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Solar - Geophysical Data

NO. 503 JULY 1986

Part II (Comprehensive Reports)

DATA FOR
JANUARY 1986

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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S O L A R - G E O P H Y S I C A L D A T A

NUMBER 503

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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NOTE: Geomagnetic Auroral Electrojet Indices (AE11) for March - April 1986 appear in 503B 41.

C O N T E N T S

Comprehensive Reports DATA FOR JANUARY 1986 Number 503 Part II

C A R T E S Y N O P T I Q U E
A C T I V E R E G I O N S
CARRINGTON ROTATION 1771

(14 JANUARY to 10 FEBRUARY 1986)

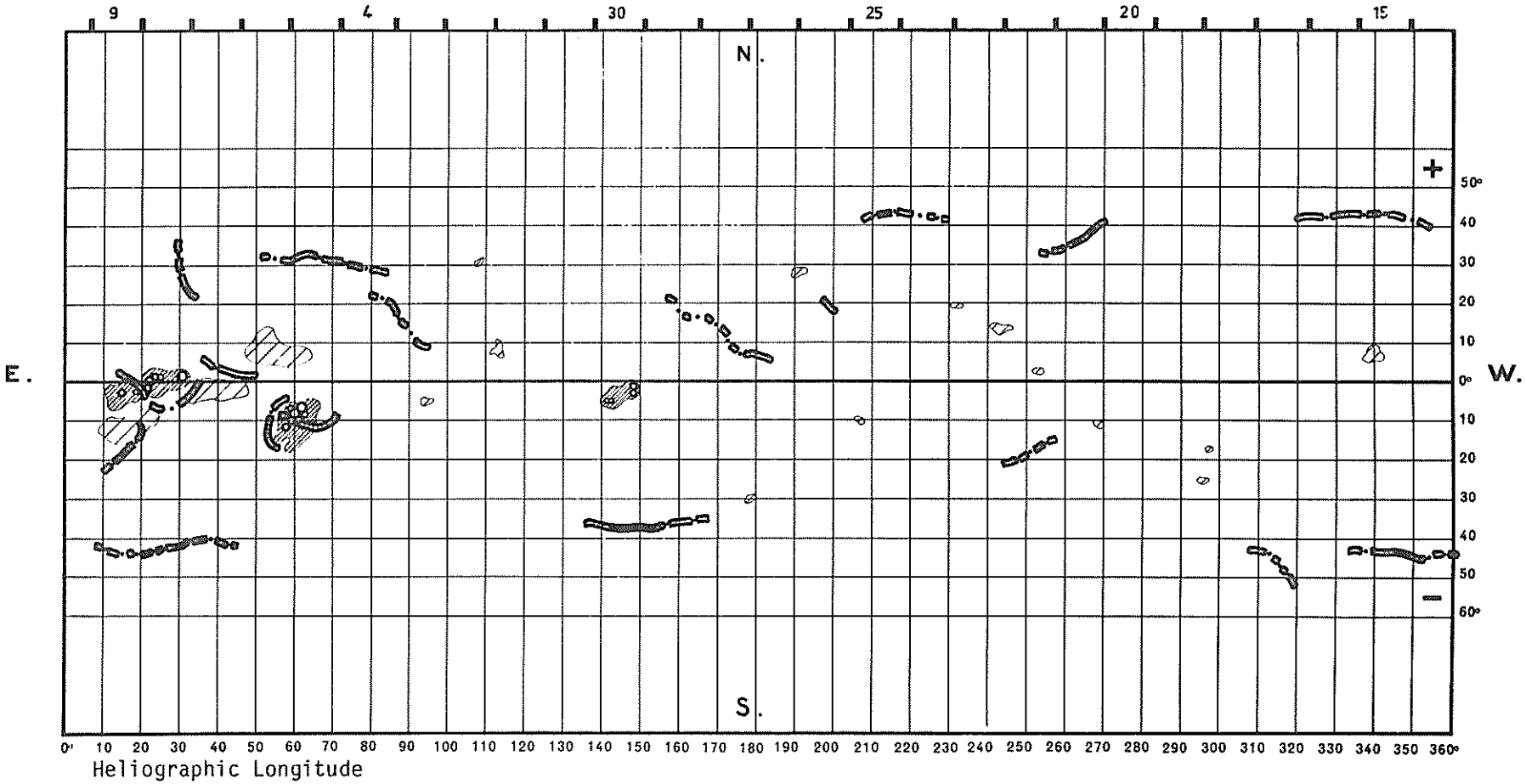
Region No.	Coordinates Lat.	Long.	Imp	Age at CMP (Days)	Spotless Region	Region No. in Rotation 1770	Activity at West Limb
1	7°S	341	1	0	x		disappeared
2	14°N	244	1	-1	x		disappeared
3	29°N	192	1	+6	x		disappeared
4	29°S	179	1	+1	x		disappeared
5	3°S	135	3	-3			stable
6	10°S	61	6	>6			decreasing
7	0	26	4	-1			stable
8	3°S	16	3	>6			decreasing

CARTE SYNOPTIQUE

CARRINGTON ROTATION NUMBER 1771
(14 January to 10 February 1986)

Meudon Observatory

January 1986



5 Jan 86

H - ALPHA SOLAR FLARES

JANUARY 1986

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
		01	0746		0904	No Flare Patrol														
		01	0928		0939	No Flare Patrol														
		01	0941		0954	No Flare Patrol														
		02	1051		1114	No Flare Patrol														
		03	0030		0041	No Flare Patrol														
		03	0108		0113	No Flare Patrol														
		03	0136		0207	No Flare Patrol														
		03	0420		0430	No Flare Patrol														
		03	1356		1443	No Flare Patrol														
		06	1010		1011	No Flare Patrol														
		06	1046		1113	No Flare Patrol														
		06	2153		2217	No Flare Patrol														
		07	1028		1032	No Flare Patrol														
		07	1552		1622	No Flare Patrol														
		07	1632		1704	No Flare Patrol														
		07	2132		2214	No Flare Patrol														
		08	2159		2230	No Flare Patrol														
0001	HTPR	09	1024	1028	1031	N05	E22		01	11.1	7	SF				C	1028	10	.1	
0002	HTPR	09	1214	1219	1219	N05	E19		01	10.9	5	SF				C	1219	10	.1	
		11	1027		1029	No Flare Patrol														
		11	1121		1129	No Flare Patrol														
		11	1236		1348	No Flare Patrol														
		11	1350		1421	No Flare Patrol														
0003		13	1030	1005*	1037	S12	W43	4710	01	10.2	7	SN						89	1.3	DE
	HTPR	13	0914E		1035D	S10	W44	4710	01	10.1	81D	SN				C	1023	60	.8	E
	ABST	13	1002E	1005	1021D	S12	W43	4710	01	10.2	19D	1N				P	1005	175	2.5	E
	ATHN	13	1029E	1032	1036	S13	W42	4710	01	10.3	7D	SF		3		V	1032	32	.5	
	KANZ	13	1030	1034	1038	S13	W44	4710	01	10.1	8	SF		1		2				D
		13	1110		1127	No Flare Patrol														
0004	RAMY	13	1129E	1243U	1326	S13	W44	4710	01	10.1	117D	SN		3		C		108		
		13	1416		1420	No Flare Patrol														
0005	HOLL	13	2019	2021	2030	S10	W49	4710	01	10.2	11	SF		3		C		23		FH
0006	HOLL	13	2113	2114	2135	S10	W50	4710	01	10.1	22	SF		3		C		36		H
0007	HOLL	13	2203	2233	2313	S09	W51	4710	01	10.1	70	SF		3		C		35		F
0008	LEAR	14	0307	0315	0316	S08	W53	4710	01	10.1	9	SF		3		C		18		
0009		14	0609*	0611*	0629	S09	W56	4710	01	10.0	20	SN						66	2.7	E
	LEAR	14	0609	0611	0622	S08	W56	4710	01	10.0	13	SF		3		C		23		
	LEAR	14	0623	0633	0636	S08	W56	4710	01	10.1	13	SF		3		C		27		
	PEKG	14	0629E	0629	0630	S11	W57	4710	01	10.0	1D	1B				C	0629	147	2.7	E
0010	HTPR	14	0859E		0930D	S10	W60	4710	01	9.9	31D	SF				C	0919	60	1.2	E
0011	KANZ	14	1004	1004	1011	S11	W59	4710	01	10.0	7	SF		2						D
0012	KANZ	14	1051	1051	1055	S11	W59	4710	01	10.0	4	SF		2						D
0013	KANZ	14	1115	1115	1118	S11	W59	4710	01	10.0	3	SF		2						D
0014	KANZ	14	1150	1154	1202	S13	W58	4710	01	10.1	12	SF		2						D
0015	KANZ	14	1218	1222	1226	S12	W57	4710	01	10.2	8	SF		2						D
0016	KANZ	14	1342	1346	1358	S13	W58	4710	01	10.2	16	SF		2						E
0017	RAMY	14	1507	1508	1545	S14	W60	4710	01	10.1	38	SN	C	3.1	3	C		134		

H - ALPHA S O L A R F L A R E S

JANUARY 1986

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Xray	Obs See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
		14	1703		1727	No Flare Patrol													
		14	2104		2115	No Flare Patrol													
0018		14	23132	23151	2320	S10	W66	4710	01	10.0	7	SF					36		E
	LEAR	14	2313	2315	2323	S08	W65	4710	01	10.1	10	SF		3	C		39		
	PALE	14	2315	2316	2318	S11	W67	4710	01	9.9	3	SF		3	C		33		E
0019		15	0129	0142	0147	S08	W67	4710	01	10.0	18	SF					26	.8	F
	LEAR	15	0129	0142	0147	S08	W67	4710	01	10.0	18	SF		3	C		16		F
	MANI	15	0132E		0149D	S09	W67	4710	01	10.0	17D	SF		2	P		35	.8	F
0020	PEKG	15	0215	0216	0217	S10	W68	4710	01	10.0	2	SN			C	0216	63	1.6	E
0021	LEAR	15	0359	0402	0418	S09	W67	4710	01	10.1	19	SF		3	C		35		F
0022		15	0654*	0710*	0818	S10	W70	4710	01	10.0	84	1N	M 1.1				108	4.0	EF
	LEAR	15	0654	0710	0840	S09	W67	4710	01	10.2	106	1N	M 1.1	3	C		122		F
	ATHN	15	0659E	0700U	0754D	S08	W68	4710	01	10.2	55D	1N		1	V	0700	143	4.0	
	PURP	15	0704	0714	0748	S12	W71	4710	01	9.9	44	1N			C	0714	93		E
	ABST	15	0743E	0743	0827	S12	W73	4710	01	9.8	44D	1N			P	0743	131		E
	HTPR	15	0809E		0858D	S10	W73	4710	01	9.8	49D	SF			C	0814	50		E
	KANZ	15	0811E		0811D	S12	W70	4710	01	10.1	49D	1N		2					E
0023	HTPR	15	1009	1011	1020	S10	W74	4710	01	9.9	11	SB			C	1011	30		E
0024	HTPR	15	1228		1244D	S10	W75	4710	01	9.9	16D	SN			C	1235	30		E
0025	HTPR	15	1258		1305D	S10	W75	4710	01	9.9	7D	SF			C	1305	20		E
0026		15	1317*	1318*	1359	S11	W72	4710	01	10.1	42	SF	C 2.0				27		E
	HTPR	15	1313E		1420	S10	W75	4710	01	9.9	67D	SN			C	1359	50		E
	RAMY	15	1317	1318	1331	S11	W70	4710	01	10.3	14	SF		3	C		16		
	RAMY	15	1342	1344	1347	S11	W71	4710	01	10.2	5	SF	C 2.0	3	C		13		
	RAMY	15	1358	1400	1419	S11	W71	4710	01	10.2	21	SF		3	C		29		
0027		15	1450*	1520	1522	S10	W73	4710	01	10.1	32	SN					42		
	HTPR	15	1450		1539D	S10	W75	4710	01	10.0	49D	SN			C	1519	60		
	RAMY	15	1519	1520	1522	S11	W71	4710	01	10.3	3	SF		3	C		23		
0028	HOLL	15	1645	1645	1655	S13	W73	4710	01	10.2	10	SF		3	C		10		
0029	HOLL	15	2148	2149	2159	S12	W72	4710	01	10.5	11	SF	C 4.6	3	C		14		F
0030	HOLL	15	2235	2236	2237	S12	W72	4710	01	10.5	2	SF		3	C		14		
0031	PEKG	16	0237	0244	0248	S09	W89	4710	01	9.4	11	SF			C	0244	21		D
0032		16	0738	0740U	0822D	S10	W90	4710	01	9.5	44D	1N					64		D
	ABST	16	0738	0740U	0741D	S09	W90	4710	01	9.6	3D	1F			P	0740	78		D
	HTPR	16	0803E		0822D	S10	W90	4710	01	9.6	19D	SN			C	0809	50		
0033	HTPR	16	0838	0839	0850	S10	W90	4710	01	9.6	12	SN			C	0839	20		
0034	HTPR	16	0932	0940	1000	S10	W90	4710	01	9.6	28	SN			C	0940	30		E
0035	HTPR	16	1052	1103	1110	S10	W90	4710	01	9.7	18	SF			C	1103	20		E
0036		16	16097	16116	1621	S10	W86	4710	01	10.2	12	SF	M 6.6				20		F
	RAMY	16	1609	1611	1619	S11	W85	4710	01	10.3	10	SF	M 6.6	3	C		21		F
	HOLL	16	1616	1617	1623	S09	W86	4710	01	10.2	7	SF	M 6.6	4	C		18		F
0037		16	1837*	18492	1906	S10	W86	4710	01	10.3	29	SN	M 1.3				34		F
	PALE	16	1837	1849	1914	S12	W88	4710	01	10.1	37	SN	M 1.3	3	C		35		F
	HOLL	16	1848	1851	1858	S09	W84	4710	01	10.5	10	SF	M 1.3	4	C		34		F
0038	HOLL	16	2244	2245	2249	S09	W91	4710	01	10.1	5	SF		3	C		11		
		17	1826		1946	No Flare Patrol													

H - ALPHA S O L A R F L A R E S

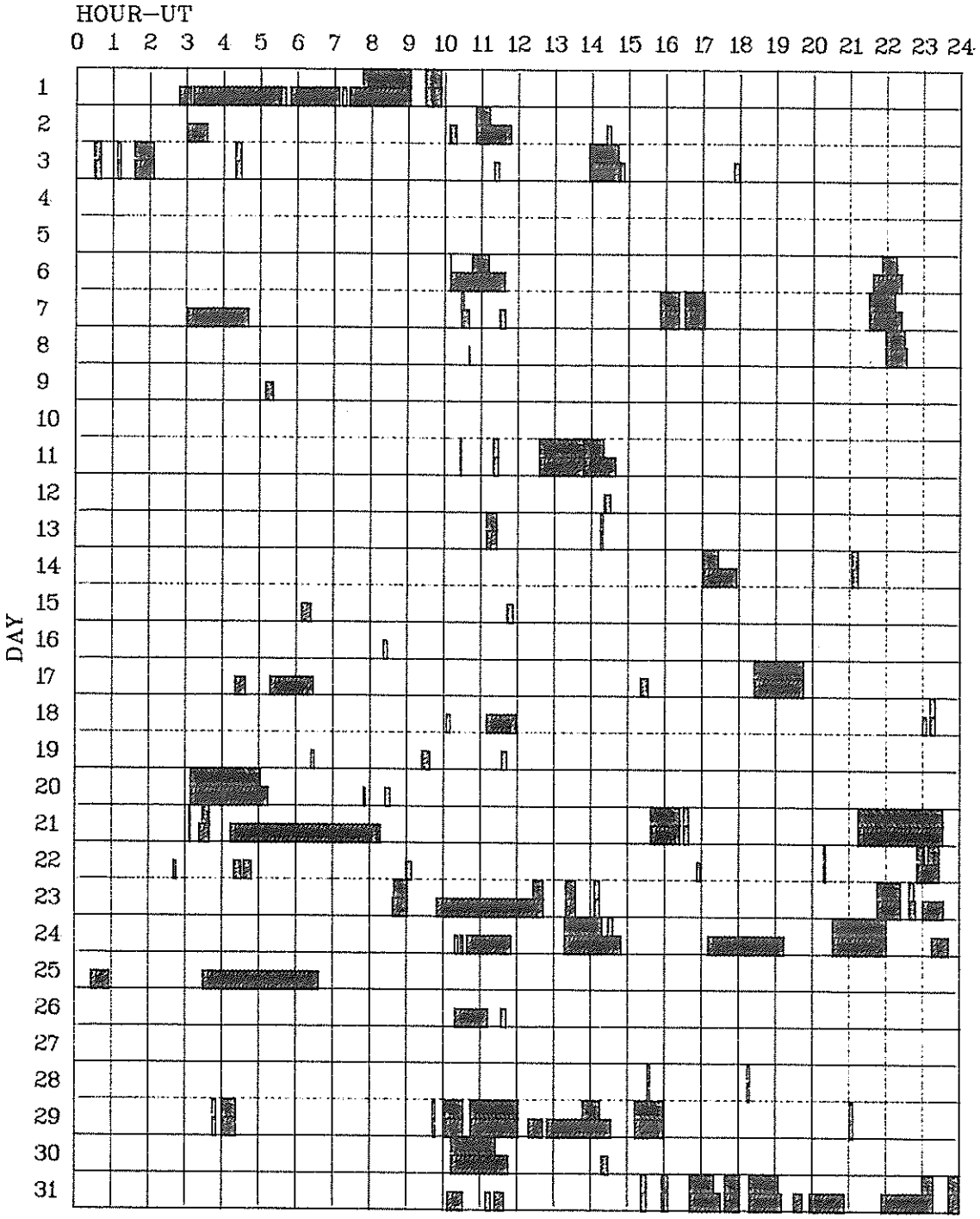
JANUARY 1986

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Corr (Sq Deg)	Remarks
		18	2313		2321	No Flare Patrol														
		20	0310		0504	No Flare Patrol														
		21	0308		0310	No Flare Patrol														
		21	0329		0341	No Flare Patrol														
0039	GEOR	21	1010	1018	1045	N27	E75	4710B	01	27.3	35	1N								DG
		21	1539		1626	No Flare Patrol														
		21	1632		1640	No Flare Patrol														
		21	2116		2334	No Flare Patrol														
		22	2020		2023	No Flare Patrol														
		22	2252		2304	No Flare Patrol														
		22	2310		2328	No Flare Patrol														
		23	0841		0903	No Flare Patrol														
		23	1228		1244	No Flare Patrol														
		23	1321		1337	No Flare Patrol														
		23	1408		1416	No Flare Patrol														
		23	2147		2225	No Flare Patrol														
		23	2239		2247	No Flare Patrol														
		24	1319		1420	No Flare Patrol														
		24	1430		1438	No Flare Patrol														
		24	2035		2202	No Flare Patrol														
0040	PALE	26	1803	1804	1809	S30	E16	4710C	01	28.0	6	SF		3	C		23			HS
		28	1534		1538	No Flare Patrol														
		28	1816		1820	No Flare Patrol														
		29	0347		0353	No Flare Patrol														
		29	0403		0425	No Flare Patrol														
		29	0945		0949	No Flare Patrol														
		29	1005		1034	No Flare Patrol														
		29	1046		1204	No Flare Patrol														
		29	1349		1417	No Flare Patrol														
		29	1514		1600	No Flare Patrol														
		29	2103		2108	No Flare Patrol														
		30	1015		1127	No Flare Patrol														
0041	RAMY	31	1301	1302	1308	S08	E70	4711	02	5.8	7	SN		3	C		66			
		31	1524		1533	No Flare Patrol														
		31	1558		1608	No Flare Patrol														
		31	1643		1722	No Flare Patrol														
		31	1740		1804	No Flare Patrol														
		31	1820		1907	No Flare Patrol														
0042	HOLL	31	1956E	1956U	2031	S08	E67	4711	02	5.8	35D	SF		3	C		51			F
		31	2301		2319	No Flare Patrol														
0043	PALE	31	2321E	2321U	2342	S09	E62	4711	02	5.6	21D	SF		3	C		14			F
		31	2344		2400	No Flare Patrol														

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JANUARY 1986



Times of no flare patrol, shown here as shaded areas, combine reports from the observatories listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind, that is, of neither visual nor cinematographic; portions of a panel with only the bottom half shaded mark times of strictly visual patrol.

Abastumani	Georgiana	Kanzelhoehe	Manila	Purple Mt.
Athens	Haute Provence	Kharkov	Mitaka	Ramey
Bucharest	Holloman	Learmonth	Palehua	Tashkent
Culgoora	Istanbul	Lvov	Peking	Voroshilov
				Wendelstein

NUMBER OF SOLAR FLARES
(From the Grouped Flare Listings)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1966								391	558	432	417	543
1967	796	589	1009	694	771	629	907	911	573	946	775	1109
1968	1037	773	519	460	768	697	573	611	616	772	556	640
1969	581	504	669	655	839	694	489	551	540	643	566	422
1970	466	646	578	688	722	836	954	780	811	797	687	667
1971	598	505	387	546	461	430	713	673	518	375	431	394
1972	384	599	621	361	614	541	404	515	371	408	175	210
1973	221	171	410	453	388	270	232	182	353	201	136	163
1974	127	148	79	364	255	204	360	187	270	366	153	81
1975	68	82	69	19	42	85	196	346	68	38	127	25
1976	69	18	180	60	38	48	6	47	57	23	13	55
1977	54	77	18	76	64	210	140	140	250	252	107	336
1978	274	588	338	526	330	460	533	346	554	499	418	648
1979	926	781	731	731	907	772	750	821	901	1018	888	786
1980	703	689	621	1092	811	956	763	720	924	988	1027	838
1981	578	782	914	915	658	592	893	982	680	836	773	615
1982	631	763	783	480	540	769	696*	753*	616*	545*	565*	749*
1983	332*	220*	337*	346*	609*	561*	427*	395*	289*	298*	88*	152*
1984	353*	461*	366*	440*	492*	185*	151*	161*	95*	36*	92*	69*
1985	104*	29*	38*	118*	126*	113*	177*	48*	22*	106*	19*	45*
1986	43*											

*Preliminary

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1986

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
02	500	HIRA	6	S	0535.9	0537.0	2.0	2.0	1.0		WL
	500	HIRA	8	S	0548.4	0548.7	.5	2.0			WL
	808	ONDR	1	S	0910.5	0910.5	.7				
	204	IZMI	41	F	1045.2	1045.8	1.2	280.0			
	260	ONDR	8	S	1325.0	1325.0	.5	3.0			
	808	ONDR	1	S	1327.0	1328.3	1.8				
03	260	ONDR	44	NS	0808.0E	1209.0	276.0D	12.0			
	536	ONDR	46	C	1139.0	1140.8	2.0	3.0			
04	430	TORN	2	S/F	0941.0	0941.5	1.2	16.0	2.0		
	810	TORN	1	S	0941.8	0942.0	.3	9.0			
	260	ONDR	40	F	0955.0	0955.0	1.2	3.0			
	260	ONDR	8	S	1202.1	1202.1	.1	11.0			
	808	ONDR	8	S	1301.0	1301.0	.1				
	260	ONDR	8	S	1301.0	1301.0	.2	3.0			
05	33	UPIC	2	S/F	0746.5	0746.7	.5				
	29	UPIC	1	S	0746.6	0746.8	.4				
	430	TORN	7	C	1112.7	1113.3	1.5	9.0	3.0		
	808	ONDR	8	S	1310.0	1310.0	.3				
06	808	ONDR	46	C	0851.0		2.0				
	808	ONDR			0851.0	0851.3					
	808	ONDR			0851.0	0852.5					
07	245	LEAR	47	GB	0740.8	0740.8	.3	77.0			QL=6 ST=2 TYP=5
	930	BORD	8	S	1303.8	1304.0	.3	34.0	2.0		
	930	BORD	41	F	1336.3	1336.3	.5	11.0	2.0		
08	3750	TYKW	20	GRF	0110.0	0200.0	150.0	1.0	.5		
	2000	TYKW	20	GRF	0210.0	0225.0	60.0	1.0	.5		
	9400	TYKW	5	S	0442.0	0442.5	1.5	3.0	1.0		
	930	BORD	46	C	0801.8	0802.2	.6	46.0	2.0		
	930	BORD	8	S	1112.6	1112.7	.2	17.0	2.0		
	536	ONDR	42	SER	1158.5	1158.5	5.0	5.0			
	808	ONDR	8	S	1158.5	1158.7	.5				
	260	ONDR	8	S	1158.7	1158.9	.3	3.0			
	260	ONDR	8	S	1243.0	1243.1	.2	4.0			
	536	ONDR	8	S	1243.5	1243.5	.2	11.0			
	500	HIRA	6	S	2242.8	2243.6	1.5	25.0	5.0		MLWR
09	810	TORN	8	S	0838.3	0838.5	.3	9.0			
	430	TORN	8	S	0839.1	0839.1	.1	13.0			
	930	BORD	41	F	1144.6	1144.9	.5	12.0	2.0		
10	930	BORD	8	S	1109.0	1109.2	.3	35.0	2.0		
11	930	BORD	41	F	1019.7	1019.9	.3	27.0	2.0		
	930	BORD	41	F	1031.2	1031.4	.4	10.0	2.0		
	930	BORD	8	S	1038.4	1038.5	.4	21.0	2.0		
	260	ONDR	40	F	1246.5	1246.5	3.0	18.0			
	930	BORD	41	F	1456.0	1456.3	.4	16.0	2.0		
12	1000	TYKW	45	C	2327.9	2328.0	0.5	5.0	2.0		
	2000	TYKW	45	C	2327.9	2328.0	0.5	44.0	8.0		
13	3100	CRIM	24	R	0730.0	1115.0		5.0			
	930	BORD	46	C	0808.0	0808.4	.6	69.0	4.0		
	930	BORD	41	F	0834.7	0835.3	1.0	25.0	2.0		
	930	BORD	41	F	0842.5	0842.9	29.0	3.0			
	930	BORD	41	F	0842.5	0842.9	.6	29.0	3.0		
	260	ONDR	8	S	1109.0	1109.0	.5	3.0			
	930	BORD	8	S	1133.0	1133.1	.2	23.0	2.0		
	930	BORD	41	F	1143.6	1143.8	1.4	16.0	3.0		
	536	ONDR	8	S	1237.0	1237.5	1.0	9.0			
	260	ONDR	4	S/F	1237.0	1237.7	1.0	2.0			
	808	ONDR	1	S	1257.0	1257.2	.5				
14	930	BORD	8	S	0811.3	0811.5	.4	21.0	2.0		
	930	BORD	41	F	1125.1	1125.7	.7	24.0	2.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1986

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
14	930	BORD	8 S	1139.4	1139.6	.3	17.0	2.0		
	2800	OTTA	240AR	1405.0	1545.0	100.0	3.0	1.5		
	2800	OTTA	45 C	1455.0	1502.4	14.0	15.0	6.0		
	930	BORD	46 C	1500.0	1507.7	10.0	26.0	5.0		
	2800	OTTA	29 PBI	1509.0	1509.0	36.0	4.6	2.2		
	500	HIRA	8 S	2304.0	2304.1	.1	11.0			0
15	9300	KISV	28 PRE	0653.0E	0655.0	5.0D	12.0			
	3750	TYKW	28 PRE	0654.0	0655.0	4.0	5.0	1.0		
	2000	TYKW	28 PRE	0654.0	0655.0	4.0	6.0	2.0		
	1000	TYKW	28 PRE	0654.0	0655.0	4.0	3.0	1.5		
	500	HIRA	8 S	0654.3	0654.7	.7	16.0			WR
	3100	CRIM	3 S	0654.3	0705.3	21.0	75.0	25.0		
	3100	CRIM	29 PBI	0654.3	0715.3	120.0	11.0	3.0		
	650	GORK	28 PRE	0654.4	0654.8	.8	9.0			
	950	GORK	28 PRE	0654.5	0655.0	1.0	4.5			
	2950	GORK	28 PRE	0654.7	0655.1	.7	4.7			
	9100	GORK	28 PRE	0654.8	0655.2	.7	3.5			
	650	GORK	46 C	0655.2	0700.1	18.3	60.0			
	650	GORK		0655.2	0706.4		22.0			
	2950	GORK	45 C	0655.4	0659.3	17.5	26.3			
	2950	GORK		0655.4	0703.4		27.0			
	2950	GORK		0655.4	0705.5		52.0			
	410	LEAR	47 GB	0655.5	0655.6	.3	58.0			QL=6 ST=2 TYP=5
	950	GORK	46 C	0655.6	0700.0	18.0	40.5			
	200	HIRA	46 C	0655.6	0700.9	16.0	60.0	7.0		WR
	950	GORK		0655.6	0705.5		38.7			
	204	IZMI	4 S/F	0656.0	0701.0	170.0	36.0	20.0		
	200	GORK	46 C	0656.0	0701.1	66.6	110.0			
	200	GORK		0656.0	0708.4		20.0			
	200	GORK		0656.0	0755.1		25.0			
	9100	GORK	46 C	0656.2	0659.3	156.0	65.0			
	9100	GORK		0656.2	0659.7		56.0			
	9100	GORK		0656.2	0700.4		45.0			
	9100	GORK		0656.2	0705.0		33.0			
	245	LEAR	4 S/F	0656.3	0659.3	4.7	42.0			QL=6 ST=2 TYP=3
	500	HIRA	46 C	0657.9	0658.5	12.0	75.0	20.0		WR
	2000	TYKW		0658.0	0659.3		32.0			
	3750	TYKW		0658.0	0659.3		39.0			
	9400	TYKW	45 C	0658.0	0659.3	15.0	57.0	13.0		
	1000	TYKW	45 C	0658.0	0700.0	18.0U	43.0	8.0U		
	3750	TYKW	45 C	0658.0	0705.5	15.0	58.0	19.0		
	2000	TYKW	45 C	0658.0	0705.5	15.0	44.0	15.0		
	1000	TYKW		0658.0	0705.5		32.0			
	9400	TYKW		0658.0	0705.5		28.0			
	9300	KISV	45 C	0658.1	0659.2	10.0	73.0			
	9300	KISV		0658.1	0705.5		36.0			
	8800	LEAR	47 GB	0658.6	0659.3	19.2	71.0			QL=6 ST=2 TYP=5
	1415	LEAR	47 GB	0658.6	0659.8	12.0	51.0			QL=6 ST=2 TYP=5
	2695	LEAR	47 GB	0658.6	0705.3	12.2	61.0			QL=6 ST=2 TYP=5
	4995	LEAR	47 GB	0658.6	0705.5	11.2	53.0			QL=6 ST=2 TYP=5
	15000	KISV	2 S/F	0658.8	0659.8	4.0	26.0			
	100	GORK	46 C	0659.2	0701.0	81.0	20.0D			
	100	GORK		0659.2	0704.7		20.0D			
	100	GORK		0659.2	0716.3		180.0			
	100	GORK		0659.2	0732.7		20.0			
	100	GORK		0659.2	0757.2		20.0			
	100	GORK		0659.2	0759.0		20.0D			
	15400	LEAR	8 S	0659.5	0659.8	.3	31.0			QL=5 ST=2 TYP=3
	100	HIRA	42 SER	0700.0U	0709.3	17.0U	90.0			WR
	3000	IZMI	7 C	0700.0	0705.5	15.0	65.0	30.0		
	9300	KISV	29 PBI	0708.0E	0708.0	38.0	16.0			
	9100	GORK	29 PBI	0712.0	0712.0	147.0	11.0			
	2000	TYKW	29 PBI	0713.0		15.0U	1.0	.5U		
	3750	TYKW	29 PBI	0713.0		15.0D	6.0	4.0D		
	2950	GORK	29 PBI	0713.0	0757.9	141.0	5.4			
	650	GORK	29 PBI	0713.5	0756.8	75.5	5.5			
	950	GORK	29 PBI	0713.6	0757.0	82.0	7.0			
	930	BORD	8 S	1314.7	1314.7	.3	31.0	2.0		
	930	BORD	41 F	1409.8	1410.0	.4	79.0	2.0		
	2695	PENT	240AR	2100.0	2200.0	60.0	5.2	2.6		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1986

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
15	2800	OTTA	2	S/F	2102.0	2108.0	8.0	3.0	1.4		
	2695	PENT	1	S	2116.0	2119.3	5.0	9.4	4.5		
	2695	PENT	1	S	2145.0	2150.0	9.0	2.6	1.4		
16	930	BORD	46	C	0805.6	0806.1	.6	55.0	2.0		
	930	BORD	46	C	1304.3	1304.6	.6	188.0	6.0		
	930	BORD	41	F	1358.0	1358.5	.7	20.0	3.0		
	2800	OTTA	21	GRF	1530.0	1710.0	140.0	4.4	2.0		
	2800	OTTA	46F	C	1607.5	1613.0	17.0	34.4	8.8		
	8800	SGMR	47	GB	1610.3	1612.8	6.8	169.0			QL=6 ST=3 TYP=5
	15400	SGMR	47	GB	1611.1	1612.8	5.9	76.0			QL=6 ST=3 TYP=5
	8800	SGMR	47	GB	1611.8	1612.8	3.8	169.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1612.6	1612.8	2.7	87.0			QL=6 ST=2 TYP=5
	2800	OTTA	1	S	1628.0	1629.5	5.0	1.2	.6		
	2800	OTTA	20	GRF	1637.7	1640.0	14.0	12.2	4.6		
	2800	OTTA	20	GRF	1652.0	1657.0	18.0	3.4	1.7		
	2800	OTTA	28	PRE	1810.0	1834.0	30.0	6.4	2.6		
	2695	SGMR	47	GB	1839.6	1849.1	48.4	210.0			QL=1 ST=3 TYP=5
	2800	OTTA	3	S	1840.0	1849.0	46.0	235.0	103.0		
	4995	SGMR	47	GB	1840.6	1849.1	2533.4	239.0			QL=1 ST=3 TYP=5
	1415	SGMR	47	GB	1841.8	1848.6	40.8	130.0			QL=1 ST=3 TYP=5
	2695	SGMR	47	GB	1843.0	1849.1		210.0			QL=1 ST=1 TYP=5
	4995	SGMR	47	GB	1843.1	1849.1		239.0			QL=1 ST=1 TYP=5
	1415	SGMR	47	GB	1845.1	1848.6		130.0			QL=1 ST=1 TYP=5
	15400	PALE	47	GB	1848.3	1852.8	12.8	139.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	1859.1	1917.1	31.4	150.0			QL=1 ST=3 TYP=5
	610	PALE	47	GB	1908.6	1909.6	2.2	83.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	1915.8	1917.1	4.0	130.0			QL=6 ST=2 TYP=5
	2800	OTTA	29	PBI	1926.0	1926.0	150.0	8.0	2.0		
17	3750	TYKW	20	GRF	0130.0	0147.0	80.0	1.0	.5		
	9400	TYKW	20	GRF	0130.0	0147.0	80.0	3.0	1.5		
18	930	BORD	41	F	1554.4	1554.6	1.6	59.0	3.0		
19	29	UPIC	2	S/F	0914.2	0914.6	.5				
	33	UPIC	2	S/F	0914.5	0915.0	.6				
20	33	UPIC	1	S	0934.3	0934.5	.4				
	930	BORD	41	F	1131.1	1131.2	.4	15.0	2.0		
	260	ONDR	40	F	1217.5	1219.0	2.0	2.0			
	536	ONDR	40	F	1218.0	1219.0	2.0	8.0			
21	930	BORD	8	S	1122.9	1123.0	.2	45.0	2.0		
22	930	BORD	41	F	1209.4	1210.0	.8	23.0	2.0		
	930	BORD	8	S	1300.8	1301.0	.2	13.0	2.0		
23	410	LEAR	4	S/F	0434.5	0436.0	2.8	42.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0434.8	0436.1	2.5	66.0			QL=6 ST=2 TYP=5
	808	ONDR	4	S/F	0955.8	0956.0	.7				
24	930	BORD	8	S	0943.6	0943.8	.3	27.0	2.0		
	930	BORD	8	S	1019.0	1019.1	.3	54.0	2.0		
	930	BORD	41	F	1219.5	1219.6	.4	21.0	2.0		
25	2950	GORK	45	C	0941.3	0941.4	.6	2.8	1.4		
	2950	GORK			0941.3	0941.7		1.7			
26	260	ONDR	46	C	1043.3	1043.3	1.2	35.0			
	536	ONDR	46	C	1043.5	1043.5	1.5	6.0			
27	930	BORD	46	C	0804.2	0804.4	.8	16.0	3.0		
	536	ONDR	1	S	1156.0	1156.2	.5	4.0			
	930	BORD	8	S	1228.5	1228.7	.3	15.0	2.0		
28	950	GORK	4	S/F	0727.7	0729.4	3.5	14.0			
	650	GORK	4	S/F	0728.7	0729.8	5.4	15.0			
	536	ONDR	8	S	1307.2	1307.2	.2	42.0			
	808	ONDR	8	S	1307.2	1307.3	.5				
	260	ONDR	8	S	1307.5	1307.6	.3	9.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1986

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
29	2950	GORK	29	PBI		0919.2	12.0	1.0			
	2950	GORK	1	S	0917.8	0918.4	1.4	1.7	.8		
	930	BORD	8	S	1243.0	1243.1	.2	18.0	2.0		
30	260	ONDR	43	NS	1215.5	1233.0	33.5	66.0			
	536	ONDR	41	F	1232.0	1233.0	2.0	8.0			
31	1000	TYKW	5	S	0318.0	0320.0	13.0	1.0	.3		
	2000	TYKW	5	S	0319.0	0319.8	3.0	1.5	.5		
	8800	ATHN	8	S	1301.0	1302.0	2.0	9.0			QL=6 ST=2 TYP=3
	4995	ATHN	8	S	1302.0	1302.0	1.0	2.0			QL=6 ST=2 TYP=3
	1415	ATHN	8	S	1302.0	1302.0	1.0	3.0			QL=6 ST=2 TYP=3
	2695	ATHN	8	S	1302.0	1302.0	1.0	2.0			QL=6 ST=2 TYP=3
	810	TORN	8	S	1305.7	1305.7	.1	4.0			

Reports are received routinely from the following observatories:

ATHN = Athens
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
KRAK = Krakow
LEAR = Learmonth
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PALE = Palehua
PEKG = Peking
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
UPIC = Upice

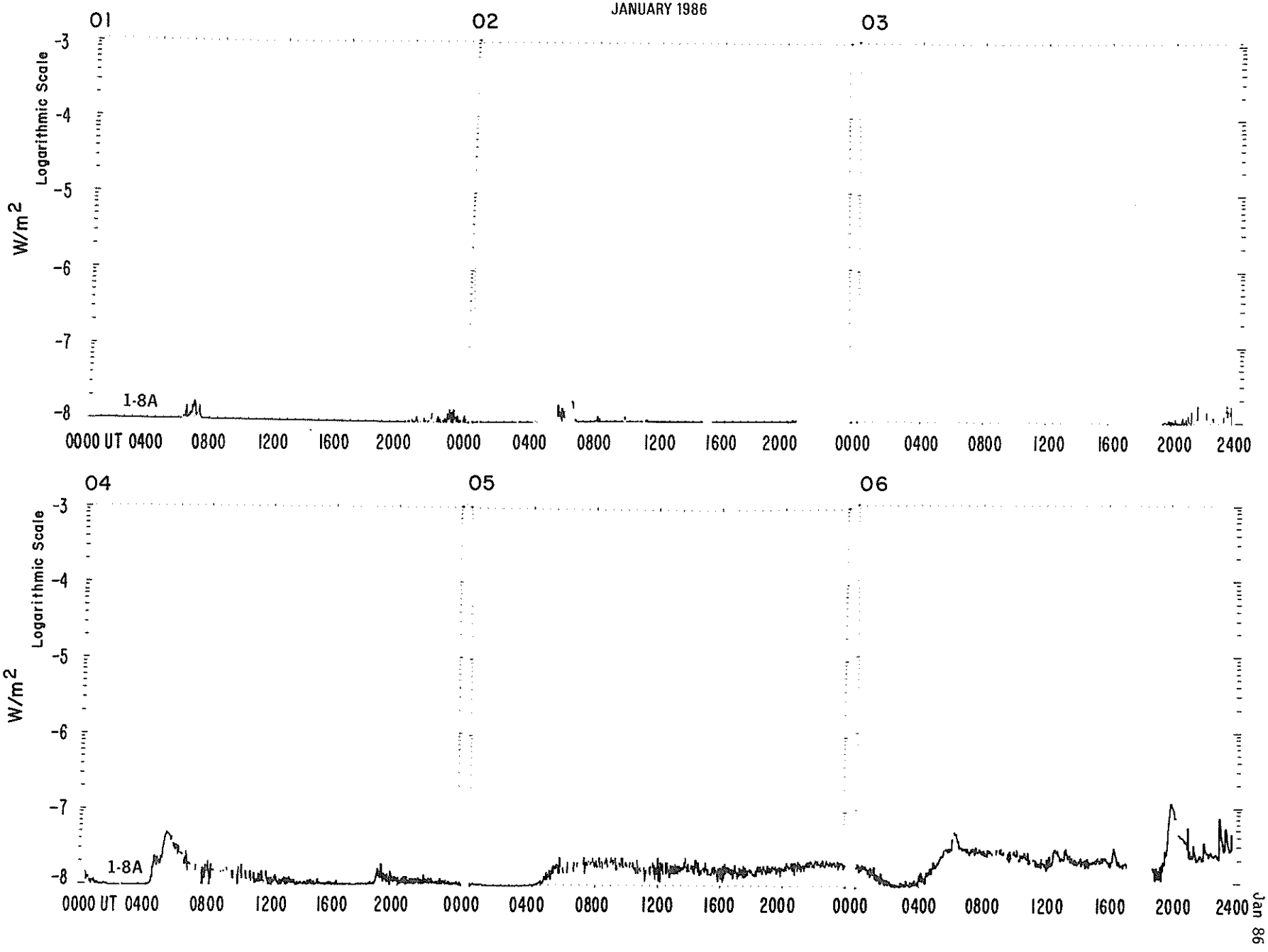
Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
33 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm In Progress
45 Complex
46 Complex F
47 Great Burst
48 Major

1A Simple 1A
3A Simple 2A
21A Simple 3A GRF
2A Simple 1AF
4A Simple 2AF
240 Rise only
240F Rise only F
24P Post Rise
24PF Post Rise F
16A Fall A
260 Fall Only
26F Fall F
27F Rise and Fall F
27AF Rise and Fall AF
31A Post Burst Decrease A
32A Absorption A
46F Complex F

GOES 6 X-RAYS

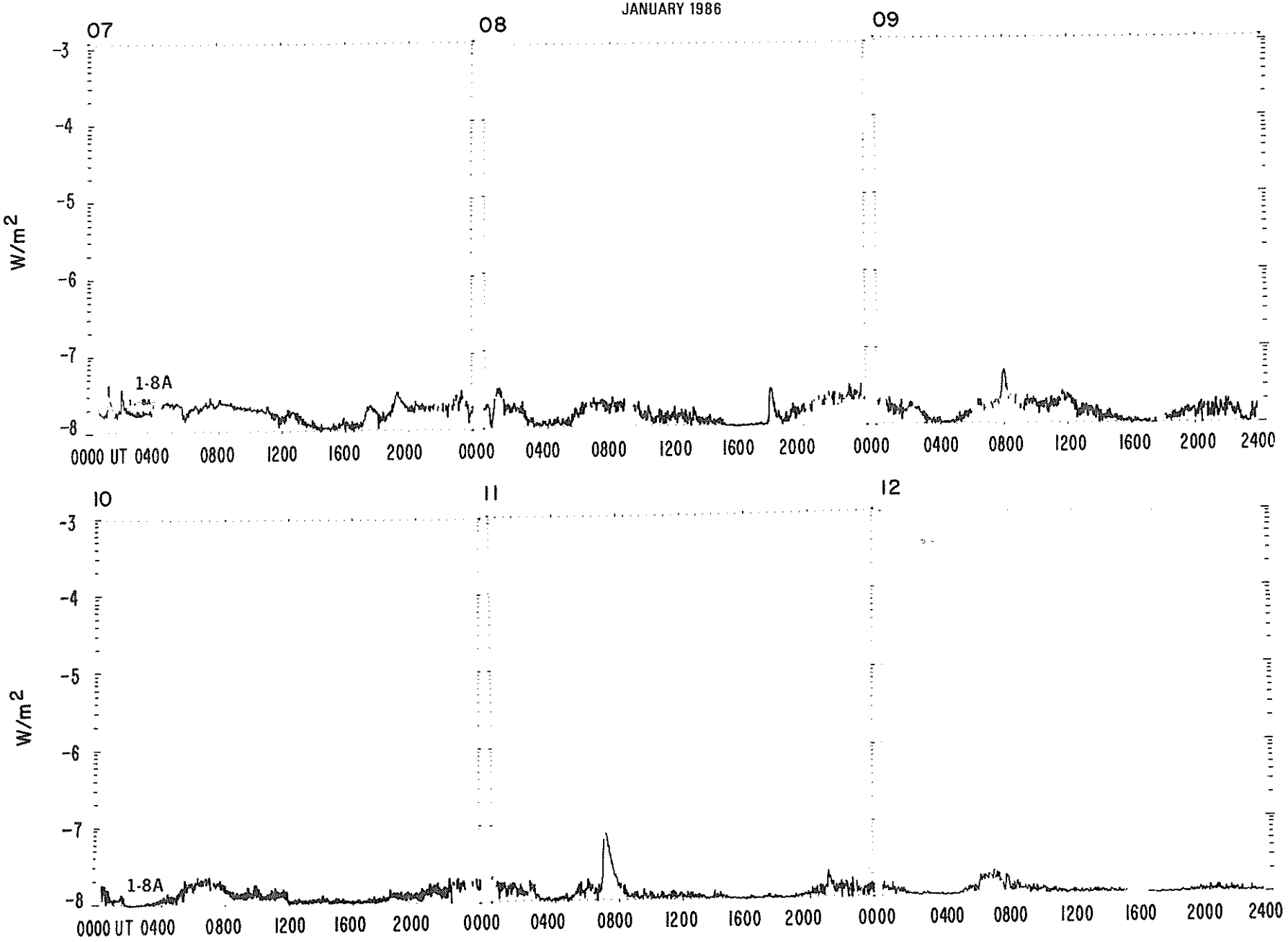
JANUARY 1986



GOES 6 X-RAYS

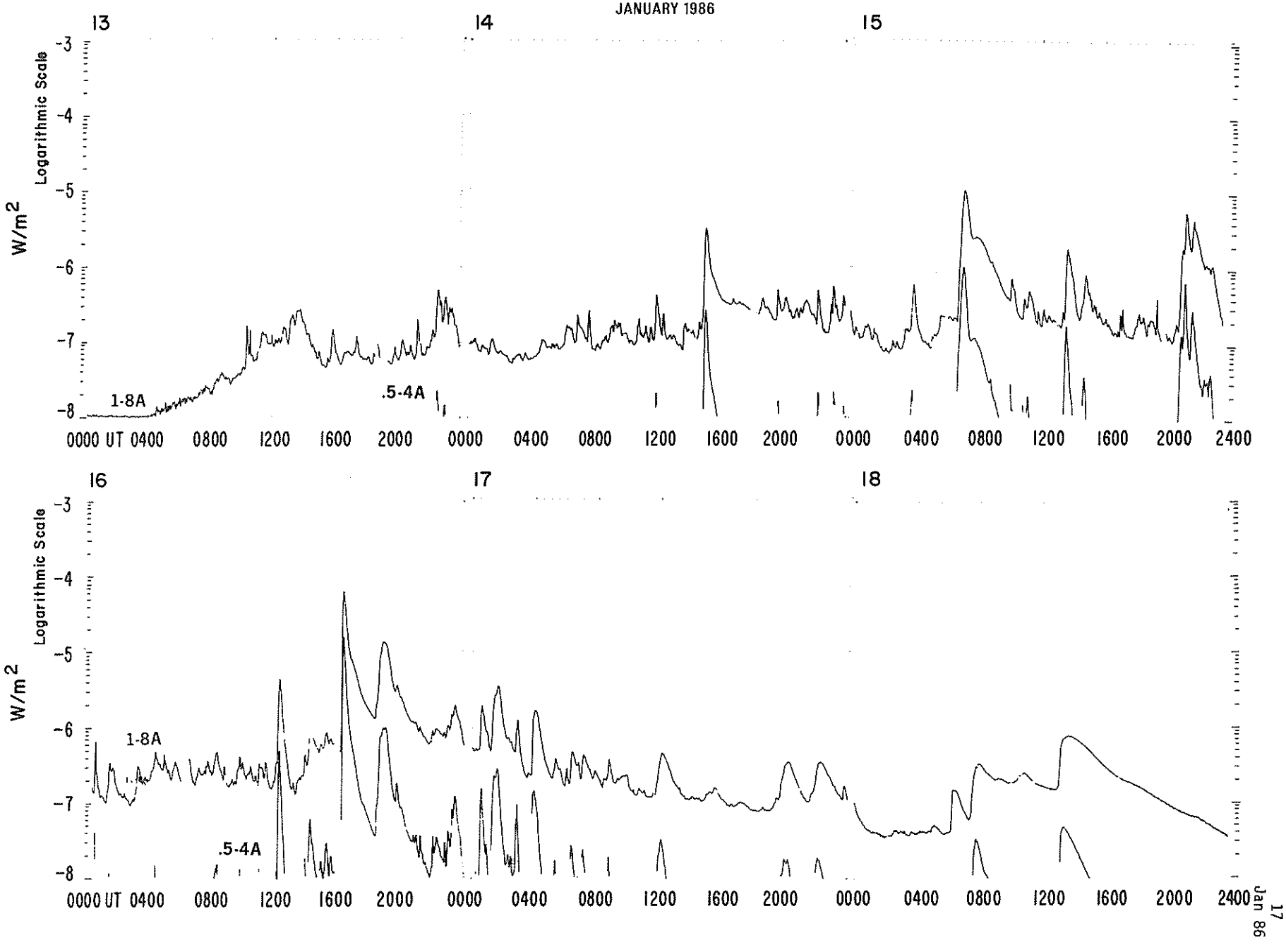
JANUARY 1986

16 Jan 86



GOES 6 X-RAYS

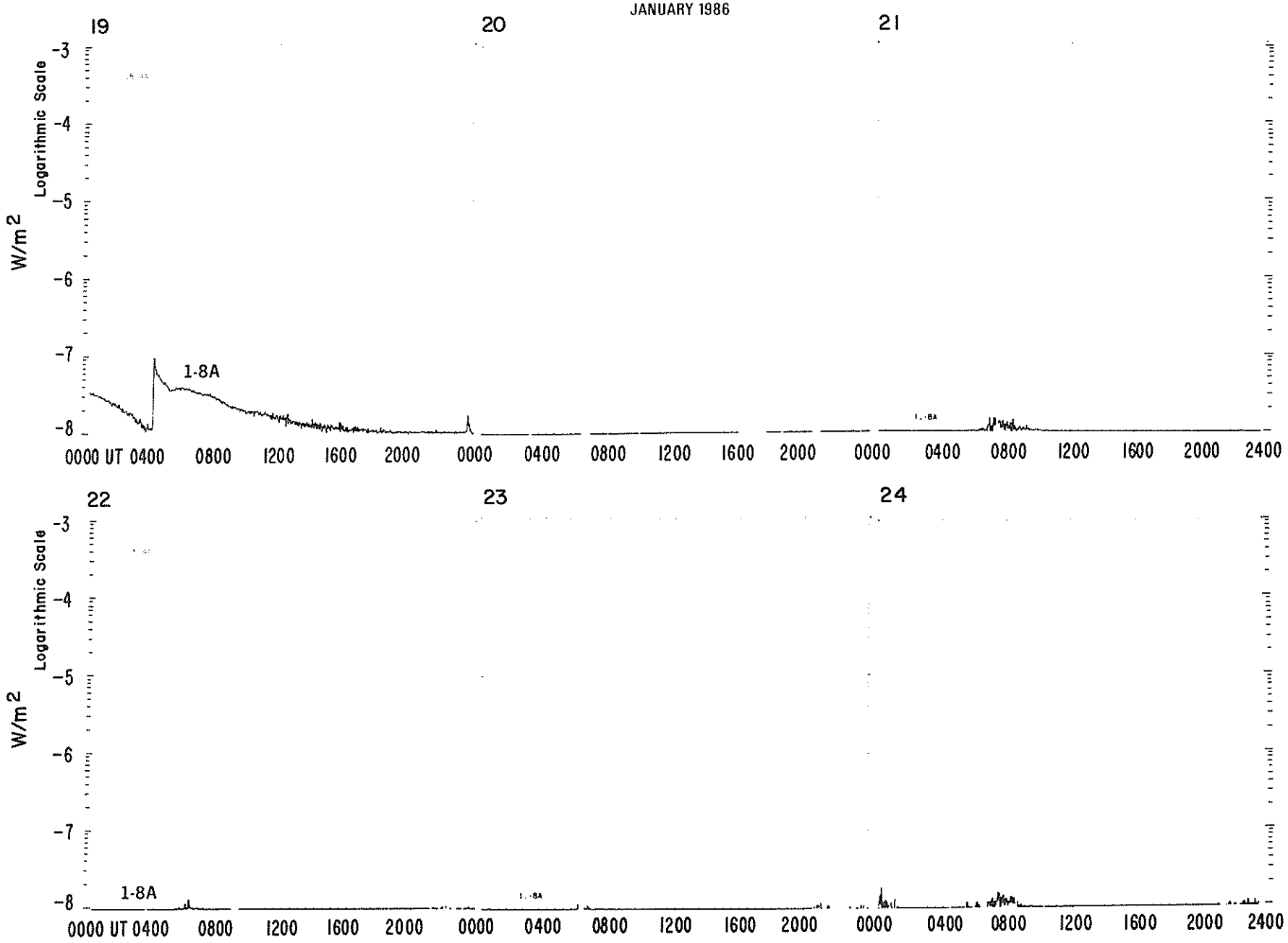
JANUARY 1986



GOES 6 X-RAYS

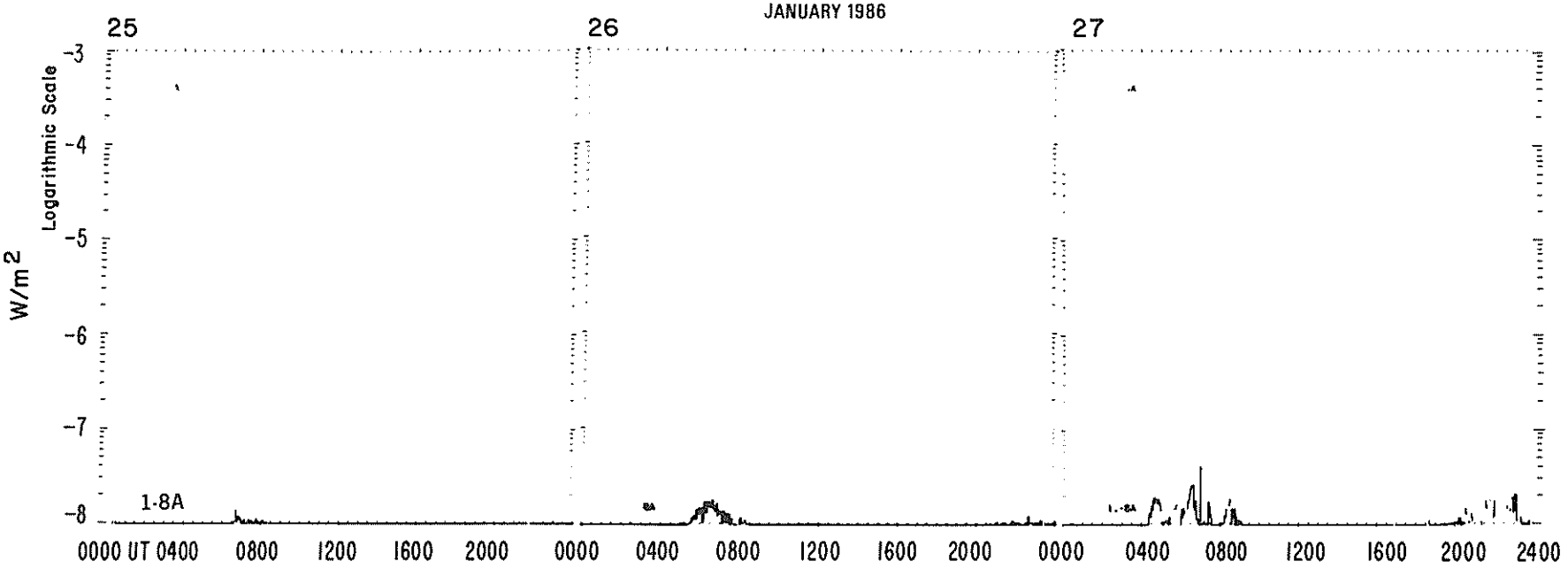
JANUARY 1986

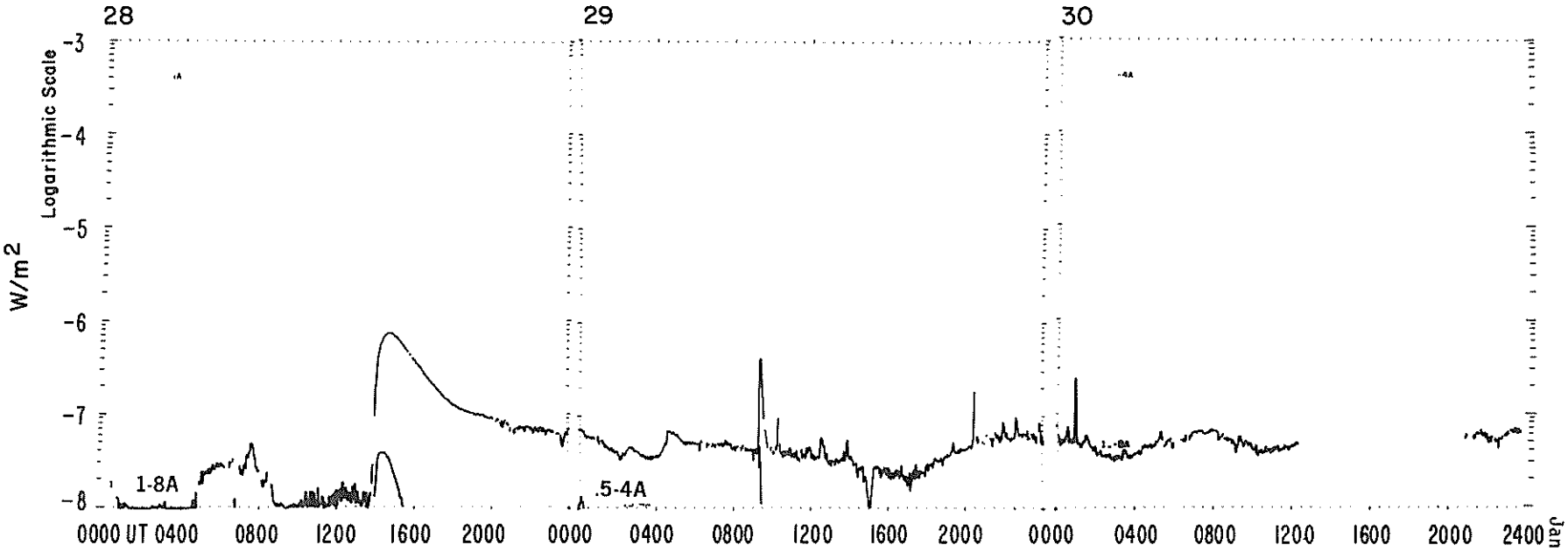
18 Jan 86



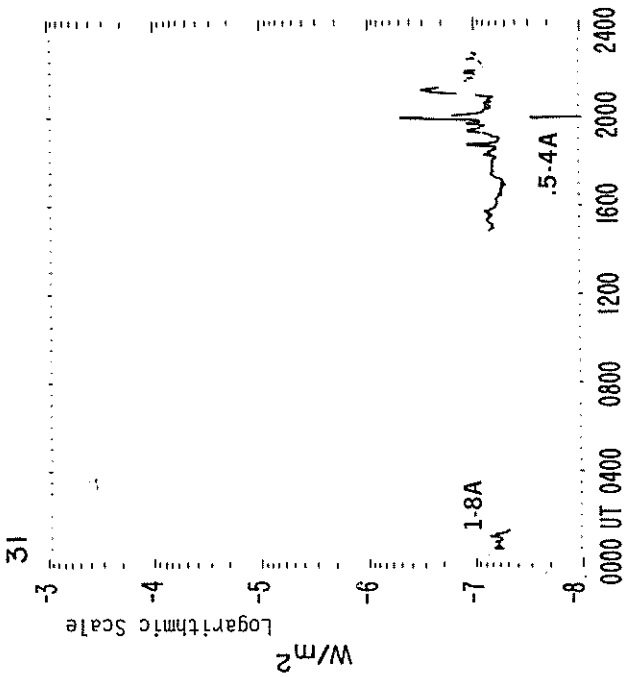
GOES 6 X-RAYS

JANUARY 1986





19 Jan 86


GOES 6 X-RAYS
JANUARY 1986
31
W/m²
Logarithmic Scale
-3
-4
-5
-6
-7
-8
1-8A
.5-4A
0000 UT 0400 0800 1200 1600 2000 2400

GOES SOLAR X-RAY FLARES

Preliminary Listing

January 1986

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	Imp	Opt	Xray
06	1939	1955	2007						B1.3
13	1014	1021	1024						B1.7
13	1029E	1032	1036	S13	W42	4710		SF	B1.8
13	1115	1121	1141			4710			B1.4
13	1129E	1243	1326	S13	W44	4710		SN	B1.8
13	1301	1345	1355			4710			B2.7
13	1544	1550	1556			4710			B1.5
13	1717	1722	1726			4710			B1.2
13	2019	2021	2030	S10	W49	4710		SF	B1.0
13	2113	2114	2135	S10	W50	4710		SF	B2.1
13	2203	2233	2313	S09	W51	4710		SF	B5.0
13	2253	2300	2306			4710			B4.0
13	2312	2325	2328			4710			B3.2
14	0118	0128	0136						B1.0
14	0609	0611	0622	S08	W56	4710		SF	B1.4
14	0650	0655	0700						B2.2
14	0733	0738	0743						B2.5
14	0857	0908	0911						B1.6
14	0914	0917	0920						B1.9
14	1041	1050	1053						B2.0
14	1113	1116	1122						B1.3
14	1131	1135	1140						B1.5
14	1150	1156	1204						B4.1
14	1219	1224	1227						B2.3
14	1338	1348	1421						B1.6
14	1437	1441	1445						B1.8
14	1507	1508	1545	S14	W60	4710		SN	C3.1
14	1647	1649	1653						B3.5
14	1833	1844	1855						B3.9
14	1937	1943	1948						B4.7
14	2004	2013	2025						B4.0
14	2046	2053	2059						B2.6
14	2118	2132	2145						B3.8
14	2212	2216	2222						B4.8
14	2302	2306	2310						B3.0
14	2312	2315	2323	S11	W67	4710		SF	B5.3
14	2347	2353	2358						B4.0
15	0129	0142	0147	S08	W67	4710		SF	B1.8
15	0359	0402	0418	S09	W67	4710		SF	B6.0
15	0654	0710	0840	S09	W67	4710		1N	M1.1
15	1009	1014	1021						B7.6
15	1059	1103	1111						B4.2
15	1117	1122	1130						B5.2
15	1213	1219	1224						B3.0
15	1329	1333	1337			4710			B2.8
15	1342	1344	1347	S11	W71	4710		SF	C2.0
15	1451	1459	1506						B8.6
15	1710	1713	1716						B2.8
15	1718	1722	1724						B3.3
15	1857	1910	1924						B2.3
15	1956	2000	2004						B2.2
15	2057	2121	2131						C6.0
15	2148	2149	2159	S12	W72	4710		SF	C4.6
16	0017	0021	0023						B8.2
16	0112	0117	0134						B3.6
16	0301	0306	0315						B3.1
16	0443	0447	0451						B4.5
16	0600	0603	0605						B4.9
16	0835	0838	0842						B3.1
16	0934	0937	0940						B4.5
16	1047	1052	1107						B3.5
16	1112	1116	1121						B3.4
16	1200	1210	1218						C4.3
16	1343	1347	1354						B4.4
16	1359	1409	1423						C1.0
16	1505	1511	1514						B8.5
16	1616	1617	1623	S09	W86	4710		SF	M6.6
16	1837	1849	1914	S12	W88	4710		SN	M1.3
16	2253	2258	2300			4710			C1.0
16	2306	2324	2333						C1.9
17	0030	0037	0047			4710			C2.0
17	0114	0139	0151			4710			C3.6
17	0246	0255	0300			4710			C1.3
17	0350	0401	0420			4710			C1.7
17	0513	0521	0544						B4.0
17	0616	0626	0640						B4.9
17	0702	0709	0719						B4.5
17	0843	0847	0852						B3.9
17	1201	1210	1218						B4.7
17	1943	2014	2036						B3.7
17	2341	2346	2353						B1.7
18	0607	0616	0648						B1.5
18	0725	0800	0856						B3.3
18	1301	1338	1502						B7.8
19	0359	0405	0427						B1.0
28	1347	1439	1559						B7.3
29	0915	0922	0927						B4.3
29	2023	2026	2028						B1.9
29	2023	2026	2029						B2.1
30	0052	0057	0059						B2.4
30	1242	1246	1250						B1.4
30	1652	1656	1702						B1.0
30	1805	1809	1811						B1.1
31	0314	0321	0326						B6.4
31	1301	1302	1308	S08	E70	4711		SN	B6.3
31	1440	1443	1445						B1.1
31	1723	1726	1728						B1.4
31	1841	1845	1848						B1.3
31	1938	1942	1945						B1.2
31	1952	1958	2000						B5.6
31	2103	2114	2121						B3.1

Preliminary GOES-6 Data
Daily Average X-ray Background

February 1985 - January 1986

Day	1985 Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1986 Jan
1	B0.2	B0.1	B0.3	B1.6	B0.1	B1.1	B0.5	B0.1	B0.0	B0.0	B0.1	B0.0
2	B0.3	B0.0	B0.3	B1.7	B0.5	B1.0	B0.5	B0.1	B0.0	B0.0	B0.1	B0.0
3	B0.4	B0.0	B0.2	C1.1	B0.7	B0.9	B0.4	B0.1	B0.0	B0.1	B0.0	B0.0
4	B0.2	B0.0	B0.4	B7.7	B0.7	B0.8	B0.4	B0.1	B0.0	B0.1	B0.0	B0.0
5	B0.2	B0.0	B0.3	B0.3	B1.8	B1.0	B0.4	B0.2	B0.0	B0.0	B0.0	B0.0
6	B0.2	B0.0	B0.1	B0.8	B2.9	B1.1	B0.4	B0.2	B0.0	B0.1	B0.1	B0.0
7	B0.3	B0.0	B0.0	B1.5	B1.0	B3.2	B0.6	B0.1	B0.1	B0.2	B0.2	B0.0
8	B0.4	B0.1	B0.0	B1.2	B1.0	B4.1	B0.6	B0.1	B0.0	B0.6	B0.5	B0.0
9	B0.3	B0.0	B0.0	B1.8	B1.0	B3.1	B0.5	B0.0	B0.0	B0.5	B0.2	B0.0
10	B0.3	B0.0	B0.0	B1.6	B1.2	B4.1	B0.3	B0.0	B0.0	B0.4	B0.5	B0.0
11	B0.2	B0.1	B0.0	B1.9	B1.0	B3.2	B0.2	B0.0	B0.0	B0.5	B1.0	B0.0
12	B0.1	B0.1	B0.0	B1.2	B1.0	B3.5	B0.1	B0.1	B0.0	B0.4	B1.0	B0.0
13	B0.1	B0.1	B0.0	B2.0	B0.9	B3.4	B0.0	B0.5	B0.0	B0.5	B0.6	B0.3
14	B0.1	B0.1	B0.0	B2.0	B0.7	B1.5	B0.0	B0.2	B0.3	B0.6	B0.4	B0.4
15	B0.1	B0.1	B0.0	B1.9	B0.7	B0.7	B0.0	B0.1	B1.2	B1.3	B0.5	B0.4
16	B0.1	B0.0	B0.0	B2.1	B0.6	B0.2	B0.0	B0.1	B0.9	B0.7	B0.6	B0.5
17	B0.2	B0.1	B0.0	B1.9	B0.5	B0.2	B0.0	B0.0	B1.0	B0.5	B0.5	B1.0
18	B2.3	B0.2	B0.1	B1.8	B0.3	B0.1	B0.0	B0.0	B0.5	B0.4	B0.5	B0.7
19	B1.8	B0.3	B0.1	B1.3	B0.2	B0.1	B0.0	B0.1	B0.6	B0.4	B0.3	B0.6
20	B0.8	B0.2	B0.1	B1.3	B0.1	B0.1	B0.0	B0.1	B0.7	B0.3	B0.3	B4.7
21	B0.5	B1.9	B1.0	B1.4	B0.1	B0.1	B0.1	B0.3	B0.9	B0.3	B0.2	B9.5
22	B0.5	B0.7	B2.9	B0.9	B0.1	B0.1	B0.1	B0.0	B2.4	B0.2	B0.3	B2.9
23	B0.2	B0.7	B3.8	B0.8	B5.5	B0.1	B0.4	B0.0	B1.8	B0.2	B0.2	B2.7
24	B0.1	B0.5	C1.0	B0.8	B1.3	B0.1	B0.1	B0.0	B3.5	B0.2	B0.2	B1.3
25	B0.1	B0.4	B5.5	B0.7	B0.1	B0.5	B0.1	B0.0	B3.4	B0.2	B0.2	B0.8
26	B0.1	B0.4	B2.5	B0.5	B0.1	B1.0	B0.1	B0.1	B2.3	B0.1	B0.2	B0.6
27	B0.1	B0.3	B1.2	B0.5	B0.2	B1.0	B0.1	B0.0	B1.4	B0.1	B0.2	B0.2
28	B0.1	B0.4	B1.0	B0.4	B0.3	B0.8	B0.1	B0.0	B0.8	B0.0	B0.2	B0.0
29		B0.3	B1.4	B0.4	B0.9	B0.8	B0.1	B0.1	B0.7	B0.0	B0.2	B0.0
30		B0.3	B0.9	B0.3	B0.7	B0.8	B0.1	B0.0	B0.1	B0.0	B0.1	B0.0
31		B0.3		B0.0		B0.7	B0.5		B0.0		B0.2	B0.0

MASS EJECTIONS FROM THE SUN

JANUARY 1986

Sta	Day	Observed UT Start	Max	End	Location RA°	R/R_o	Freq or Wavelength	Kind of Event
CULG	Jan 15	0701.0		0719.0			Meter	II
CULG	Jan 15	0701.0		0703.0			Decimeter	IV
LEAR	Jan 15	0706.0		0706.0 D			Meter	II
CULG	Jan 28	0742.0		0754.0			Meter	II

QUALIFIERS ON START, MAX AND END TIMES
- D = event ended after tabulated time
- E = event began before the tabulated time
- U = uncertain time

REPORTING STATIONS
- CULG = Culgoora
- LEAR = Learmonth

TYPE OF EVENT
- A = eruptive active region prominence
- CB = coronal cloud bubble
- D = coronal depletions
- E = coronal enhancement
- EL = coronal expanding loop
- II = Type II radio burst
- IVm = moving Type IV radio burst
- Q = eruptive quiescent prominence
- R = coronal ray or streamer
- S = flare-surge if there is a known flare association
- SP = flare-spray if there is a known flare association
- * = movement may be caused by ionospheric refraction

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1986

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
02	BSL	0830E	0840	S88	E90	01	10.8	1-				C	CATA		
02	BSL	0850	0855	S52	W90	12	25.8	1-				C	CATA		
02	BSL	1020E	1025	N60	W90	12	25.6	1-				C	CATA		
02	BSL	1020E	1025	N70	W90	12	25.3	1-				C	CATA		
02	BSL	1025	1035	N79	W90	12	25.2	1-				C	CATA		
02	BSL	1030	1050D	N53	W90	12	25.8	1-				C	CATA		
02	BSL	1030	1050D	S89	E90	01	10.8	1-				C	CATA		
02	BSL	1230	1235	S70	E90	01	10.7	1-				C	CATA		
02	BSL	1235	1235D	S89	W90	12	25.2	1-				C	CATA		
02	DSD	2114E	2318D	S05	E02	01	3.0	1	01	9	9	E	PALE		
02	ADF	2320E	0143D	S09	E29	01	5.1	1	03	7	7	E	LEAR		
02	ADF	2327E	0143D	S32	W22	01	1.2	2	08	8	7	E	LEAR		
03	ADF	0240E	1001D	S07	E26	01	5.0	1	05	6	6	E	LEAR		
03	ADF	0241E	1001D	S37	W24	01	1.2	2	08	7	7	E	LEAR		
03	ADF	0750E	1300D	S37	W27	01	1.1	2	07	5	6	E	ATHN		
03	BSL	0830	0840D	N44	E90	01	10.8	1-				C	CATA		
03	BSL	1005	1025D	N67	W90	12	26.4	1-				C	CATA		
03	APR	1015E	1300D	S11	E90	01	10.2	2		9	9	E	ATHN		
03	BSL	1020	1025D	S89	E90	01	11.8	1-				C	CATA		
03	BSL	1110	1115	N72	W90	12	26.3	1-				C	CATA		
03	BSL	1115	1120	N58	W90	12	26.7	1-				C	CATA		
03	BSL	1120	1120D	N68	E90	01	11.6	1-				C	CATA		
03	BSL	1120	1120D	N84	W90	12	26.2	1-				C	CATA		
03	BSL	1130E	1135	N58	E90	01	11.3	1-				C	CATA		
03	BSL	1130E	1145	S56	W90	12	26.8	1-				C	CATA		
03	BSL	1135	1145	S49	W90	12	27.0	1-				C	CATA		
04	APR	0610E	1245D	S11	E90	01	11.0	1		9	9	E	ATHN		
04	ADF	1148E	2130D	S45	E25	01	6.6	2	08	6	8	E	RAMY		
04	ADF	2335E	1021D	S33	W48	01	1.2	2	10	9	7	E	LEAR		
05	BSL	0805	0820	N35	W90	12	29.2	1-				C	CATA		
05	BSL	0905	0905D	N84	E90	01	13.8	1-				C	CATA		
05	BSL	1140	1200	N09	W90	12	29.8	1-				C	CATA		
05	BSL	1150	1205D	S60	E90	01	13.4	1-				C	CATA		
05	BSL	1240	1240D	S69	E90	01	13.7	1-				C	CATA		
05	ASR	2110E	2154D	S12	E90	01	12.7			9	9	E	PALE		
06	ASR	0035E	0240D	N06	E90	01	12.8			9	9	E	LEAR		
06	ADF	0210E	1009D	S33	W53	01	1.9	2	21	9	8	E	LEAR		
06	SDF	0341E	1910D	S09	E68	01	11.2		14	0	0	E	PALE		
06	SDF	1009E	2234D	S18	E75	01	12.1		15	0	0	E	LEAR		
06	ADF	1012E	1045D	N09	E63	01	11.1		14	7	8	E	ATHN		
06	ADF	1306E	2152D	N12	E75	01	12.2	2	08	9	9	E	RAMY		
06	ADF	1530E	1905D	N13	E66	01	11.6	2	11	9	9	E	HOLL		
06	ADF	2340E	0347D	N08	E67	01	12.0	1	11	8	8	E	PALE		
07	ADF	0022E	1015D	N04	E59	01	11.4	2	13	9	9	E	LEAR		
07	ADF	0700E	1315D	N04	E55	01	11.4	2	14	7	9	E	ATHN		
07	BSL	0750	0750D	S74	E90	01	15.6	1-				C	CATA		
07	BSL	0750	0750D	S84	E90	01	15.7	1-				C	CATA		
07	BSL	1105	1110D	N17	W90	12	31.6	1-				C	CATA		
07	ADF	1344E	2131D	N14	E54	01	11.6	2	12	9	9	E	RAMY		
07	AFS	1800E	0336D	S06	W31	01	5.4	1	01	9	9	E	PALE		
07	ADF	1801E	0336D	N06	E55	01	11.9	1	10	8	8	E	PALE		
07	AFS	1830E	1951D	S07	W31	01	5.4		02	9	9	E	RAMY		
07	ADF	2255E	1016D	N16	E47	01	11.5	2	15	7	7	E	LEAR		
07	ADF	2302E	1016D	S06	W41	01	4.9	1	05	7	6	E	LEAR		
08	ADF	0241E	1016D	S08	E70	01	13.4	1	04	6	6	E	LEAR		
08	ADF	0720E	1315D	N04	E44	01	11.6	2	11	9	9	E	ATHN		
08	ADF	0720E	1315D	S06	E63	01	13.0	1	05	9	5	E	ATHN		
08	BSL	0730	0740	N84	E90	01	16.7	1-				C	CATA		
08	BSL	0805E	0810	N69	W90	12	31.2	1-				C	CATA		
08	BSL	0920	0930D	N64	W90	12	31.3	1-				C	CATA		
08	BSL	1130	1135	N82	W90	12	31.1	1-				C	CATA		
08	BSL	1220	1230D	N62	W90	12	31.5	1-				C	CATA		
08	BSL	1220	1230D	N88	E90	01	16.9	1-				C	CATA		
08	ADF	1238E	2056D	N05	E42	01	11.7	1	04	9	9	E	RAMY		
08	SDF	1910E	1910D	N30	E35	01	11.5		06	0	0	E	PALE		

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
08	ADF	2302E	1022D	N13	E40	01	12.0	1	11	9	8	E	LEAR		
09	SDF	0348E	0308D	N10	E22	01	10.8		04	0	0	E	PALE		
09	ADF	0415E	1022D	S14	E58	01	13.6	2	16	8	9	E	LEAR		
09	BSL	1235E	1235D	S07	E90	01	16.3	1-				C	CATA		
09	ADF	2242E	0004D	N05	E14	01	11.0	1	03	8	8	E	HOLL		
09	AFS	2305E	1018D	N08	E15	01	11.1		02	9	9	E	LEAR		
09	ADF	2305E	1018D	N11	E27	01	12.0	1	14	9	9	E	LEAR		
10	SDF	0342E	0015D	S12	E54	01	14.2		27	5	5	E	PALE		
10	SDF	0348E	0308D	N10	E22	01	11.8		04	0	0	E	PALE		
10	ADF	1158E	2100D	N03	E15	01	11.6	1	08	9	9	E	RAMY		
10	ADF	1805E	0015D	N03	E11	01	11.6	1	09	9	9	E	PALE		
10	SDF	1858E	0003D	S11	E52	01	14.7		28	0	0	E	HOLL		
10	ADF	2255E	1026D	N10	E12	01	11.8	1	10	9	9	E	LEAR		
10	ADF	2255E	1026D	S05	E29	01	13.1	2	15	9	9	E	LEAR		
11	BSL	1110	1115	N31	W90	01	4.4	1-				C	CATA		
11	ADF	1536E	2015D	N03	W01	01	11.6	1	07	9	9	E	RAMY		
11	SDF	1858E	0003D	S11	E52	01	15.7		28	0	0	E	HOLL		
11	ADF	1902E	0349D	N03	W02	01	11.6	1	07	9	9	E	PALE		
11	ADF	2242E	1023D	N03	W10	01	11.2	2	05	9	9	E	LEAR		
12	SDF	0343E	1900D	N47	E60	01	17.2		12	0	0	E	PALE		
12	ADF	0715E	1315D	N05	W10	01	11.5	2	07	7	8	E	ATHN		
12	BSL	0935	1030	S17	E90	01	19.2	1-				C	CATA		
12	BSL	1005	1035	S37	E90	01	19.7	1-				C	CATA		
12	BSL	1140	1145	N85	W90	01	4.1	1-				C	CATA		
12	BSL	1140	1145	S65	E90	01	20.5	1-				C	CATA		
12	BSL	1210	1225	S88	E90	01	20.9	1-				C	CATA		
12	BSL	1225	1240	S03	W90	01	5.8	1-				C	CATA		
12	BSL	1230	1240	N04	W90	01	5.8	1-				C	CATA		
12	BSL	1240	1255D	S86	E90	01	20.9	1-				C	CATA		
12	BSL	1245	1255D	S77	W90	01	4.2	1-				C	CATA		
12	ADF	1542E	2104D	N03	W15	01	11.5		25	9	9	E	RAMY		
12	ADF	2221E	0007D	N04	W21	01	11.4	1	03	9	9	E	HOLL		
12	ADF	2303E	1004D	N15	W17	01	11.7	2	11	9	9	E	LEAR		
12	AFS	2356E	1004D	S09	W37	01	10.2		02	9	9	E	LEAR		
13	AFS	0001E	0351D	S11	W38	01	10.1		02	9	9	E	PALE		
13	AFS	0740E	0755D	S12	W42	01	10.1		02	7	7	E	ATHN		
13	ADF	0740E	1345D	N06	W25	01	11.4	1	06	9	9	E	ATHN		
13	ADF	1159E	2131D	N03	W26	01	11.5	2	05	9	9	E	RAMY		
13	AFS	1159E	2131D	S11	W44	01	10.2		02	9	9	E	RAMY		
13	AFS	1457E	2233D	S10	W46	01	10.2		02	9	9	E	HOLL	4710	
13	ADF	1459E	2324D	N04	W28	01	11.5	1	06	8	9	E	HOLL		
13	AFS	1740E	1740D	S11	W48	01	10.1	1	02	9	9	E	PALE	4710	
13	DSD	1931E	2017D	S10	W50	01	10.0	2	05	9	9	E	HOLL	4710	
13	DSD	2027E	2115D	S11	W49	01	10.2	2	04	9	9	E	HOLL	4710	Flare Associated
13	ADF	2130E	2134D	N08	W32	01	11.5	1	08	7	7	E	PALE		
13	DSD	2131E	2324D	S10	W49	01	10.2	2	05	9	9	E	HOLL	4710	Flare Associated
13	DSD	2327E	0425D	S08	W52	01	10.1		04	9	9	E	LEAR	4710	
13	ADF	2334E	1030D	N04	W35	01	11.4	1	06	7	8	E	LEAR		
14	DSD	0050E	0203D	S12	W53	01	10.0		04	9	9	E	PALE	4710	
14	SSB	0115		11S	W13	01	15.2			0	0	E	PALE		139 W37
14	AFS	0800E	1030D	S08	W55	01	10.2		02	9	9	E	LEAR	4710	
14	BSL	1000	1010	N73	E90	01	22.6	1-				C	CATA		
14	BSL	1005	1010D	S84	E90	01	22.8	1-				C	CATA		
14	BSL	1135	1145	N54	E90	01	22.2	1-				C	CATA		
14	ADF	1148E	1702D	N06	W32	01	12.1	2	04	9	9	E	RAMY		
14	AFS	1148E	1702D	S12	W58	01	10.1		02	9	9	E	RAMY	4710	
14	AFS	1615E	1702D	N21	W28	01	12.5		01	9	9	E	RAMY		
14	SDF	1850E	1952D	S10	W22	01	13.1		04	0	0	E	PALE		
14	DSD	1952E	0056D	S12	W21	01	13.2		02	8	9	E	PALE		
14	DSD	2327E	0125D	S08	W52	01	11.1		04	9	9	E	LEAR	4710	
15	ADF	0000E	1012D	N13	W42	01	11.8	2	10	9	6	E	LEAR		
15	ADF	0000E	1012D	S18	W10	01	14.2	2	09	8	8	E	LEAR		
15	BSL	0745	0805	N87	W90	01	6.9	1-				C	CATA		
15	AFS	0805E	1012D	S08	W69	01	10.2		02	9	9	E	LEAR	4710	

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
15	BSL	0910	0915	S10	E90	01	22.1	1-				C	CATA		
15	BSL	0915	0925	S22	E90	01	22.3	1-				C	CATA		
15	BSL	0945	1000	S88	E90	01	23.8	1-				C	CATA		
15	BSL	1025E	1140D	S13	W90	01	8.6	1				C	CATA		
15	BSL	1040	1045	S63	E90	01	23.4	1-				C	CATA		
15	BSL	1045	1050	N77	W90	01	7.1	1-				C	CATA		
15	BSL	1045	1055	N67	E90	01	23.5	1-				C	CATA		
15	BSL	1130	1135	N66	W90	01	7.4	1-				C	CATA		
15	BSL	1135	1140D	N84	W90	01	7.1	1-				C	CATA		
15	BSL	1140	1140D	N65	W90	01	7.4	1-				C	CATA		
15	BSL	1150E	1230D	S11	W90	01	8.7	1				C	CATA		
15	BSL	1205	1225D	S13	W90	01	8.7	1-				C	CATA		
15	AFS	1907E	0326D	S13	W74	01	10.2	1	02	8	8	E	PALE	4710	
15	ASR	1907E	2015D	S12	W81	01	9.7	2		8	7	E	RAMY	4710	
15	ADF	2248E	0952D	S43	W08	01	15.3	2	08	8	8	E	LEAR		
15	APR	2249E	0952D	S36	W90	01	8.7	1		8	9	E	LEAR		
15	ADF	2253E	0952D	S21	W28	01	13.8	1	09	8	9	E	LEAR		
15	ADF	2257E	0952D	N10	W57	01	11.7	1	07	9	8	E	LEAR		
16	SDF	0328E	1924D	S22	W17	01	14.8		13	0	0	E	PALE		
16	ASR	0418E	0952D	S08	W90	01	9.4			9	7	E	LEAR	4710	
16	BSL	0810	0820D	N04	E90	01	23.1	1-				C	CATA		
16	SDF	0952E	0325D	S22	W22	01	14.7		10	0	0	E	LEAR		
16	ASR	1000E	1330D	S10	W90	01	9.6			9	9	E	ATHN	4710	
16	BSL	1050	1055	N86	E90	01	24.8	1-				C	CATA		
16	ASR	1246E	2153D	S11	W83	01	10.3	2		9	9	E	RAMY	4710	
16	ASR	1446E	1751D	S09	W84	01	10.3	2		9	9	E	HOLL	4710	
16	LPS	1730E	0007D	S09	W87	01	10.2	2		9	9	E	HOLL	4710	Flare Associated
16	ASR	1731E	0008D	S10	W90	01	10.0			9	9	E	PALE	4710	
16	LPS	1736E	1739D	S12	W90	01	9.9			9	9	E	PALE	4710	
16	ASR	1859	2003D	S08	W84	01	10.5	2		9	9	E	HOLL	4710	Flare Associated
16	ASR	2025E	0007D	S08	W85	01	10.5	2		9	9	E	HOLL	4710	
16	LPS	2232E	0208D	S10	W90	01	10.2	1		9	9	E	LEAR	4710	
16	SDF	2313E	2313D	S19	W34	01	14.4		08	0	0	E	HOLL		
16	ASR	2319E	0956D	S09	W90	01	10.2			9	9	E	LEAR	4710	
17	LPS	0357E	0500D	S09	W90	01	10.4	1		9	9	E	LEAR	4710	
17	ASR	0700	0710	S48	W90	01	9.7					V	ATHN		
17	ASR	0700E	0710D	S10	W90	01	10.5	1		9	9	E	ATHN		
17	ASR	0900E	1430D	S10	W90	01	10.6	1		9	9	E	ATHN		
17	SDF	0952E	0325D	S22	W22	01	15.7		10	0	0	E	LEAR		
17	BSL	1000	1010	S13	W90	01	10.6	1-				C	CATA		
17	APR	1200E	1430D	N31	W90	01	10.4	2		9	9	E	ATHN		
17	BSL	1250	1255	N08	W90	01	10.8	1-				C	CATA		
17	APR	1311E	1655D	N27	W81	01	11.2	1		8	7	E	RAMY		
17	ADF	1311E	1655D	S46	W33	01	14.8	2	08	9	9	E	RAMY		
17	LPS	1730E	0007D	S09	W87	01	11.2	2		9	9	E	HOLL	4710	Flare Associated
18	APR	0700E	1400D	N12	W90	01	11.5			9	9	E	ATHN		
18	AFS	1236E	1750D	N06	W28	01	16.4		01	8	8	E	RAMY		
18	AFS	1236E	1750D	S04	W25	01	16.6		01	8	8	E	RAMY		
18	ADF	1236E	2030D	S44	W43	01	15.0	2	07	8	8	E	RAMY		
19	BSL	0805	0820	N86	W90	01	10.9	1-				C	CATA		
19	BSL	1125	1135	N09	E90	01	26.2	1-				C	CATA		
19	BSL	1205	1230	N84	E90	01	27.9	1-				C	CATA		
20	BSL	0740	0745	N42	W90	01	12.9	1-				C	CATA		
20	BSL	0925	0940	N22	E90	01	27.3	1-				C	CATA		
20	APR	0950E	1400D	S01	E90	01	27.1	2		8	9	E	ATHN		
20	BSL	1030	1045	S20	E90	01	27.3	1-				C	CATA		
20	BSL	1230	1235	S79	W90	01	12.2	1-				C	CATA		
21	AFS	1448E	2115D	N28	E66	01	26.8	2	03	9	9	E	RAMY		
21	ADF	1448E	2115D	N37	W07	01	21.0	2	04	9	9	E	RAMY		
21	APR	1448E	2115D	S35	E85	01	28.4	1		8	7	E	RAMY		
21	AFS	1505E	1907D	N30	E77	01	27.7		02	9	9	E	HOLL		
22	ADF	0013E	0018D	N37	W06	01	21.5	2	16	8	7	E	LEAR		
22	APR	0700E	1400D	S33	E90	01	29.4	1		9	9	E	ATHN		
22	APR	0720E	0854D	S34	E90	01	29.5	1		9	9	E	LEAR		

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
22	BSL	0850	0905	S77	W90	01	14.0	1-				C	CATA		
22	BSL	1130E	1145D	N33	E90	01	29.6	1-				C	CATA		
23	AFS	0044E	0327D	N17	E02	01	23.2		02	8	8	E	PALE		
23	AFS	0612E	0950D	N31	E49	01	27.1		02	9	9	E	LEAR		
23	APR	0630E	1110D	S34	E90	01	30.4	1		9	9	E	ATHN		
23	ASR	0830	0950D	S36	E90	01	30.6	1		9	9	E	ATHN		
23	BSL	1230E	1230D	S33	W90	01	16.4	1-				C	CATA		
23	AFS	1538E	2346D	N17	W08	01	23.0		02	8	8	E	HOLL		
23	AFS	1724E	2145D	N15	W10	01	23.0		01	8	8	E	RAMY		
23	AFS	1943E	2346D	N05	W21	01	22.2		03	9	9	E	HOLL		
23	AFS	2030E	2145D	N02	W22	01	22.2		01	9	9	E	RAMY		
24	APR	0950E	1233D	S40	E90	01	31.7	2		8	9	E	ATHN		
25	AFS	0602E	1006D	N17	W27	01	23.2	2	02	8	7	E	LEAR		
25	BSL	0825E	0830D	S82	W90	01	17.0	1-				C	CATA		
25	BSL	1010E	1020D	N47	E90	02	1.9	1-				C	CATA		
25	BSL	1015	1020	N72	E90	02	2.6	1-				C	CATA		
25	AFS	2250E	0018D	S09	W02	01	25.8		02	9	9	E	HOLL		
25	AFS	2322E	1000D	S07	W01	01	25.9	1	02	7	7	E	LEAR		
26	ADF	0404E	1000D	N29	E12	01	27.1	2	04	9	9	E	LEAR		
26	BSL	1015	1035D	N23	W90	01	19.5	1-				C	CATA		
26	BSL	1115E	1130	S73	E90	02	3.7	1-				C	CATA		
26	BSL	1150	1200	N62	E90	02	3.5	1-				C	CATA		
26	BSL	1225	1235	N69	E90	02	3.7	1-				C	CATA		
26	BSL	1225	1240	N41	E90	02	2.9	1-				C	CATA		
26	ADF	1653E	2124D	N30	W01	01	26.6	2	06	9	7	E	RAMY		
26	ADF	1653E	2124D	N30	W01	01	26.6	2	06	9	7	E	RAMY		
26	ADF	1745E	2350D	N30	E03	01	27.0	2	06	8	7	E	HOLL		
26	SDF	1800	1803D	N30	E16	01	28.0		06	0	0	E	PALE		
26	DSD	1803E	1825D	S31	E16	01	28.0	2	03	9	9	E	RAMY		
26	DSD	1804E	1821	S31	E15	01	27.9	2	04	9	9	E	HOLL		
26	DSD	1808	1826	S31	E15	01	27.9		03	9	9	E	PALE		Flare Associated
26	SDF	2350E	2350D	N30	E02	01	27.1		06	0	0	E	HOLL		
26	ADF	2350E	0948D	S34	E48	01	30.8	2	20	8	6	E	LEAR		
27	ADF	0300E	0948D	S20	W54	01	23.0	2	10	8	7	E	LEAR		
27	ADF	0327E	0346D	S37	E35	01	30.0	1	06	9	8	E	PALE		
27	SDF	0346E	1850D	N44	W30	01	24.7		06	0	0	E	PALE		
27	SDF	0948E	2355D	S23	W69	01	22.1		04	0	0	E	LEAR		
27	BSL	1025	1037	S37	W90	01	20.2	1-				C	CATA		
27	BSL	1140E	1205	N58	E90	02	4.3	1-				C	CATA		
27	SDF	1205E	1205D	N10	E14	01	28.5		11	0	0	E	RAMY		
27	SDF	1205E	1205D	N28	W07	01	26.9		06	0	0	E	RAMY		
27	ADF	1205E	2034D	S30	E03	01	27.7	2	07	5	6	E	RAMY		
27	ADF	1205E	2034D	S37	E38	01	30.6	2	17	9	6	E	RAMY		
27	SDF	1845E	2130	S28	W02	01	27.6		04	0	0	E	PALE		
27	AFS	1910	2015D	S02	E46	01	31.2	1	01	9	9	E	PALE		
27	SDF	2147E	2147D	N09	E32	01	30.3		07	0	0	E	HOLL		
27	SDF	2350E	2350D	N30	E02	01	28.1		06	0	0	E	HOLL		
28	BSL	1200	1210	N72	E90	02	5.7	1-				C	CATA		
28	APR	1817E	2215D	S10	E90	02	4.5	2		9	9	E	HOLL		
29	SDF	1715E	1854D	S32	W09	01	29.0		08	0	0	E	HOLL		
29	ASR	1930E	0021D	S10	E90	02	5.6			9	9	E	HOLL		
29	DSD	1958E	2116D	S28	W29	01	27.6		01	7	9	E	HOLL		
30	ASR	0023E	1014D	S04	E90	02	5.7			9	9	E	LEAR		
30	ASR	0924E	0933D	S03	E90	02	6.1			9	9	E	ATHN		
30	ASR	0926E	1014D	S02	E90	02	6.1			9	9	E	LEAR		
31	DSD	0328	0359	S02	E78	02	6.0		09	9	9	E	LEAR	4711	
31	ASR	1025E	1030D	S06	E90	02	7.2			9	9	E	ATHN	4711	
31	ASR	1155E	1401D	S07	E78	02	6.3	2		9	9	E	RAMY	4711	
31	BSL	1230	1245D	S32	E90	02	7.6	1-				C	CATA		
31	DSD	1401E	2154D	S08	E72	02	6.0	2	04	9	9	E	RAMY	4711	
31	ADF	1417E	2154D	S09	E79	02	6.5	2	02	9	9	E	RAMY	4711	
31	BSD	2016E	2043	S08	E71	02	6.2	2	18	9	8	E	HOLL	4711	Flare Associated

ACTIVE PROMINENCES AND FILAMENTS

JANUARY 1986

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
31	DSD	2044E	2300D	S08	E71	02	6.2	2	07	9	8	E	HOLL	4711	
31	ADF	2057E	2154D	S09	E64	02	5.7	1	03	9	9	E	RAMY	4711	

ADF = Active Dark Filament
AFS = Arch Filament System
APR = Active Prominence
ASR = Actrive Surge Region
BDS = Bright Surge on Disk
BSL = Bright Surge on Limb
CAP = CAP Prominence (Tandberg-Hanssen)
CRN = Coronal Rain
DSD = Dark Surge on Disk
EPL = Eruptive Prominence on Limb
LPS = Loops
MDP = Mound Prominence
SDF = Sudden Disappearing Filament
SPY = Spray
SSB = Solar Sector Boundry

For SOLAR SECTOR BOUNDARY REPORTS, the latitude field contains the Carrington longitude of the point where a neutral line crosses the solar equator. The comments field may contain the Carrington longitude and central meridian distance of two more intersection points.

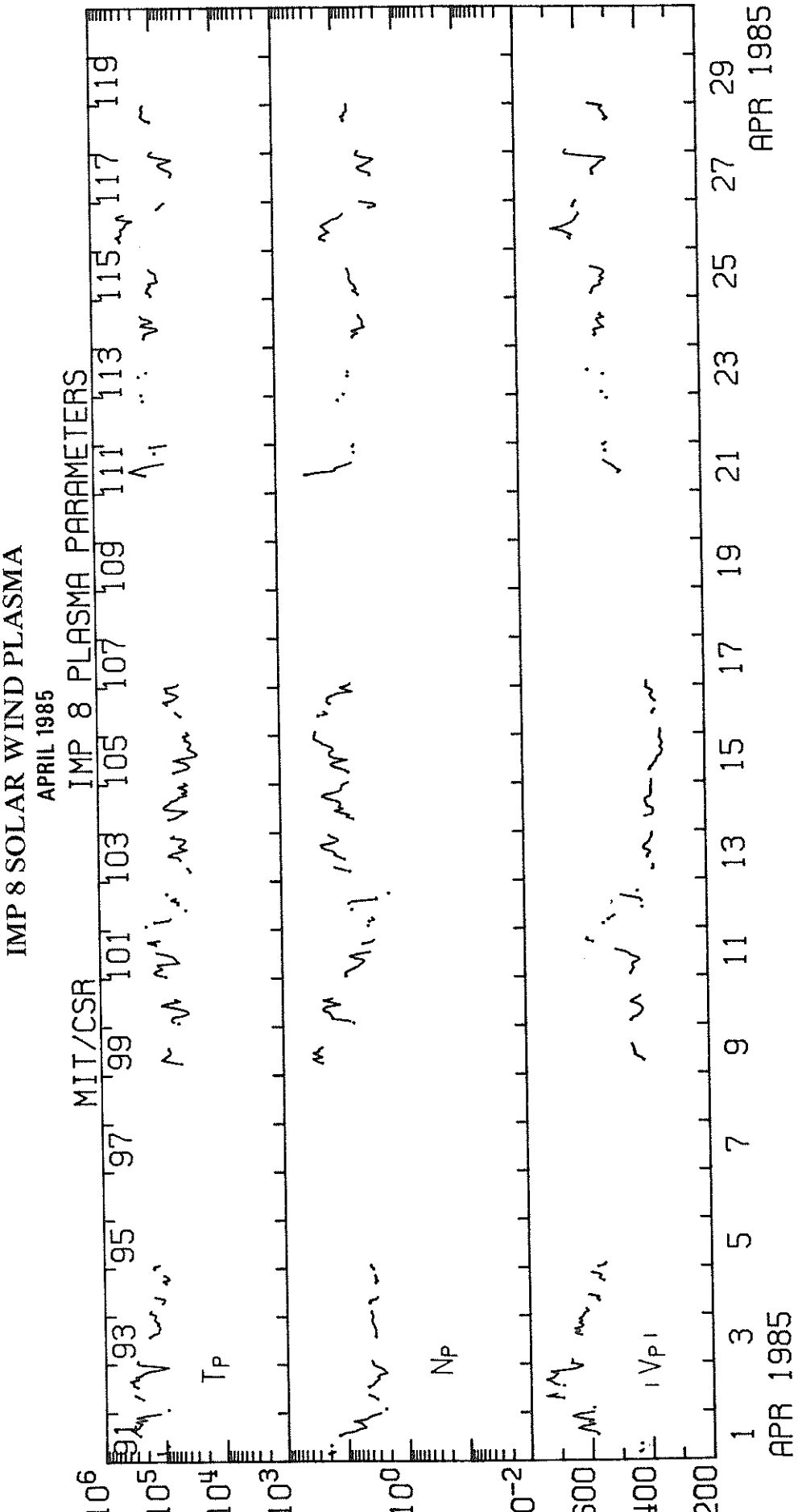
The EXTENT field for limb events is the radial extent above the limb in hundredths of solar radius. For disk events this field contains the heliographic extent in whole degrees.

The remark "Bright Emission 1/3" indicates that bright emission was observed 1/3 of time.
The remark "Normal Emission 1/3" indicates that normal emission was observed 1/3 of time.

Observation Type: C= Cinematographic, E=Electronic, P=Photographic, V=Visual.

C O N T E N T S

Comprehensive Reports MISCELLANEOUS DATA Number 503 Part II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MIT/CSR
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N_P
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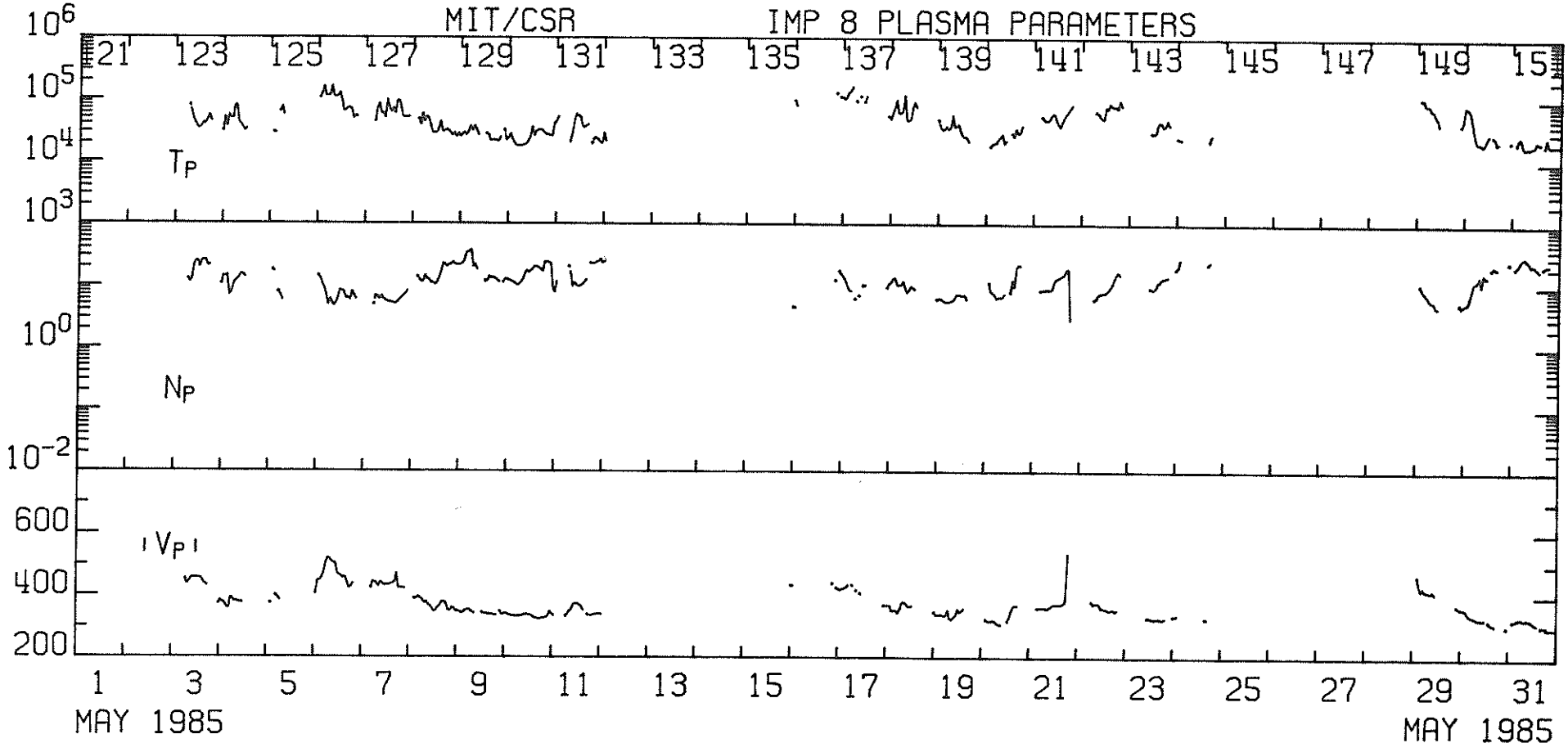

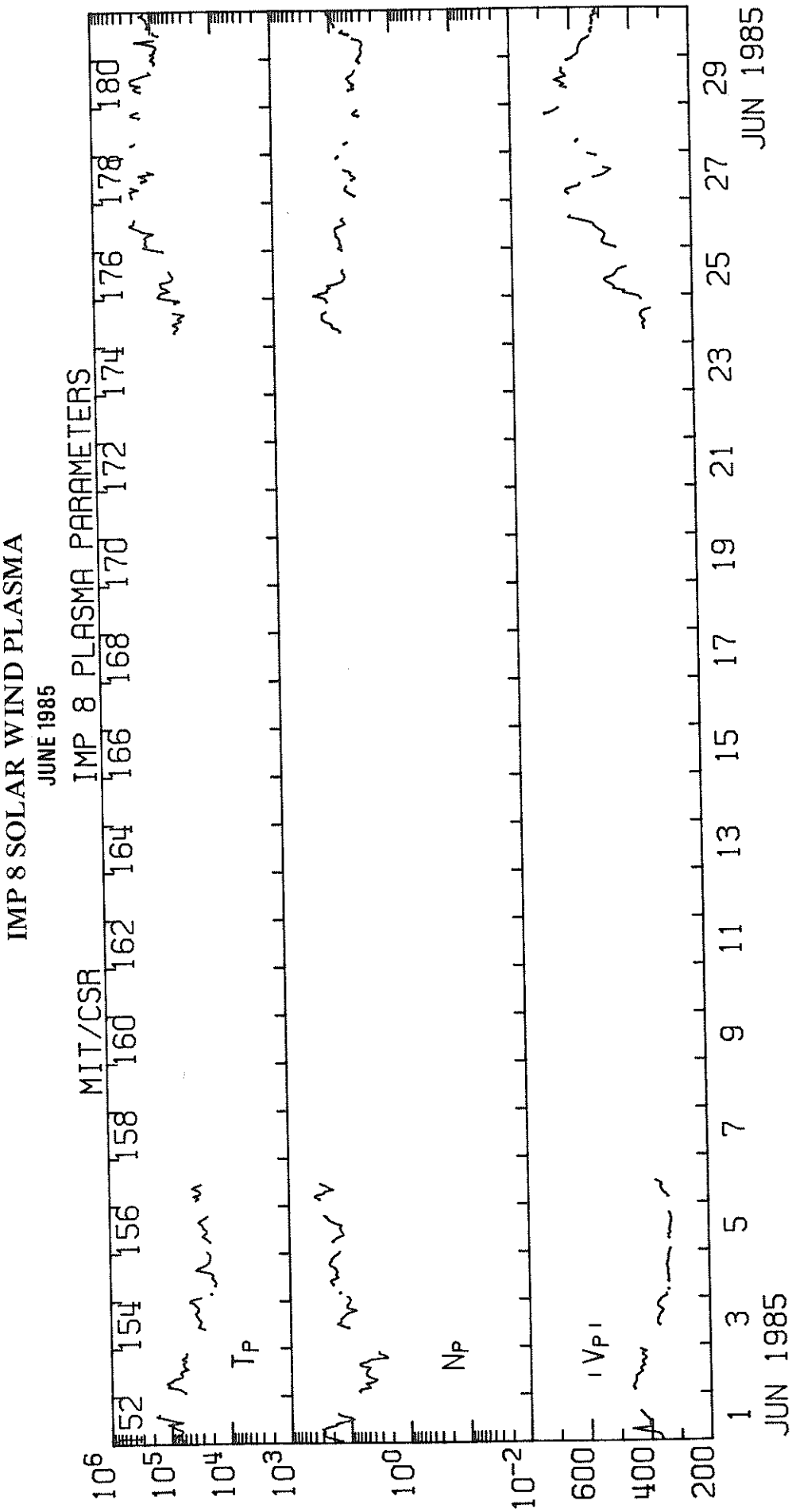
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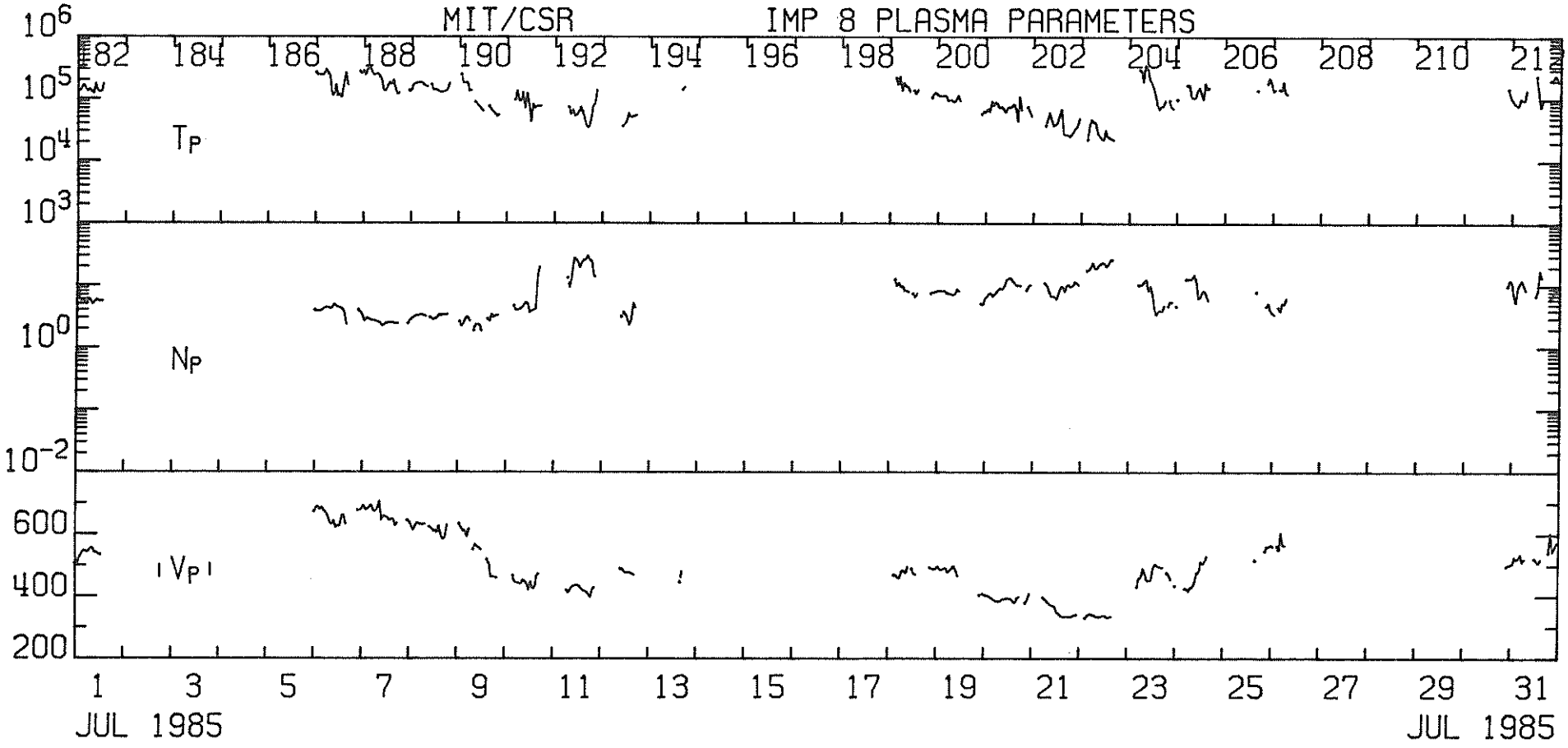

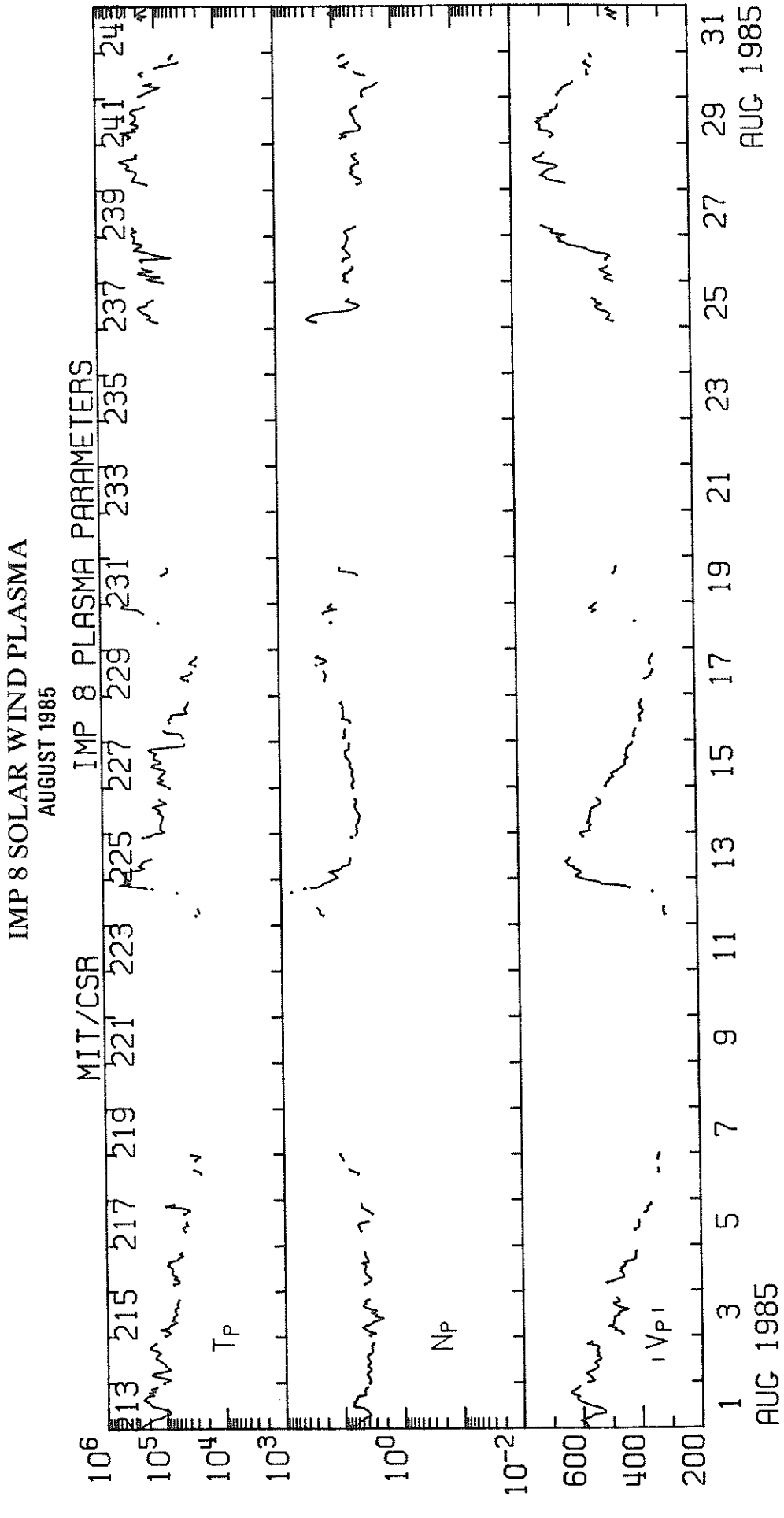
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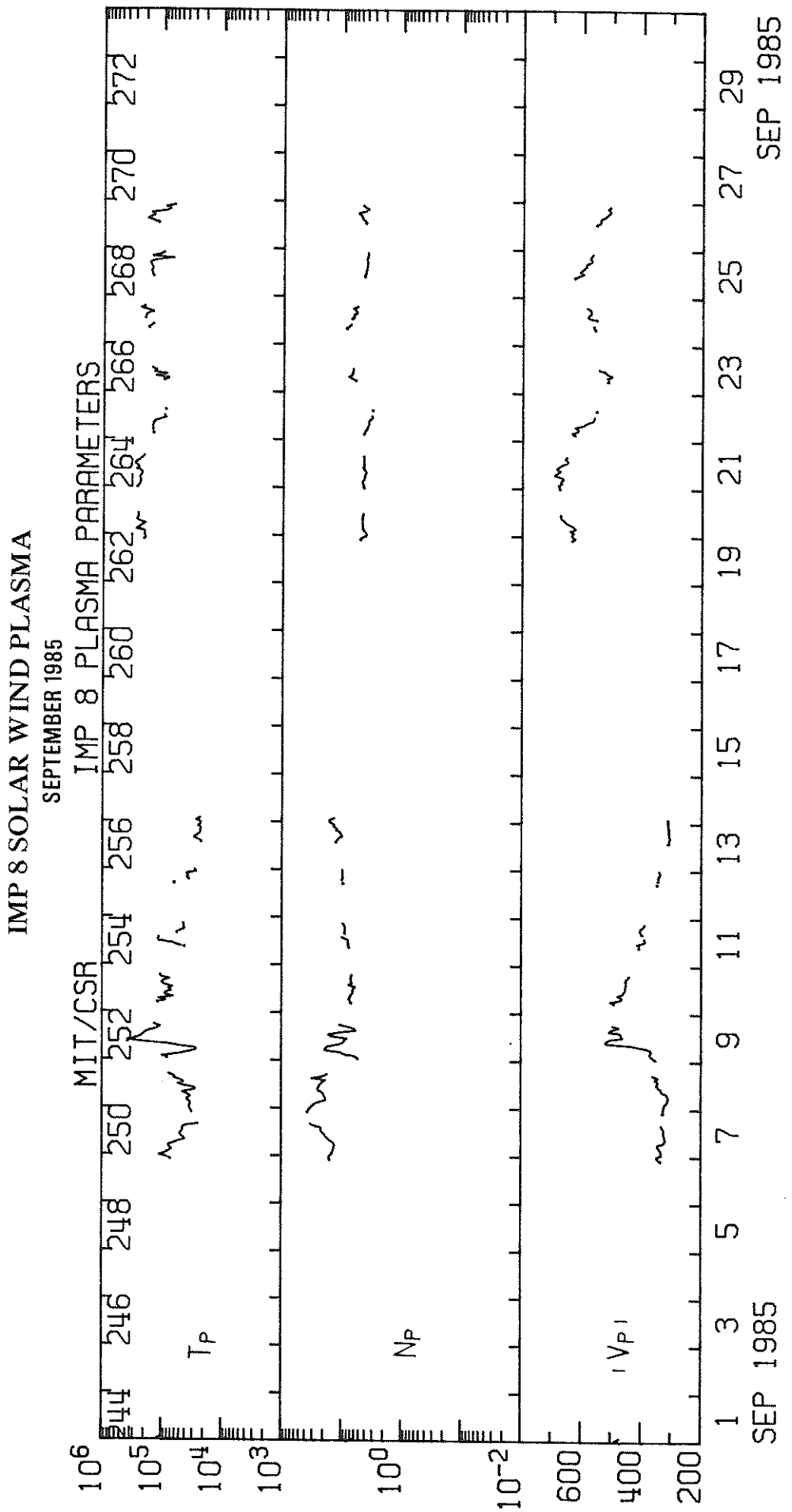
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400
200
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246
248
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262
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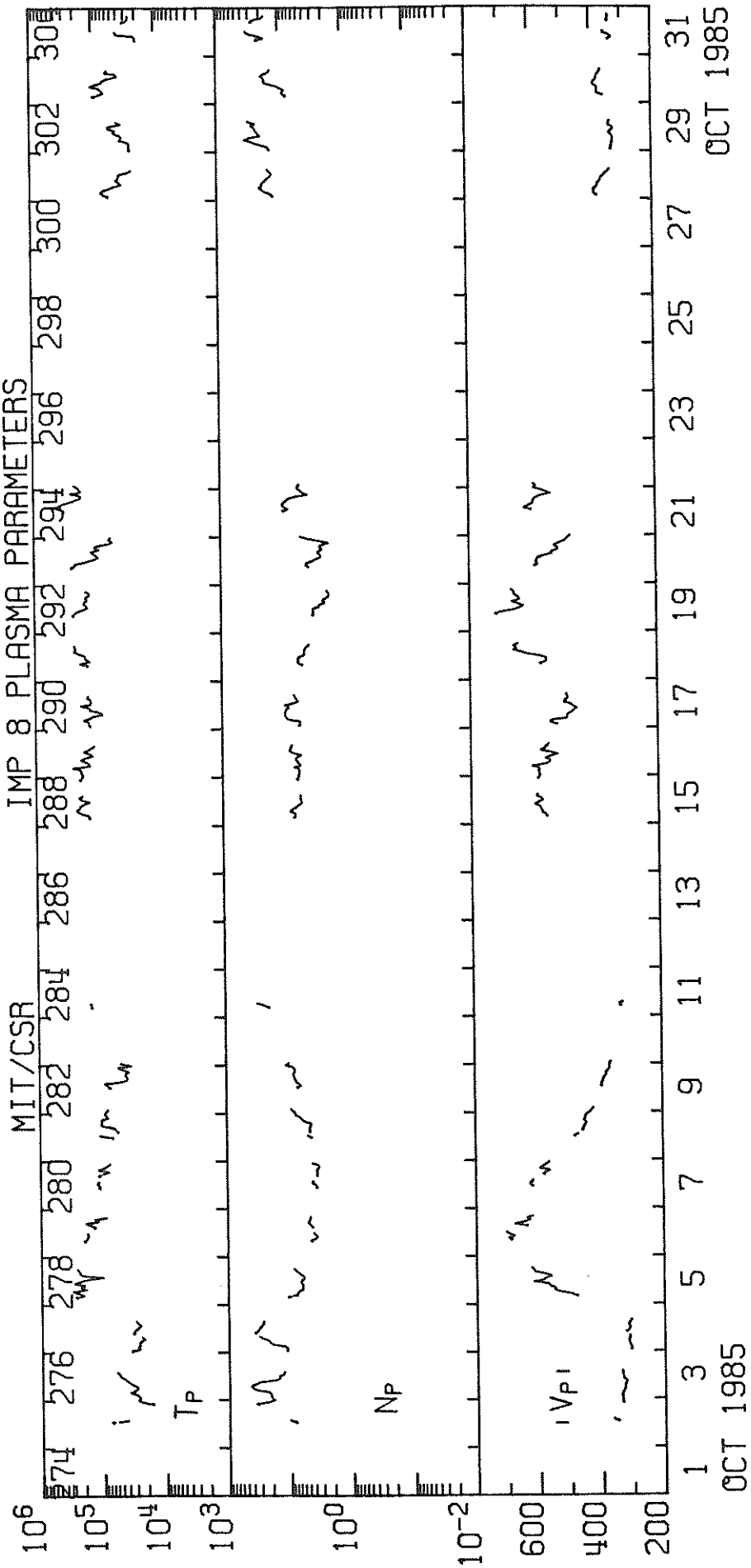
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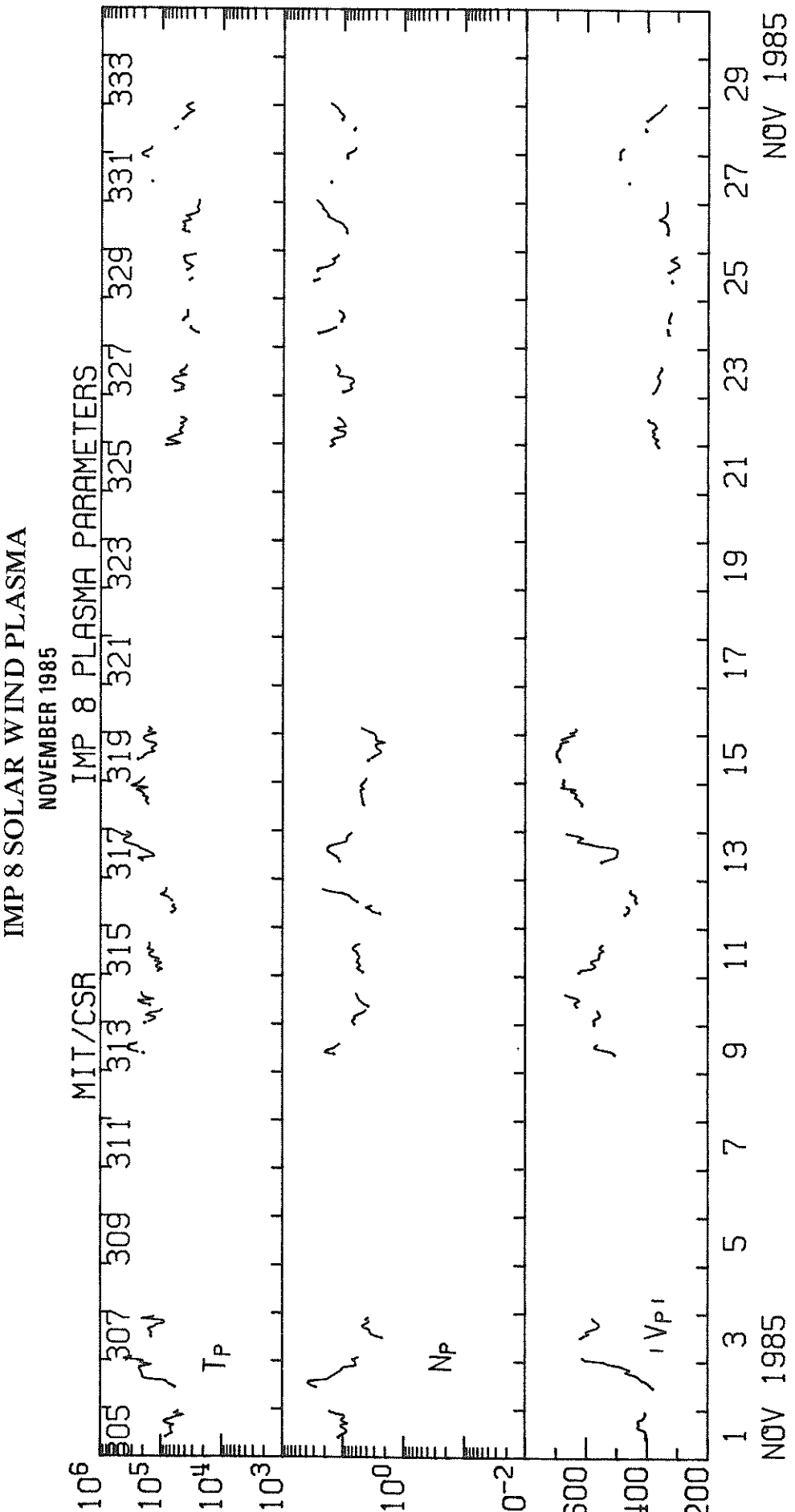
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$|V_P|$
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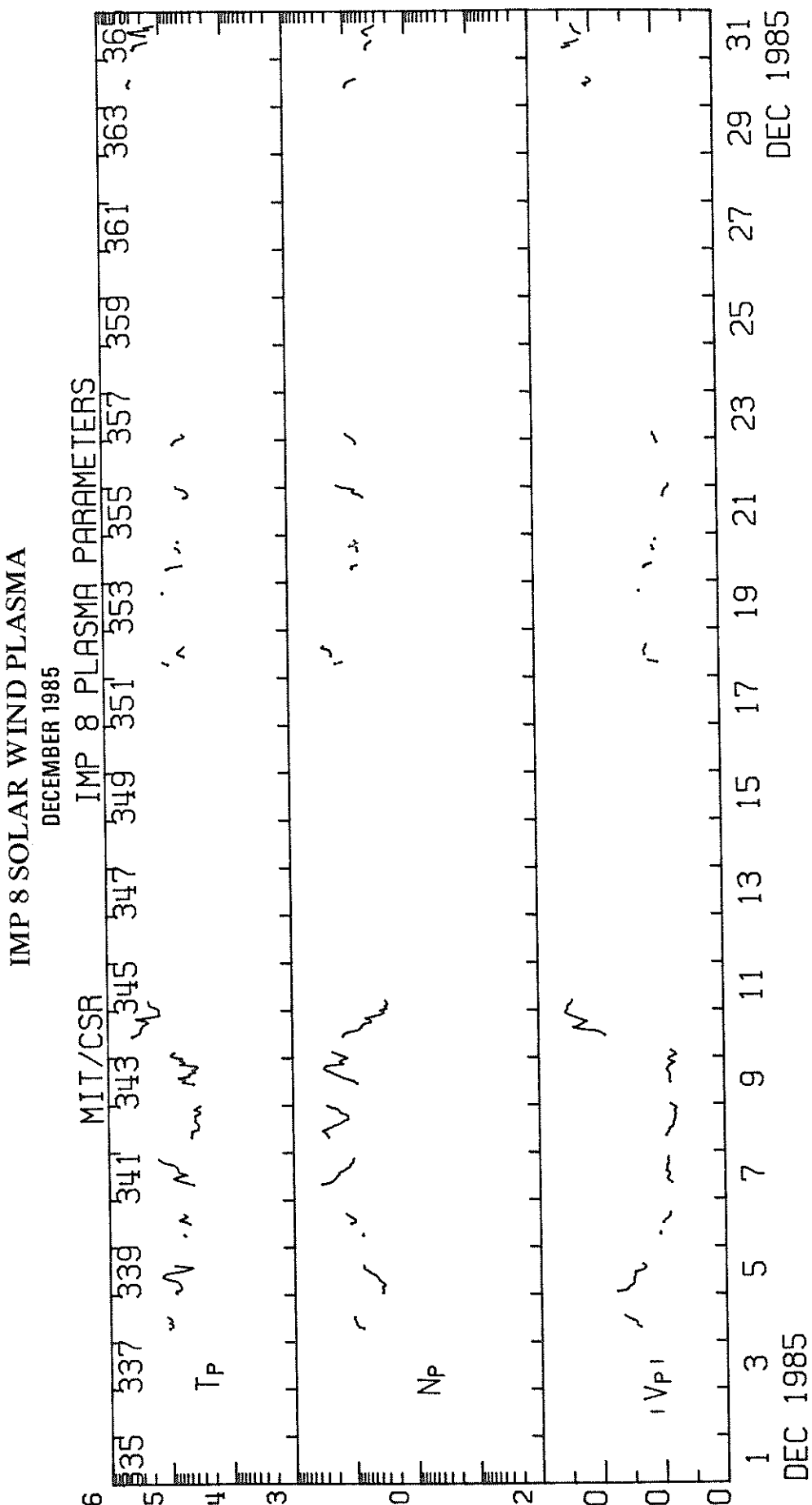
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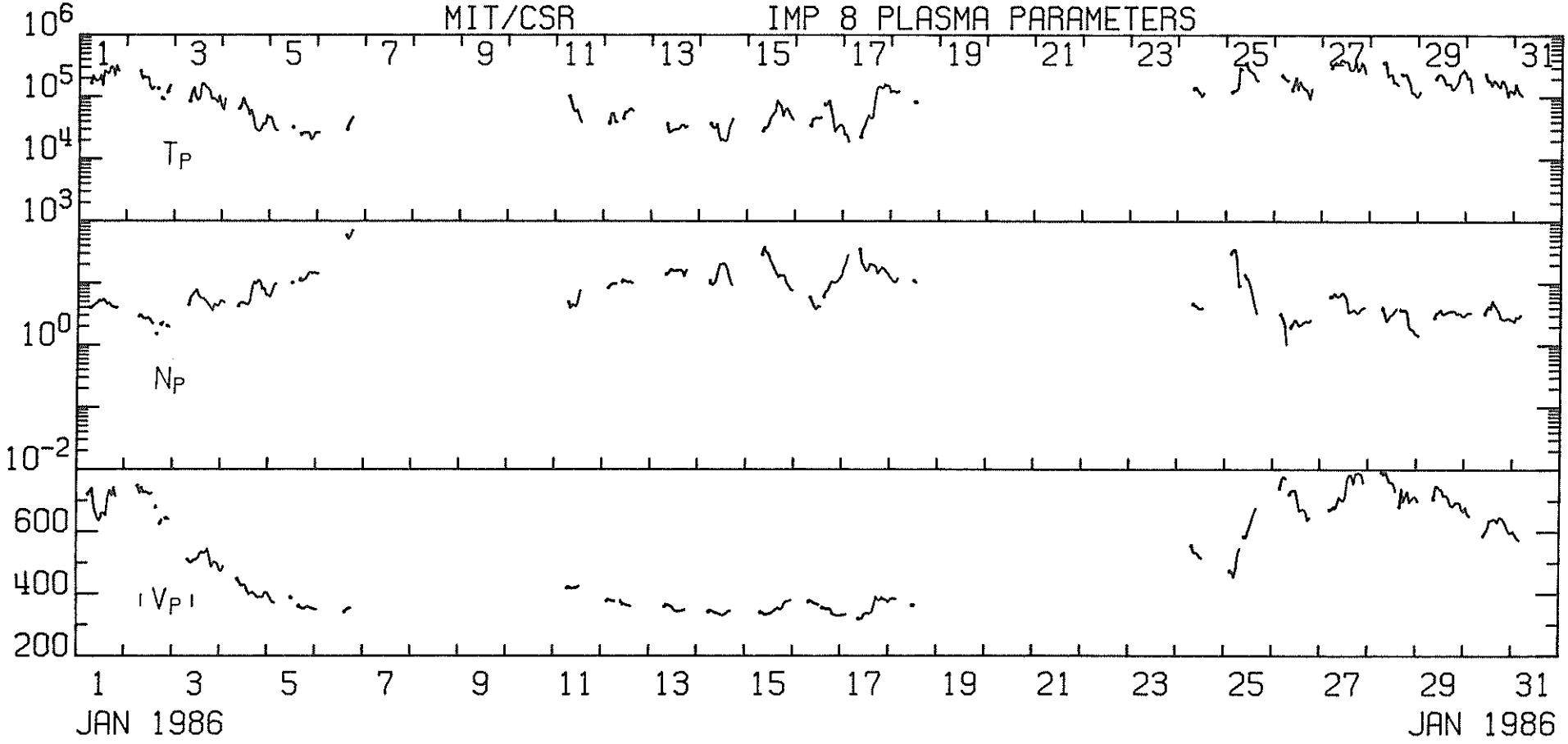
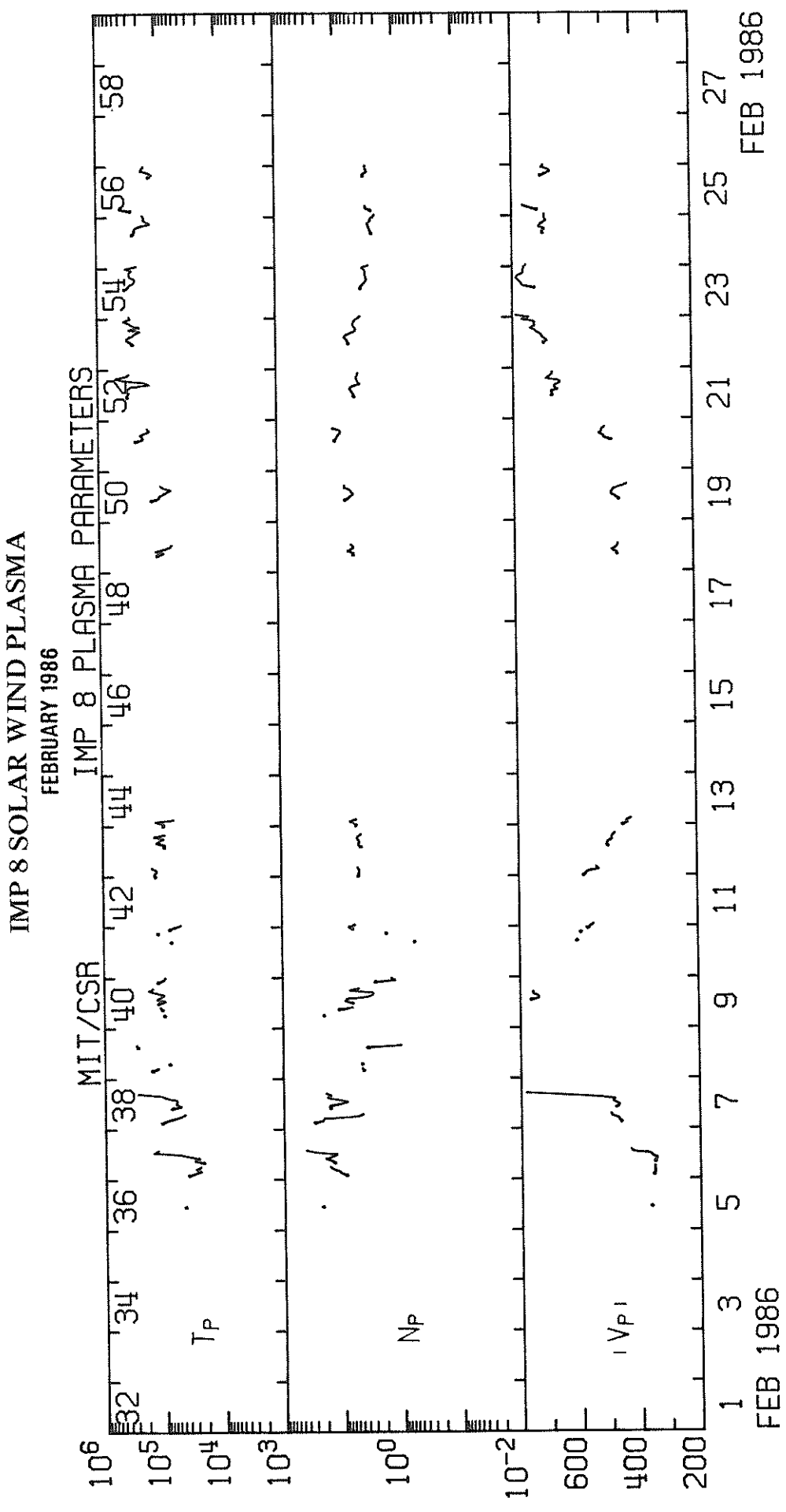
N_P
$|V_P|$
DEC 1985
DEC 1985

IMP 8 SOLAR WIND PLASMA

JANUARY 1986



40
Late
Feb 86



World Data Center C2 for Geomagnetism

PROMIS PERIOD
Prompt Report

No. 1

Provisional Auroral electrojet indices (AE11)

for March 1986

JUNE 1986

World Data Center - C2
for Geomagnetism
Faculty of Science
Kyoto University
Japan

PROVISIONAL AURORAL ELECTROJET INDICES

FOR MARCH 1986

PREPARED FOR PROMIS PERIOD

1. Introduction

This report gives provisional values of the Auroral Electrojet Indices for March 1986, as the first part of a series, in support of the project PROMIS (Polar Region and Outer Magnetosphere International Study). For details of the AE indices, reference is made to the Data Book Nos. 3-14, published from the WDC-C2 for Geomagnetism (WDC-C2 for short), UAG Reports published from WDC-A for Solar-Terrestial Physics (WDC-A for STP) or the paper on the AE index by T. N. Davis and M. Sugiura in the Journal of Geophysical Research, 71, 785-801, 1966.

For a quick distribution of the results, provisional AE indices are derived and distributed on a monthly basis with the following schedule.

Period	Planned publication	Report No.	Published
March 1986	June 1986	1	June 1986
April 1986	June 1986	2	
May 1986	July 1986	3	
June 1986	August 1986	4	

Extensive checks of the data regularly conducted in deriving the AE indices are curtailed for rapid production. The final AE indices will be recalculated and published in the Data Book series later.

This report together with magnetic tape with provisional AE indices will be filed in NASA/NSSDC, Greenbelt, Maryland, U.S.A. and NOAA/WDC-A for STP, Boulder, Colorado, U.S.A. A limited number of microfiche copies are distributed.

2. Data Used

Eleven observatories listed in Table 1 are used. Of these, seven stations are digital stations which are indicated by D in the table. The four remaining stations offering only analogue magnetograms are marked by A.

For rapid aquisition of the necessary data, digital recording from Kiruna is used instead of Abisko data digitized from analogue data that are regularly used for the final AE indices. For Leirvogur, digitization of records was made using microfilm copies of the regular magnetograms.

Hand-traced copies of magnetograms were received from Dixon Island, Cape Chelyskin, Tixie Bay, and Cape Wellen. Certain selections have been made with the data. For instance, data from Cape Wellen are not used as their contribution to the AE indices is not frequent. The March 1 data from Cape Chelyuskin consisted of a storm magnetogram with no common base value to reference the data to other normal magnetograms. Therefore, the March 1 data from Cape Chelyuskin were not used. All the data from Dixon Island were storm magnetograms; we used these records assuming the base line to be stable and paper shrinkage to be negligible throughout this month. We adjusted the scaling when the base line on the hand-traced copy of a magnetogram is not a straight line. Although such an adjustment may be somewhat arbitrary, we find no other good solutions in these cases. Also, where time marks are doubtful, estimated time marks were used.

The H component is calculated from the X and Y components for Yellowknife, Fort Churchill and Great Whale River. For these stations, if either the X or Y value is missing, H value is also treated as being missing. The observed H components are used for other stations except for Kiruna. As Kiruna data show short period instrumental noise, the H component was not calculated to avoid noise enhancement; instead, the X component was used. As the declination at Kiruna is small, differences between variations in the X component and those in the H component are negligible in the result.

3. Results

Monthly quiet-time H reference values for December 1983 are listed in Table 2. Table 3 gives the hourly average values of provisional AE indices for March 1986. Daily graphs of 1.0-min provisional AE indices (AU, AL, AE and AO) are plotted in Fig. 1, and corresponding plots of the contributing stations are given in Fig. 2.* Figure 3 shows the H traces of magnetograms from stations used to derive provisional AE indices for March 1986.

4. Acknowledgements

Dr. E. W. Hones, Jr. of the Los Alamos National Laboratory was instrumental in the planning on the production of the AE indices for the PROMIS interval on an accelerated time schedule. Dr. S. D. Shawhan and Dr. T. E. Eastman of the NASA Headquarters have been helpful in providing, through SCOSTEP, partial financial support that makes rapid digitization effort possible. We wish to express our deep appreciaton of their important contributions. We are indebted to many individuals without whose cooperation it would not be possible to produce AE indices so rapidly. We thank Dr. T. Saemundsson of the University of Iceland, Dr. V. A. Troitskaya and Dr. E. P. Kharin of Soviet Geophysical Committee, Academy of Sciences of the USSR, Dr. B. Hultqvist and Mr. I. Haggstrom of the Kiruna Geophysical Institute, Mr. L. R. Wilson and Mr. D. C. Herzog of the United States Geological Survey, Dr. E. Friis-Christensen of the Danish Meteorological Institute, and Mr. G. J. van Beek of the Geological Survey of Canada for their respective efforts to achieve quick transmission of data. We also thank Mr. J. H. Allen, Mr. C. C. Abston of WDC-A for STP for communication support via the NOAANET computer system. We also thank Ms. Y. Yamamoto for her dedicated effort for the digitization and preparation of the figures.

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*Editor's Note: Figure 2 is omitted here due to space constraints. It is available from the authors or from our data center.

Table 1. List of Stations

Observatory	Abbreviation IAGA	Other	Geographic Coord. Lat. (°N)	Long.(°E)	Geomanetic Coord. Lat. (°N)	Long. (°E)	Type
Kiruna	KIR		67.83	20.42	65.08	116.41	D
Dixon Island	DIK	DI,DIX	73.55	80.57	63.02	161.57	A
Cape Chelyuskin	CCS	CC,CCH	77.72	104.28	66.26	176.46	A
Tixie Bay	TIK	TI,TIX	71.58	129.00	60.44	191.41	A
Barrow	BRW	BW	71.30	203.25	68.54	241.15	D
College	CMO	CO	64.87	212.17	64.63	256.52	D
Yellowknife	YKC	YEK	62.40	245.60	69.00	292.80	D
Fort Churchill	FCC	FC	58.80	265.90	68.70	322.77	D
Great Whale River	GWC	GWR	55.27	282.22	66.58	347.36	D
Narssarssuaq	NAQ	NAS	61.20	314.16	71.21	36.79	D
Leirvogur	LRV	LR,LER	64.18	338.30	70.22	71.04	A

Table 2. Monthly Quiet-Time H Reference Values (Unit nT)
For March 1986

Kiruna (X component)	11002	
Dixon Island	-1499	(HS+)
Cape Chelyuskin	+283	(HO+)
Tixie Bay	+ 55	(HO+)
Barrow	9649	
College	12877	
Yellowknife	8791	
Fort Churchill	7777	
Great Whale River	10766	
Narssarssuaq	12188	
Leirvogur	+224	(HO+)

(HO+) : As the absolute values are not provided by these stations, the deviations from the H base lines on the ordinary magnetograms are given.

(HS+) : As only storm magnetograms are provided by this station, the deviation from the H base line on the storm magnetograms is given.

AU Index (Hourly mean values, unit nT) March 1986

	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
	1	56	55	63	58	58	58	88	83	153	94	84	104	72	101	90	77	159	149	180	149	114	79	50	39	92
	2	60	72	67	64	66	81	77	86	79	66	118	194	96	64	89	51	29	24	29	23	31	43	34	45	66
	3	38	34	29	52	51	54	47	43	54	47	66	54	66	75	62	52	48	42	59	54	73	89	126	171	62
	4	79	80	63	43	47	49	57	32	54	55	60	69	59	87	113	106	59	19	40	121	89	95	125	85	70
	5	86	69	106	95	42	30	41	43	43	29	35	51	68	133	128	64	79	157	112	143	194	154	169	172	93
D	6	142	157	167	160	73	54	28	34	49	71	155	160	120	277	299	323	304	319	270	192	251	249	203	148	175
D	7	178	104	100	114	59	123	140	133	129	136	266	246	178	110	159	194	216	104	235	164	213	240	154	137	160
D	8	130	96	147	121	98	83	91	93	48	50	86	73	96	122	87	50	110	148	115	122	144	122	63	34	97
Q	9	43	47	68	51	40	51	45	45	36	38	33	37	47	41	43	46	23	6	17	15	21	28	30	25	36
Q	10	19	34	35	14	11	7	6	11	14	15	21	22	28	16	17	20	24	19	14	9	19	22	18	22	18
Q	11	19	15	11	25	26	19	6	14	20	9	33	27	20	20	16	16	15	16	21	24	27	34	31	22	20
	12	17	13	22	15	24	30	27	32	43	67	111	90	54	41	46	47	49	47	44	32	37	46	38	38	42
	13	34	54	87	112	105	86	108	137	116	169	189	235	73	193	156	257	240	145	74	30	43	85	89	87	121
	14	99	122	114	45	25	19	32	47	21	14	38	31	16	17	21	21	12	20	51	57	49	21	38	36	40
	15	21	18	15	27	39	90	129	97	53	78	61	45	21	19	21	21	13	17	28	73	135	84	81	58	52
	16	71	66	48	30	57	55	67	57	86	65	67	35	25	20	17	18	8	13	8	25	19	29	37	22	39
	17	30	27	20	27	25	27	36	31	27	41	59	32	27	19	20	28	28	26	21	28	32	22	22	29	29
	18	35	40	34	48	70	70	96	89	98	195	209	115	57	31	40	84	105	54	32	30	49	27	36	27	70
	19	19	46	53	64	43	33	58	68	48	41	35	24	15	11	16	27	39	46	24	36	42	18	22	18	35
Q	20	13	15	12	10	17	20	19	17	22	26	23	31	26	33	28	16	29	25	22	27	26	20	21	22	22
	21	17	28	35	48	83	54	40	97	104	127	64	71	83	131	162	99	51	49	43	95	99	61	56	124	76
	22	156	126	169	134	142	109	64	42	39	28	46	53	101	106	101	117	62	56	34	54	109	100	72	93	88
	23	63	40	30	32	31	83	77	53	41	33	68	64	83	49	40	33	36	30	51	115	148	77	65	57	58
D	24	76	57	54	55	100	130	132	101	80	86	132	189	199	133	147	102	124	76	50	92	77	57	50	54	98
D	25	76	112	114	111	134	140	114	145	146	92	75	57	61	98	124	119	59	52	71	170	226	136	195	140	115
	26	78	79	51	23	37	54	49	34	33	23	26	38	38	55	41	69	100	80	36	36	86	83	96	133	57
	27	110	93	223	111	89	91	69	105	116	194	117	212	207	136	95	66	51	31	47	55	35	53	35	34	99
	28	53	67	59	62	61	55	81	94	77	53	46	50	77	56	70	32	55	95	135	135	97	53	38	80	70
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Q	30	27	17	13	14	31	26	24	35	33	32	21	31	35	25	19	27	37	36	44	41	86	47	44	40	33
	31	23	17	25	36	31	26	24	46	39	41	36	48	31	54	37	41	31	28	60	101	44	26	29	39	38
	Mean	62	61	68	60	57	60	61	64	62	65	77	81	69	76	77	75	74	65	67	75	86	73	69	67	69
SQ	Mean	24	25	27	22	25	24	20	24	25	24	26	29	31	27	24	25	25	20	23	23	35	30	28	26	25
SD	Mean	120	105	116	112	92	106	101	101	90	87	142	145	130	148	163	157	162	139	148	148	182	160	133	102	129

Prov. AE 8603 Tbl.3- 1

AL Index (Hourly mean values, unit nT) March 1986

	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
	1	-221	-227	-70	-67	-53	-11	-39	-246	-261	-147	-94	-255	-197	-139	-42	-313	-656	-354	-379	-302	-151	-71	-53	-152	-188
	2	-100	-45	-90	-161	-153	-202	-246	-190	-152	-55	-159	-337	-110	-58	-37	-85	-117	-33	-40	-81	-34	-56	-62	-51	-111
	3	-65	-68	-51	-73	-19	-8	-21	-11	-55	-145	-152	-60	-37	-175	-45	-21	-44	-36	-25	-200	-129	-277	-304	-348	-99
	4	-71	-46	-51	-62	-54	-51	-174	-189	-85	-42	-72	-20	-13	-47	-171	-111	-90	-71	-59	-183	-241	-157	-92	-49	-92
	5	-37	-37	-55	-76	-20	-14	-2	-14	-53	-86	-72	-91	-90	-136	-116	-94	-154	-322	-239	-164	-178	-157	-184	-148	-106
D	6	-231	-235	-392	-233	-18	-35	-40	-12	-7	-66	-177	-416	-418	-326	-293	-304	-501	-602	-557	-603	-599	-427	-402	-590	-312
D	7	-401	-95	-227	-403	-416	-270	-268	-341	-267	-324	-575	-448	-301	-250	-473	-361	-465	-271	-289	-386	-577	-683	-470	-379	-373
D	8	-412	-364	-301	-161	-336	-298	-161	-211	-35	-28	-242	-276	-269	-381	-284	-173	-231	-307	-443	-302	-288	-130	-89	-68	-241
Q	9	-55	-50	-71	-135	-89	-11	-33	-31	-40	-54	-70	-16	-16	-14	-14	-23	-20	-19	-8	-5	-8	-11	-13	-14	-34
Q	10	-10	-8	-12	-11	-11	-20	-31	-21	-14	-13	-17	-20	-24	-24	-17	-17	-17	-16	-11	-9	-6	-11	-16	-18	-16
Q	11	-15	-18	-13	-9	-16	-25	-25	-12	-31	-18	-21	-36	-29	-26	-20	-32	-26	-27	-27	-87	-101	-20	-18	-19	-28
	12	-17	-13	-12	-12	-8	-9	-44	-50	-265	-169	-171	-181	-57	-21	-12	-17	-15	-11	-4	-4	-9	-11	-22	-51	-49
	13	-40	-101	-490	-351	-145	-97	-209	-440	-394	-298	-297	-397	-355	-525	-340	-372	-433	-183	-34	-36	-26	-123	-287	-196	-257
	14	-185	-419	-279	-61	-32	-29	-24	-83	-42	-51	-65	-101	-23	-23	-15	-15	-26	-39	-112	-121	-93	-21	-39	-96	-83
	15	-39	-11	-22	-29	-168	-157	-102	-82	-40	-39	-128	-60	-19	-10	-10	-29	-123	-68	-51	-133	-325	-250	-119	-45	-86
	16	-128	-95	-52	-24	-57	-105	-167	-106	-178	-399	-283	-68	-180	-53	-47	-18	-32	-55	-85	-104	-29	-44	-47	-29	-99
	17	-106	-82	-21	-18	-23	-35	-45	-210	-90	-155	-101	-23	-21	-47	-29	-122	-57	-24	-13	-5	-25	-11	-8	-15	-54
	18	-171	-135	-123	-139	-125	-47	-46	-79	-213	-248	-154	-83	-49	-42	-197	-378	-275	-175	-61	-88	-32	-9	-16	-11	-121
	19	-15	-93	-241	-205	-48	-40	-58	-86	-127	-173	-68	-50	-46	-16	-19	-99	-345	-203	-141	-12	-37	-14	-27	-16	-91
Q	20	-16	-14	-18	-21	-34	-33	-33	-40	-28	-18	-14	-52	-42	-15	-51	-21	-8	-69	-174	-37	1	-4	-11	-14	-32
	21	-16	-14	-25	-36	-82	-36	-22	-65	-86	-250	-45	-92	-178	-670	-541	-95	-43	-136	-178	-267	-130	-138	-155	-703	-167
	22	-681	-499	-444	-263	-175	-426	-118	-52	-60	-41	-25	-37	-144	-278	-484	-331	-195	-82	-27	-52	-100	-249	-155	-266	-216
	23	-230	-155	-40	-25	-34	-188	-256	-187	-39	-26	-152	-205	-136	-52	-67	-133	-25	-14	-60	-238	-356	-119	-61	-99	-121
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D	25	-341	-147	-430	-311	-478	-381	-334	-392	-454	-104	-20	-67	-37	-182	-312	-359	-211	-132	-144	-428	-651	-336	-696	-367	-305
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	28	-83	-104	-218	-99	-78	-96	-127	-385	-157	-80	-59	-294	-136	-118	-89	-296	-264	-321	-275	-257	-195	-47	-53	-108	-164
	29	-77	-176	-185	-105	-131	-110	-31	-28	-18	-9	-17	-18	-169	-398	-356	-376	-306	-202	-276	-149	-100	-101	-85	-47	-145
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	Mean	-145	-131	-149	-110	-102	-103	-102	-149	-123	-112	-120	-149	-131	-153	-167	-168	-194	-143	-133	-149	-153	-122	-124	-143	-136
5Q	Mean	-21	-21	-26	-39	-35	-21	-29	-32	-35	-25	-30	-33	-27	-23	-32	-27	-30	-39	-64	-35	-48	-36	-18	-15	-31
5D	Mean	-308	-197	-284	-234	-268	-222	-206	-238	-168	-112	-254	-341	-276	-293	-369	-290	-379	-324	-319	-369	-446	-325	-344	-309	-286

AE Index (Hourly mean values, unit nT) March 1986

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	2	162	119	158	226	220	285	325	278	232	122	279	532	208	124	127	137	147	58	70	104	66	99	97	97	178
	3	104	104	82	126	71	64	70	55	111	193	219	116	105	251	109	74	94	79	85	255	203	367	431	520	162
	4	151	127	114	106	102	101	233	222	140	99	134	90	74	135	286	218	150	92	100	304	330	253	218	136	163
	5	124	107	162	172	64	45	44	58	98	117	108	143	159	271	246	159	234	480	352	308	372	311	354	321	200
D	6	374	392	559	394	92	91	69	47	57	138	333	578	539	604	593	629	806	922	827	796	851	676	606	739	488
D	7	580	200	328	518	477	394	410	476	397	461	842	696	481	361	633	557	682	375	525	551	790	923	625	517	533
D	8	543	461	449	283	435	383	253	305	84	79	328	350	366	505	372	224	342	456	558	424	433	252	152	102	339
Q	9	99	98	140	187	129	63	79	77	77	94	105	55	65	57	58	71	45	26	27	21	31	41	44	40	72
Q	10	31	43	48	26	23	28	38	33	29	29	39	44	54	42	35	39	43	36	26	19	27	34	34	42	35
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	13	75	156	579	464	251	184	318	578	511	469	487	634	430	719	497	630	674	329	109	66	69	208	376	283	379
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	18	207	176	157	188	196	118	143	169	312	444	363	198	107	75	239	463	381	230	94	118	82	36	53	39	191
	19	35	139	295	270	91	73	116	155	176	215	104	74	62	29	36	127	384	249	166	49	80	33	50	34	127
Q	20	30	30	31	32	51	54	53	57	50	45	38	84	69	49	81	38	38	95	196	65	24	25	33	38	54
	21	34	43	61	84	165	91	63	163	191	378	110	164	262	803	704	196	96	186	222	363	230	200	213	828	244
	22	838	625	615	398	318	537	183	95	99	70	72	91	247	385	586	449	258	139	62	107	210	350	228	360	305
	23	293	196	70	58	65	273	334	241	81	60	220	270	220	102	108	168	63	45	111	353	505	197	127	158	180
D	24	232	203	128	117	193	258	363	339	161	125	391	688	557	463	631	360	614	385	213	223	194	109	117	196	303
D	25	418	261	545	424	613	523	450	538	601	197	95	125	100	281	437	479	271	185	216	599	877	472	891	508	421
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5Q	Mean	46	48	55	63	61	46	50	57	61	50	58	64	60	51	58	53	57	60	88	59	85	67	48	42	58
5D	Mean	429	303	401	347	362	329	309	341	260	200	397	487	408	442	533	449	543	464	467	518	629	486	478	412	416

Prov. AE 8603 Tbl.3- 3

AO Index (Hourly mean values, unit nT) March 1986

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D	7	-110	4	-63	-144	-178	-73	-63	-103	-68	-93	-153	-100	-60	-69	-156	-83	-124	-83	-27	-111	-181	-221	-157	-120	-106
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Q	9	-6	-1	-1	-41	-24	19	5	6	-2	-7	-18	9	15	13	13	11	1	-5	3	4	6	8	8	5	0
Q	10	4	12	11	1	0	-6	-12	-5	0	0	2	0	1	-3	0	0	2	1	0	0	5	5	0	1	1
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	21	0	6	4	5	0	8	8	15	8	-61	8	-10	-46	-268	-189	1	3	-42	-66	-85	-15	-37	-49	-289	-45
	22	-262	-186	-137	-64	-16	-158	-27	-5	-10	-6	10	7	-21	-85	-190	-106	-66	-12	2	1	4	-74	-41	-86	-63
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	27	-122	-199	-160	-53	-15	-25	-25	-265	-85	-62	-4	-31	-110	29	28	-87	-45	-14	-2	13	5	9	6	6	-50
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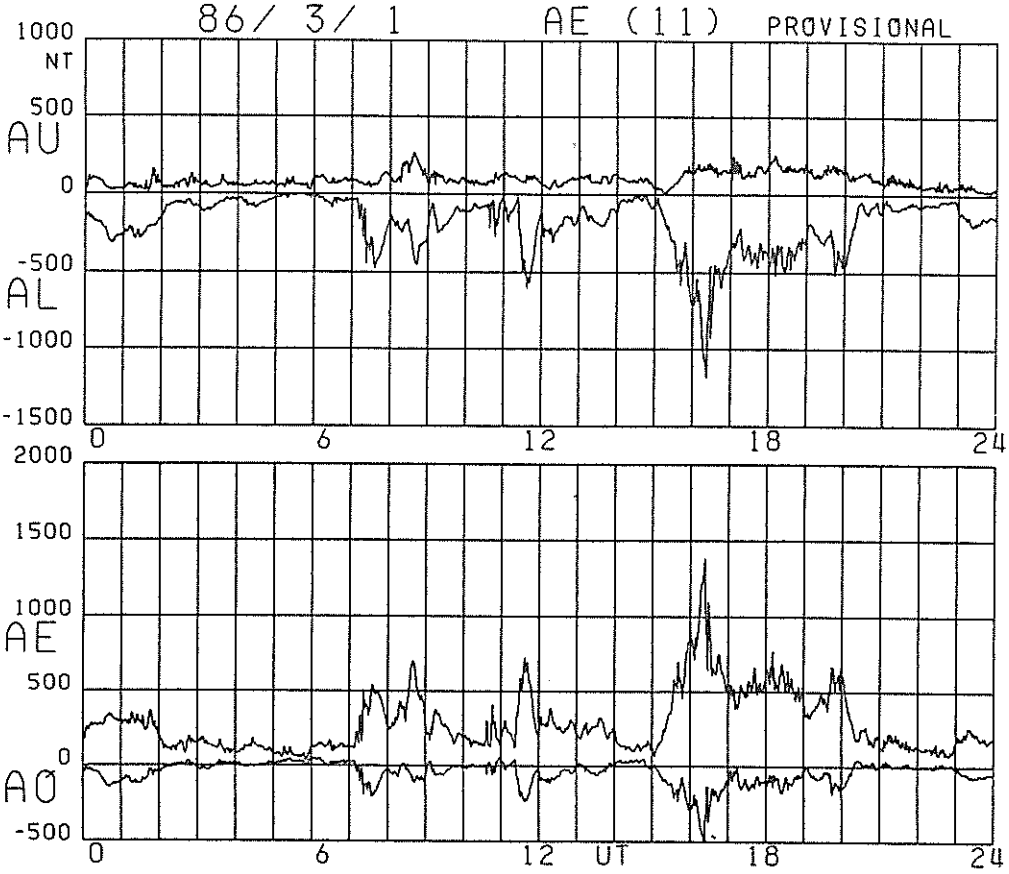
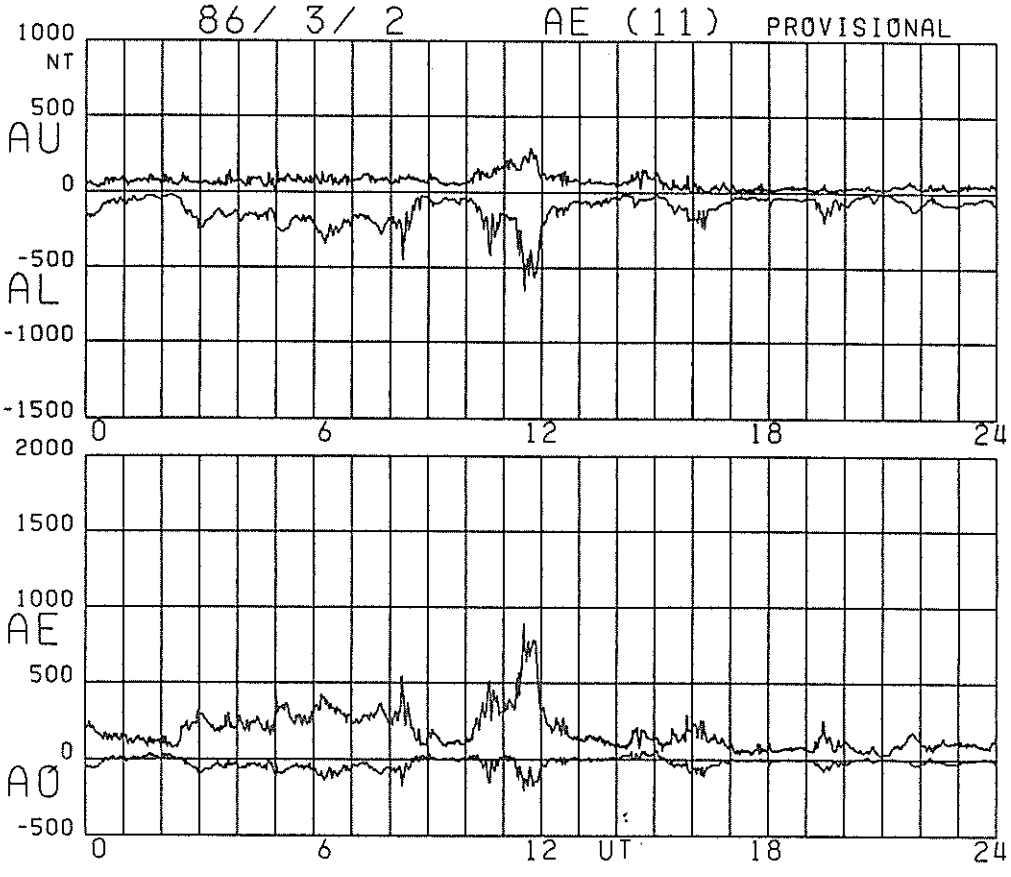
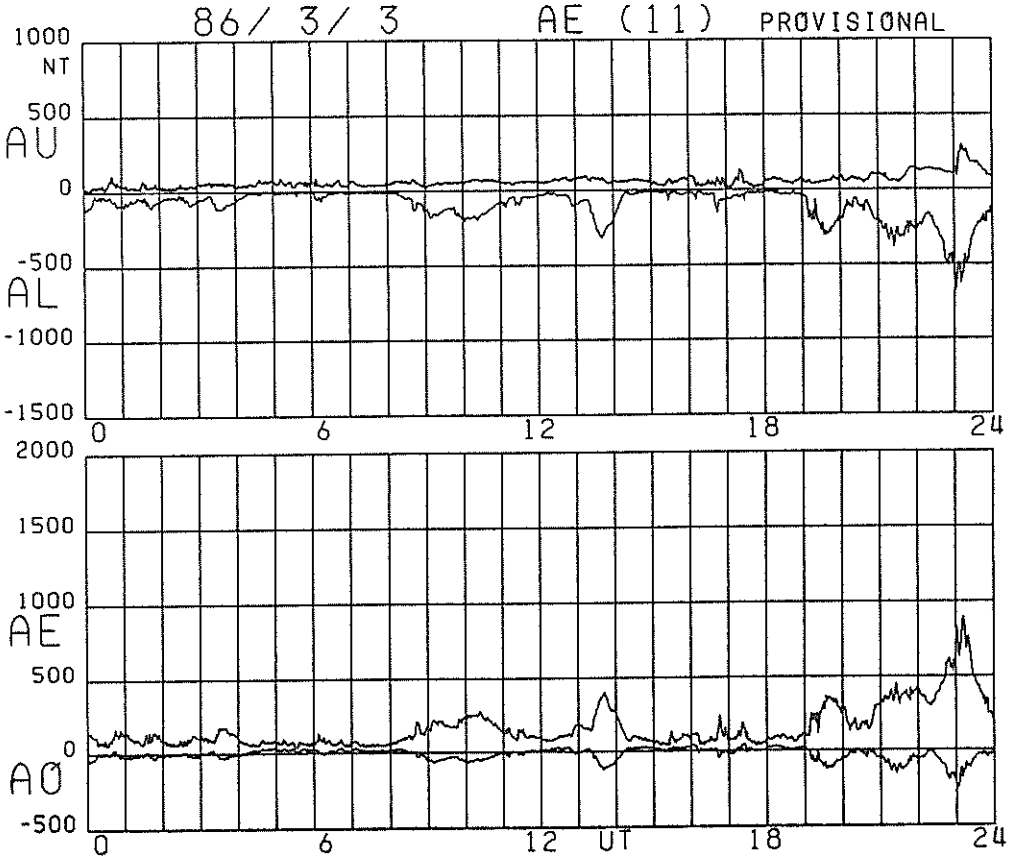
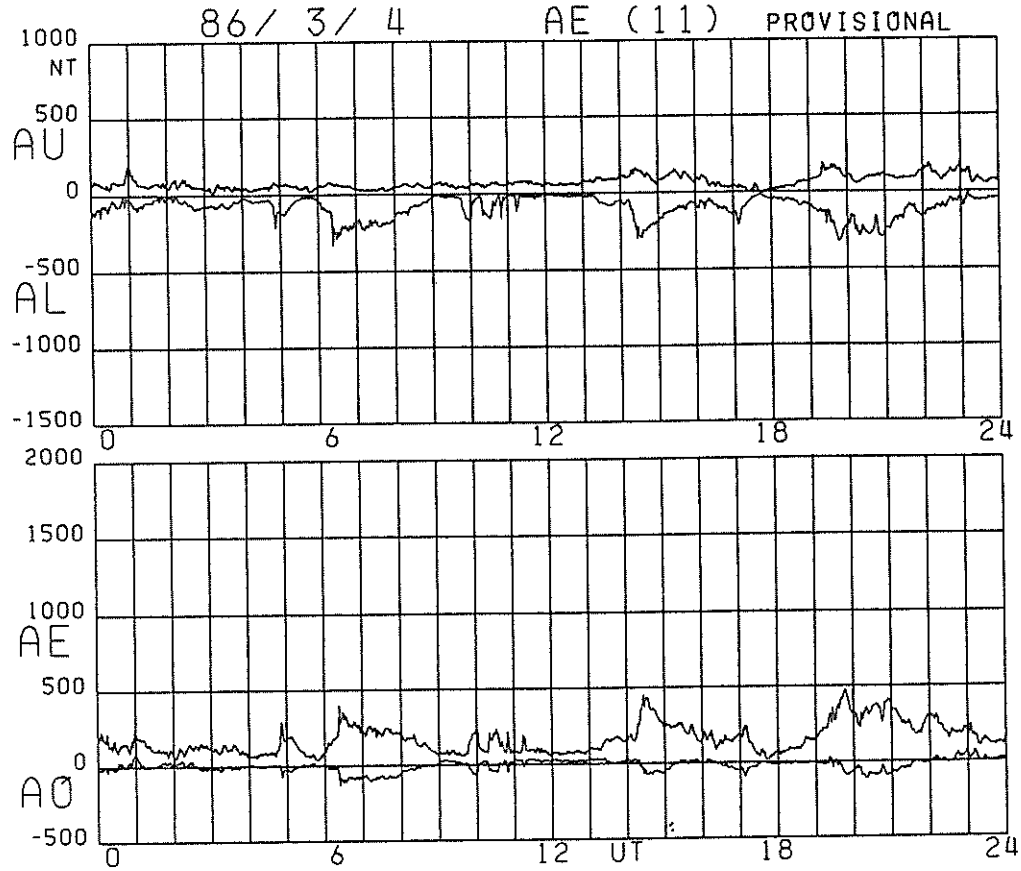
5Q	Mean	1	2	1	-8	-5	1	-4	-3	-4	0	-2	-2	1	2	-3	-1	-3	-8	-20	-6	-6	-3	4	4	-2
5D	Mean	-93	-45	-83	-60	-87	-58	-52	-68	-38	-12	-55	-97	-72	-72	-102	-65	-107	-91	-84	-110	-131	-82	-105	-102	-78





Prov. AE 8603 Fig.1- 1





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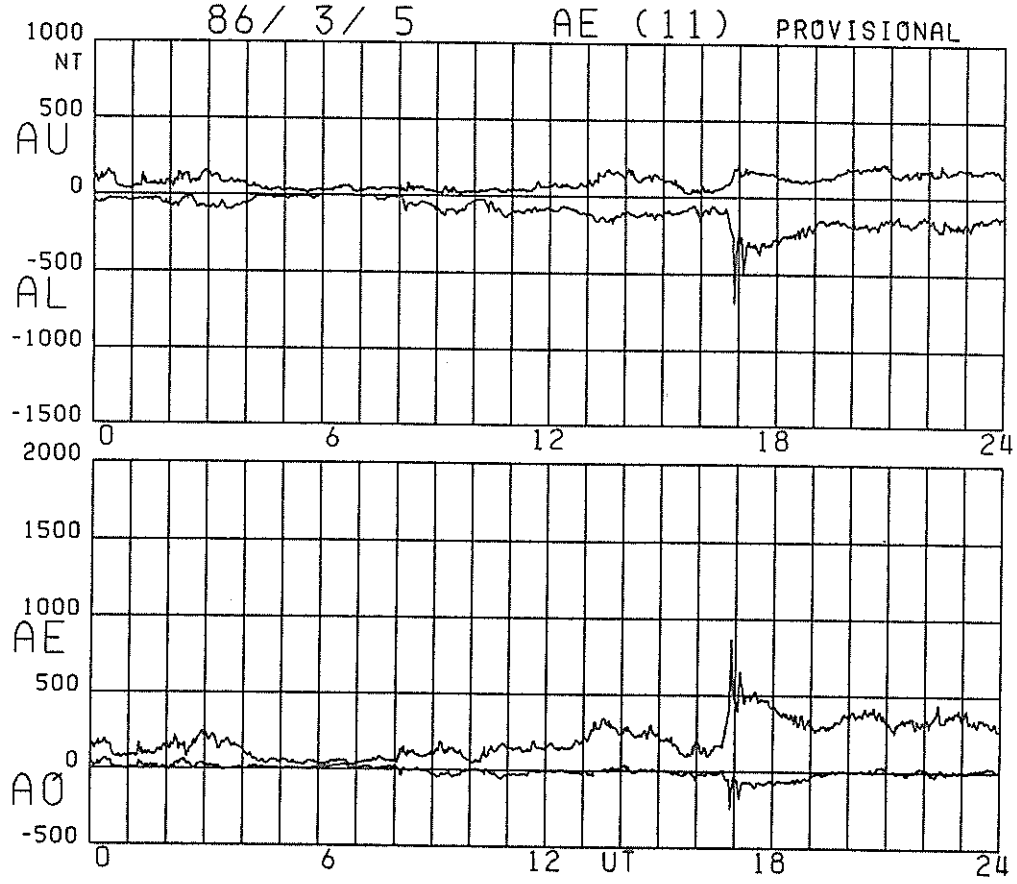
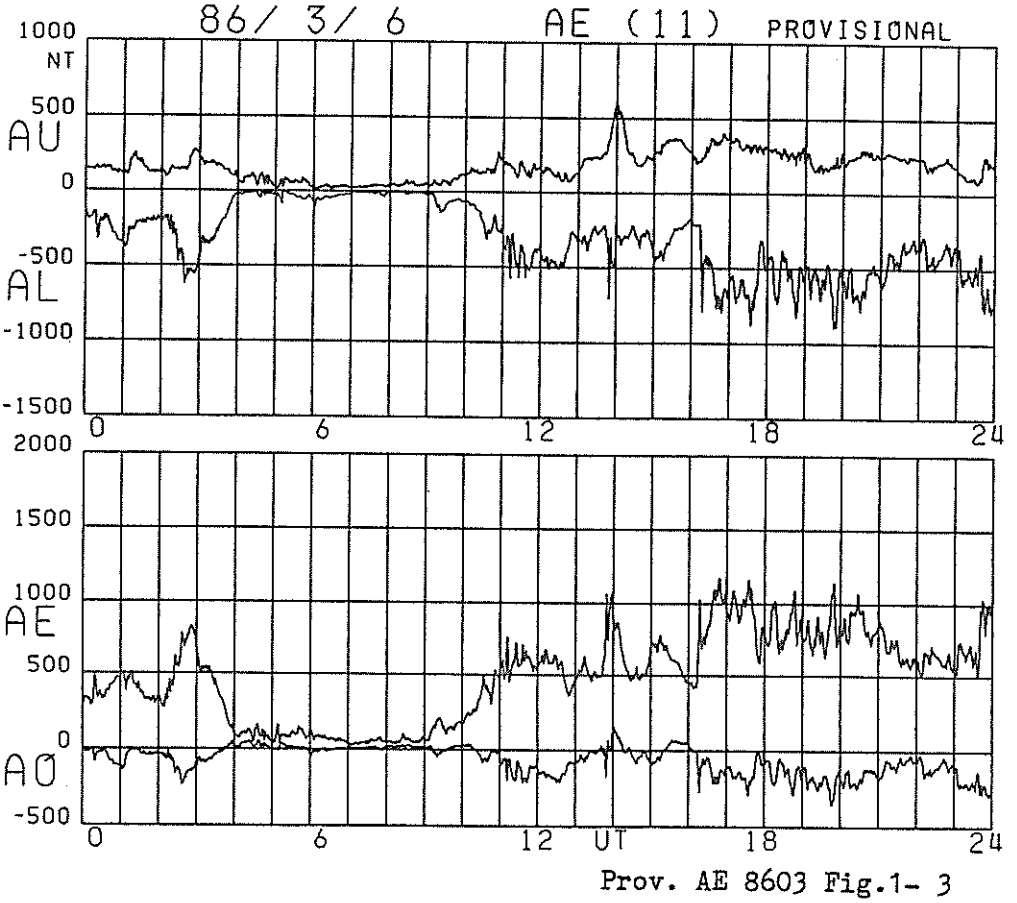
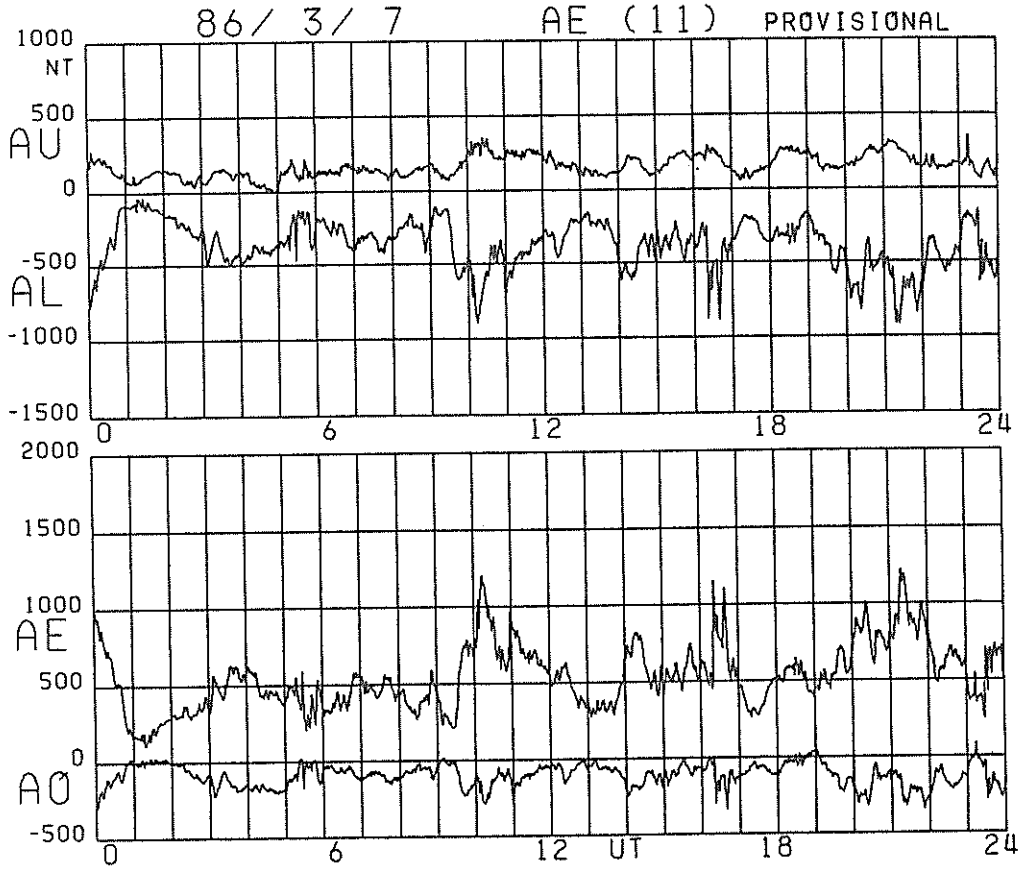
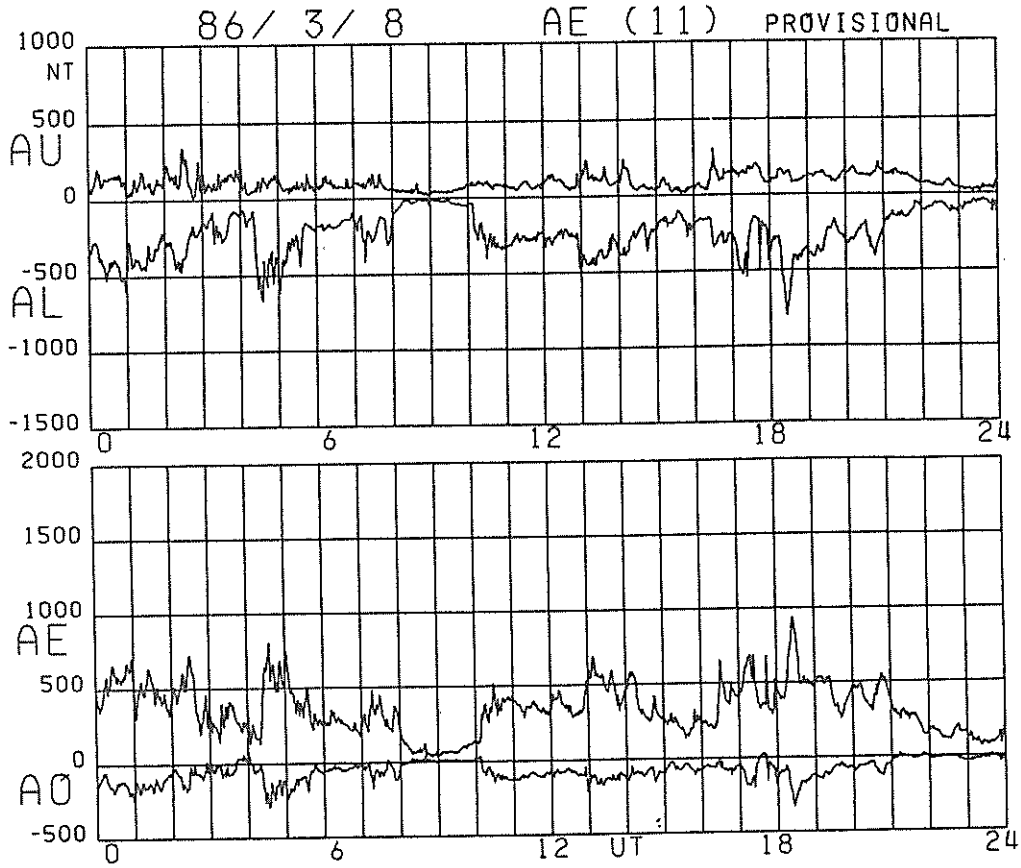


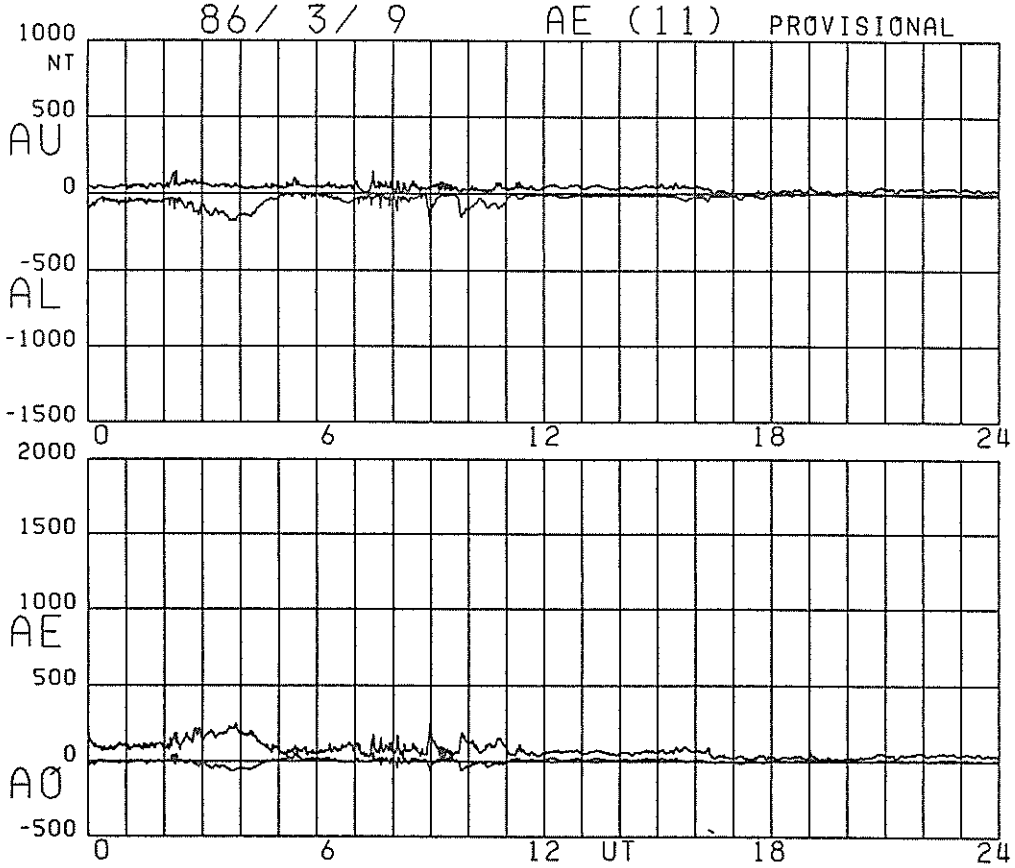


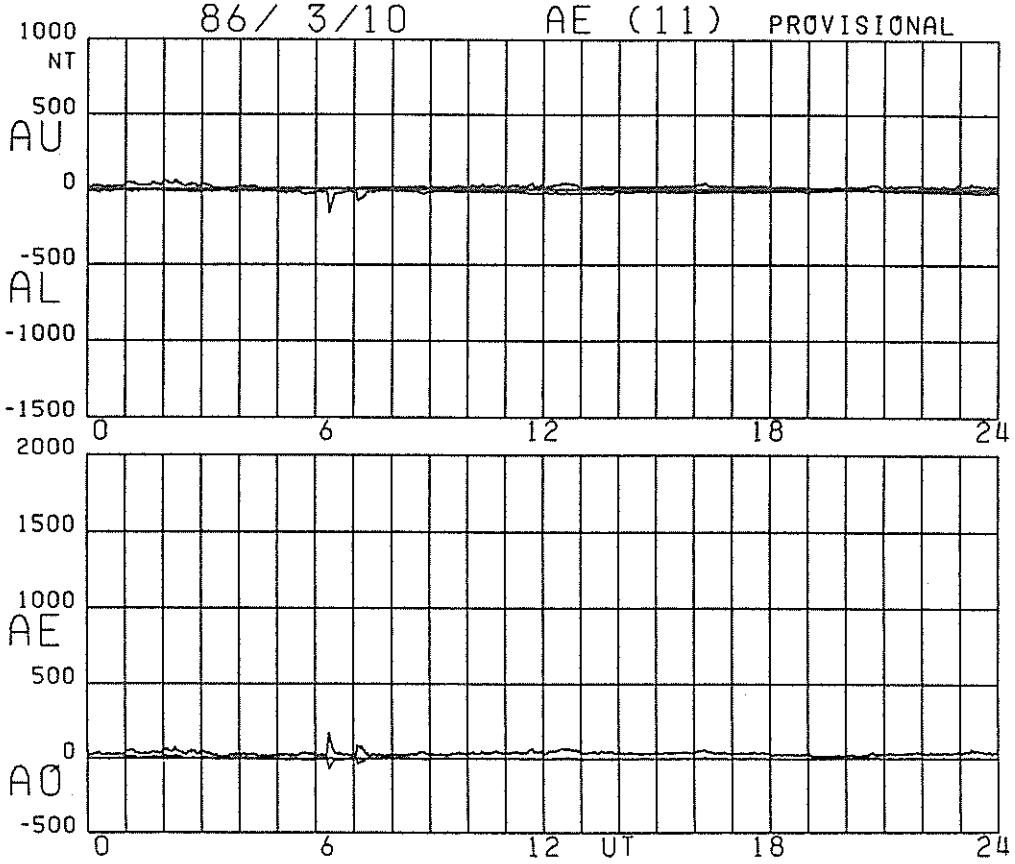
Prov. AE 8603 Fig.1- 3



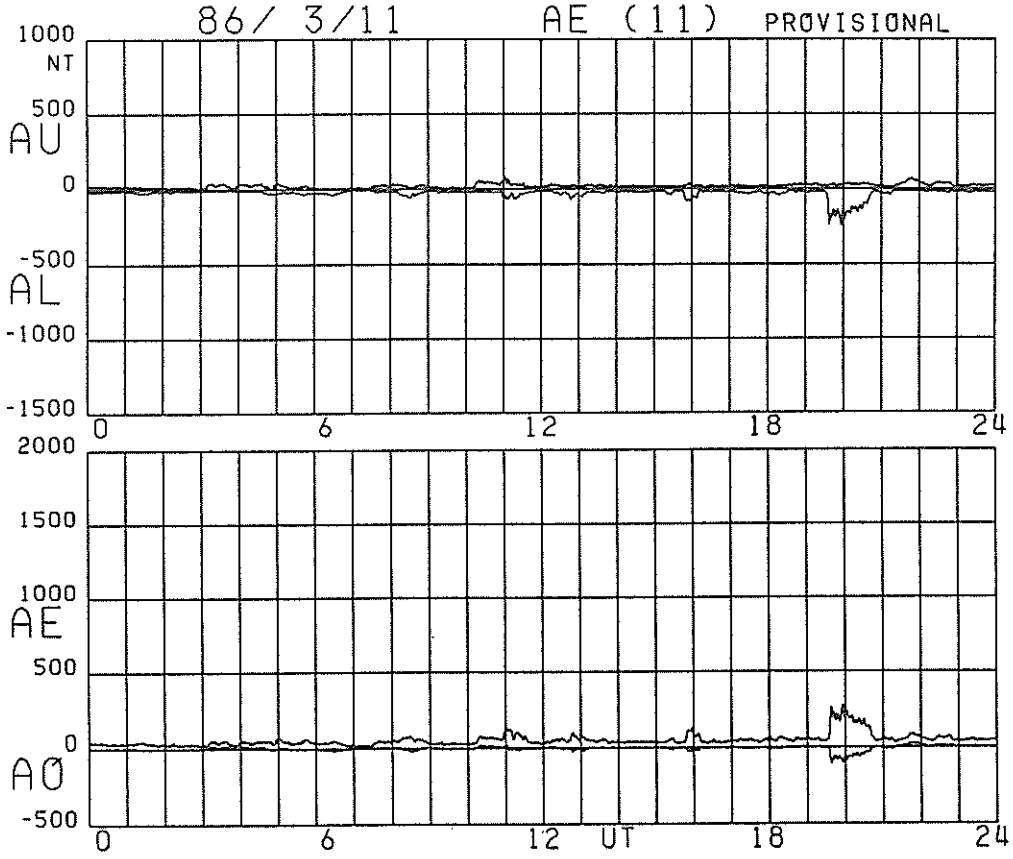


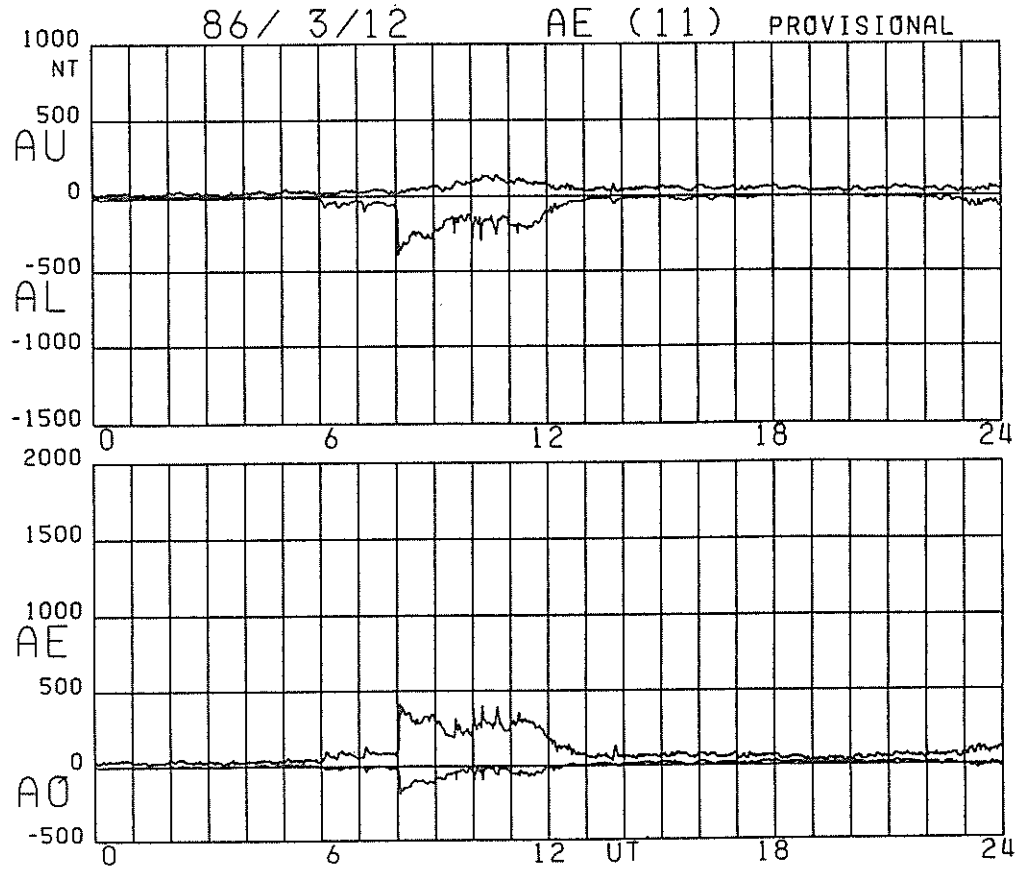
Prov. AE 8603 Fig.1- 4



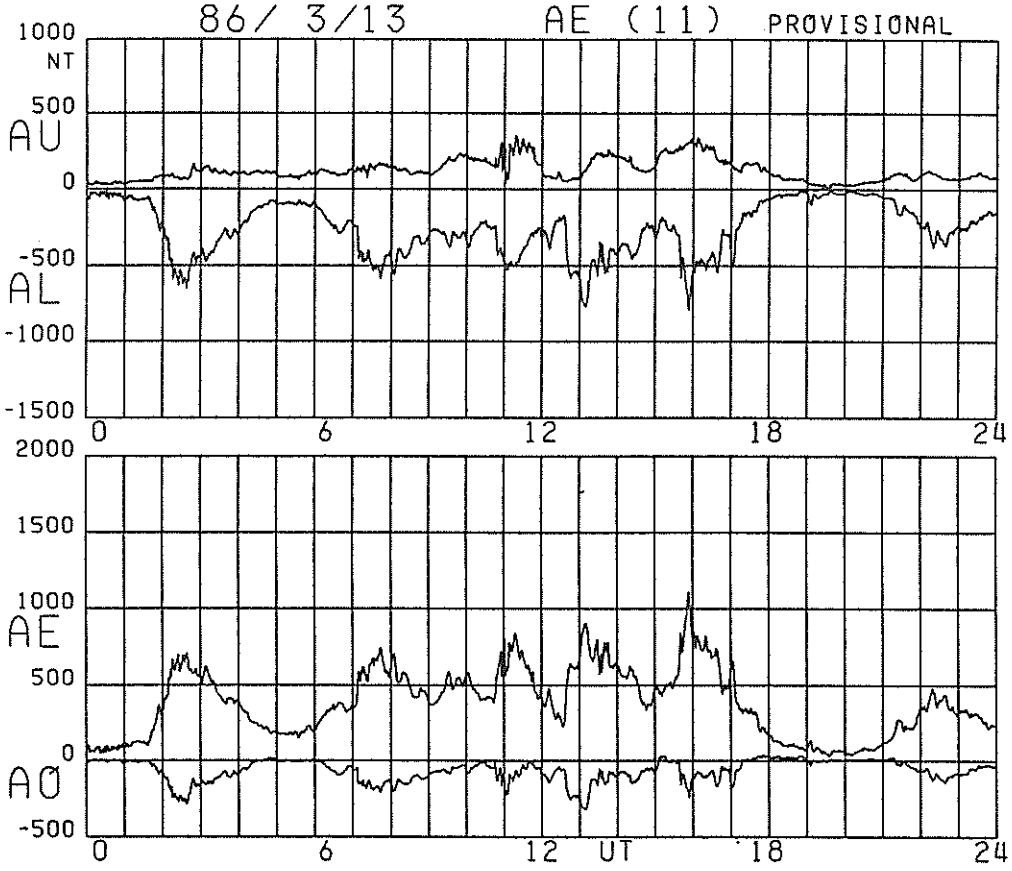


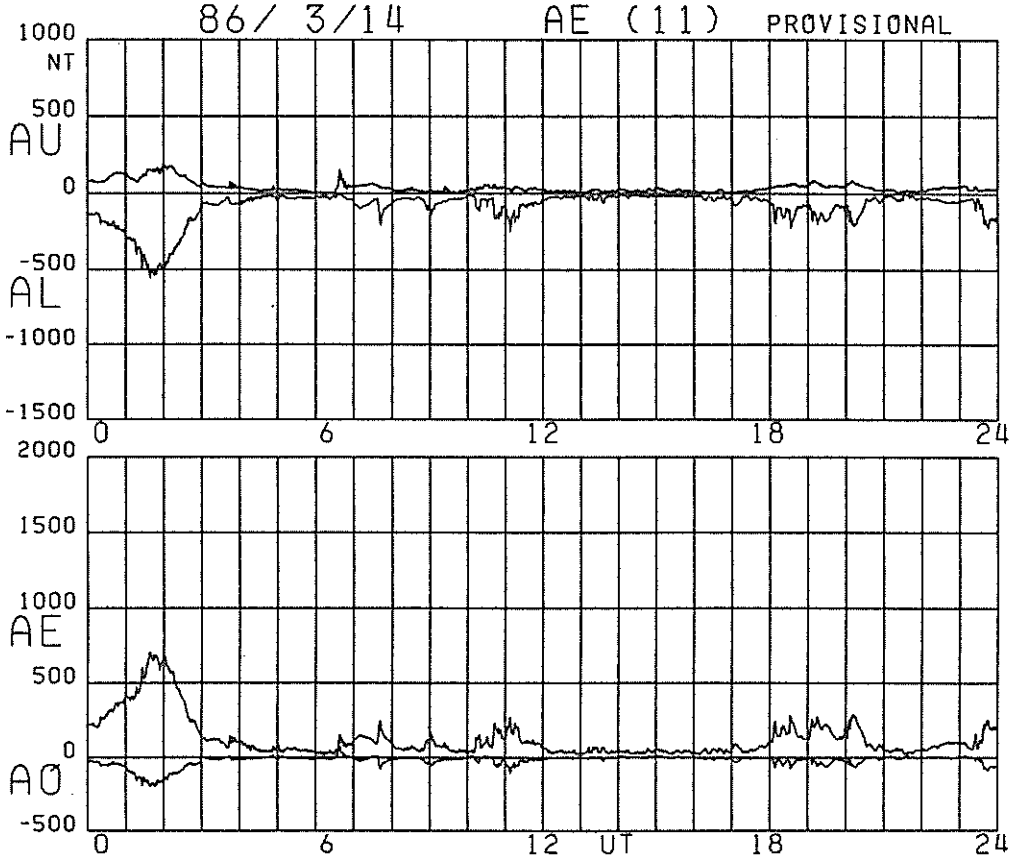
Prov. AE 8603 Fig.1- 5



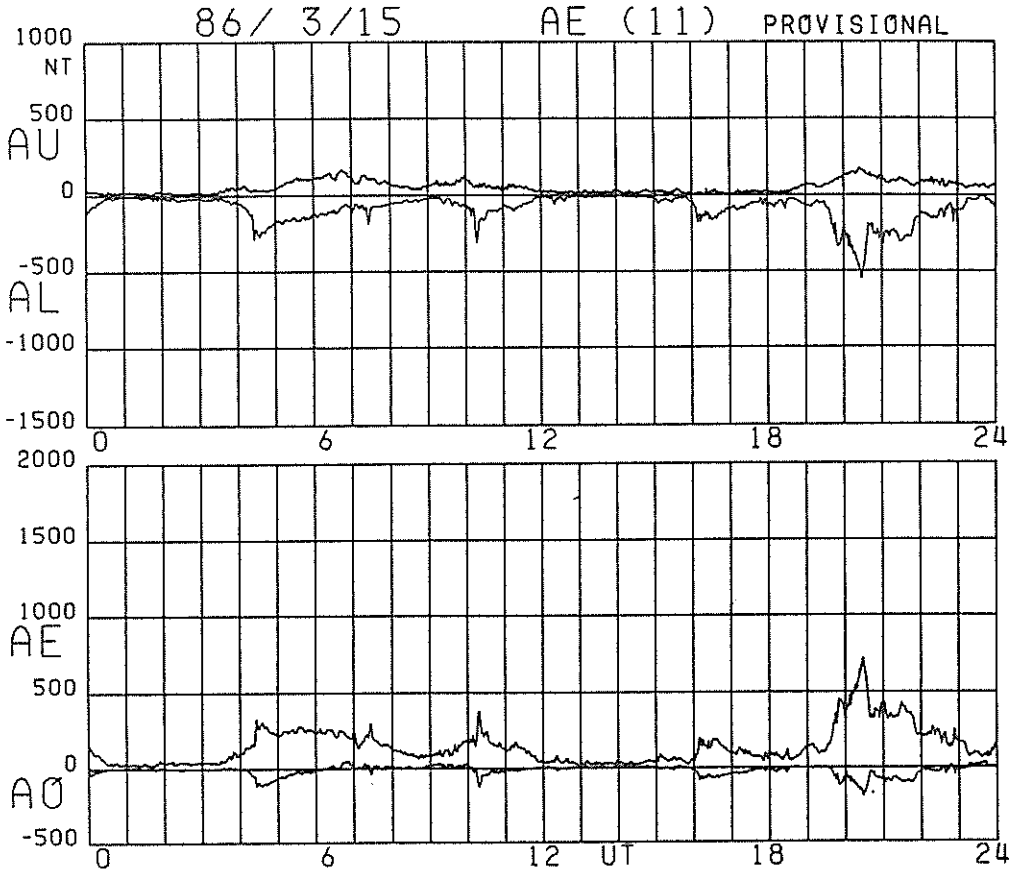


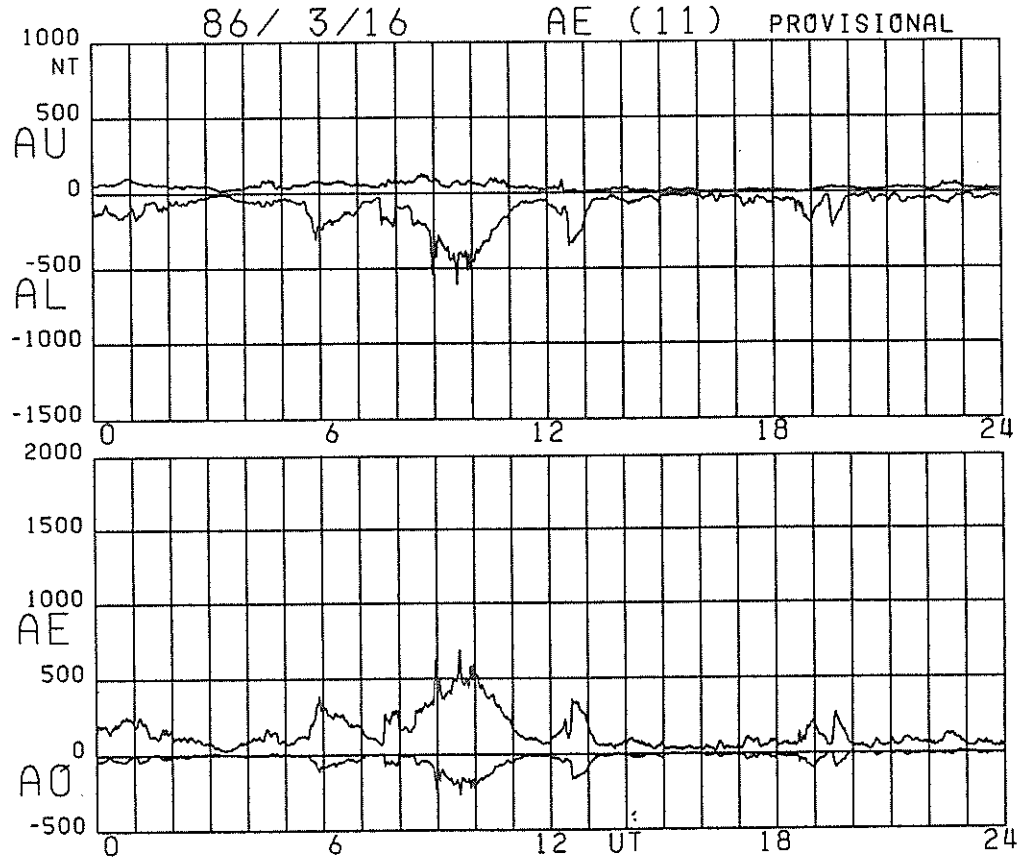
Prov. AE 8603 Fig.1- 6



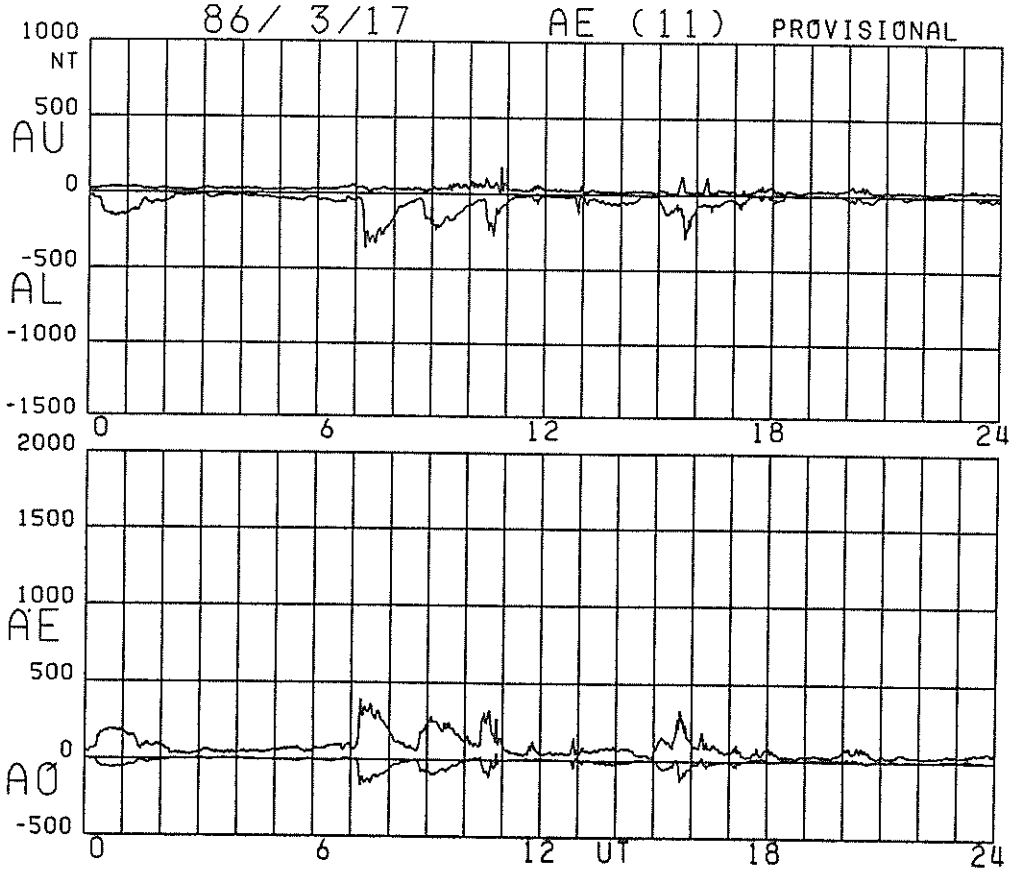


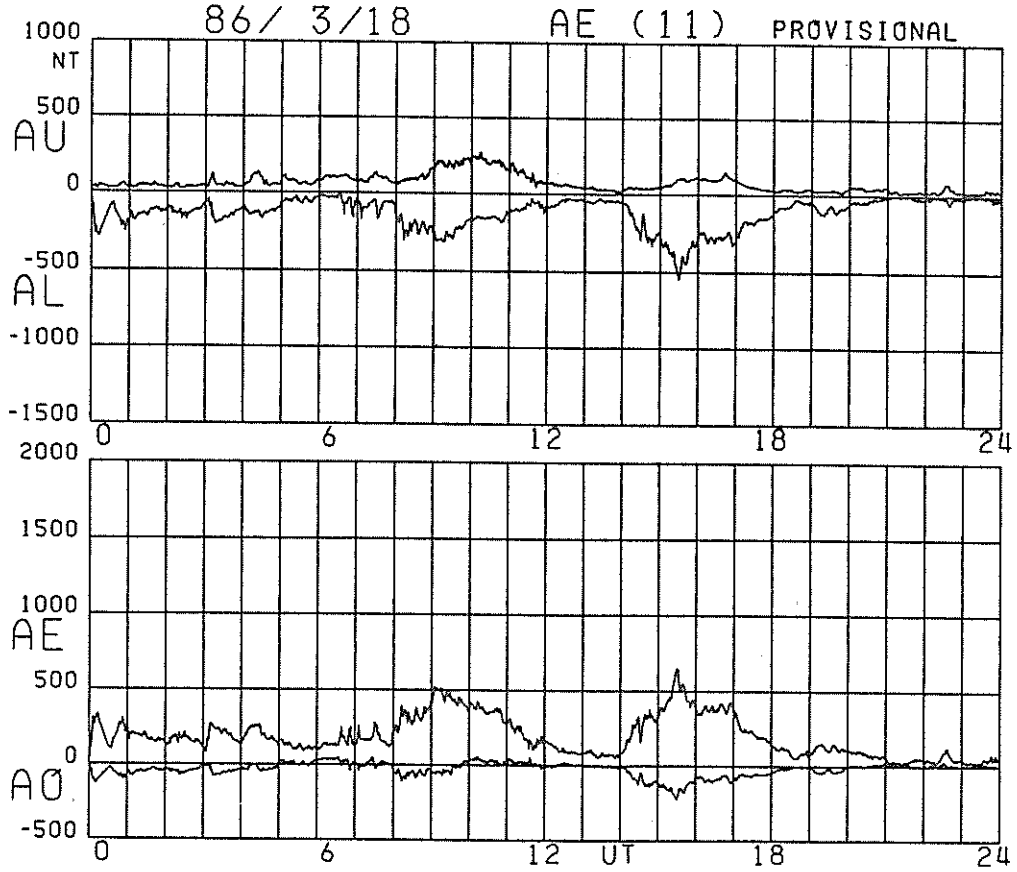
Prov. AE 8603 Fig.1- 7



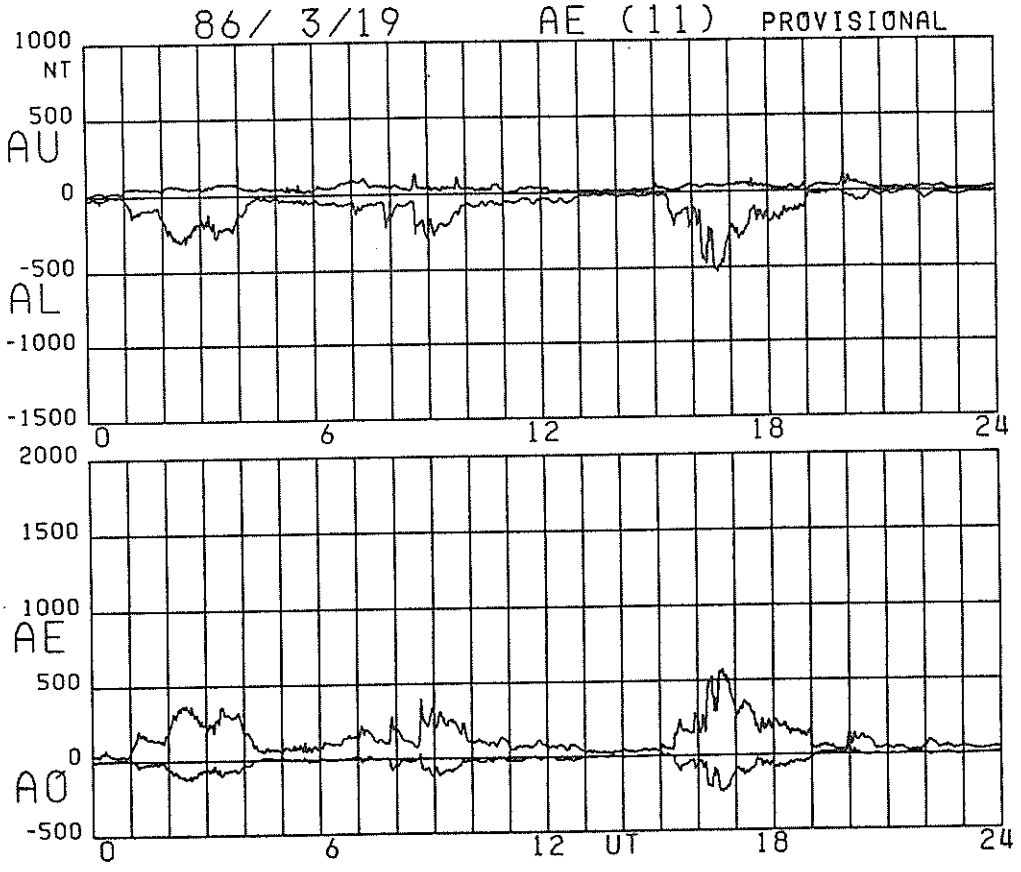


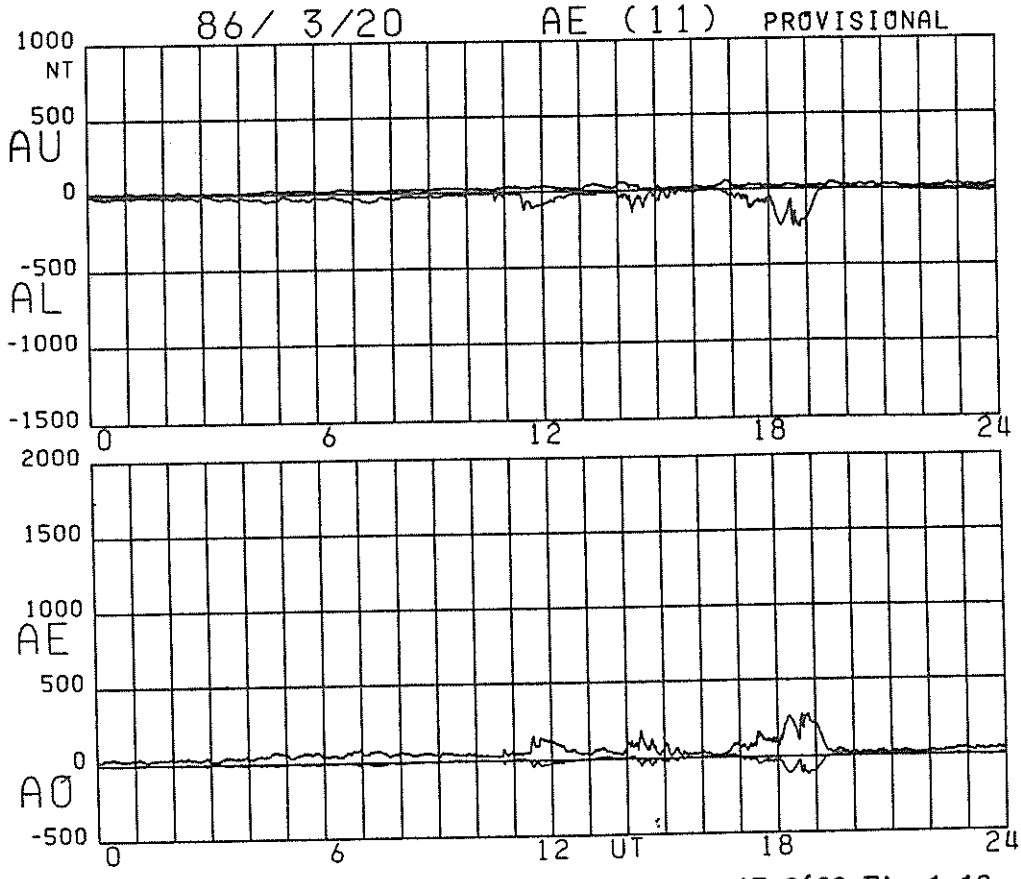
Prov. AE 8603 Fig.1- 8



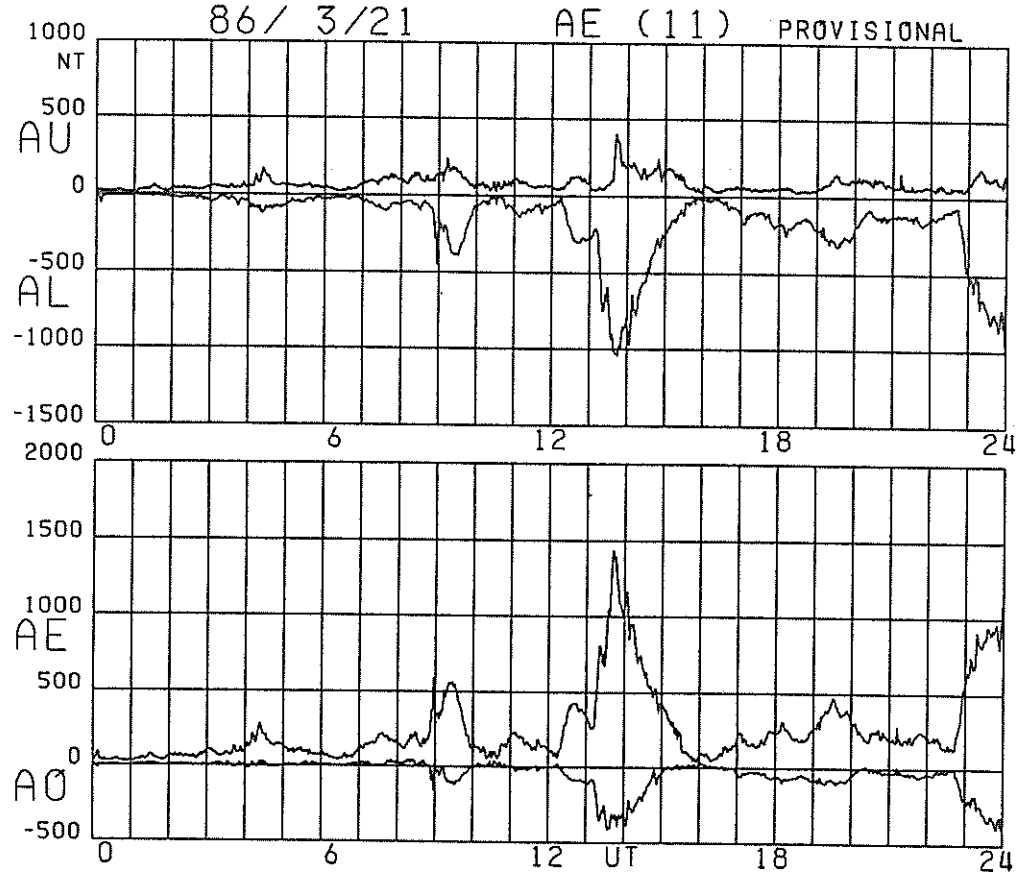


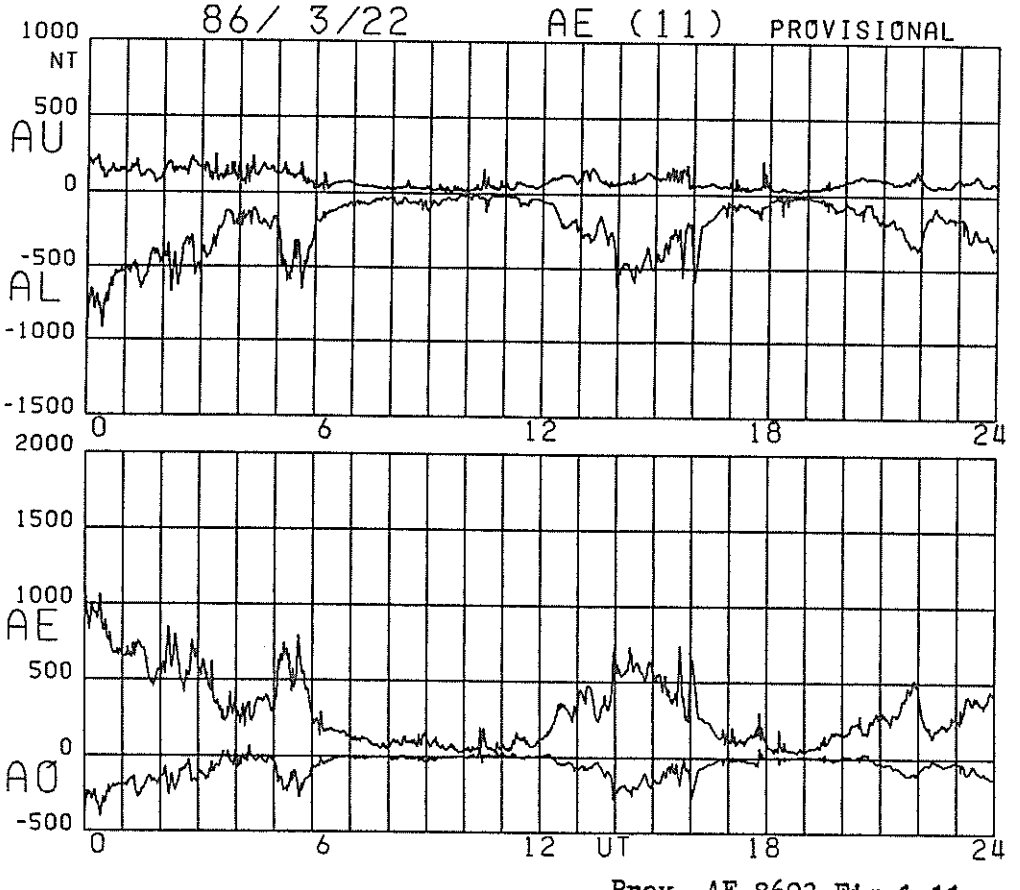
Prov. AE 8603 Fig.1- 9



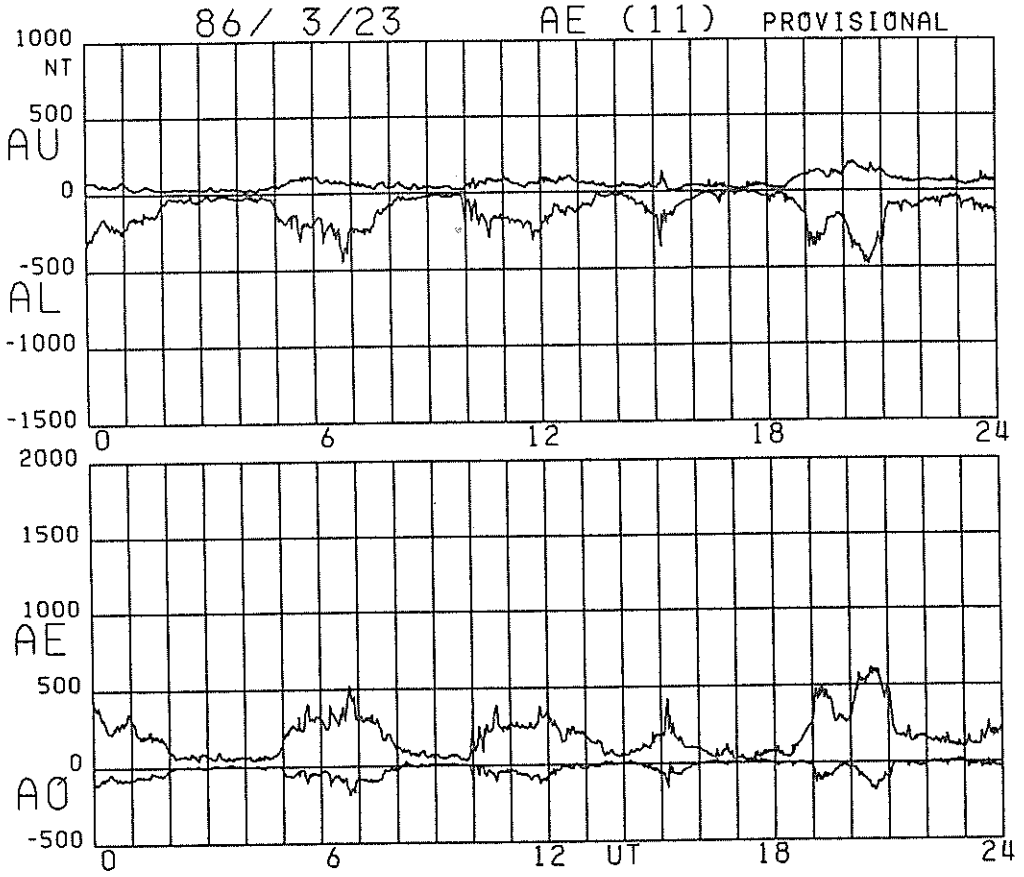


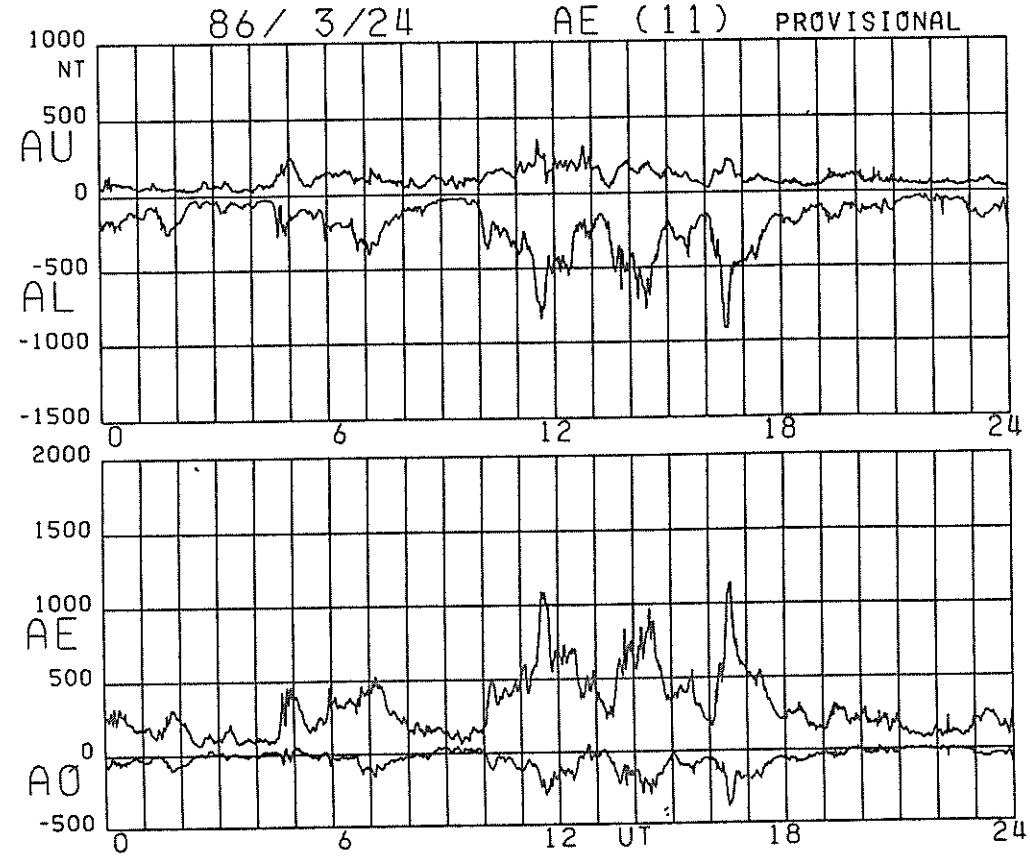
Prov. AE 8603 Fig.1-10





Prov. AE 8603 Fig.1-11





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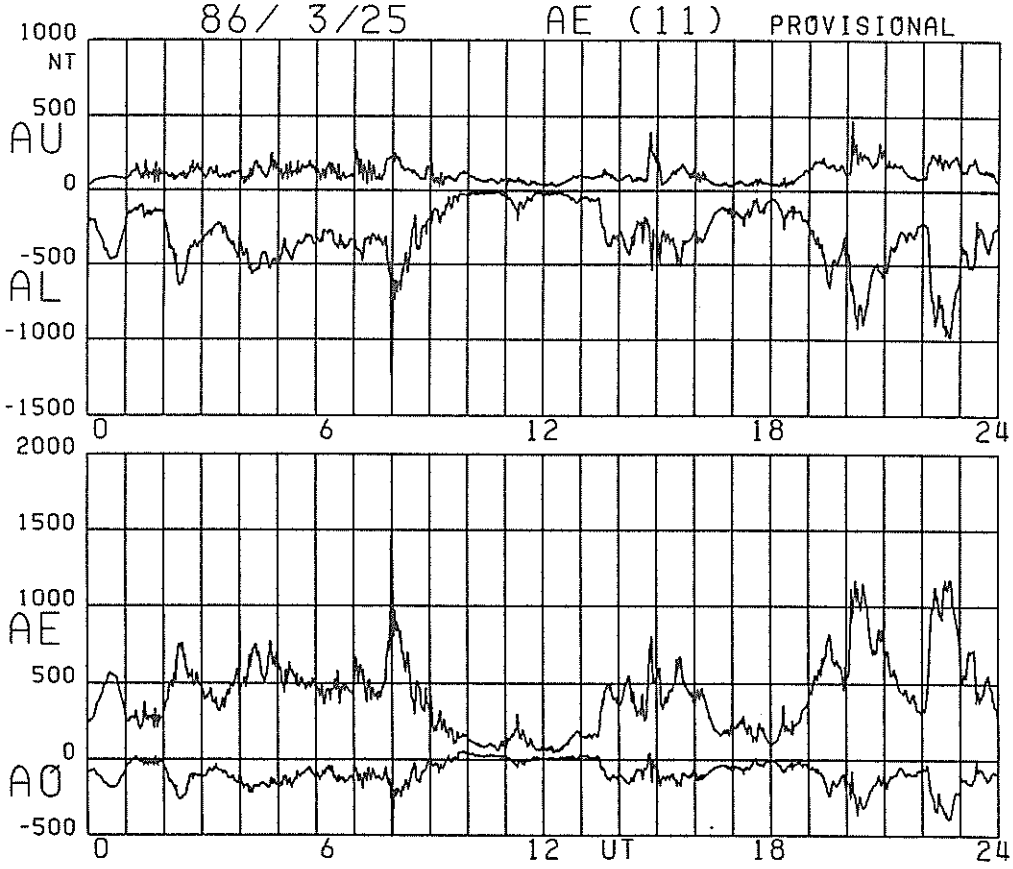
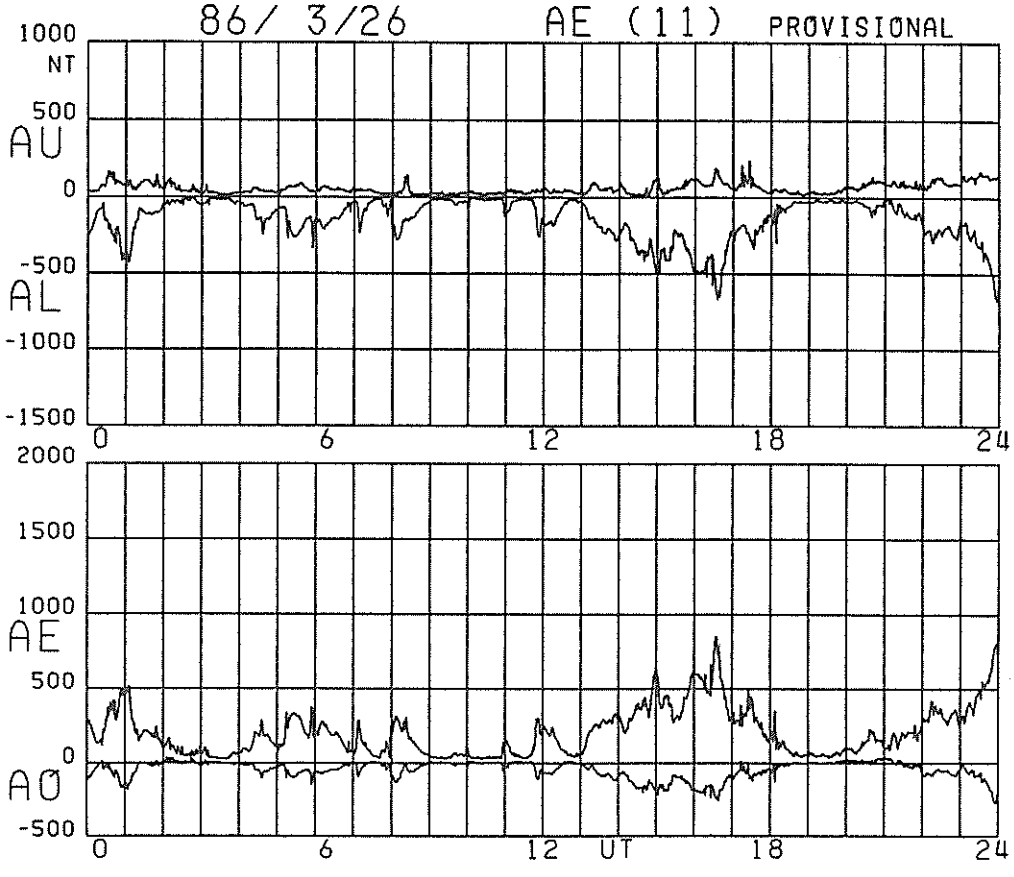
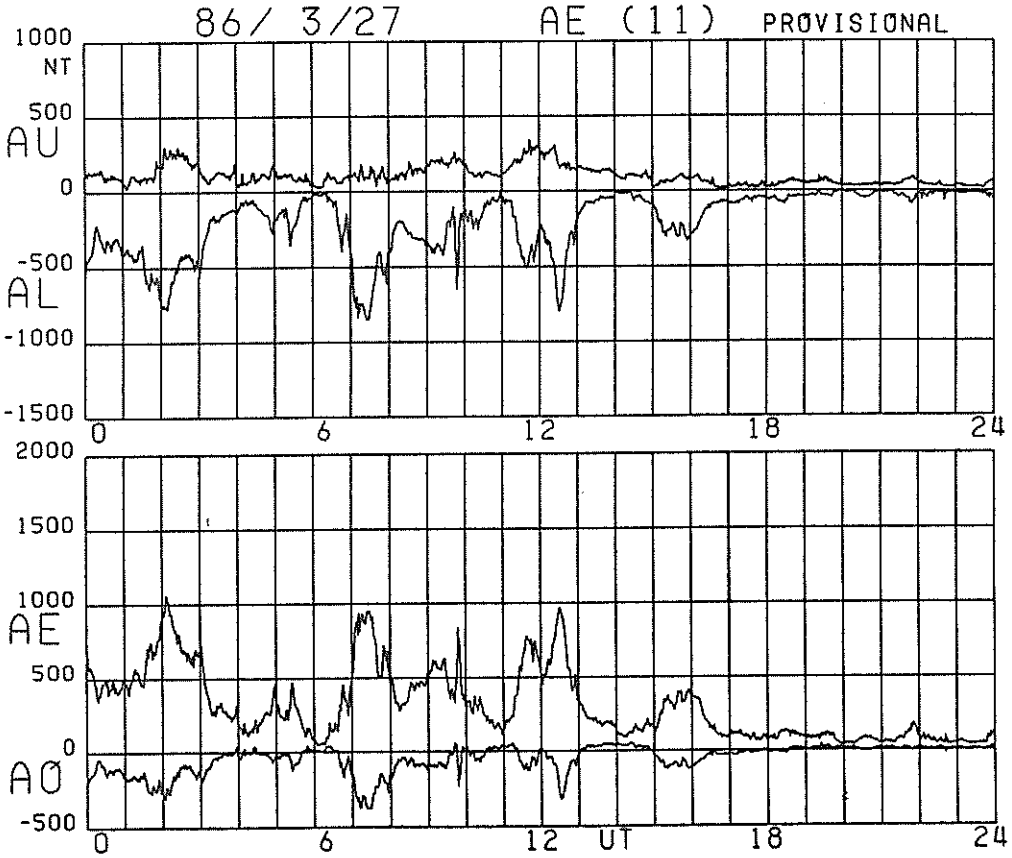
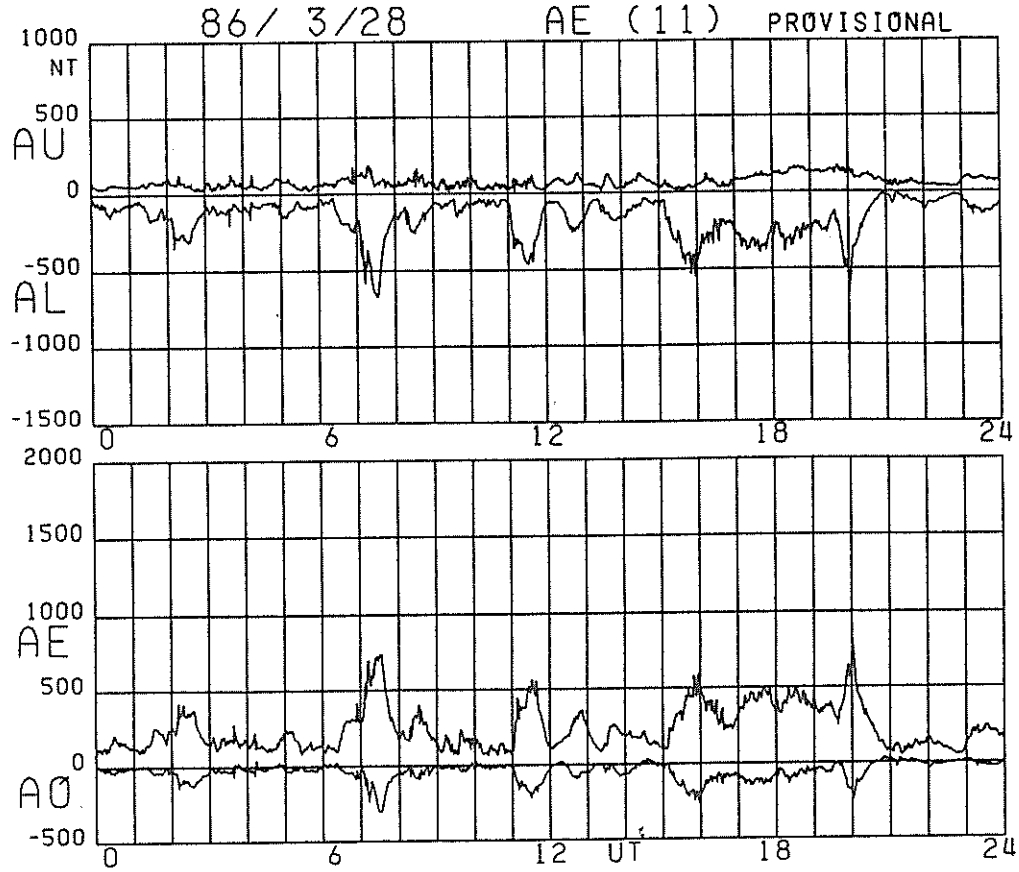


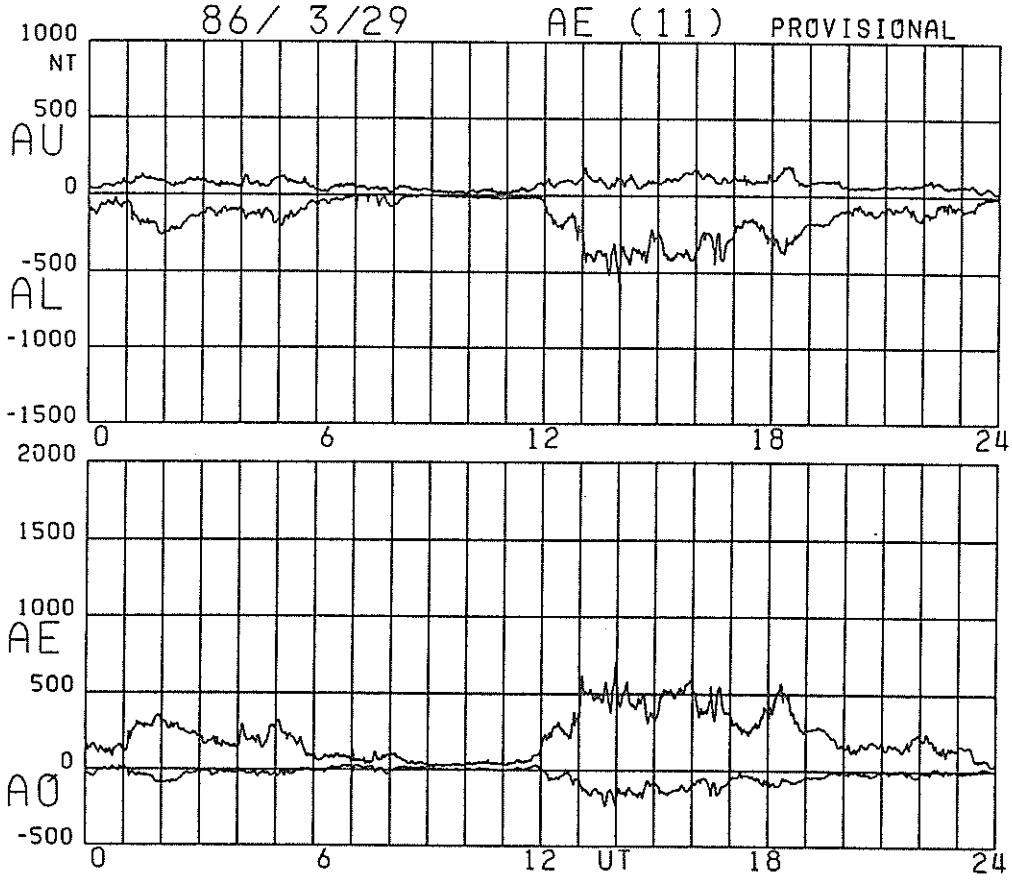


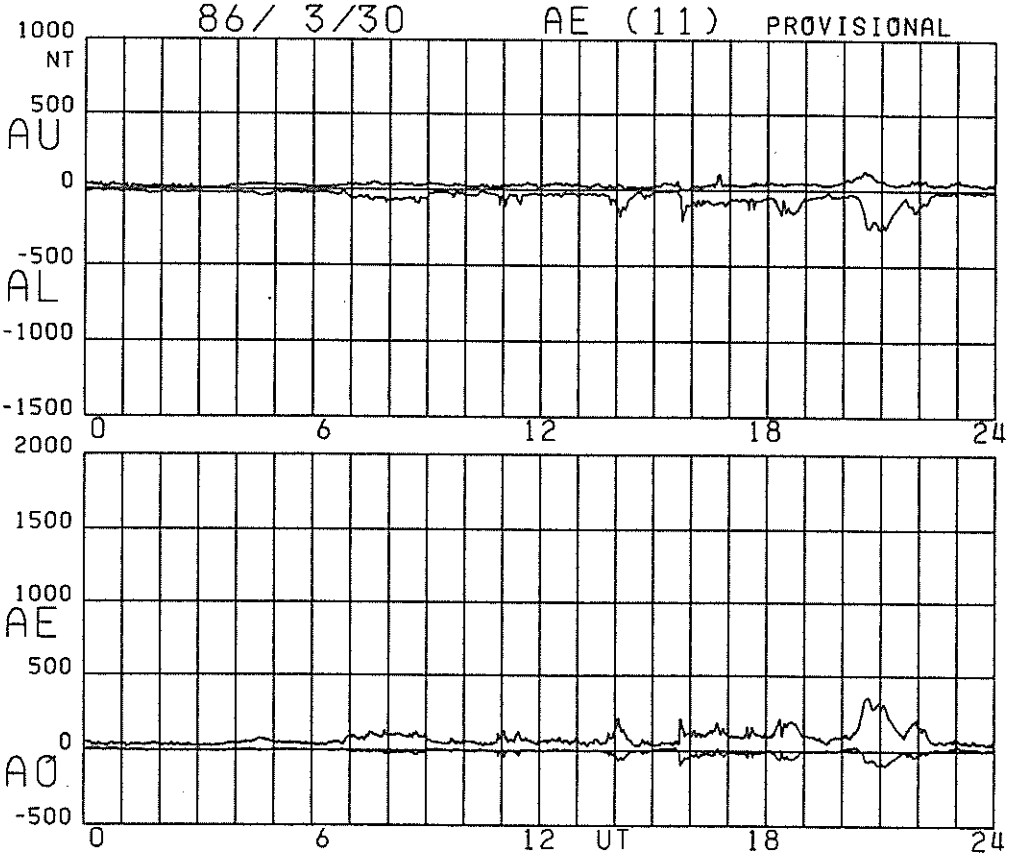
Prov. AE 8603 Fig.1-13



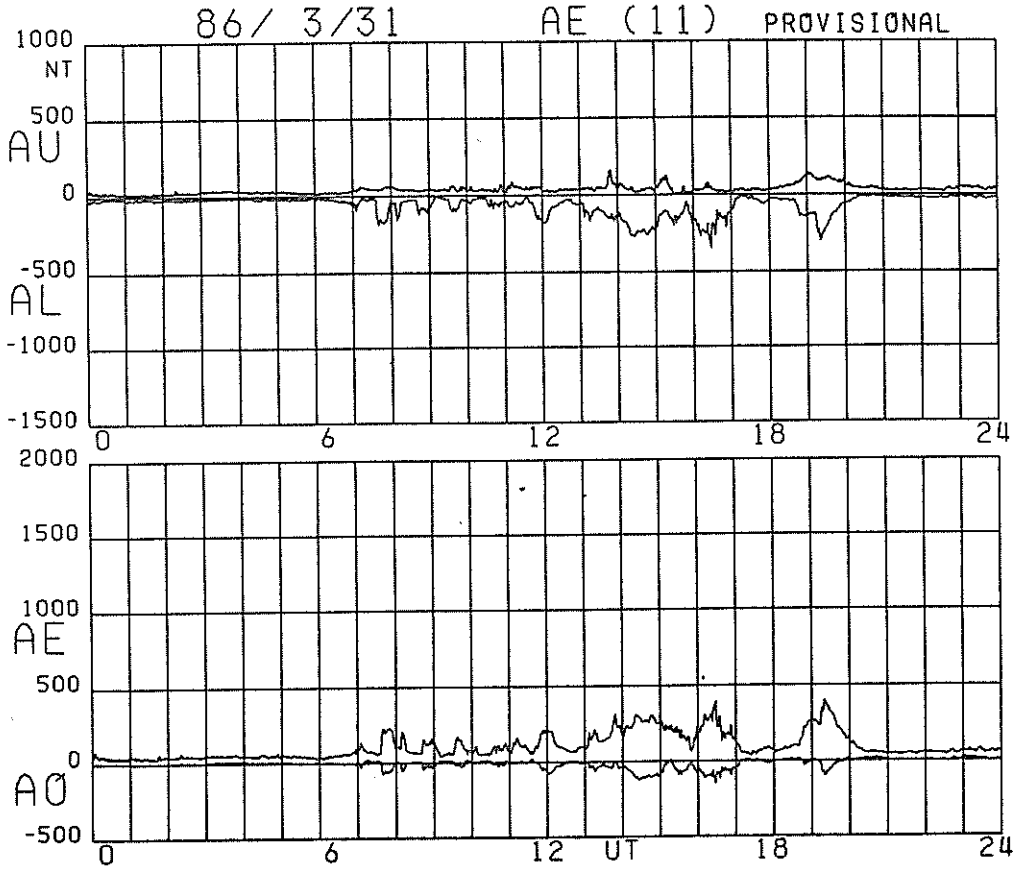


Prov. AE 8603 Fig.1-14

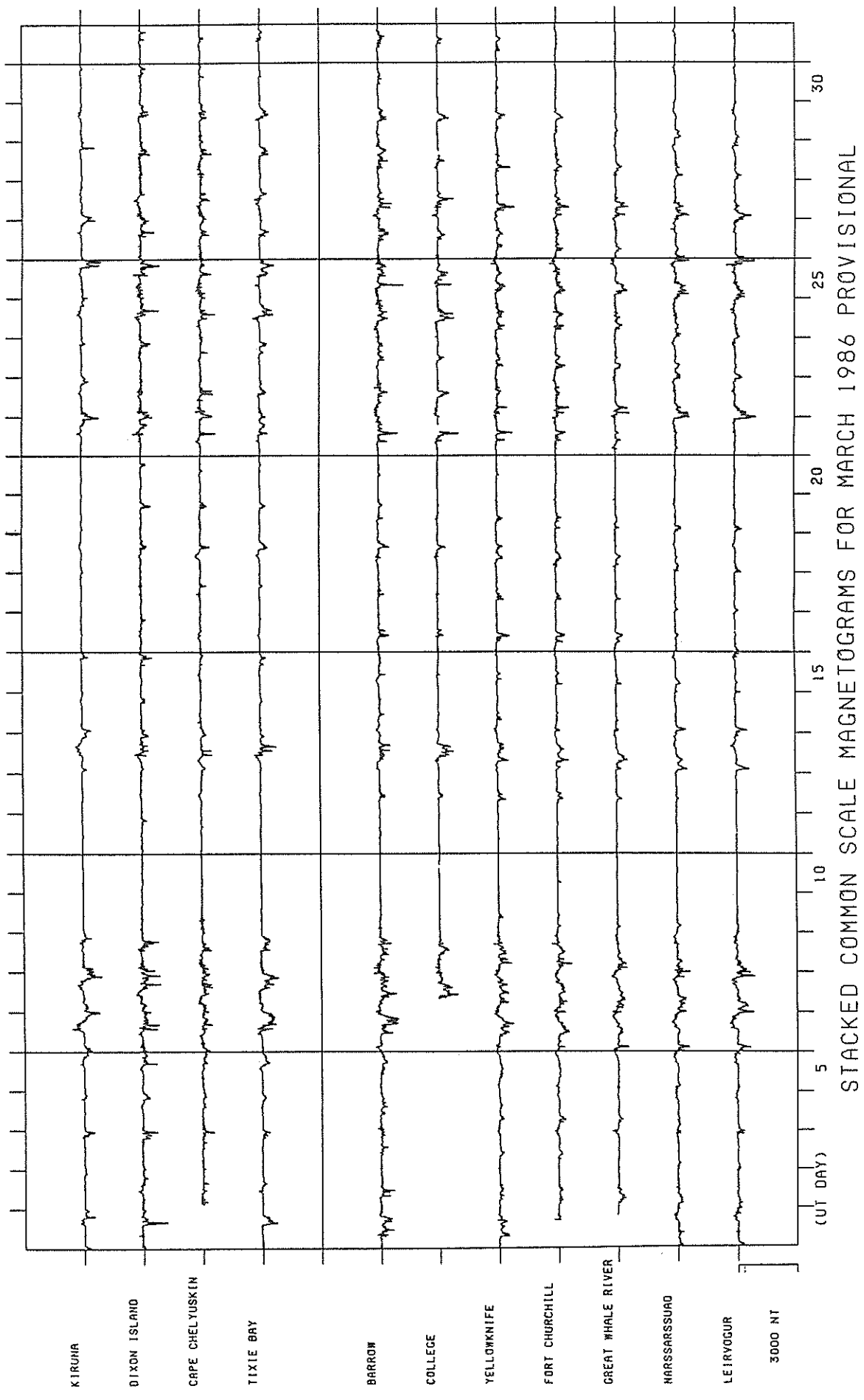




Prov. AE 8603 Fig.1-15



Prov. AE 8603 Fig.1-16



Prov. AE 8603 Fig.3

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World Data Center-C2 for Geomagnetism

PROMIS PERIOD
Prompt Report

No. 2

Provisional Auroral electrojet indices (AE11)

for April 1986

JULY 1986

World Data Center - C2
for Geomagnetism
Faculty of Science
Kyoto University
Japan

PROVISIONAL AURORAL ELECTROJET INDICES

FOR APRIL 1986

PREPARED FOR PROMIS PERIOD

1. Introduction

This report gives provisional values of the Auroral Electrojet Indices for April 1986, as the second part of a series, in support of the project PROMIS (Polar Region and Outer Magnetosphere International Study). For details of the AE indices, reference is made to the Data Book Nos. 3-14, published from the WDC-C2 for Geomagnetism (WDC-C2 for short), UAG Reports (e.g. UAG-22) published from WDC-A for Solar-Terrestial Physics (WDC-A for STP) or the paper on the AE index by T. N. Davis and M. Sugiura in the Journal of Geophysical Research; 71, 785-801, 1966.

For a quick distribution of the results, provisional AE indices are derived and distributed on a monthly basis with the following schedule.

Period	Planned publication	Report No.	Published
March 1986	----------	1	June 1986
April 1986	----------	2	July 1986
May 1986	July 1986	3	
June 1986	August 1986	4	

Extensive checks of the data regularly conducted in deriving the AE indices are curtailed for rapid production. The final AE indices will be recalculated and published in the Data Book series later.

This report together with magnetic tape with provisional AE indices will be filed in NASA/NSSDC, Greenbelt, Maryland, U.S.A. and NOAA/WDC-A for STP, Boulder, Colorado, U.S.A. A limited number of microfiche copies are distributed.

2. Data Used

Eleven observatories listed in Table 1 are used. Of these, seven stations are digital stations which are indicated by D in the table. The four remaining stations offering only analogue magnetograms are marked by A.

For rapid acquisition of the necessary data, digital recording from Kiruna is used instead of Abisko data digitized from analogue data that are regularly used for the final AE indices. For Leirvogur, digitization of records was made using microfilm copies of the regular magnetograms.

Hand-traced copies of magnetograms were received from Dixon Island, Cape Chelyuskin, Tixie Bay, and Cape Wellen. Certain selections have been made with the data. For instance, data from Cape Wellen are not used as their contribution to the AE indices is not frequent. All the data from Dixon Island were storm magnetograms; we used these records assuming the base line to be stable and paper shrinkage to be negligible throughout this month. We adjusted the scaling when the base line on the hand-traced copy of a magnetogram is not a straight line. Although such an adjustment may be somewhat arbitrary, we find no other good solutions in these cases. Also, where time marks are doubtful, estimated time marks were used.

The H component is calculated from the X and Y components for Yellowknife, Fort Churchill and Great Whale River. For these stations, if either the X or Y value is missing, the H value is also treated as being missing. The observed H components are used for other stations except for Kiruna. As Kiruna data show short period instrumental noise, the H component was not calculated to avoid noise enhancement; instead, the X component was used. As the declination at Kiruna is small, differences between variations in the X component and those in the H component are negligible in the result.

3. Results

Monthly quiet-time H reference values for April 1986 are listed in Table 2. Table 3 gives the hourly average values of provisional AE indices for April 1986. Daily graphs of 1.0-min provisional AE indices (AU, AL, AE and AO) are plotted in Fig. 1, and corresponding plots of the contributing stations are given in Fig. 2* Figure 3 shows the H (or X) traces of magnetograms from stations used to derive provisional AE indices for April 1986.

4. Acknowledgements

Dr. E. W. Hones, Jr. of the Los Alamos National Laboratory was instrumental in the planning on the production of the AE indices for the PROMIS interval on an accelerated time schedule. Dr. S. D. Shawhan and Dr. T. E. Eastman of the NASA Headquarters have been helpful in providing, through SCOSTEP, partial financial support that makes rapid digitization effort possible. We wish to express our deep appreciaton of their important contributions. We are indebted to many individuals without whose cooperation it would not be possible to produce AE indices so rapidly. We thank Dr. T. Saemundsson of the University of Iceland, Mr. L. R. Wilson and Mr. D. C. Herzog of the United States Geological Survey, Dr. V. A. Troitskaya and Dr. E. P. Kharin of Soviet Geophysical Committee, Academy of Sciences of the USSR, Dr. E. Friis-Christensen of the Danish Meteorological Institute, and Mr. G. J. van Beek of the Geological Survey of Canada, and Dr. B. Hultqvist and Mr. I. Haggstrom of the Kiruna Geophysical Institute for their respective efforts to achieve quick transmission of data. We also thank Mr. J. H. Allen and Mr. C. C. Abston of WDC-A for STP for communication support via the NOAANET computer system. We wish to express our appreciation of Ms. Y. Yamamoto's dedicated effort in the digitization and preparation of the figures.

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July 3, 1986

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*Editor's Note: Figure 2 is omitted here due to space constraints. It is available from the authors or from our data center.

Table 1. List of Stations

Observatory	Abbreviation IAGA	Other	Geographic Coord. Lat. (°N)	Long.(°E)	Geomanetic Coord. Lat. (°N)	Long. (°E)	Type
Kiruna	KIR		67.83	20.42	65.08	116.41	D
Dixon Island	DIK	DI,DIX	73.55	80.57	63.02	161.57	A
Cape Chelyuskin	CCS	CC,CCH	77.72	104.28	66.26	176.46	A
Tixie Bay	TIK	TI,TIX	71.58	129.00	60.44	191.41	A
Barrow	BRW	BW	71.30	203.25	68.54	241.15	D
College	CMO	CO	64.87	212.17	64.63	256.52	D
Yellowknife	YKC	YEK	62.40	245.60	69.00	292.80	D
Fort Churchill	FCC	FC	58.80	265.90	68.70	322.77	D
Great Whale River	GWC	GWR	55.27	282.22	66.58	347.36	D
Narssarssuaq	NAQ	NAS	61.20	314.16	71.21	36.79	D
Leirvogur	LRV	LR,LER	64.18	338.30	70.22	71.04	A

Table 2. Monthly Quiet-Time H Reference Values (Unit nT)
For April 1986

Kiruna (X component)	11002	
Dixon Island	6205	
Cape Chelyuskin	+282	(HO+)
Tixie Bay	+ 53	(HO+)
Barrow	9653	
College	12876	
Yellowknife	8794	
Fort Churchill	7789	
Great Whale River	10776	
Narssarssuaq	12192	
Leirvogur	+230	(HO+)

(HO+) : As the absolute values are not provided by these stations, the deviations from the H base lines on the ordinary magnetograms are given.

AU Index (Hourly mean values, unit nT) April 1986

	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
	1	14	16	22	33	24	40	20	27	42	95	73	66	38	22	19	17	21	31	42	107	96	73	29	19	41
D	2	24	45	64	28	43	34	15	27	40	50	40	62	44	48	56	38	16	26	30	16	23	38	33	42	37
	3	64	126	148	203	85	56	104	33	30	25	32	56	71	68	44	58	37	64	52	35	35	29	17	11	62
Q	4	6	9	15	30	16	16	21	38	31	30	14	10	15	17	15	16	12	13	20	22	12	28	29	34	19
	5	11	8	21	48	76	32	23	20	25	23	20	20	20	22	27	29	24	72	159	132	93	106	139	60	50
Q	6	19	10	7	17	28	39	41	31	29	21	16	38	24	18	25	20	13	20	19	22	28	63	31	43	26
D	7	45	32	55	53	31	20	52	35	25	32	43	48	62	76	88	42	45	29	18	28	22	24	29	34	40
D	8	28	42	24	18	26	21	21	16	48	93	81	105	120	91	61	64	37	22	16	15	25	33	53	66	47
	9	66	47	81	73	94	157	95	82	39	20	25	29	99	116	102	55	80	141	164	94	87	127	142	151	90
	10	72	133	153	147	148	234	284	225	262	152	55	23	35	49	105	205	105	70	36	33	29	18	8	16	108
	11	8	6	31	58	92	54	20	22	15	19	19	21	12	14	4	24	24	30	43	37	49	79	103	120	38
	12	120	143	226	129	104	156	82	89	162	142	90	139	240	161	107	86	111	162	215	246	234	190	167	71	149
D	13	63	84	76	58	24	28	31	47	37	41	59	118	190	105	89	68	28	32	43	64	99	115	124	105	72
Q	14	110	103	99	116	96	76	58	54	75	92	84	161	91	181	132	88	57	28	41	35	31	29	34	31	79
	15	35	24	16	16	21	27	46	63	69	51	42	63	128	140	91	74	45	30	40	40	28	22	20	88	51
	16	113	132	78	70	59	59	23	24	19	37	89	92	41	36	66	75	54	40	47	31	37	39	34	23	55
	17	20	12	15	18	18	16	22	37	23	40	77	75	62	92	50	30	40	79	109	90	69	84	101	62	52
	18	78	103	122	121	69	55	109	89	44	45	45	42	44	44	47	34	49	28	26	23	30	51	54	62	59
	19	98	105	94	86	106	44	39	61	63	114	115	114	196	147	63	72	65	56	86	105	111	64	37	39	87
D	20	18	35	47	42	43	30	23	18	18	22	22	53	72	70	43	40	43	27	41	56	71	83	77	70	44
	21	94	79	61	41	39	29	27	33	21	41	49	61	33	26	21	22	20	26	38	27	28	29	28	50	38
	22	40	43	42	105	103	114	46	43	84	210	148	45	26	24	34	42	30	60	114	99	91	90	92	61	74
	23	37	24	22	34	24	58	119	60	59	43	47	45	44	29	32	16	35	36	98	187	98	69	63	109	58
	24	102	45	31	40	42	43	51	41	68	46	92	120	63	58	67	41	48	55	69	79	59	44	45	50	58
	25	49	103	104	88	74	52	53	36	29	40	50	83	80	45	13	14	21	28	30	36	35	30	33	39	49
	26	59	73	89	76	65	54	34	44	72	102	142	135	52	29	27	15	24	19	21	21	21	17	26	29	52
Q	27	34	29	27	21	23	20	22	21	38	26	39	29	21	21	20	19	24	24	24	25	26	30	47	56	28
	28	83	129	135	162	81	41	136	126	122	190	106	44	32	27	53	34	30	50	30	24	27	19	19	21	72
	29	25	50	70	61	52	106	71	57	85	48	49	81	80	49	21	21	22	35	37	26	23	17	18	16	47
Q	30	15	19	34	30	31	28	28	36	46	21	33	73	65	59	31	60	45	44	38	33	31	20	22	28	36
	Mean	51	60	66	67	57	57	57	51	57	63	59	68	70	62	51	47	40	45	58	59	54	55	55	53	57
5Q	Mean	36	34	36	42	38	35	34	36	43	38	37	62	43	59	44	40	30	25	28	27	25	34	32	38	37
5D	Mean	35	47	53	39	33	26	28	28	33	47	49	77	97	78	67	50	33	27	29	35	48	58	63	63	48

AL Index (Hourly mean values, unit nT) April 1986

	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
	1	-31	-16	-14	-45	-49	-67	-43	-25	-29	-312	-213	-100	-33	-25	-21	-22	-74	-70	-33	-323	-246	-93	-20	-36	-81
D	2	-51	-49	-109	-33	-71	-79	-24	-18	-75	-154	-68	-134	-41	-53	-122	-68	-47	-25	-17	-12	-34	-72	-54	-60	-61
	3	-136	-395	-490	-462	-134	-37	-164	-261	-36	-26	-24	-37	-56	-155	-37	-36	-54	-315	-275	-27	-22	-37	-12	-11	-135
Q	4	-23	-25	-34	-63	-32	-25	-34	-49	-52	-122	-64	-31	-22	-22	-22	-26	-13	-12	-6	-8	-8	-26	-15	-10	-31
	5	-13	-23	-26	-154	-313	-93	-26	-25	-24	-65	-26	-27	-20	-20	-11	-12	-14	-106	-304	-188	-69	-175	-333	-95	-90
Q	6	-21	-26	-27	-25	-21	-77	-88	-64	-47	-33	-23	-27	-24	-24	-33	-19	-14	-18	-60	-20	-15	-77	-79	-18	-37
D	7	-14	-17	-57	-76	-33	-19	-56	-48	-29	-30	-30	-29	-28	-47	-154	-185	-206	-113	-31	-18	-20	-23	-24	-49	-56
D	8	-47	-24	-21	-22	-16	-14	-11	-11	-21	-190	-245	-208	-72	-75	-38	-18	-18	-14	-8	-1	-3	-9	-8	-69	-48
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	10	-269	-560	-177	-161	-140	-212	-268	-294	-257	-109	-34	-30	-25	-46	-194	-531	-239	-148	-107	-20	-12	-15	-17	-15	-162
	11	-15	-22	-42	-155	-337	-193	-39	-24	-31	-84	-44	-41	-32	-26	-28	-95	-157	-93	-43	-57	-54	-93	-162	-114	-83
	12	-193	-113	-165	-61	-32	-77	-140	-87	-153	-133	-67	-120	-203	-180	-149	-209	-222	-268	-319	-220	-164	-111	-89	-139	-151
D	13	-151	-178	-131	-42	-22	-31	-19	-49	-77	-27	-36	-186	-187	-121	-94	-99	-55	-32	-40	-40	-103	-190	-163	-51	-88
Q	14	-59	-84	-65	-66	-44	-13	-21	-35	-33	-33	-40	-173	-99	-108	-104	-81	-47	-22	-26	-19	-21	-22	-18	-28	-53
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D	20	-14	-21	-27	-35	-56	-30	-19	-34	-19	-22	-22	-31	-52	-34	-38	-21	-23	-16	-9	-32	-52	-103	-61	-72	-35
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	26	-42	-95	-267	-209	-78	-35	-32	-42	-145	-238	-256	-193	-59	-31	-39	-31	-32	-52	-33	-46	-30	-32	-25	-25	-86
Q	27	-18	-17	-94	-17	-17	-33	-42	-37	-37	-33	-39	-28	-33	-24	-22	-21	-26	-24	-44	-62	-38	-28	-28	-33	-33
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5D	Mean	-55	-57	-69	-41	-39	-34	-25	-32	-44	-84	-80	-117	-76	-66	-89	-78	-69	-40	-21	-20	-42	-79	-62	-60	-57

AE Index (Hourly mean values, unit nT) April 1986

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Q	4	30	35	50	94	50	42	55	88	84	153	79	42	38	39	38	43	27	25	26	31	21	55	45	44	51
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D	8	76	67	45	41	42	36	34	28	70	284	327	313	193	167	99	83	56	36	24	16	28	42	61	136	96
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5Q	Mean	67	71	88	84	68	82	76	82	83	89	79	125	105	128	96	83	71	71	69	56	45	67	64	59	79
5D	Mean	92	106	123	82	73	61	55	61	78	132	130	195	174	144	157	129	104	68	51	56	90	138	126	124	106

AO Index (Hourly mean values, unit nT) April 1986

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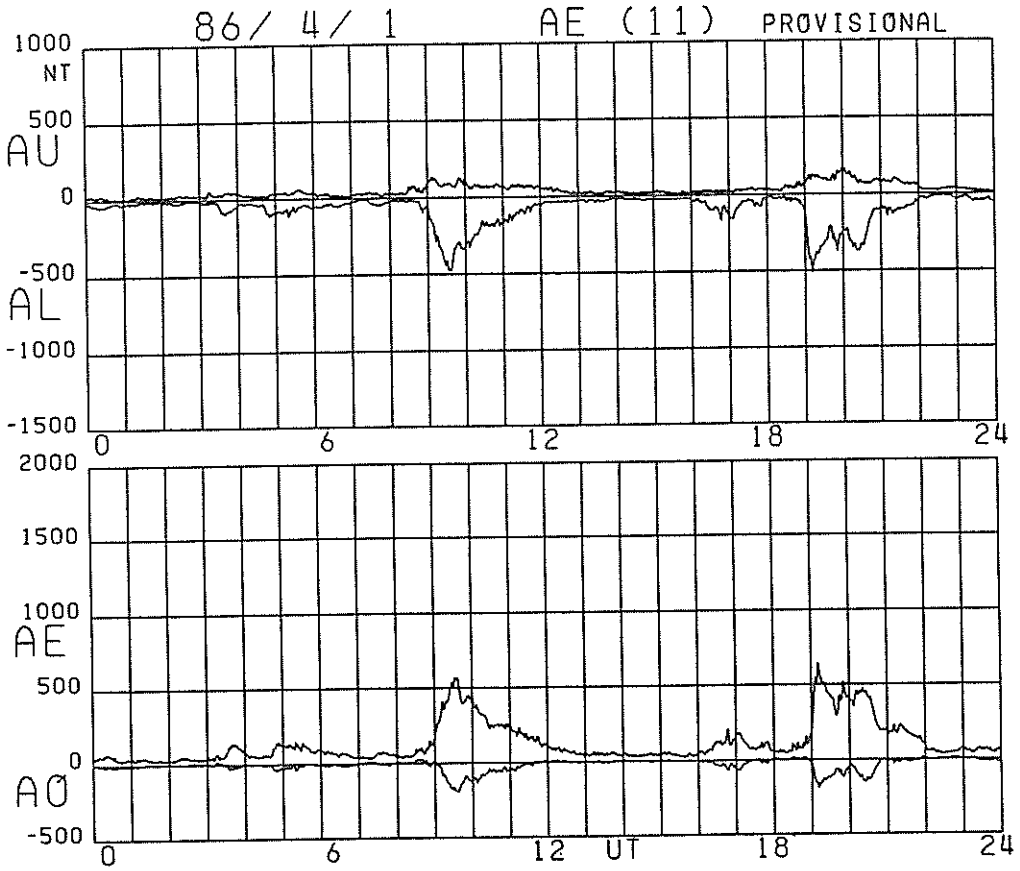
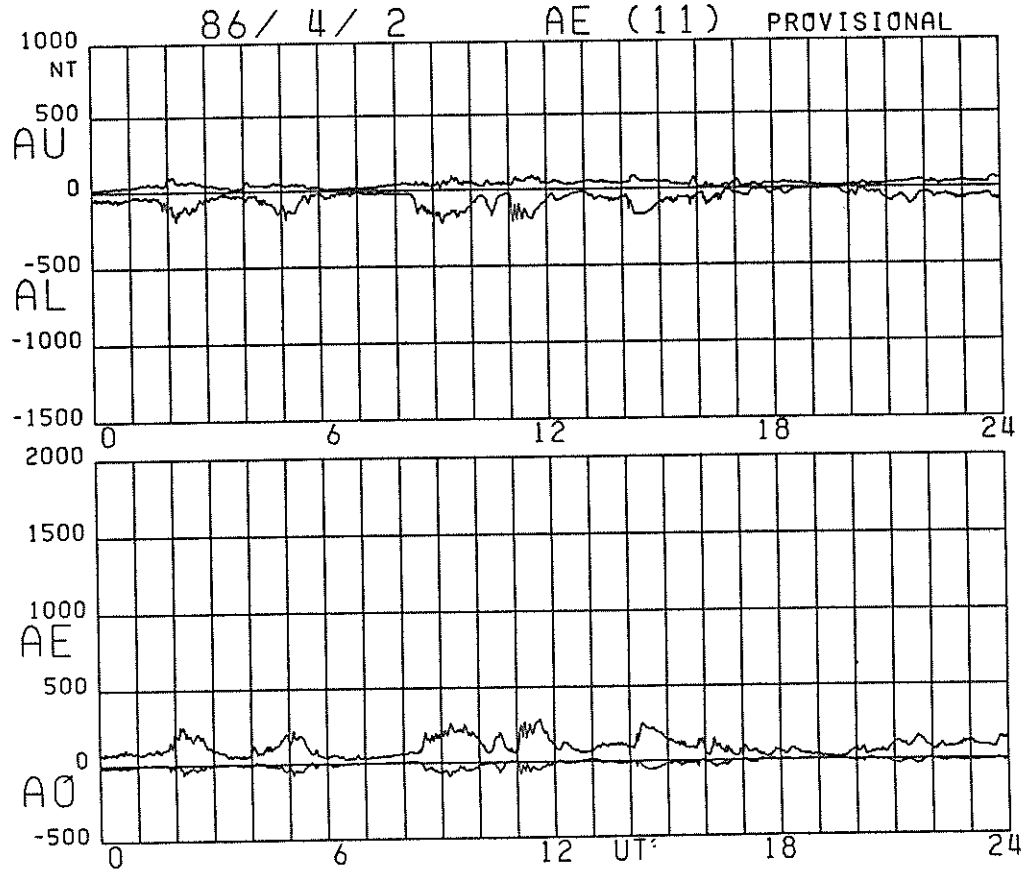
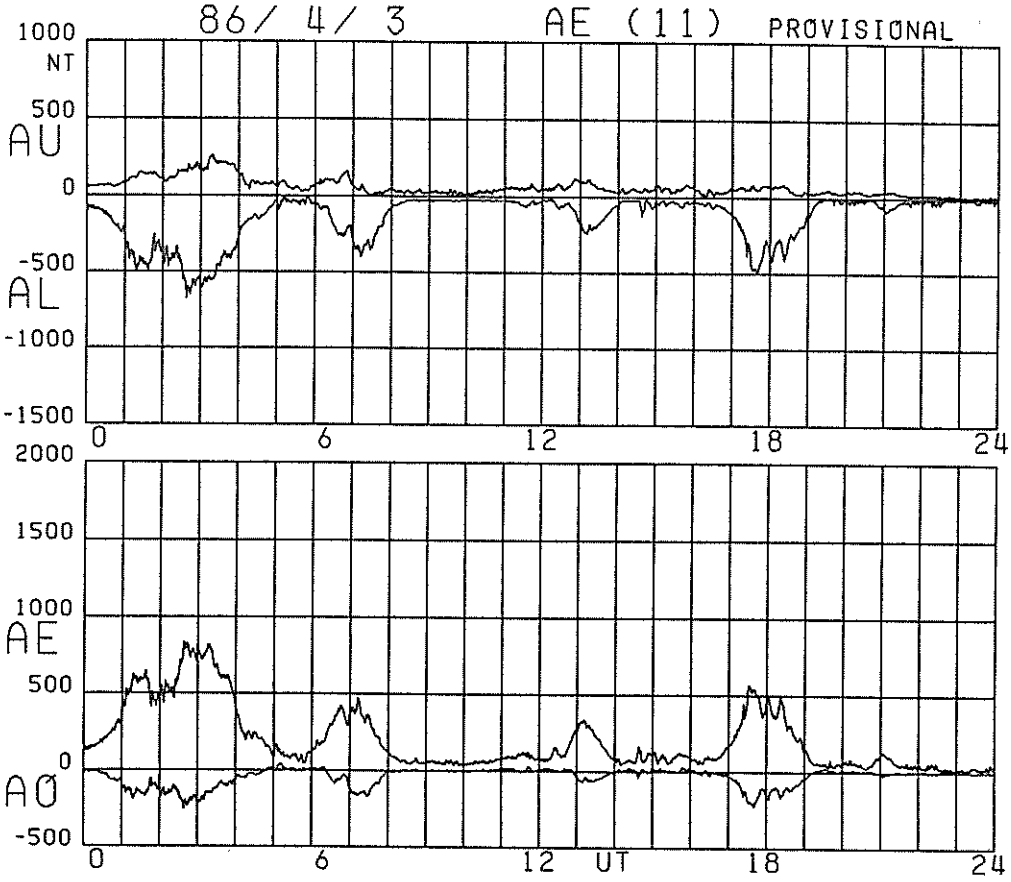
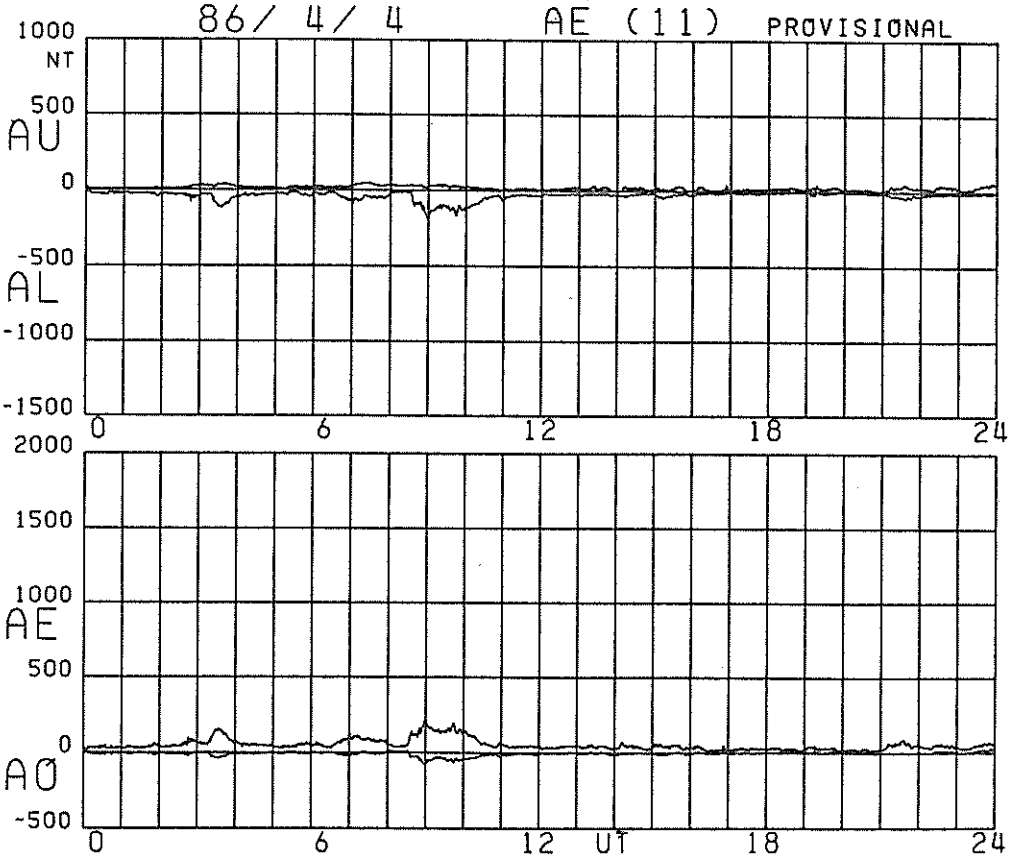
5D	Mean	-9	-5	-8	-1	-3	-3	1	-1	-5	-18	-15	-19	10	5	-10	-13	-18	-6	3	6	2	-10	0	2	-4





Prov.AE 8604 Fig.1- 1





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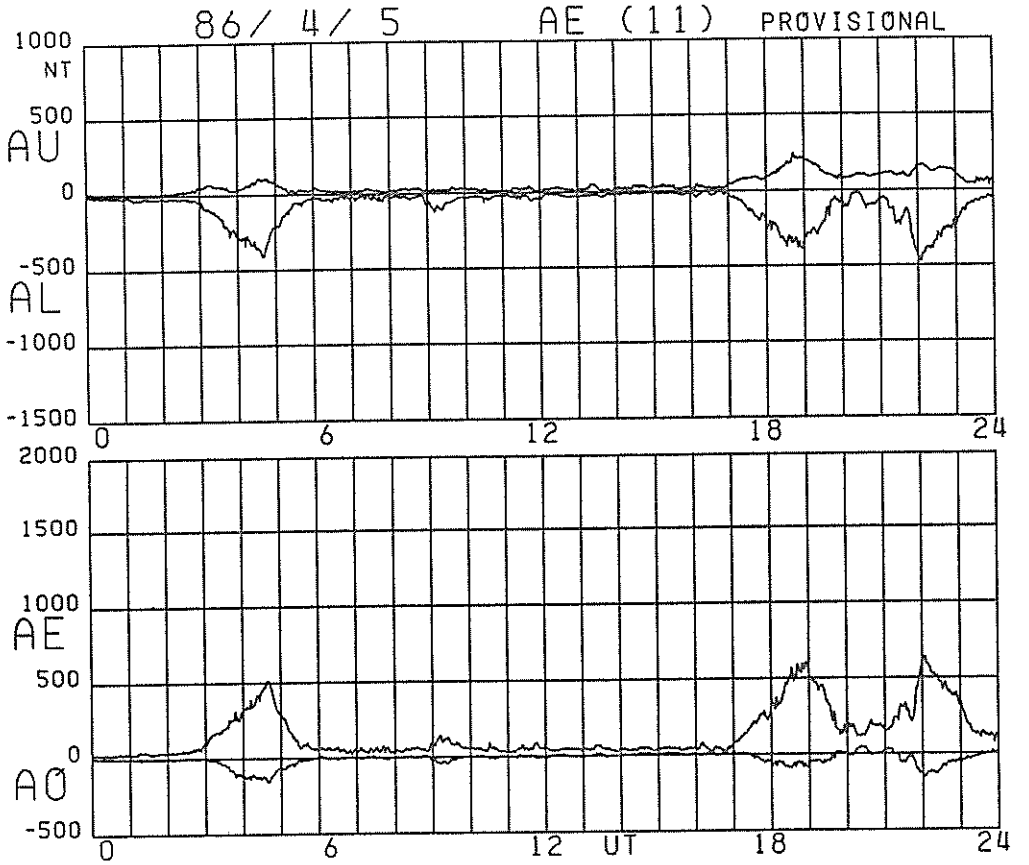

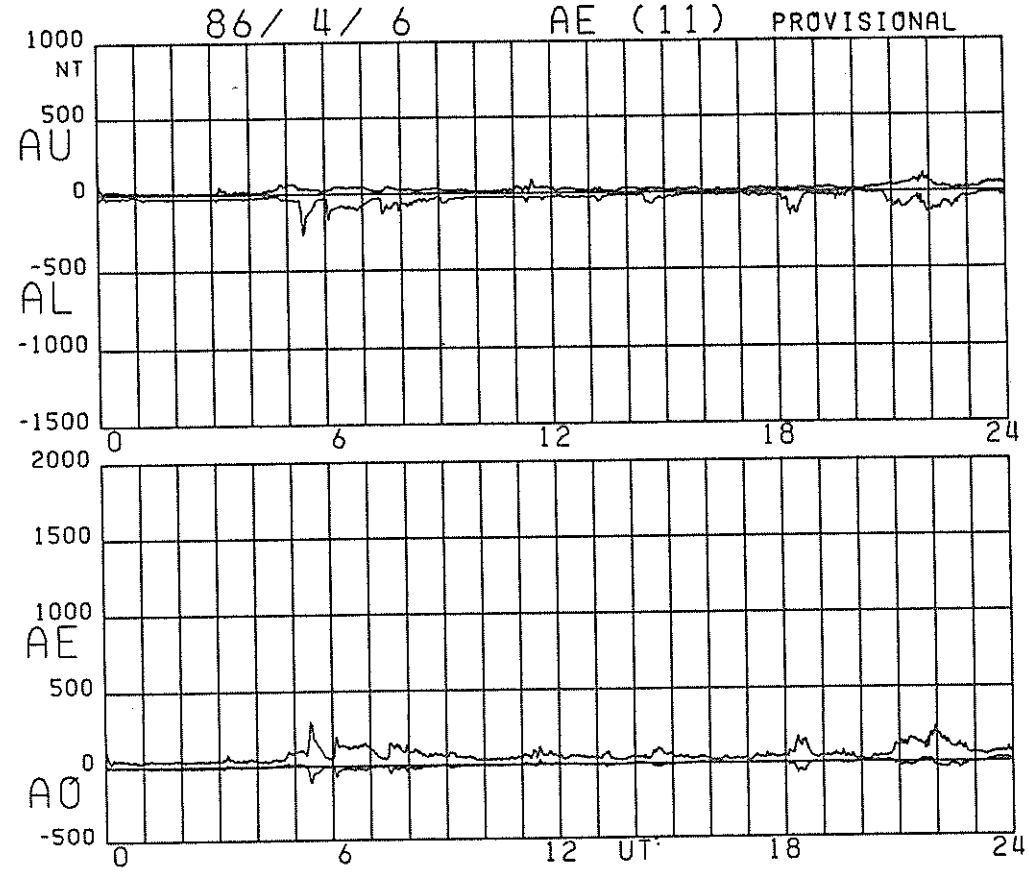

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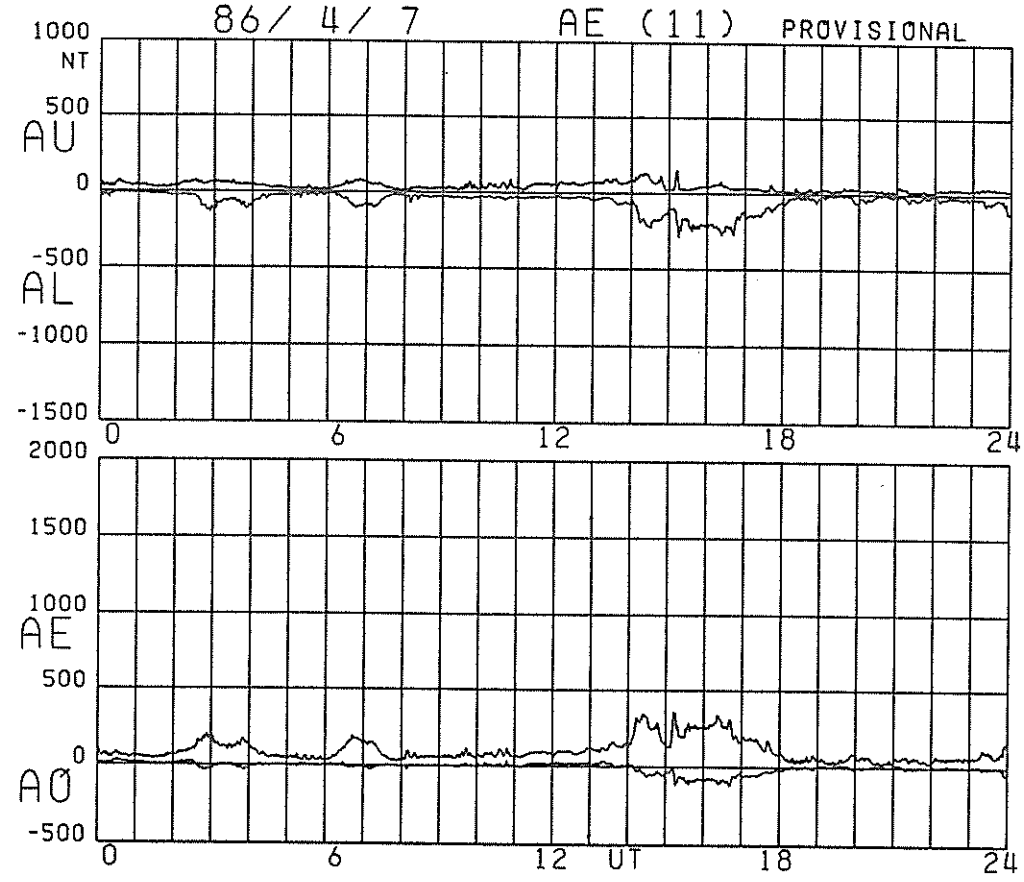

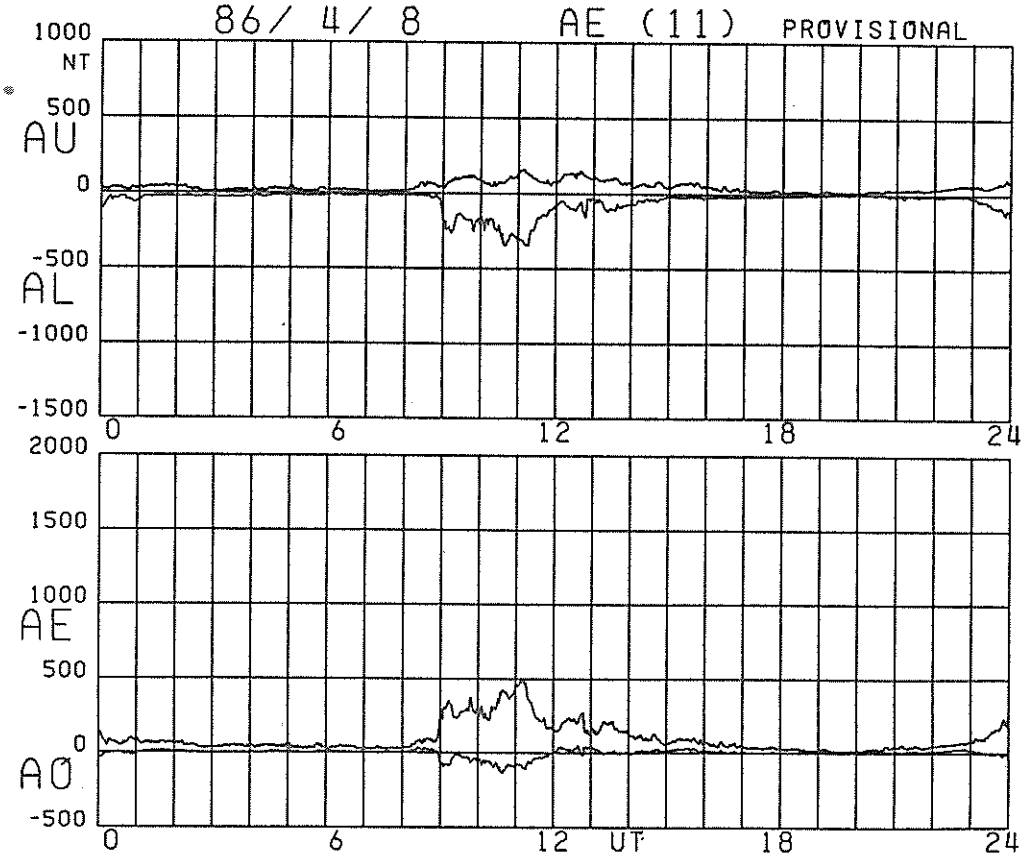

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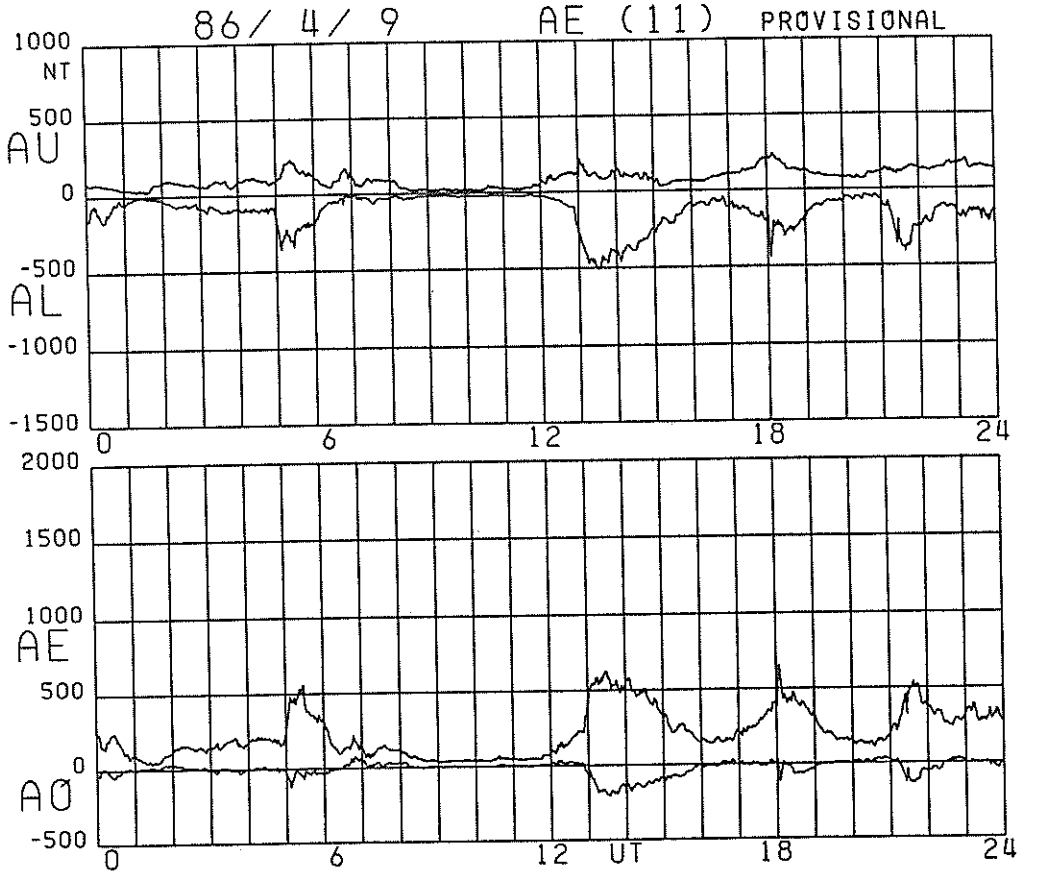

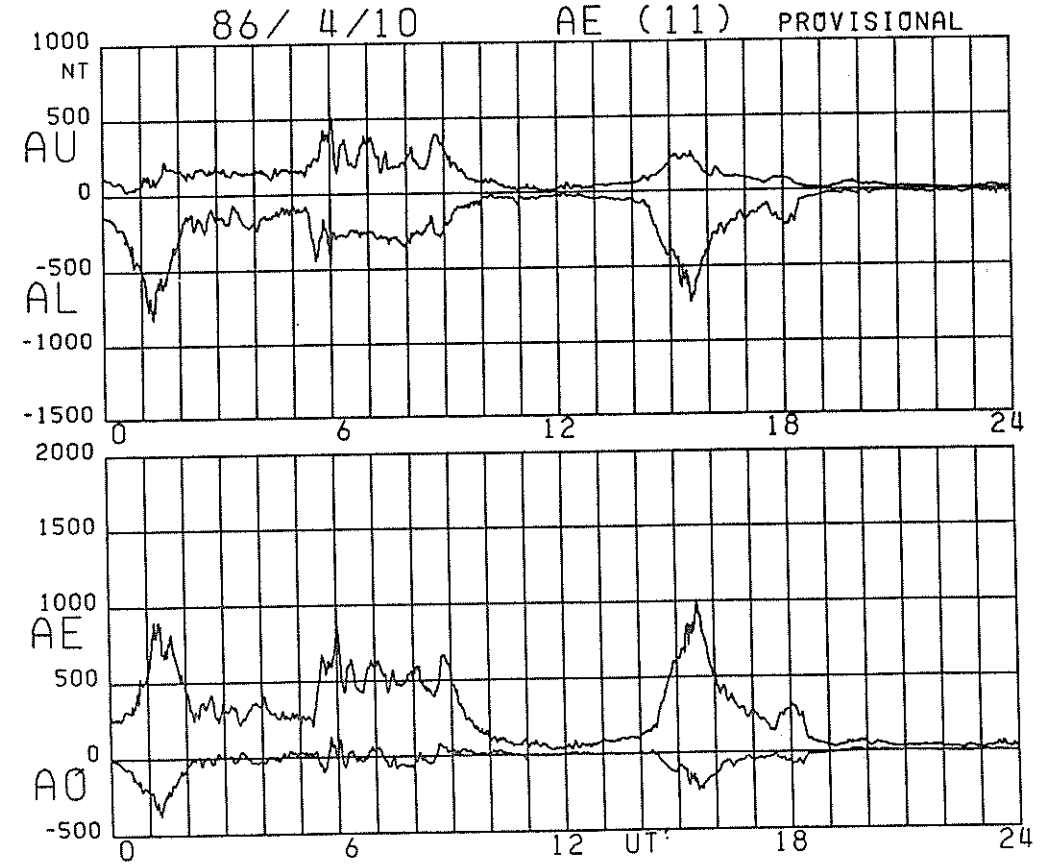

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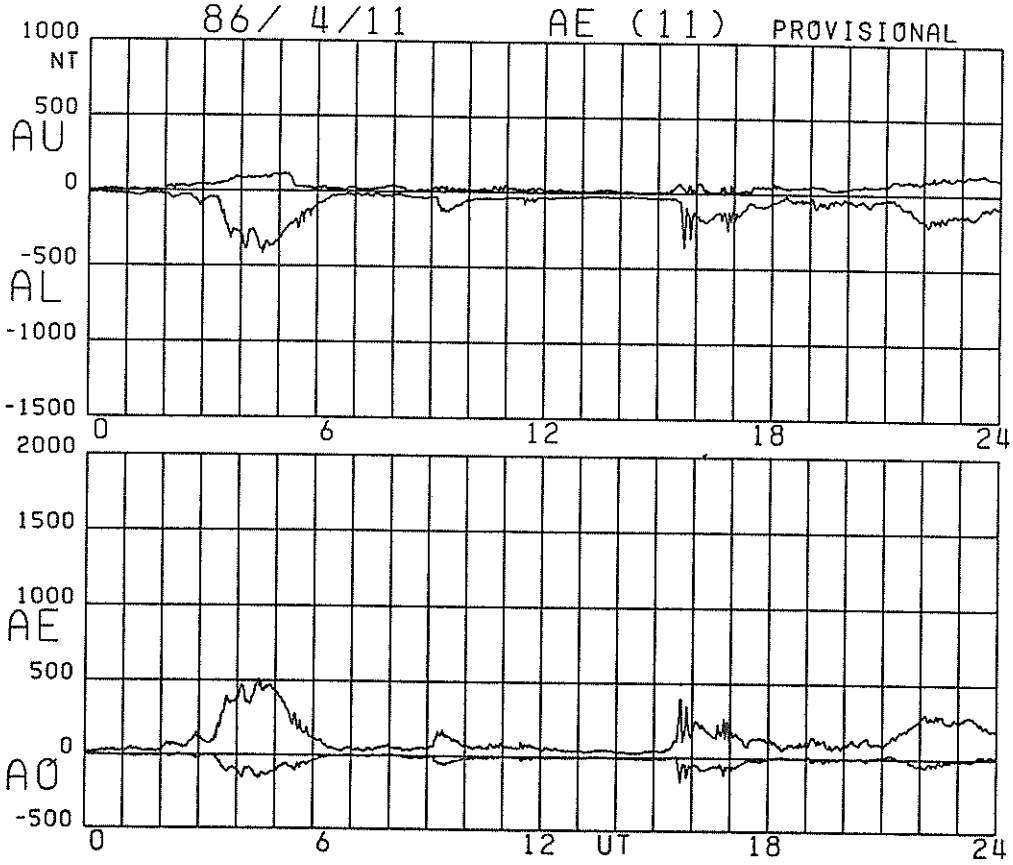
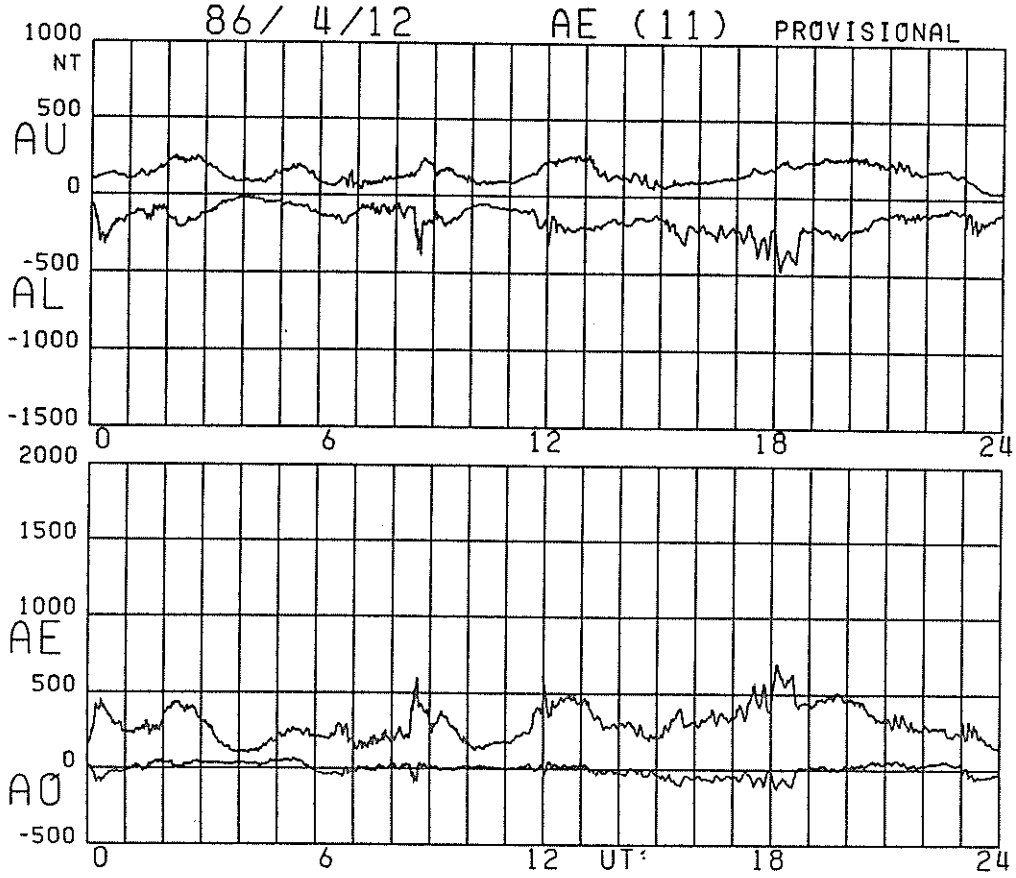
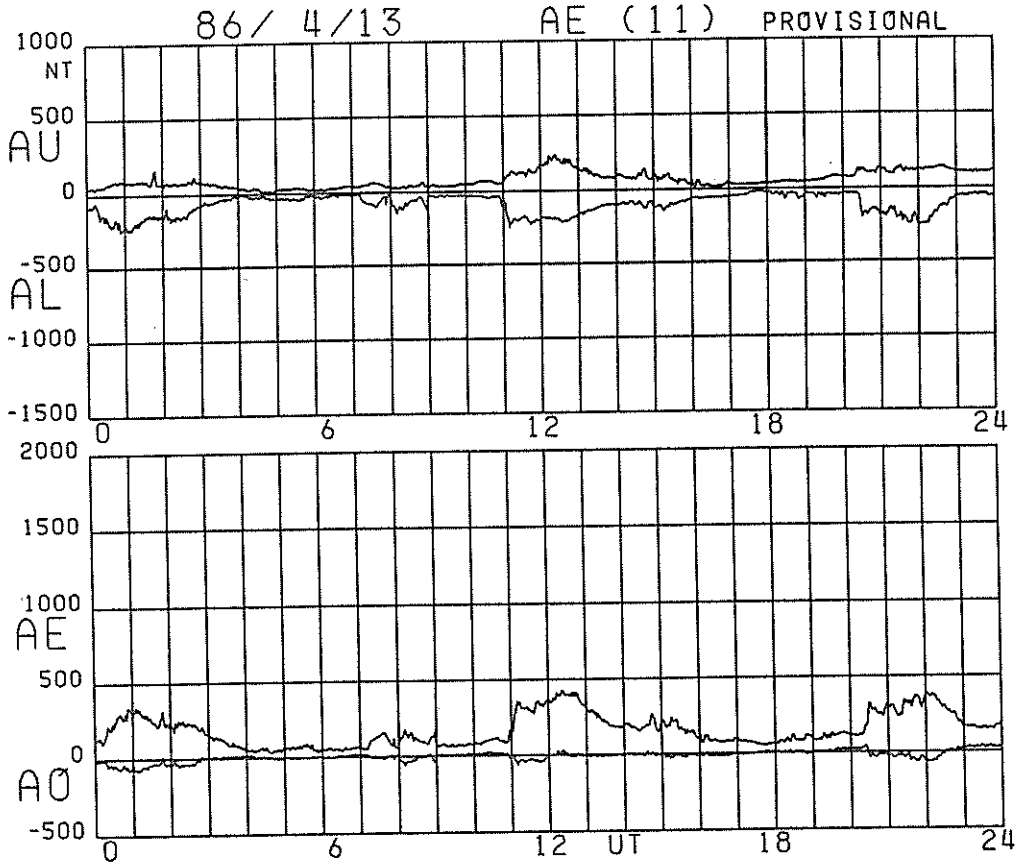
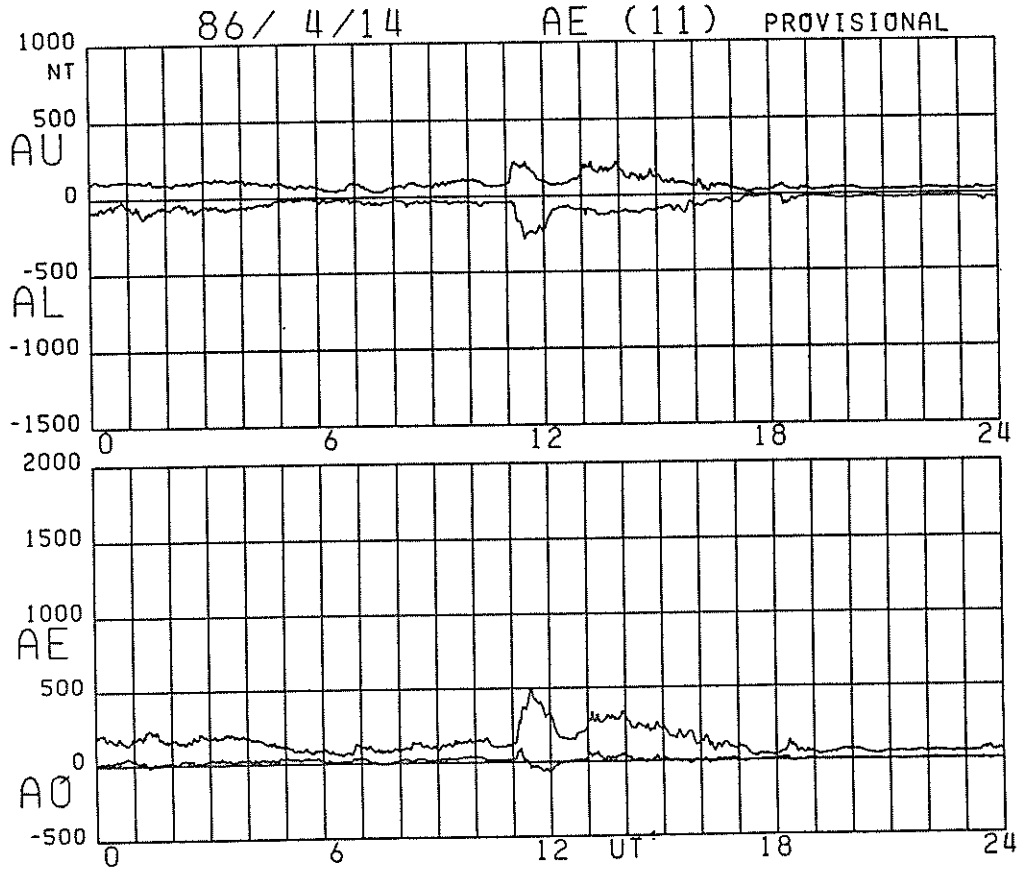


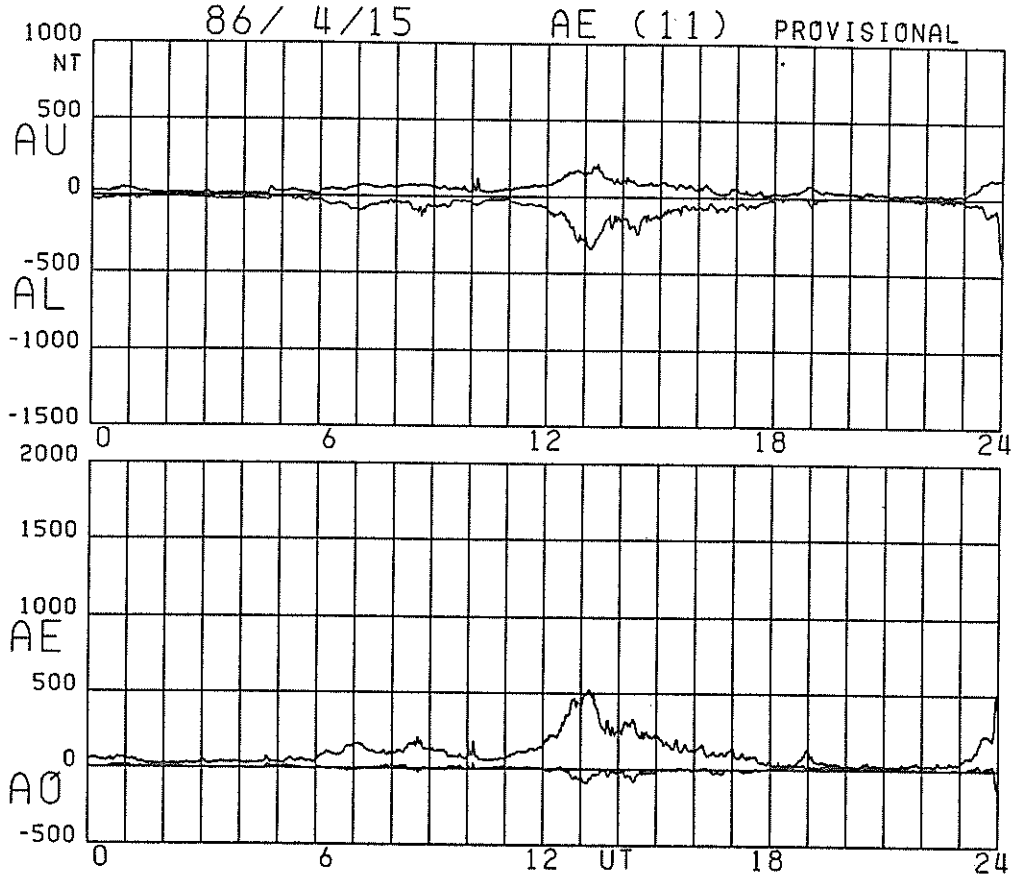


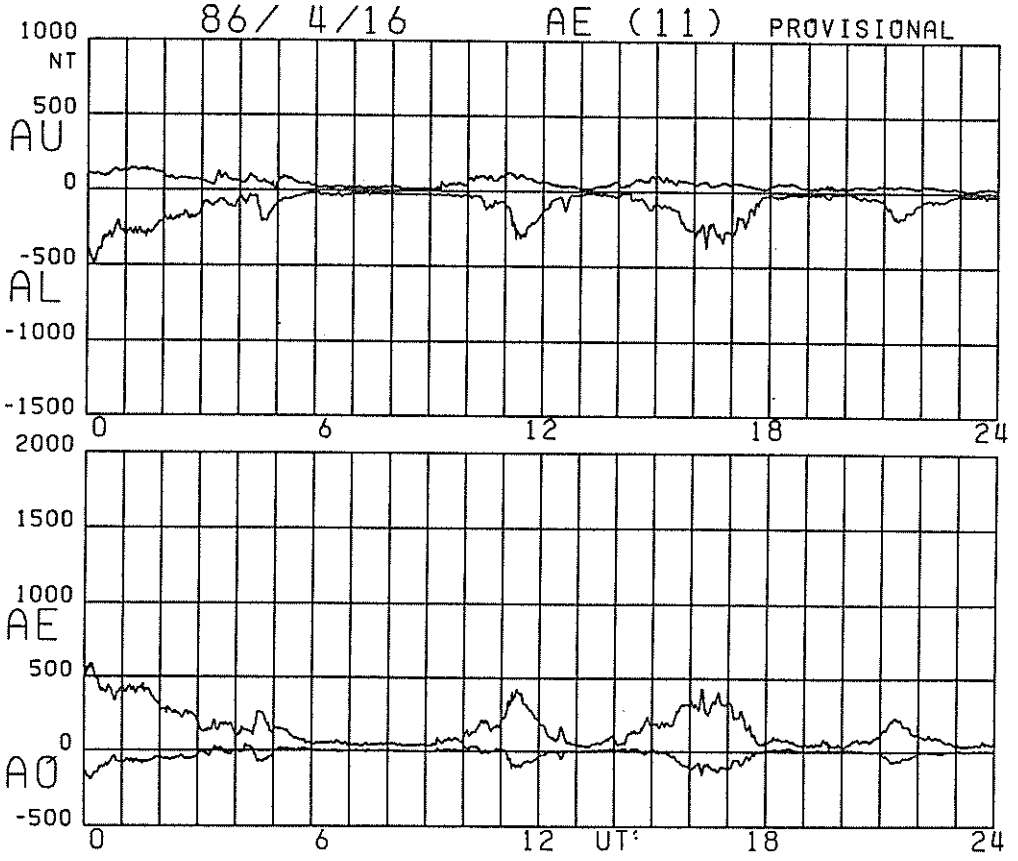
Prov.AE 8604 Fig.1- 6



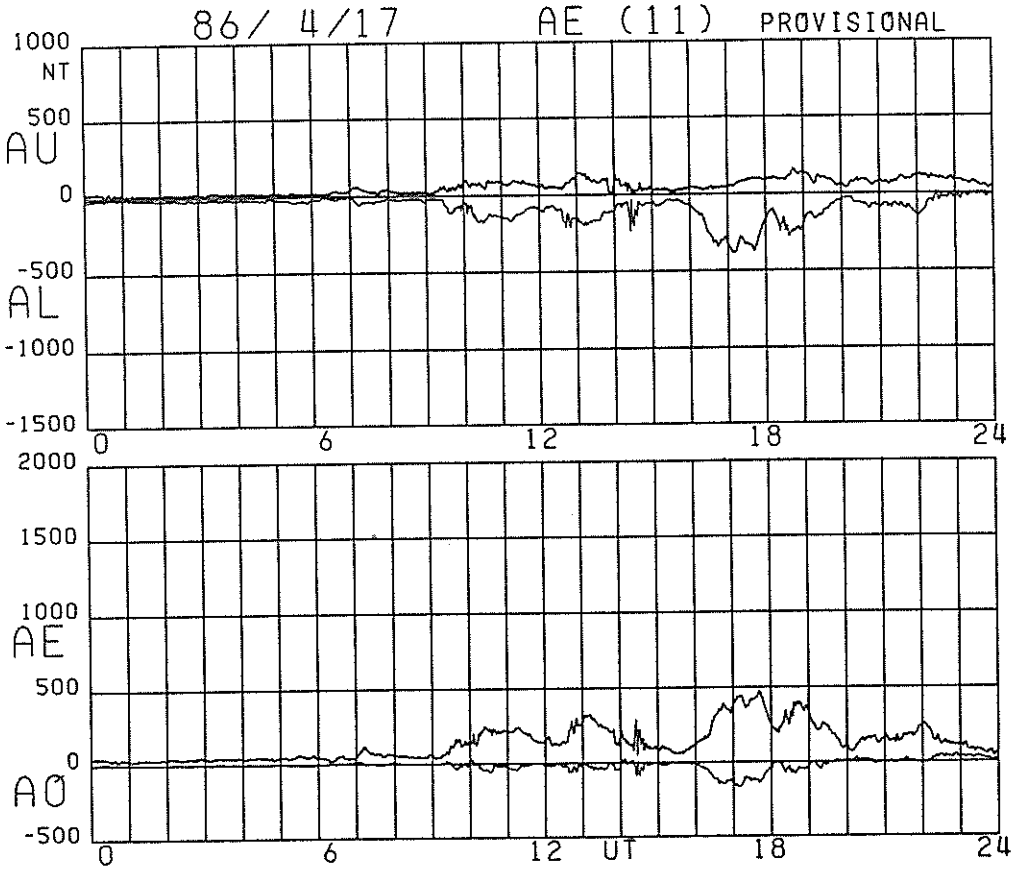


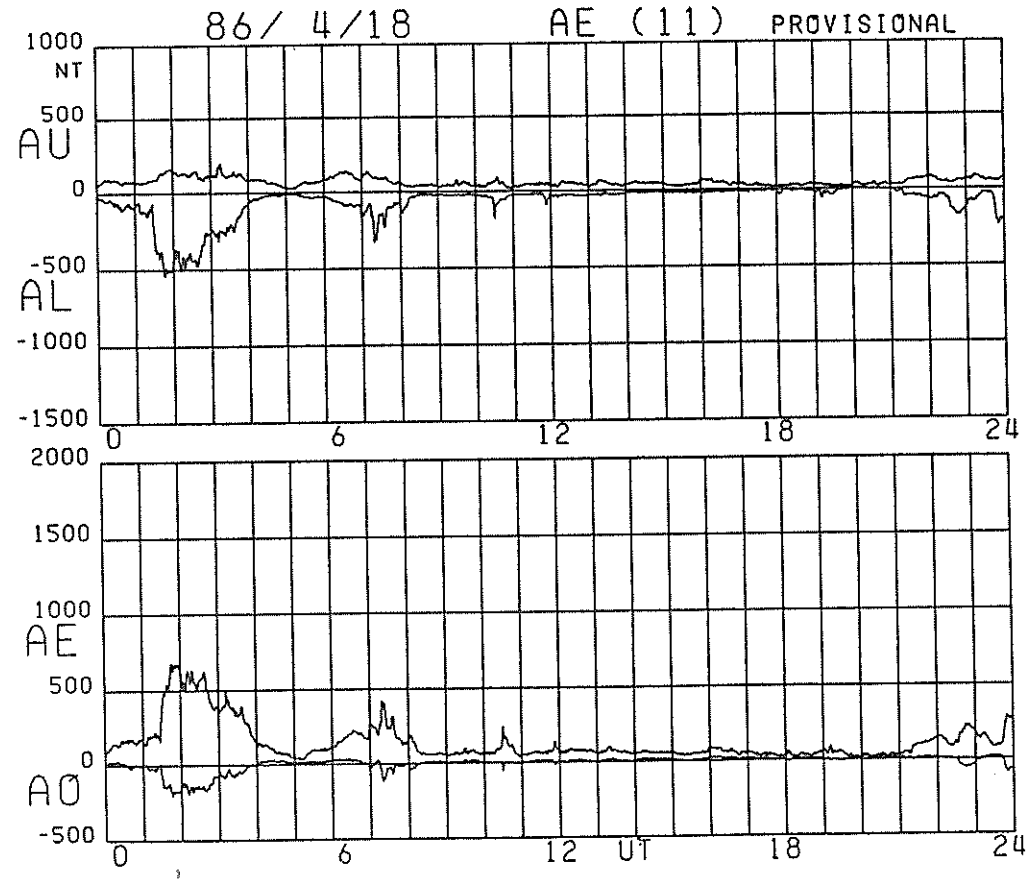
Prov.AE 8604 Fig.1- 7



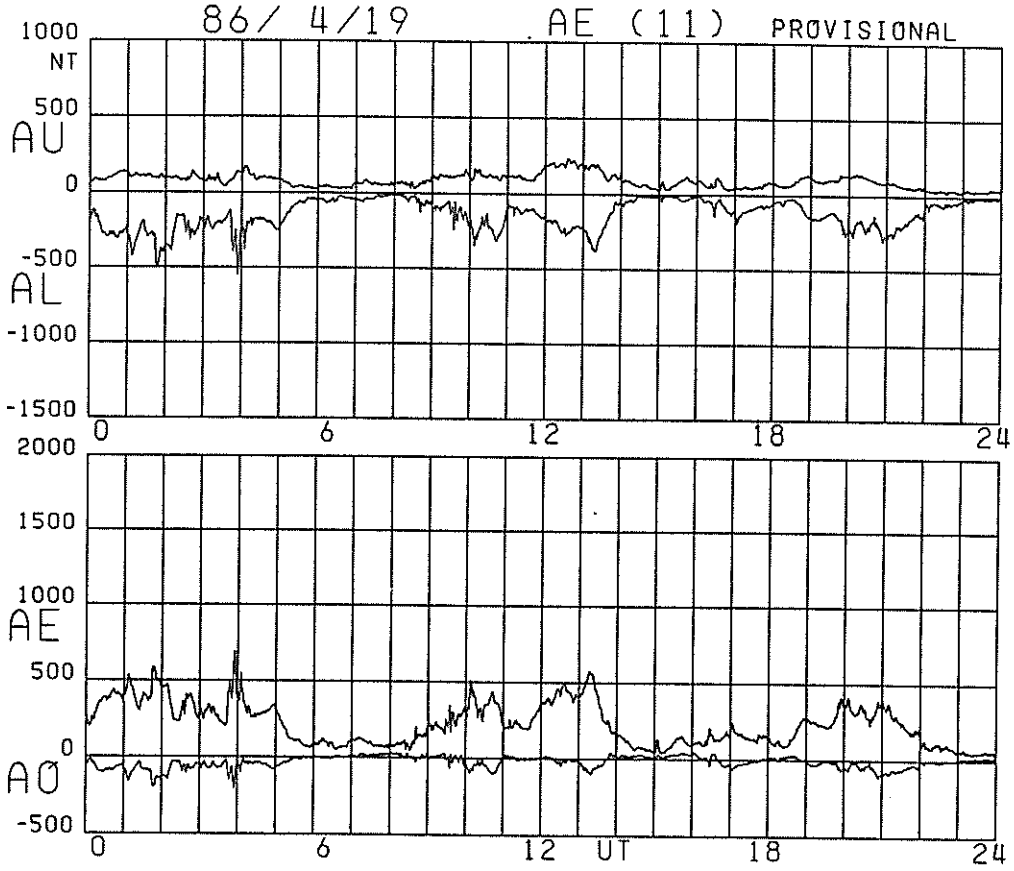


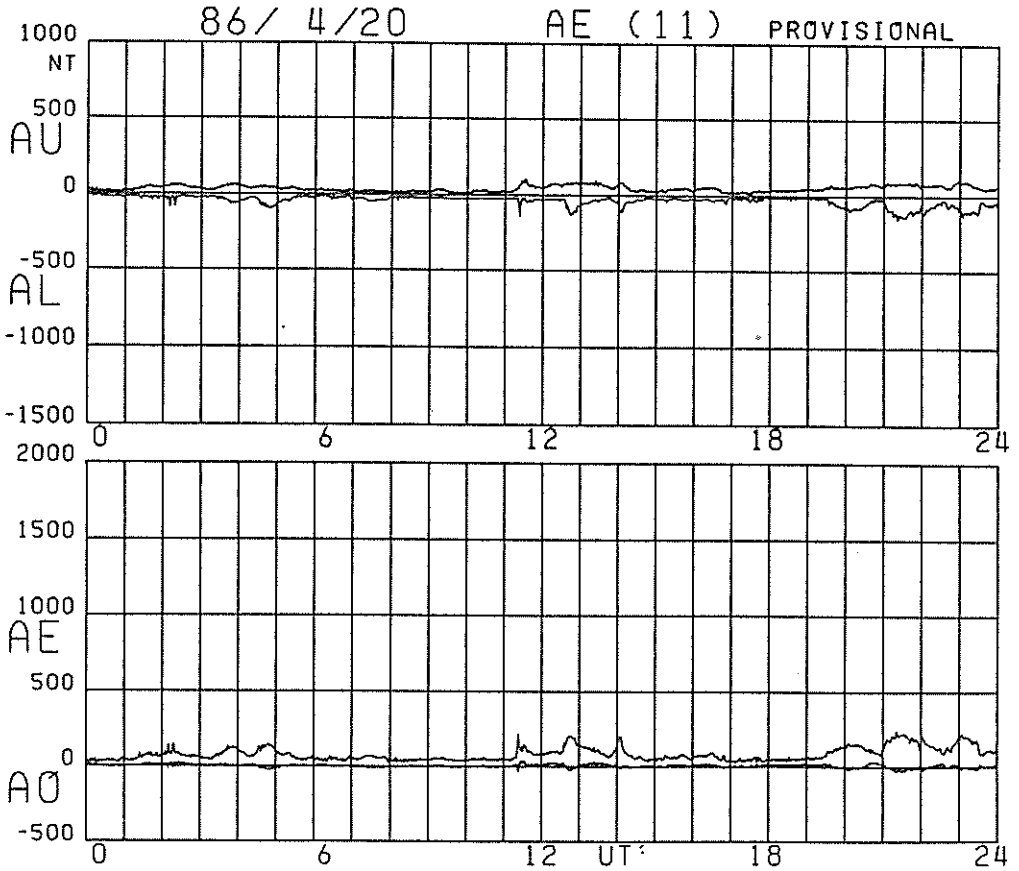
Prov.AE 8604 Fig.1- 8



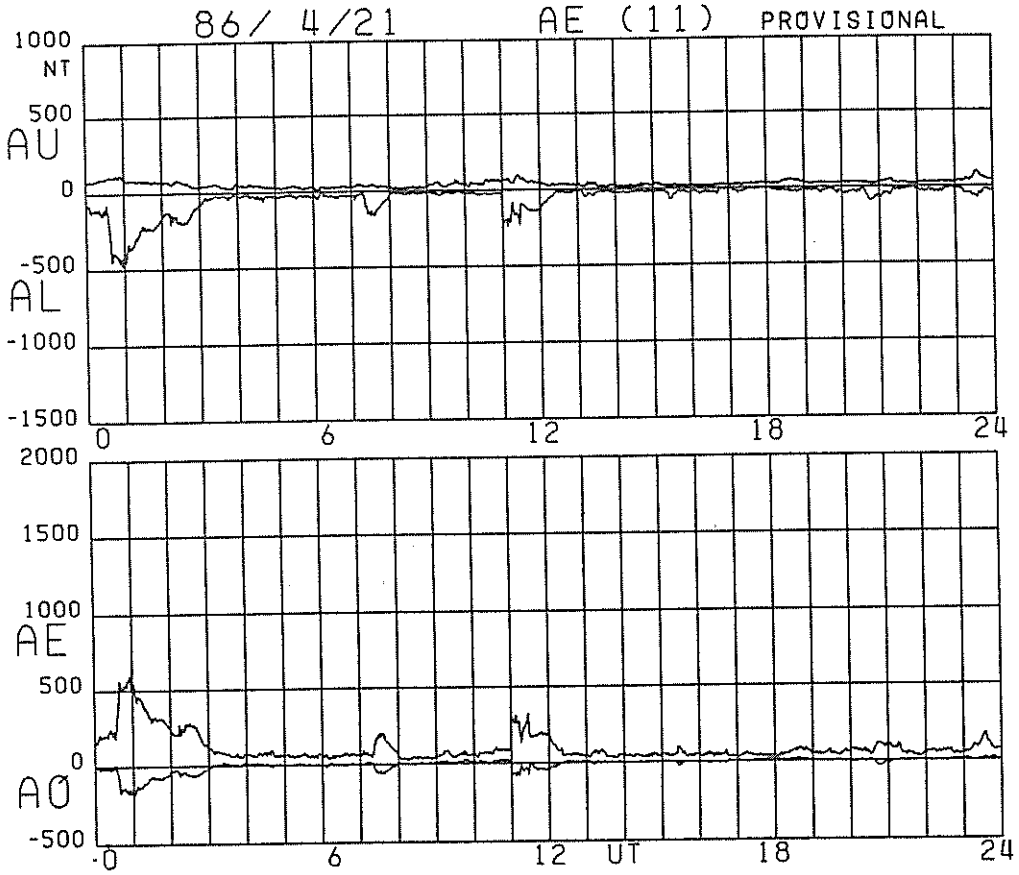


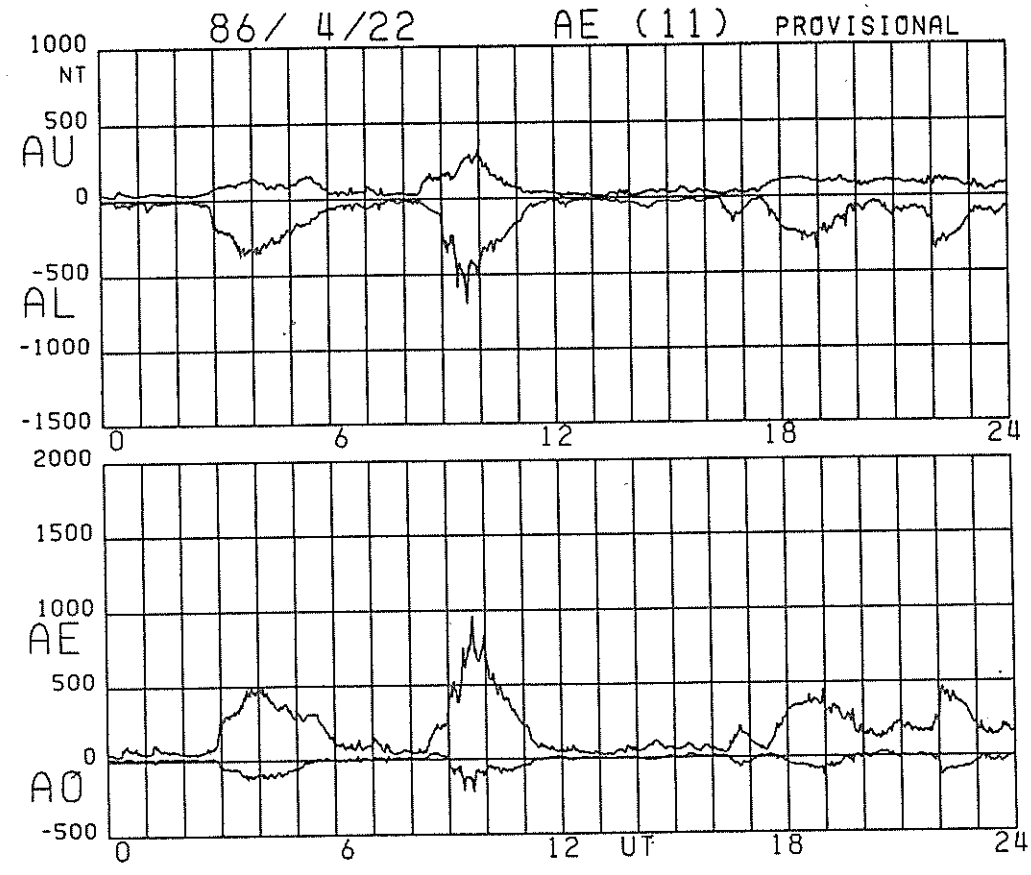
Prov.AE 8604 Fig.1- 9



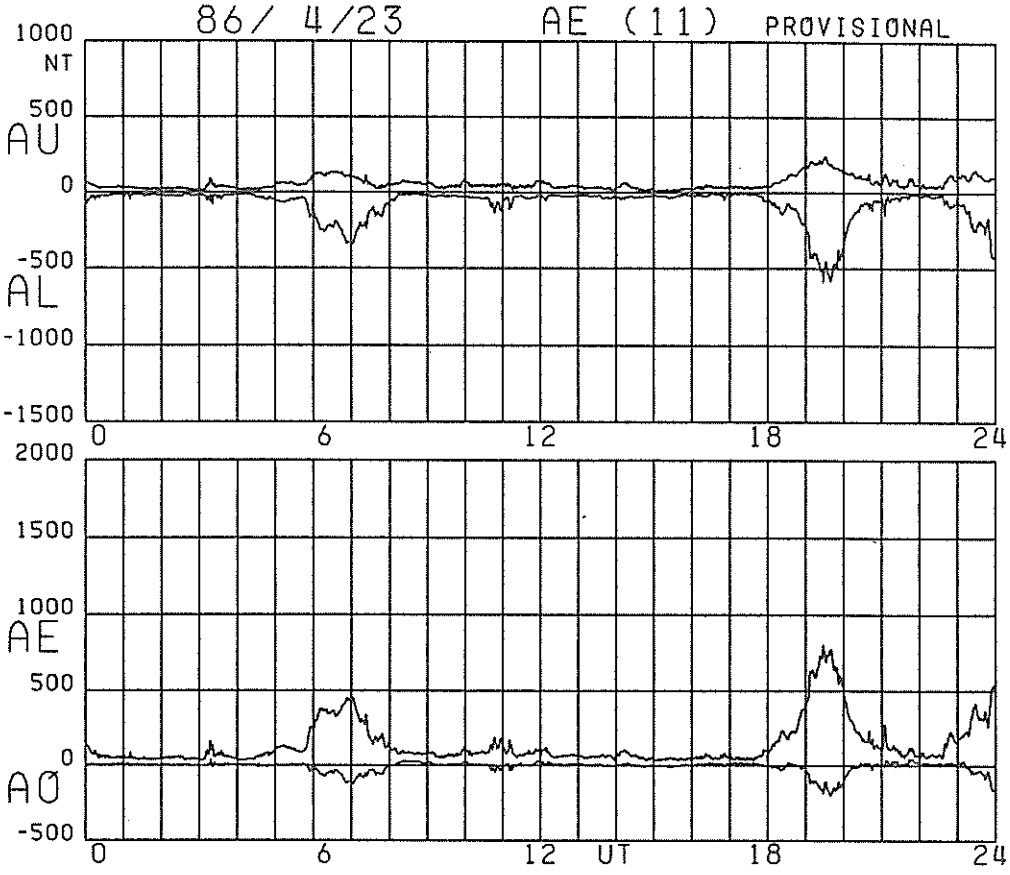


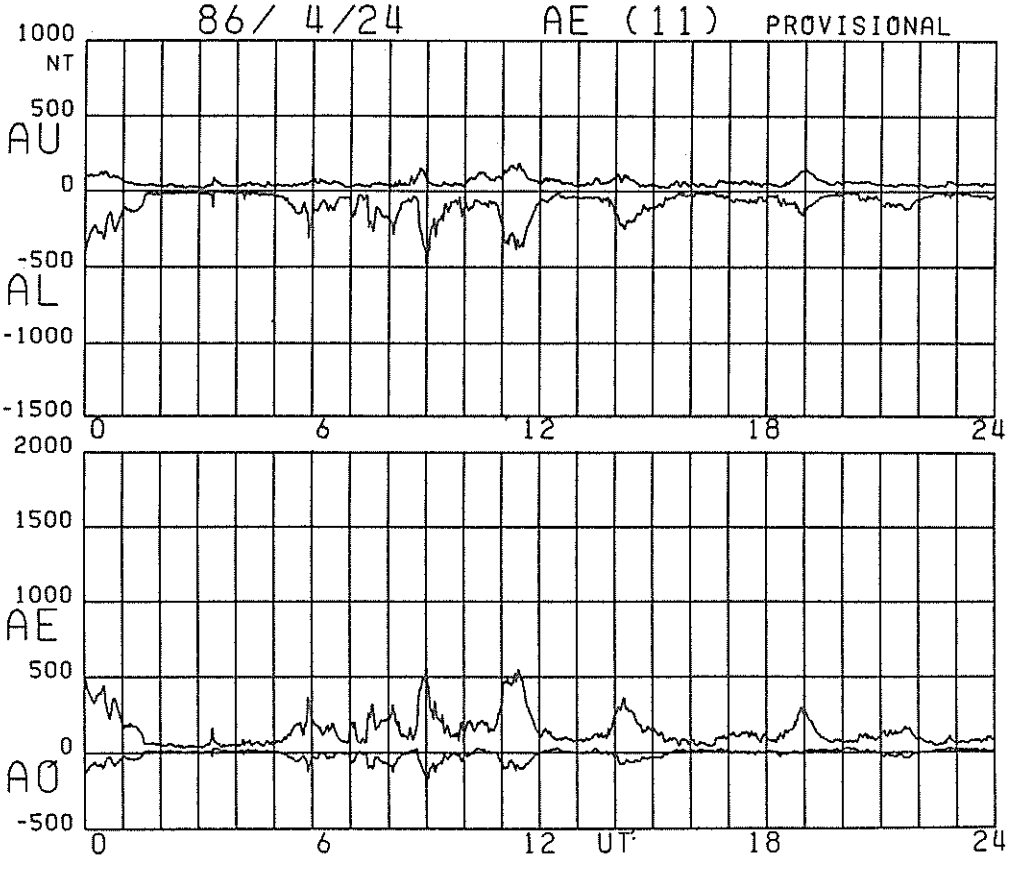
Prov.AE 8604 Fig.1-10





Prov.AE 8604 Fig.1-11





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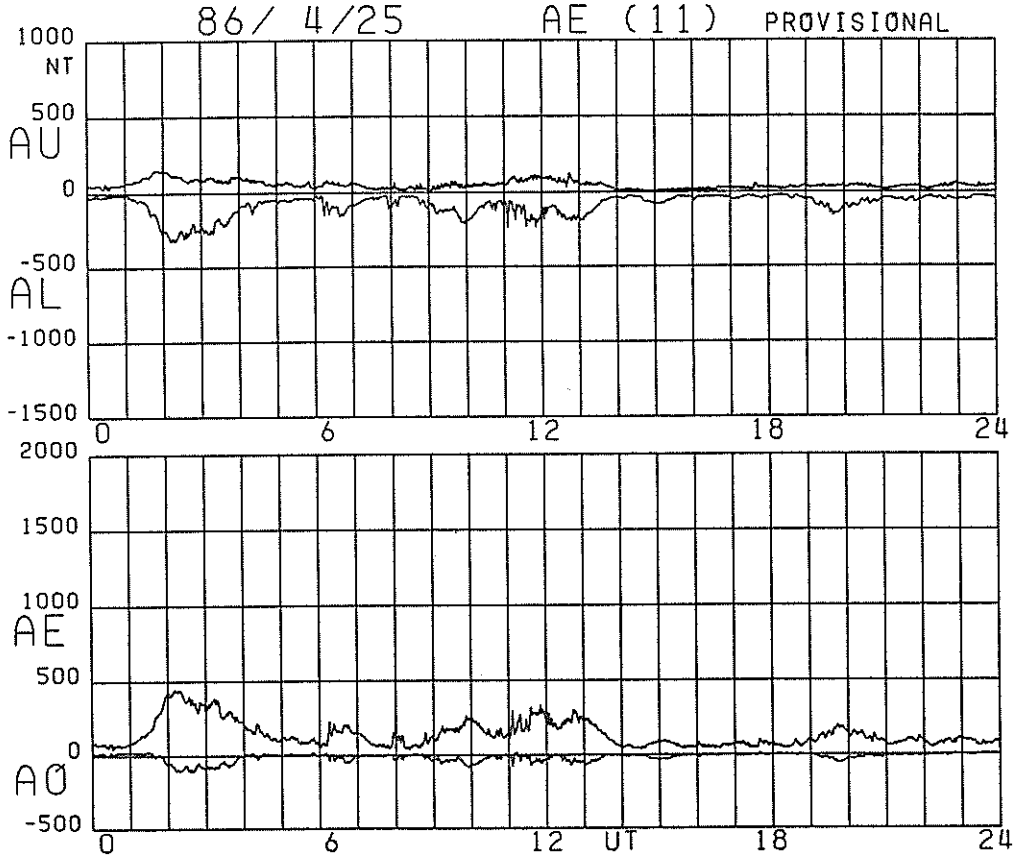

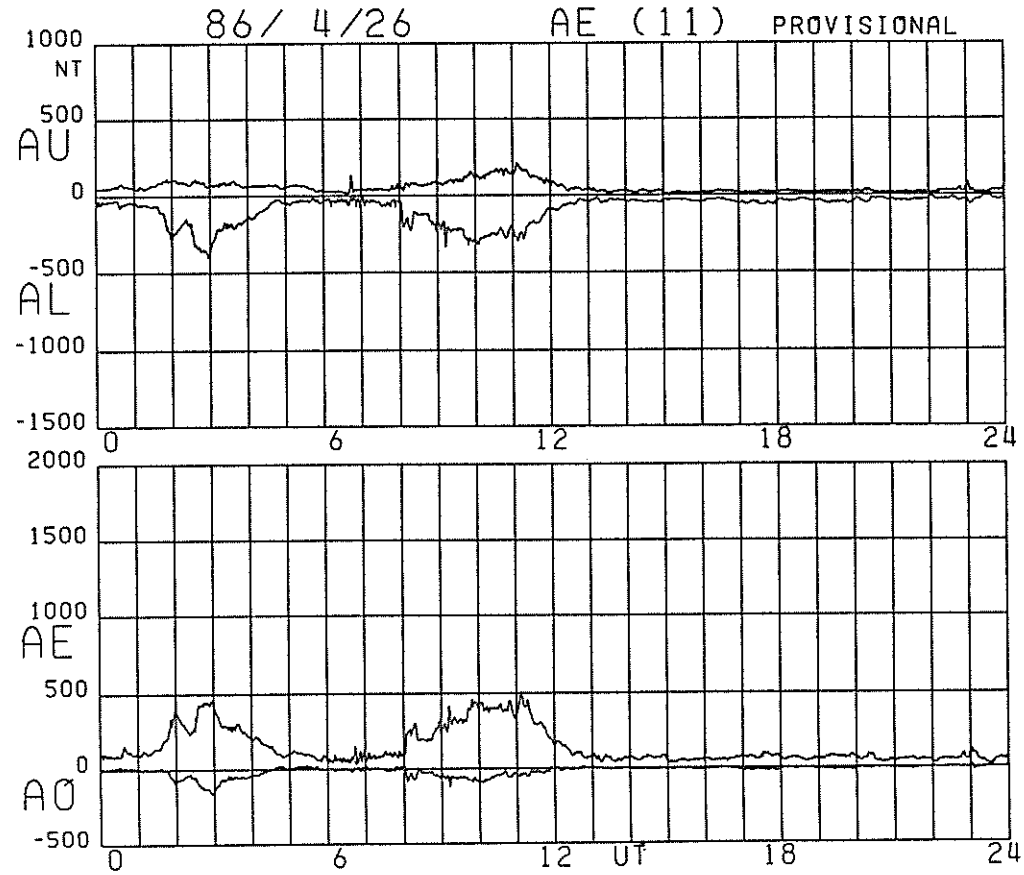

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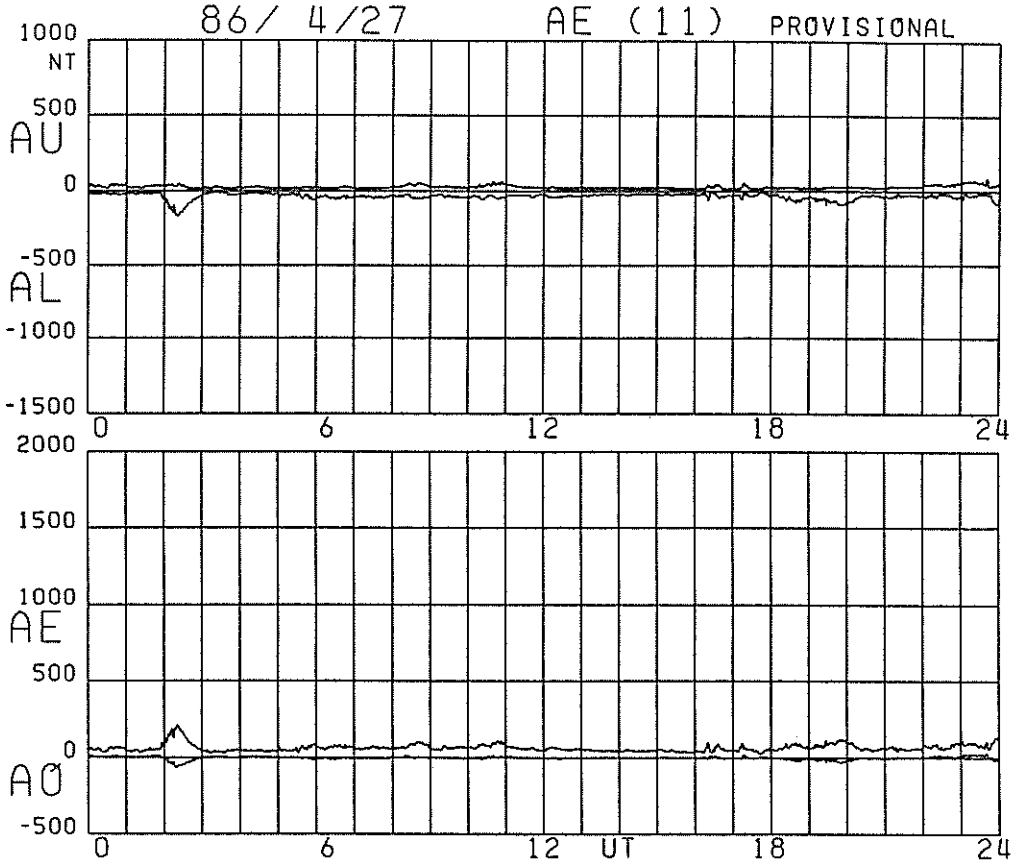

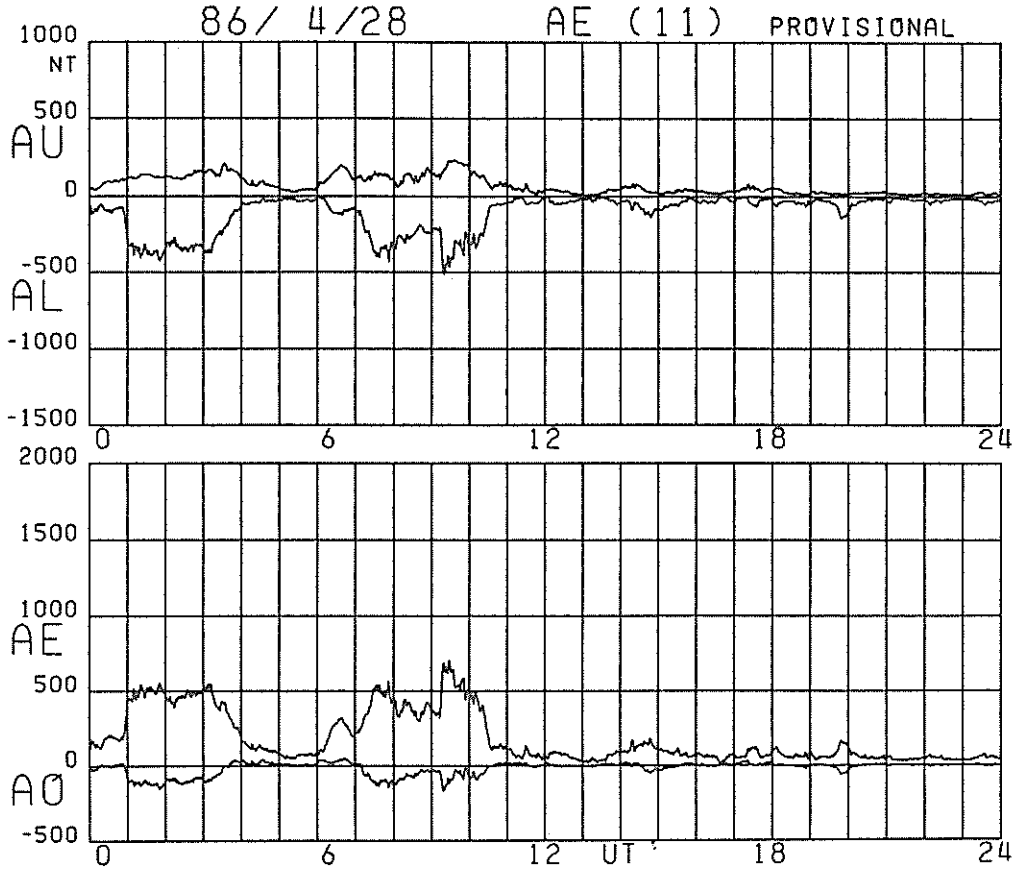

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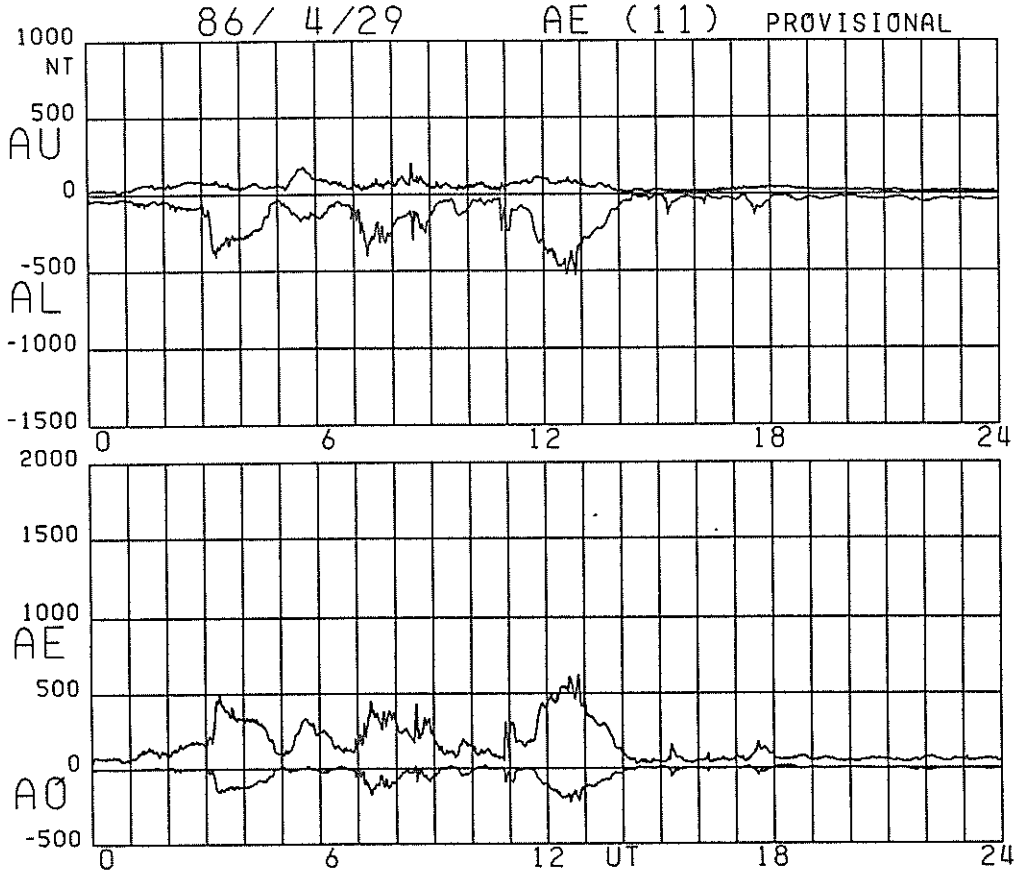

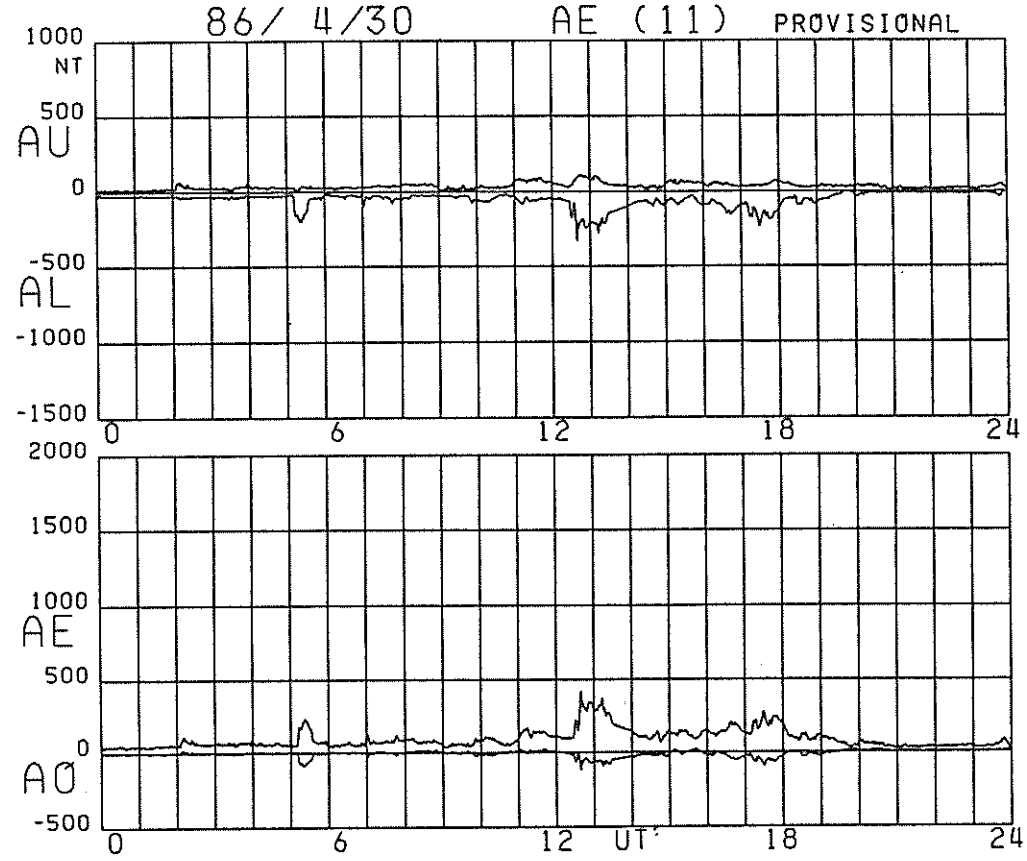

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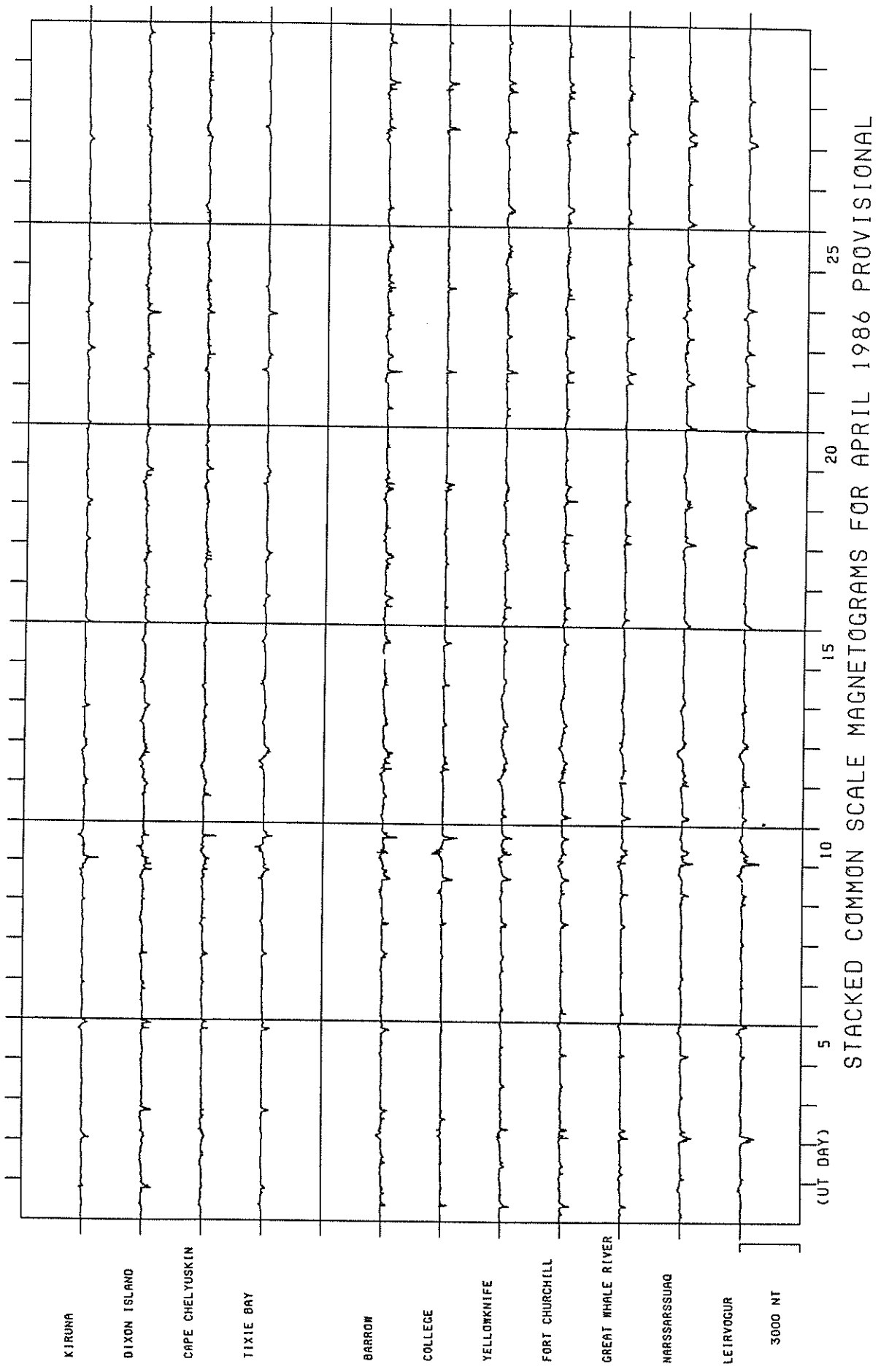

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UAG-82 INTERNATIONAL REFERENCE IONOSPHERE - IRI 79, edited by J. Virginia Lincoln and Raymond O. Conkright, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, November 1981, 243 pp, $4.50.

UAG-83 SOLAR-GEOPHYSICAL ACTIVITY REPORTS FOR SEPTEMBER 7-24, 1977 AND NOVEMBER 22, 1977, Parts 1 and 2, compiled by John A. McKinnon and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, February 1982, 553 pp, $10.00.

UAG-84 CATALOG OF AURORAL RADIO ABSORPTION DURING 1976-1979 AT ABISKO, SWEDEN, by J.K. Hargreaves, C.M. Taylor and J.M. Penman, Environmental Sciences Department, University of Lancaster, Lancaster, UK, July 1982, 69 pp, $3.00.

UAG-85 CATALOG OF IONOSPHERE VERTICAL SOUNDINGS DATA, edited by Raymond O. Conkright and H. Irene Brophy, National Geophysical Data Center, NOAA, Boulder, CO, July 1982, 107 pp. Supersedes UAG-54.

UAG-86 INTERNATIONAL CATALOG OF GEOMAGNETIC DATA, compiled by J.H. Allen and C.C. Abston, National Geophysical Data Center, NOAA, Boulder, CO; E.P. Kharin and N.E. Papitashvili, Academy of Sciences of the USSR, World Data Center B2, Moscow, USSR; and V.O. Papitashvili, IZMIRAN, Moscow Region, USSR, November 1982, 191 pp. Supersedes UAG-35 and 49.

UAG-87 CHANGES IN THE GLOBAL ELECTRIC FIELDS AND CURRENTS FOR MARCH 17-19, 1978, FROM SIX IMS MERIDIAN CHAINS OF MAGNETOMETERS, by Y. Kamide, Kyoto Sangyo University, Kyoto, Japan; H.W. Kroehl, National Geophysical Data Center, NOAA, Boulder, CO; and A.D. Richmond, NOAA Space Environment Laboratory, Boulder, CO, November 1982, 102 pp, $3.50.

UAG-88 NUMERICAL MODELING OF IONOSPHERIC PARAMETERS FROM GLOBAL IMS MAGNETOMETER DATA FOR THE CDAW-6 INTERVALS, by Y. Kamide, Kyoto Sangyo University, Kyoto, Japan; H.W. Kroehl, National Geophysical Data Center, NOAA, Boulder, CO; and B.A. Hausman, National Geophysical Data Center, NOAA, Boulder, CO, November 1983, 197 pp, $4.00.

UAG-89 ATMOSPHERIC HANDBOOK: ATMOSPHERIC DATA TABLES AVAILABLE ON COMPUTER TAPE, by V.E. Derr, NOAA Environmental Research Laboratories, Boulder, CO, July 1984, 56 pp.

UAG-90 EXPERIENCE WITH PROPOSED IMPROVEMENTS OF THE INTERNATIONAL REFERENCE IONOSPHERE (IRI): CONTRIBUTED PAPERS, MAINLY FROM THE URSI-COSPAR WORKSHOP HELD IN BUDAPEST IN 1980, edited by K. Rawer, University of Freiburg, Federal Republic of Germany, and C.M. Minnis, former Secretary General of URSI, Brussels, Belgium, May 1984, 233 pp, $6.00.

UAG-91 COMBINED CATALOG OF IONOSPHERE VERTICAL SOUNDINGS DATA, compiled by Raymond O. Conkright and Marcus O. Ertle, National Geophysical Data Center, NOAA, Boulder, CO, December 1984, 174 pp.

UAG-92 INTERNATIONAL CATALOG OF GEOMAGNETIC DATA, compiled by C.C. Abston, National Geophysical Data Center, NOAA, Boulder, CO; N.E. Papitashvili, Academy of Sciences of the USSR, World Data Center B2, Moscow, USSR; and V.O. Papitashvili, IZMIRAN, Moscow Region, USSR, August 1985, 291 pp. Supercedes UAG-35, -49, and -86.

UAG-93 IONOGRAM ANALYSIS WITH THE GENERALISED PROGRAM POLAN, by J.E. Titheridge, University of Auckland, New Zealand, December 1985, 194 pp.

UAG-94 THE SOLAR MAGNETIC FIELD--1976 THROUGH 1985: AN ATLAS OF PHOTOSPHERIC MAGNETIC FIELD OBSERVATIONS AND COMPUTED CORONAL MAGNETIC FIELDS FROM THE JOHN M. WILCOX SOLAR OBSERVATORY AT STANFORD, by J. Todd Hoeksema and Philip H. Scherrer, Center for Space Science and Astrophysics, Stanford University, Stanford, CA, January 1986, 370 pp, $9.00.

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The ICSU Panel on WDCs has recommended that it would be appropriate courtesy to acknowledge in publications that data were obtained from the originating station or investigator through the intermediary of the WDCs. The following statement is suggested:

"Data used in this study were provided by WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder Colorado 80303, USA."