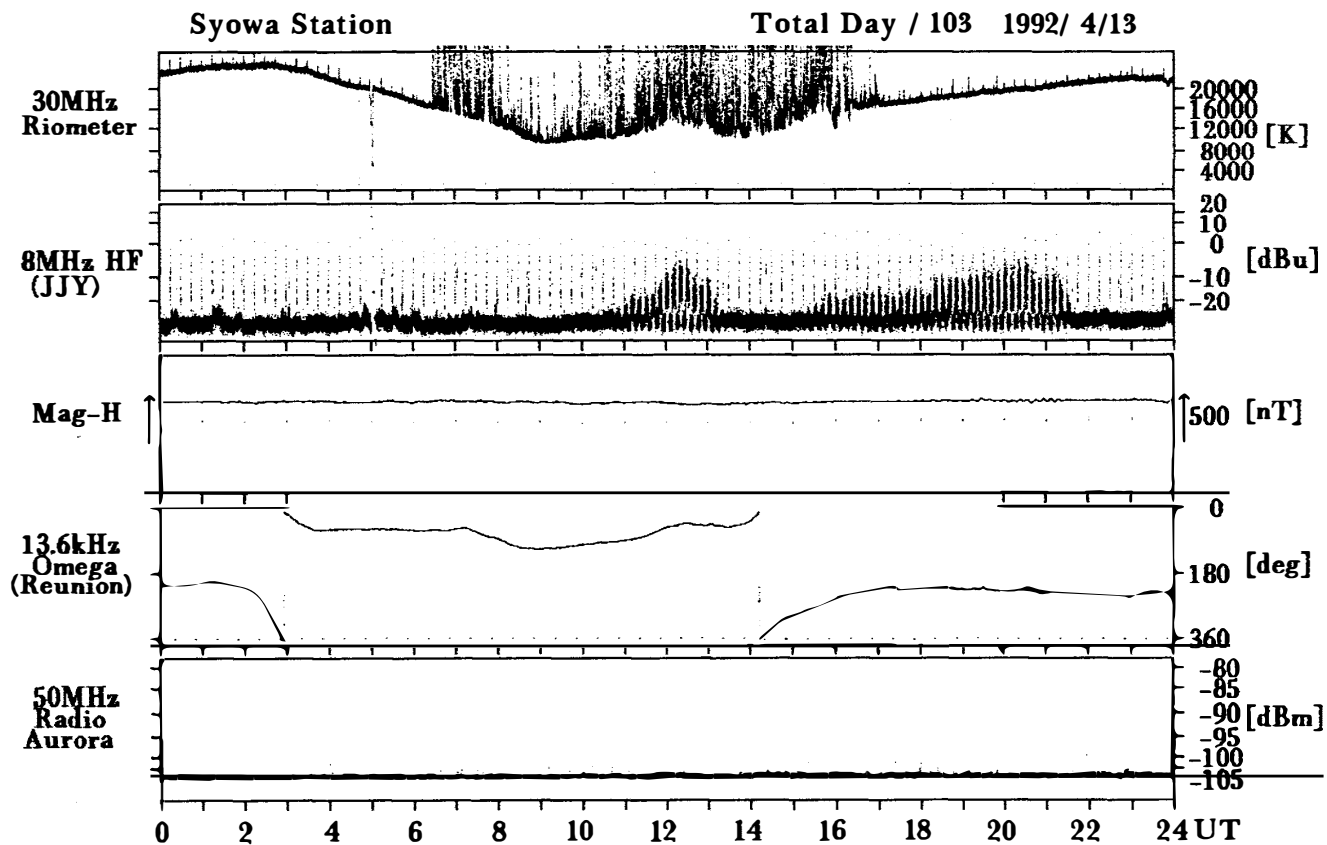
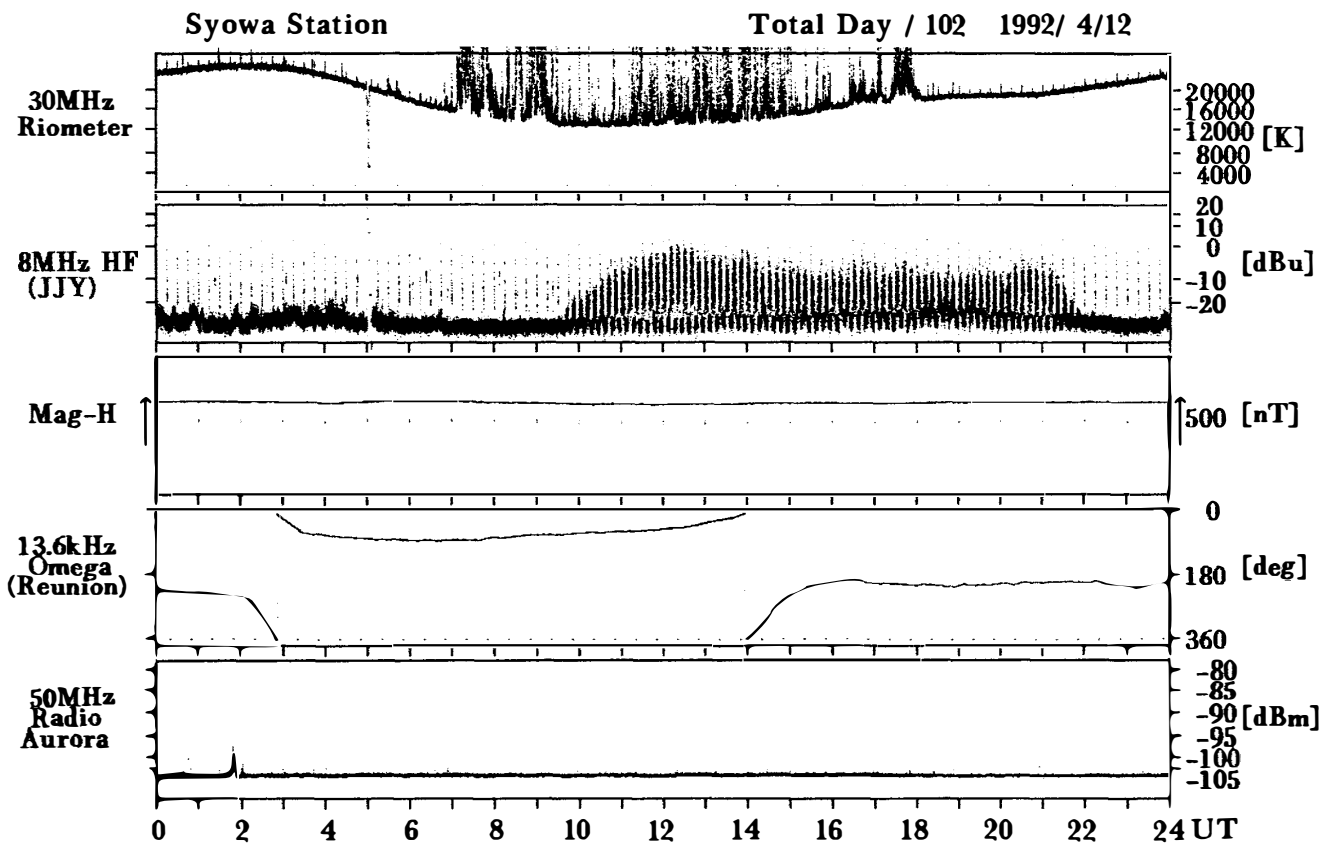
Total Day / 100 1992/ 4/10

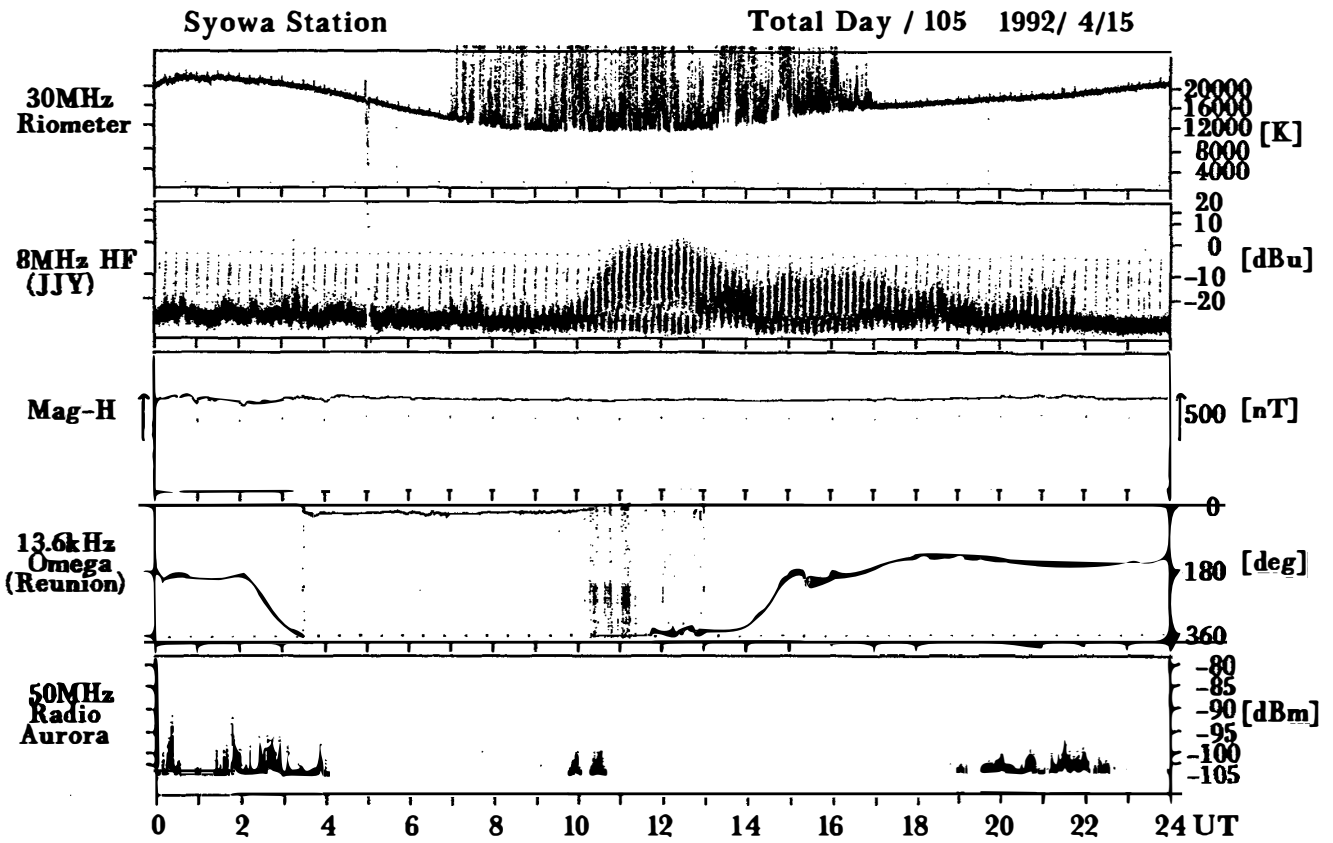
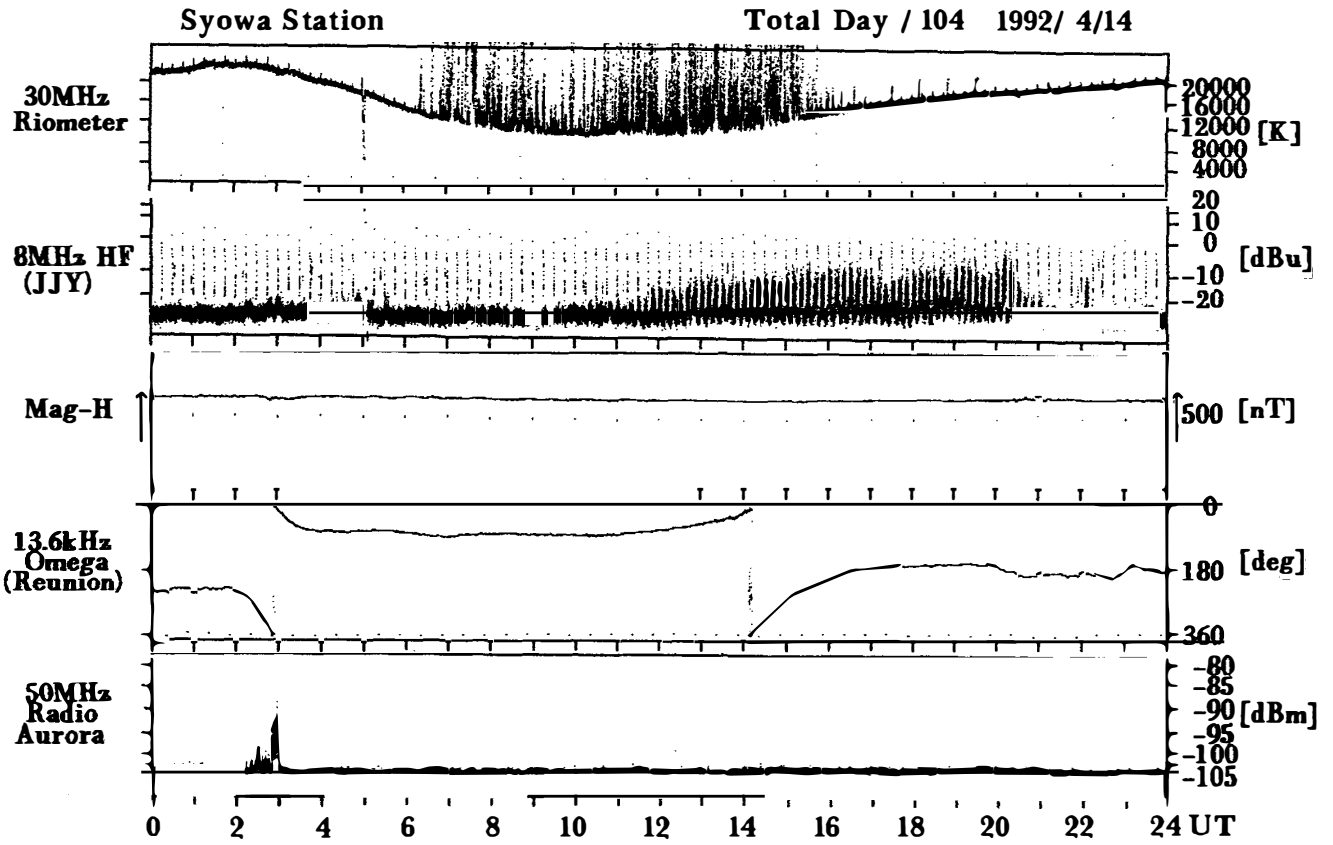


Syowa Station

Total Day / 101 1992/ 4/11

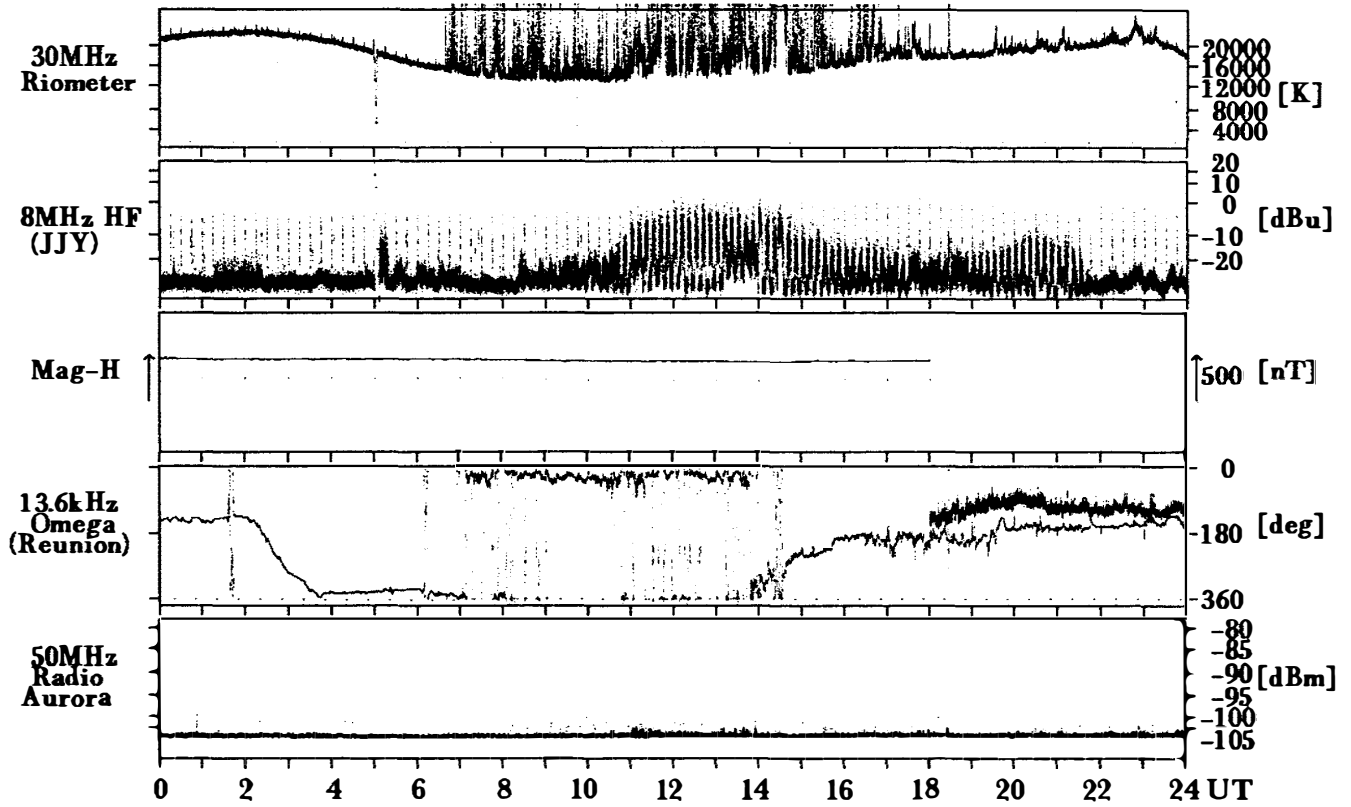






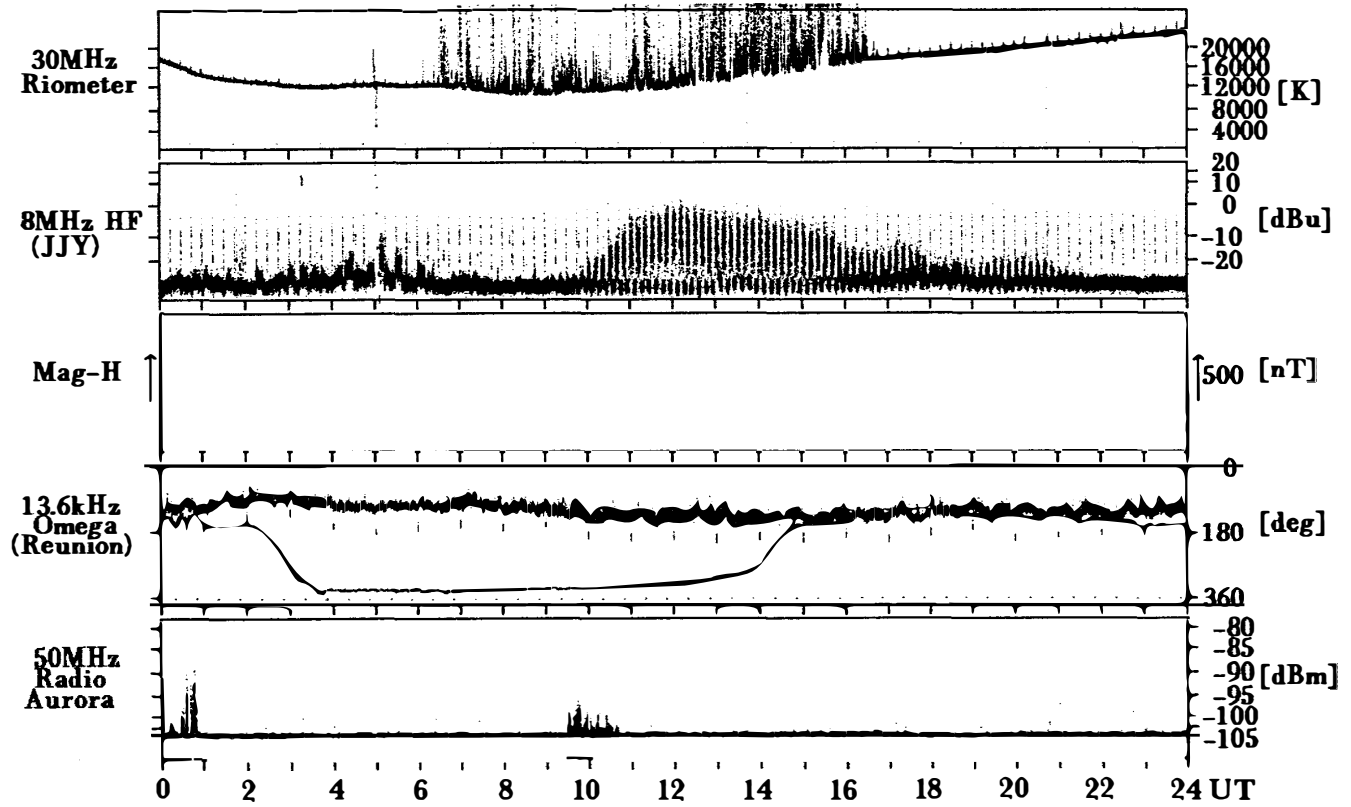
Syowa Station

Total Day / 106 1992/ 4/16



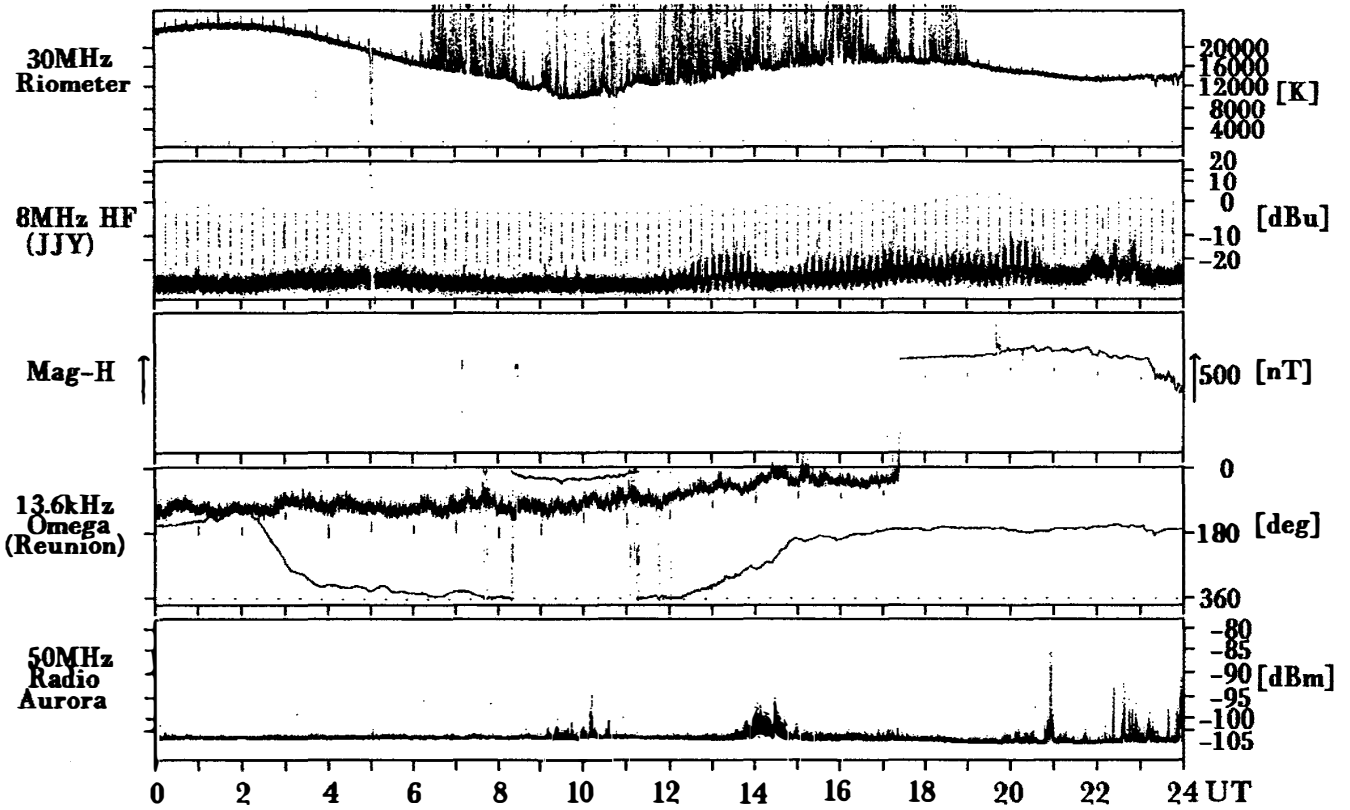
Syowa Station

Total Day / 107 1992/ 4/17



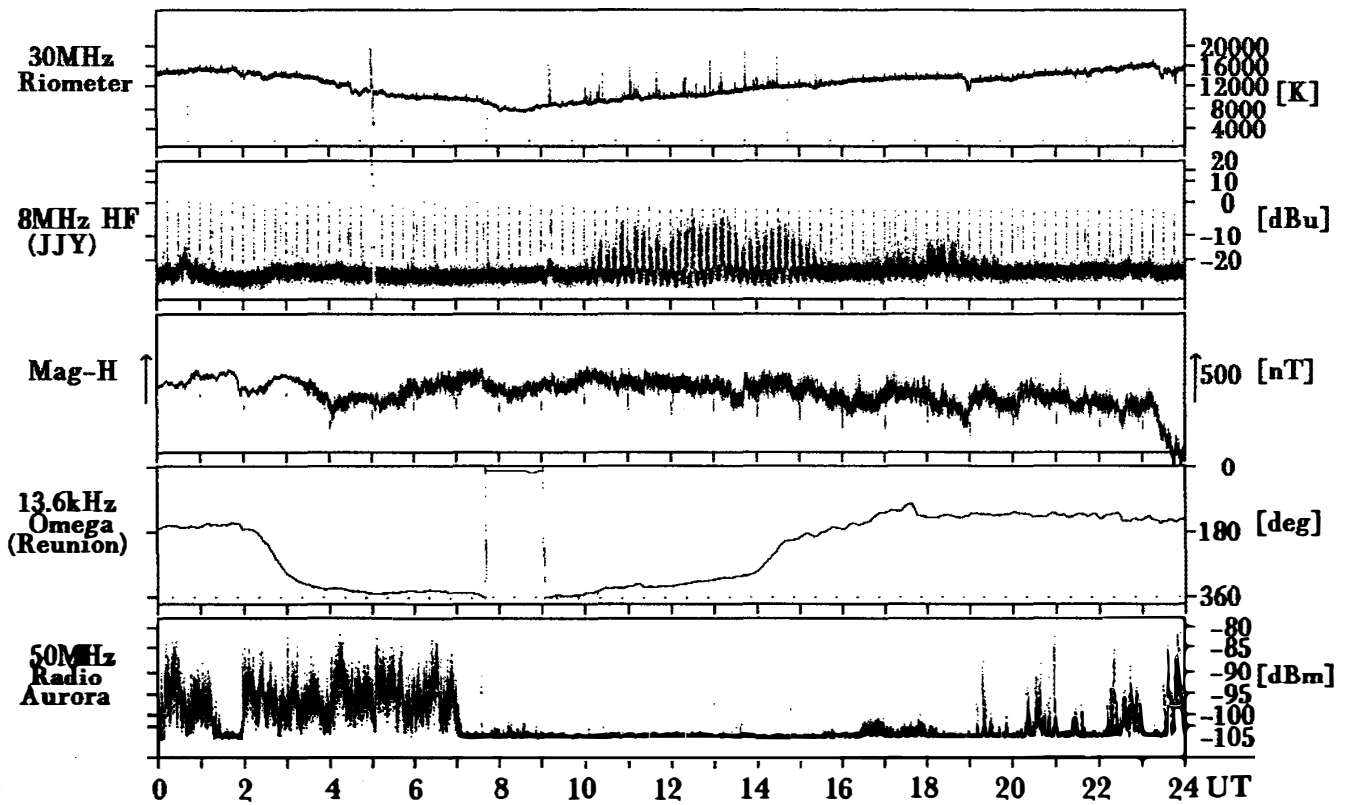
Syowa Station

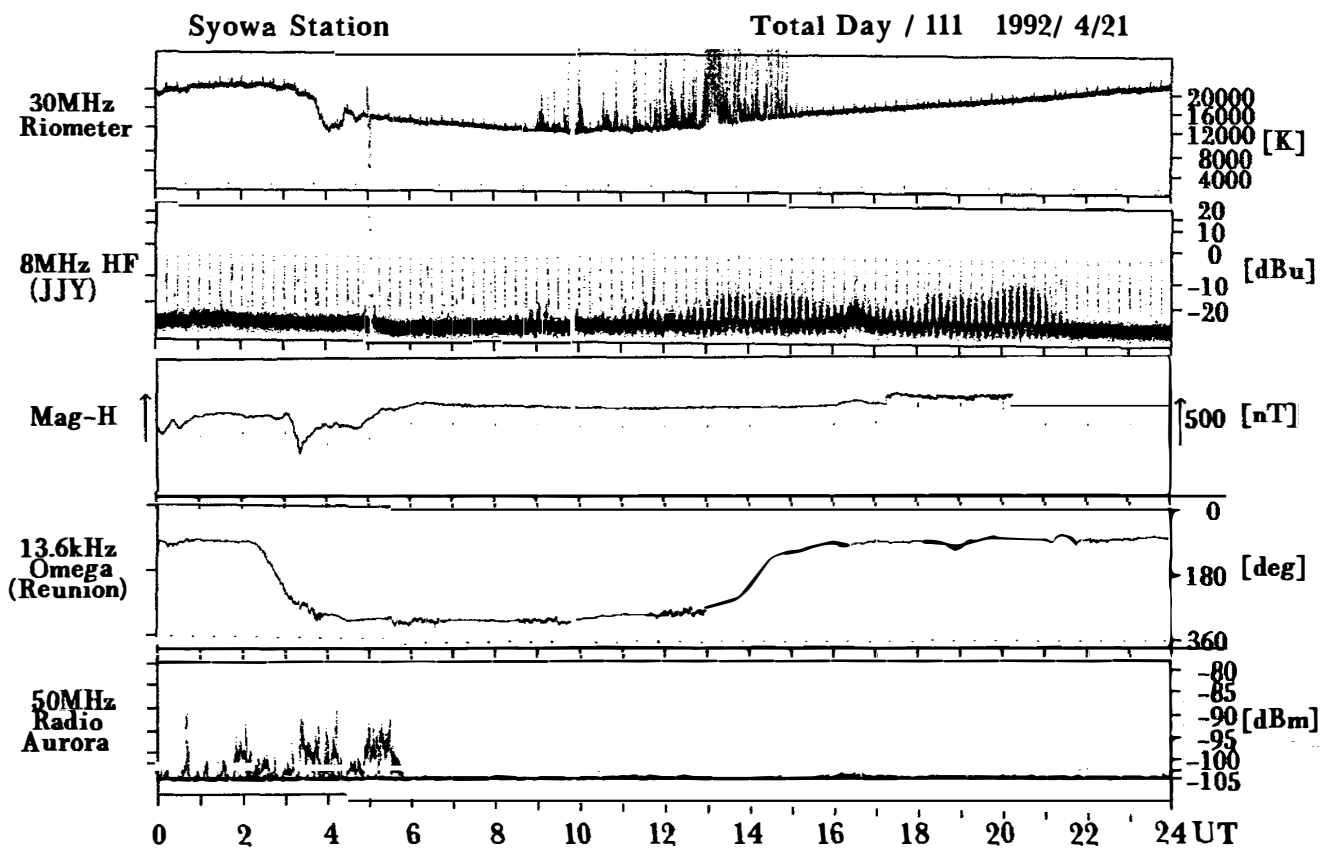
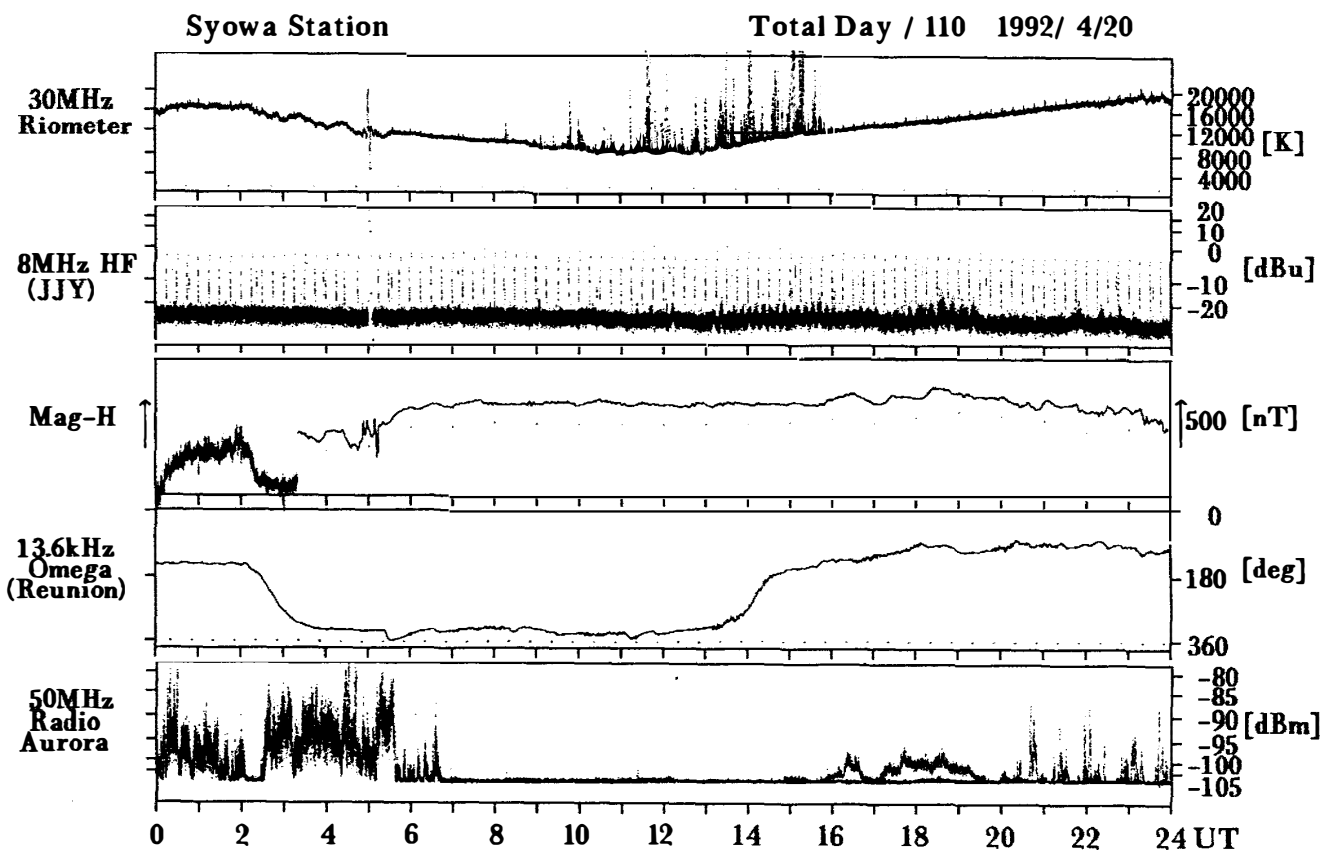
Total Day / 108 1992/ 4/18



Syowa Station

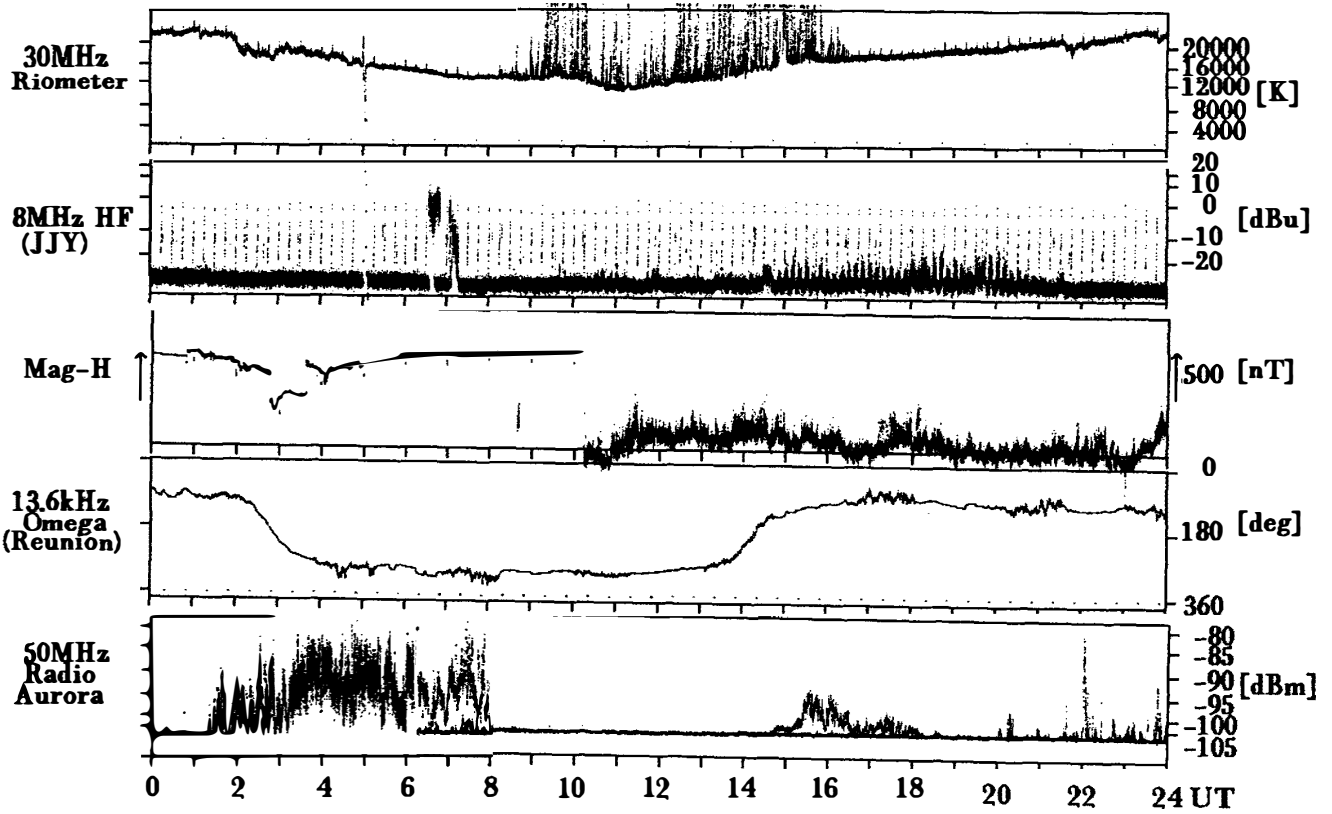
Total Day / 109 1992/ 4/19





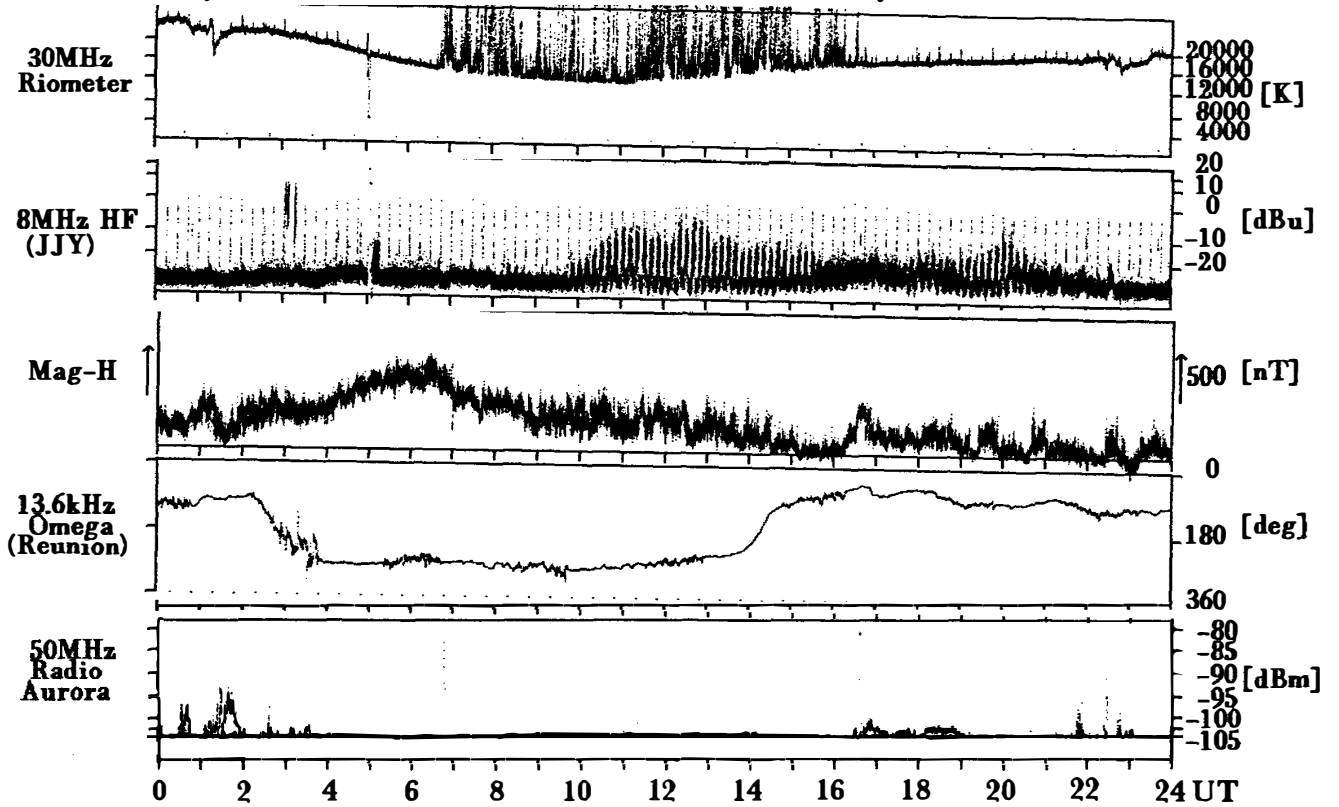
Syowa Station

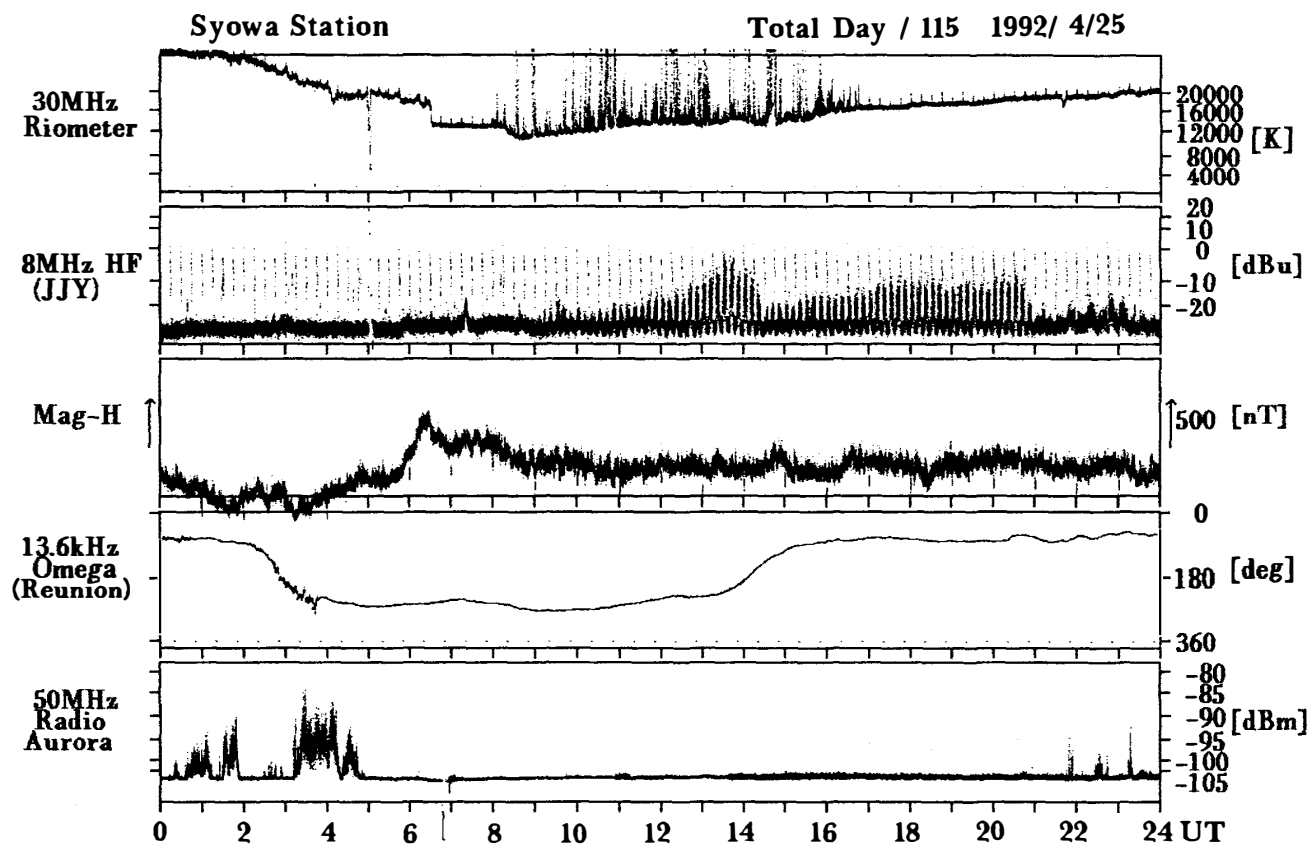
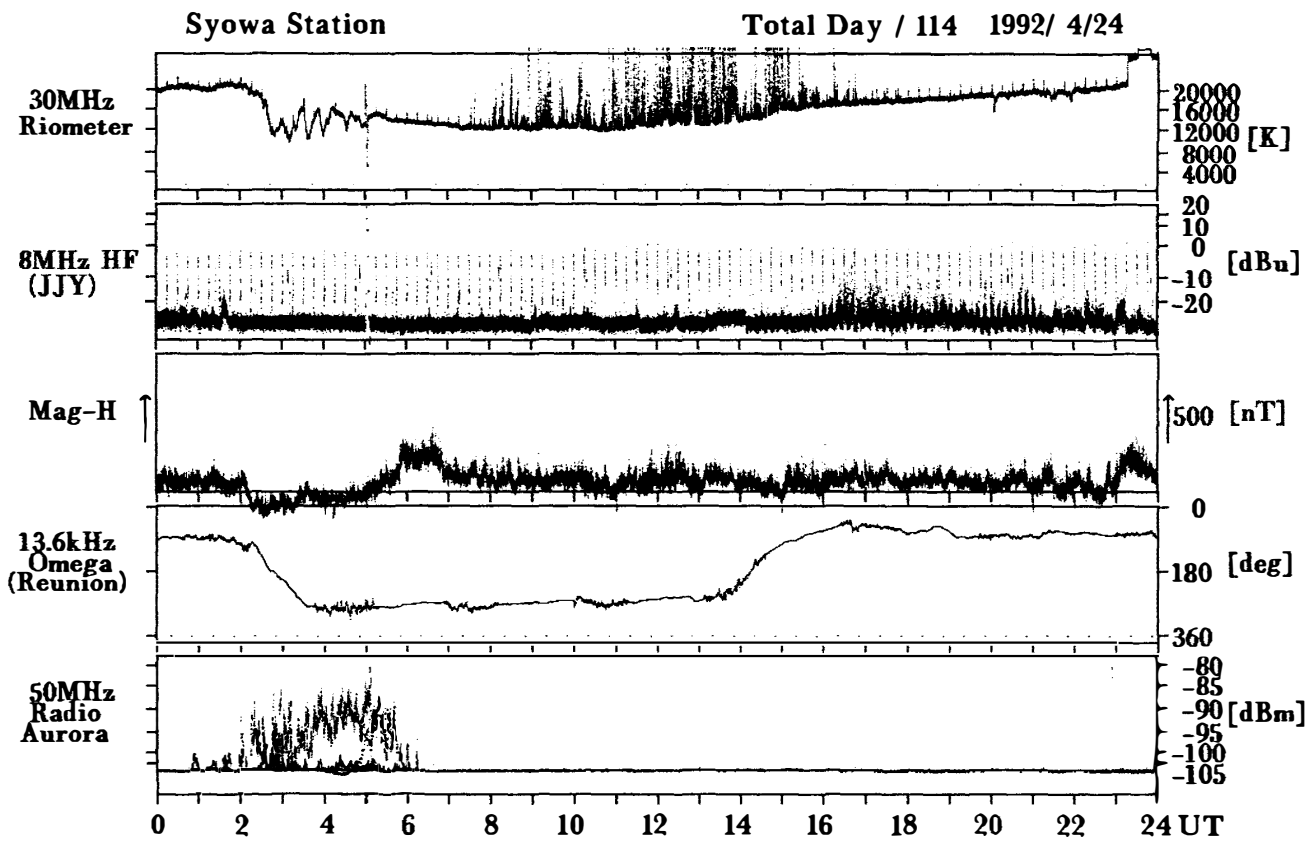
Total Day / 112 1992/ 4/22



Syowa Station

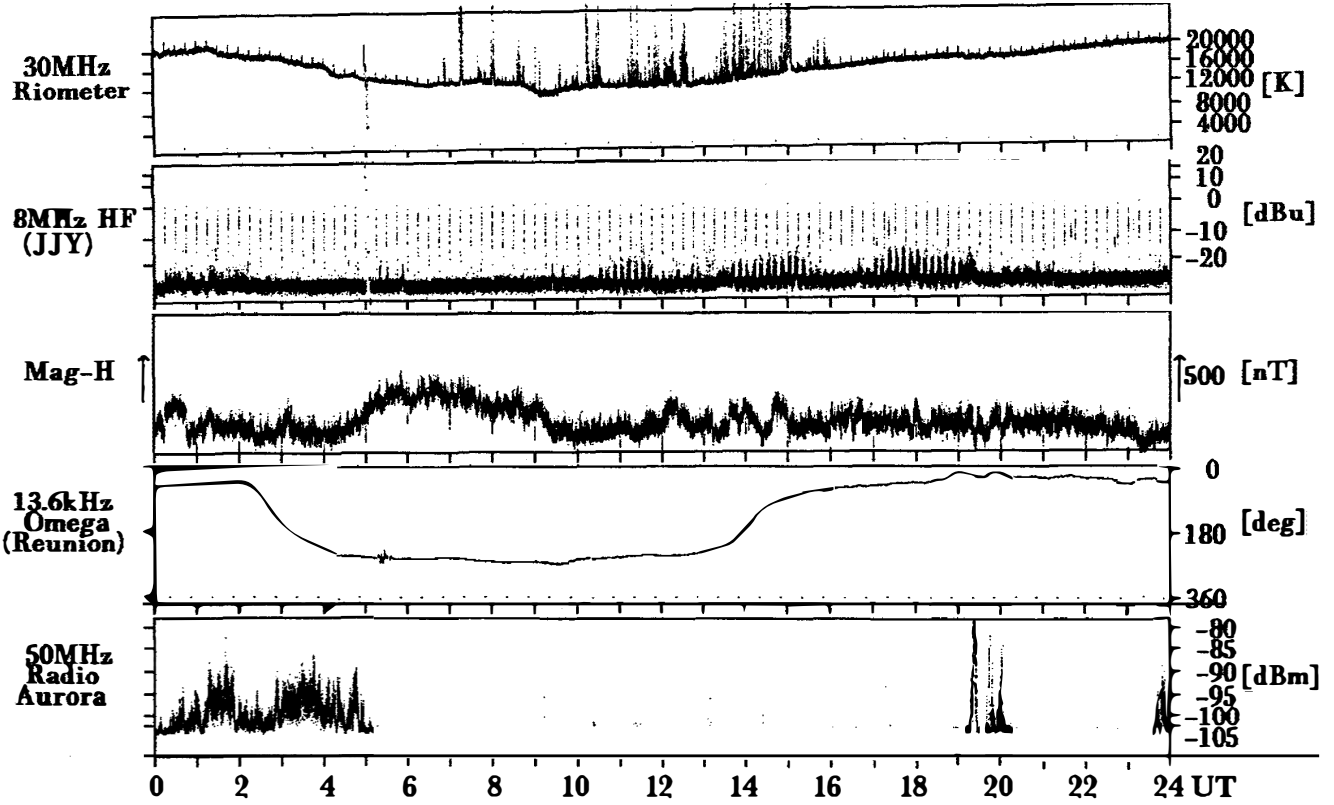
Total Day / 113 1992/ 4/23





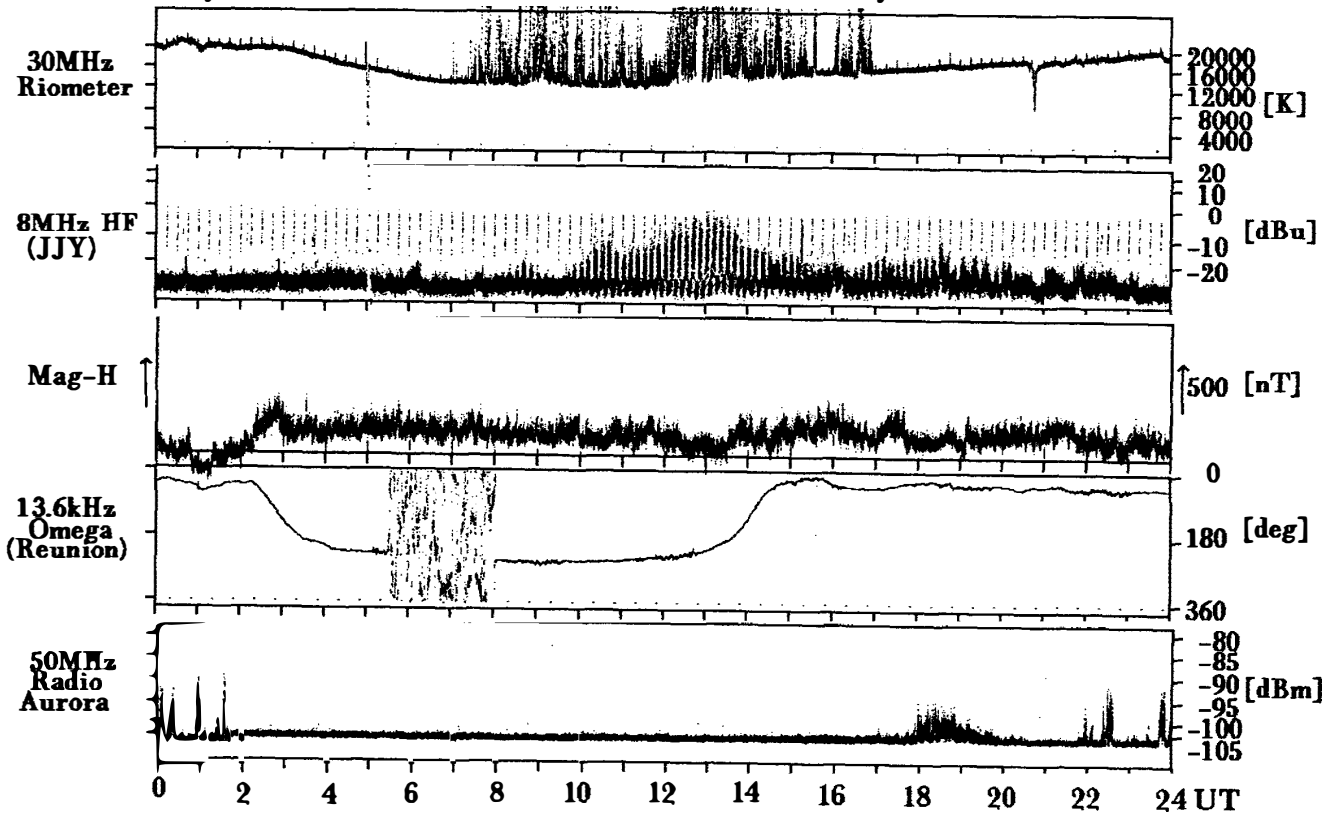
Syowa Station

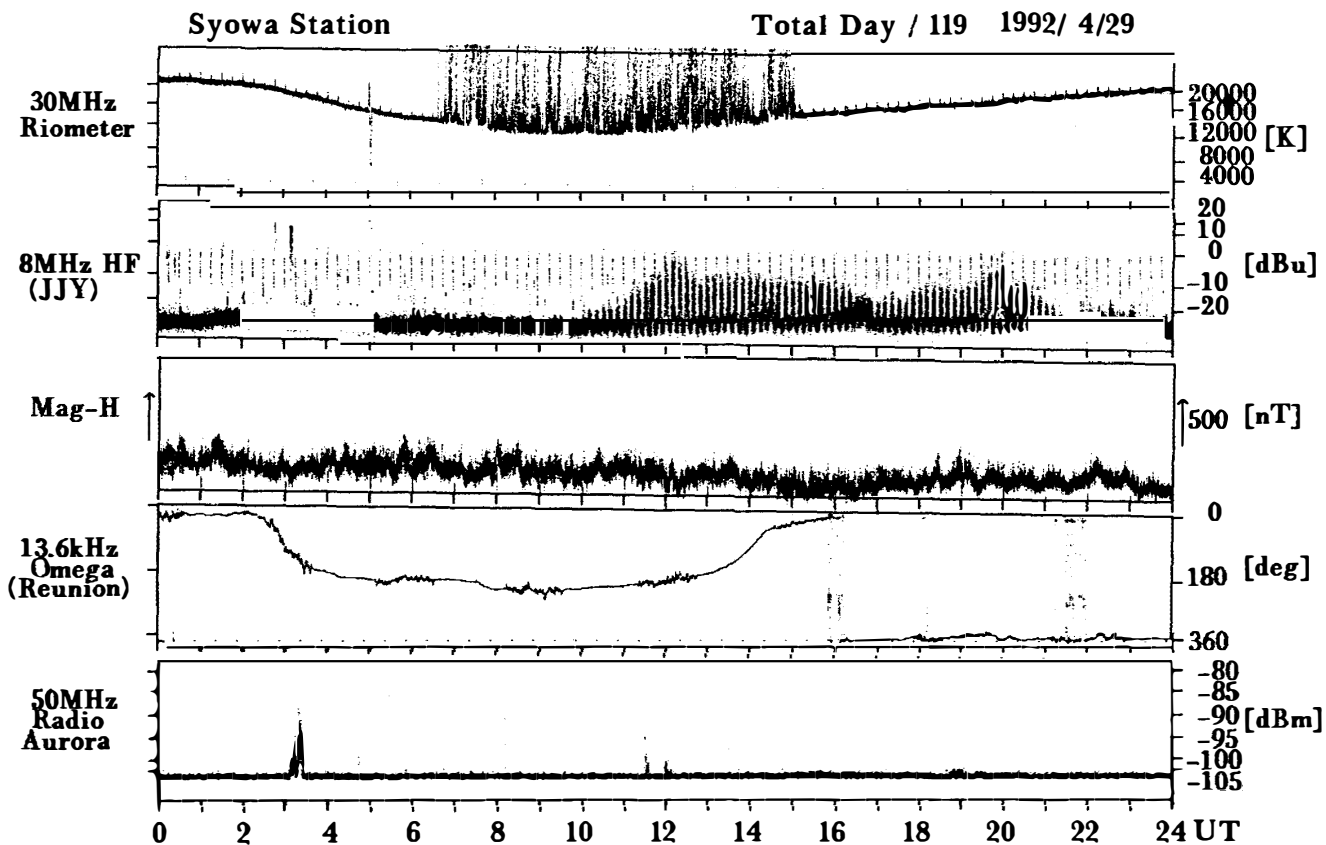
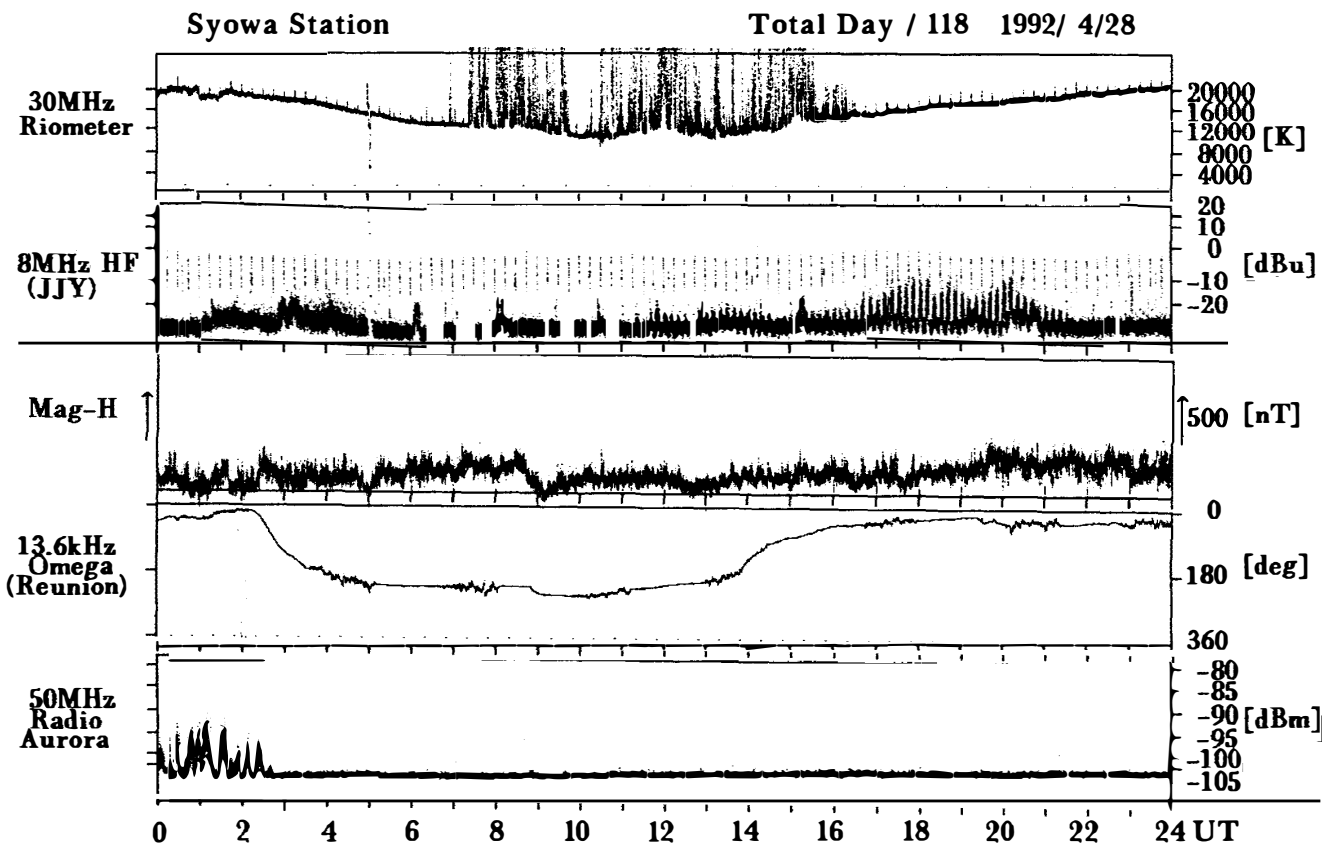
Total Day / 116 1992/ 4/26



Syowa Station

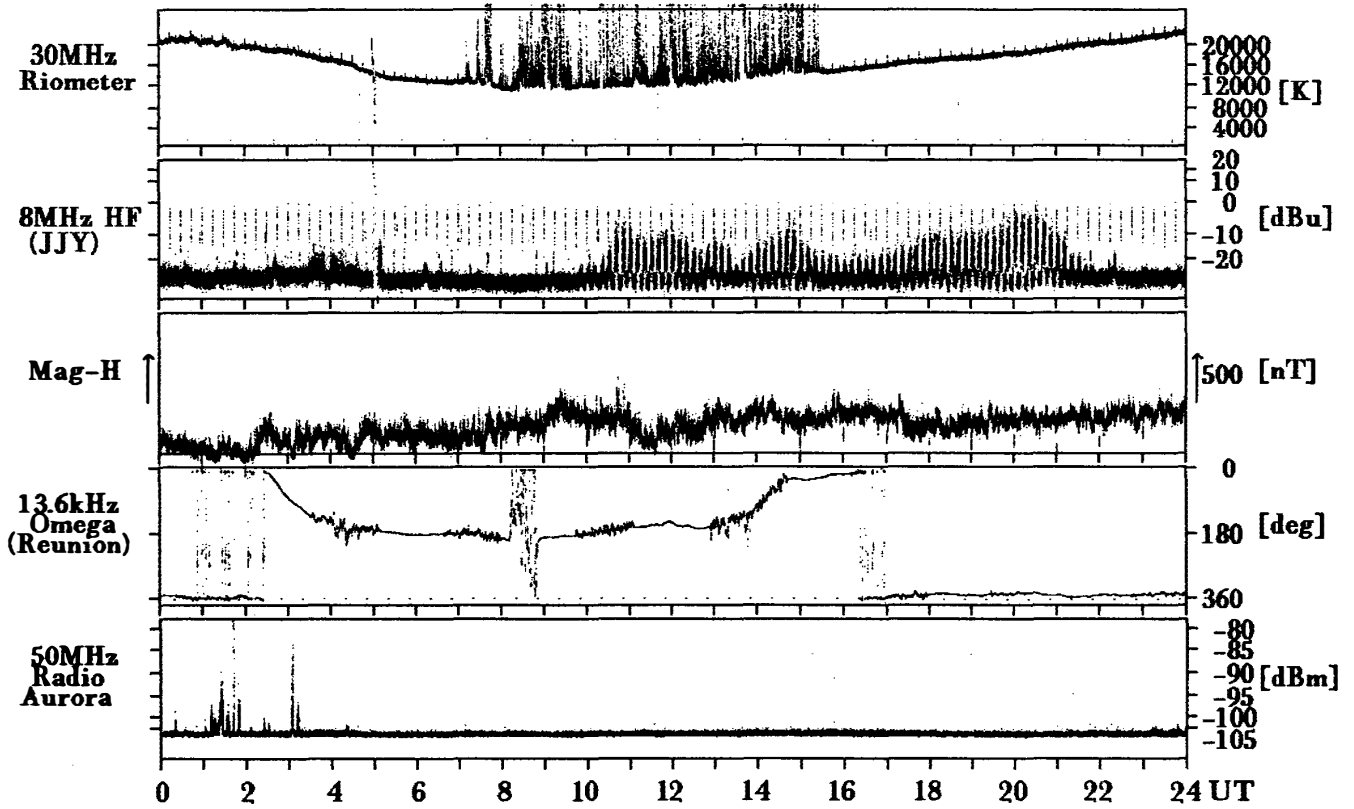
Total Day / 117 1992/ 4/27





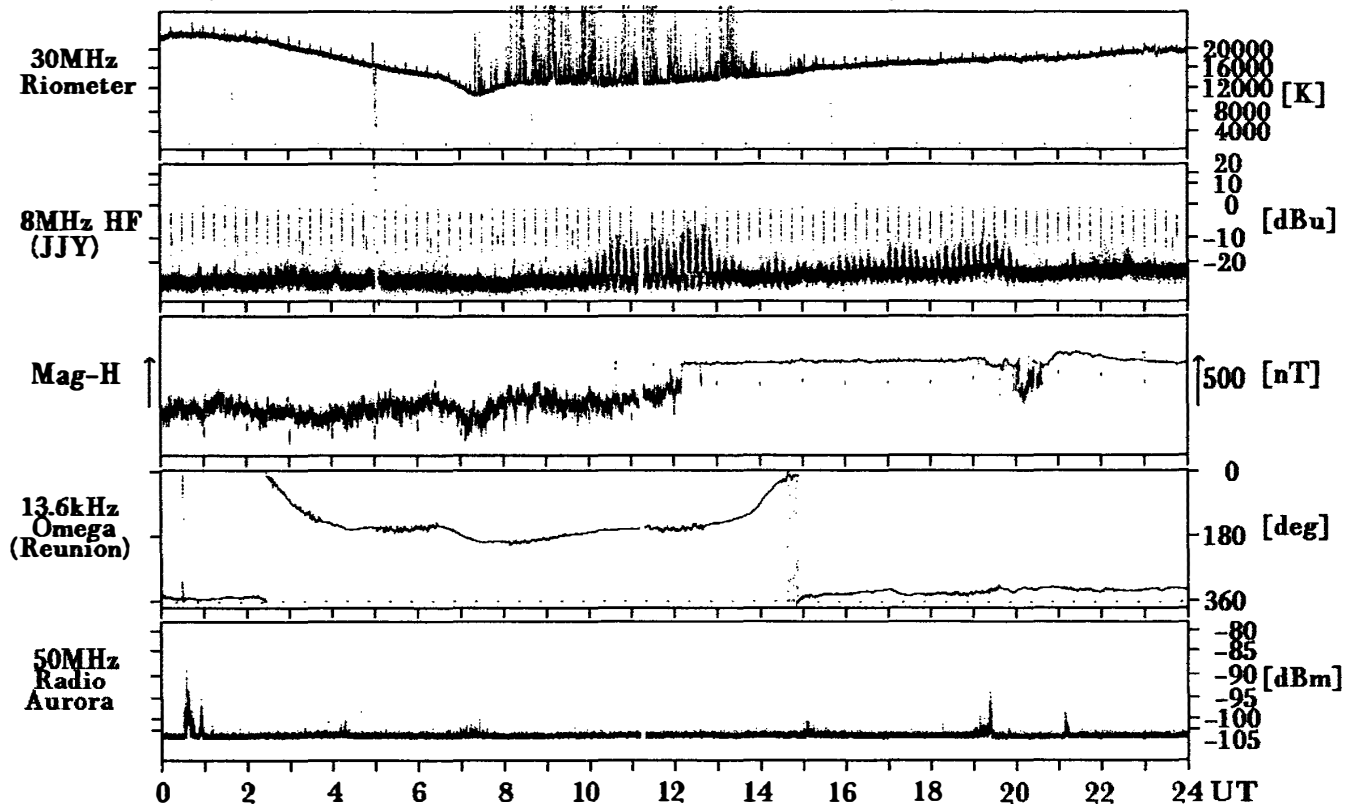
Syowa Station

Total Day / 120 1992/ 4/30



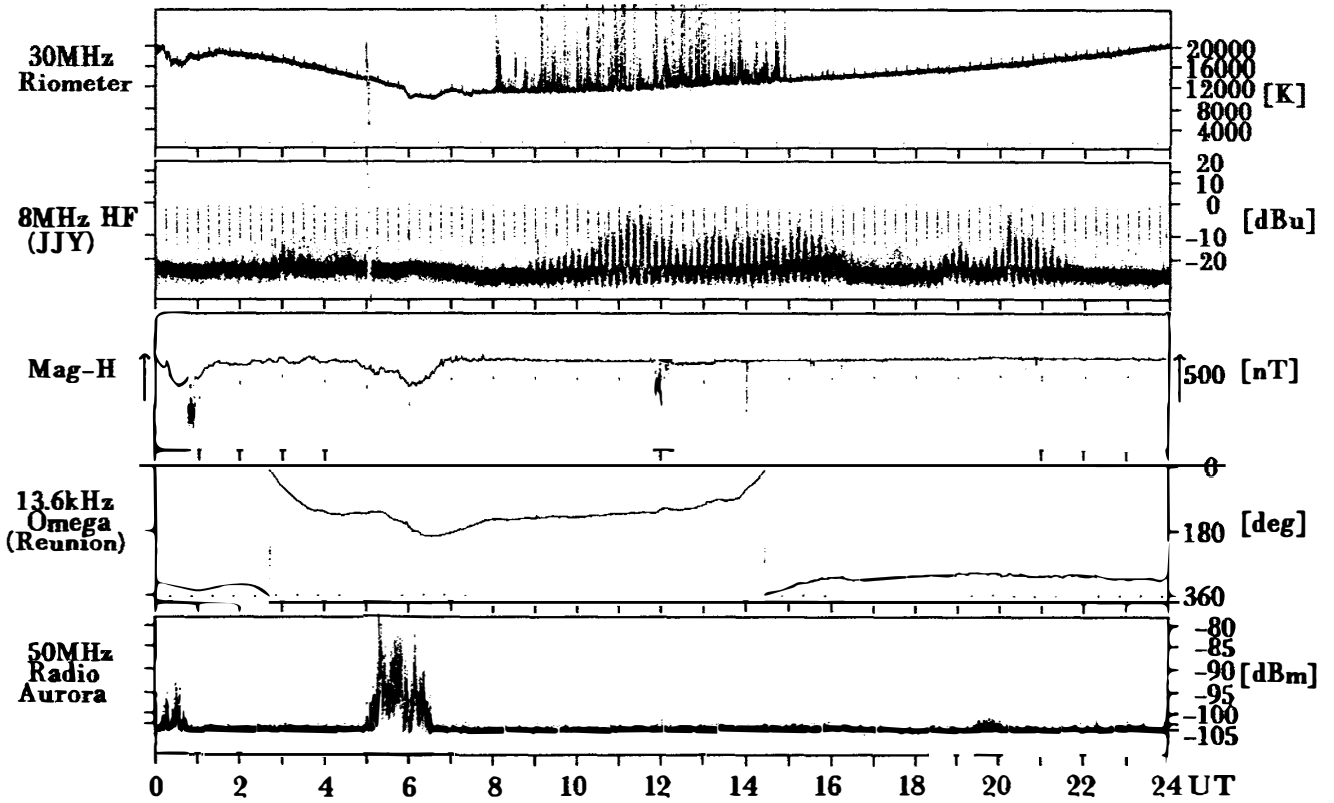
Syowa Station

Total Day / 121 1992/ 5/ 1



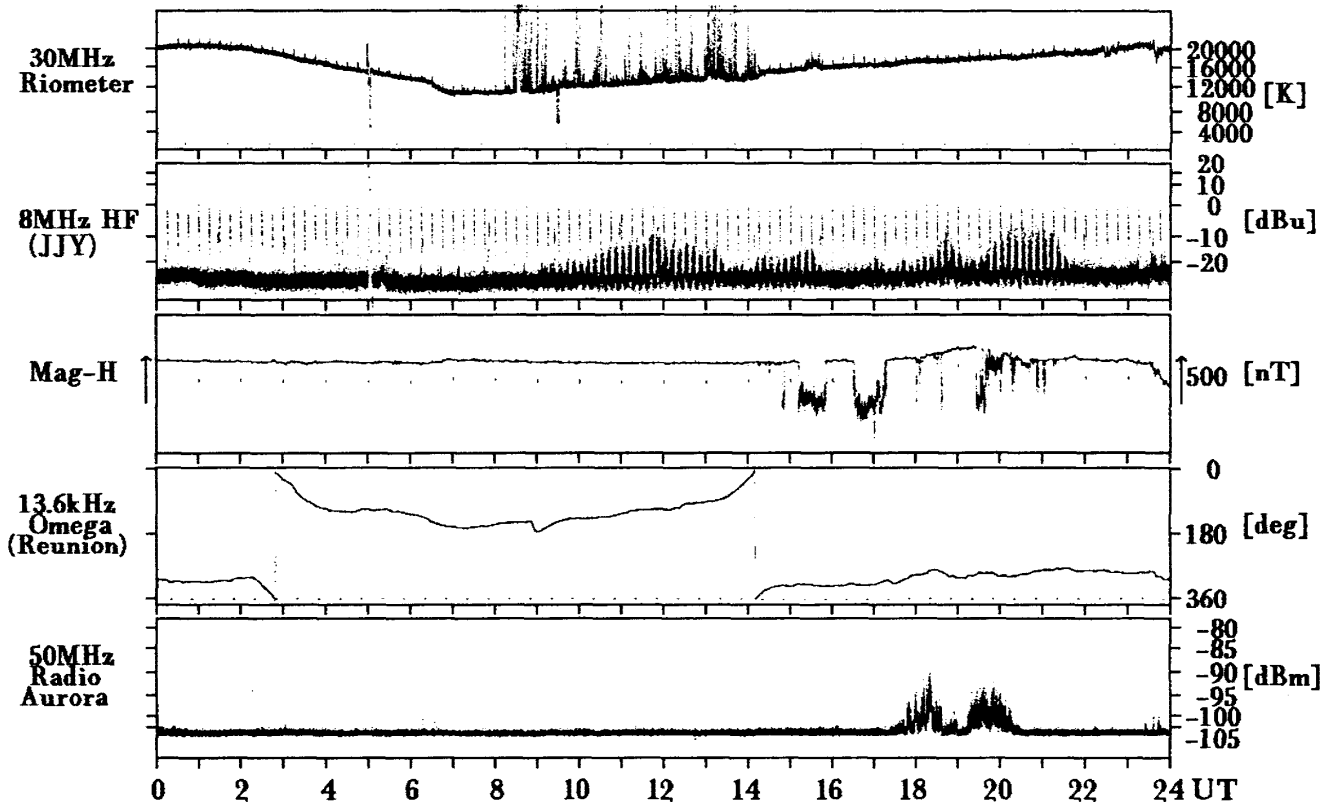
Syowa Station

Total Day / 122 1992/ 5/ 2



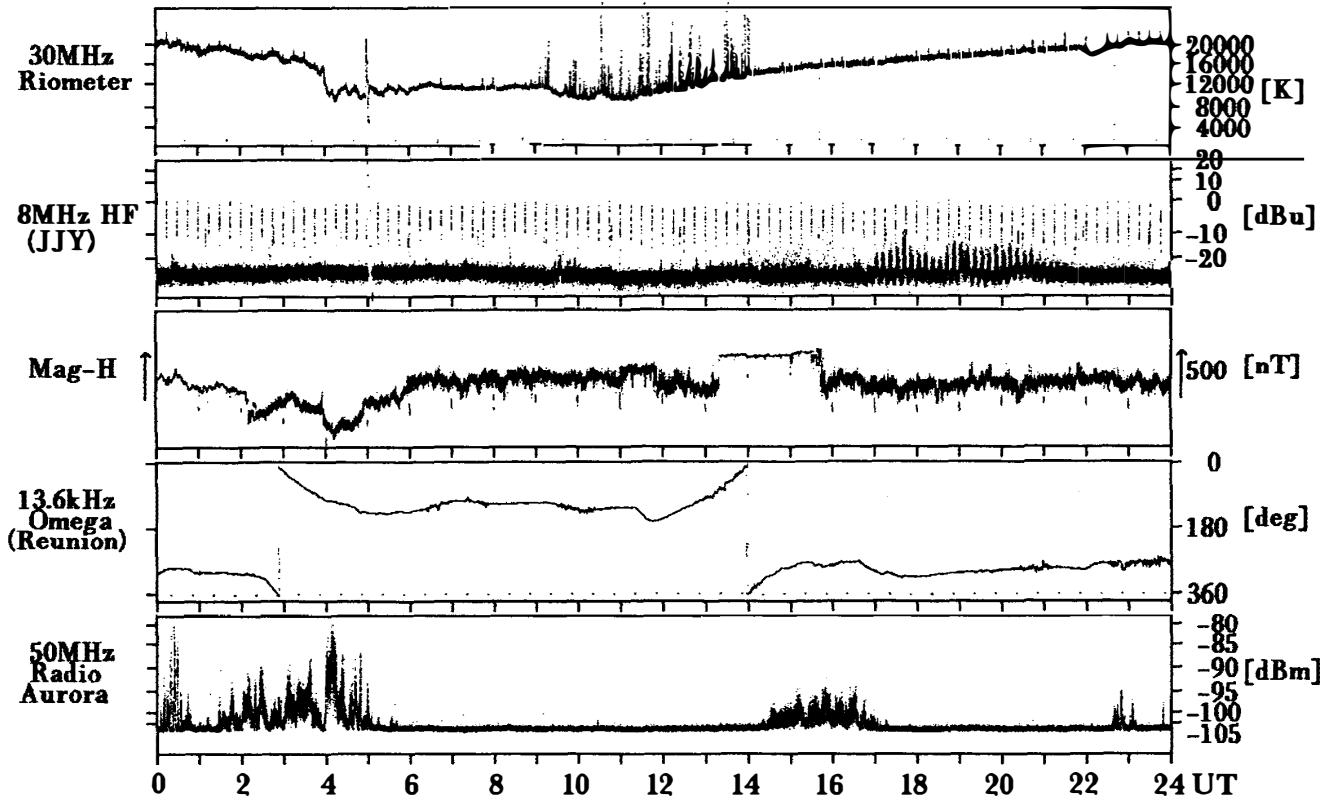
Syowa Station

Total Day / 123 1992/ 5/ 3



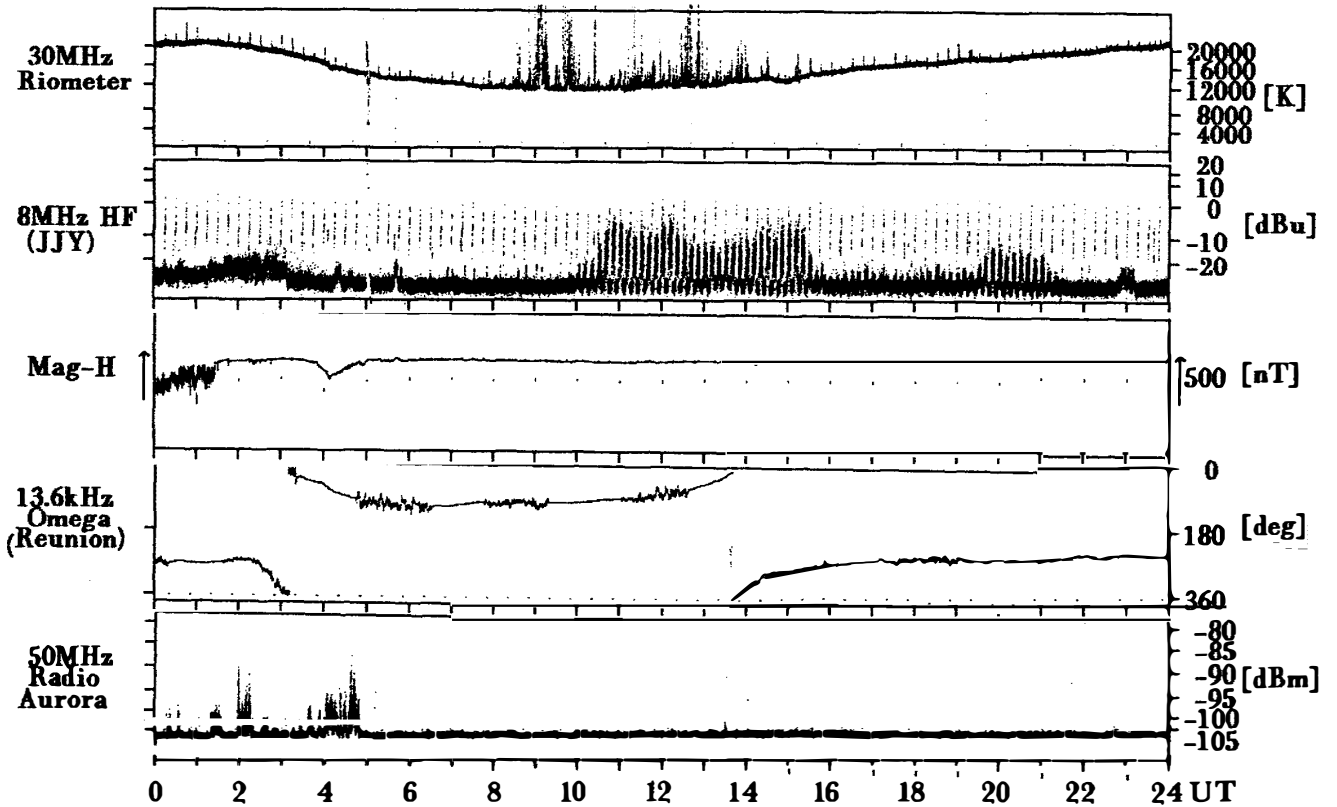
Syowa Station

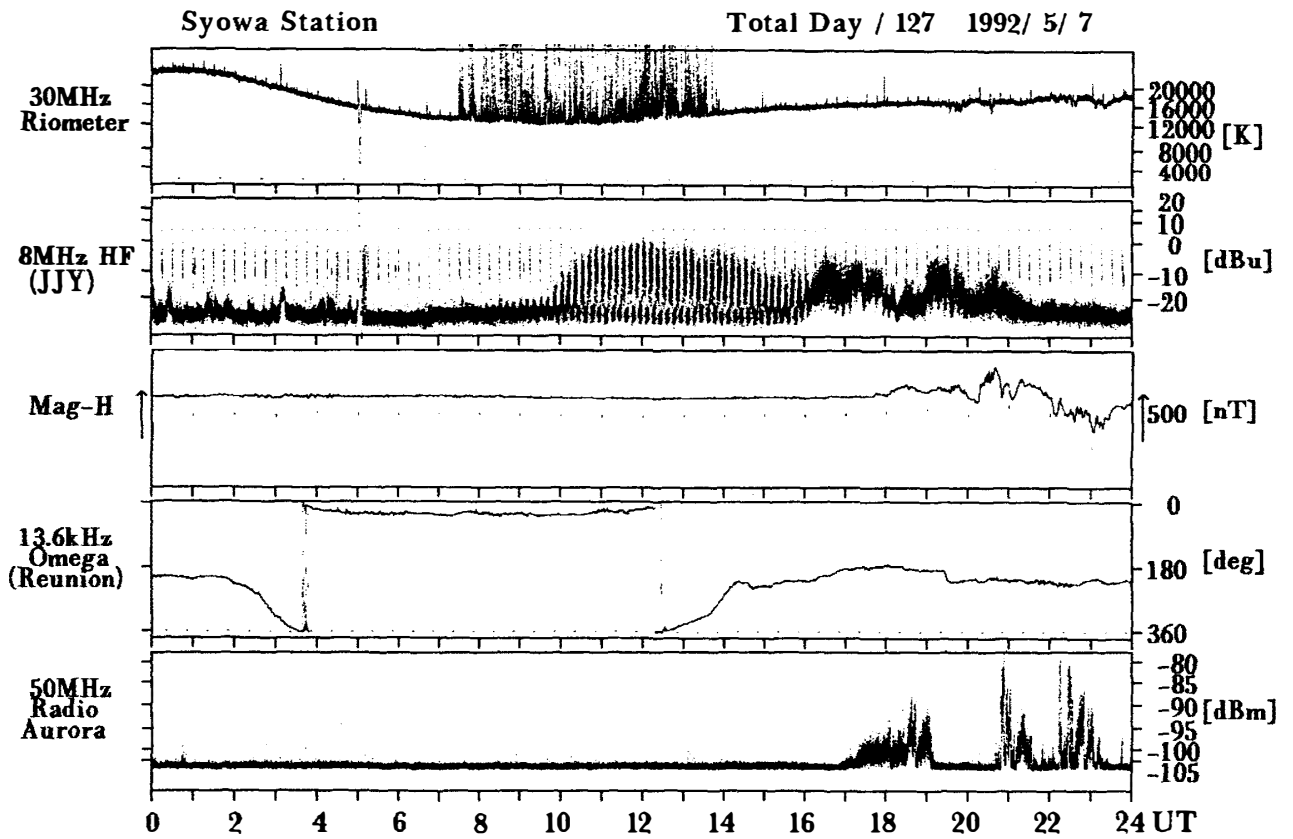
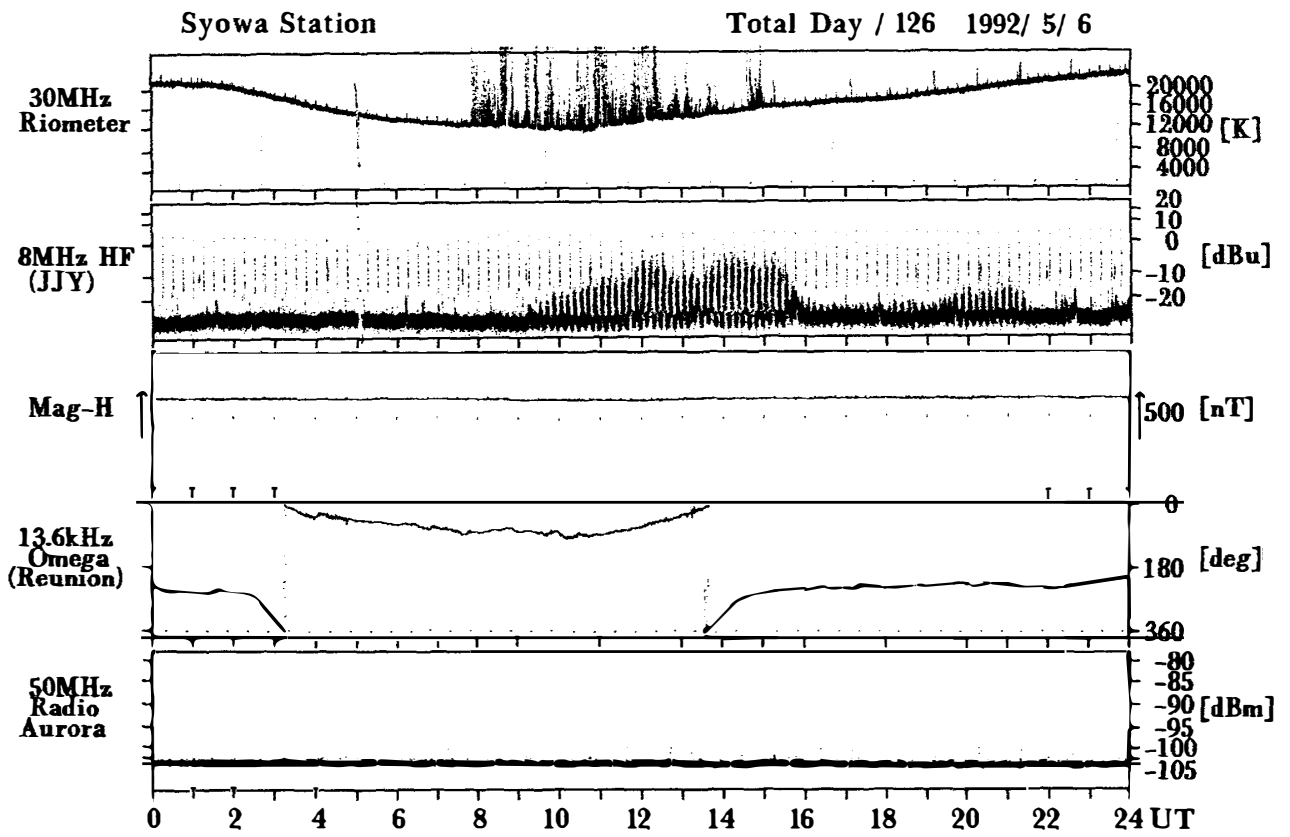
Total Day / 124 1992/ 5/ 4



Syowa Station

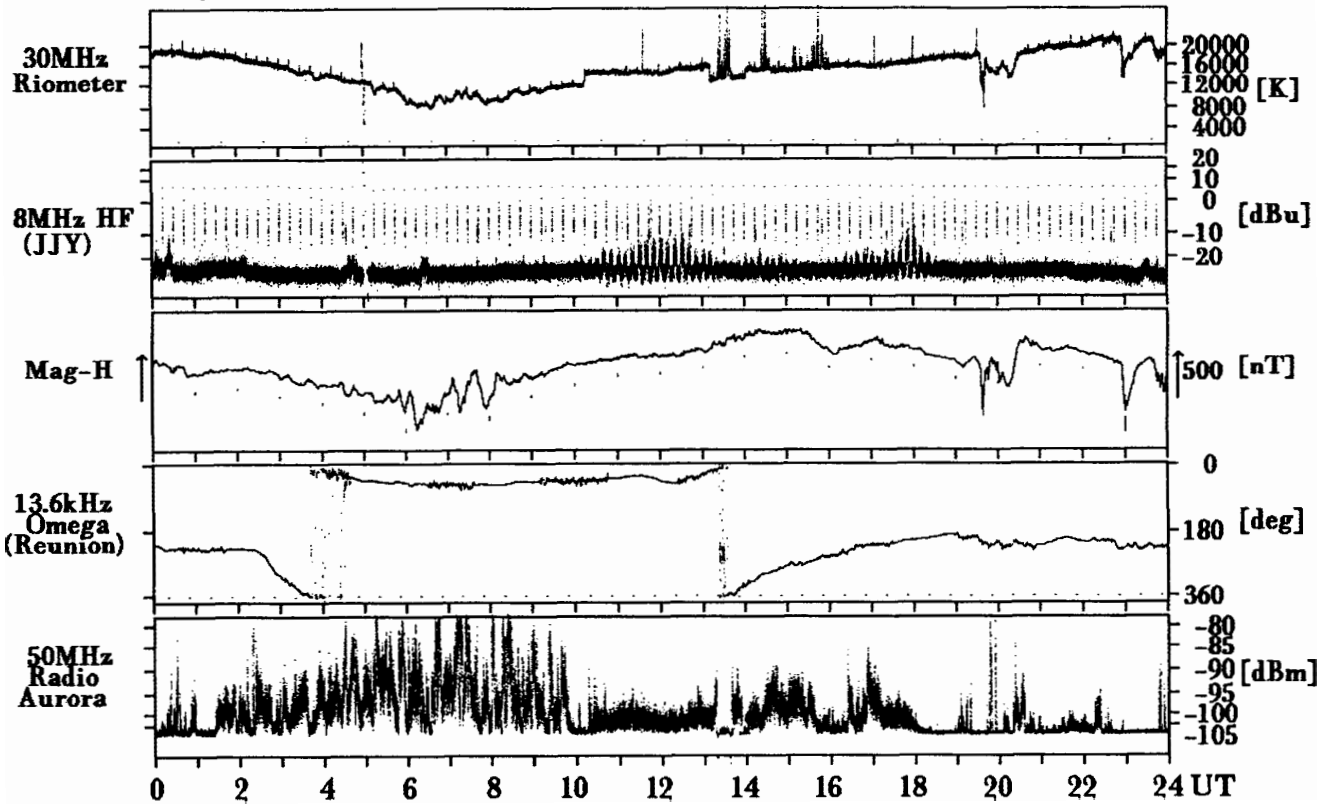
Total Day / 125 1992/ 5/ 5





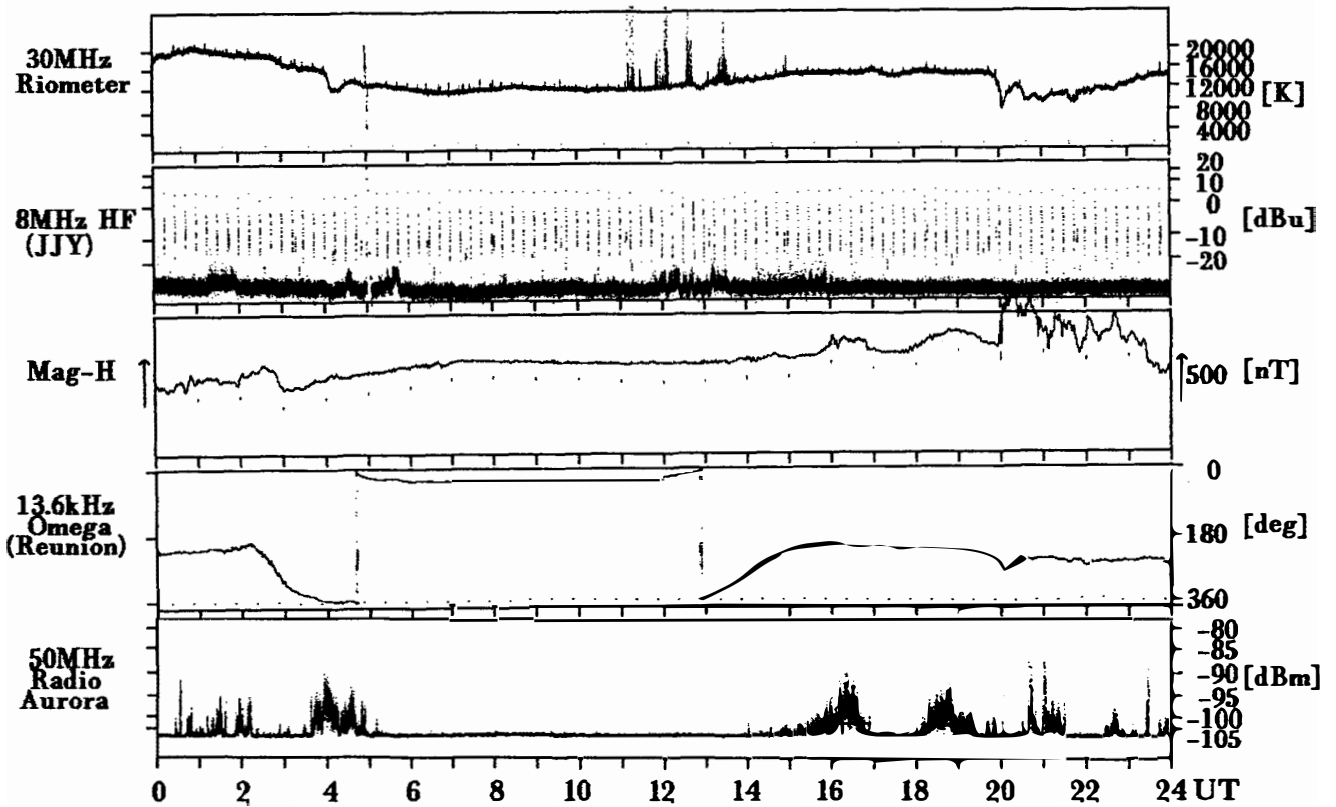
Syowa Station

Total Day / 128 1992/ 5/ 8



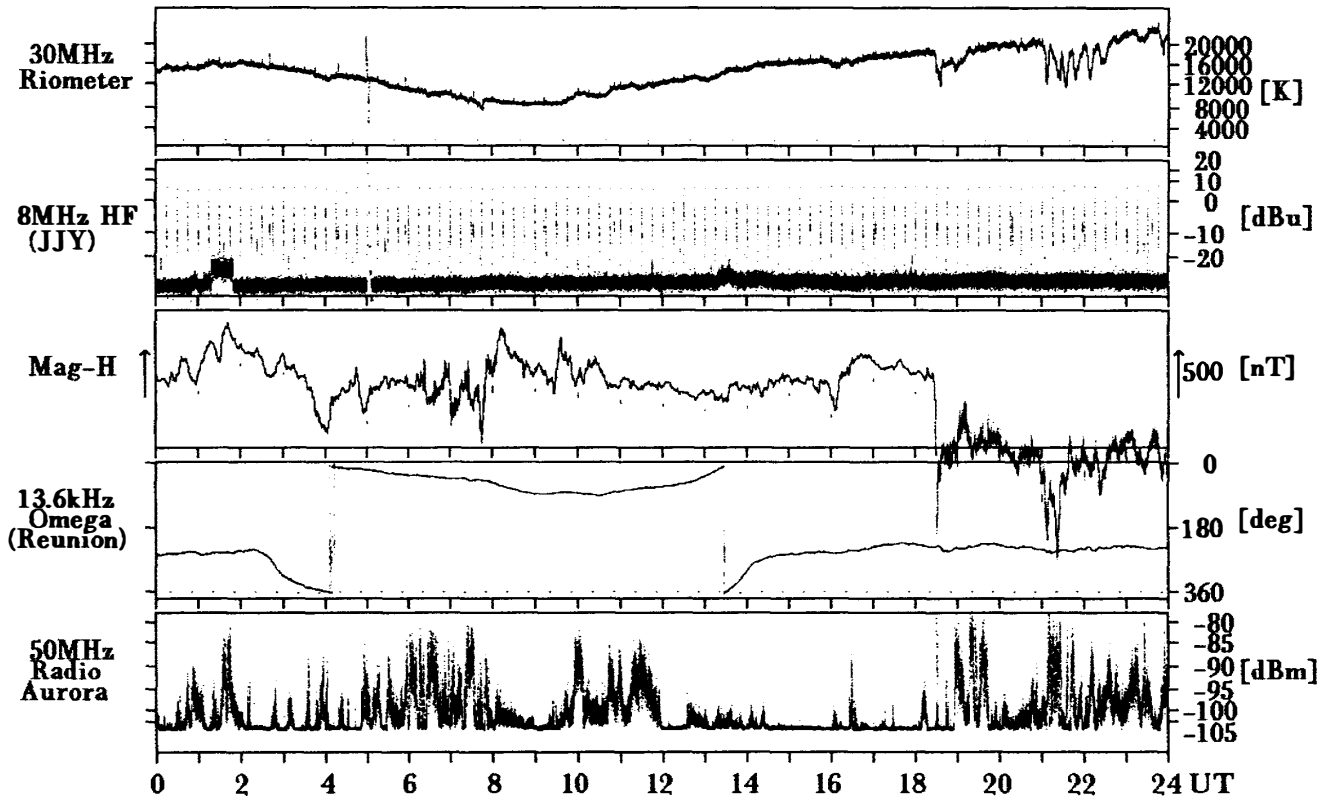
Syowa Station

Total Day / 129 1992/ 5/ 9



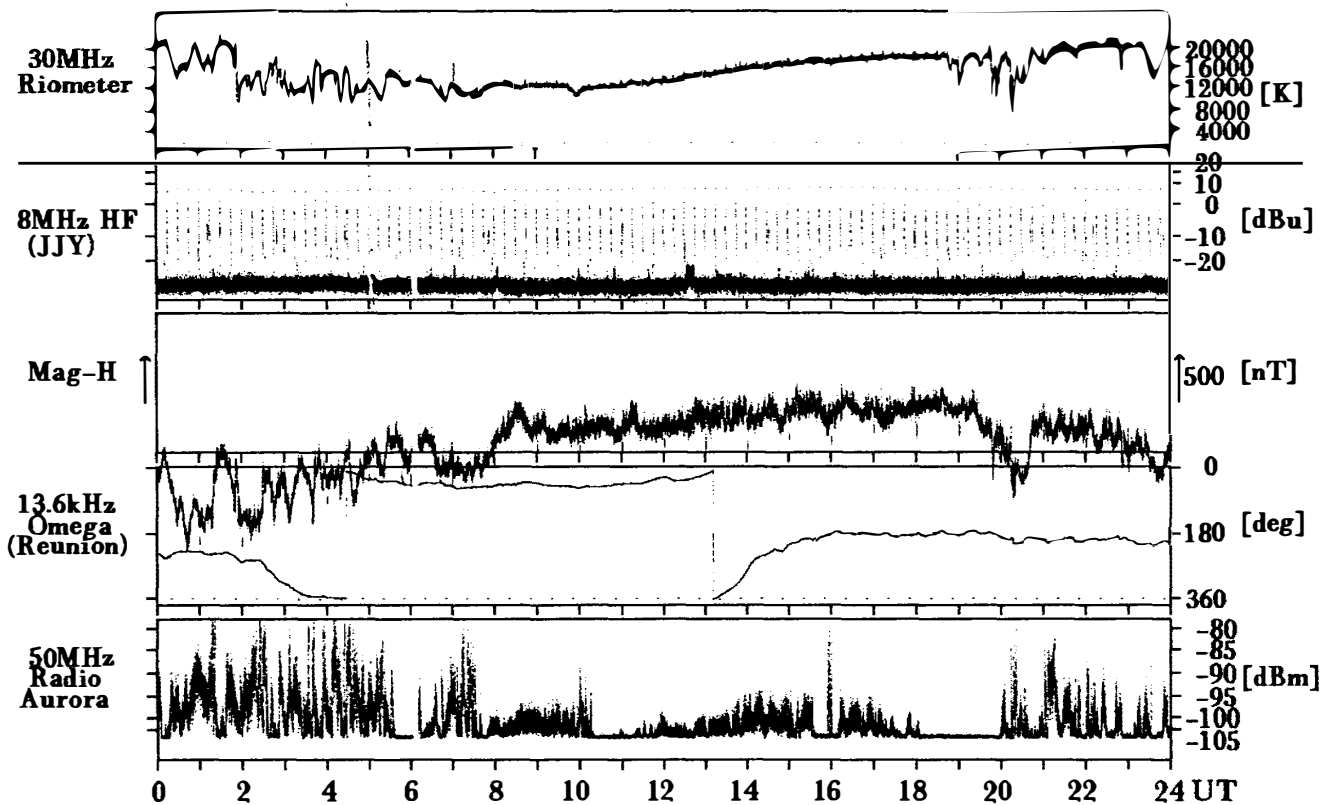
Syowa Station

Total Day / 130 1992/ 5/10



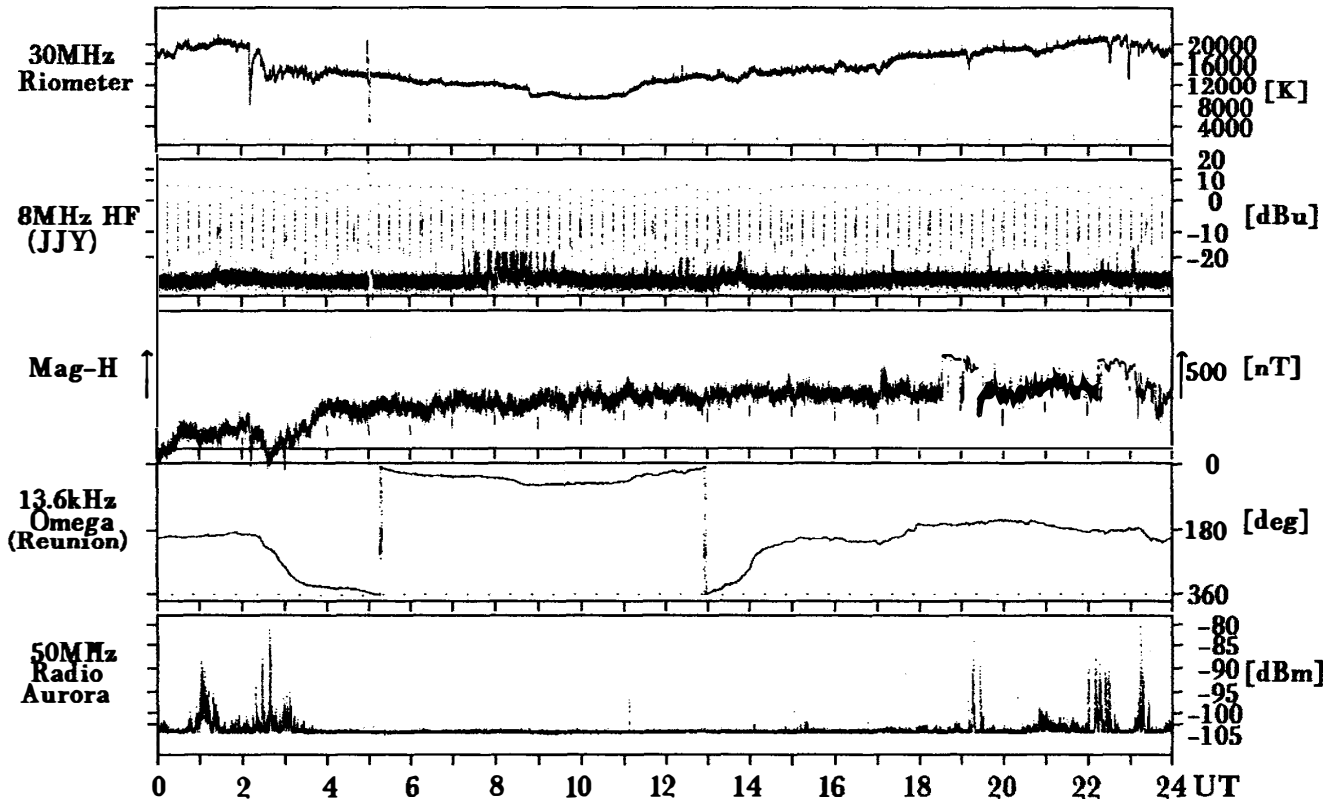
Syowa Station

Total Day / 131 1992/ 5/11



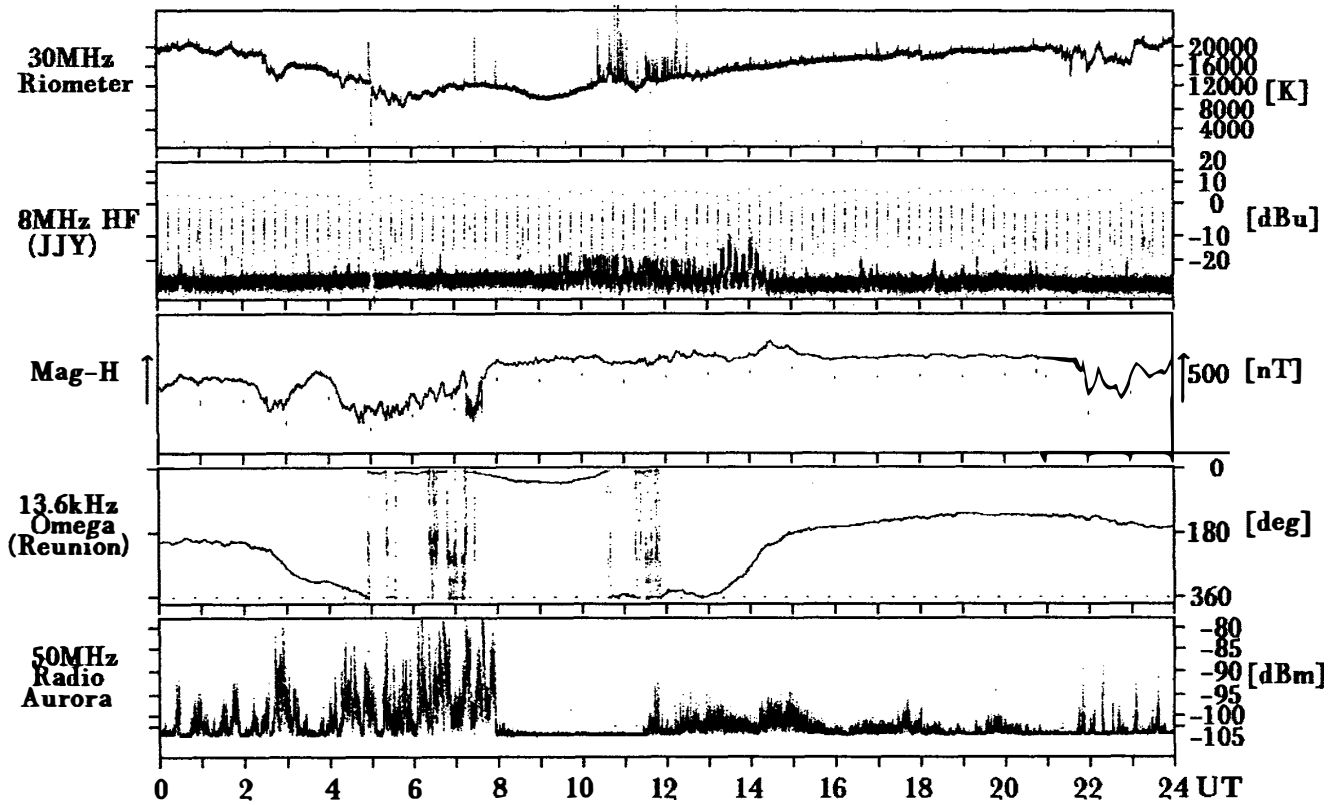
Syowa Station

Total Day / 132 1992/ 5/12



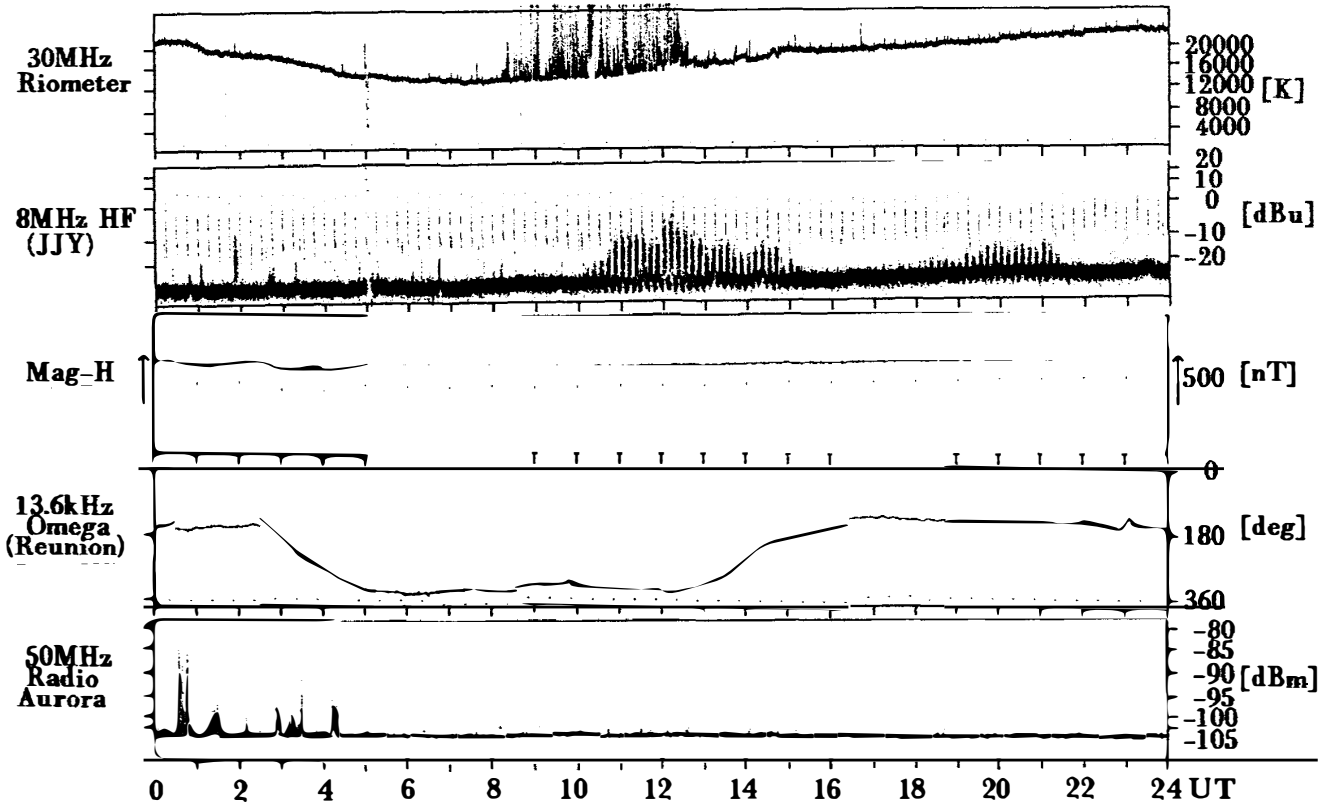
Syowa Station

Total Day / 133 1992/ 5/13



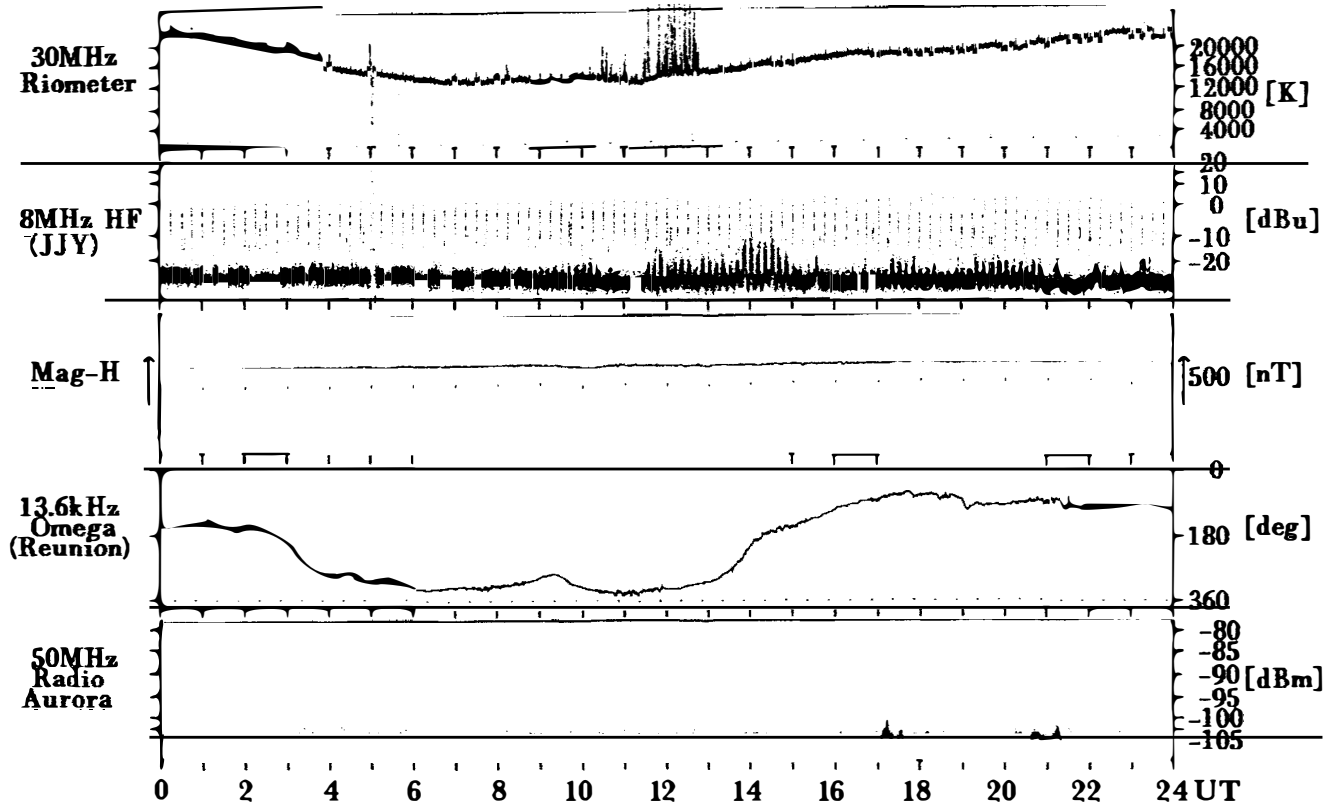
Syowa Station

Total Day / 134 1992/ 5/14



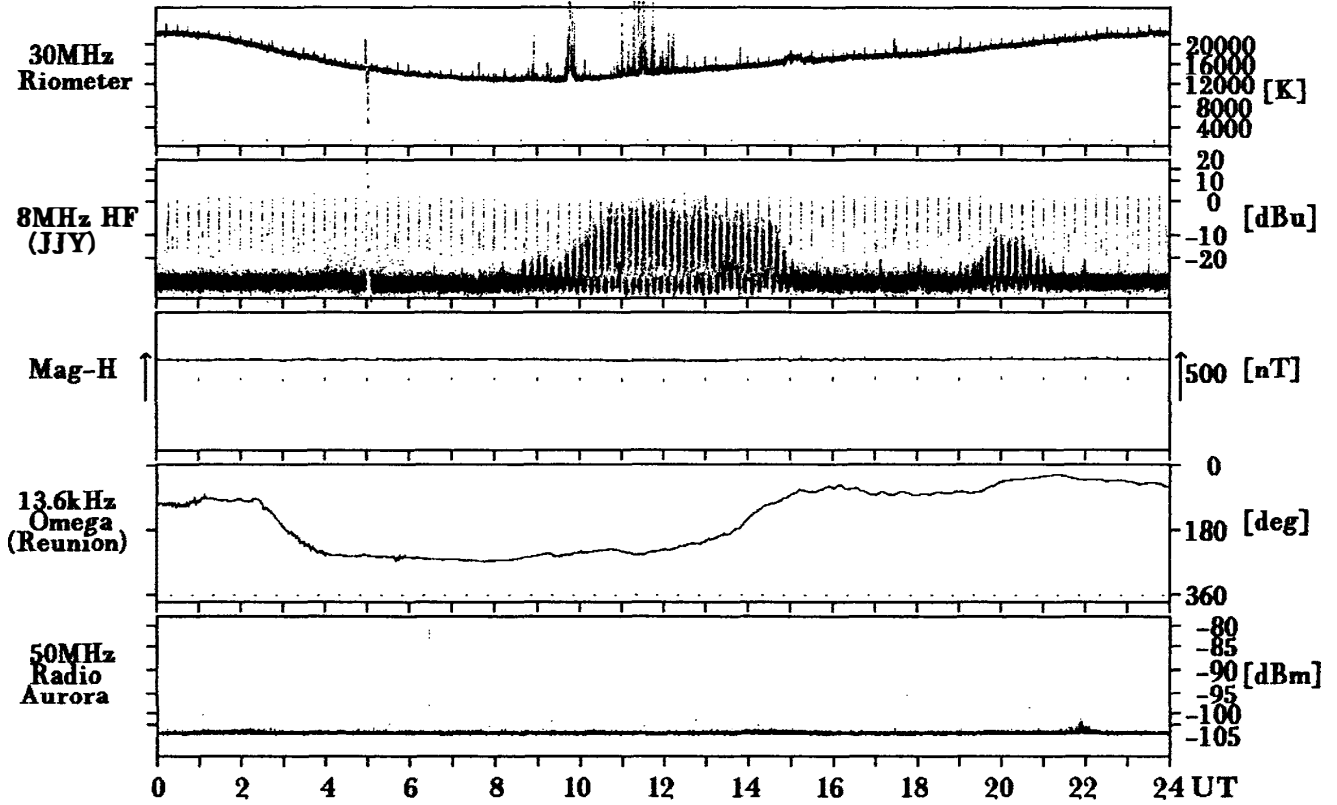
Syowa Station

Total Day / 135 1992/ 5/15



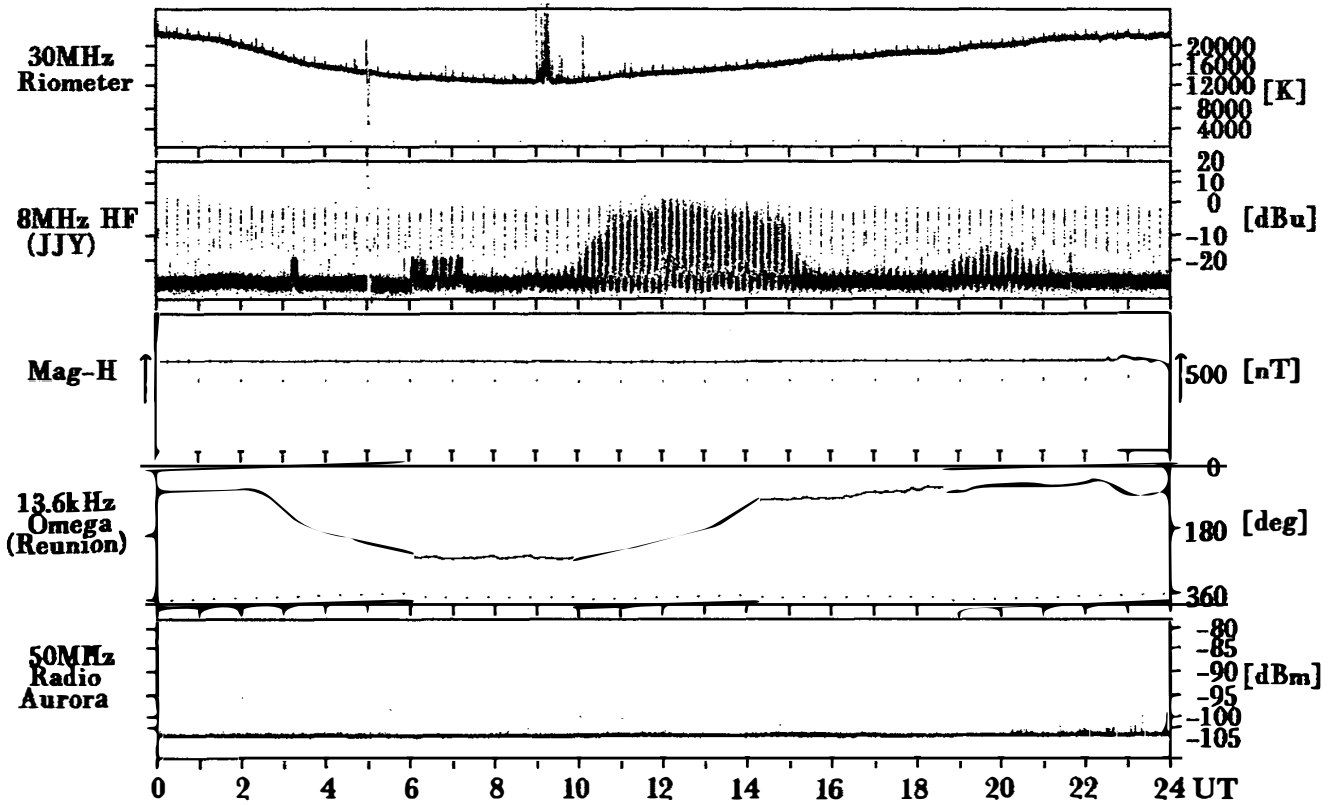
Syowa Station

Total Day / 136 1992/ 5/16



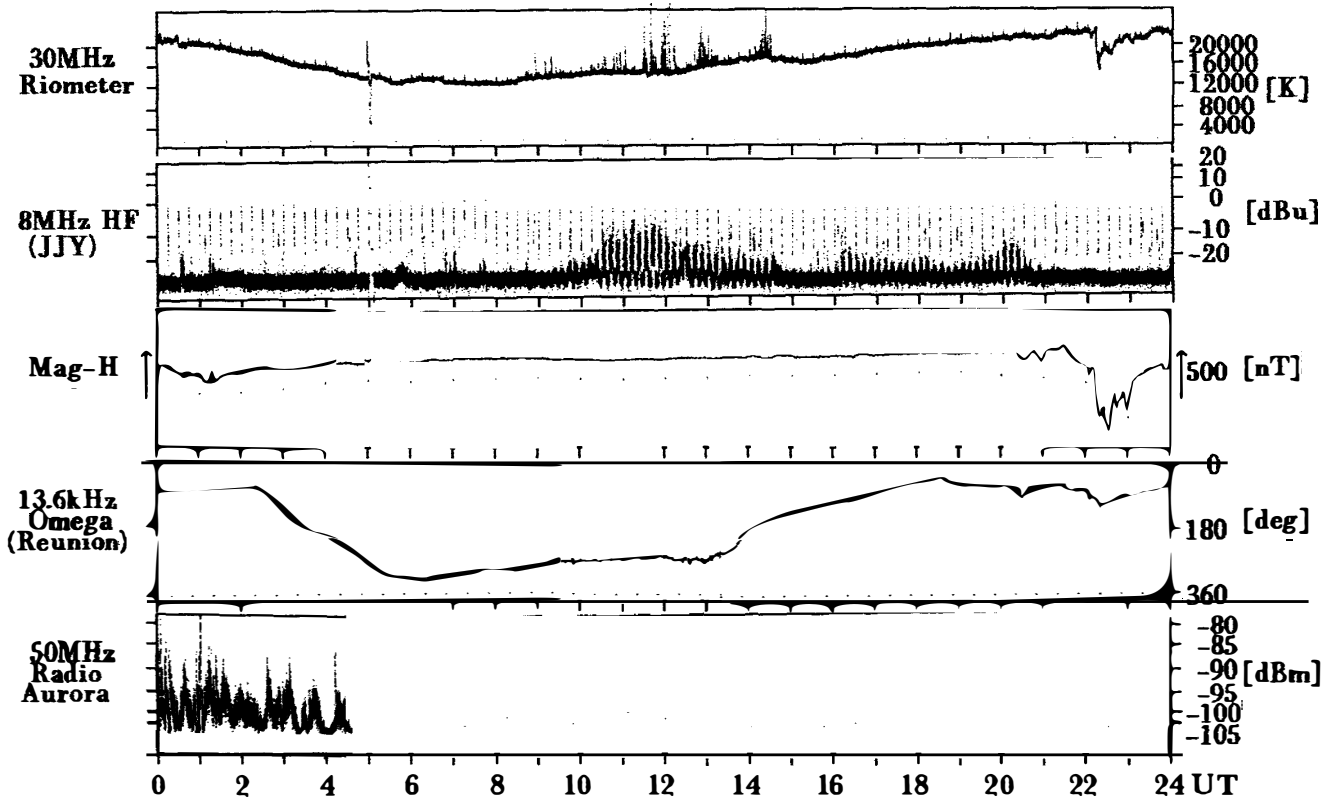
Syowa Station

Total Day / 137 1992/ 5/17



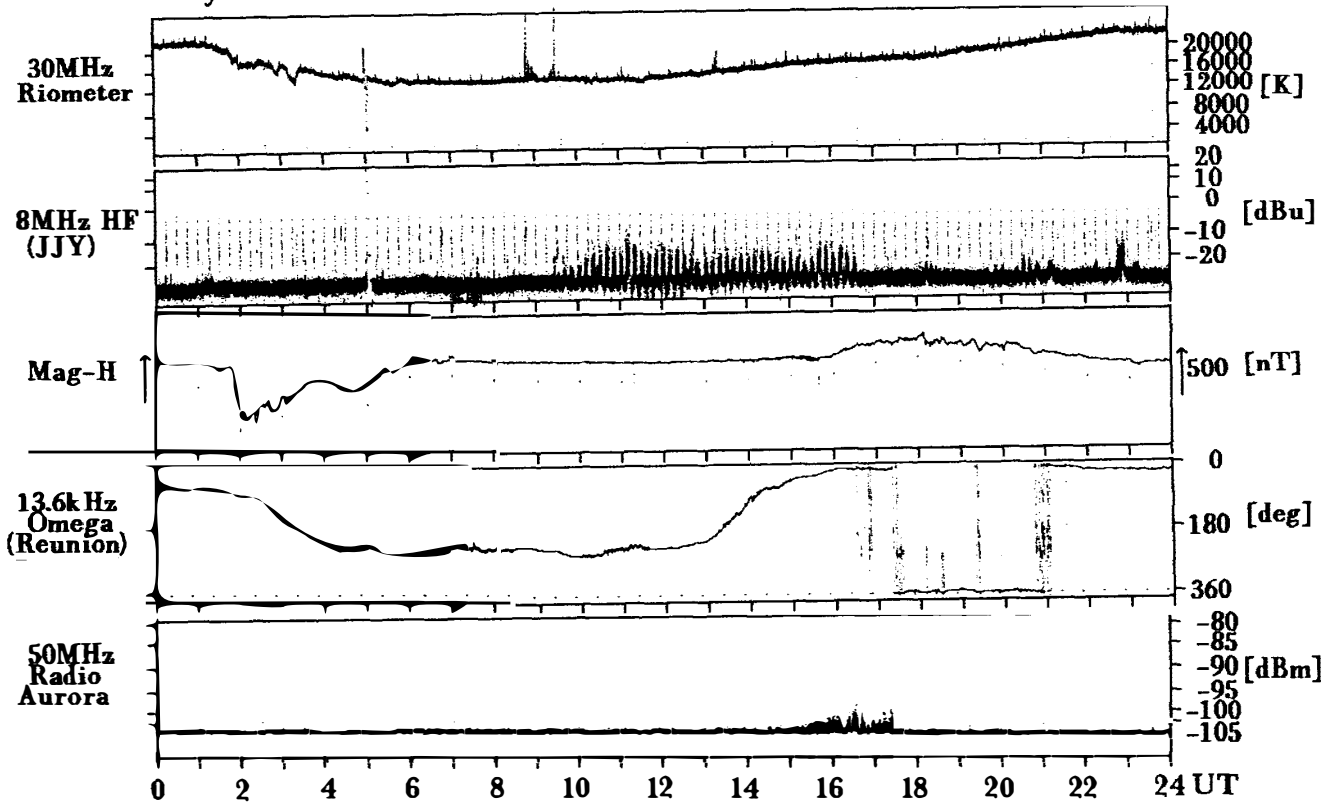
Syowa Station

Total Day / 138 1992/ 5/18



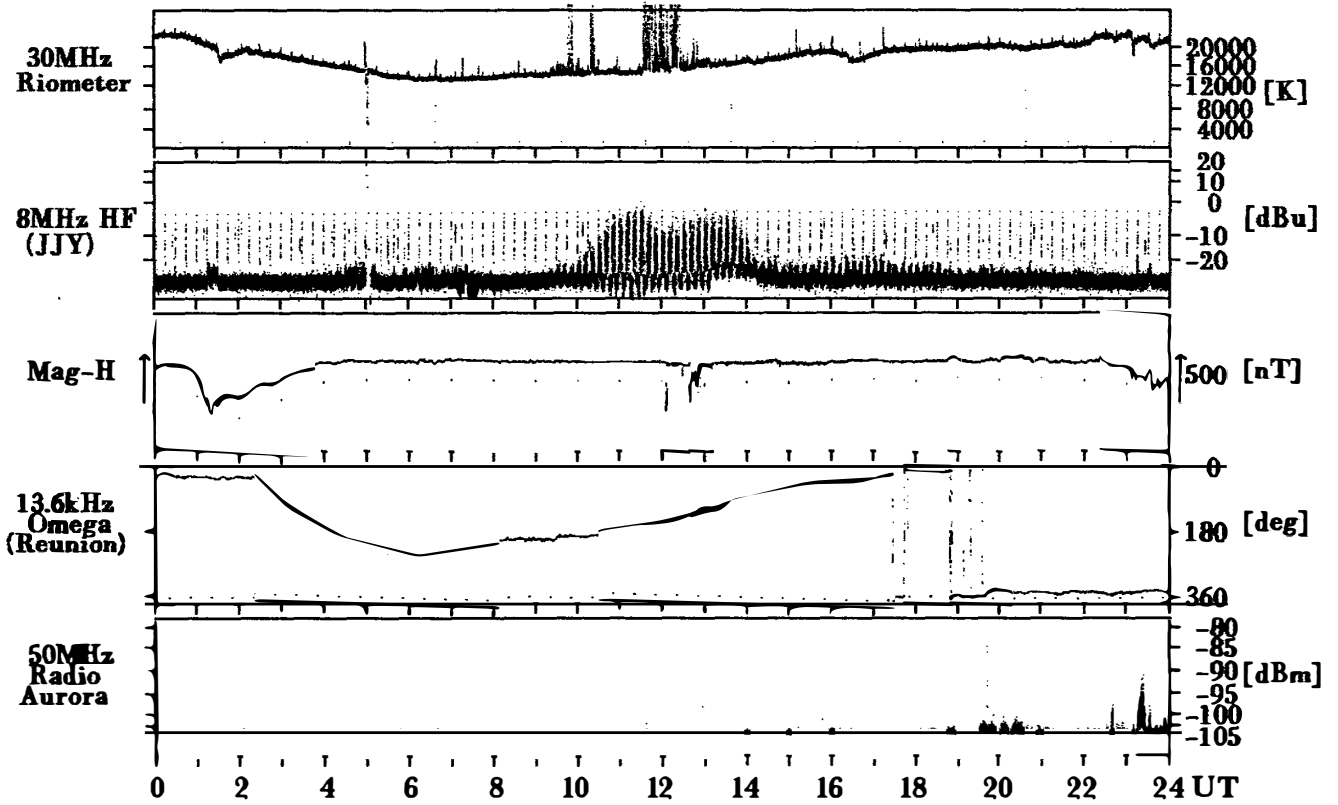
Syowa Station

Total Day / 139 1992/ 5/19



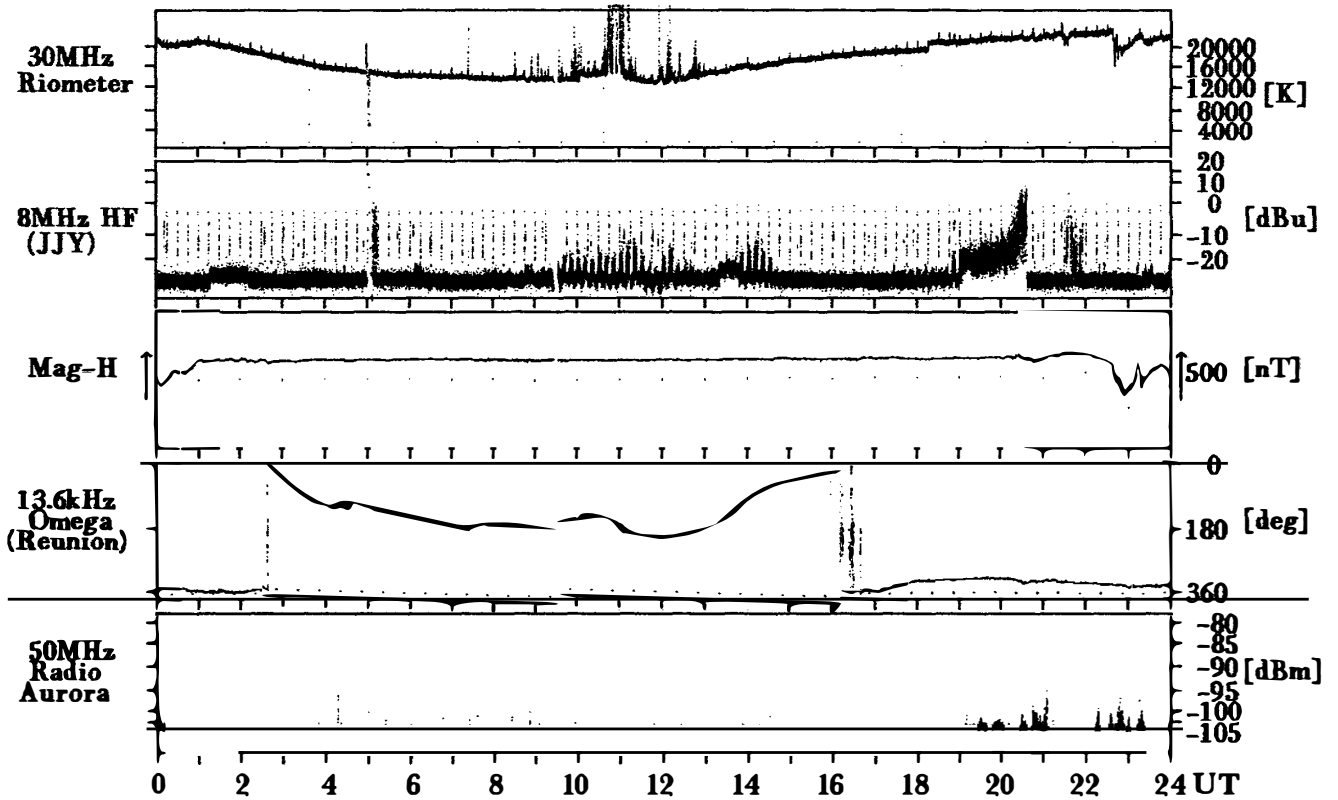
Syowa Station

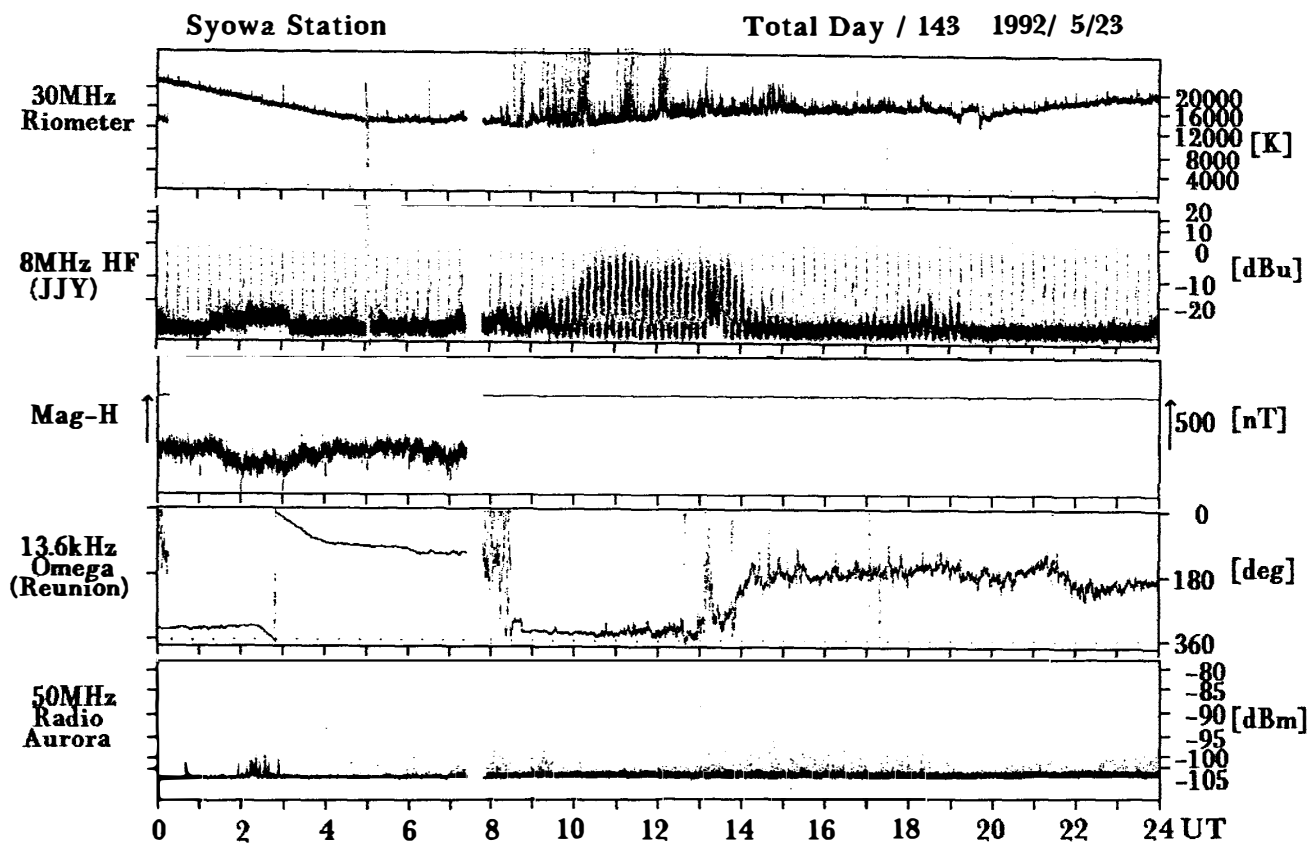
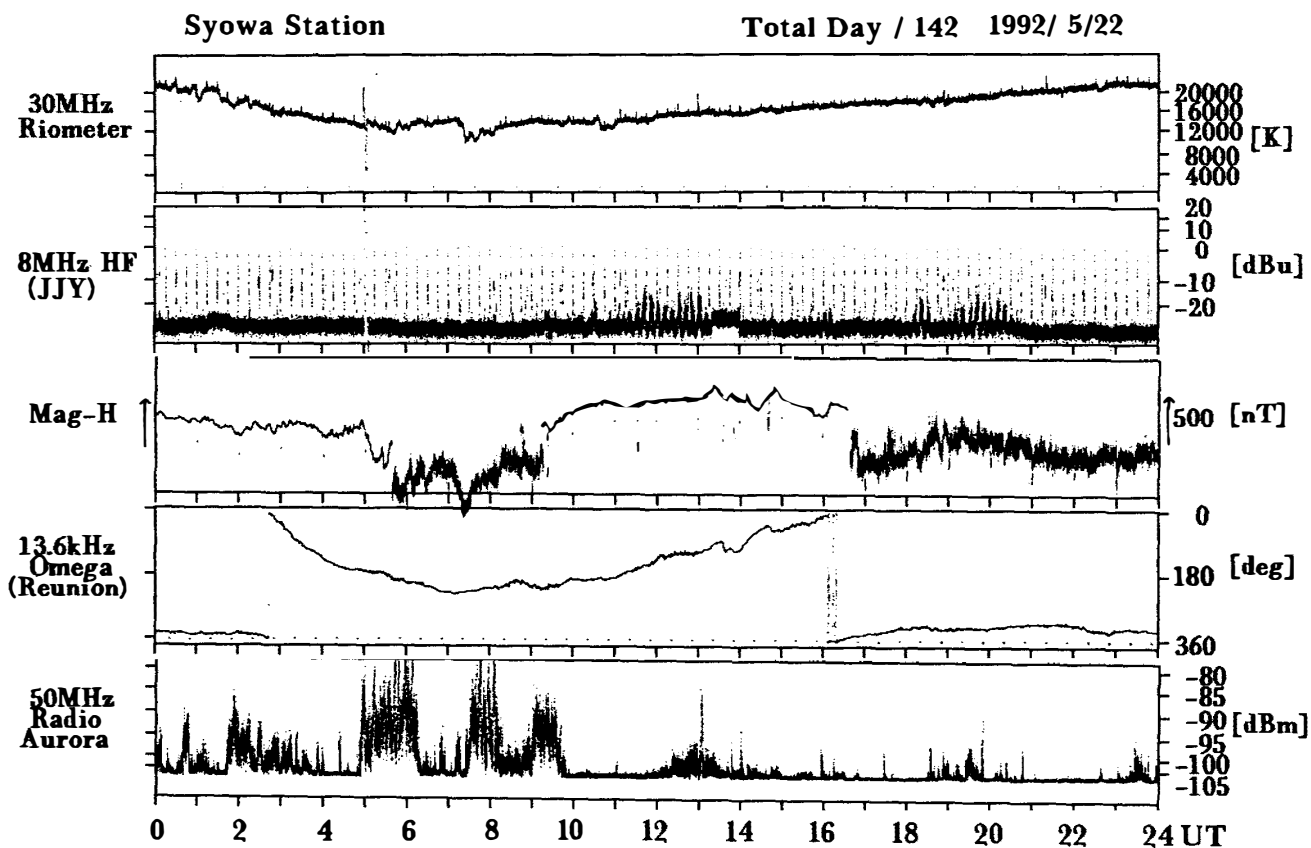
Total Day / 140 1992/ 5/20



Syowa Station

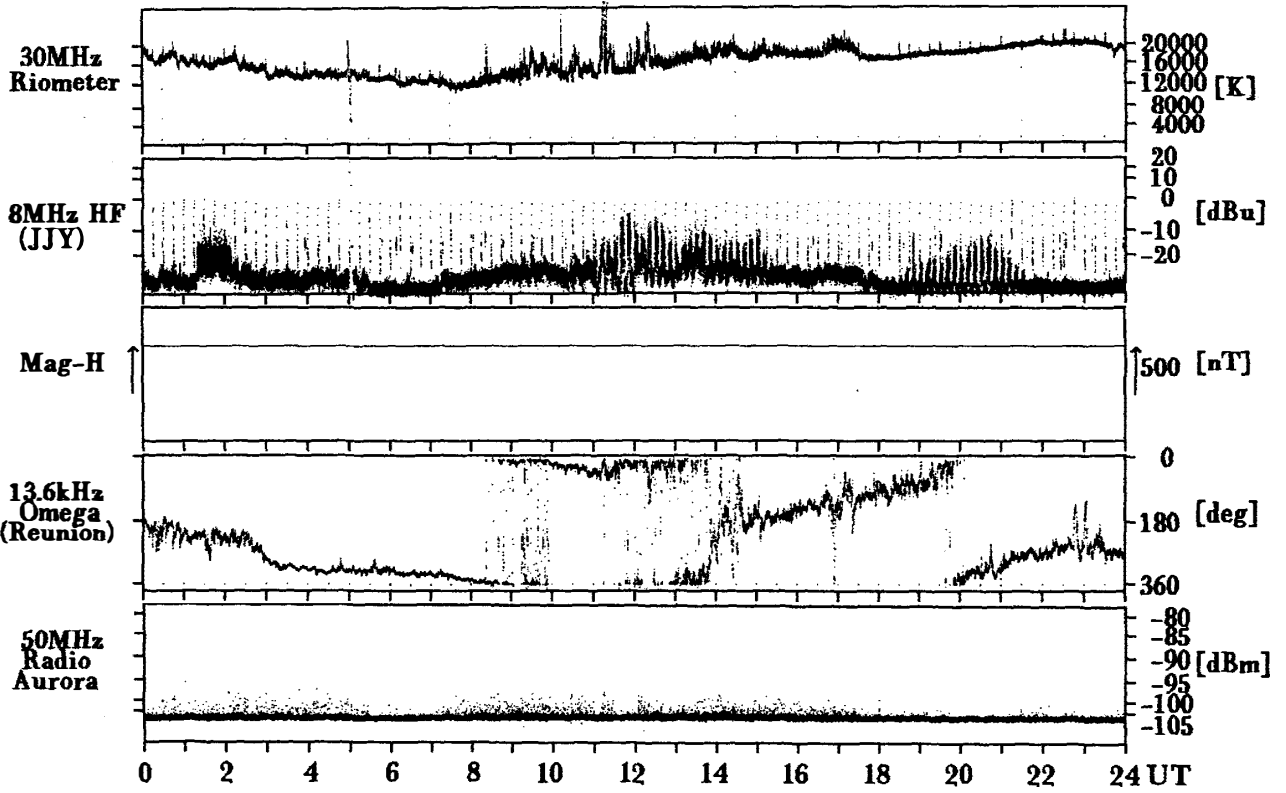
Total Day / 141 1992/ 5/21





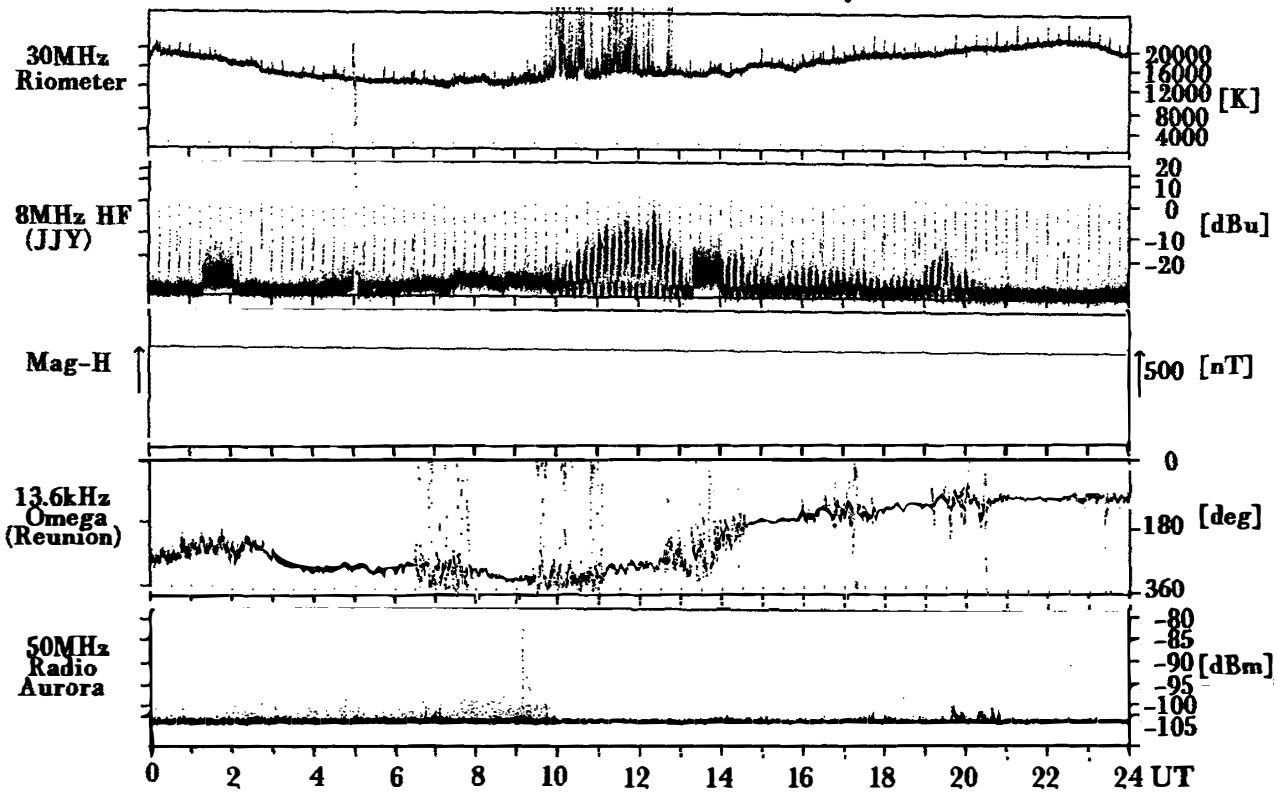
Syowa Station

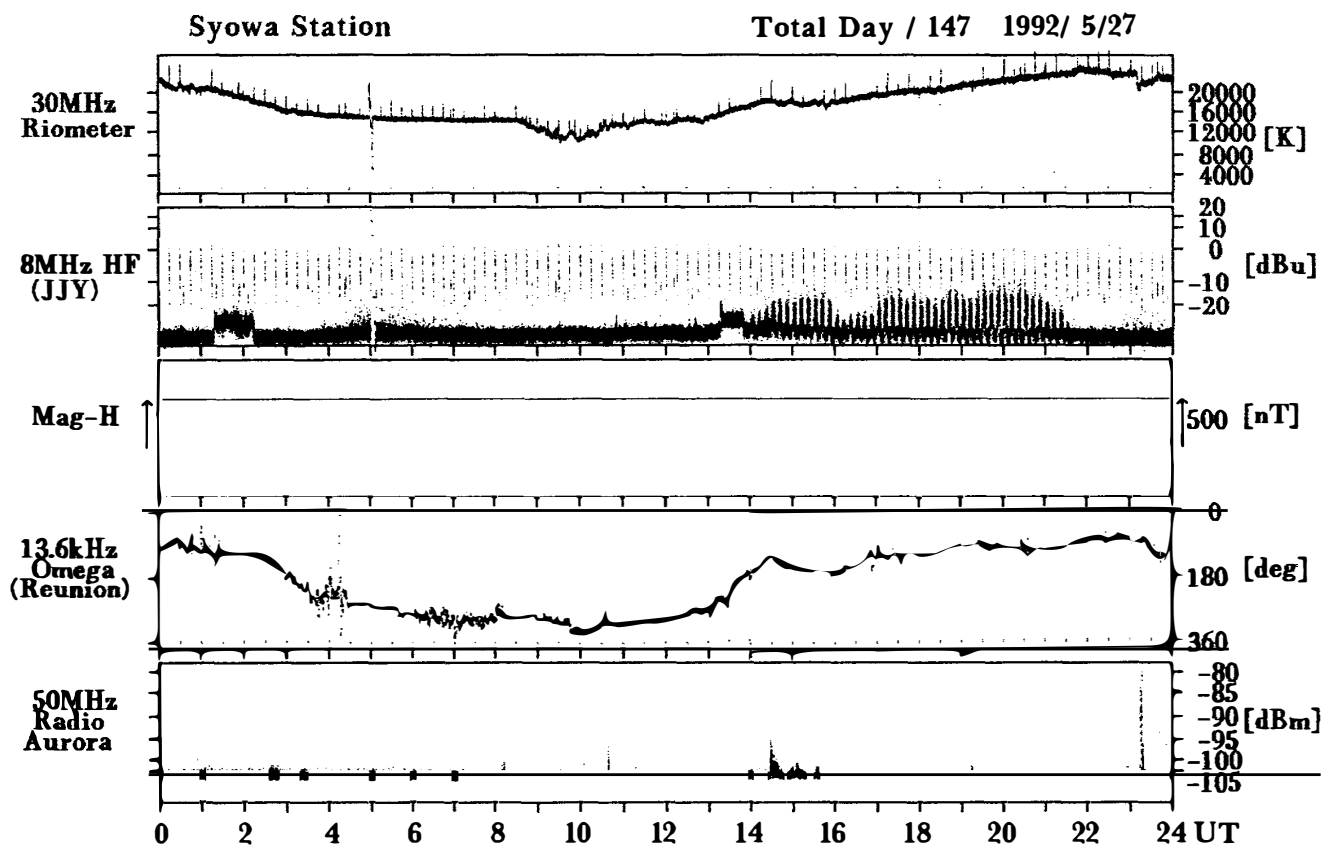
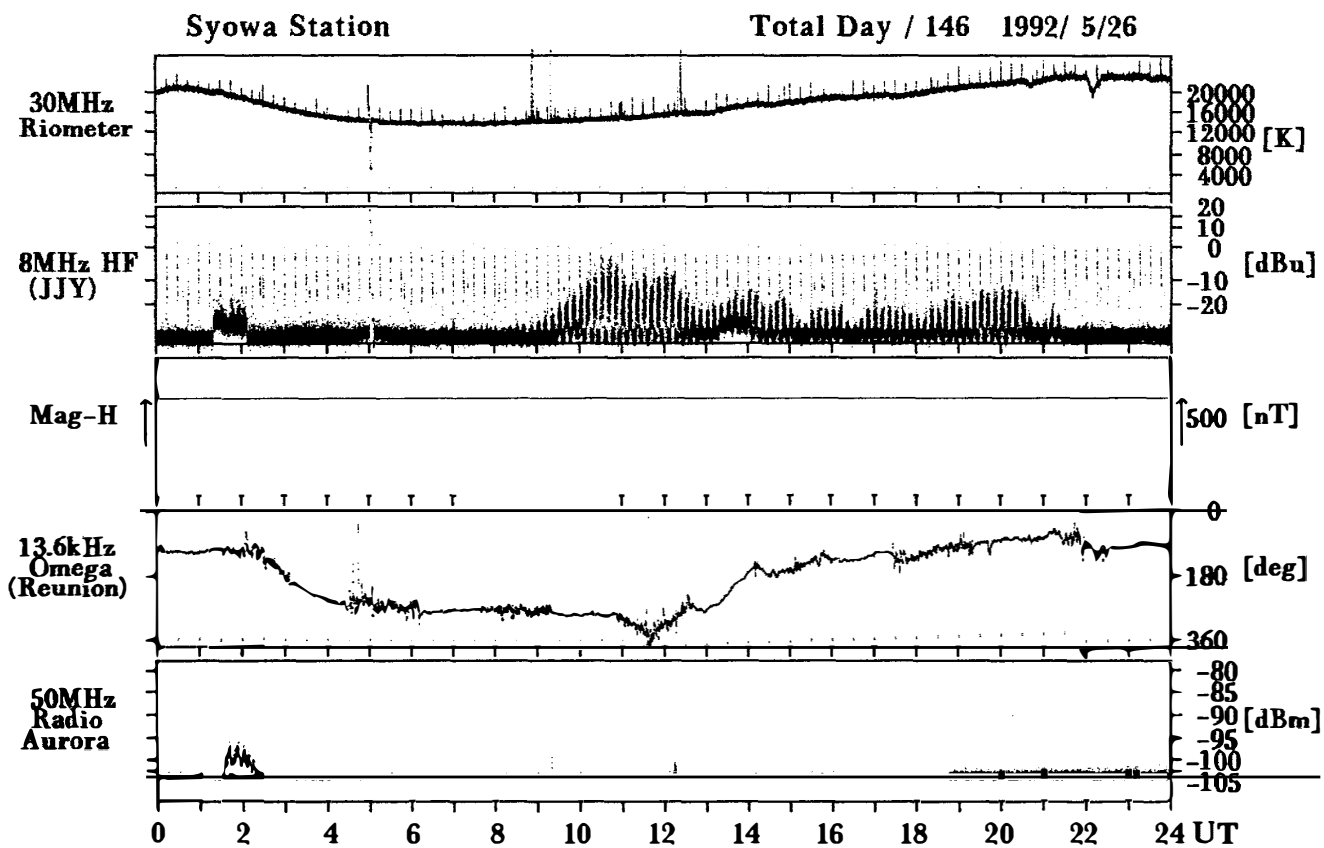
Total Day / 144 1992/ 5/24



Syowa Station

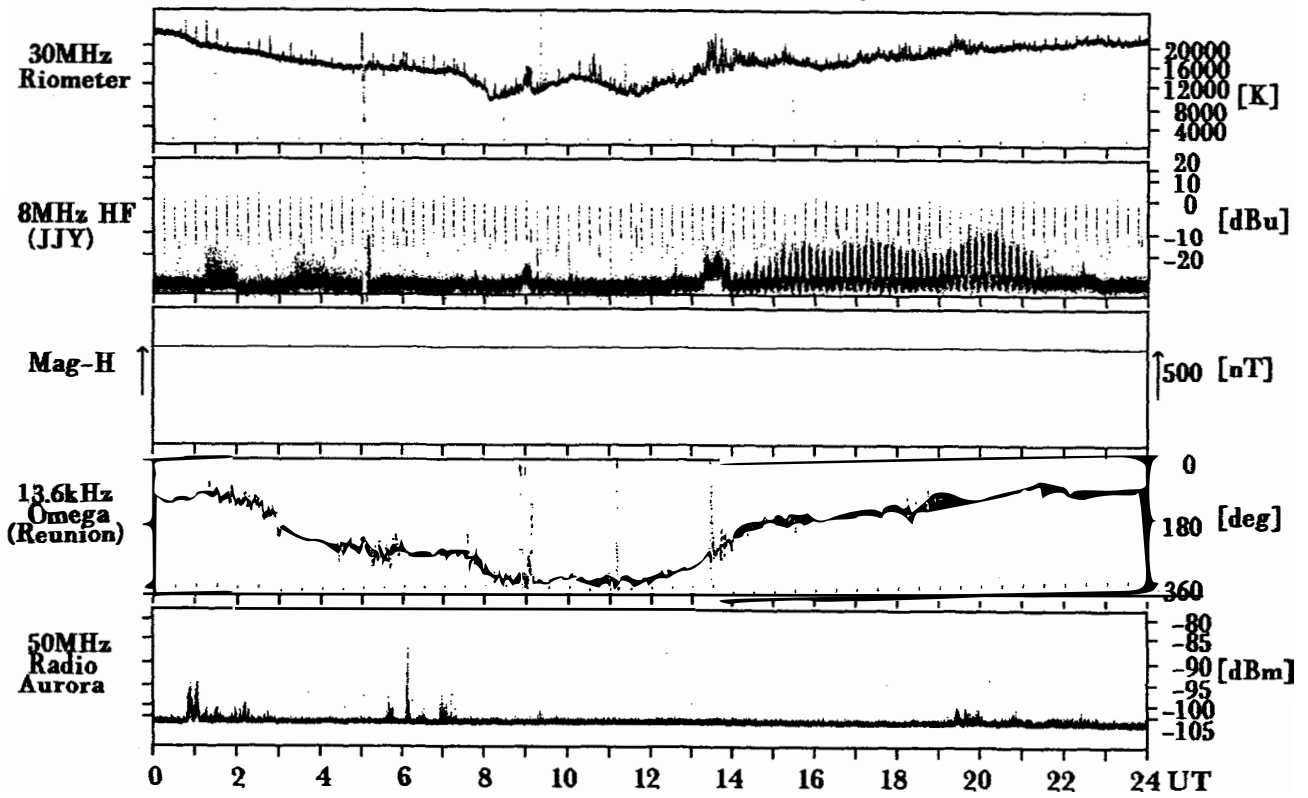
Total Day / 145 1992/ 5/25





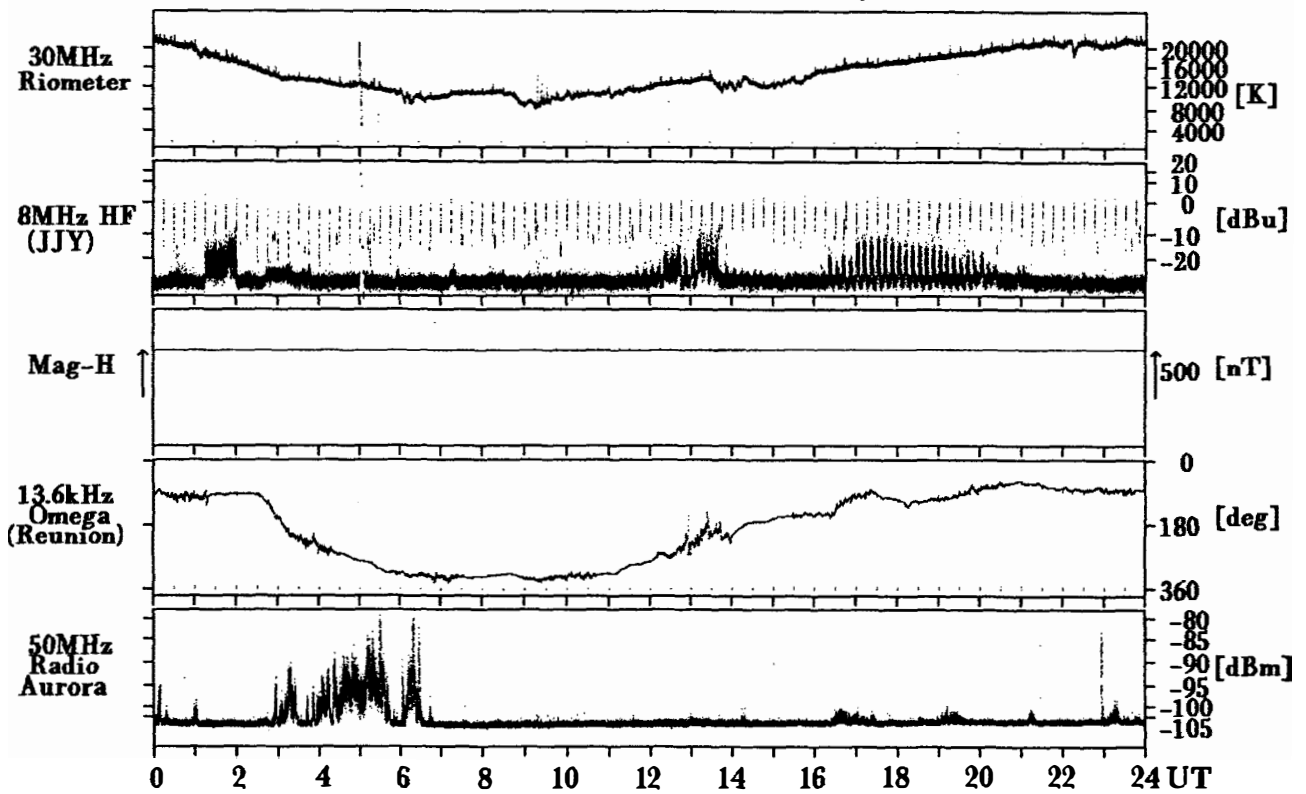
Syowa Station

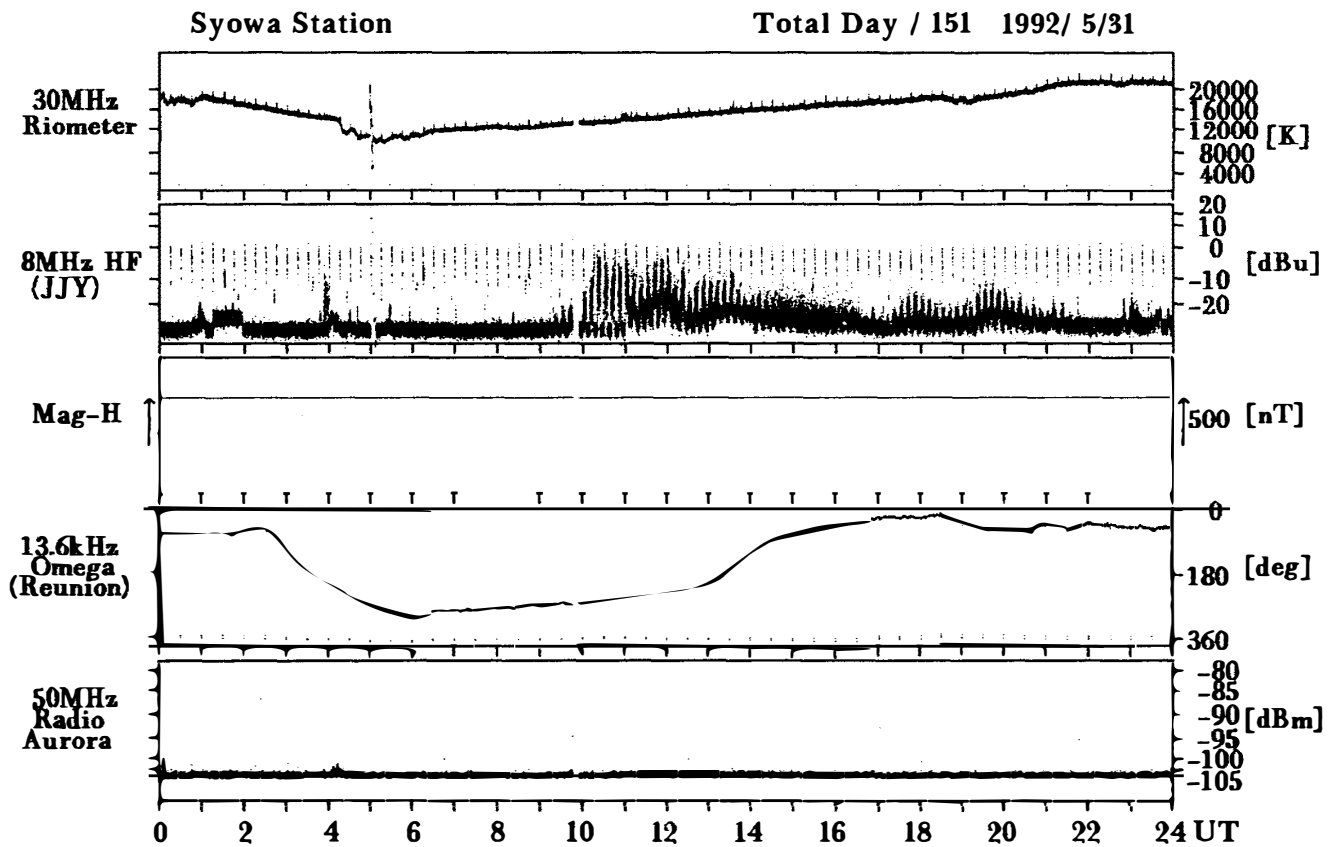
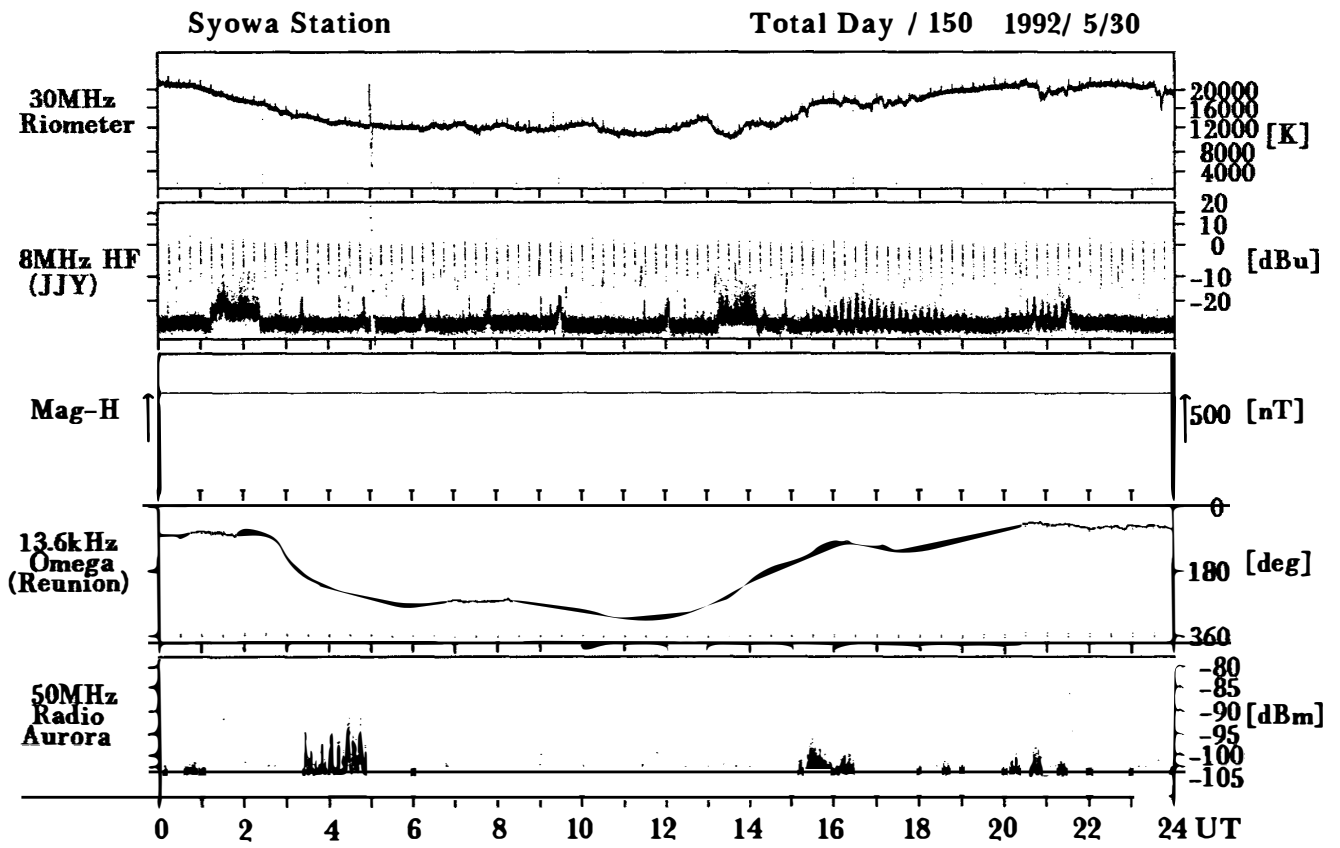
Total Day / 148 1992/ 5/28



Syowa Station

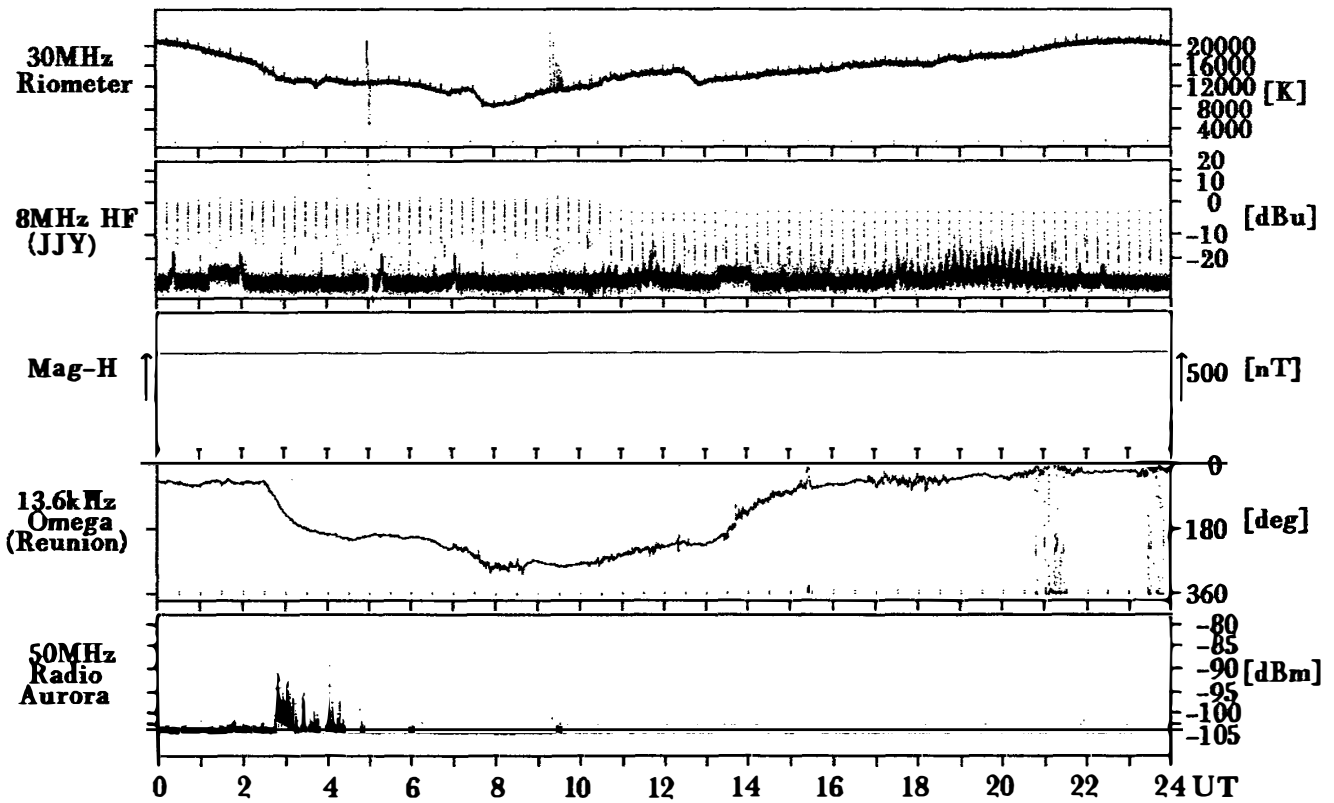
Total Day / 149 1992/ 5/29





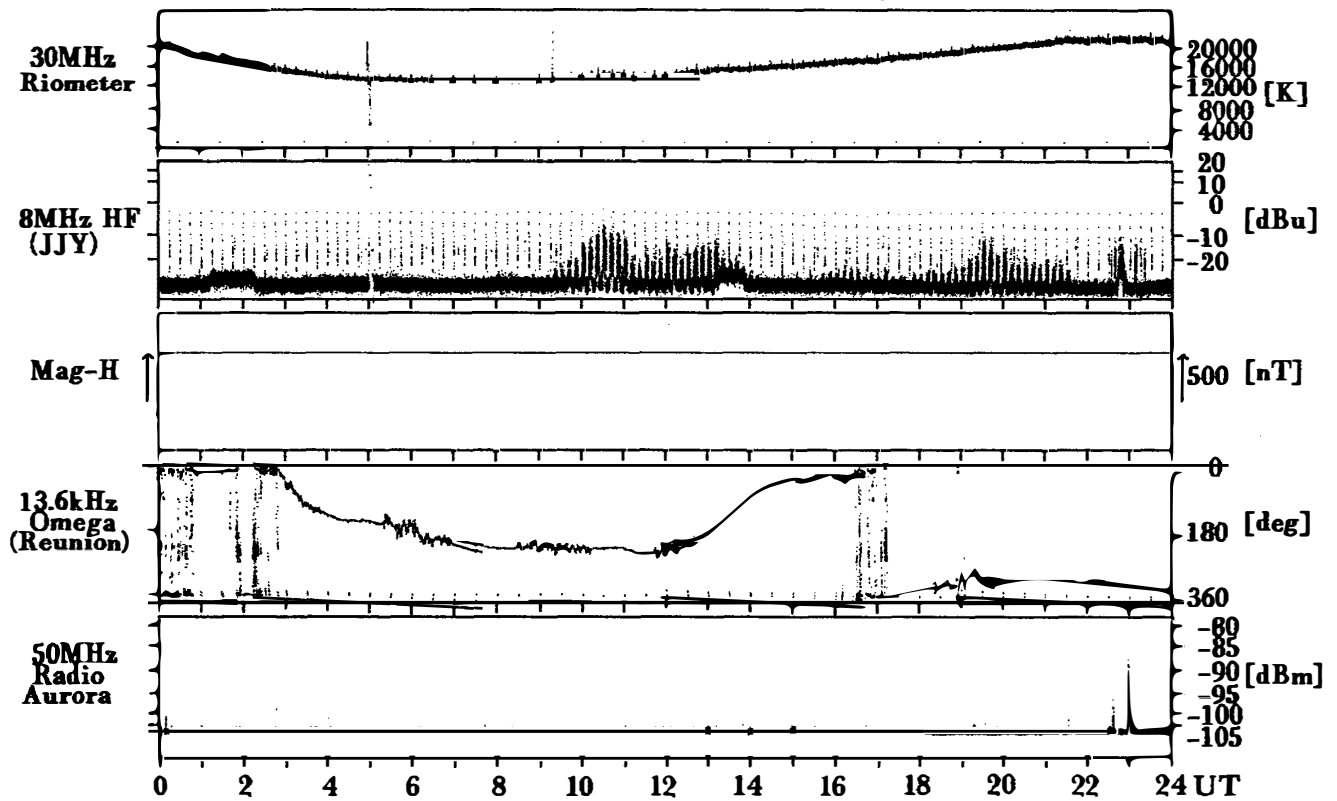
Syowa Station

Total Day / 152 1992/ 6/ 1



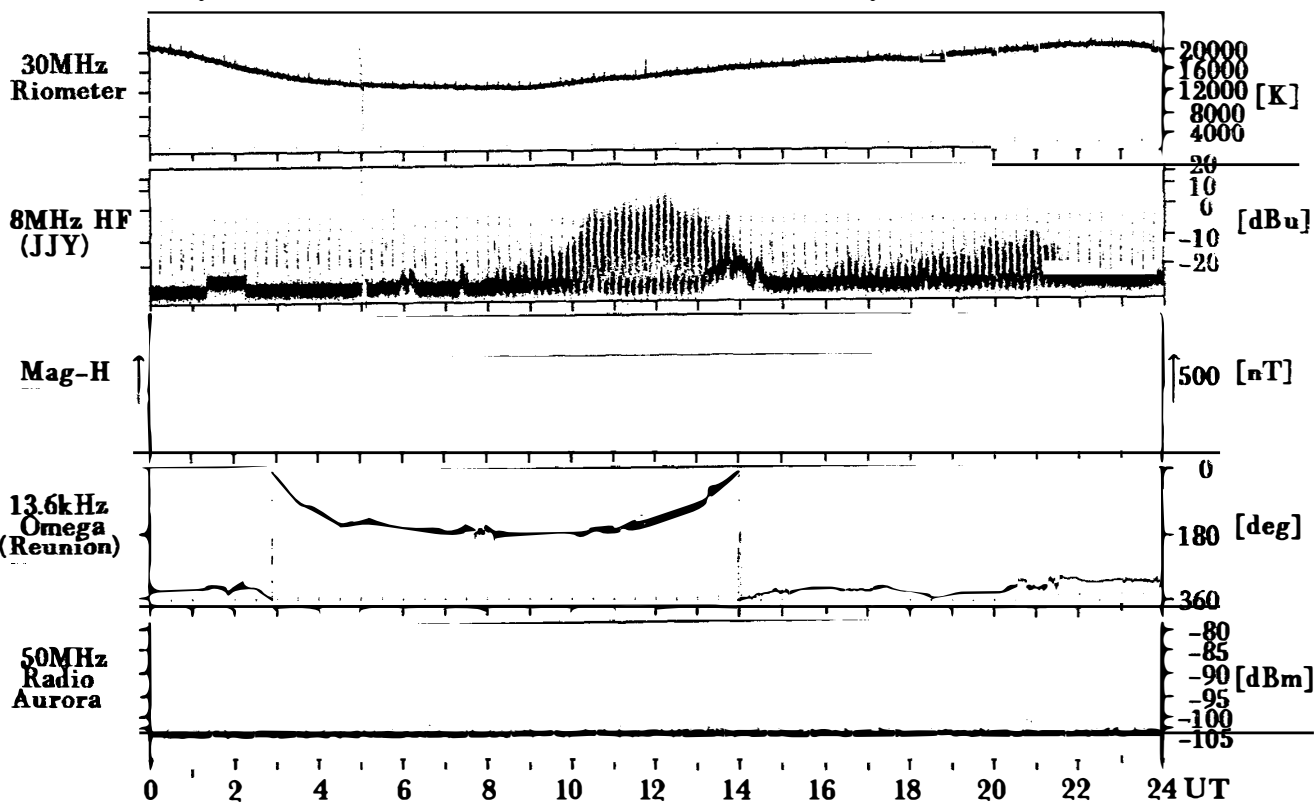
Syowa Station

Total Day / 153 1992/ 6/ 2



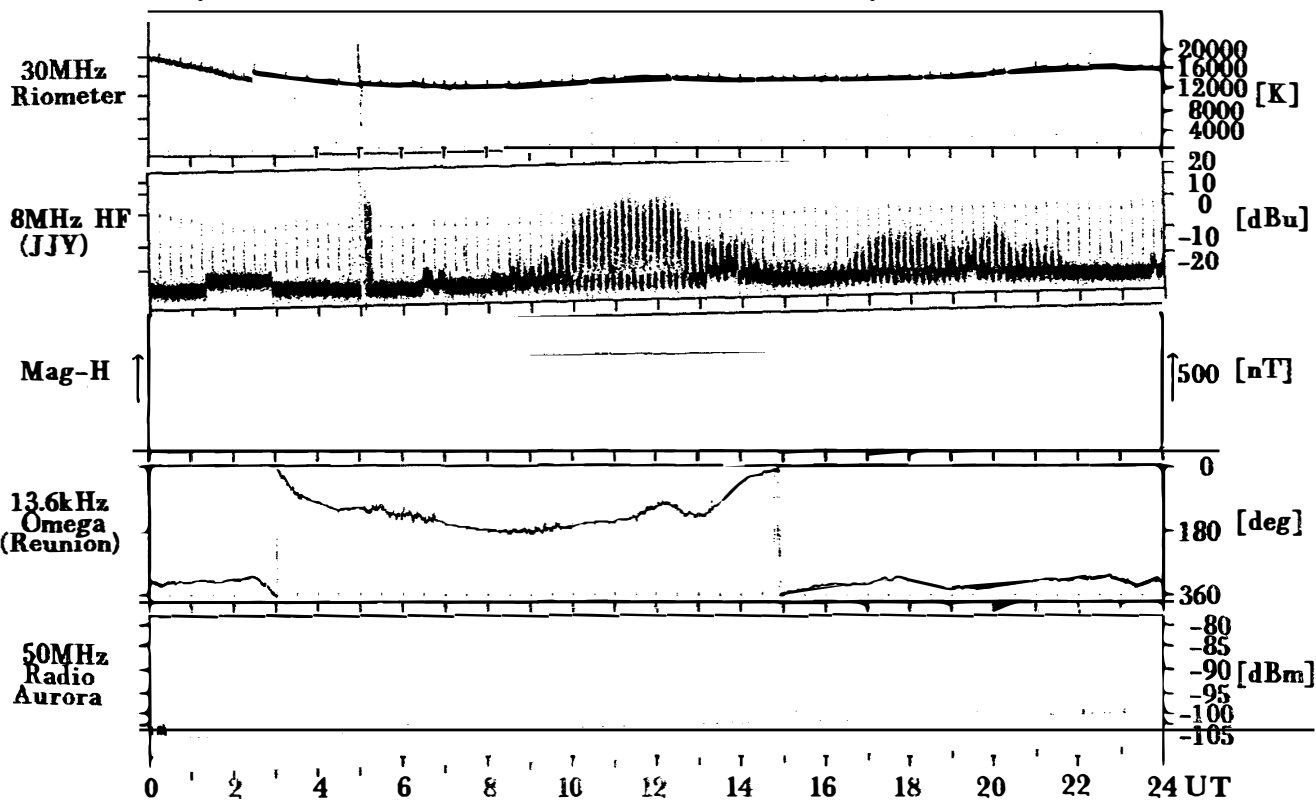
Syowa Station

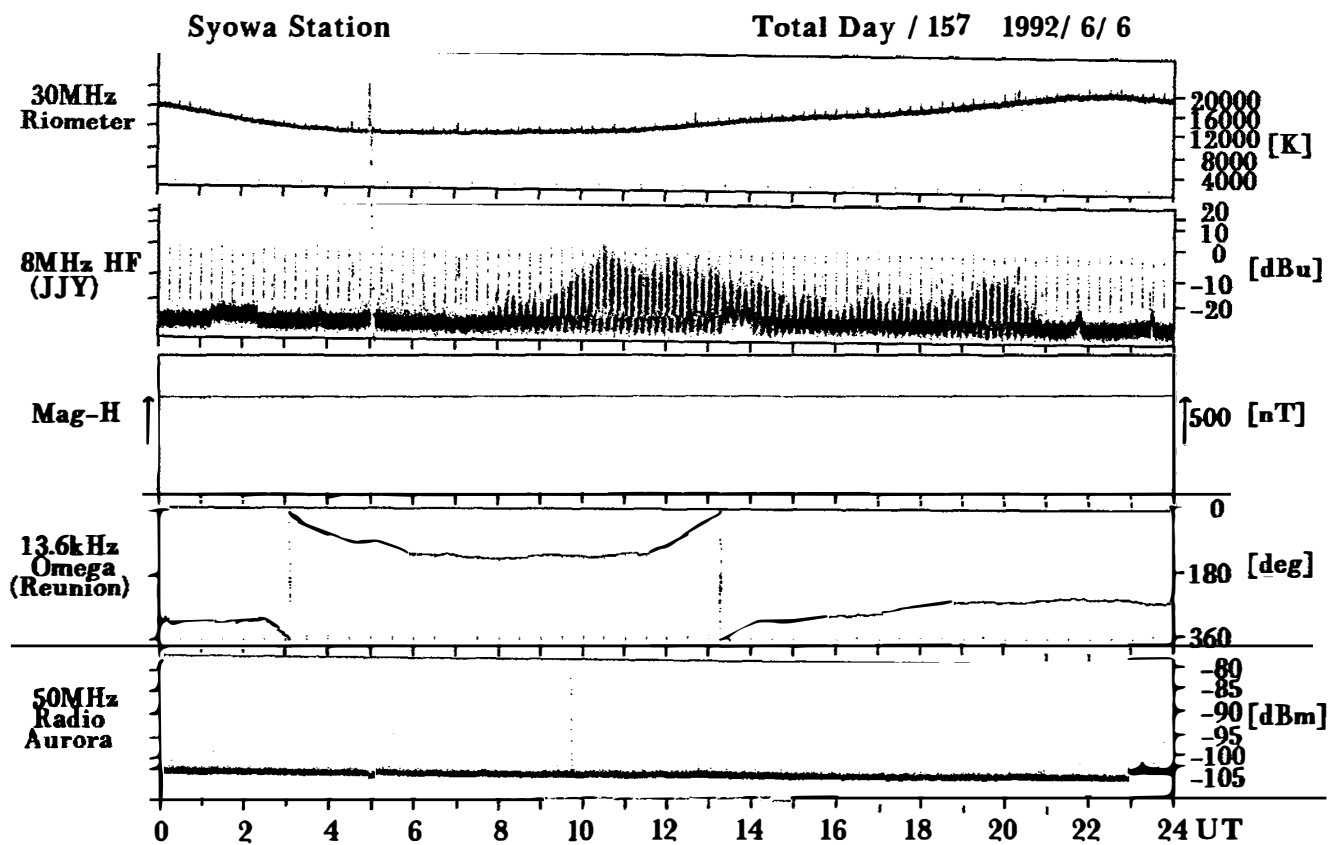
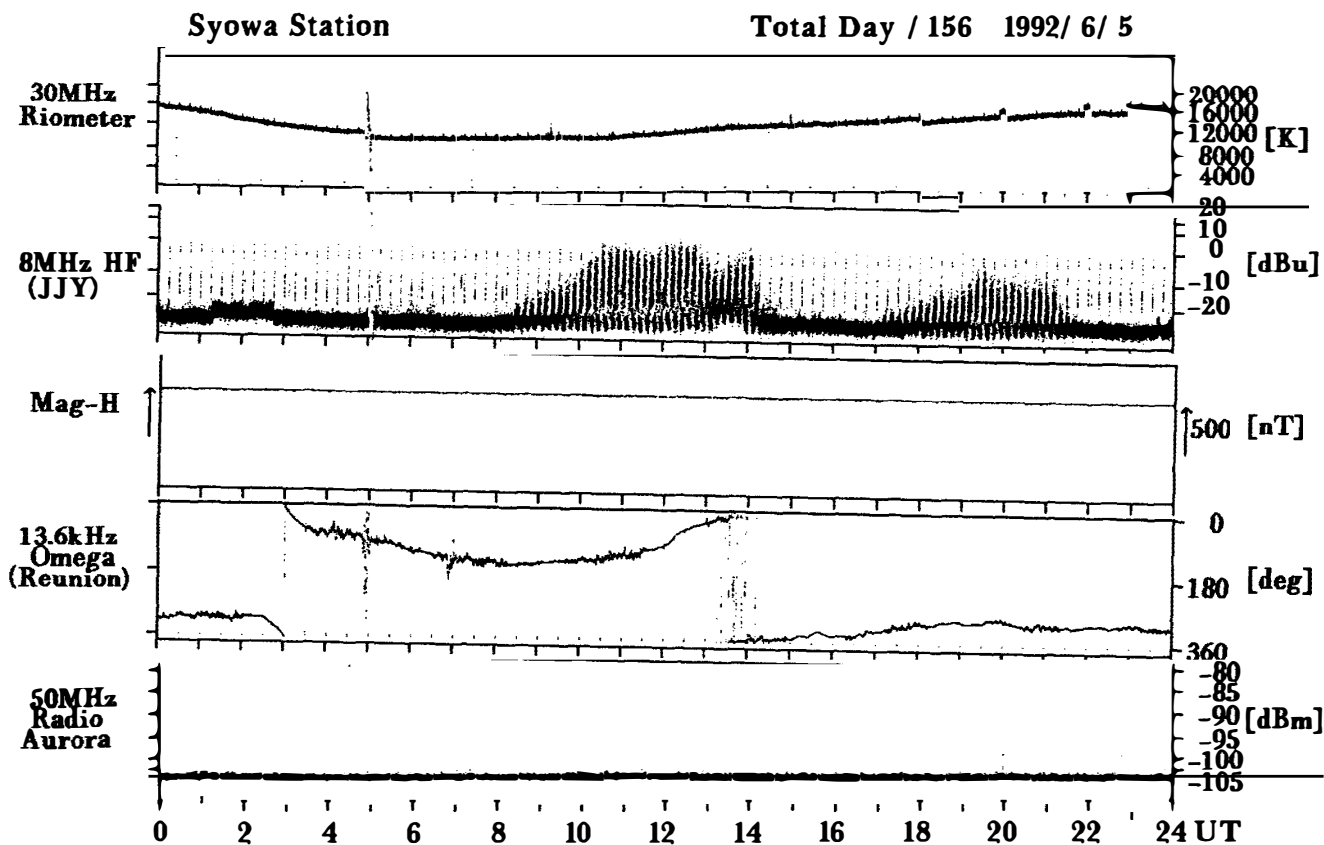
Total Day / 154 1992/ 6/ 3



Syowa Station

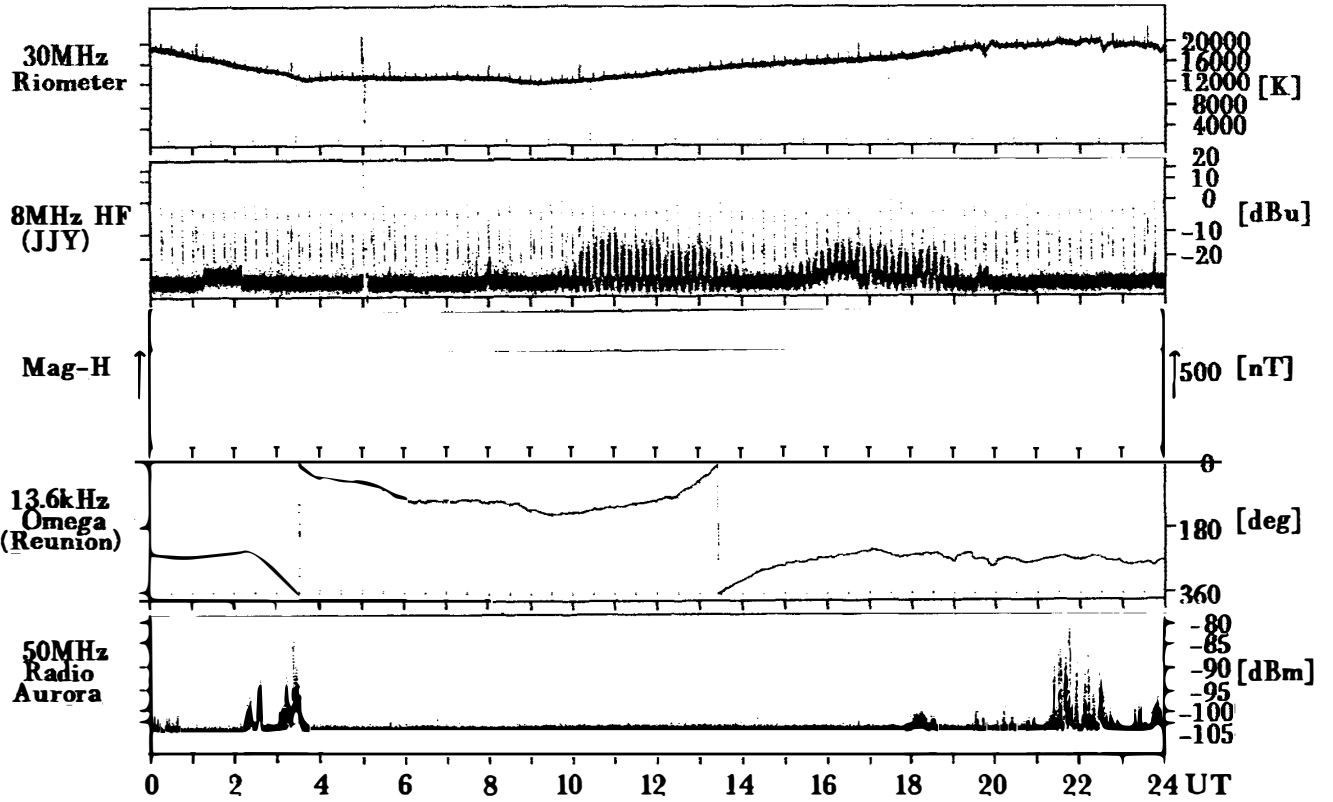
Total Day / 155 1992/ 6/ 4





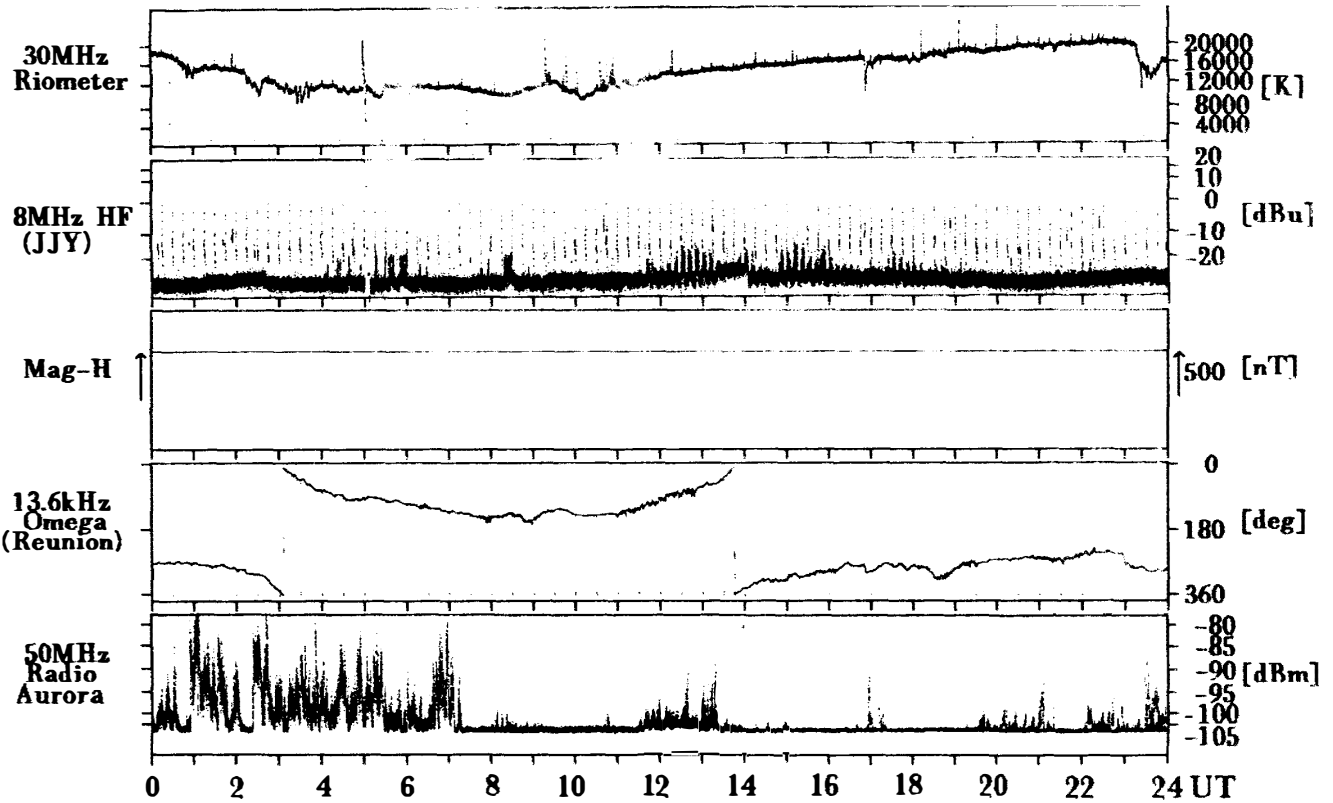
Syowa Station

Total Day / 158 1992/ 6/ 7



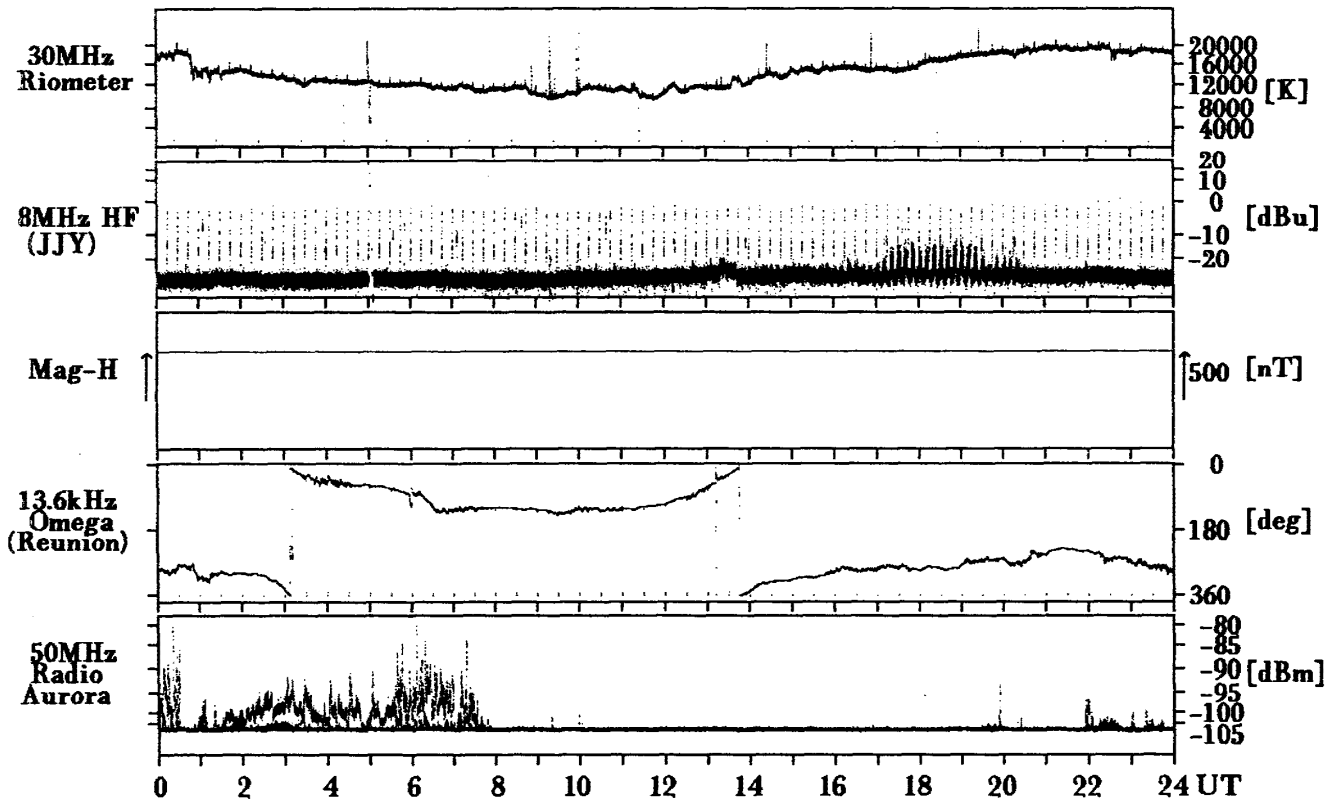
Syowa Station

Total Day / 159 1992/ 6/ 8



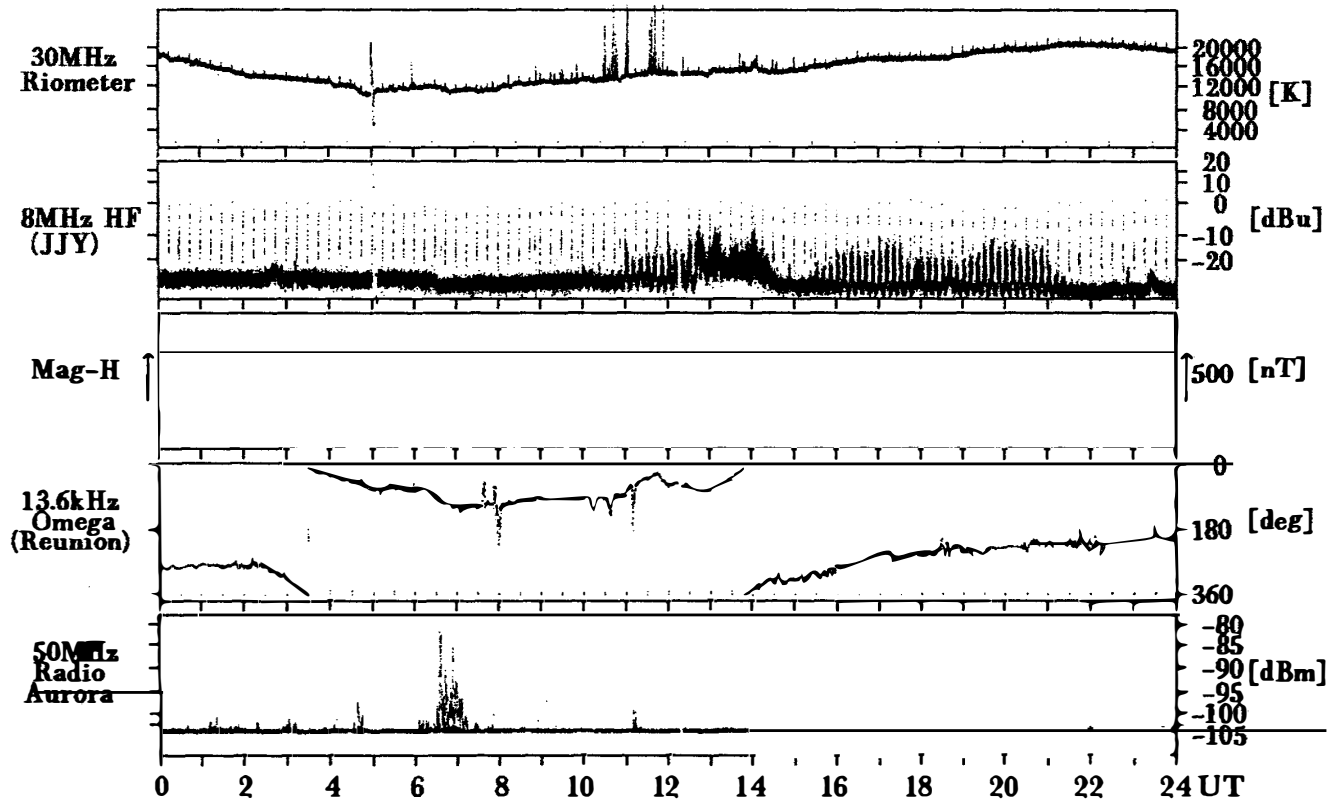
Syowa Station

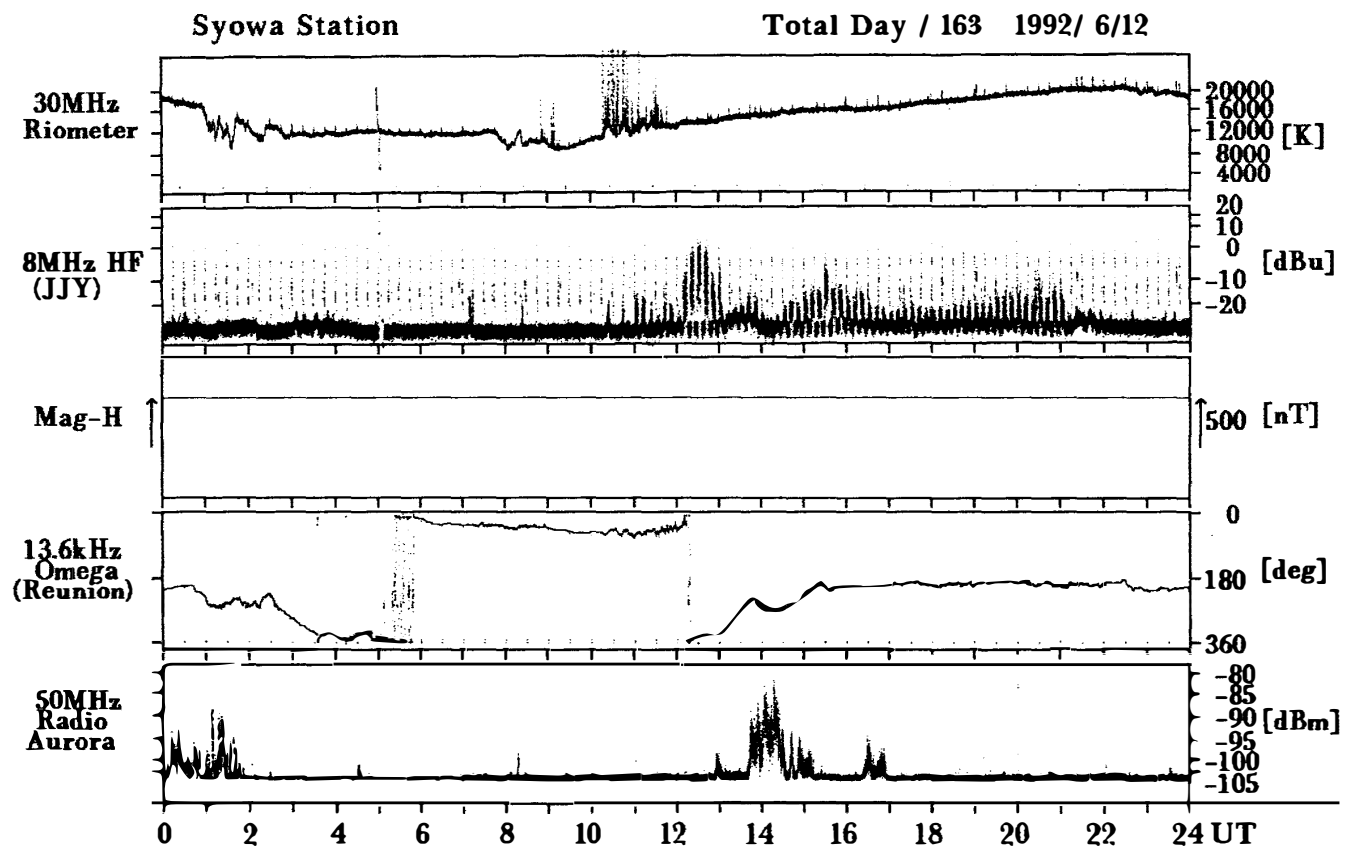
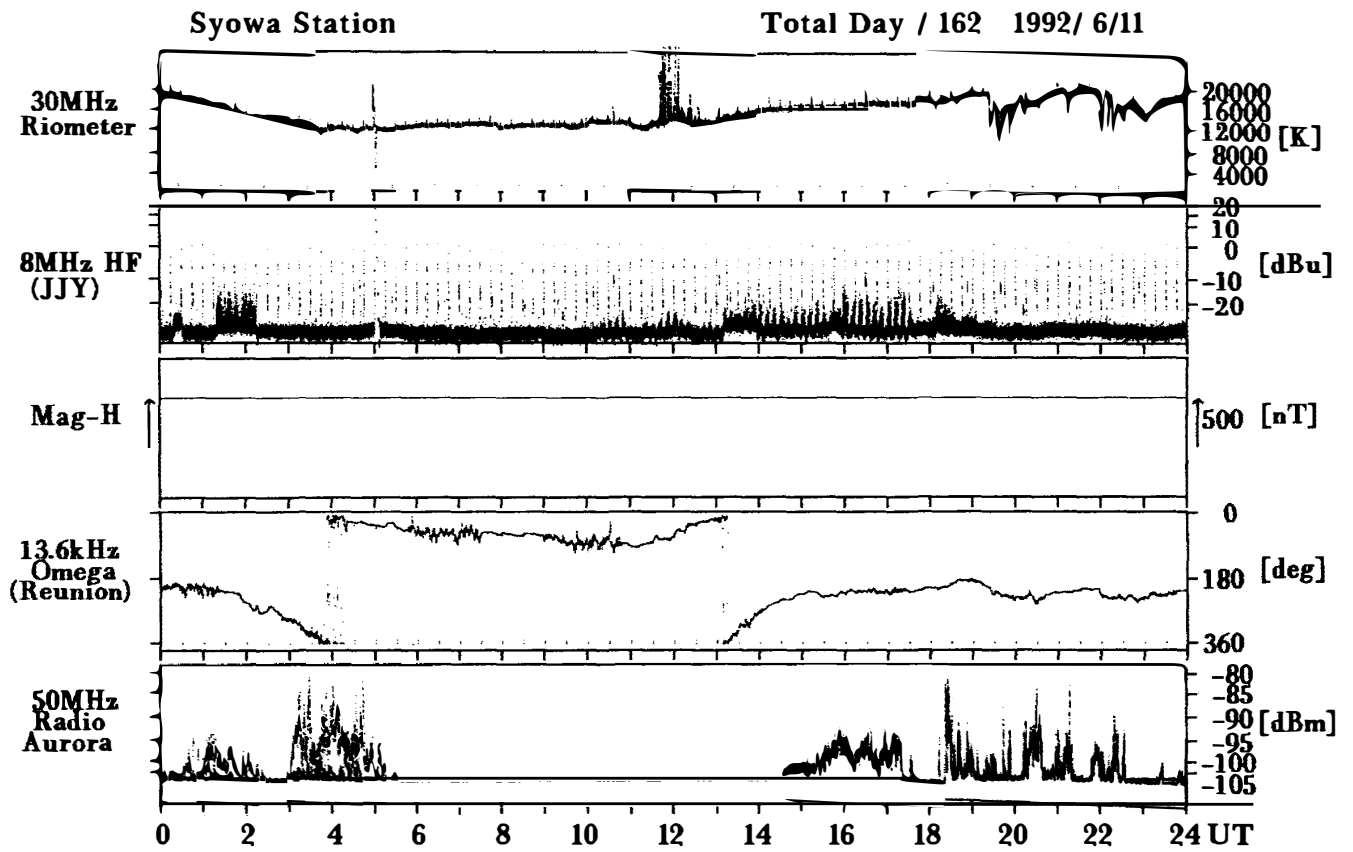
Total Day / 160 1992/ 6/ 9



Syowa Station

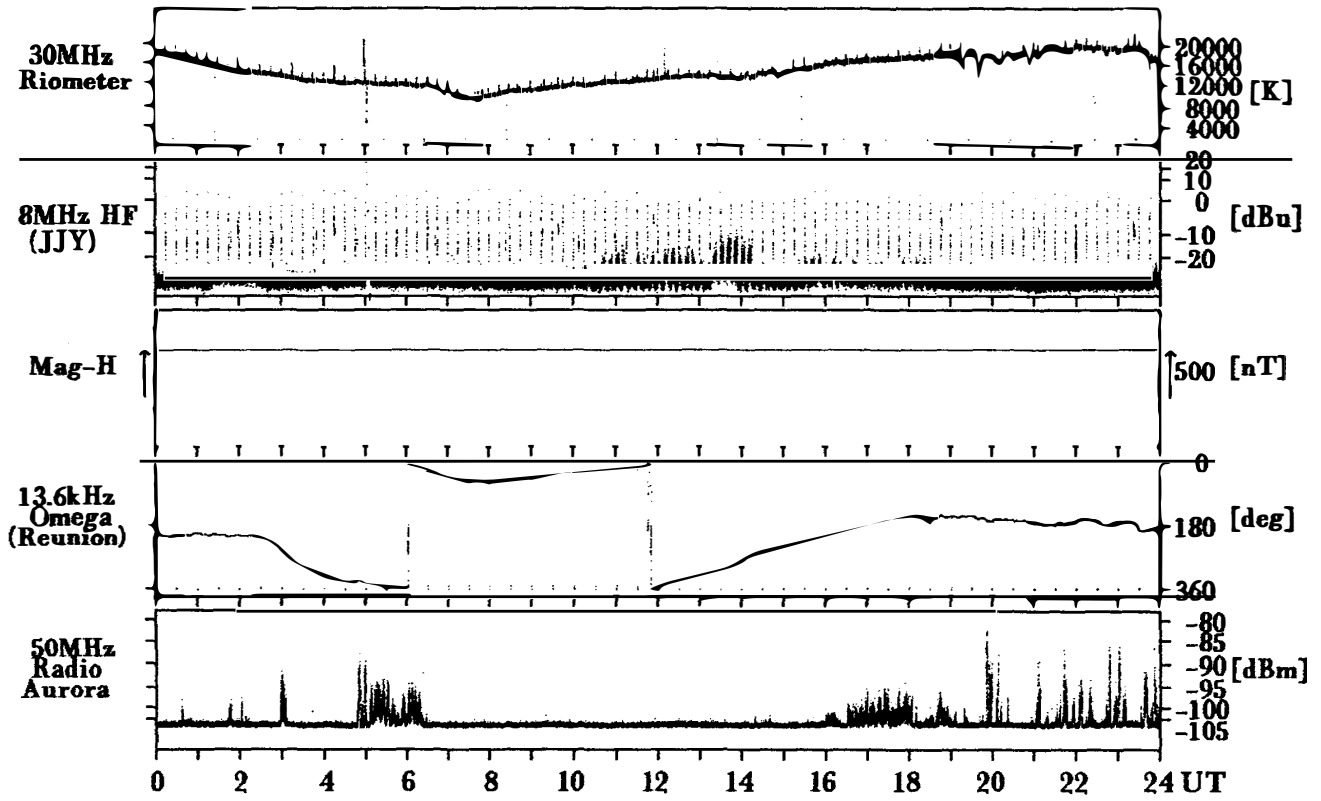
Total Day / 161 1992/ 6/10





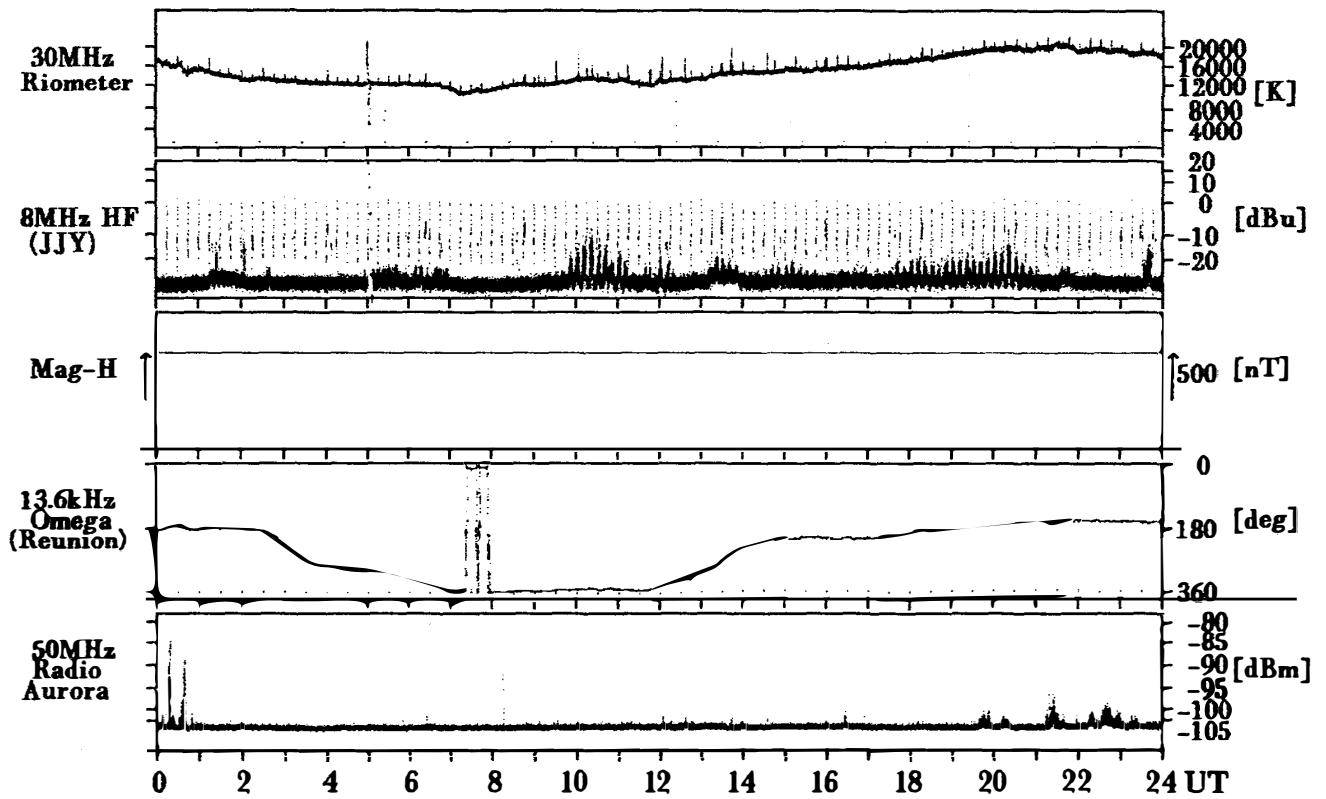
Syowa Station

Total Day / 164 1992/ 6/13



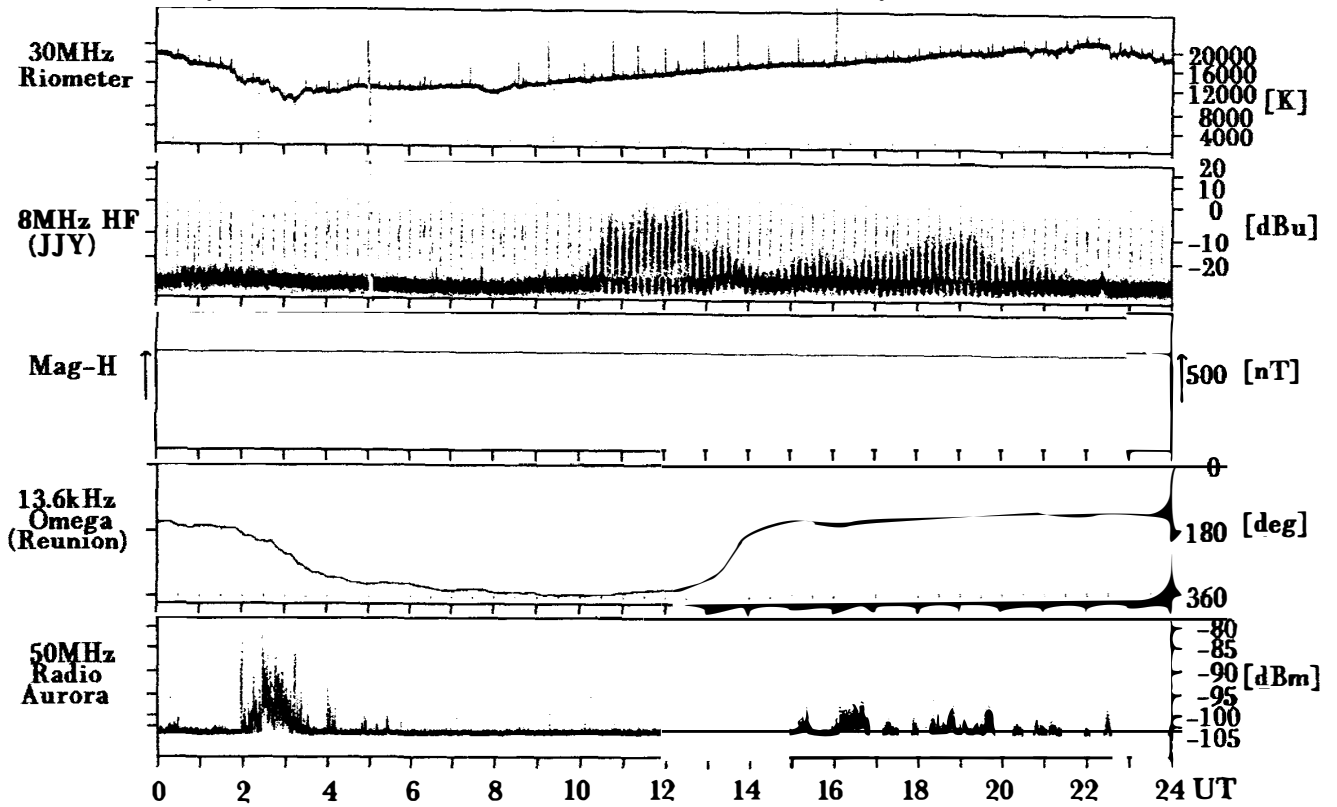
Syowa Station

Total Day / 165 1992/ 6/14



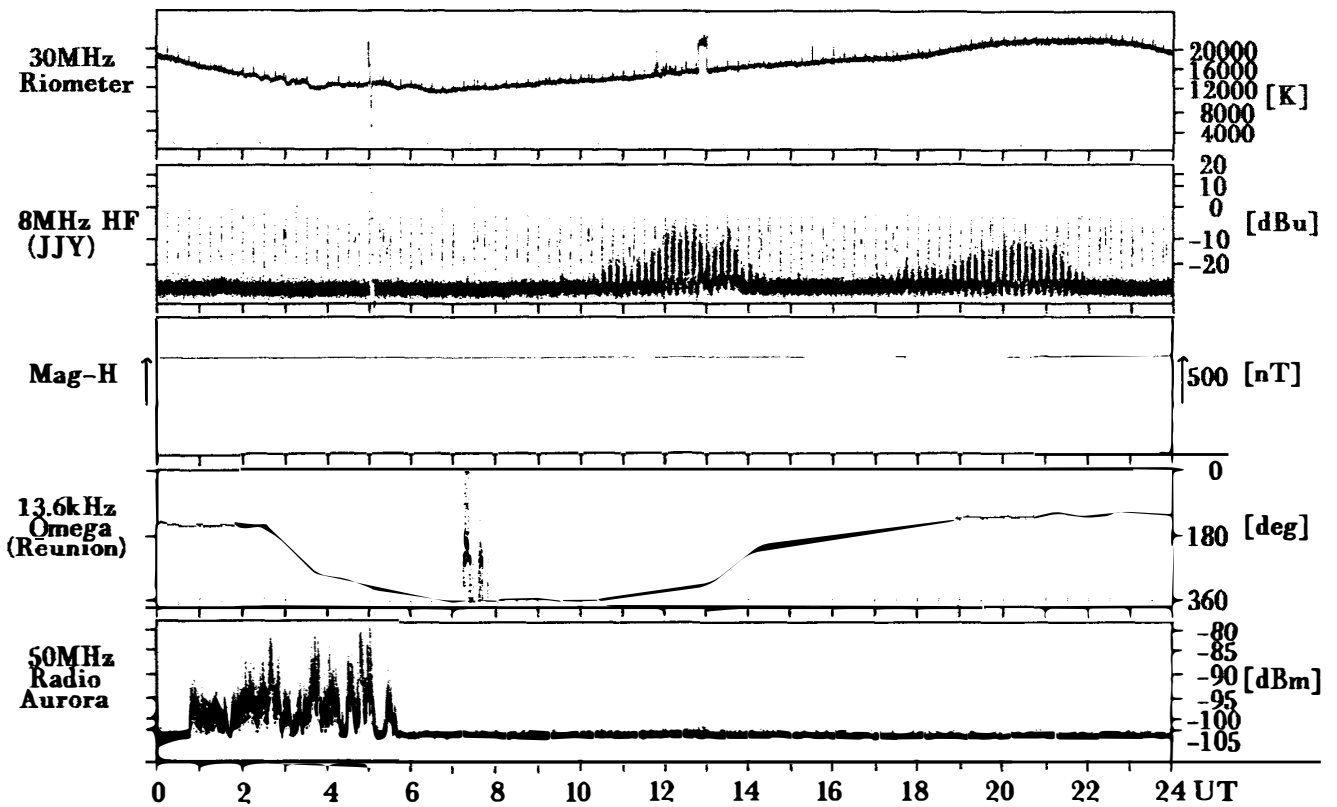
Syowa Station

Total Day / 166 1992/ 6/15



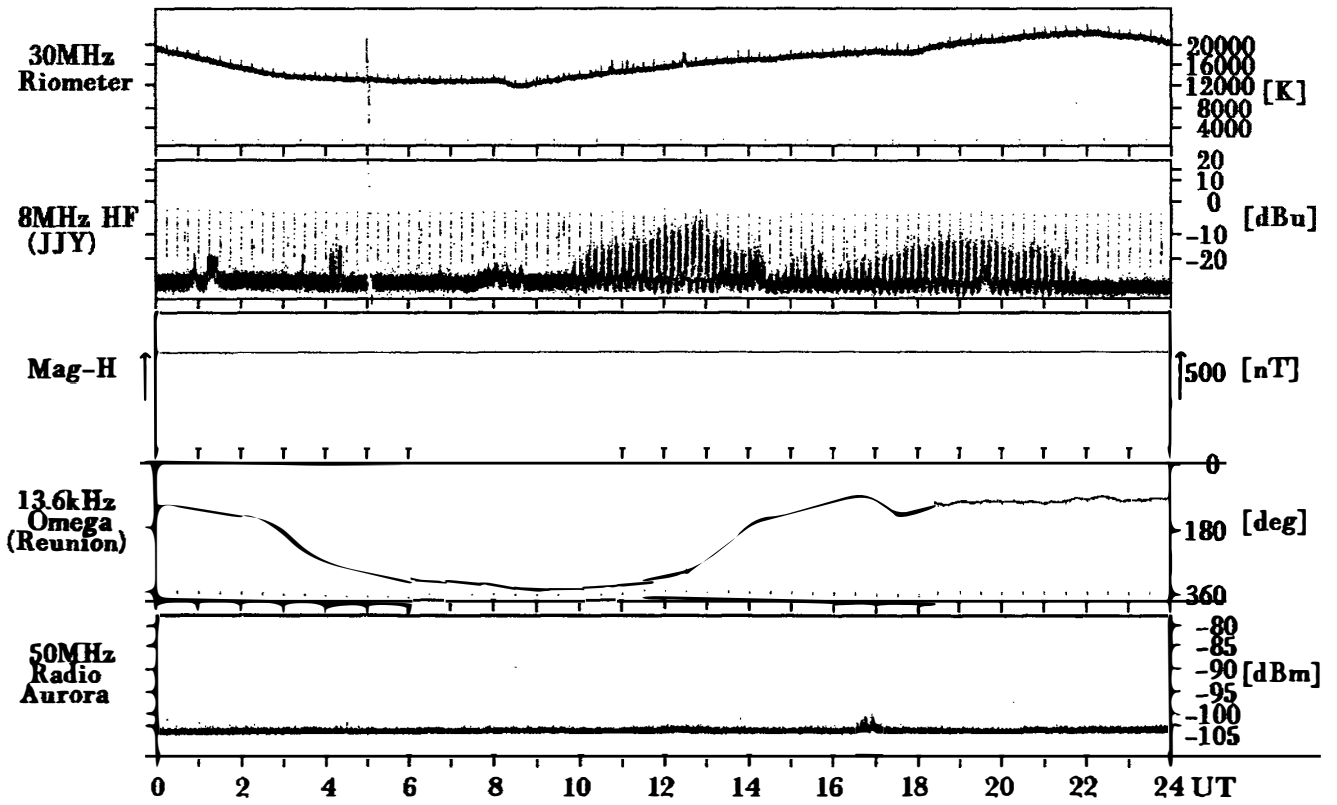
Syowa Station

Total Day / 167 1992/ 6/16



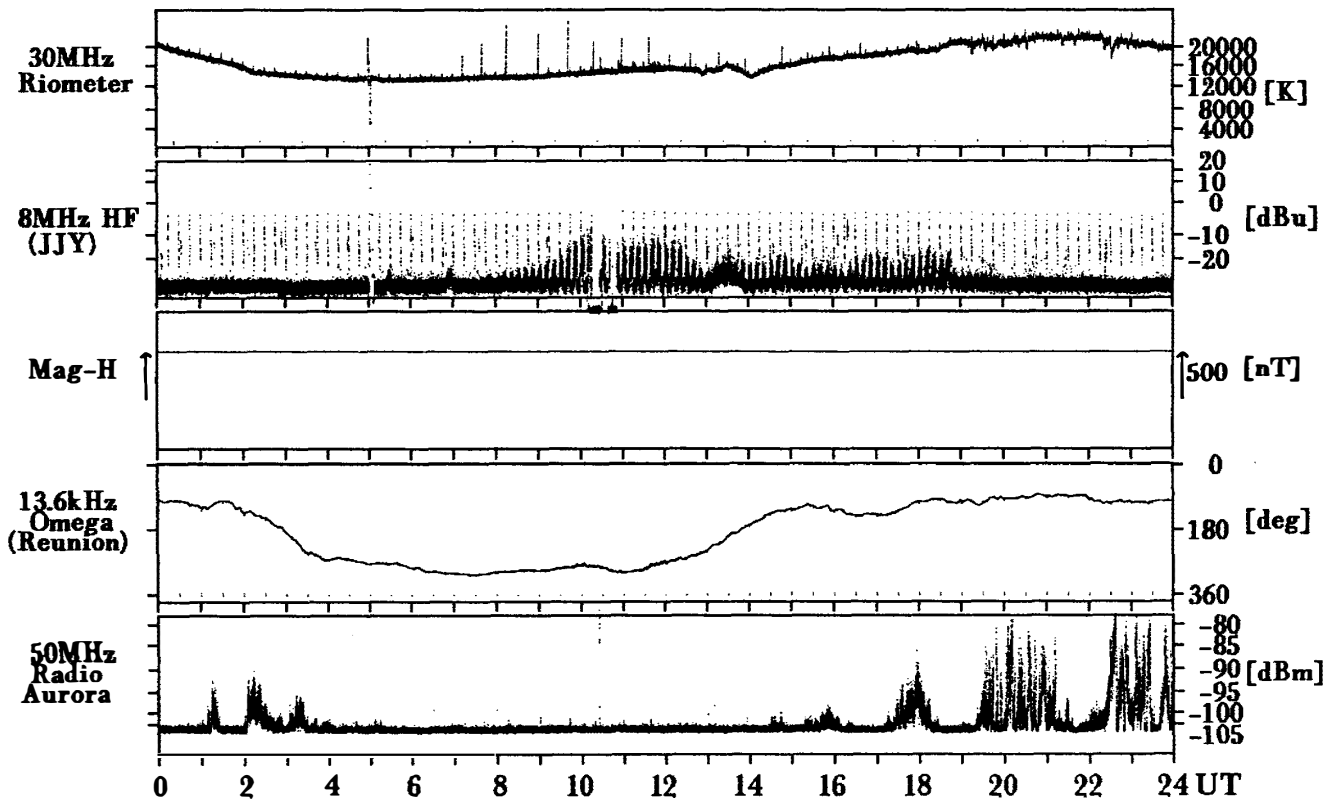
Syowa Station

Total Day / 168 1992/ 6/17



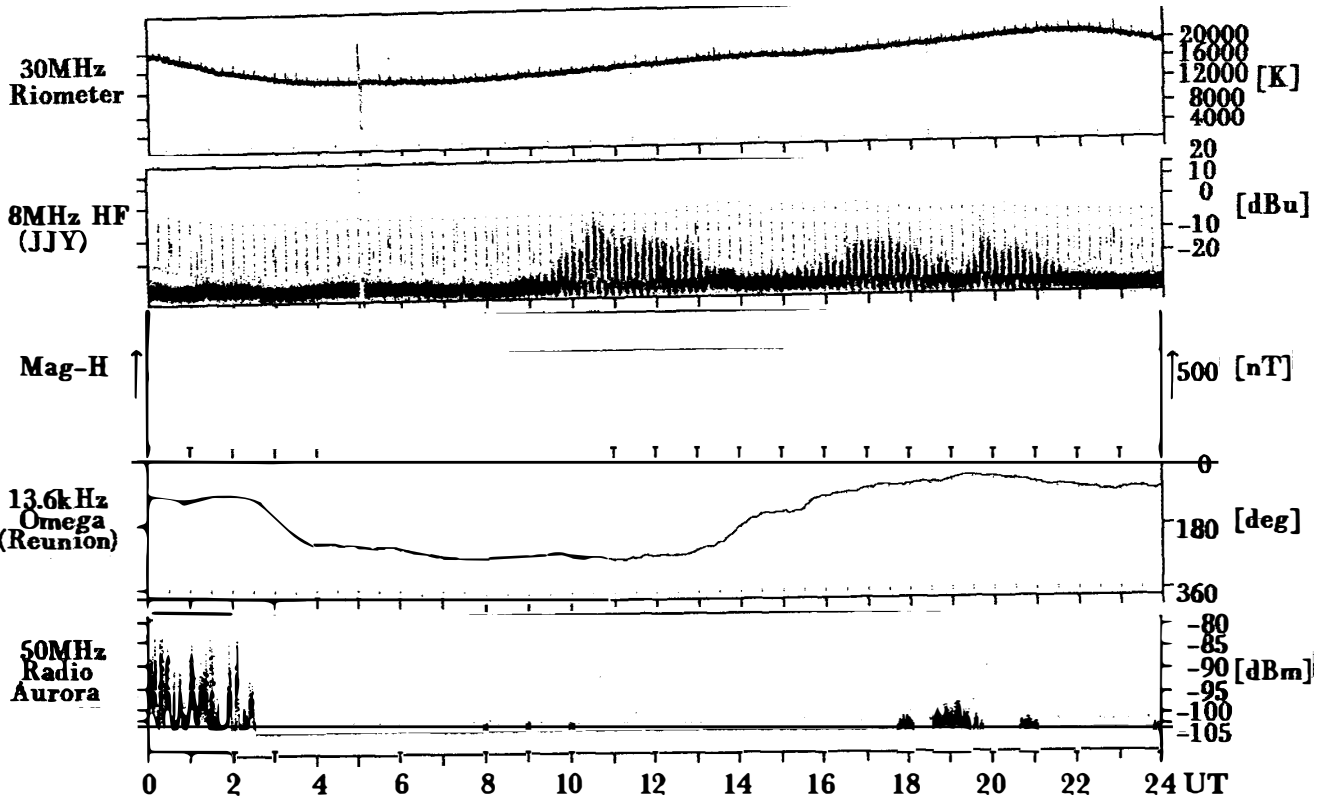
Syowa Station

Total Day / 169 1992/ 6/18



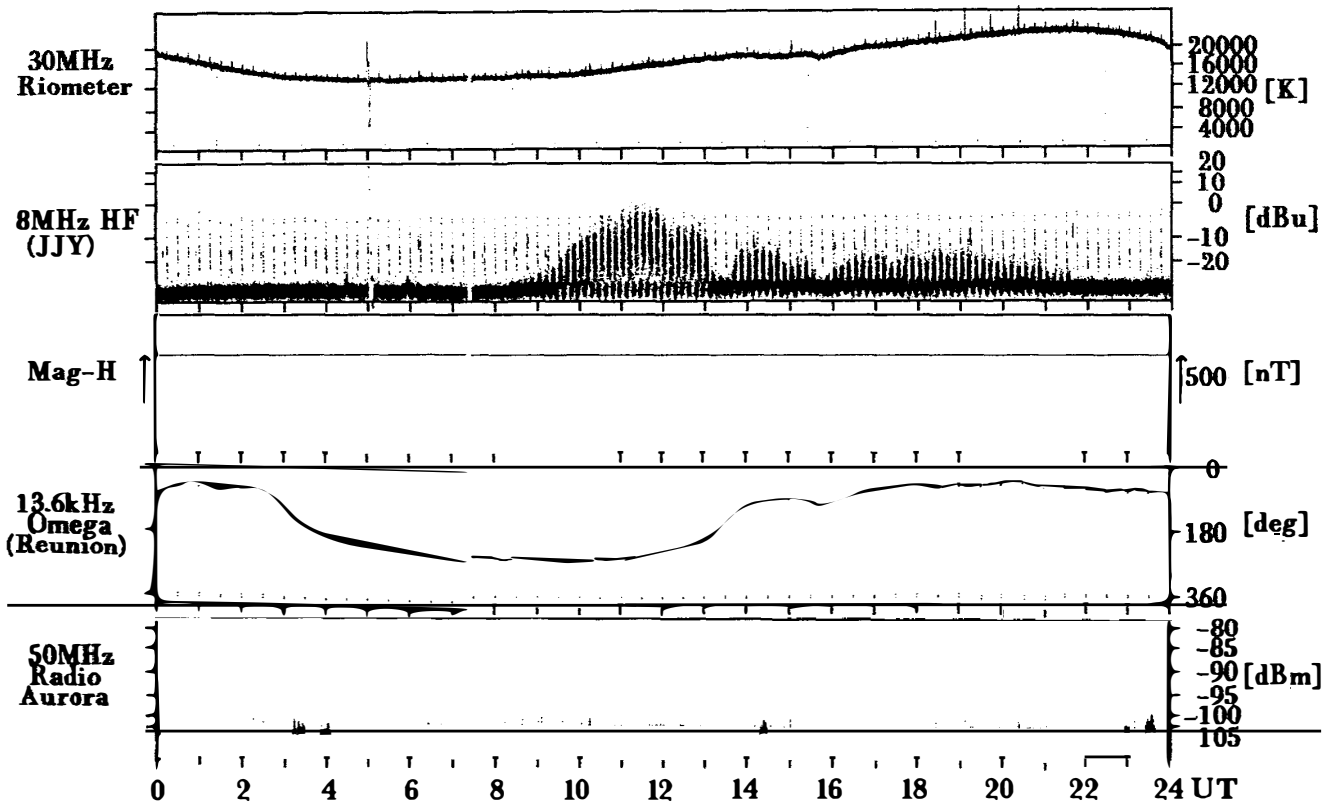
Syowa Station

Total Day / 170 1992/ 6/19



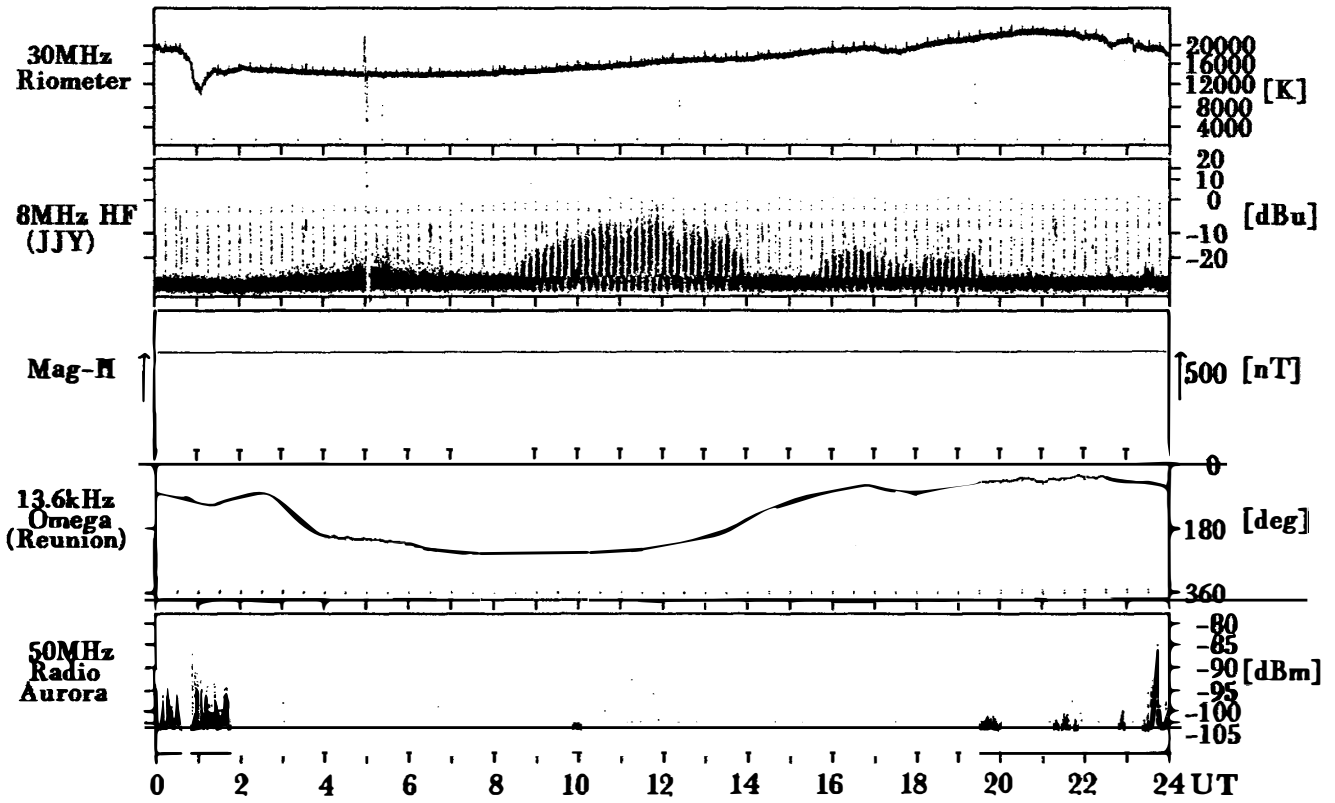
Syowa Station

Total Day / 171 1992/ 6/20



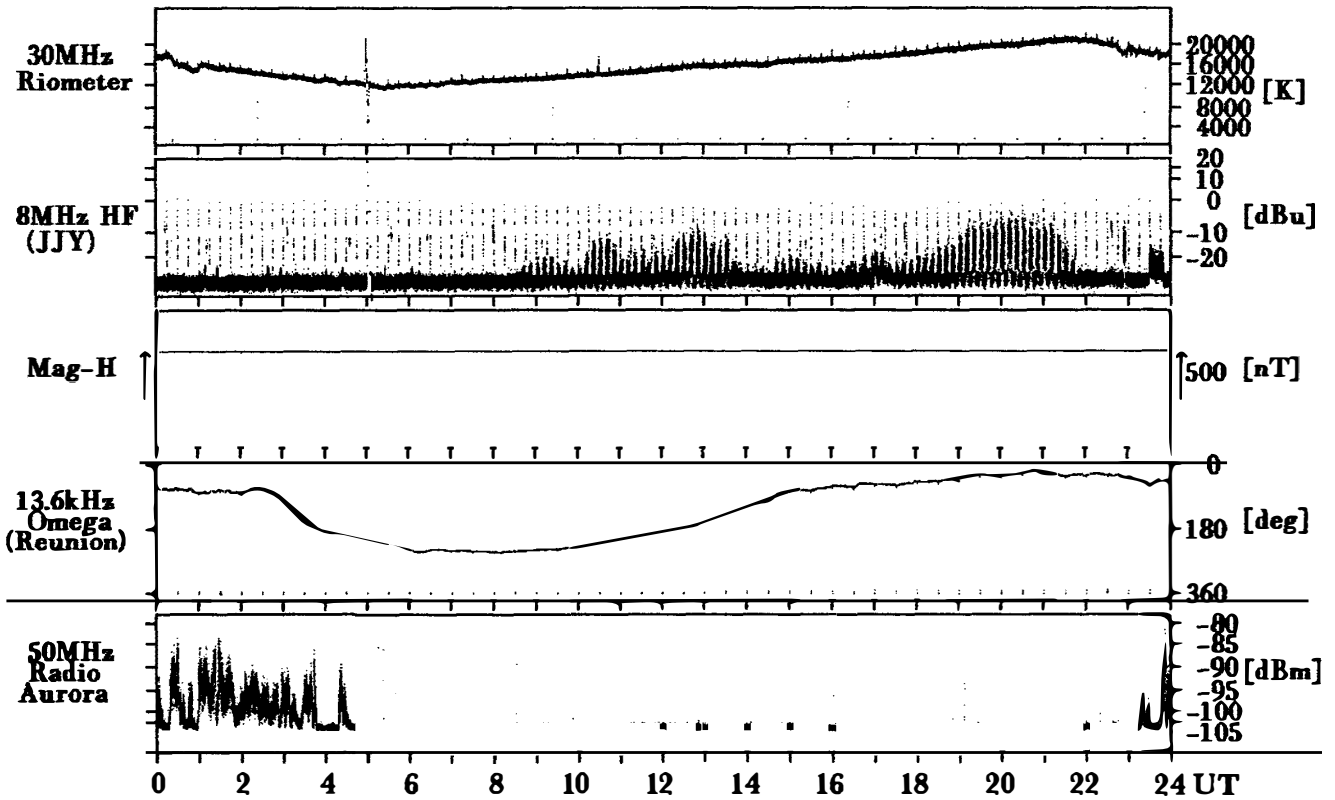
Syowa Station

Total Day / 172 1992/ 6/21



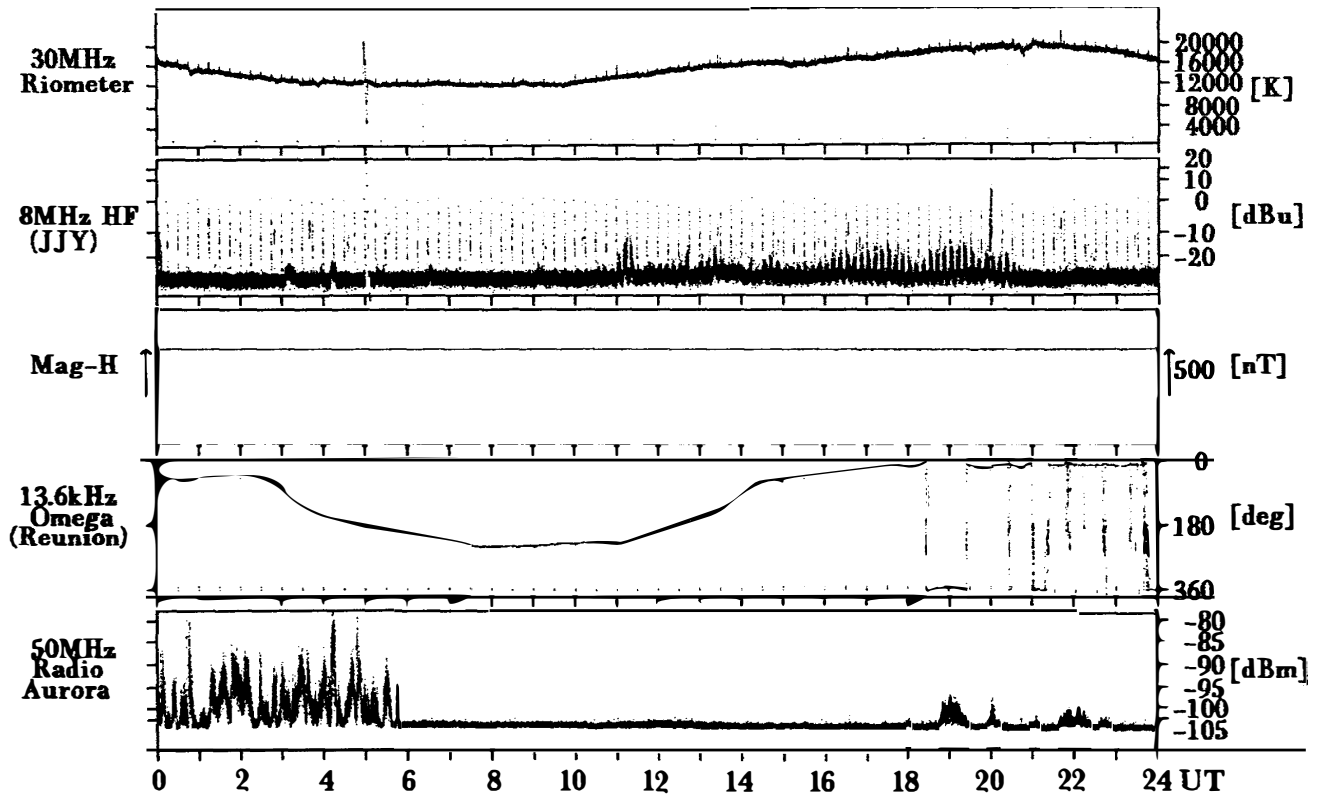
Syowa Station

Total Day / 173 1992/ 6/22



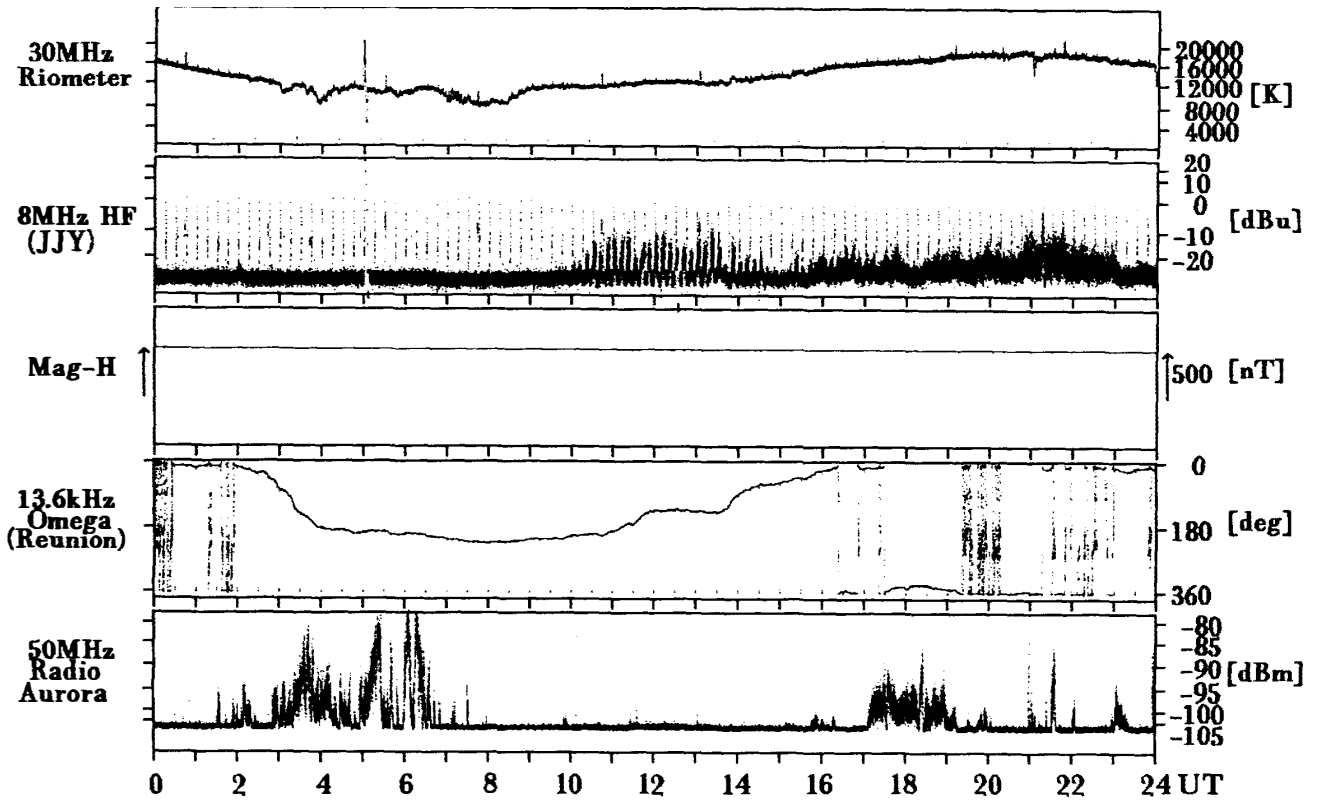
Syowa Station

Total Day / 174 1992/ 6/23



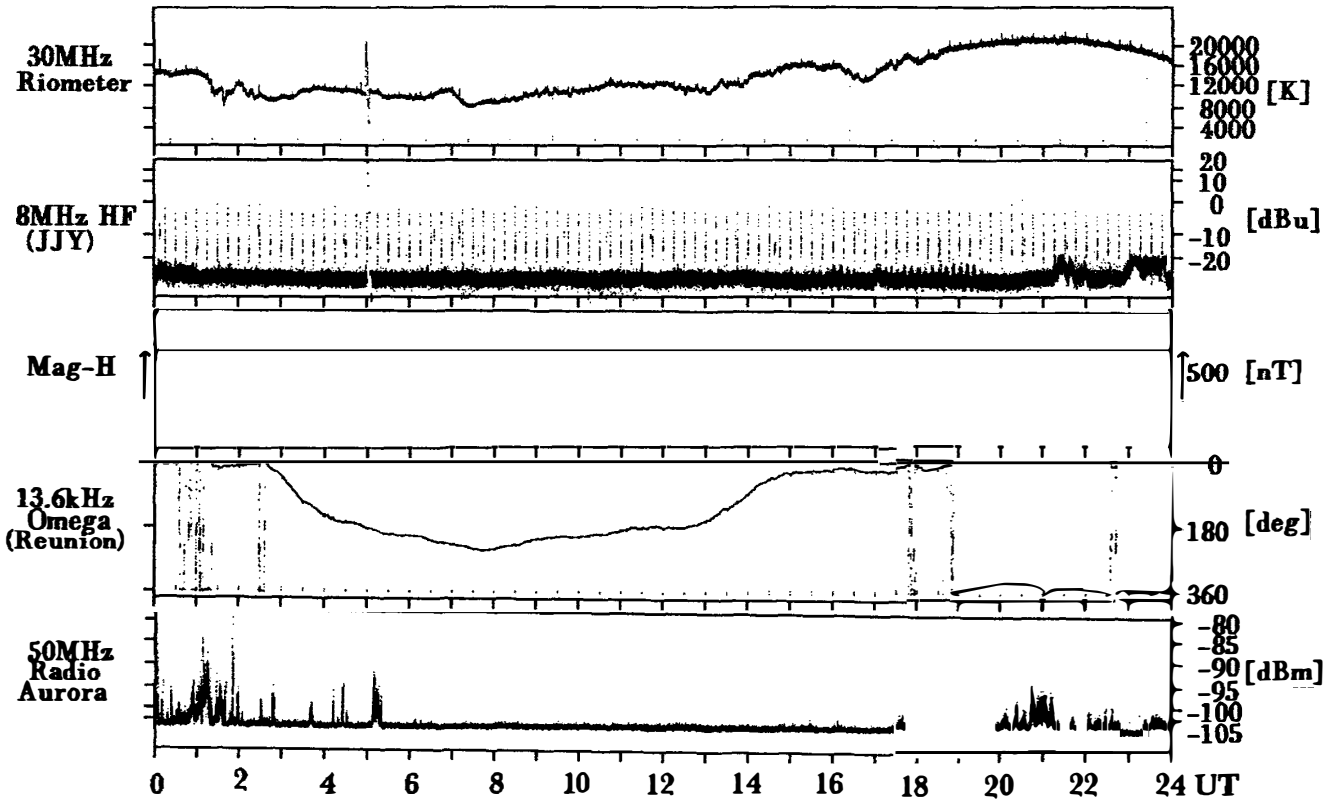
Syowa Station

Total Day / 175 1992/ 6/24



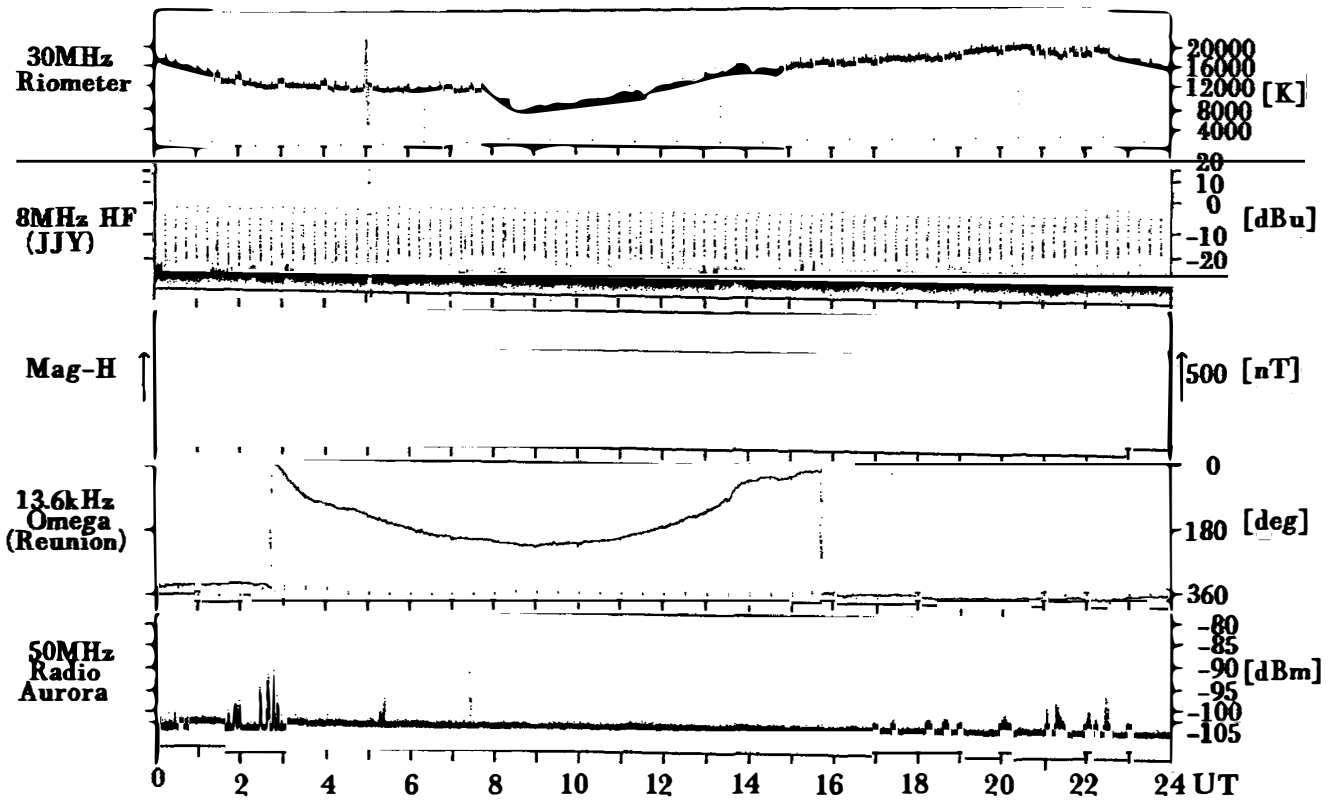
Syowa Station

Total Day / 176 1992/ 6/25



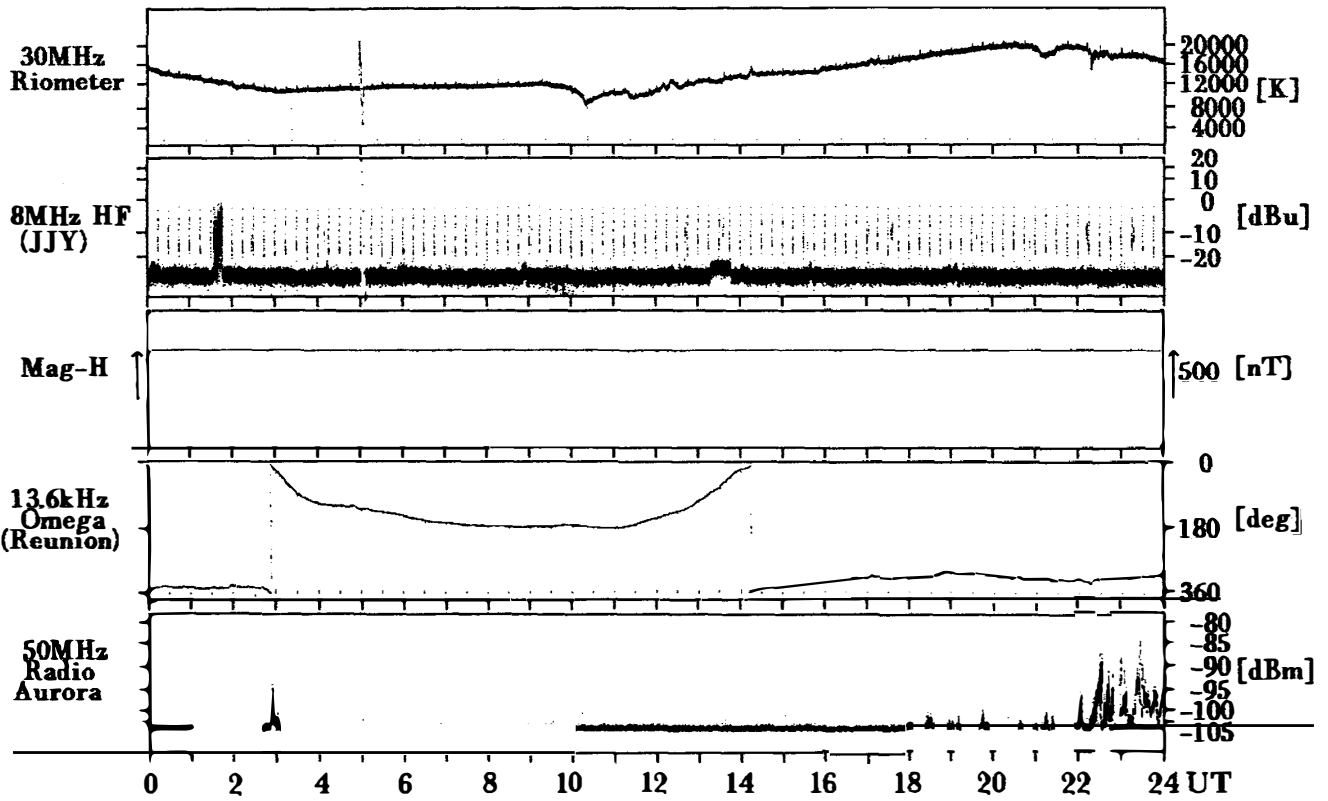
Syowa Station

Total Day / 177 1992/ 6/26



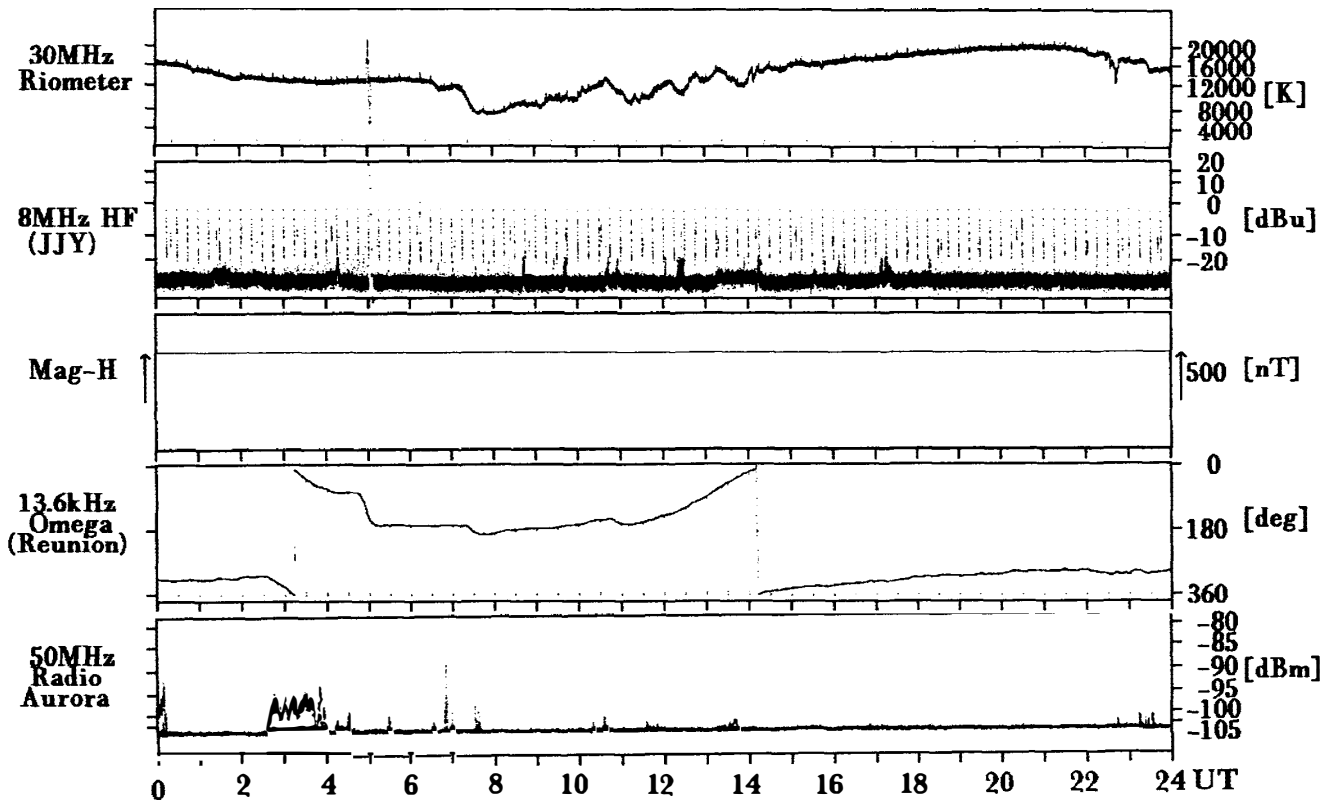
Syowa Station

Total Day / 178 1992/ 6/27



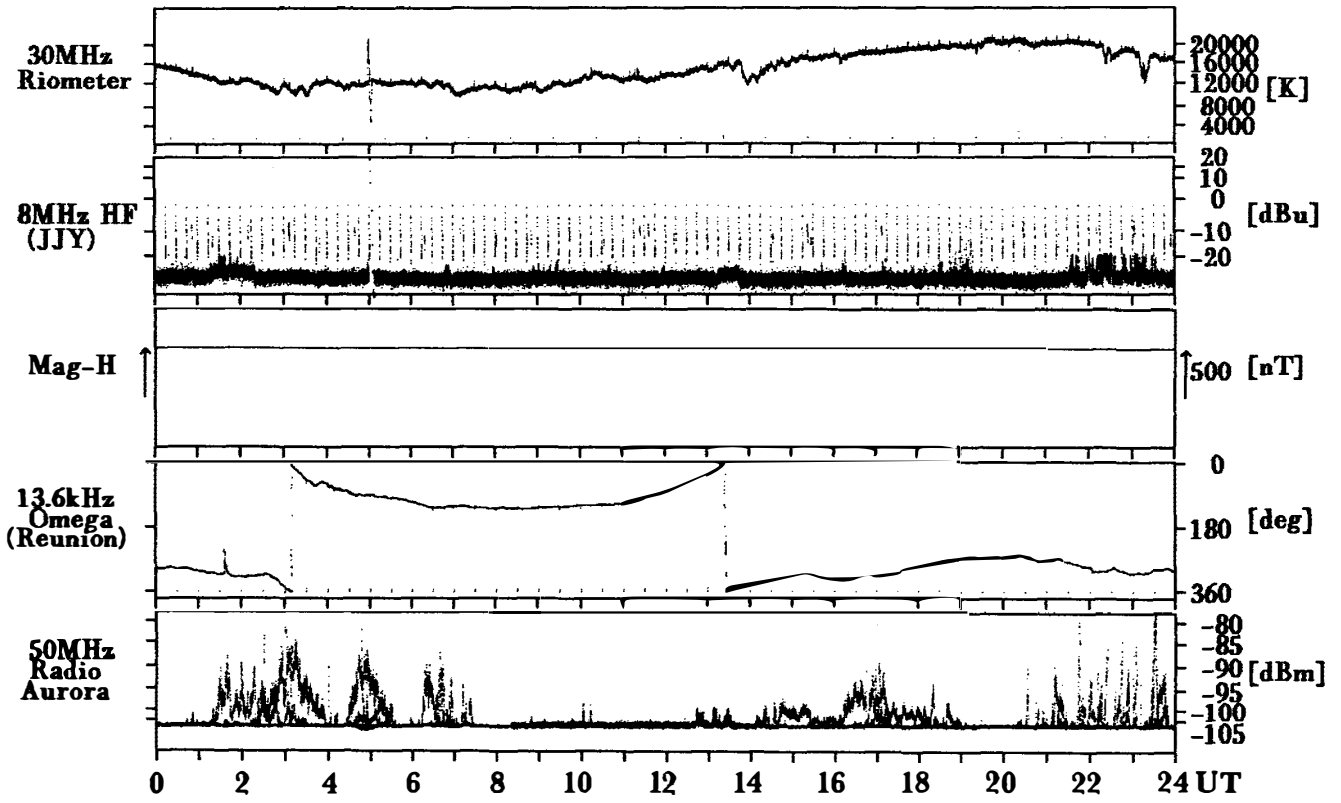
Syowa Station

Total Day / 179 1992/ 6/28



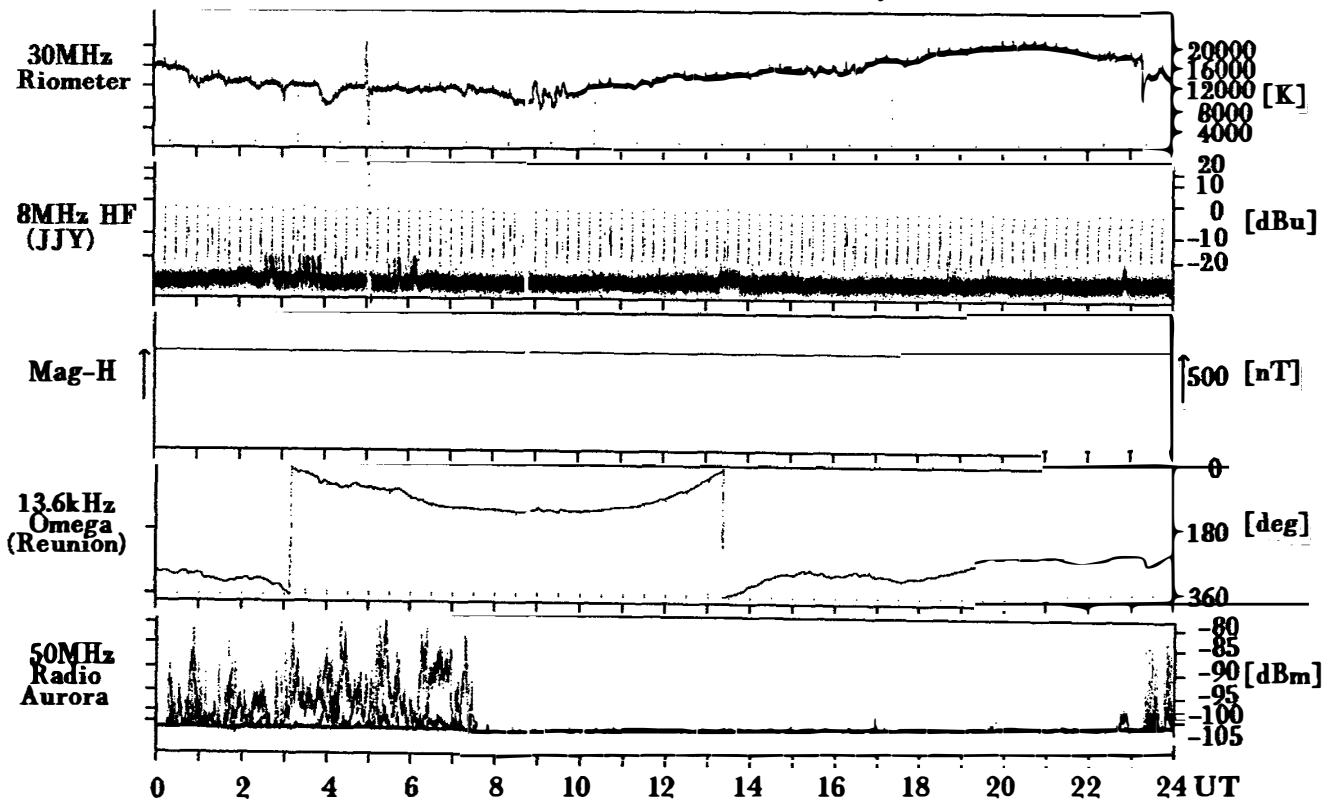
Syowa Station

Total Day / 180 1992/ 6/29



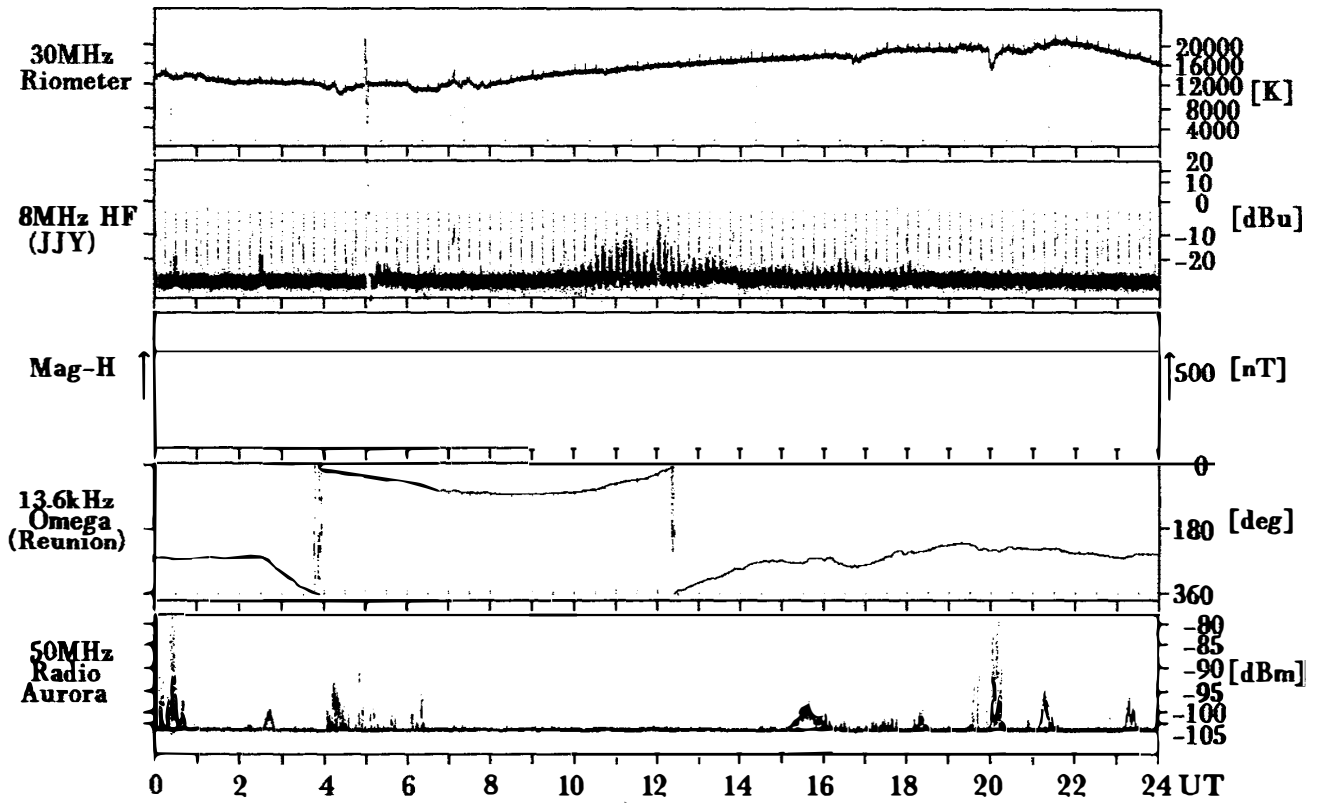
Syowa Station

Total Day / 181 1992/ 6/30



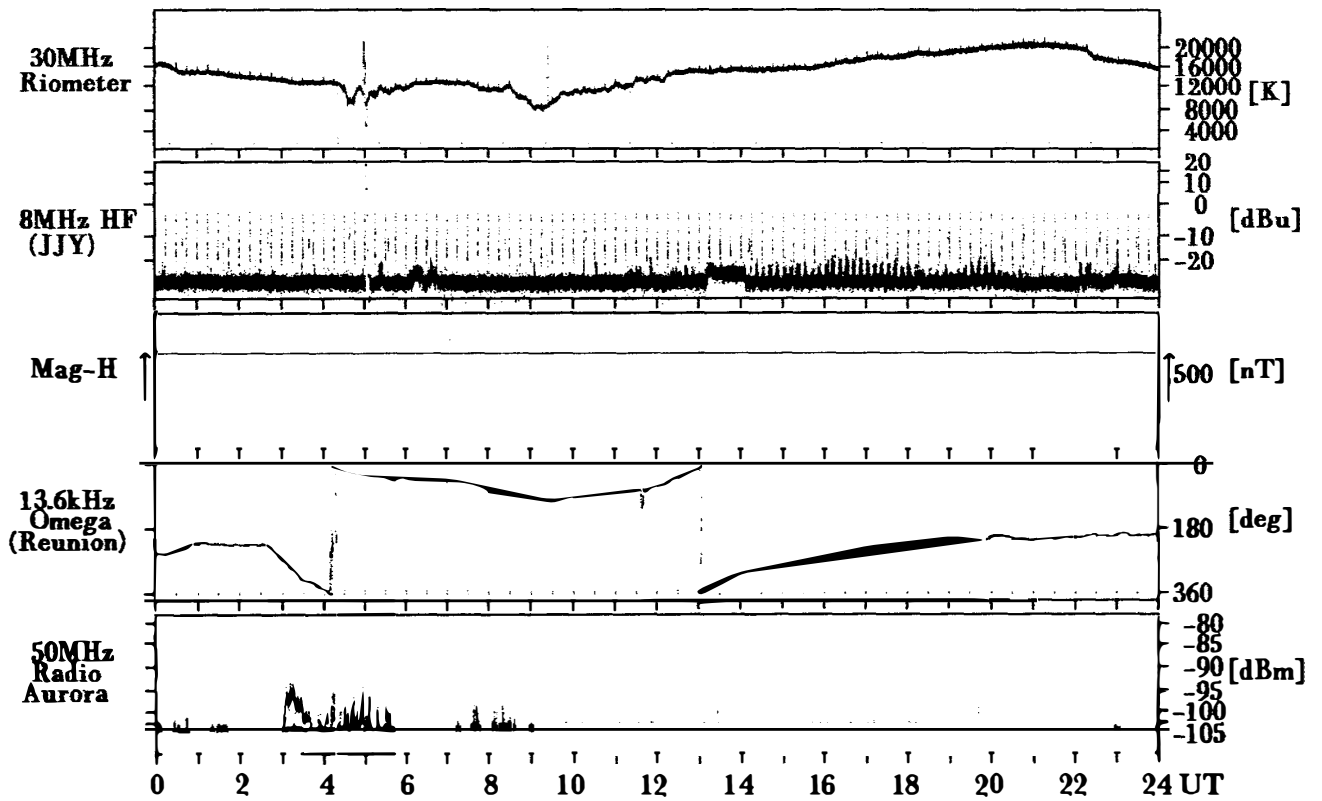
Syowa Station

Total Day / 182 1992/ 7/ 1



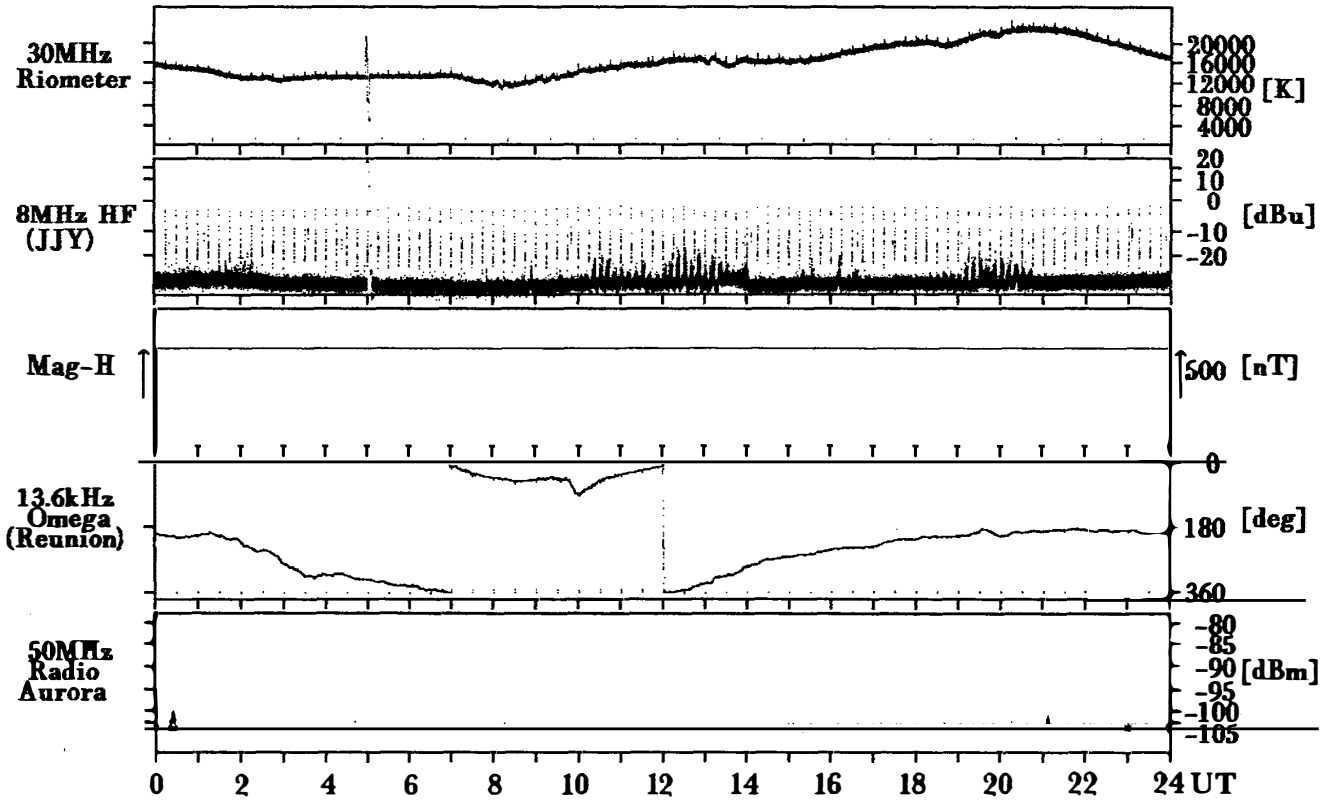
Syowa Station

Total Day / 183 1992/ 7/ 2



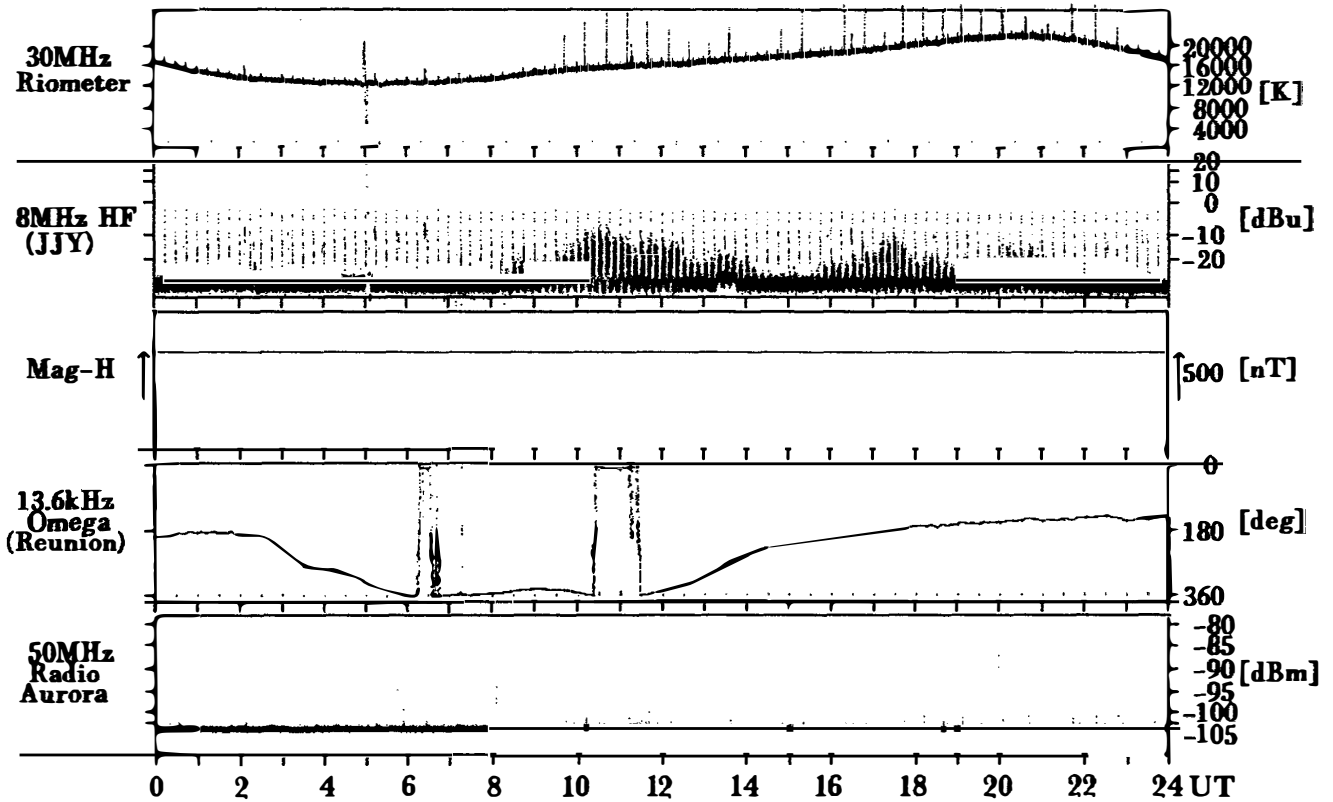
Syowa Station

Total Day / 184 1992/ 7/ 3



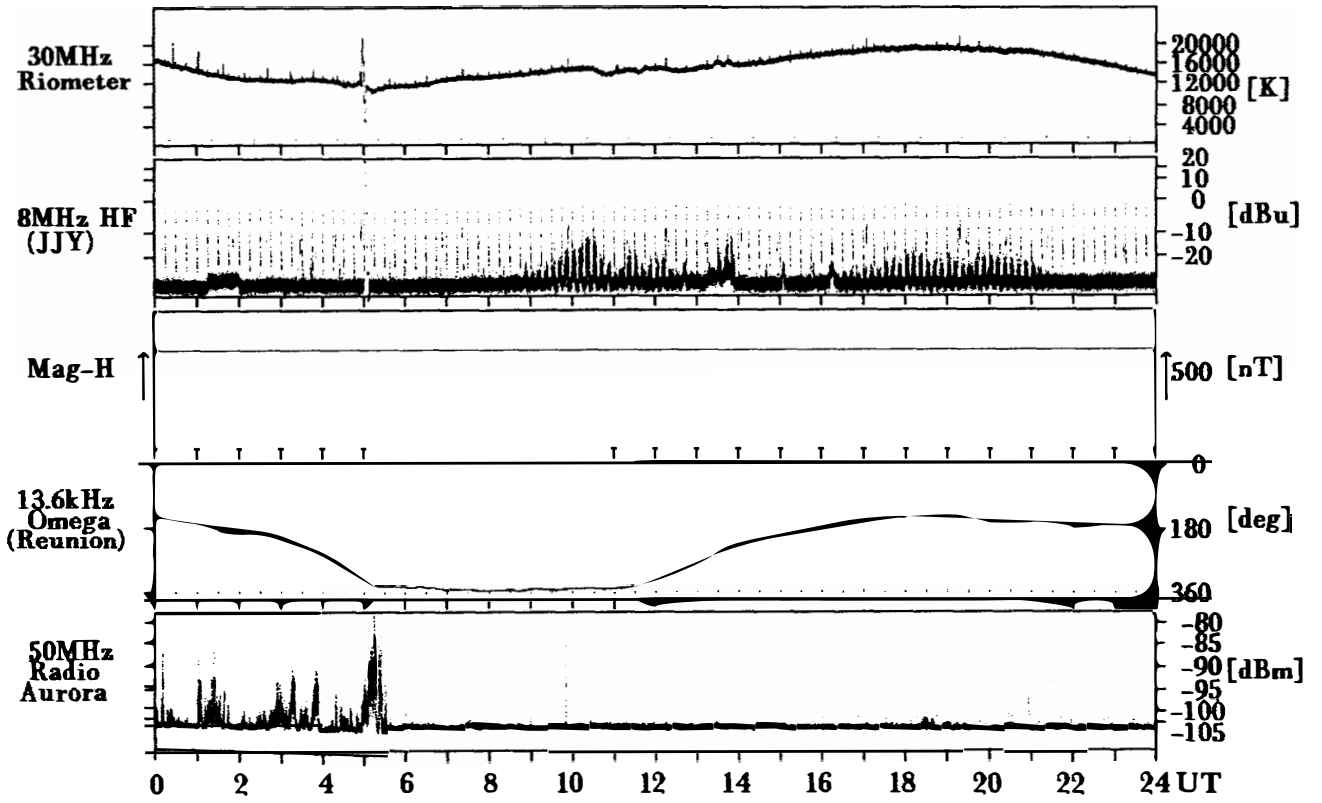
Syowa Station

Total Day / 185 1992/ 7/ 4



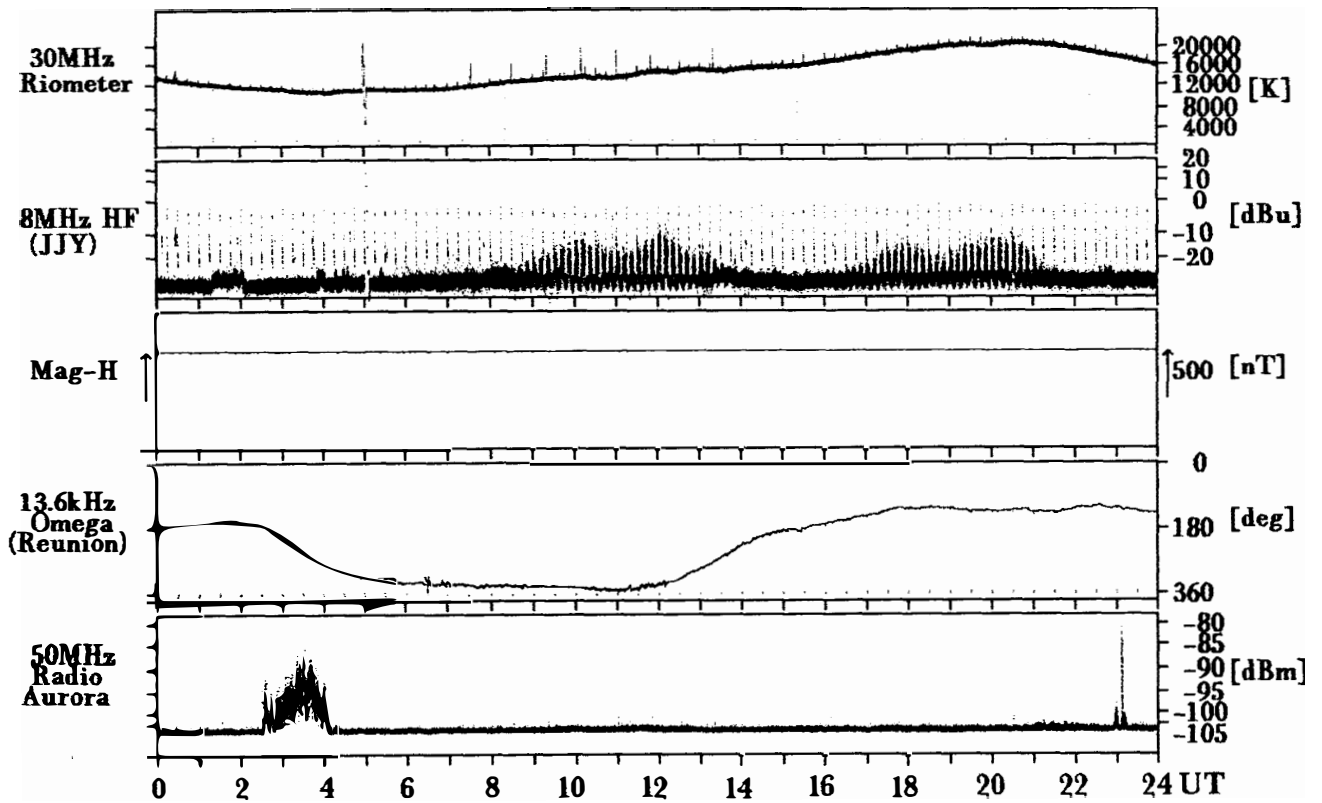
Syowa Station

Total Day / 186 1992/ 7/ 5



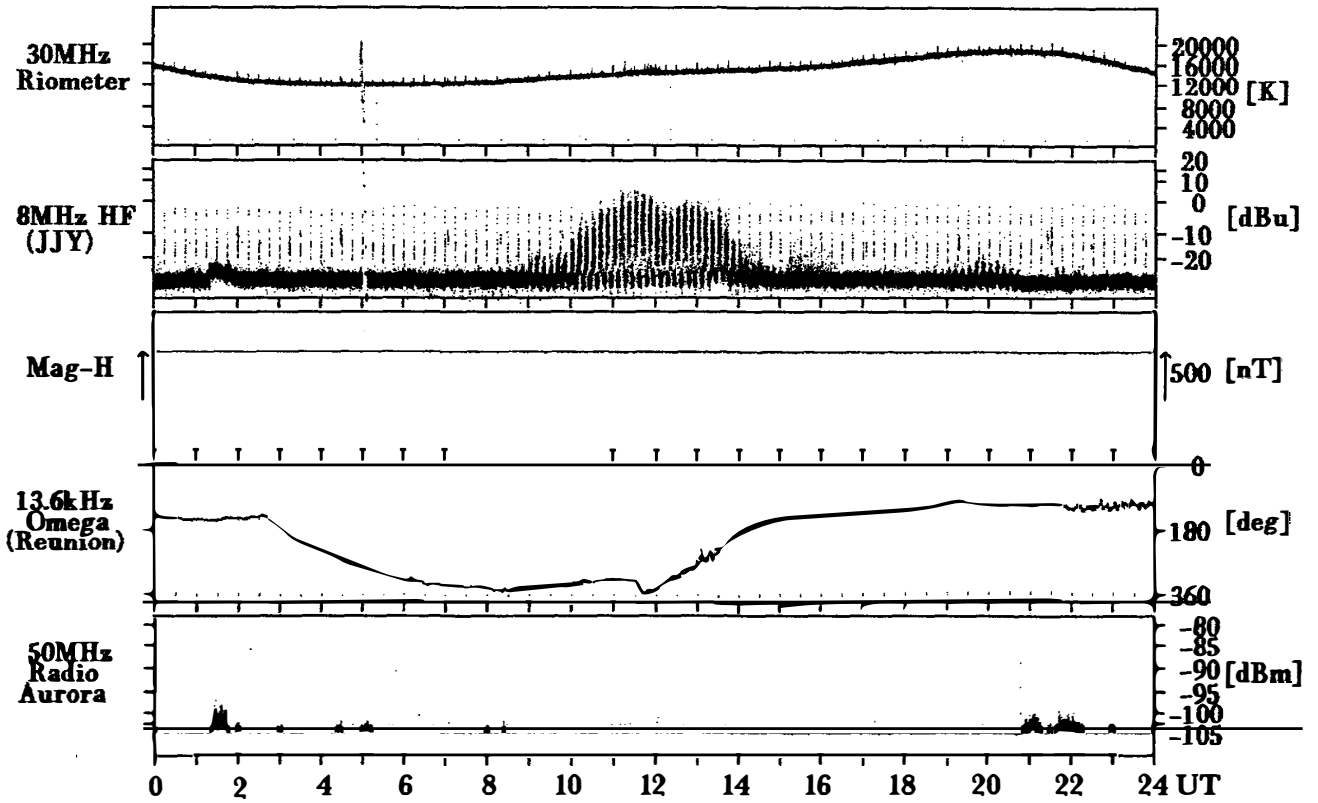
Syowa Station

Total Day / 187 1992/ 7/ 6



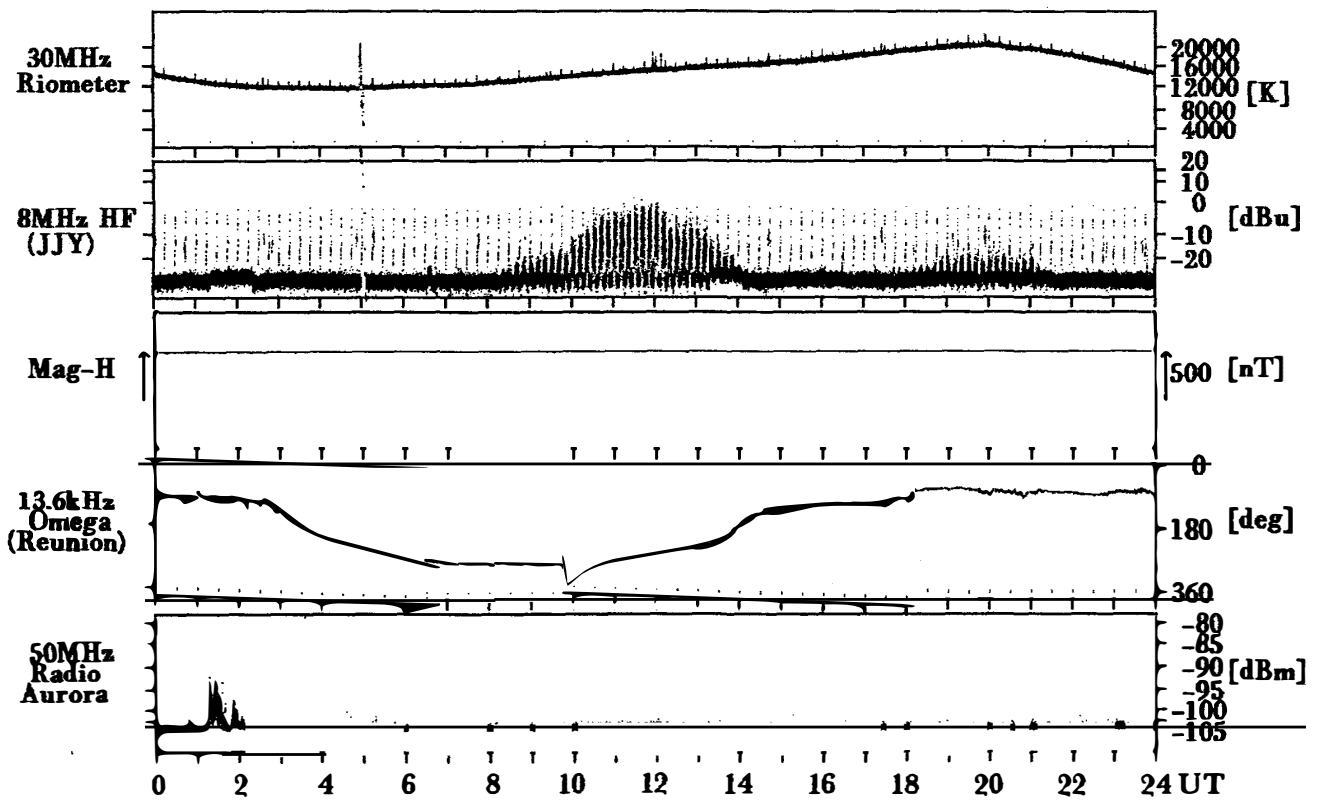
Syowa Station

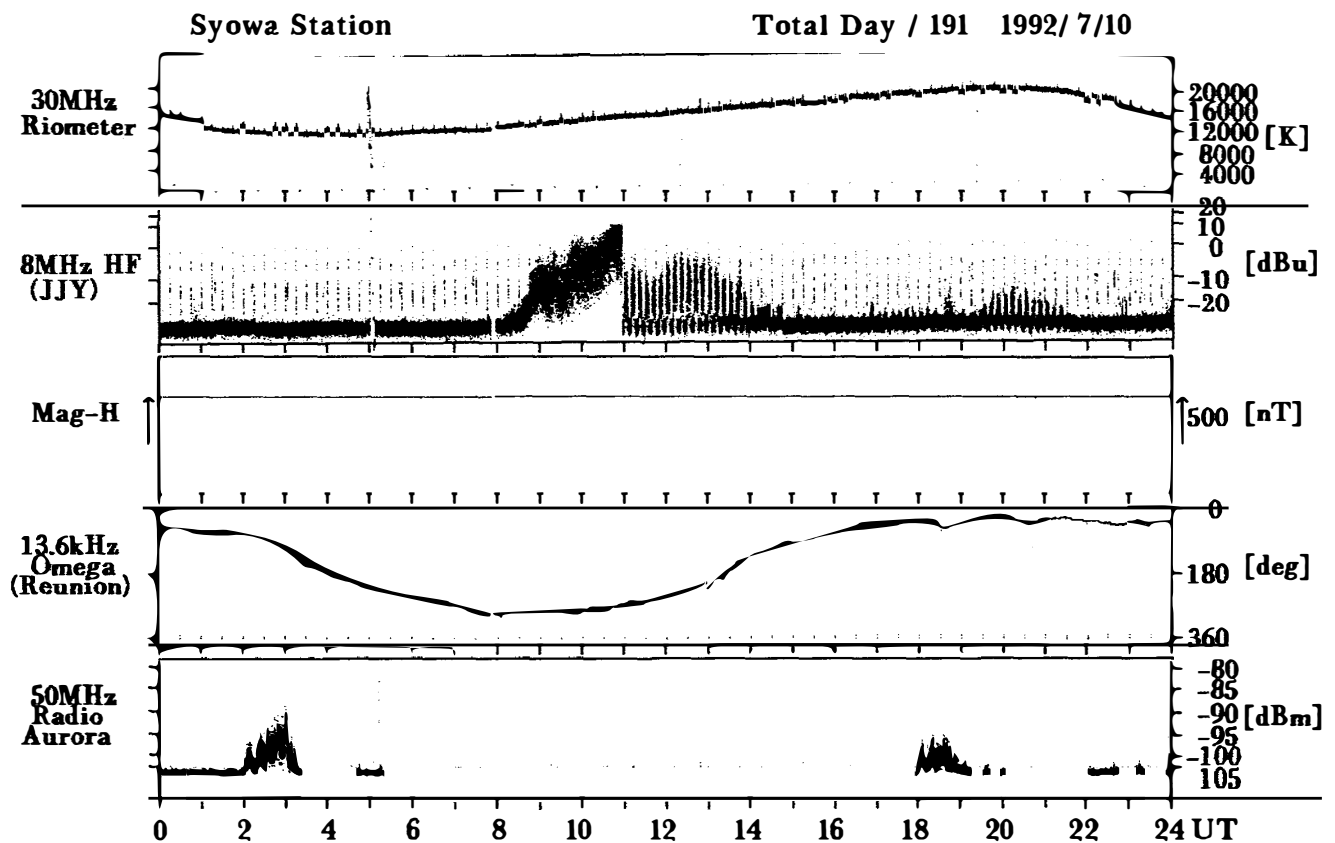
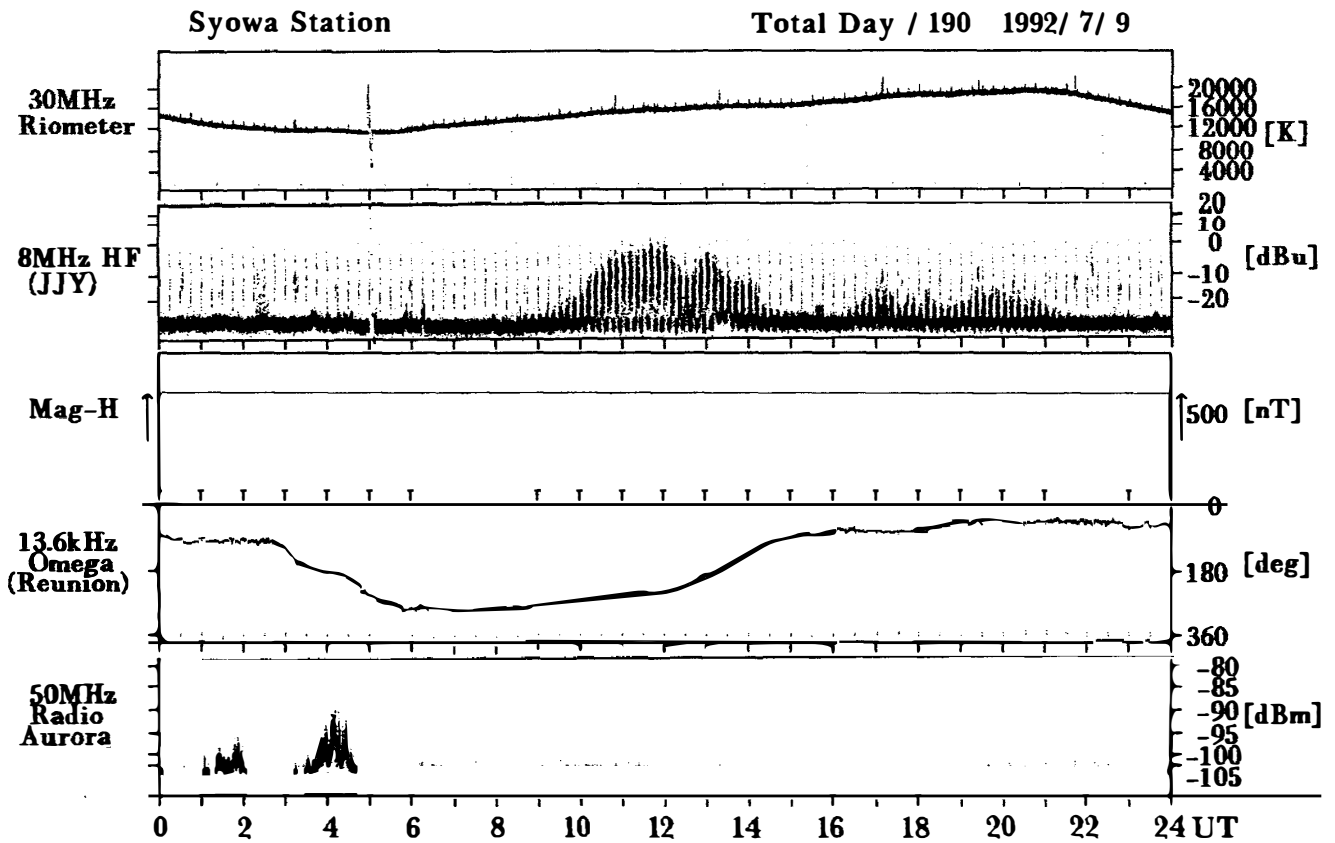
Total Day / 188 1992/ 7/ 7



Syowa Station

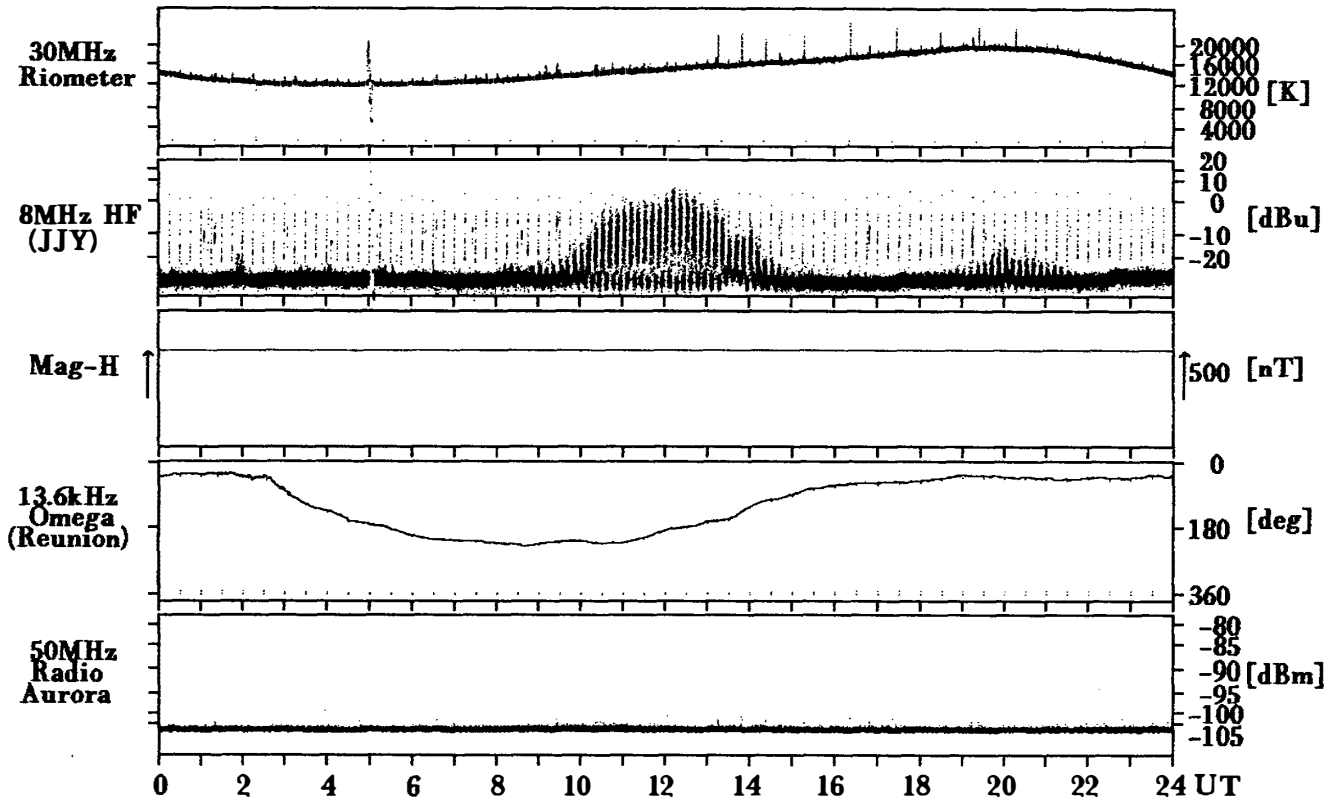
Total Day / 189 1992/ 7/ 8





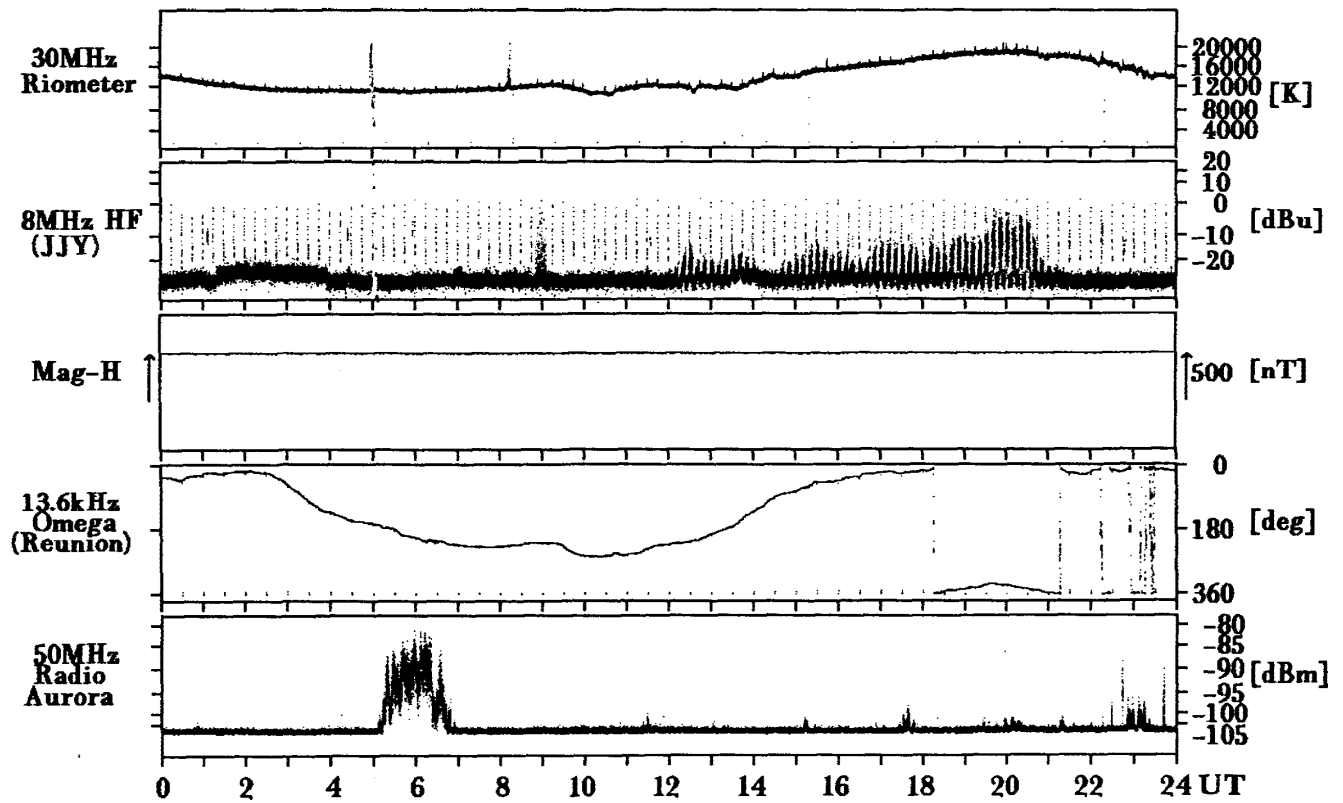
Syowa Station

Total Day / 192 1992/ 7/11



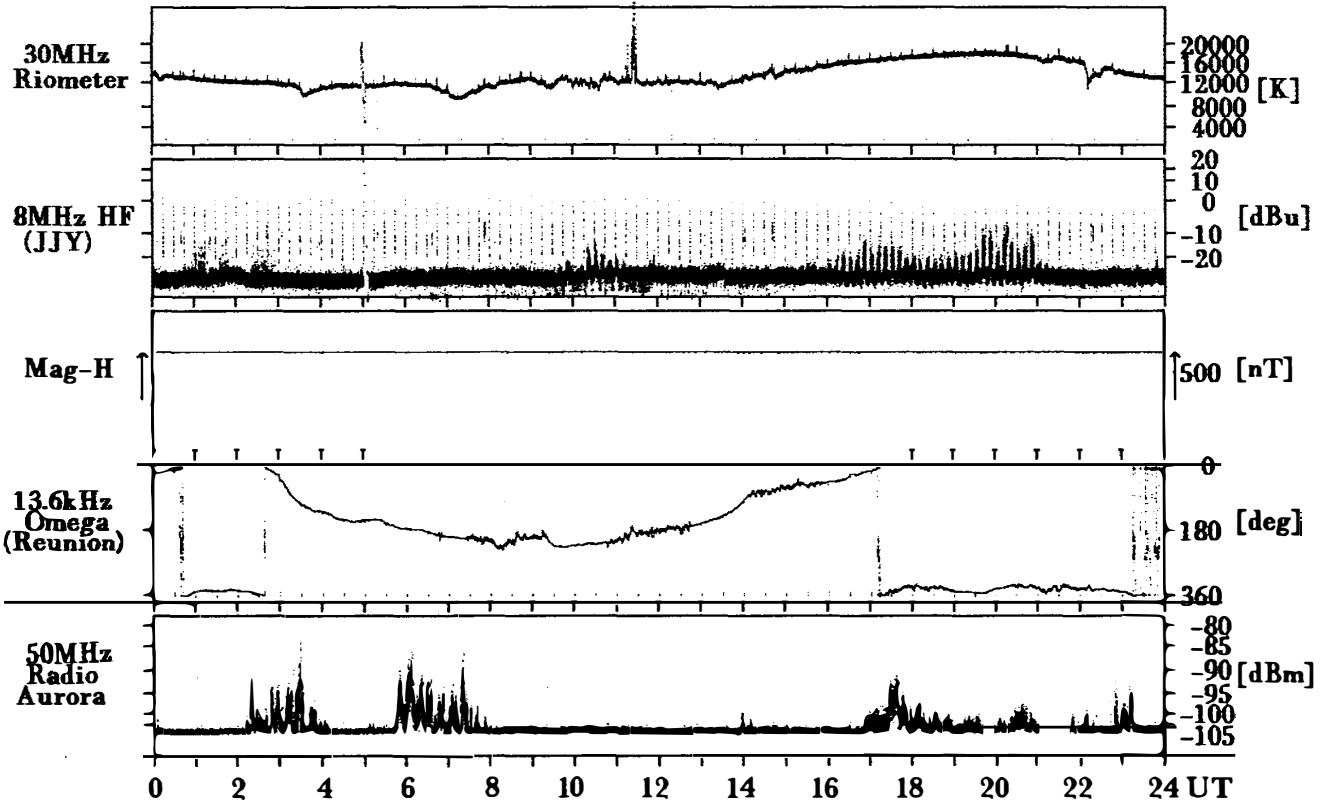
Syowa Station

Total Day / 193 1992/ 7/12



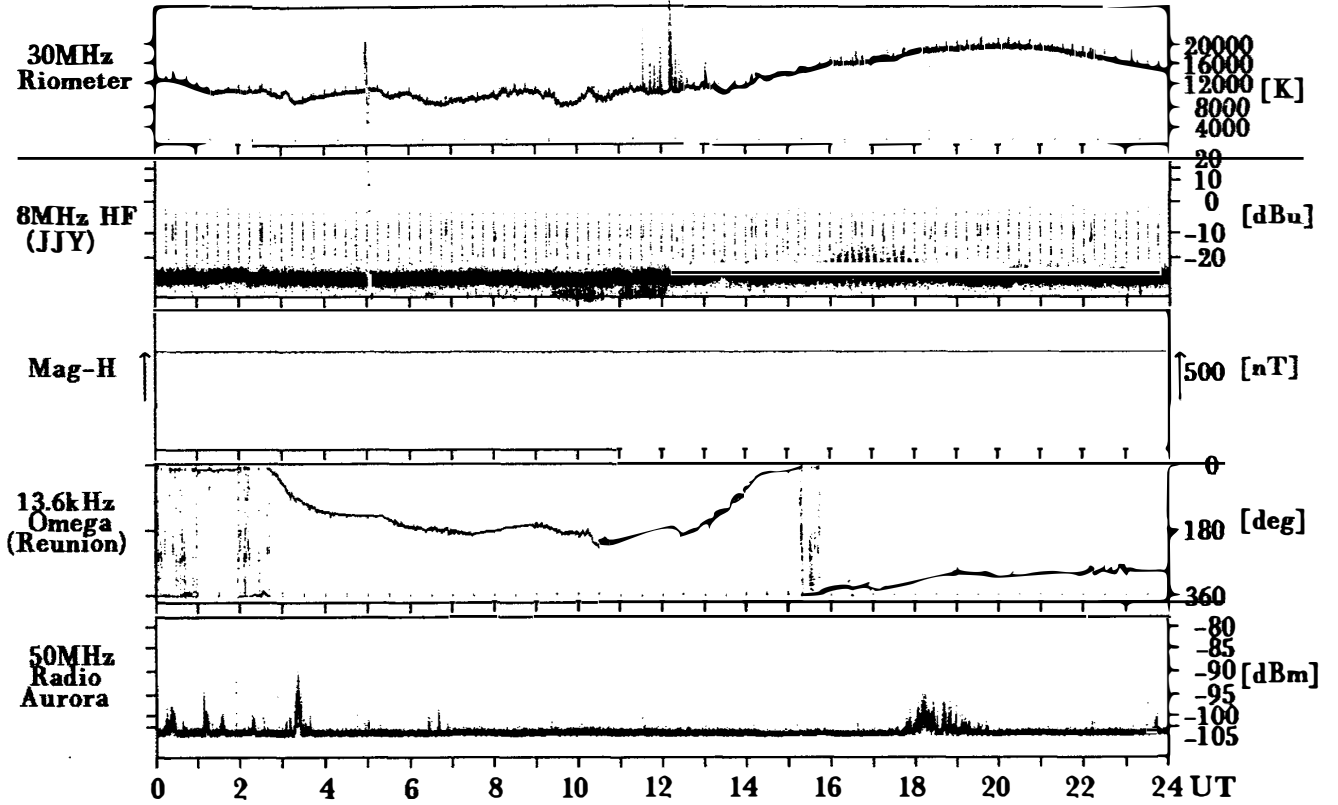
Syowa Station

Total Day / 194 1992/ 7/13



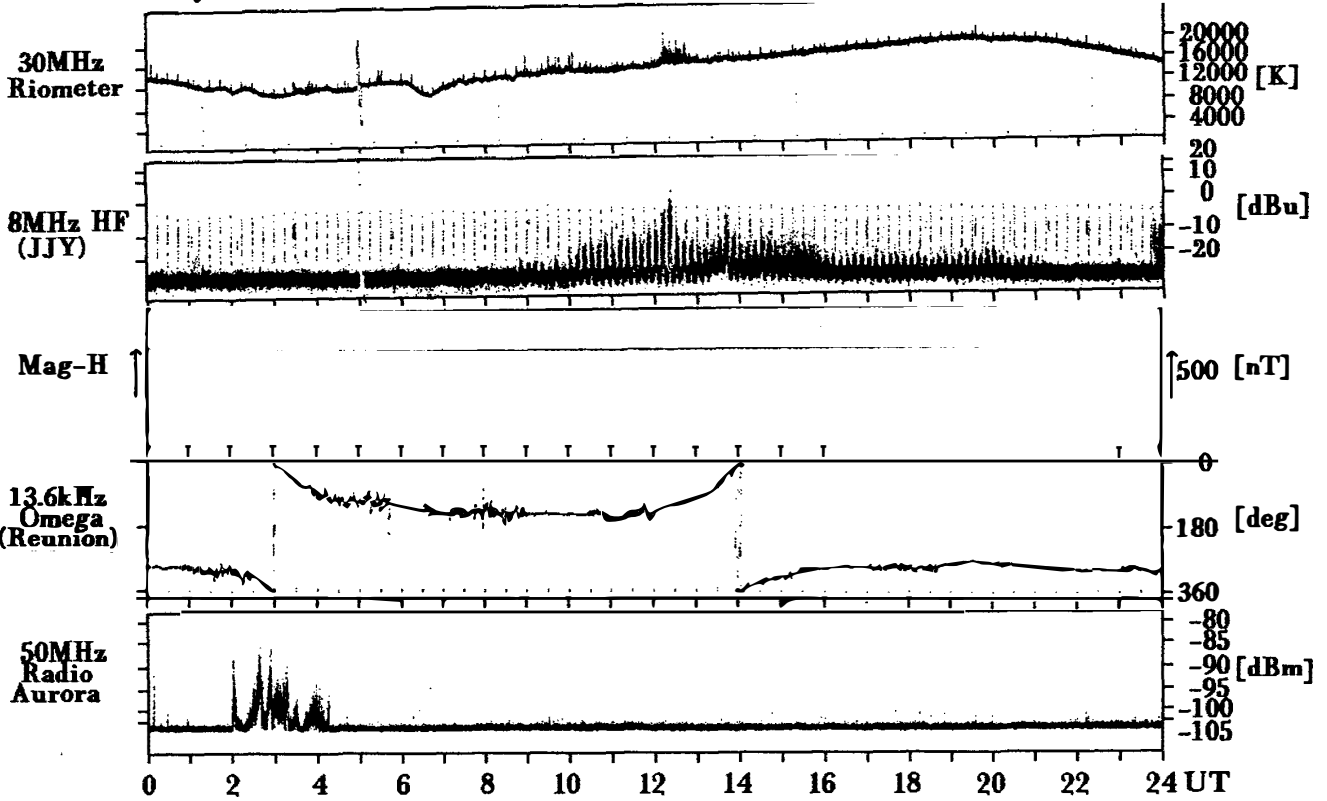
Syowa Station

Total Day / 195 1992/ 7/14



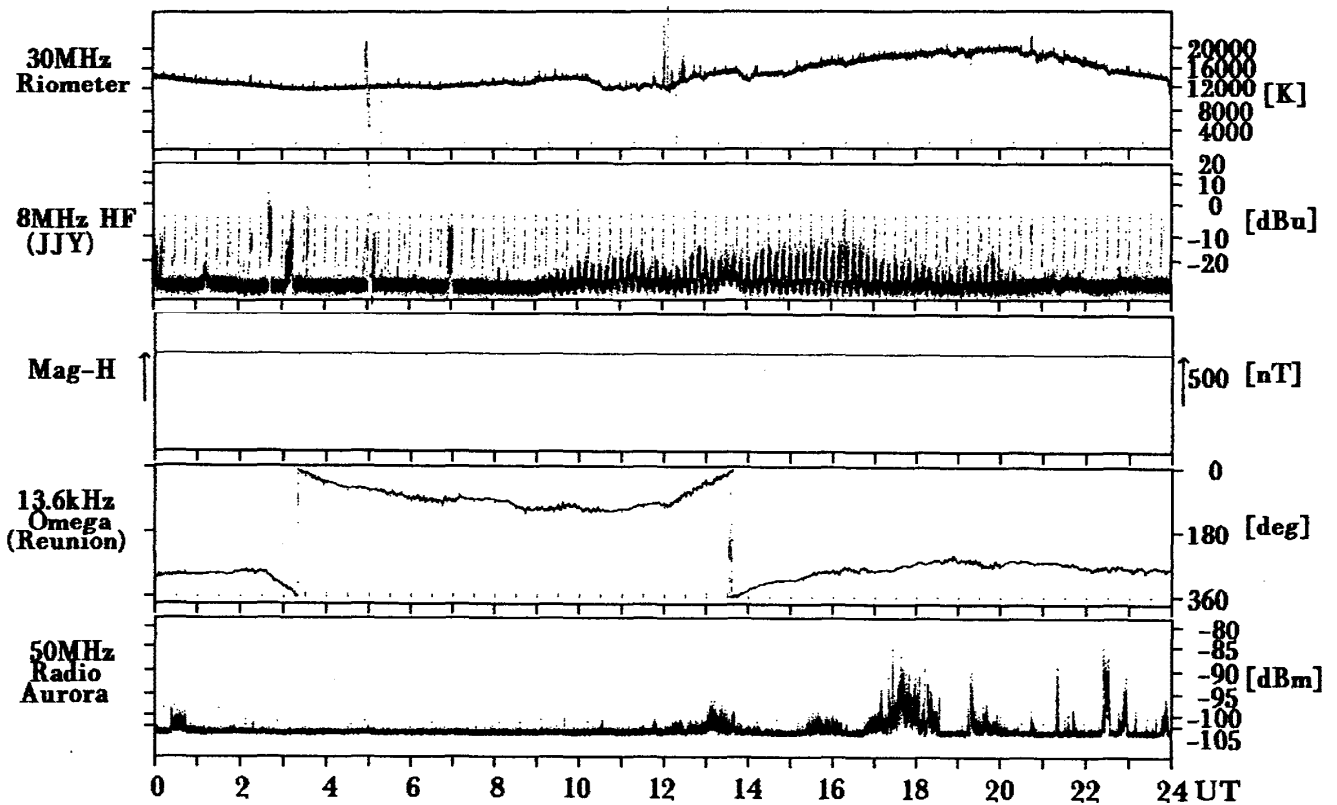
Syowa Station

Total Day / 196 1992/ 7/15



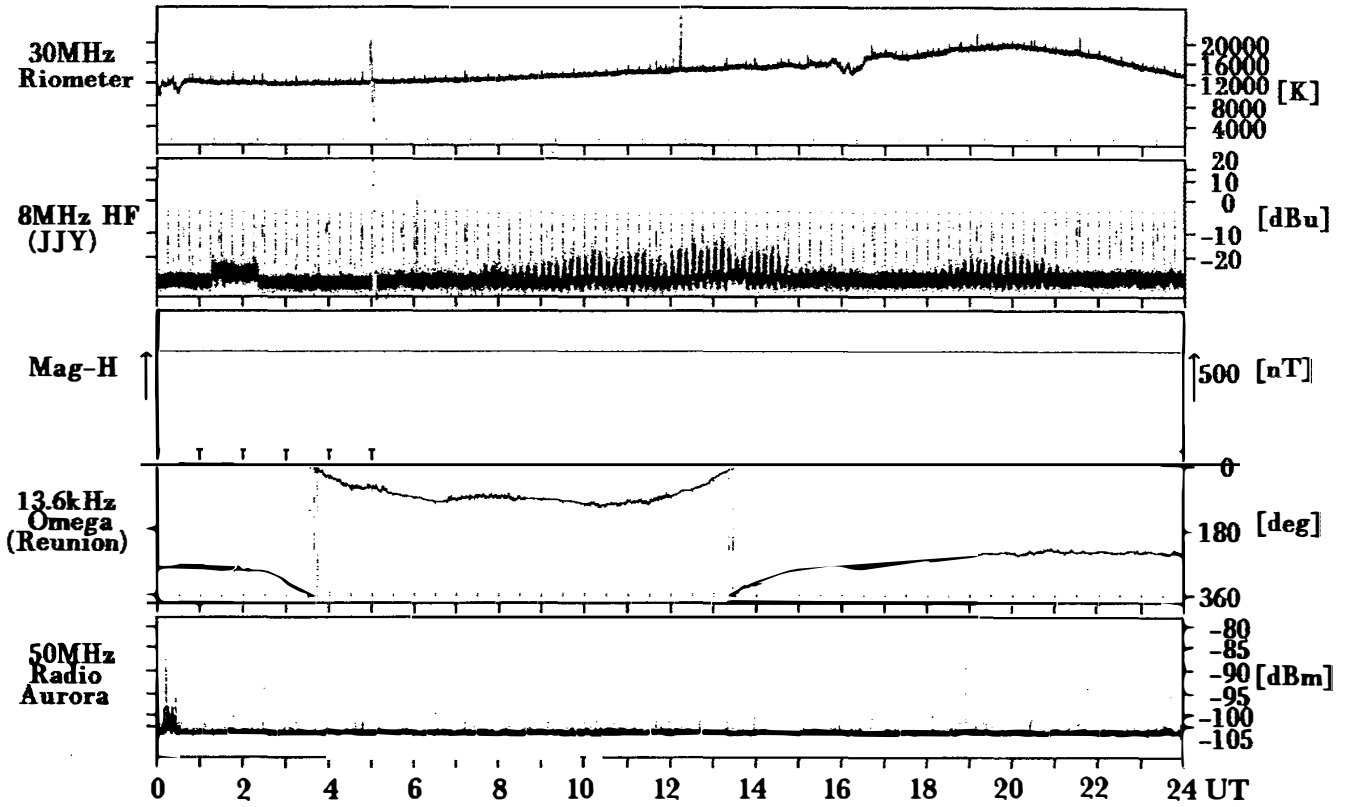
Syowa Station

Total Day / 197 1992/ 7/16



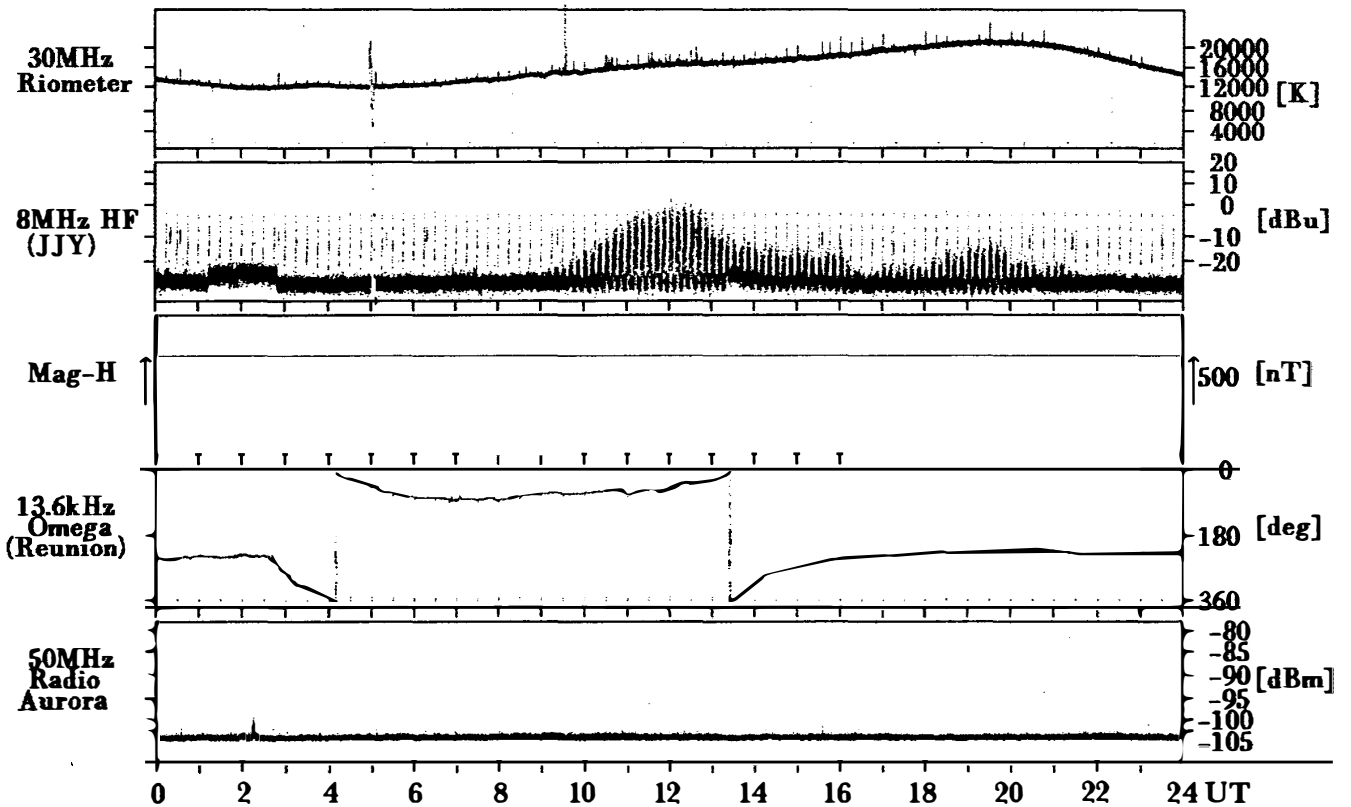
Syowa Station

Total Day / 198 1992/ 7/17



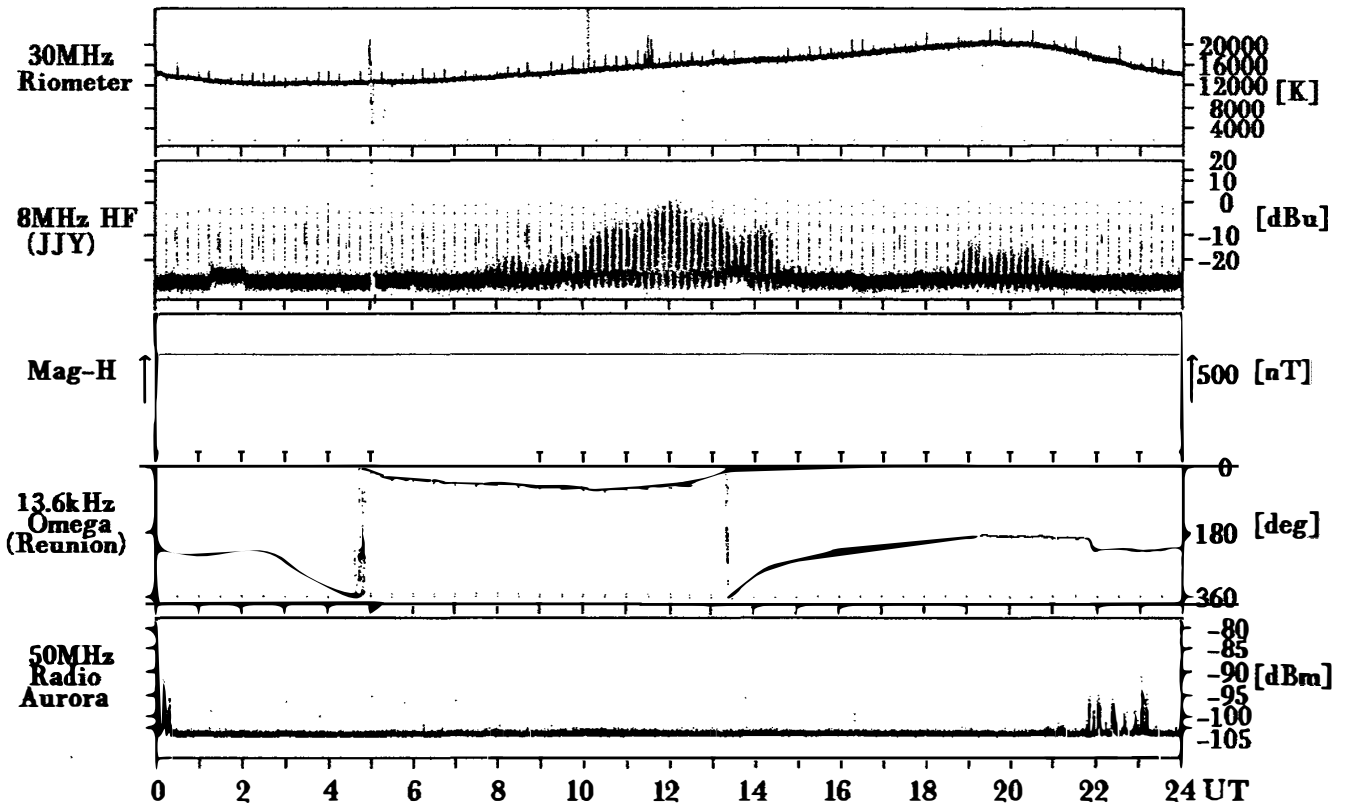
Syowa Station

Total Day / 199 1992/ 7/18



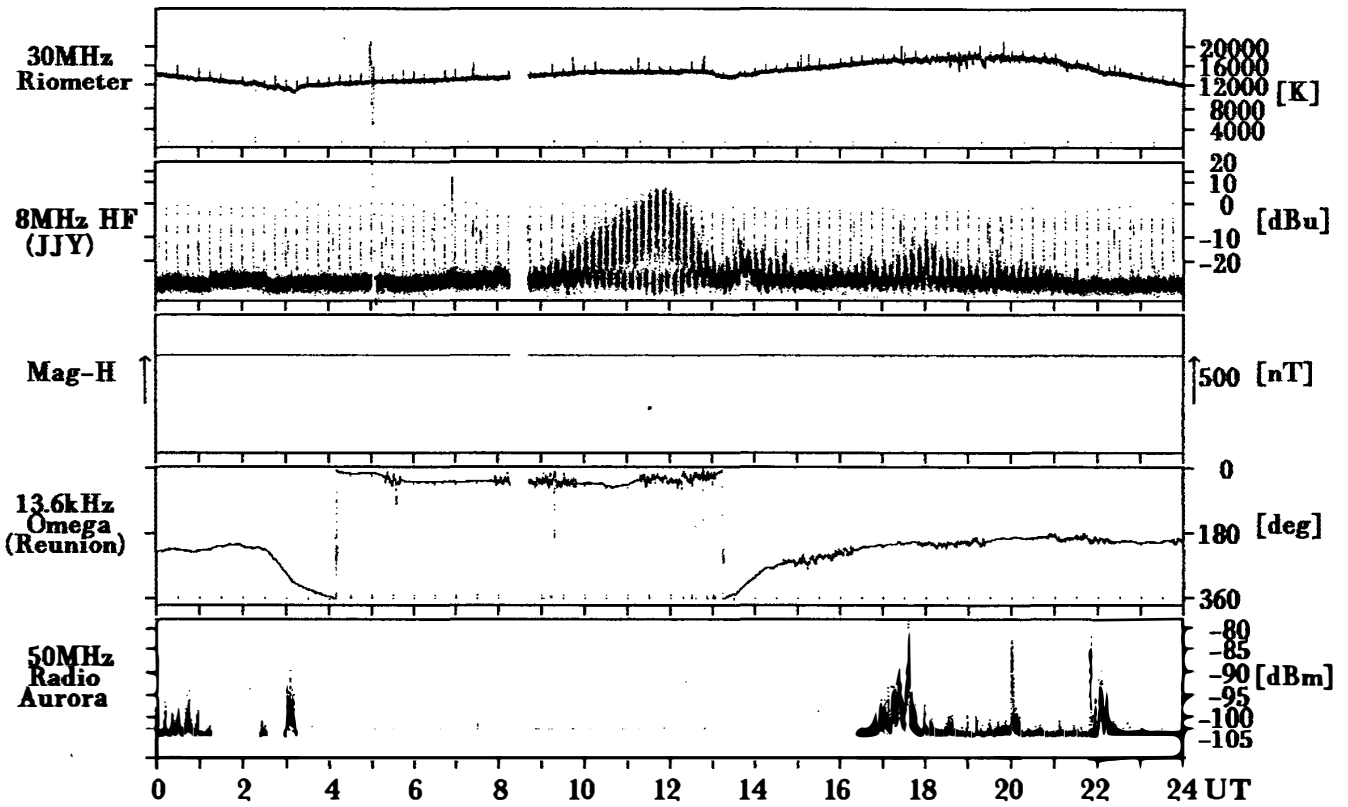
Syowa Station

Total Day / 200 1992/ 7/19



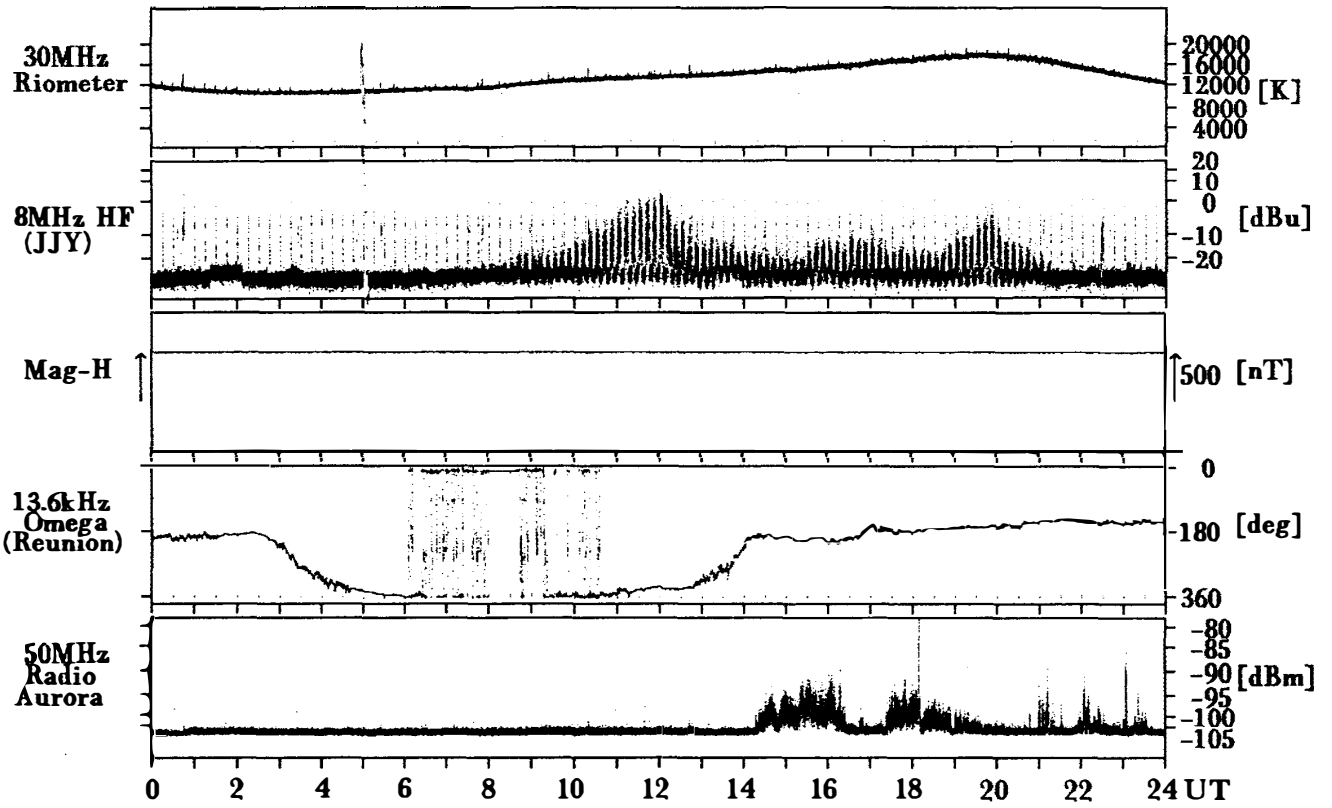
Syowa Station

Total Day / 201 1992/ 7/20



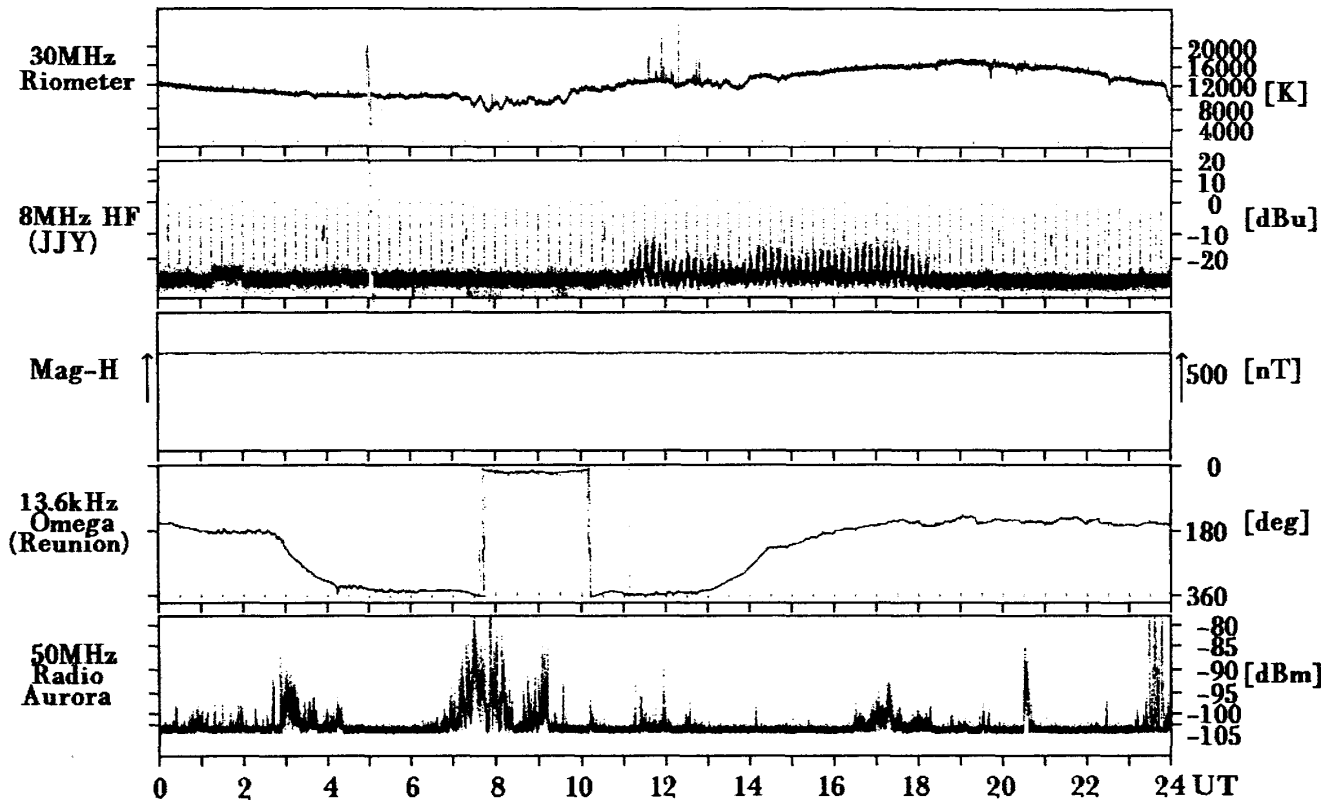
Syowa Station

Total Day / 202 1992/ 7/21



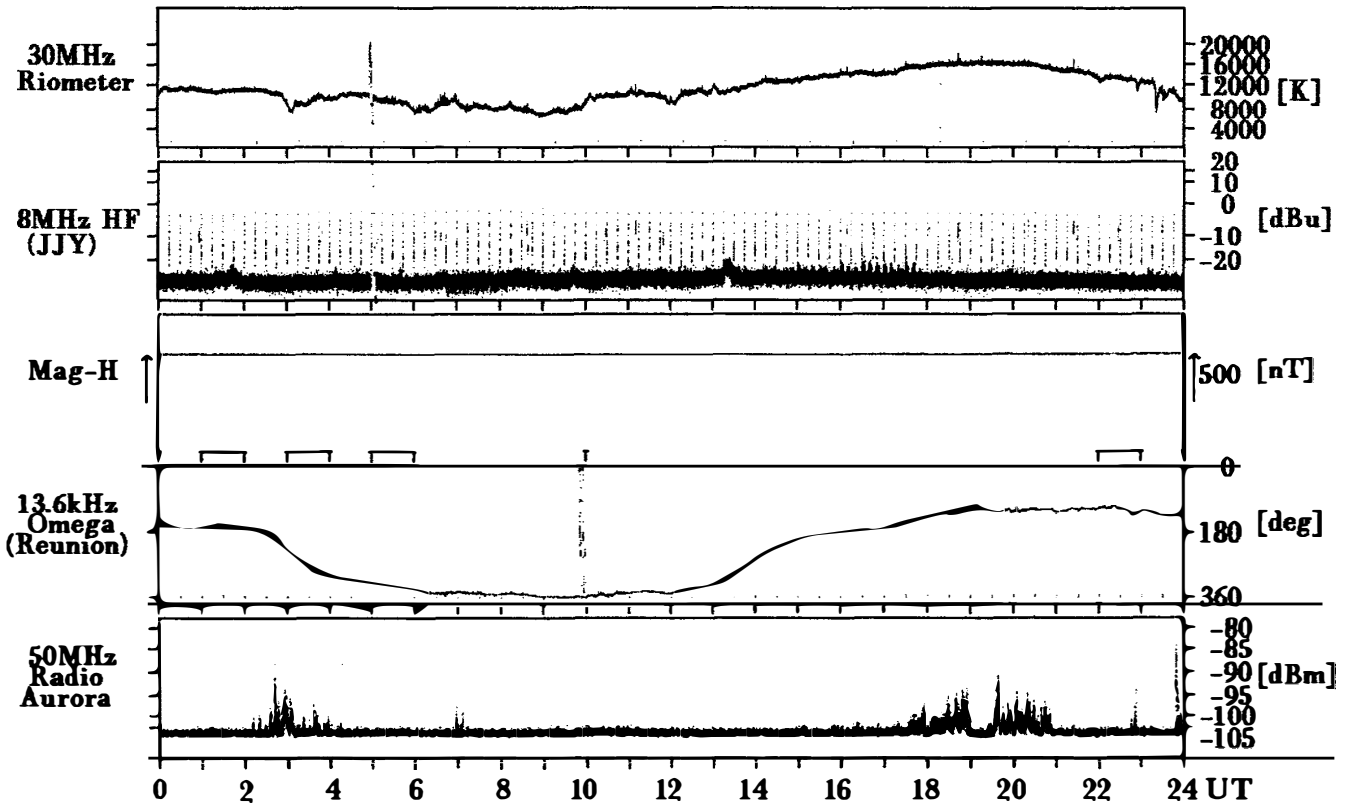
Syowa Station

Total Day / 203 1992/ 7/22



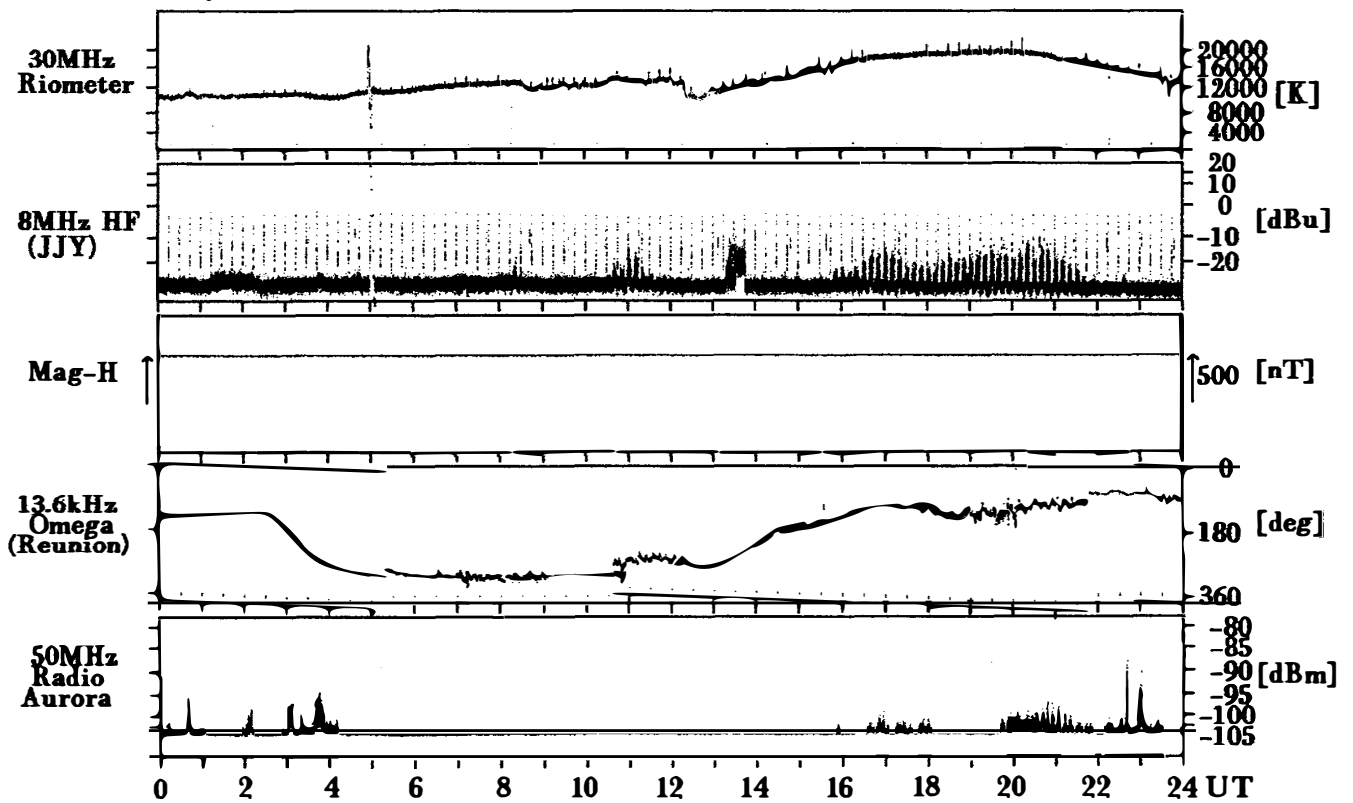
Syowa Station

Total Day / 204 1992/ 7/23



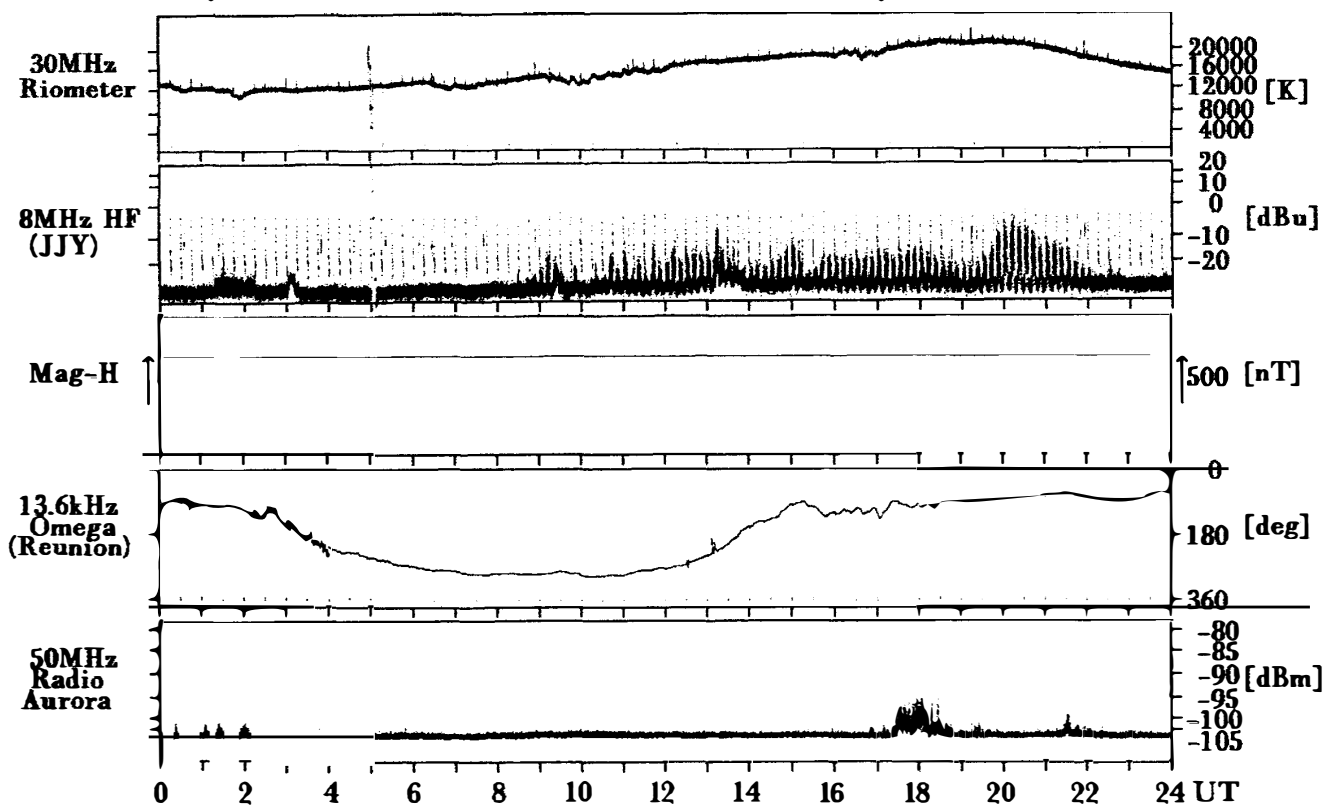
Syowa Station

Total Day / 205 1992/ 7/24



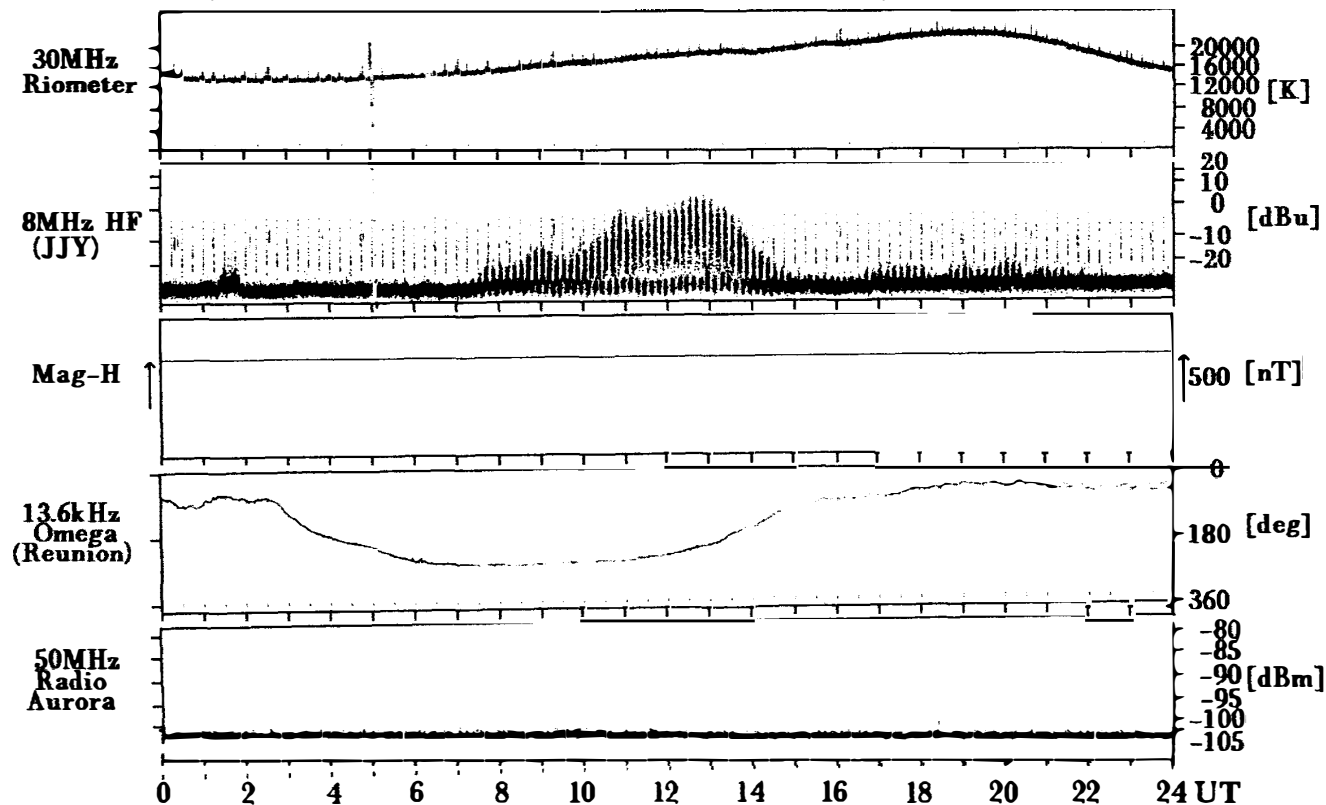
Syowa Station

Total Day / 206 1992/ 7/25



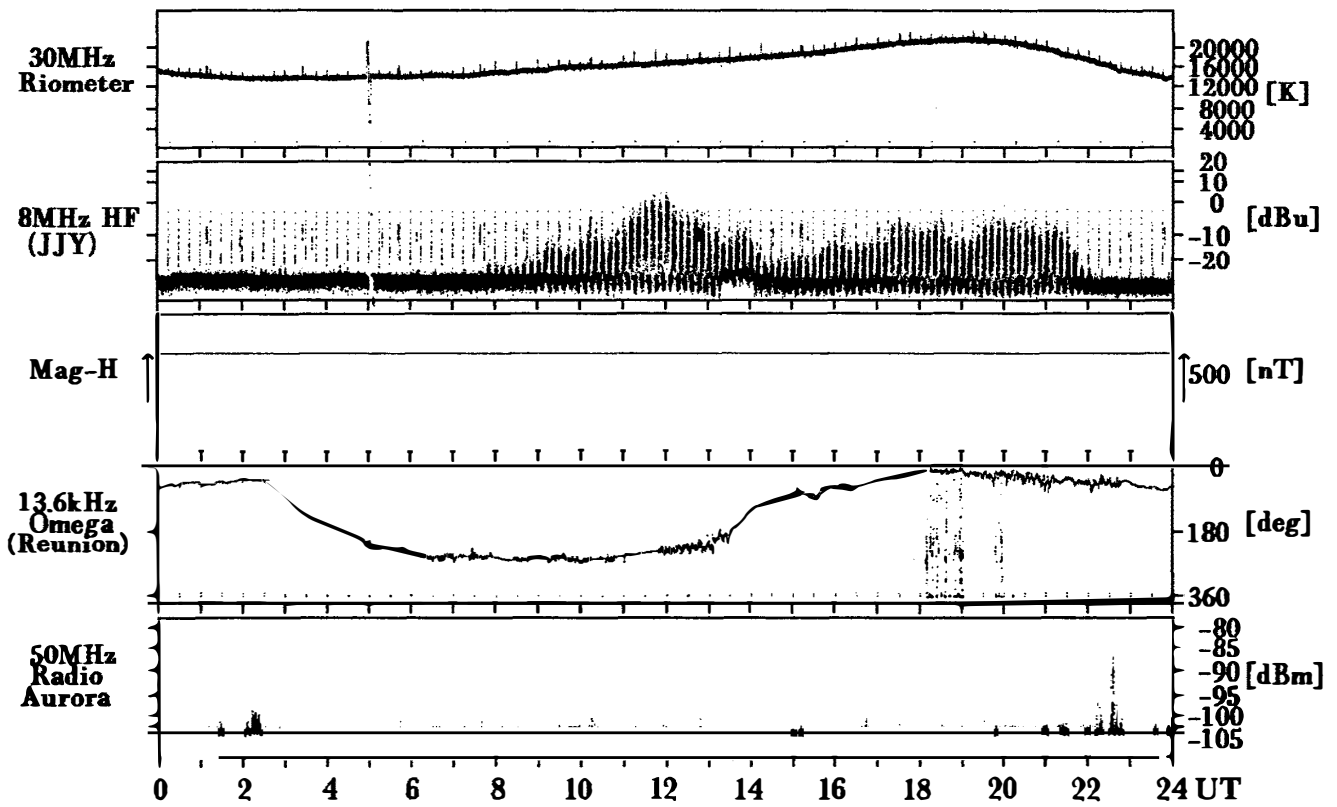
Syowa Station

Total Day / 207 1992/ 7/26



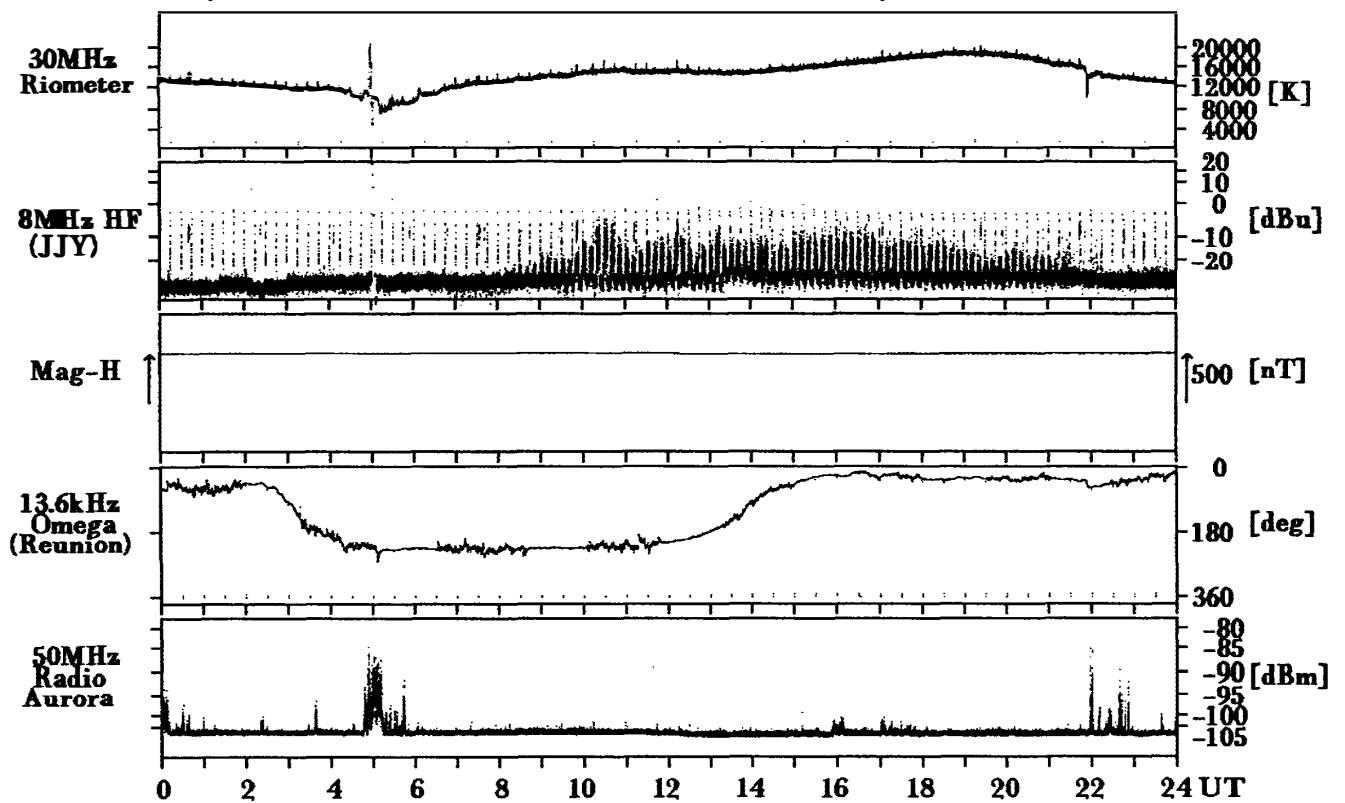
Syowa Station

Total Day / 208 1992/ 7/27



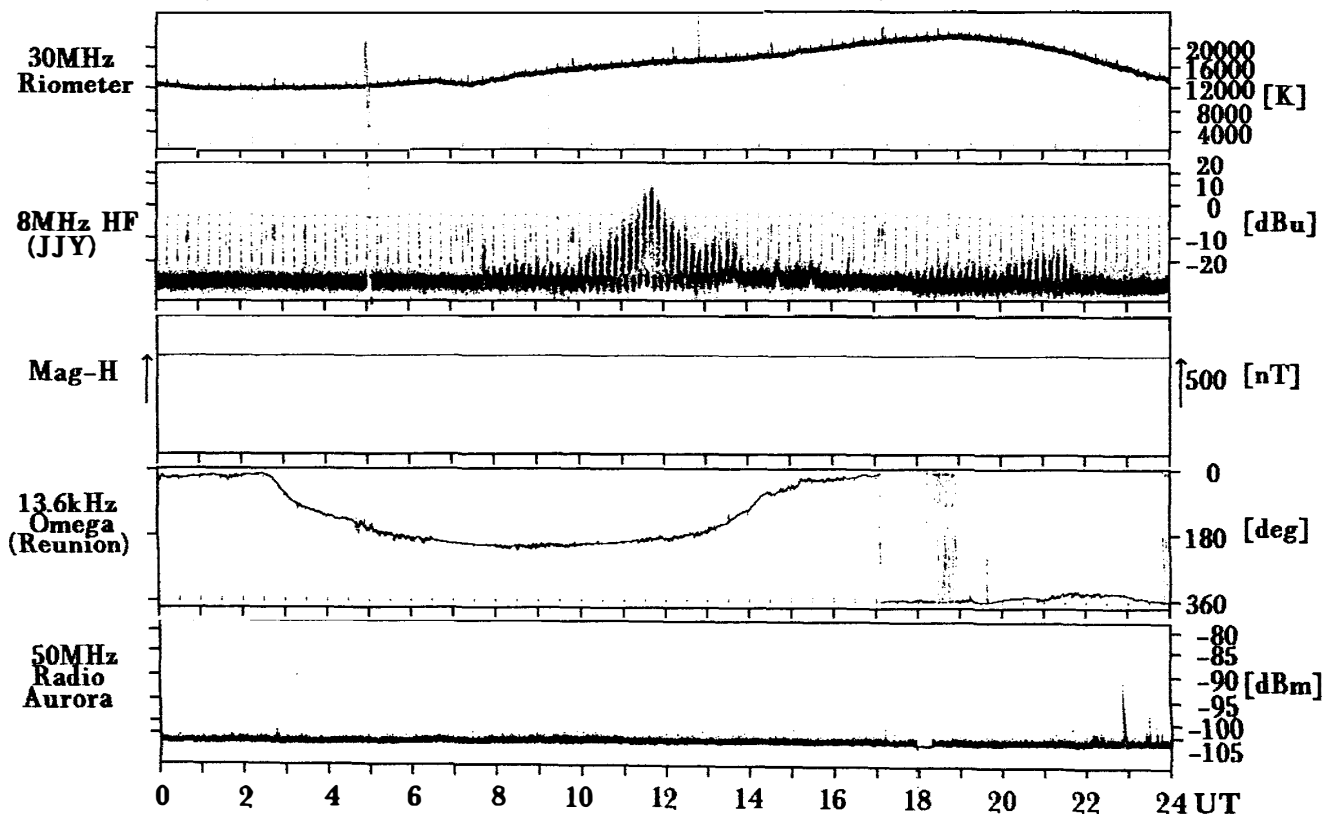
Syowa Station

Total Day / 209 1992/ 7/28



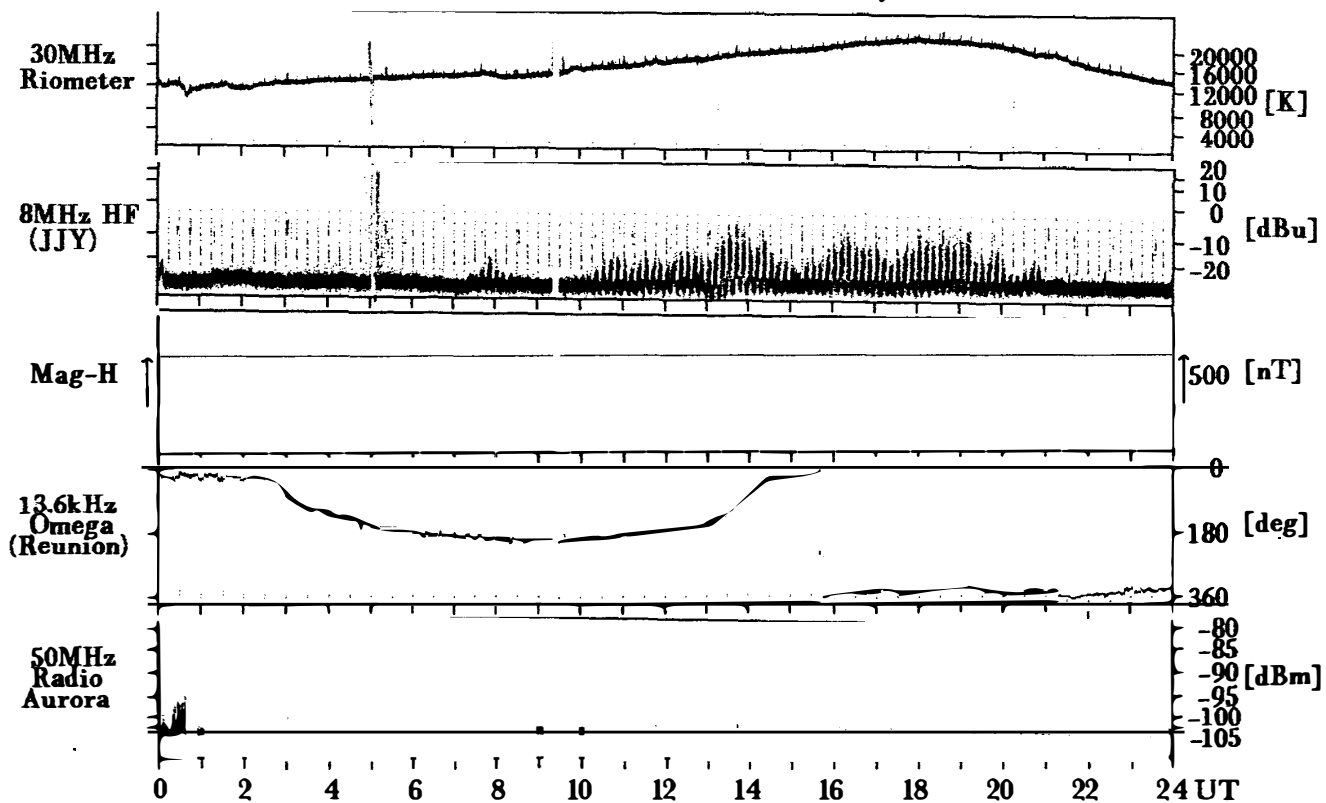
Syowa Station

Total Day / 210 1992/ 7/29



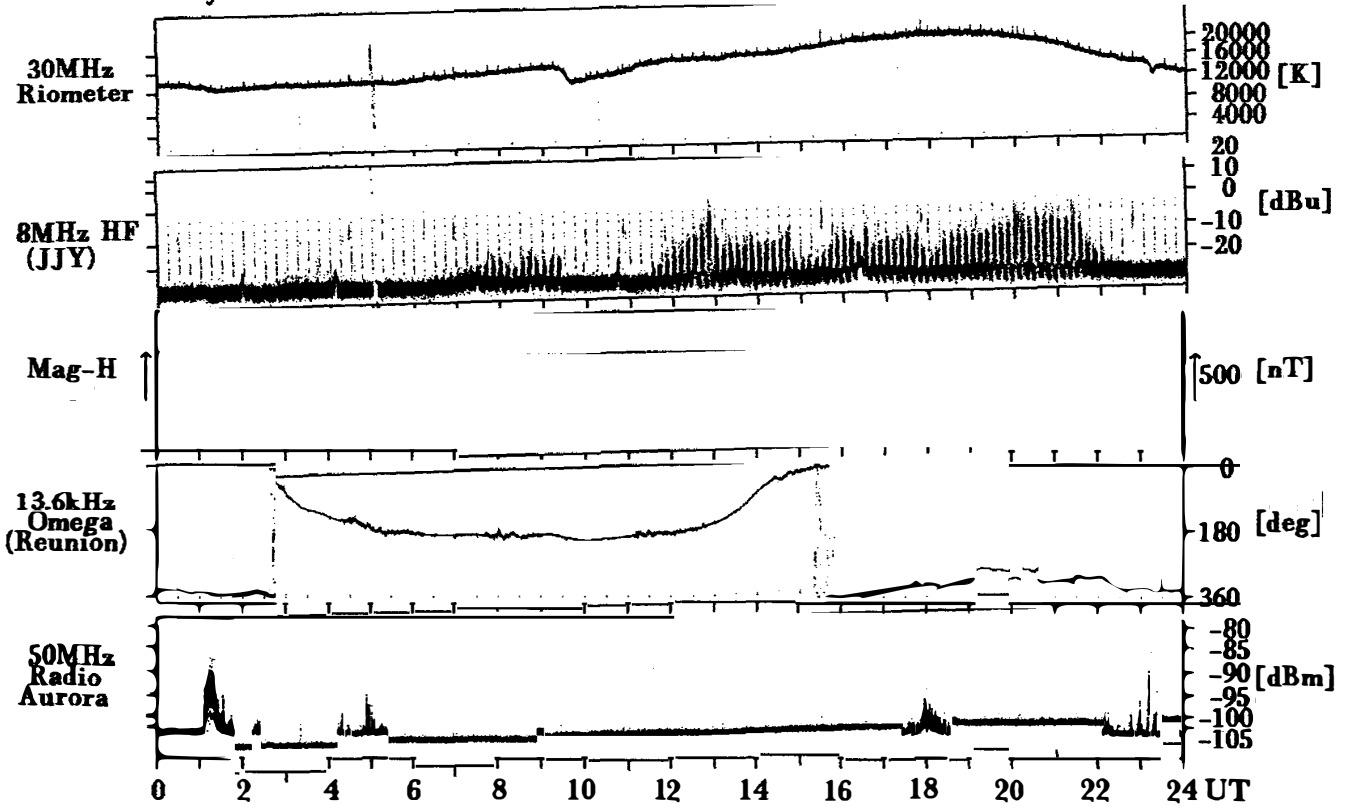
Syowa Station

Total Day / 211 1992/ 7/30



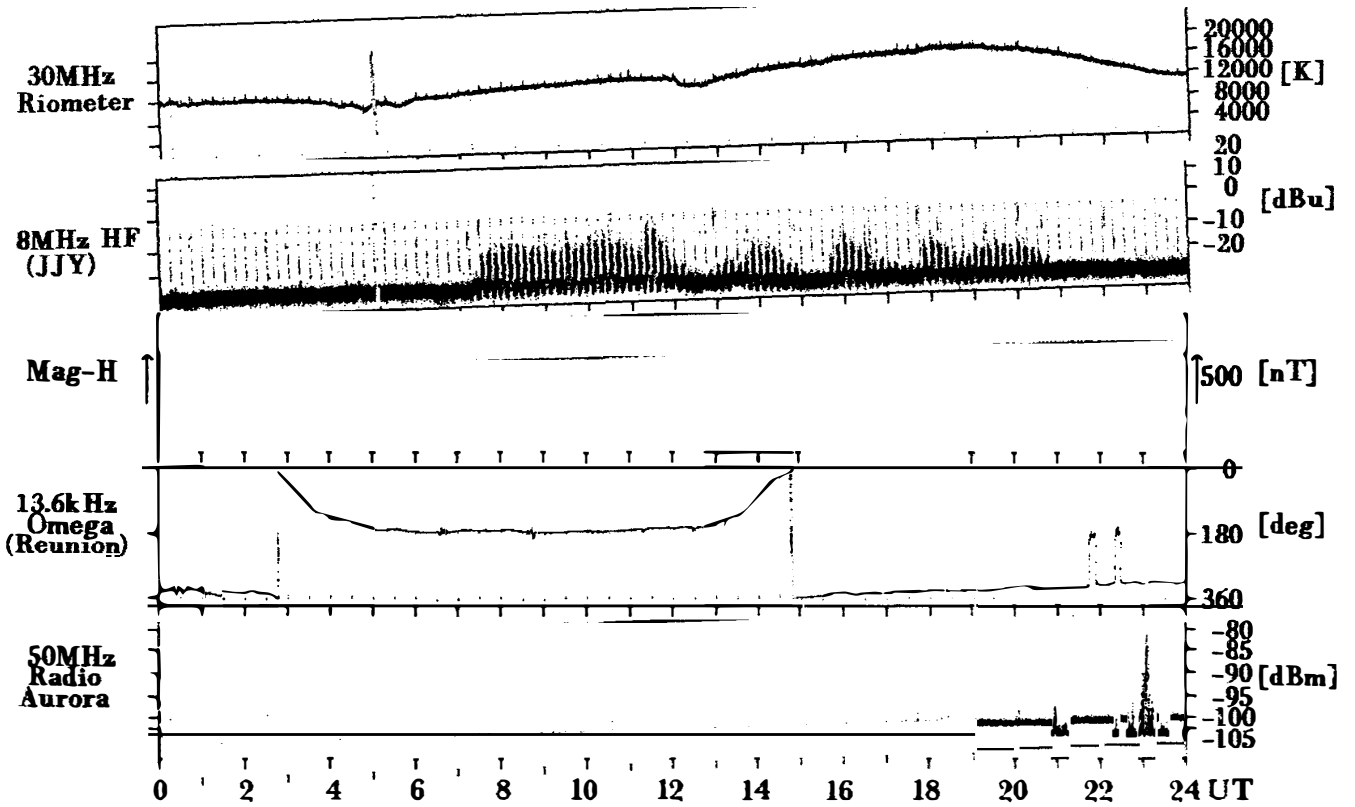
Syowa Station

Total Day / 212 1992/ 7/31



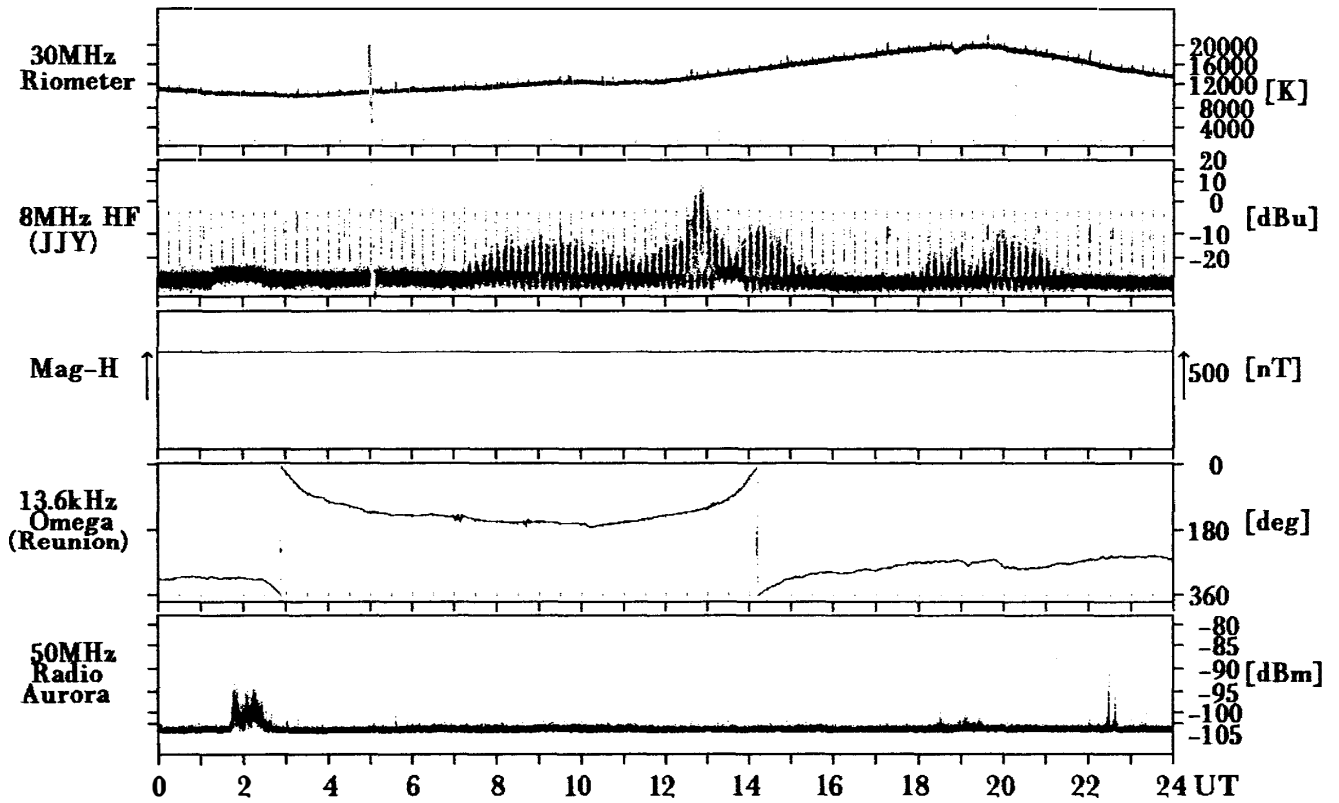
Syowa Station

Total Day / 213 1992/ 8/ 1



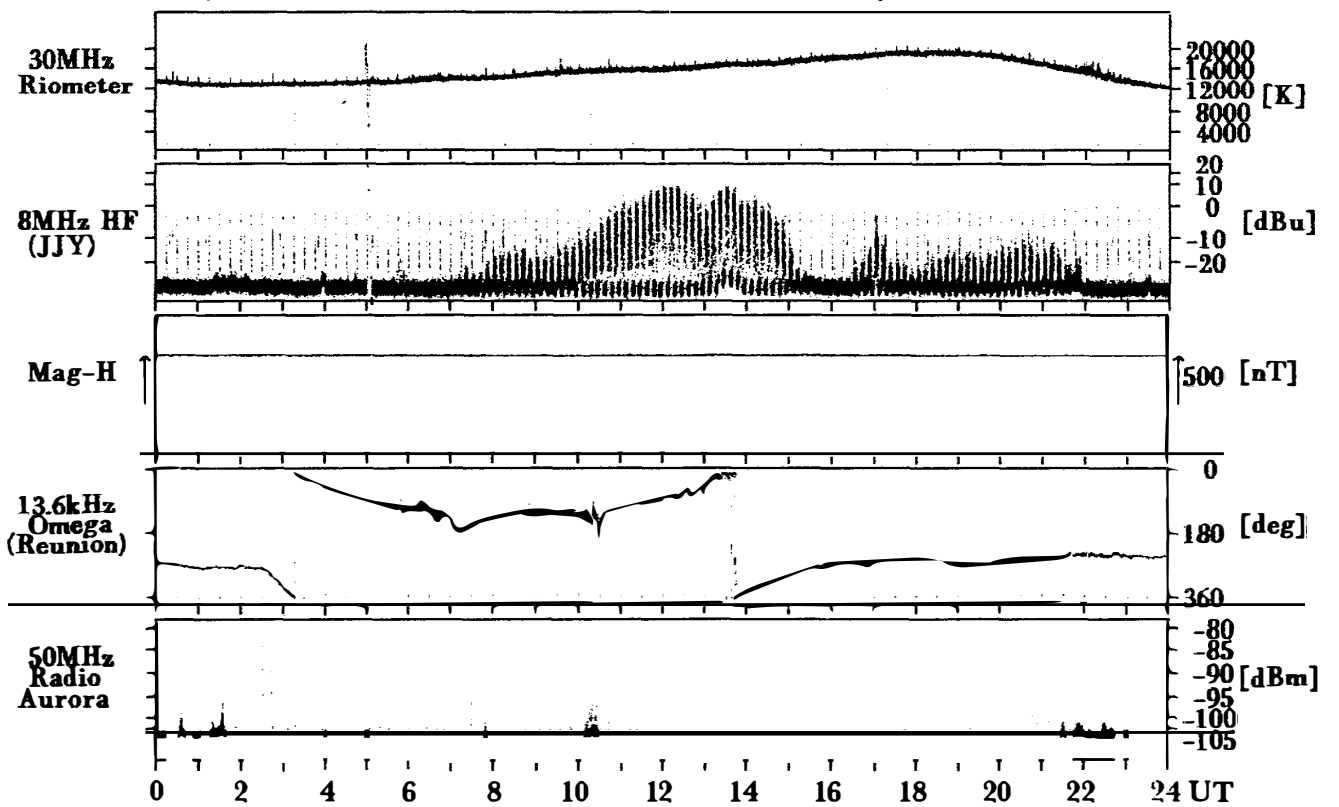
Syowa Station

Total Day / 214 1992/ 8/ 2



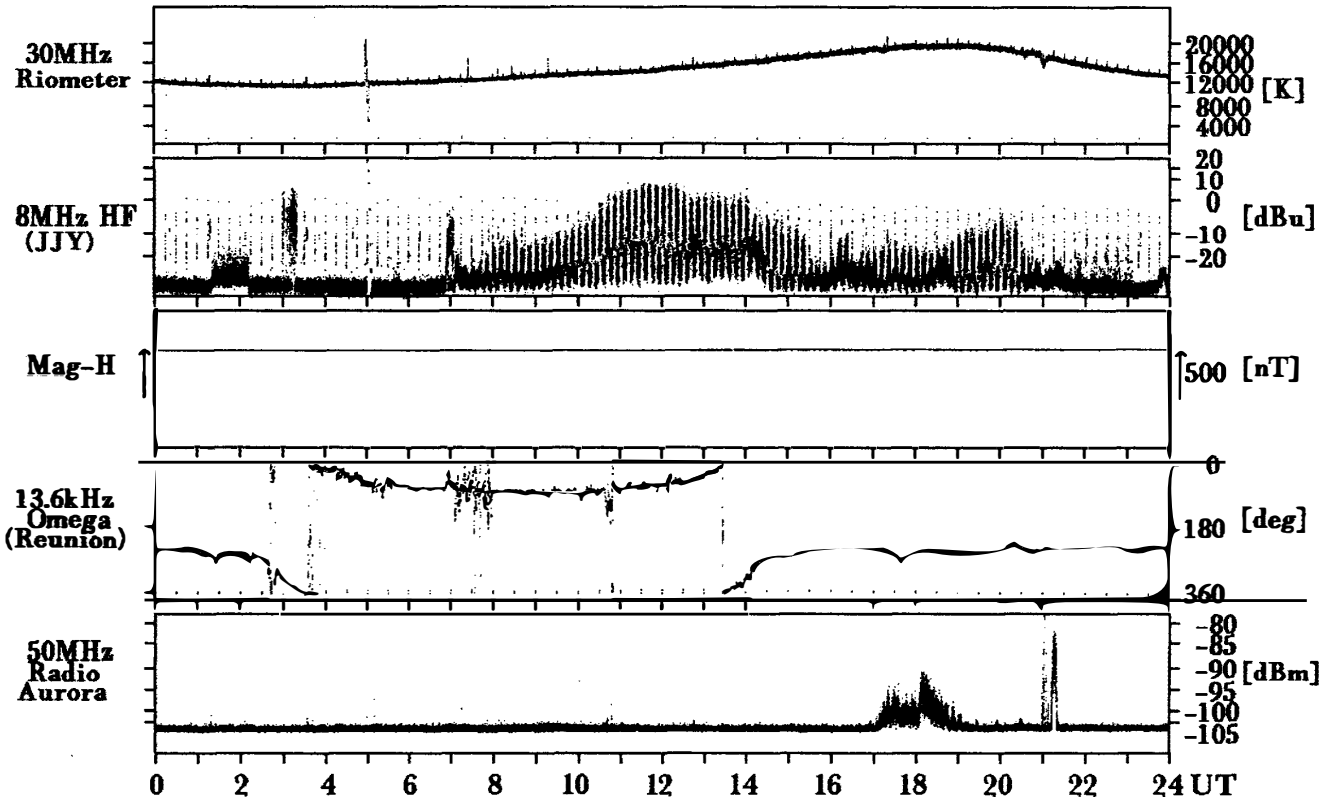
Syowa Station

Total Day / 215 1992/ 8/ 3



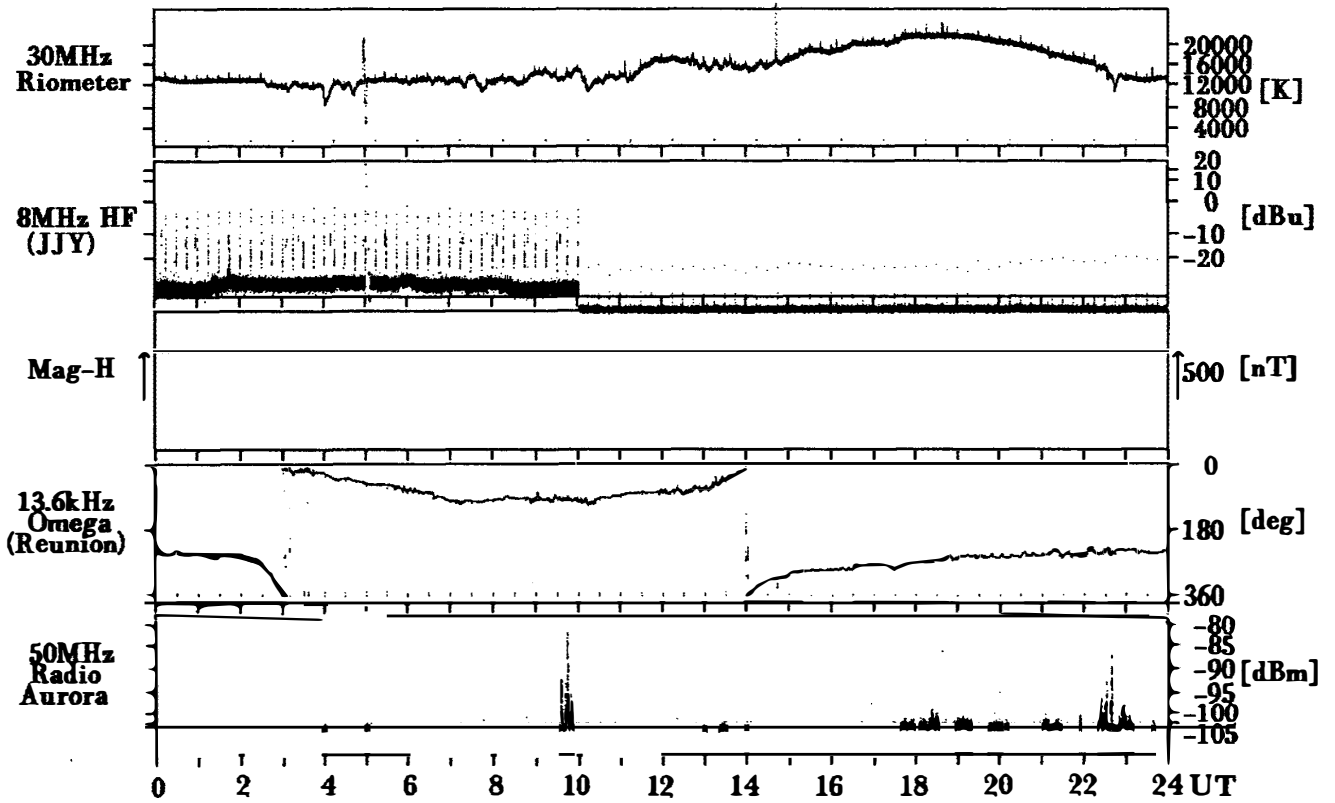
Syowa Station

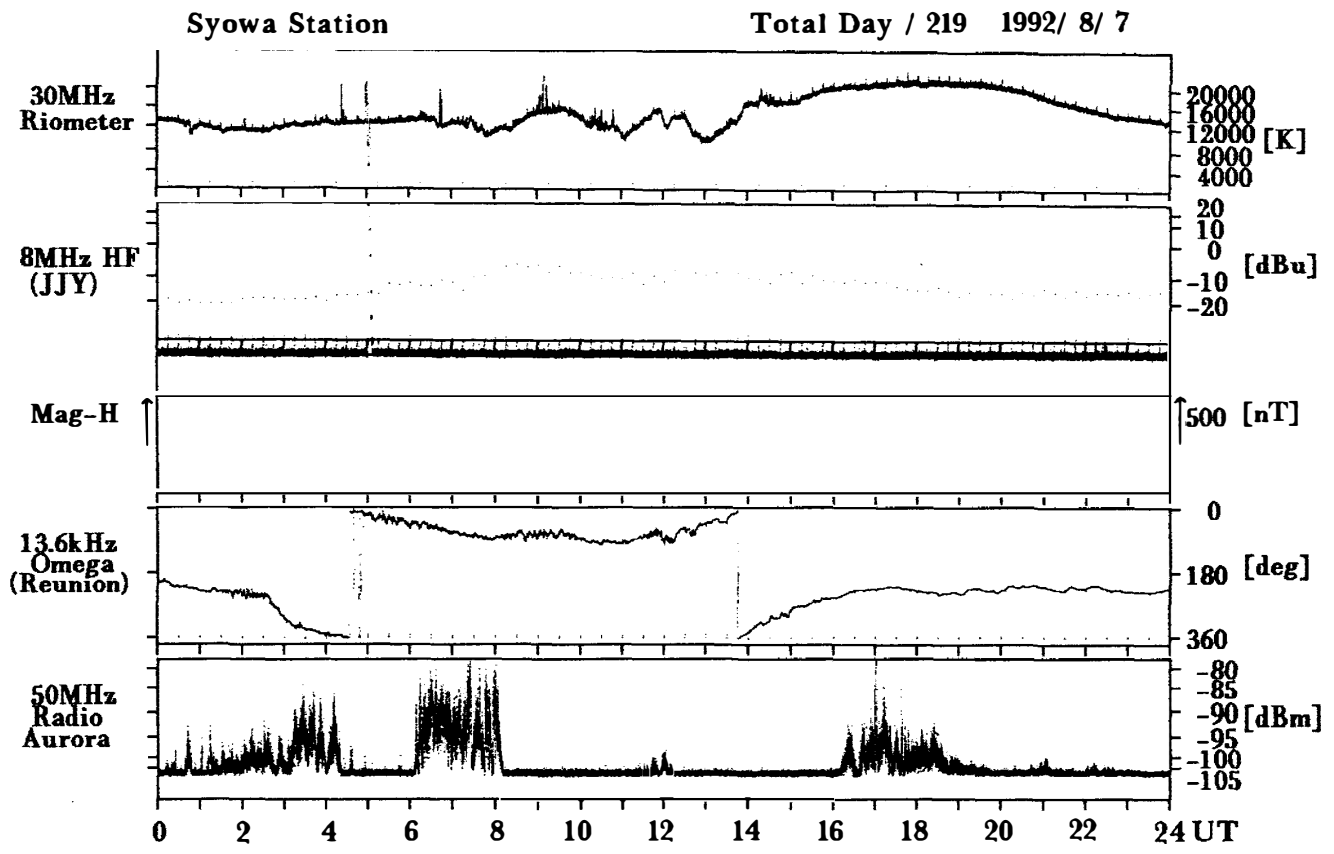
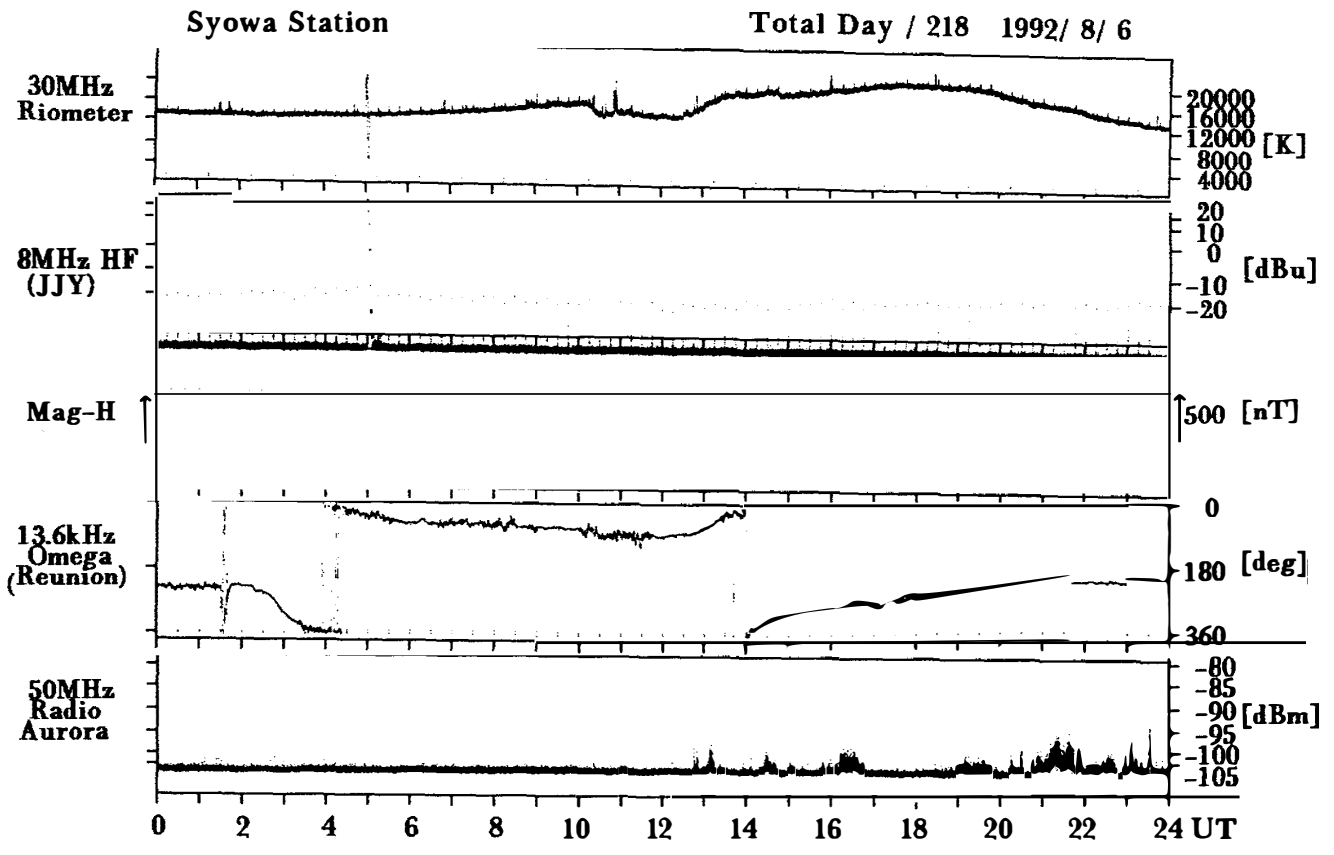
Total Day / 216 1992/ 8/ 4



Syowa Station

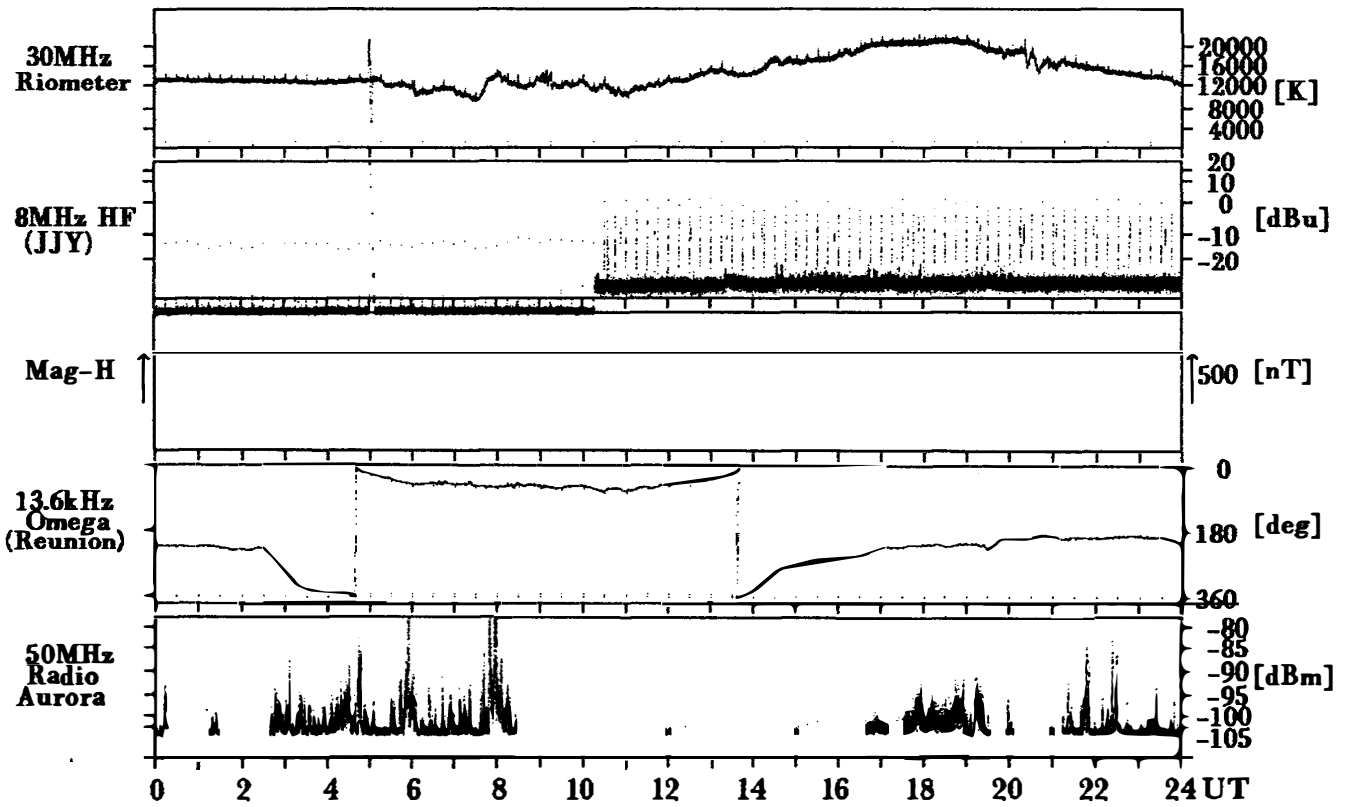
Total Day / 217 1992/ 8/ 5





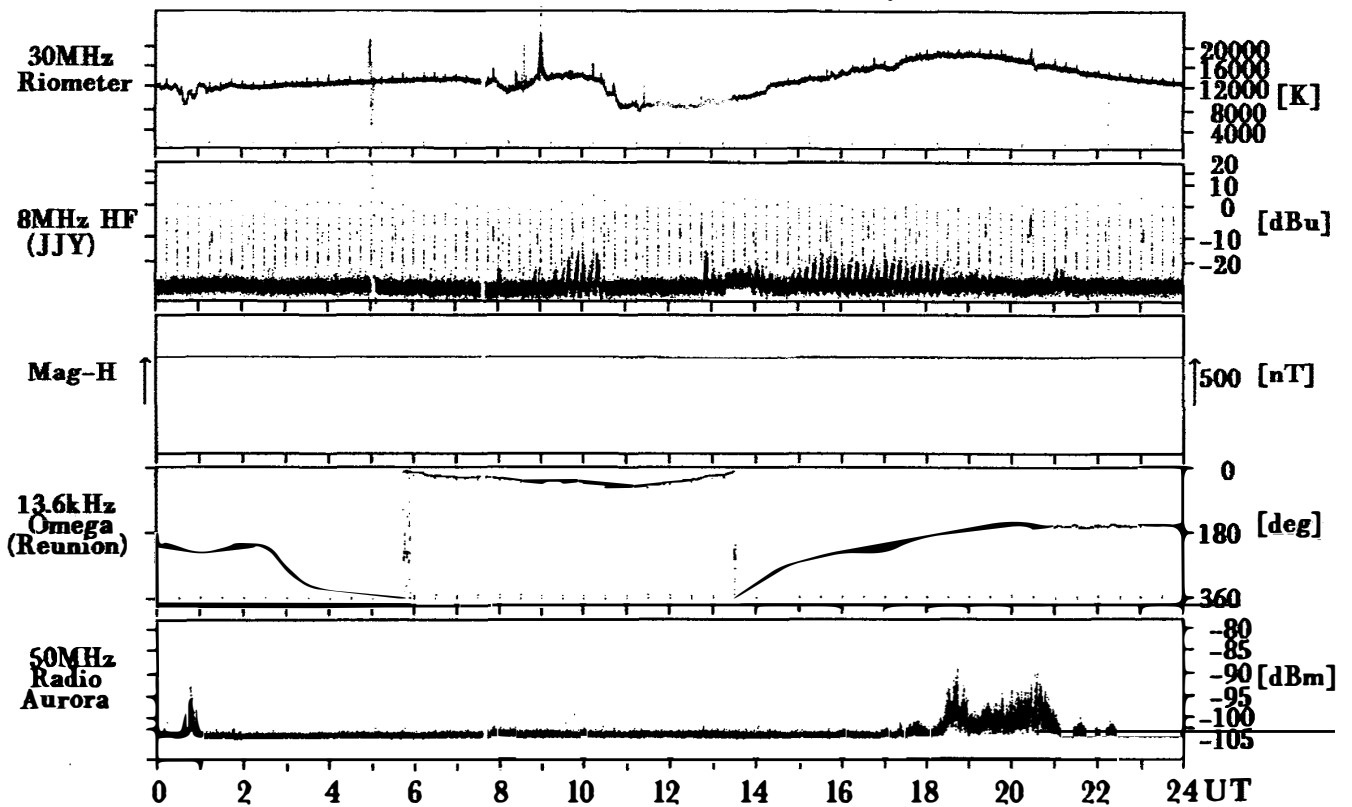
Syowa Station

Total Day / 220 1992/ 8/ 8



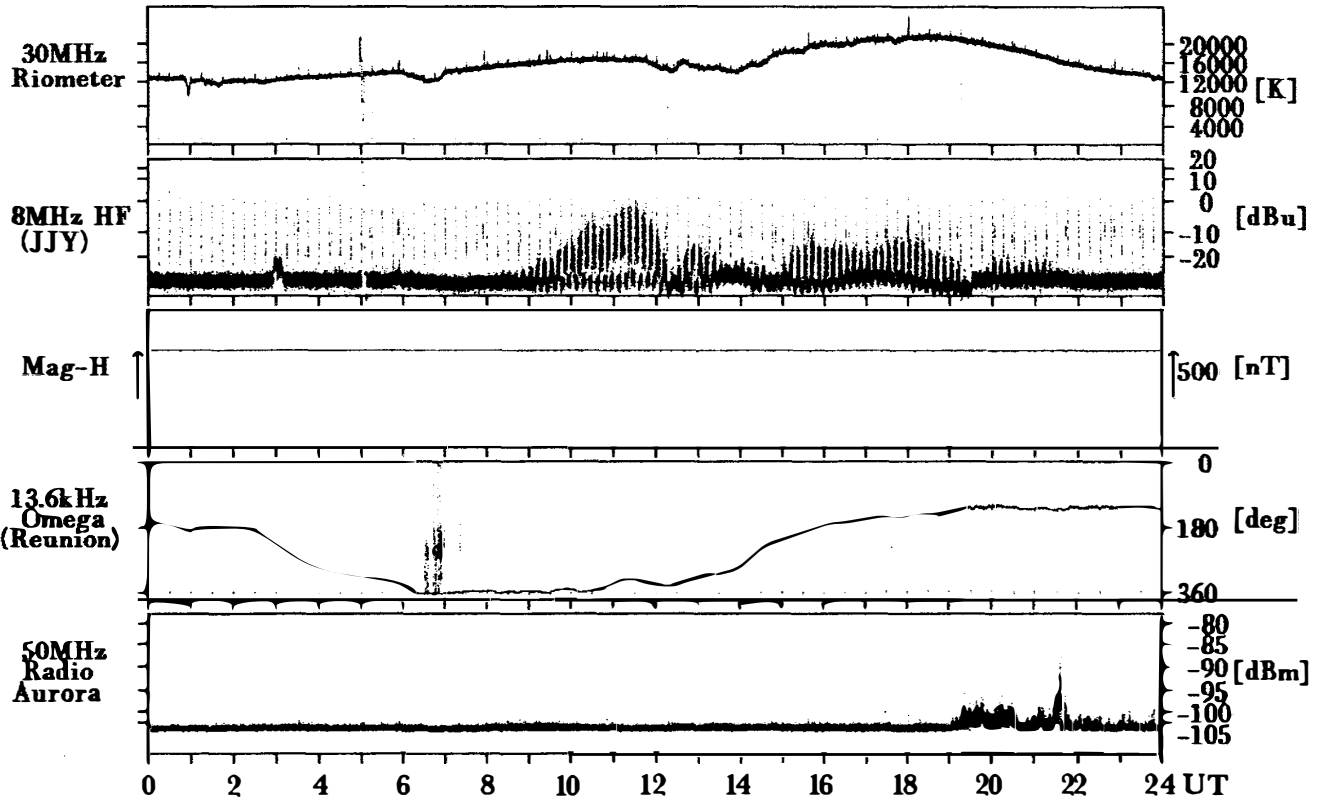
Syowa Station

Total Day / 221 1992/ 8/ 9



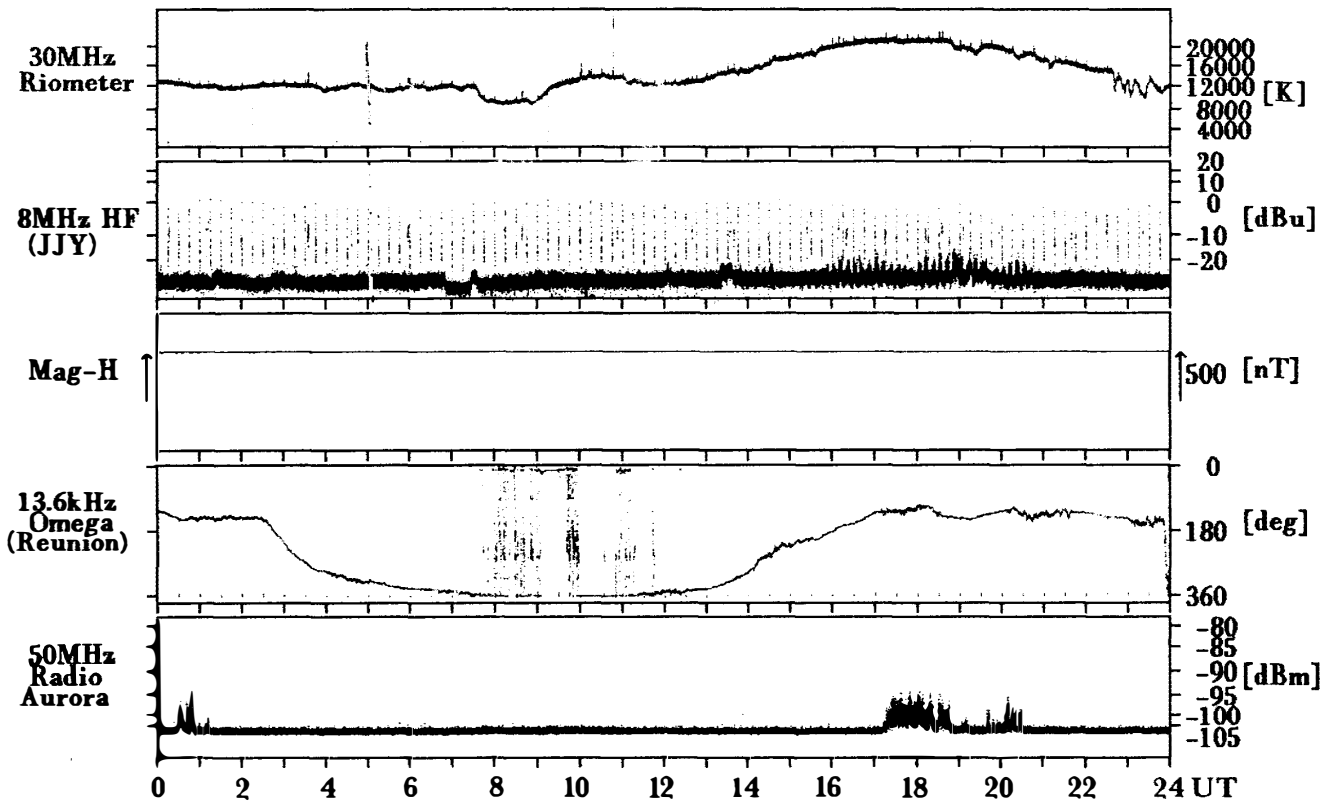
Syowa Station

Total Day / 222 1992/ 8/10



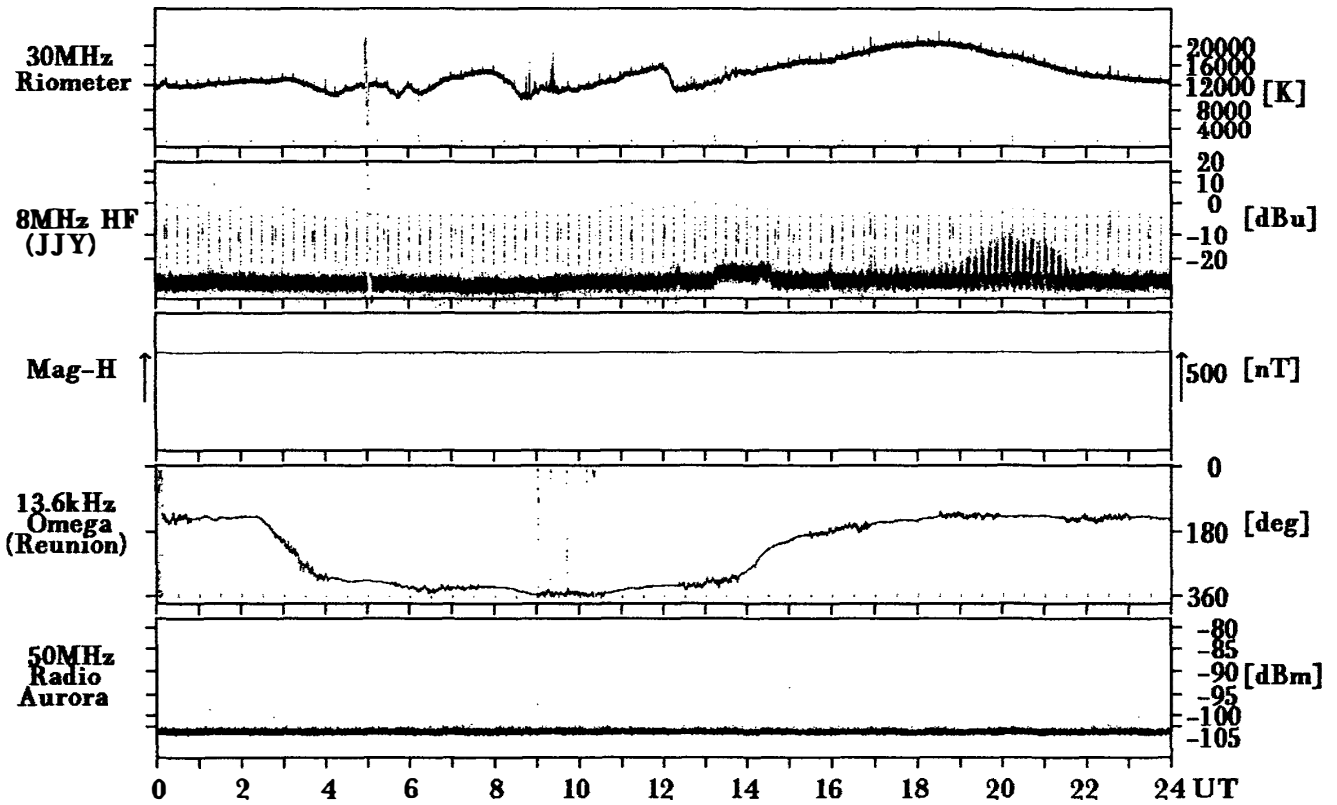
Syowa Station

Total Day / 223 1992/ 8/11



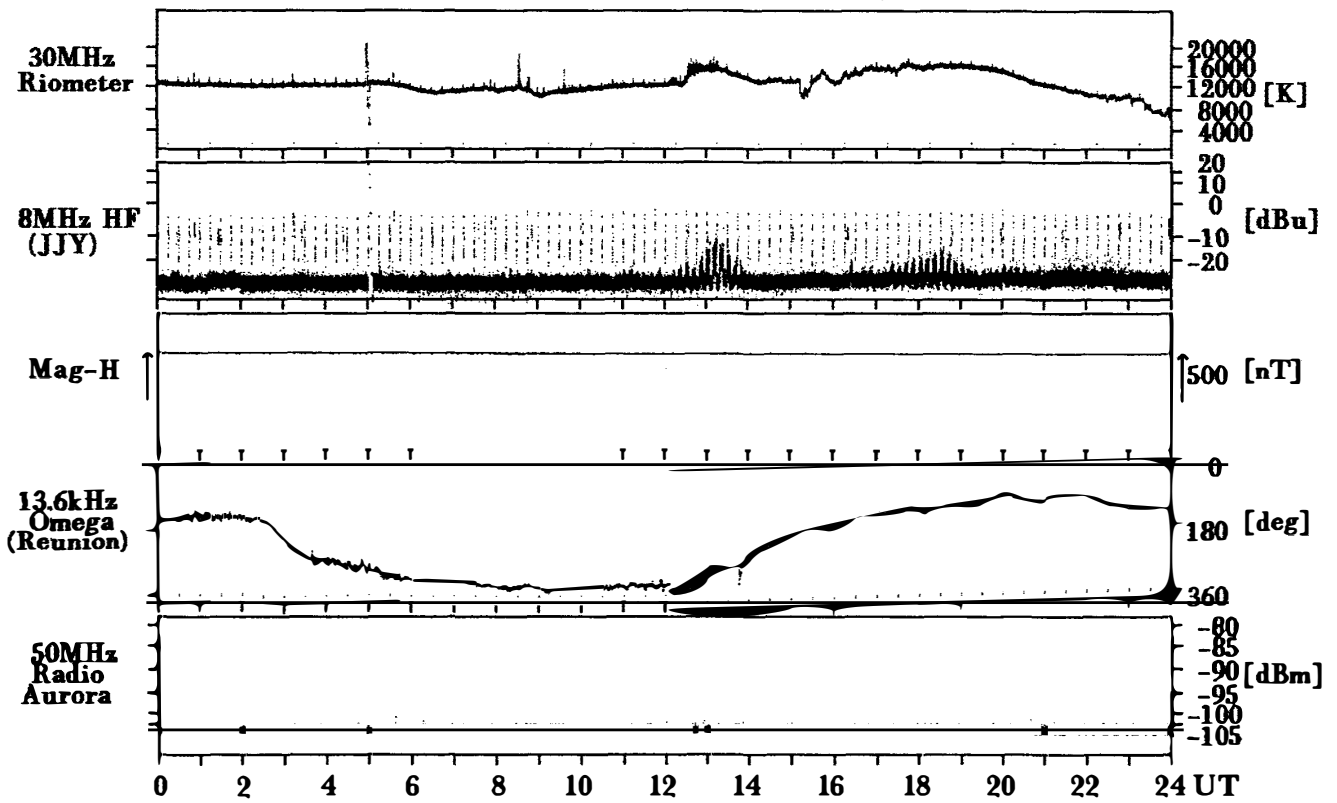
Syowa Station

Total Day / 224 1992/ 8/12



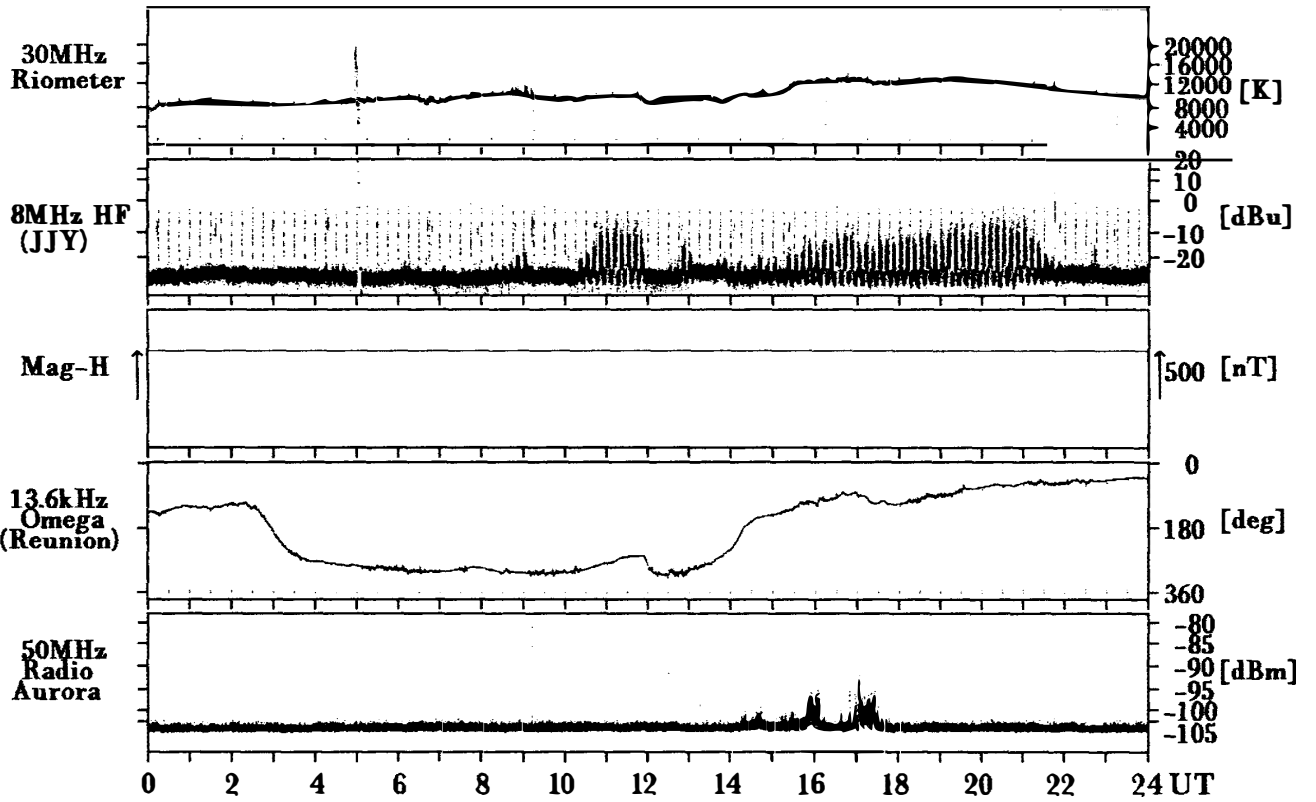
Syowa Station

Total Day / 225 1992/ 8/13



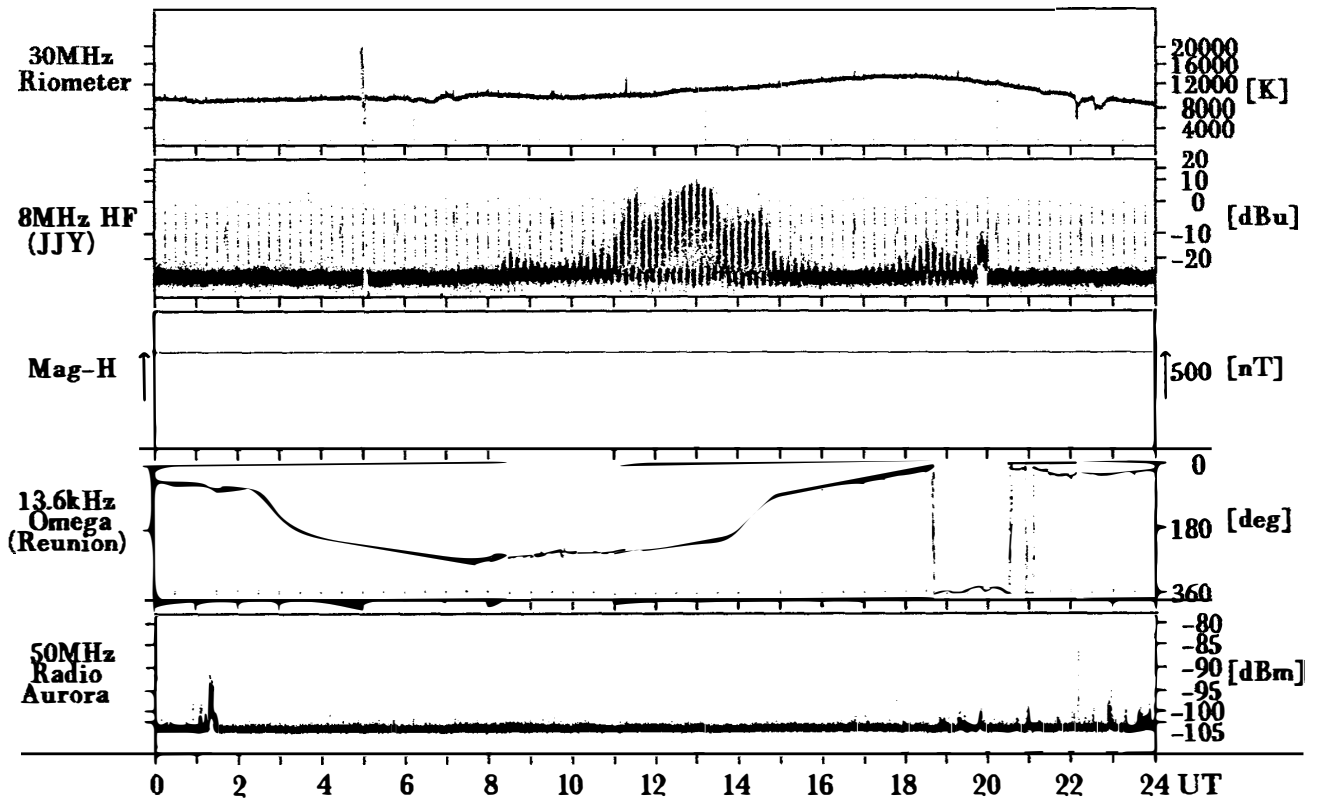
Syowa Station

Total Day / 226 1992/ 8/14



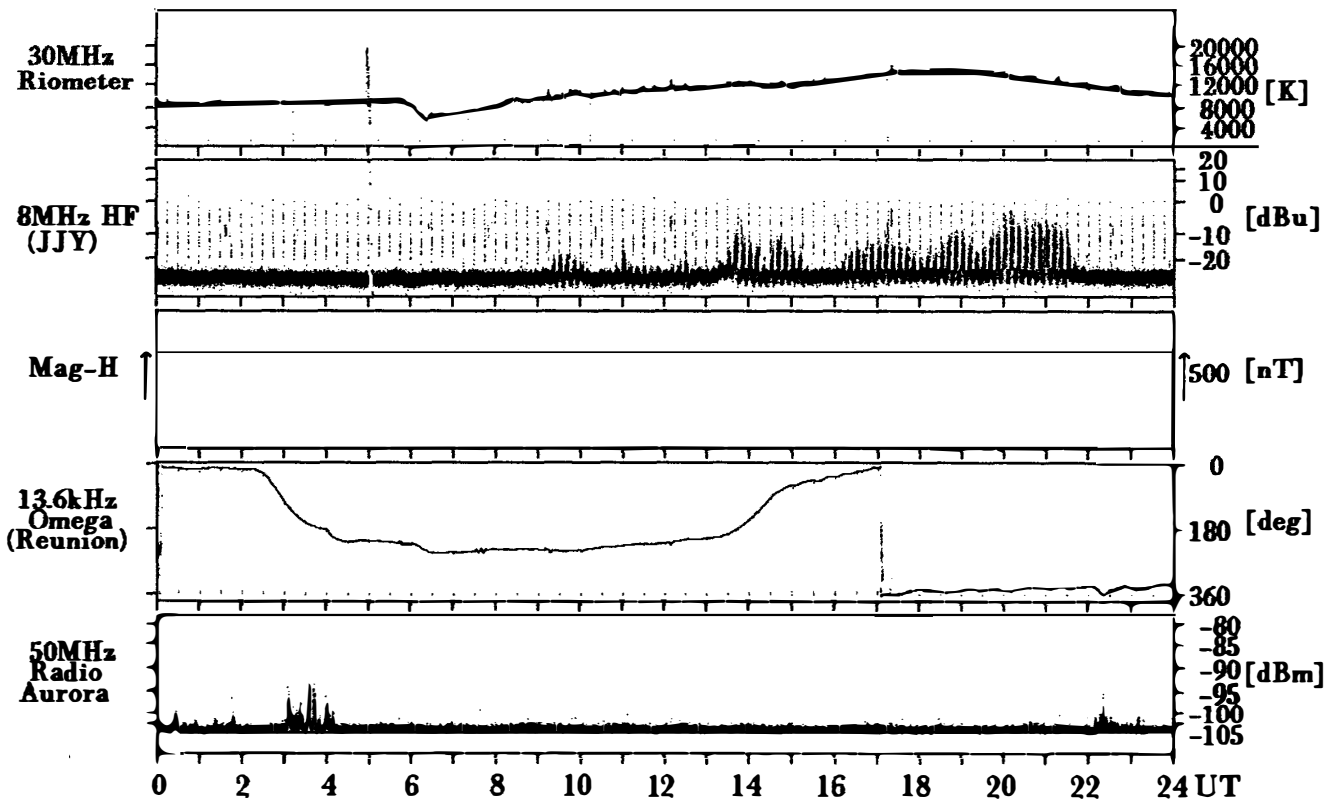
Syowa Station

Total Day / 227 1992/ 8/15



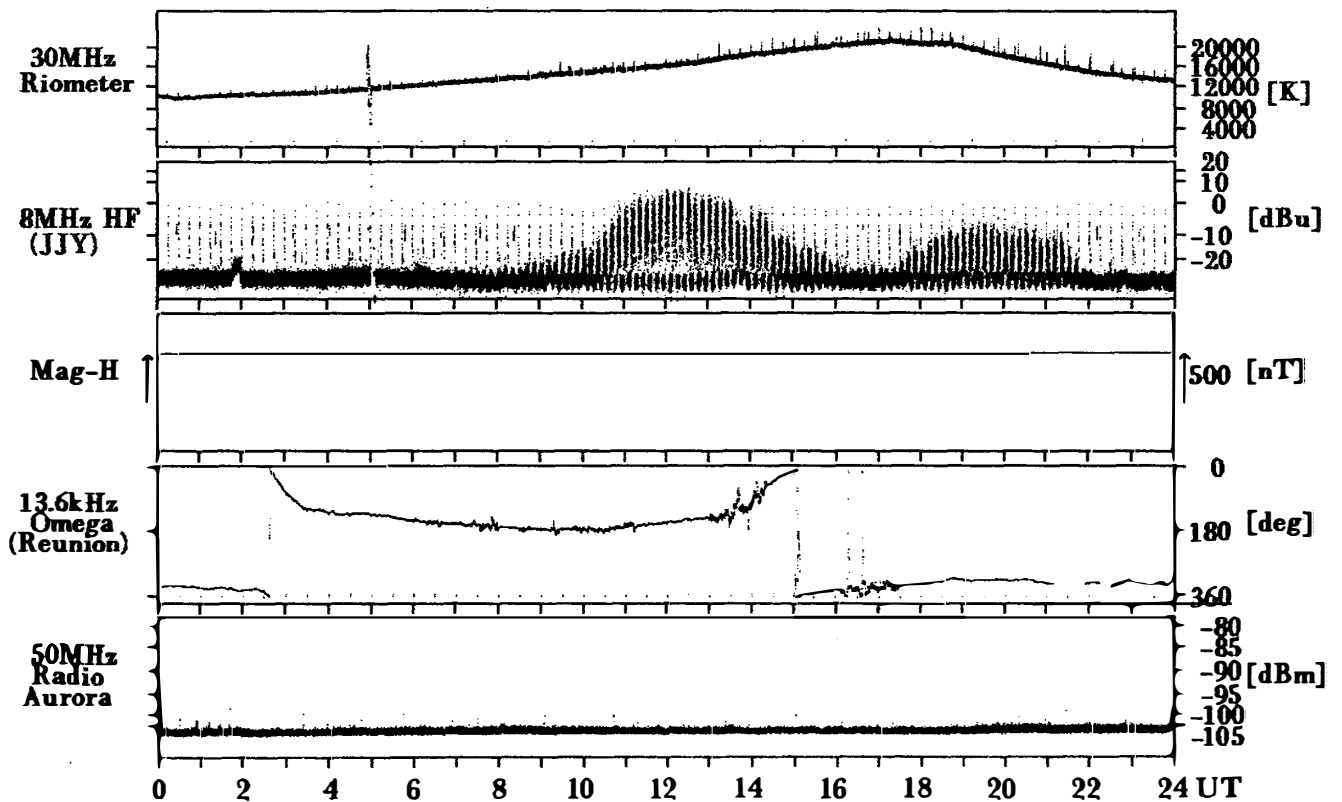
Syowa Station

Total Day / 228 1992/ 8/16



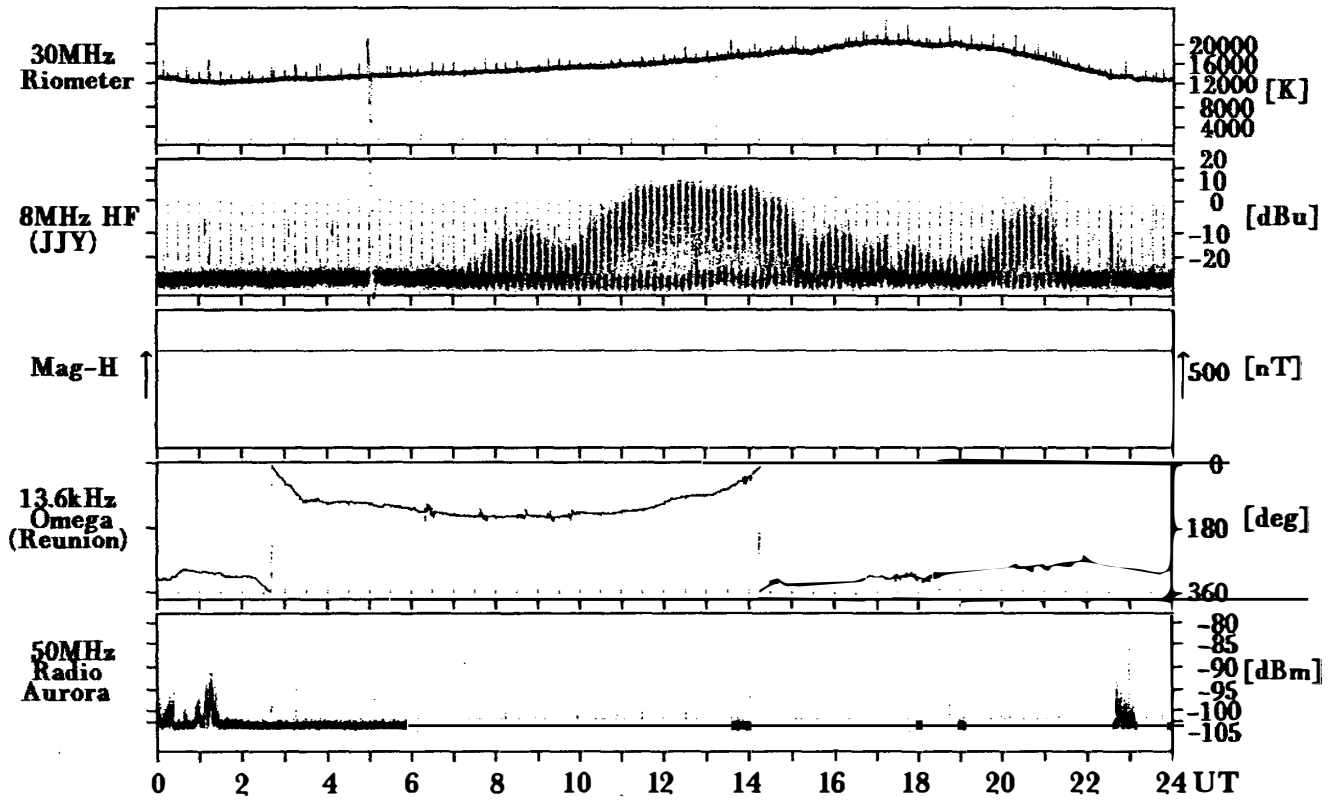
Syowa Station

Total Day / 229 1992/ 8/17



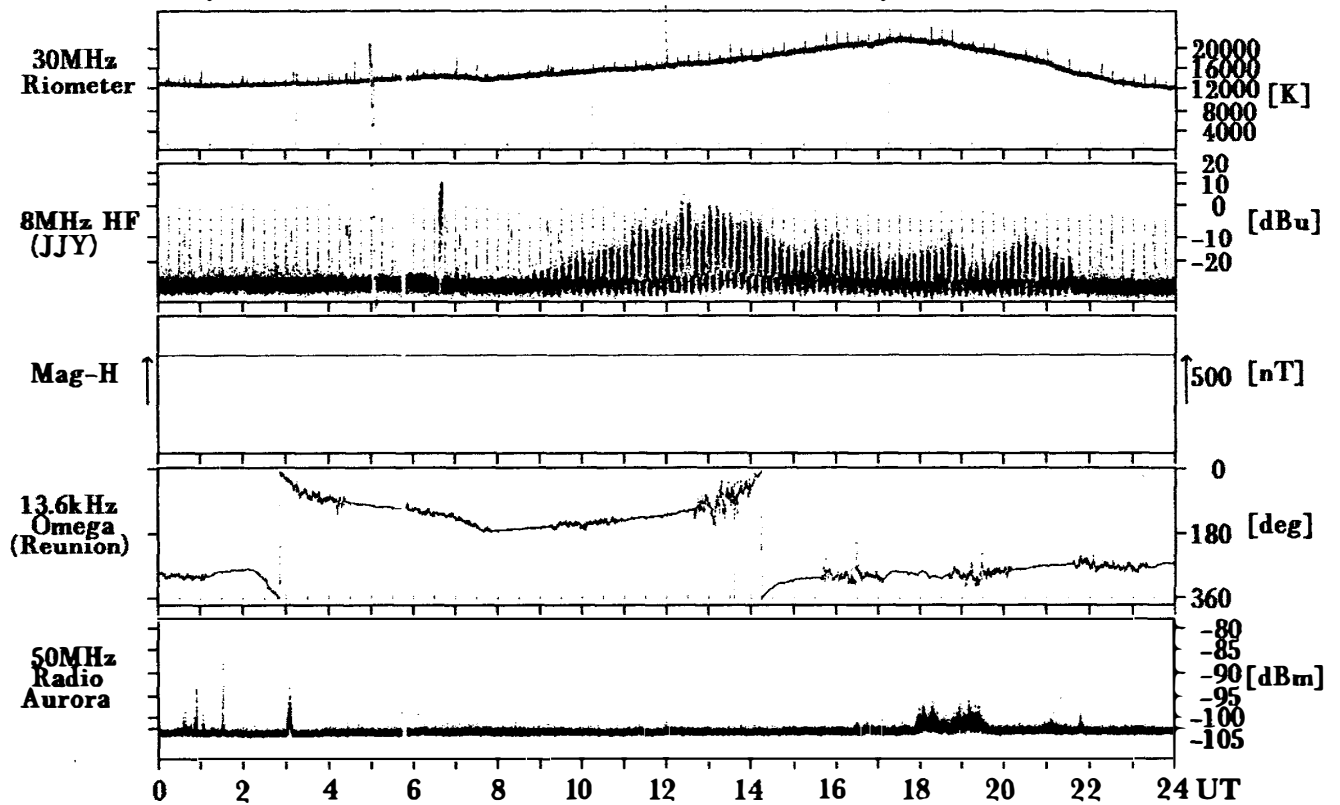
Syowa Station

Total Day / 230 1992/ 8/18



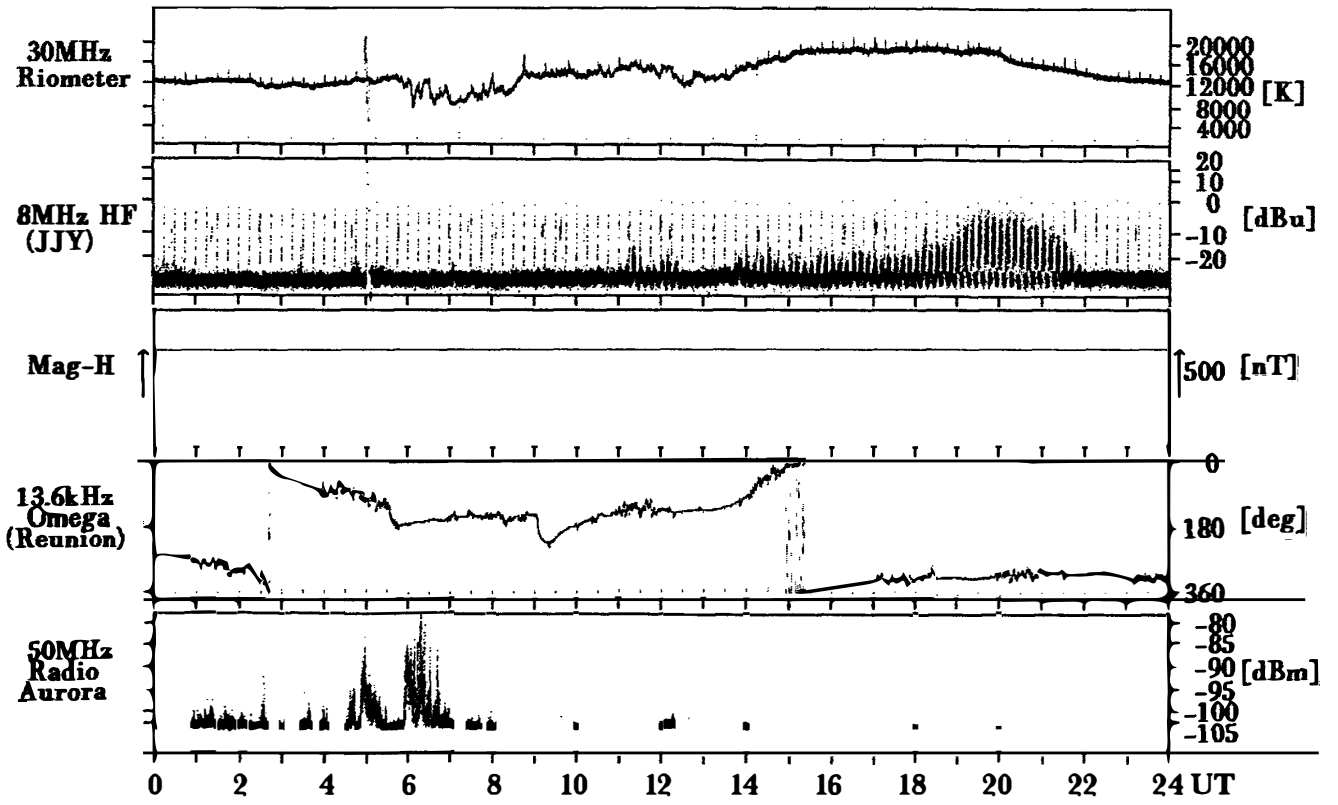
Syowa Station

Total Day / 231 1992/ 8/19



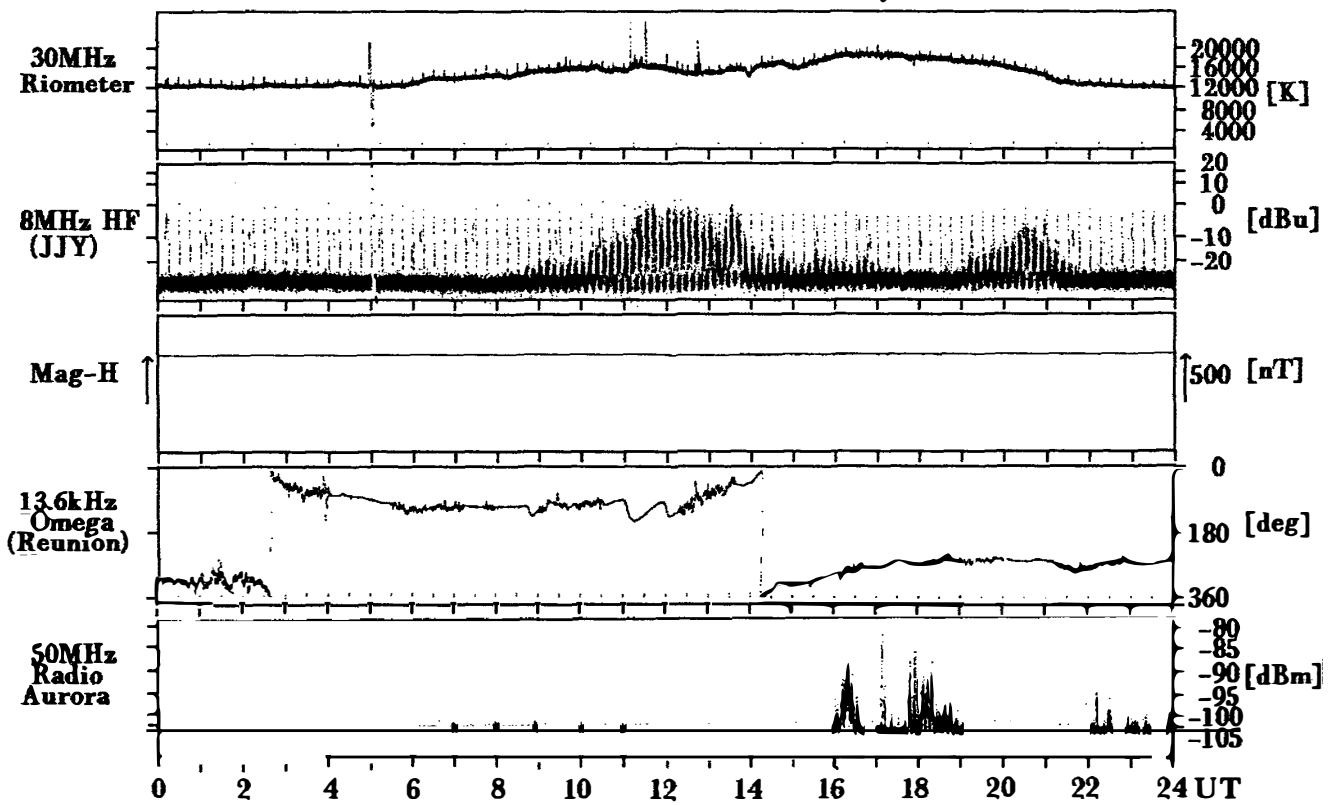
Syowa Station

Total Day / 232 1992/ 8/20



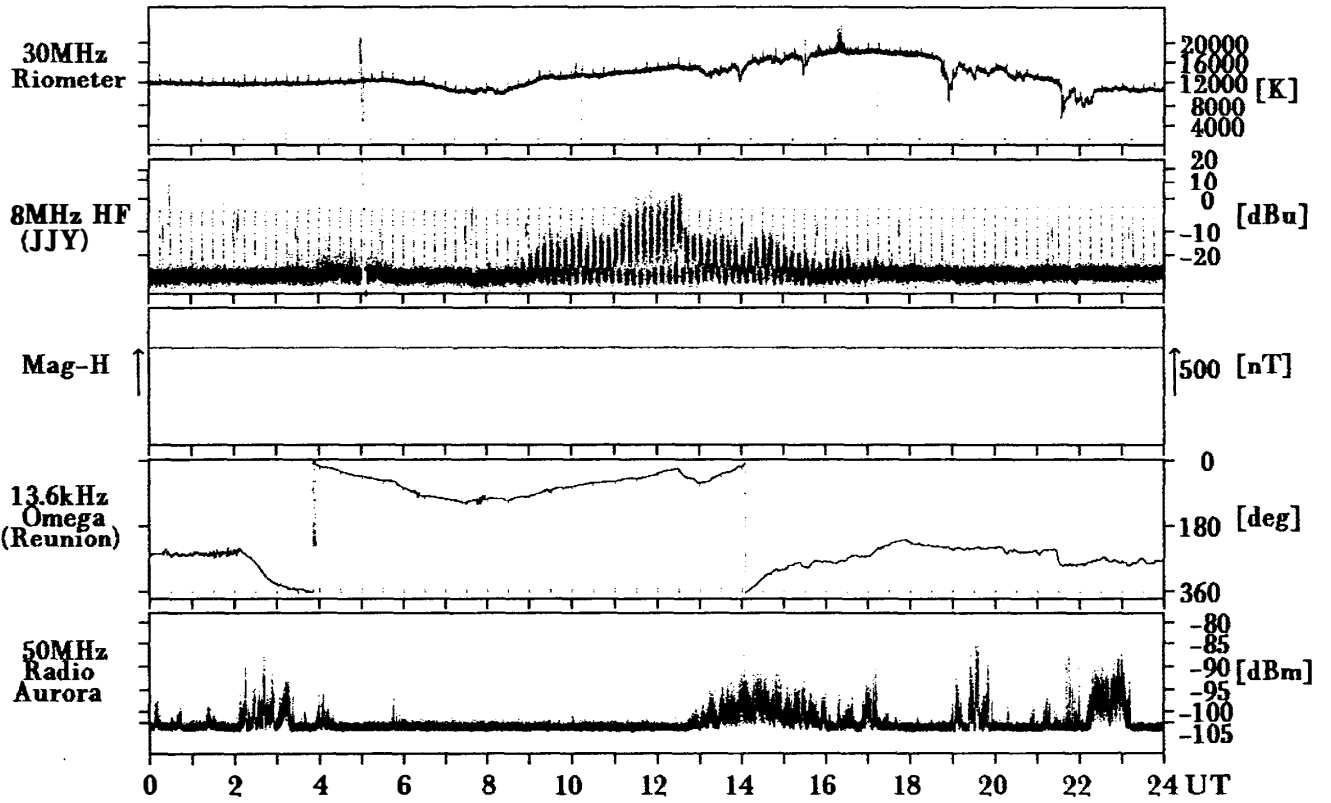
Syowa Station

Total Day / 233 1992/ 8/21



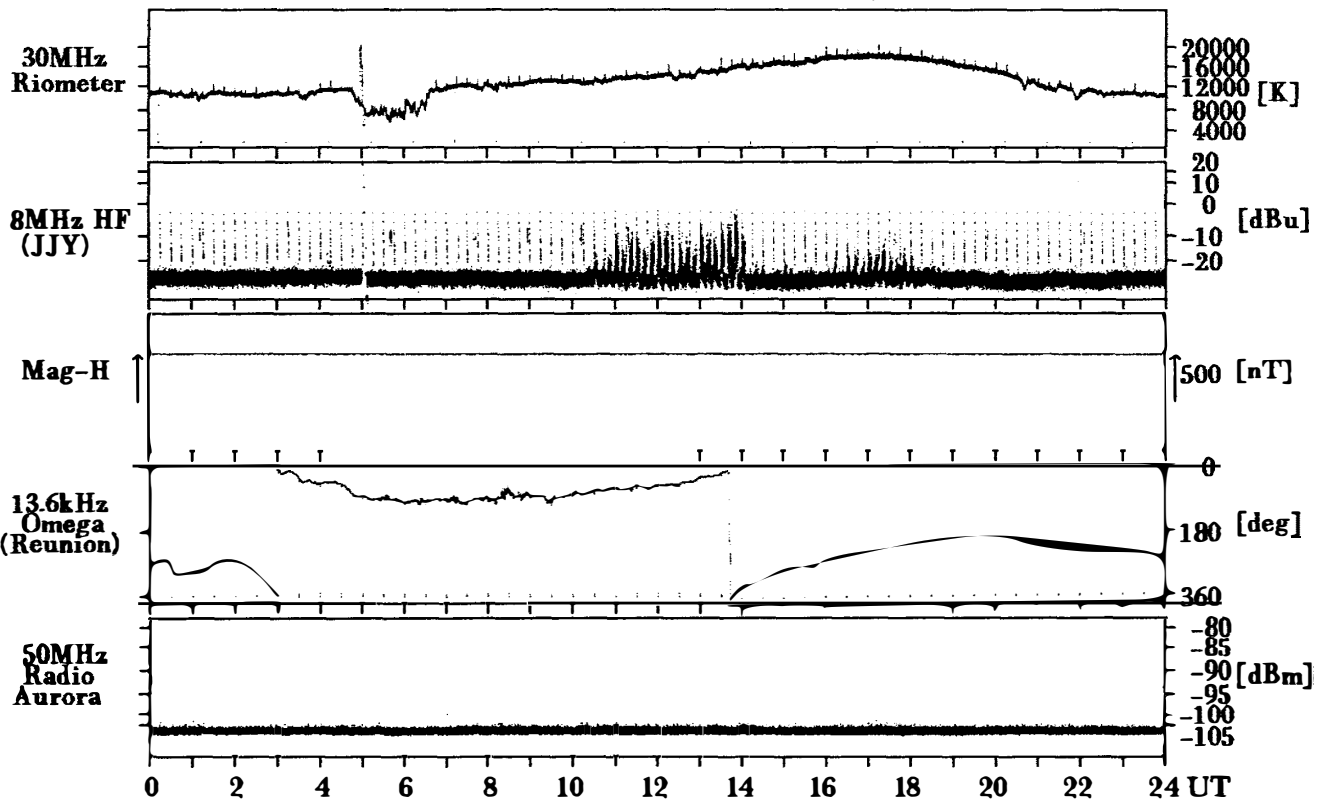
Syowa Station

Total Day / 234 1992/ 8/22



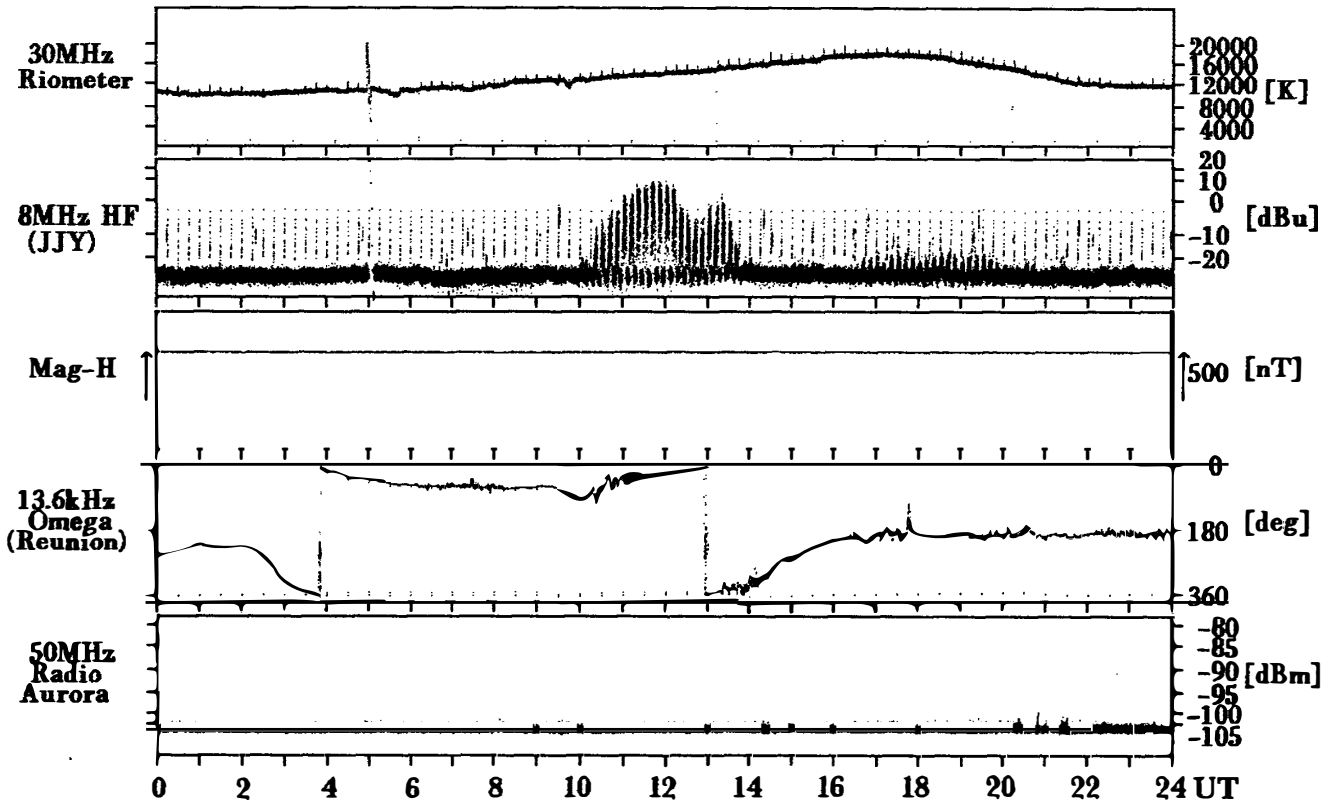
Syowa Station

Total Day / 235 1992/ 8/23



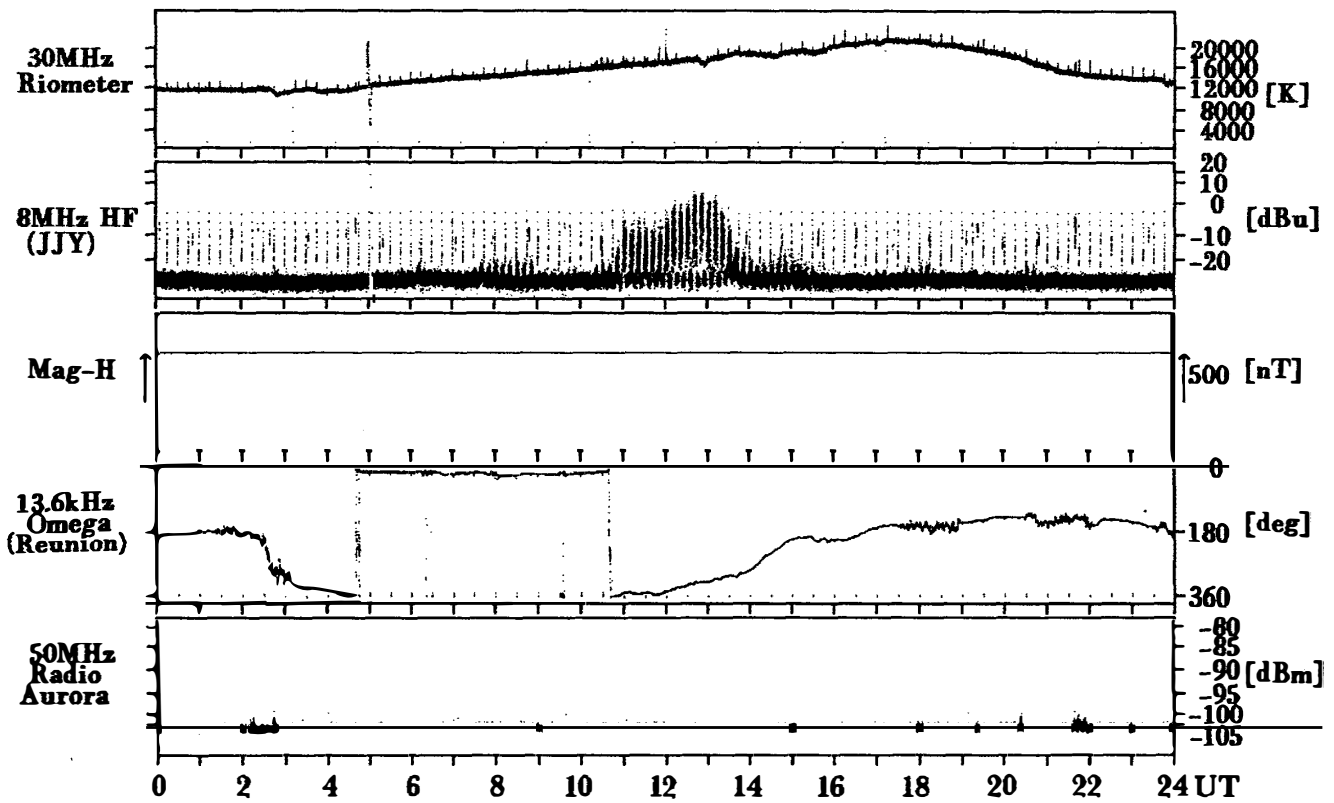
Syowa Station

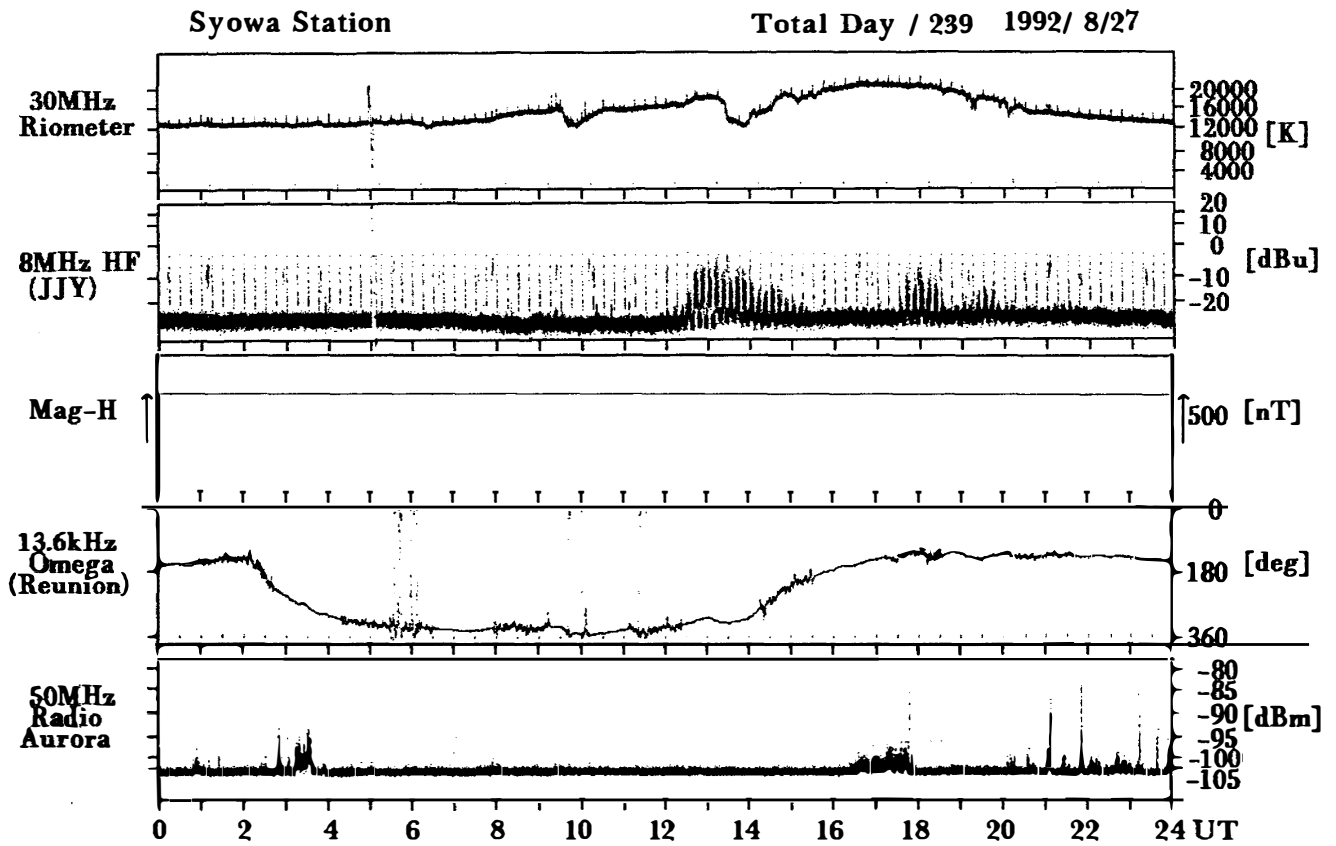
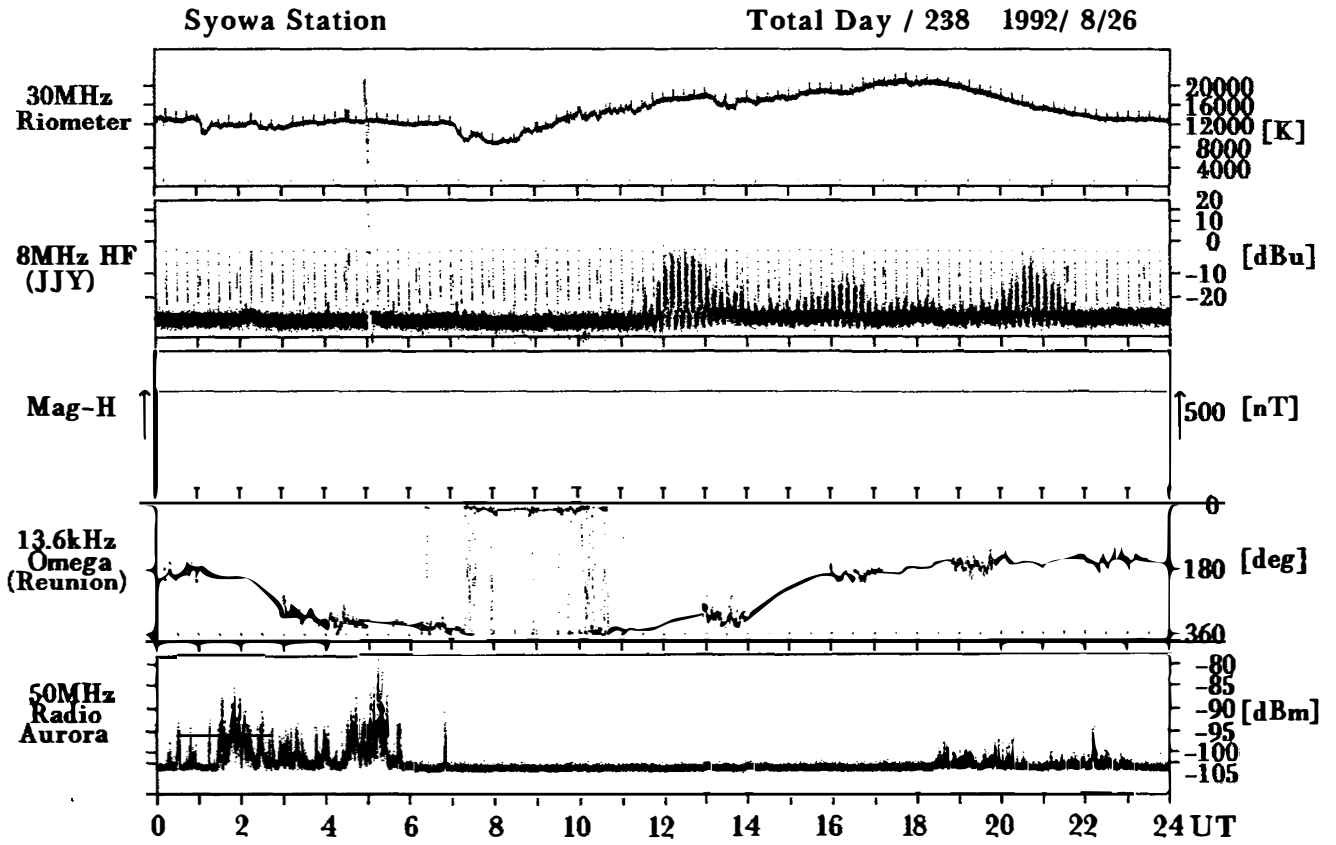
Total Day / 236 1992/ 8/24



Syowa Station

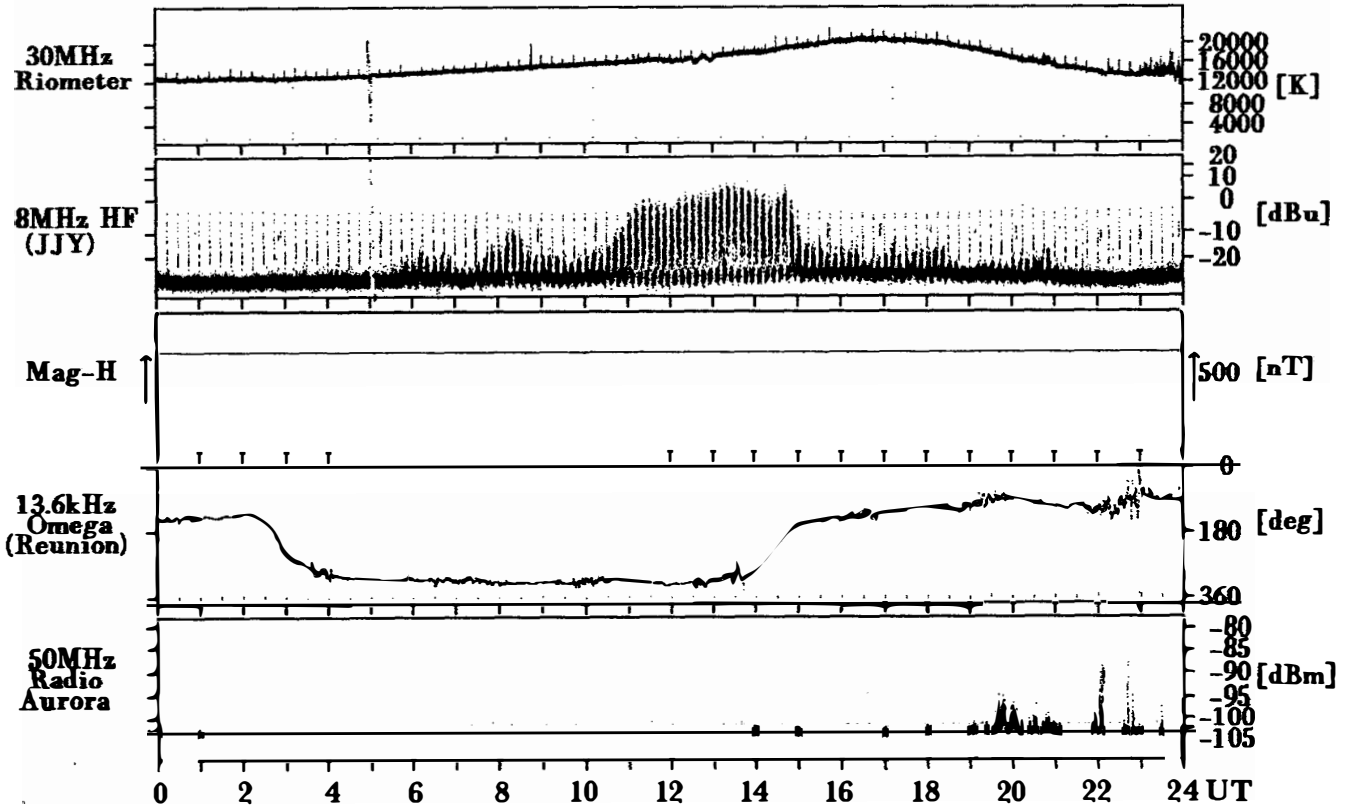
Total Day / 237 1992/ 8/25





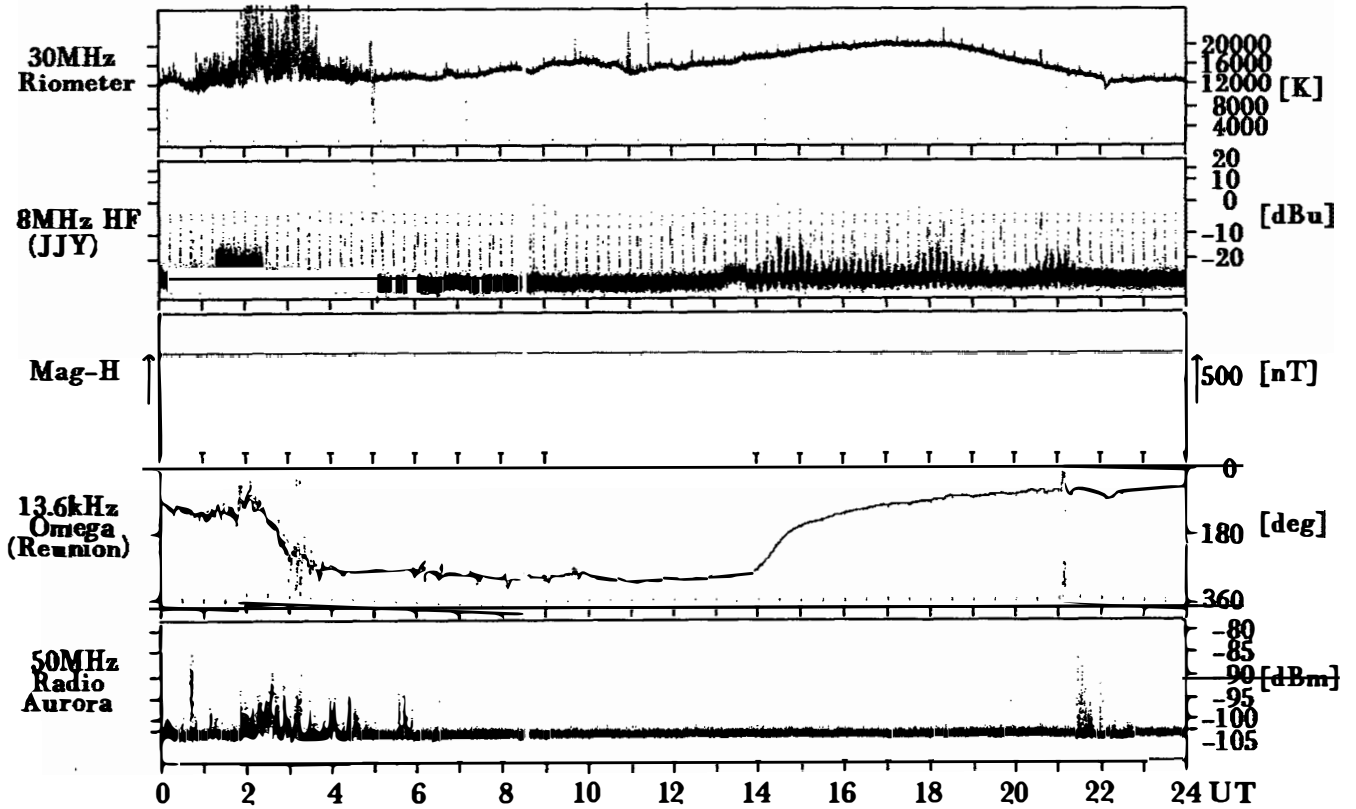
Syowa Station

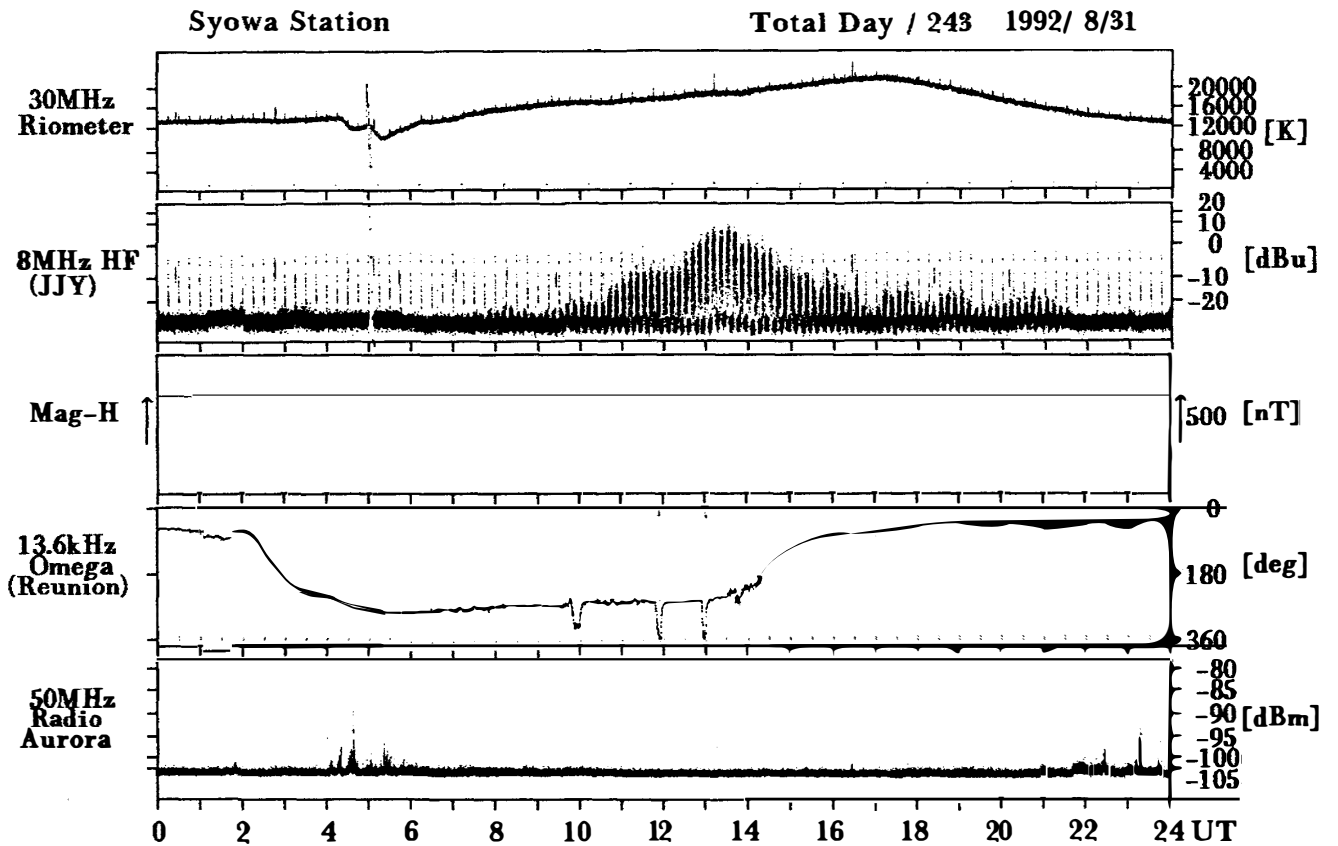
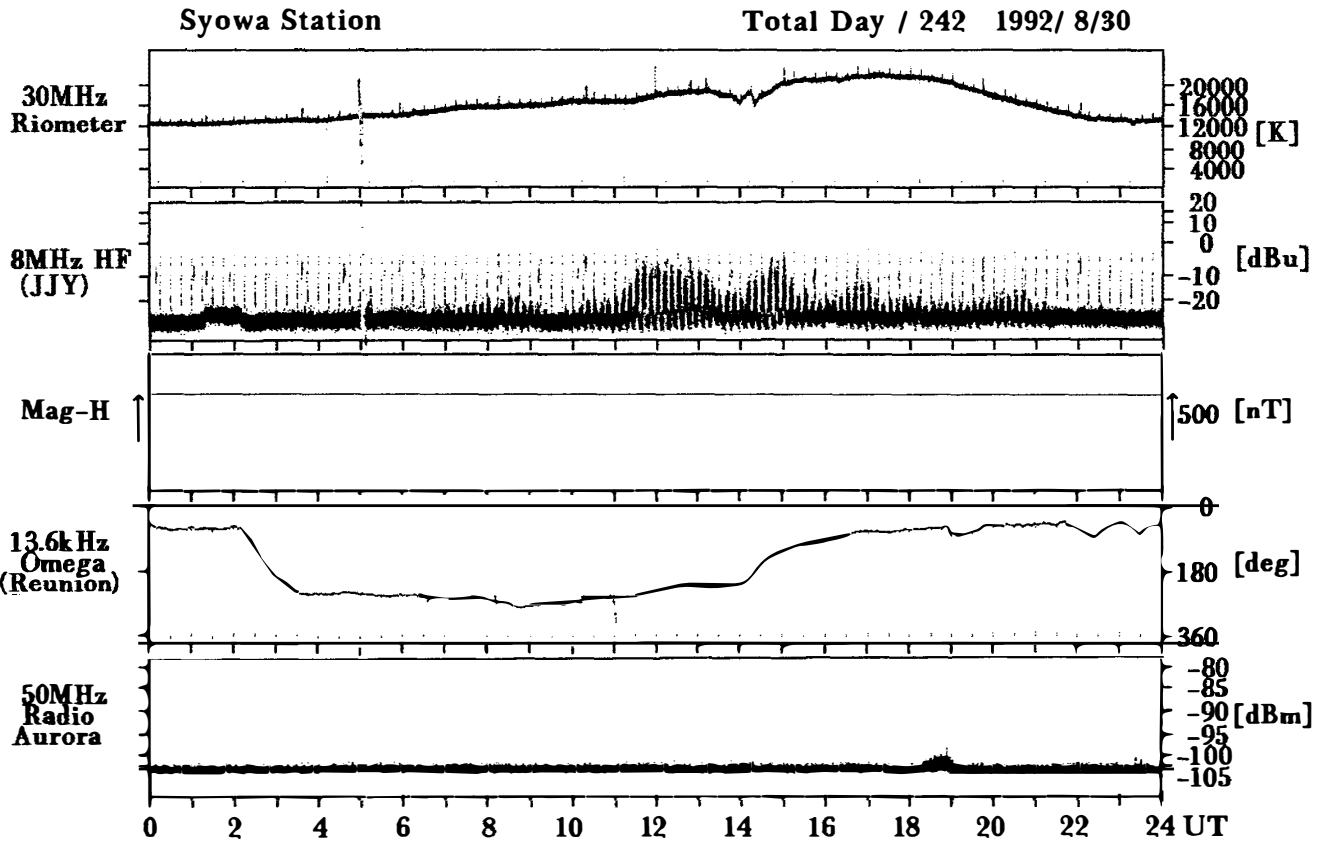
Total Day / 240 1992/ 8/28



Syowa Station

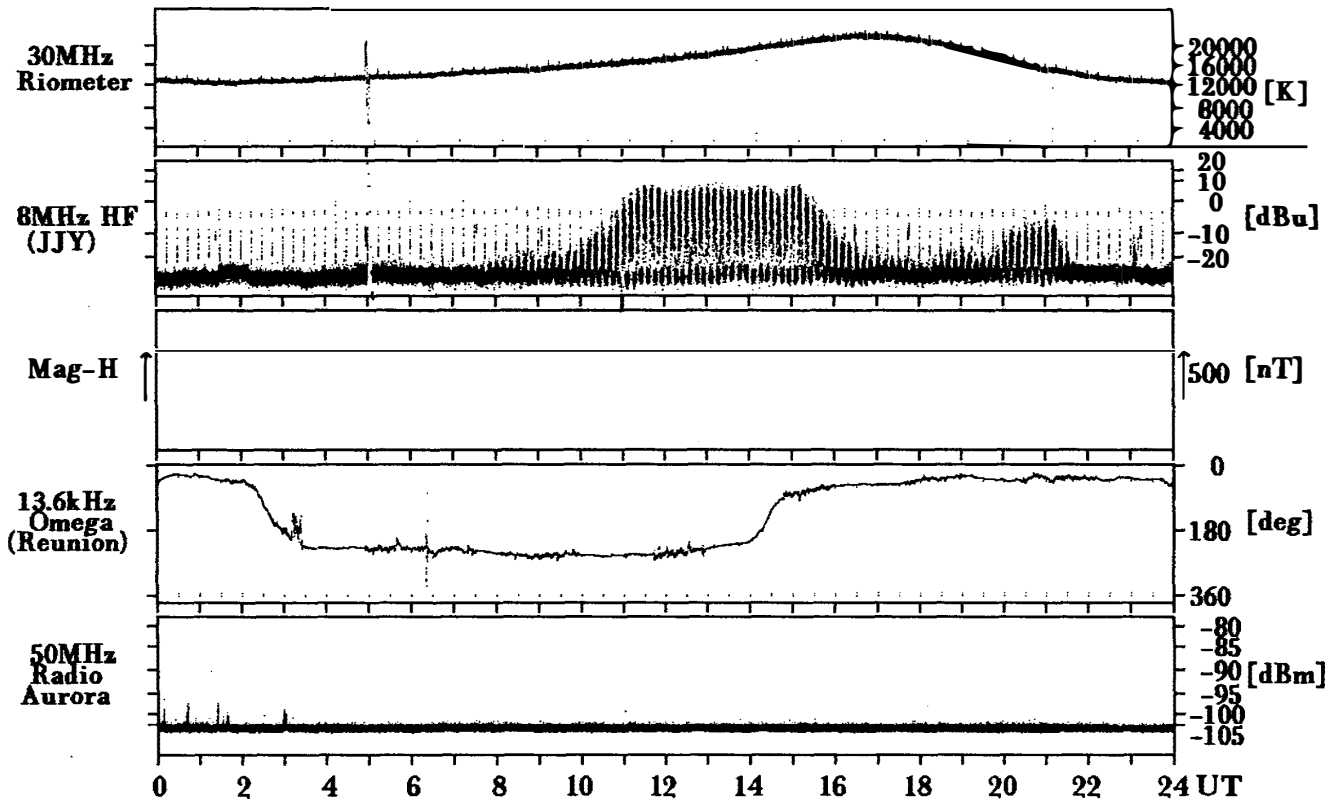
Total Day / 241 1992/ 8/29





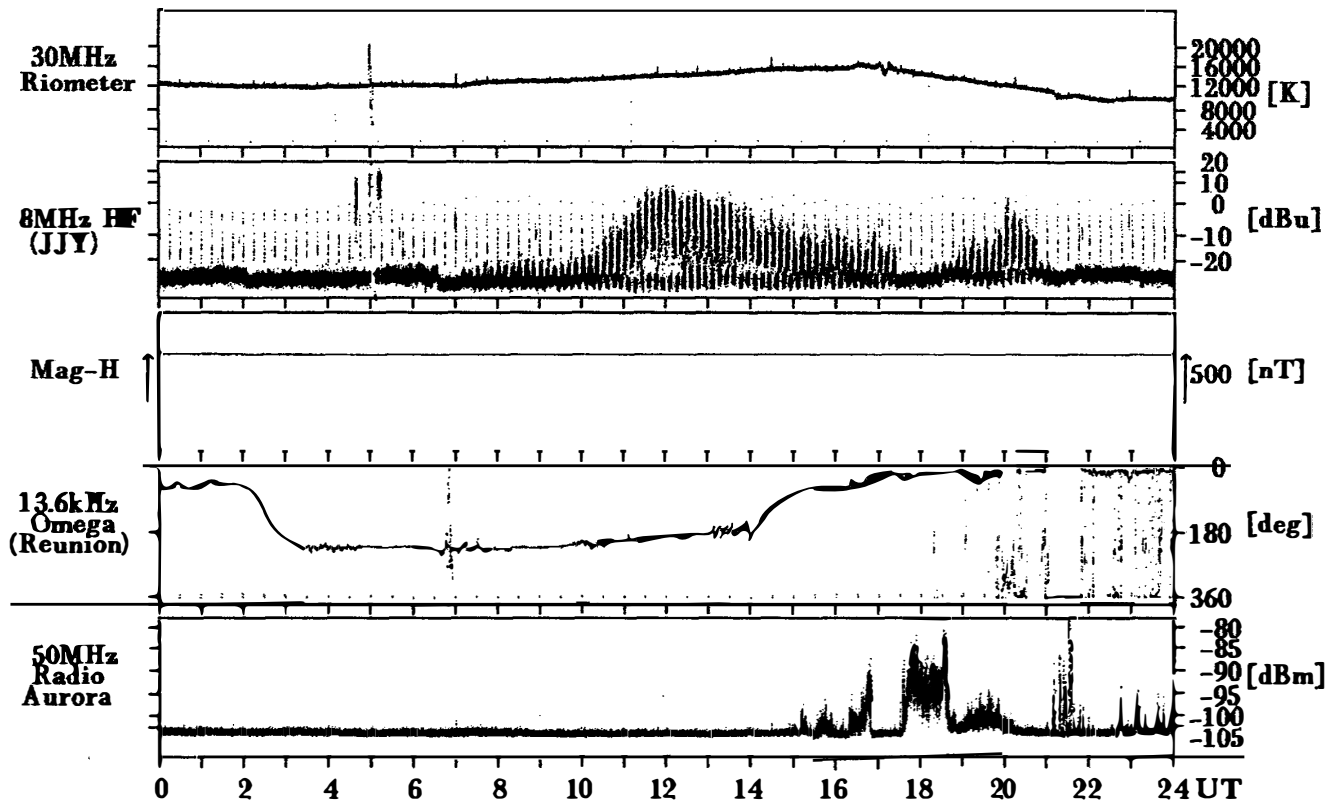
Syowa Station

Total Day / 244 1992/ 9/ 1



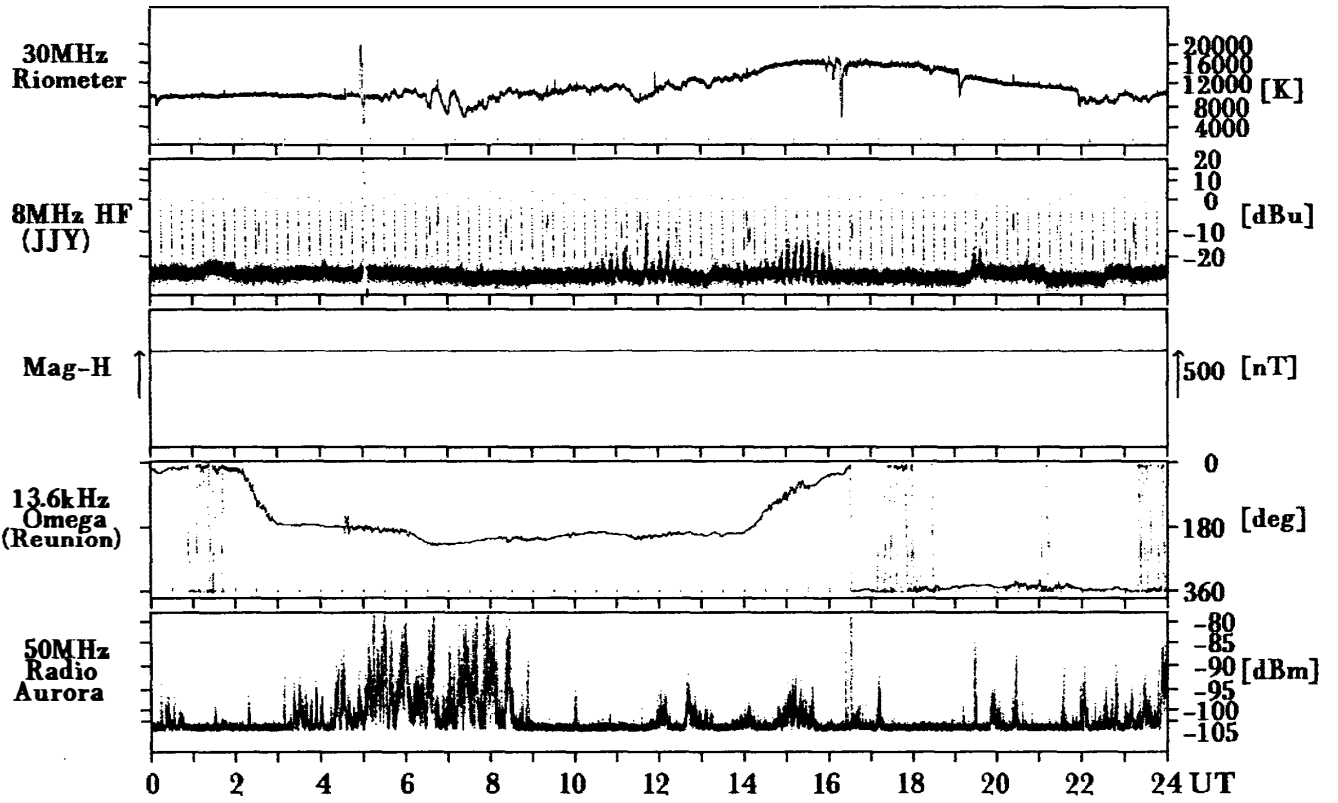
Syowa Station

Total Day / 245 1992/ 9/ 2



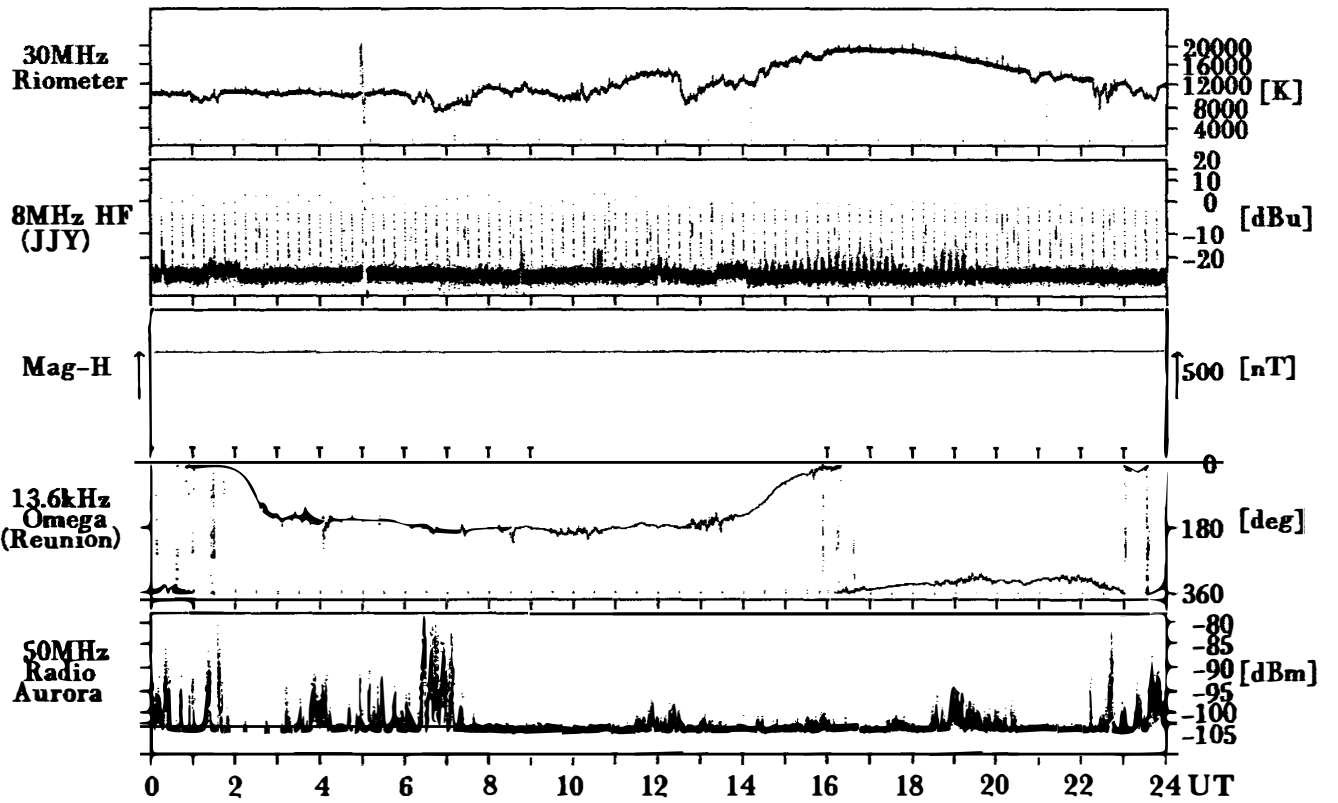
Syowa Station

Total Day / 246 1992/ 9/ 3



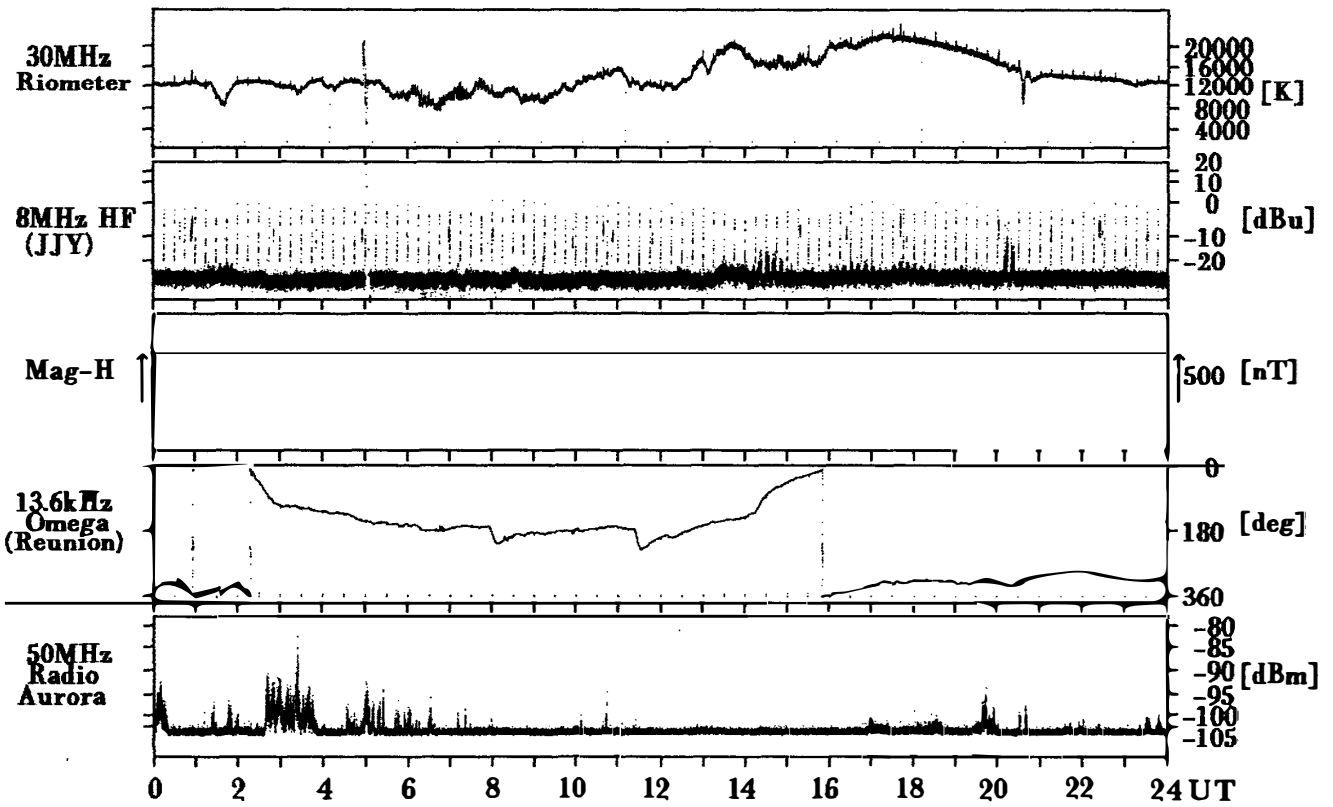
Syowa Station

Total Day / 247 1992/ 9/ 4



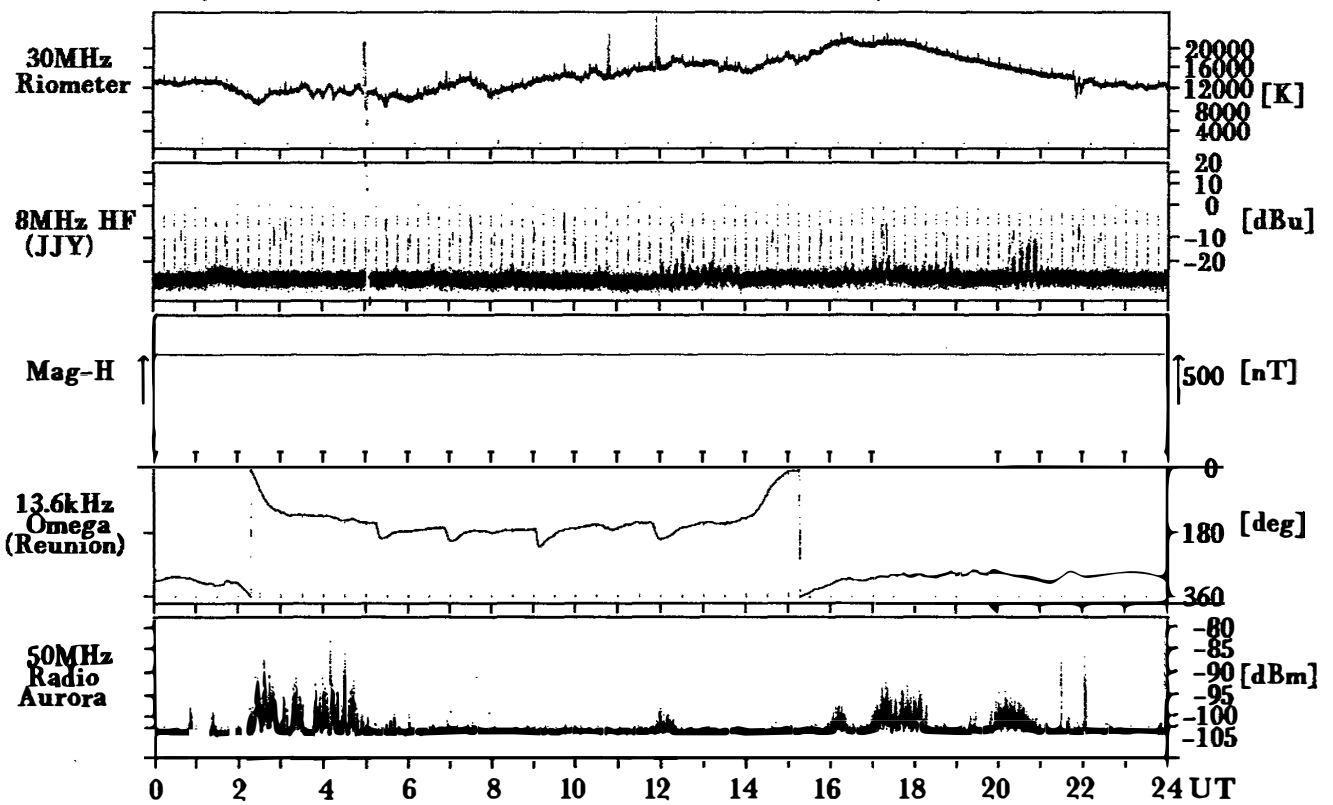
Syowa Station

Total Day / 248 1992/ 9/ 5



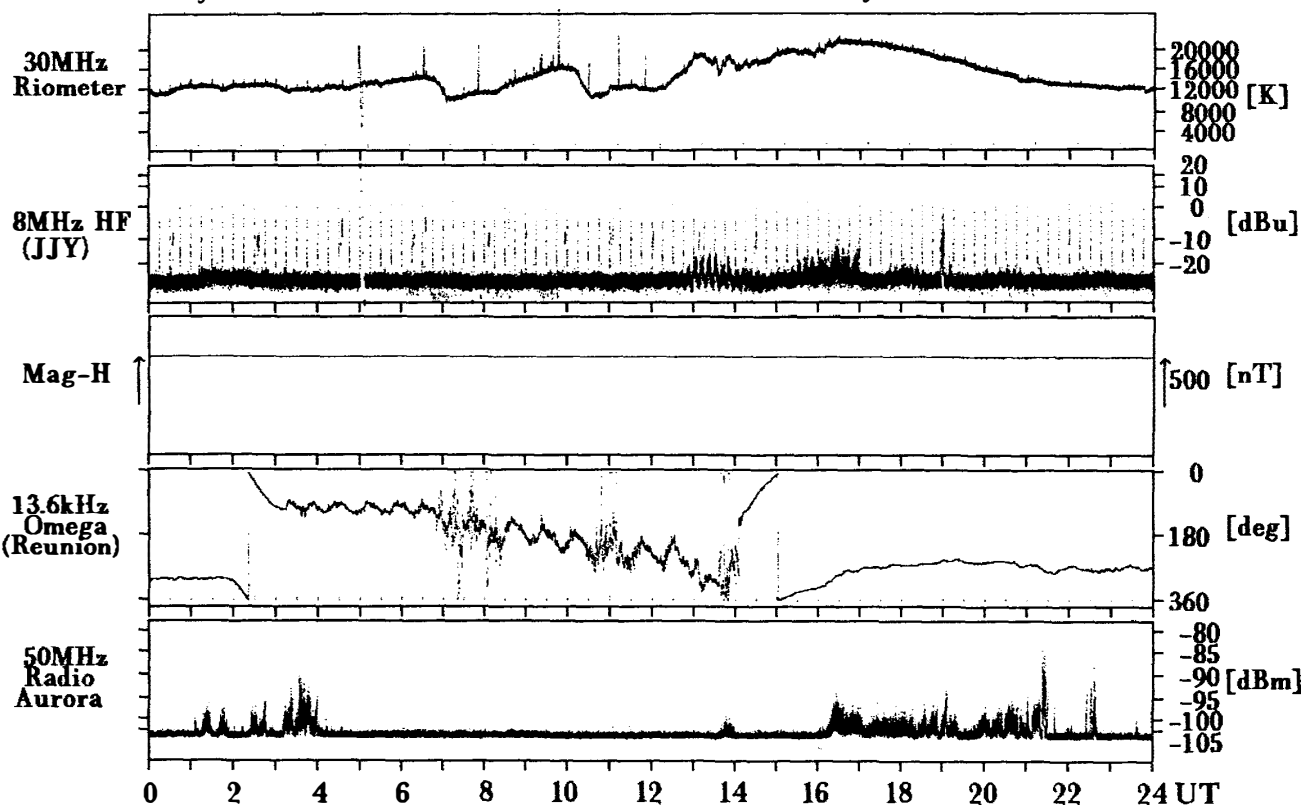
Syowa Station

Total Day / 249 1992/ 9/ 6



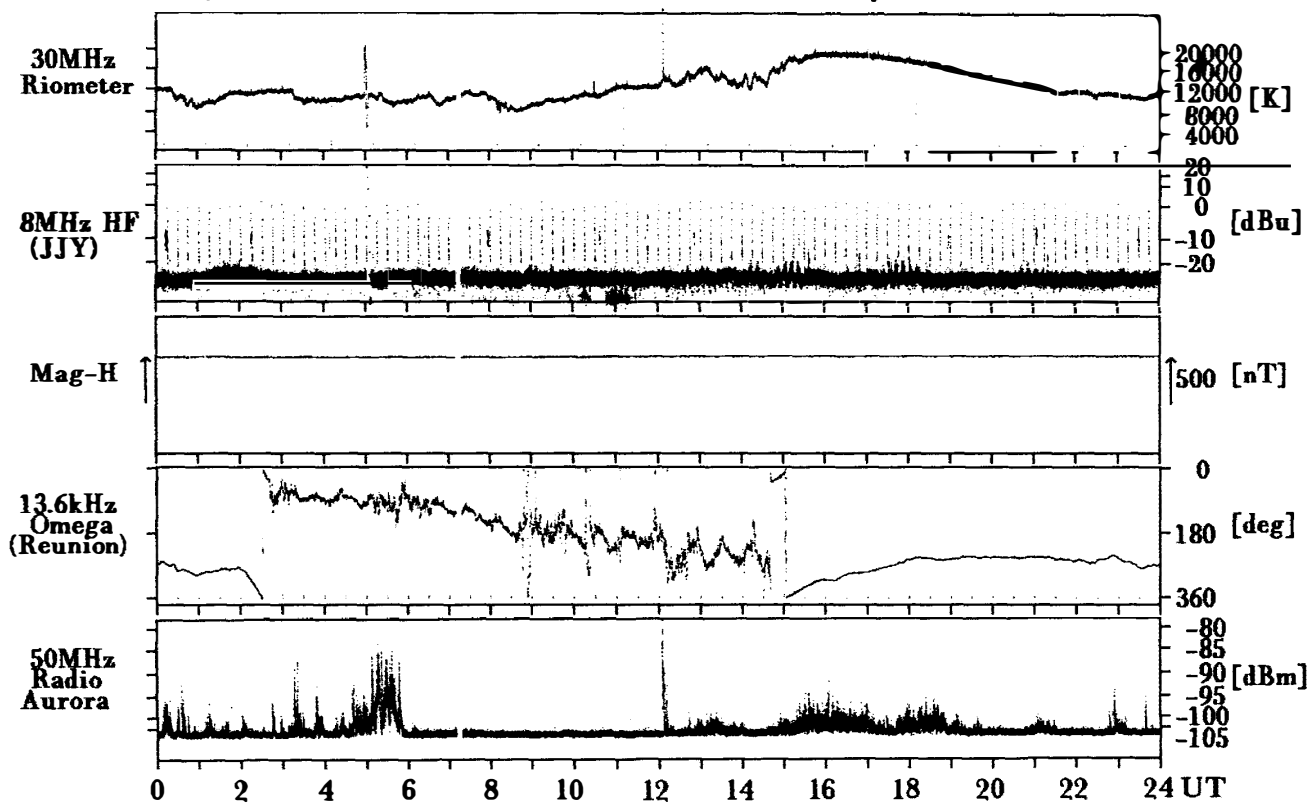
Syowa Station

Total Day / 250 1992/ 9/ 7



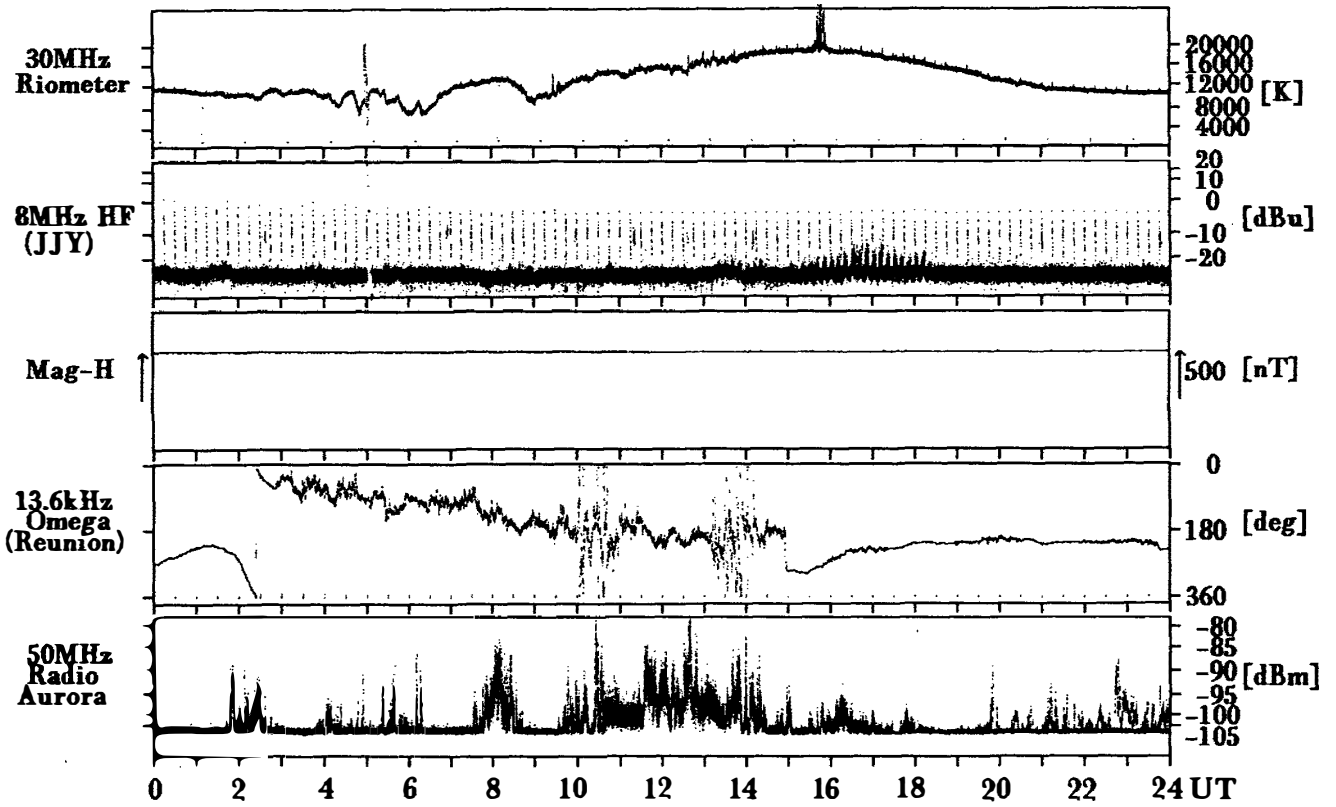
Syowa Station

Total Day / 251 1992/ 9/ 8



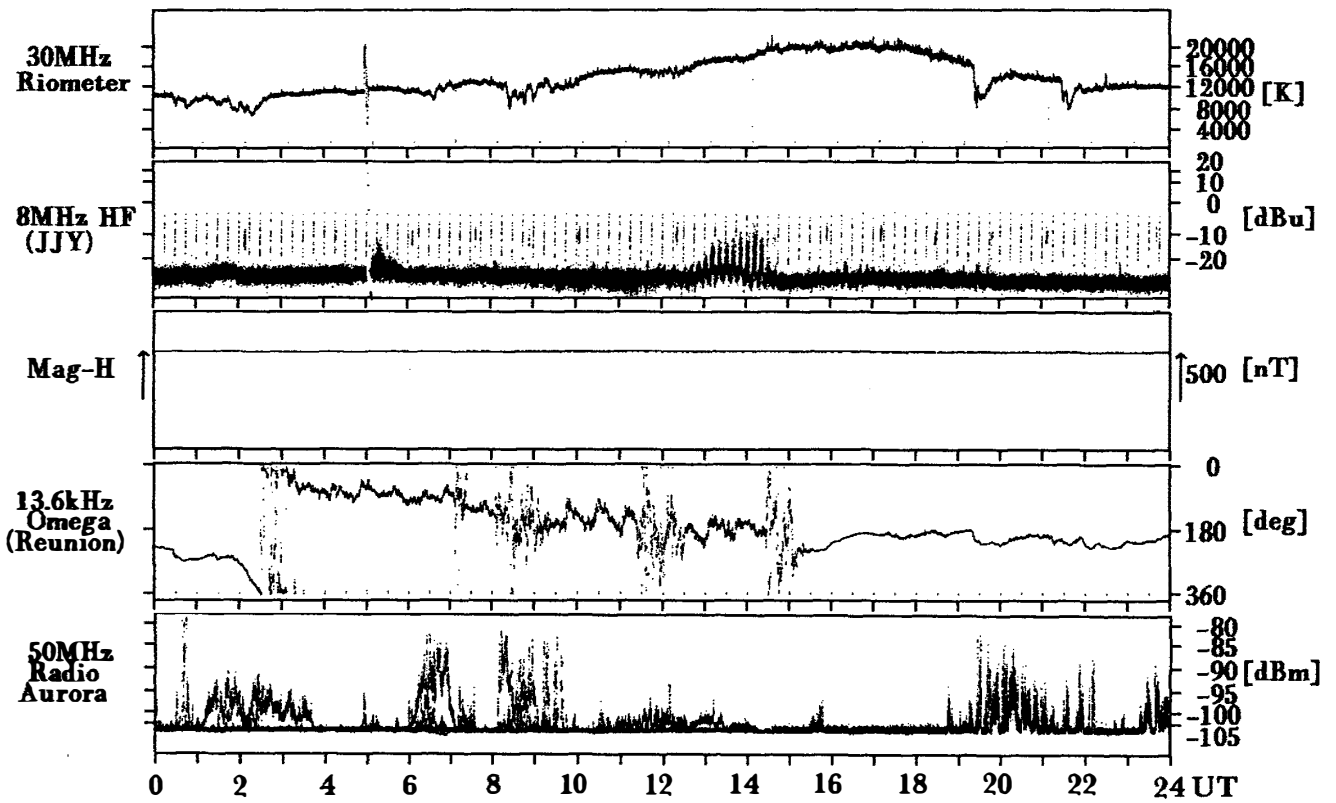
Syowa Station

Total Day / 252 1992/ 9/ 9



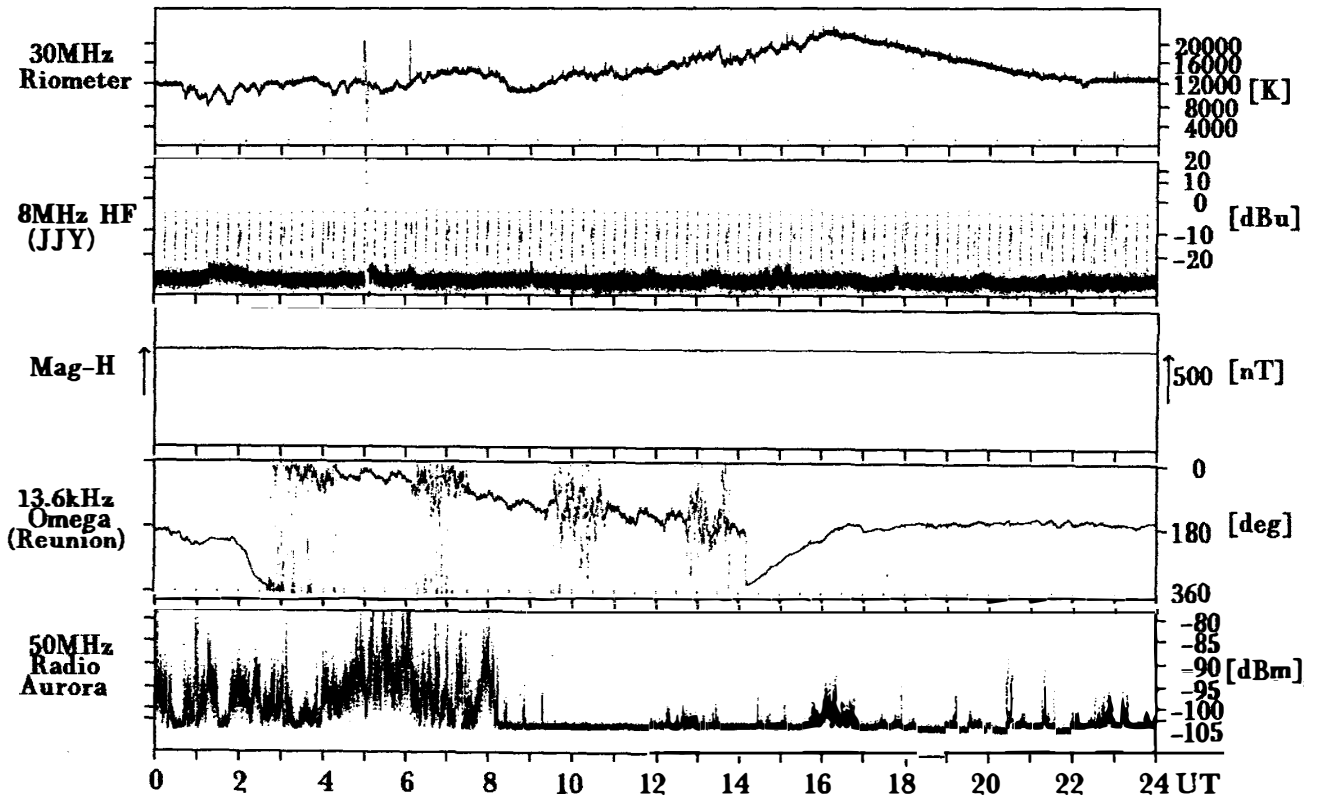
Syowa Station

Total Day / 253 1992/ 9/10



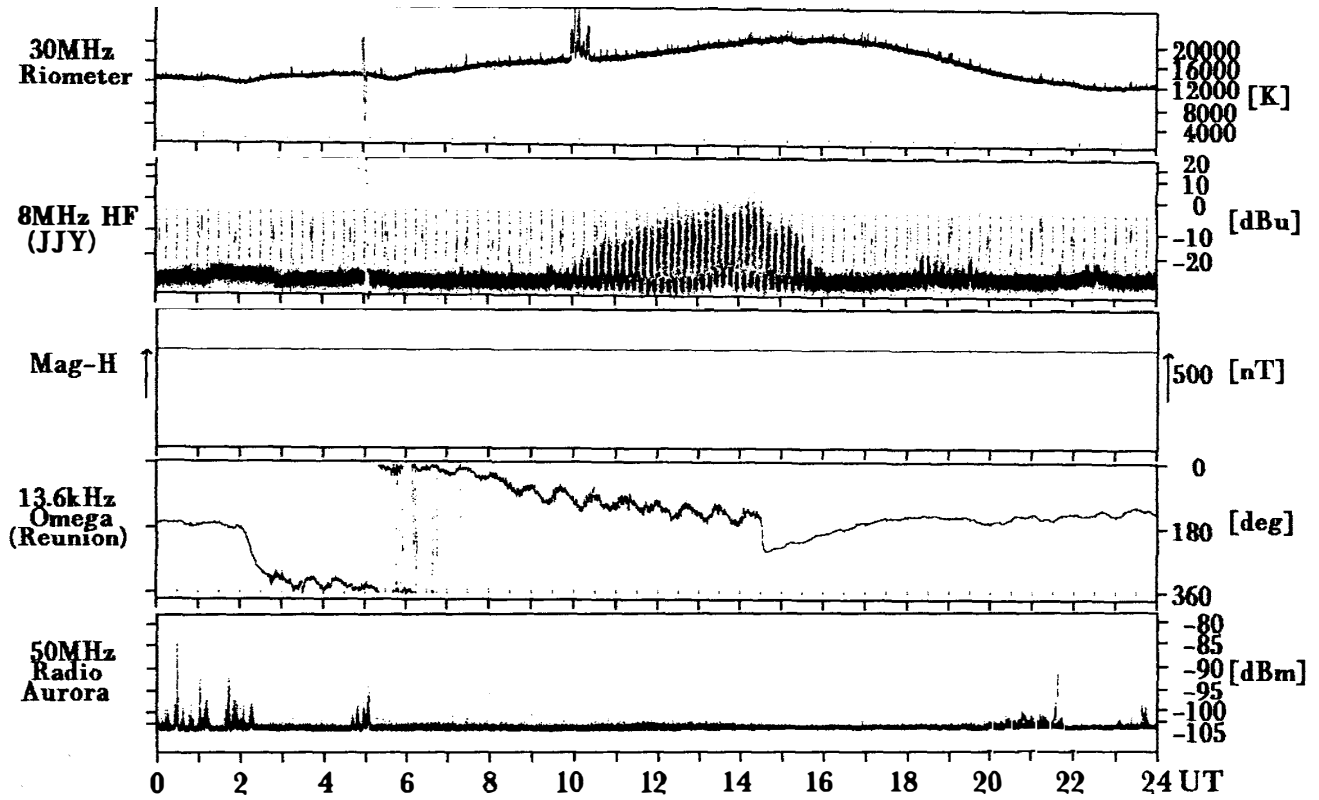
Syowa Station

Total Day / 254 1992/ 9/11



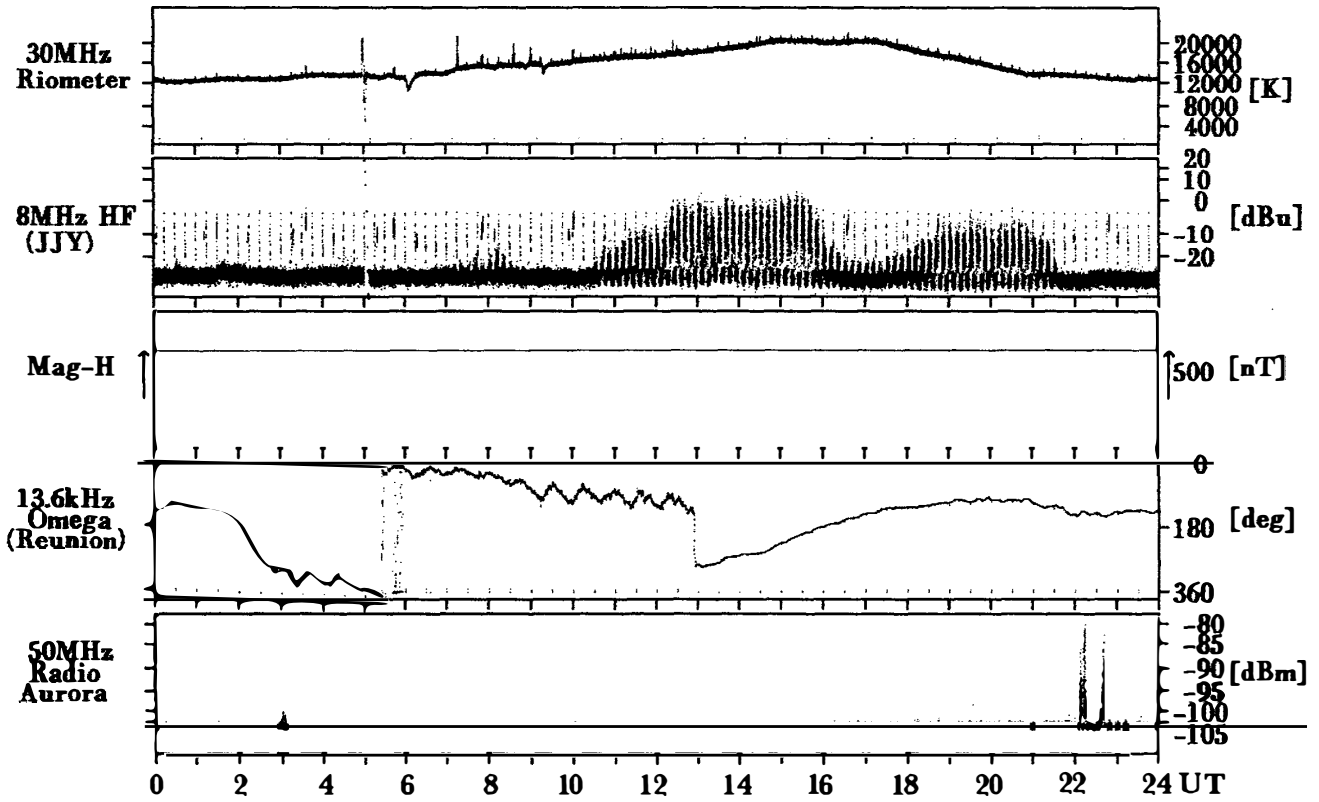
Syowa Station

Total Day / 255 1992/ 9/12



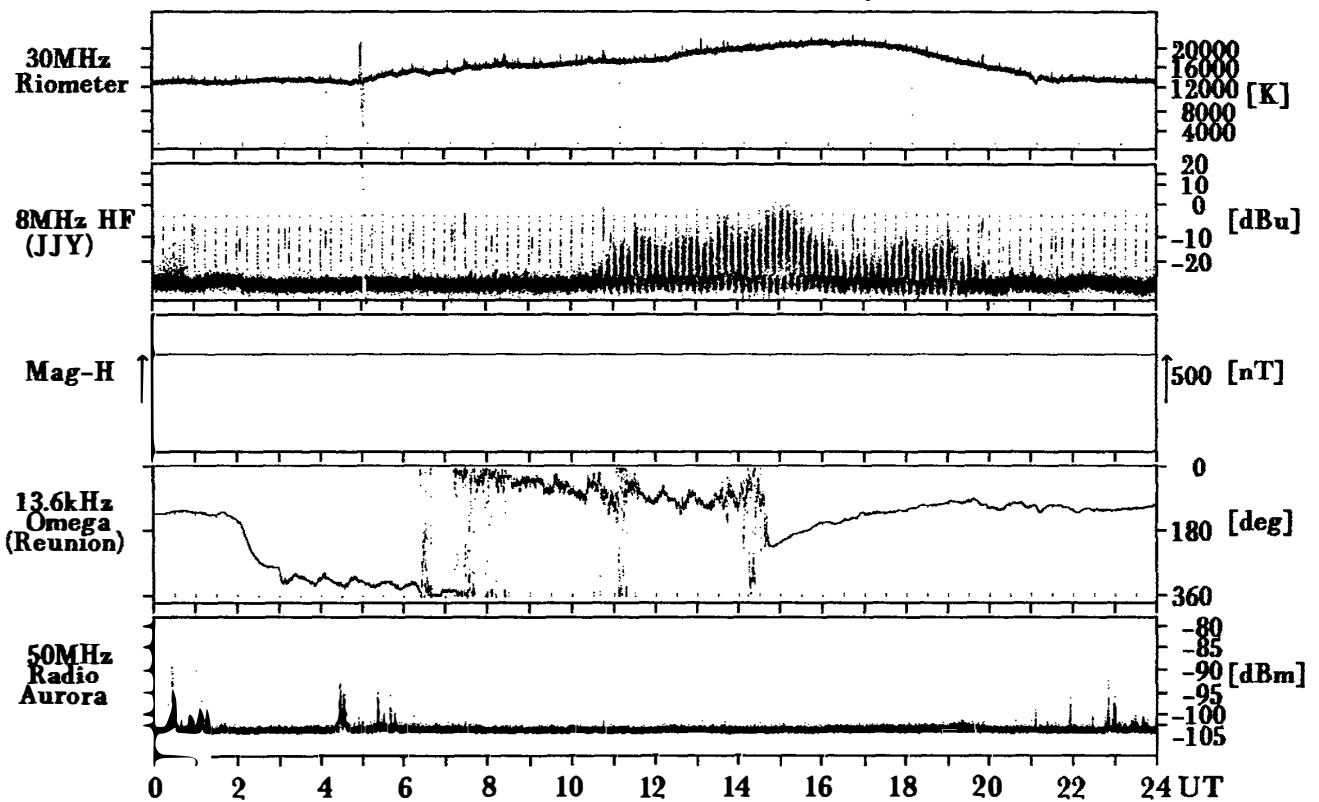
Syowa Station

Total Day / 256 1992/ 9/13



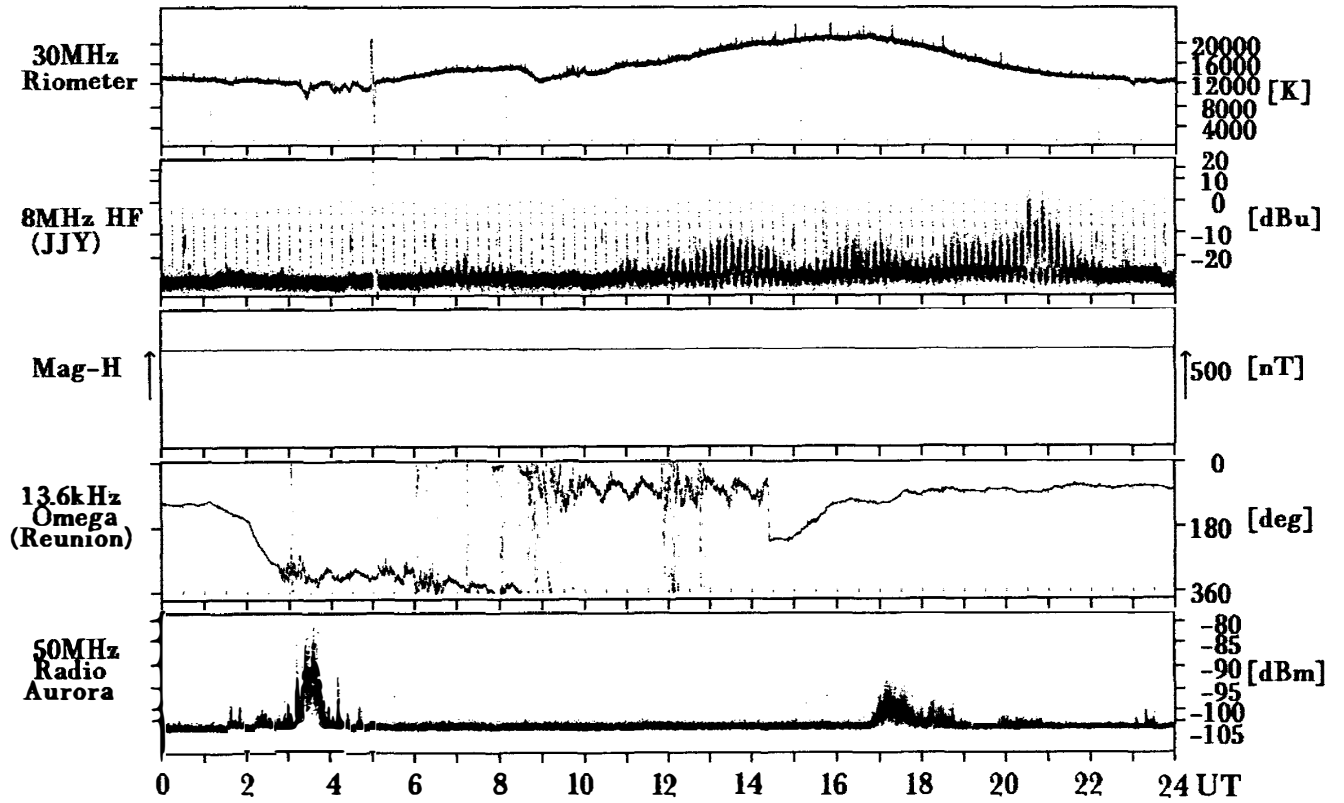
Syowa Station

Total Day / 257 1992/ 9/14



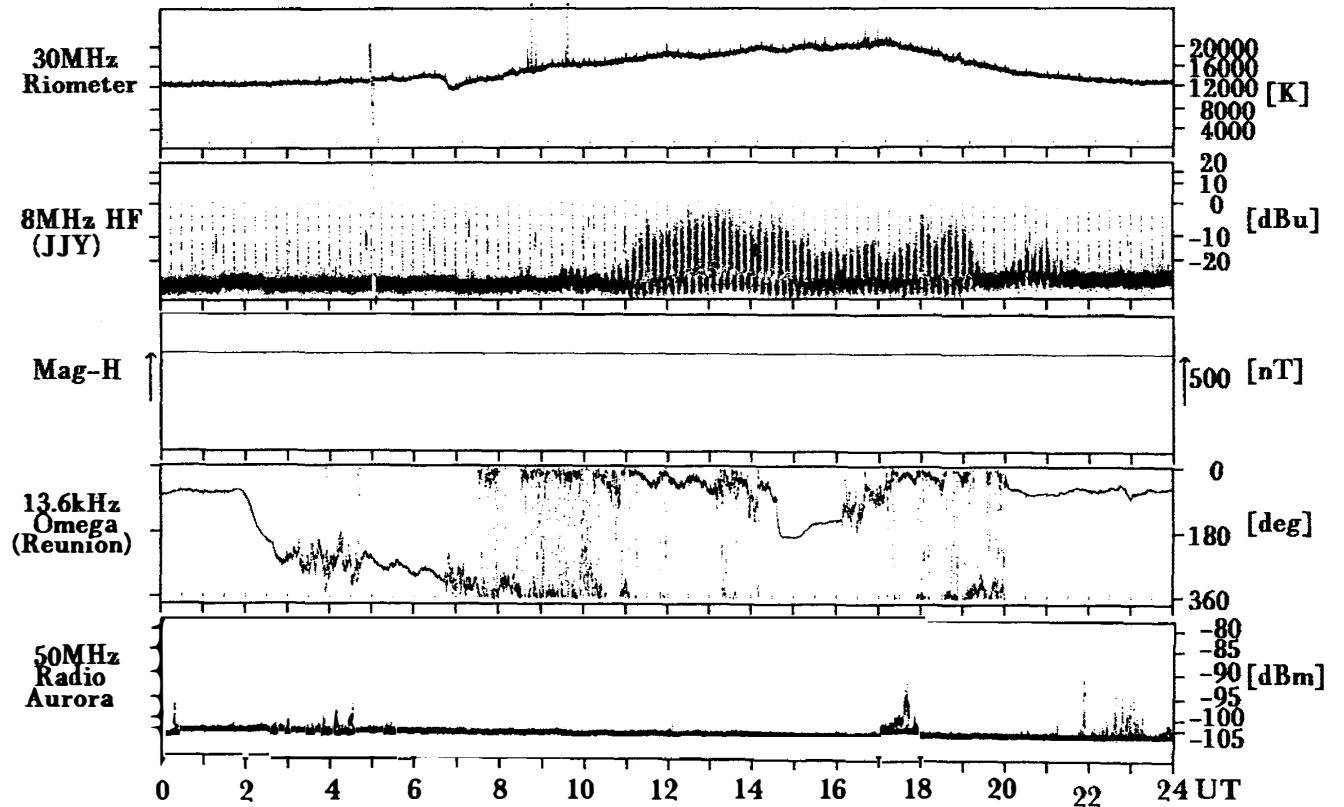
Syowa Station

Total Day / 258 1992/ 9/15



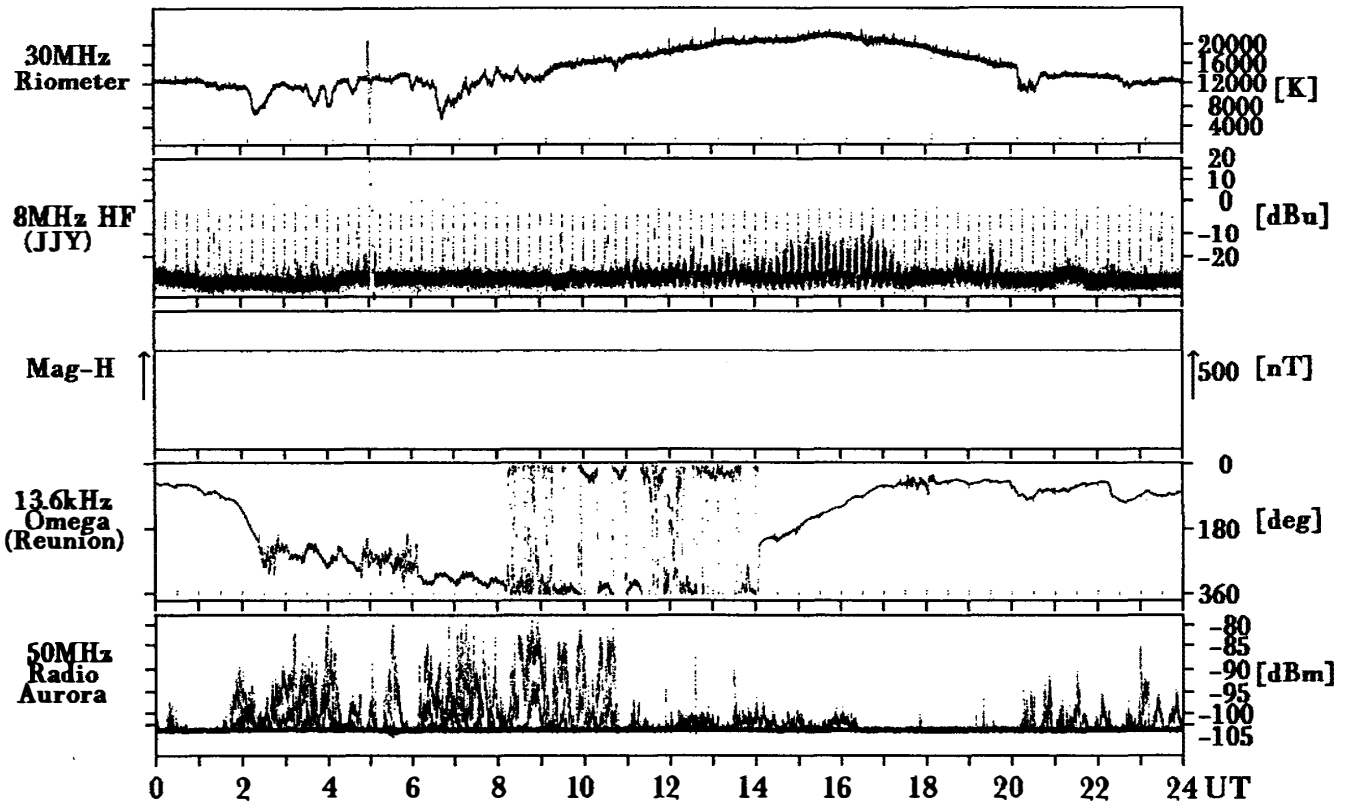
Syowa Station

Total Day / 259 1992/ 9/16



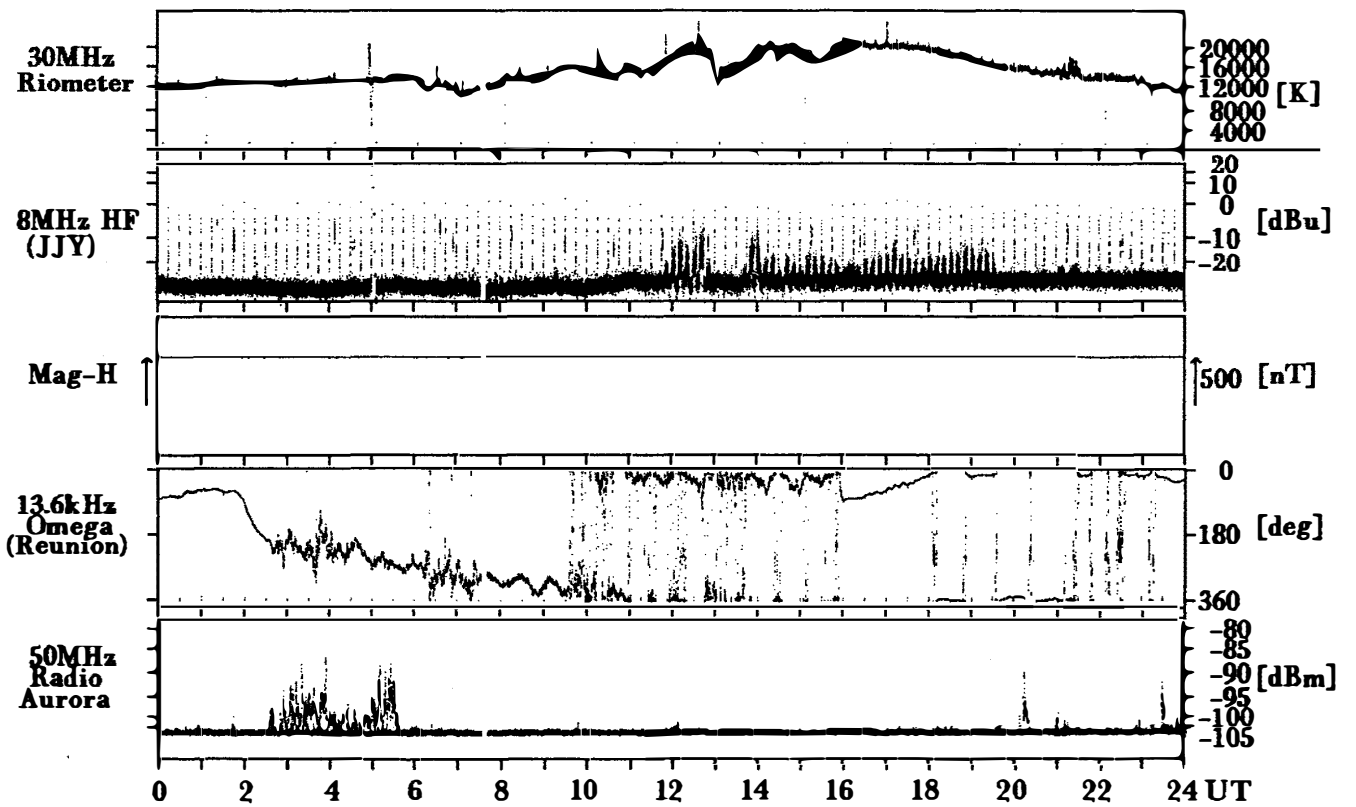
Syowa Station

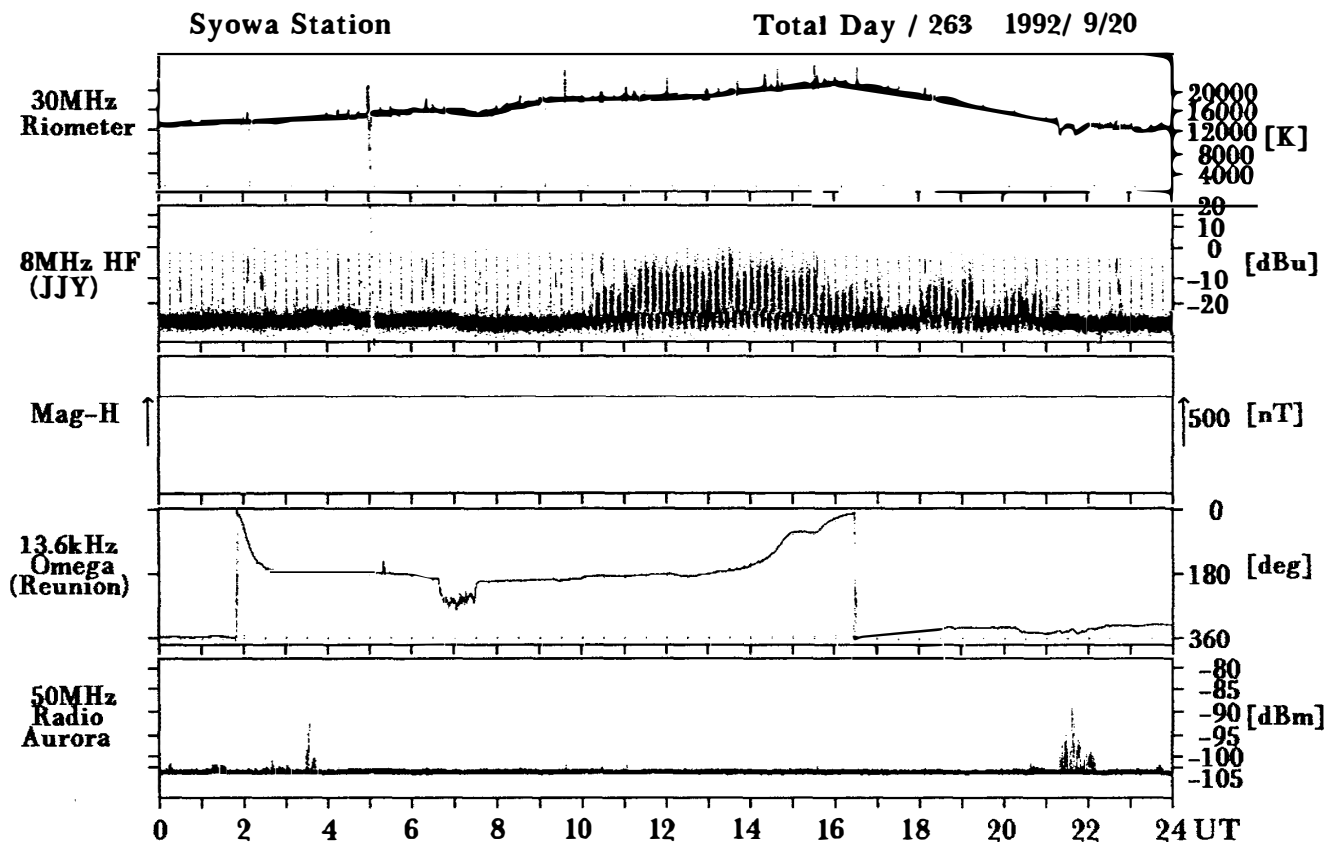
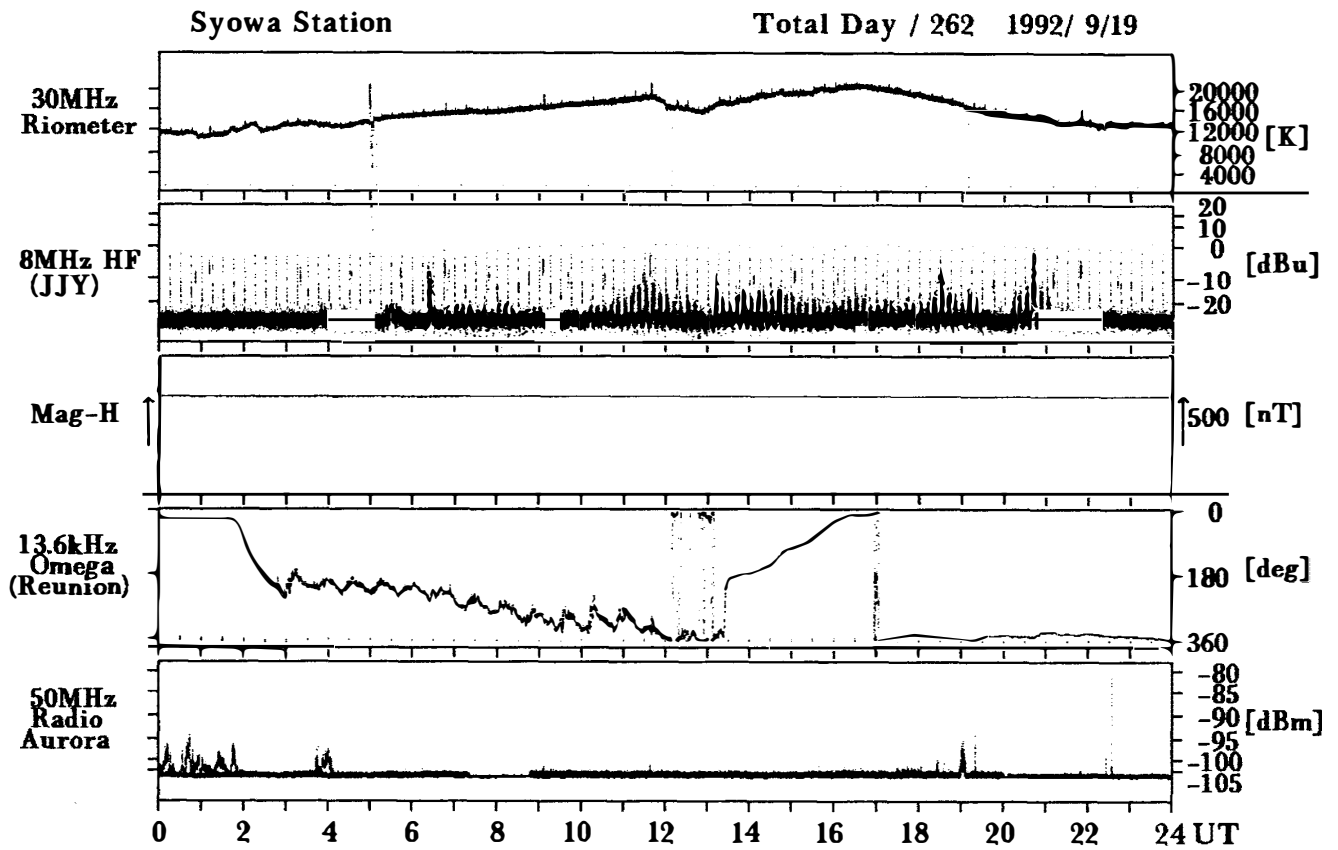
Total Day / 260 1992/ 9/17



Syowa Station

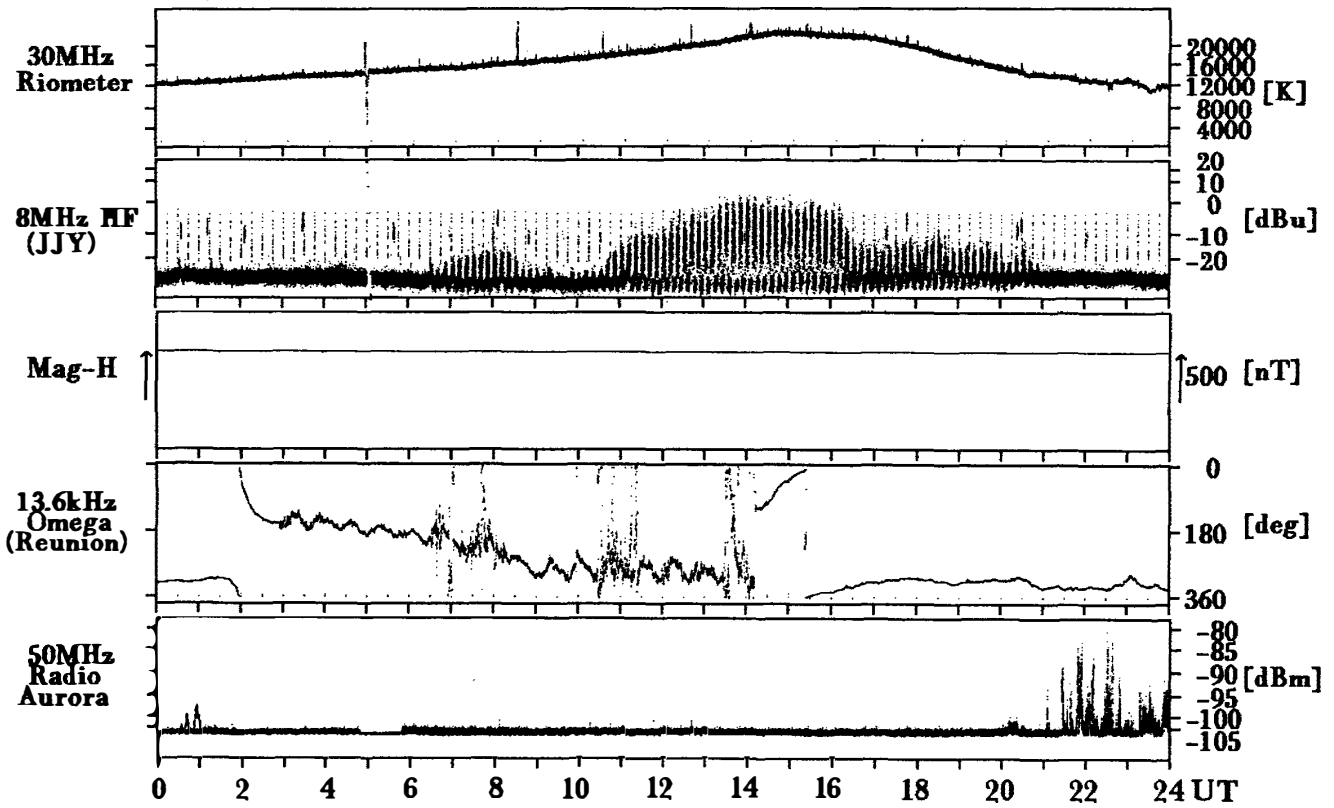
Total Day / 261 1992/ 9/18





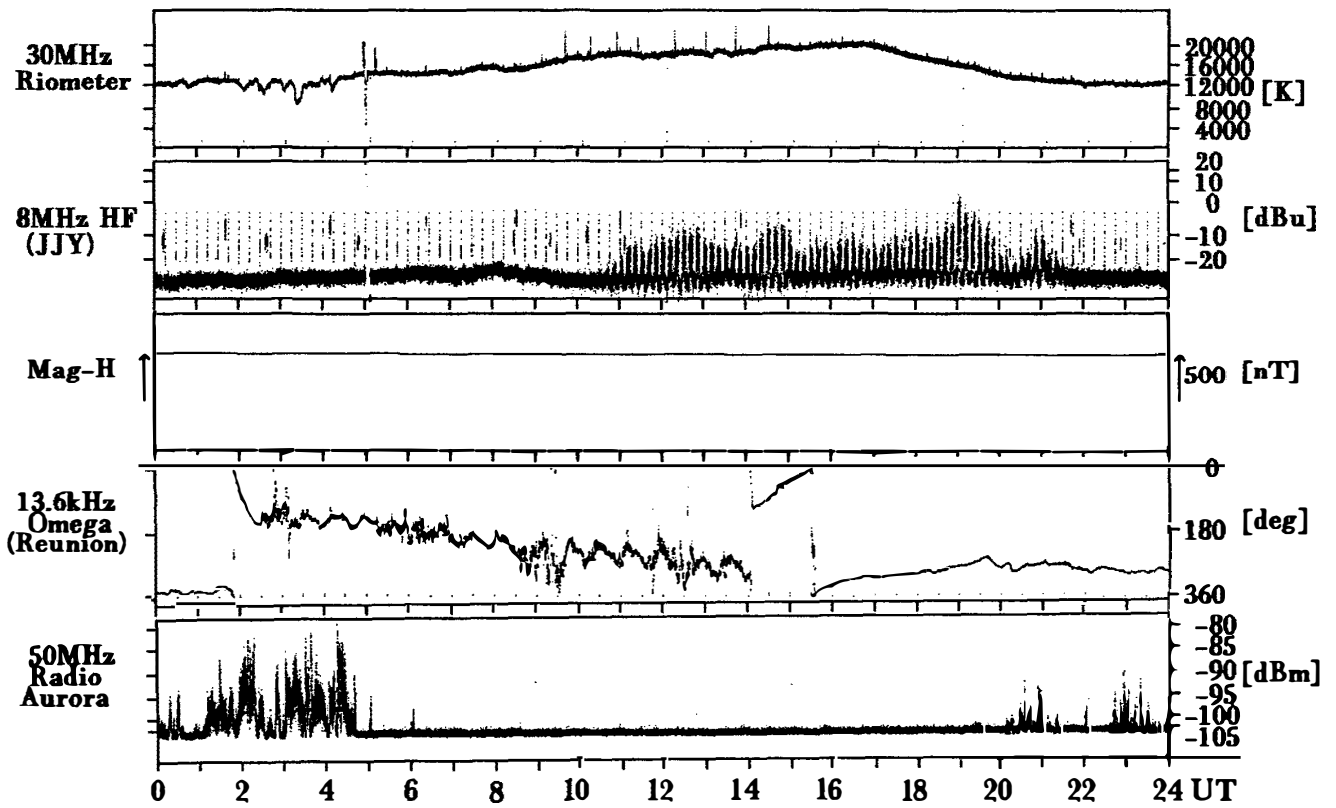
Syowa Station

Total Day / 264 1992/ 9/21



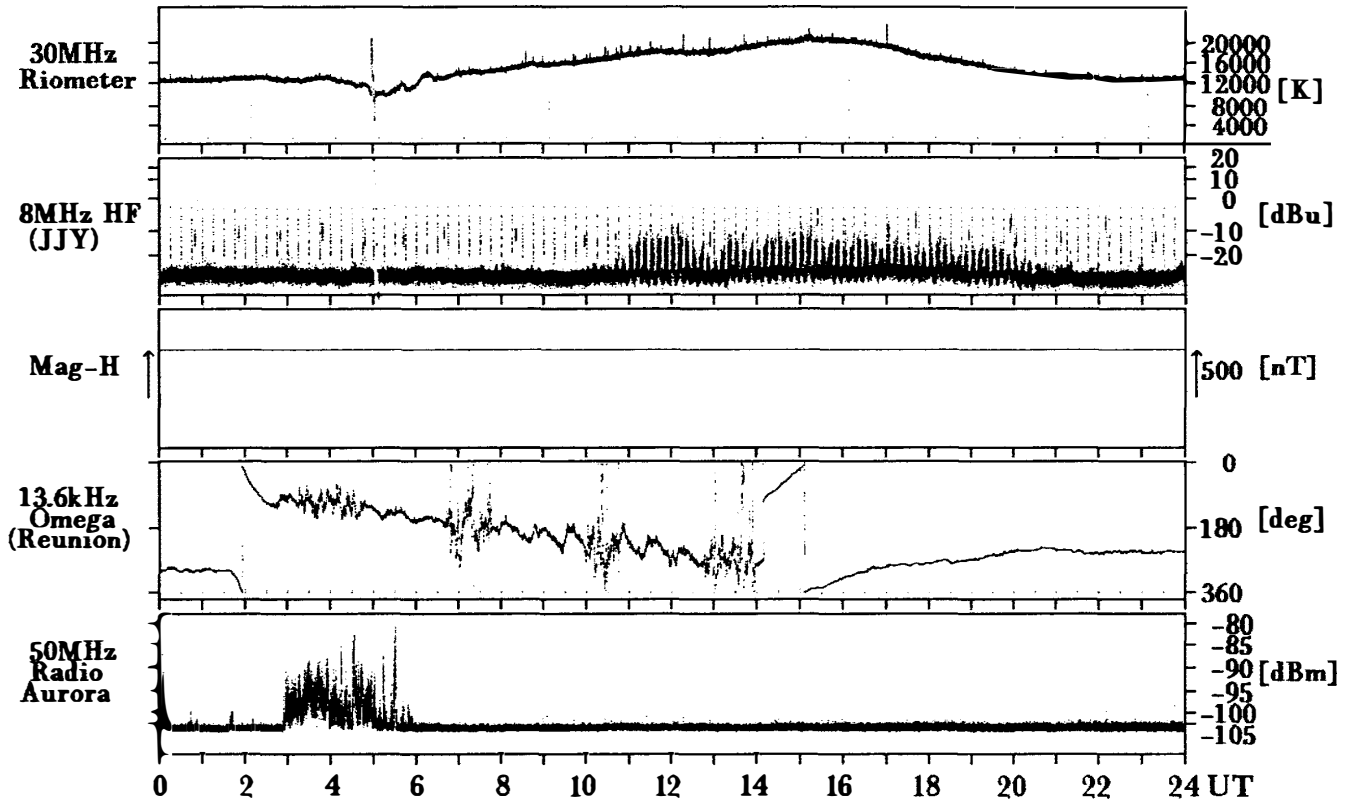
Syowa Station

Total Day / 265 1992/ 9/22



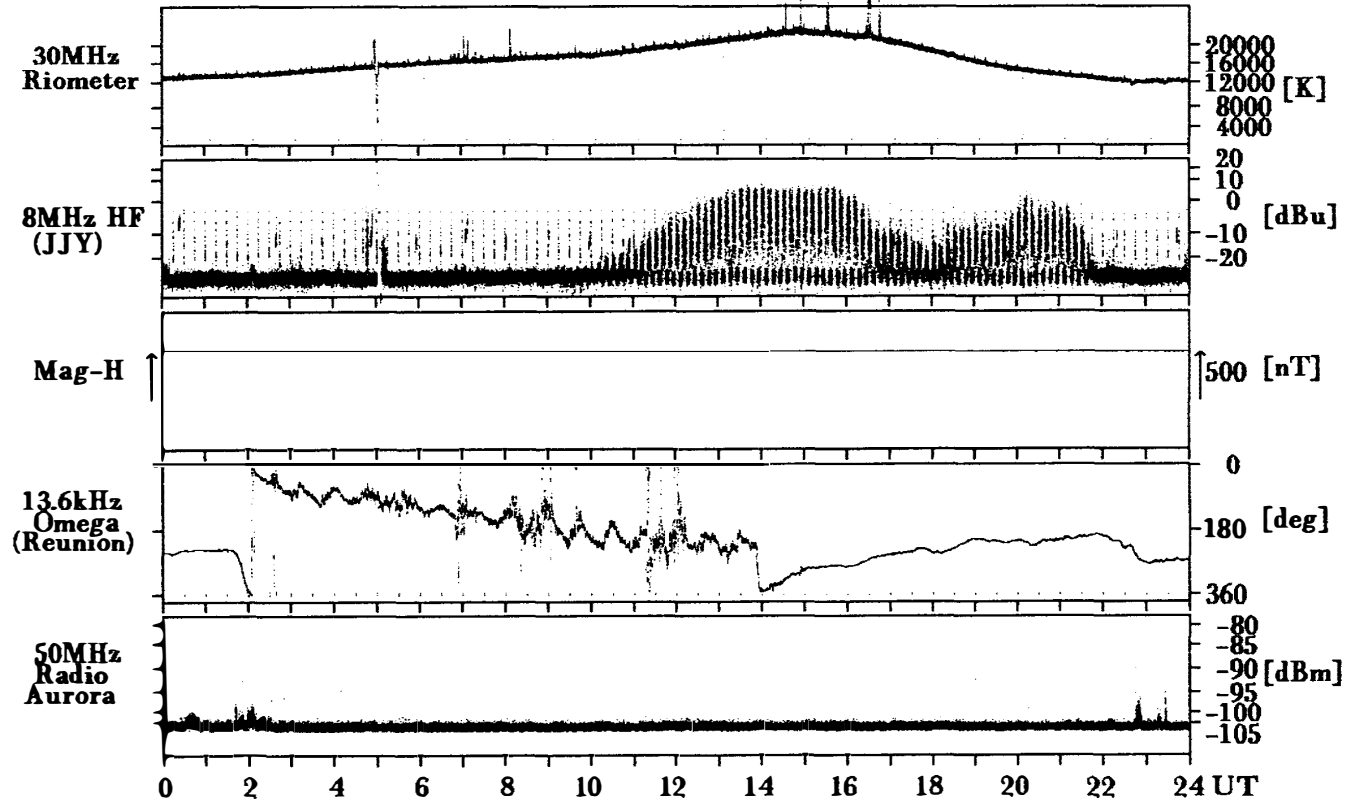
Syowa Station

Total Day / 266 1992/ 9/23



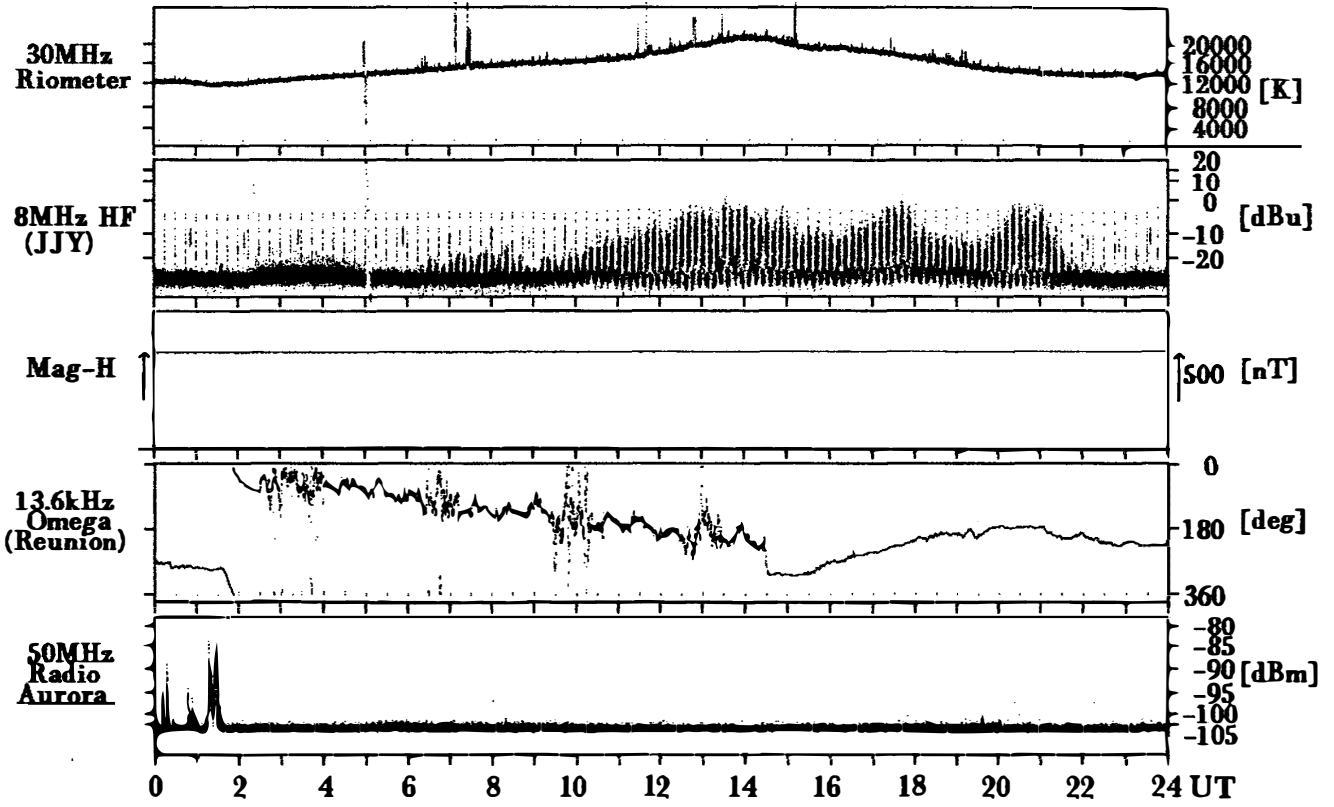
Syowa Station

Total Day / 267 1992/ 9/24



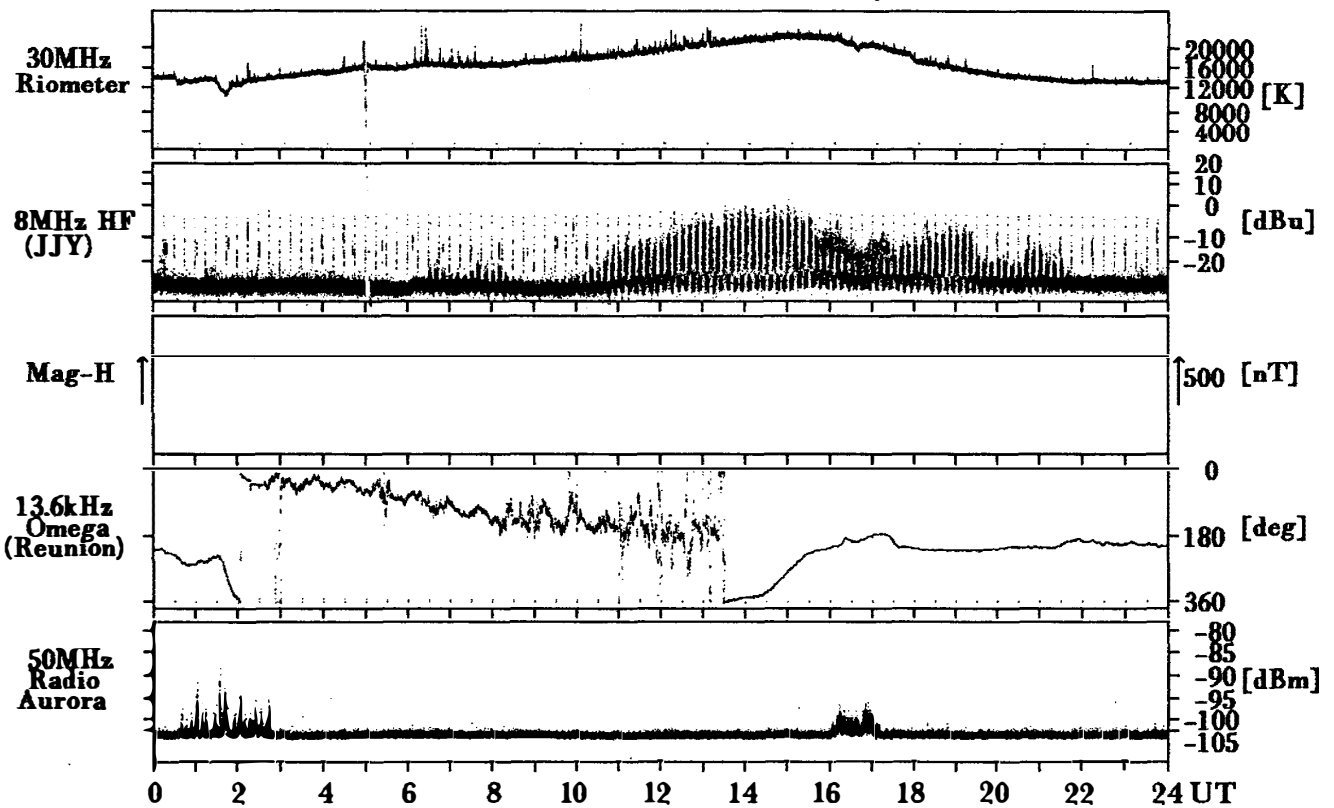
Syowa Station

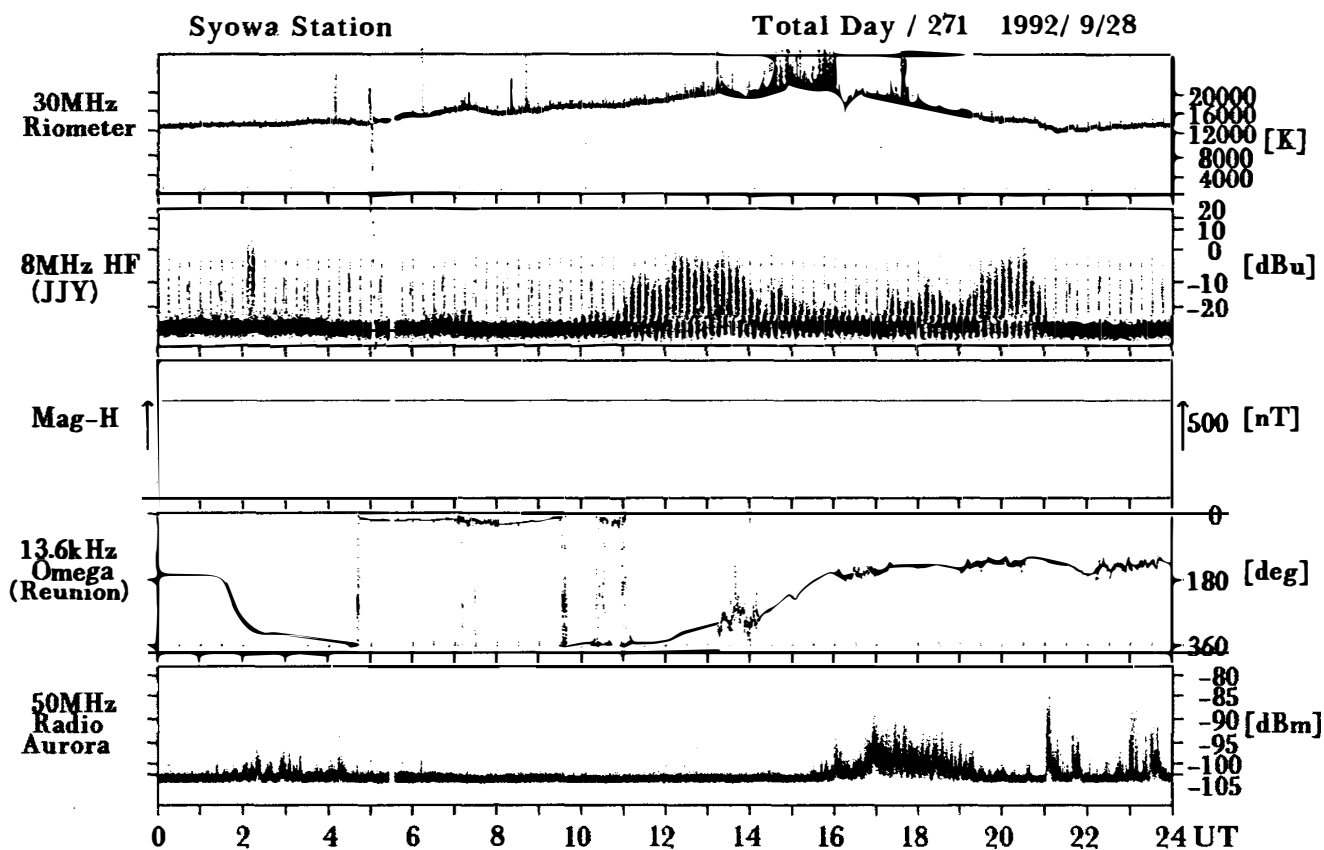
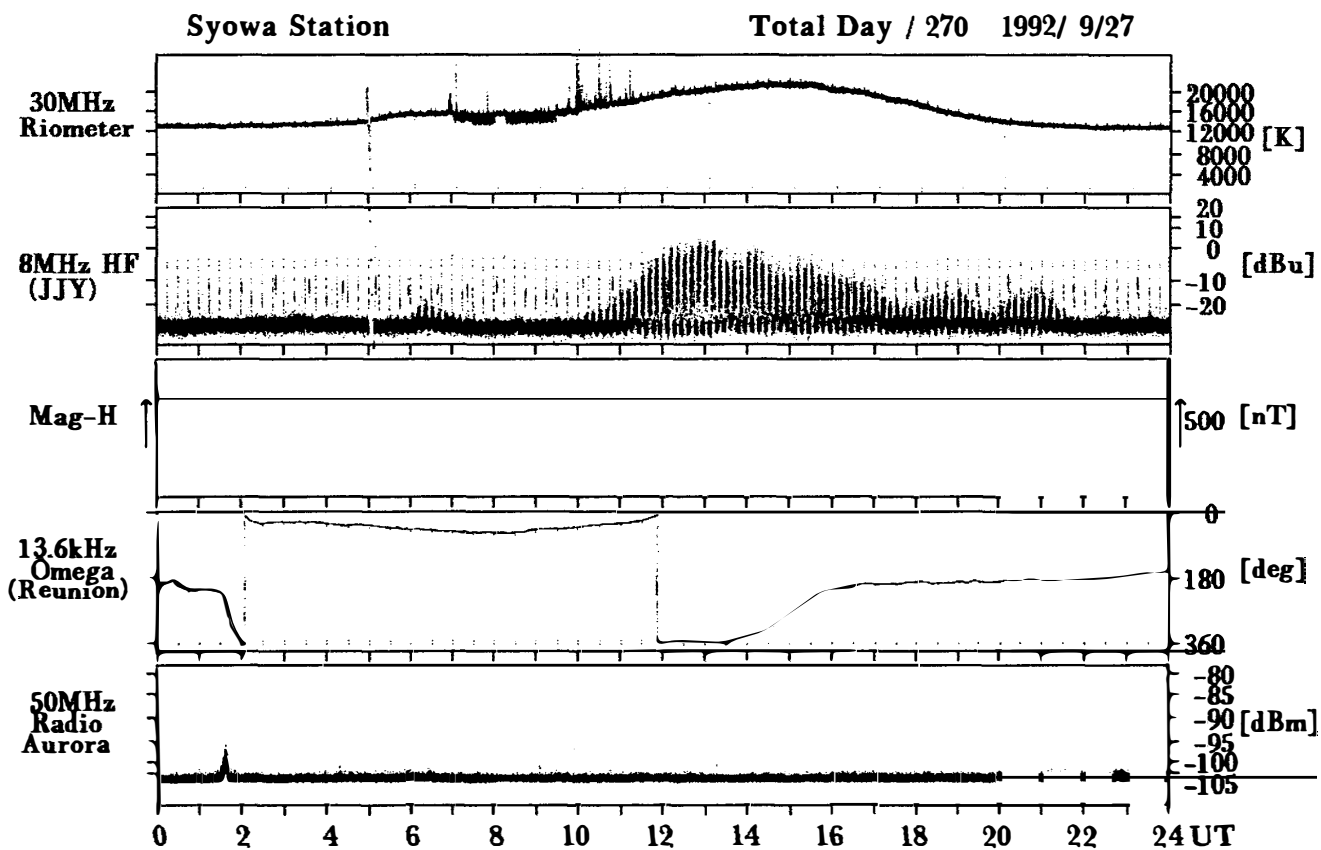
Total Day / 268 1992/ 9/25



Syowa Station

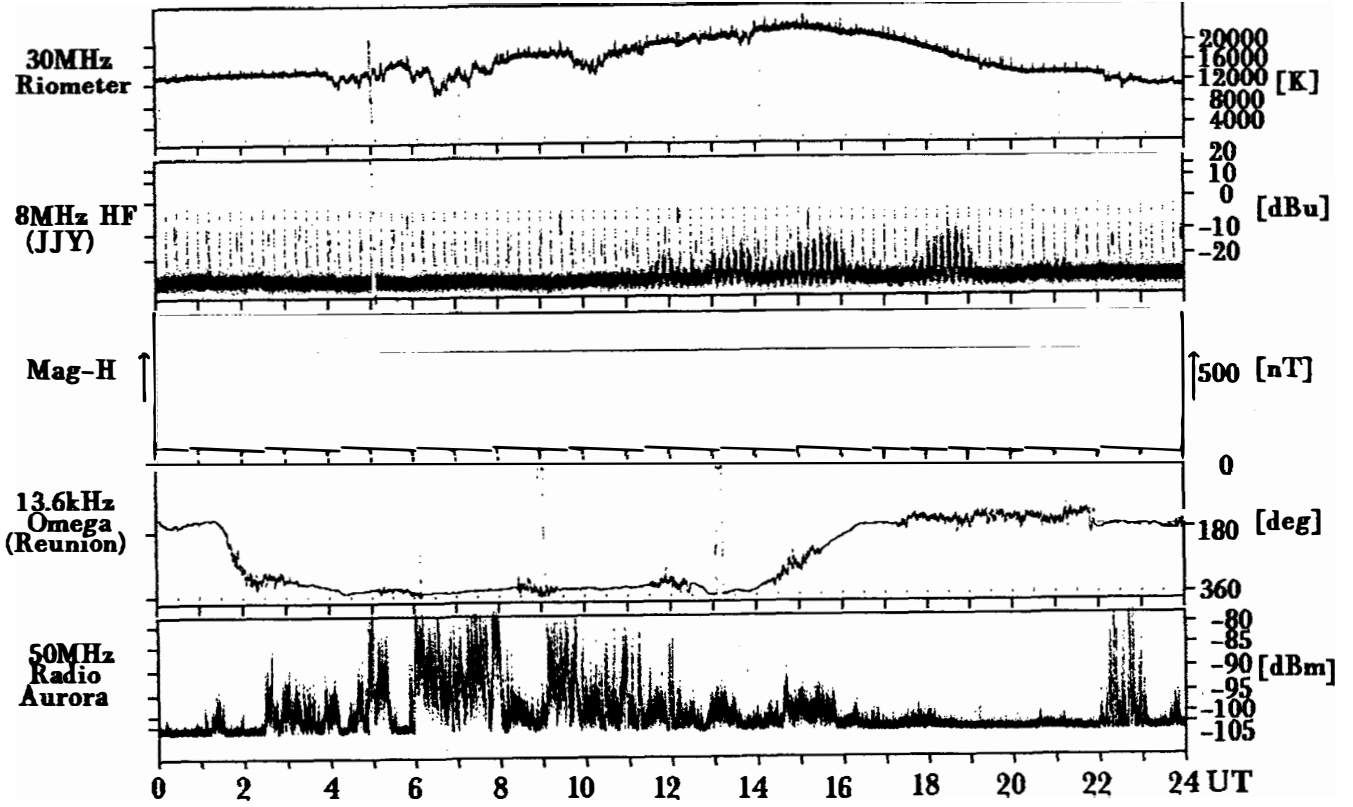
Total Day / 269 1992/ 9/26





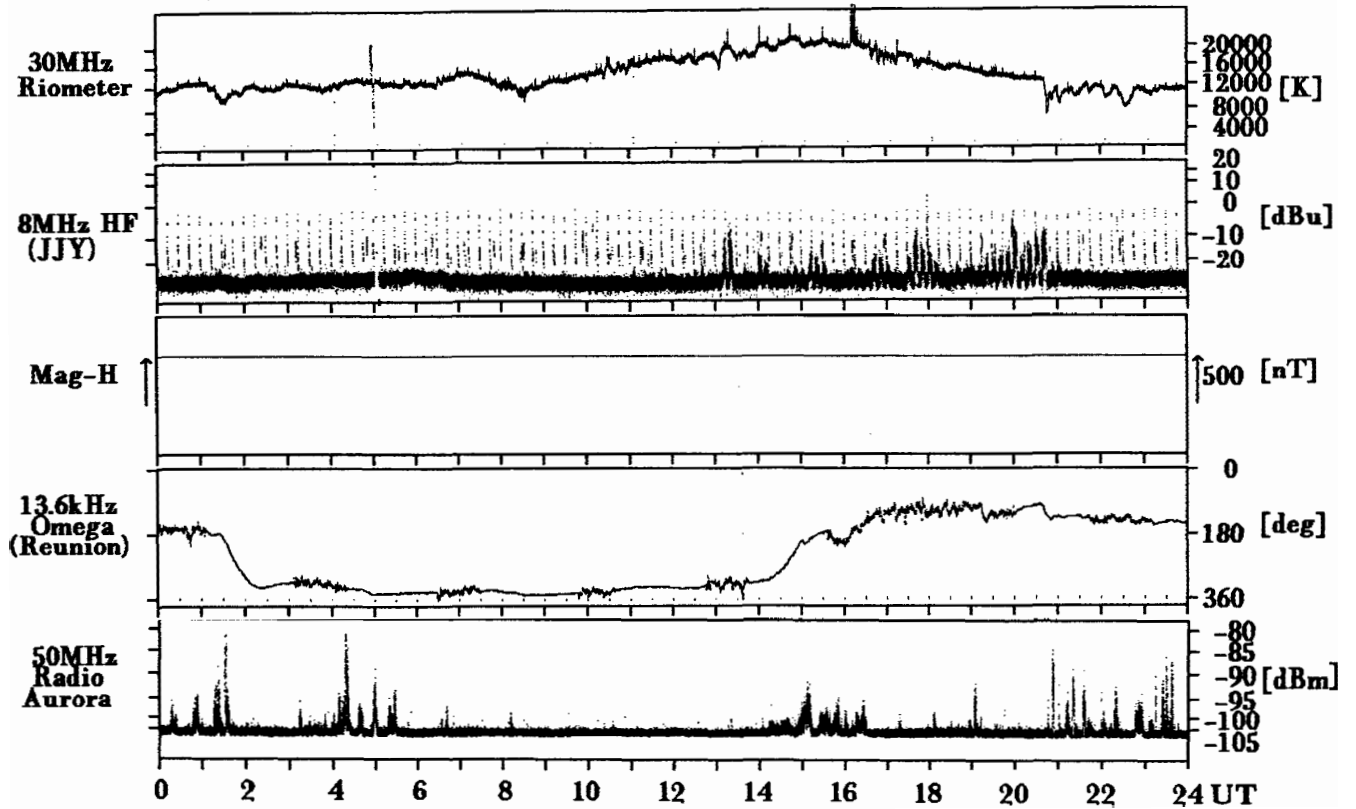
Syowa Station

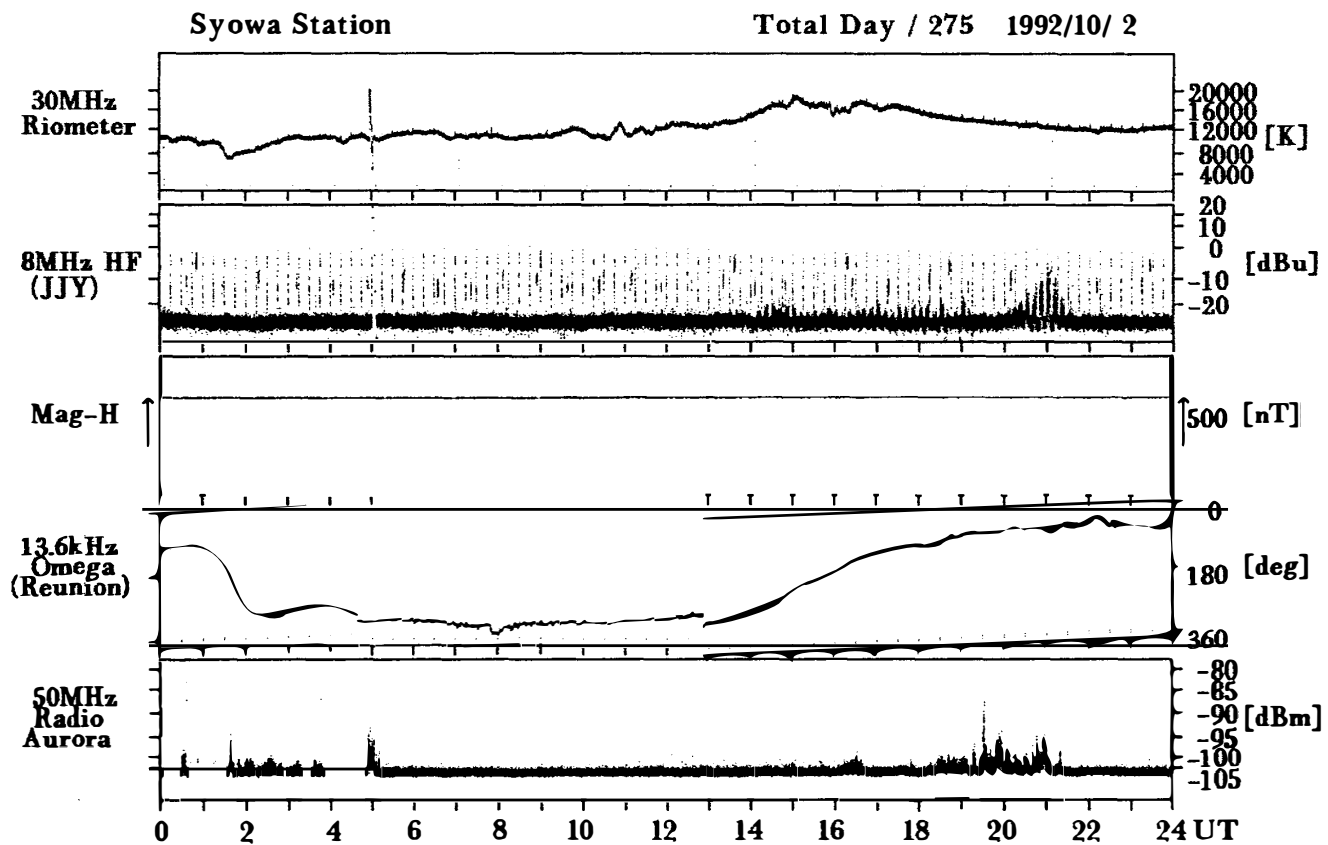
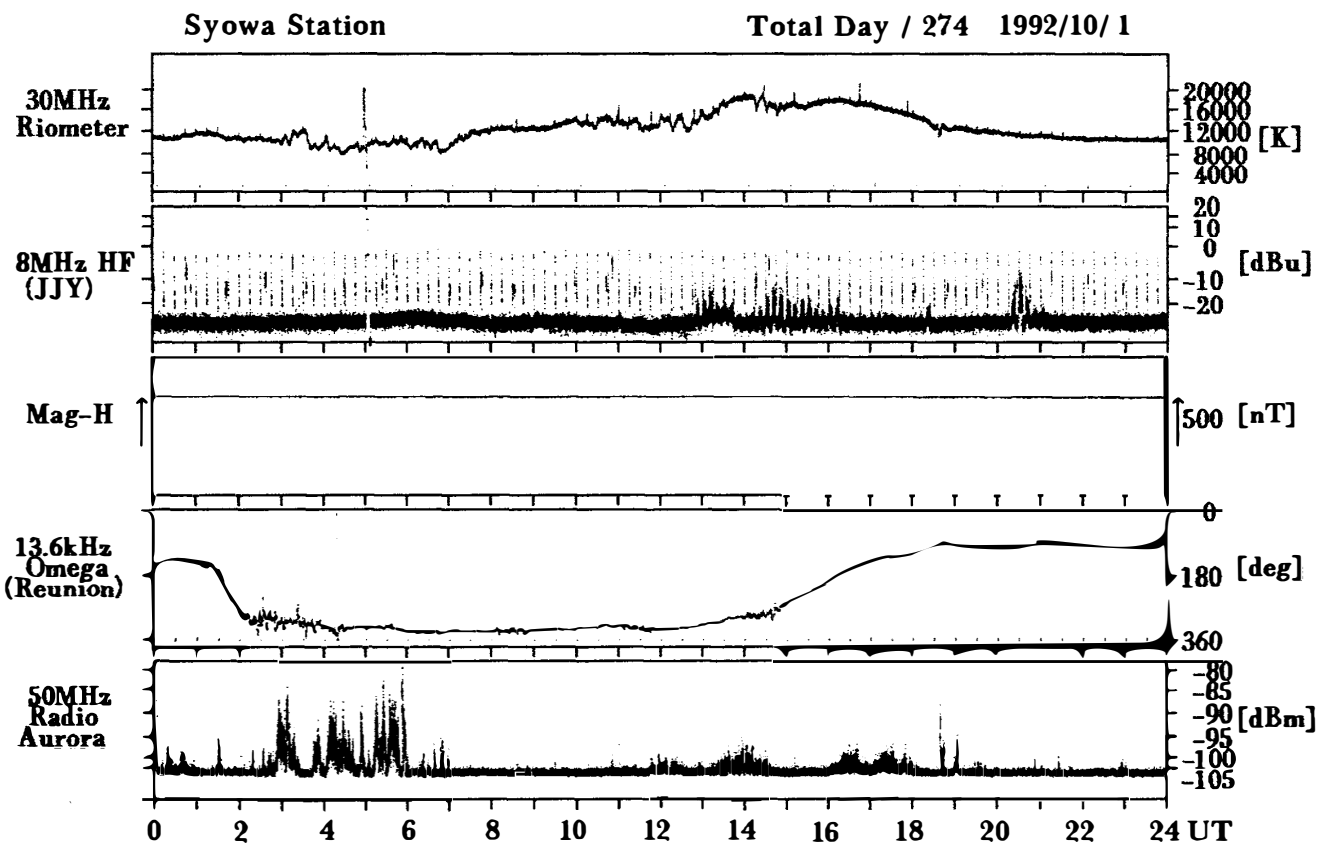
Total Day / 272 1992/ 9/29



Syowa Station

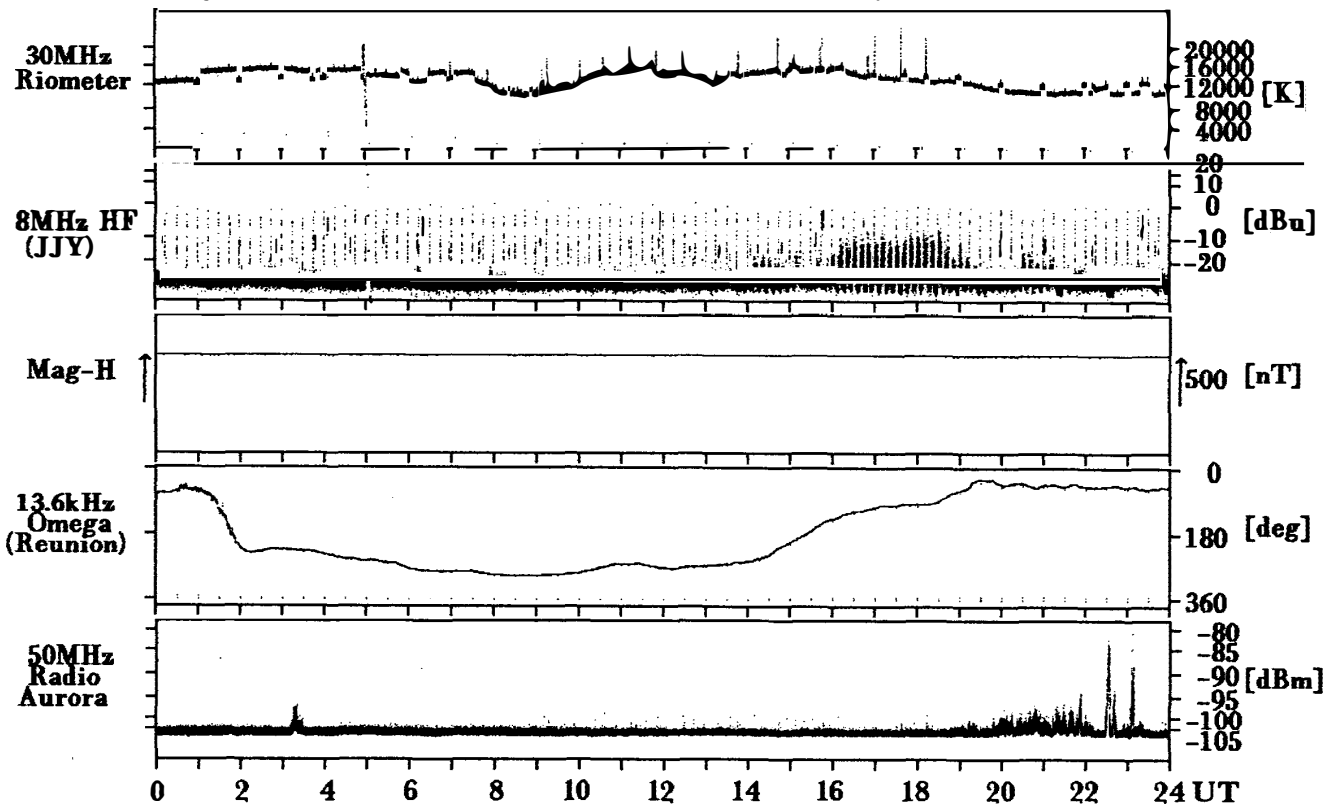
Total Day / 273 1992/ 9/30





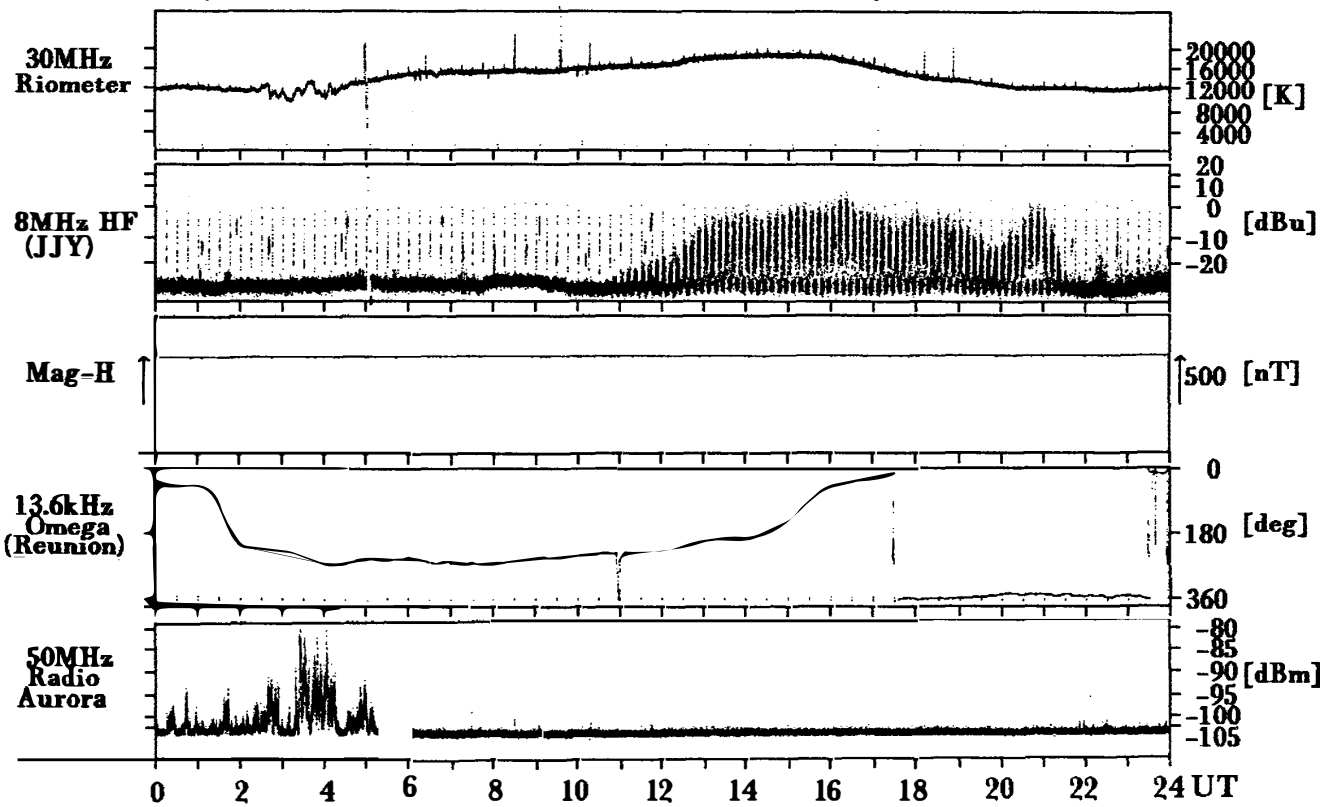
Syowa Station

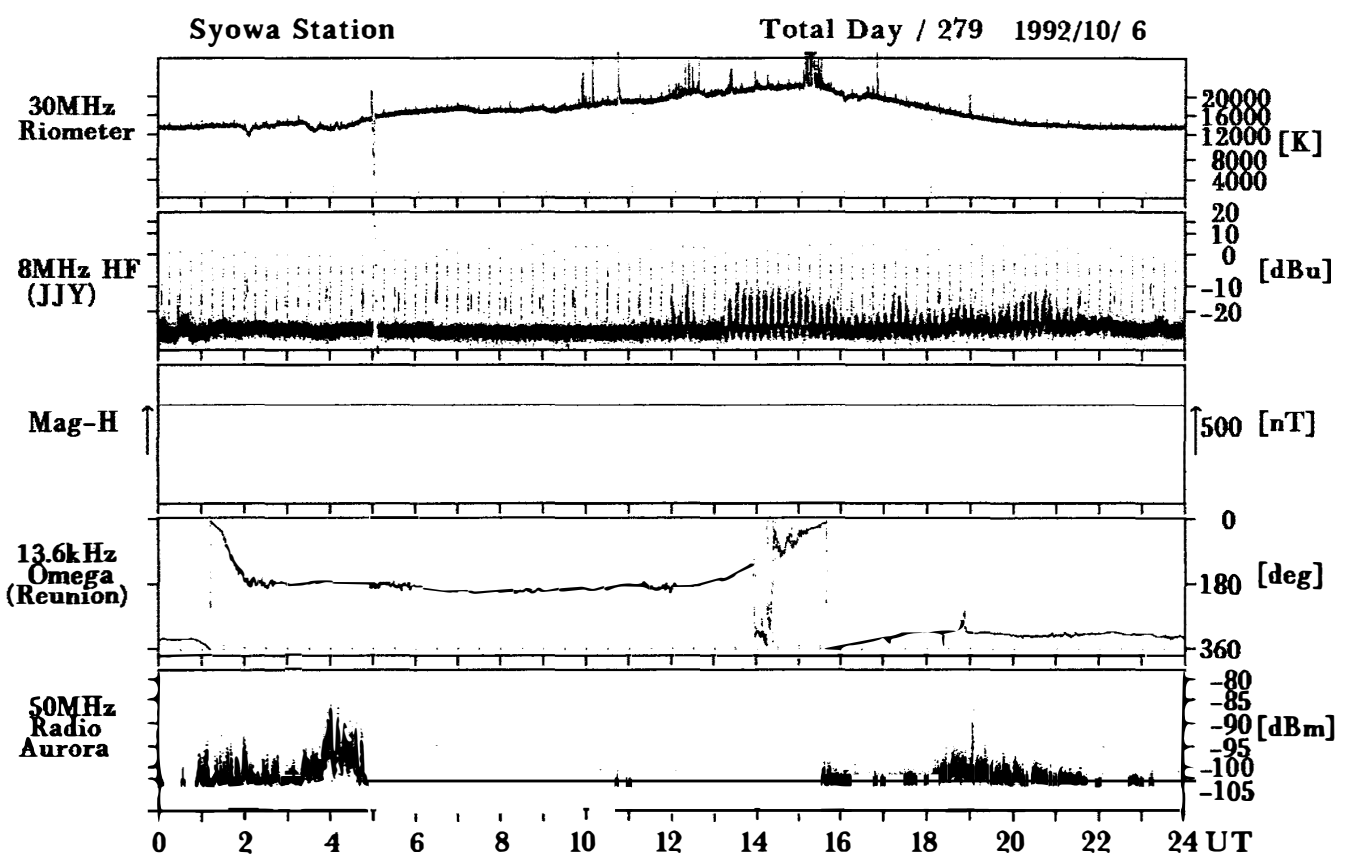
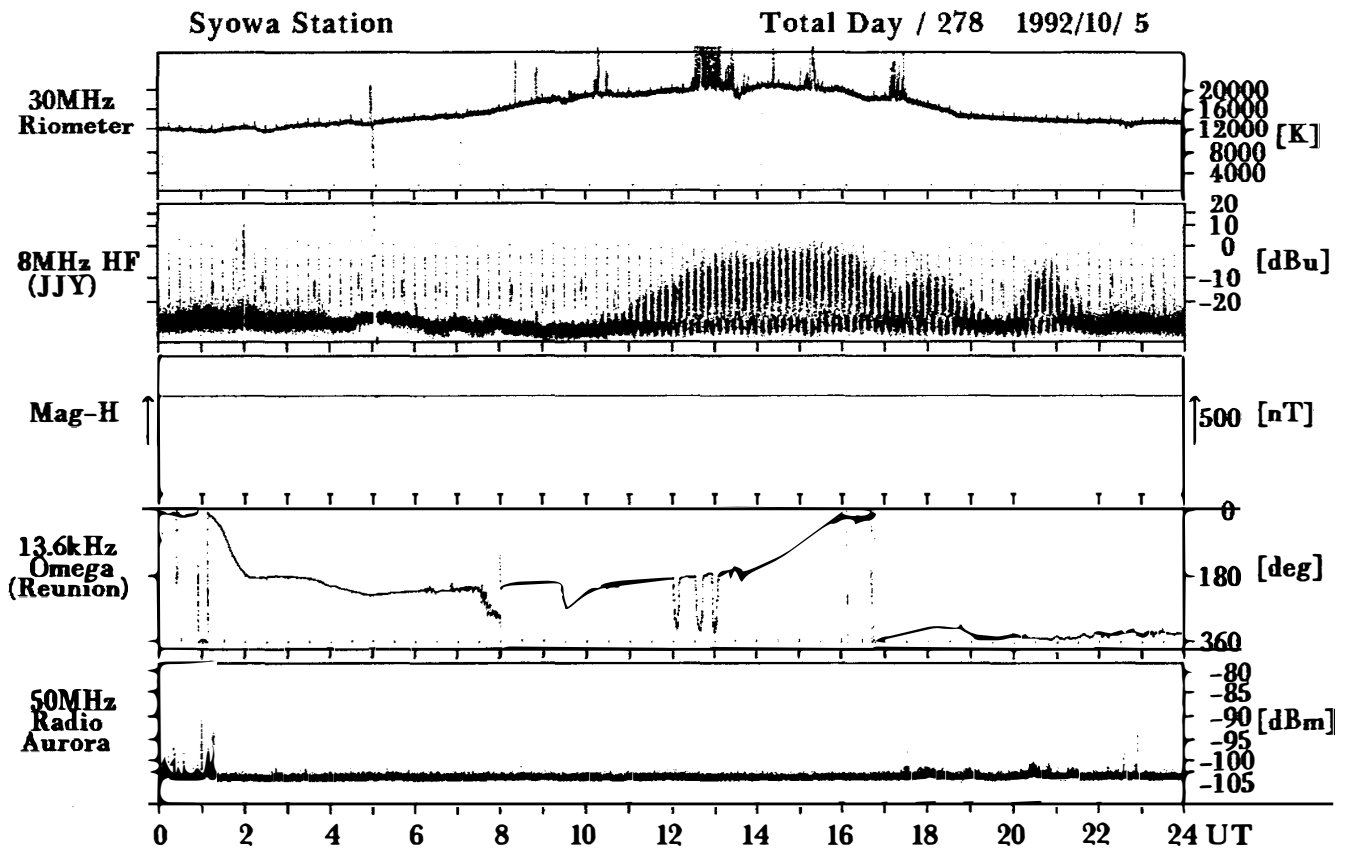
Total Day / 276 1992/10/ 3



Syowa Station

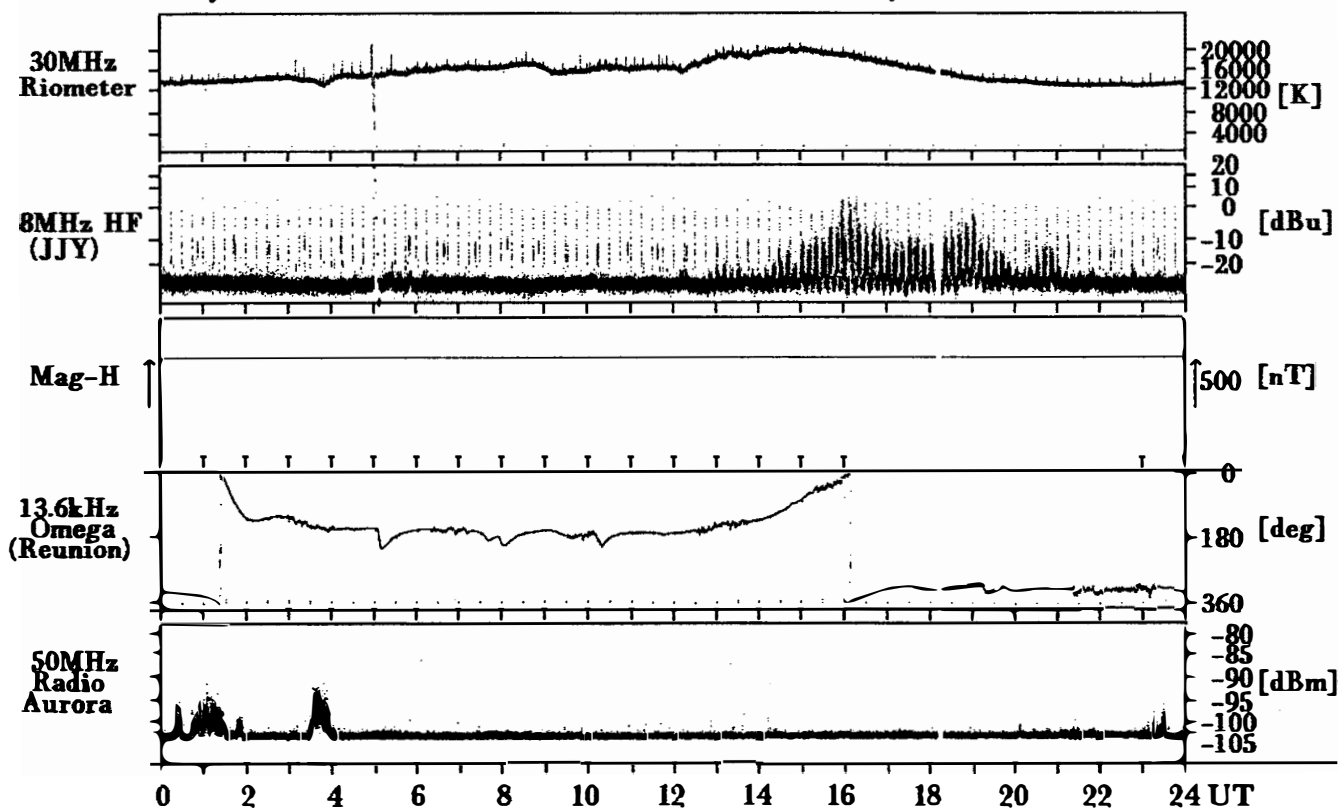
Total Day / 277 1992/10/ 4





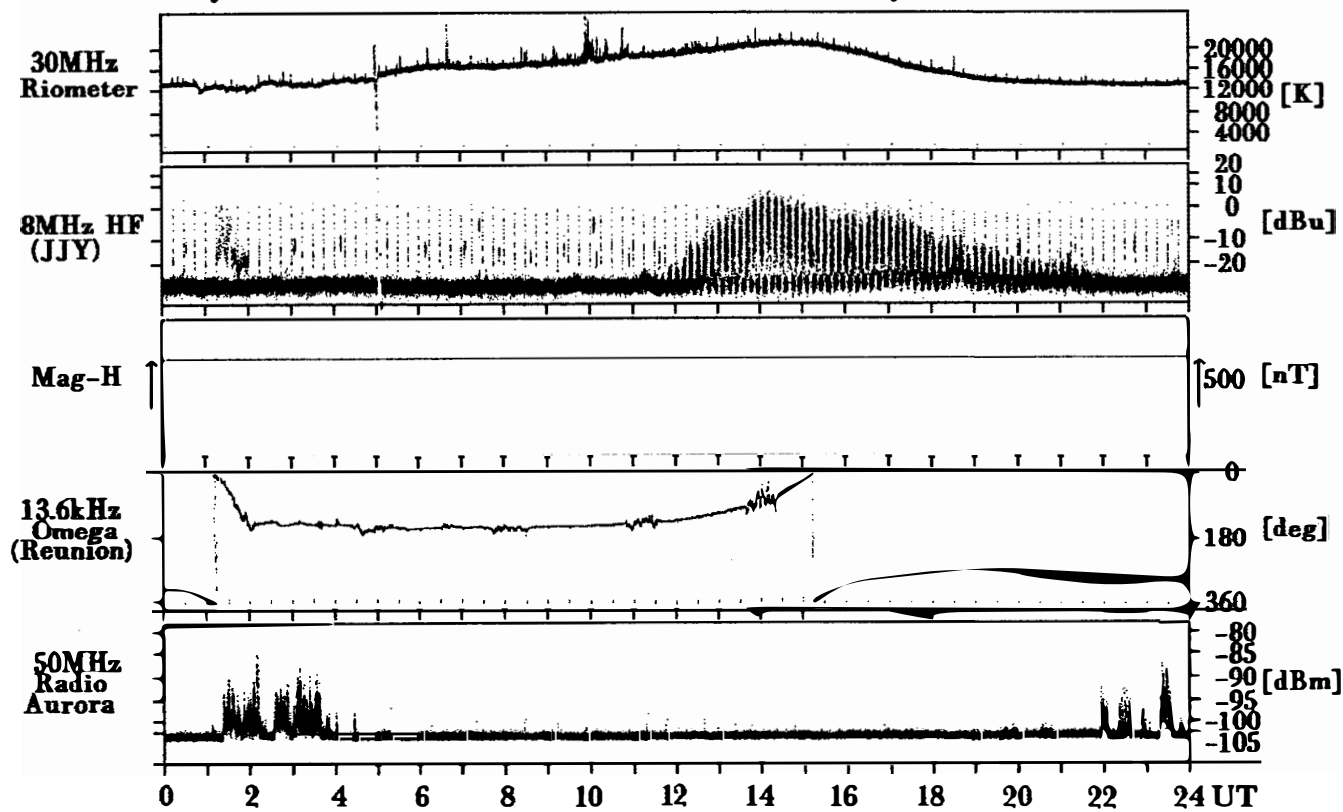
Syowa Station

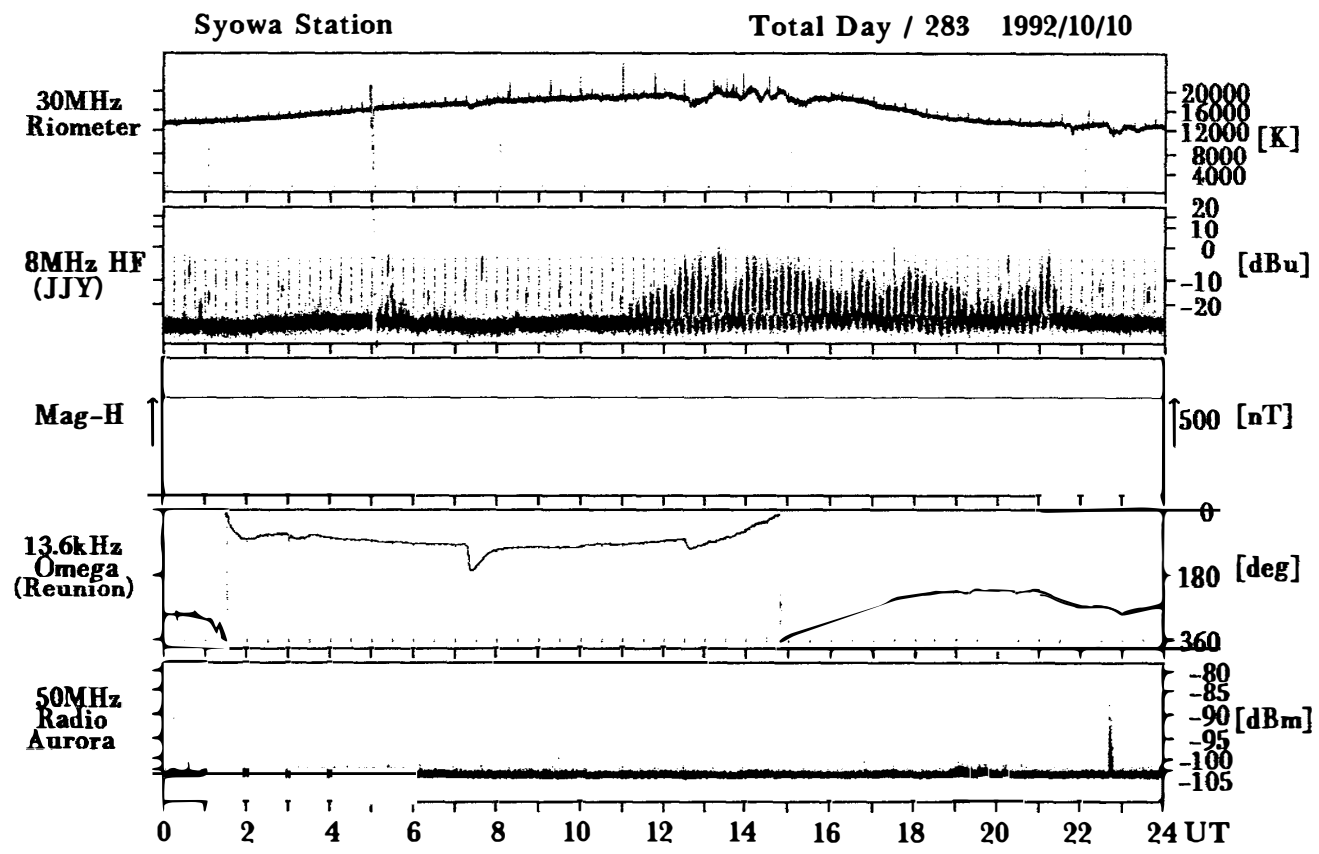
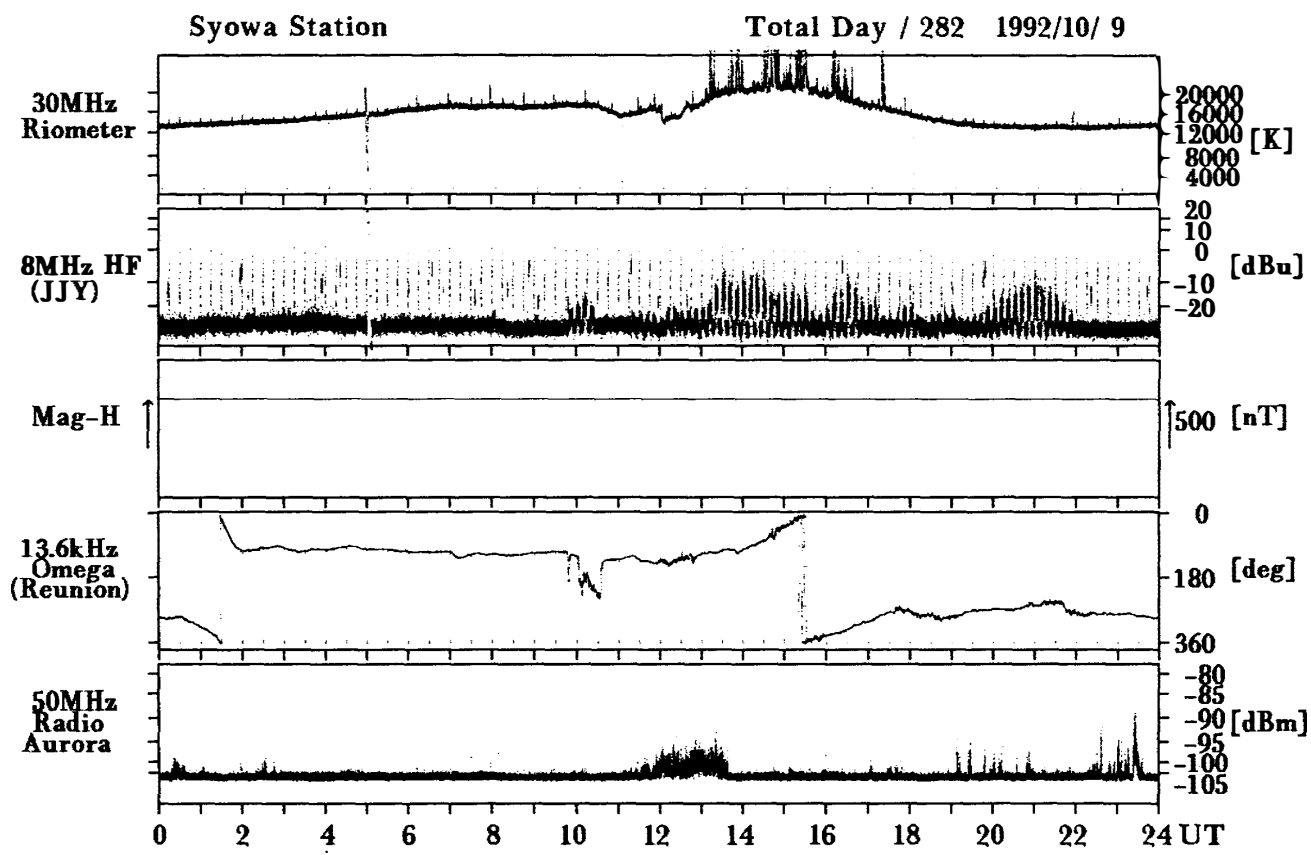
Total Day / 280 1992/10/ 7

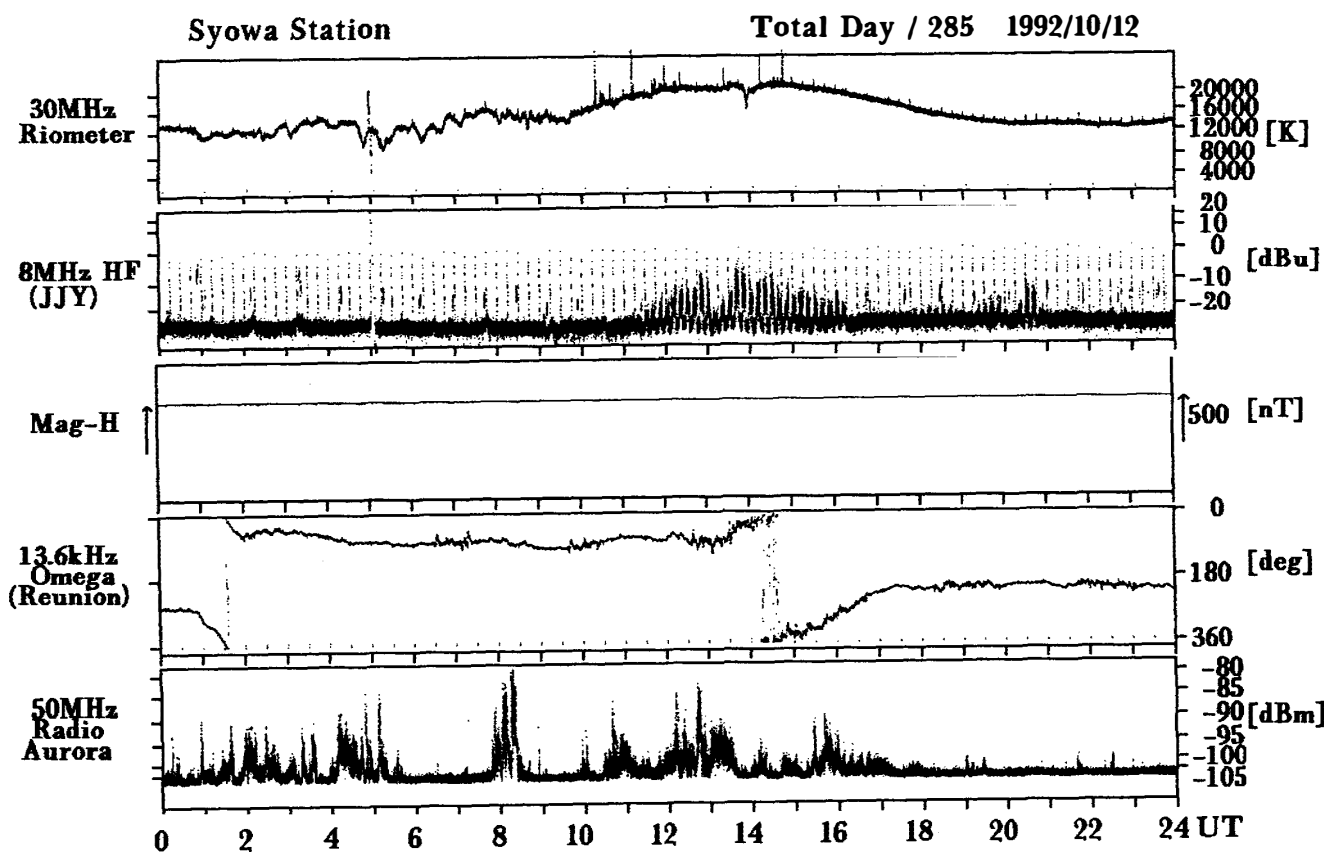
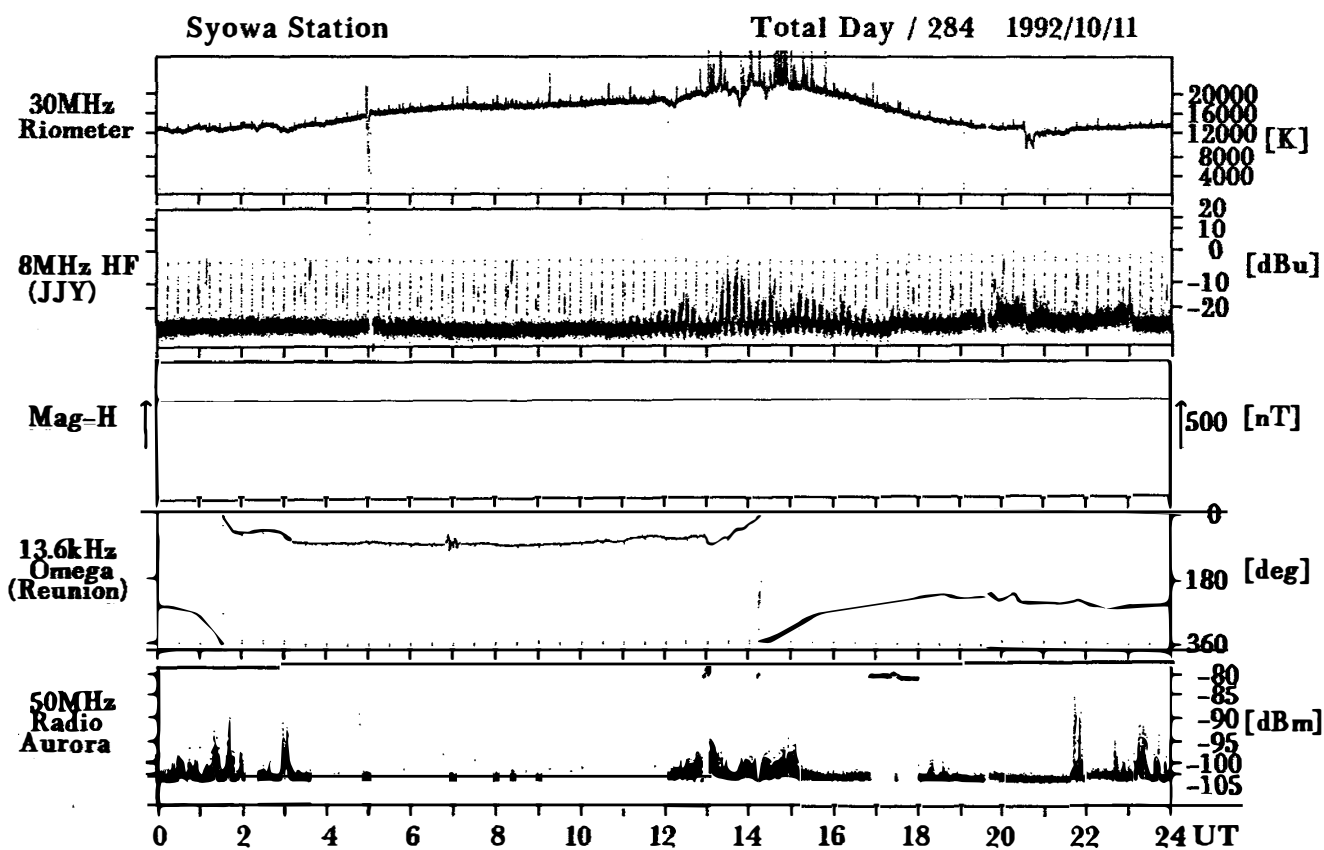


Syowa Station

Total Day / 281 1992/10/ 8

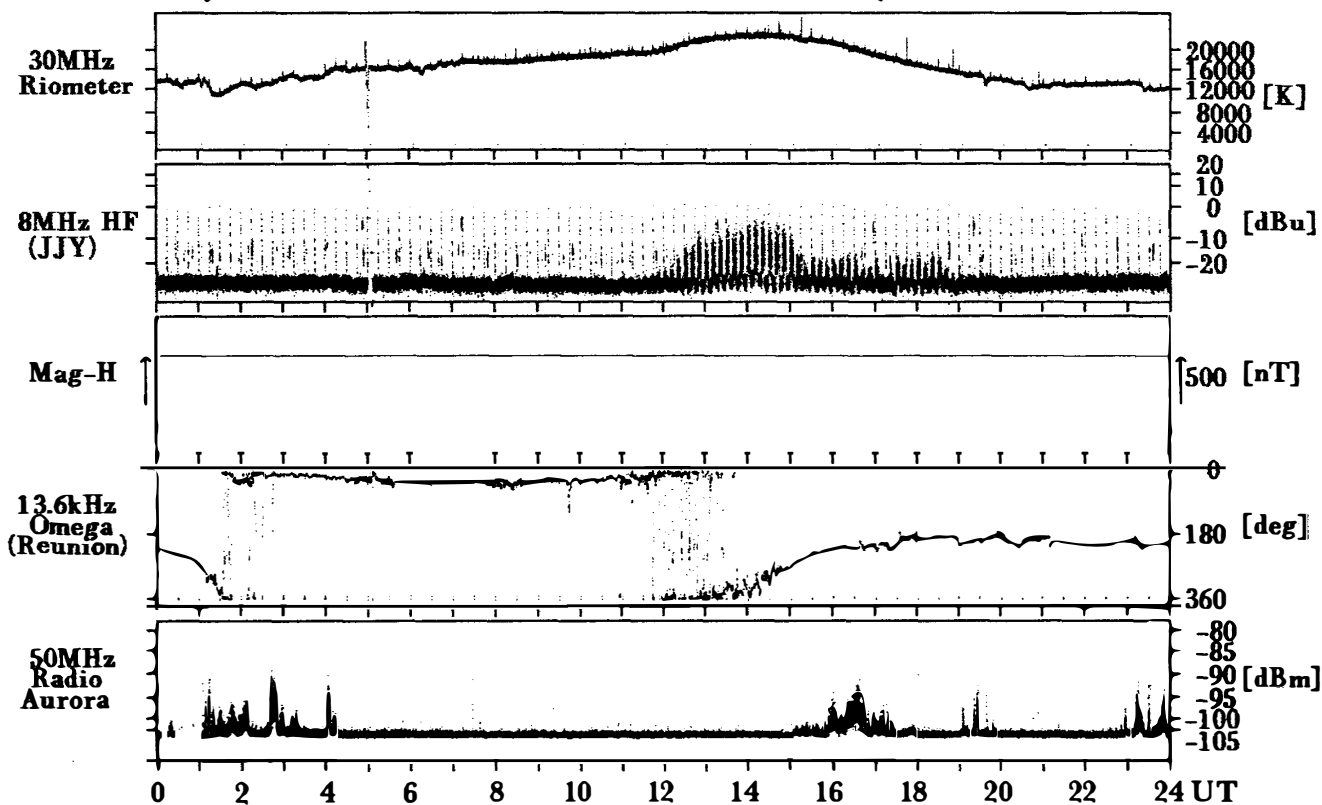






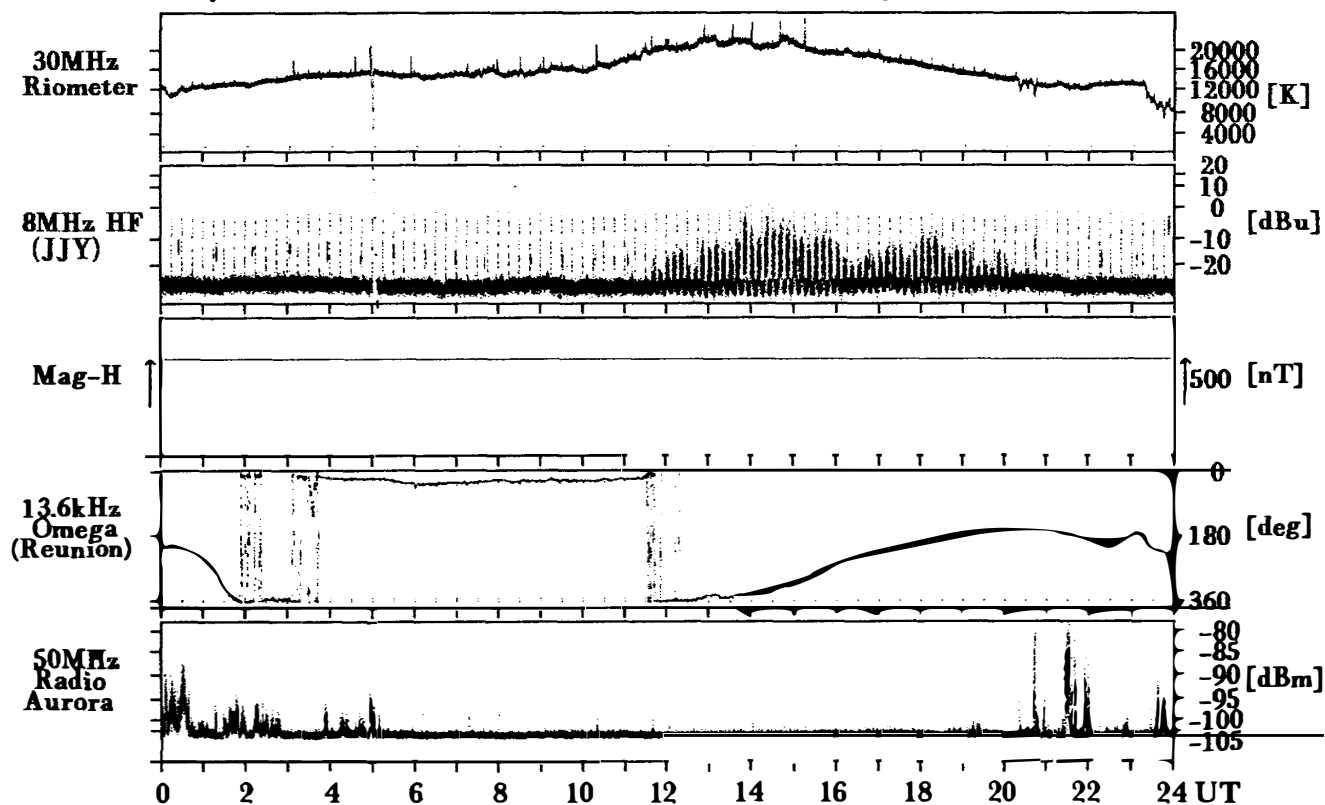
Syowa Station

Total Day / 286 1992/10/13



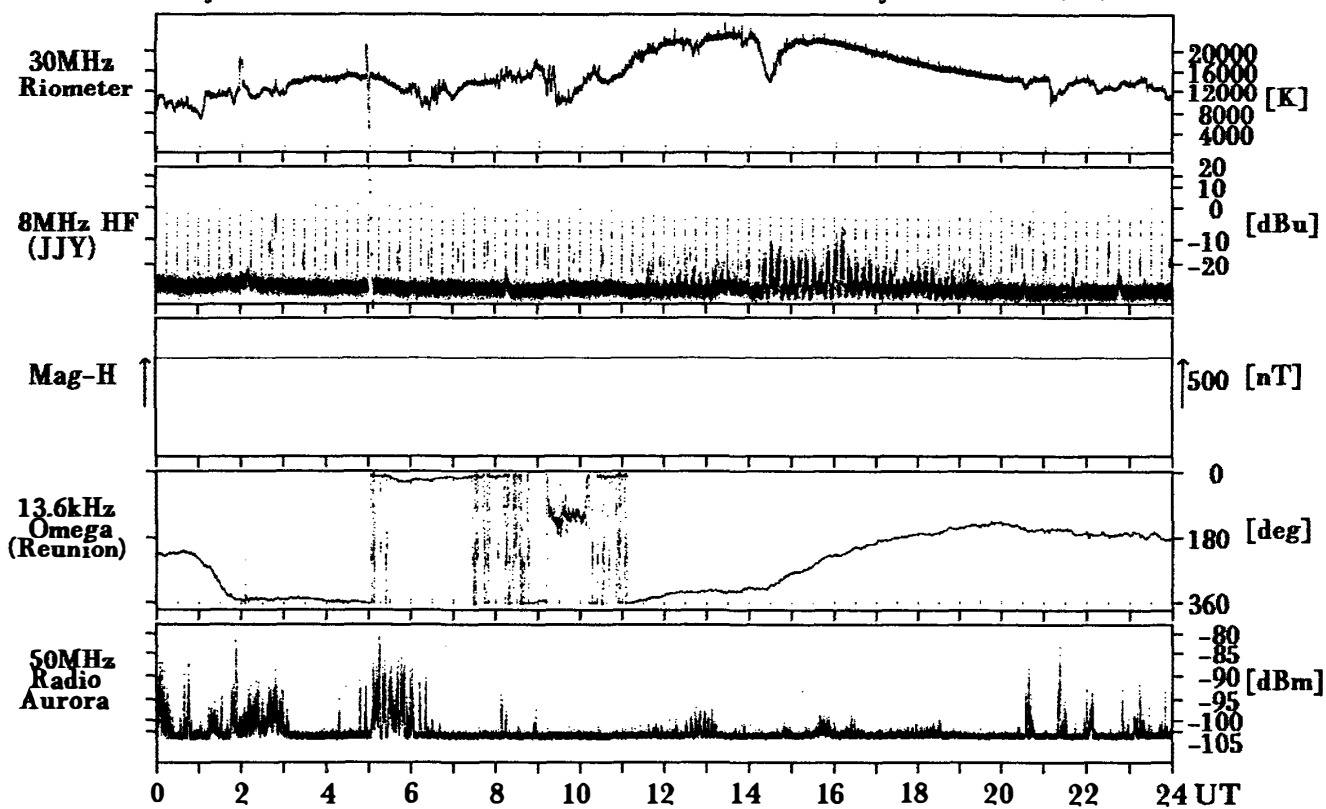
Syowa Station

Total Day / 287 1992/10/14



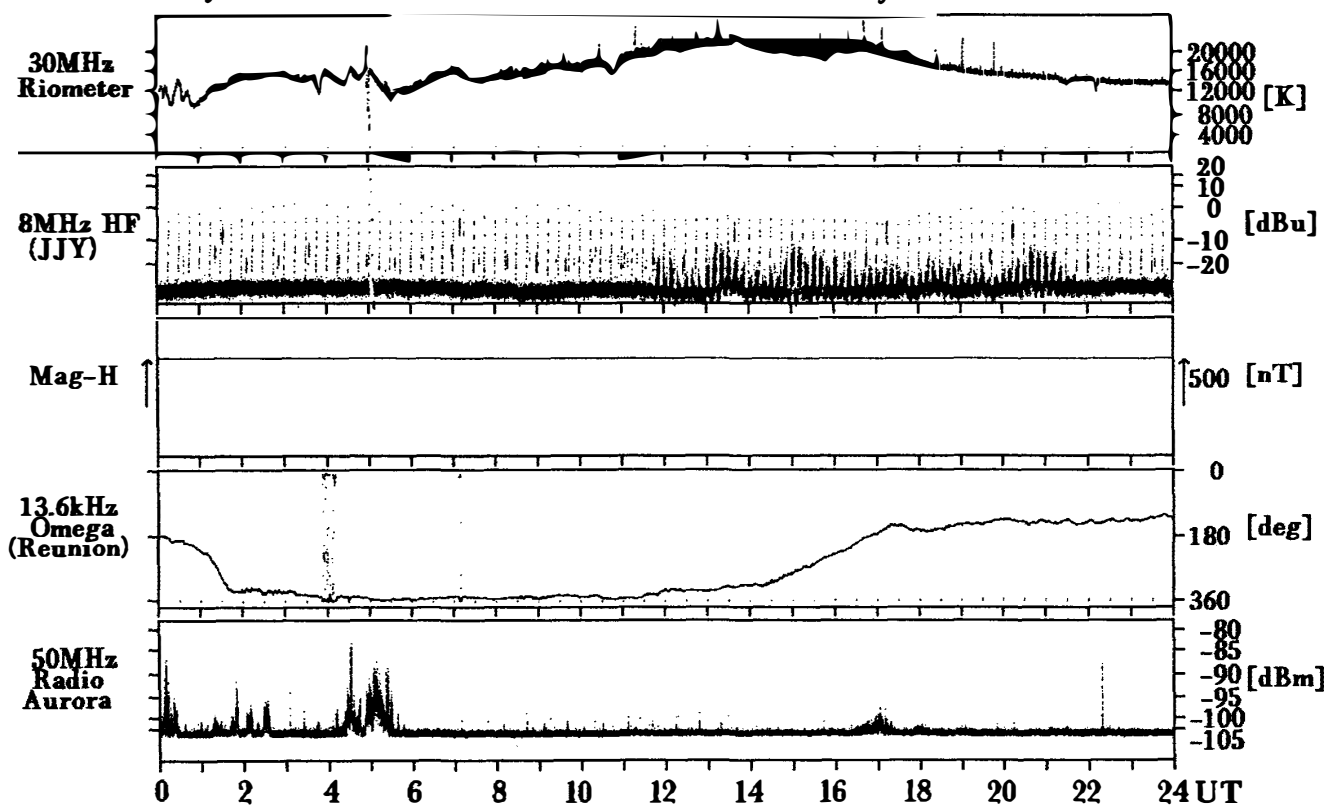
Syowa Station

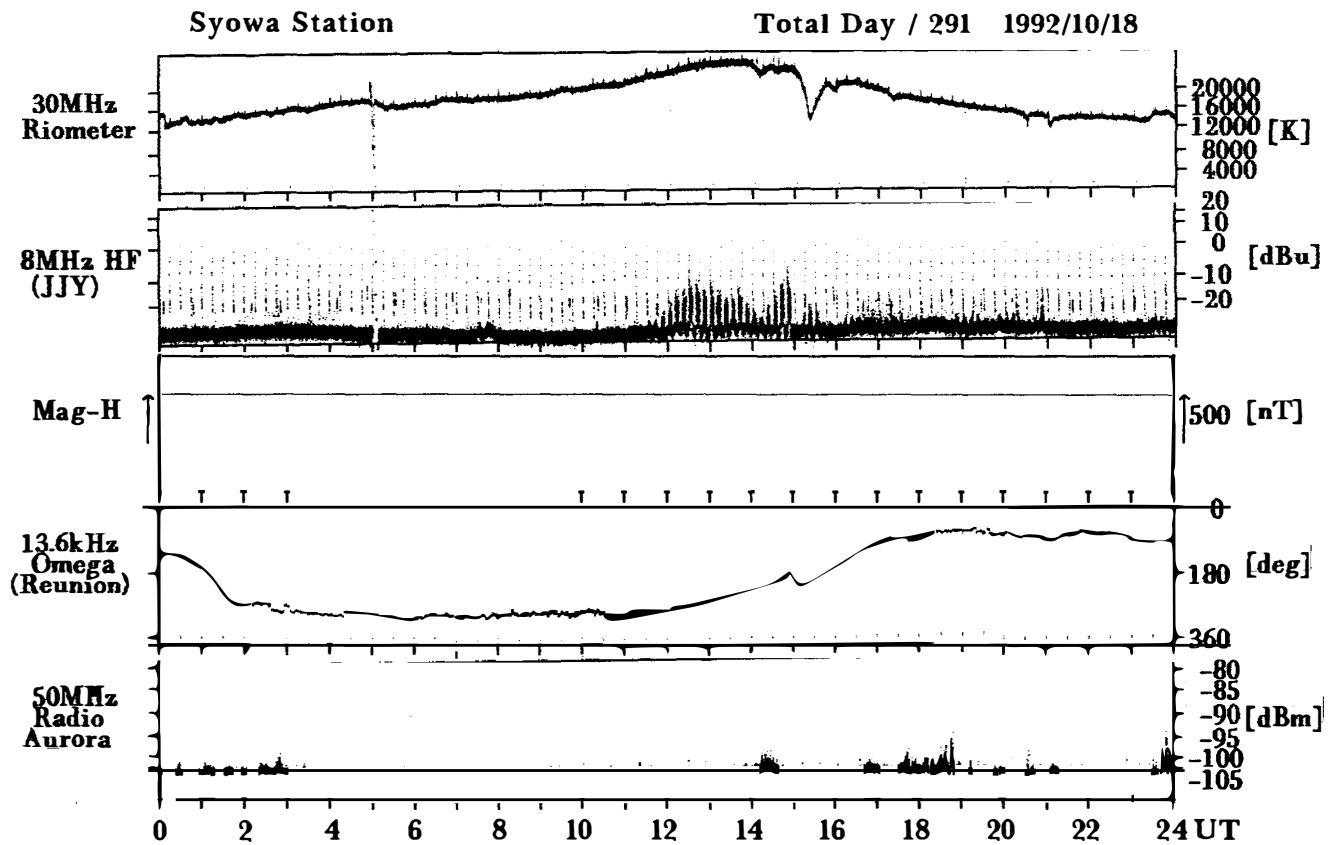
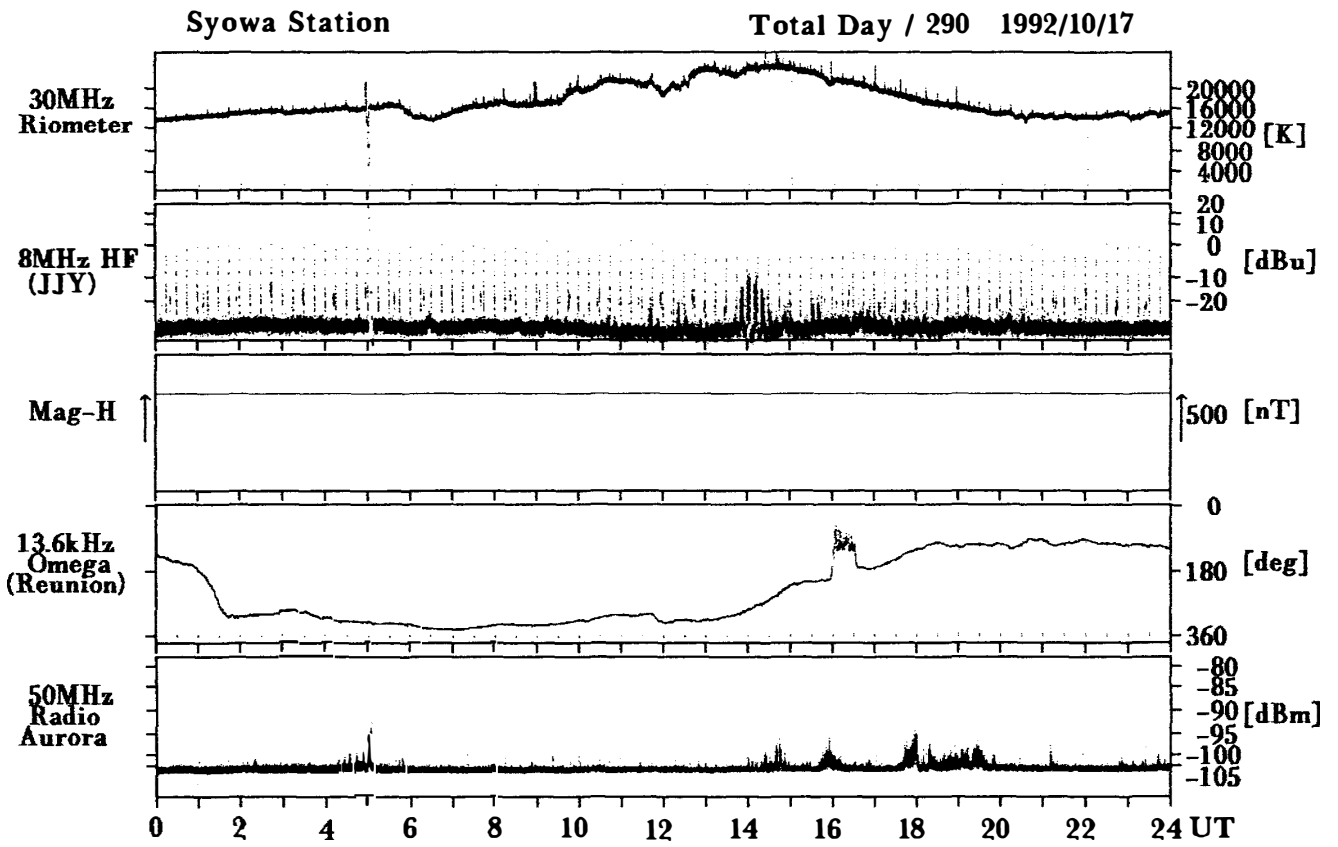
Total Day / 288 1992/10/15



Syowa Station

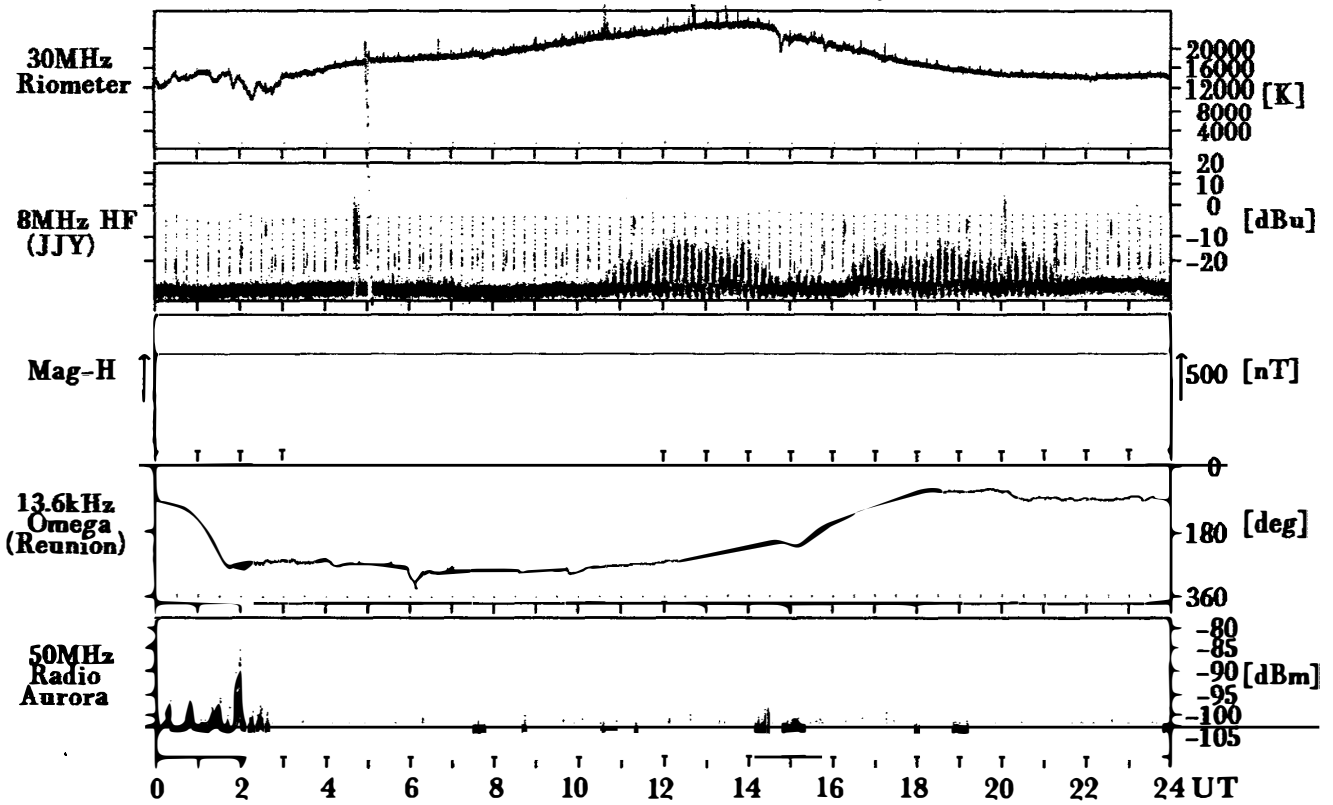
Total Day / 289 1992/10/16





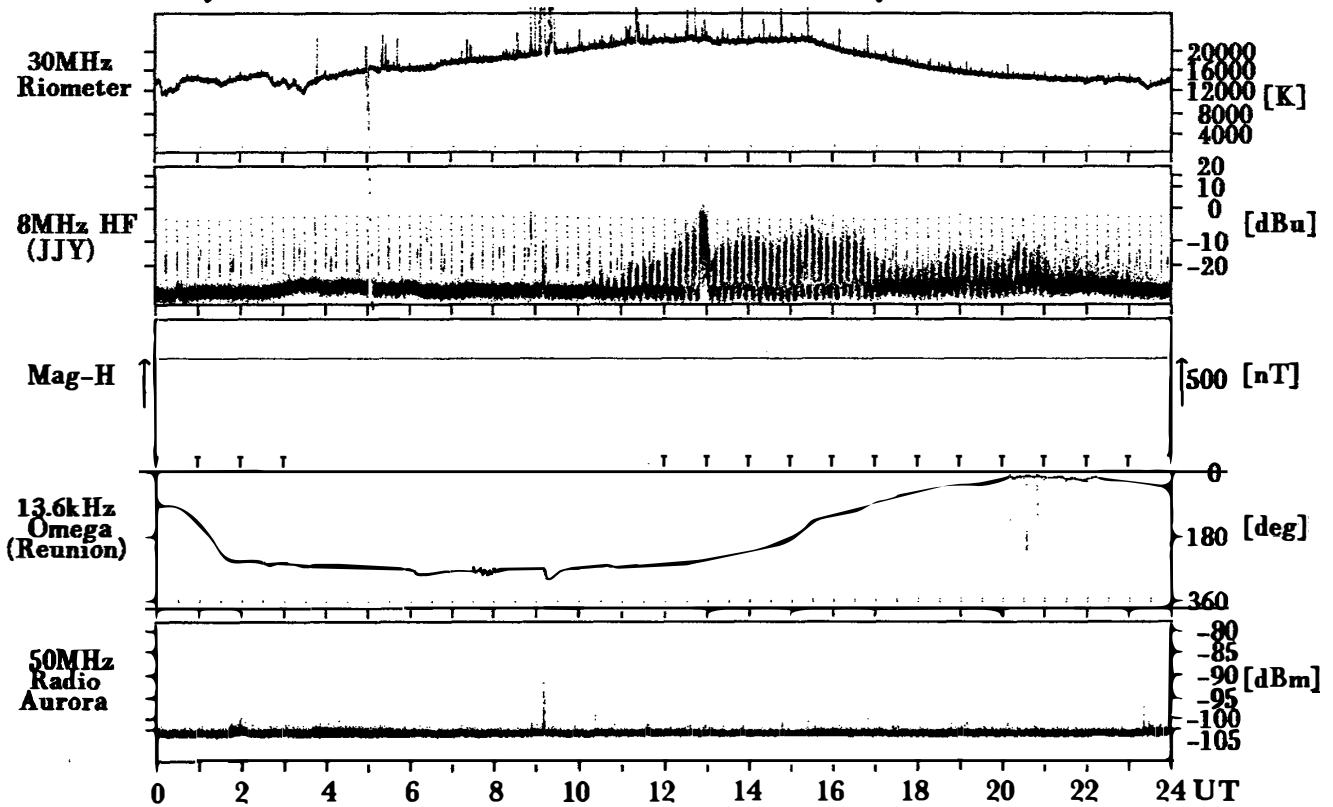
Syowa Station

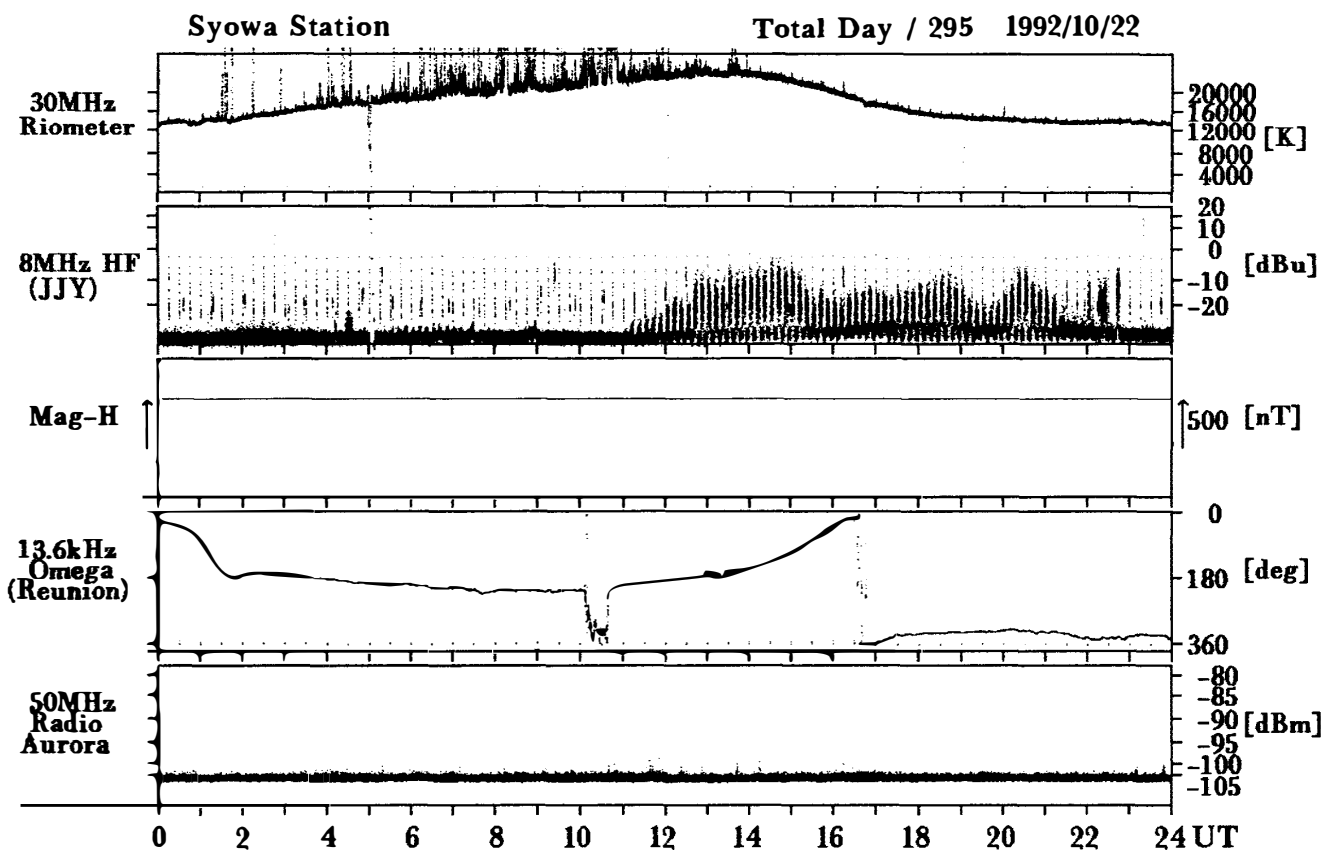
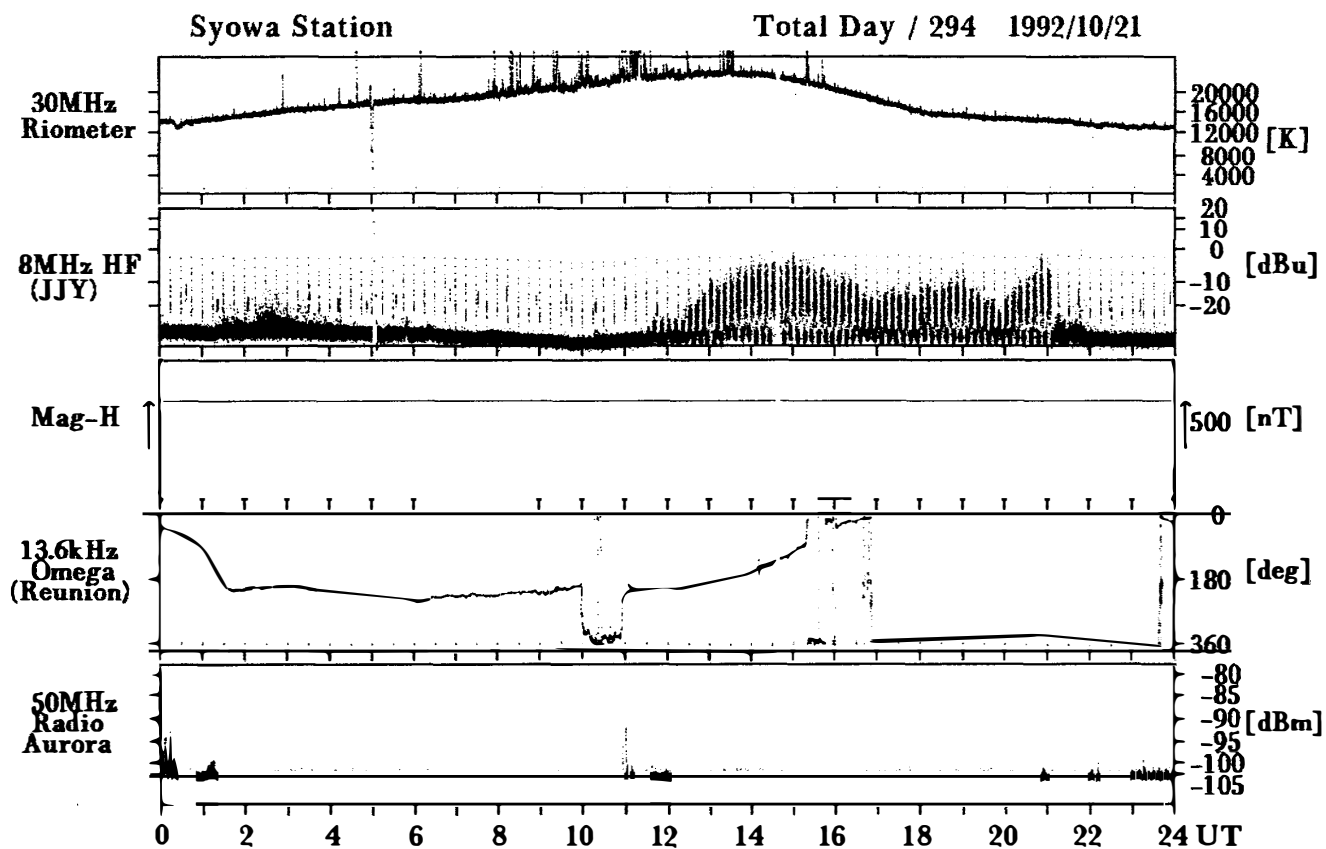
Total Day / 292 1992/10/19



Syowa Station

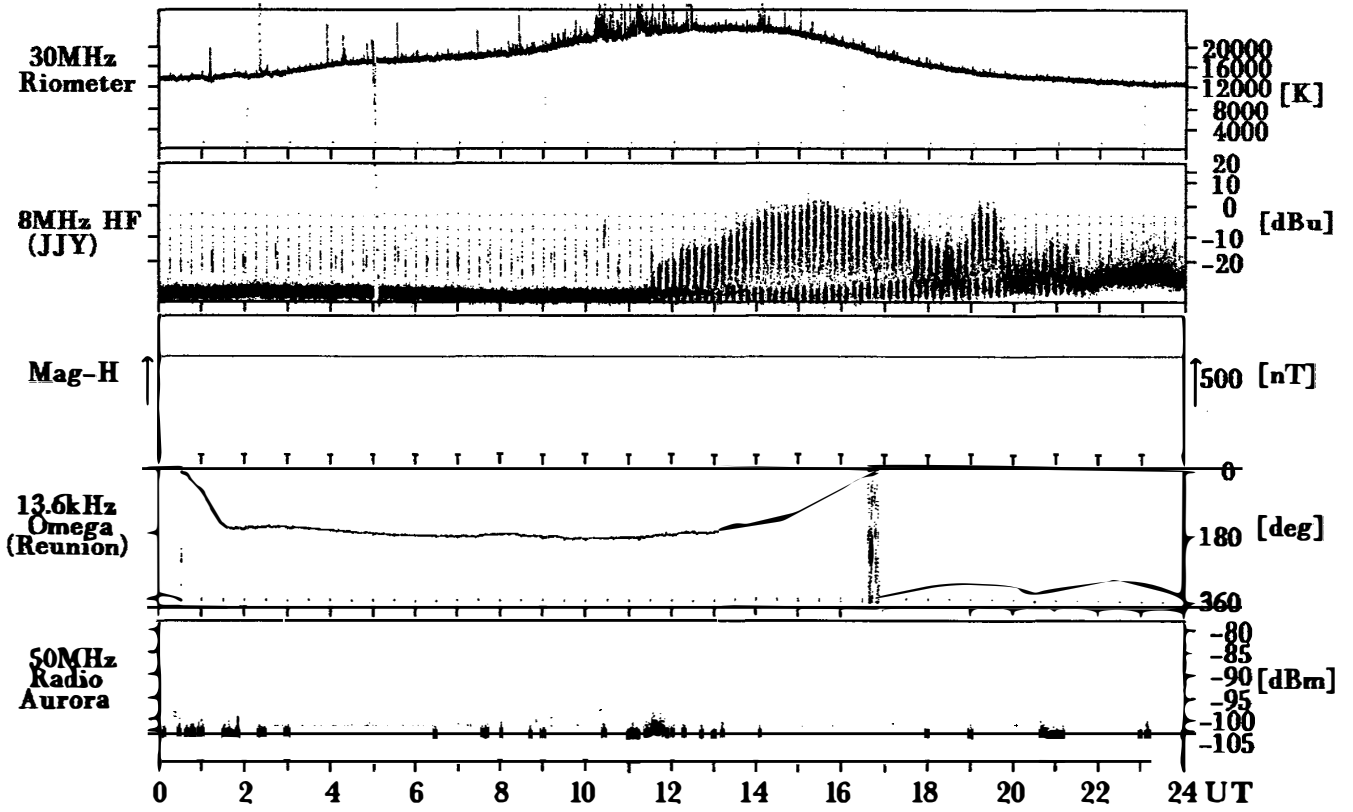
Total Day / 293 1992/10/20





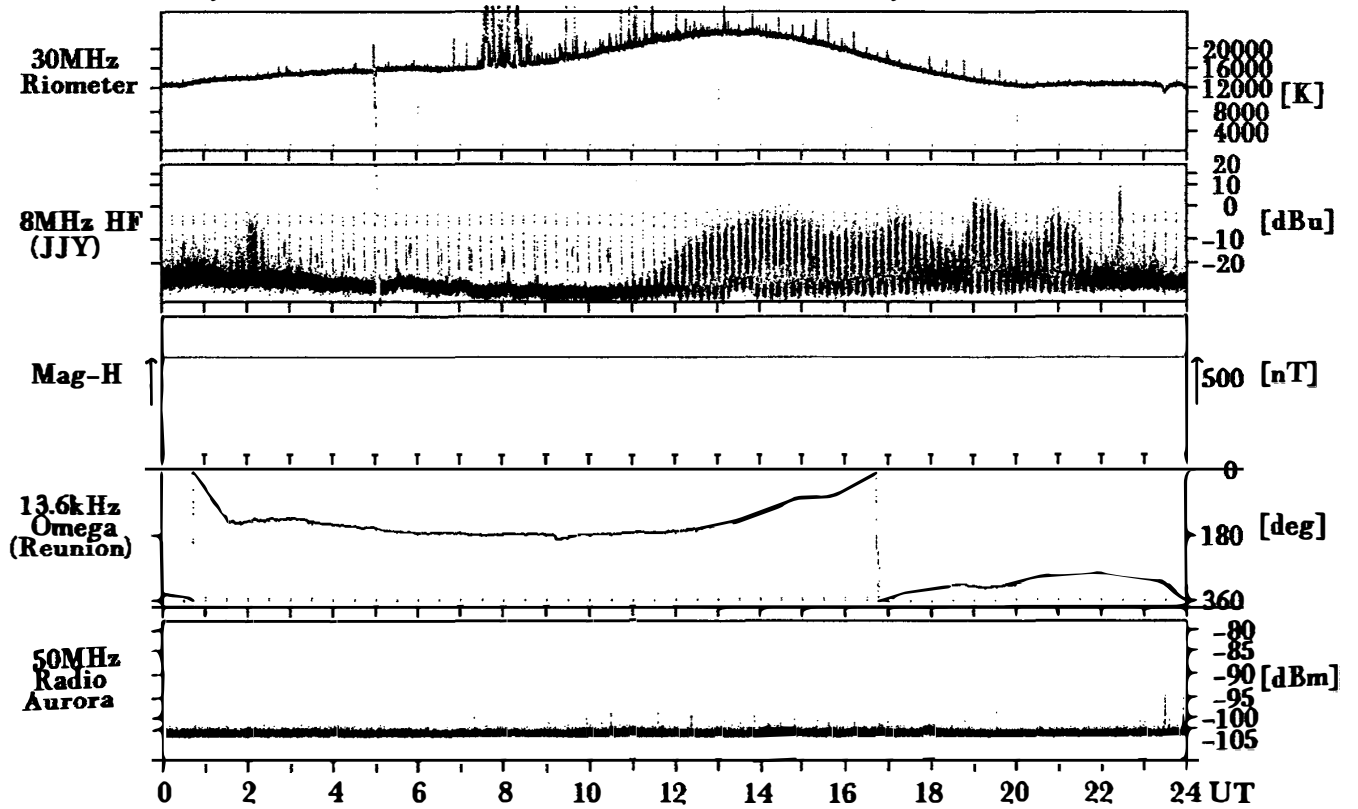
Syowa Station

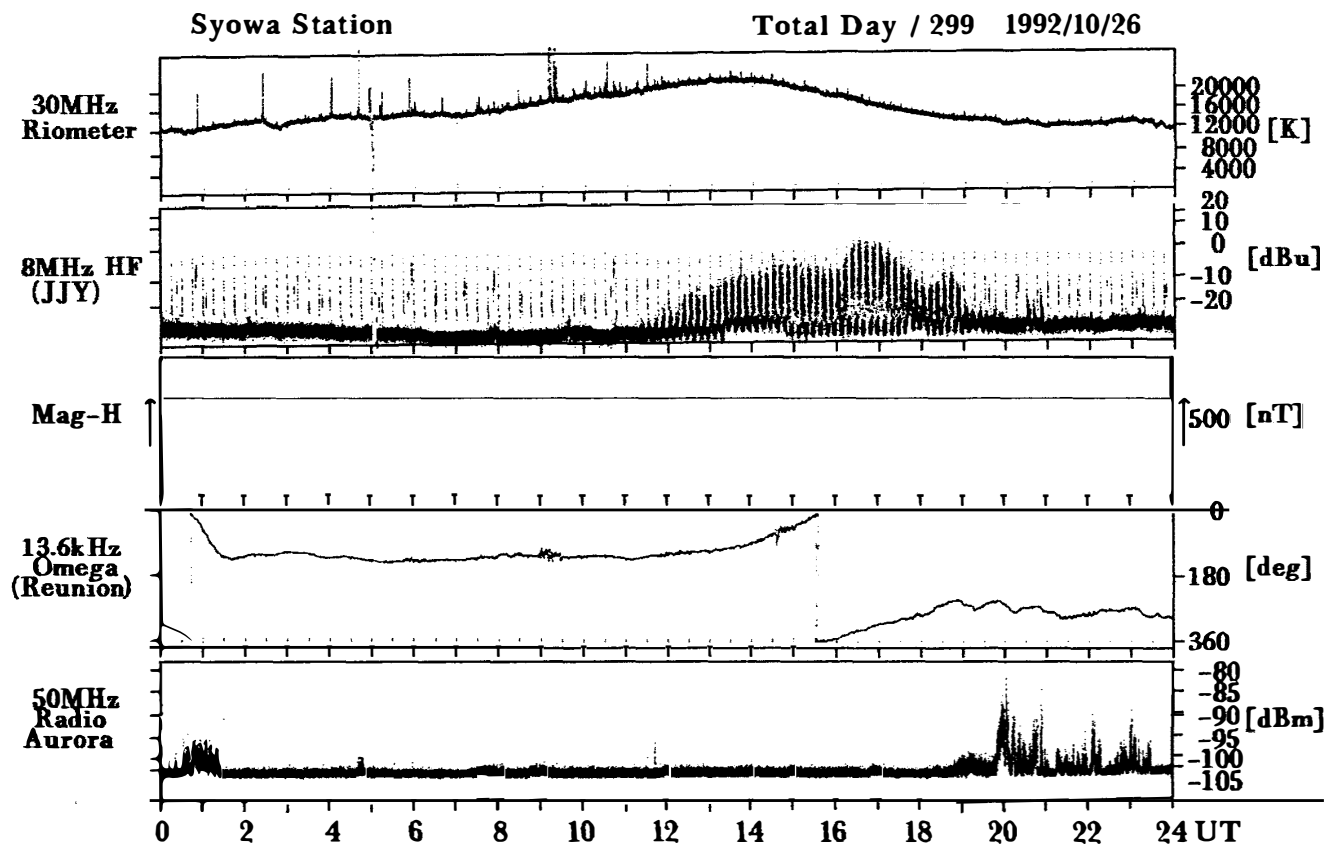
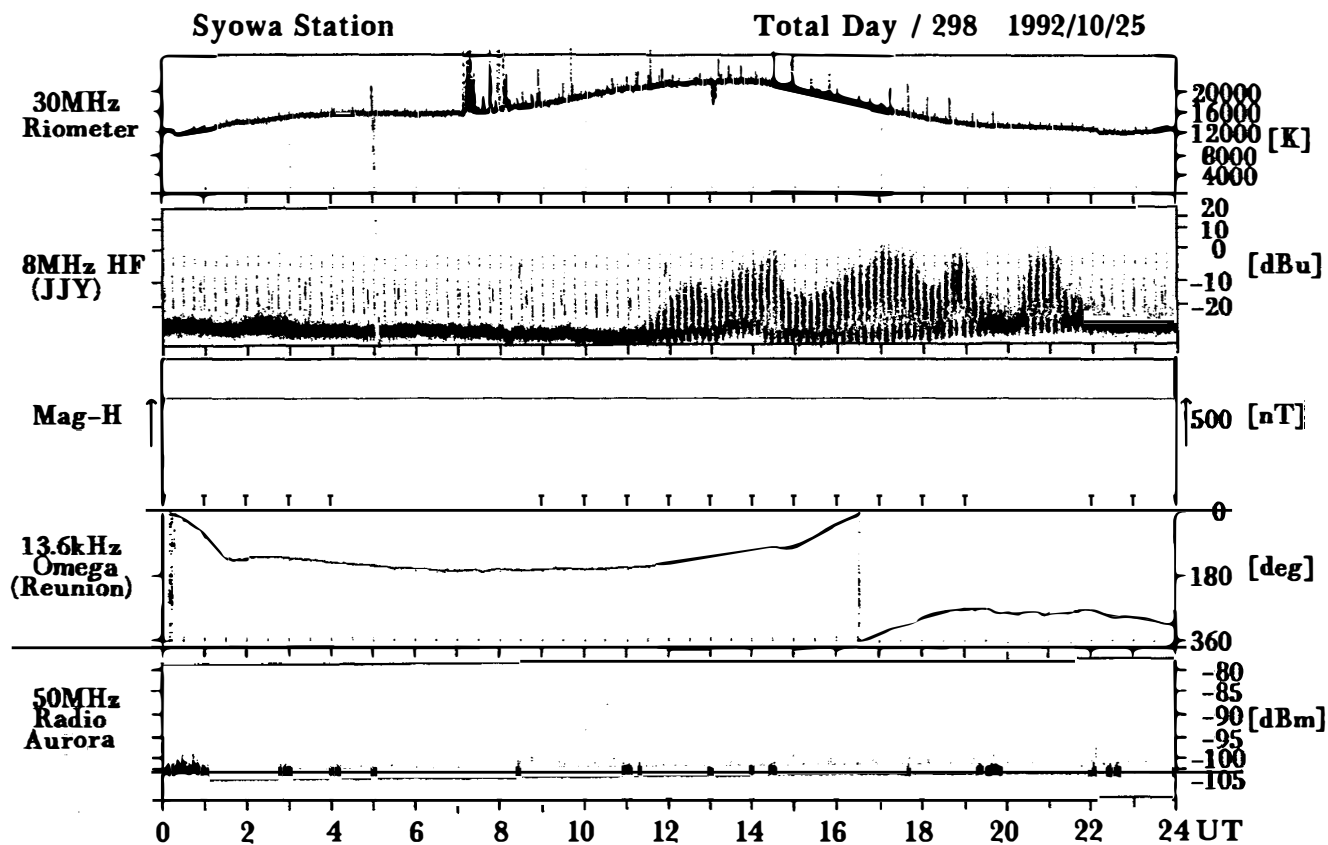
Total Day / 296 1992/10/23

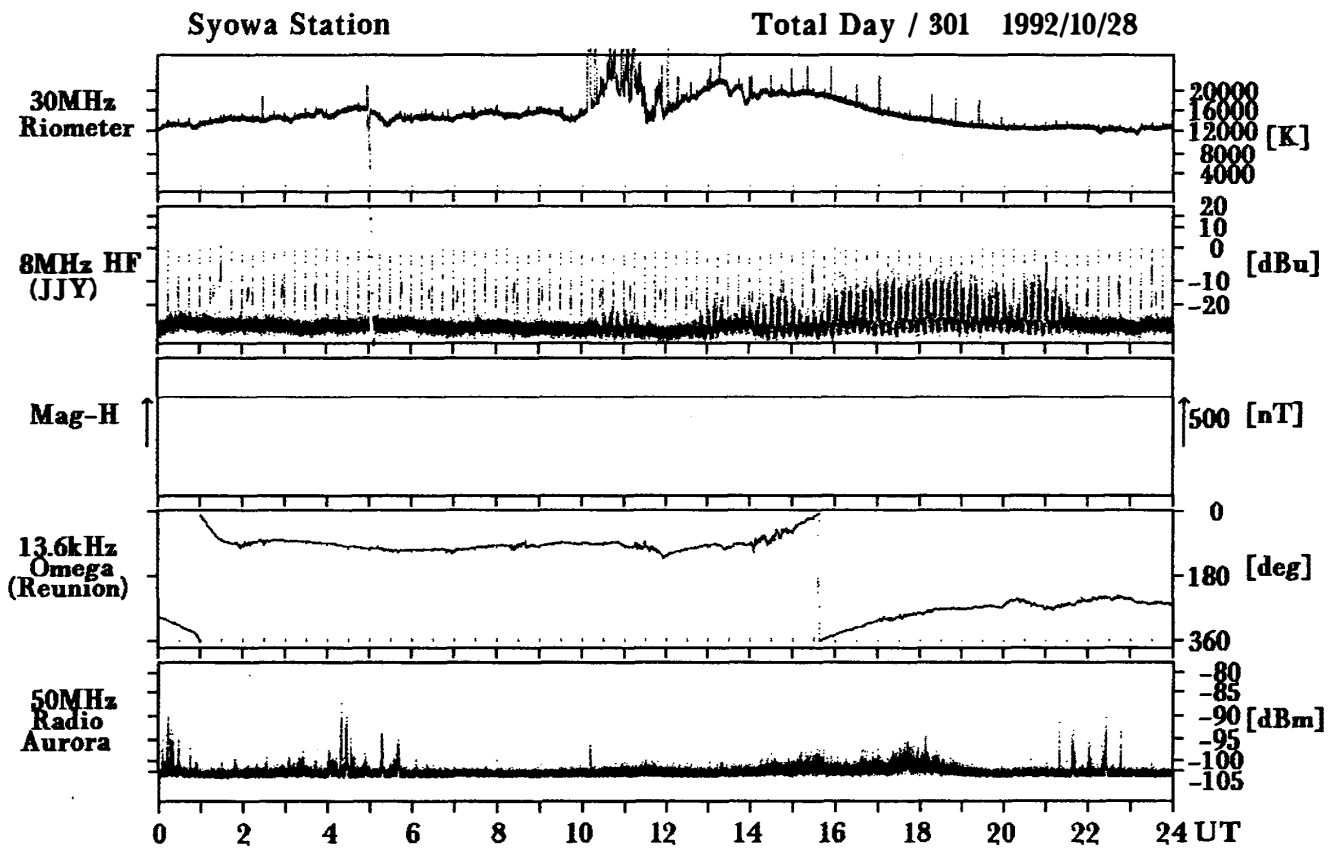
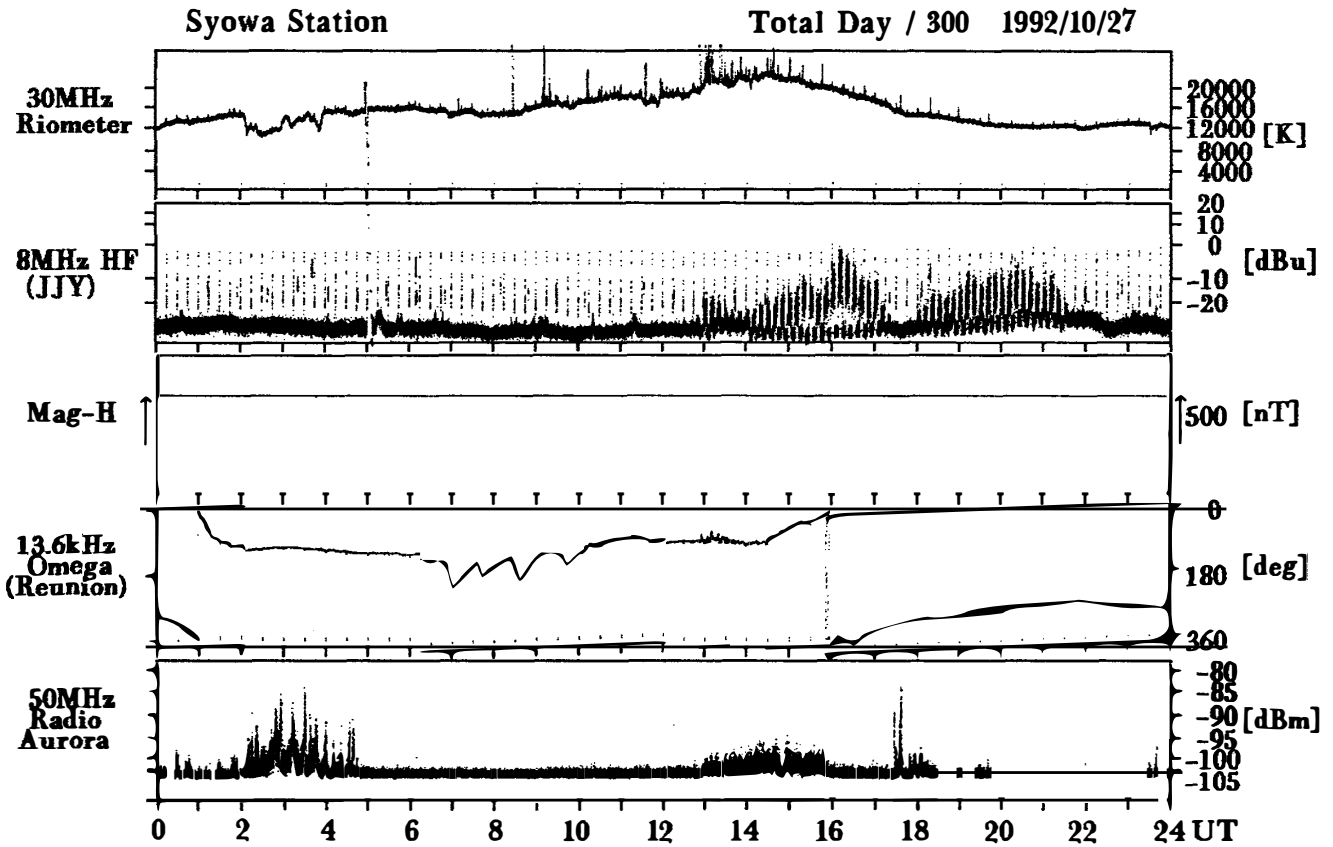


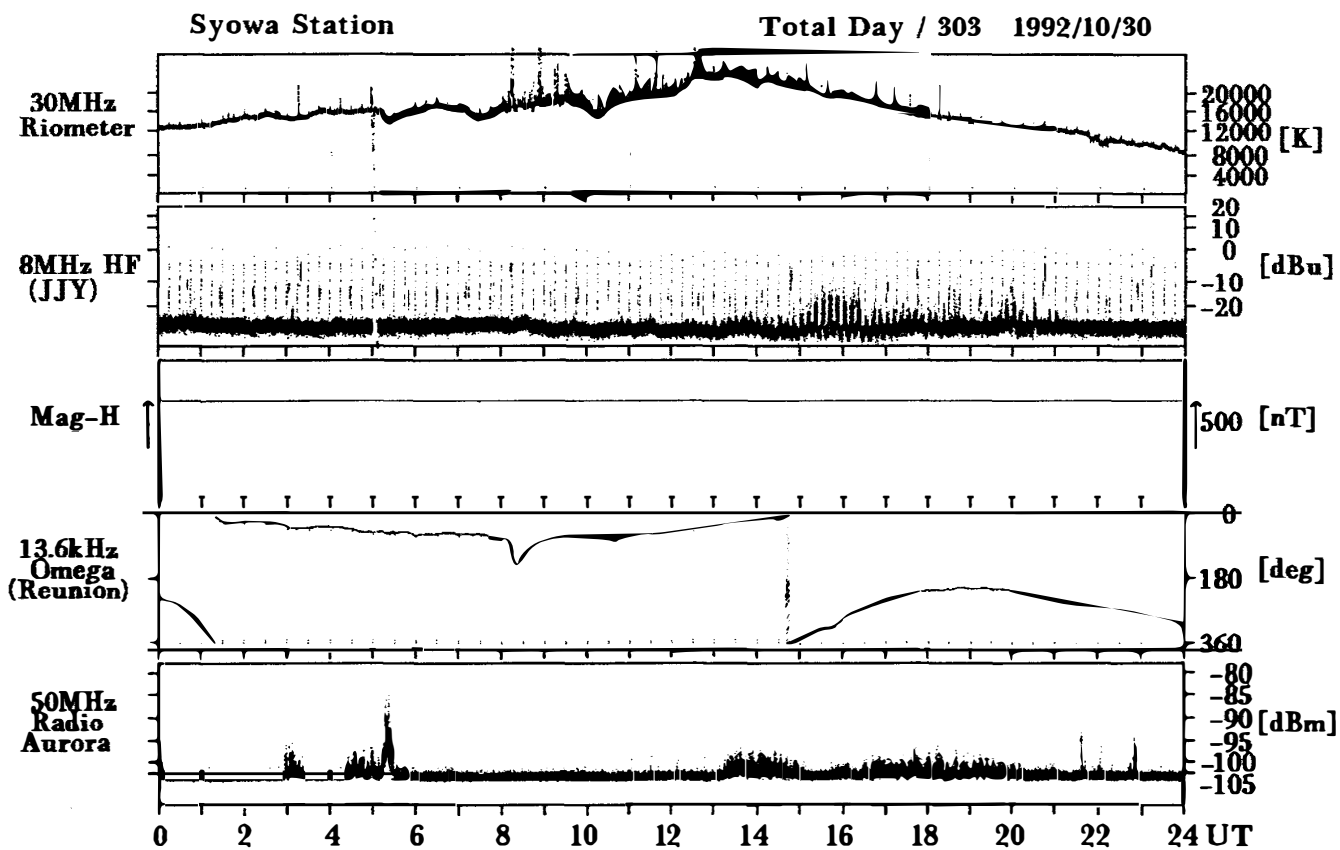
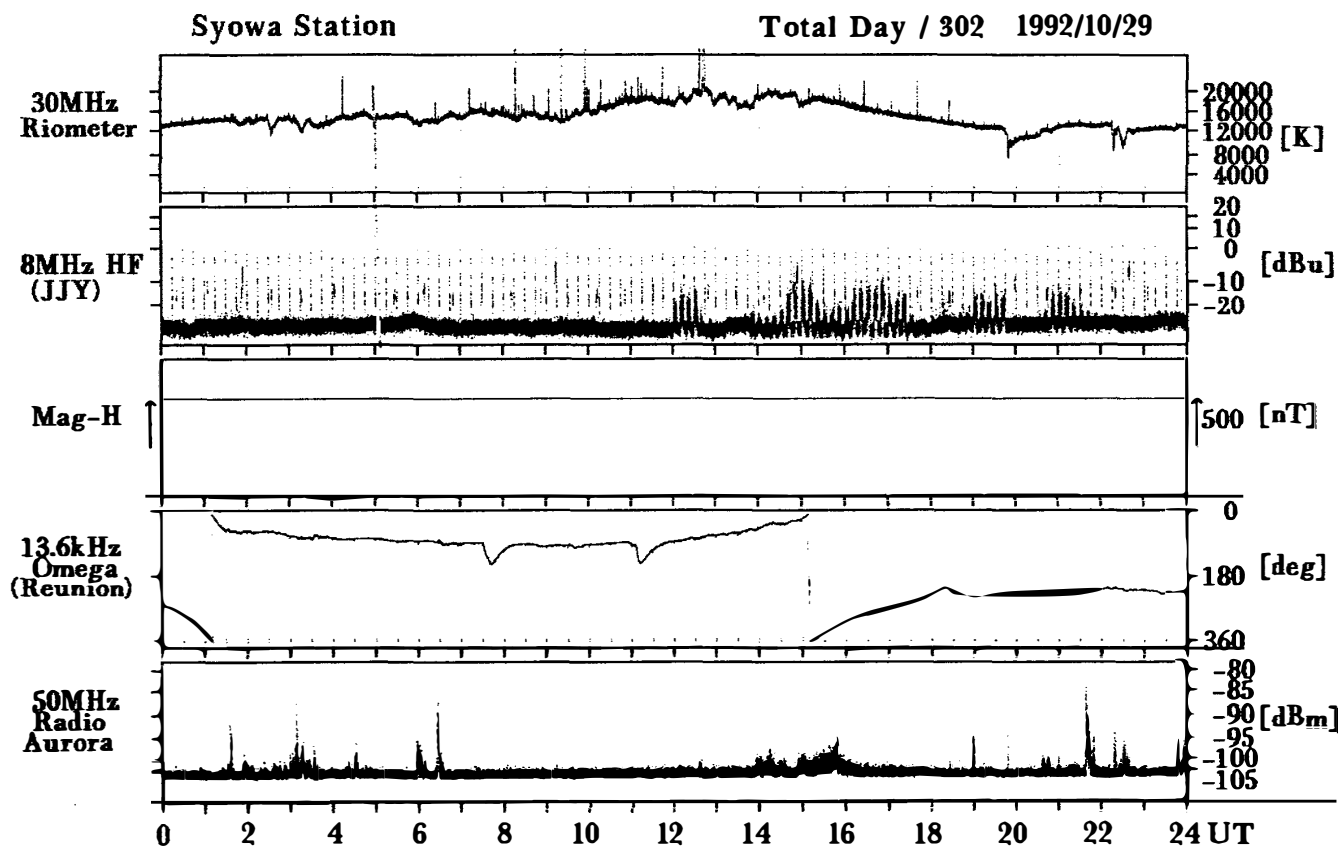
Syowa Station

Total Day / 297 1992/10/24



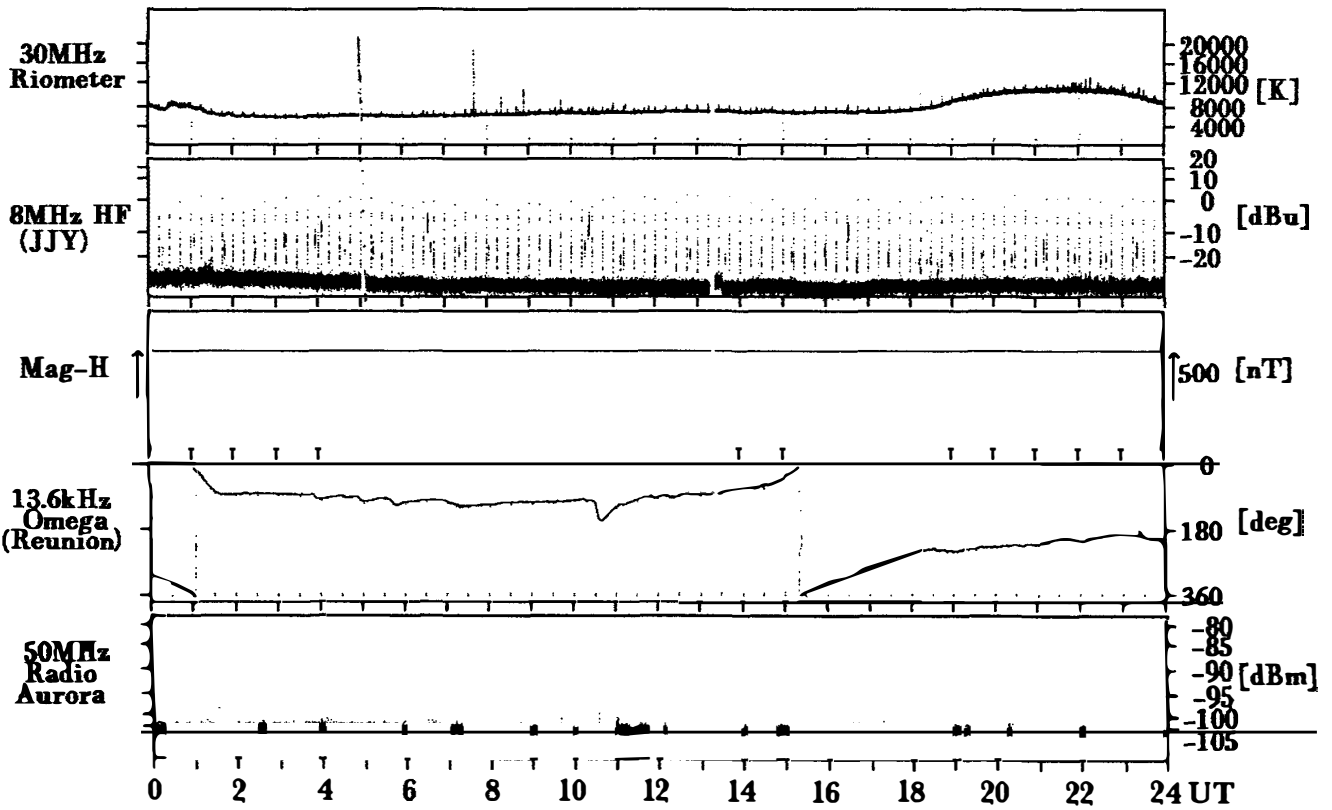






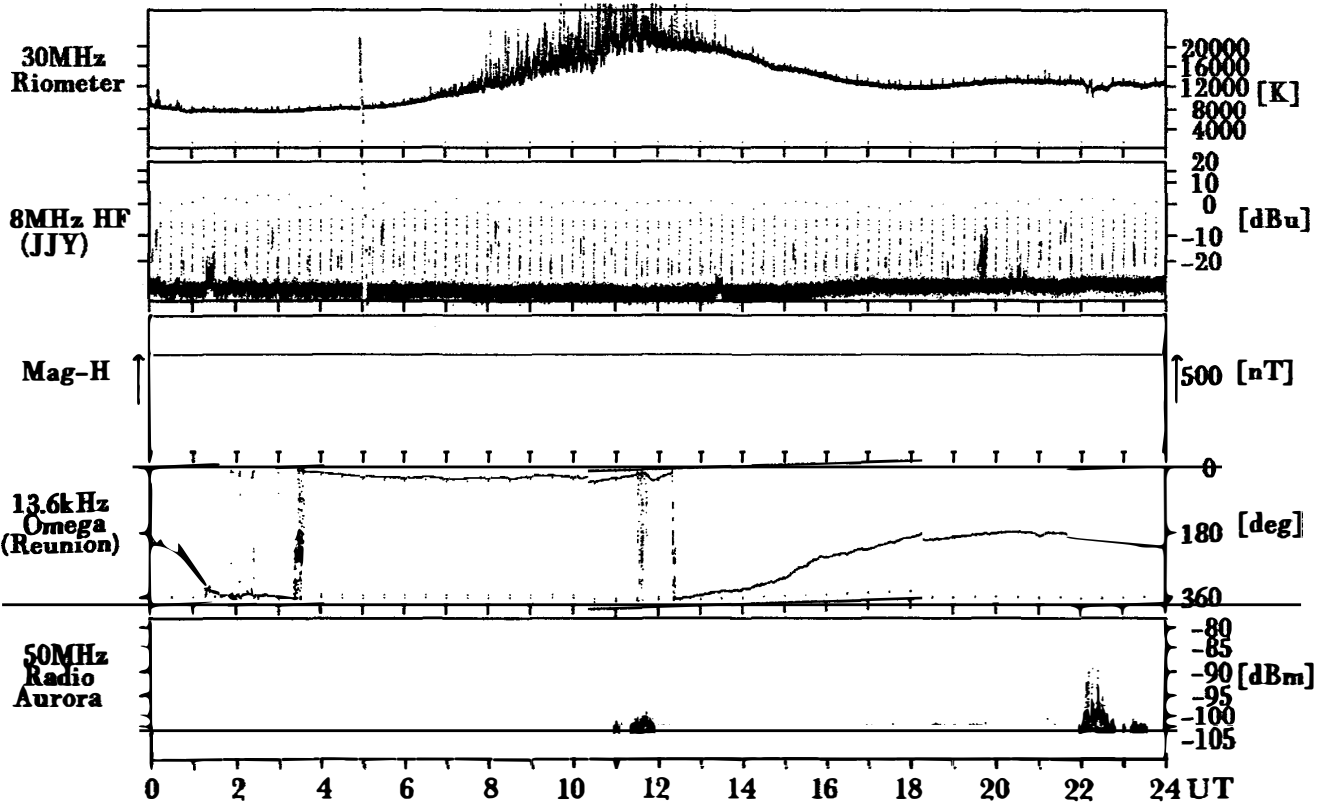
Syowa Station

Total Day / 304 1992/10/31



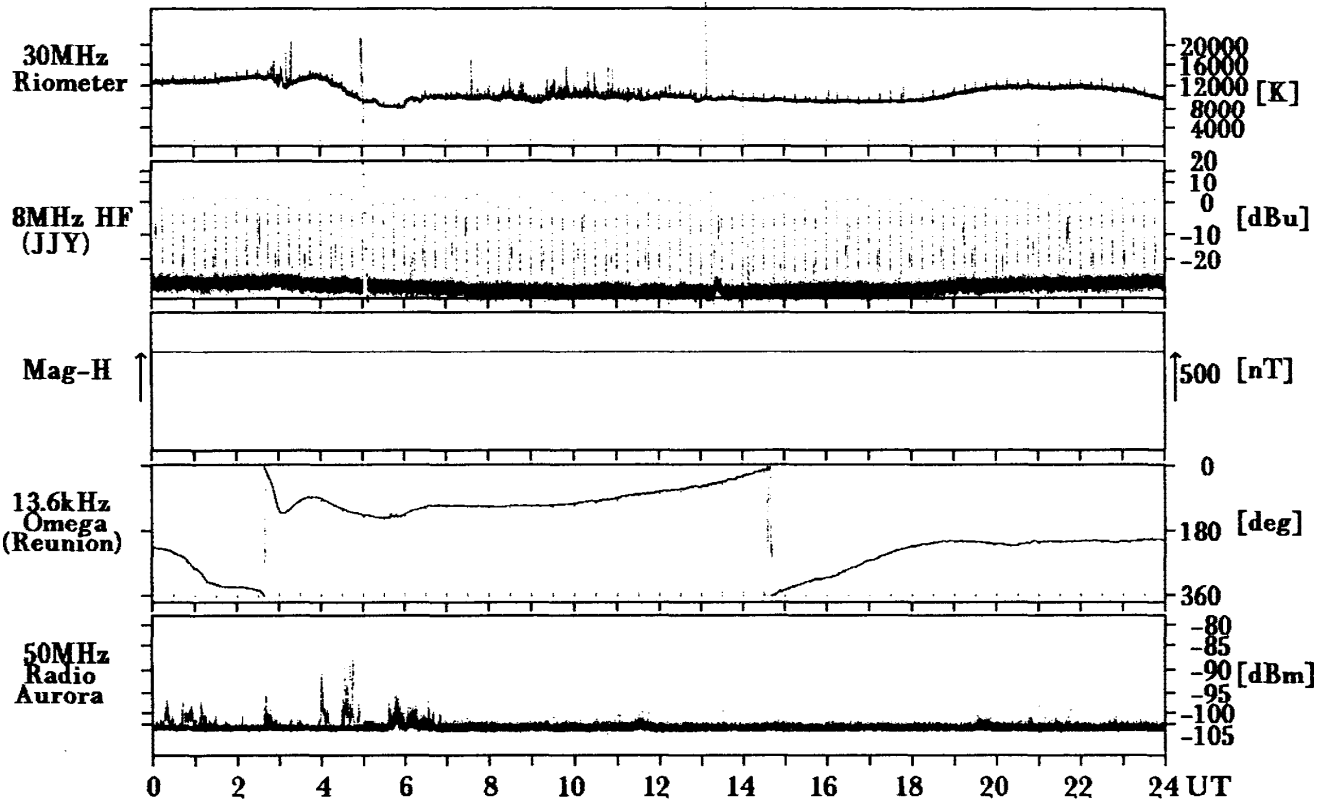
Syowa Station

Total Day / 305 1992/11/ 1



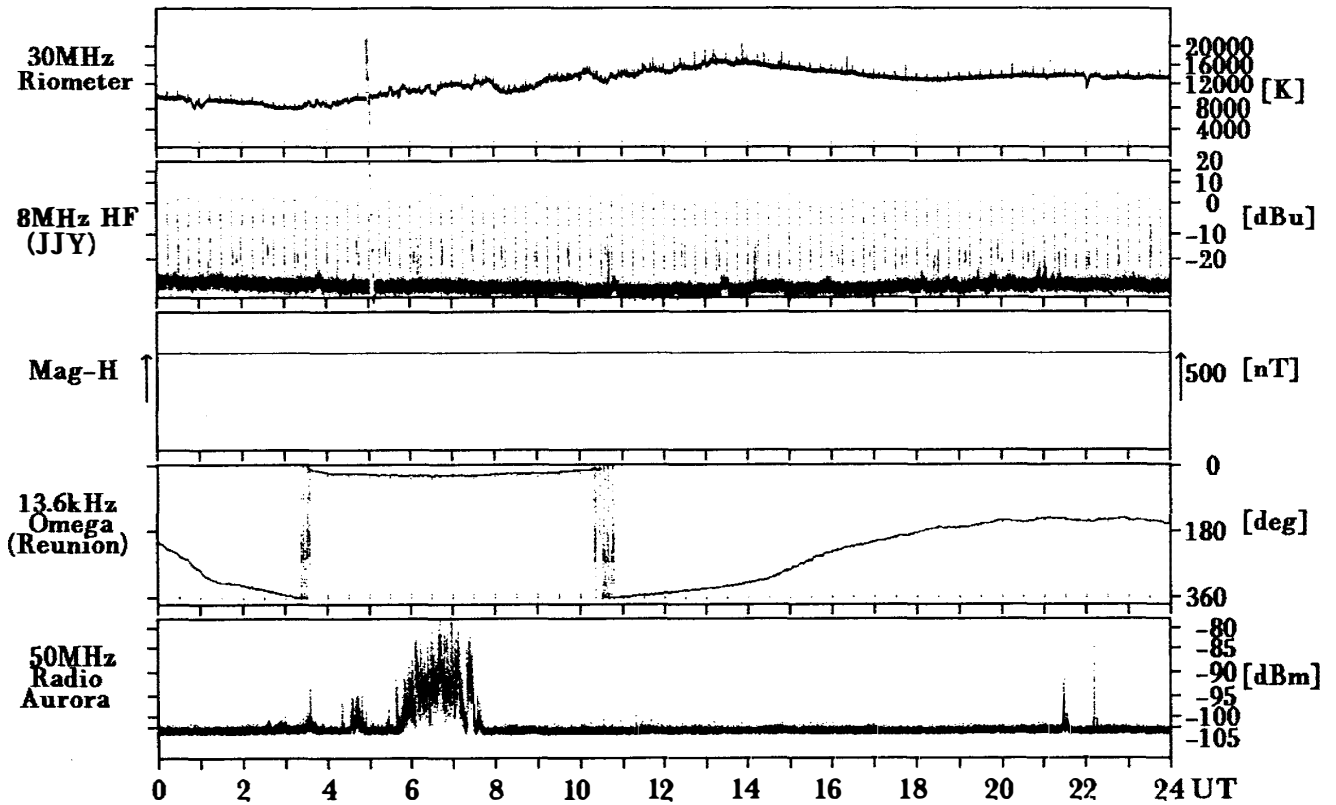
Syowa Station

Total Day / 306 1992/11/ 2



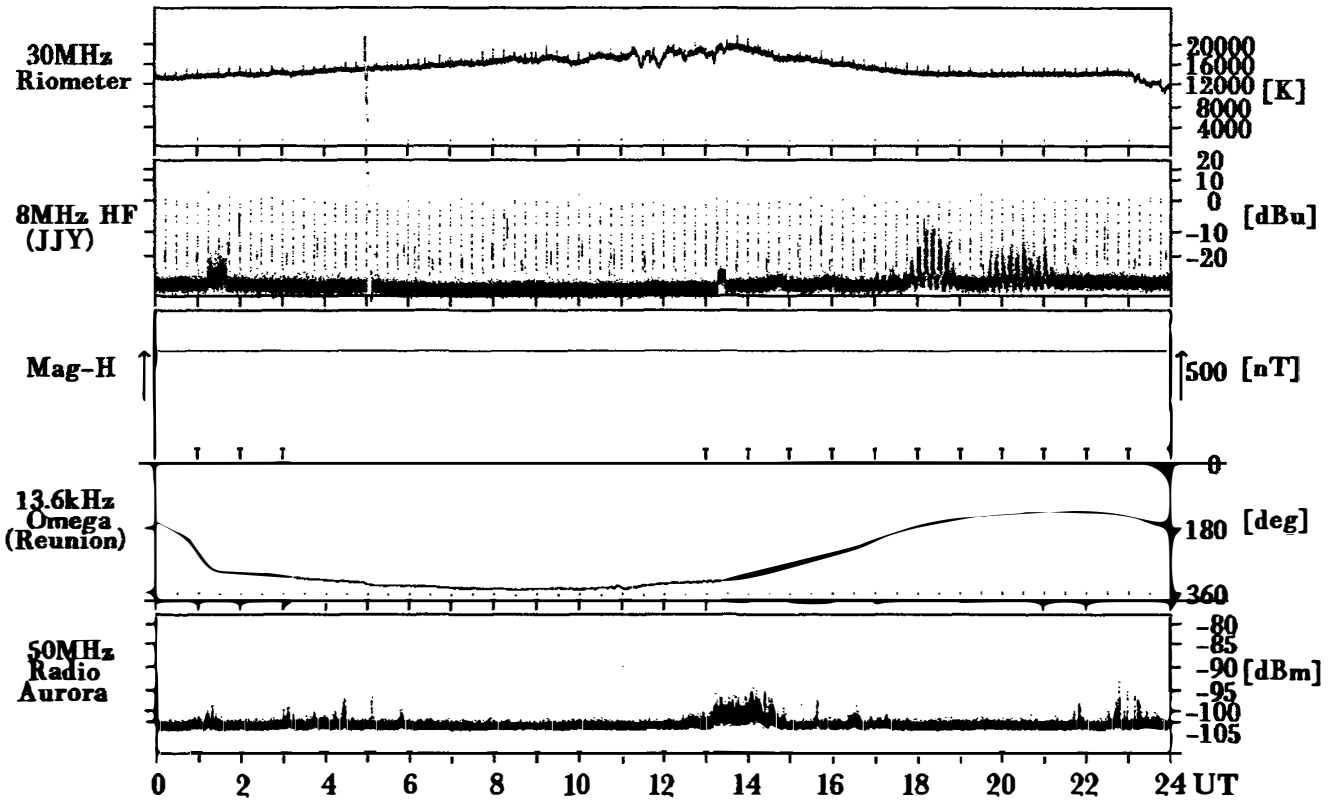
Syowa Station

Total Day / 307 1992/11/ 3



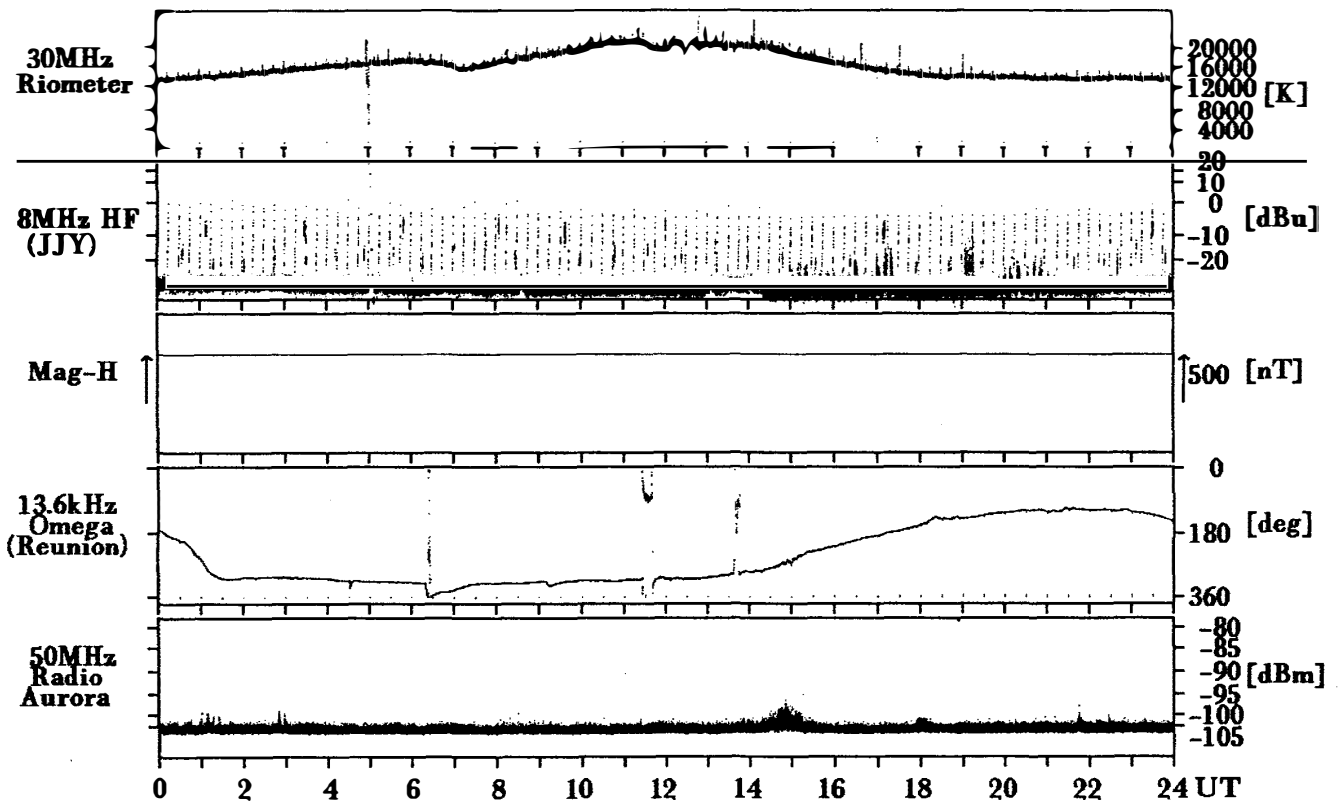
Syowa Station

Total Day / 308 1992/11/ 4



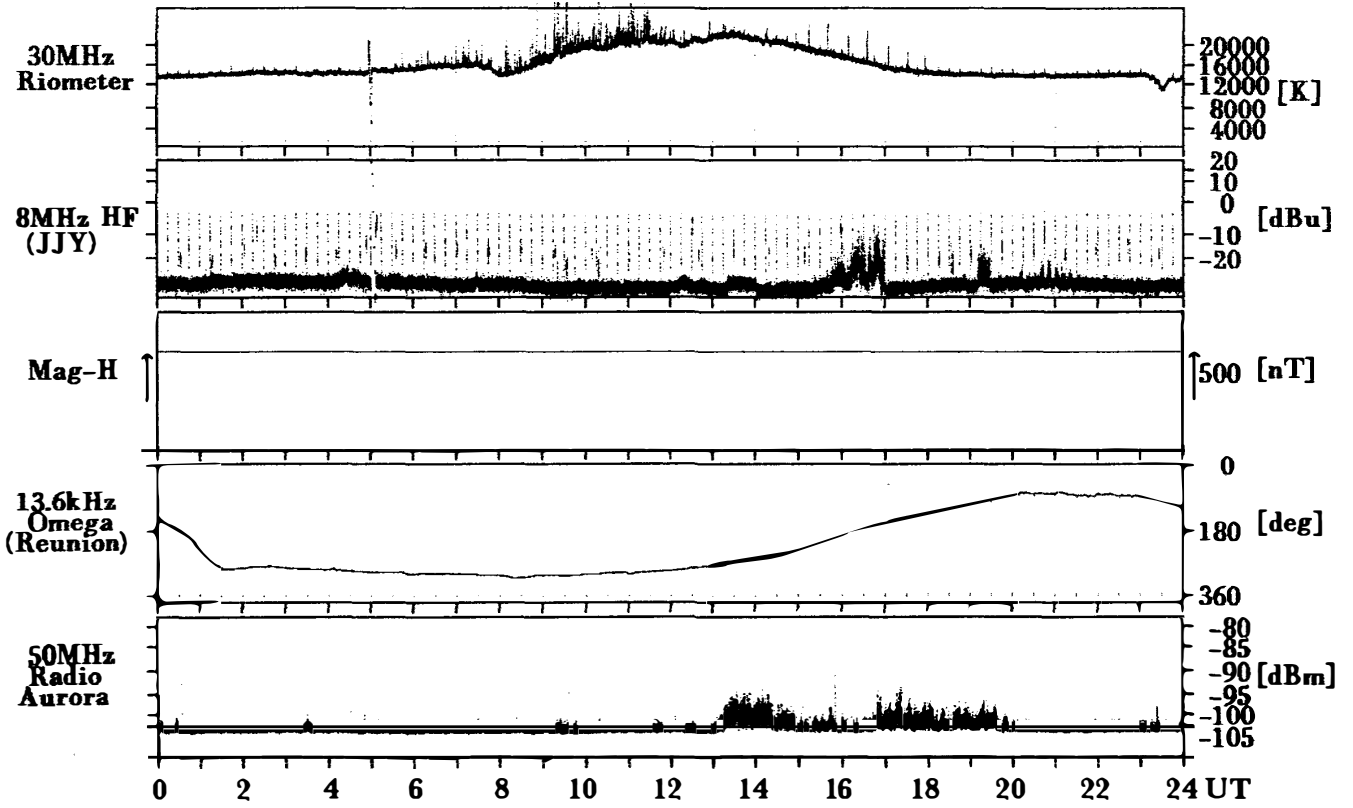
Syowa Station

Total Day / 309 1992/11/ 5



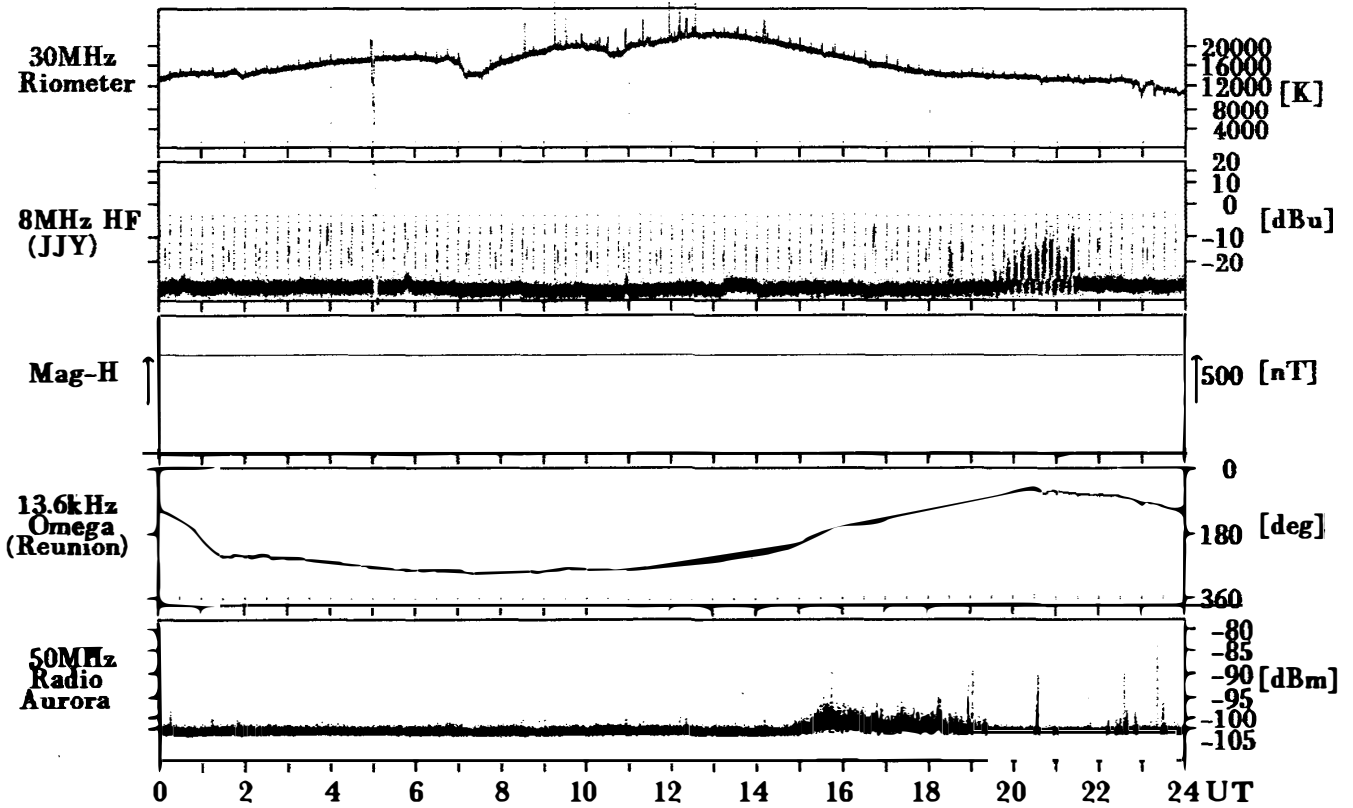
Syowa Station

Total Day / 310 1992/11/ 6



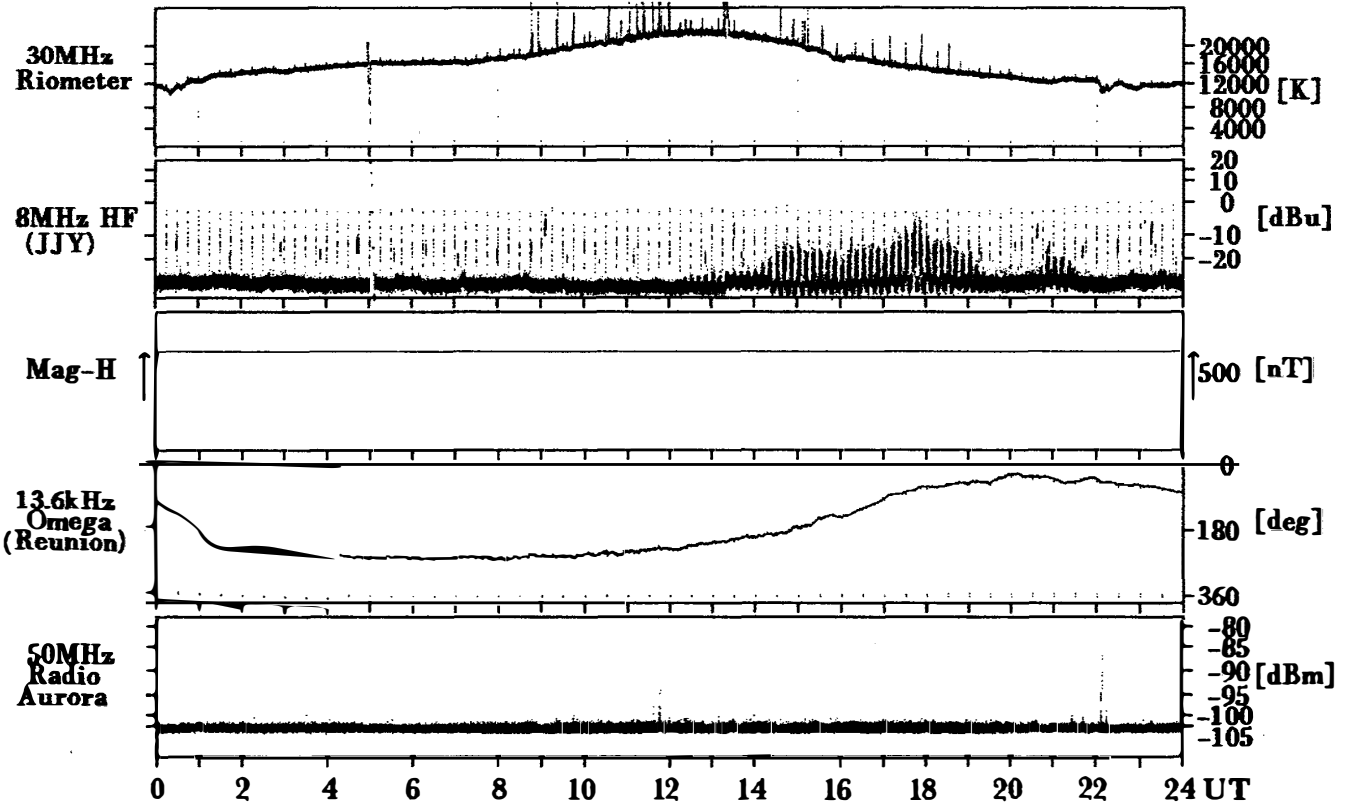
Syowa Station

Total Day / 311 1992/11/ 7



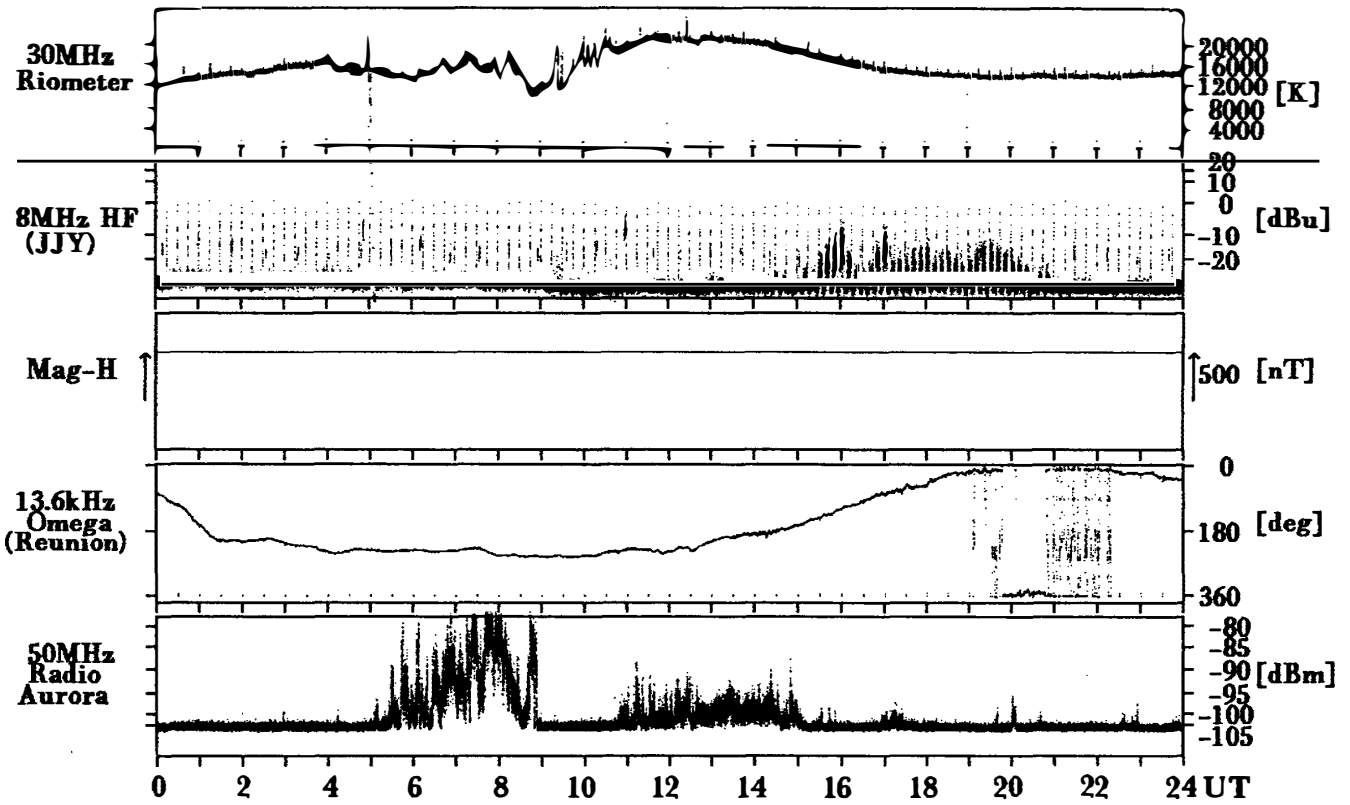
Syowa Station

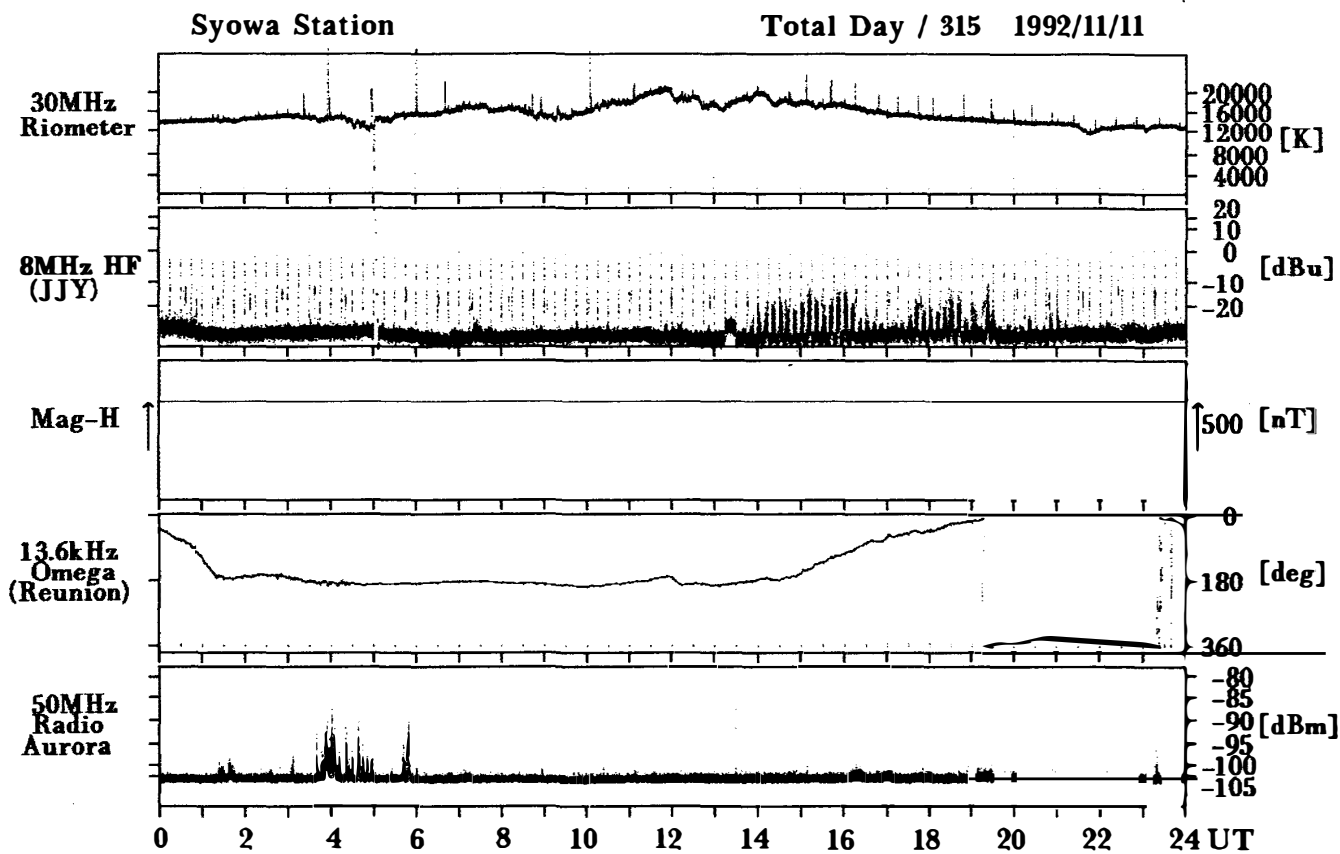
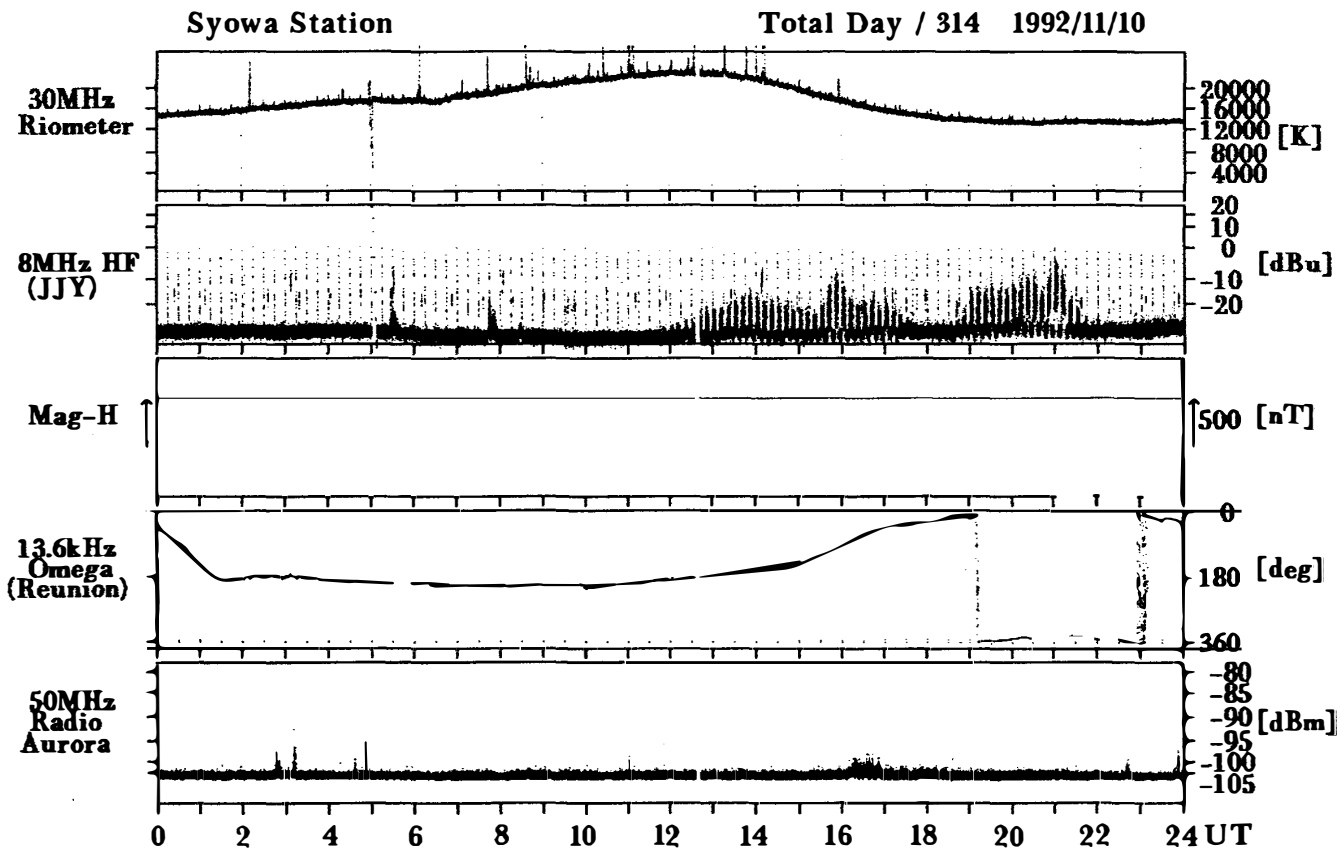
Total Day / 312 1992/11/ 8



Syowa Station

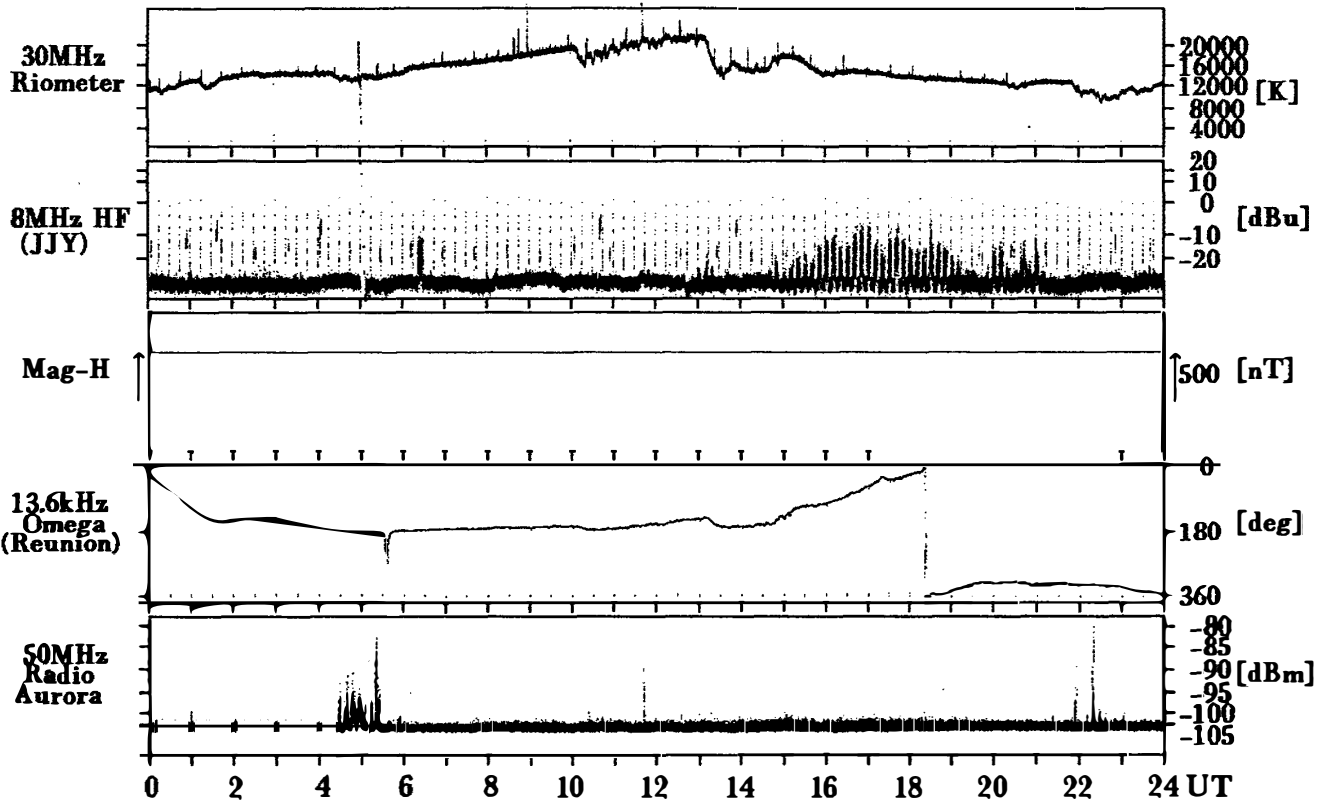
Total Day / 313 1992/11/ 9





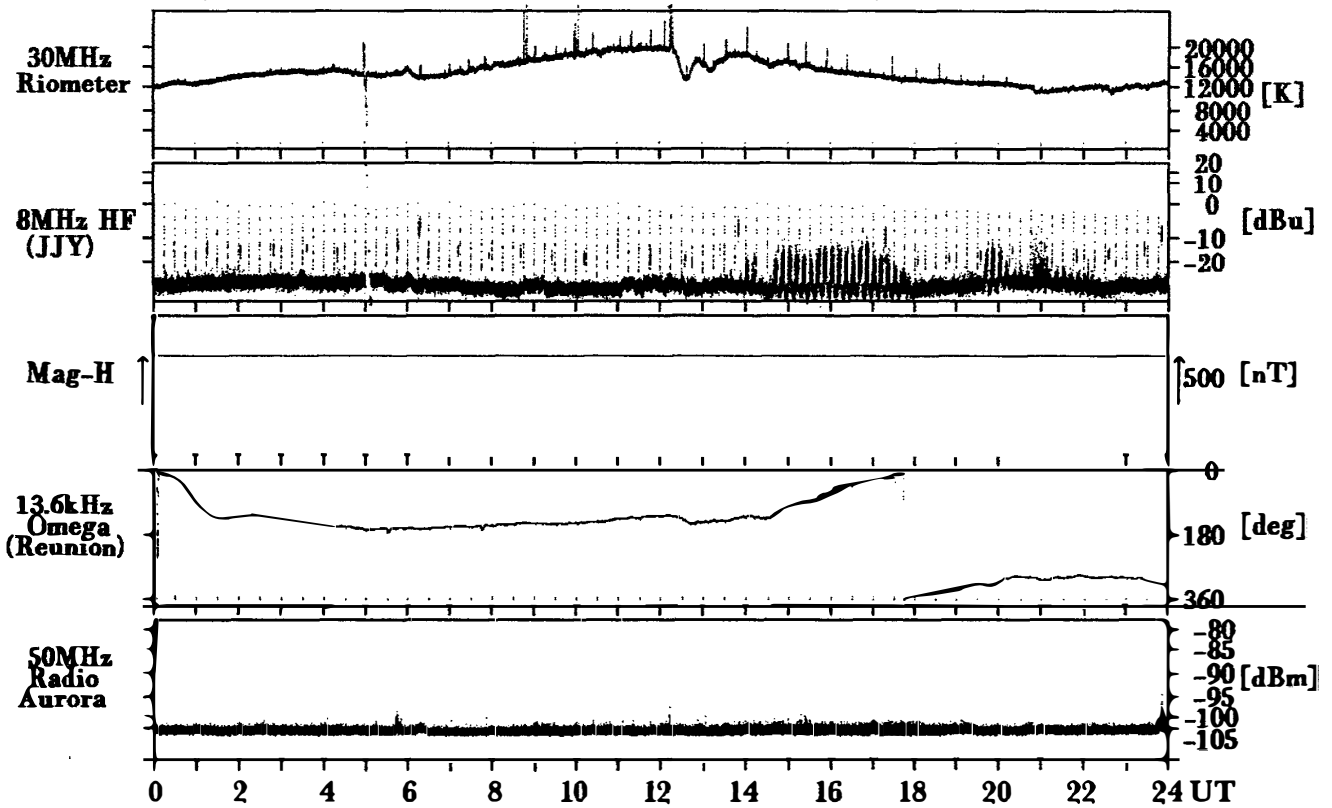
Syowa Station

Total Day / 316 1992/11/12



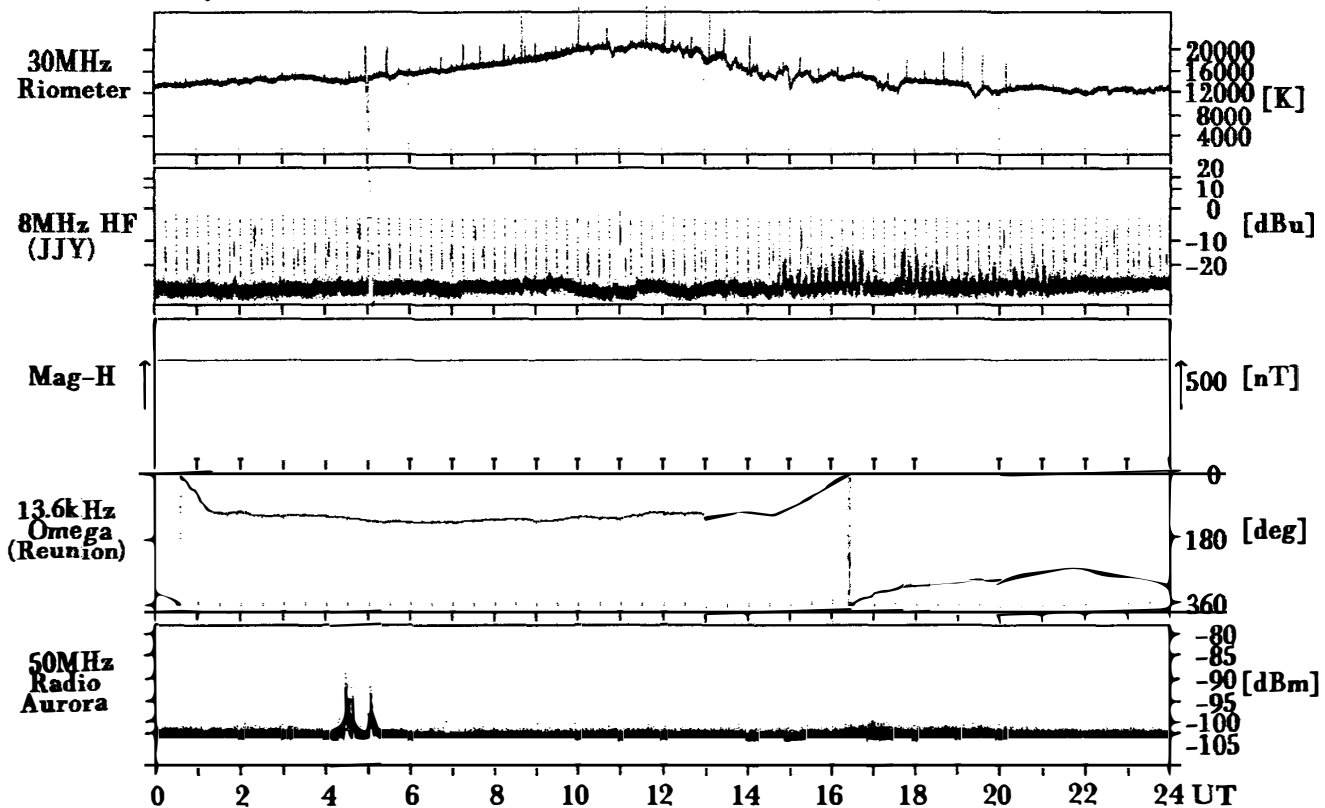
Syowa Station

Total Day / 317 1992/11/13



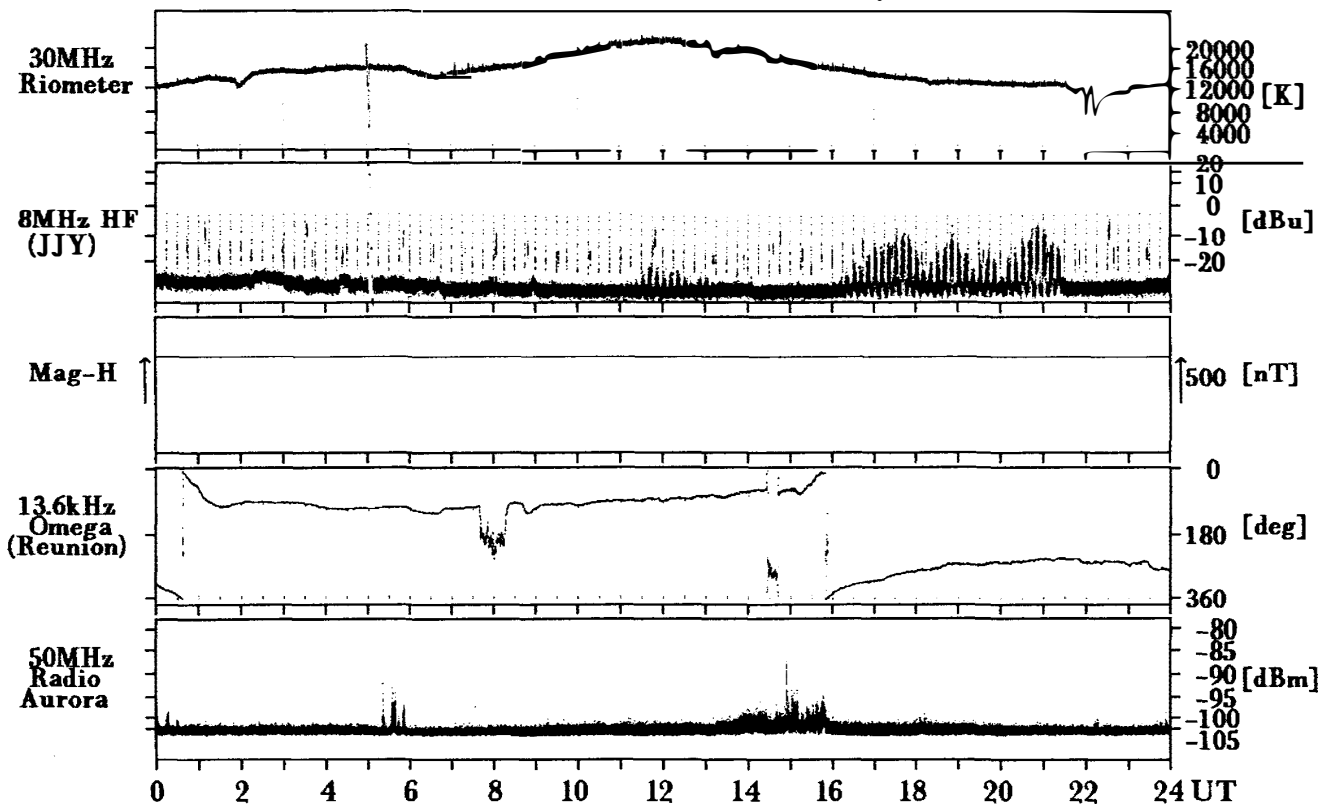
Syowa Station

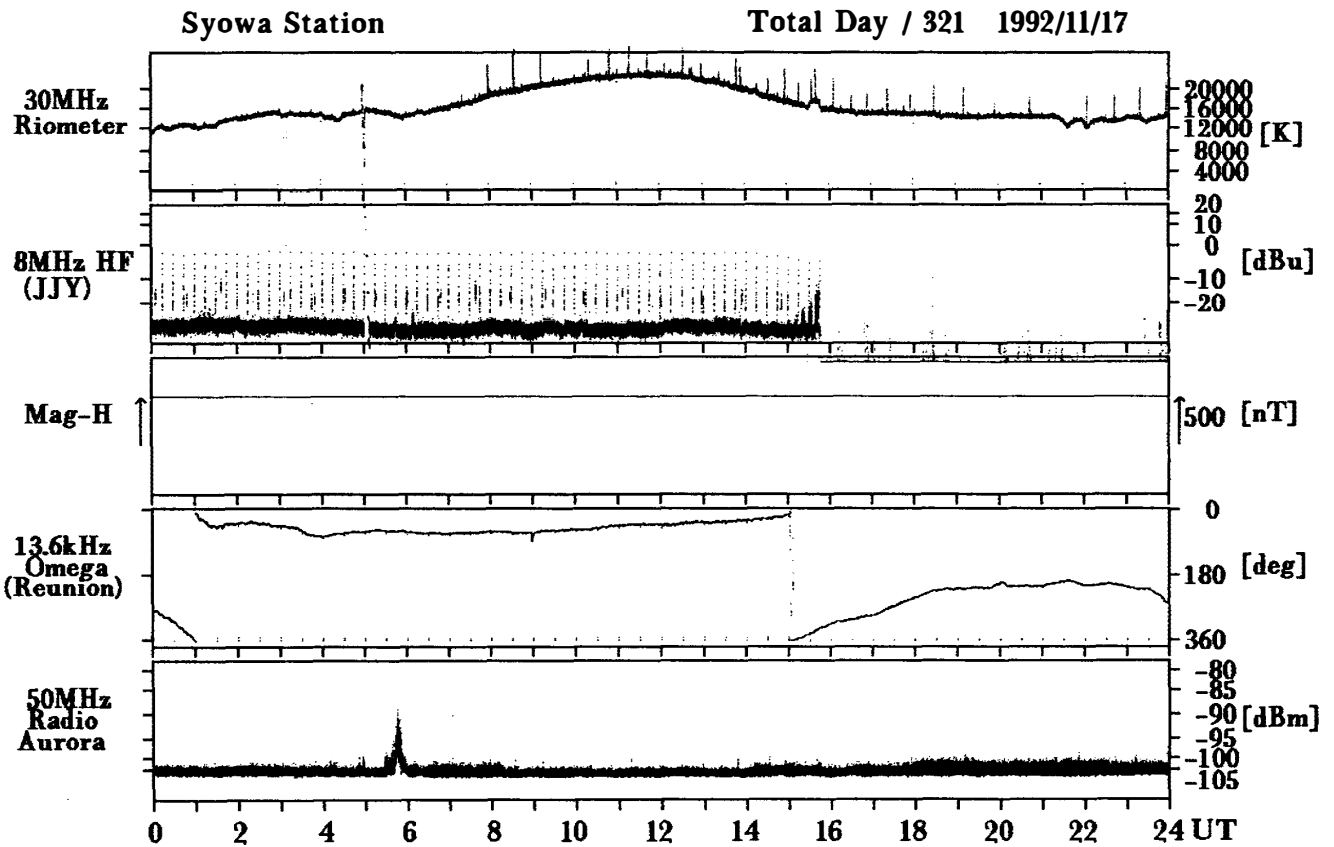
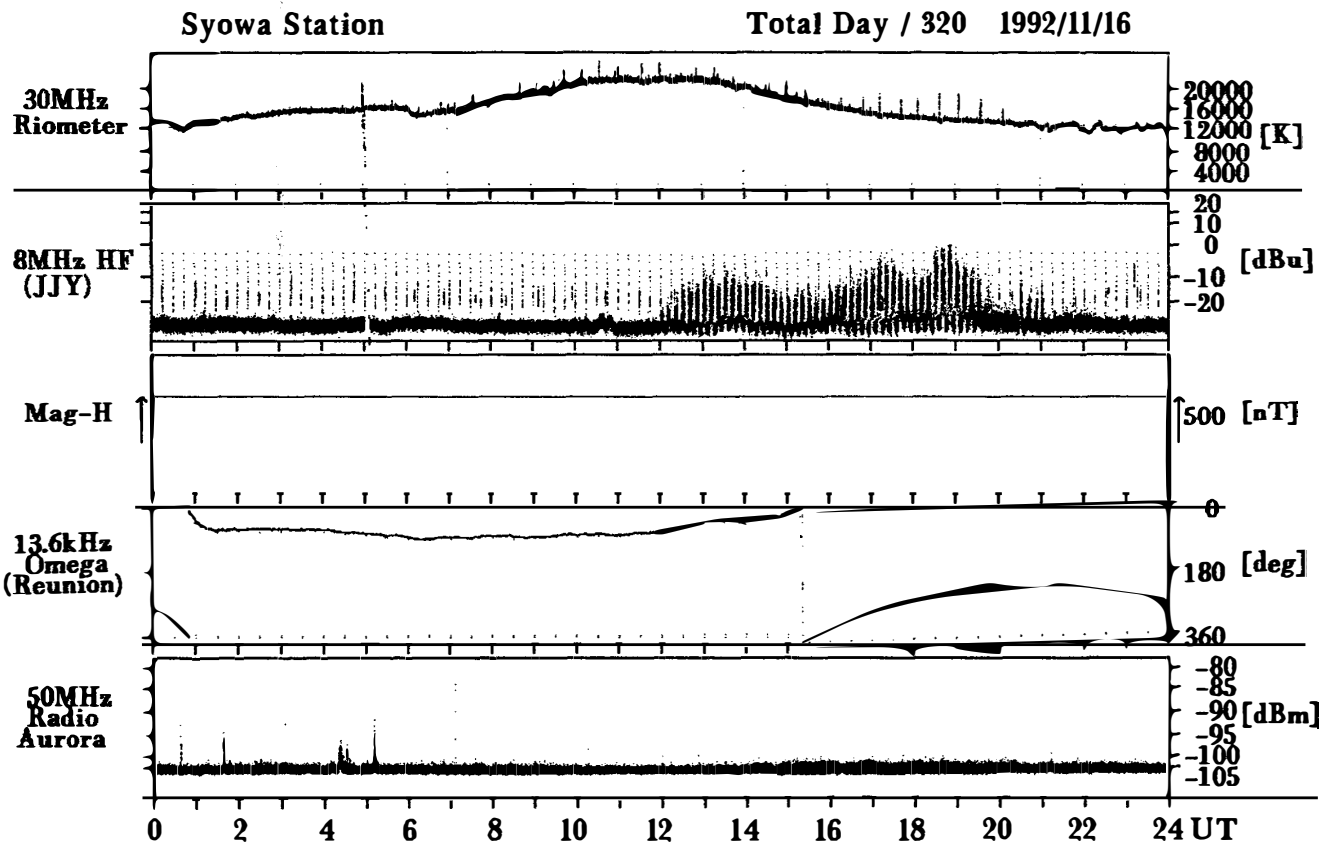
Total Day / 318 1992/11/14



Syowa Station

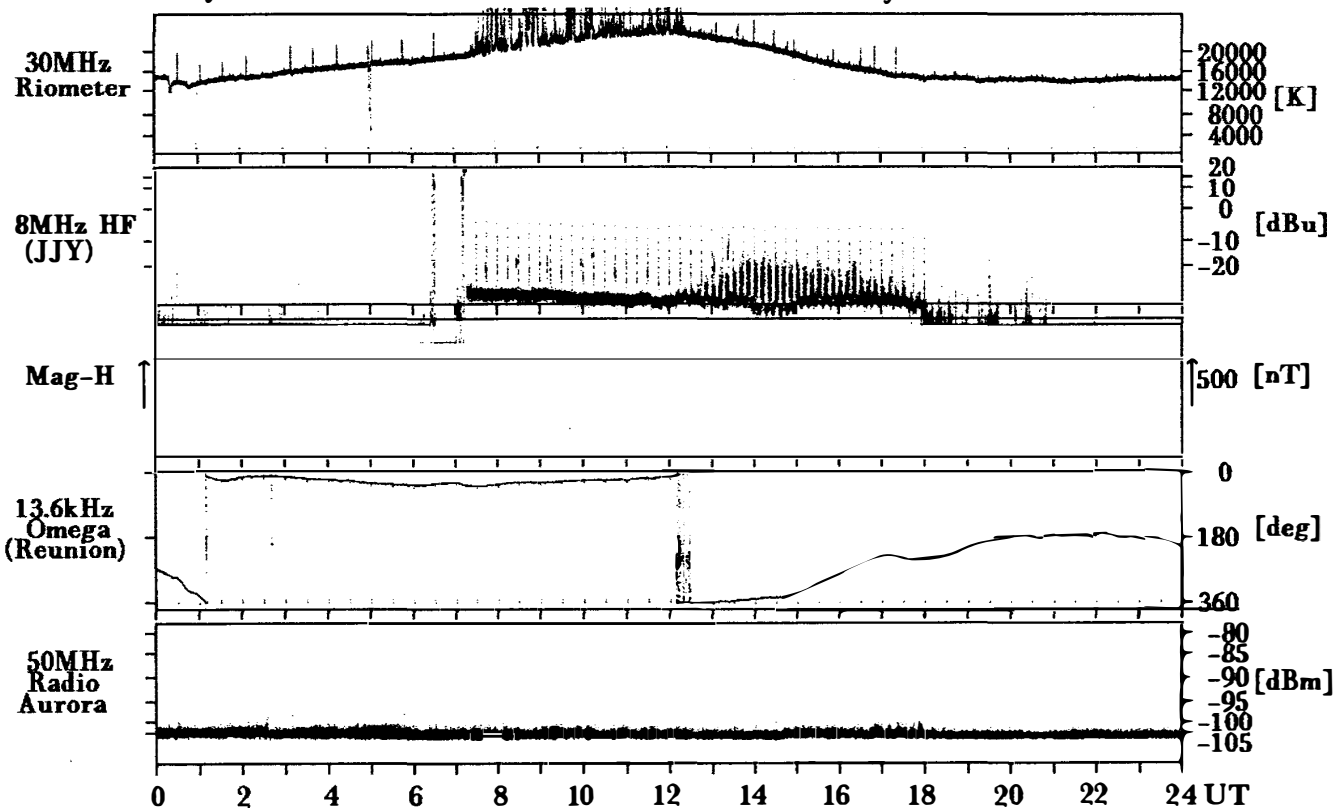
Total Day / 319 1992/11/15





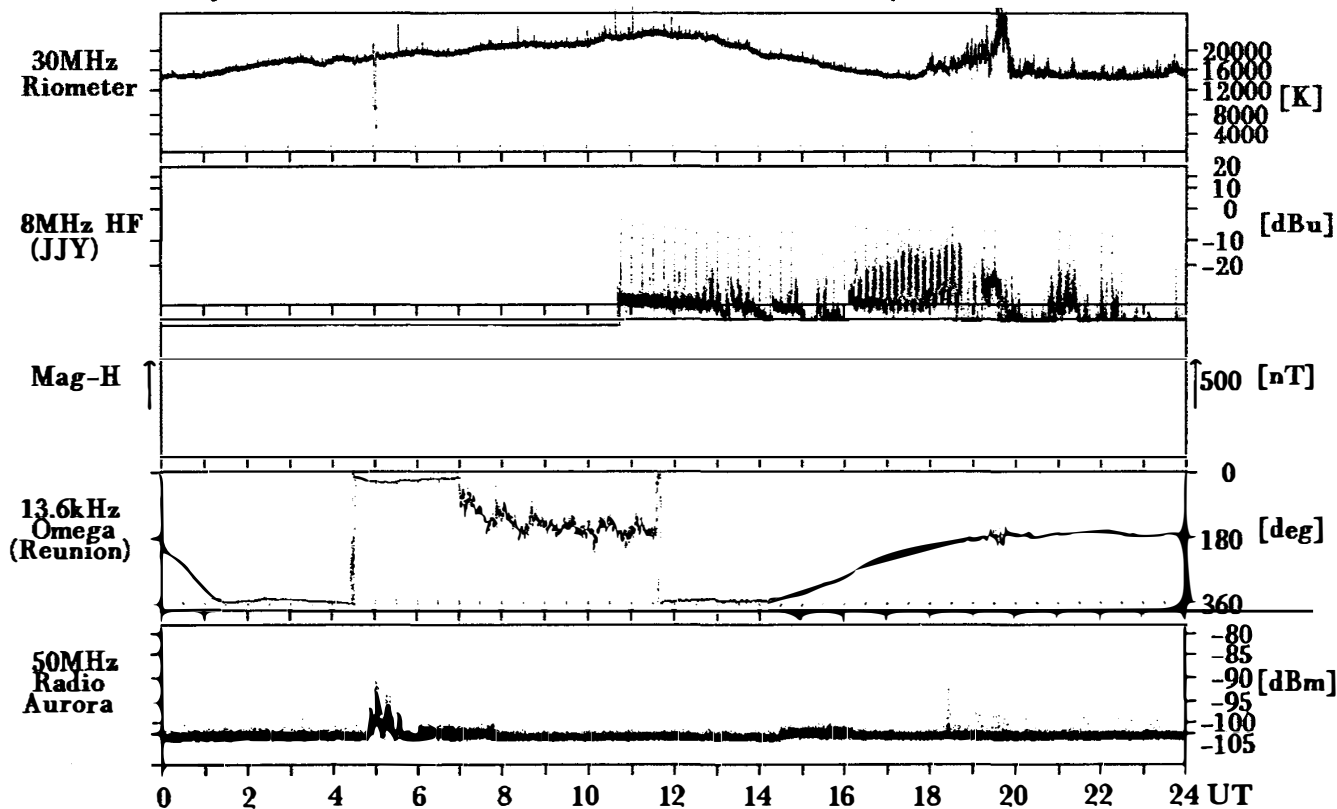
Syowa Station

Total Day / 322 1992/11/18



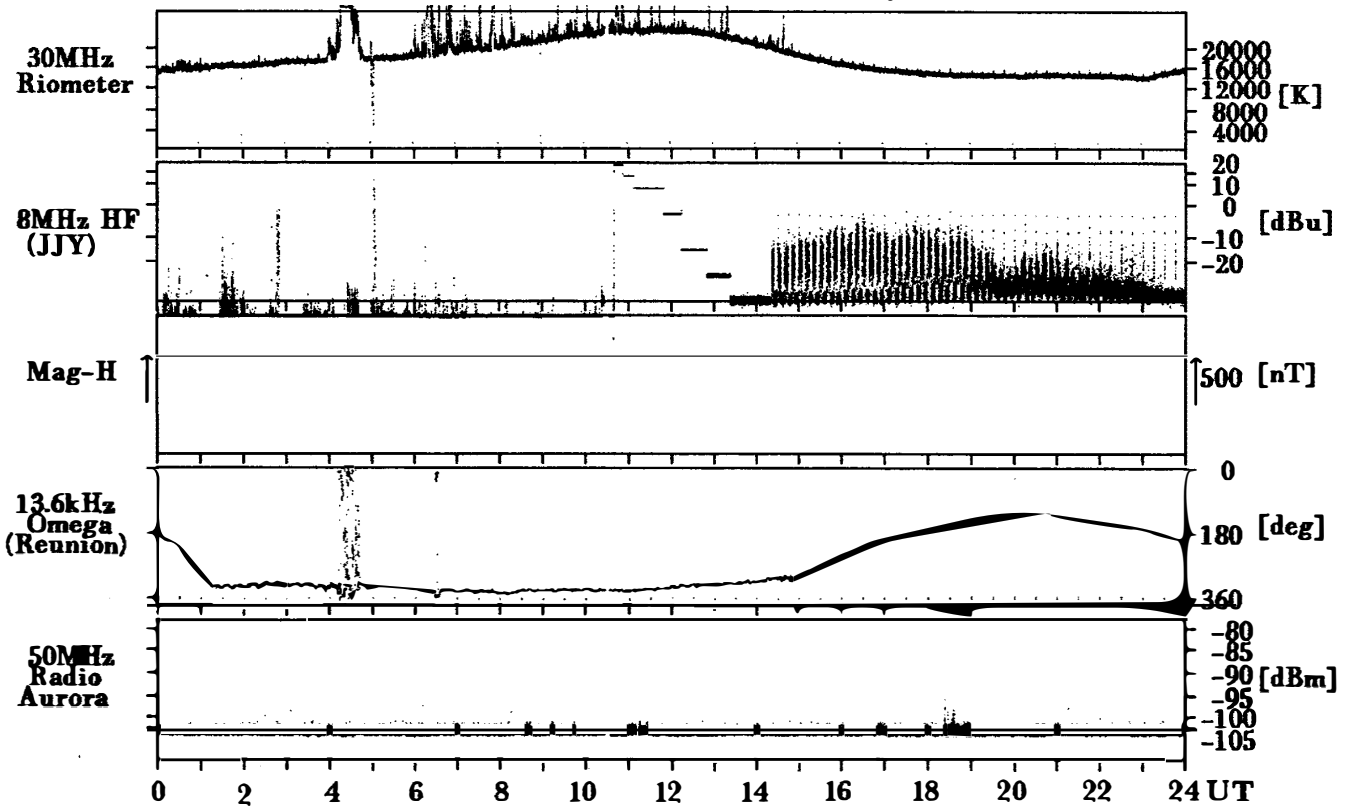
Syowa Station

Total Day / 323 1992/11/19



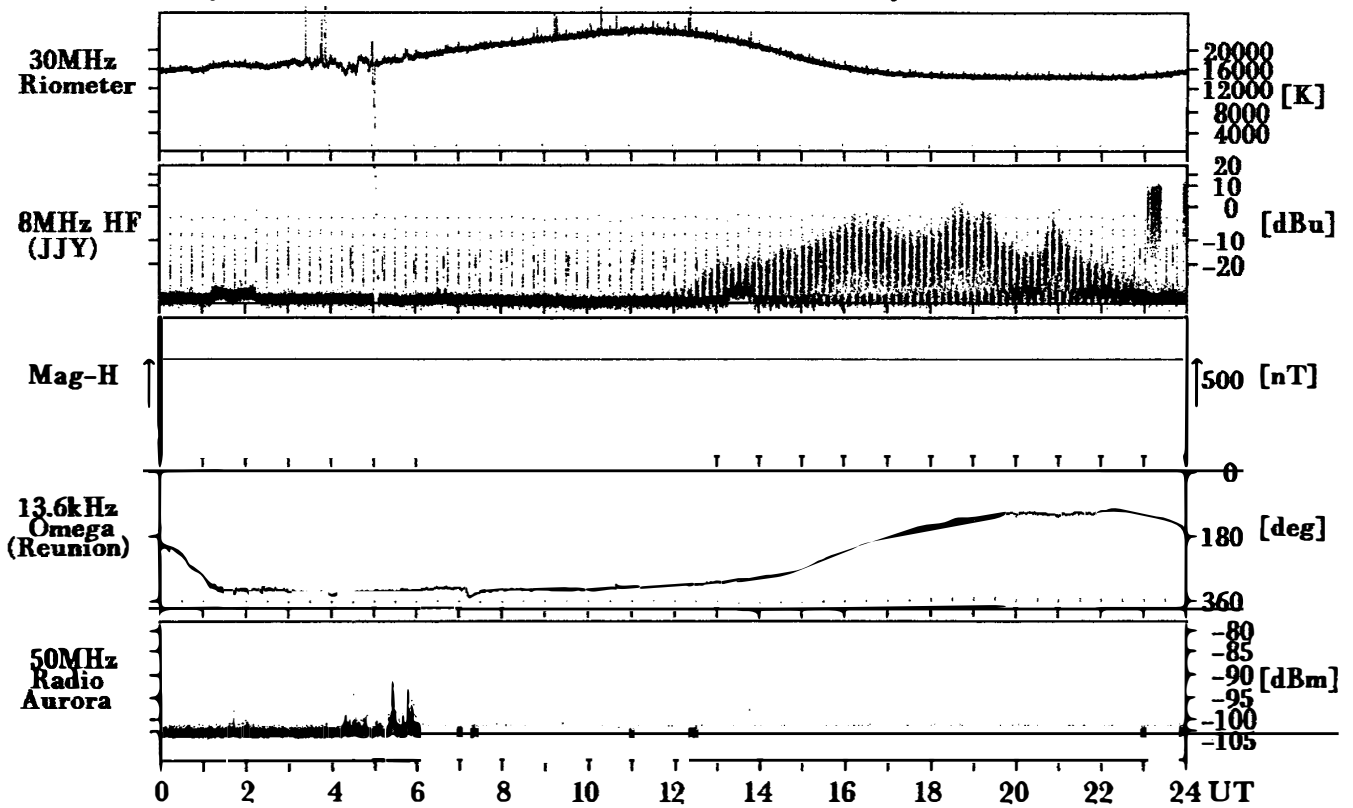
Syowa Station

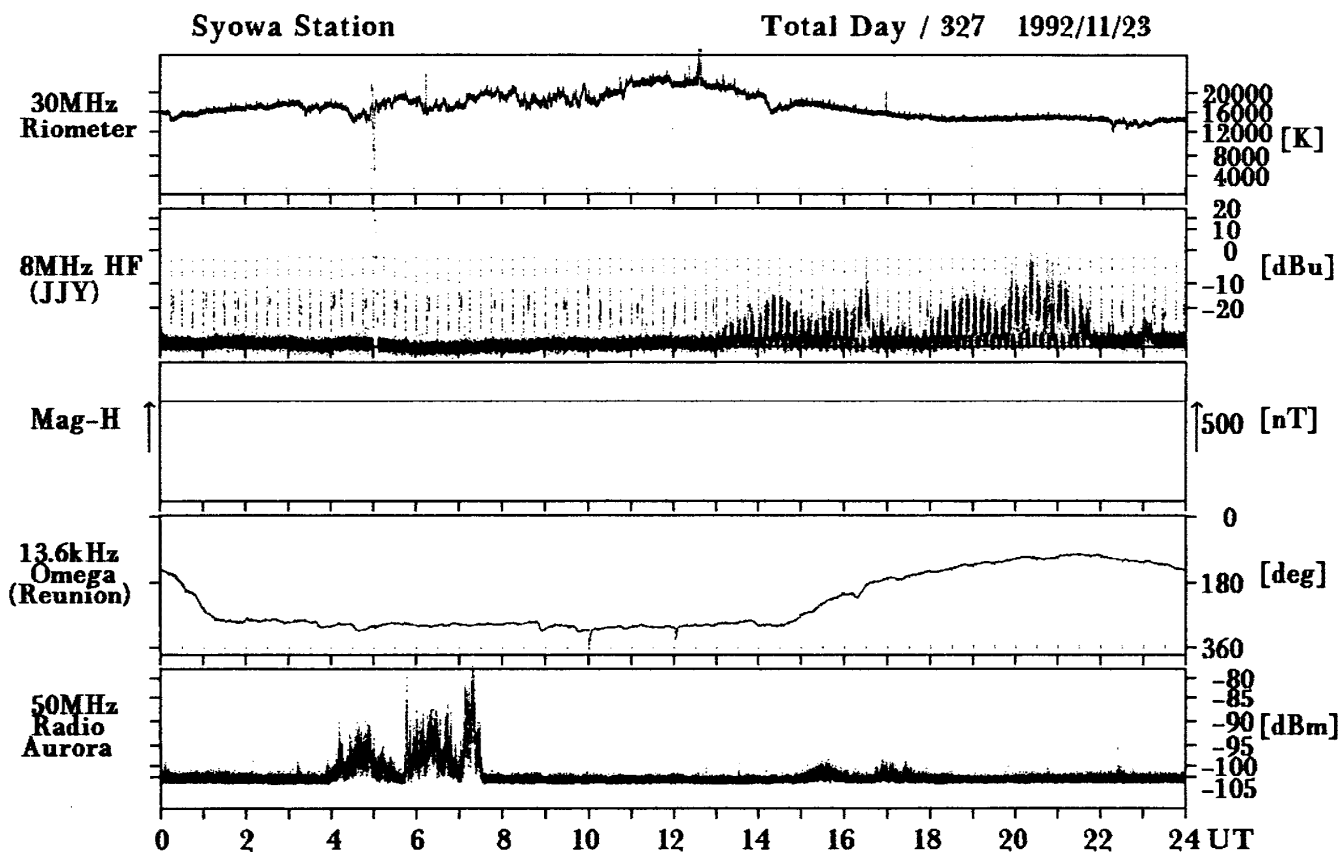
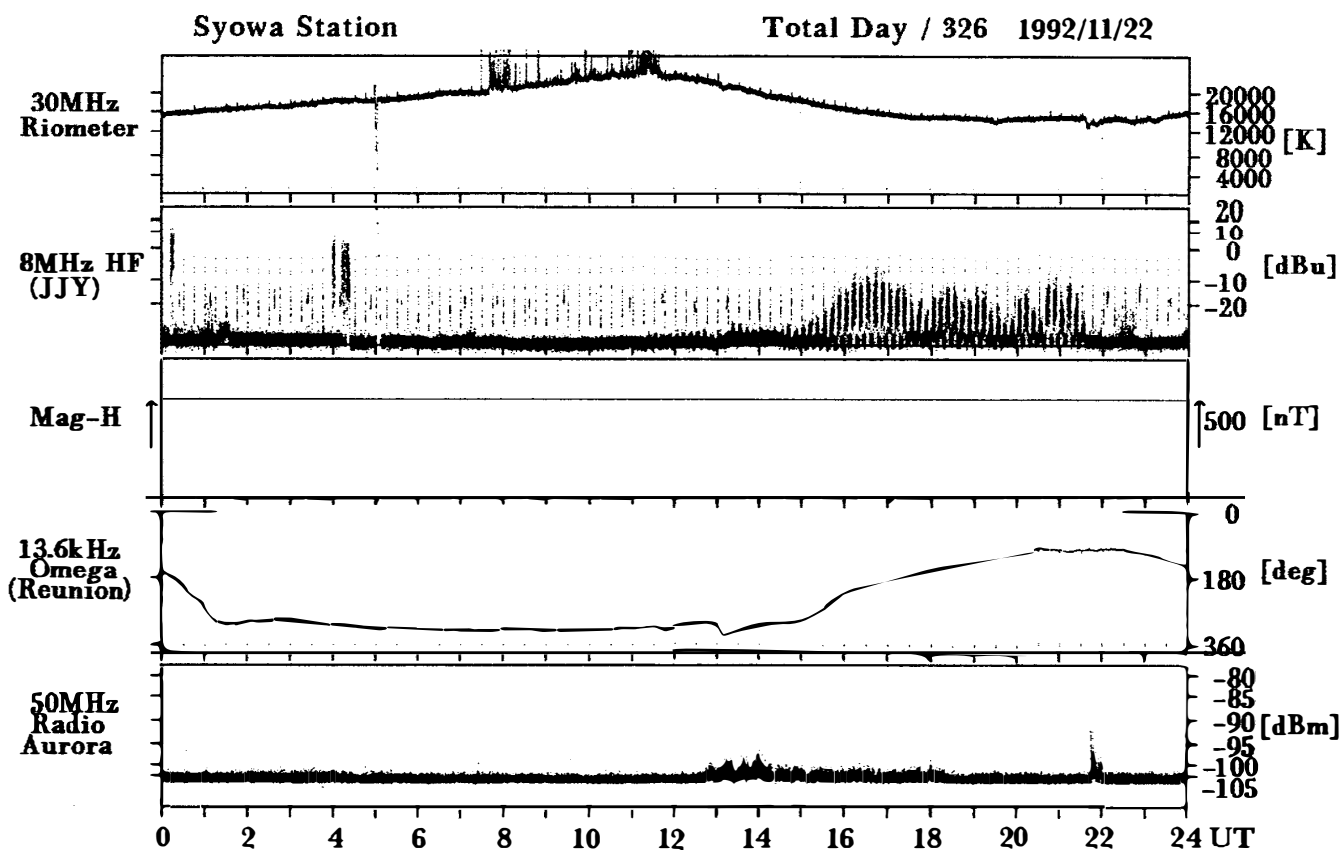
Total Day / 324 1992/11/20



Syowa Station

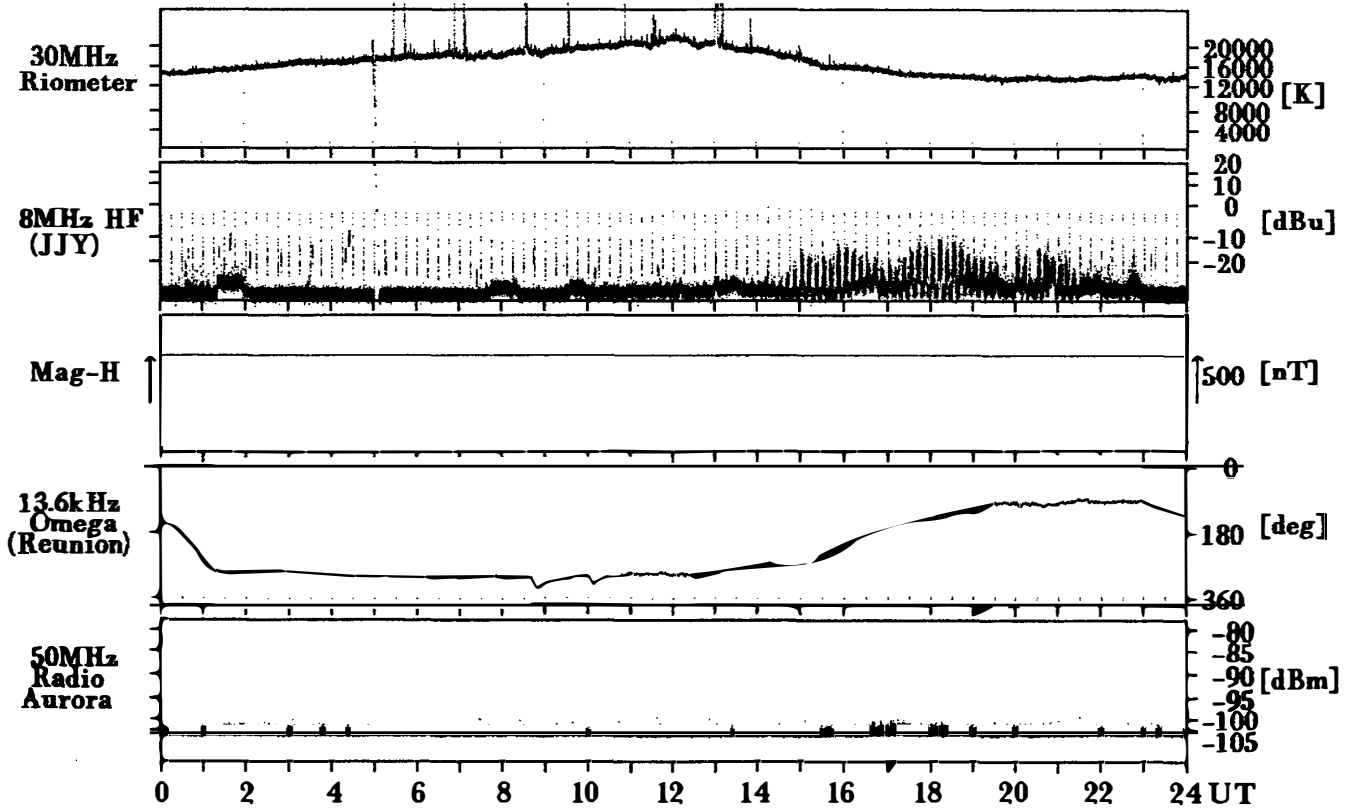
Total Day / 325 1992/11/21





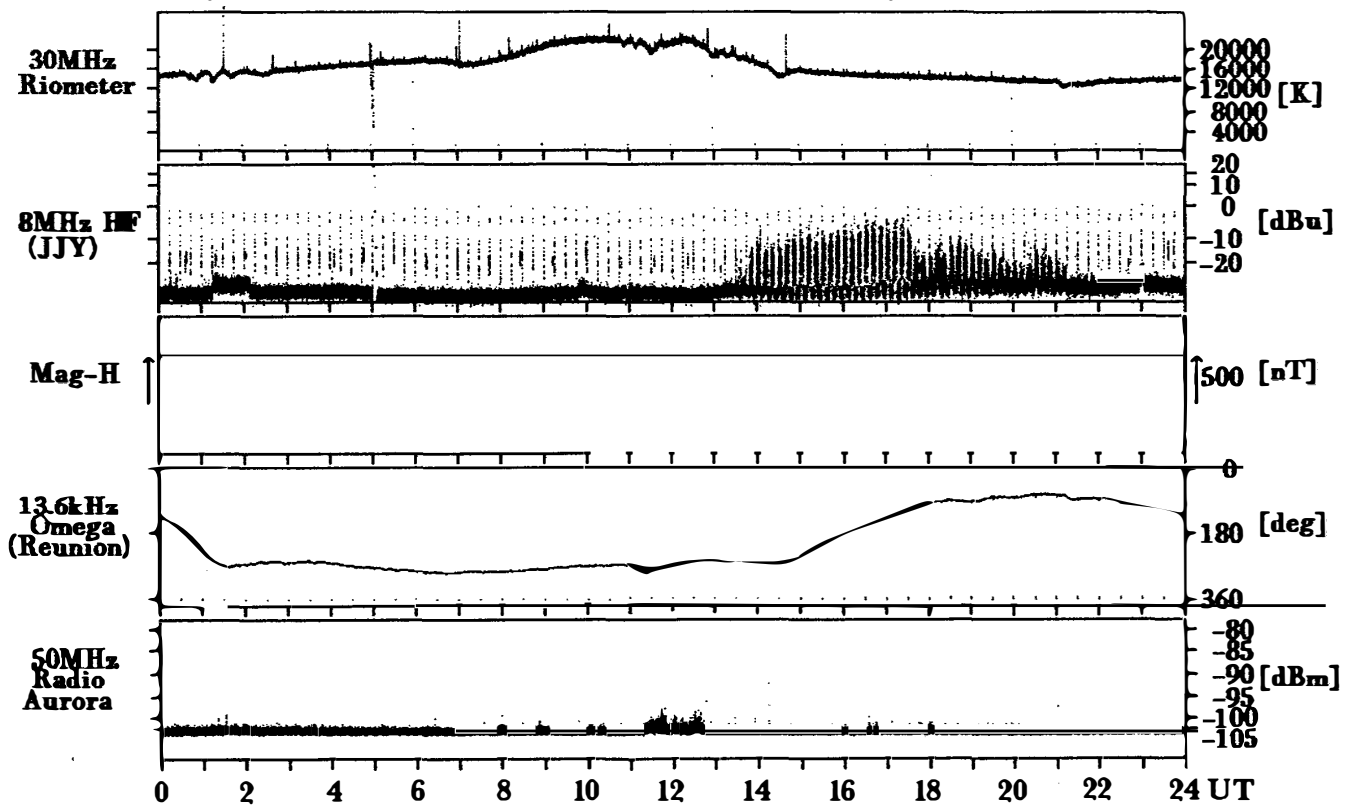
Syowa Station

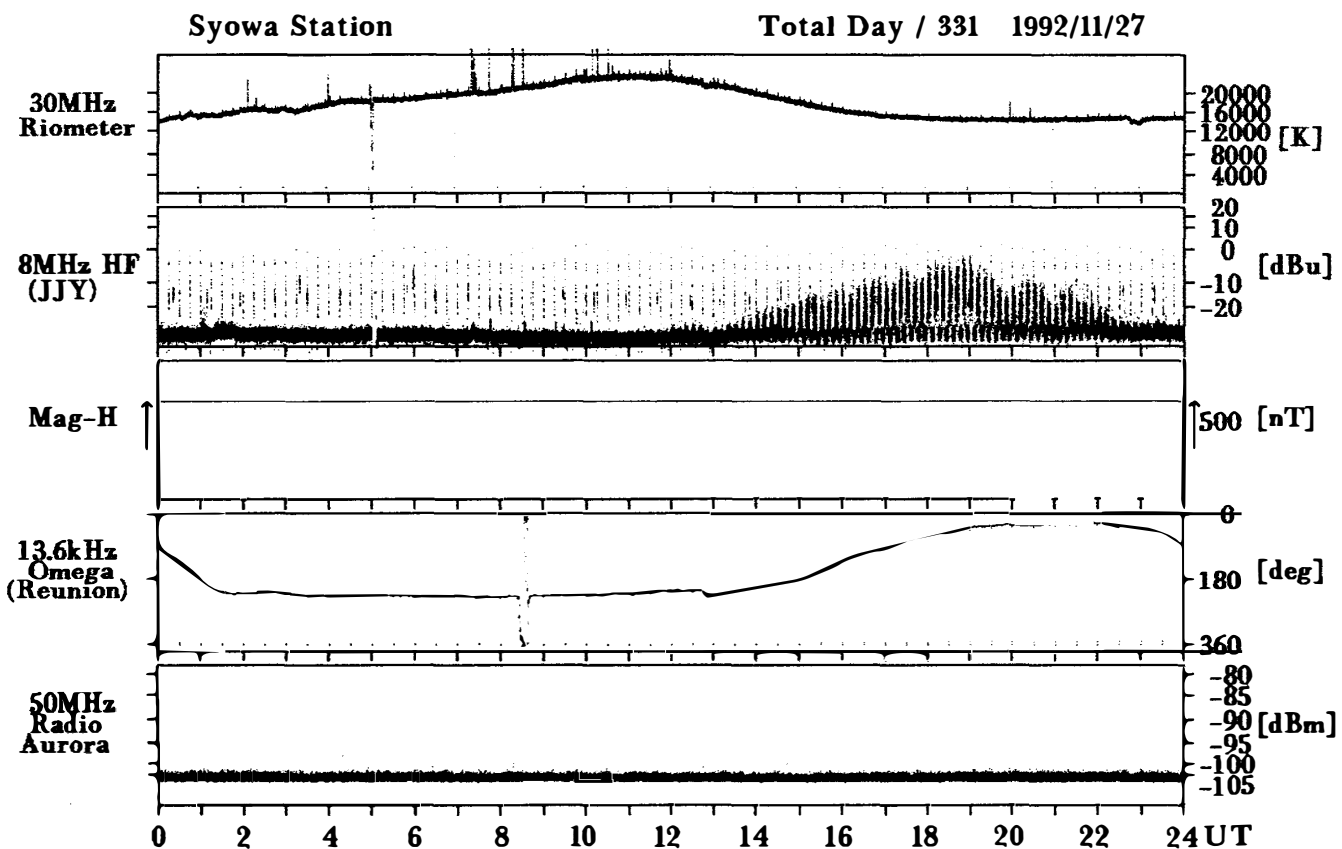
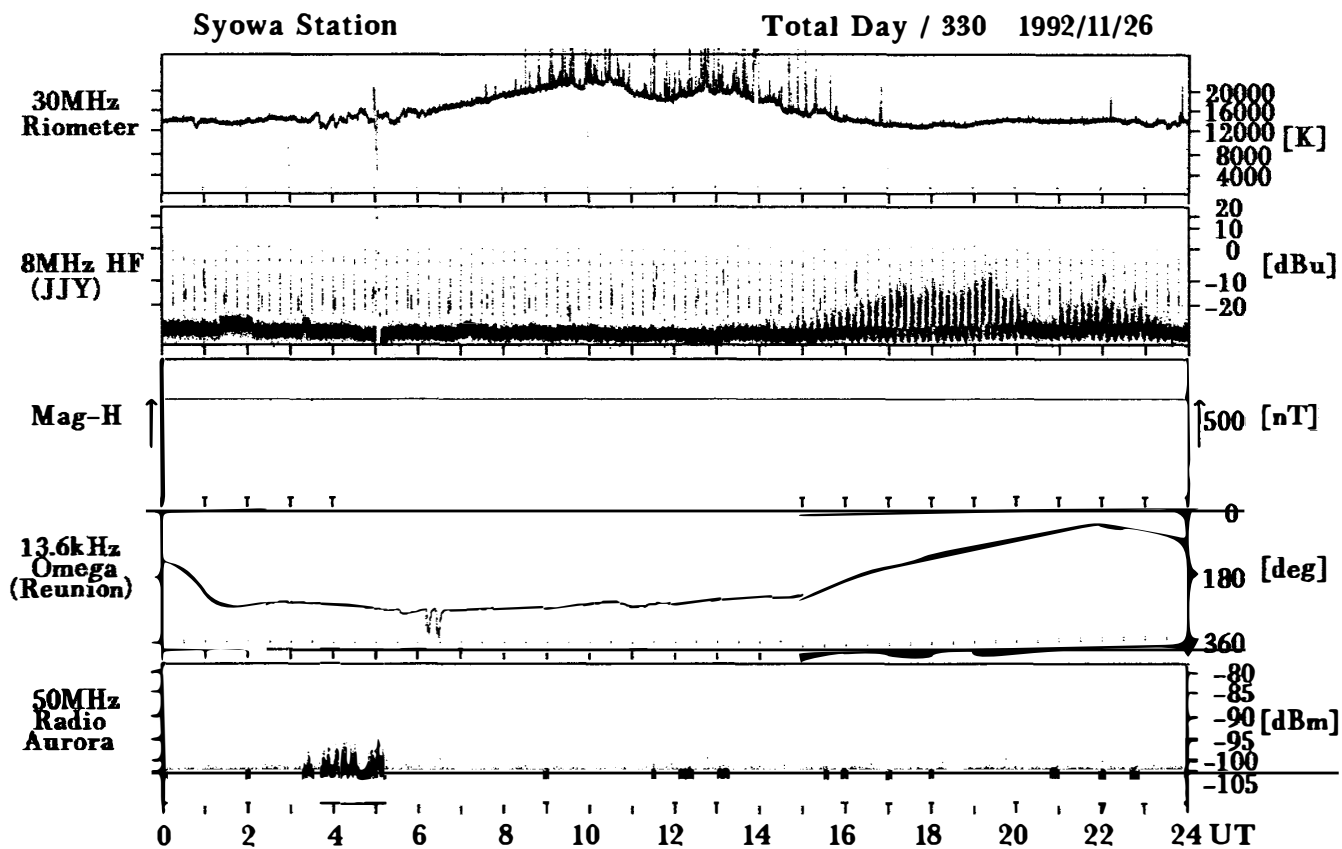
Total Day / 328 1992/11/24



Syowa Station

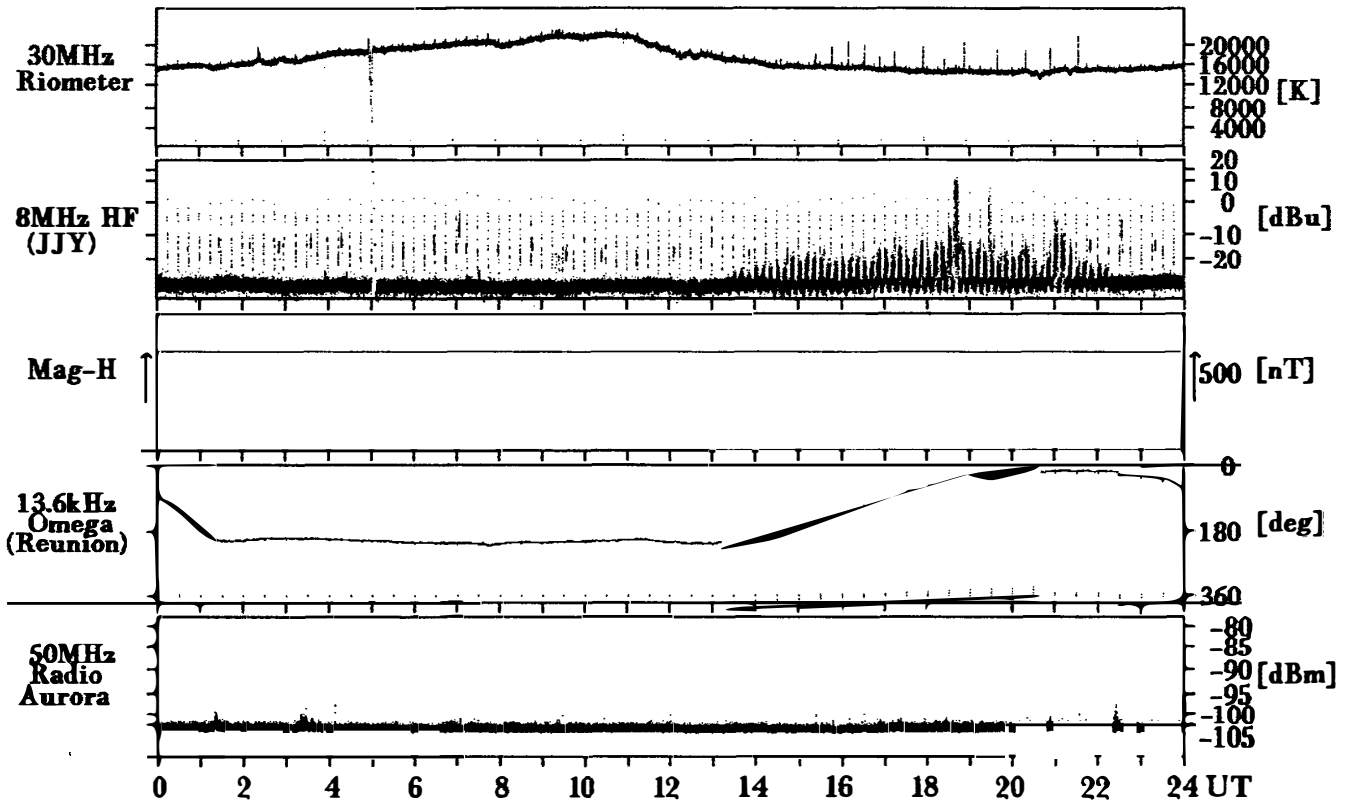
Total Day / 329 1992/11/25





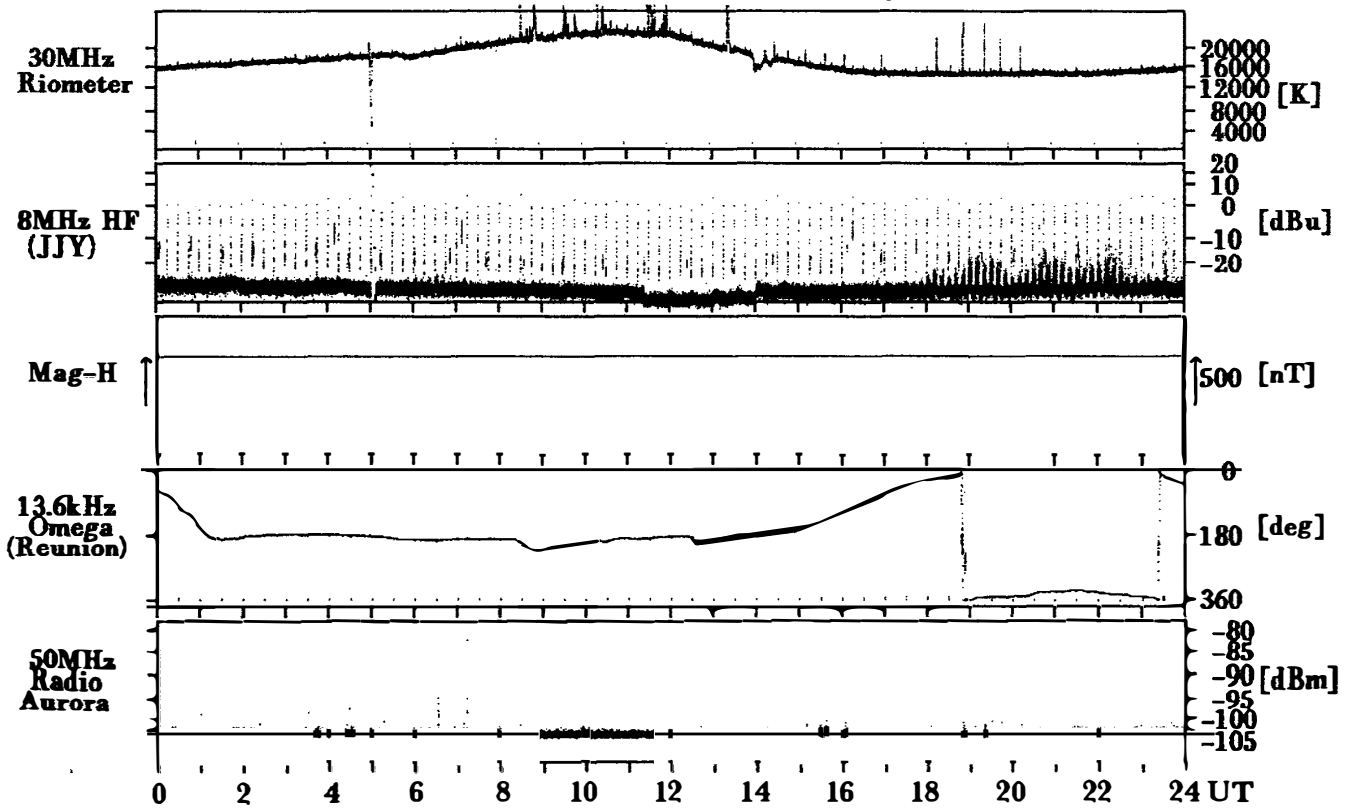
Syowa Station

Total Day / 332 1992/11/28



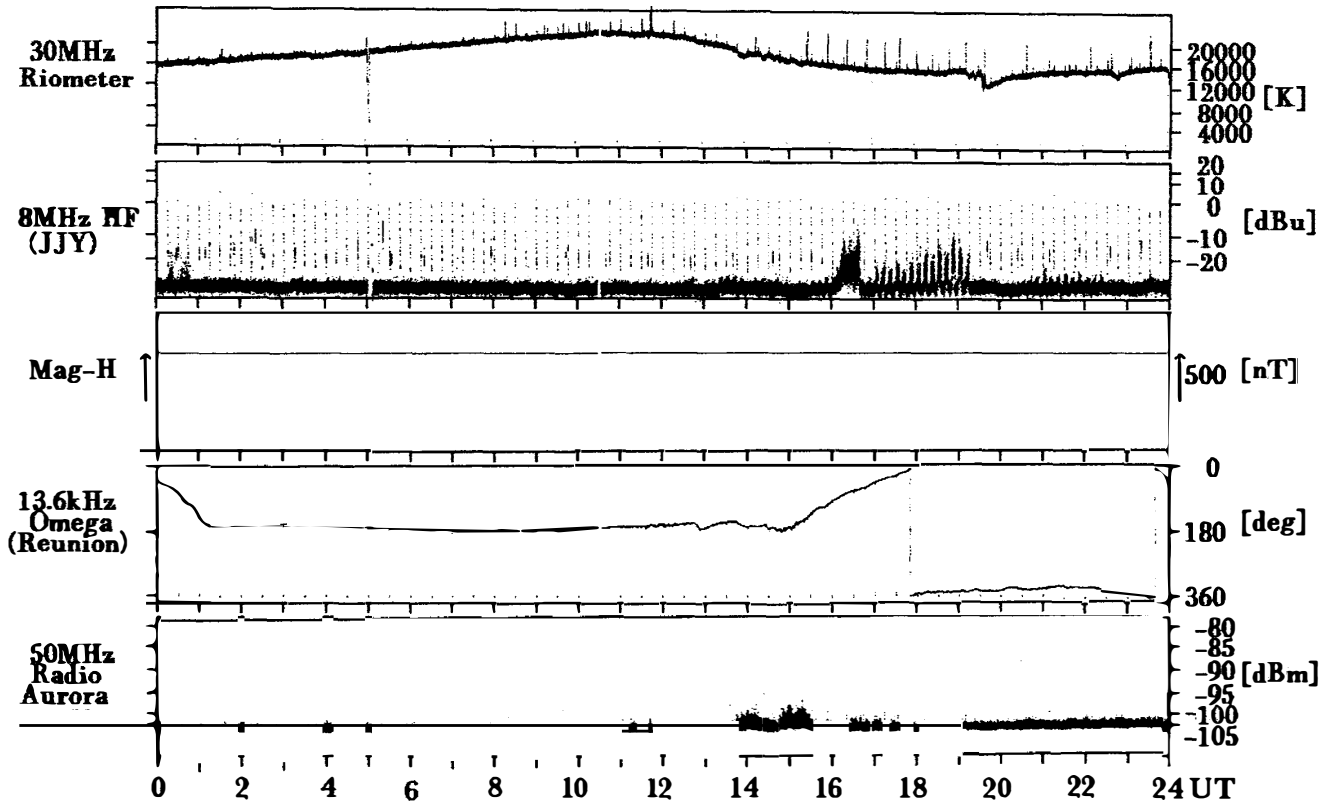
Syowa Station

Total Day / 333 1992/11/29



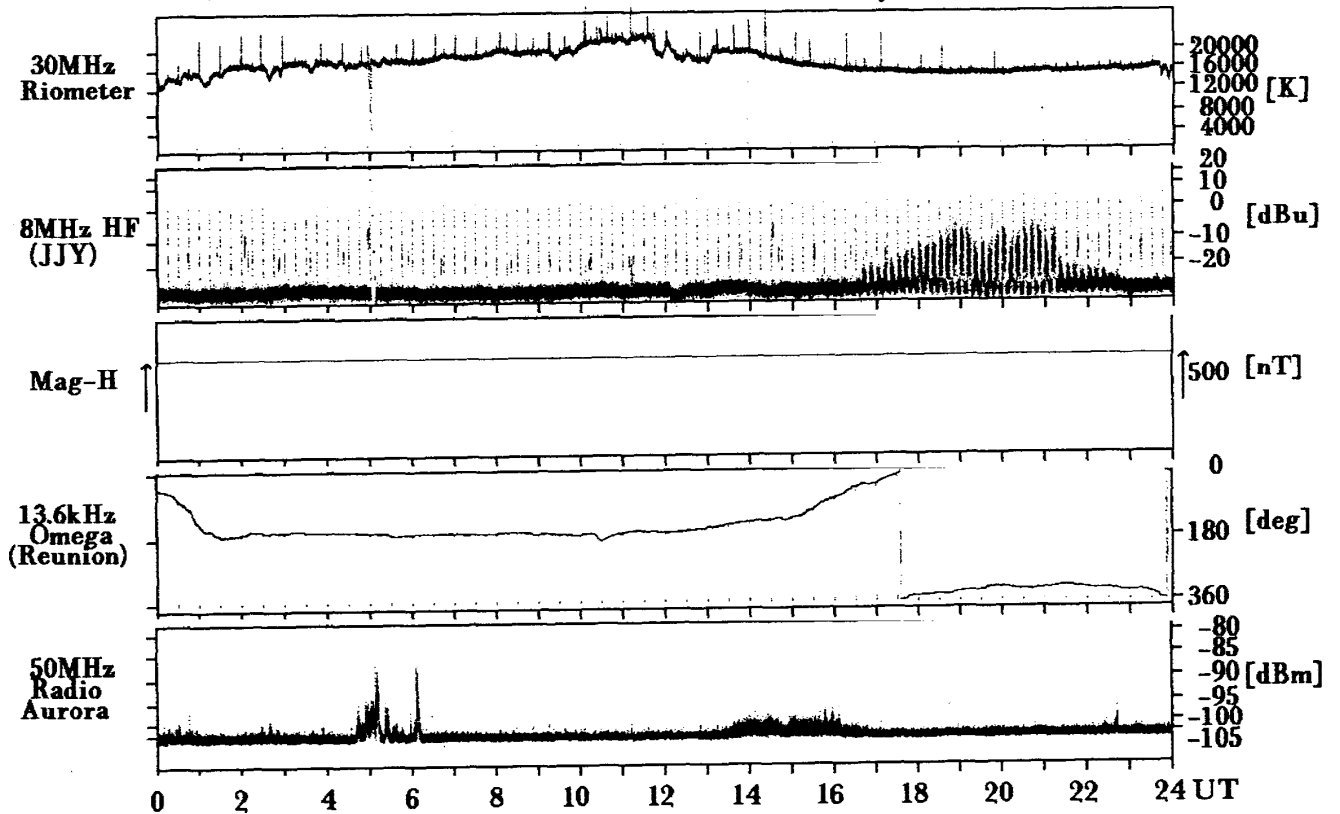
Syowa Station

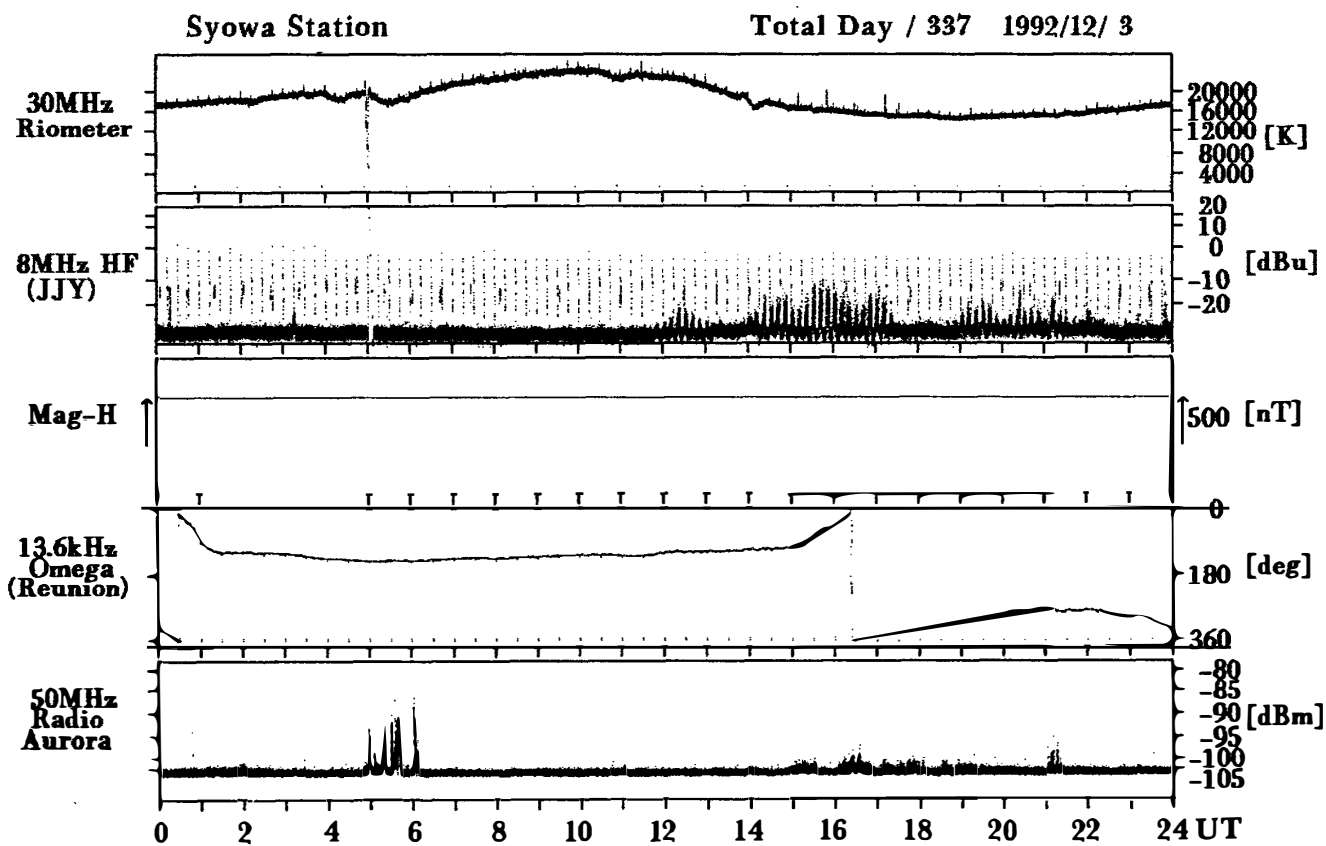
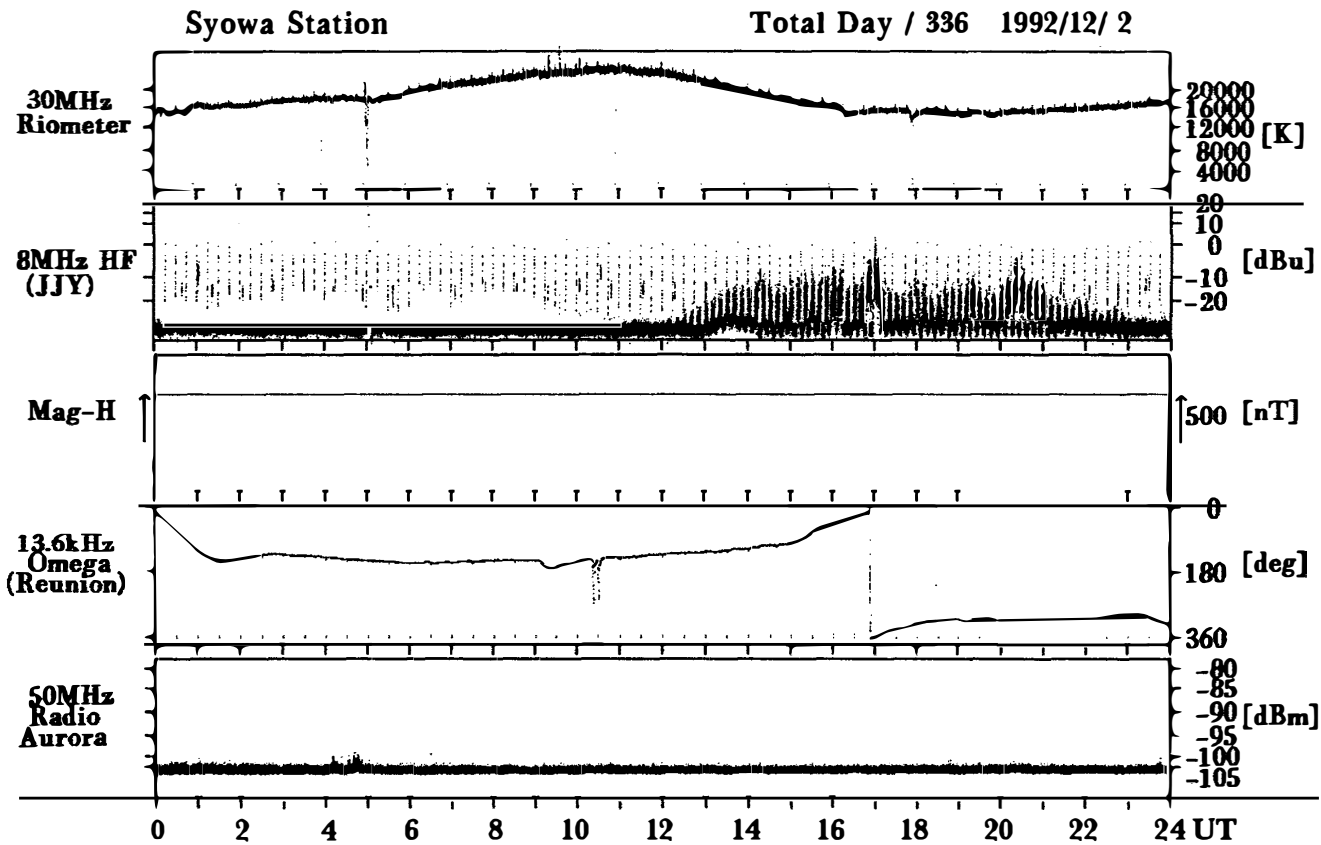
Total Day / 334 1992/11/30



Syowa Station

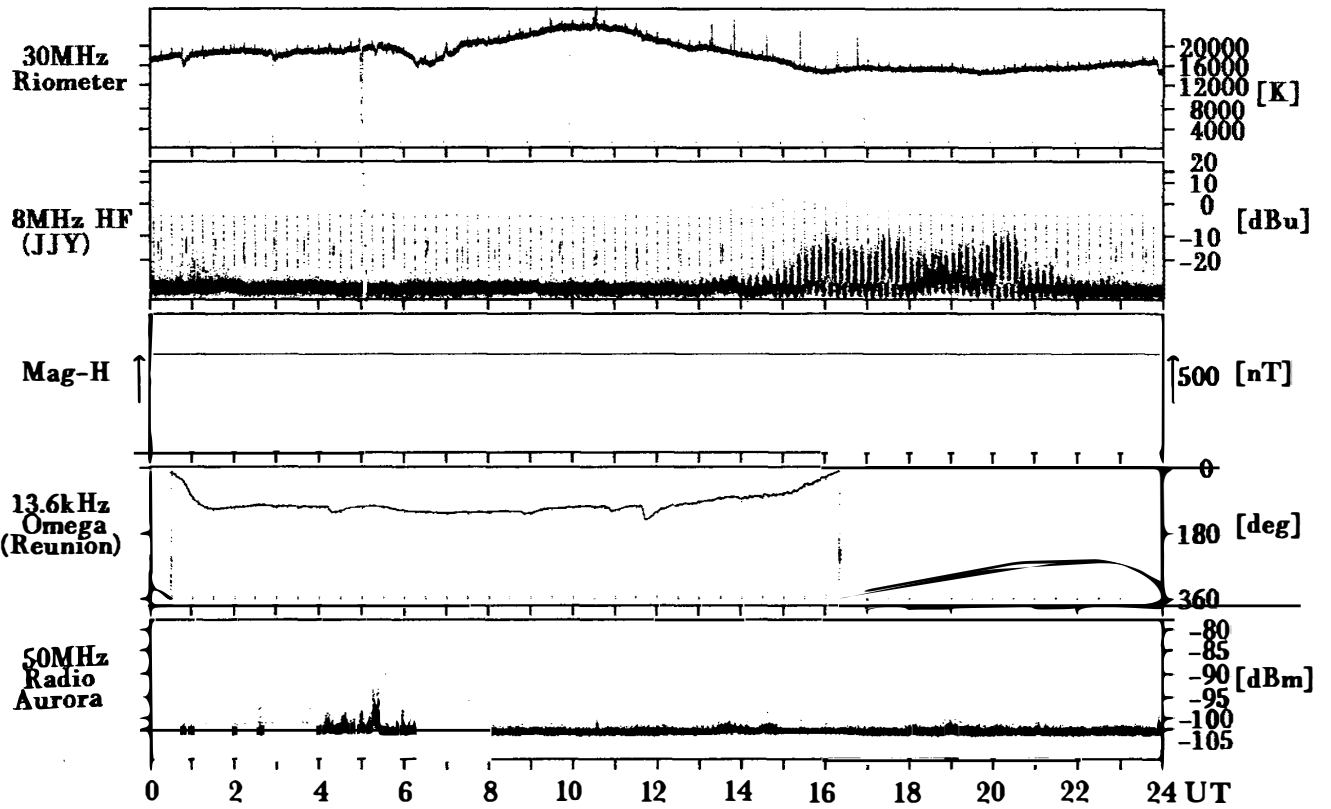
Total Day / 335 1992/12/ 1





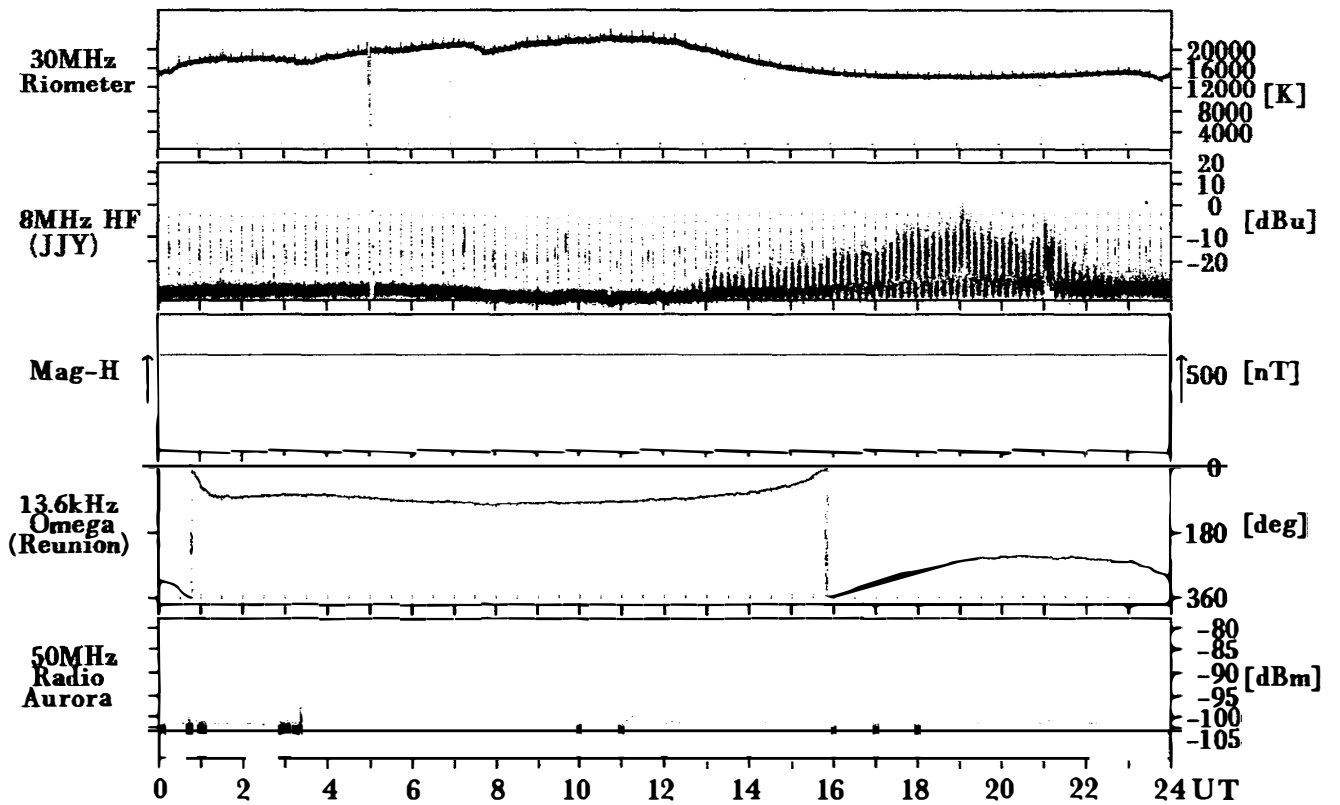
Syowa Station

Total Day / 338 1992/12/ 4



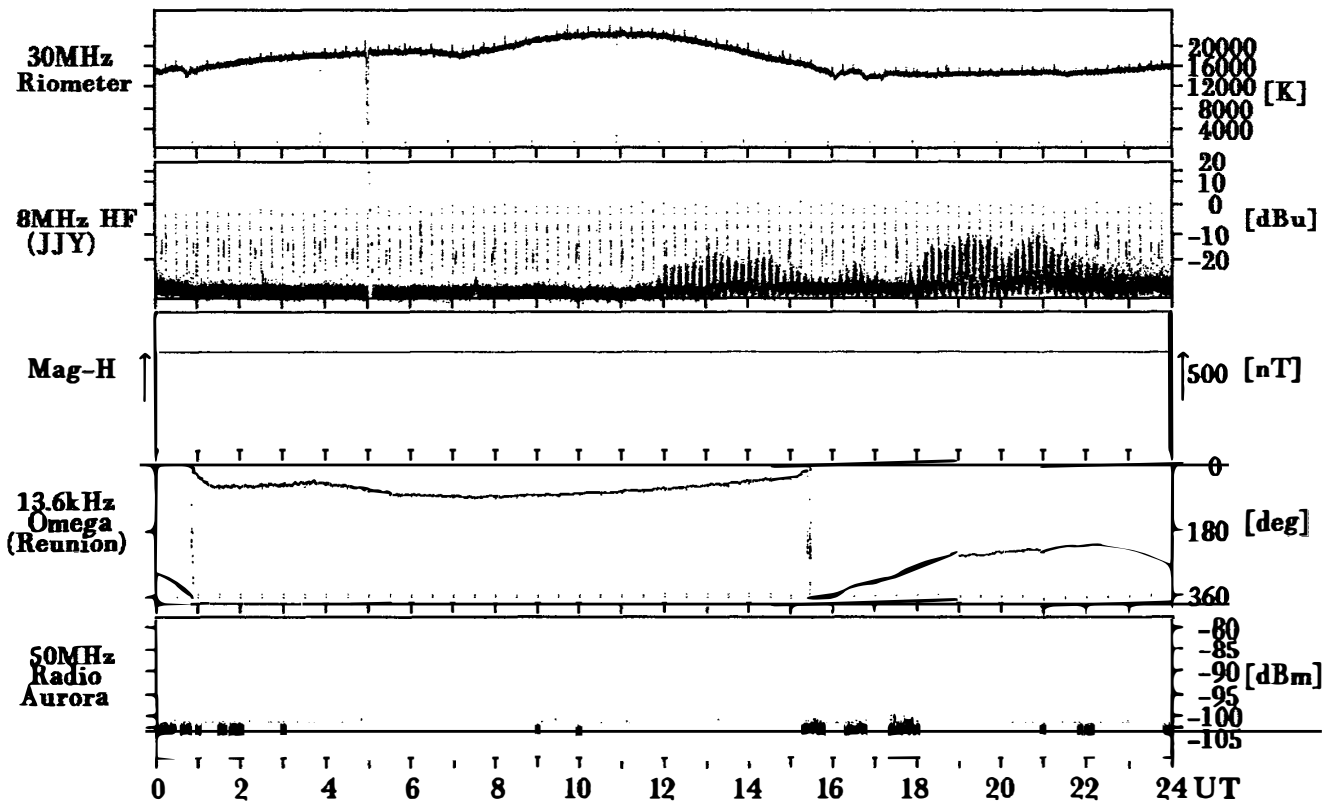
Syowa Station

Total Day / 339 1992/12/ 5



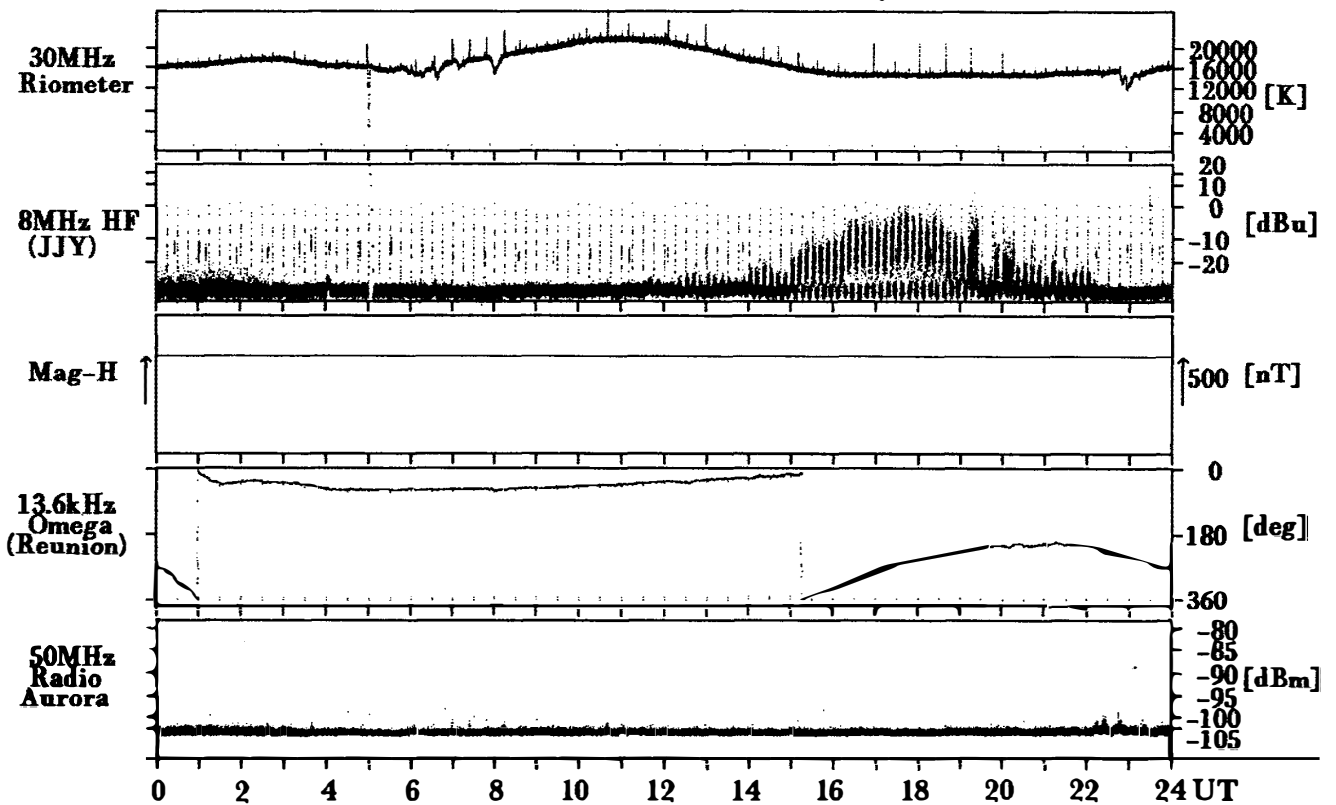
Syowa Station

Total Day / 340 1992/12/ 6



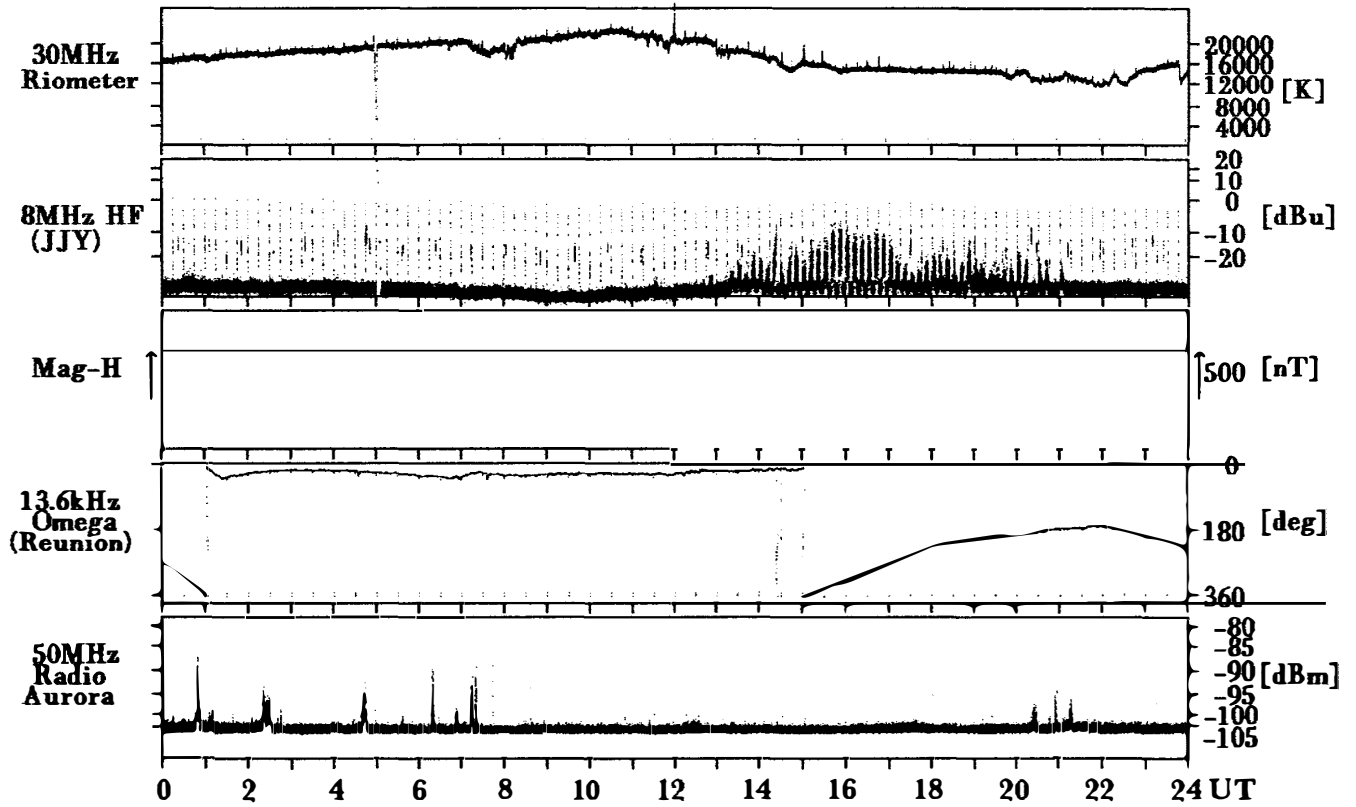
Syowa Station

Total Day / 341 1992/12/ 7



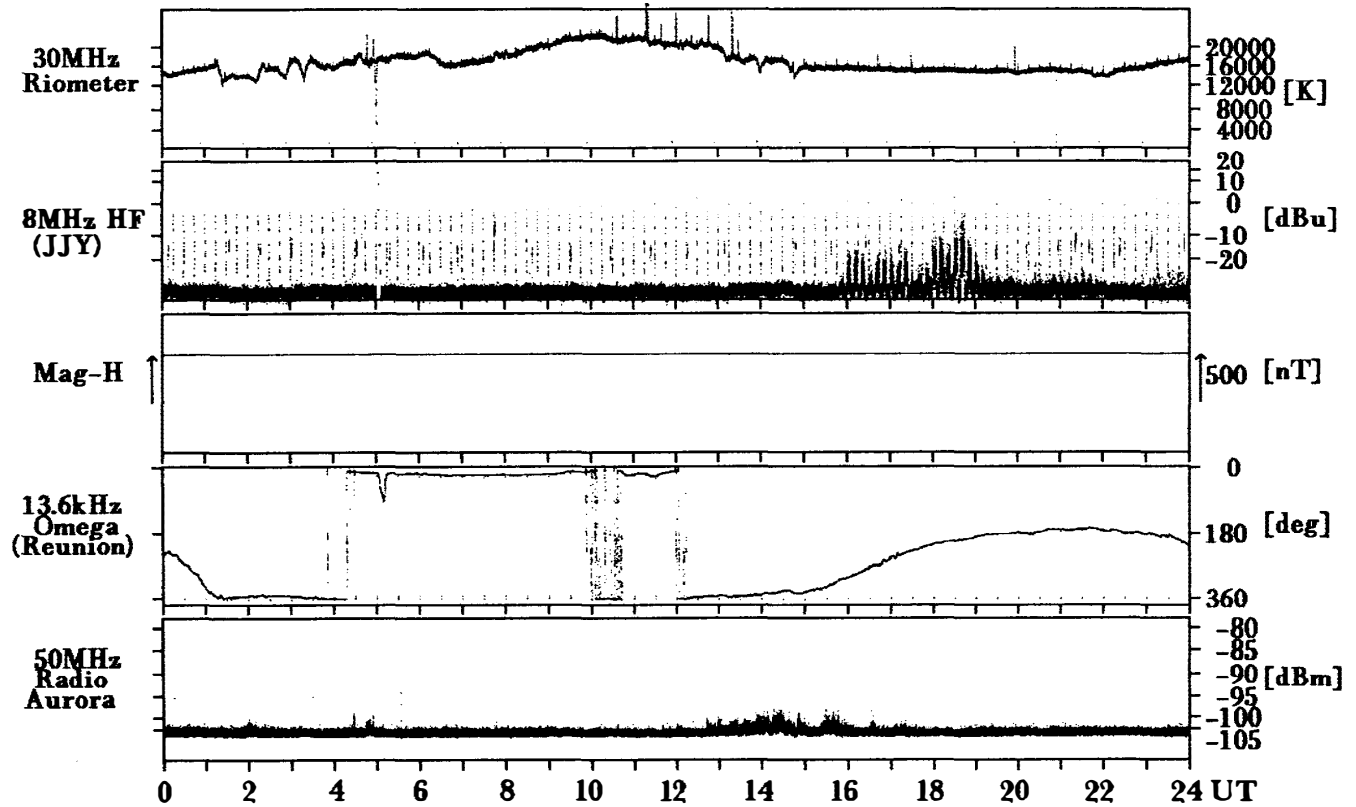
Syowa Station

Total Day / 342 1992/12/ 8



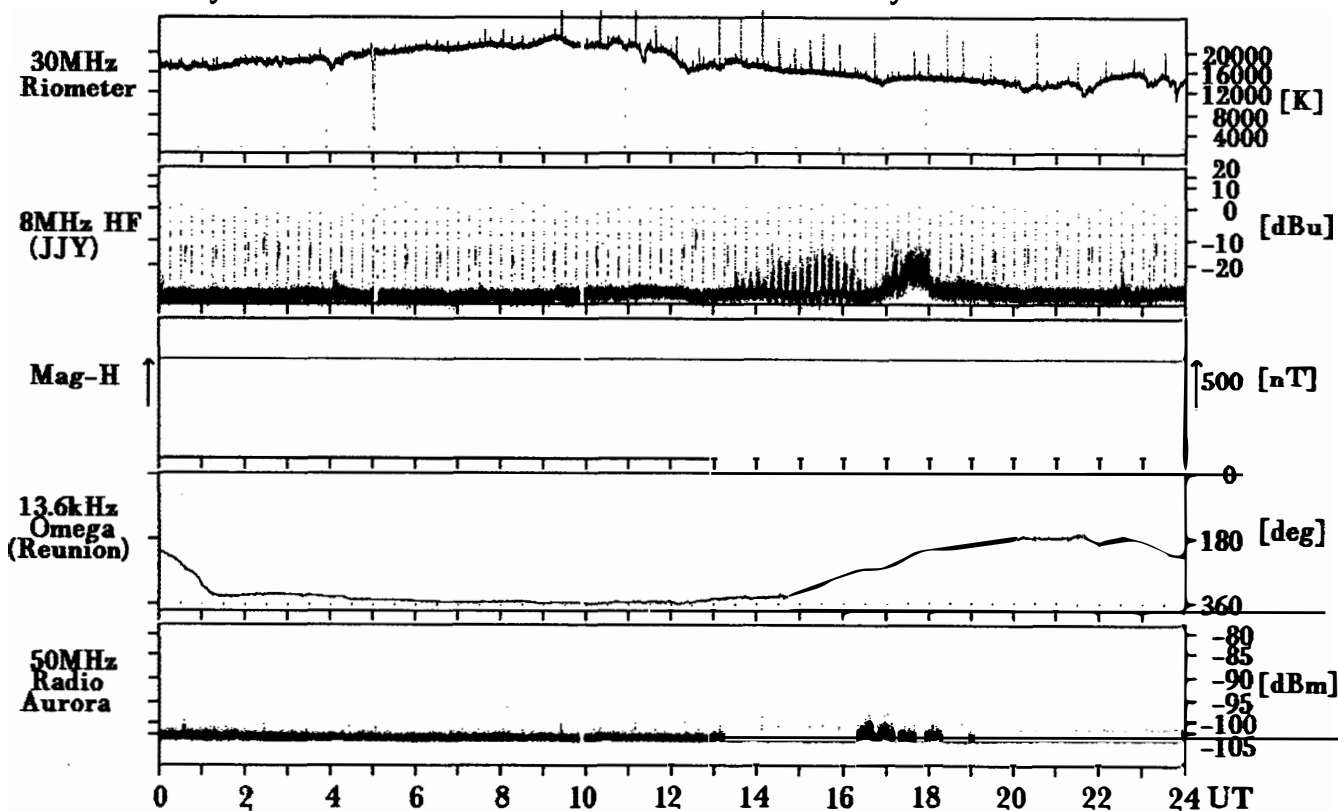
Syowa Station

Total Day / 343 1992/12/ 9



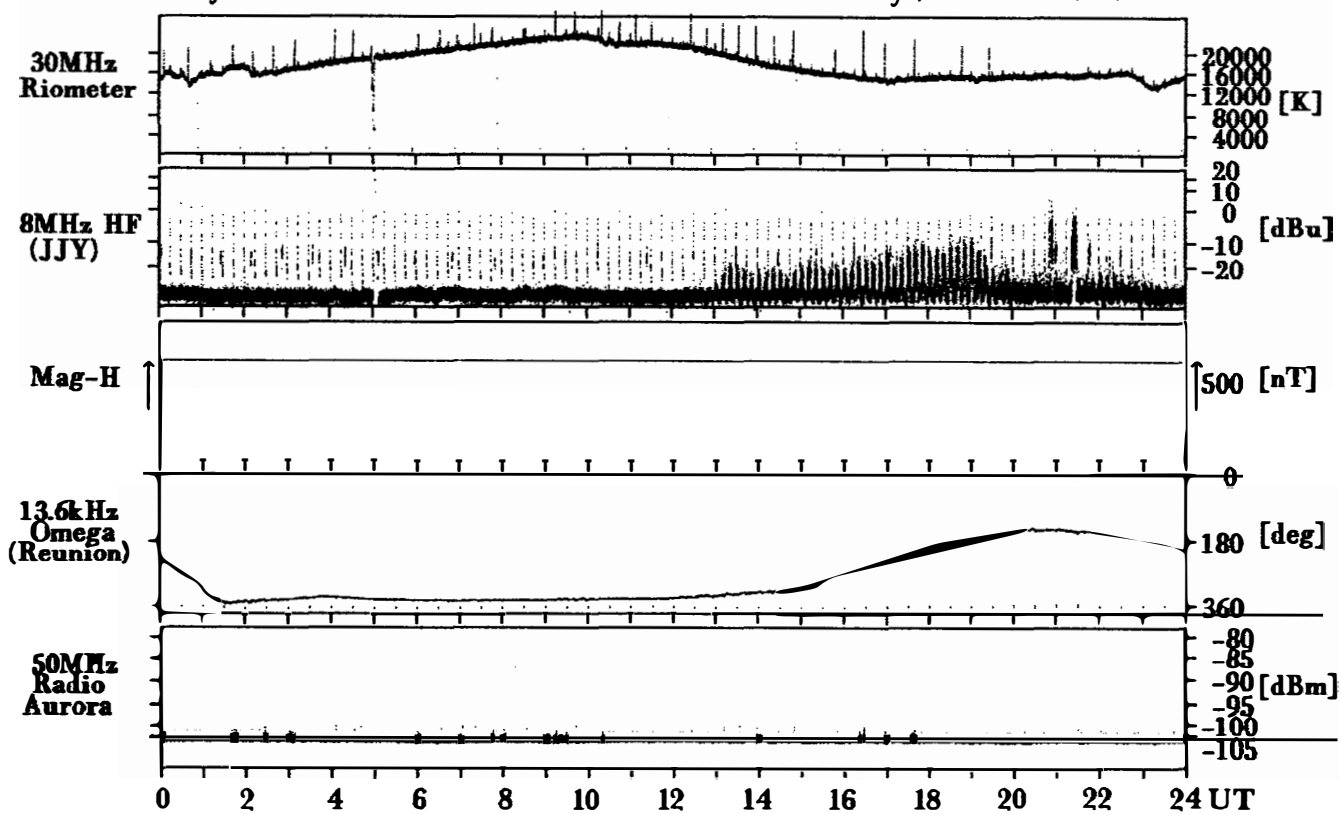
Syowa Station

Total Day / 344 1992/12/10



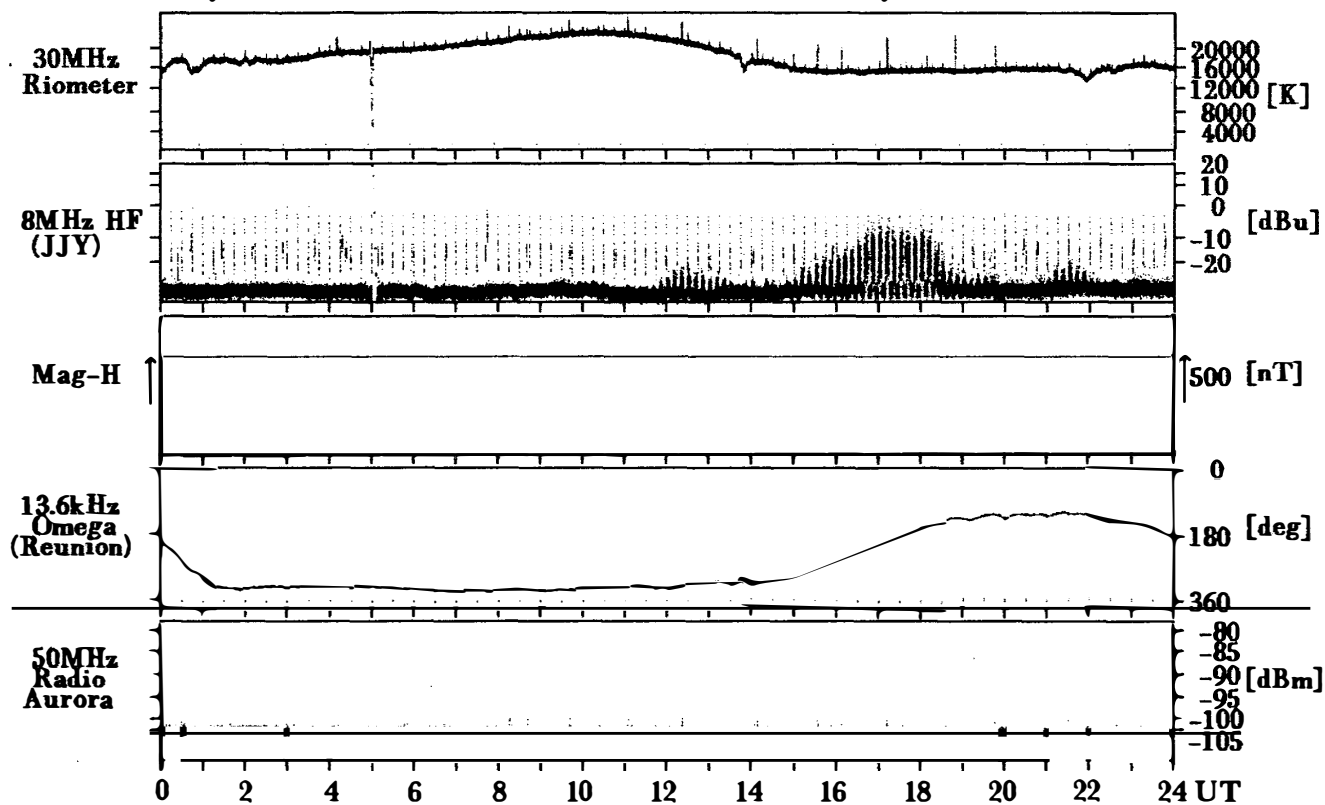
Syowa Station

Total Day / 345 1992/12/11



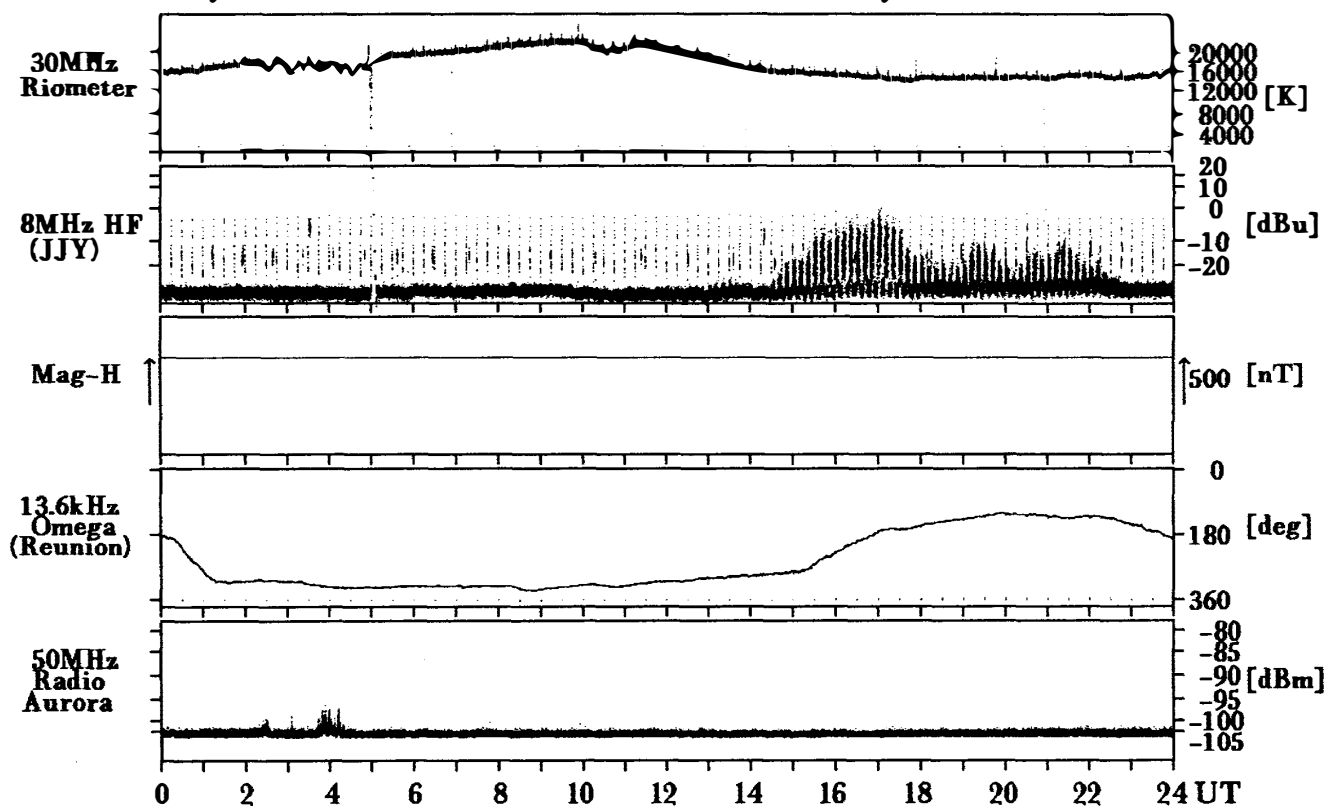
Syowa Station

Total Day / 346 1992/12/12



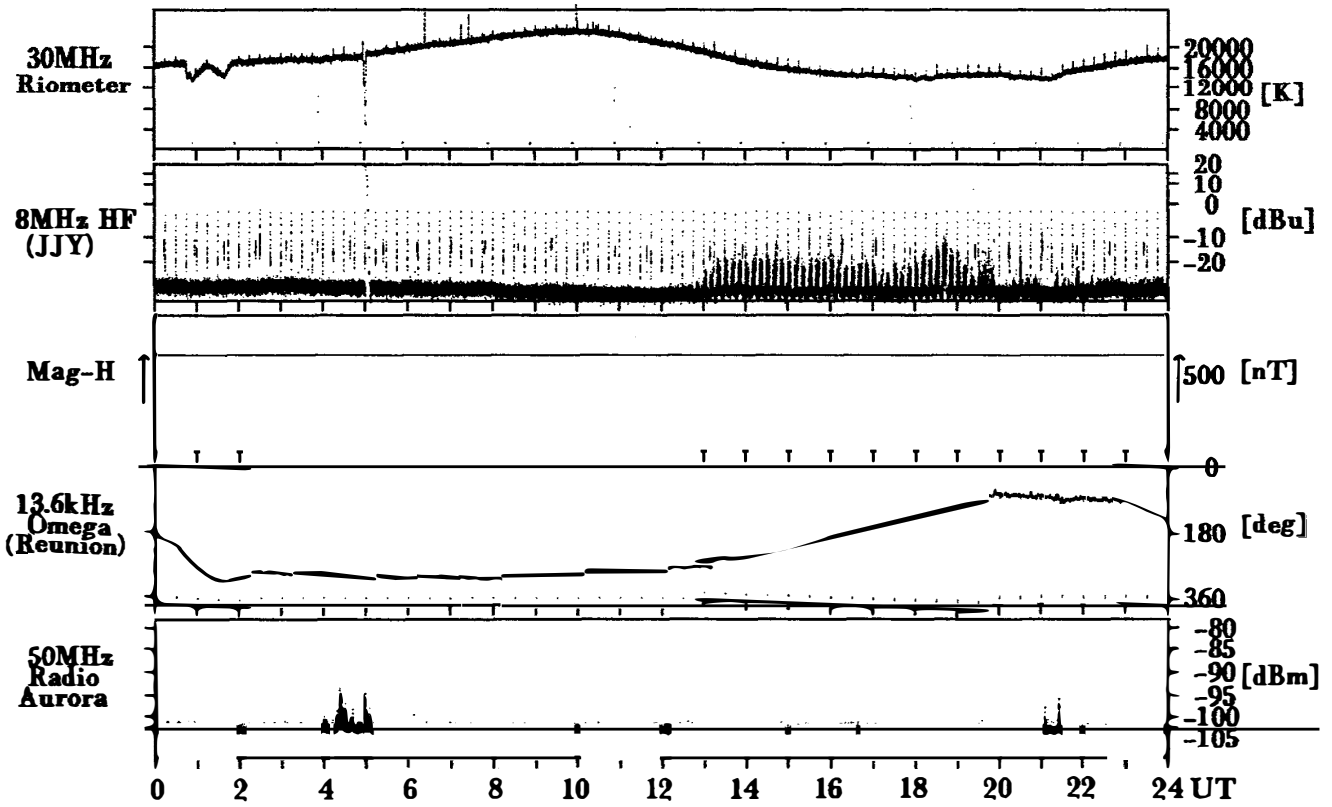
Syowa Station

Total Day / 347 1992/12/13



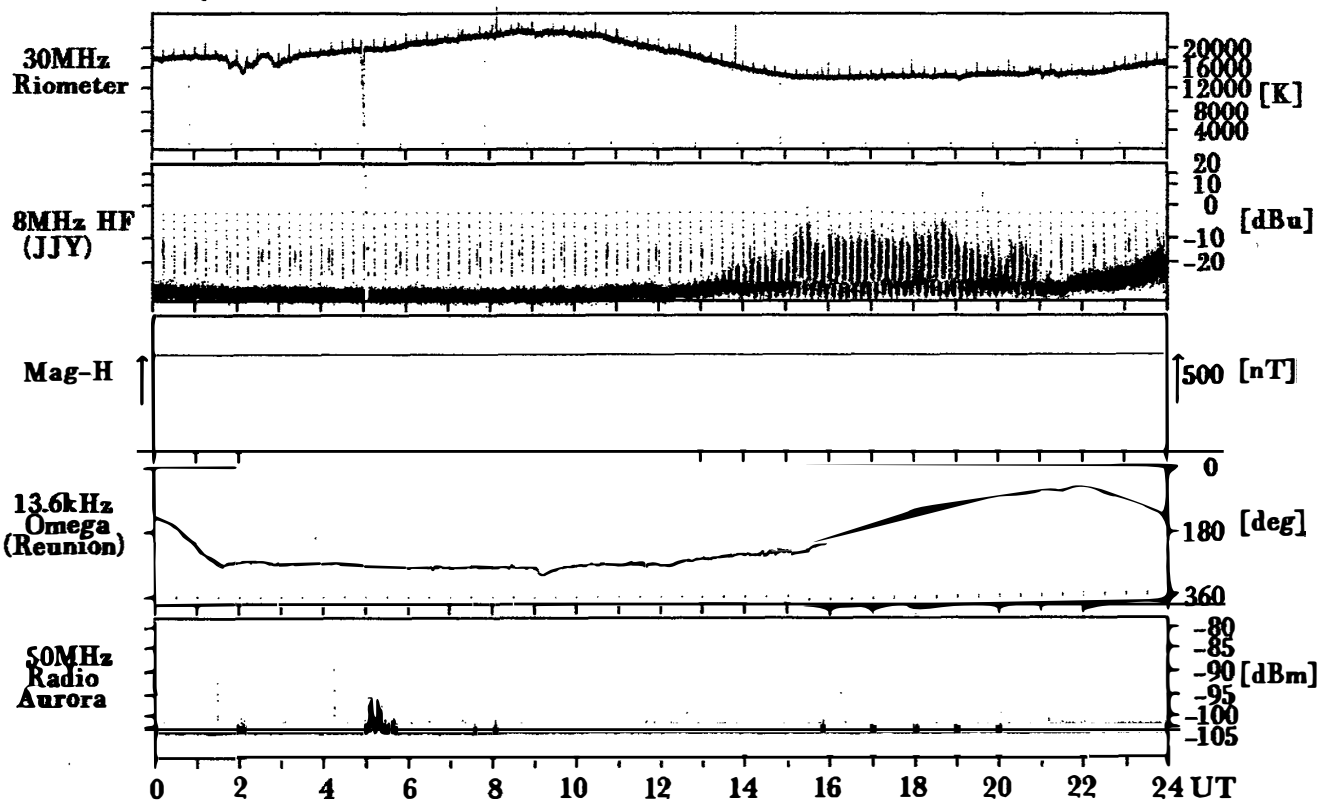
Syowa Station

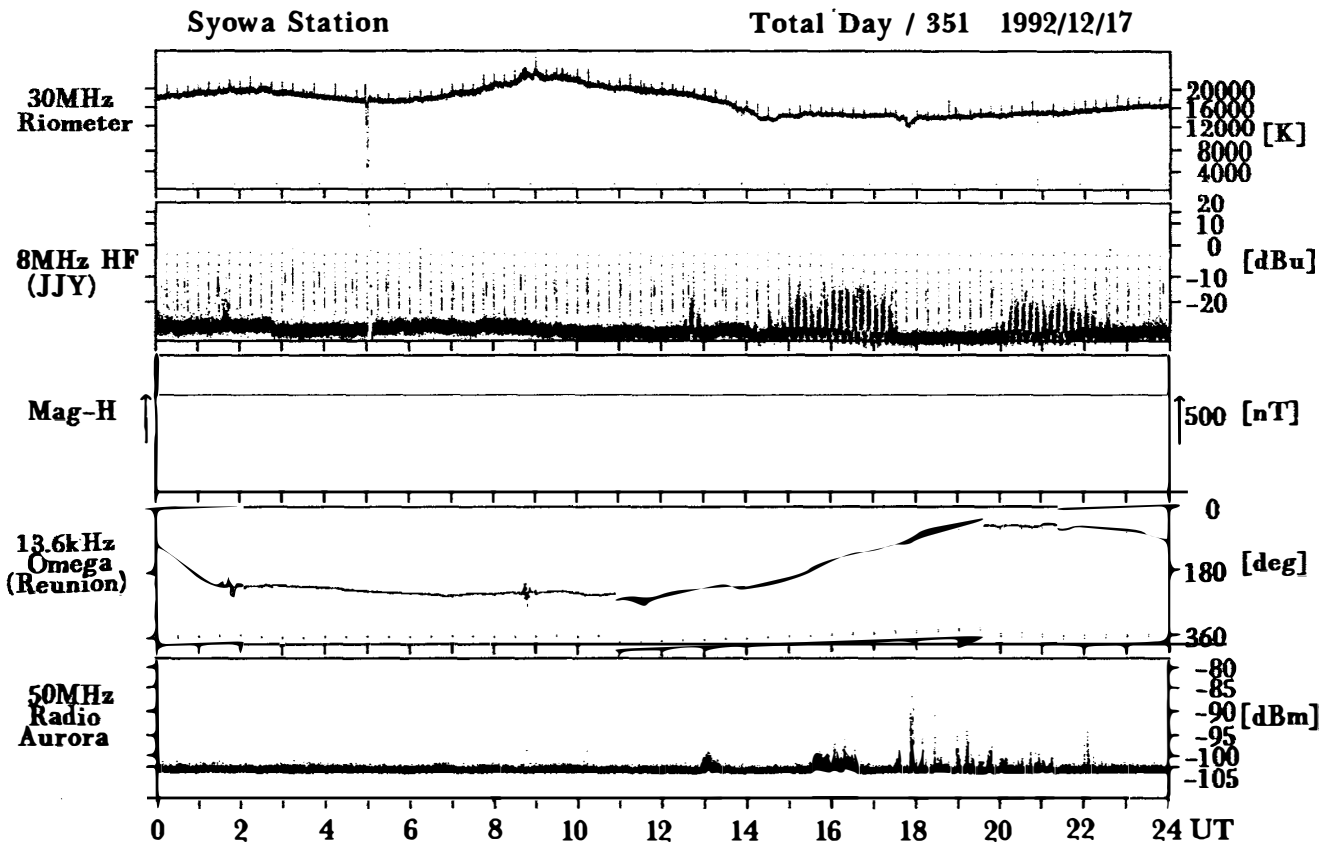
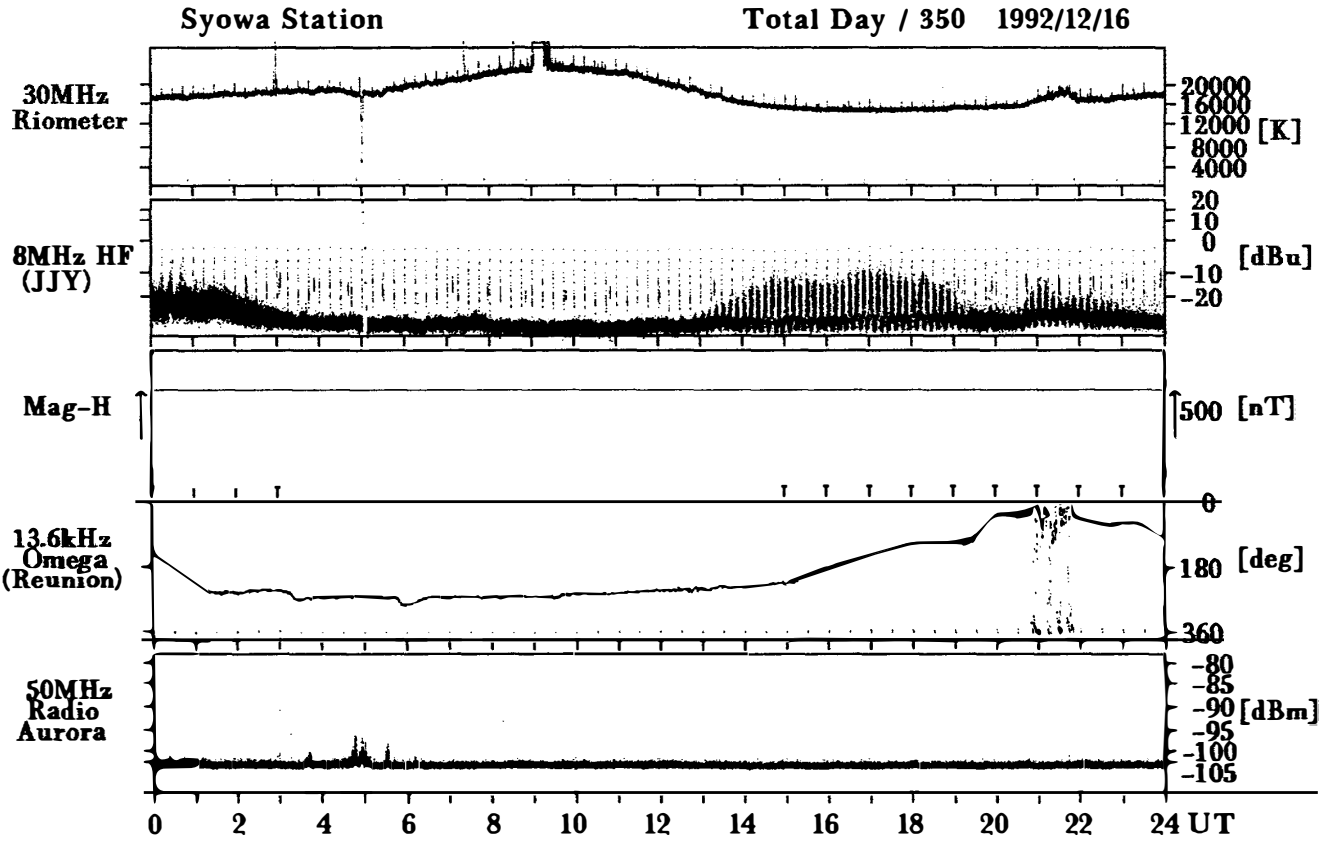
Total Day / 348 1992/12/14

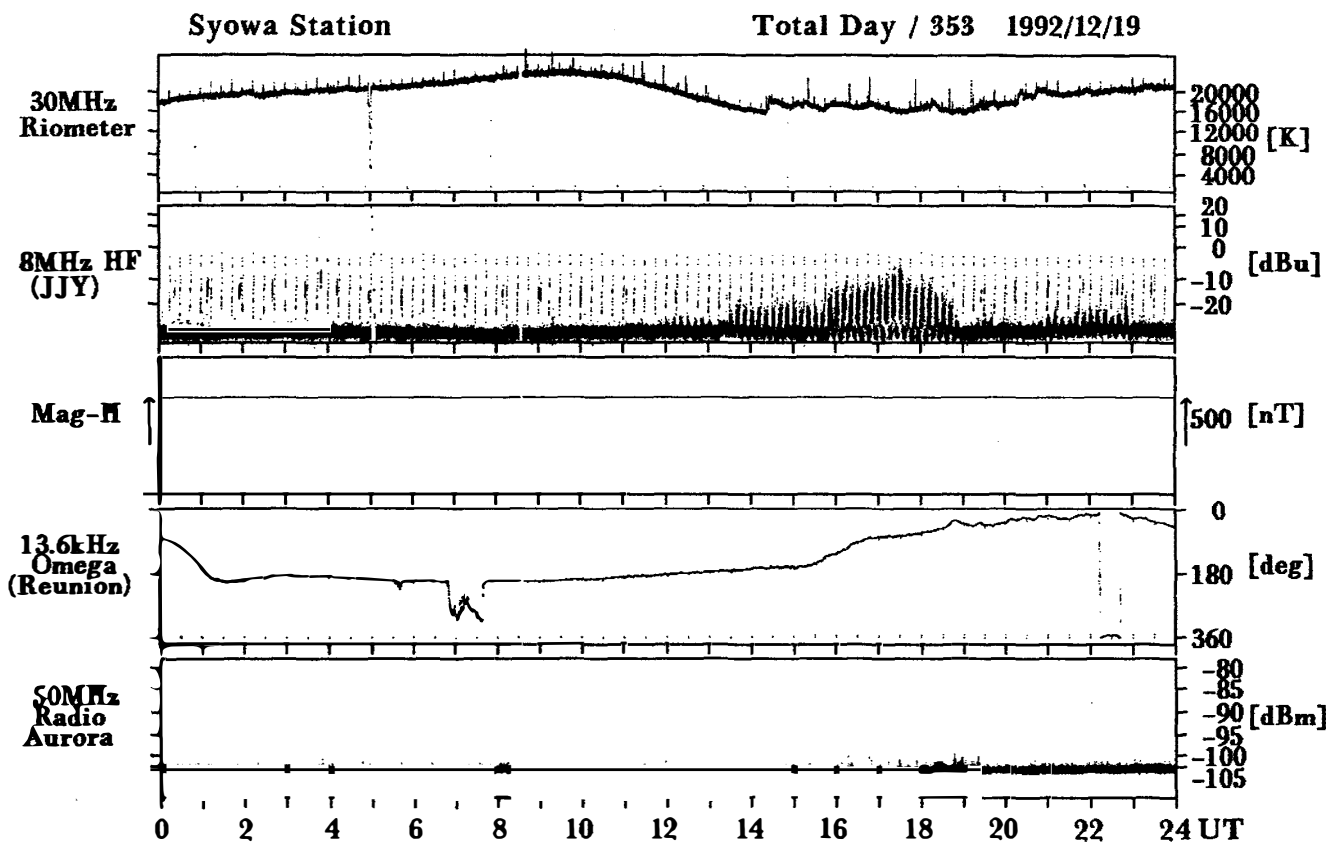
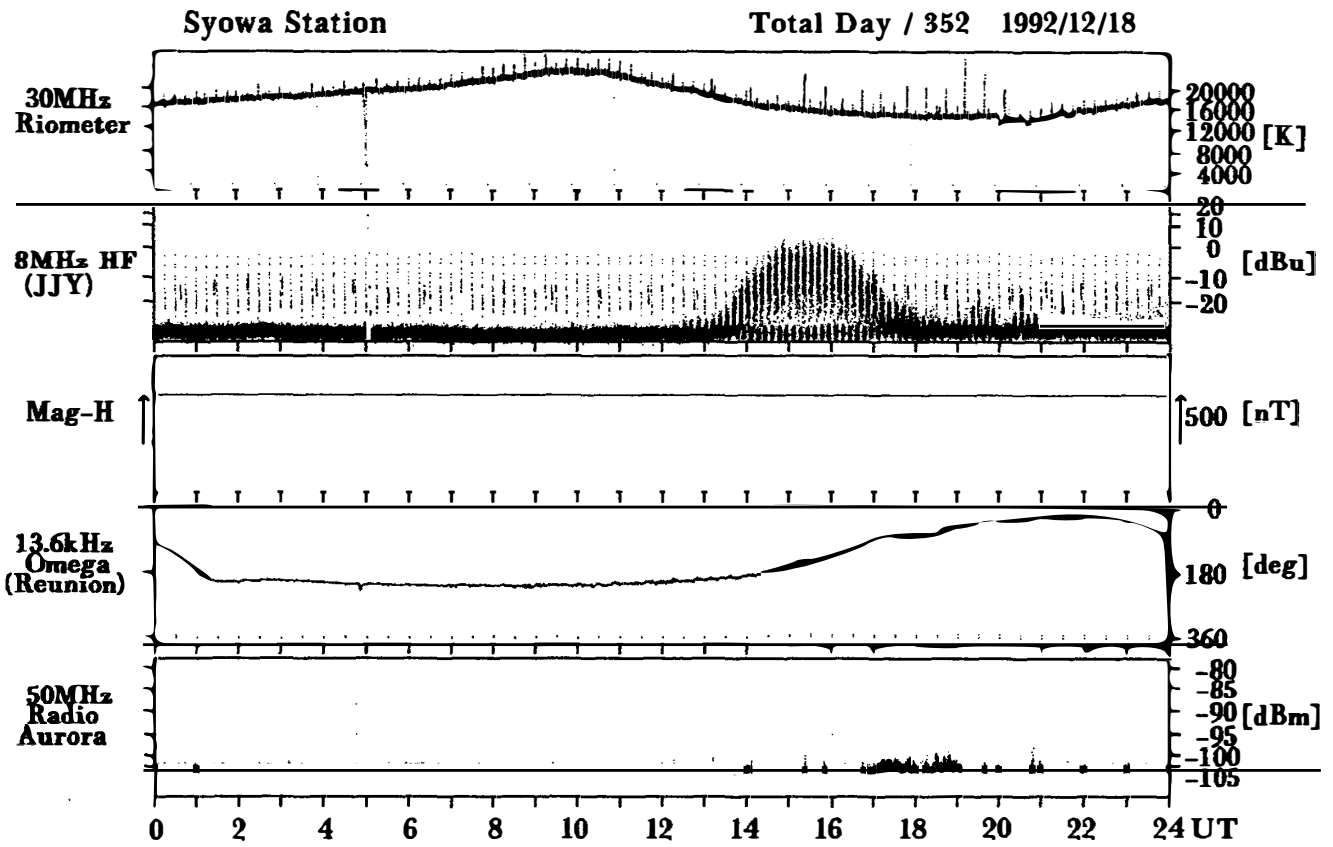


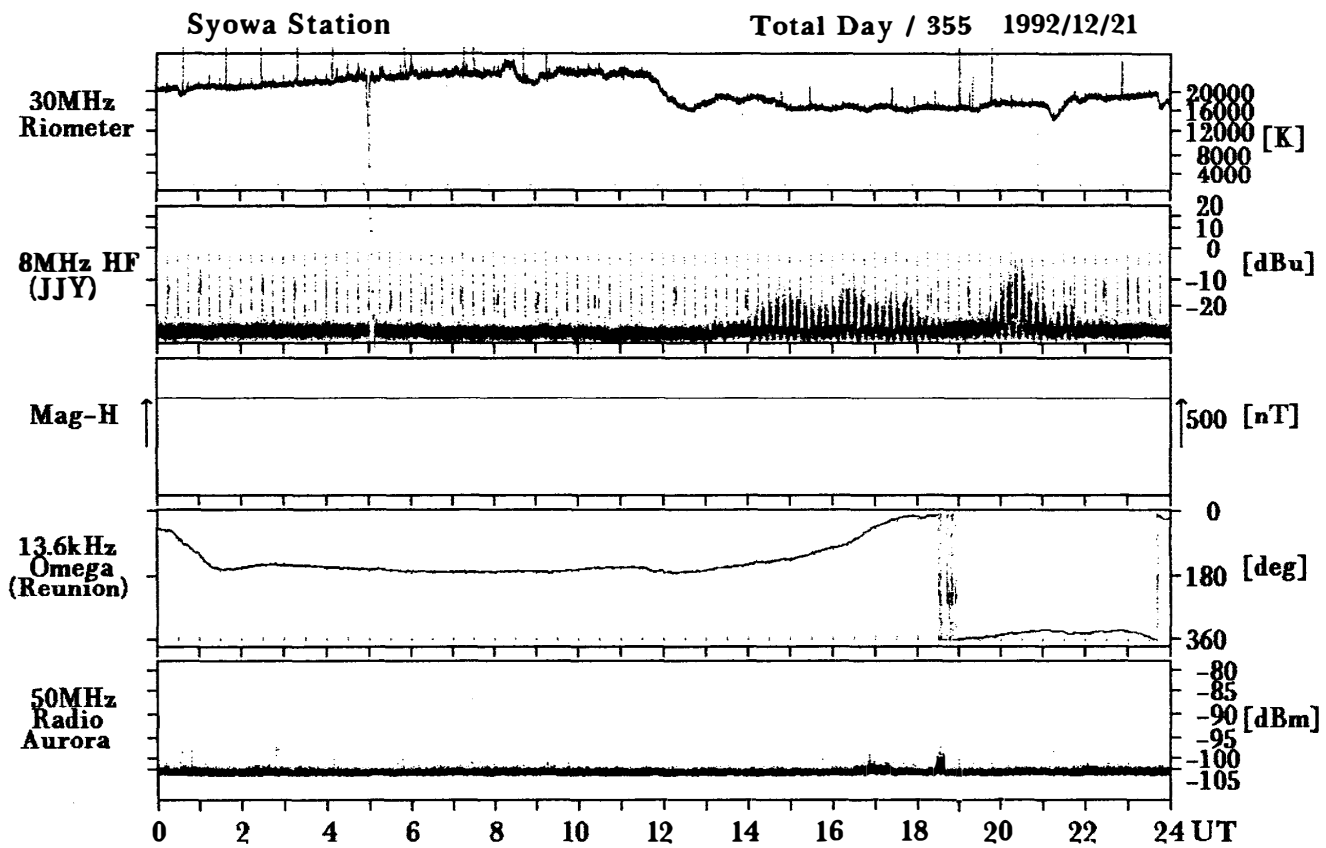
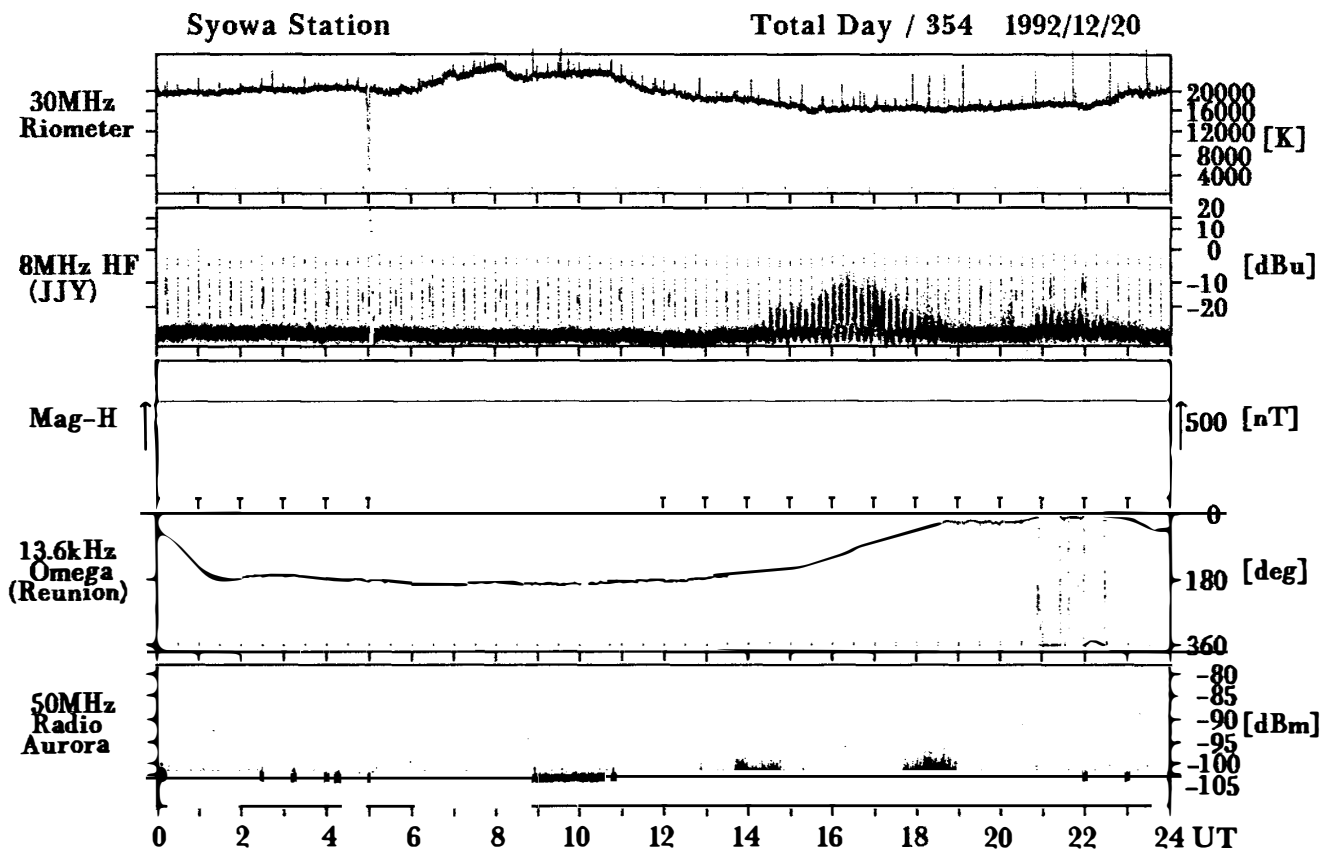
Syowa Station

Total Day / 349 1992/12/15



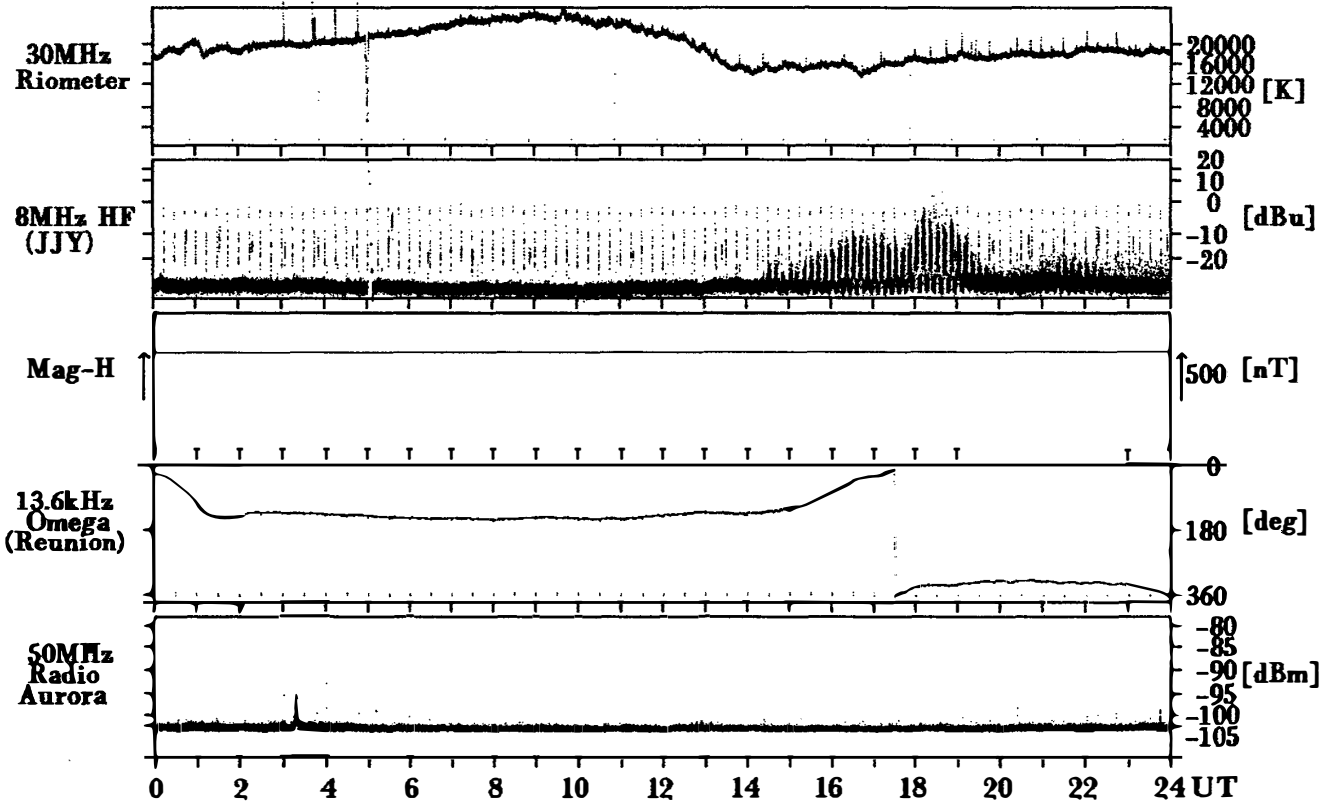






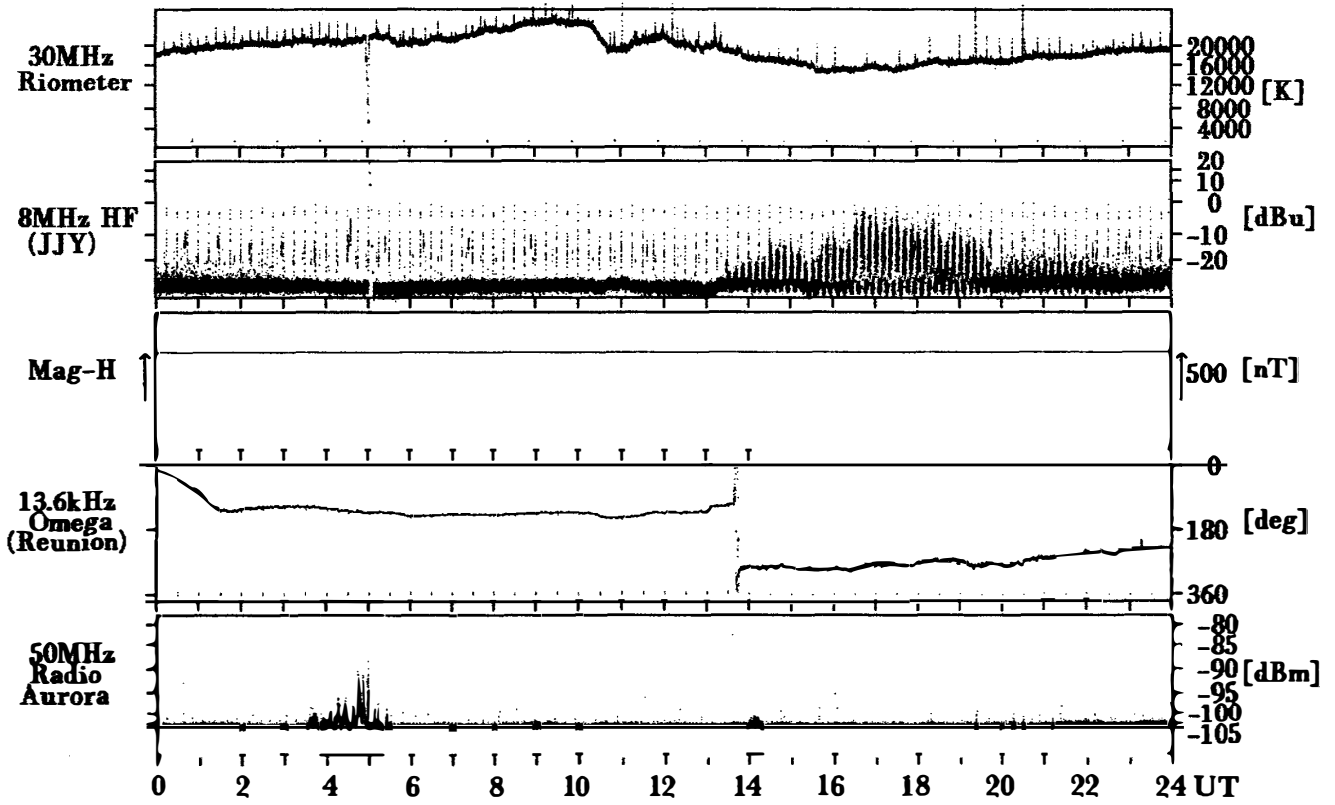
Syowa Station

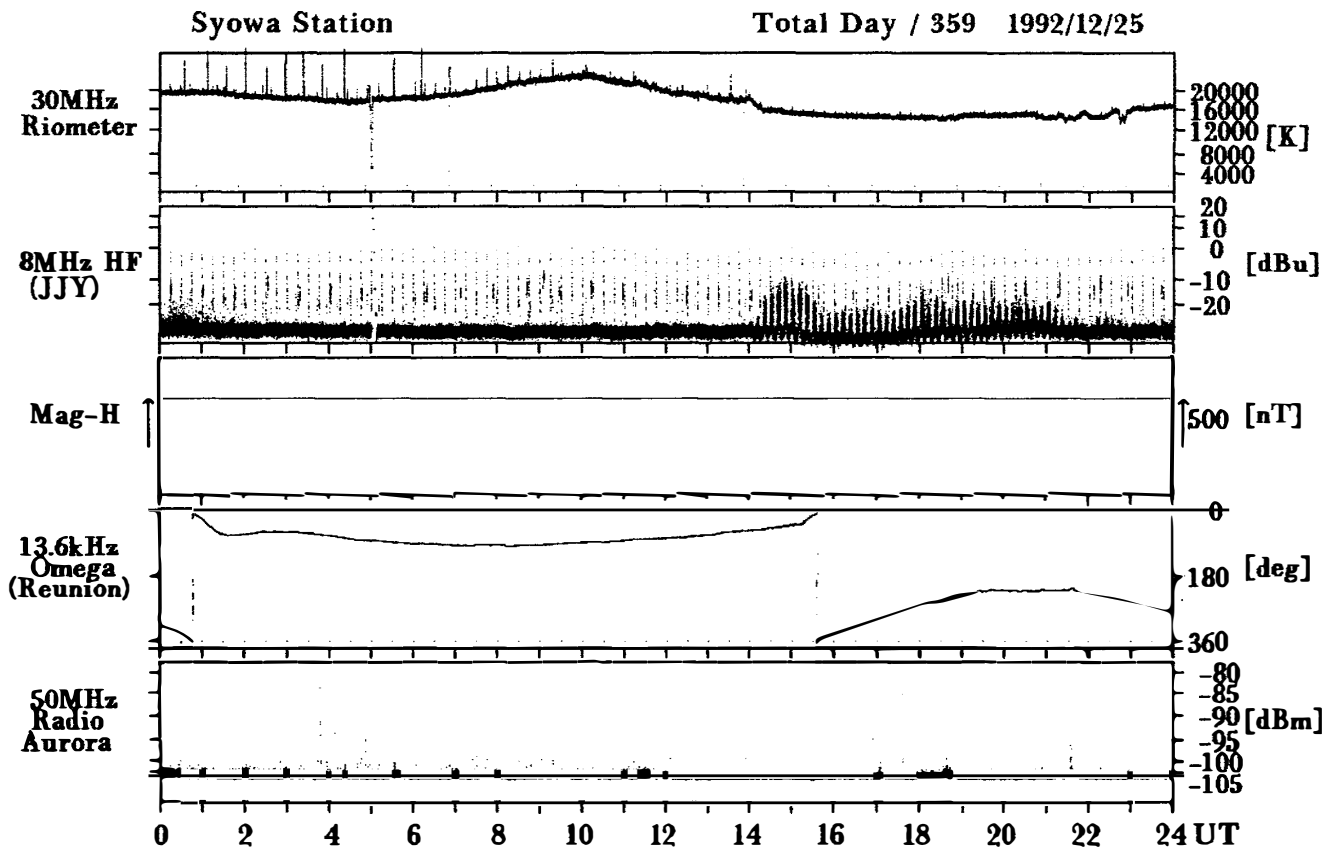
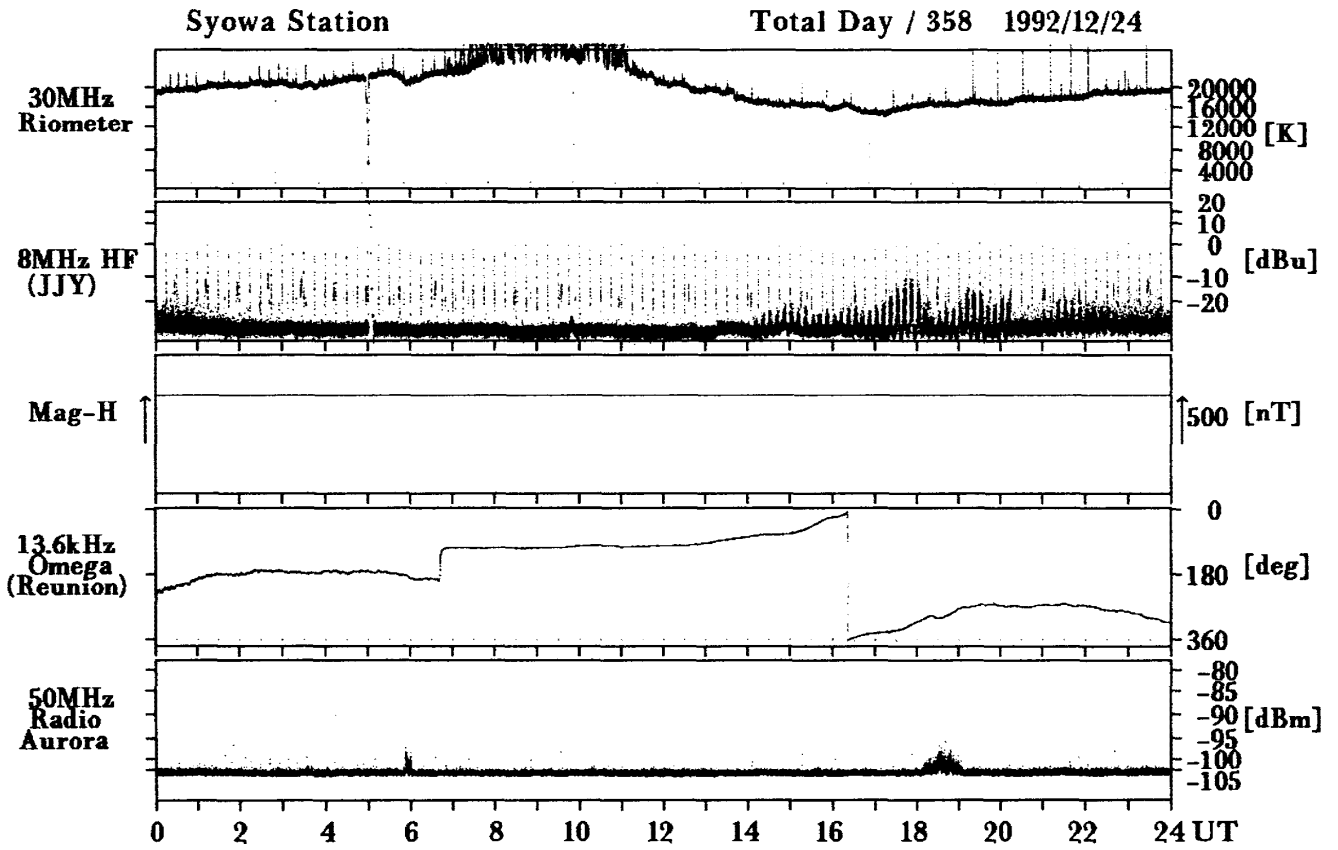
Total Day / 356 1992/12/22

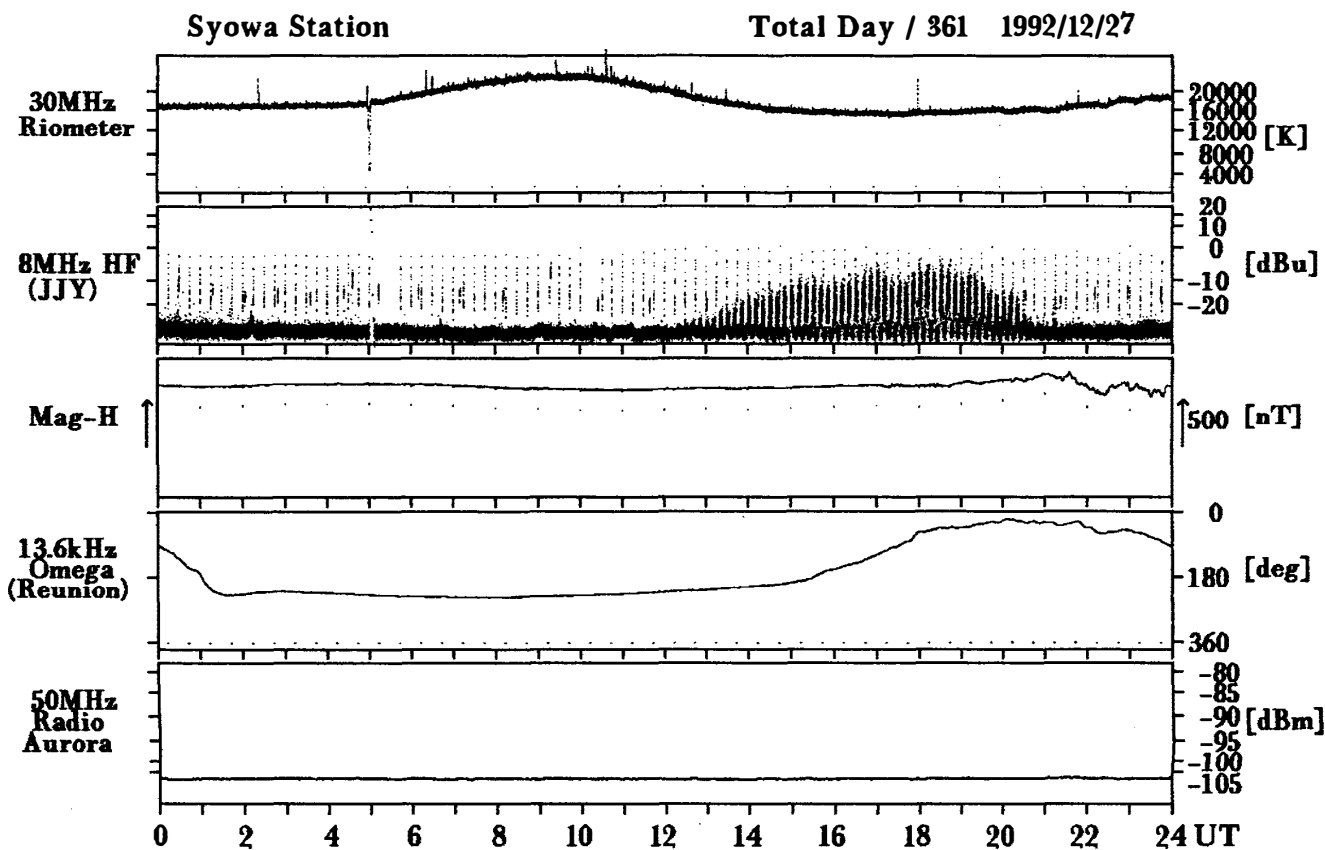
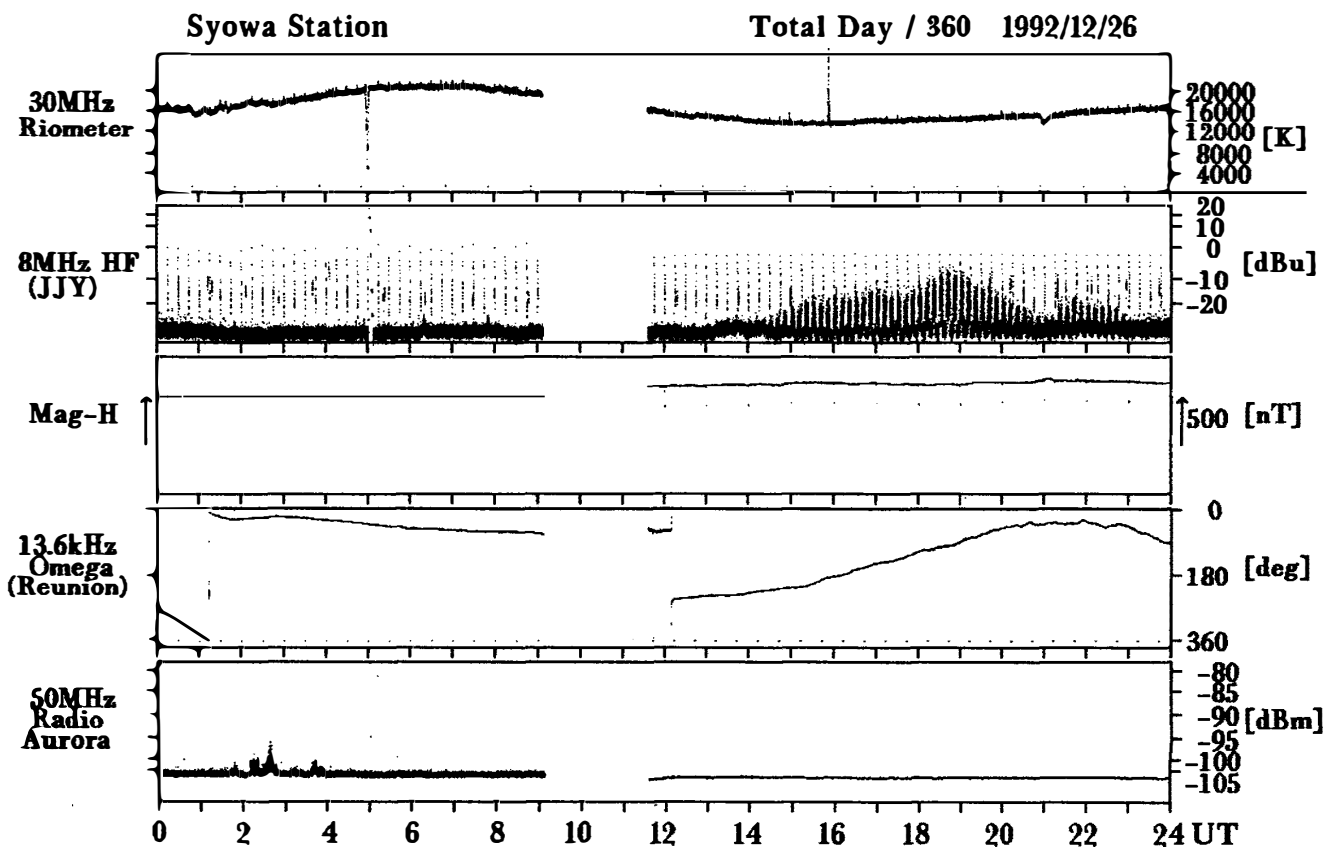


Syowa Station

Total Day / 357 1992/12/23

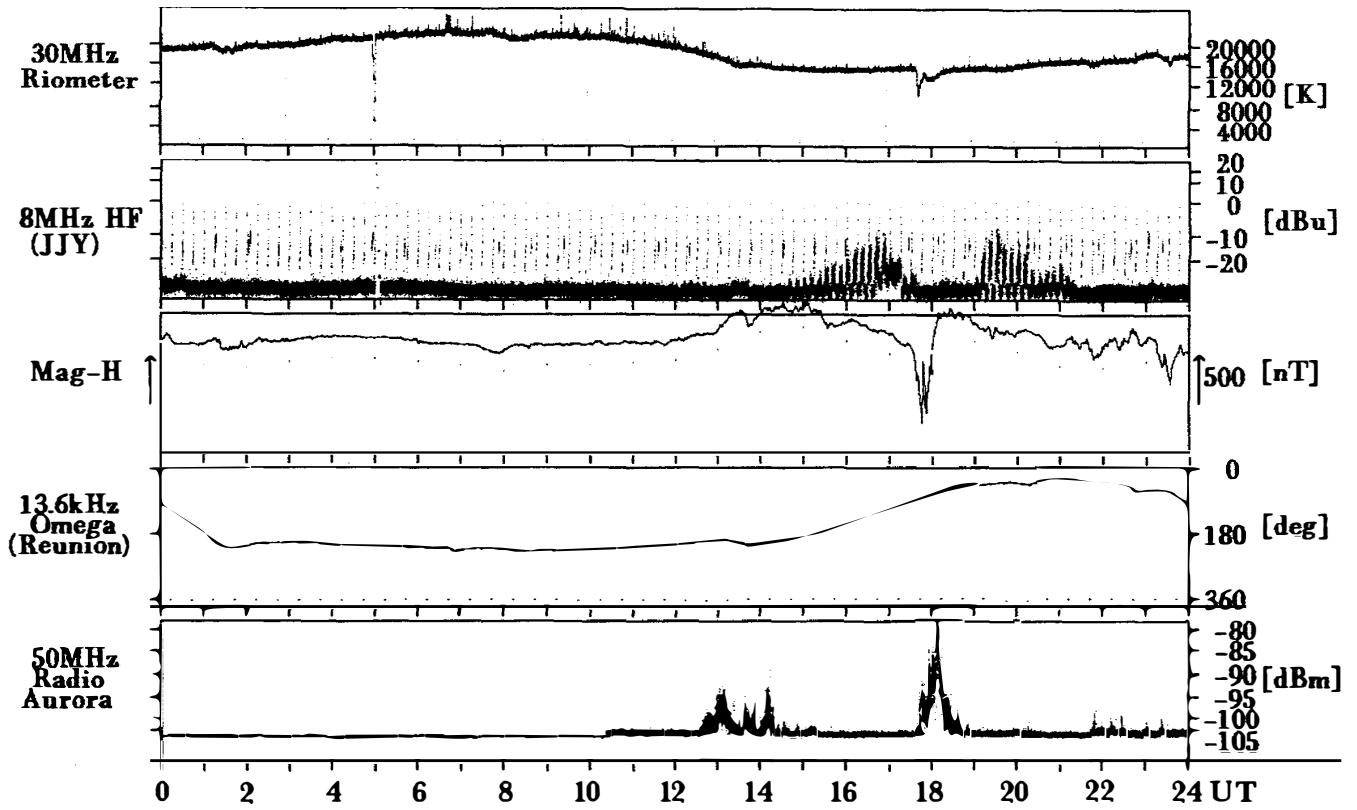






Syowa Station

Total Day / 362 1992/12/28



Syowa Station

Total Day / 363 1992/12/29

