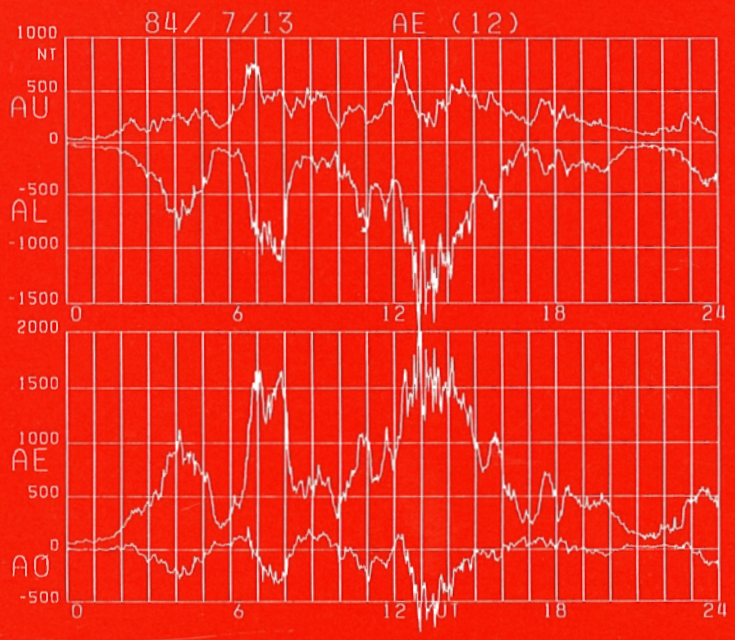
World Data Center C2 for Geomagnetism

DATA BOOK

No. 16

Auroral electrojet indices (AE)
for July-December 1984



MARCH 1988

Data Analysis Center for
Geomagnetism and Spacemagnetism
FACULTY OF SCIENCE
KYOTO UNIVERSITY
KYOTO

Division of
Data Collection and Processing
NATIONAL INSTITUTE OF
POLAR RESEARCH
TOKYO

SPECIAL NOTICE

The publication of the Data Books is scheduled in the following order:

Data Book	No.17:	AE indices for January - June 1985.
Data Book	No.18:	AE indices for July - December 1985.
		AE indices for January - June 1977.
		AE indices for July - December 1977.

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All inquiries on the Data Books, and their distribution, and notices of change of address should be sent to:

World Data Center C2 for Geomagnetism
Faculty of Science, Kyoto University
Kyoto 606, Japan

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PPREFACE

The Auroral Electrojet (AE) index was originally introduced by Davis and Sugiura in 1966 as a measure of global electrojet activity in the auroral zone. The AE index is now widely used for researches in geomagnetism, aeronomy, and solar-terrestrial physics. After the initial development at the NASA/Goddard Space Flight Center the calculation of the index was first performed at the Geophysical Institute of the University of Alaska, which published hourly values of the index for the years 1957 to 1964. The production of 2.5 min values was then made at the Goddard Space Flight Center for the period from September 1964 to June 1968.

After these early publications the index was regularly issued by the World Data Center A (WDC-A) in Boulder, Colorado, which published 2.5 min values for the years 1966 to 1974 and 1.0 min values for 1975 and the first 4 months of 1976.

When it became difficult for the WDC-A to continue the production of the AE index, a question was raised if the index could be produced at the WDC-C2 for Geomagnetism, which is operated by the Data Analysis Center for Geomagnetism and Spacemagnetism, Faculty of Science, Kyoto University. Responding to this request we decided to produce the index for the two years, 1978-1979, of the International Magnetospheric Study (IMS), and published 1.0 min values of the AE index for these years in the "WDC-C2 for Geomagnetism Data Book" series.

Although the International Association of Geomagnetism and Aeronomy (IAGA) recommended the continuation of the production of the AE index at the WDC-C2, the AE production could not be extended beyond IMS because of the constraints in manpower and computing capability. Increasing demands for the AE index, however, motivated us to resume its production, and we then published the Data Book No.7 for the first half of 1980. After this publication, various possibilities of financial support for the production of the index were explored by the Subcommittee on Solar Terrestrial Physics of the Special Committee for International Cooperation, Science Council of Japan. As a result, the National Institute of Polar Research (NIPR), Tokyo, offered assistance. Beginning with the Data Book No.8, the production of the AE index has been continued at the Kyoto University, but the printing and distribution of the Data Book have been done by NIPR.

TABLE OF CONTENTS

AURORAL ELECTROJET INDICES (AE)

FOR JULY - DECEMBER 1984

1. Derivation and Representation

The AE index is derived from geomagnetic variations in the horizontal component observed at selected (10-13) observatories along the auroral zone in the northern hemisphere. To normalize the data a base value for each station is first calculated for each month by averaging all the data from the station on the five international quietest days. This base value is subtracted from each value of one minute data obtained at the station during that month. Then among the data from all the stations at each given time (UT), the largest and smallest values are selected. The AU and AL indices are respectively defined by the largest and the smallest values so selected. The symbols, AU and AL, derive from the fact that these values form the upper and lower envelopes of the superposed plots of all the data from these stations as functions of UT. The difference, AU minus AL, defines the AE index, and the mean value of the AU and AL, i.e. (AU+AL)/2, defines the AO index. The term "AE indices" is usually used to represent these four indices (AU, AL, AE and AO). The AU and AL indices are intended to express the strongest current density of the eastward and westward auroral electrojets, respectively. The AE index represents the overall activity of the electrojets, and the AO index provides a measure of the equivalent zonal current.

In this report we present daily plots and hourly values of the AE indices and "contributing station" plots giving additional information on the indices. The stations that actually give the AU and AL values are named the "contributing stations" of the AU and AL indices. The pair of the AU and AL contributing stations is referred to as "the contributing stations of the AE indices". The plot identifies these AE contributing stations, and also gives information on the data availability for each station.

2. Data Used

To obtain reliable AE indices it is desirable to use as many observatories as possible. However, there are two major difficulties: One is that the distribution of the observatories in operation is not uniform along the auroral zone, and the other is that the digitization of magnetograms is a laborious task.

Table 1. List of AE(12) stations.

Observatory	Abbreviations IAGA	WDC-A	Geographic Lat.(°N)	Long.(°E)	Geomagnetic Lat.(°N)	Long.(°E)
Abisko	ABK	AI	68.36	18.82	66.04	115.08
Dixon Island	DIK	DI	73.55	80.57	63.02	161.57
Cape Chelyuskin	CCS	CC	77.72	104.28	66.26	176.46
Tixie Bay	TIK	TI	71.58	129.00	60.44	191.41
Cape Wellen	CWE	UE	66.17	190.17	61.79	237.10
Barrow	BRW	BW	71.30	203.25	68.54	241.15
College	CMO	CO	64.87	212.17	64.63	256.52
Yellowknife	YKC	YEK	62.40	245.60	69.00	292.80
Fort Churchill	FCC	FC	58.80	265.90	68.70	322.77
Poste-de-la-Baleine	PBQ	PBQ	55.27	282.22	66.58	347.36
(Great Whale River)	GWC	GWR	55.27	282.22	66.58	347.36
Narssarssuaq	NAQ	NAS	61.20	314.16	71.21	36.79
Leirvogur	LRV	LR	64.18	338.30	70.22	71.04

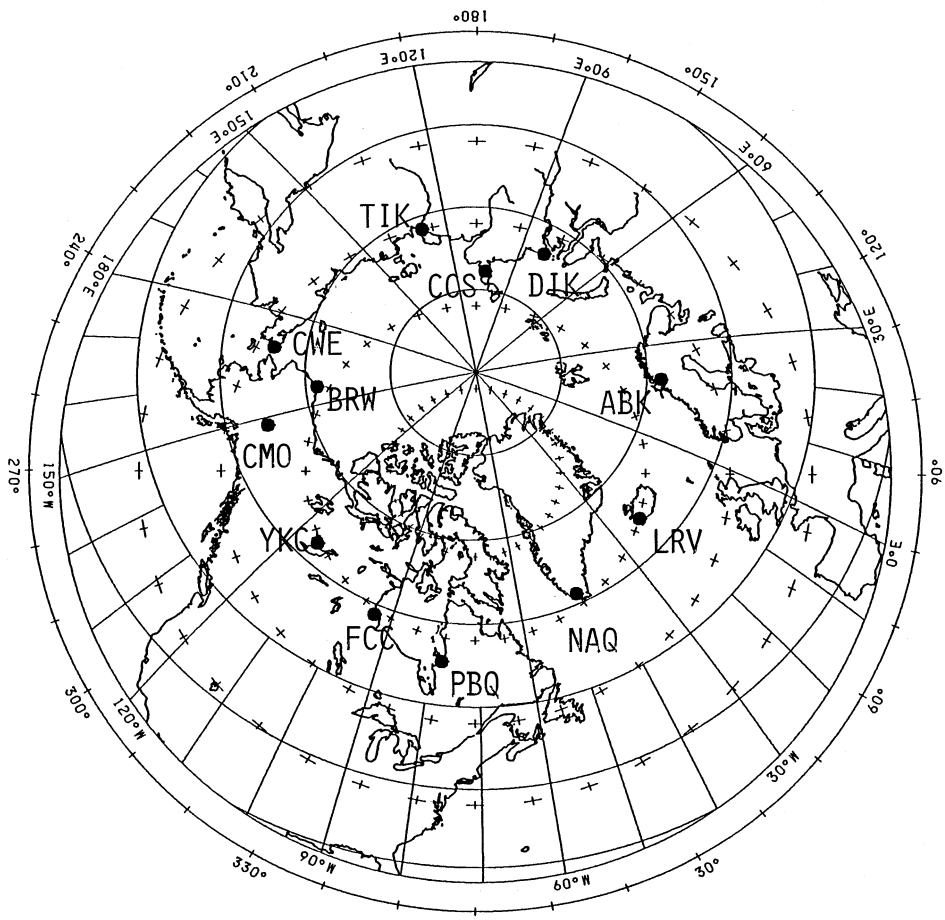

Figure 1. Distribution of AE(12) stations.

This figure is drawn by Lambert projection with the geomagnetic north pole at its center. Geographic coordinates are indicated by solid lines. Geomagnetic coordinates are shown by thin plus signs. Latitude circles are drawn at 10° intervals. Geomagnetic longitude is shown by the numbers along the outer circle and geographic longitude is given by the numbers along the inner circle with suffix E or W.

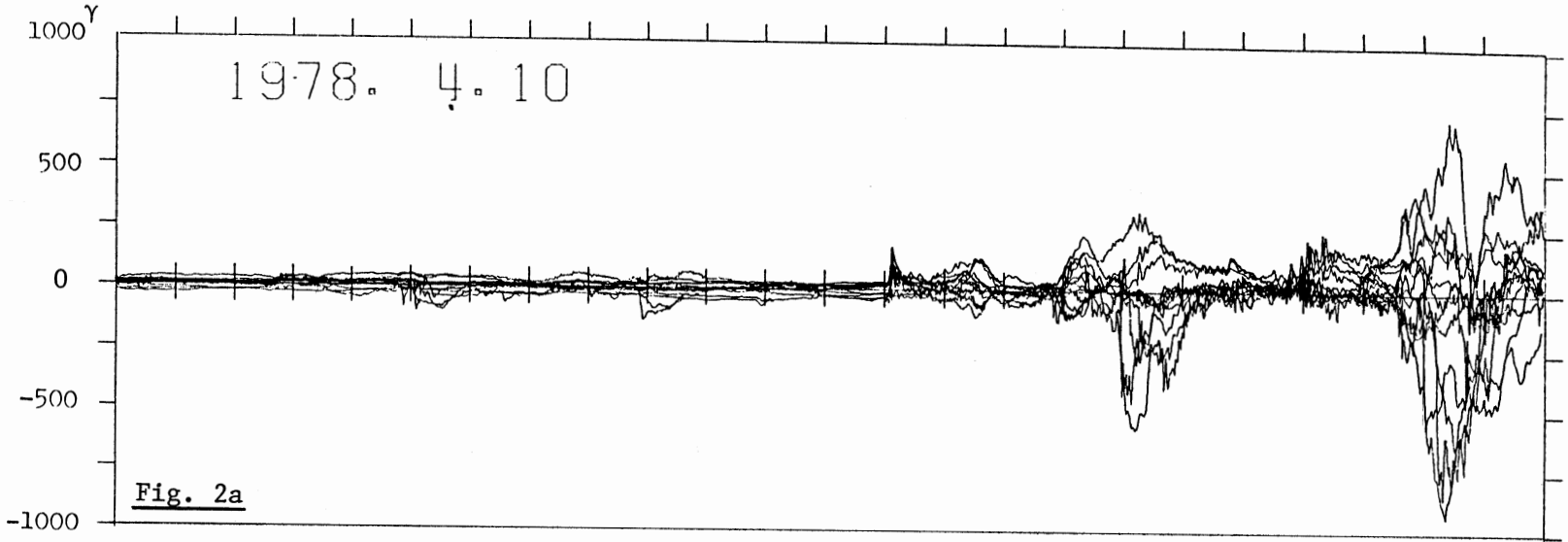

Fig. 2a

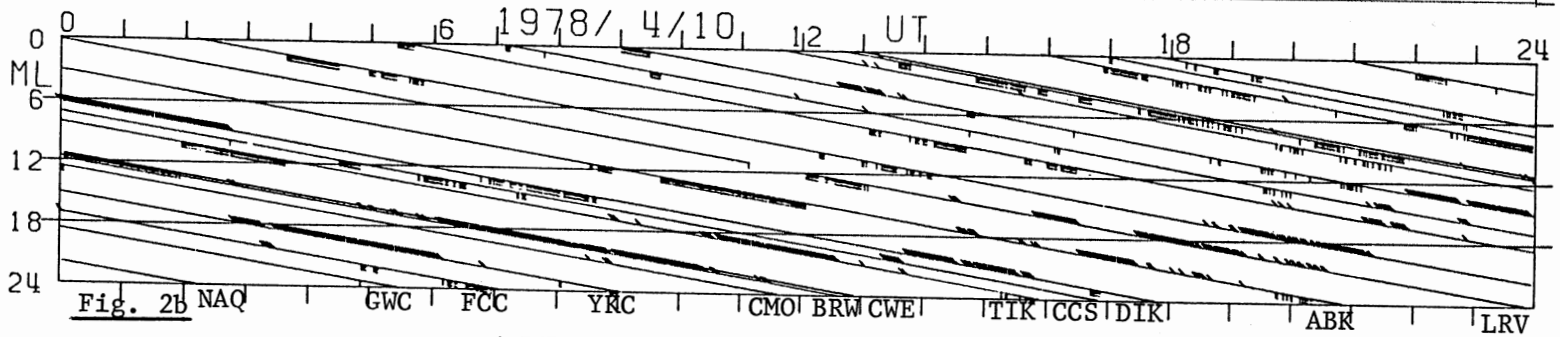

Fig. 2b

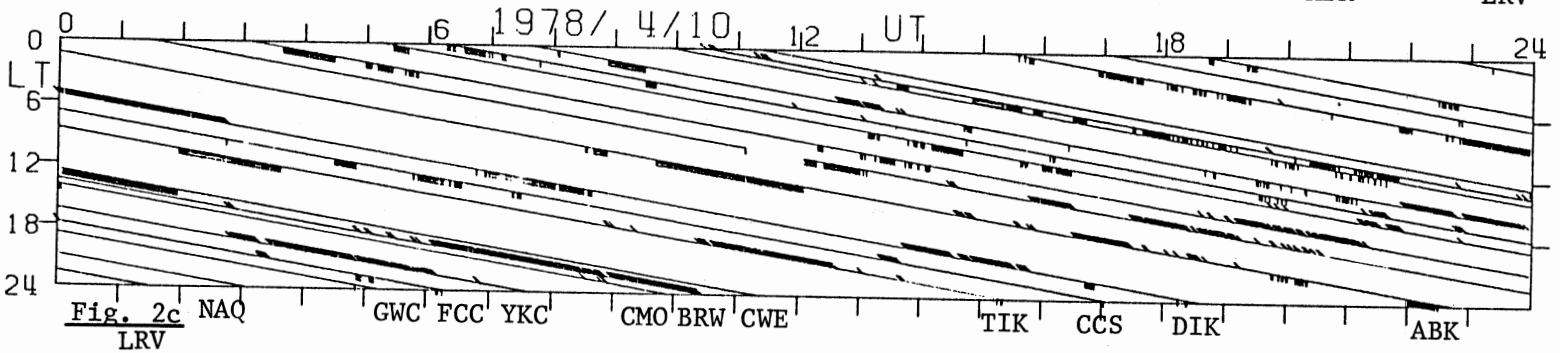

Fig. 2c

We used twelve observatories listed in Table 1. The distribution of the stations is shown in Fig. 1. The station Great Whale River was closed in July 1984 due to the high replacement cost of a broken power line and a new station Poste-de-la-Baleine was opened near the old site in September 1984. Its IAGA code is PBQ. In this data book, we will denote the site of these stations by the name Poste-de-la-Baleine, hereafter.

Of the twelve observatories six are taking digital data; these stations are referred to as digital stations below. Three of the digital stations, Fort Churchill, Poste-de-la-Baleine (Great Whale River), and Yellowknife, give data in the X, Y, Z coordinate system. To make these data compatible with the other stations, we convert the X and Y components to the H component by $H=\sqrt{X^2+Y^2}$. If either X or Y is missing, H is also treated as being missing. For the other three digital stations, Barrow, College, and Narssarssuaq, the original digital H component data are used.

If there is any interval during which the digital recording appears faulty, the analog magnetogram is digitized whenever available. We used Abisko data digitized from analog records by the station. For the other non-digital stations the digitization was performed at this Data Center.

3. The Superposed Plot and the Plot of the Contributing Stations of the AE Indices

Figure 2a shows an example of the superposed plot of H traces from the AE stations for April 10, 1978. The upper envelope gives the AU index and the lower envelope, the AL index; Figs. 2b and 2c show sample plots of the contributing stations in geomagnetic (2b) and geographic (2c) local time, for the same day as in Fig. 2a. In these figures, the upper and lower plumes on a diagonal line for each station show the contribution of this station to the AU and AL indices, respectively. In Fig. 2b, for example, the data from Dixon Island (DIK) give the AU index from 0000 to 0240 UT and again from 1330 to 1530 UT, and the AL index from 0640 to 0830 UT. It is seen that from 1100 to 1200 UT Leirvogur (LRV) offers no data. Since Leirvogur is a key station for the AL index for this time interval, the exact AL values may be lower than was calculated for this interval.

We use geomagnetic local time (MLT) for the ordinate of the plot of the contributing stations. MLT is defined by the difference between the geomagnetic longitude of the station and the geomagnetic longitude of the meridian opposite to the subsolar point; and MLT is a function of the geomagnetic longitude of the station, the Sun's declination, and universal time. Figures 3a, 3b, and 3c show the difference between geographic local time GLT and MLT of the stations used to derive the AE indices for winter, summer and equinox, respectively. In these figures GLT is represented for each station by a straight line which runs diagonally, and MLT is shown by the top of T shaped mark (or the bottom of inverted T). The length of the

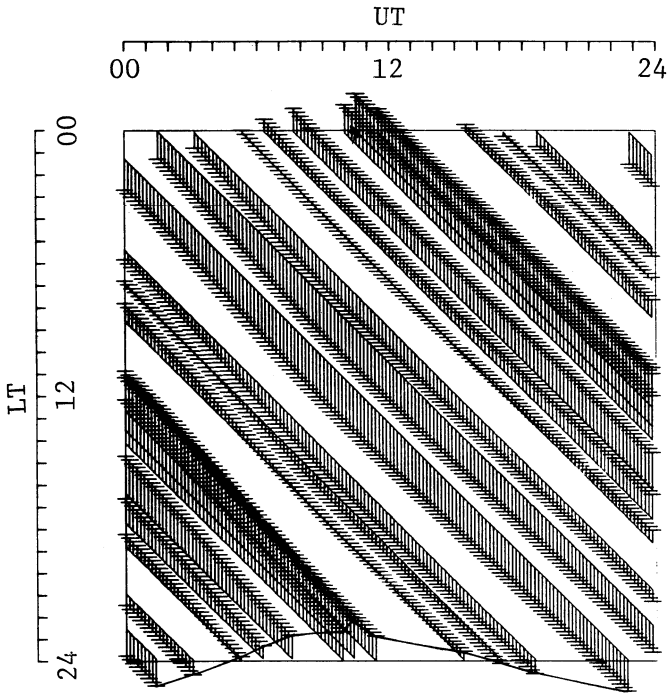

Fig. 3a Difference between GLT and MLT in winter.

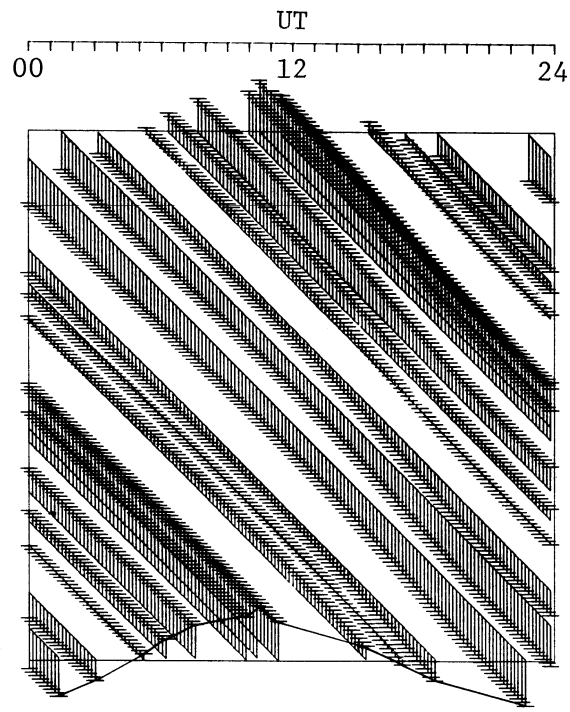

Fig. 3b Difference between GLT and MLT in summer.

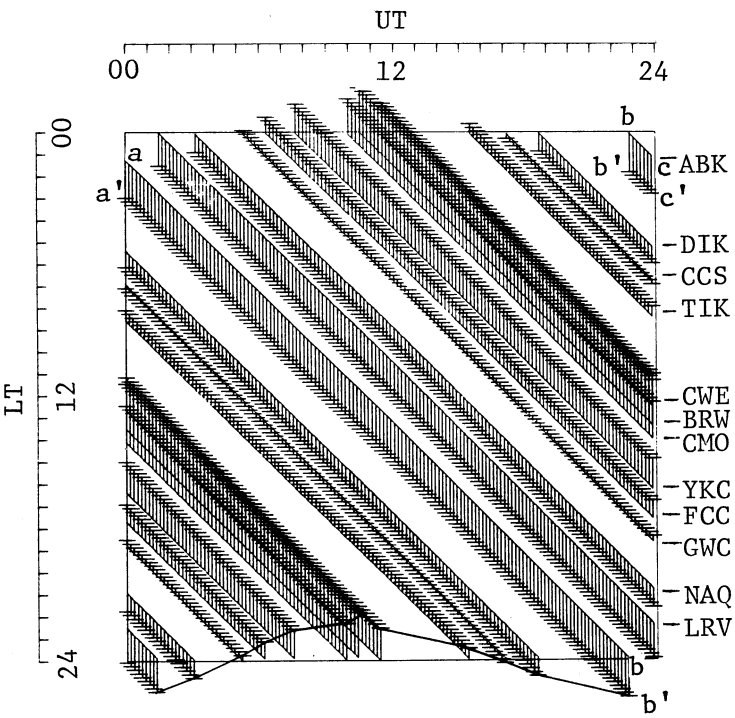

Fig. 3c Difference between GLT and MLT in equinox.

Fig. 3a, 3b and 3c show the difference between the geographic local time (GLT) and the geomagnetic local time (MLT) for winter, summer and equinox, where a-b-c (full line on the top or bottom of the vertical lines) shows the relation between UT and GLT, and a'-b'-c' (crossing of the vertical and horizontal lines) shows the relation between UT and MLT for each of the AE(12) stations.

vertical line of T from the diagonal line is the difference between GLT and MLT. Note that for some stations the difference between GLT and MLT is as much as 2 hours.

4. Results

Monthly quiet-time H reference values for July-December 1984 are listed in Table 2. Table 3 gives hourly average values of the AE indices for each day from July to December 1984.

Daily graphs of 1.0-min AE indices (AU, AL, AE and AO) are shown in Fig. 4, and corresponding plots of the contributing stations are given in Fig. 5. Figure 6 shows the H-traces of magnetograms from AE(12) stations for each month from July to December 1984. Figure 7 shows hourly mean values of each index for the one half year. As a new feature, a summary plot of hourly values of AU and AL indices is added in Fig. 8.

5. Acknowledgements

The calculation of the AE incices in this volume was made possible by the data provided by the AE stations through the World Data Centers. We thank Ms. Y. Yamamoto, Mr. T. Matsumoto and Dr. T. Iyemori of WDC-C2 for Geomagnetism for their assistance in the computation and production of plots, and also to Dr. M. Ayukawa and Dr. T. Ono of National Institute of Polar Research for their contributions in printing and distribution. We thank Dr. T. Bergmark and Mr. M. Reuter of the Geological Survey of Sweden and Dr. E. Friis-Christensen of the Danish Meteorological Institute for rapidly transmitting digital data.

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Table 2. Monthly quiet-time H reference values (unit in nT)

(Year 1984)

STATION	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
Abisko	11702	11707	11698	11695	11696	11698	
Dixon Island	-557	-554	-556	-566	-577	-567	(HO+)
Cape Chelyuskin	360	355	349	346	328	333	(HO+)
Tixie Bay	124	120	119	115	103	113	(HO+)
Cape Wellen	63	61	51	52	54	51	(HO+)
Barrow	9704	9692	9690	9702	9661	9691	
College	12922	12917	12913	12910	12907	12912	
Yellowknife	8741	8743	8732	8732	8726	8742	
Fort Churchill	7678	7682	7683	7690	7688	7702	
* Great Whale River	10892	*	*	*	*	*	
* Poste-de-la-Baleine	*	*	10691	10687	10689	10698	
Narssarssuaq	12189	12186	12179	12187	12190	12195	
Leirvogur	12422	12428	12419	12423	12421	12422	

* : Great Whale River was closed in July 1984 and Poste-de-la-Baleine is used beginning with September 1984.

(HO+) : Deviation from the H base line on the ordinary magnetograms.

TABLE 3

Hourly average AE indices (AU, AL, AE and AO)
for July-December 1984.

AU Index (Hourly mean values, unit nT) July 1984

	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	74	85	107	100	196	167	110	96	72	125	87	49	60	50	63	86	174	153	120	255	256	203	141	80	121
	2	142	200	136	90	59	59	94	146	99	82	147	70	74	46	66	91	111	140	150	150	169	132	78	199	114
	3	164	148	140	105	81	67	67	111	113	148	202	119	133	159	155	183	190	254	134	87	117	99	74	51	129
	4	39	38	102	156	107	126	192	111	141	125	120	174	96	116	95	94	96	116	138	221	192	158	182	220	131
	5	303	111	153	131	100	130	137	156	183	137	54	107	76	39	40	41	70	50	58	93	69	49	46	60	100
	6	135	138	158	201	223	248	152	143	99	75	116	96	143	126	64	79	71	60	65	100	156	112	127	123	125
Q	7	70	58	84	40	60	58	100	110	104	84	77	95	127	96	106	53	62	60	101	124	140	120	108	93	89
	8	70	81	92	148	76	223	159	158	163	102	60	97	112	126	115	48	71	92	79	81	45	99	120	222	110
	9	177	117	111	122	250	156	124	199	212	155	150	135	170	130	83	82	61	68	59	50	58	75	87	66	121
	10	50	52	56	71	62	95	50	91	163	253	122	63	143	176	205	136	130	170	163	225	122	54	50	136	118
	11	130	67	29	35	31	32	51	61	18	14	23	65	135	159	127	199	244	246	231	226	262	256	235	116	125
	12	175	166	179	84	90	84	183	97	107	112	124	33	40	20	17	14	33	45	47	69	147	141	113	65	91
D	13	41	66	161	194	254	219	488	493	381	368	289	289	537	282	492	399	269	310	250	187	128	95	164	151	271
D	14	90	365	283	314	261	249	194	203	103	213	180	138	80	115	116	332	264	229	173	224	150	134	127	128	194
D	15	157	148	212	147	167	230	162	209	203	144	203	175	81	69	121	145	69	119	174	241	175	243	202	165	165
D	16	146	202	173	200	140	118	64	75	194	230	300	171	56	37	62	50	61	69	106	223	256	155	234	158	145
D	17	144	197	210	147	227	337	195	176	141	114	263	213	162	130	141	202	152	155	238	92	122	218	152	93	176
	18	129	126	160	178	189	159	98	100	100	95	128	80	149	163	113	107	150	191	161	182	209	143	79	53	135
	19	168	150	194	164	172	233	126	91	104	108	74	45	78	77	69	39	32	56	46	112	133	144	171	135	113
	20	115	138	117	123	134	102	163	179	56	70	108	158	74	46	23	47	44	49	53	36	31	57	181	153	94
Q	21	161	45	19	18	88	45	153	142	103	40	73	40	14	20	26	15	14	24	42	37	42	71	112	110	61
	22	80	120	81	202	177	111	114	81	30	49	50	65	44	53	31	46	93	59	28	78	67	56	37	125	78
Q	23	146	105	69	88	95	40	39	80	56	52	36	69	89	45	18	22	72	92	113	106	82	37	33	117	71
	24	165	117	121	202	97	50	65	188	101	235	169	61	32	35	13	42	37	80	67	82	105	85	85	73	96
	25	58	62	96	91	93	62	147	86	118	112	169	95	53	104	51	23	27	79	159	218	229	229	212	230	117
Q	26	194	165	234	207	185	180	113	95	86	75	90	116	71	30	16	19	33	43	47	69	116	146	129	132	108
	27	173	170	65	58	121	122	142	146	130	82	56	79	120	139	95	74	94	84	140	242	256	166	62	50	119
	28	73	100	179	212	191	314	213	253	147	155	134	194	164	133	183	171	96	75	113	115	97	60	54	46	145
	29	46	82	67	96	62	43	73	80	68	70	133	139	143	132	75	143	205	271	253	180	82	47	59	84	110
Q	30	90	101	65	55	46	59	95	75	98	88	133	134	112	136	92	72	83	75	80	71	64	52	57	81	84
	31	77	68	38	52	65	54	91	56	80	99	82	56	82	150	138	52	51	45	41	76	178	196	226	181	93
	Mean	122	122	125	130	132	134	134	138	121	122	127	110	111	101	97	100	101	114	117	137	137	123	120	119	120
5Q	Mean	132	94	94	81	94	76	100	100	89	67	81	90	82	65	51	36	52	58	76	81	88	85	87	106	82
5D	Mean	115	195	207	200	209	230	220	231	204	213	247	197	183	126	186	225	163	176	188	193	166	169	175	139	190

AU Index (Hourly mean values, unit nT) August 1984

	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
D	1	102	210	286	350	371	341	378	274	150	240	104	191	144	238	301	275	213	264	172	251	158	199	137	164	230
D	2	115	105	214	168	74	209	112	94	126	119	68	101	116	70	129	149	115	91	99	138	150	138	79	112	120
	3	56	71	86	109	205	100	127	113	112	149	217	160	216	140	84	85	126	128	82	74	104	145	109	196	125
	4	173	121	85	82	106	167	146	143	103	69	124	175	149	126	92	47	71	135	137	119	130	131	155	151	122
	5	74	63	39	64	129	147	80	73	77	47	44	33	43	61	88	32	35	72	107	126	89	51	31	26	68
Q	6	41	61	95	75	60	35	32	39	46	43	71	68	95	122	63	73	56	46	61	83	99	105	81	90	68
Q	7	56	48	45	52	62	47	69	78	60	62	97	81	64	28	26	23	28	39	43	46	41	47	61	67	53
	8	138	188	158	137	105	145	99	48	107	137	74	178	105	60	42	84	106	65	62	53	82	118	123	131	106
	9	64	69	70	25	96	91	86	91	122	105	140	215	192	183	187	88	45	43	48	53	174	197	200	113	112
	10	65	79	42	61	50	43	114	70	79	100	82	41	23	36	39	37	34	88	173	204	163	114	69	50	77
	11	44	39	28	25	22	34	160	187	211	287	232	126	62	41	32	23	29	40	35	46	112	168	174	165	97
	12	191	176	197	88	44	116	68	40	197	216	160	160	172	77	79	36	31	105	73	87	104	94	99	129	114
	13	138	45	87	144	195	150	65	53	33	26	25	27	25	44	28	35	43	25	47	66	55	27	25	39	60
	14	37	19	18	17	18	37	34	61	80	105	106	124	105	97	103	228	273	269	246	198	218	189	215	214	125
	15	129	163	232	173	115	145	195	124	114	83	94	90	125	124	111	160	160	88	59	55	156	93	83	98	124
	16	135	103	132	145	217	161	162	49	152	97	51	123	126	52	60	94	116	179	139	173	144	94	87	137	122
	17	107	113	72	125	153	55	103	114	113	53	50	54	46	34	15	19	42	48	96	142	126	123	126	64	83
Q	18	35	35	26	39	75	124	76	26	13	25	76	58	30	24	33	40	22	16	46	82	37	25	31	35	43
	19	24	22	19	17	18	17	15	50	40	39	111	111	73	75	64	140	340	304	170	214	234	108	71	125	100
	20	164	91	76	157	205	179	230	128	71	44	60	43	22	29	46	38	50	114	161	92	48	25	16	16	88
Q	21	14	61	40	24	15	14	20	16	18	18	27	52	35	23	14	13	14	20	21	20	19	20	22	25	24
Q	22	23	18	18	20	16	14	13	15	23	15	17	21	27	21	19	20	21	16	19	21	21	28	29	32	20
	23	32	38	44	31	27	30	59	75	62	50	47	66	99	108	66	87	99	105	69	70	128	152	256	184	83
D	24	122	72	131	231	345	253	133	166	354	293	254	134	117	175	228	292	262	140	115	183	162	131	62	46	183
	25	78	97	64	119	119	108	106	103	134	373	158	62	61	35	24	27	42	50	123	87	96	106	138	169	103
	26	191	161	132	131	142	129	119	122	95	111	119	97	101	128	92	107	49	43	56	71	48	55	58	39	100
D	27	53	121	120	102	41	71	79	99	118	78	116	223	330	129	77	113	254	205	281	217	180	121	235	136	146
D	28	270	184	84	53	63	89	102	226	287	155	87	107	113	129	265	291	215	174	253	278	223	196	181	223	177
	29	189	157	115	216	146	139	185	116	66	119	110	75	124	145	95	61	85	148	100	102	91	83	56	122	119
	30	127	142	145	121	179	179	103	72	87	171	170	196	175	199	78	145	172	211	162	208	122	111	77	62	142
	31	97	148	136	100	33	38	119	63	61	62	39	44	39	45	61	75	54	47	30	27	118	117	71	81	71
	Mean	99	97	97	103	111	109	109	94	106	112	100	104	101	90	85	94	103	107	105	115	117	106	101	104	103
5Q	Mean	33	44	44	42	45	46	42	34	32	32	57	56	50	43	31	33	28	27	38	50	43	45	44	49	41
5D	Mean	132	138	167	180	178	192	160	171	207	177	125	151	164	148	200	224	211	174	184	213	174	157	138	136	171

AU Index (Hourly mean values, unit nT) September 1984

	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	178	130	174	162	103	154	178	107	74	32	34	43	50	39	37	34	62	75	119	115	135	111	102	105	98
	2	113	95	99	137	194	140	132	98	70	103	70	41	79	141	122	151	47	26	44	113	87	68	41	32	94
	3	60	113	49	67	134	141	149	106	56	46	30	33	23	42	64	18	32	55	50	53	38	112	88	44	67
D	4	57	72	104	123	191	138	152	259	335	288	440	327	179	212	407	414	198	108	57	27	29	43	37	67	178
D	5	152	66	130	227	292	104	12	290	305	257	228	274	194	203	211	346	390	318	215	107	152	172	113	60	201
	6	89	102	79	70	63	69	59	47	100	79	87	91	94	117	44	68	65	145	99	99	45	90	51	53	79
Q	7	64	48	58	58	64	50	64	57	86	66	48	37	56	76	43	48	47	39	56	67	38	31	25	23	52
	8	22	28	31	28	34	45	80	101	155	48	54	35	39	55	58	67	61	93	115	64	96	124	134	172	72
	9	120	54	39	48	40	41	52	120	131	87	67	73	37	31	22	27	39	50	85	106	110	159	260	266	86
	10	175	127	120	95	81	80	130	176	195	207	244	141	80	58	46	55	150	175	238	252	203	174	178	165	148
	11	133	121	130	116	121	182	138	107	57	83	98	71	105	84	83	50	29	101	169	91	57	69	90	96	99
	12	88	80	79	56	75	101	87	48	73	106	61	72	116	92	69	90	154	158	126	81	51	107	111	142	93
	13	104	121	114	86	55	37	62	77	126	108	83	65	30	38	28	28	55	28	40	54	56	90	66	54	67
	14	48	110	38	39	49	122	52	97	62	69	91	71	43	56	51	54	57	115	158	175	120	120	101	120	84
Q	15	113	70	51	54	36	36	30	51	87	105	80	35	29	20	55	63	46	39	31	28	71	99	102	105	60
Q	16	85	92	85	48	53	85	58	63	58	31	28	39	22	30	51	54	42	42	98	52	35	27	34	46	52
Q	17	57	52	55	45	52	93	48	46	43	39	21	23	22	18	15	29	23	19	23	23	26	31	30	33	36
Q	18	23	17	26	46	64	59	39	29	33	33	38	49	26	15	17	17	17	25	29	25	30	37	47	49	33
	19	49	33	42	53	57	75	84	59	98	175	113	258	282	294	243	254	312	224	211	174	143	143	111	77	148
	20	88	97	130	133	243	100	111	122	141	143	119	60	77	31	43	116	129	141	191	171	123	69	75	42	112
	21	36	25	28	29	41	61	81	80	102	136	148	120	133	59	43	49	52	51	49	43	49	76	75	60	68
	22	54	72	60	52	52	127	111	144	206	154	83	103	142	82	34	29	21	73	120	229	223	214	91	78	106
D	23	107	116	233	225	281	532	368	347	375	228	185	211	301	366	192	272	254	157	90	101	214	191	192	200	239
D	24	228	125	310	172	169	192	241	170	249	195	143	117	114	153	108	177	191	158	175	142	132	193	172	67	171
D	25	51	68	78	60	142	155	208	196	125	149	171	142	96	181	146	173	174	261	179	193	137	121	134	150	145
	26	169	142	162	195	150	226	229	242	284	222	103	168	211	206	102	134	229	118	102	117	73	69	52	101	159
	27	96	140	149	133	148	109	187	190	128	125	191	113	145	112	118	72	48	76	120	142	145	171	122	122	129
	28	98	75	110	126	187	88	76	76	89	56	65	85	71	99	78	112	148	126	176	203	174	158	77	68	109
	29	102	162	118	215	143	115	99	76	59	54	43	50	48	77	36	22	52	61	72	69	95	103	97	147	88
	30	129	115	105	92	120	76	113	179	146	66	26	26	19	11	7	16	19	23	43	44	38	61	59	97	68
	Mean	96	88	99	99	114	117	114	125	134	116	106	99	95	99	85	101	104	102	109	105	97	107	95	94	104
5Q	Mean	68	55	55	50	53	64	47	49	61	54	43	36	31	31	36	42	35	32	47	39	40	45	47	51	46
5D	Mean	119	89	171	161	215	224	196	252	277	223	233	214	176	223	212	276	241	200	143	114	132	144	129	108	186

AU Index (Hourly mean values, unit nT) October 1984

	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
Q	1	84	63	69	67	52	66	89	73	93	79	86	97	80	28	41	60	55	29	27	24	32	58	65	56	61
	2	59	78	52	56	42	28	21	39	59	48	53	38	31	42	44	116	95	141	185	223	108	54	104	131	77
	3	153	140	104	204	310	285	266	185	158	70	78	129	84	29	27	29	33	18	30	87	101	76	71	50	113
Q	4	75	31	17	15	15	19	23	14	16	19	18	18	33	42	32	45	122	71	48	40	36	56	45	68	38
	5	51	69	75	98	94	54	39	83	103	97	52	41	43	73	70	22	28	23	28	33	39	54	23	28	55
	6	33	39	53	38	31	60	42	43	104	70	51	46	85	75	39	64	135	98	131	132	152	136	114	204	82
D	7	94	175	303	164	67	81	122	47	58	58	112	111	153	224	143	181	182	86	107	118	95	68	149	182	128
	8	115	138	137	99	127	110	87	44	44	133	140	88	78	69	28	42	54	49	93	95	81	85	105	117	90
	9	82	119	98	123	100	56	45	47	106	126	93	53	42	33	46	56	64	115	138	131	147	163	114	99	91
	10	158	183	118	84	137	170	102	96	100	101	66	82	155	137	241	90	84	139	139	100	77	45	58	86	114
	11	134	113	128	84	72	95	156	142	116	111	70	78	89	121	136	142	116	115	169	140	111	177	168	148	122
	12	144	200	143	110	88	111	71	115	123	75	58	76	77	86	123	209	160	90	211	96	55	82	113	225	118
	13	144	93	101	119	68	41	69	169	137	214	101	101	184	145	50	52	49	37	34	34	24	30	33	44	86
	14	64	62	64	113	82	90	48	44	72	51	47	64	61	42	24	30	27	76	53	62	85	123	101	95	66
	15	94	123	95	94	71	64	43	36	35	25	27	22	30	27	44	39	29	76	85	177	154	126	137	129	74
	16	116	76	72	127	83	100	128	131	135	201	166	232	215	151	94	72	75	66	41	35	30	56	135	117	111
Q	17	70	40	28	19	28	21	29	26	28	35	30	19	17	21	21	20	28	18	16	15	16	14	22	21	25
	18	21	22	34	50	91	126	93	57	64	102	139	108	180	207	404	321	301	182	201	179	172	235	201	167	152
D	19	176	238	164	187	122	224	254	208	305	294	175	101	86	176	196	201	282	178	189	206	145	185	216	156	194
D	20	99	115	151	144	208	182	157	242	164	136	127	198	189	139	169	105	227	173	214	244	206	130	101	92	163
D	21	106	72	47	137	154	133	201	186	134	145	155	103	214	116	127	238	153	90	182	189	200	167	133	193	149
D	22	106	109	101	169	115	96	155	168	265	197	83	110	171	123	129	92	183	164	169	166	181	214	131	86	145
	23	103	82	70	56	70	123	123	164	116	67	130	95	81	78	88	110	192	160	168	171	118	114	147	163	116
	24	133	133	112	125	110	126	152	143	199	206	117	93	104	187	205	195	143	102	125	94	144	122	121	134	139
	25	72	53	59	78	84	72	33	63	80	49	69	91	77	47	71	55	56	41	72	83	104	175	190	109	78
	26	97	101	71	59	34	38	31	42	39	23	40	21	25	25	26	48	34	36	56	48	57	47	46	103	48
	27	78	51	74	50	34	28	19	18	25	22	21	40	89	75	56	49	85	65	45	27	18	19	19	16	43
	28	9	9	15	29	17	19	46	78	67	61	50	24	31	49	51	52	33	45	110	108	120	105	108	57	54
	29	74	92	78	68	47	37	49	41	28	26	51	43	76	53	50	94	43	20	12	30	52	101	69	114	56
Q	30	106	104	58	38	28	31	28	35	33	38	22	19	32	26	23	18	15	14	12	12	18	18	22	24	32
Q	31	18	20	21	13	15	18	20	17	12	15	14	19	26	34	25	48	33	29	39	26	27	45	75	109	30
	Mean	92	94	87	90	83	87	88	90	97	93	78	76	91	86	91	93	100	82	100	100	93	99	101	107	92
5Q	Mean	70	51	38	30	27	31	37	33	36	37	34	34	37	30	28	38	50	32	28	23	25	38	45	55	37
5D	Mean	116	141	153	160	133	143	177	170	185	166	130	124	162	155	152	163	205	138	172	184	165	152	146	141	155

AU Index (Hourly mean values, unit nT) November 1984

	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
D	1	86	78	114	83	55	77	142	353	335	170	124	167	144	66	42	15	20	15	22	20	20	21	35	36	93
	2	36	31	33	31	33	25	30	36	31	35	44	36	28	21	27	29	108	145	176	172	127	120	93	74	63
	3	75	104	73	48	48	45	74	98	94	84	82	100	67	159	118	129	78	100	56	60	129	103	98	120	89
	4	168	161	114	134	97	79	85	75	79	82	147	98	63	51	45	42	64	96	164	108	80	105	99	98	97
	5	64	78	70	38	106	109	176	110	132	102	69	78	123	66	53	50	33	45	51	43	39	35	31	36	72
	6	49	42	44	49	40	55	69	106	66	102	118	70	61	36	45	114	83	111	68	43	51	59	80	47	67
	7	44	34	48	57	31	59	63	71	44	43	67	85	70	109	73	88	251	291	176	190	106	107	159	166	101
	8	138	110	114	114	116	107	69	96	118	99	86	75	75	60	56	70	93	92	113	106	59	77	48	34	89
	9	30	39	72	55	55	48	50	76	55	31	36	35	33	38	40	40	55	180	167	92	95	153	166	96	72
	10	110	150	113	77	80	77	83	49	59	50	47	47	56	131	135	97	33	42	83	111	108	169	144	108	90
	11	100	81	84	97	109	99	53	36	41	68	80	97	110	143	81	73	47	52	24	26	39	114	117	81	77
Q	12	51	54	44	44	82	96	118	51	93	67	45	50	29	37	28	21	27	26	18	11	18	15	21	29	45
Q	13	28	26	25	46	47	34	34	31	48	46	33	64	50	57	77	56	233	156	157	195	141	136	110	127	81
	14	94	126	135	113	101	47	52	49	46	41	45	96	93	197	62	46	28	45	82	70	69	64	43	64	75
D	15	52	63	79	84	59	45	68	71	70	56	13	186	124	98	73	45	116	169	271	286	159	153	46	75	103
D	16	63	186	285	408	357	378	444	52	213	226	168	201	226	192	153	180	143	209	141	151	138	155	145	109	205
D	17	144	92	127	98	117	130	140	139	102	84	65	73	85	85	149	186	143	92	69	77	110	167	97	130	113
	18	125	160	95	142	110	80	55	109	114	57	39	89	74	51	30	23	14	30	48	107	84	75	61	69	77
	19	78	87	134	133	111	131	179	130	71	42	34	41	58	51	40	64	49	118	99	59	54	70	90	104	84
	20	91	94	80	89	151	134	146	140	100	64	71	82	112	114	82	45	52	121	65	50	81	84	107	127	95
	21	123	133	116	207	183	131	98	69	80	100	133	157	160	92	152	83	77	110	165	136	86	116	121	86	121
	22	68	49	78	91	84	70	87	75	64	81	98	149	81	66	60	59	60	66	132	63	59	63	76	69	77
	23	81	78	68	43	72	60	60	51	38	32	44	53	96	97	70	66	39	31	34	28	26	28	29	32	52
	24	29	39	43	55	47	62	59	70	46	53	70	57	46	40	44	37	62	72	58	76	97	118	97	82	61
	25	87	85	93	71	53	62	72	43	53	41	42	31	29	27	39	48	29	35	38	56	120	77	60	89	57
Q	26	90	99	86	97	113	80	52	53	52	33	31	37	66	75	55	46	27	25	46	37	24	27	31	30	55
Q	27	32	35	33	33	42	44	61	54	44	32	47	65	99	123	100	41	50	90	97	90	45	40	53	54	59
Q	28	46	56	72	63	47	40	45	54	51	80	86	63	40	32	27	25	20	24	26	26	23	25	25	25	43
	29	28	29	31	36	41	38	51	75	204	239	238	142	58	35	30	25	20	28	28	44	92	63	58	51	70
D	30	50	75	130	169	379	347	359	287	165	135	150	113	78	49	61	39	39	89	80	95	118	91	167	114	141
	Mean	75	82	87	93	98	92	102	90	90	79	78	87	81	79	68	62	69	90	91	87	79	87	83	78	84
5Q	Mean	49	54	52	56	66	58	62	48	57	51	48	55	56	64	57	37	71	64	68	71	50	48	48	53	56
5D	Mean	79	98	147	168	193	195	230	180	177	134	104	148	131	98	95	93	92	114	116	125	109	117	98	92	130

AU Index (Hourly mean values, unit nT) December 1984

	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	74	85	85	63	87	69	120	106	36	26	44	59	62	57	25	25	22	13	14	14	19	48	63	100	55
D	2	69	62	76	170	137	204	236	125	120	64	73	102	101	78	56	110	69	64	119	116	102	49	76	86	103
	3	88	122	106	99	113	93	90	74	102	106	75	44	39	46	164	140	128	183	146	153	248	159	101	74	112
D	4	97	110	97	70	53	83	82	139	145	115	96	71	120	78	90	114	111	147	107	122	86	136	144	111	105
	5	193	127	111	119	89	70	46	47	95	115	71	55	57	86	88	78	49	93	73	82	86	74	169	134	92
	6	184	133	115	68	74	105	123	106	130	121	115	89	63	78	71	77	86	75	54	83	137	97	122	115	101
	7	106	69	156	178	174	141	79	42	64	72	109	48	73	62	102	79	40	62	68	52	44	66	36	33	81
	8	39	53	55	56	103	91	73	63	28	58	46	55	49	31	18	19	17	5	5	11	17	21	31	55	42
Q	9	83	80	39	25	26	43	41	29	32	36	56	48	40	39	18	10	36	71	108	85	62	85	129	39	52
	10	34	37	29	40	57	105	79	68	67	43	48	39	103	72	53	14	20	59	31	24	26	21	33	34	47
	11	32	30	29	58	55	42	39	36	34	41	74	64	90	40	127	73	94	85	123	158	160	220	258	233	91
	12	236	139	144	119	75	87	37	41	46	76	91	62	48	29	54	49	26	13	13	5	4	21	17	26	61
	13	34	65	150	149	169	113	91	91	106	197	185	185	102	167	89	67	77	60	45	73	60	55	26	22	99
	14	28	29	22	17	25	30	12	29	39	56	123	116	86	75	36	45	43	26	29	18	29	29	53	60	44
	15	77	106	146	66	52	56	60	51	82	121	130	123	88	74	34	34	30	38	32	22	94	101	122	149	79
D	16	168	103	74	134	169	116	146	147	163	221	130	164	118	106	95	74	140	55	144	175	137	174	223	116	137
D	17	85	76	57	54	72	127	101	129	126	104	81	78	49	103	136	145	268	171	127	84	98	83	94	73	105
	18	81	65	71	85	59	118	90	123	112	110	95	108	89	149	118	35	49	37	39	29	28	39	30	27	74
Q	19	34	30	43	38	32	25	22	20	44	42	47	65	102	68	45	43	29	16	27	38	55	37	32	25	40
Q	20	22	38	42	36	30	24	33	35	33	35	29	23	21	22	33	7	24	30	23	26	14	23	16	17	26
	21	26	24	23	22	29	35	36	47	49	33	57	63	90	103	91	40	32	84	109	108	137	125	143	125	68
	22	67	50	41	36	32	32	25	46	32	45	48	40	30	31	47	52	78	55	73	88	128	182	184	130	66
	23	122	73	90	82	115	153	130	55	66	57	101	101	121	111	77	50	55	50	39	47	111	100	88	75	86
Q	24	46	36	34	27	25	35	35	21	19	28	33	22	21	19	23	36	29	20	15	13	15	26	65	52	29
Q	25	49	41	61	86	103	152	137	152	96	80	22	15	9	7	6	10	10	11	15	18	16	14	10	12	47
	26	14	24	70	122	124	196	155	134	131	249	190	84	115	186	106	59	119	180	103	80	123	151	155	128	125
	27	151	73	37	30	21	25	21	26	18	15	27	66	89	122	200	139	81	31	41	42	101	153	143	197	77
D	28	244	118	87	103	103	80	90	233	189	142	121	170	115	153	101	163	273	105	68	190	223	202	125	130	147
	29	193	131	114	122	115	120	117	54	55	73	155	124	89	177	86	79	57	101	160	75	95	91	118	115	109
	30	80	72	149	226	146	115	144	102	96	106	83	83	137	117	135	117	37	71	133	105	131	90	143	175	117
	31	152	142	185	135	138	131	118	90	63	112	129	170	122	126	76	104	73	109	129	107	152	82	85	80	117
	Mean	93	75	81	85	83	90	84	79	78	87	86	81	78	84	77	67	71	68	71	72	88	88	97	88	81
5Q	Mean	46	45	43	42	43	55	53	51	44	44	37	34	38	31	25	21	25	29	37	36	32	37	50	29	39
5D	Mean	132	93	78	106	106	122	131	154	148	129	100	117	100	103	95	121	172	108	113	137	129	128	132	103	119

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	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	-16	-25	-28	-21	-103	-274	-109	-33	-16	-136	-79	-18	-7	-1	-34	-34	-143	-264	-137	-300	-617	-213	-97	-35	-114
	2	-90	-269	-258	-107	-24	-12	-68	-203	-166	-59	-50	-34	-32	-7	-32	-66	-56	-129	-99	-27	-124	-188	-28	-174	-96
	3	-340	-216	-122	-45	-41	-23	-39	-77	-59	-94	-272	-164	-80	-249	-298	-301	-296	-304	-49	-19	-71	-96	-84	-27	-140
	4	-23	-29	-59	-195	-64	-93	-202	-286	-156	-101	-32	-20	-56	-124	-85	-37	-73	-38	-57	-149	-130	-112	-159	-285	-107
	5	-420	-137	-101	-175	-132	-238	-183	-212	-348	-202	-50	-61	-133	-118	-12	-29	-54	-20	-44	-37	-106	-16	-33	-52	-121
	6	-80	-104	-139	-179	-220	-274	-106	-78	-88	-48	-99	-95	-134	-301	-76	-45	-38	-64	-46	-86	-162	-145	-165	-159	-122
Q	7	-64	-43	-77	-58	-53	-135	-129	-104	-63	-70	-152	-85	-65	-62	-225	-156	-61	-43	-49	-62	-81	-119	-179	-86	-93
	8	-32	-51	-191	-251	-62	-129	-233	-219	-262	-106	-38	-63	-197	-239	-262	-85	-81	-83	-148	-85	-17	-86	-180	-366	-144
	9	-265	-131	-131	-229	-374	-177	-43	-82	-197	-108	-69	-183	-235	-159	-121	-32	-54	-48	-31	-16	-23	-31	-29	-15	-116
	10	-23	-32	-53	-105	-56	-27	-13	-16	-56	-303	-252	-54	-118	-293	-526	-191	-226	-179	-181	-225	-133	-26	-44	-133	-136
	11	-143	-105	-37	-28	-33	-30	-48	-55	-27	-16	-17	-50	-142	-264	-220	-293	-397	-268	-203	-195	-183	-271	-250	-12	-137
	12	-66	-239	-649	-474	-112	-83	-166	-218	-192	-96	-42	-85	-60	-40	-52	-62	-78	-10	-29	-67	-178	-193	-91	-36	-138
D	13	-32	-51	-174	-463	-605	-172	-345	-946	-295	-192	-471	-533	-851	-1208	-862	-498	-164	-178	-200	-242	-105	-41	-107	-342	-378
D	14	-387	-445	-530	-492	-297	-376	-233	-277	-92	-234	-296	-220	-355	-319	-154	-414	-547	-263	-273	-342	-118	-187	-350	-246	-310
D	15	-213	-130	-491	-445	-291	-218	-161	-349	-416	-281	-337	-281	-61	-174	-366	-370	-125	-177	-140	-595	-304	-297	-413	-432	-295
D	16	-265	-238	-325	-547	-359	-178	-59	-43	-236	-530	-517	-402	-38	-39	-129	-124	-62	-53	-103	-342	-389	-164	-300	-368	-242
D	17	-299	-376	-394	-392	-403	-718	-784	-483	-435	-178	-558	-539	-478	-227	-287	-643	-276	-274	-214	-60	-142	-422	-242	-78	-371
	18	-76	-163	-397	-385	-274	-286	-161	-107	-139	-173	-104	-154	-338	-541	-291	-153	-180	-456	-289	-397	-461	-251	-160	-57	-250
	19	-399	-326	-353	-366	-318	-358	-160	-59	-82	-359	-155	-66	-110	-291	-109	-93	-36	-96	-105	-97	-183	-218	-124	-164	-193
	20	-145	-183	-182	-245	-200	-181	-277	-343	-81	-50	-175	-344	-160	-106	-68	-62	-139	-137	-97	-30	-21	-38	-278	-229	-157
Q	21	-141	-44	-34	-24	-78	-64	-187	-101	-26	-54	-41	-38	-36	-20	-21	-35	-48	-19	-18	-19	-36	-65	-213	-190	-65
	22	-85	-86	-61	-305	-473	-190	-116	-41	-19	-36	-71	-167	-65	-28	-42	-73	-160	-83	-15	-61	-45	-32	-37	-129	-101
Q	23	-255	-109	-96	-68	-152	-100	-25	-19	-16	-27	-50	-50	-146	-65	-47	-31	-112	-305	-290	-80	-29	-27	-30	-112	-93
	24	-259	-83	-80	-203	-117	-8	-19	-109	-121	-155	-205	-129	-22	-14	-36	-121	-61	-166	-53	-39	-40	-47	-98	-60	-94
	25	-35	-101	-153	-75	-43	-38	-146	-61	-48	-85	-159	-158	-47	-82	-74	-29	-20	-75	-215	-280	-294	-236	-196	-167	-117
Q	26	-128	-200	-338	-235	-107	-106	-83	-73	-91	-63	-110	-131	-62	-26	-40	-55	-60	-40	-21	-49	-149	-112	-79	-89	-102
	27	-363	-183	-25	-21	-54	-163	-234	-154	-87	-18	-5	-25	-58	-201	-271	-140	-81	-76	-113	-342	-285	-104	-27	-34	-128
	28	-50	-68	-280	-452	-336	-473	-412	-383	-200	-137	-163	-102	-155	-124	-295	-277	-131	-12	-56	-69	-51	-28	-35	-28	-180
	29	-16	-70	-34	-81	-150	-132	-162	-132	-63	-23	-157	-219	-247	-189	-131	-267	-196	-235	-340	-214	-53	-18	-24	-45	-133
Q	30	-70	-204	-176	-64	-38	-38	-64	-131	-38	-24	-146	-145	-164	-116	-254	-108	-97	-153	-104	-115	-52	-41	-44	-62	-102
	31	-72	-37	-27	-21	-27	-49	-45	-70	-37	-14	-108	-40	-21	-162	-336	-125	-13	-11	-2	-38	-94	-369	-477	-160	-98
	Mean	-156	-144	-193	-217	-180	-172	-161	-176	-133	-128	-160	-150	-150	-186	-185	-159	-131	-137	-120	-150	-150	-135	-147	-141	-157
5Q	Mean	-131	-120	-144	-89	-85	-88	-97	-85	-46	-47	-99	-89	-94	-57	-117	-77	-75	-112	-96	-65	-69	-72	-109	-107	-90
5D	Mean	-239	-248	-382	-467	-391	-332	-316	-419	-294	-283	-435	-395	-356	-393	-359	-409	-234	-189	-186	-316	-211	-222	-282	-293	-319

AL Index (Hourly mean values, unit nT) August 1984

	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
D	1	-99	-241	-668	-725	-759	-537	-298	-415	-170	-355	-949	-403	-207	-536	-579	-370	-312	-480	-205	-389	-355	-468	-345	-469	-431
D	2	-297	-158	-273	-469	-191	-366	-275	-100	-52	-316	-109	-162	-307	-145	-298	-316	-196	-158	-169	-226	-322	-173	-174	-225	-228
	3	-128	-65	-189	-178	-329	-143	-171	-198	-143	-92	-482	-352	-344	-360	-187	-162	-252	-218	-89	-19	-78	-134	-192	-288	-200
	4	-383	-320	-130	-88	-57	-163	-233	-318	-283	-124	-178	-391	-396	-368	-208	-35	-57	-264	-321	-141	-96	-128	-184	-393	-219
	5	-246	-124	-47	-37	-130	-285	-121	-61	-148	-82	-39	-26	-25	-91	-242	-107	-43	-57	-136	-261	-104	-72	-63	-30	-107
Q	6	-31	-53	-146	-128	-38	-25	-21	-45	-27	-37	-71	-171	-91	-102	-92	-111	-208	-191	-134	-85	-83	-63	-168	-126	-94
Q	7	-36	-48	-80	-76	-43	-52	-46	-28	-15	-45	-134	-47	-39	-19	-11	-12	-1	-1	-18	-11	-27	-21	-23	-42	-36
	8	-81	-284	-153	-213	-86	-117	-60	-21	-57	-184	-137	-221	-330	-18	-43	-99	-175	-111	-37	-22	-99	-149	-254	-144	-129
	9	-55	-41	-54	-37	-31	-44	-63	-59	-193	-231	-134	-239	-312	-375	-372	-108	-41	-73	-15	-14	-172	-540	-356	-90	-152
	10	-31	-80	-147	-64	-26	-32	-59	-85	-33	-252	-132	-41	-22	-22	-39	-99	-29	-145	-323	-286	-248	-114	-103	-71	-103
	11	-36	-36	-27	-35	-19	-13	-78	-364	-438	-351	-129	-226	-63	-14	-15	-17	-25	-56	-15	-21	-89	-215	-327	-268	-120
	12	-228	-322	-226	-118	-18	-59	-57	-22	-129	-355	-236	-114	-213	-216	-106	-31	-21	-80	-109	-87	-130	-169	-70	-103	-134
	13	-350	-142	-55	-229	-402	-292	-49	-9	-51	-16	-19	-19	-28	-53	-50	-75	-101	-59	-56	-103	-76	-38	-32	-24	-97
	14	-10	-10	-21	-23	-16	-10	-9	-13	-21	-40	-51	-33	-94	-297	-252	-259	-352	-451	-539	-199	-393	-376	-250	-355	-170
	15	-224	-285	-282	-494	-173	-239	-192	-217	-57	-33	-126	-330	-193	-260	-169	-190	-389	-108	-38	-27	-106	-164	-88	-151	-189
	16	-427	-276	-532	-313	-292	-296	-176	-92	-29	-212	-60	-187	-382	-84	-172	-97	-178	-211	-144	-176	-136	-45	-89	-255	-203
	17	-192	-138	-71	-145	-299	-95	-66	-83	-229	-124	-104	-107	-75	-41	-43	-41	-55	-137	-208	-241	-106	-90	-187	-99	-124
Q	18	-9	-12	-16	-29	-90	-259	-133	-25	-12	-15	-59	-102	-79	-69	-36	-90	-43	-27	-53	-120	-48	-31	-33	-17	-59
	19	-15	-14	-10	-19	-20	-19	-12	-16	-35	-33	-38	-161	-141	-223	-236	-304	-445	-649	-311	-371	-458	-82	-39	-139	-158
	20	-155	-52	-83	-148	-231	-235	-254	-197	-22	-15	-10	-29	-23	-40	-81	-94	-140	-278	-274	-84	-35	-28	-30	-21	-107
Q	21	-24	-34	-22	-28	-24	-14	-13	-14	-16	-21	-22	-59	-74	-57	-35	-46	-50	-16	-13	-69	-17	-14	-22	-17	-30
Q	22	-15	-16	-16	-21	-21	-20	-20	-16	-19	-22	-24	-26	-21	-15	-6	0	-4	-9	-13	-14	-14	-13	-6	-3	-15
	23	-8	-13	-18	-15	-19	-33	-86	-77	-44	-15	-11	-19	-85	-305	-195	-123	-95	-107	-35	-32	-45	-288	-376	-137	-91
D	24	-86	-60	-150	-291	-278	-137	-96	-160	-443	-324	-194	-50	-166	-436	-368	-443	-356	-108	-152	-283	-276	-187	-94	-76	-217
	25	-149	-249	-231	-197	-118	-456	-199	-180	-135	-569	-231	-41	-113	-46	-27	-25	-75	-62	-240	-171	-87	-112	-190	-366	-178
	26	-247	-184	-286	-201	-113	-378	-462	-87	-33	-62	-56	-77	-94	-126	-234	-198	-54	-92	-41	-51	-47	-31	-41	-26	-134
D	27	-57	-154	-384	-197	-45	-53	-172	-46	-34	-29	-47	-388	-526	-144	-32	-96	-473	-411	-483	-556	-178	-118	-277	-790	-237
D	28	-397	-168	-63	-30	-21	-55	-149	-438	-597	-526	-93	-143	-127	-202	-449	-415	-468	-240	-379	-541	-331	-229	-248	-352	-278
	29	-384	-301	-138	-301	-369	-245	-285	-168	-13	-230	-557	-123	-194	-687	-342	-123	-89	-263	-225	-111	-63	-161	-81	-182	-235
	30	-372	-267	-261	-275	-227	-263	-89	-147	-124	-267	-450	-335	-580	-296	-150	-187	-427	-386	-207	-226	-237	-288	-115	-68	-260
	31	-84	-220	-356	-135	-26	-17	-128	-253	-109	-27	-21	-26	-36	-35	-165	-200	-102	-102	-21	-26	-91	-167	-83	-114	-106
	Mean	-156	-140	-165	-169	-145	-159	-131	-127	-119	-161	-158	-149	-173	-183	-168	-144	-169	-179	-161	-160	-146	-151	-146	-175	-156
5Q	Mean	-23	-32	-56	-56	-43	-74	-46	-25	-17	-28	-62	-81	-60	-52	-36	-51	-61	-48	-46	-59	-37	-28	-50	-41	-46
5D	Mean	-187	-156	-307	-342	-258	-229	-198	-231	-259	-310	-278	-229	-266	-292	-345	-328	-361	-279	-277	-399	-292	-235	-227	-382	-278

AL Index (Hourly mean values, unit nT) September 1984

	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	-359	-287	-291	-147	-104	-207	-304	-186	-34	-14	-5	-16	-13	-2	-8	-27	-101	-143	-260	-208	-90	-201	-233	-123	-140
	2	-93	-91	-178	-372	-290	-164	-132	-48	-10	-177	-41	-12	-30	-151	-243	-295	-126	-25	-27	-110	-183	-46	-10	-3	-119
	3	-32	-144	-151	-118	-213	-556	-277	-111	-121	-26	-19	-26	-18	-42	-111	-77	-24	-146	-63	-47	-38	-218	-182	-27	-116
D	4	-32	-176	-185	-160	-193	-161	-229	-430	-550	-197	-449	-294	-127	-120	-521	-903	-153	-50	-61	-28	-16	-21	-33	-54	-214
D	5	-266	-565	-299	-237	-803	-1249	-1193	-579	-246	-228	-455	-463	-352	-344	-397	-716	-711	-403	-419	-773	-454	-291	-202	-94	-489
	6	-109	-215	-136	-33	-25	-106	-265	-76	-331	-170	-51	-72	-178	-333	-37	-58	-156	-520	-239	-88	-18	-47	-82	-192	-147
Q	7	-160	-143	-86	-90	-107	-43	-23	-23	-81	-78	-39	-34	-49	-148	-105	-70	-94	-60	-44	-31	-20	-17	-19	-22	-66
	8	-11	-16	-21	-31	-26	-6	-30	-115	-90	-15	-6	-12	-16	-39	-122	-178	-104	-130	-175	-4	-61	-66	-191	-199	-69
	9	-97	-20	-26	-17	-13	-13	-28	-198	-238	-120	-62	-127	-74	-5	-37	-7	-19	-19	-73	-107	-27	-72	-211	-270	-78
	10	-178	-58	-72	-57	-46	-41	-127	-302	-453	-381	-704	-185	-17	-24	-24	-45	-379	-519	-314	-483	-420	-395	-348	-264	-243
	11	-344	-279	-130	-247	-38	-218	-247	-60	-21	-56	-161	-96	-98	-105	-43	-39	-61	-199	-281	-151	-34	-57	-170	-163	-137
	12	-145	-87	-53	-14	-64	-58	-48	-248	-86	-159	-308	-68	-257	-322	-289	-135	-371	-352	-234	-53	-90	-139	-191	-383	-173
	13	-186	-338	-372	-172	-70	-23	-42	-218	-218	-174	-270	-41	-9	-21	-21	-21	-69	-59	-44	-48	-65	-52	-75	-61	-111
	14	-35	-197	-82	-37	-27	-243	-173	-107	-310	-204	-211	-186	-14	-46	-86	-47	-101	-325	-392	-337	-232	-163	-248	-288	-170
Q	15	-294	-52	-16	-67	-30	-7	-1	-14	-272	-233	-155	-46	-17	-21	-86	-280	-125	-50	-14	-13	-31	-151	-273	-154	-100
Q	16	-205	-80	-12	-12	-55	-130	-85	-60	-13	-17	-14	-21	-22	-32	-126	-254	-234	-99	-83	-67	-13	-15	-24	-27	-71
Q	17	-63	-41	-14	-9	-59	-288	-239	-19	-19	-17	-16	-11	-12	-18	-20	-74	-92	-86	-23	-7	-13	-17	-17	-20	-50
Q	18	-1	-3	-12	-23	-84	-28	-20	-16	-6	-7	-10	-79	-27	-5	0	-4	-3	-5	-6	-15	-34	-55	-34	-13	-20
	19	0	0	-7	-61	-23	-78	-111	-24	-19	-112	-837	-886	-491	-249	-339	-482	-501	-285	-342	-430	-250	-319	-273	-166	-262
	20	-120	-122	-289	-337	-456	-324	-205	-295	-438	-181	-335	-131	-120	-209	-152	-436	-385	-286	-263	-549	-219	-198	-151	-19	-259
	21	-17	-17	-23	-34	-126	-110	-81	-64	-101	-172	-447	-214	-172	-60	-298	-166	-206	-181	-93	-10	-9	-128	-253	-102	-128
	22	-86	-143	-145	-44	-31	-127	-162	-442	-448	-230	-73	-194	-645	-103	-28	-31	-100	-281	-241	-392	-866	-343	-66	-79	-221
D	23	-139	-514	-451	-352	-720	-514	-431	-543	-859	-579	-454	-1466	-1211	-453	-891	-800	-512	-429	-278	-170	-607	-800	-473	-450	-587
D	24	-851	-402	-504	-289	-337	-573	-792	-434	-829	-228	-201	-502	-476	-546	-328	-789	-599	-422	-464	-257	-244	-386	-418	-165	-460
D	25	-64	-221	-268	-116	-609	-585	-511	-522	-378	-341	-701	-484	-468	-546	-396	-496	-403	-445	-400	-329	-367	-208	-417	-334	-400
	26	-282	-291	-354	-425	-362	-428	-503	-428	-730	-551	-525	-763	-922	-854	-307	-204	-782	-253	-254	-507	-181	-103	-73	-347	-434
	27	-320	-350	-347	-212	-343	-352	-315	-388	-467	-357	-336	-798	-641	-486	-535	-226	-30	-92	-229	-323	-235	-478	-335	-328	-355
	28	-179	-148	-229	-229	-445	-159	-119	-127	-116	-64	-105	-161	-369	-160	-225	-336	-343	-264	-239	-404	-426	-211	-60	-75	-216
	29	-139	-281	-328	-259	-263	-148	-314	-152	-69	-19	-52	-120	-104	-73	-86	-134	-210	-244	-133	-110	-211	-151	-333	-231	-174
	30	-199	-346	-321	-146	-205	-279	-275	-346	-305	-72	-31	-15	-9	-25	-14	-23	-69	-85	-89	-57	-53	-46	-166	-261	-143
	Mean	-166	-187	-180	-144	-205	-240	-242	-219	-261	-172	-235	-250	-231	-184	-195	-245	-235	-215	-192	-203	-183	-179	-185	-163	-205
5Q	Mean	-144	-63	-28	-40	-67	-99	-73	-26	-78	-70	-46	-38	-25	-44	-67	-136	-109	-60	-34	-26	-22	-51	-73	-47	-61
5D	Mean	-270	-375	-341	-230	-532	-616	-631	-501	-572	-314	-452	-641	-526	-401	-506	-740	-475	-349	-324	-311	-337	-341	-308	-219	-430

AL Index (Hourly mean values, unit nT) October 1984

	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
Q	1	-192	-93	-80	-94	-95	-62	-290	-127	-56	-44	-57	-122	-215	-23	-31	-248	-257	-51	-17	-4	-49	-127	-72	-47	-102
	2	-91	-326	-255	-59	-52	-17	-10	-45	-64	-69	-68	-21	-31	-65	-286	-383	-241	-261	-213	-151	-22	-10	-43	-56	-118
	3	-412	-323	-241	-461	-572	-426	-430	-178	-75	-16	-39	-194	-113	-32	-19	-19	-36	-18	-24	-130	-180	-107	-119	-54	-176
Q	4	-17	-15	-14	-12	-8	-2	-17	-7	-10	-12	-18	-13	-24	-49	-35	-84	-272	-84	-35	-10	-10	-62	-106	-170	-45
	5	-53	-133	-193	-137	-52	-13	-37	-176	-114	-167	-89	-23	-21	-25	-28	-7	0	1	4	6	-1	2	-4	-12	-53
	6	-8	0	-15	-47	-83	-293	-155	-59	-110	-56	-19	-16	-32	-47	-24	-39	-101	-181	-198	-53	-41	-544	-616	-170	-121
D	7	-500	-721	-344	-272	-179	-103	-237	-59	-60	-77	-156	-156	-468	-684	-277	-281	-436	-248	-235	-205	-262	-128	-181	-267	-272
	8	-484	-427	-195	-130	-325	-499	-69	-47	-24	-174	-484	-153	-63	-32	-44	-82	-145	-92	-100	-116	-92	-266	-327	-422	-200
	9	-309	-253	-277	-153	-38	-17	-15	-52	-226	-413	-134	-57	-30	-19	-76	-313	-213	-195	-432	-399	-178	-321	-275	-180	-191
	10	-206	-361	-457	-306	-421	-450	-410	-199	-71	-491	-198	-194	-699	-446	-794	-235	-241	-272	-245	-293	-93	-48	-78	-121	-305
	11	-377	-305	-108	-146	-49	-39	-219	-269	-117	-279	-255	-360	-263	-287	-101	-434	-442	-300	-355	-464	-171	-420	-556	-388	-279
	12	-480	-636	-257	-102	-86	-123	-254	-249	-389	-169	-54	-249	-84	-203	-327	-485	-449	-202	-558	-334	-163	-221	-182	-341	-275
	13	-199	-31	-76	-122	-66	-10	-61	-277	-353	-613	-291	-194	-606	-429	-179	-189	-138	-76	-121	-80	-61	-58	-83	-27	-181
	14	-139	-269	-204	-367	-179	-26	-136	-204	-110	-65	-20	-9	-54	-13	-26	-58	-142	-274	-241	-196	-73	-140	-298	-111	-140
	15	-134	-237	-162	-61	-41	-170	-90	-2	-16	-8	-6	-11	-18	-23	-27	-40	-122	-115	-131	-288	-606	-253	-239	-375	-132
	16	-246	-146	-100	-253	-118	-153	-113	-170	-333	-655	-550	-630	-452	-282	-248	-195	-229	-219	-162	-69	-32	-102	-347	-206	-250
Q	17	-94	-63	-28	-26	-11	-13	-67	-43	-77	-73	-28	-25	-23	-32	-73	-59	-65	-19	-11	-13	-27	-38	-8	-4	-38
	18	-6	-10	-6	-26	-218	-372	-167	-54	-42	-119	-380	-679	-566	-549	-781	-753	-722	-603	-591	-571	-671	-658	-575	-176	-387
D	19	-233	-566	-293	-399	-344	-309	-551	-340	-694	-489	-329	-798	-316	-502	-1067	-473	-777	-780	-580	-350	-302	-277	-639	-536	-498
D	20	-237	-289	-678	-558	-337	-500	-512	-519	-441	-261	-523	-905	-551	-378	-673	-383	-594	-603	-809	-533	-406	-454	-253	-144	-481
D	21	-326	-243	-336	-388	-504	-189	-402	-247	-196	-278	-385	-369	-642	-481	-290	-611	-337	-125	-466	-859	-615	-352	-302	-379	-388
D	22	-348	-452	-413	-661	-153	-210	-346	-504	-751	-434	-143	-364	-708	-277	-379	-259	-799	-670	-737	-709	-589	-611	-483	-293	-471
	23	-266	-232	-242	-147	-158	-392	-516	-486	-212	-94	-163	-287	-118	-285	-401	-515	-742	-409	-420	-348	-228	-213	-448	-477	-325
	24	-371	-410	-580	-453	-233	-399	-497	-345	-343	-494	-208	-156	-525	-931	-766	-492	-284	-181	-492	-190	-168	-357	-295	-358	-397
	25	-211	-83	-216	-249	-302	-246	-59	-57	-179	-329	-228	-204	-338	-276	-285	-191	-241	-168	-241	-267	-476	-487	-698	-815	-285
	26	-557	-212	-106	-49	-41	-17	-12	-22	-25	-12	-26	-12	-17	-17	-24	-51	-33	-41	-41	-108	-71	-61	-78	-63	-71
	27	-25	-9	-31	-25	-39	-26	-37	-22	-52	-12	-5	-27	-278	-363	-251	-163	-202	-373	-94	-31	-20	-12	-7	-13	-88
	28	-16	-19	-25	-28	-189	-91	-86	-151	-113	-27	-26	-21	-21	-59	-31	-28	-17	-36	-208	-267	-99	-43	-68	-98	-74
	29	-72	-85	-68	-88	-37	-72	-27	-46	-12	-21	-44	-54	-103	-134	-226	-93	-14	-15	-18	-24	-45	-191	-95	-108	-71
Q	30	-58	-18	-96	-29	-40	-243	-82	-22	-3	-10	-7	-9	-14	-13	-15	-20	-43	-14	-8	-7	-11	-12	-5	-13	-33
Q	31	-9	-14	-2	-10	-5	-3	-3	-1	-2	-1	-4	-8	-15	-9	-12	-17	-15	-12	-2	-1	2	-47	-195	-204	-24
	Mean	-215	-225	-196	-188	-160	-176	-190	-160	-170	-192	-159	-203	-238	-224	-251	-232	-269	-214	-251	-227	-185	-213	-247	-213	-208
5Q	Mean	-74	-40	-44	-34	-31	-64	-91	-40	-29	-28	-22	-35	-58	-25	-33	-85	-130	-36	-14	-7	-19	-57	-77	-87	-48
5D	Mean	-328	-454	-412	-455	-303	-262	-409	-333	-428	-307	-307	-518	-537	-464	-537	-401	-588	-485	-565	-531	-434	-364	-371	-323	-421

AL Index (Hourly mean values, unit nT) November 1984

	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
D	1	-116	-39	-174	-188	-200	-185	-372	-375	-412	-414	-386	-158	-466	-145	-45	-35	-25	-36	-24	-20	-17	-18	-32	-16	-162
	2	0	-2	-6	-5	-10	-2	-1	-2	-2	-8	-11	-12	-11	-13	-19	-25	-246	-431	-364	-280	-112	-86	-36	-61	-73
	3	-66	-43	-46	-11	-9	-1	-39	-69	-134	-117	-96	-97	-132	-334	-403	-232	-210	-214	-238	-57	-516	-132	-50	-258	-146
	4	-226	-202	-90	-43	-38	-2	-71	-58	-37	-156	-346	-114	-45	-117	-230	-313	-168	-150	-177	-144	-30	-105	-232	-221	-138
	5	-56	-47	-103	-103	-127	-214	-209	-217	-159	-45	-165	-185	-320	-218	-276	-129	-141	-61	-203	-102	-82	-24	-25	-35	-135
	6	-43	-42	-37	-6	-18	-29	-81	-234	-77	-105	-479	-122	-25	-28	-172	-355	-195	-119	-53	-128	-56	-78	-115	-77	-111
	7	-19	-14	-13	-33	-148	-148	-24	-32	-20	-14	-63	-29	-119	-150	-35	-108	-491	-371	-221	-227	-268	-123	-318	-535	-147
	8	-430	-135	-69	-325	-283	-80	4	-121	-328	-349	-150	-14	-81	-74	-199	-374	-227	-117	-89	-115	-134	-60	-25	-57	-160
	9	-67	-41	-8	-42	-117	-59	-65	-17	-21	-26	-25	-30	-29	-40	-162	-224	-158	-250	-371	-166	-59	-138	-146	-45	-96
	10	-169	-209	-71	-32	-141	-94	0	-5	-8	-17	-1	-11	-76	-680	-267	-44	-12	-137	-197	-301	-226	-366	-268	-129	-144
	11	-124	-88	-26	-66	-131	-73	-20	-25	-31	-63	-214	-471	-420	-340	-369	-162	-28	-146	-82	-27	-52	-342	-532	-74	-163
Q	12	-4	-22	-41	-143	-318	-214	-60	-26	-95	-113	-110	-33	-12	-21	-15	-15	-45	-37	-15	-15	-15	-17	-17	-6	-59
Q	13	-4	-3	-3	-39	-12	-1	-3	-1	-13	-31	-81	-77	-7	-31	-148	-119	-174	-162	-194	-148	-96	-253	-191	-102	-79
	14	-74	-41	-15	-8	11	-70	-87	-189	-75	-4	-19	-152	-660	-240	-12	-18	-17	-95	-352	-120	-88	-139	-67	-26	-106
D	15	-20	-123	-322	-209	-11	-24	-50	-123	-71	-265	-637	-743	-337	-78	-51	-235	-519	-514	-287	-311	-411	-321	-589	-1024	-303
D	16	-609	-1050	-1331	-929	-794	-693	-709	-641	-723	-802	-395	-977	-765	-1060	-441	-485	-782	-607	-537	-513	-468	-420	-475	-376	-691
D	17	-363	-278	-203	-130	-329	-474	-516	-385	-195	-449	-564	-335	-94	-591	-547	-698	-513	-204	-196	-163	-325	-390	-368	-337	-360
	18	-376	-291	-68	-209	-247	-104	-13	-152	-390	-100	-46	-346	-100	-19	-15	-19	-33	-36	-93	-478	-330	-86	-98	-161	-159
	19	-180	-230	-503	-251	-273	-227	-274	-105	-1	-12	-22	-73	-53	-31	-236	-316	-110	-573	-651	-366	-225	-264	-469	-253	-237
	20	-142	-85	-127	-200	-88	-281	-469	-198	-44	-120	-144	-158	-224	-437	-328	-299	-212	-338	-213	-93	-401	-329	-334	-262	-230
	21	-234	-158	-219	-210	-79	-117	-153	-179	-192	-151	-253	-358	-557	-409	-95	-49	-135	-220	-569	-309	-212	-340	-205	-31	-226
	22	-8	-17	-89	-157	-258	-195	-27	-28	-67	-425	-390	-286	-53	-82	-164	-121	-151	-322	-333	-352	-18	-8	-97	-176	-159
	23	-148	-69	-26	-12	-36	-28	-5	-8	-10	-25	-35	-54	-332	-217	-50	-44	-5	-32	-19	-19	-6	-12	-8	-4	-50
	24	0	-1	-13	-102	-60	-21	-135	-141	-30	-20	-101	-112	-4	-6	-15	-178	-267	-167	-84	-181	-360	-173	-103	-84	-98
	25	-106	-106	-33	-15	-7	1	-5	-7	-6	-5	-52	-18	-15	-9	-10	-24	-77	-90	-69	-53	-264	-370	-254	-159	-73
Q	26	-218	-330	-49	-19	-25	-119	-26	-3	-2	-2	-8	-18	-66	-44	-33	-40	-28	-75	-235	-63	-46	-15	-16	-8	-62
Q	27	0	0	0	-1	-7	-28	-47	-90	-37	-13	-173	-211	-322	-244	-109	-76	-350	-438	-210	-134	-44	-41	-83	-70	-114
Q	28	-68	-61	-212	-94	-24	-18	-29	-41	-177	-184	-85	-47	-111	-26	-8	-8	-6	-4	0	-1	-18	-1	0	0	-51
	29	0	2	1	3	8	0	-99	-431	-443	-245	-189	-32	-10	-19	-31	-20	-12	-9	-9	-70	-187	-130	-73	-104	-87
D	30	-70	-102	-179	-393	-608	-424	-548	-236	-105	-61	-84	-104	-171	-85	-250	-100	-107	-173	-184	-199	-144	-407	-327	-102	-215
	Mean	-131	-127	-135	-132	-145	-130	-137	-137	-130	-144	-177	-179	-187	-192	-157	-162	-181	-204	-208	-171	-173	-172	-185	-159	-161
5Q	Mean	-58	-83	-61	-59	-77	-76	-33	-32	-64	-68	-91	-77	-103	-73	-62	-51	-120	-143	-130	-72	-43	-65	-61	-37	-72
5D	Mean	-235	-318	-441	-369	-388	-360	-439	-352	-301	-398	-413	-463	-366	-391	-266	-310	-389	-306	-245	-241	-273	-311	-358	-371	-346

AL Index (Hourly mean values, unit nT) December 1984

	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	-94	-37	-23	0	-105	-361	-167	-102	-16	-63	-282	-312	-205	-148	-23	-24	-41	-20	-56	-17	-20	-65	-161	-434	-116
D	2	-436	-555	-610	-402	-107	-298	-280	-134	-138	-59	-75	-110	-84	-146	-119	-401	-578	-451	-631	-562	-292	-62	-158	-352	-293
	3	-120	-182	-145	-122	-182	-223	-168	-273	-487	-178	-60	-40	-65	-124	-359	-479	-310	-406	-427	-473	-305	-52	-162	-83	-226
D	4	-92	-160	-138	-72	-41	-81	-92	-616	-311	-113	-339	-373	-285	-98	-398	-500	-464	-459	-196	-263	-249	-144	-537	-395	-267
	5	-226	-311	-233	-34	-4	-1	-3	-30	-283	-247	-203	-89	-128	-204	-240	-124	-222	-486	-178	-101	-215	-345	-194	-179	-178
	6	-231	-122	-57	-53	-102	-373	-229	-118	-87	-422	-439	-116	-62	-216	-436	-300	-231	-89	-90	-154	-241	-109	-274	-198	-198
	7	-261	-322	-80	-61	-122	-70	-23	-13	-42	-174	-578	-204	-100	-129	-328	-263	-141	-368	-580	-443	-94	-16	-43	-75	-189
	8	-80	-59	-44	-88	-69	-89	-27	-40	-42	-67	-97	-142	-25	-20	-16	-38	-56	-50	-111	-147	-114	-39	-44	-88	-66
Q	9	-181	-74	-20	-5	-6	-5	-5	-6	-6	-11	-48	-60	-25	-31	-14	-48	-181	-264	-125	-53	-55	-33	-81	-38	-57
	10	-12	-17	-4	-11	-57	-230	-68	-36	-70	-47	-155	-93	-304	-193	-67	-40	-111	-457	-219	-65	-40	-29	-25	-25	-99
	11	-16	-4	-8	-53	-132	-63	-18	-7	-12	-34	-228	-218	-204	-634	-515	-202	-214	-352	-338	-182	-338	-659	-340	-331	-213
	12	-364	-263	-225	-372	-82	-57	-29	-90	-98	-299	-292	-187	-135	-130	-213	-180	-101	-99	-60	-42	-34	-78	-72	-30	-147
	13	-32	-105	-430	-718	-121	-116	-85	-165	-214	-421	-230	-172	-413	-300	-59	-310	-306	-173	-166	-368	-343	-206	-81	-45	-233
	14	-48	-60	-79	-50	-55	-97	-63	-57	-82	-180	-277	-259	-371	-312	-271	-409	-361	-167	-97	-105	-207	-375	-224	-141	-181
	15	-231	-223	-182	-162	-195	-266	-253	-249	-299	-273	-336	-418	-297	-466	-261	-232	-185	-50	-70	-93	-490	-487	-125	-269	-255
D	16	-421	-149	-144	-165	-250	-373	-404	-255	-252	-320	-230	-334	-459	-250	-395	-385	-551	-176	-639	-408	-295	-380	-455	-128	-326
D	17	-127	-225	-104	-104	-244	-263	-202	-225	-238	-267	-131	-158	-294	-732	-628	-404	-644	-568	-555	-219	-117	-388	-296	-123	-302
	18	-148	-226	-121	-163	-195	-159	-134	-131	-114	-166	-187	-166	-360	-184	-55	-163	-464	-439	-221	-45	-14	-85	-75	-78	-170
Q	19	-42	-50	-70	-18	-17	-1	-4	-121	-189	-127	-107	-94	-282	-111	-68	-93	-78	-69	-205	-95	-50	-5	-25	-30	-81
Q	20	-96	-120	-25	-39	-18	-10	-9	-4	-13	-28	-38	-32	-31	-19	-145	-285	-176	-106	-101	-236	-57	-28	-18	-3	-68
	21	-2	-2	-9	-38	-101	-10	-5	-79	-204	-51	-85	-193	-228	-267	-82	-28	-75	-73	-120	-219	-194	-104	-186	-230	-108
	22	-43	-17	-9	0	-3	-8	-8	-6	-8	-19	-40	-105	-38	-38	-17	-152	-264	-183	-110	-79	-215	-236	-144	-92	-76
	23	-82	0	-7	-39	-146	-194	-75	-15	-25	-32	-173	-294	-152	-166	-116	-158	-421	-211	-13	-94	-337	-457	-173	-97	-145
Q	24	-36	-20	-68	-86	-23	-5	-7	-5	-5	-30	-48	-31	-44	-62	-68	-28	-19	-18	-15	-20	-12	-25	-38	-4	-30
Q	25	4	-6	-16	-44	-33	2	-35	-45	-82	-33	0	-5	-11	-8	-10	-13	-11	-11	-7	-4	-6	-8	-3	-10	-16
	26	-16	-19	-160	-188	-315	-161	-9	-22	-157	-456	-352	-506	-247	-419	-122	-51	-269	-475	-101	-192	-478	-327	-109	-85	-218
	27	-71	-5	-12	-15	-22	-21	-10	-8	-9	-6	-16	-60	-582	-572	-414	-324	-186	-93	-65	-120	-349	-88	-129	-494	-153
D	28	-338	-304	-178	-169	-76	-25	-115	-739	-276	-156	-51	-85	-228	-208	-209	-294	-604	-193	-174	-171	-280	-359	-225	-222	-237
	29	-317	-135	-27	-158	-181	-69	-146	-88	-51	-34	-563	-374	-264	-127	-104	-197	-360	-255	-409	-345	-212	-223	-320	-275	-218
	30	-102	-53	-205	-127	-59	-118	-272	-287	-150	-246	-296	-176	-360	-161	-137	-79	-89	-302	-360	-329	-134	-103	-162	-453	-198
	31	-274	-209	-102	-11	-91	-150	-117	-24	-39	-161	-420	-498	-382	-612	-586	-370	-152	-406	-496	-287	-231	-350	-318	-90	-266
	Mean	-146	-130	-114	-115	-101	-125	-98	-128	-129	-152	-205	-190	-215	-228	-208	-212	-253	-240	-223	-191	-194	-189	-167	-164	-171
5Q	Mean	-70	-54	-39	-38	-19	-3	-12	-36	-59	-45	-48	-44	-78	-46	-61	-93	-93	-93	-90	-81	-36	-19	-33	-17	-50
5D	Mean	-282	-278	-234	-182	-143	-208	-218	-393	-243	-183	-165	-212	-270	-286	-349	-396	-568	-369	-439	-324	-246	-266	-334	-244	-285

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	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	90	111	136	122	300	443	220	130	89	263	166	68	68	52	98	121	318	418	257	556	874	416	239	116	236
	2	233	469	395	198	84	72	164	351	266	142	198	104	107	54	99	158	167	270	249	179	294	321	107	374	211
	3	505	365	264	151	123	91	108	190	174	243	475	284	214	408	454	485	487	558	184	107	190	196	159	79	270
	4	64	68	163	353	171	220	396	398	298	227	153	196	153	241	181	132	170	155	196	371	323	271	341	506	239
	5	723	249	255	308	233	369	321	369	532	340	106	168	209	158	54	71	124	70	104	130	176	66	80	112	222
	6	216	242	297	381	445	524	260	223	188	125	216	192	278	427	140	126	110	126	113	188	320	258	292	283	249
Q	7	135	101	161	98	114	195	230	215	168	155	230	182	193	159	332	209	124	104	151	187	223	240	288	180	182
	8	102	132	283	400	139	354	394	379	427	209	99	162	310	366	378	134	153	175	229	167	63	186	302	589	256
	9	443	248	242	352	625	334	169	282	410	265	221	318	405	290	205	115	115	117	91	68	83	107	117	81	238
	10	73	84	109	177	118	124	64	109	220	557	375	119	261	470	732	329	356	350	344	451	256	80	94	269	255
	11	273	172	66	63	65	64	100	118	47	31	42	116	278	423	347	492	642	515	434	421	446	528	486	128	262
	12	241	405	829	558	203	167	351	316	300	210	168	119	100	61	69	76	112	56	77	138	326	335	205	101	230
D	13	73	118	336	658	860	392	834	1440	677	561	760	823	1389	1491	1356	897	434	489	451	430	233	137	271	494	650
D	14	479	811	815	808	559	627	428	482	196	449	477	359	435	434	271	746	813	493	447	567	270	321	478	375	506
D	15	370	279	704	593	459	449	325	559	620	426	542	457	143	243	488	516	195	297	315	837	480	541	616	598	461
D	16	411	441	499	749	500	297	124	119	431	761	818	574	95	77	193	174	124	123	209	566	646	319	535	527	388
D	17	443	574	605	540	632	1056	980	661	578	294	822	752	640	358	429	846	429	430	452	153	265	640	395	171	548
	18	206	289	558	564	464	446	261	209	240	269	233	235	488	704	405	261	331	647	451	580	670	395	240	110	386
	19	567	477	548	531	492	593	287	151	187	468	231	112	188	368	179	133	69	154	153	211	317	363	295	300	307
	20	261	322	300	369	335	285	442	524	139	121	284	502	235	153	92	110	183	187	151	66	52	95	461	382	252
Q	21	302	90	53	44	167	111	342	245	130	95	115	79	52	42	49	51	64	45	61	57	79	136	327	300	126
	22	165	206	143	509	651	302	232	123	50	86	122	234	110	82	73	119	254	143	44	140	113	89	75	255	180
Q	23	402	214	166	157	249	142	66	100	73	81	88	120	235	111	65	53	184	398	403	187	113	66	63	230	165
	24	424	200	201	407	215	59	85	298	224	391	374	192	55	50	50	163	98	246	121	122	146	133	183	134	191
	25	94	163	250	167	138	101	295	148	167	199	329	254	101	186	125	53	48	155	375	499	524	466	409	398	235
Q	26	323	365	572	443	293	287	198	170	178	140	202	249	135	57	57	74	93	83	68	119	266	259	208	221	211
	27	537	354	90	80	177	286	377	302	219	101	61	105	179	341	367	216	176	161	253	584	542	270	90	84	248
	28	124	169	460	665	528	789	627	638	349	293	297	297	320	258	478	449	228	87	170	185	150	89	90	75	326
	29	63	152	102	177	213	176	237	214	132	95	292	359	391	322	206	411	402	507	594	396	137	66	83	130	244
Q	30	160	306	242	120	84	98	160	207	137	113	280	280	277	252	347	181	181	229	185	187	117	94	101	144	187
	31	150	105	65	74	93	105	138	127	118	114	192	97	105	313	474	177	65	57	45	114	273	565	704	341	192
	Mean	279	267	319	348	313	308	297	316	256	252	289	261	262	288	283	260	233	253	237	289	289	259	268	260	279
5Q	Mean	264	215	238	172	181	166	199	187	137	116	183	182	178	124	170	113	129	171	173	147	159	159	197	215	174
5D	Mean	355	444	591	669	602	564	538	652	500	498	683	593	540	520	547	635	399	366	374	510	378	391	459	433	510

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	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
D	1	202	452	954	1076	1131	879	678	690	321	596	1054	595	352	775	880	646	526	745	378	641	514	668	483	634	661
D	2	412	264	488	638	265	576	387	194	179	436	178	264	424	216	428	466	313	249	268	364	473	312	254	338	349
	3	186	137	276	288	535	244	299	312	256	243	701	513	561	501	272	248	378	347	172	94	183	280	302	486	326
	4	557	442	216	171	164	330	380	462	387	194	303	567	547	495	301	83	129	400	460	261	226	260	341	545	343
	5	322	188	87	102	260	432	201	134	227	129	83	60	69	153	330	141	79	130	243	387	193	124	94	57	176
Q	6	73	116	242	205	100	61	54	84	74	80	144	240	188	226	155	185	265	237	196	170	182	169	250	217	163
Q	7	92	97	127	129	106	100	115	107	76	109	232	129	104	49	39	36	29	40	63	58	69	69	84	110	91
	8	220	473	312	351	192	262	159	69	165	322	211	400	436	78	87	183	283	177	99	75	182	268	378	276	236
	9	119	112	125	62	128	135	150	150	316	338	274	455	506	559	560	197	88	117	63	68	347	738	558	204	265
	10	98	160	190	127	77	76	173	155	113	352	215	83	46	59	79	138	63	234	497	491	412	230	173	122	182
	11	81	76	56	61	41	48	238	552	650	639	362	354	125	56	48	41	55	97	50	68	203	384	502	434	217
	12	420	499	424	207	63	175	126	63	328	572	398	275	386	293	186	68	53	186	182	175	235	264	170	234	249
	13	490	189	143	373	597	443	114	63	85	43	45	47	54	98	79	112	145	85	104	170	132	67	58	64	158
	14	48	30	40	40	34	48	43	75	102	146	157	158	200	394	356	488	626	721	786	397	612	566	466	570	296
	15	355	449	516	668	288	385	388	341	172	117	222	421	319	385	281	351	550	196	97	83	263	257	173	251	314
	16	564	380	665	459	509	457	339	142	183	311	113	312	510	137	233	192	295	392	285	349	281	140	177	393	326
	17	300	253	144	272	453	152	170	199	343	177	155	162	122	76	59	61	98	186	305	383	233	214	314	164	208
Q	18	45	48	42	69	166	384	210	52	26	41	137	162	111	94	70	131	66	44	100	203	86	58	65	54	103
	19	39	36	30	36	38	37	28	67	76	73	151	274	215	299	301	445	785	955	482	585	693	191	110	265	259
	20	320	143	159	306	436	416	485	327	94	60	71	73	46	70	129	134	192	393	436	176	84	54	47	39	195
Q	21	39	97	64	53	40	28	34	31	36	40	50	113	110	81	50	60	65	37	35	89	37	35	45	42	55
Q	22	38	35	35	41	38	35	33	32	42	38	43	48	50	37	26	21	27	26	33	36	37	42	36	36	36
	23	41	51	63	47	46	63	146	152	106	66	59	86	186	414	262	210	195	212	105	103	174	441	633	323	174
D	24	210	133	282	524	623	390	230	328	799	618	449	186	284	611	597	736	619	249	268	467	439	319	157	123	402
	25	228	347	296	316	237	565	306	284	270	944	390	104	175	82	53	53	119	113	363	259	184	219	330	535	282
	26	439	346	420	333	255	508	583	210	130	175	177	175	196	255	326	306	104	136	99	122	95	88	100	66	235
D	27	111	276	505	300	87	125	252	146	153	108	165	612	857	274	111	210	728	617	765	774	359	241	513	928	384
D	28	668	353	147	84	85	144	252	666	885	682	181	251	241	332	714	707	683	415	633	820	555	427	431	576	455
	29	574	460	254	518	516	385	470	285	80	351	668	199	318	834	437	185	175	411	326	214	154	244	138	305	354
	30	500	411	407	396	407	443	193	220	213	439	621	533	756	496	229	333	600	598	370	434	359	400	193	131	403
	31	182	369	493	236	61	56	247	317	171	90	62	72	77	81	227	276	157	150	52	54	210	285	154	196	178
	Mean	257	239	264	273	257	270	241	222	227	275	260	255	276	274	255	240	273	286	268	276	264	259	249	281	260
5Q	Mean	57	78	102	99	90	121	89	61	50	61	121	138	112	97	68	86	90	76	85	111	82	74	96	91	89
5D	Mean	320	295	475	524	438	422	359	404	467	488	405	381	431	441	546	553	573	455	462	613	468	393	367	519	450

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	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	538	418	466	311	208	363	483	294	109	47	41	60	63	41	46	62	164	219	380	323	225	313	336	230	239
	2	208	188	278	510	485	306	265	147	81	280	112	54	109	293	366	447	173	52	72	224	271	115	53	37	213
	3	93	258	201	186	348	698	427	218	178	72	50	59	41	84	176	95	57	201	114	100	77	331	271	72	184
D	4	91	249	290	284	384	299	382	690	886	486	890	622	306	333	929	1318	351	159	119	56	46	66	71	122	393
D	5	419	632	430	466	1097	1353	1205	870	552	487	684	738	547	548	608	1063	1103	723	635	881	607	464	316	155	691
	6	198	318	216	105	90	176	325	123	432	250	138	164	273	451	82	127	222	666	339	187	64	138	134	247	228
Q	7	225	191	146	149	173	94	88	81	168	144	87	72	106	225	148	119	142	99	100	98	59	49	45	46	119
	8	33	44	53	61	61	52	111	217	246	64	61	48	56	94	180	246	165	224	292	69	158	191	326	372	143
	9	218	75	67	67	55	56	81	318	370	208	130	201	112	36	60	35	59	70	159	214	139	233	472	537	165
	10	355	186	193	153	128	123	259	479	649	589	949	326	98	83	72	102	530	695	553	736	625	569	528	431	392
	11	479	400	261	364	161	401	385	168	79	139	259	168	204	190	127	90	91	302	451	242	93	127	261	261	238
	12	234	168	133	71	140	161	137	297	160	265	369	140	375	414	358	226	526	511	361	135	143	246	303	525	267
	13	291	459	487	259	126	61	105	296	344	283	354	106	39	60	49	50	125	88	85	103	122	143	142	117	179
	14	84	308	121	78	78	365	227	205	374	273	303	258	57	102	137	102	160	441	551	513	352	283	350	409	255
Q	15	409	124	69	122	67	43	32	65	360	339	236	82	46	42	142	343	171	90	45	42	102	251	377	260	161
Q	16	290	172	99	61	109	216	145	124	72	49	43	61	44	63	178	309	276	142	182	120	49	43	59	74	124
Q	17	121	94	69	55	112	382	287	67	64	58	39	35	35	37	35	104	116	105	47	31	40	49	48	55	87
Q	18	25	21	40	71	150	89	61	46	40	40	48	129	54	21	18	21	21	30	36	41	66	94	82	64	54
	19	48	33	51	116	82	155	196	85	117	288	952	1145	773	544	582	737	814	510	553	605	394	464	385	244	411
	20	209	220	421	471	700	425	316	418	581	326	456	193	199	242	196	553	515	428	454	721	342	268	227	62	373
	21	54	43	52	64	168	172	163	146	204	310	596	335	306	121	342	216	258	233	143	53	59	205	329	163	197
	22	141	216	207	97	85	255	275	587	654	385	156	298	788	186	64	61	122	355	362	622	1090	558	158	158	328
D	23	248	631	684	577	1002	1047	800	892	1235	808	640	1678	1513	819	1084	1073	767	587	369	272	822	993	666	651	827
D	24	1081	528	815	462	507	765	1033	605	1079	424	344	621	591	700	437	967	792	581	640	400	378	580	592	233	631
D	25	116	290	347	178	752	740	720	720	504	492	873	627	565	728	543	670	578	708	579	522	505	331	552	485	547
	26	452	434	517	620	513	654	733	671	1015	774	629	931	1134	1061	410	339	1013	372	357	625	254	173	127	449	594
	27	417	491	497	346	492	461	502	578	596	483	528	912	786	598	654	299	78	169	350	465	381	650	458	451	485
	28	278	224	340	355	634	248	196	204	206	121	171	247	442	259	304	449	492	392	416	607	601	369	138	144	327
	29	243	444	447	474	407	264	414	229	129	74	95	171	153	151	123	157	264	305	206	179	307	255	431	379	262
	30	329	462	426	239	325	356	388	525	452	139	58	43	29	37	22	40	88	109	132	102	92	108	227	359	212
	Mean	264	277	280	245	321	359	358	345	397	289	343	350	328	285	282	347	341	318	302	309	282	288	282	259	310
5Q	Mean	214	120	84	91	122	164	122	76	140	126	90	75	57	77	104	179	145	93	82	66	63	97	122	99	109
5D	Mean	391	466	513	393	748	840	828	755	851	539	686	857	704	625	720	1018	718	551	468	426	471	486	439	329	617

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	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
Q	1	278	158	149	161	147	129	380	201	150	124	144	221	297	52	73	308	313	81	44	28	82	185	137	104	164
	2	151	405	308	116	94	45	32	85	123	118	123	61	63	108	331	499	337	403	399	375	130	65	147	188	196
	3	567	464	346	667	883	713	697	364	233	88	118	324	198	62	47	49	69	37	55	218	281	184	191	105	290
Q	4	94	47	32	29	25	21	41	21	28	31	37	32	58	93	68	130	394	156	84	50	47	119	153	240	85
	5	106	203	268	235	146	67	77	260	218	265	143	66	66	100	99	30	30	21	24	26	40	50	28	40	109
	6	41	37	69	86	115	353	198	103	215	127	71	63	118	123	64	105	236	280	329	186	194	681	732	375	204
D	7	595	897	648	437	247	185	360	108	120	136	270	269	622	909	421	463	618	335	343	323	357	197	331	450	402
	8	600	565	333	229	453	609	157	92	69	308	626	243	142	101	73	125	200	142	195	212	174	353	433	540	291
	9	391	373	375	277	138	74	60	100	334	540	228	112	74	53	123	370	278	311	570	531	326	485	390	281	283
	10	365	545	576	391	558	622	513	296	171	593	265	278	855	584	1036	325	326	411	384	394	172	93	137	208	421
	11	512	419	237	230	122	135	375	412	234	391	326	439	352	410	238	577	559	415	525	604	283	598	726	537	402
	12	625	837	400	213	175	235	326	365	513	246	114	326	163	291	451	694	609	293	770	431	218	304	297	567	394
	13	344	125	178	242	134	52	131	447	492	828	393	296	792	575	231	242	188	114	156	115	86	88	117	73	268
	14	204	332	269	480	261	117	185	249	183	117	68	75	117	56	51	90	171	351	294	258	159	263	400	207	207
	15	230	360	258	156	112	235	133	38	51	34	34	34	50	52	73	80	153	192	217	465	761	379	377	504	208
	16	363	222	173	380	202	253	242	302	469	857	718	863	668	435	344	267	305	286	203	104	63	160	483	324	362
Q	17	165	104	57	46	40	34	97	70	106	110	59	45	41	54	95	81	94	37	29	30	44	53	32	26	65
	18	29	33	41	76	310	499	260	111	107	221	520	788	747	757	1185	1074	1024	786	793	752	844	894	777	345	540
D	19	409	805	458	586	467	534	806	549	1000	784	505	900	403	679	1263	675	1060	959	770	557	449	462	857	693	693
D	20	337	404	830	704	545	684	670	763	606	398	651	1104	741	518	843	489	822	777	1024	778	614	586	355	237	645
D	21	432	316	384	527	659	323	604	433	330	424	542	473	858	598	418	850	490	215	649	1049	816	520	435	572	538
D	22	454	562	515	831	269	307	503	673	1017	632	228	475	880	401	509	352	982	835	907	877	771	827	616	380	617
	23	370	315	313	204	230	516	641	651	329	162	295	383	200	363	490	626	935	569	588	520	347	328	596	642	442
	24	505	544	693	579	344	526	650	488	543	702	327	250	630	1119	971	688	427	283	618	285	312	481	417	493	536
	25	284	138	276	328	387	319	93	121	260	379	299	296	416	323	357	247	297	210	313	350	581	663	890	925	365
	26	656	314	178	109	75	56	44	65	65	36	68	35	43	43	52	100	68	77	97	157	129	109	125	167	120
	27	104	61	106	76	73	55	56	41	79	36	28	69	368	439	307	213	287	438	140	59	38	32	27	30	132
	28	26	29	41	58	206	111	133	230	182	88	77	47	54	110	83	82	52	81	319	376	219	148	177	156	128
	29	147	178	146	157	84	110	76	88	41	48	97	99	180	188	277	188	59	37	31	55	98	293	165	223	128
Q	30	166	123	156	69	69	275	111	58	37	49	30	30	47	41	39	39	59	29	21	21	30	30	29	38	66
Q	31	28	36	24	23	20	22	23	18	15	17	19	28	43	44	39	66	49	42	42	28	24	93	271	314	55
	Mean	308	321	285	280	244	265	279	251	268	286	239	281	331	312	343	326	370	296	352	329	280	313	349	322	301
5Q	Mean	146	93	83	65	60	96	130	73	67	66	57	71	97	56	62	124	181	69	44	31	45	96	124	144	87
5D	Mean	445	596	567	617	437	406	588	505	614	474	439	644	700	621	690	565	794	624	738	716	601	518	518	466	578

AE Index (Hourly mean values, unit nT) November 1984

	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
D	1	203	118	288	272	256	262	514	729	748	585	511	326	612	212	88	52	46	52	46	41	38	41	69	54	257
	2	35	33	41	37	44	28	31	39	34	44	56	49	40	35	47	55	355	577	541	453	240	207	130	136	137
	3	141	149	120	60	58	47	114	169	229	202	179	197	200	494	522	362	289	315	295	119	646	236	148	379	236
	4	396	365	206	177	135	81	157	134	117	238	494	213	108	169	276	355	233	247	342	253	111	211	332	320	236
	5	122	126	174	142	233	324	386	328	292	148	234	264	443	285	330	180	175	107	255	146	122	60	57	73	209
	6	94	86	82	56	59	85	150	341	144	207	598	193	87	65	218	470	279	231	123	172	107	137	196	125	179
	7	64	49	61	91	180	208	88	104	65	58	131	114	190	260	109	197	742	663	398	418	375	232	478	702	249
	8	570	247	184	441	400	187	65	218	446	449	237	90	157	136	256	445	321	211	202	222	193	139	75	92	249
	9	99	82	81	98	173	108	116	95	77	58	62	65	63	79	202	264	215	432	539	259	154	292	313	142	169
	10	280	360	185	110	221	172	83	55	68	68	49	59	132	812	403	142	46	179	281	413	335	537	414	238	235
	11	225	170	110	165	240	173	74	62	73	132	294	569	530	484	451	236	77	199	106	54	92	458	650	156	241
Q	12	56	77	86	189	401	312	178	78	188	181	156	84	41	60	44	38	73	64	35	27	34	33	39	37	105
Q	13	33	30	29	85	59	37	37	32	61	77	114	141	58	89	227	177	408	319	351	343	238	391	302	229	161
	14	169	168	151	122	89	117	139	239	122	45	65	249	754	438	76	64	45	141	435	190	158	204	111	92	183
D	15	73	187	403	295	71	69	118	196	143	322	650	930	462	177	125	281	636	684	559	598	570	475	637	1100	407
D	16	674	1238	1617	1338	1152	1071	1154	693	936	1028	563	1178	993	1252	595	666	927	817	680	664	607	576	621	487	897
D	17	508	371	331	229	447	604	658	525	298	533	630	410	180	677	696	885	657	297	266	240	436	559	465	468	474
	18	502	452	164	352	358	184	68	261	504	157	87	435	175	70	45	43	49	66	142	585	416	161	160	231	236
	19	259	318	638	385	385	359	454	236	71	54	57	115	112	82	277	381	159	691	751	426	280	334	560	357	323
	20	234	181	208	290	239	416	616	338	145	186	215	241	336	552	411	346	264	460	278	144	482	413	442	390	326
	21	358	292	337	418	262	249	251	249	272	251	386	516	717	502	248	133	214	331	735	447	299	457	327	118	349
	22	77	68	168	248	342	266	114	103	131	508	489	435	135	149	225	181	212	389	467	416	77	71	174	246	237
	23	230	149	96	56	109	89	66	60	49	59	81	108	429	315	121	111	45	63	54	48	32	41	38	36	104
	24	29	40	58	158	108	83	195	211	78	74	172	170	51	46	61	216	330	240	143	257	458	293	201	168	160
	25	193	192	127	86	60	60	78	50	60	47	96	50	44	37	50	72	108	125	108	110	386	448	315	249	131
Q	26	310	431	137	117	139	200	78	57	54	36	40	56	133	120	90	88	55	101	282	101	71	43	48	39	118
Q	27	31	34	34	35	49	73	110	145	82	46	221	277	422	368	210	118	401	529	308	225	90	82	137	125	173
Q	28	115	118	285	158	72	59	75	96	228	264	172	112	152	59	36	33	26	28	26	27	42	27	26	25	94
	29	27	26	29	32	32	38	150	507	648	484	427	174	69	56	63	46	33	39	38	115	280	193	132	156	158
D	30	122	178	310	563	988	773	908	524	270	196	235	218	250	135	312	140	148	263	265	296	262	499	495	217	357
	Mean	207	211	224	226	245	224	240	229	221	224	256	267	269	273	227	225	252	295	301	260	254	261	269	239	246
5Q	Mean	109	138	114	116	144	136	95	81	122	120	140	134	161	139	121	90	192	208	200	144	95	115	110	91	130
5D	Mean	316	418	589	539	582	555	670	533	479	532	517	612	499	490	363	404	482	422	363	367	382	430	457	465	478

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	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	169	123	109	62	192	431	288	208	53	90	326	372	267	207	49	50	63	33	71	32	41	114	224	535	171
D	2	506	617	687	573	245	503	517	259	259	124	149	212	185	225	176	513	648	516	751	679	395	112	235	439	397
	3	209	305	253	221	295	317	258	348	589	285	136	85	105	171	525	621	439	590	574	628	555	212	264	158	339
D	4	190	270	236	143	95	166	175	756	458	229	435	445	406	177	488	615	577	608	304	386	337	281	683	507	374
	5	420	439	344	153	94	71	49	79	379	362	275	145	186	291	330	203	272	581	252	185	302	421	365	314	271
	6	416	256	174	122	177	480	353	225	217	543	554	205	126	294	508	379	319	165	146	238	379	207	397	314	300
	7	368	392	237	240	297	212	103	55	108	248	687	253	174	191	431	344	182	431	649	496	140	83	80	108	271
	8	120	113	101	145	172	181	101	103	71	125	144	198	76	53	35	57	74	56	116	159	132	61	76	143	109
Q	9	265	155	60	30	33	50	48	36	39	48	105	110	66	72	33	60	218	336	234	139	118	120	211	78	111
	10	47	54	34	53	116	336	148	105	137	91	204	133	408	265	121	55	133	517	251	91	68	51	58	60	147
	11	49	35	39	112	189	106	58	44	47	75	303	283	295	675	643	276	309	438	463	340	499	880	599	564	305
	12	601	403	370	492	159	145	67	132	145	376	383	250	183	160	267	229	128	113	74	48	39	100	90	57	209
	13	67	171	581	868	292	231	177	258	320	619	415	358	515	468	149	378	384	234	213	442	405	262	108	67	333
	14	77	90	102	68	80	127	76	87	122	238	401	376	457	387	307	454	405	194	127	124	236	405	278	201	226
	15	309	330	329	229	248	323	313	300	382	395	467	542	386	541	296	268	216	88	103	117	585	589	248	420	334
D	16	589	253	219	300	420	491	552	403	415	542	360	498	578	356	491	460	692	232	785	584	433	555	679	245	464
D	17	213	302	162	160	318	391	305	355	365	373	214	237	344	836	765	551	913	740	683	305	217	471	391	196	409
	18	230	292	194	250	255	277	225	256	227	277	282	274	449	333	173	199	514	477	261	75	43	125	106	106	246
Q	19	77	82	115	56	50	28	27	141	234	170	155	159	385	180	113	137	108	87	232	135	106	42	58	56	122
Q	20	119	160	68	77	49	35	42	40	47	64	68	57	53	42	178	293	201	137	125	264	72	51	35	20	96
	21	29	27	34	62	131	46	43	127	253	84	142	257	319	371	174	69	109	158	230	329	332	230	330	356	177
	22	110	68	51	37	35	41	35	54	41	64	90	146	69	70	64	206	344	239	184	169	344	419	328	223	143
	23	205	72	97	122	262	348	206	71	92	90	274	396	273	278	194	210	477	262	53	143	449	558	262	172	232
Q	24	84	57	103	114	49	41	43	27	24	59	82	54	67	82	92	64	49	39	31	35	29	52	103	56	60
Q	25	44	48	78	131	137	149	173	198	179	113	23	22	21	16	17	24	22	23	23	22	23	23	14	23	64
	26	32	44	231	311	440	358	165	157	289	707	543	592	363	606	230	110	390	657	205	272	603	479	265	214	344
	27	222	79	50	45	44	48	32	35	28	22	44	127	672	694	615	464	269	125	106	163	451	243	273	692	231
D	28	582	423	266	273	180	107	206	973	466	299	174	255	344	362	310	458	878	299	243	361	503	563	351	354	385
	29	511	267	141	281	297	190	265	142	107	109	718	499	354	305	191	277	418	357	570	420	308	315	439	390	328
	30	183	127	355	354	206	234	417	391	247	353	381	260	498	279	273	197	127	375	495	436	266	195	306	630	316
	31	427	352	288	146	230	281	236	114	103	274	550	668	504	740	663	476	226	516	627	395	384	434	403	170	384
	Mean	240	206	197	200	186	217	183	209	207	240	293	273	294	313	287	280	325	310	296	264	283	279	266	253	254
5Q	Mean	117	100	84	81	63	60	66	88	104	90	86	80	118	78	86	115	119	124	129	119	69	57	84	46	90
5D	Mean	416	373	314	289	251	331	351	549	392	313	266	329	371	391	446	519	741	479	553	463	377	396	467	348	405

AO Index (Hourly mean values, unit nT) July 1984

	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	28	29	39	39	46	-53	0	30	27	-5	4	15	25	24	13	25	15	-55	-8	-21	-180	-4	21	21	3
	2	25	-34	-60	-7	17	22	12	-28	-32	10	47	17	20	18	16	11	26	5	24	60	21	-28	24	12	8
	3	-87	-33	8	29	19	21	13	15	25	26	-34	-22	25	-44	-71	-58	-52	-24	42	33	22	1	-5	11	-5
	4	7	3	21	-19	20	16	-4	-87	-7	11	43	76	19	-3	4	28	11	38	39	35	30	22	10	-32	11
	5	-58	-12	25	-21	-15	-53	-22	-27	-82	-32	1	22	-27	-39	13	5	7	14	6	27	-18	15	6	4	-10
	6	26	16	8	11	1	-12	22	31	4	12	8	0	4	-87	-5	16	16	-2	8	6	-3	-16	-18	-18	1
Q	7	2	6	3	-8	3	-38	-14	2	19	6	-37	4	30	16	-59	-51	0	8	25	30	28	0	-35	3	-2
	8	17	14	-49	-50	6	46	-37	-30	-49	-1	10	16	-41	-56	-73	-18	-4	4	-34	-1	13	5	-30	-72	-17
	9	-44	-7	-9	-53	-61	-10	40	57	7	23	39	-23	-32	-14	-18	24	3	9	13	16	16	21	28	25	2
	10	12	9	1	-17	2	33	17	36	52	-24	-64	4	11	-57	-160	-27	-47	-4	-8	0	-5	13	2	1	-9
	11	-6	-18	-4	3	0	0	1	3	-3	0	2	6	-3	-52	-45	-46	-76	-11	13	15	39	-7	-8	51	-6
	12	53	-36	-234	-194	-11	0	8	-60	-41	7	40	-25	-9	-9	-17	-23	-21	17	8	1	-15	-25	10	14	-23
D	13	4	7	-6	-133	-175	23	71	-225	43	87	-89	-121	-157	-462	-184	-48	52	65	25	-27	11	26	27	-95	-53
D	14	-148	-39	-122	-88	-17	-62	-19	-36	5	-10	-57	-40	-136	-101	-18	-40	-141	-16	-49	-58	15	-26	-110	-58	-57
D	15	-28	8	-138	-148	-61	5	0	-69	-106	-68	-67	-52	9	-51	-122	-111	-26	-28	16	-176	-64	-27	-104	-133	-64
D	16	-59	-17	-75	-172	-108	-29	2	15	-21	-149	-108	-115	8	-1	-33	-36	0	7	1	-59	-66	-4	-33	-104	-48
D	17	-77	-89	-91	-122	-87	-189	-293	-152	-146	-31	-147	-162	-157	-48	-71	-220	-61	-58	12	15	-10	-101	-44	7	-97
	18	25	-18	-117	-102	-42	-63	-31	-4	-19	-38	11	-36	-94	-188	-88	-22	-14	-131	-62	-107	-125	-53	-39	-2	-56
	19	-115	-87	-79	-100	-72	-61	-16	15	10	-125	-40	-10	-15	-106	-19	-26	-2	-19	-29	6	-24	-36	23	-14	-39
	20	-15	-22	-31	-60	-32	-38	-56	-81	-12	9	-32	-92	-42	-29	-22	-7	-47	-43	-21	2	4	9	-48	-37	-31
Q	21	9	0	-7	-2	5	-9	-16	20	38	-7	15	0	-10	0	2	-9	-16	2	11	8	2	2	-50	-40	-2
	22	-2	16	9	-51	-147	-38	0	19	5	6	-10	-50	-10	12	-5	-12	-33	-12	6	8	10	11	0	-2	-11
Q	23	-54	-2	-13	9	-28	-29	6	29	19	11	-6	9	-28	-9	-14	-4	-19	-105	-88	12	25	4	1	2	-11
	24	-46	16	20	0	-9	20	22	38	-9	40	-17	-34	4	10	-11	-38	-11	-42	6	21	31	18	-6	6	1
	25	10	-19	-27	8	24	11	0	12	34	13	4	-31	2	10	-11	-2	3	2	-27	-30	-32	-3	7	30	0
Q	26	32	-17	-51	-13	38	36	15	10	-2	6	-10	-7	3	1	-11	-17	-13	1	13	9	-16	16	24	20	2
	27	-94	-6	19	18	33	-20	-45	-3	20	31	24	26	30	-30	-87	-32	6	3	12	-49	-14	30	17	7	-4
	28	11	15	-50	-119	-71	-79	-98	-64	-26	9	-14	45	4	4	-55	-52	-16	31	27	22	22	15	8	8	-17
	29	14	5	15	7	-43	-44	-44	-25	2	23	-12	-39	-51	-28	-28	-61	4	17	-42	-17	14	14	16	19	-11
Q	30	9	-51	-55	-4	3	10	14	-27	29	31	-6	-5	-25	9	-80	-17	-7	-38	-11	-21	5	5	5	8	-9
	31	2	14	4	14	18	2	22	-7	21	41	-12	7	30	-6	-98	-36	18	16	18	18	41	-86	-125	9	-2
	Mean	-17	-11	-33	-43	-24	-18	-13	-19	-6	-2	-16	-19	-19	-42	-43	-29	-14	-11	-1	-7	-7	-6	-13	-11	-18
5Q	Mean	0	-12	-24	-3	4	-6	1	6	20	9	-8	0	-6	3	-32	-19	-11	-26	-10	7	8	5	-11	-1	-4
5D	Mean	-61	-26	-86	-132	-89	-50	-47	-93	-45	-34	-93	-98	-86	-132	-85	-91	-35	-6	1	-61	-22	-26	-52	-76	-63

AO Index (Hourly mean values, unit nT) August 1984

	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
D	1	1	-15	-190	-187	-193	-97	39	-70	-10	-57	-422	-105	-31	-148	-138	-47	-49	-107	-16	-68	-97	-133	-103	-151	-100
D	2	-90	-25	-29	-150	-57	-77	-80	-2	36	-98	-19	-30	-94	-36	-84	-83	-40	-33	-34	-43	-85	-16	-46	-55	-53
	3	-35	2	-50	-34	-61	-21	-21	-42	-14	28	-131	-95	-63	-109	-50	-38	-62	-44	-3	27	12	6	-40	-45	-37
	4	-104	-98	-21	-2	24	1	-43	-86	-89	-26	-26	-107	-122	-120	-57	5	6	-63	-91	-10	17	1	-14	-120	-47
	5	-85	-29	-3	13	0	-68	-20	5	-35	-17	2	3	8	-14	-76	-36	-3	7	-14	-66	-7	-9	-15	-1	-19
Q	6	5	4	-24	-25	10	5	5	-2	9	3	0	-50	2	10	-13	-18	-75	-72	-36	0	7	20	-42	-17	-12
Q	7	9	0	-16	-11	9	-2	11	24	21	8	-17	17	12	4	6	5	13	18	12	16	6	11	18	11	8
	8	27	-47	1	-37	9	13	18	13	24	-23	-30	-21	-112	20	0	-7	-34	-22	12	15	-8	-14	-65	-6	-11
	9	4	13	8	-5	31	23	11	15	-35	-62	3	-11	-59	-95	-92	-9	1	-14	16	19	1	-171	-77	11	-19
	10	16	0	-51	-1	11	5	27	-7	22	-75	-23	0	0	6	0	-30	2	-27	-74	-40	-42	0	-16	-10	-12
	11	4	1	0	-4	1	9	40	-87	-112	-31	50	-49	0	13	7	3	1	-7	9	12	11	-22	-75	-51	-11
	12	-18	-72	-14	-14	12	27	5	8	34	-68	-37	22	-19	-68	-13	2	4	12	-17	0	-13	-37	14	12	-9
	13	-105	-47	15	-42	-103	-70	7	21	-9	4	2	3	-1	-4	-10	-19	-28	-16	-4	-17	-10	-4	-2	7	-18
	14	13	4	-1	-2	1	13	12	23	28	32	27	45	5	-99	-73	-15	-39	-91	-146	0	-86	-92	-17	-69	-22
	15	-47	-61	-24	-160	-28	-46	1	-45	27	24	-15	-119	-33	-67	-28	-14	-114	-9	10	13	24	-34	-2	-26	-32
	16	-144	-85	-199	-83	-37	-67	-7	-20	61	-57	-4	-31	-127	-15	-55	-1	-30	-15	-2	-1	4	24	-1	-58	-39
	17	-41	-11	0	-9	-72	-19	18	15	-57	-34	-25	-26	-13	-3	-13	-10	-6	-44	-55	-48	9	16	-30	-17	-20
Q	18	12	11	5	4	-7	-66	-28	0	0	4	8	-21	-23	-21	-1	-24	-9	-5	-3	-18	-5	-2	0	8	-7
	19	4	3	4	0	0	0	1	16	2	2	36	-24	-33	-73	-85	-81	-52	-172	-70	-78	-111	12	15	-7	-28
	20	4	19	-3	3	-12	-27	-11	-33	24	14	24	7	0	-4	-16	-27	-44	-81	-55	4	6	-1	-6	-1	-9
Q	21	-4	13	9	-2	-4	0	3	0	0	-1	2	-3	-18	-16	-9	-15	-17	1	3	-23	0	2	0	3	-3
Q	22	3	0	1	0	-1	-2	-2	0	1	-3	-2	-1	2	2	5	9	8	3	2	2	3	7	11	14	2
	23	11	12	12	7	4	-1	-13	0	8	17	17	23	6	-97	-63	-17	1	-1	16	18	40	-67	-59	22	-4
D	24	17	5	-9	-29	32	57	18	3	-44	-15	30	41	-24	-130	-70	-75	-46	15	-17	-49	-56	-27	-16	-14	-16
	25	-34	-75	-83	-38	0	-173	-46	-38	0	-97	-36	9	-25	-5	-1	0	-16	-5	-58	-41	4	-3	-25	-97	-36
	26	-27	-11	-76	-34	14	-123	-170	17	30	24	31	9	3	1	-70	-45	-2	-23	7	9	0	11	7	6	-17
D	27	-1	-16	-131	-46	-1	8	-46	25	41	24	34	-82	-97	-7	21	8	-109	-102	-100	-168	1	1	-21	-326	-45
D	28	-63	7	10	11	20	16	-23	-105	-154	-185	-2	-17	-6	-35	-92	-61	-125	-32	-62	-131	-53	-16	-33	-64	-50
	29	-97	-71	-10	-41	-110	-52	-49	-25	26	-55	-222	-23	-34	-270	-122	-30	-1	-56	-61	-4	13	-38	-11	-29	-57
	30	-122	-62	-57	-76	-23	-41	7	-37	-18	-47	-139	-68	-202	-47	-35	-20	-127	-87	-22	-8	-57	-87	-18	-3	-58
	31	6	-35	-109	-17	3	10	-4	-94	-23	16	8	8	1	4	-51	-62	-24	-26	4	0	12	-24	-5	-15	-17
	Mean	-28	-21	-33	-32	-17	-24	-10	-16	-6	-24	-28	-22	-35	-45	-41	-24	-32	-35	-27	-21	-14	-22	-21	-35	-26
5Q	Mean	5	5	-5	-6	1	-13	-2	4	6	2	-1	-11	-5	-4	-2	-8	-16	-11	-4	-4	2	7	-2	3	-2
5D	Mean	-27	-8	-69	-80	-39	-18	-18	-29	-26	-66	-75	-38	-50	-71	-72	-51	-73	-51	-45	-91	-58	-38	-43	-122	-52

AO Index (Hourly mean values, unit nT) September 1984

	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	-89	-78	-57	7	0	-26	-62	-38	19	8	14	13	17	18	13	3	-19	-33	-69	-46	21	-44	-65	-8	-21
	2	10	2	-39	-117	-47	-11	0	24	29	-36	14	14	24	-4	-59	-71	-39	0	7	0	-47	10	15	13	-12
	3	13	-15	-50	-25	-39	-207	-64	-2	-32	9	4	3	2	0	-23	-29	3	-44	-7	2	0	-52	-46	7	-24
D	4	11	-51	-40	-18	0	-11	-38	-85	-107	44	-4	16	25	45	-57	-243	22	28	-2	0	6	10	1	6	-18
D	5	-57	-248	-83	-5	-254	-571	-590	-144	29	14	-113	-94	-78	-69	-92	-184	-159	-41	-101	-332	-150	-59	-43	-16	-143
	6	-10	-55	-28	18	18	-18	-103	-14	-115	-45	17	9	-41	-107	3	4	-45	-187	-69	5	13	20	-15	-68	-33
Q	7	-47	-47	-13	-15	-21	3	20	16	2	-5	4	1	3	-35	-30	-10	-22	-10	5	17	8	6	2	0	-6
	8	5	5	4	-1	4	18	24	-7	31	15	23	10	10	7	-31	-55	-21	-18	-29	29	16	28	-27	-13	1
	9	11	16	6	14	12	13	11	-38	-53	-15	2	-26	-18	12	-7	9	9	14	6	0	41	43	24	-2	3
	10	-2	34	23	18	17	19	1	-63	-128	-86	-229	-22	31	16	10	4	-114	-171	-37	-115	-108	-110	-84	-49	-47
	11	-105	-78	0	-64	40	-18	-54	23	18	13	-31	-12	3	-10	19	5	-15	-48	-55	-29	11	5	-39	-32	-19
	12	-28	-3	12	20	5	20	19	-99	-6	-26	-122	2	-69	-114	-109	-22	-108	-96	-53	13	-19	-15	-39	-119	-40
	13	-40	-107	-128	-42	-7	6	9	-70	-46	-32	-93	11	9	8	3	3	-7	-15	-1	2	-4	18	-4	-3	-22
	14	6	-43	-21	0	10	-59	-59	-5	-123	-67	-59	-57	14	4	-17	3	-21	-104	-116	-80	-55	-21	-72	-83	-42
Q	15	-89	8	17	-6	2	14	14	17	-92	-63	-36	-5	5	0	-15	-107	-38	-5	8	6	19	-26	-85	-24	-20
Q	16	-59	6	36	17	-1	-22	-12	1	22	6	6	8	0	-1	-37	-99	-95	-28	7	-7	10	5	4	9	-9
Q	17	-2	5	20	16	-3	-96	-94	13	11	10	2	5	4	0	-2	-21	-33	-33	0	7	6	6	6	6	-6
Q	18	10	6	6	10	-9	14	9	5	12	12	13	-14	0	4	8	6	6	9	10	4	-1	-8	5	17	5
	19	24	16	17	-4	16	-1	-13	17	38	31	-361	-313	-104	22	-47	-113	-93	-30	-65	-127	-53	-87	-80	-44	-56
	20	-15	-11	-78	-101	-105	-111	-46	-86	-148	-18	-108	-35	-21	-88	-53	-159	-127	-72	-35	-188	-48	-64	-37	11	-73
	21	9	3	2	-2	-42	-23	0	7	0	-18	-148	-46	-19	0	-127	-57	-76	-64	-21	15	20	-25	-88	-20	-30
	22	-15	-34	-42	3	9	0	-25	-148	-120	-37	4	-45	-250	-10	2	-1	-39	-103	-59	-81	-321	-64	12	0	-57
D	23	-15	-198	-108	-62	-218	9	-31	-97	-241	-175	-134	-626	-454	-43	-349	-263	-128	-135	-93	-34	-195	-304	-140	-125	-173
D	24	-310	-138	-96	-58	-83	-190	-274	-131	-289	-16	-29	-192	-181	-196	-109	-305	-203	-131	-144	-56	-55	-95	-122	-48	-144
D	25	-6	-76	-94	-27	-232	-214	-151	-162	-125	-95	-264	-170	-185	-182	-124	-160	-114	-91	-110	-67	-114	-42	-141	-92	-127
	26	-56	-74	-94	-114	-105	-100	-137	-92	-222	-164	-210	-296	-354	-323	-101	-34	-275	-66	-75	-194	-53	-16	-10	-121	-137
	27	-110	-104	-98	-38	-96	-121	-63	-98	-169	-115	-72	-341	-247	-186	-208	-76	8	-7	-54	-89	-44	-153	-106	-102	-112
	28	-40	-35	-58	-50	-128	-35	-20	-25	-13	-3	-19	-38	-148	-30	-73	-111	-96	-68	-31	-100	-125	-26	8	-3	-53
	29	-18	-58	-104	-21	-59	-16	-106	-38	-5	16	-4	-34	-27	1	-24	-55	-78	-91	-30	-20	-57	-23	-117	-41	-42
	30	-34	-114	-106	-26	-41	-100	-80	-83	-79	-3	-2	5	4	-6	-2	-3	-24	-30	-22	-6	-6	6	-52	-81	-37
	Mean	-34	-48	-39	-22	-45	-61	-63	-46	-63	-28	-64	-75	-68	-42	-54	-71	-64	-55	-41	-49	-42	-35	-44	-34	-49
5Q	Mean	-37	-4	13	4	-6	-17	-12	10	-9	-8	-2	-1	2	-6	-15	-46	-36	-13	6	5	8	-3	-13	1	-7
5D	Mean	-75	-142	-84	-34	-157	-195	-216	-123	-146	-45	-108	-213	-174	-89	-146	-231	-116	-74	-90	-97	-101	-98	-89	-55	-121

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	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
Q	1	-53	-14	-5	-13	-20	1	-100	-26	18	17	14	-11	-67	1	4	-93	-100	-10	4	9	-8	-33	-3	4	-20
	2	-16	-123	-101	-1	-5	4	5	-2	-2	-10	-6	7	0	-10	-121	-133	-72	-59	-13	35	42	21	30	36	-20
	3	-129	-91	-68	-127	-130	-69	-82	3	41	26	19	-31	-13	-1	4	4	-1	0	2	-20	-38	-15	-23	-2	-31
Q	4	28	7	1	1	3	7	2	3	2	2	0	2	4	-3	-1	-19	-74	-6	5	14	12	-3	-30	-50	-3
	5	0	-31	-58	-19	20	20	1	-46	-5	-34	-17	8	10	23	20	7	13	12	16	19	18	27	9	7	1
	6	11	19	18	-4	-26	-116	-55	-7	-2	6	15	14	25	13	7	11	16	-41	-33	38	55	-203	-250	16	-19
D	7	-202	-272	-20	-53	-55	-10	-57	-6	0	-8	-21	-22	-157	-229	-66	-49	-127	-80	-63	-43	-82	-29	-16	-43	-71
	8	-183	-144	-28	-15	-98	-193	8	-1	9	-20	-171	-32	7	18	-7	-20	-45	-21	-3	-9	-5	-90	-110	-151	-54
	9	-113	-67	-89	-15	30	18	14	-2	-59	-143	-20	-2	6	6	-15	-128	-74	-39	-146	-133	-15	-79	-80	-40	-49
	10	-24	-88	-168	-110	-141	-139	-153	-51	14	-194	-65	-55	-271	-153	-275	-72	-78	-66	-52	-96	-7	-1	-10	-17	-95
	11	-121	-96	10	-31	10	27	-31	-63	0	-83	-92	-140	-86	-82	17	-146	-162	-92	-92	-161	-29	-121	-193	-119	-78
	12	-167	-218	-57	3	0	-5	-91	-66	-132	-47	2	-86	-3	-58	-101	-137	-143	-55	-172	-118	-53	-69	-34	-58	-78
	13	-27	30	12	-1	1	15	3	-53	-107	-198	-94	-46	-210	-141	-64	-68	-43	-19	-43	-22	-18	-13	-24	8	-47
	14	-37	-103	-69	-126	-48	31	-43	-79	-18	-7	12	26	3	13	0	-13	-57	-98	-93	-66	5	-8	-98	-8	-36
	15	-19	-56	-33	16	14	-52	-23	16	8	7	9	4	5	1	7	0	-46	-19	-22	-54	-225	-62	-50	-122	-29
	16	-64	-34	-13	-62	-17	-25	8	-18	-98	-226	-191	-198	-117	-65	-76	-61	-76	-75	-59	-16	0	-22	-105	-44	-69
Q	17	-11	-11	0	-3	7	3	-18	-8	-24	-18	1	-3	-2	-5	-25	-19	-18	0	2	0	-4	-11	6	7	-6
	18	6	5	13	11	-63	-122	-36	1	11	-8	-120	-285	-192	-170	-188	-215	-209	-209	-194	-195	-248	-210	-186	-4	-117
D	19	-28	-164	-63	-105	-110	-42	-148	-65	-193	-96	-76	-347	-114	-162	-434	-136	-247	-300	-195	-72	-77	-45	-211	-190	-151
D	20	-68	-86	-263	-206	-64	-158	-176	-137	-138	-62	-197	-353	-180	-119	-251	-138	-182	-214	-297	-144	-99	-161	-75	-26	-158
D	21	-109	-85	-144	-125	-174	-28	-99	-30	-30	-66	-114	-132	-213	-182	-81	-186	-91	-17	-141	-334	-206	-91	-84	-92	-119
D	22	-120	-170	-155	-245	-18	-56	-94	-167	-242	-117	-29	-126	-267	-76	-124	-83	-307	-252	-283	-270	-203	-198	-175	-103	-162
	23	-80	-75	-85	-44	-43	-134	-195	-160	-47	-13	-16	-95	-18	-103	-156	-201	-274	-124	-125	-87	-55	-49	-150	-156	-103
	24	-118	-138	-233	-163	-60	-135	-171	-100	-70	-143	-45	-30	-209	-371	-280	-148	-70	-39	-182	-47	-11	-117	-86	-111	-128
	25	-69	-14	-77	-84	-108	-86	-13	2	-49	-139	-78	-55	-129	-114	-106	-67	-91	-63	-83	-91	-185	-155	-253	-352	-102
	26	-229	-55	-16	4	-3	10	8	10	6	5	6	4	3	3	0	-1	0	-2	7	-29	-6	-6	-16	19	-11
	27	26	20	21	12	-2	0	-8	-2	-13	4	7	6	-93	-143	-97	-56	-58	-153	-24	-2	0	3	6	0	-22
	28	-3	-4	-4	0	-85	-35	-19	-36	-22	16	11	1	4	-4	9	11	7	4	-48	-79	10	30	19	-20	-9
	29	1	2	4	-9	4	-17	10	-2	7	2	3	-5	-13	-40	-87	0	14	2	-2	3	3	-44	-12	2	-7
Q	30	23	42	-18	4	-5	-105	-26	6	14	14	6	4	8	6	3	0	-13	0	1	1	3	2	8	5	0
Q	31	4	2	9	1	4	6	7	7	4	6	3	5	5	11	6	15	8	8	18	11	14	-1	-59	-46	2
	Mean	-61	-64	-54	-48	-38	-44	-50	-34	-36	-49	-40	-63	-73	-68	-79	-69	-83	-65	-74	-63	-45	-56	-72	-53	-58
5Q	Mean	-1	5	-2	-2	-2	-17	-27	-3	2	4	4	0	-10	2	-2	-23	-39	-1	6	7	3	-9	-15	-16	-5
5D	Mean	-105	-155	-129	-146	-84	-58	-114	-81	-120	-69	-87	-196	-186	-153	-191	-118	-190	-172	-195	-172	-133	-104	-112	-90	-132

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	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
D	1	-14	18	-29	-51	-72	-53	-114	-11	-38	-122	-130	4	-160	-39	-1	-9	-2	-10	-1	0	0	0	1	9	-34
	2	18	13	12	12	10	10	14	16	14	12	15	11	7	2	3	2	-69	-143	-93	-53	7	16	27	6	-5
	3	4	29	12	17	18	21	17	14	-19	-16	-7	1	-32	-87	-142	-51	-65	-56	-90	1	-192	-14	23	-68	-28
	4	-28	-20	11	44	29	38	7	8	20	-36	-99	-8	8	-32	-92	-135	-52	-27	-6	-18	24	0	-66	-61	-20
	5	3	15	-17	-32	-10	-51	-16	-52	-13	28	-47	-53	-97	-75	-111	-39	-54	-8	-75	-29	-21	5	2	0	-31
	6	2	0	3	20	10	12	-5	-63	-5	-1	-180	-26	17	3	-62	-119	-55	-4	6	-42	-2	-9	-17	-14	-22
	7	11	9	17	11	-58	-44	19	19	11	14	1	27	-24	-20	18	-9	-119	-39	-22	-18	-80	-8	-79	-184	-22
	8	-145	-12	22	-104	-83	13	36	-12	-105	-124	-31	29	-3	-7	-71	-151	-66	-12	11	-4	-36	8	10	-11	-35
	9	-18	-1	31	5	-31	-5	-7	29	16	2	4	2	1	-1	-60	-91	-51	-35	-101	-36	17	6	9	25	-12
	10	-29	-29	20	21	-29	-8	41	21	24	16	22	17	-10	-273	-66	25	9	-47	-56	-94	-58	-97	-61	-10	-27
	11	-11	-4	28	15	-10	12	16	5	4	2	-66	-186	-154	-98	-143	-44	8	-46	-28	0	-6	-113	-207	2	-42
Q	12	22	15	0	-49	-117	-58	28	12	-1	-22	-31	8	7	7	6	2	-9	-5	0	-1	1	0	1	10	-7
Q	13	11	10	10	3	16	16	15	14	16	7	-23	-6	20	12	-35	-31	29	-3	-18	22	22	-58	-40	12	1
	14	9	41	59	52	56	-11	-17	-69	-14	18	12	-28	-283	-21	24	13	5	-25	-134	-24	-9	-37	-12	18	-15
D	15	15	-29	-121	-62	23	9	9	-25	0	-104	-311	-278	-106	9	10	-94	-201	-172	-8	-12	-125	-83	-271	-474	-100
D	16	-272	-431	-522	-259	-218	-157	-132	-294	-254	-287	-113	-387	-269	-433	-143	-151	-319	-198	-197	-180	-164	-132	-165	-133	-242
D	17	-109	-92	-38	-15	-106	-171	-187	-122	-46	-182	-248	-130	-4	-252	-198	-255	-184	-55	-62	-42	-107	-111	-134	-103	-123
	18	-125	-65	13	-33	-67	-11	20	-21	-137	-21	-3	-127	-13	15	7	1	-9	-3	-22	-184	-122	-5	-18	-45	-40
	19	-50	-71	-184	-58	-80	-47	-47	12	34	14	5	-16	2	9	-97	-125	-30	-226	-275	-153	-84	-96	-189	-74	-76
	20	-25	4	-23	-55	31	-73	-161	-28	27	-27	-36	-37	-55	-160	-122	-126	-79	-107	-73	-21	-159	-121	-112	-67	-67
	21	-55	-12	-51	-1	51	6	-27	-54	-55	-25	-59	-100	-197	-158	27	16	-29	-54	-201	-86	-63	-111	-41	26	-52
	22	29	15	-5	-32	-86	-61	29	23	-1	-171	-145	-68	13	-8	-51	-31	-45	-127	-100	-143	19	26	-10	-53	-41
	23	-33	4	20	14	17	15	27	21	13	3	3	0	-117	-59	9	11	16	-1	6	4	9	7	9	13	0
	24	14	18	14	-23	-6	19	-37	-35	7	15	-15	-27	20	16	14	-70	-102	-47	-13	-52	-130	-27	-3	-1	-18
	25	-9	-11	29	27	22	31	32	17	23	17	-5	6	6	8	14	11	-23	-27	-15	1	-71	-146	-96	-35	-8
Q	26	-63	-115	18	38	43	-19	13	24	24	15	11	8	0	14	10	2	0	-24	-94	-13	-10	5	6	9	-4
Q	27	16	16	15	15	16	7	6	-18	3	9	-62	-72	-111	-60	-4	-17	-149	-173	-56	-21	0	0	-14	-7	-27
Q	28	-10	-2	-69	-15	11	10	7	5	-63	-51	0	7	-35	2	9	8	6	9	12	11	2	11	11	12	-4
	29	13	15	15	19	24	18	-23	-177	-119	-3	23	54	23	7	0	1	3	8	8	-13	-47	-33	-7	-26	-8
D	30	-9	-13	-24	-111	-114	-38	-94	24	29	36	32	4	-46	-17	-94	-30	-33	-41	-51	-51	-13	-157	-79	5	-37
	Mean	-27	-22	-24	-19	-23	-19	-17	-23	-20	-32	-49	-45	-53	-56	-44	-49	-55	-56	-58	-41	-46	-42	-50	-40	-38
5Q	Mean	-4	-15	-5	-1	-6	-8	13	7	-4	-8	-21	-11	-23	-5	-2	-7	-24	-39	-31	0	3	-8	-7	7	-8
5D	Mean	-77	-109	-146	-99	-97	-82	-103	-85	-61	-131	-154	-157	-117	-146	-85	-107	-147	-95	-63	-57	-81	-96	-129	-139	-107

AO Index (Hourly mean values, unit nT) December 1984

	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	-9	23	30	31	-9	-145	-23	2	9	-17	-118	-126	-71	-45	0	0	-9	-3	-20	-1	0	-8	-48	-166	-30
D	2	-182	-246	-266	-115	14	-46	-21	-4	-9	1	-1	-3	8	-33	-31	-145	-254	-193	-255	-222	-94	-6	-40	-132	-95
	3	-15	-29	-19	-11	-34	-64	-38	-99	-192	-36	7	1	-12	-39	-96	-169	-90	-111	-140	-159	-28	52	-29	-4	-56
D	4	2	-24	-19	-1	5	0	-4	-238	-83	0	-121	-150	-82	-10	-153	-192	-176	-155	-44	-70	-81	-3	-195	-141	-80
	5	-16	-91	-60	42	42	34	20	8	-94	-65	-65	-16	-35	-59	-75	-22	-85	-196	-51	-9	-64	-135	-12	-21	-43
	6	-22	5	28	7	-14	-133	-53	-6	21	-150	-161	-13	0	-69	-182	-110	-72	-7	-17	-34	-52	-5	-75	-41	-48
	7	-76	-126	37	57	25	35	27	14	10	-50	-234	-77	-13	-33	-112	-91	-50	-153	-255	-195	-24	23	-3	-20	-53
	8	-20	-2	5	-16	16	0	22	11	-7	-4	-25	-43	11	5	0	-9	-19	-21	-52	-67	-48	-8	-6	-16	-12
Q	9	-48	3	9	9	9	18	16	10	12	12	3	-5	7	3	1	-18	-72	-95	-8	15	2	25	23	0	-2
	10	10	9	11	13	0	-62	5	15	-1	-1	-53	-26	-100	-60	-6	-12	-45	-199	-93	-20	-7	-4	3	4	-25
	11	7	12	9	2	-38	-10	10	13	10	3	-76	-76	-56	-296	-193	-63	-59	-133	-107	-12	-88	-219	-40	-48	-60
	12	-63	-61	-40	-126	-3	14	3	-24	-25	-111	-100	-62	-42	-50	-79	-65	-37	-42	-23	-17	-14	-27	-26	-2	-43
	13	0	-19	-139	-283	23	-1	2	-37	-53	-111	-22	6	-155	-66	14	-121	-114	-55	-60	-147	-140	-75	-26	-11	-66
	14	-9	-15	-28	-16	-14	-33	-25	-13	-21	-61	-76	-71	-142	-118	-117	-181	-158	-70	-33	-43	-88	-172	-85	-39	-68
	15	-76	-58	-18	-47	-71	-105	-96	-98	-108	-75	-102	-147	-104	-196	-113	-98	-77	-6	-18	-35	-197	-192	-1	-59	-87
D	16	-125	-22	-35	-15	-40	-128	-129	-53	-44	-49	-50	-85	-170	-71	-149	-154	-204	-60	-247	-116	-78	-102	-115	-6	-94
D	17	-21	-73	-23	-24	-85	-68	-50	-47	-55	-81	-24	-39	-122	-313	-245	-129	-187	-198	-213	-67	-9	-151	-100	-24	-98
	18	-33	-80	-24	-38	-67	-20	-21	-4	0	-27	-45	-28	-135	-17	31	-63	-207	-200	-90	-7	6	-23	-21	-24	-47
Q	19	-3	-9	-13	9	7	11	8	-50	-72	-42	-29	-14	-89	-21	-11	-25	-24	-26	-88	-28	2	15	3	-2	-20
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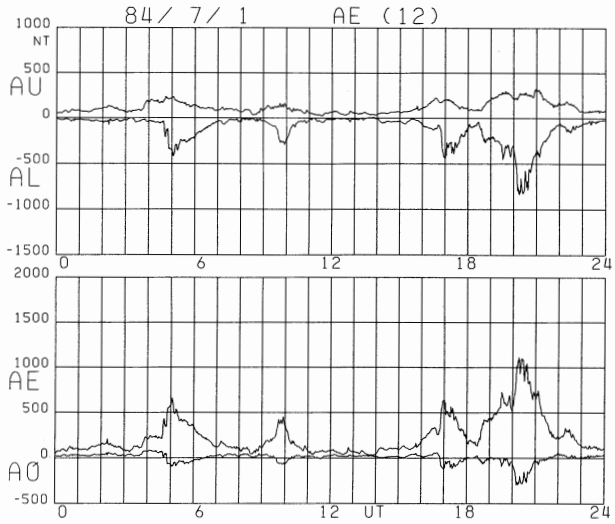
	21	11	10	5	-7	-35	12	14	-15	-76	-8	-13	-64	-68	-81	4	5	-21	5	-5	-55	-28	9	-21	-51	-19
	22	11	15	15	17	14	11	7	19	11	12	3	-32	-4	-3	14	-49	-92	-63	-17	4	-43	-26	19	18	-5
	23	19	36	41	20	-14	-20	26	19	20	11	-36	-95	-15	-28	-19	-53	-182	-80	12	-23	-112	-177	-41	-10	-29
Q	24	5	7	-16	-29	0	14	13	7	6	-1	-7	-4	-11	-20	-22	3	4	1	0	-2	1	0	12	23	0
Q	25	26	17	21	19	34	77	50	52	7	23	10	4	-1	0	-1	-1	0	0	3	6	4	2	3	0	14
	26	0	2	-44	-32	-95	16	72	55	-13	-103	-80	-210	-65	-115	-8	3	-74	-147	0	-56	-177	-88	22	20	-46
	27	39	33	11	7	0	1	4	8	3	4	5	2	-246	-224	-106	-92	-52	-30	-12	-38	-123	32	6	-147	-38
D	28	-46	-92	-45	-33	12	26	-12	-252	-43	-6	34	41	-56	-27	-53	-65	-165	-43	-52	9	-28	-78	-49	-45	-44
	29	-61	-2	43	-18	-32	24	-14	-17	2	18	-204	-124	-86	24	-9	-58	-151	-77	-124	-134	-58	-66	-100	-79	-54
	30	-10	9	-27	49	42	-1	-64	-92	-26	-69	-106	-46	-111	-21	-1	18	-25	-115	-113	-111	-1	-6	-9	-138	-40
	31	-60	-33	41	61	23	-9	0	32	11	-24	-145	-163	-129	-242	-254	-131	-39	-148	-183	-89	-39	-133	-115	-5	-74
	Mean	-25	-27	-16	-15	-9	-17	-7	-24	-25	-32	-59	-53	-67	-71	-65	-71	-90	-85	-75	-58	-52	-49	-34	-37	-44
5Q	Mean	-11	-4	1	1	11	25	19	6	-7	-1	-5	-4	-19	-7	-17	-35	-33	-31	-26	-22	-2	8	8	5	-5
5D	Mean	-74	-91	-77	-37	-18	-43	-43	-118	-46	-27	-32	-47	-84	-90	-126	-137	-197	-129	-162	-93	-58	-68	-99	-69	-82

FIGURE 4 (on even pages)

Daily graphs of 1.0 min AE indices (AU, AL, AE and AO) for July-December 1984. Graphs on disturbed days (Jul. 13, Sep. 5 & 23, Oct. 10 & 19, and Nov. 16) are reproduced on pages 96 and 97.

FIGURE 5 (on odd pages)

Plots of the contributing station to the AU (upper plumes) and AL (lower plumes) indices, showing which station contributes to these indices at each UT minute.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-1500
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2000
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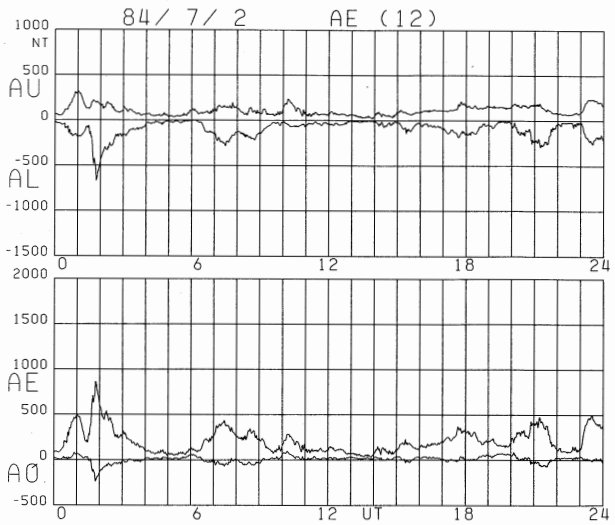
1000
AE
500
0
AO
-500
0 6 12 UT 18 24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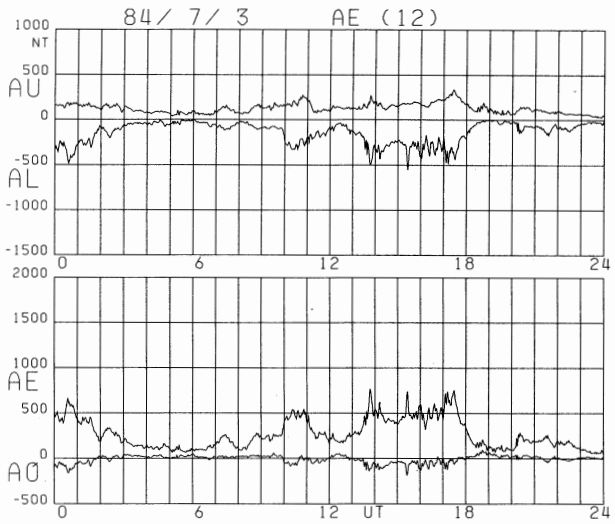
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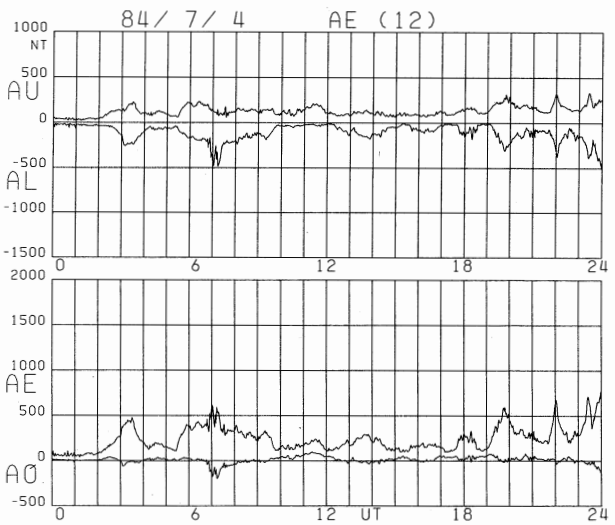
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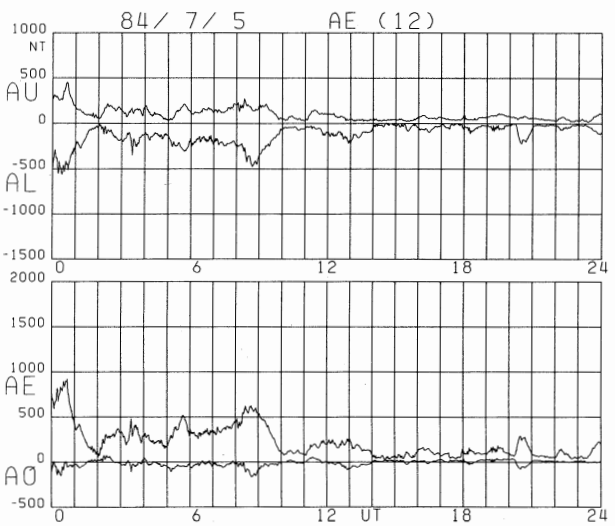
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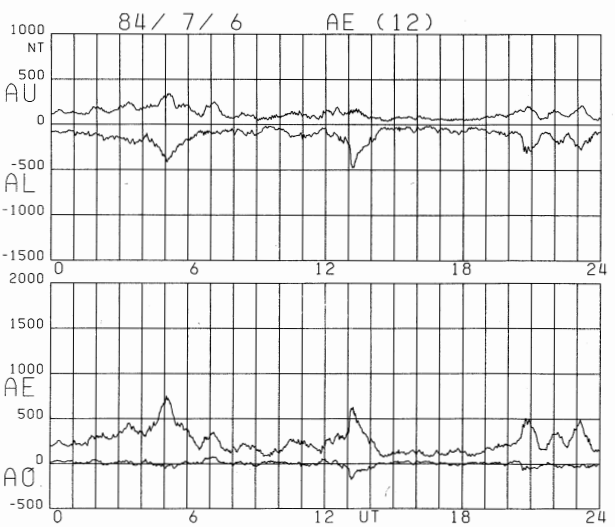
0 6 12 UT 18 24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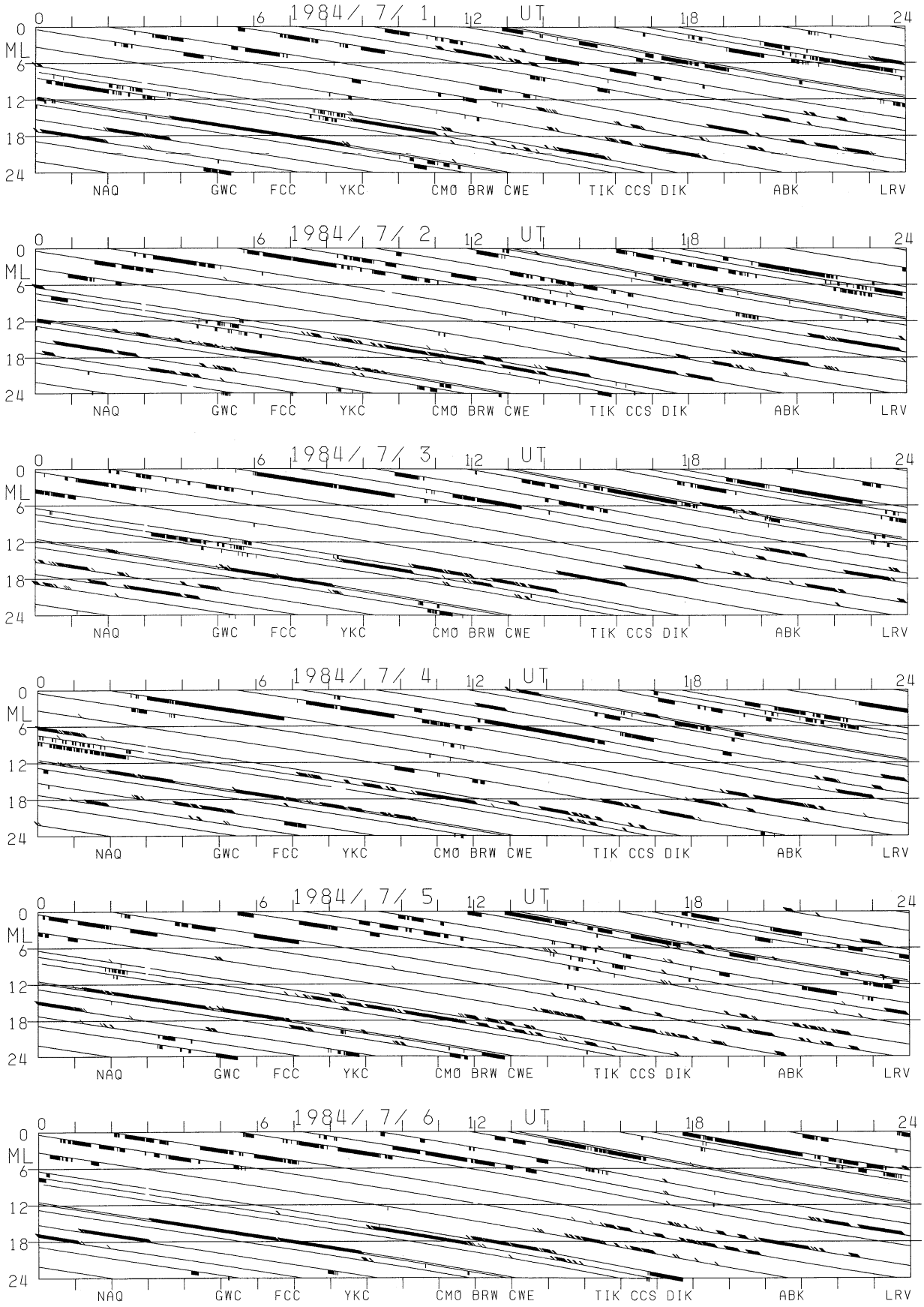
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1984/ 7/ 2 UT
1984/ 7/ 3 UT
1984/ 7/ 4 UT
1984/ 7/ 5 UT
1984/ 7/ 6 UT
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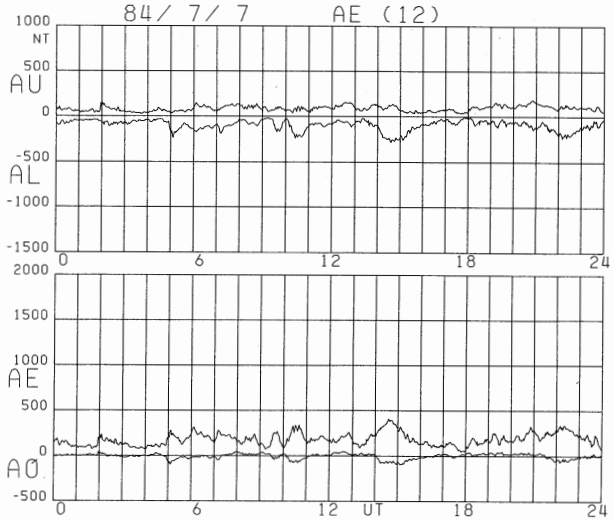
6
12
18
24
ML
NAQ GWC FCC YKC CMO BRW CWE TIK CCS DIK ABK LRV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-1500
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1500
1000
AE
500
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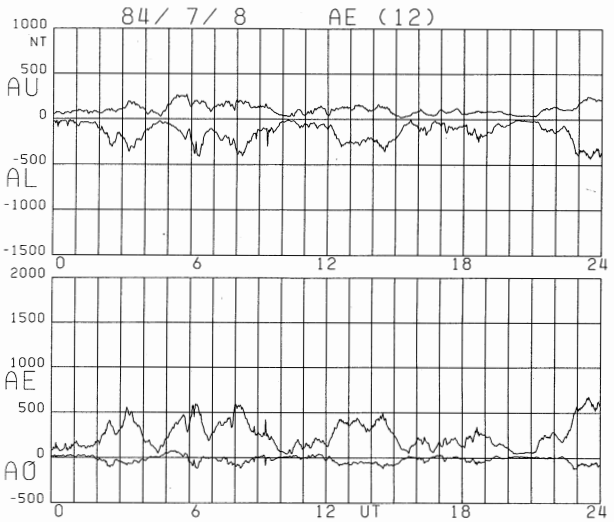
AO
-500
0 6 12 UT 18 24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2000
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1000
AE
500
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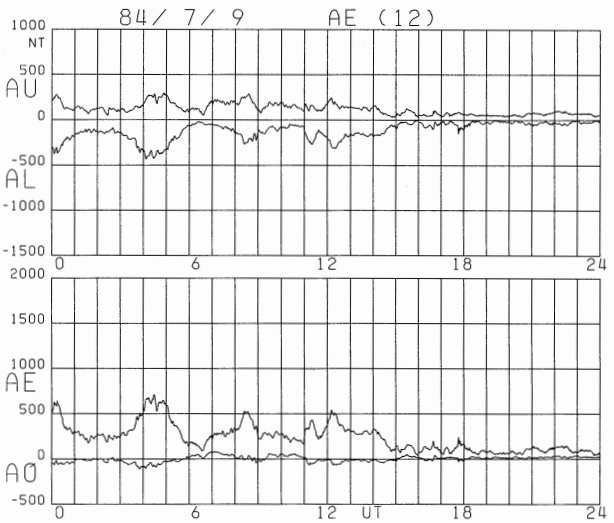
AO
-500
0 6 12 UT 18 24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AL
-1000
-1500
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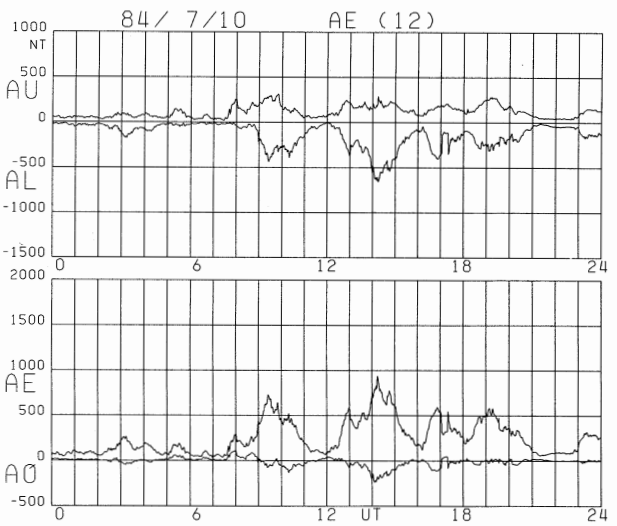
1000
AE
500
0
AO
-500
0 6 12 UT 18 24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-1500
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1000
AE
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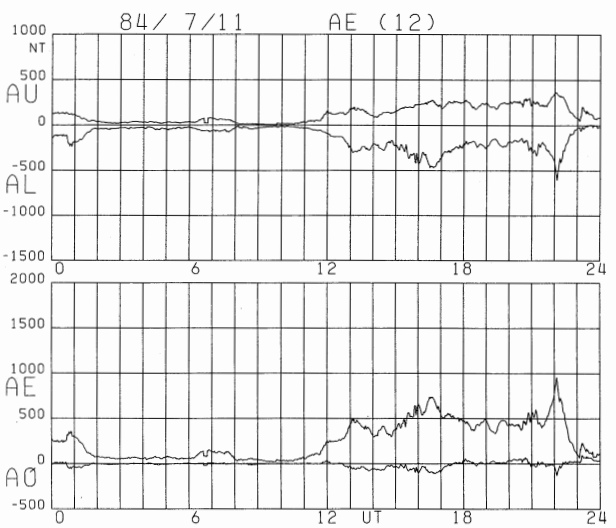
0
AO
-500
0 6 12 UT 18 24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1000
AE
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AO
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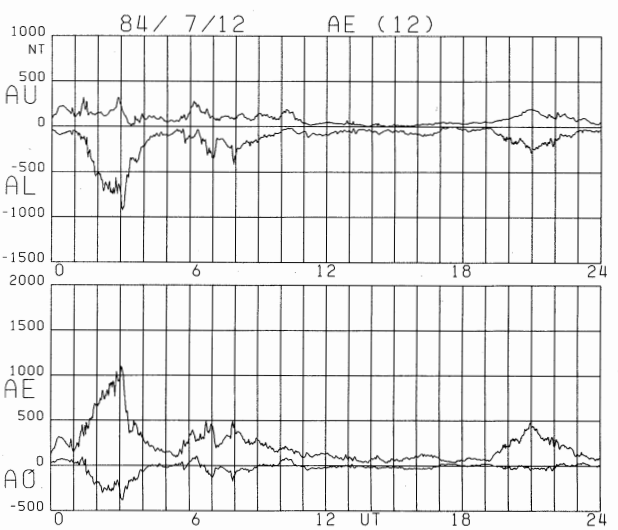
0 6 12 UT 18 24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AE
500
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AO
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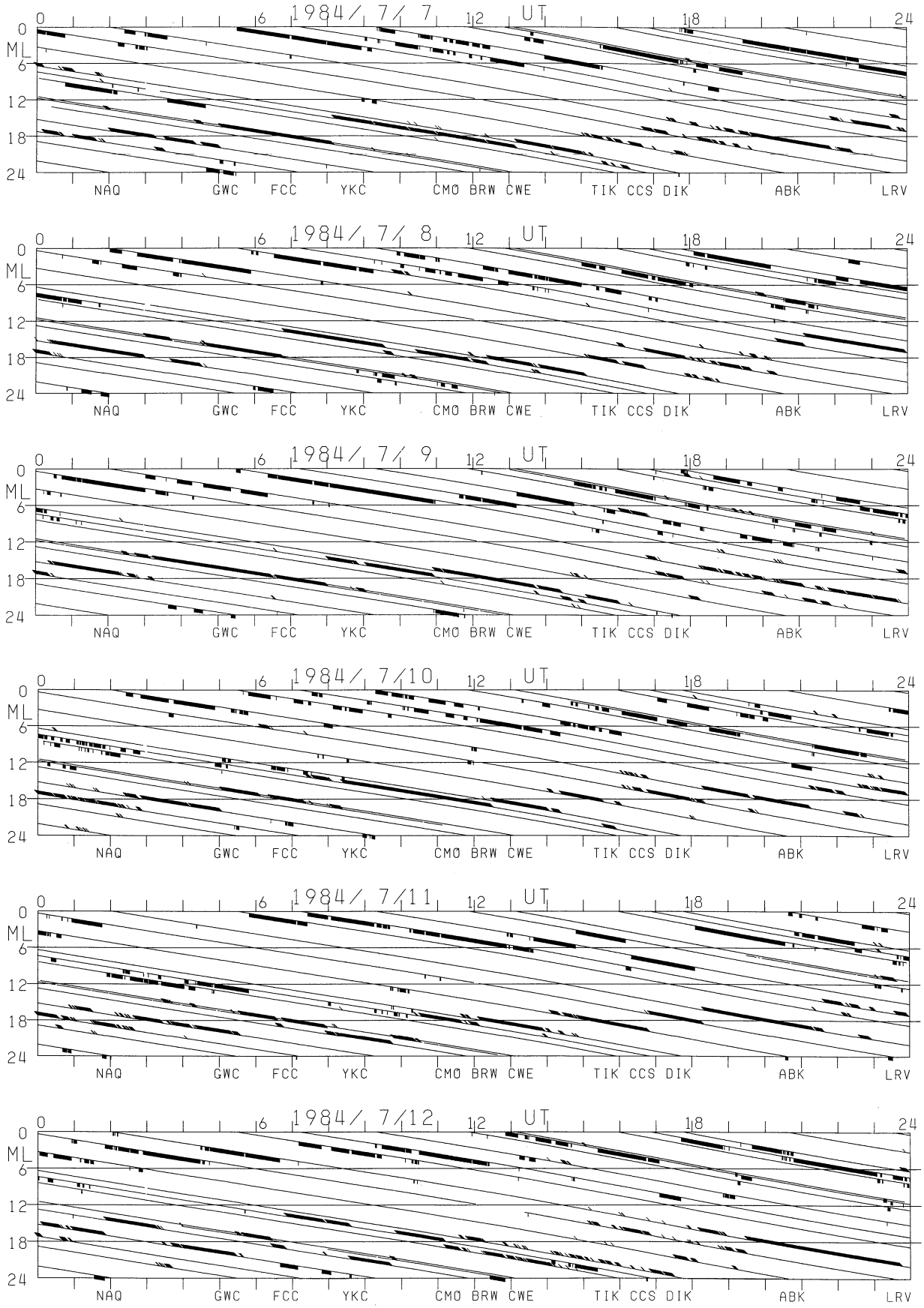
0 6 12 UT 18 24


1984/ 7/ 7 UT
1984/ 7/ 8 UT
1984/ 7/ 9 UT
1984/ 7/10 UT
1984/ 7/11 UT
1984/ 7/12 UT
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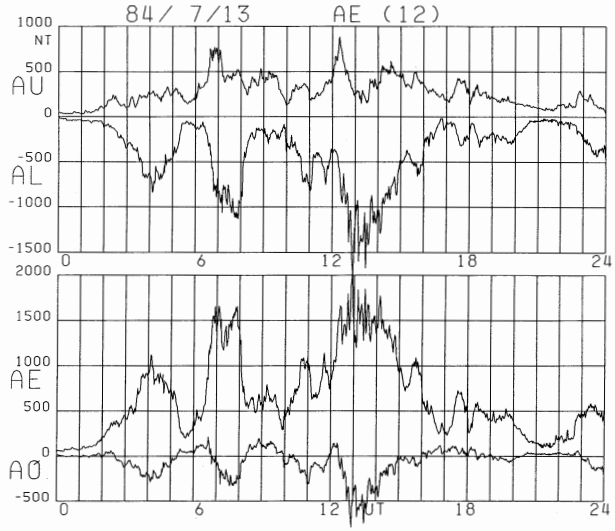
GWC
FCC
YKC
CMO
BRW
CWE
TIK
CCS
DIK
ABK
LRV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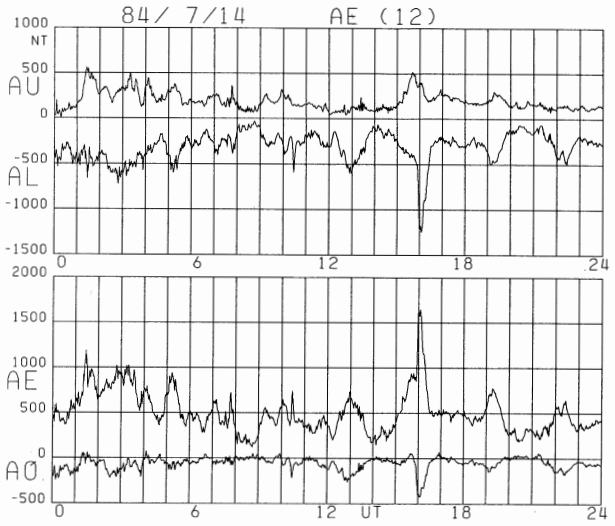
NT
UT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NT
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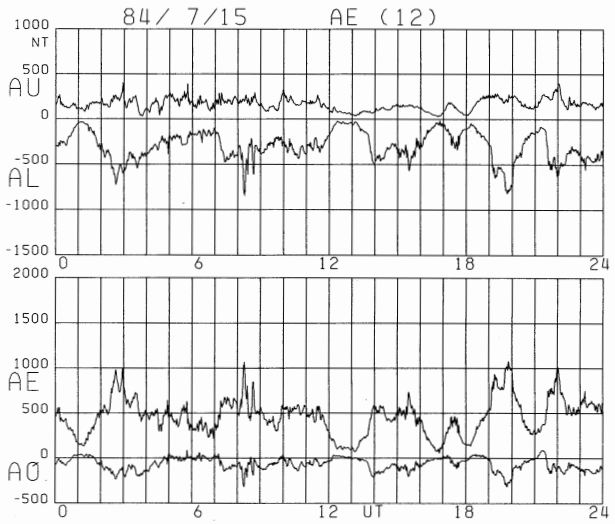
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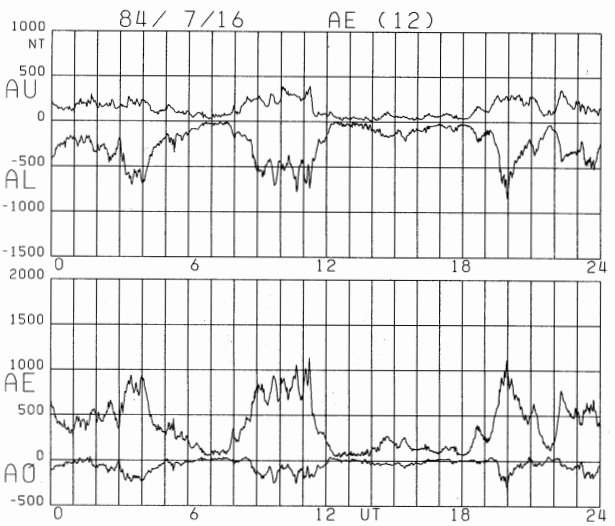
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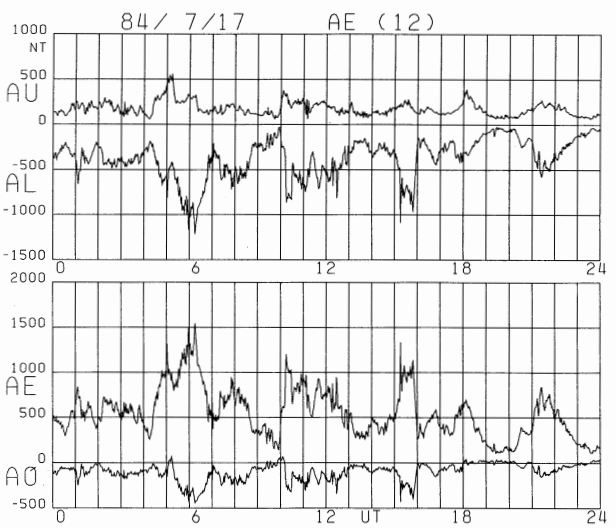
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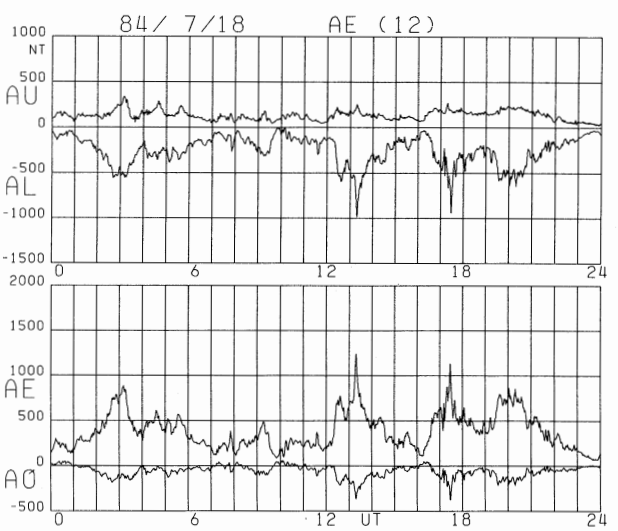
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NT
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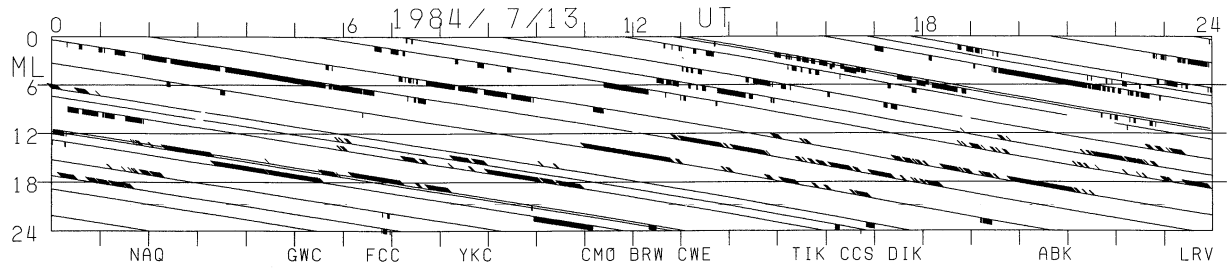
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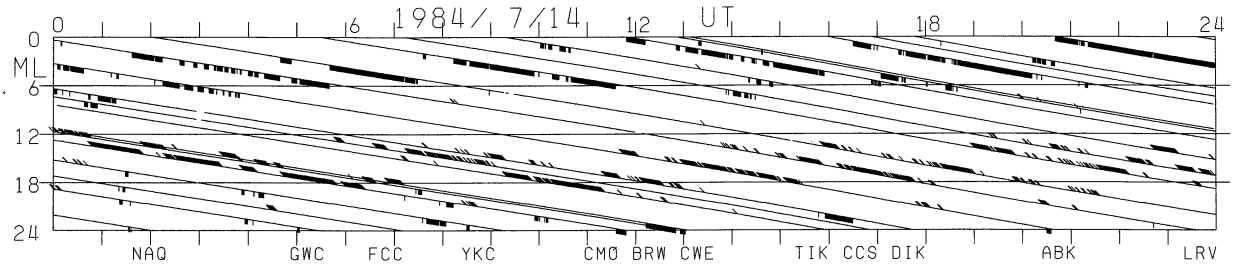
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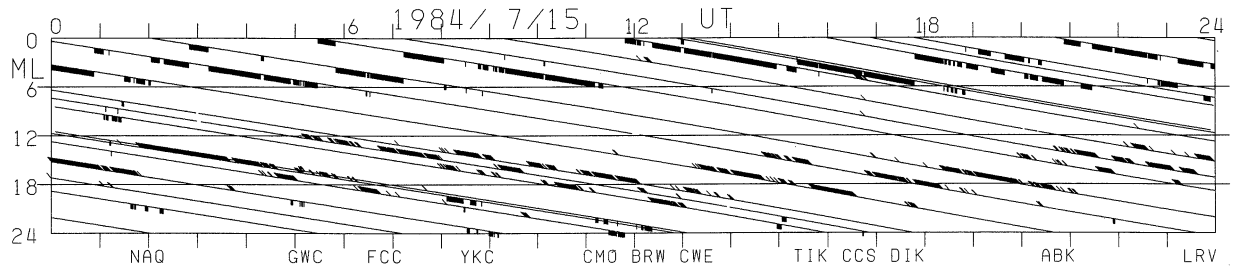
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ML
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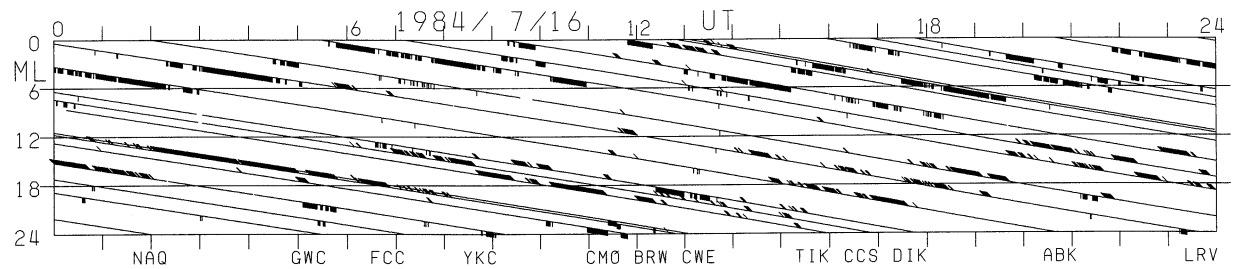
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12
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ML
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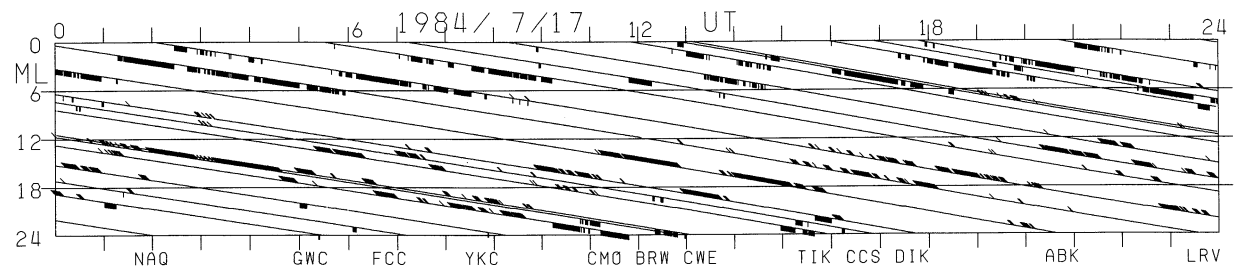
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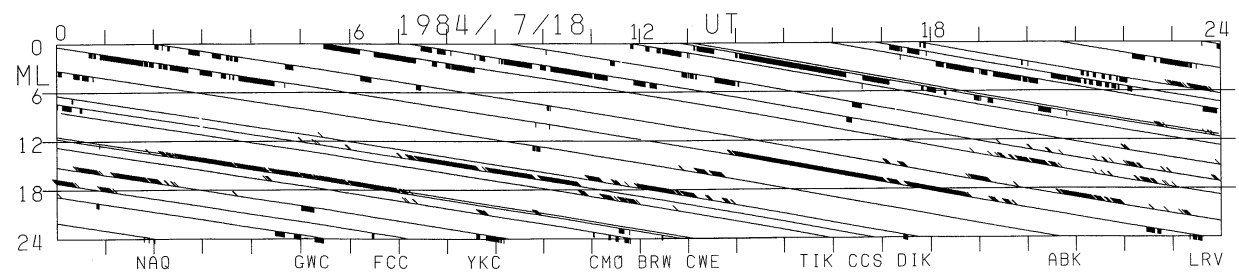
NAQ GWC FCC YKC CMO BRW CWE TIK CCS DIK ABK LRV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18
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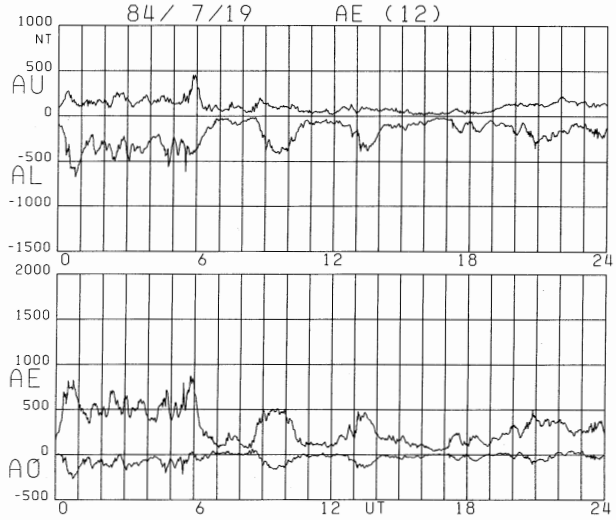
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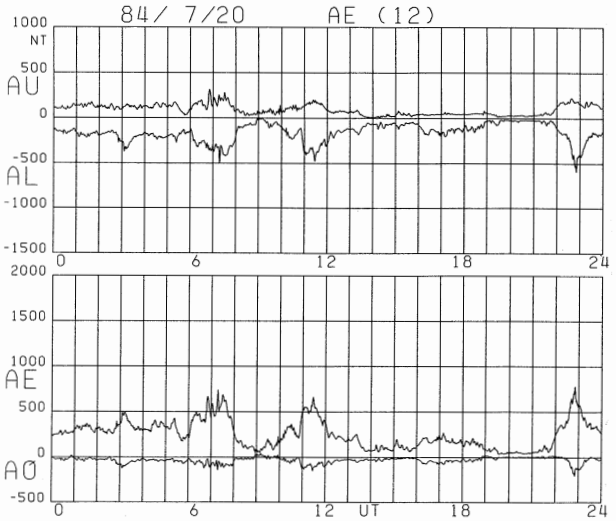
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1500
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AE
500
0
AO
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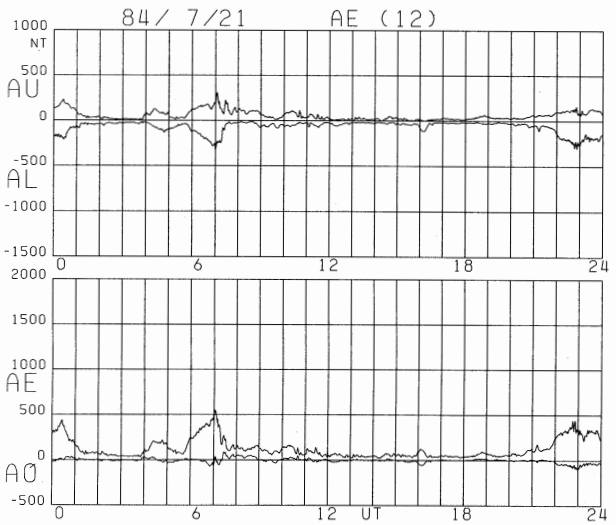
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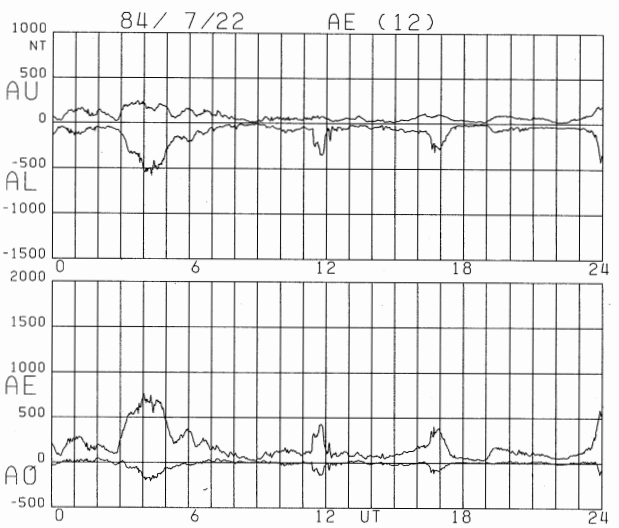
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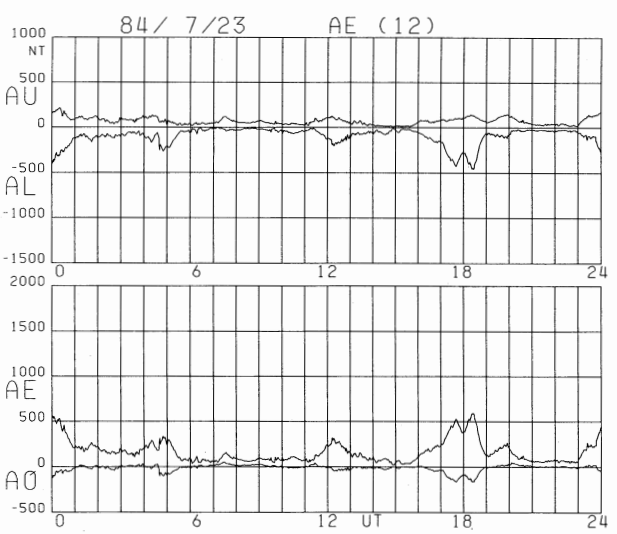
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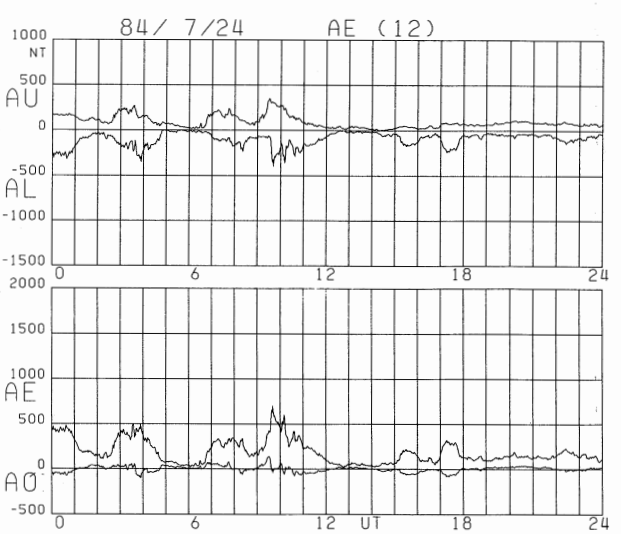
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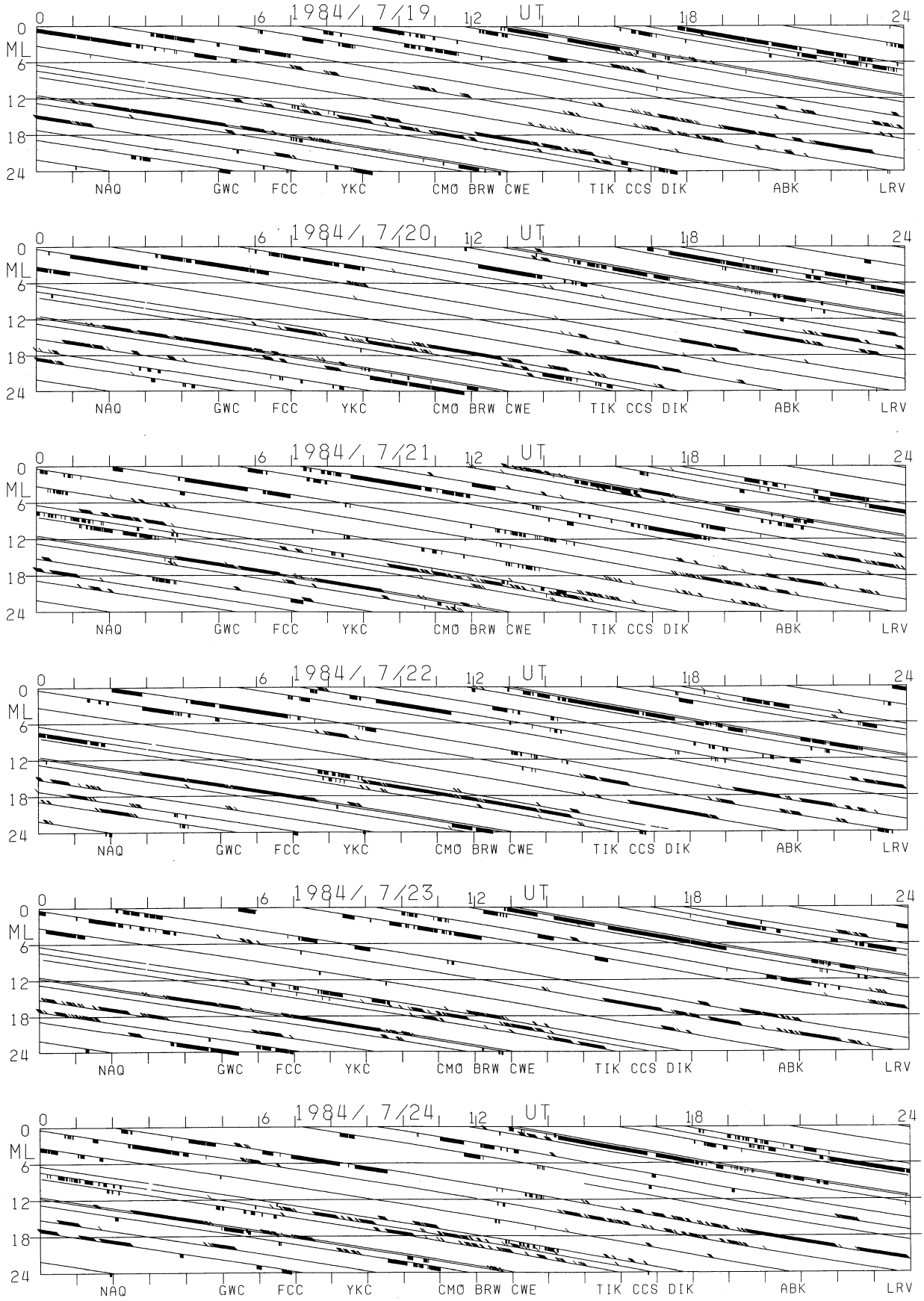
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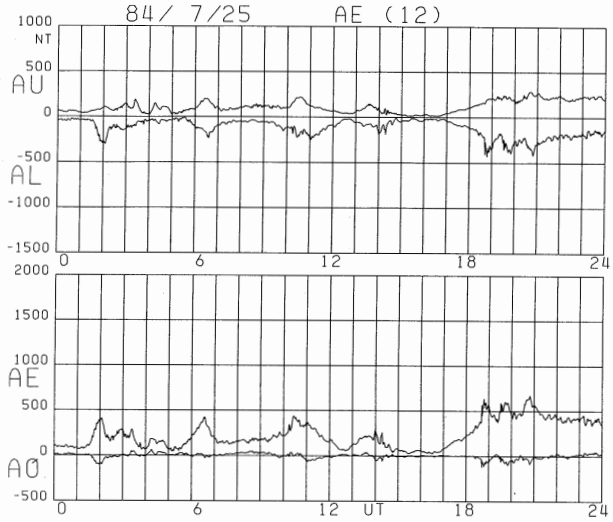
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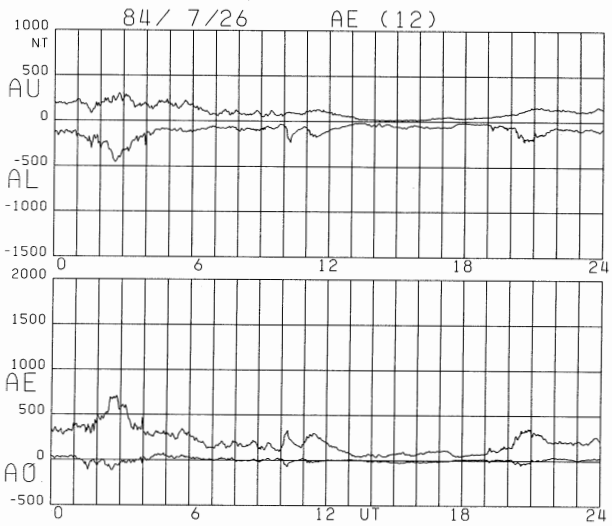
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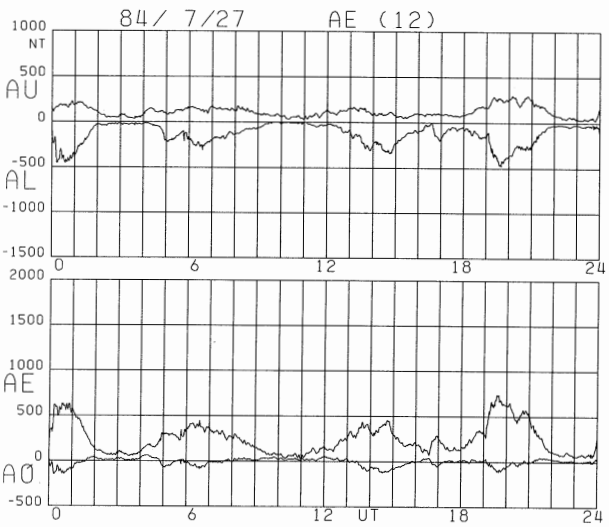
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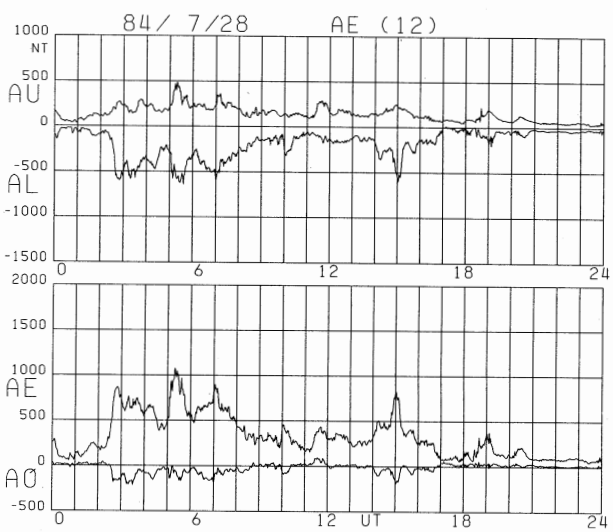
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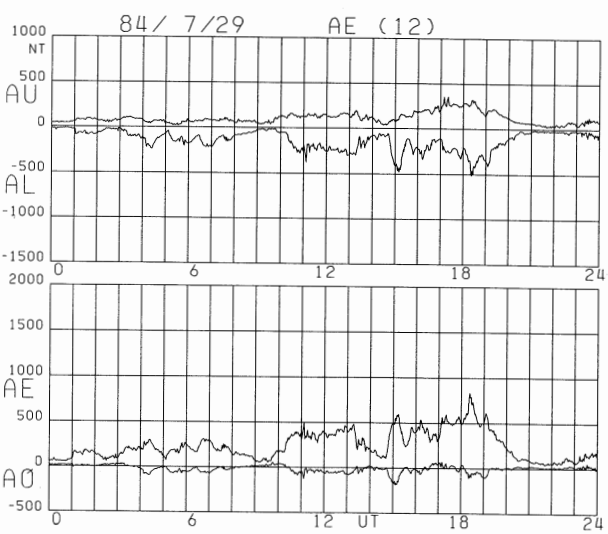
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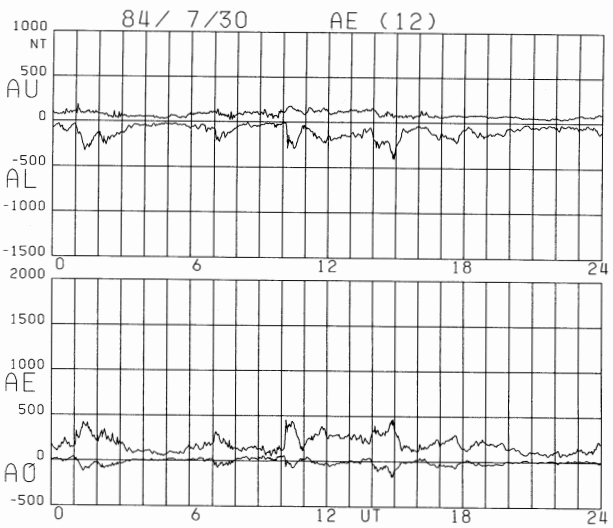
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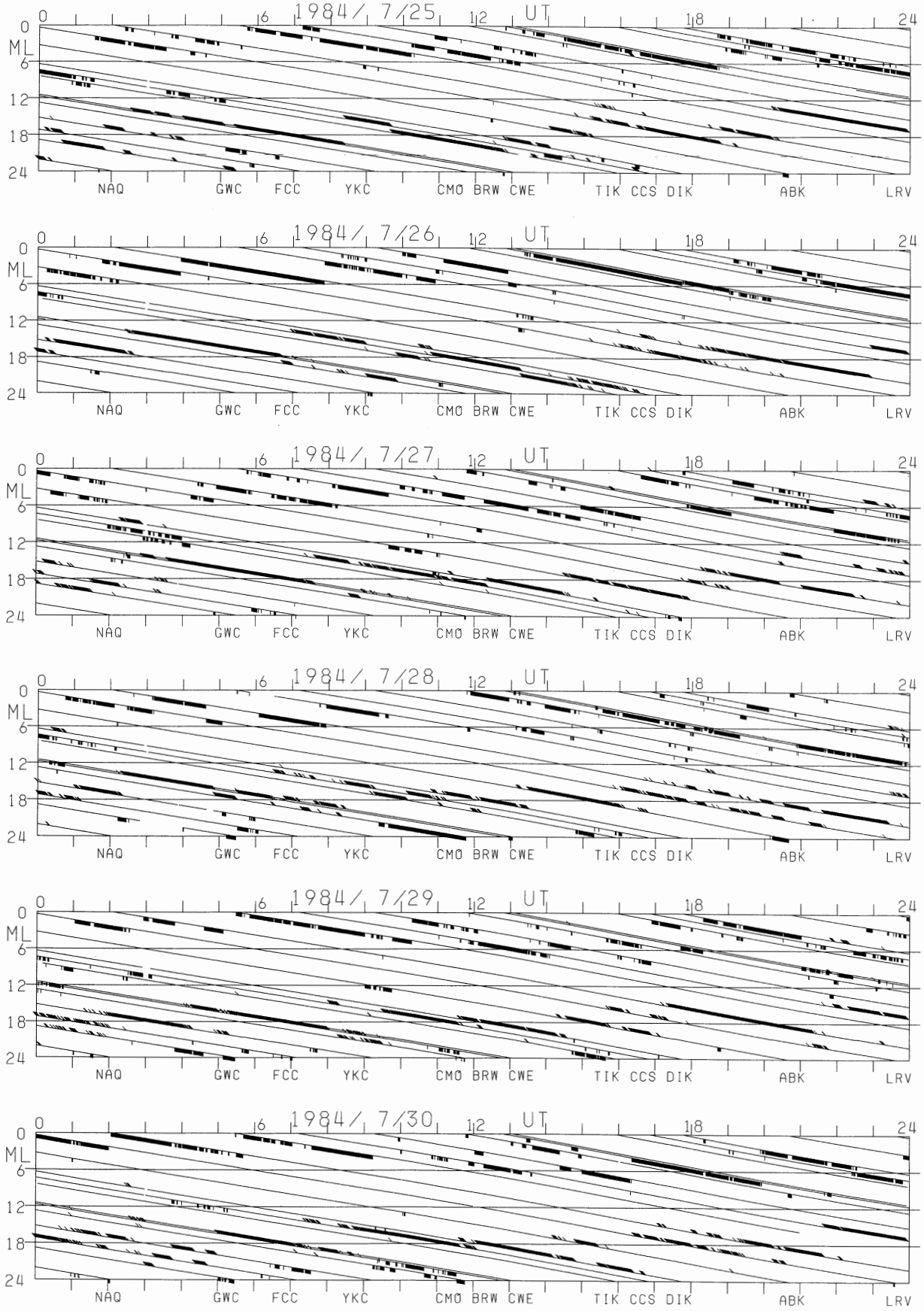
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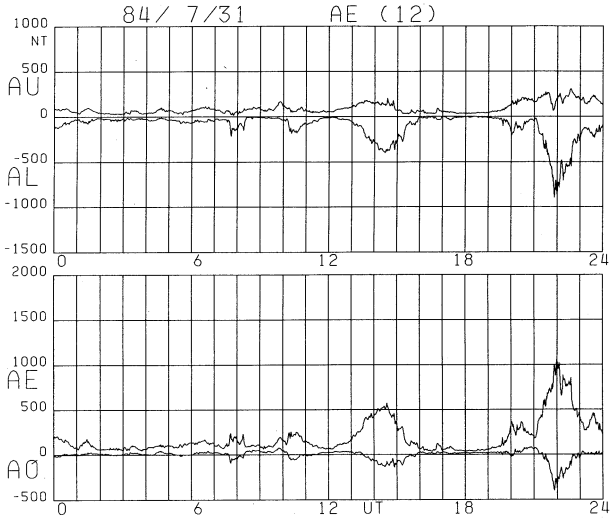
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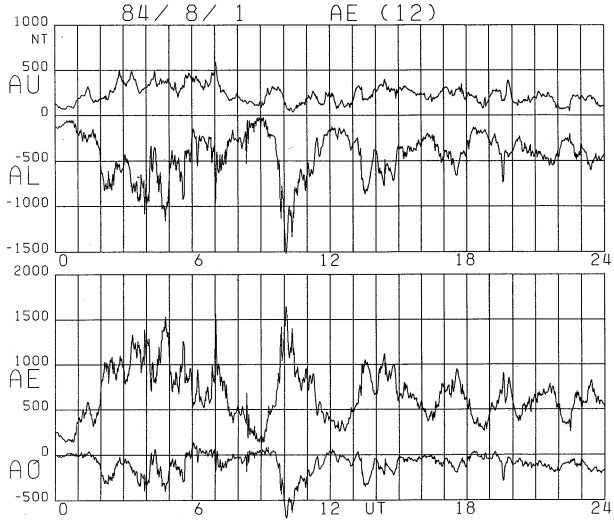
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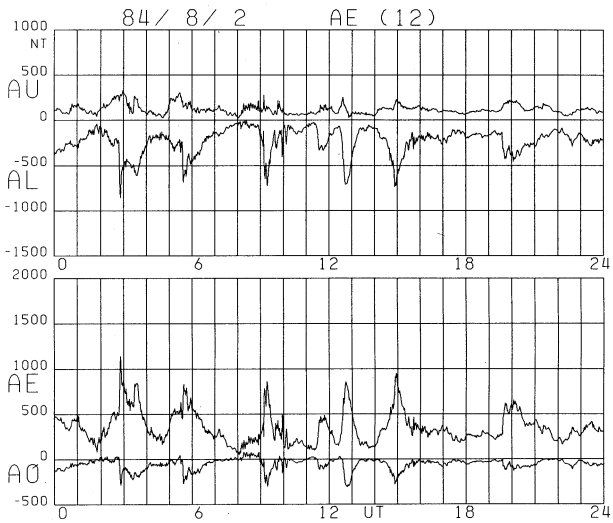
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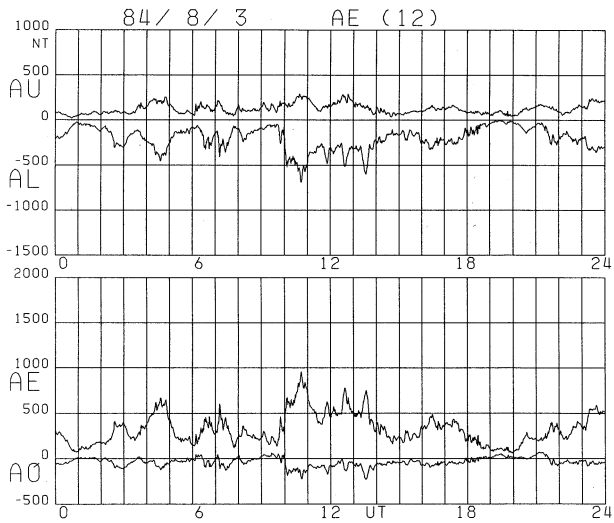
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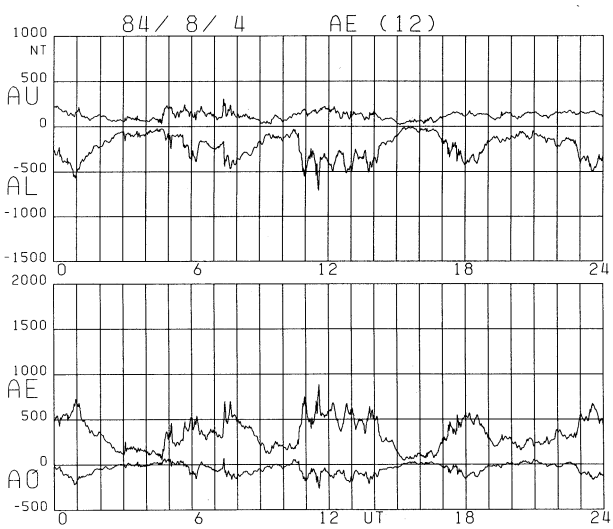
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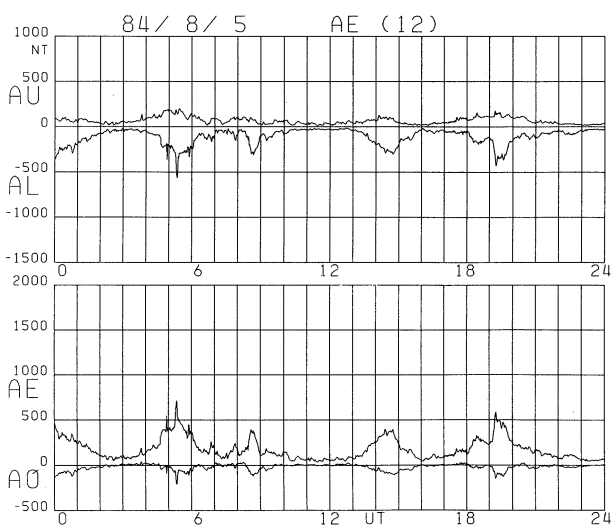
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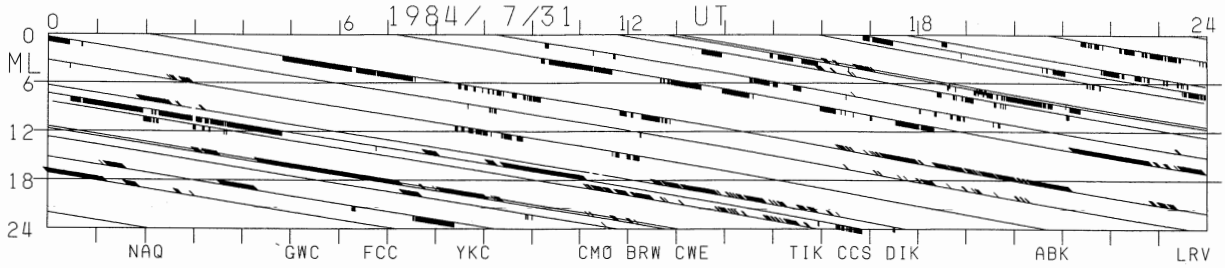
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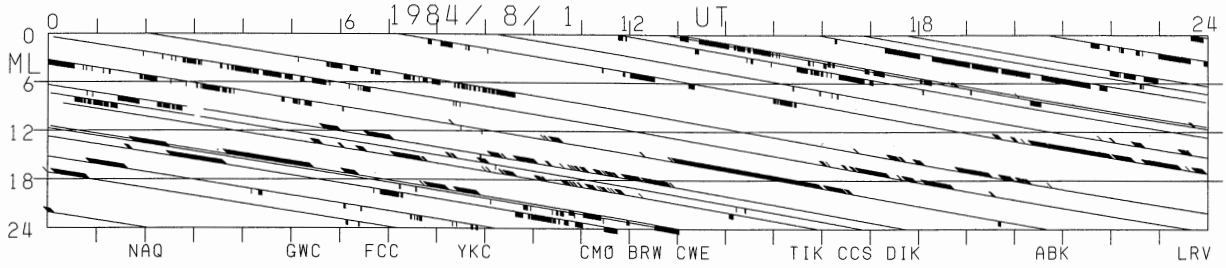
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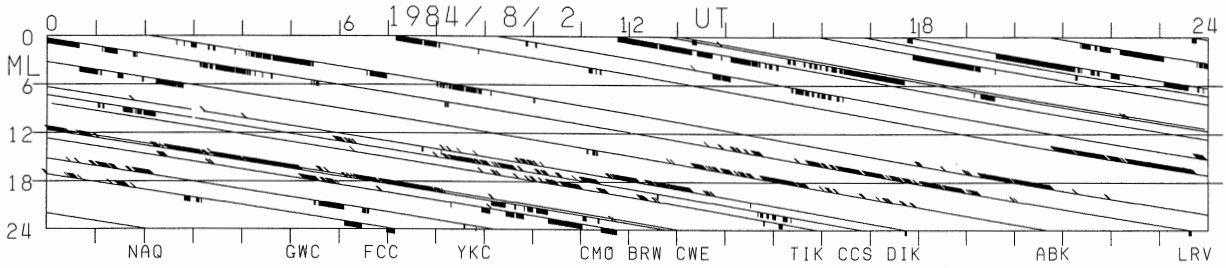
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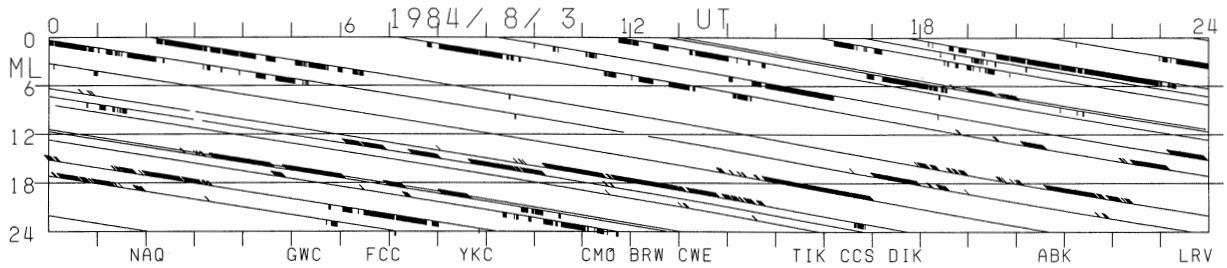
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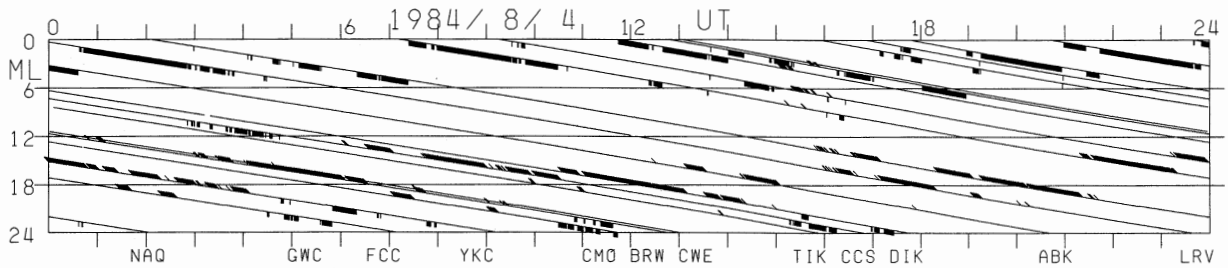
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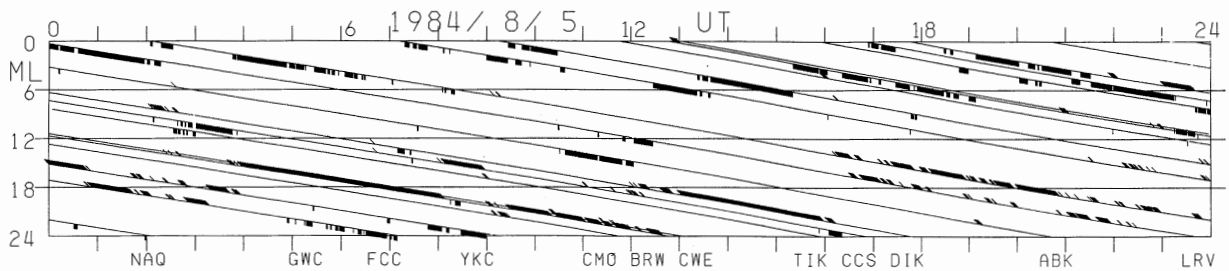
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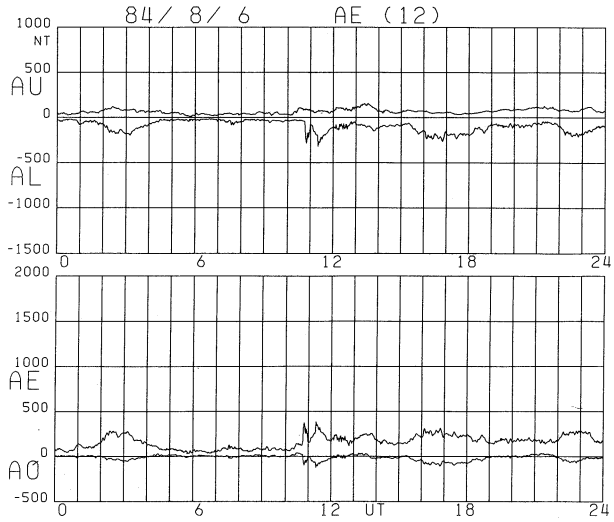
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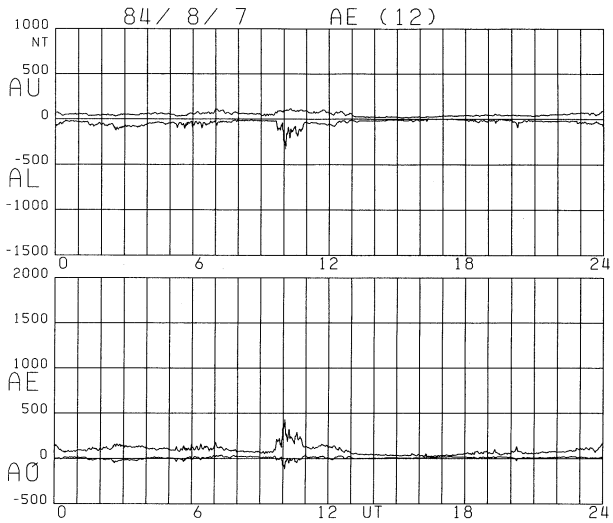
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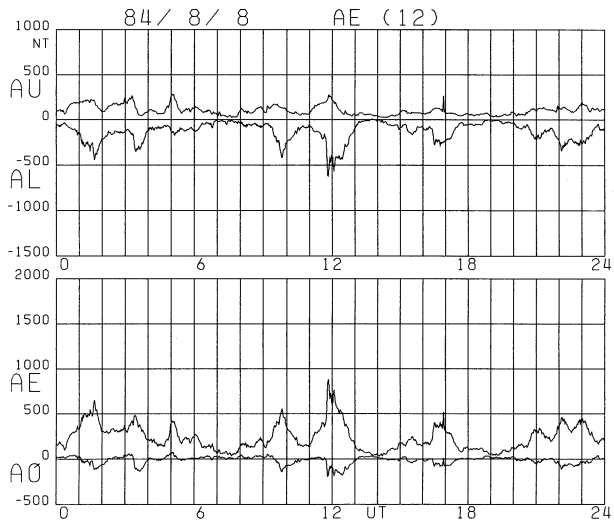
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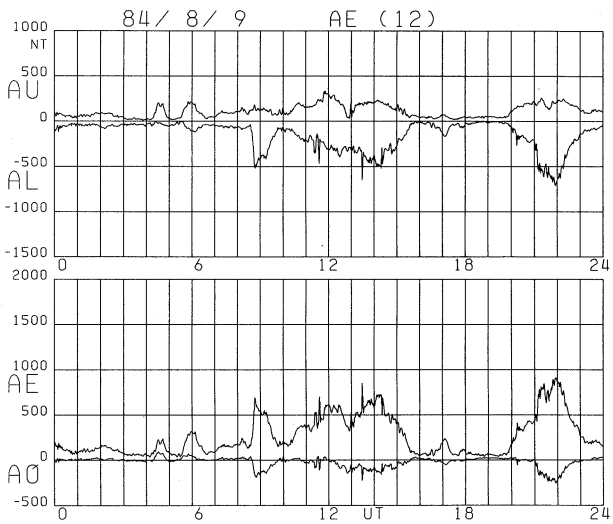
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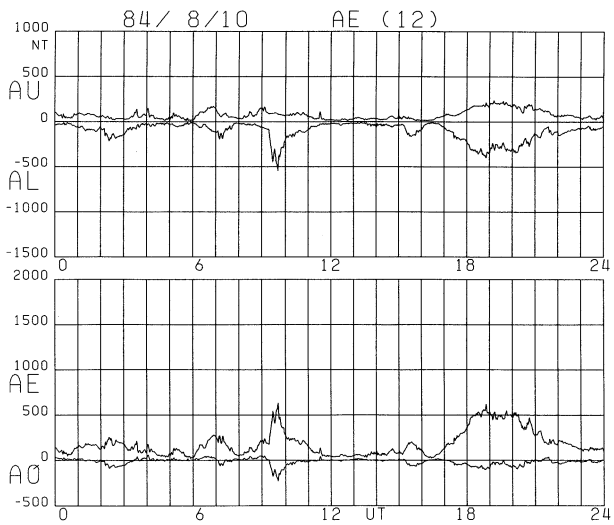
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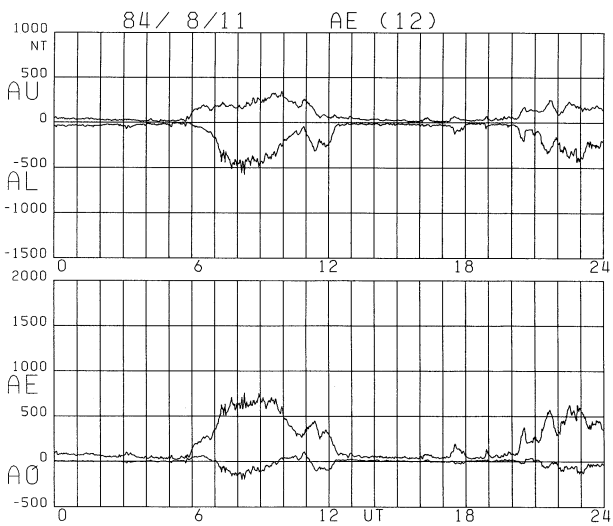
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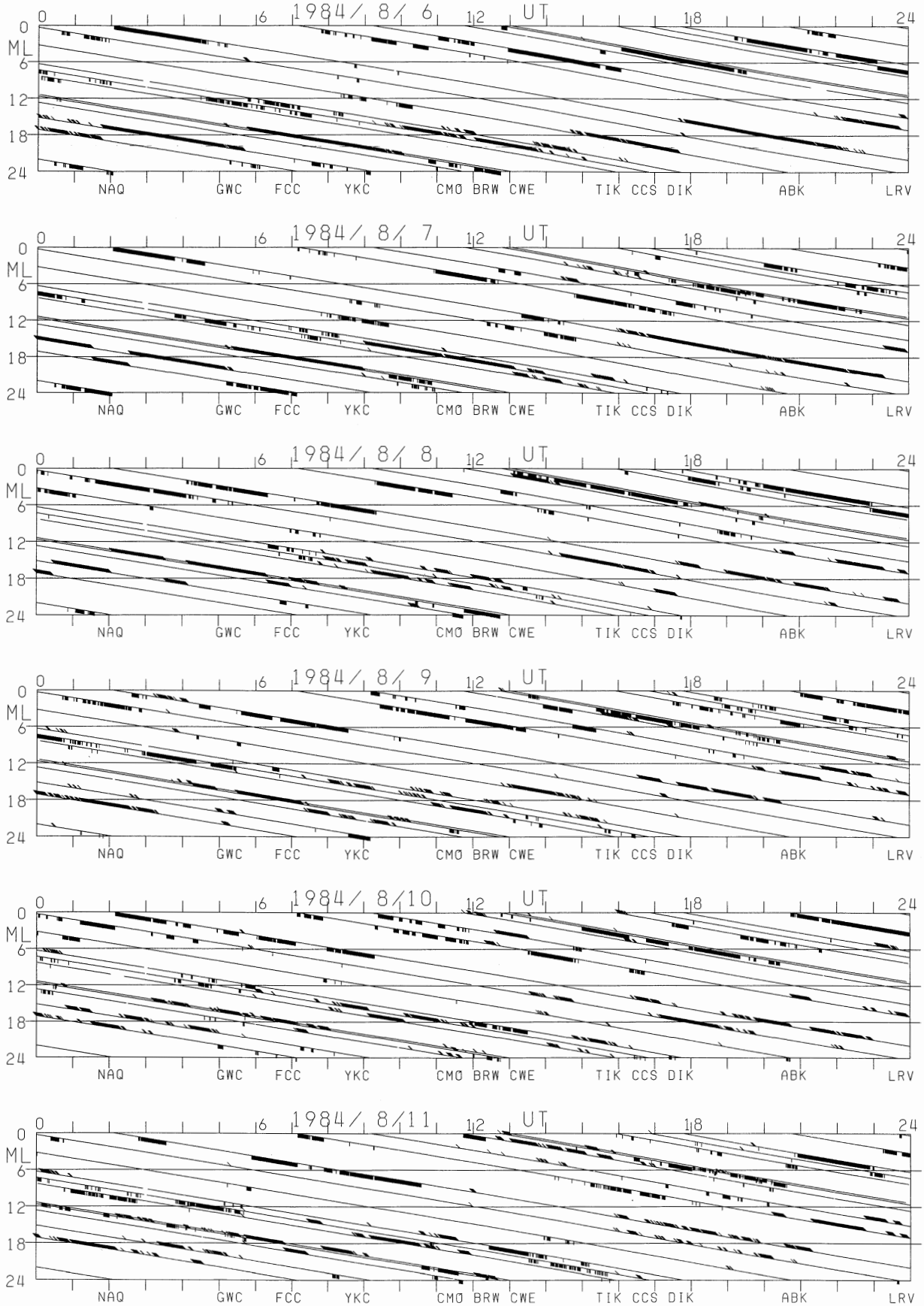
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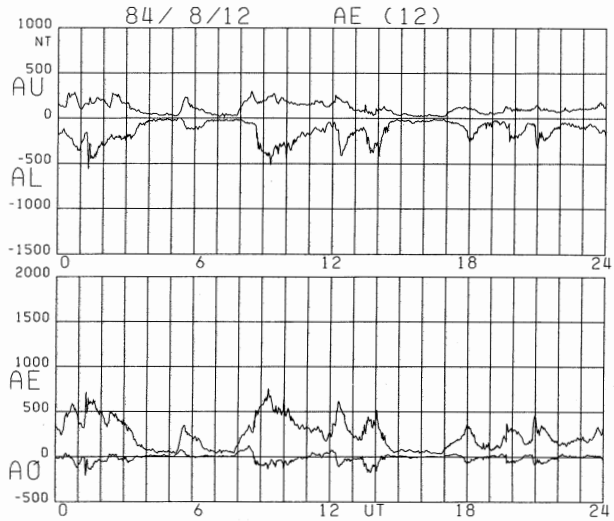
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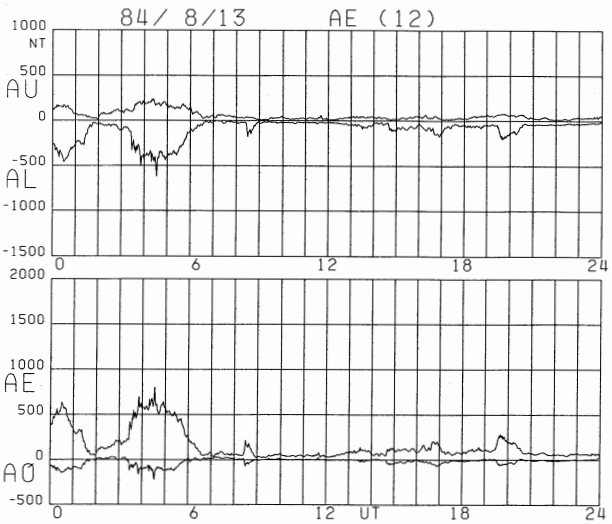
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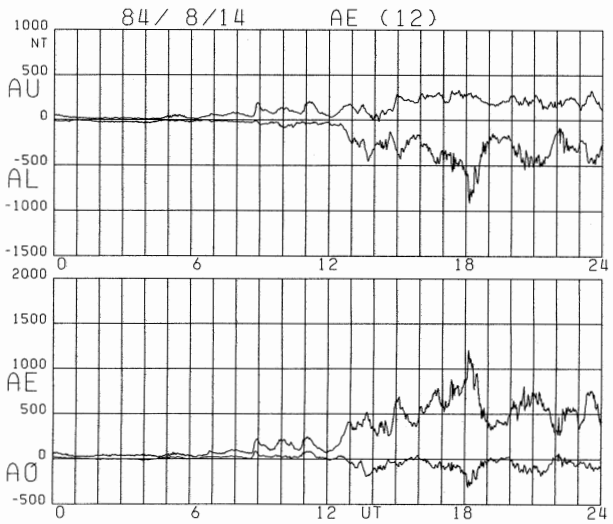
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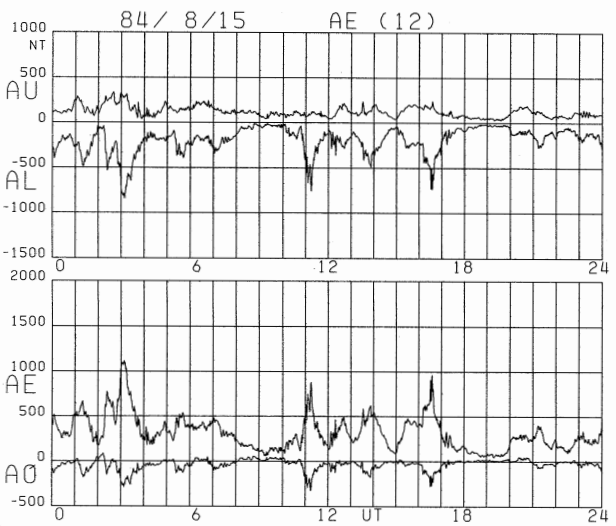
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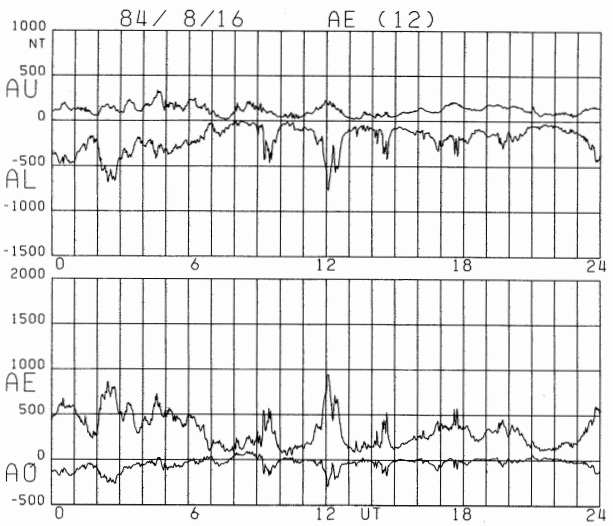
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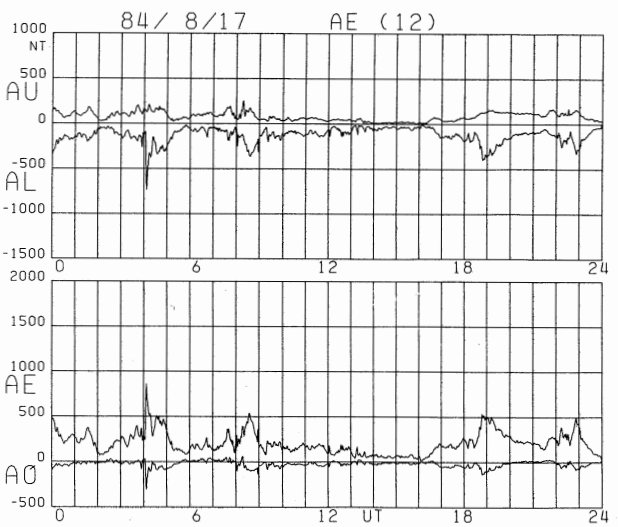
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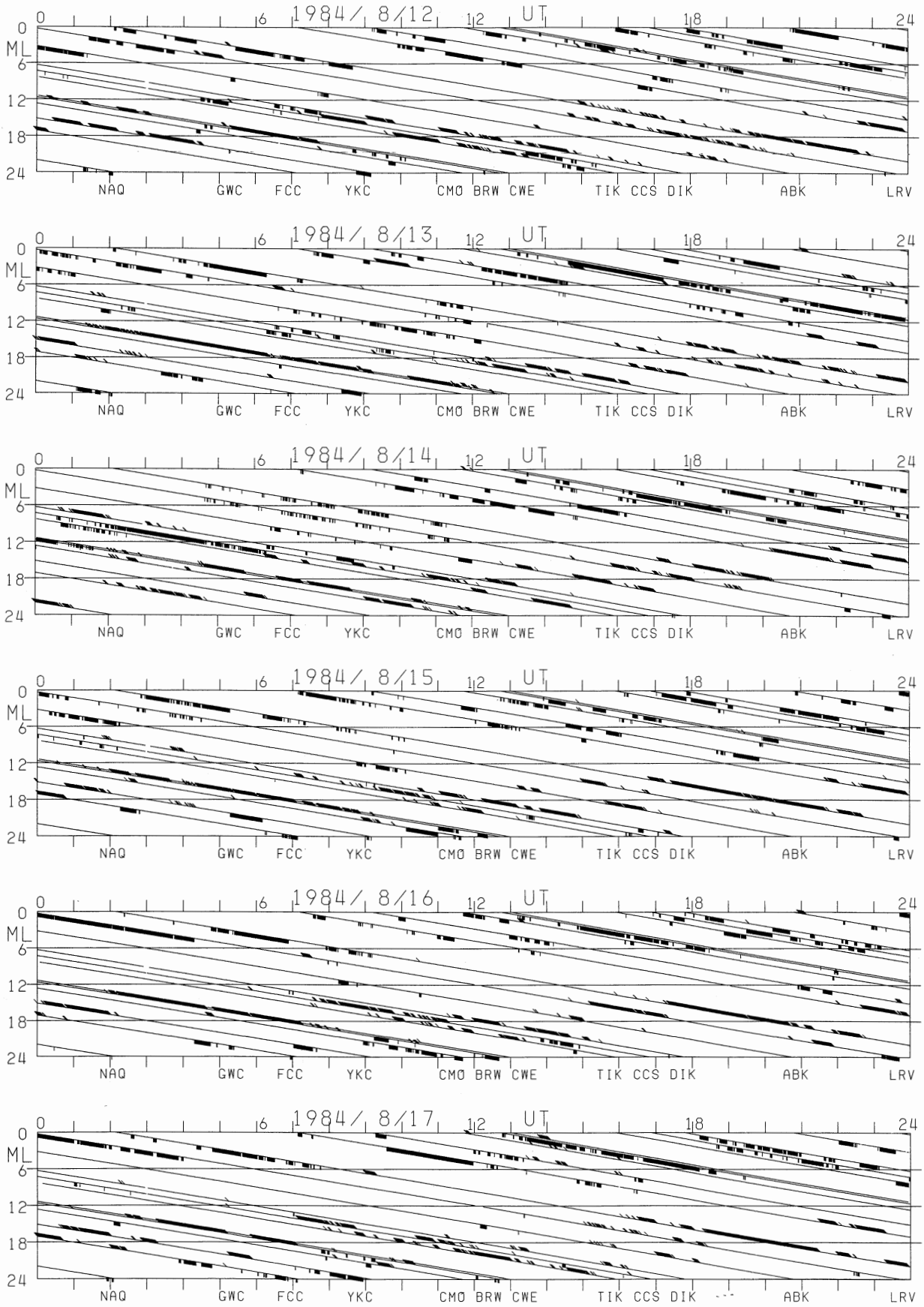
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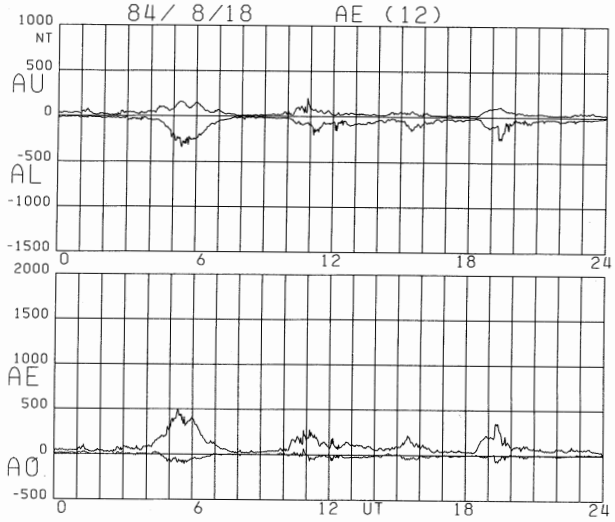
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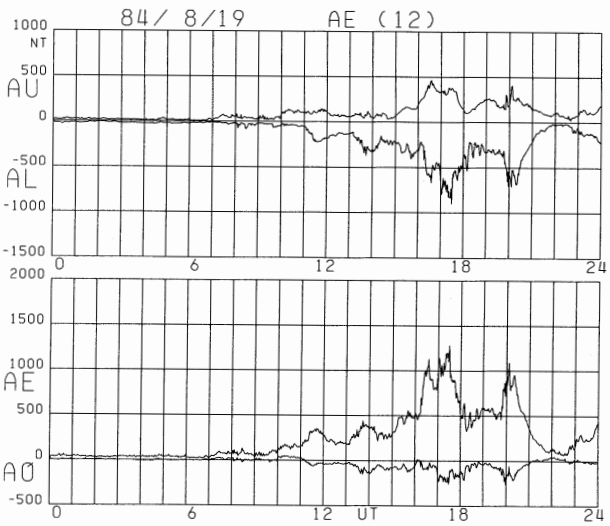
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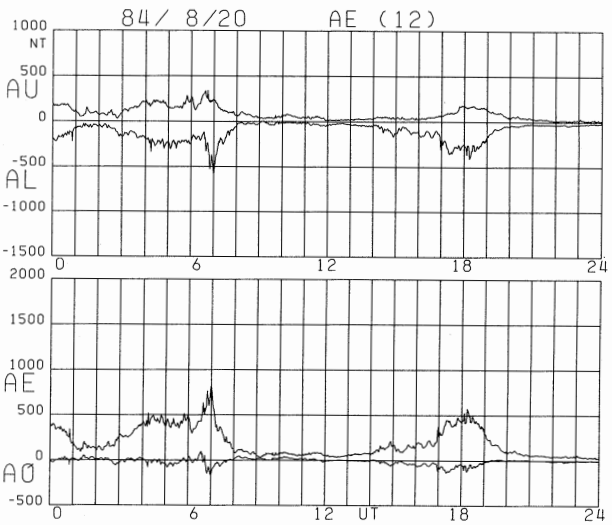
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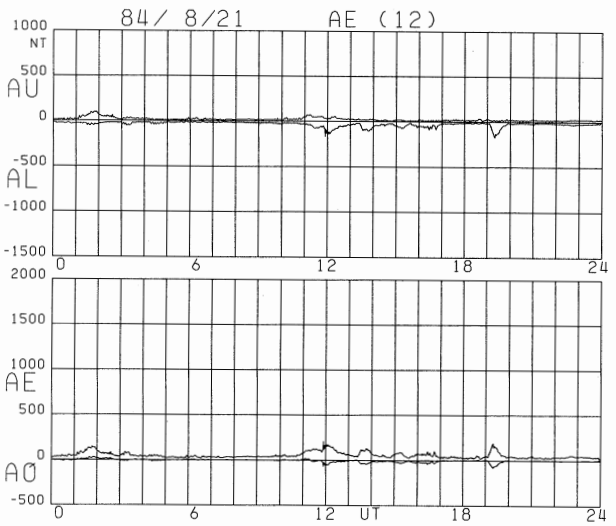
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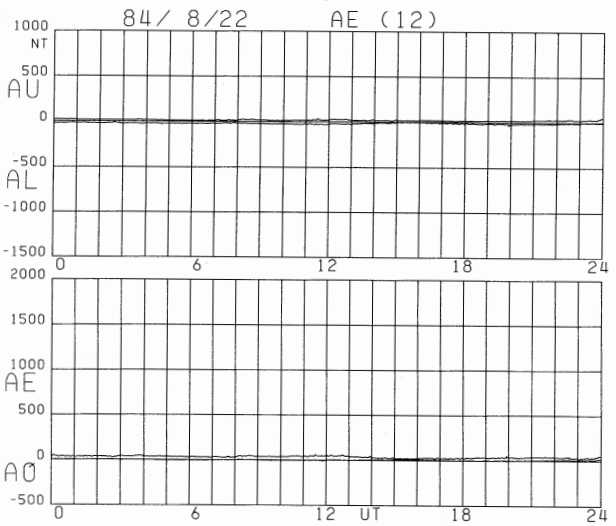
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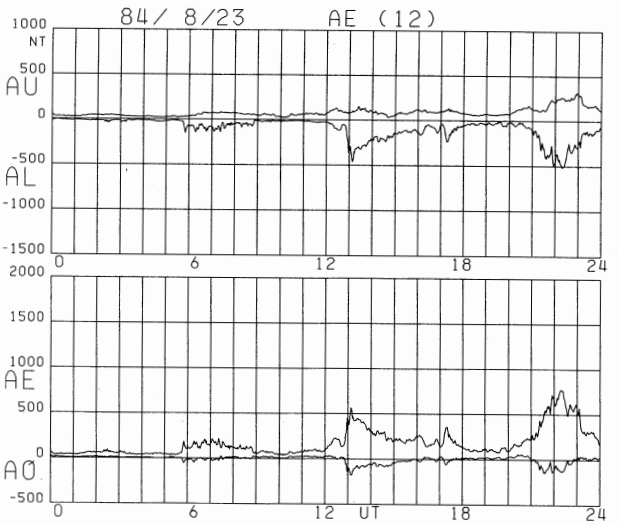
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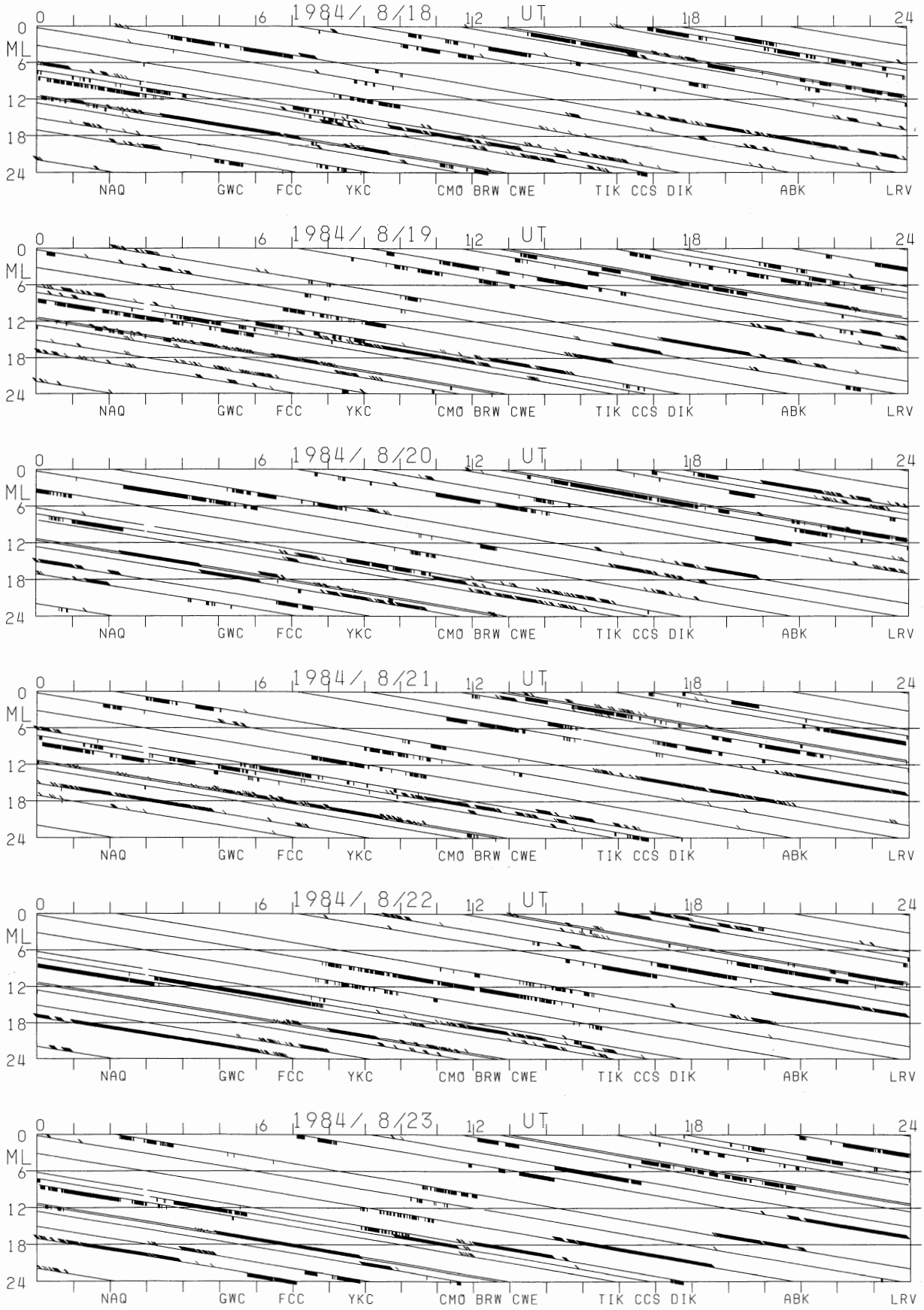
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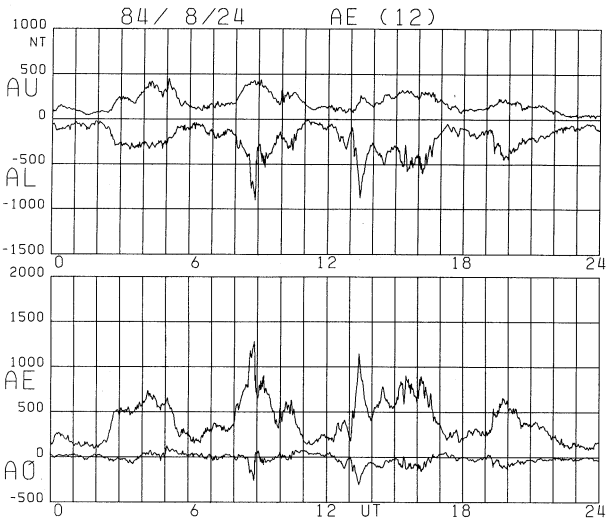
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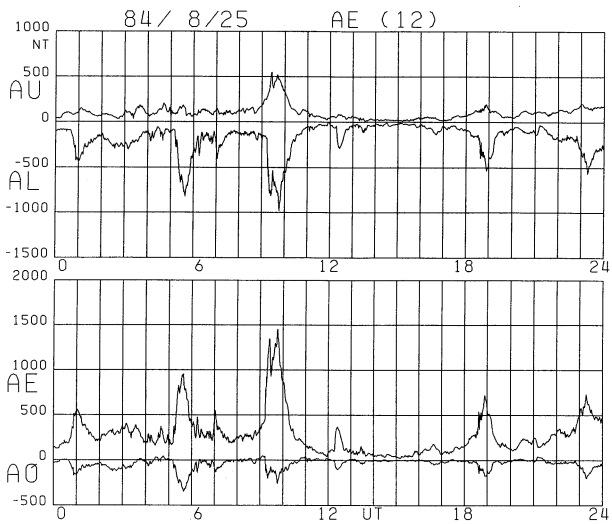
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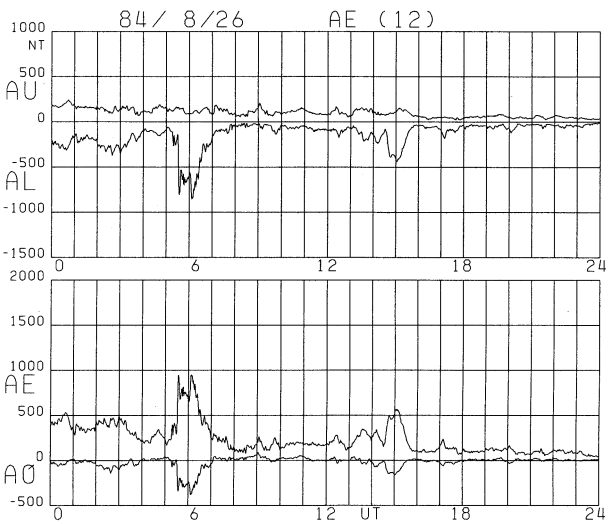
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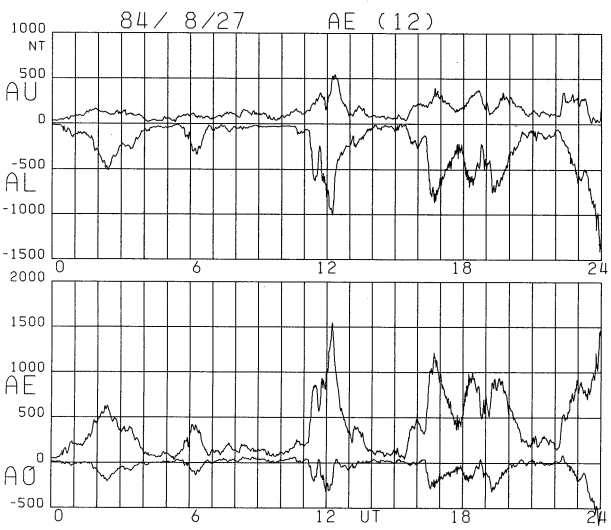
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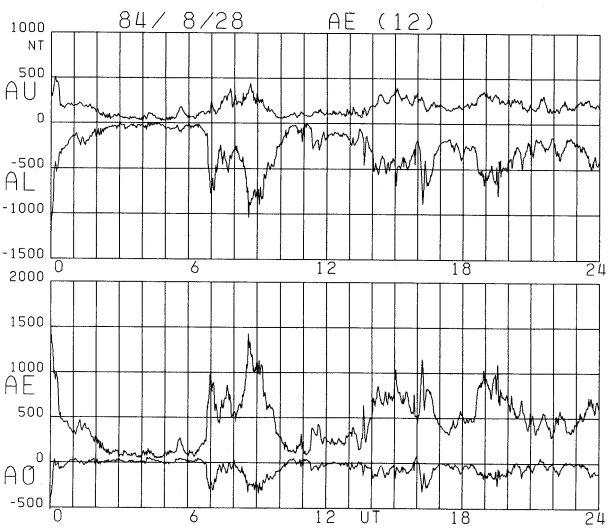
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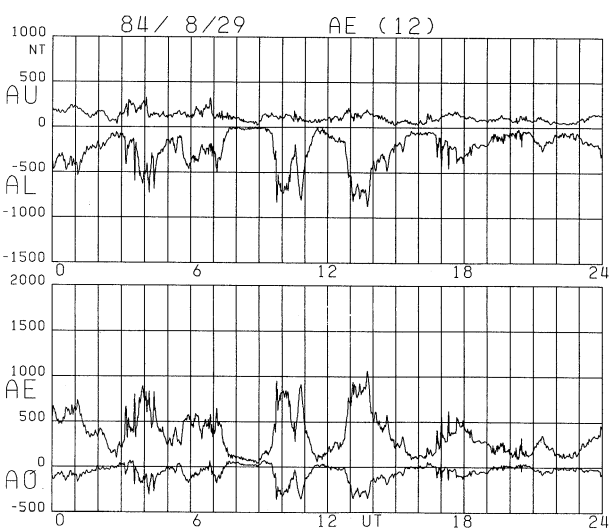
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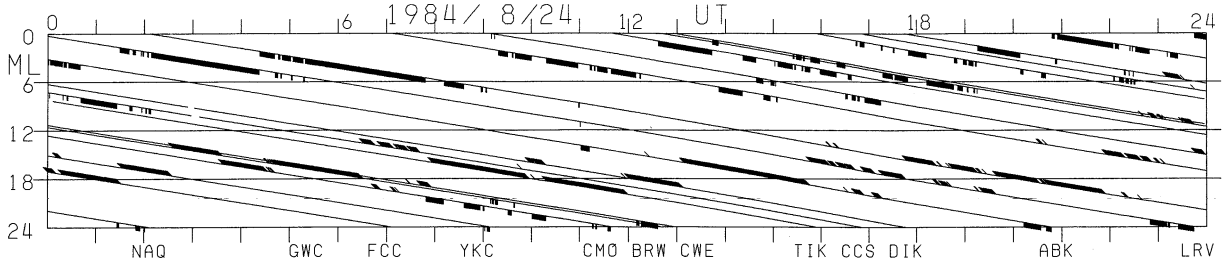
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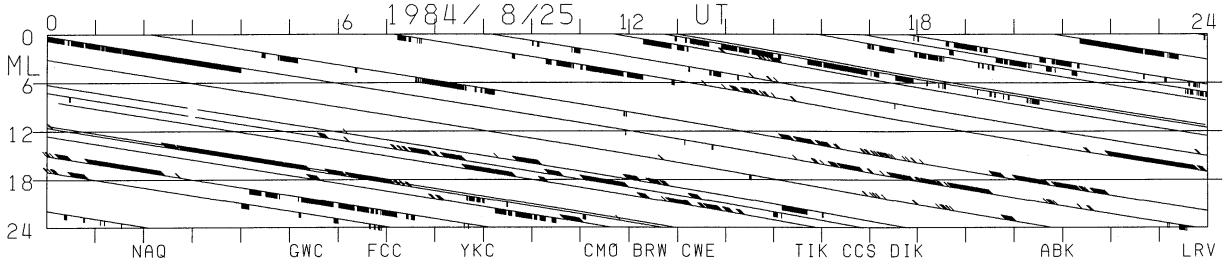
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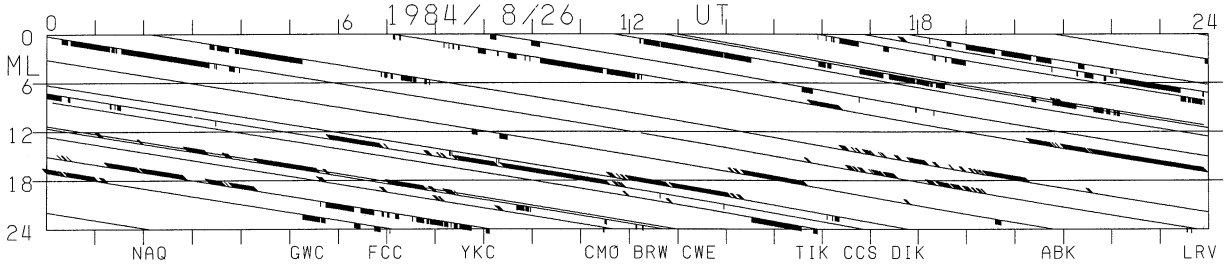
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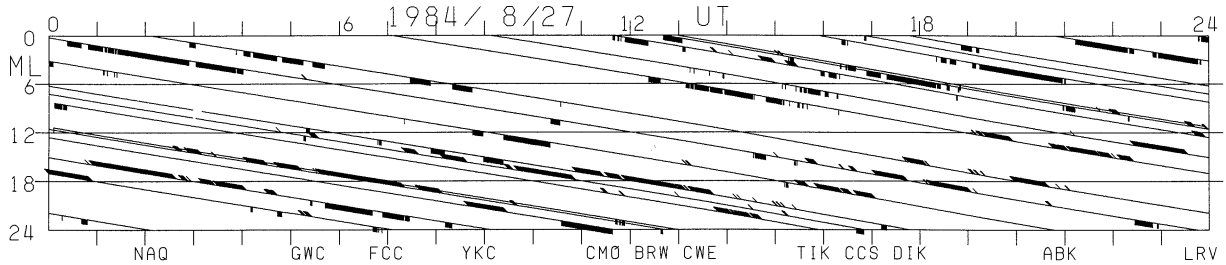
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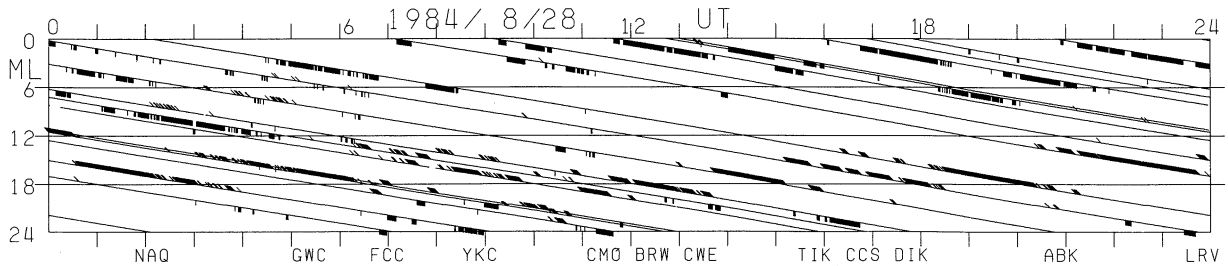
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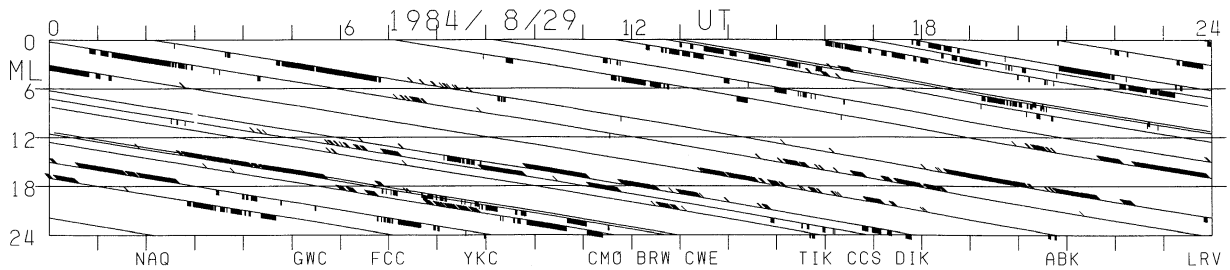
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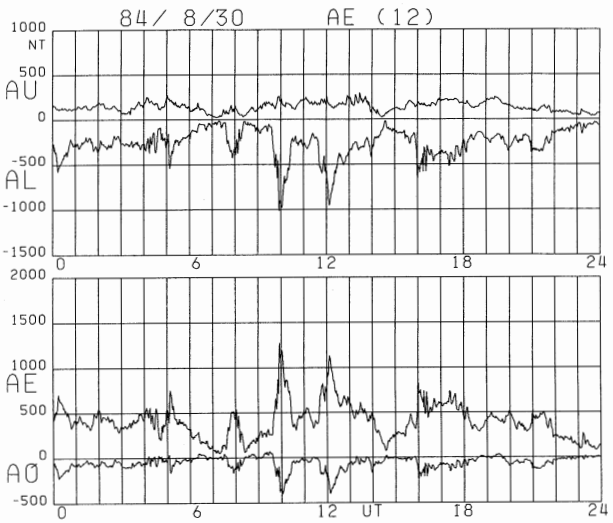
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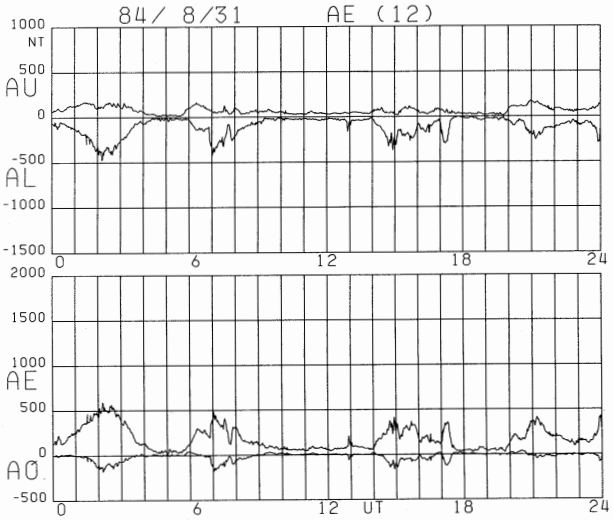
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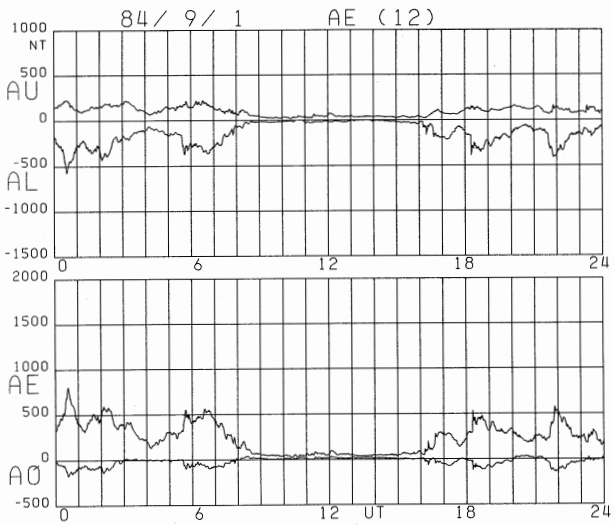
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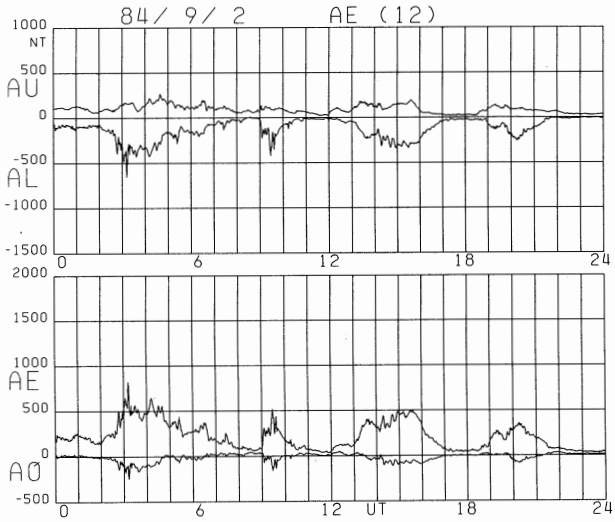
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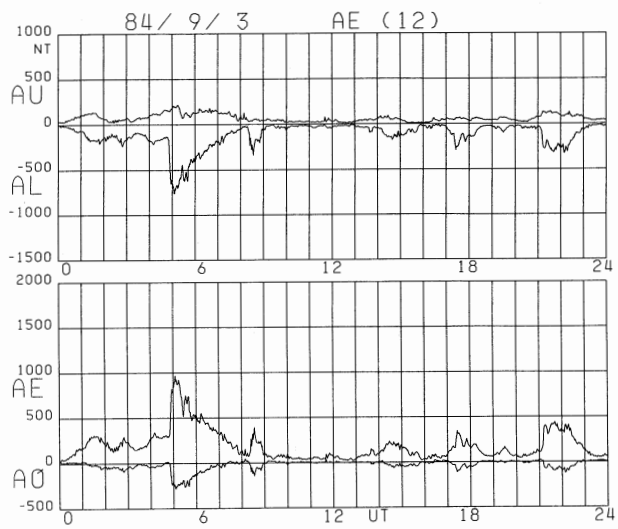
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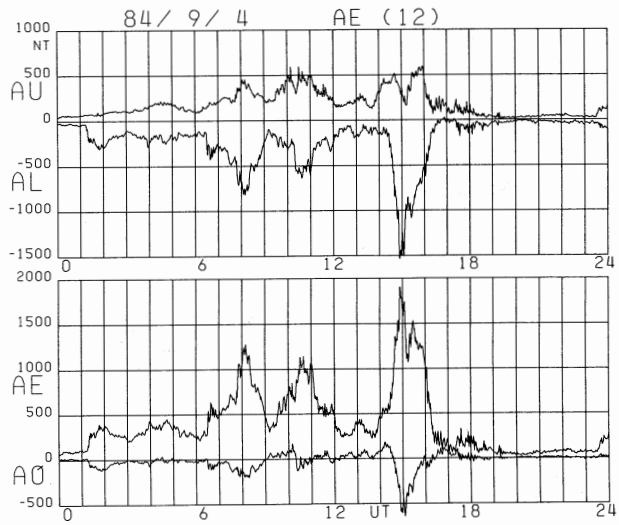
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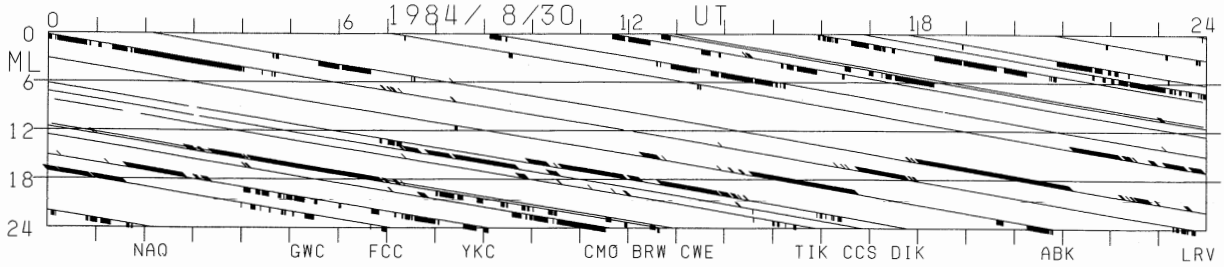
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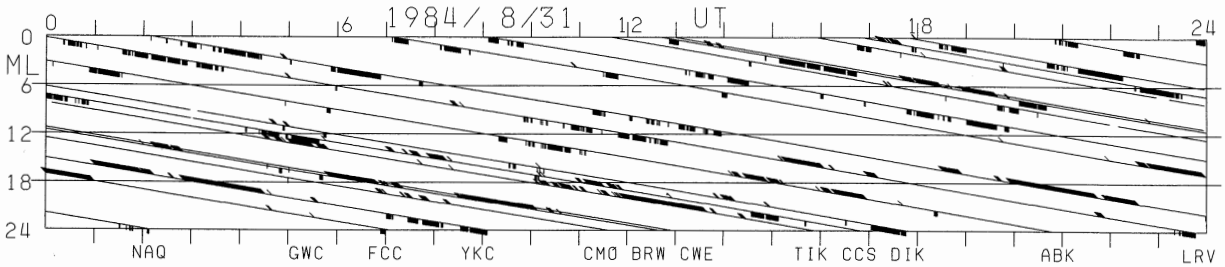
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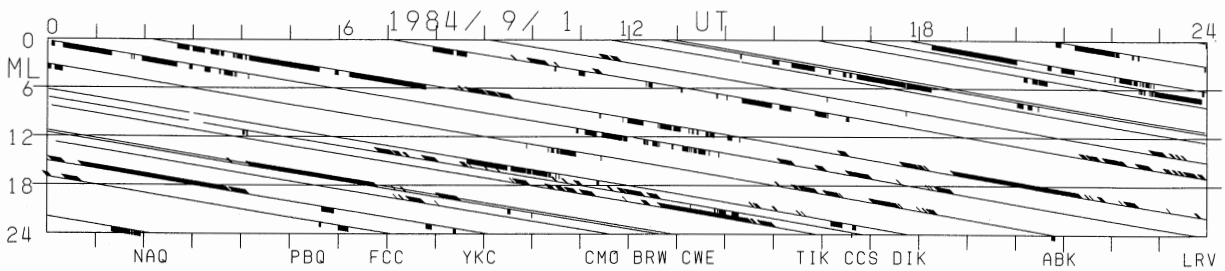
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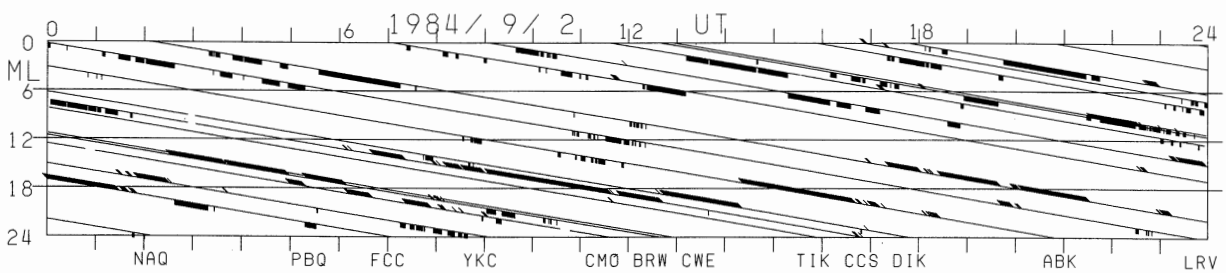
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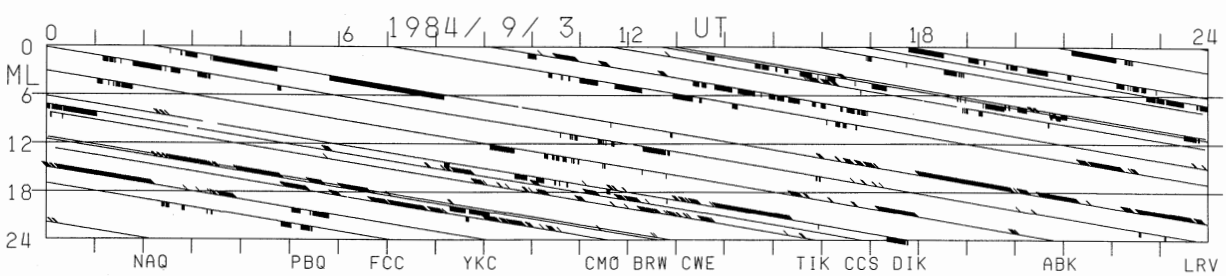
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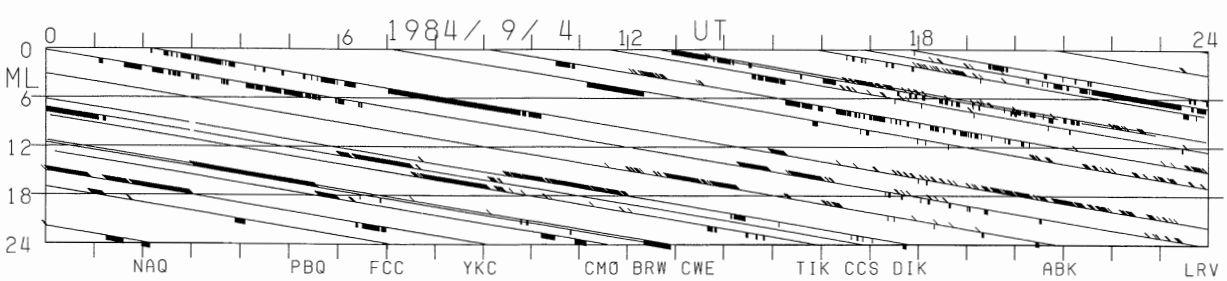
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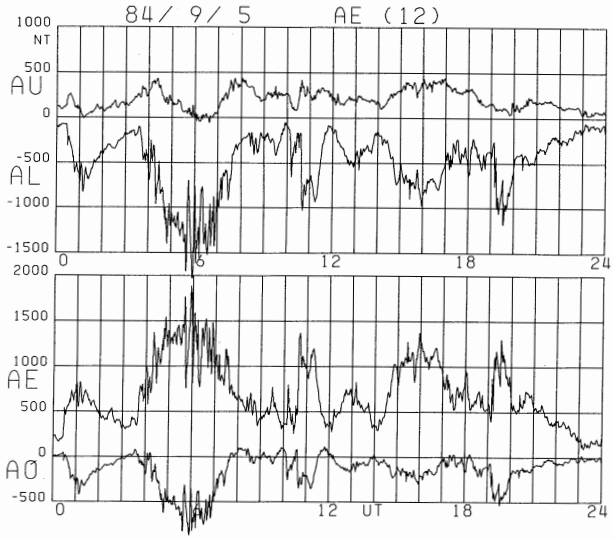
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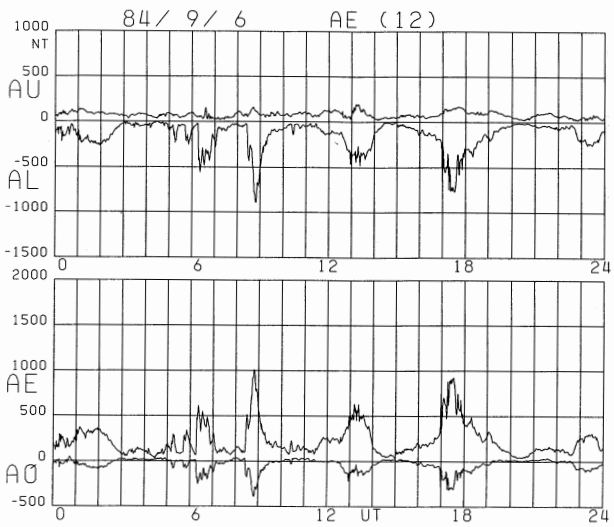
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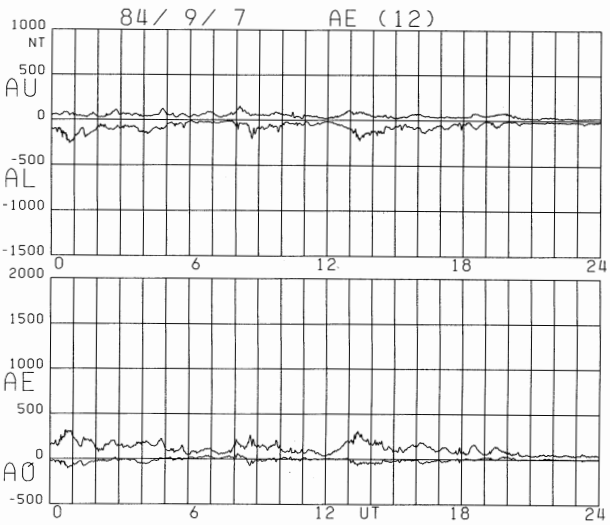
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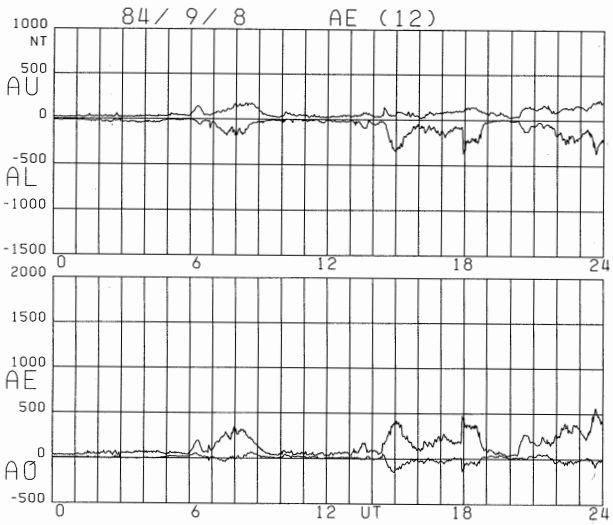
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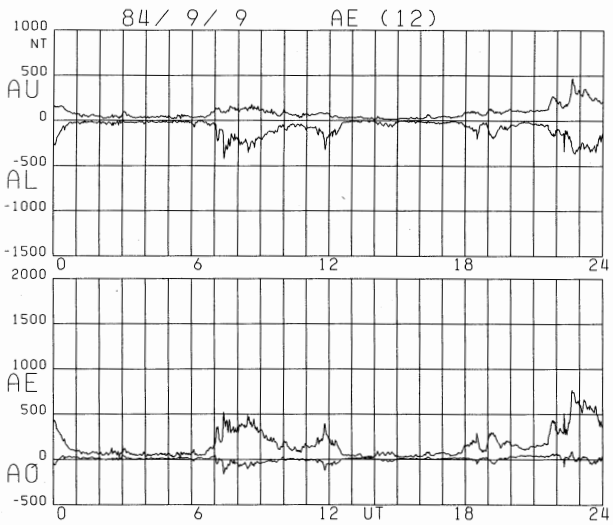
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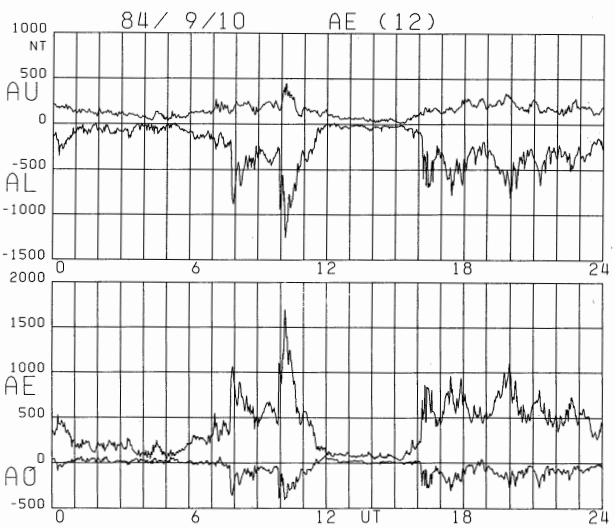
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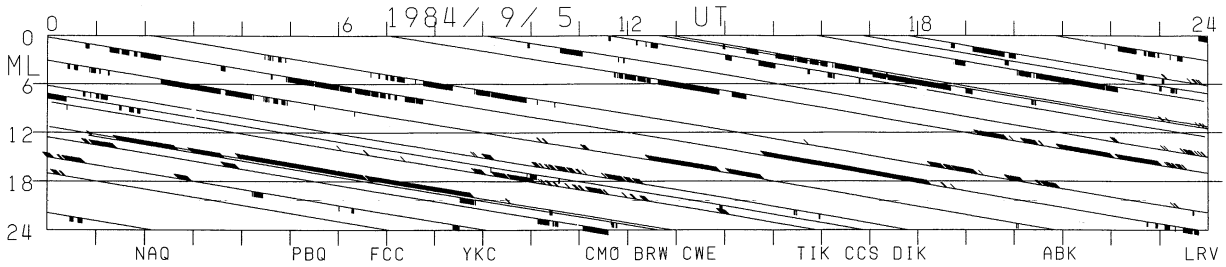
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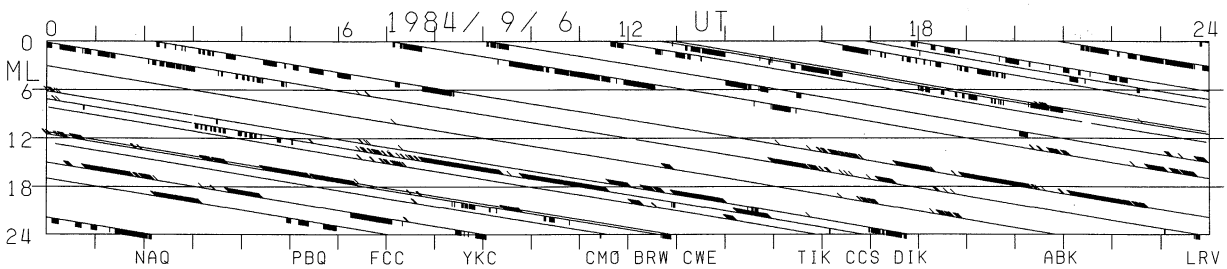
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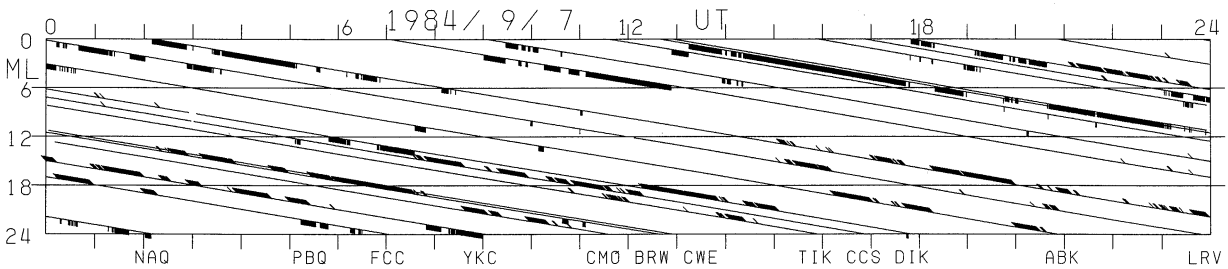
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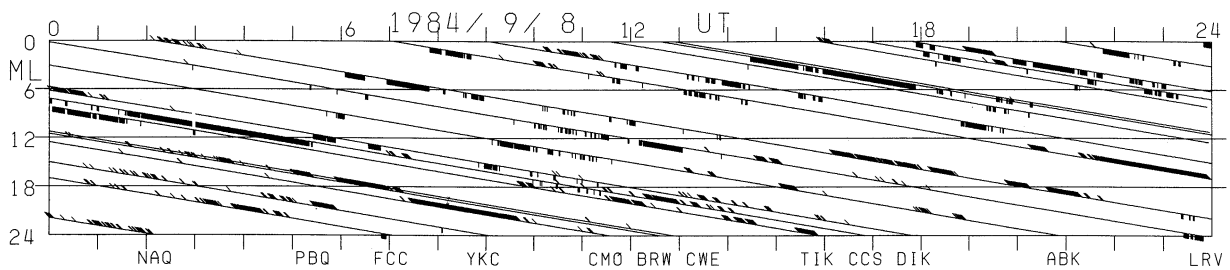
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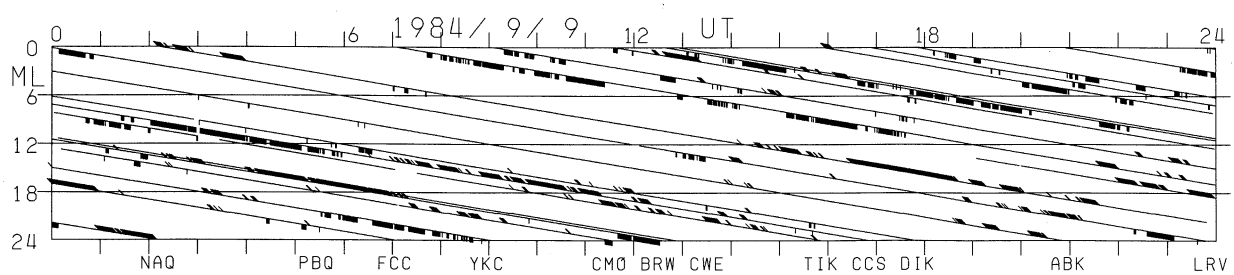
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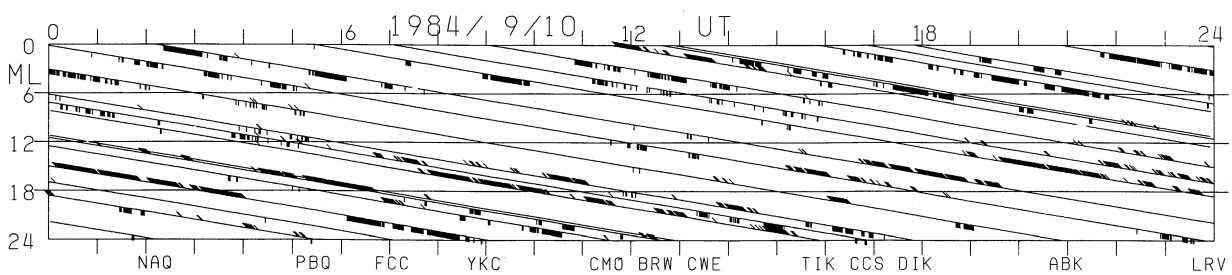
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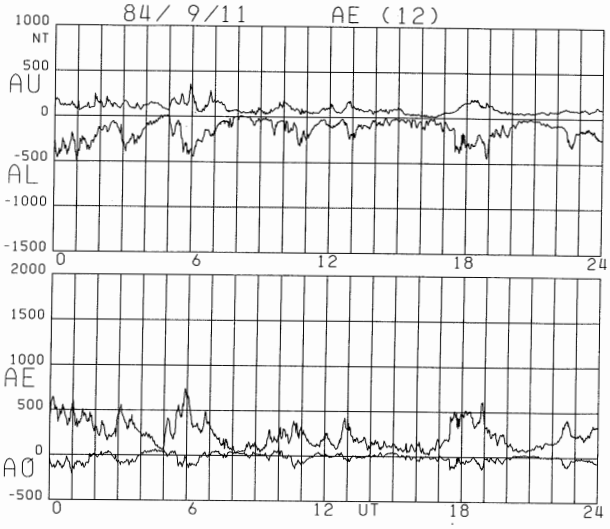
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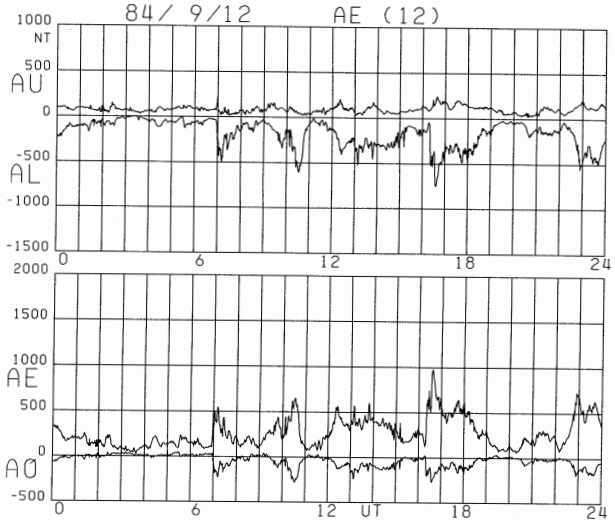
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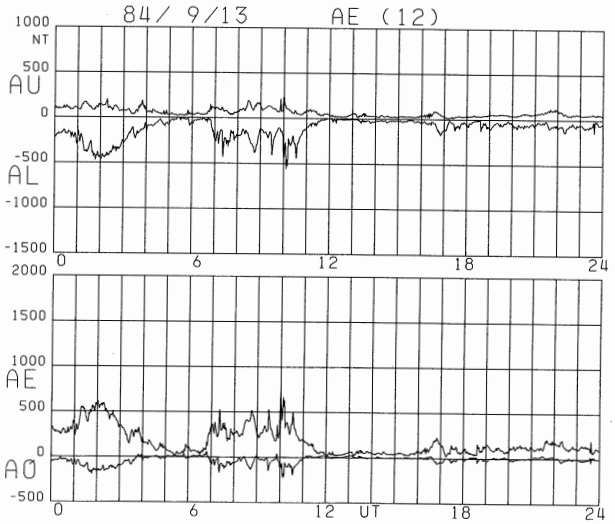
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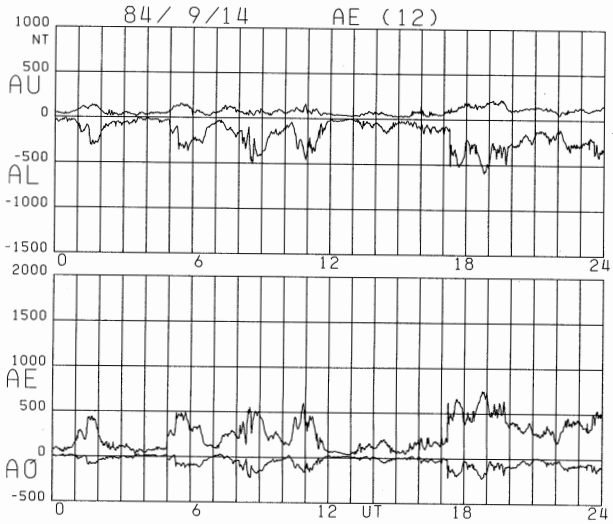
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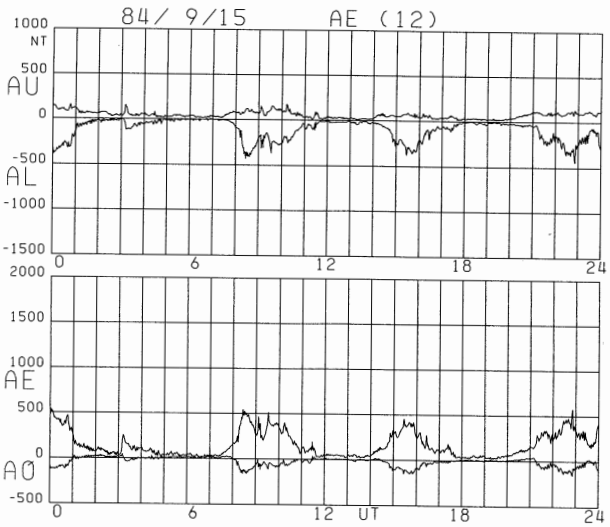
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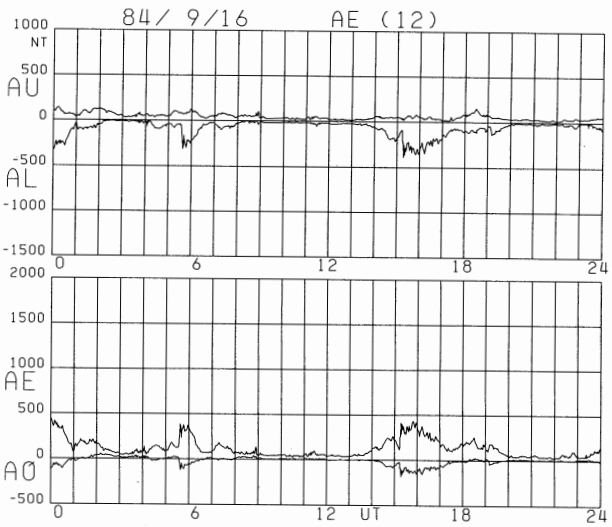
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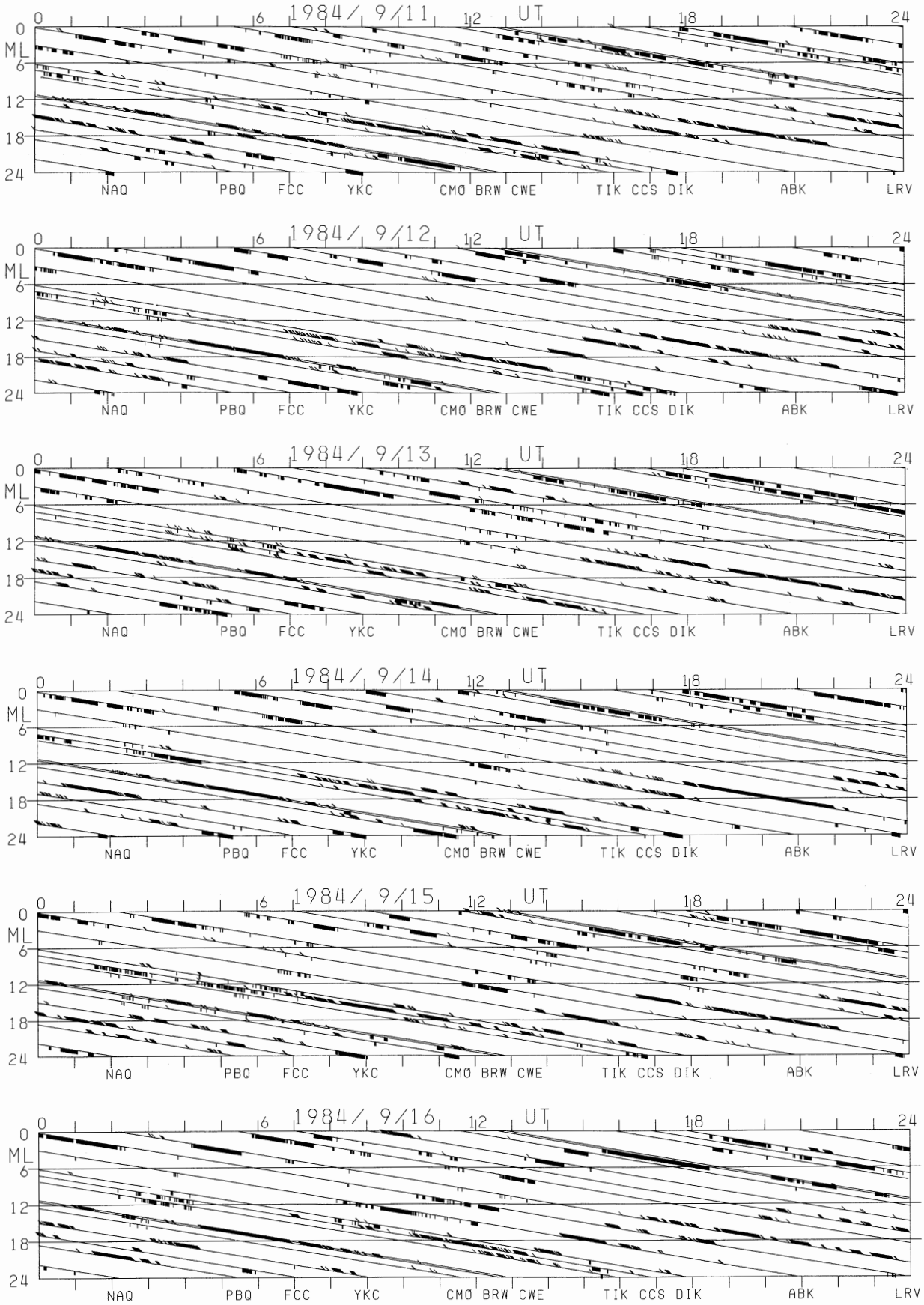
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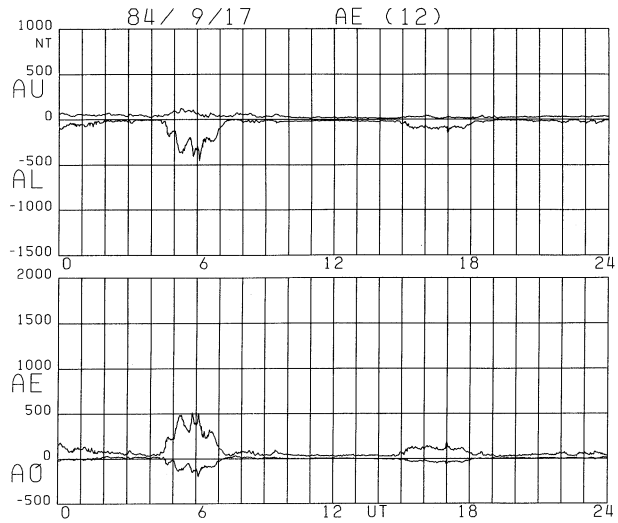
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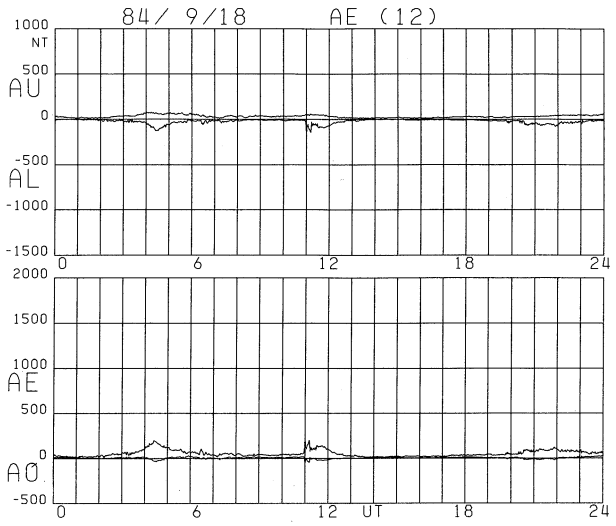
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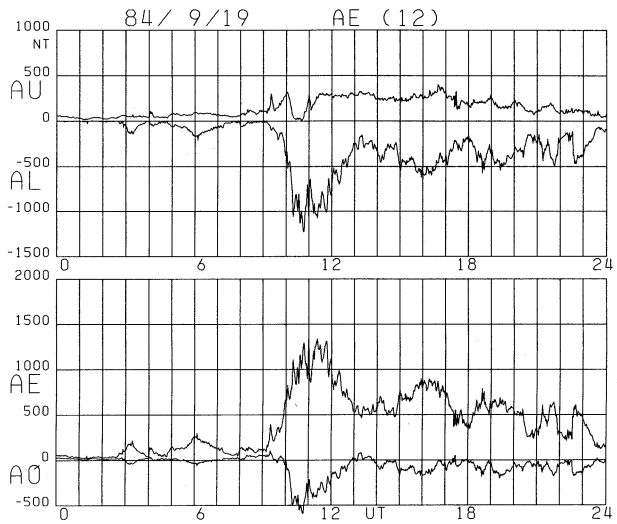
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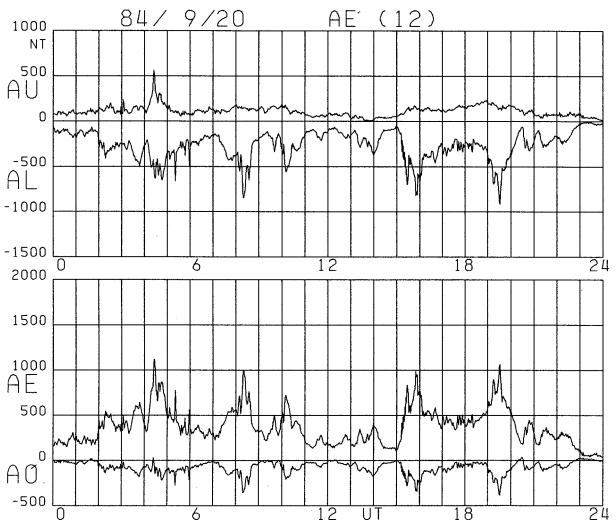
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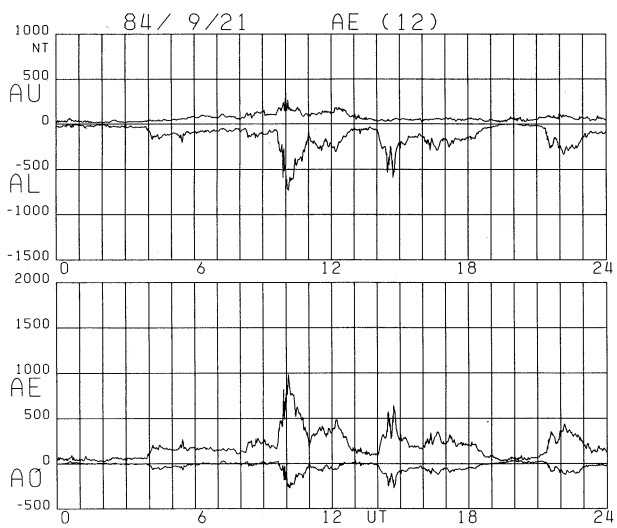
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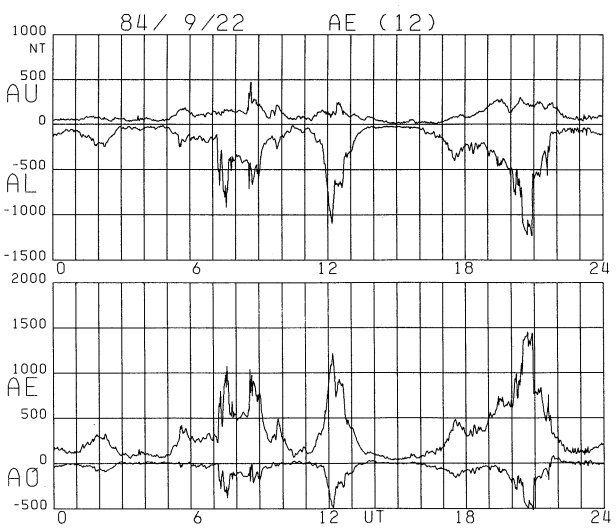
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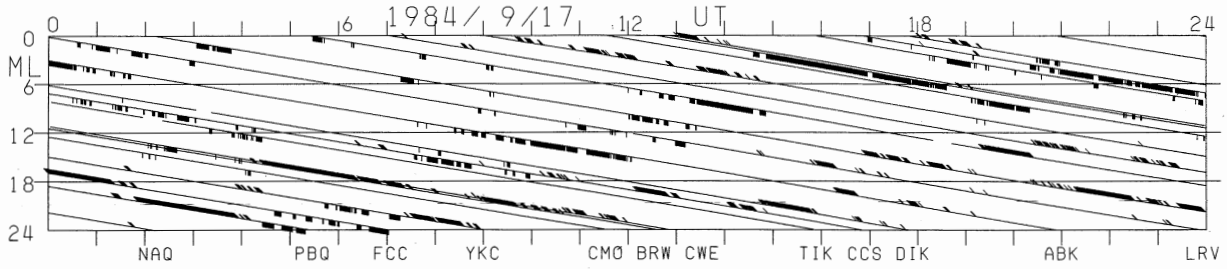
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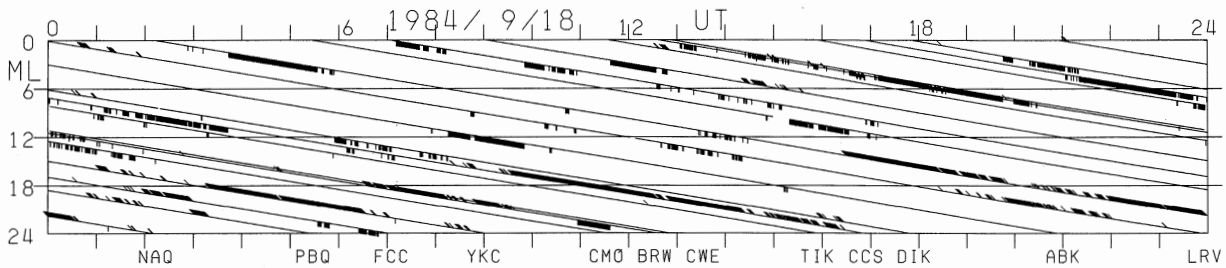
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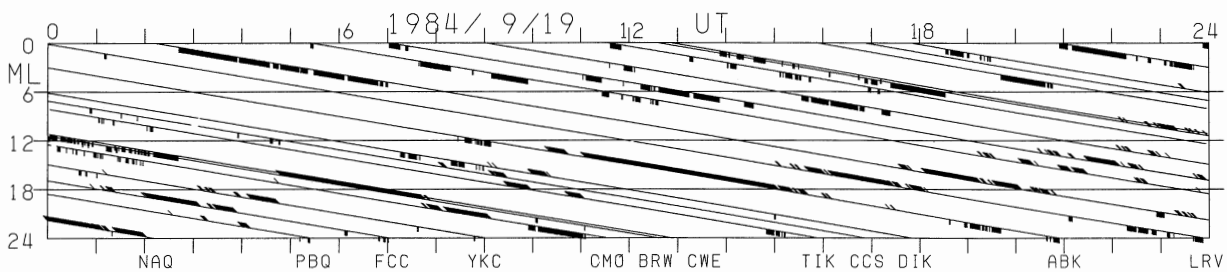
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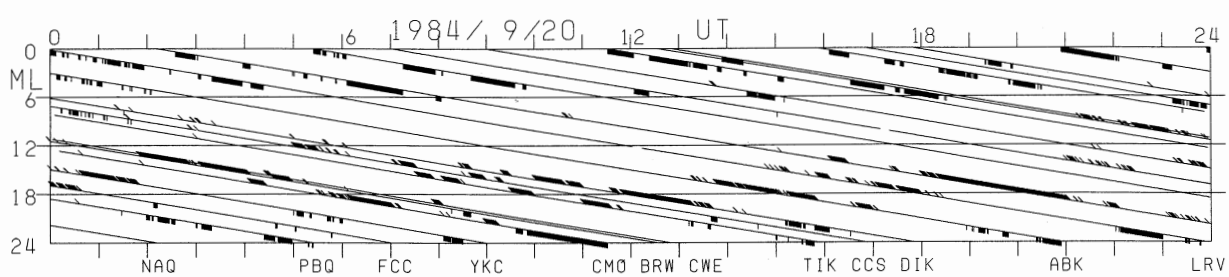
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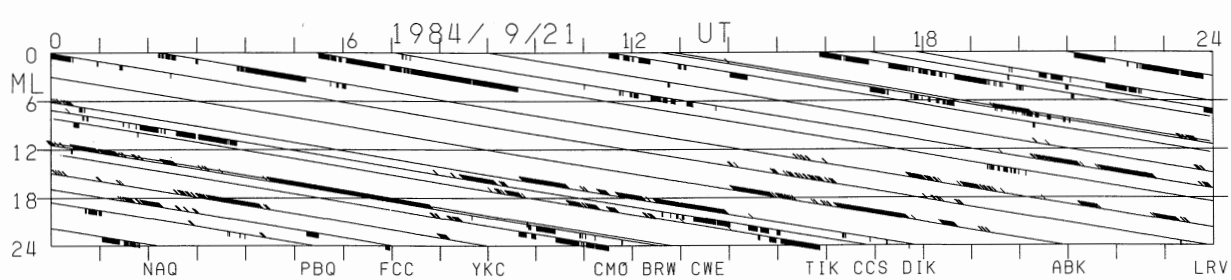
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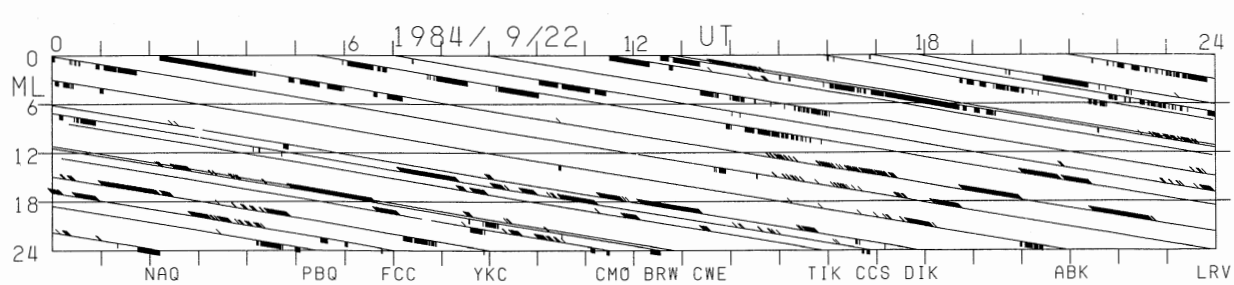
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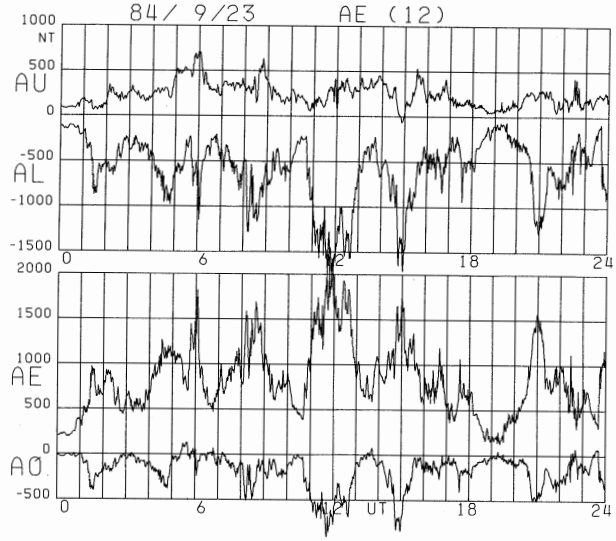
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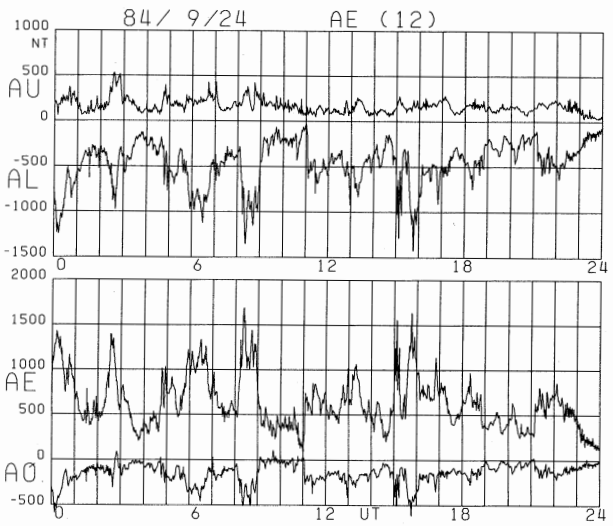
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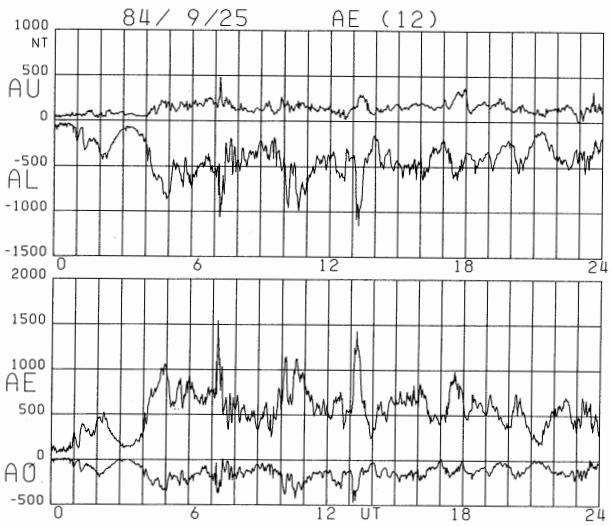
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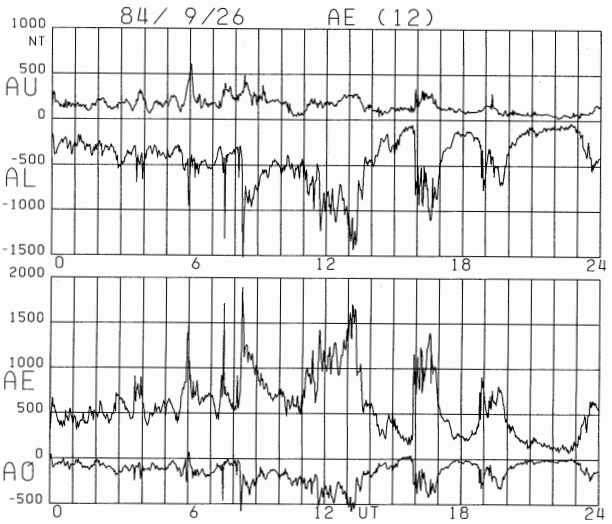
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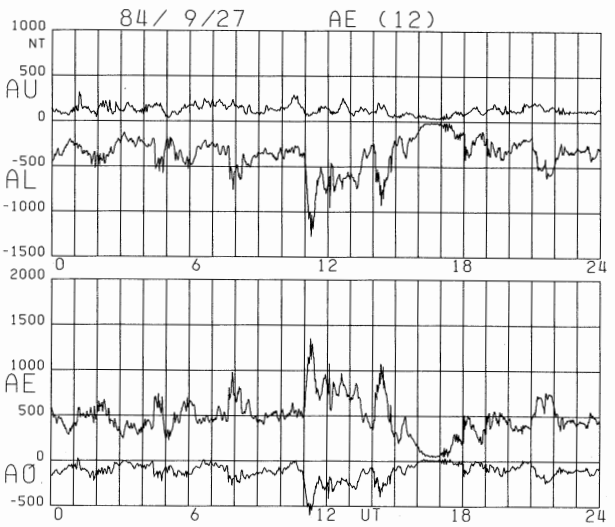
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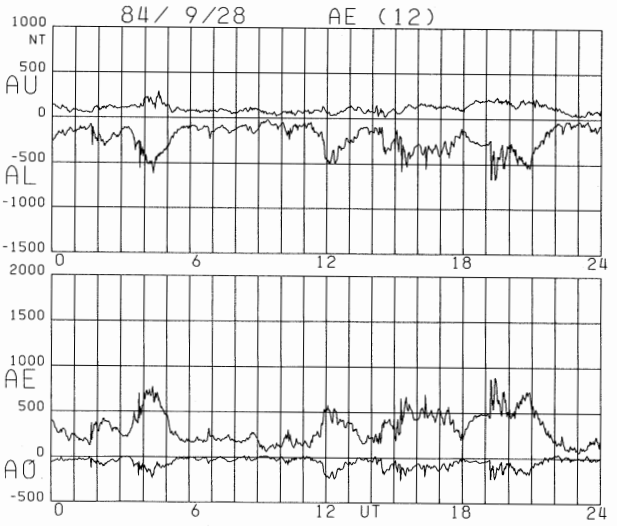
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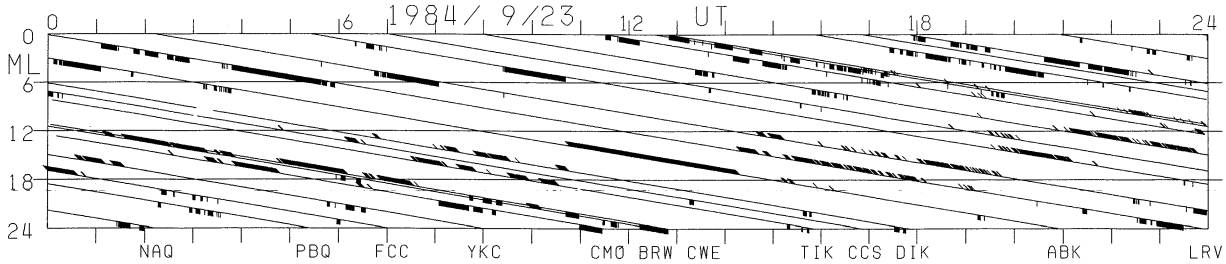
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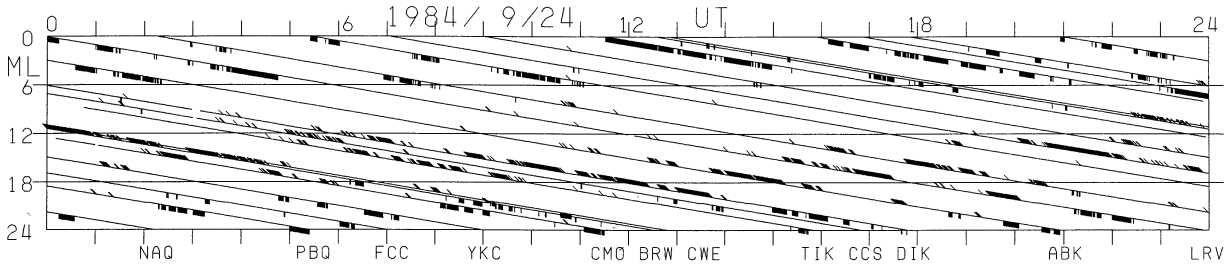
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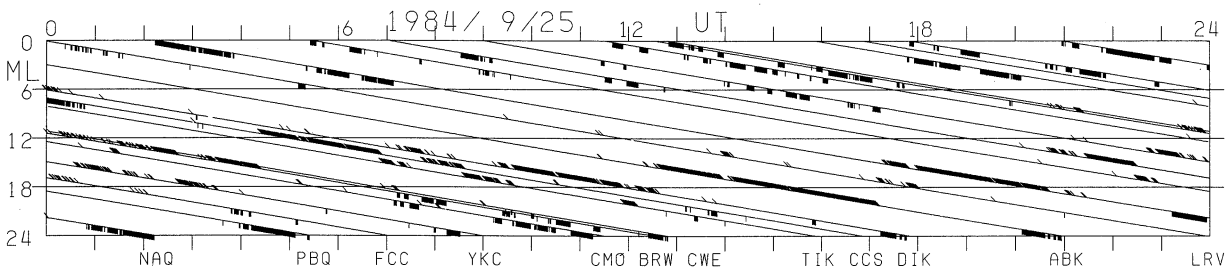
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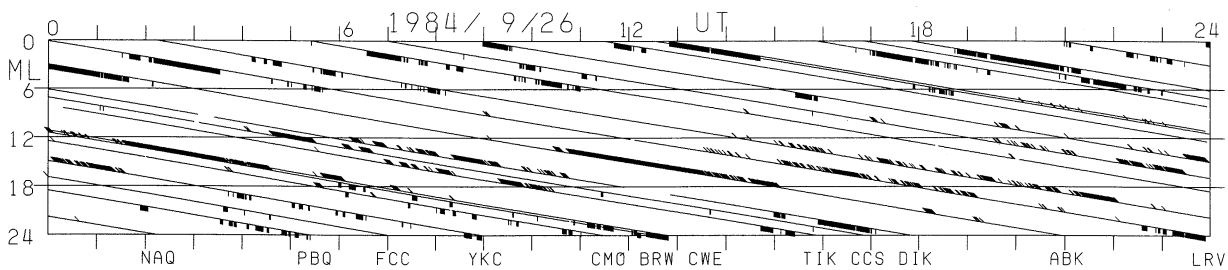
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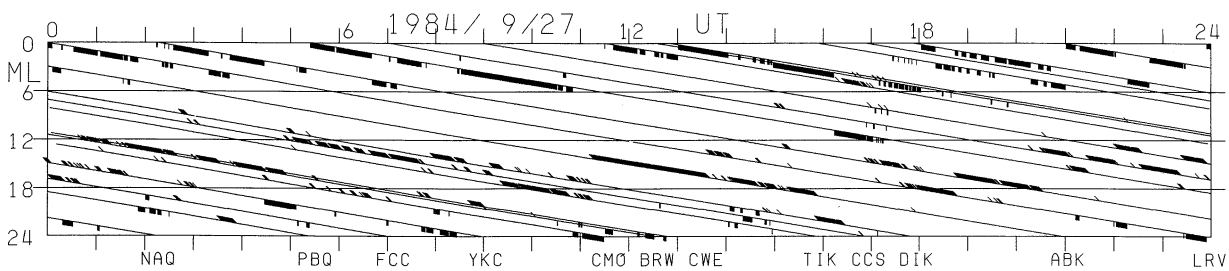
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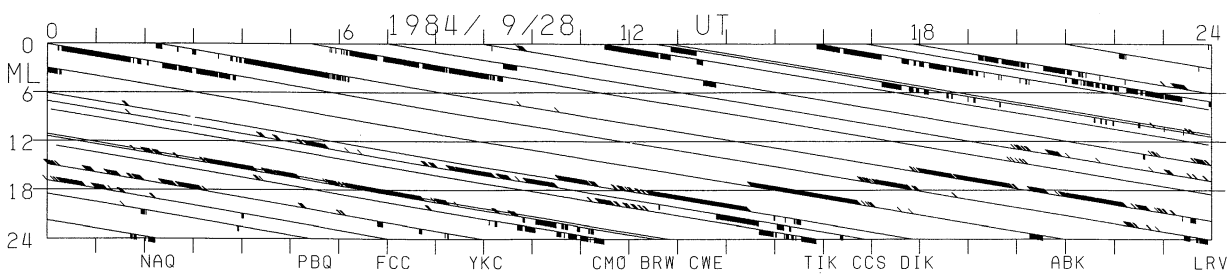
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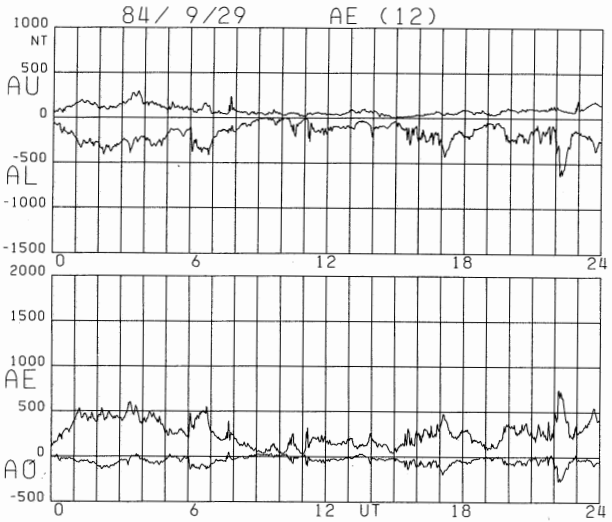
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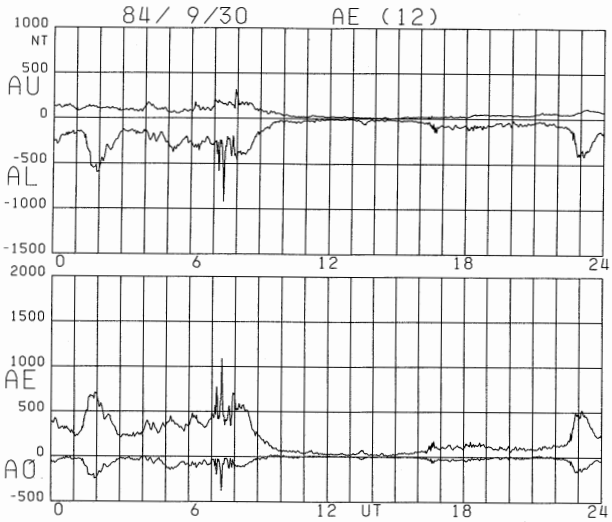
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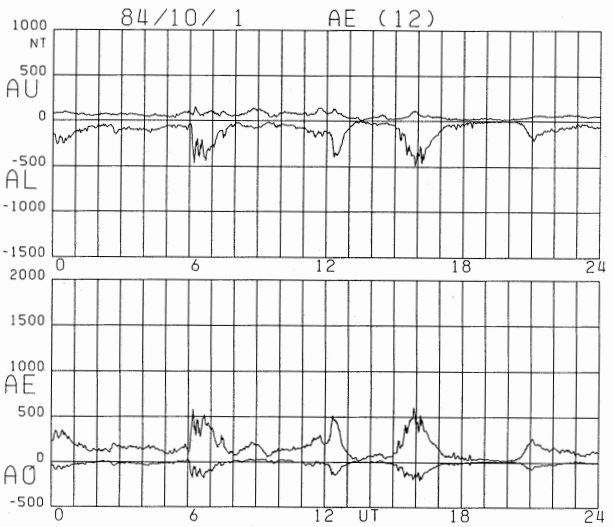
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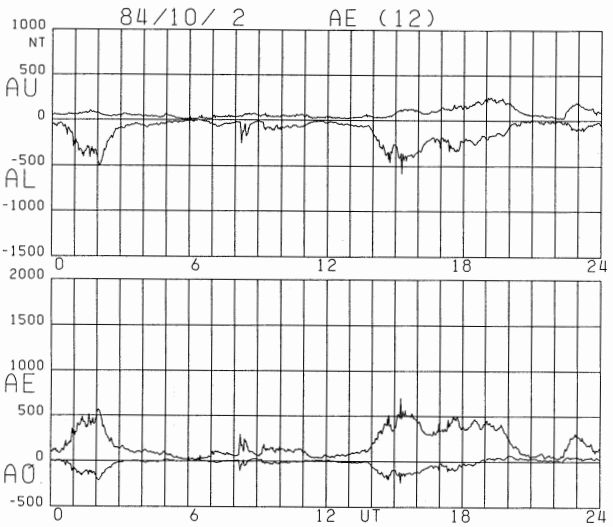
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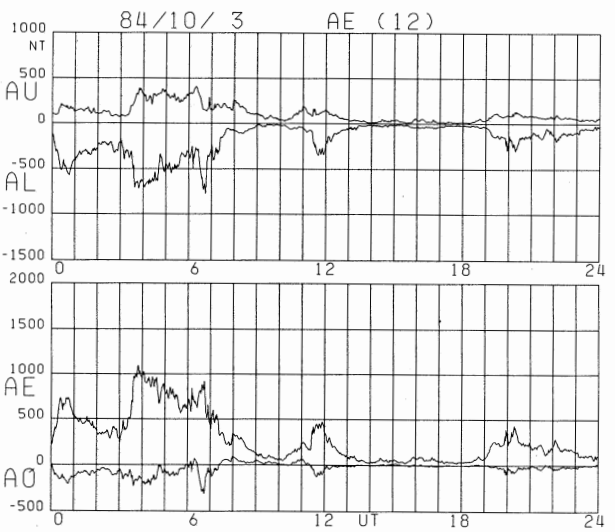
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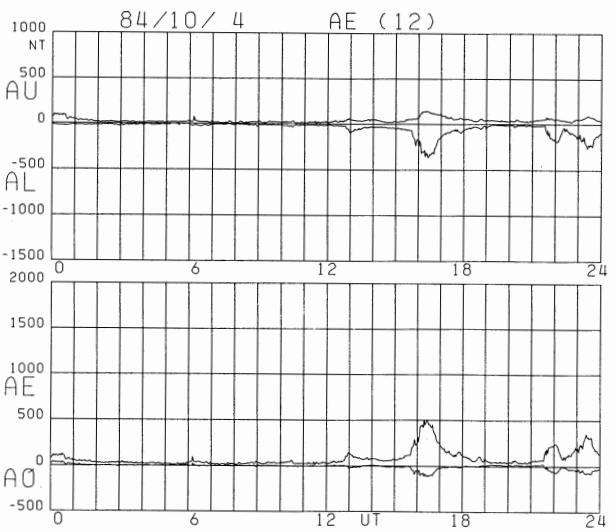
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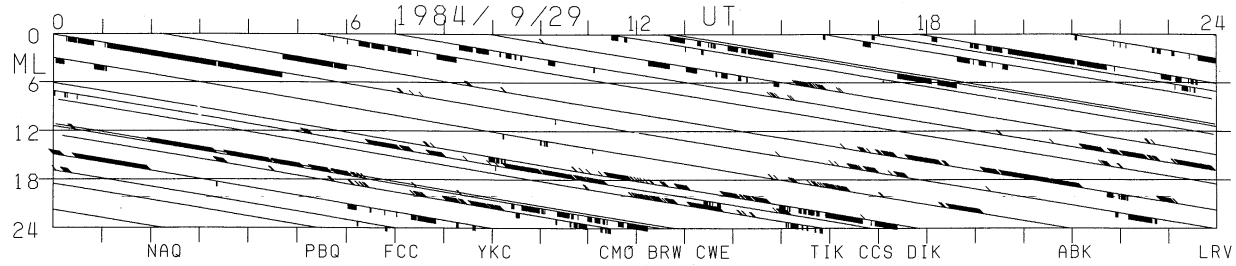
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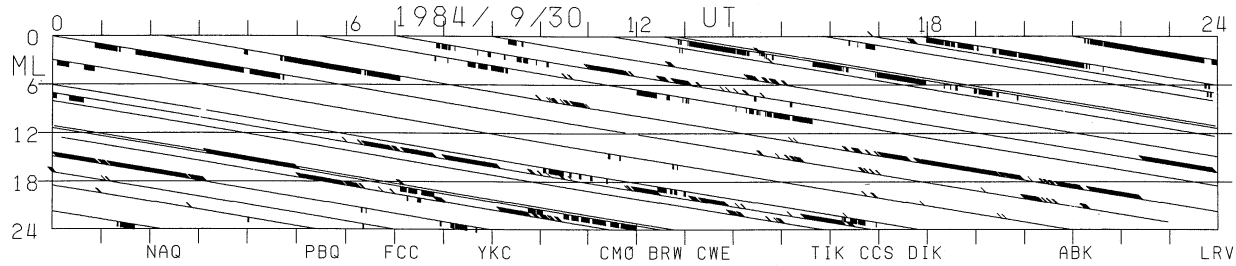
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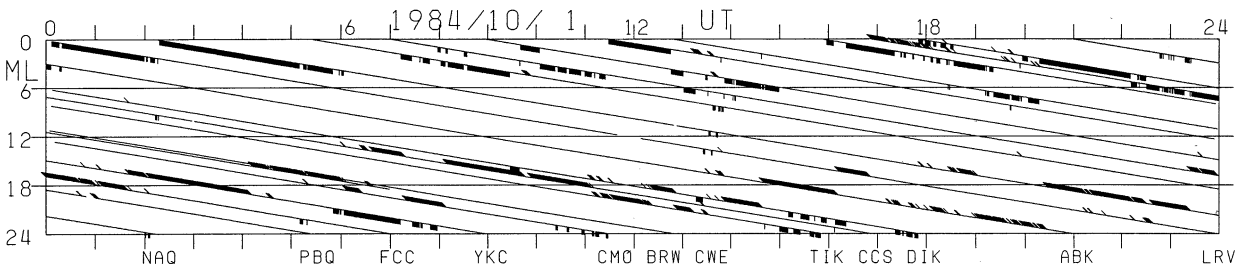
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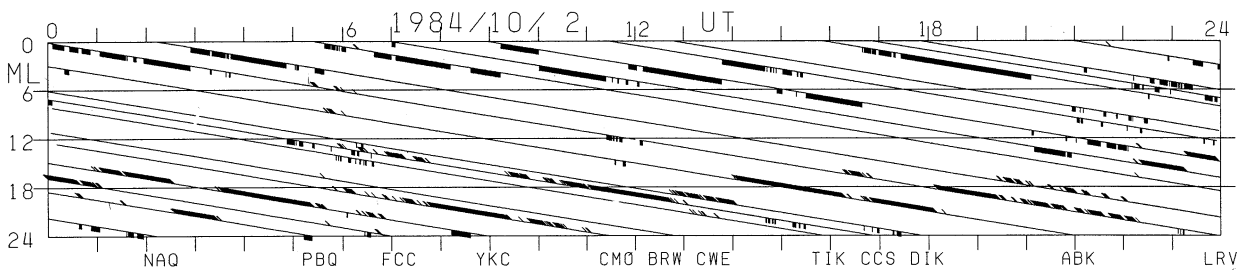
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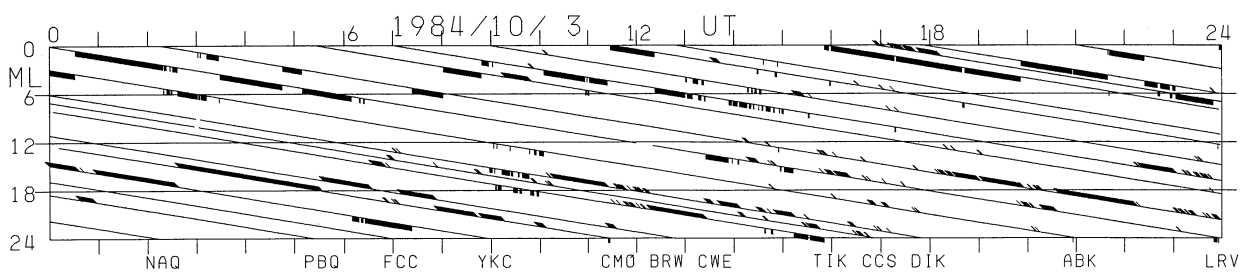
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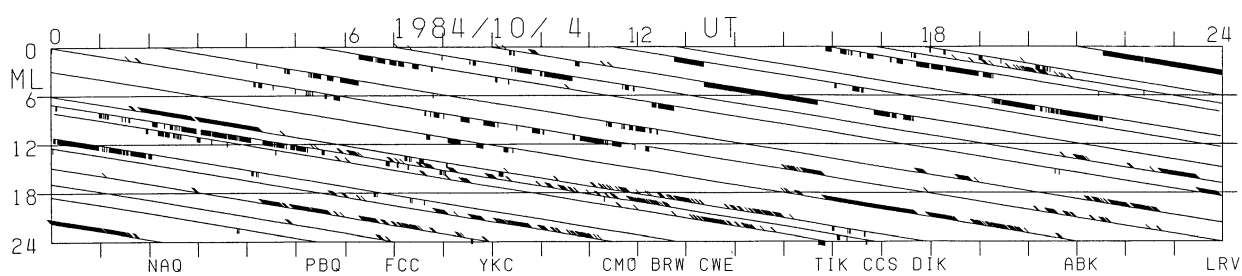
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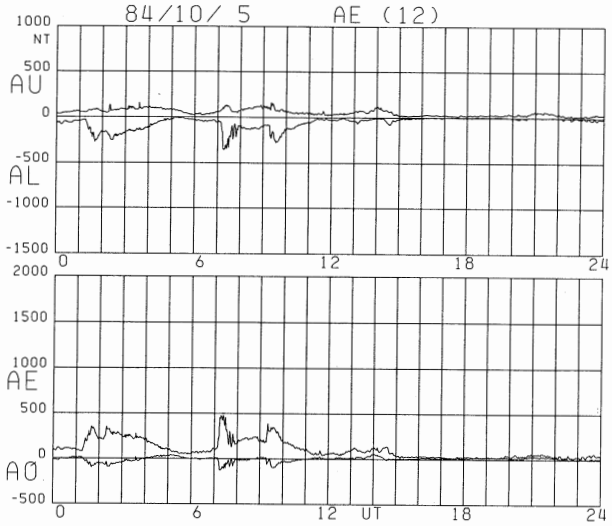
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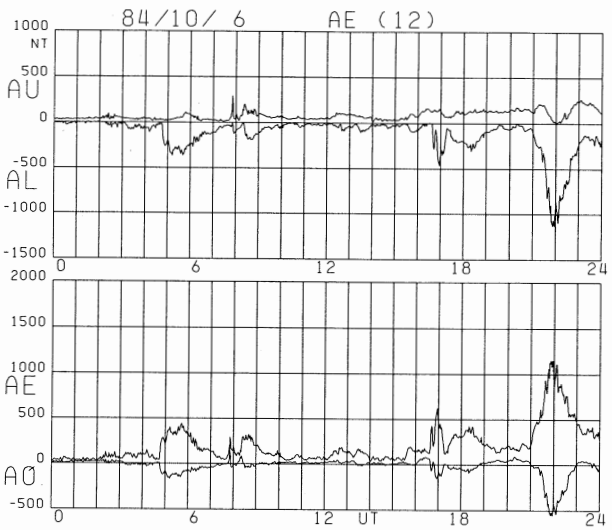
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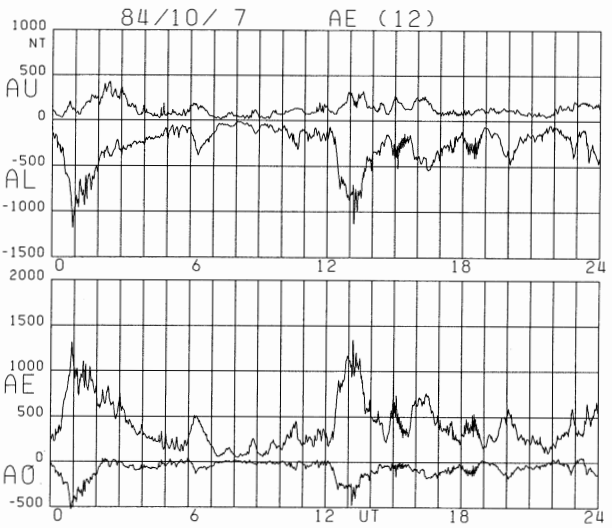
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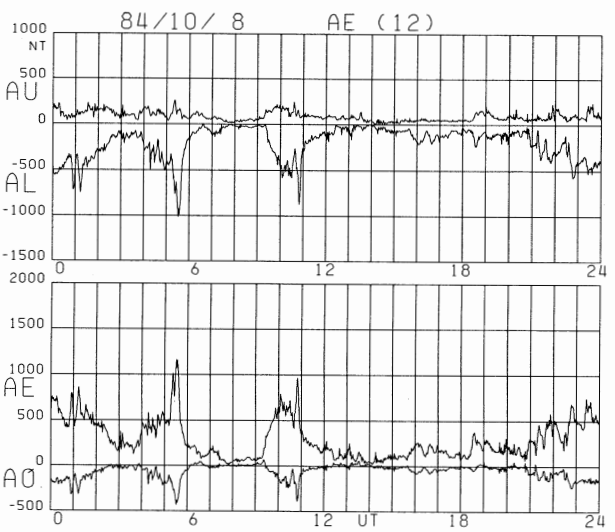
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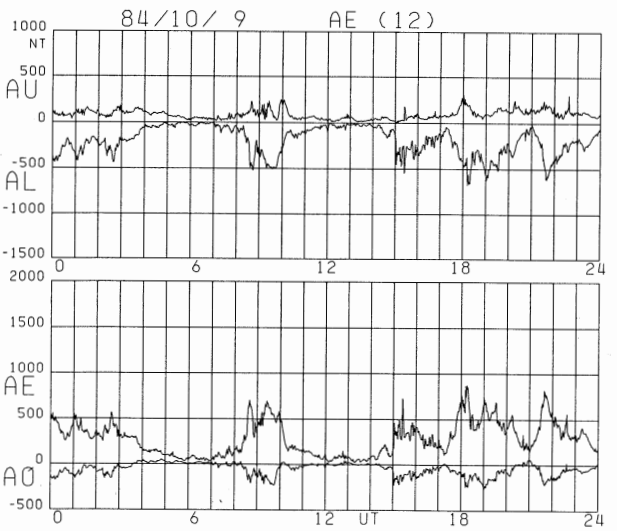
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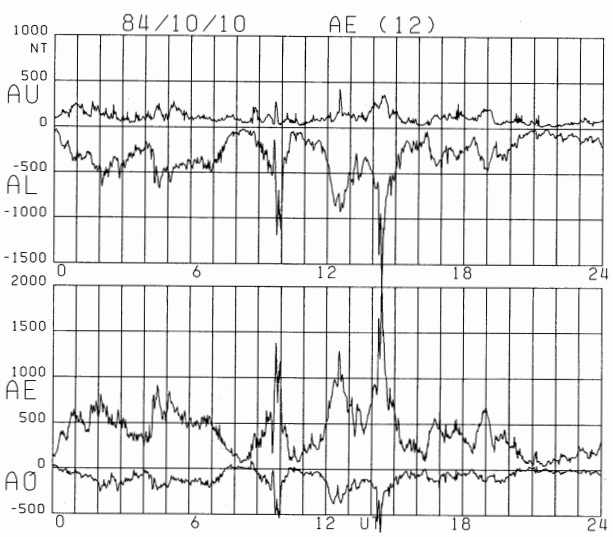
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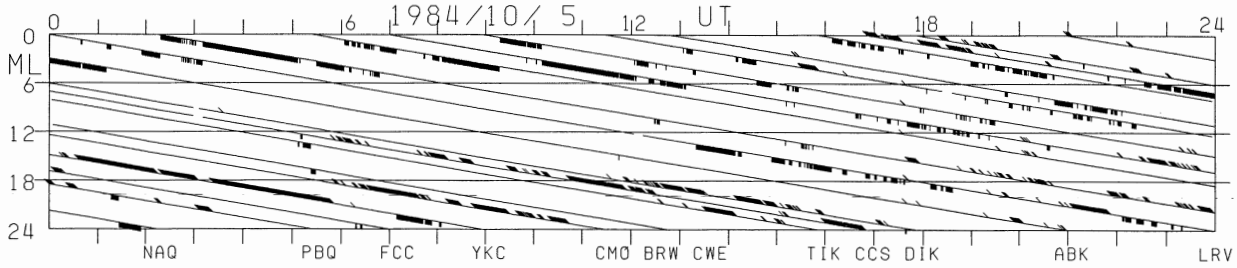
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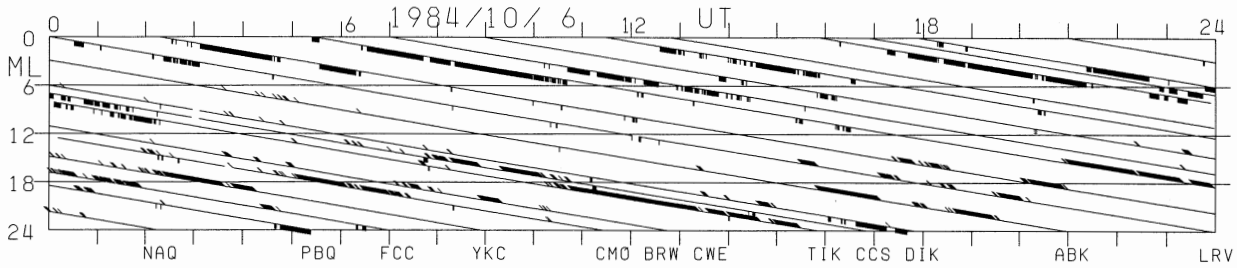
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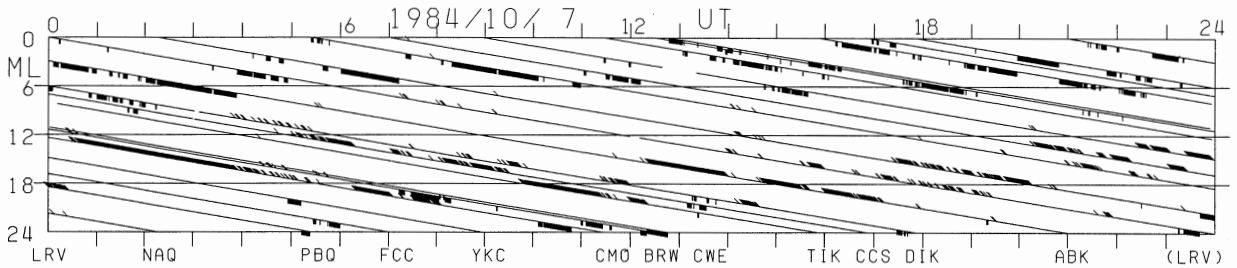
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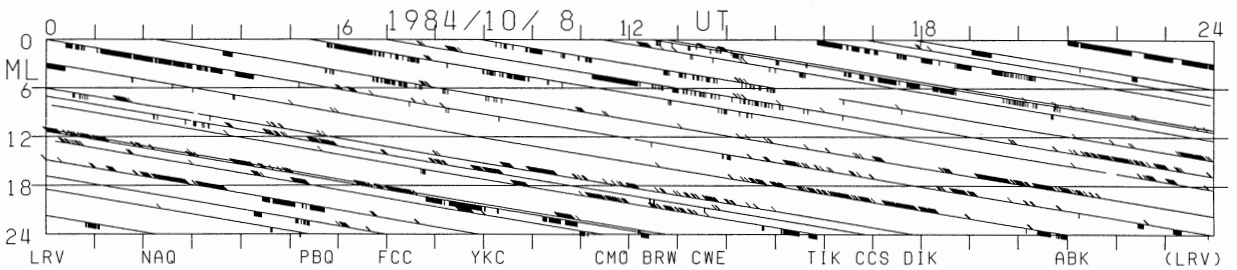
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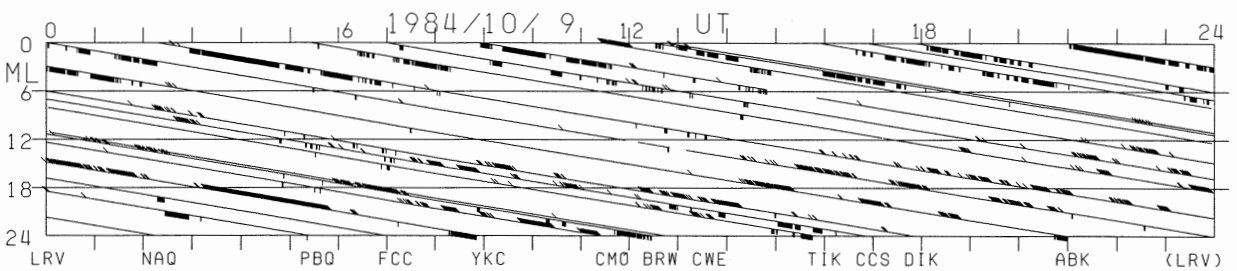
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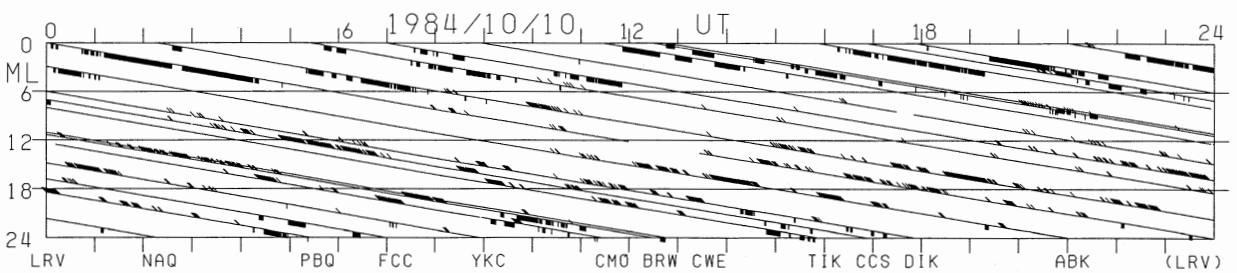
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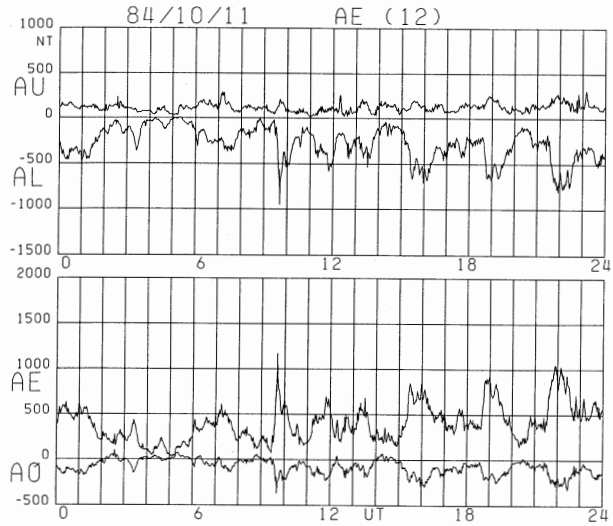
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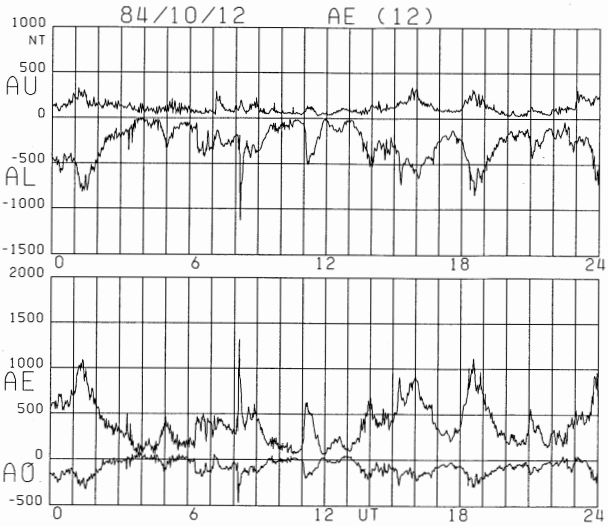
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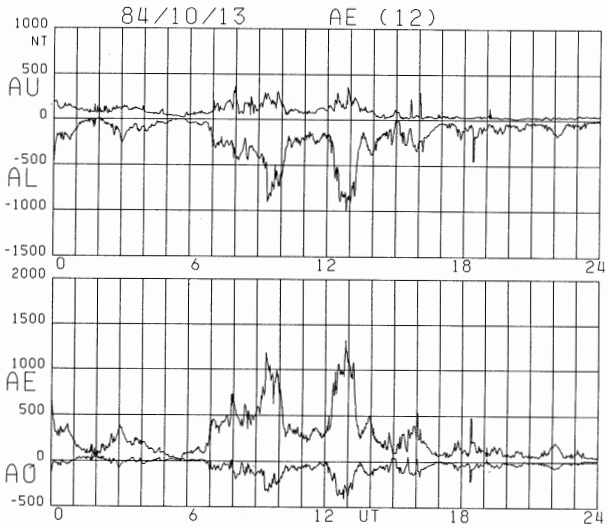
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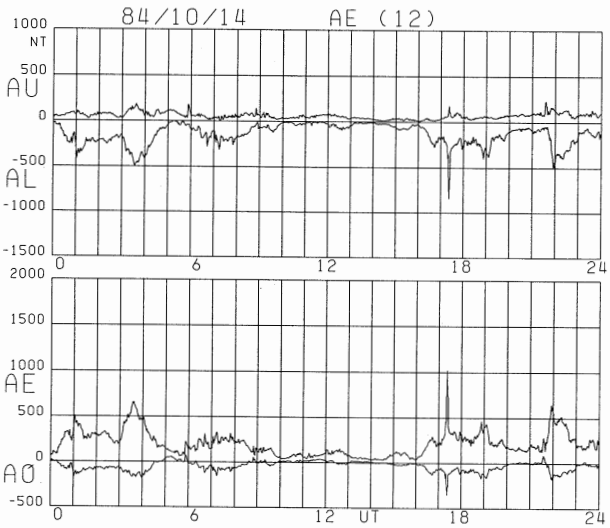
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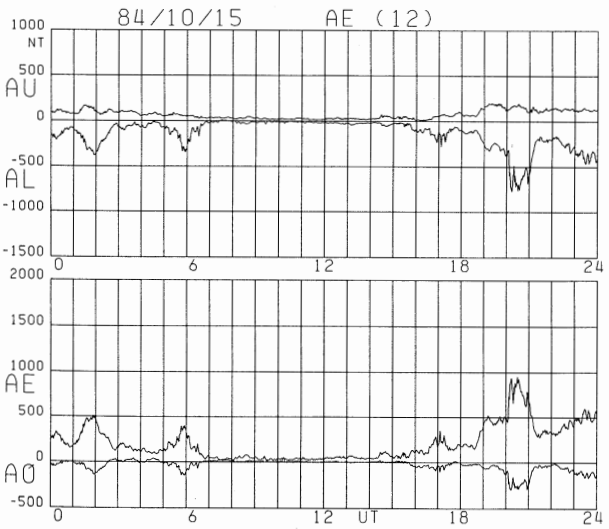
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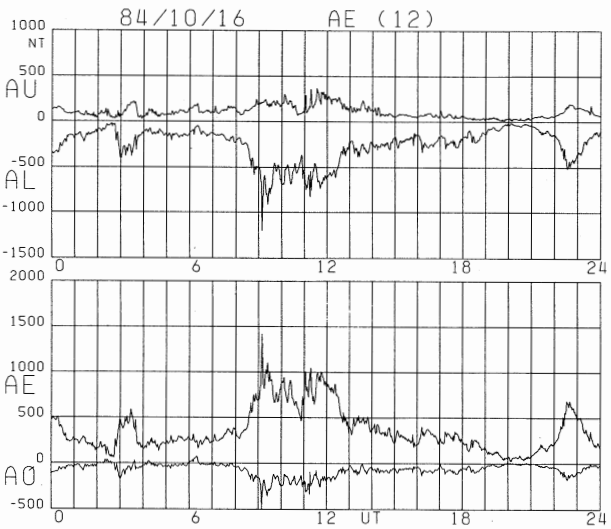
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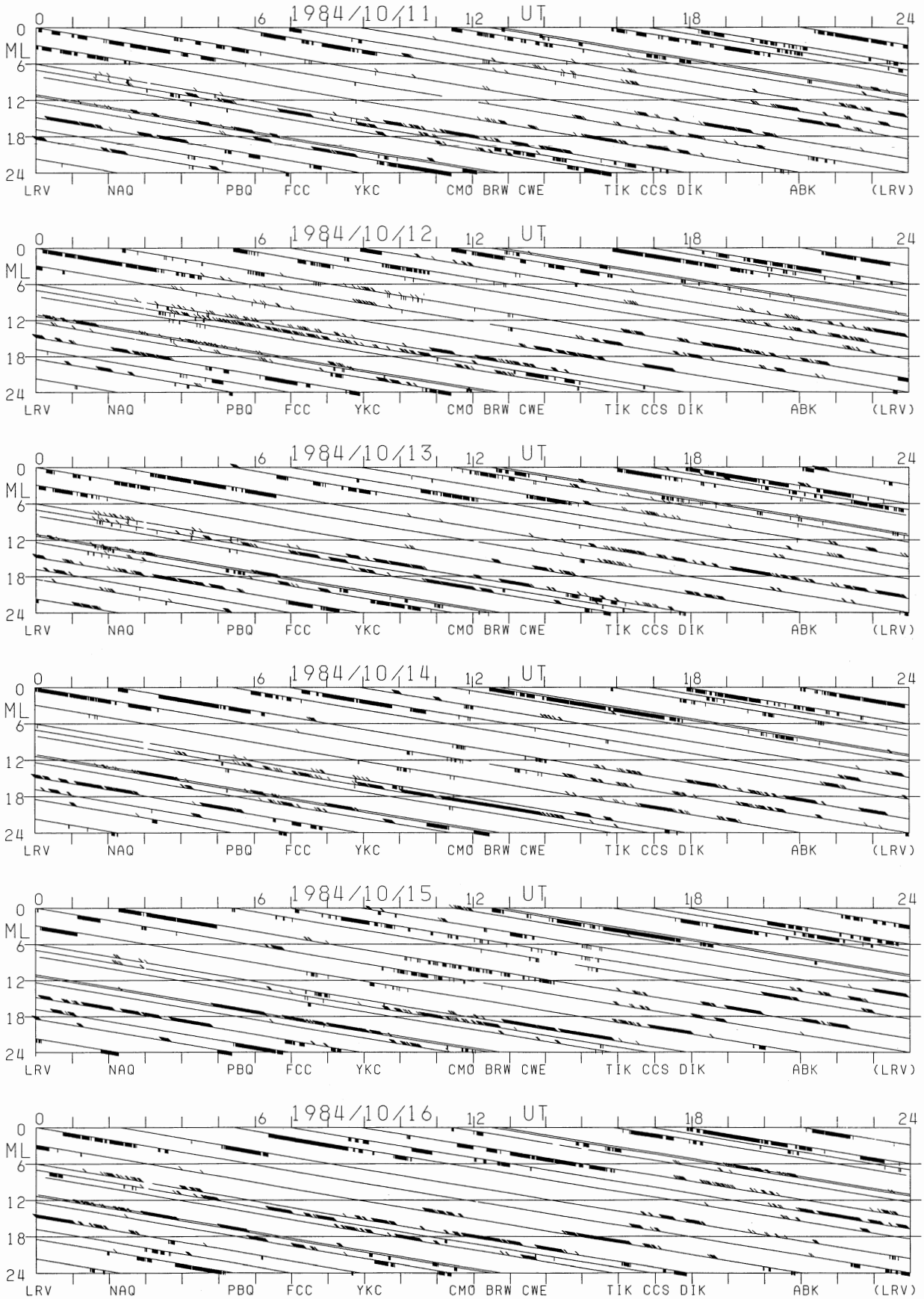
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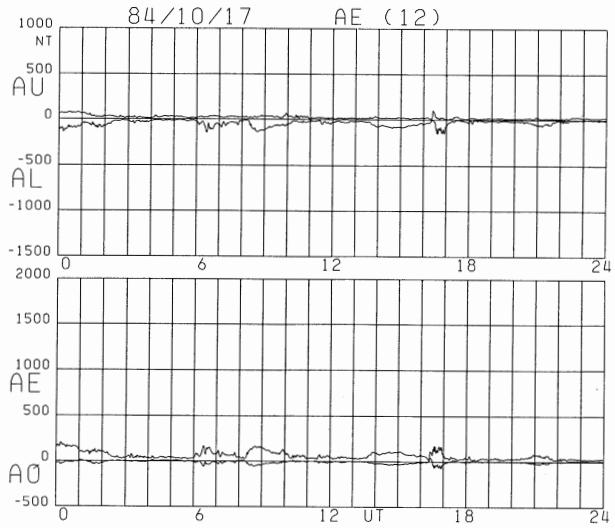
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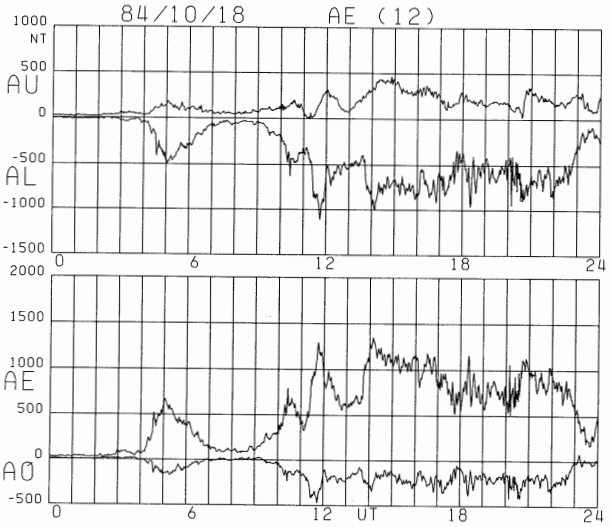
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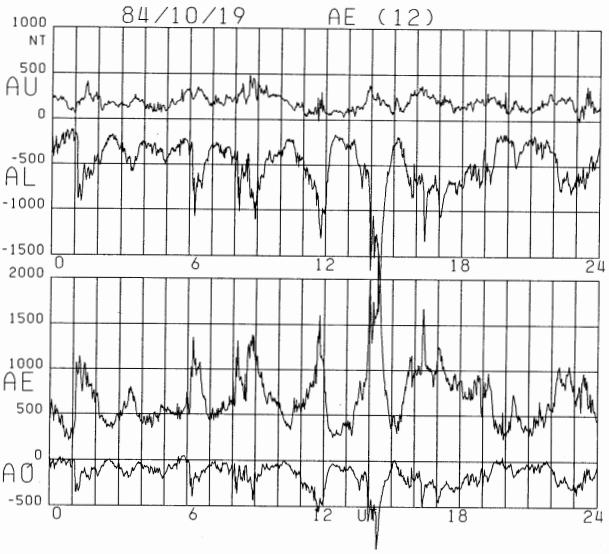
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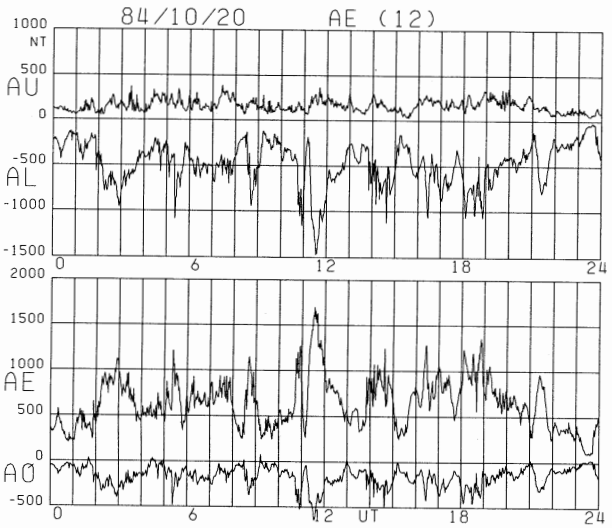
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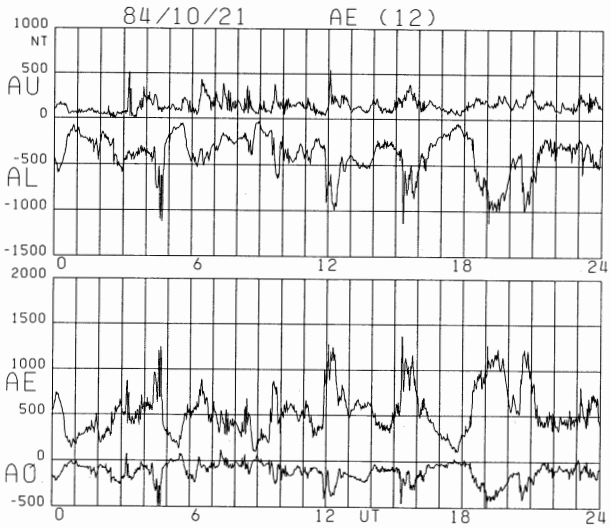
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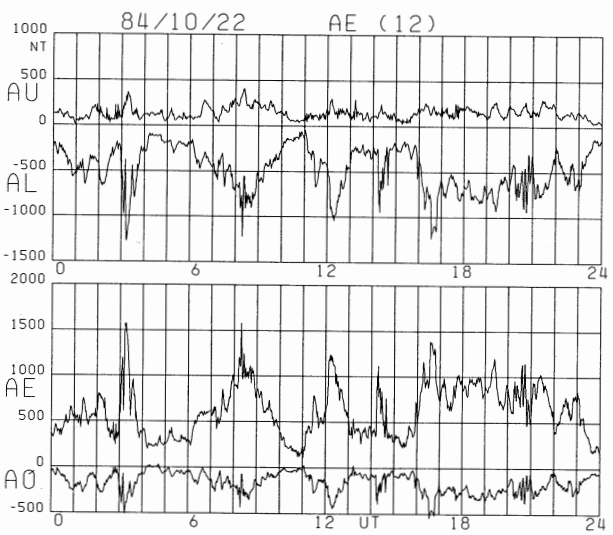
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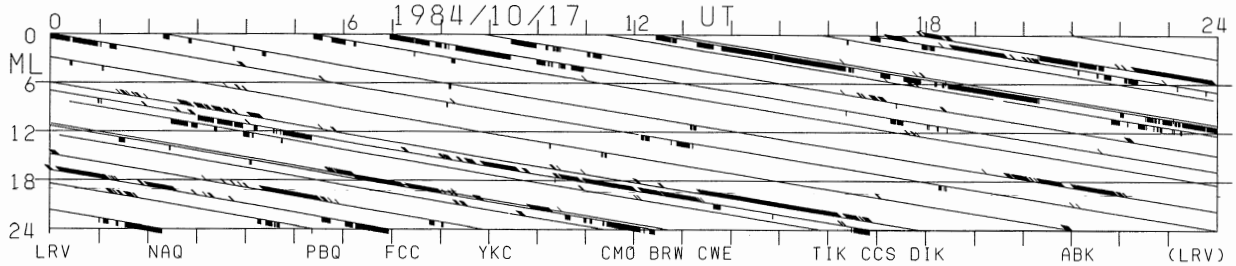
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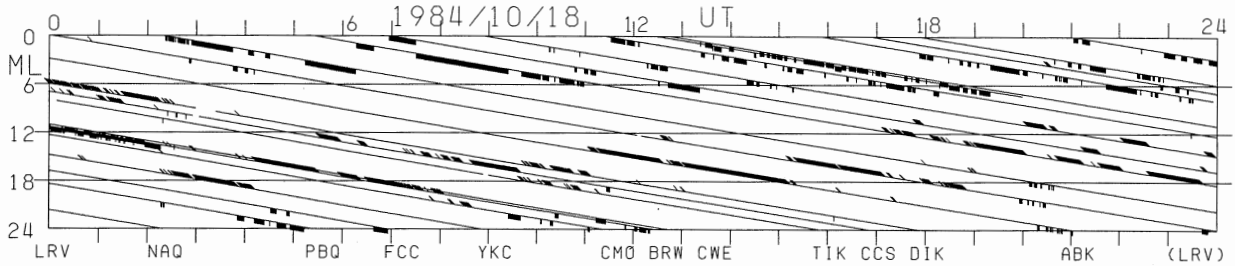
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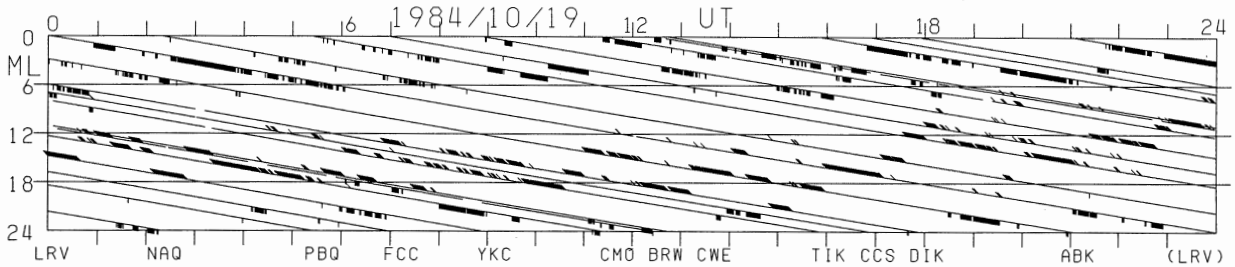
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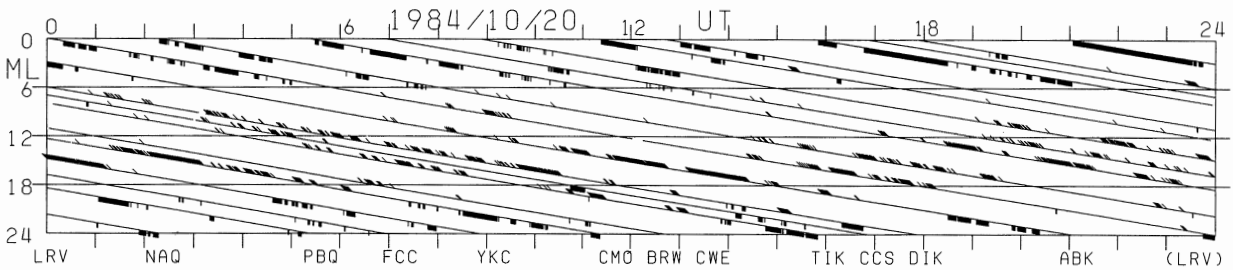
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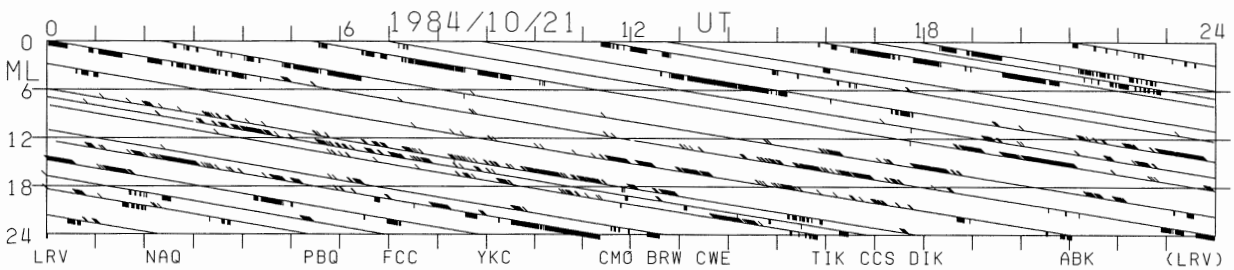
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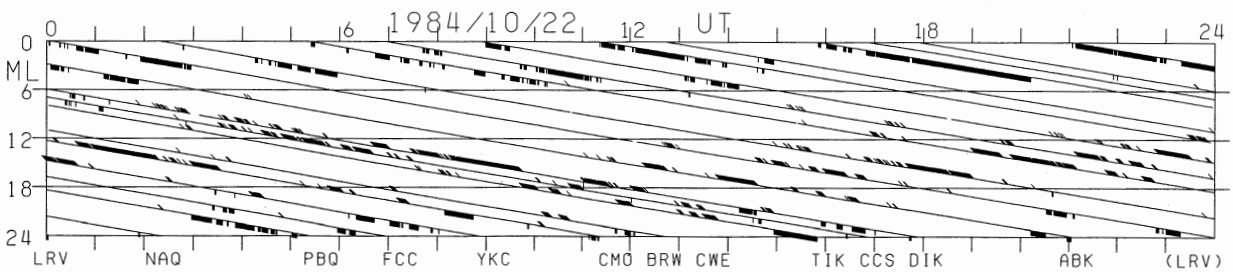
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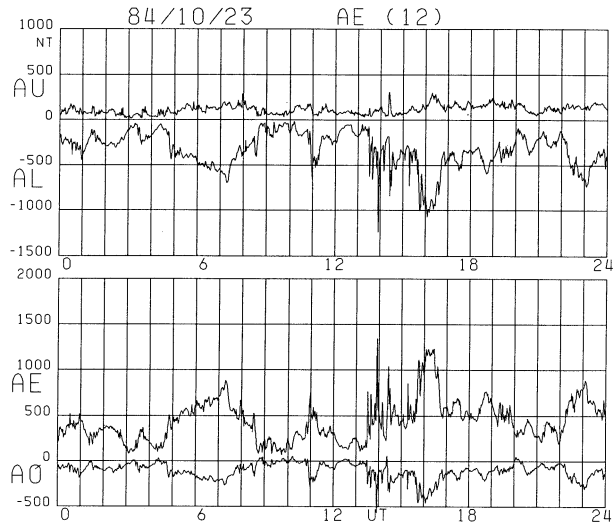
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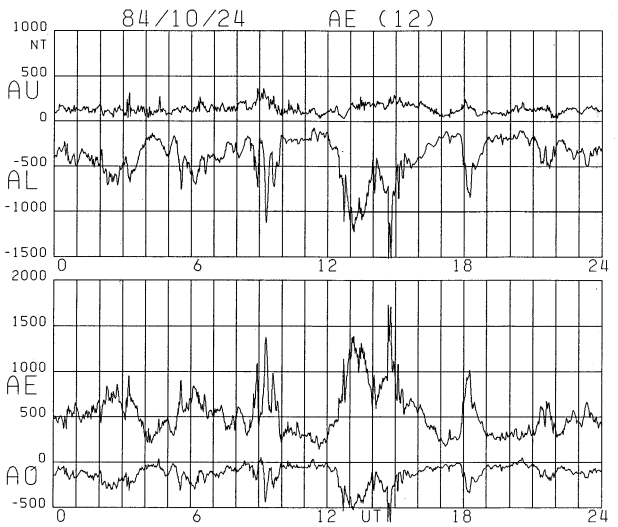
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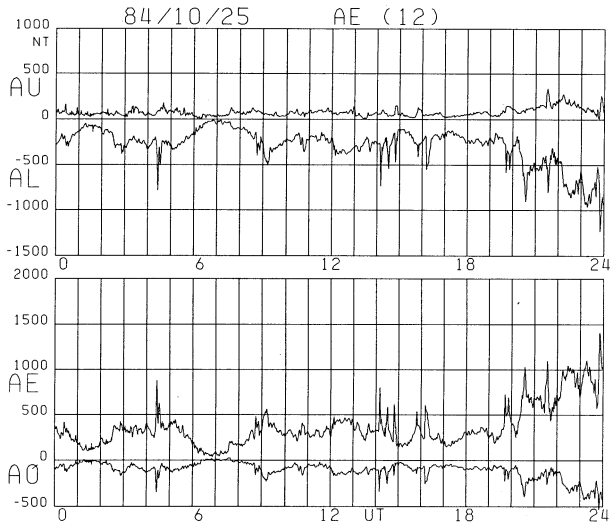
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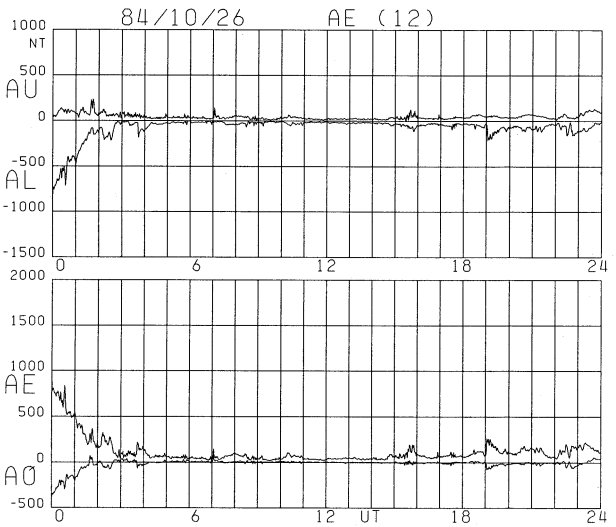
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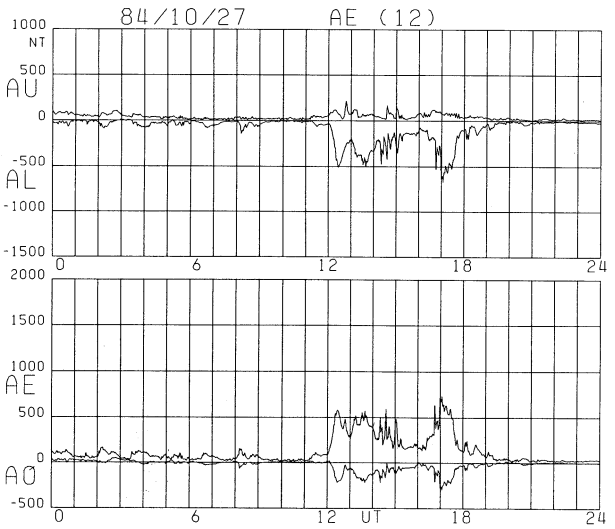
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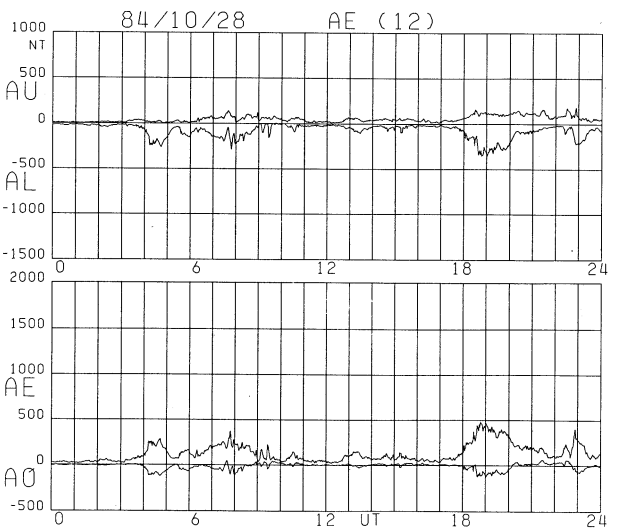
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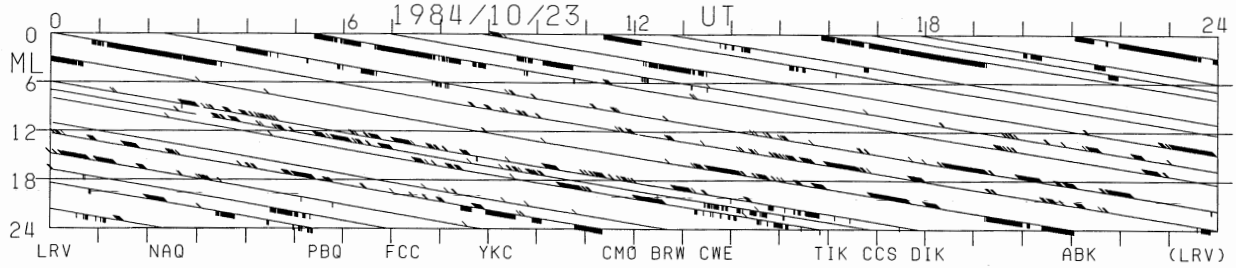
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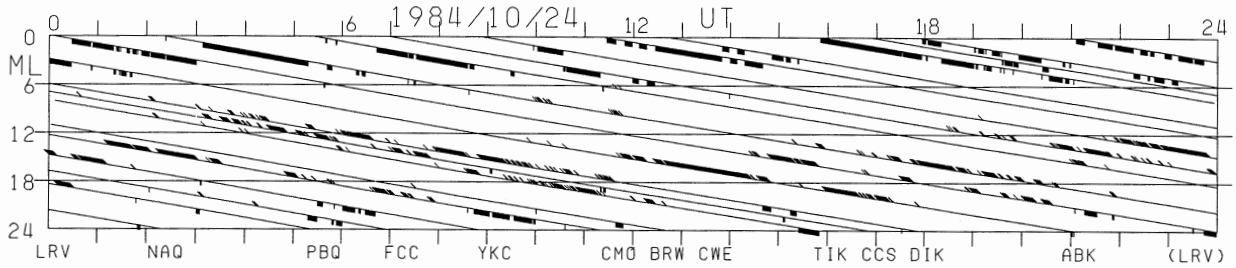
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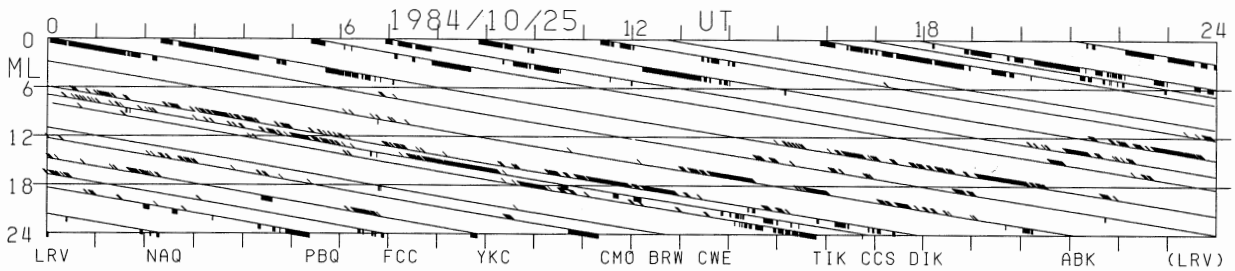
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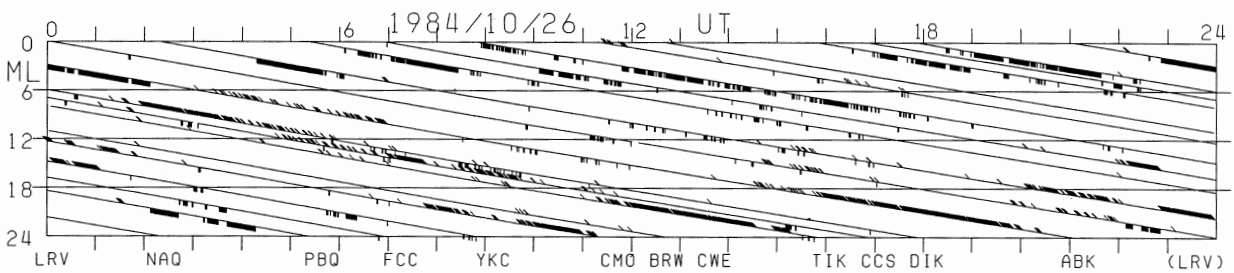
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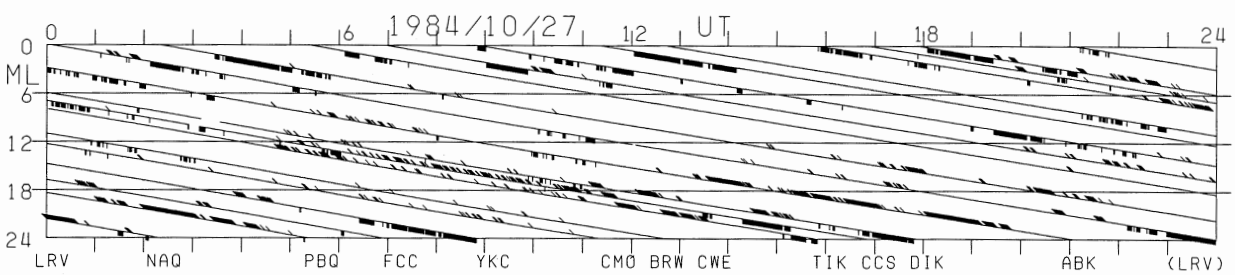
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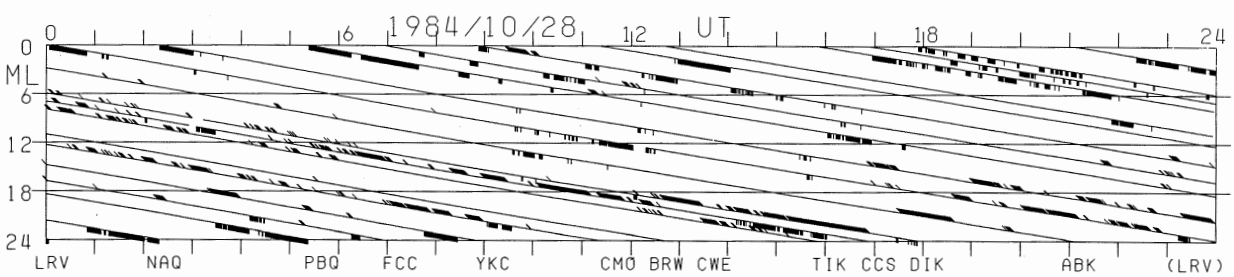
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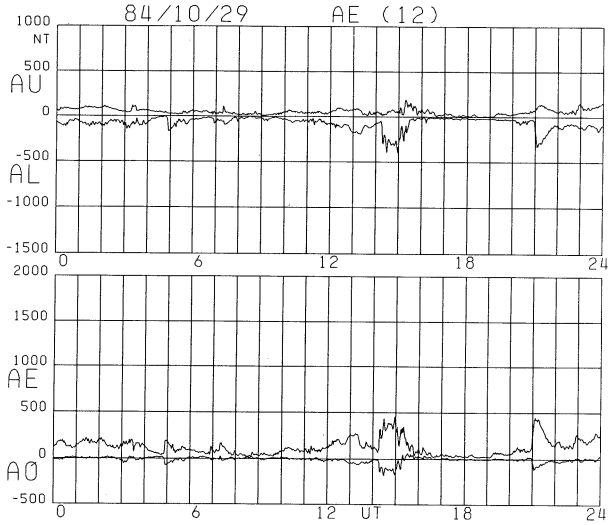
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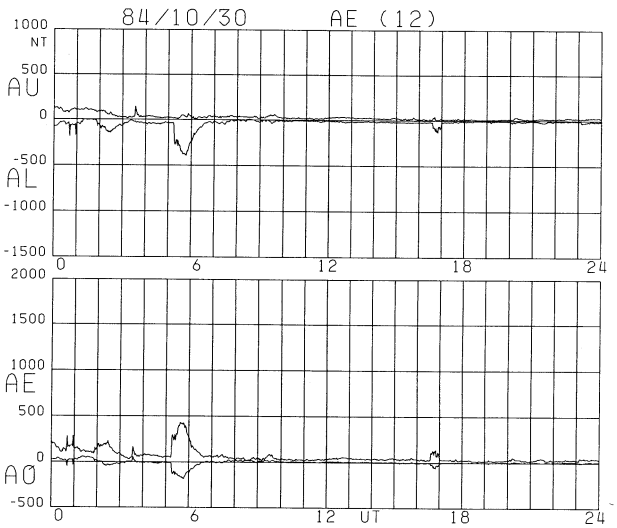
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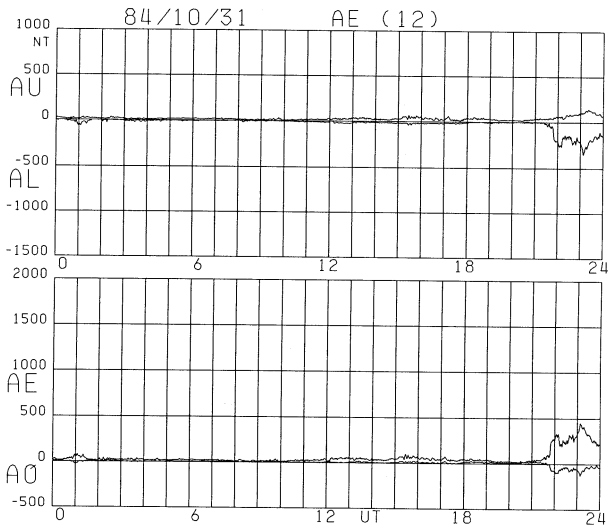
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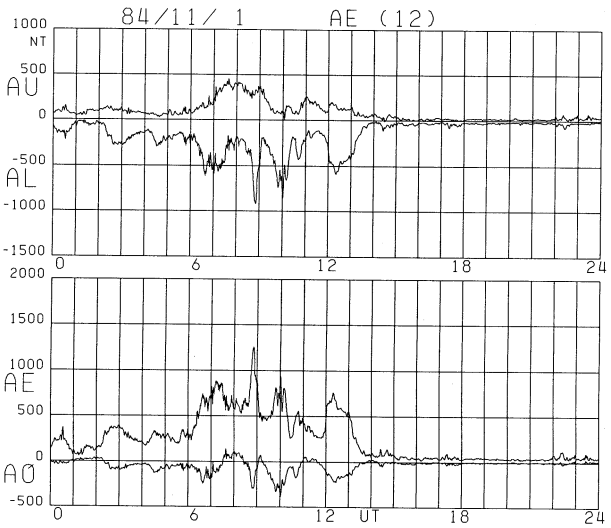
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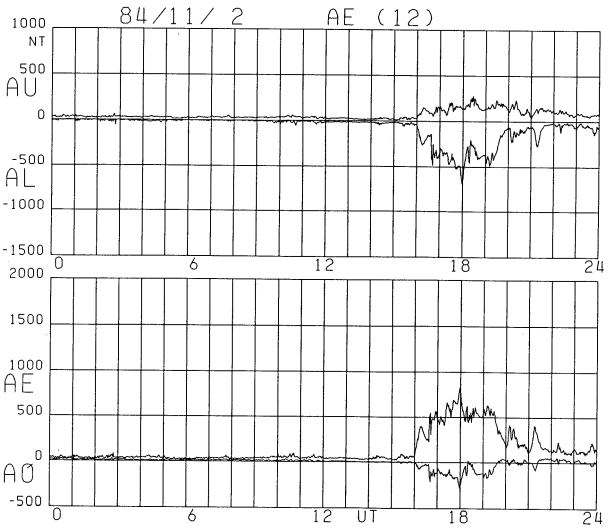
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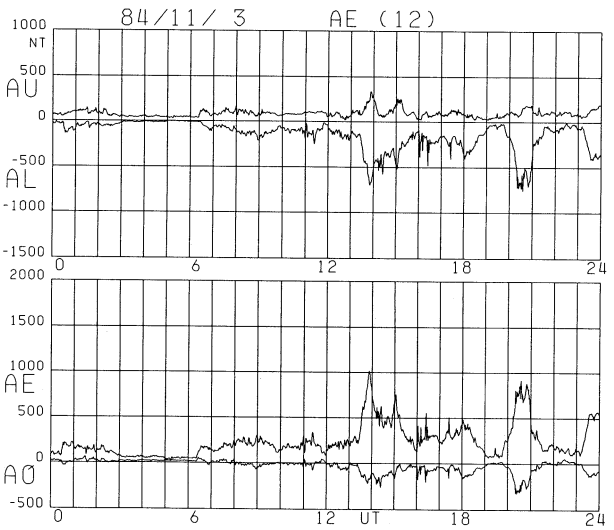
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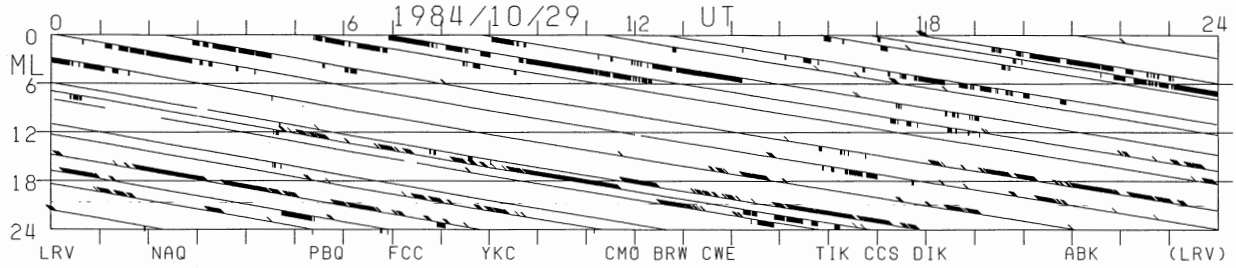
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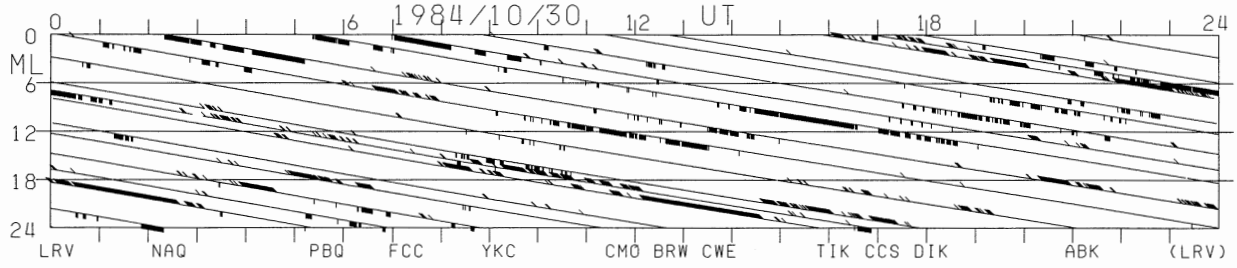
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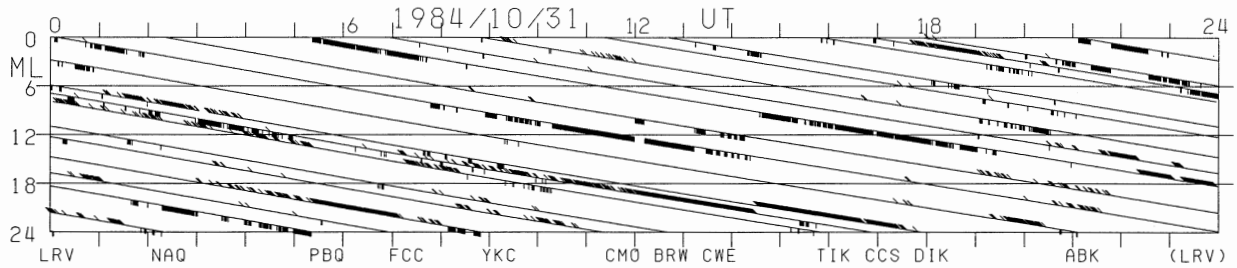
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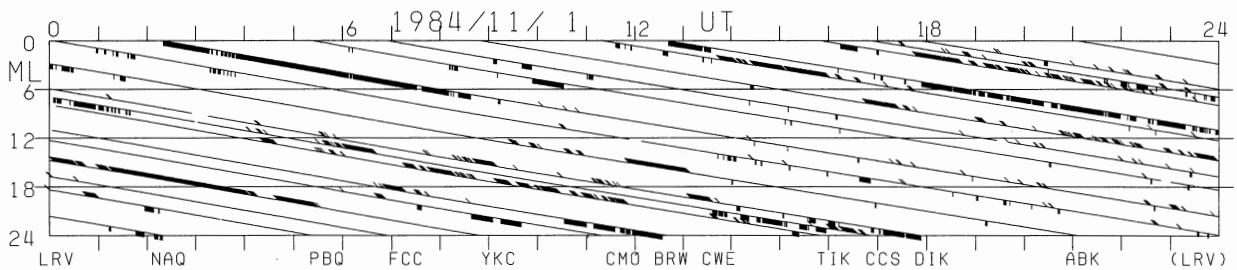
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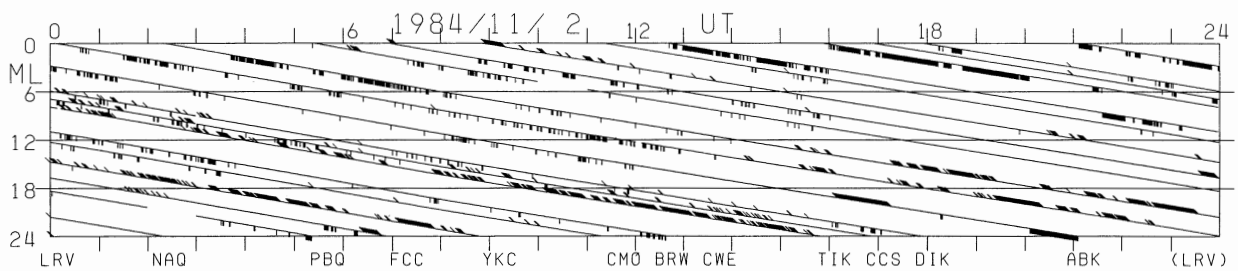
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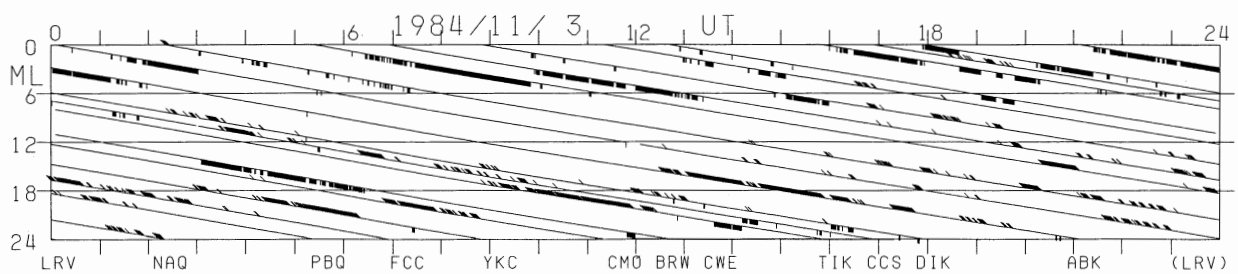
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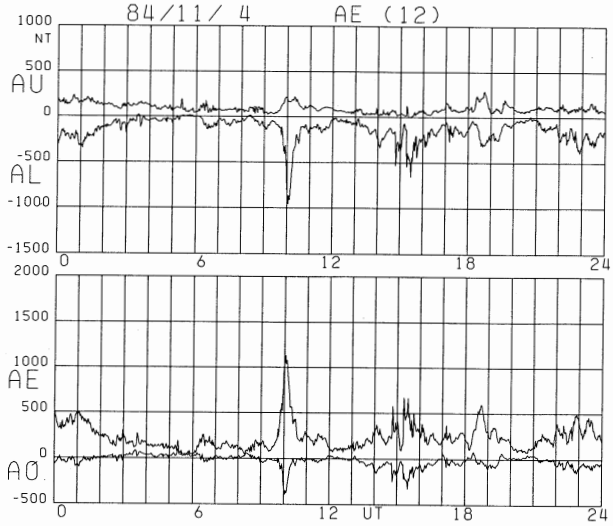
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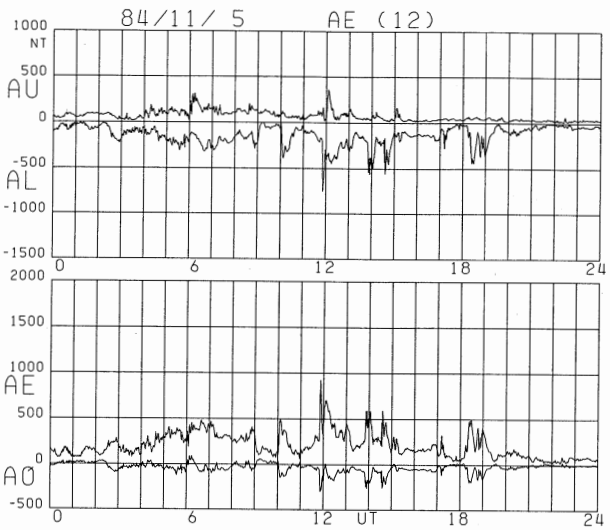
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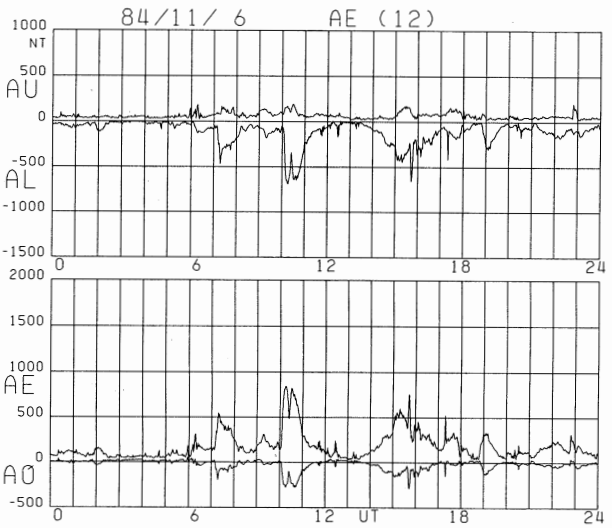
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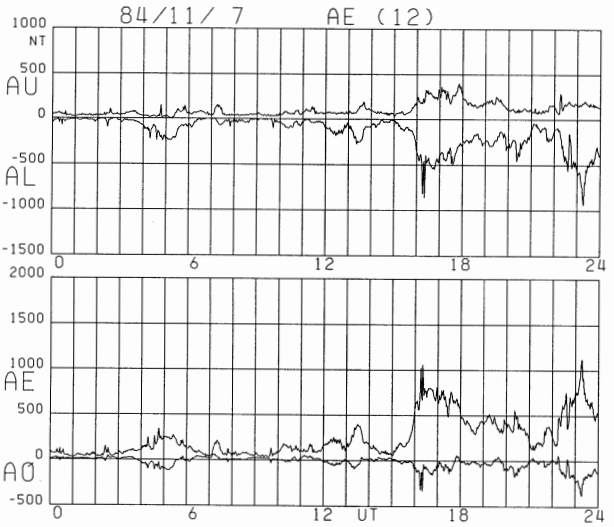
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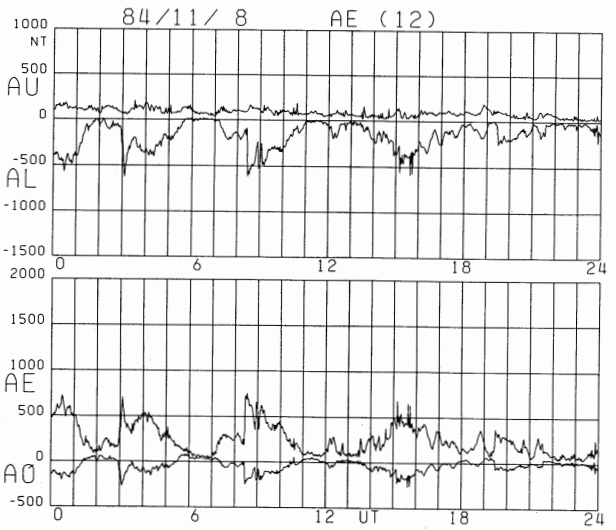
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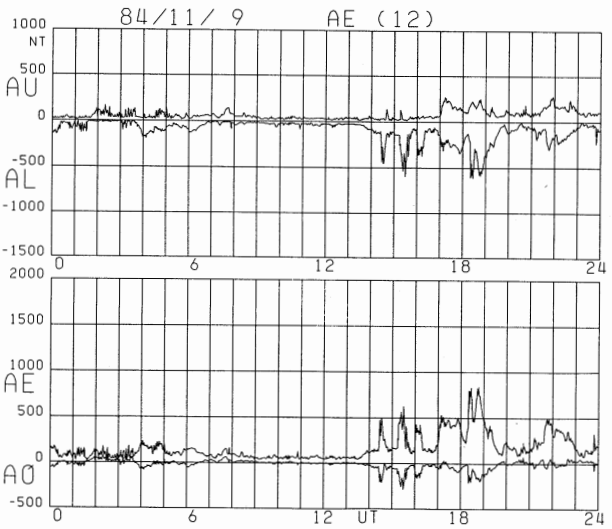
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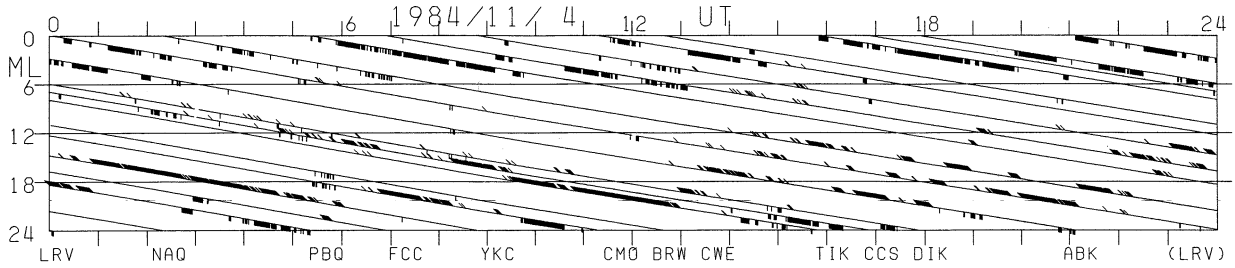
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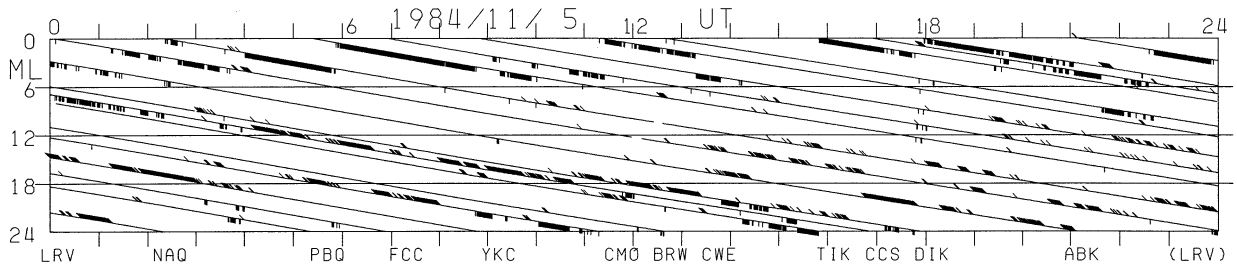
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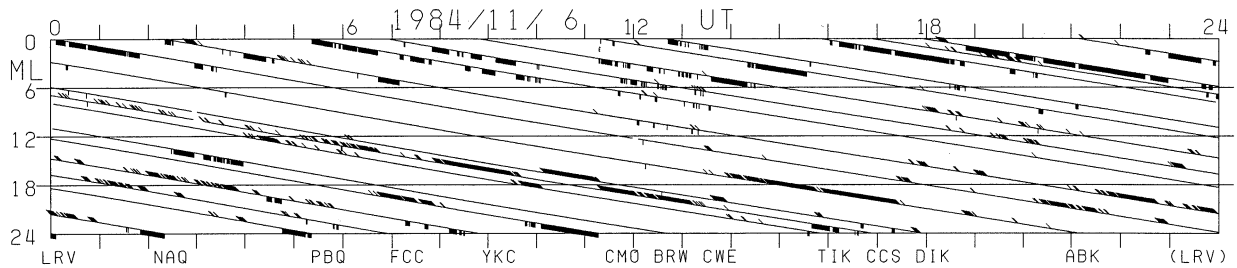
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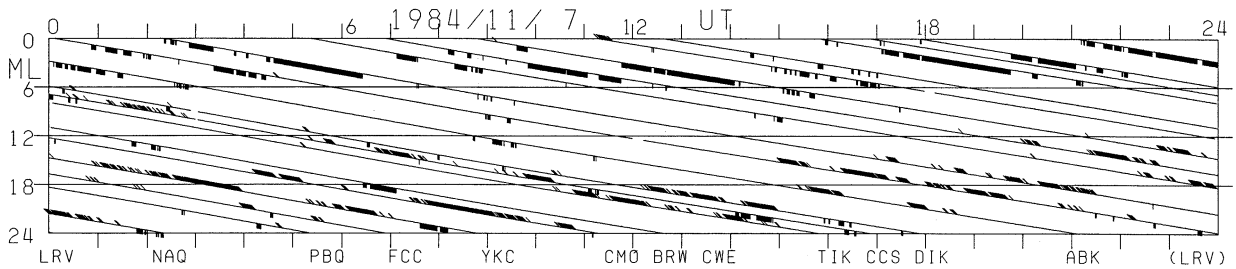
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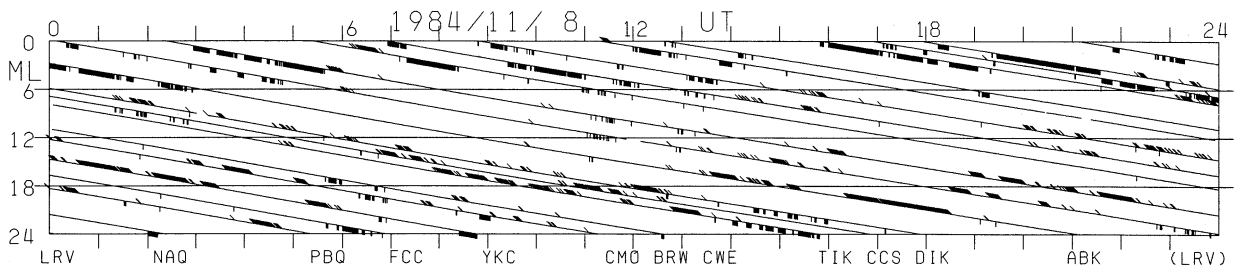
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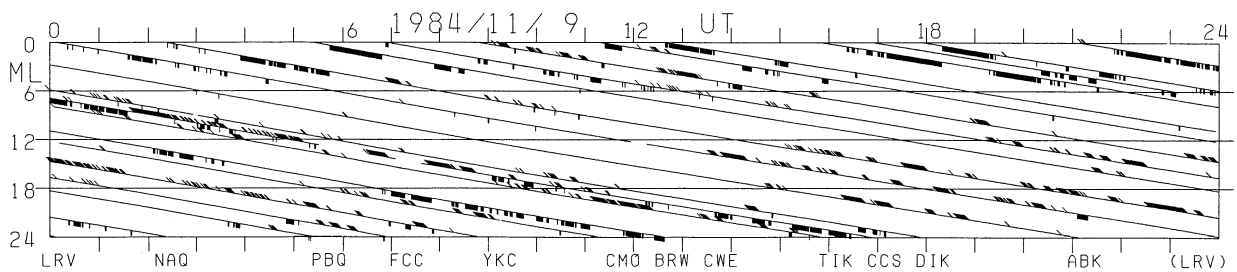
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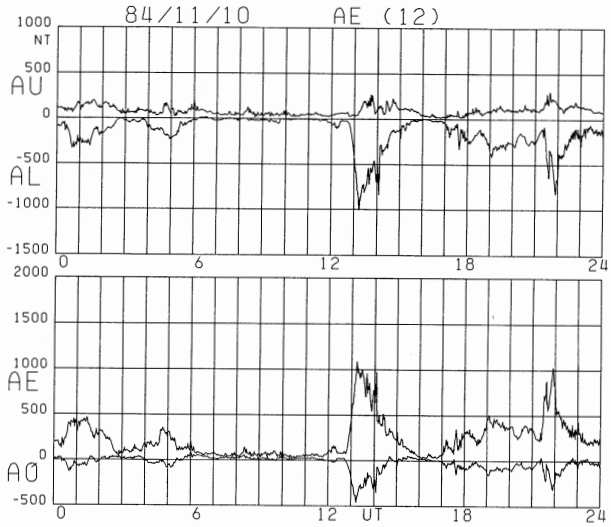
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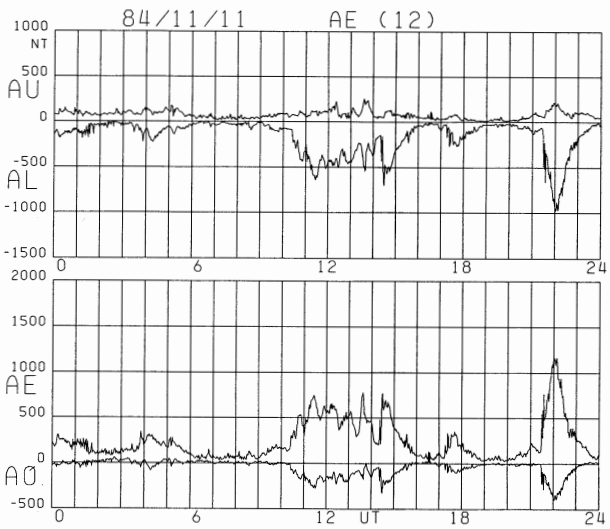
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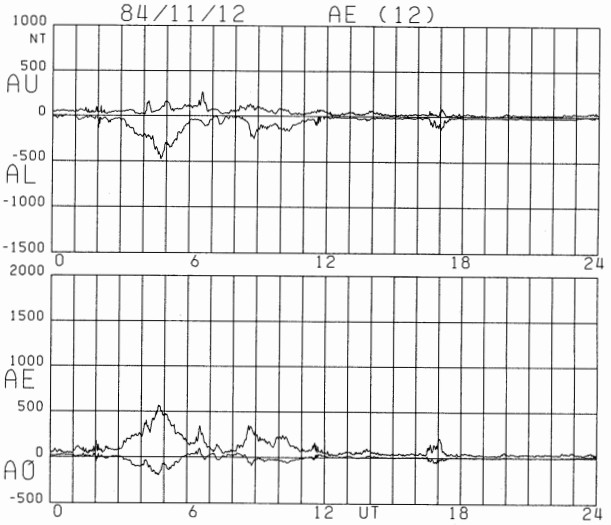
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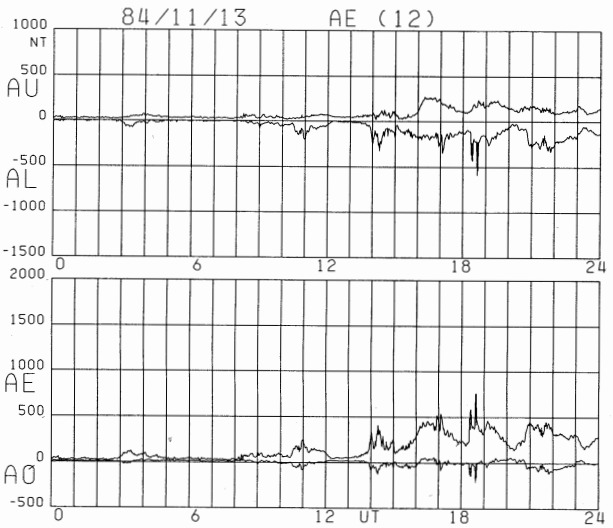
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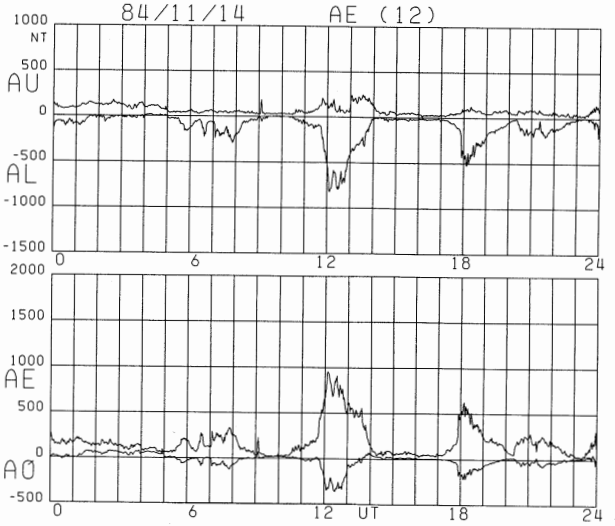
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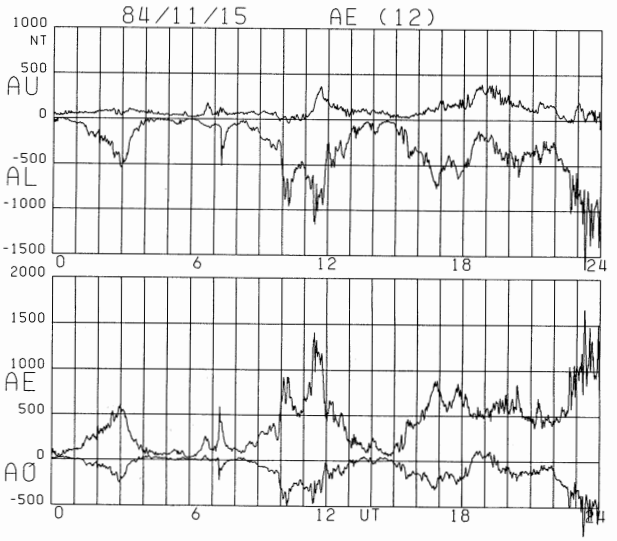
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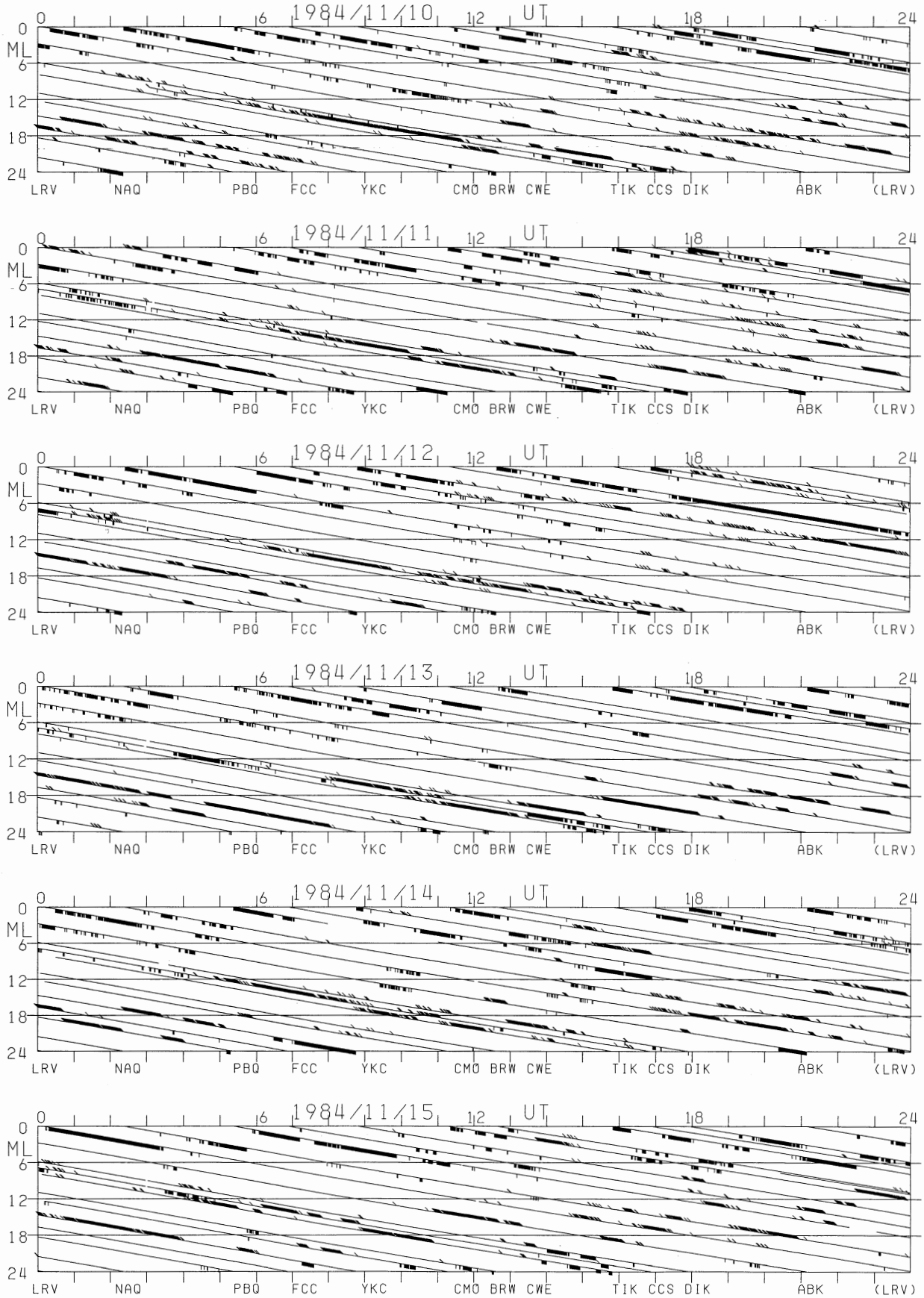
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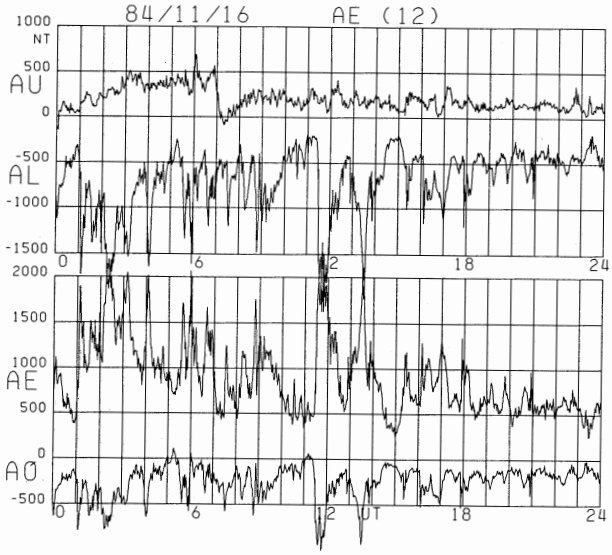
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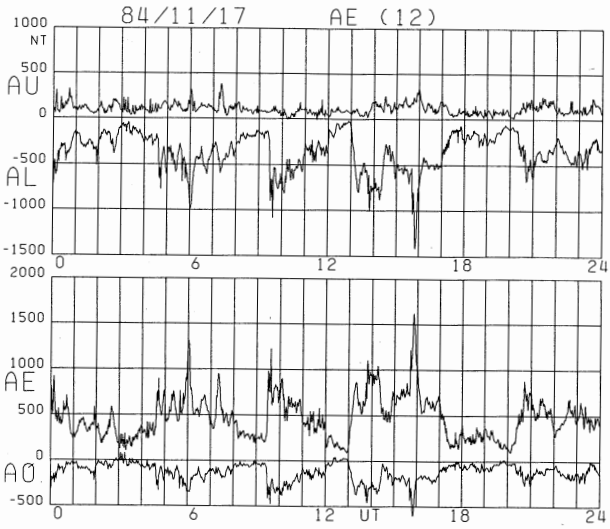
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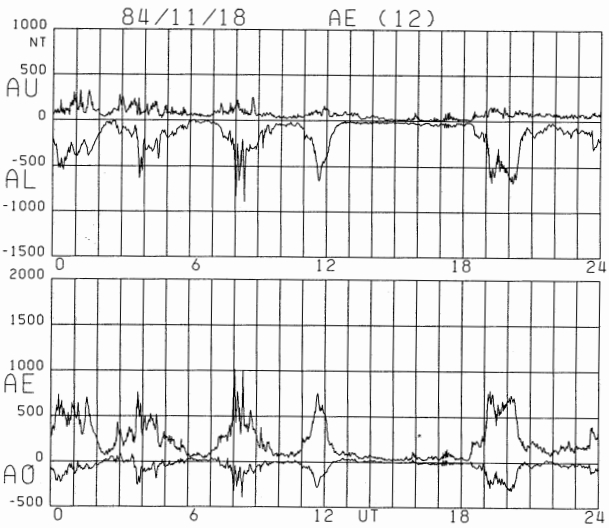
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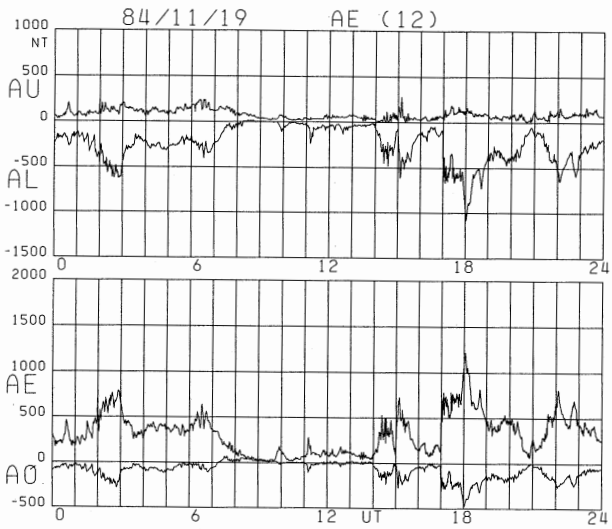
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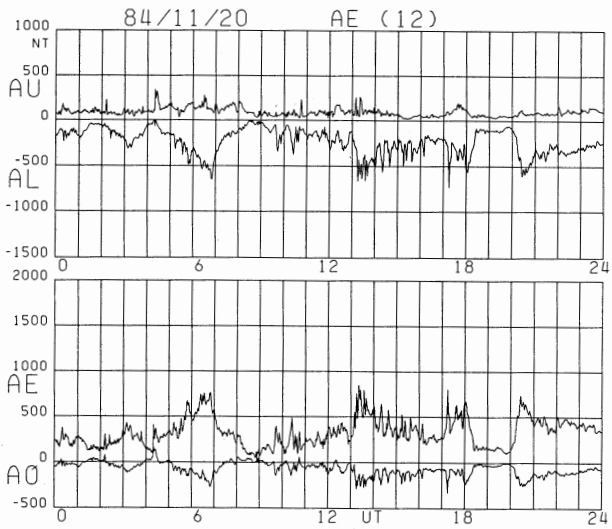
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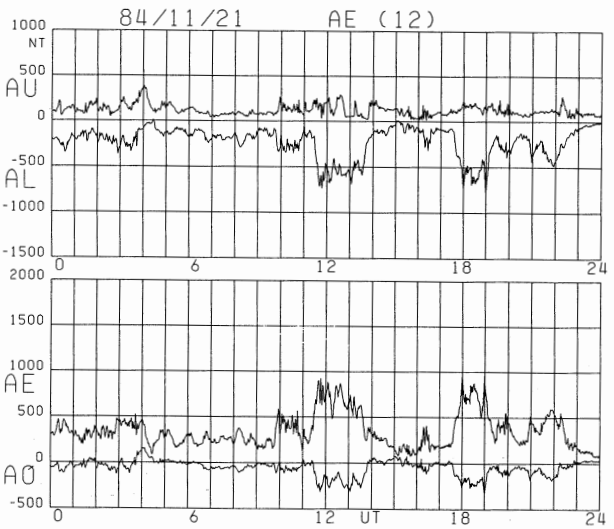
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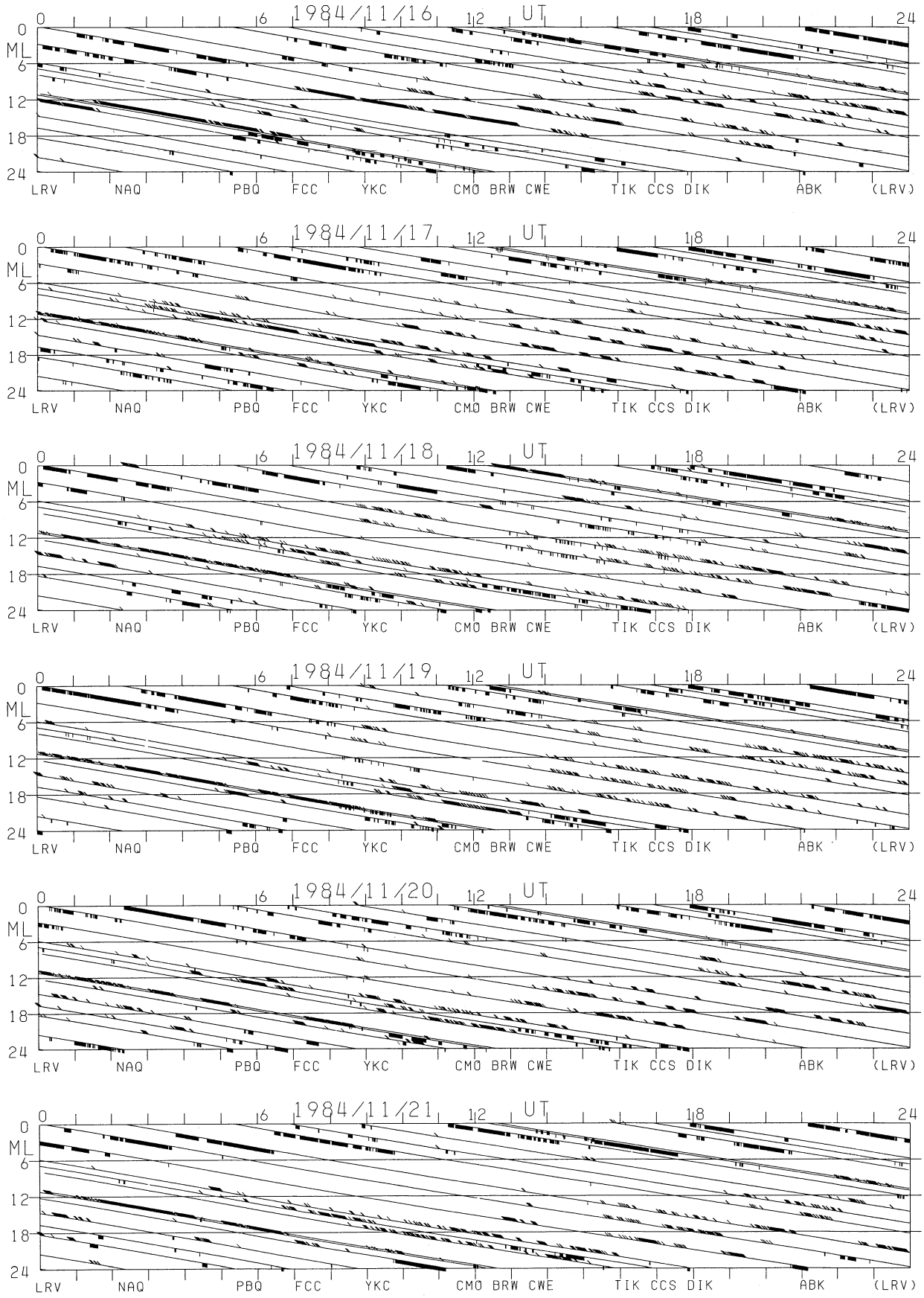
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PBQ
FCC
YKC
CMO
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CCS
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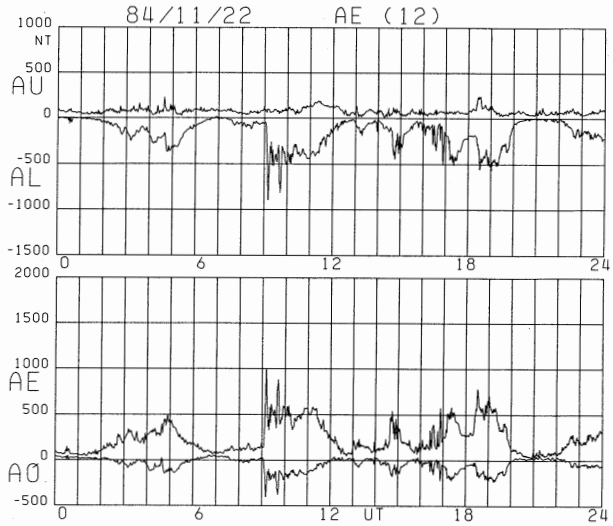
ABK
(LRV)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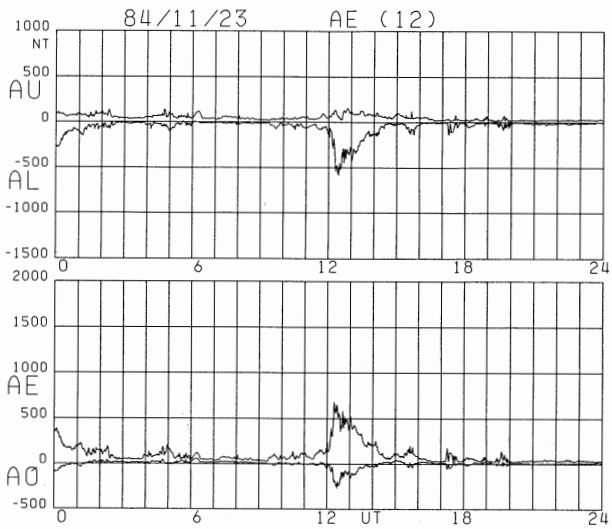
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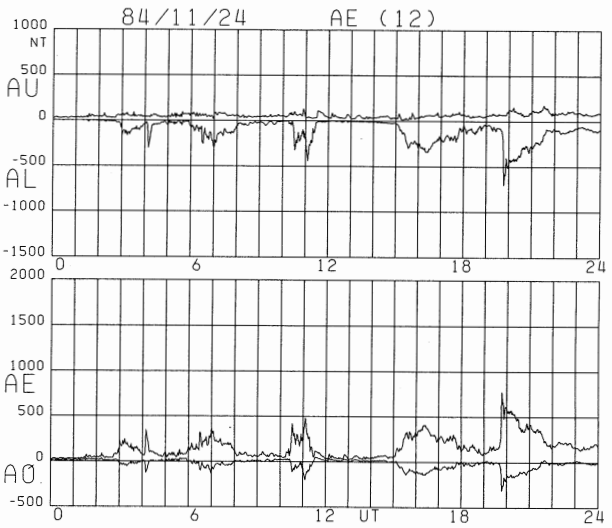
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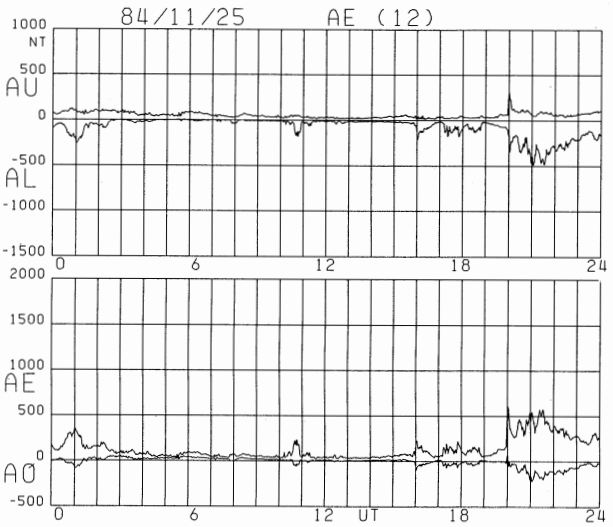
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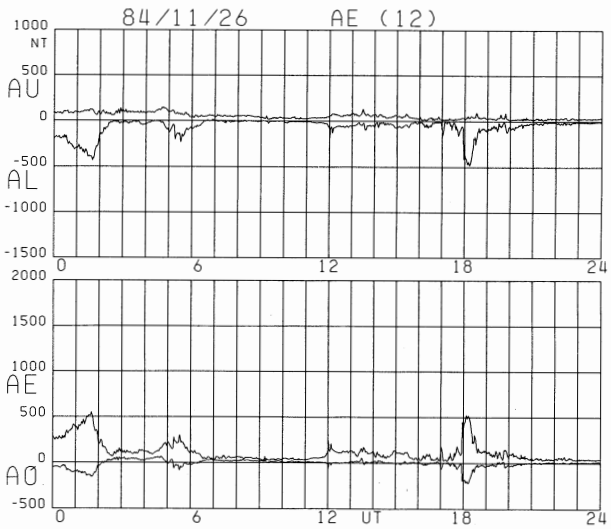
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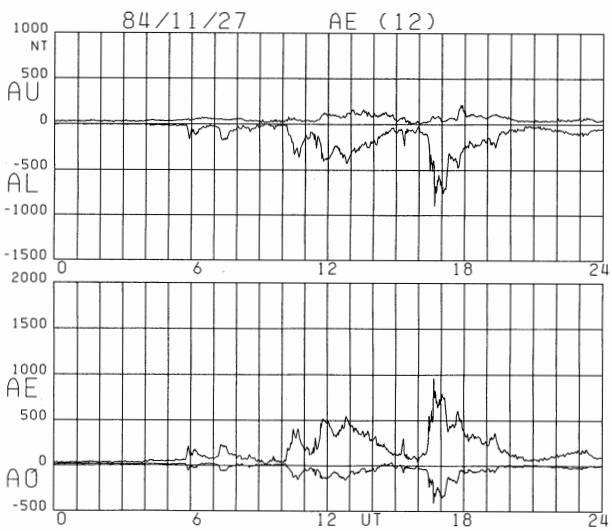
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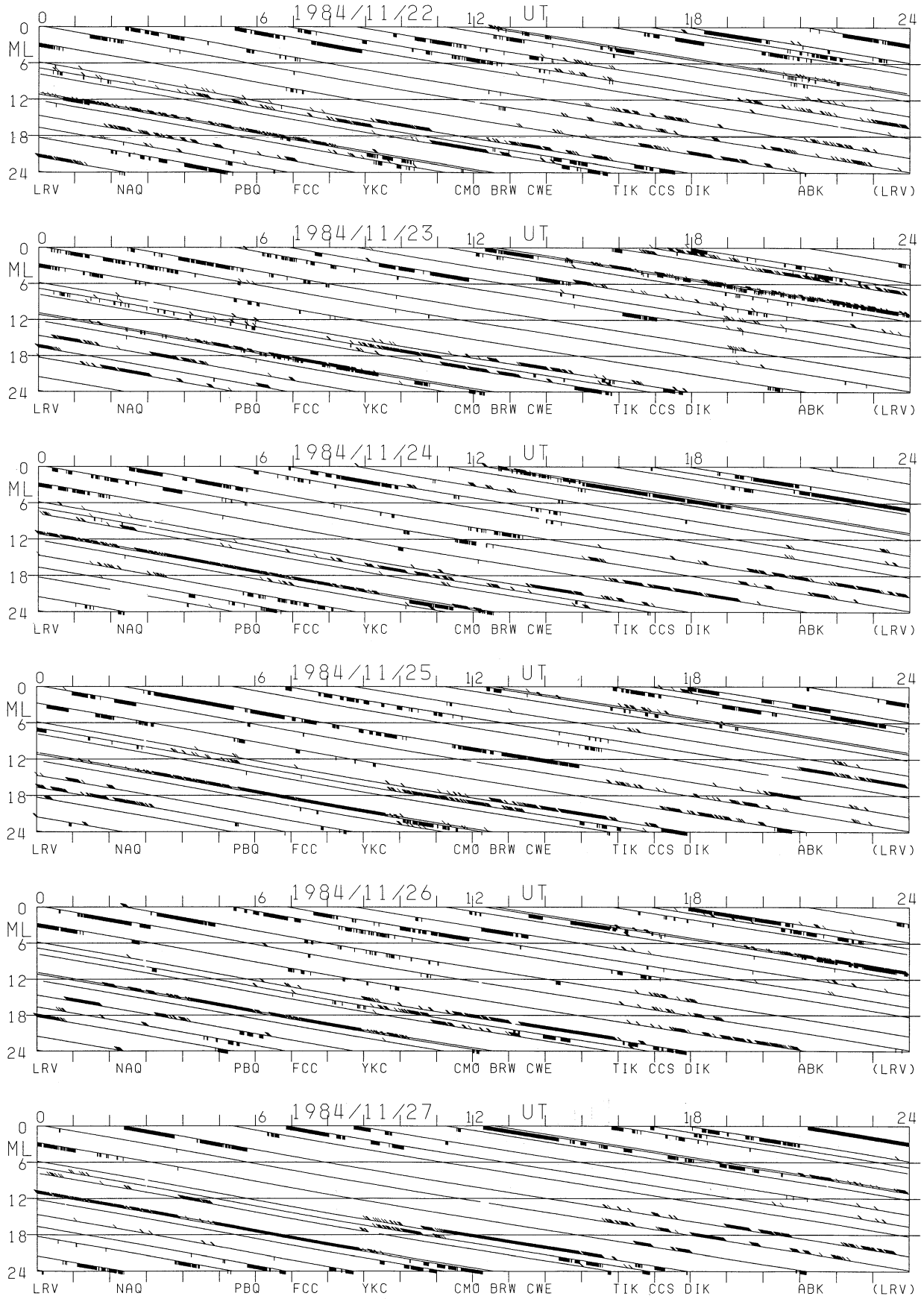
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1984/11/23 UT
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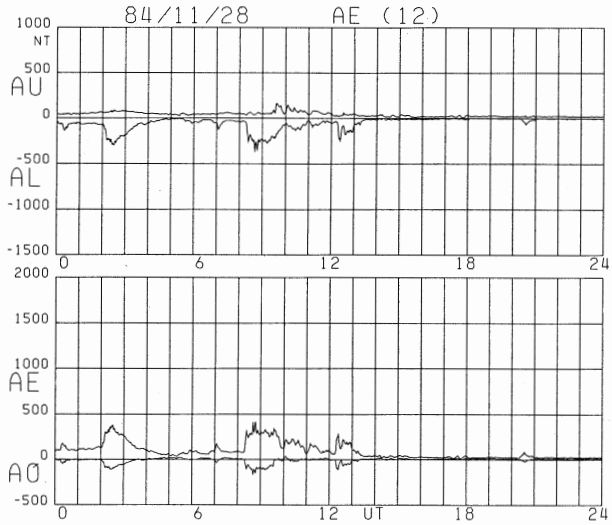
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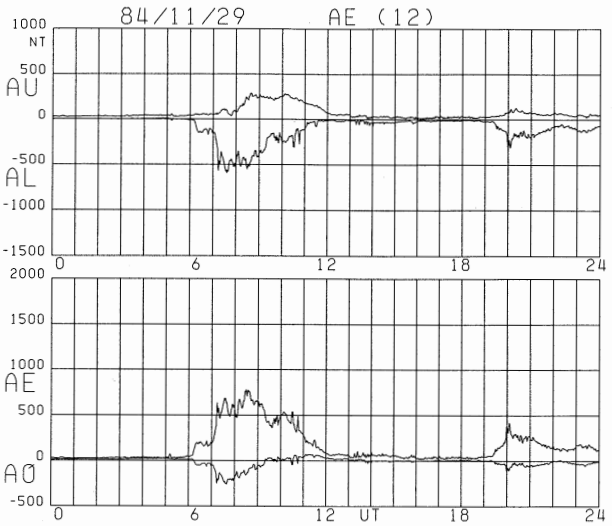
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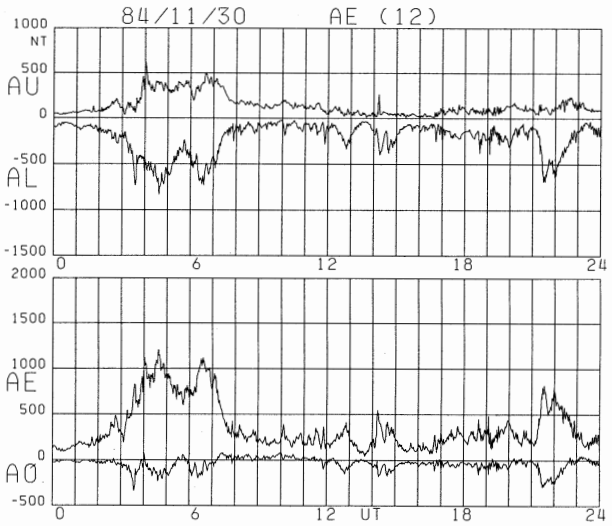
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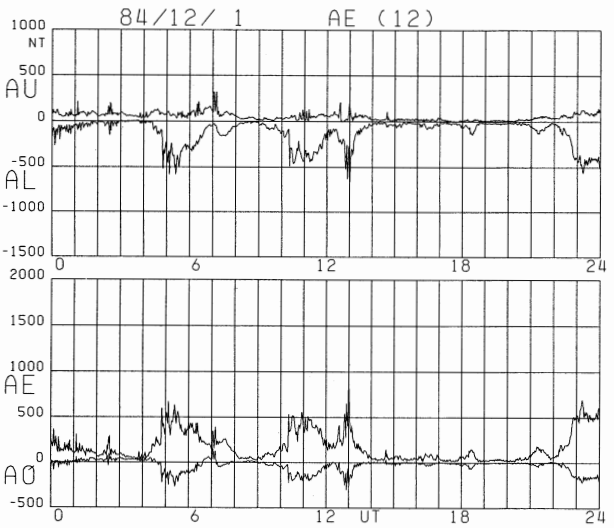
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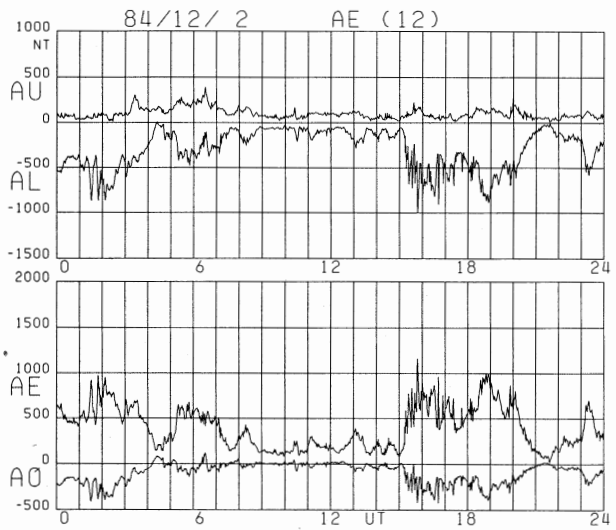
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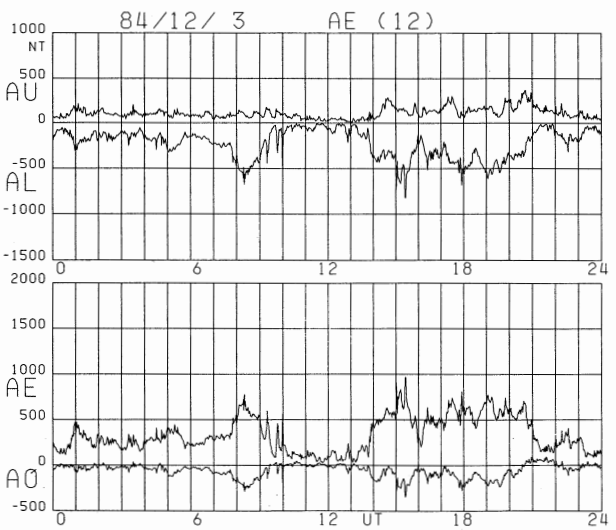
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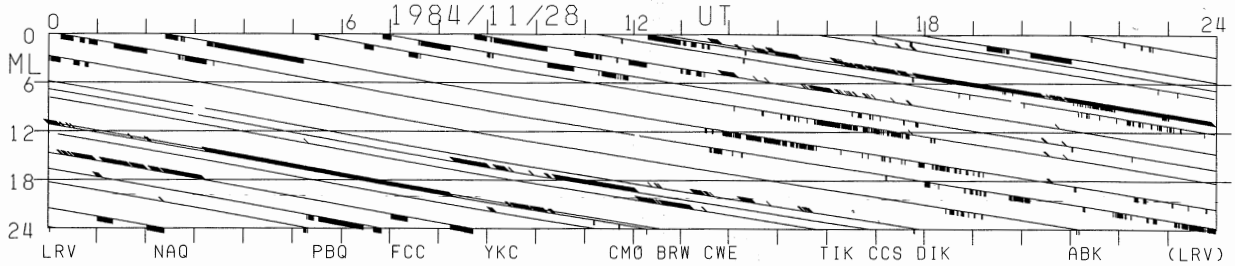
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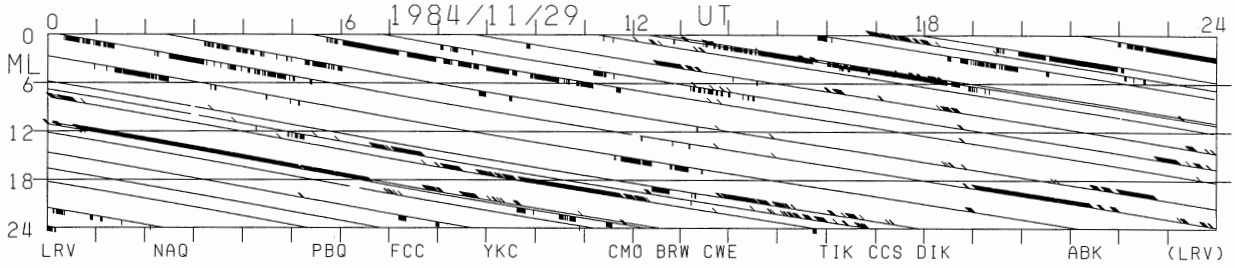
LRV NAQ PBQ FCC YKC CMO BRW CWE TIK CCS DIK ABK (LRV)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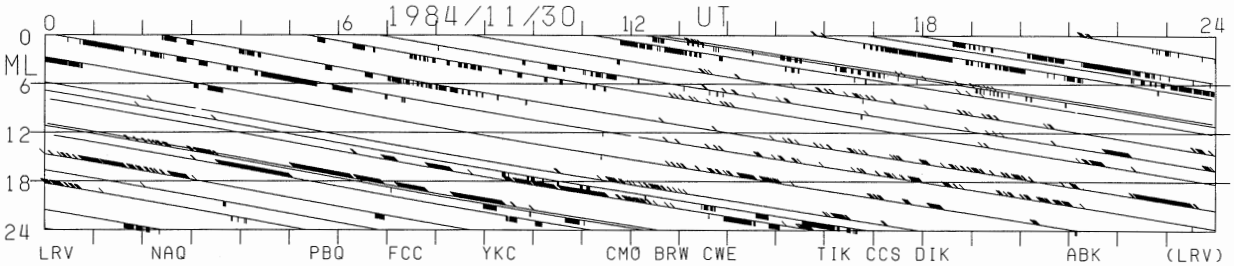
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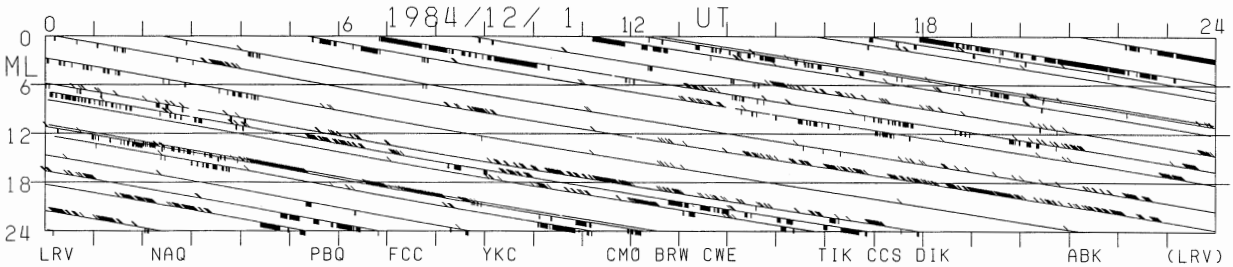
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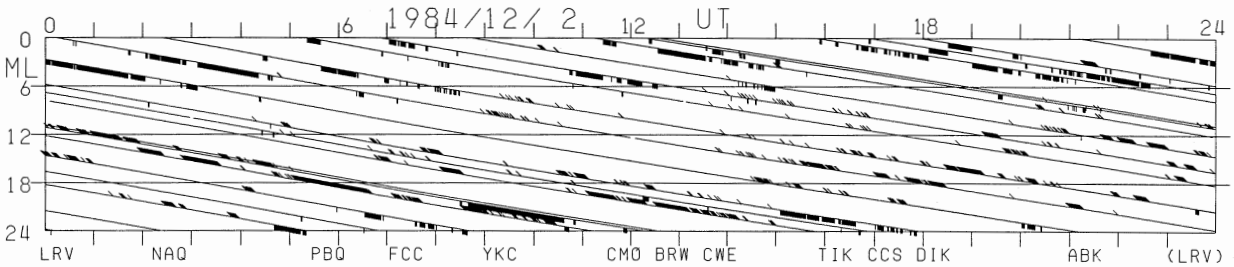
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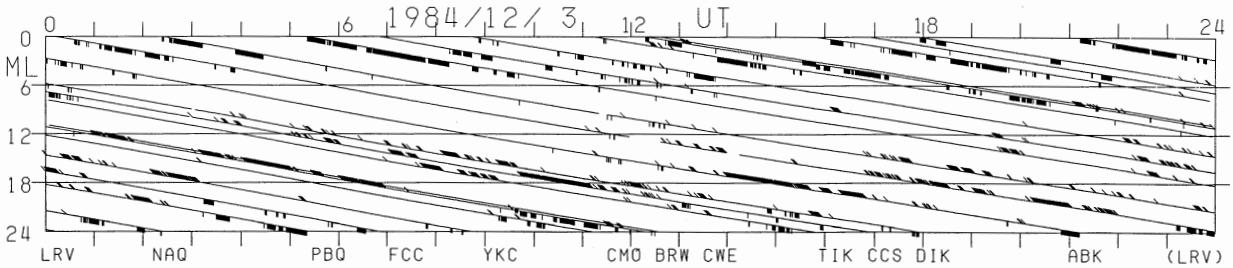
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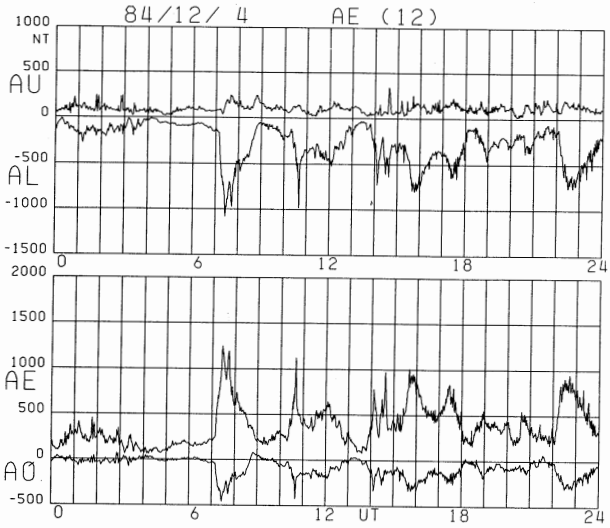
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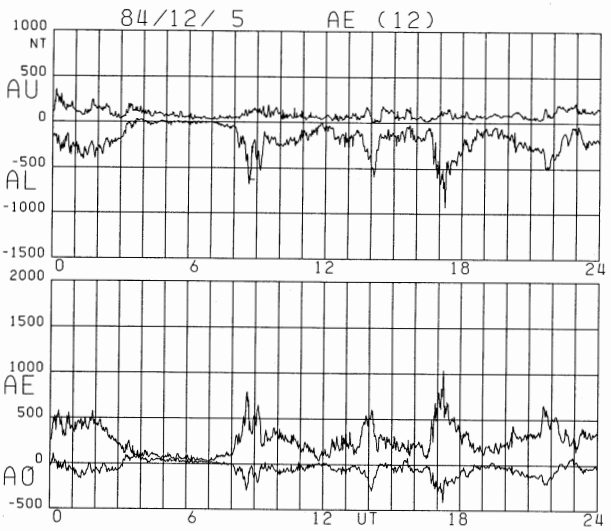
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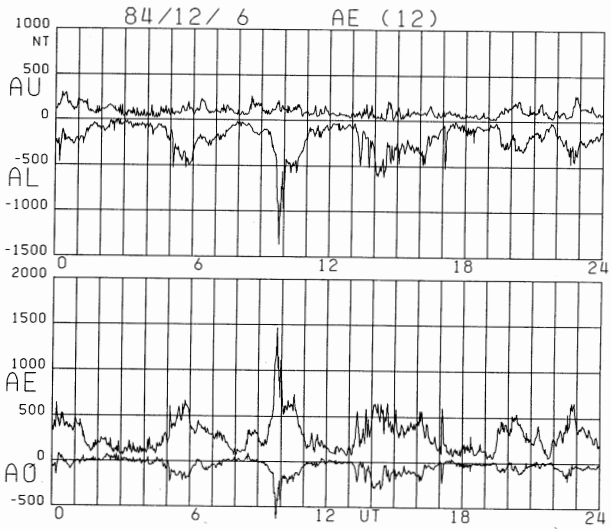
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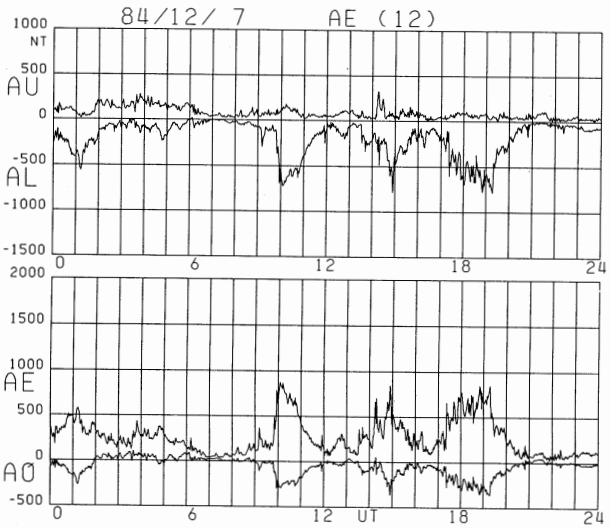
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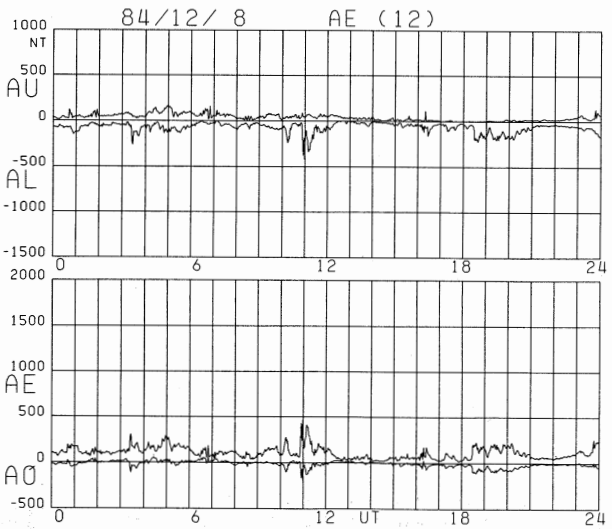
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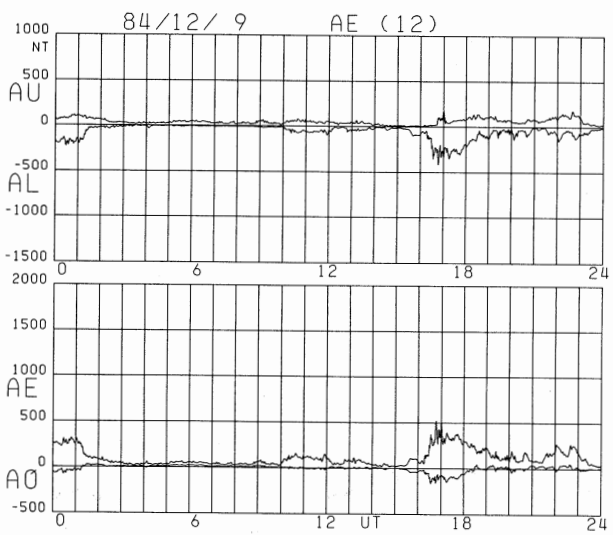
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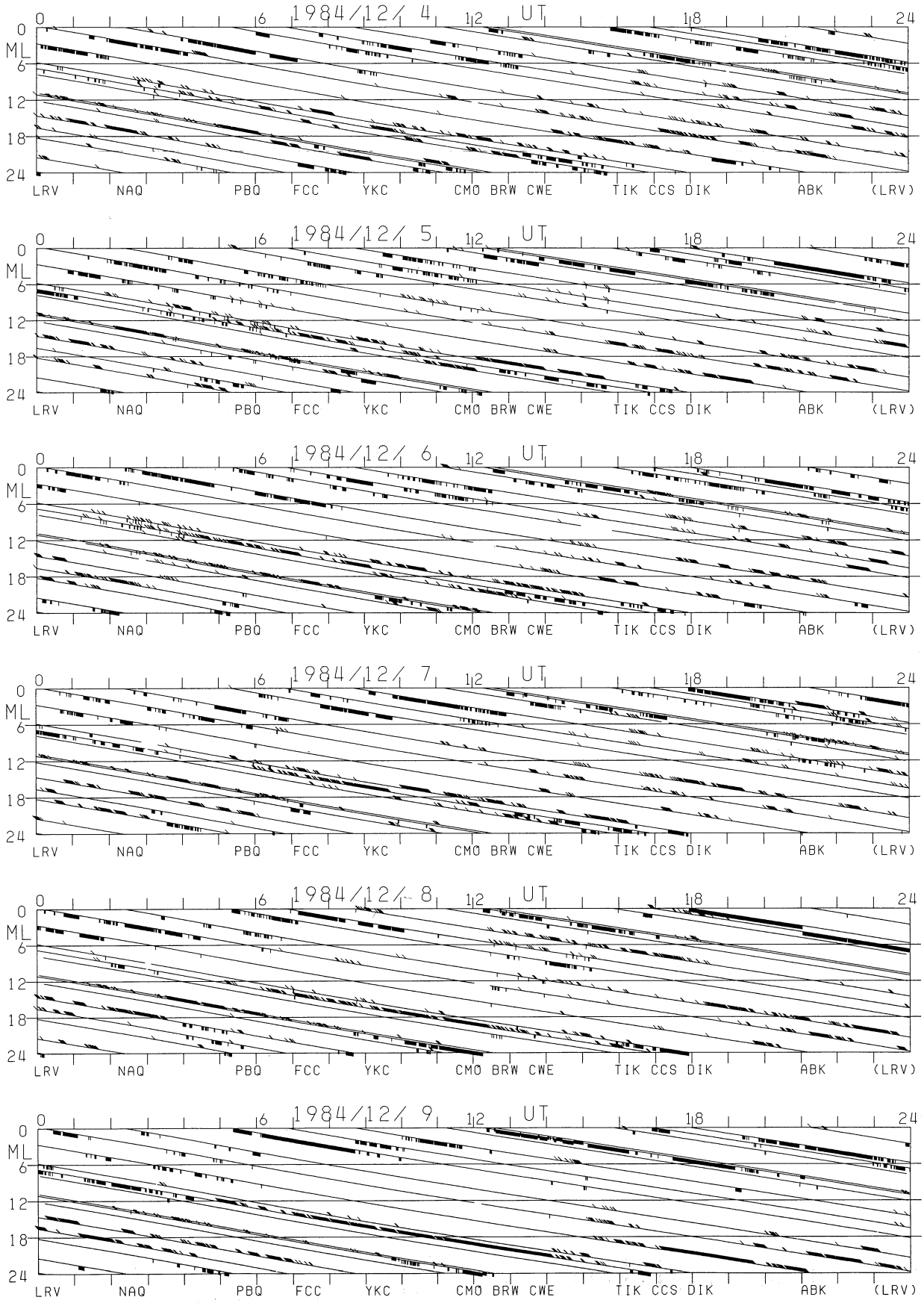
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1984/12/ 5 UT
1984/12/ 6 UT
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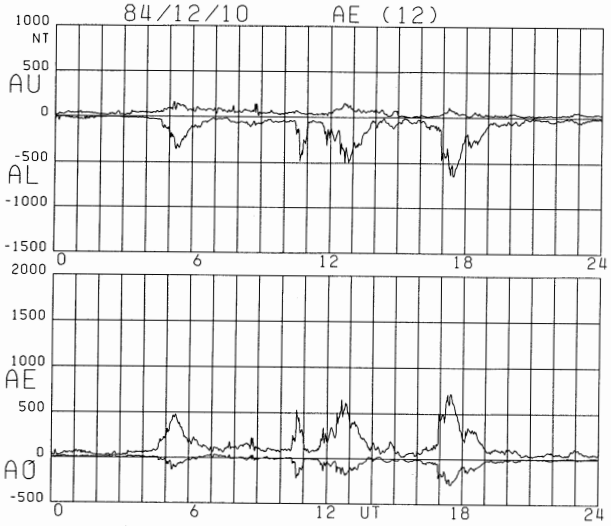
ML
LRV NAQ PBQ FCC YKC CMO BRW CWE TIK CCS DIK ABK (LRV)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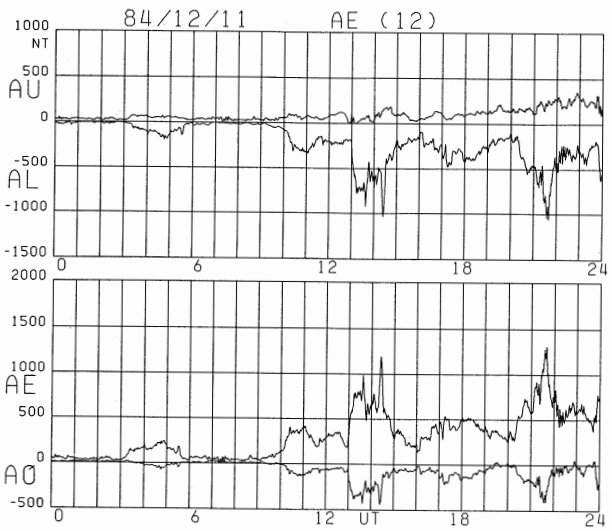
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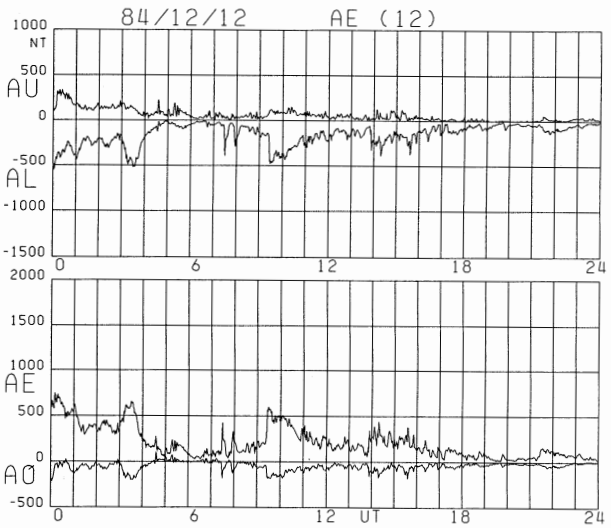
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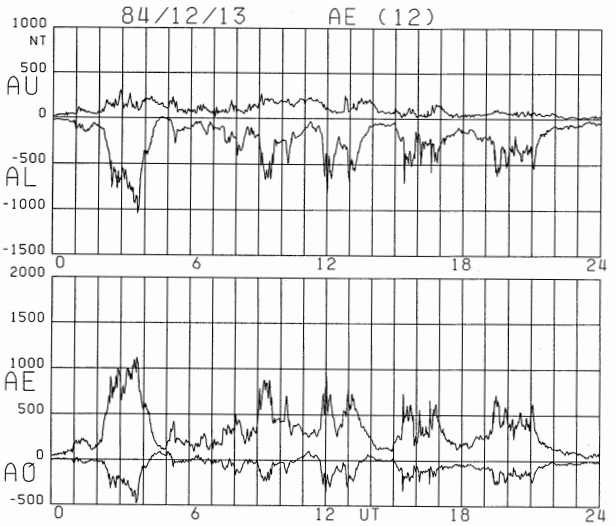
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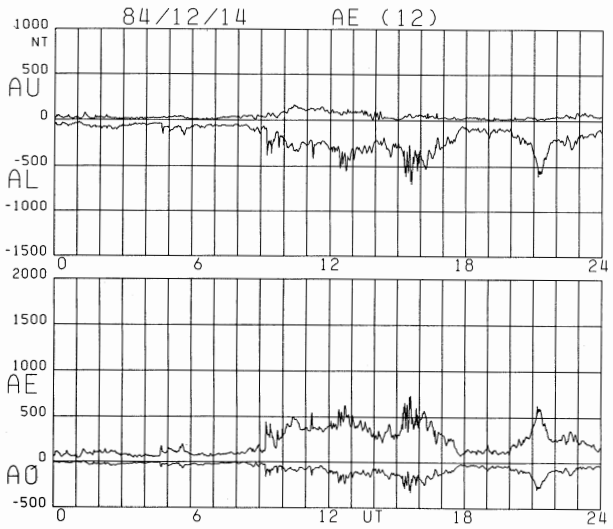
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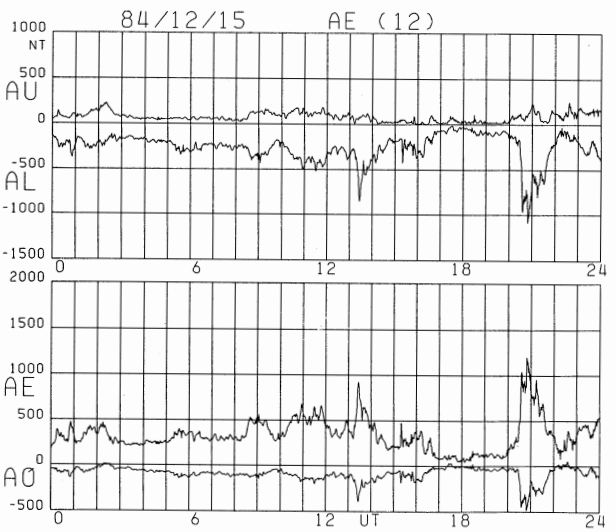
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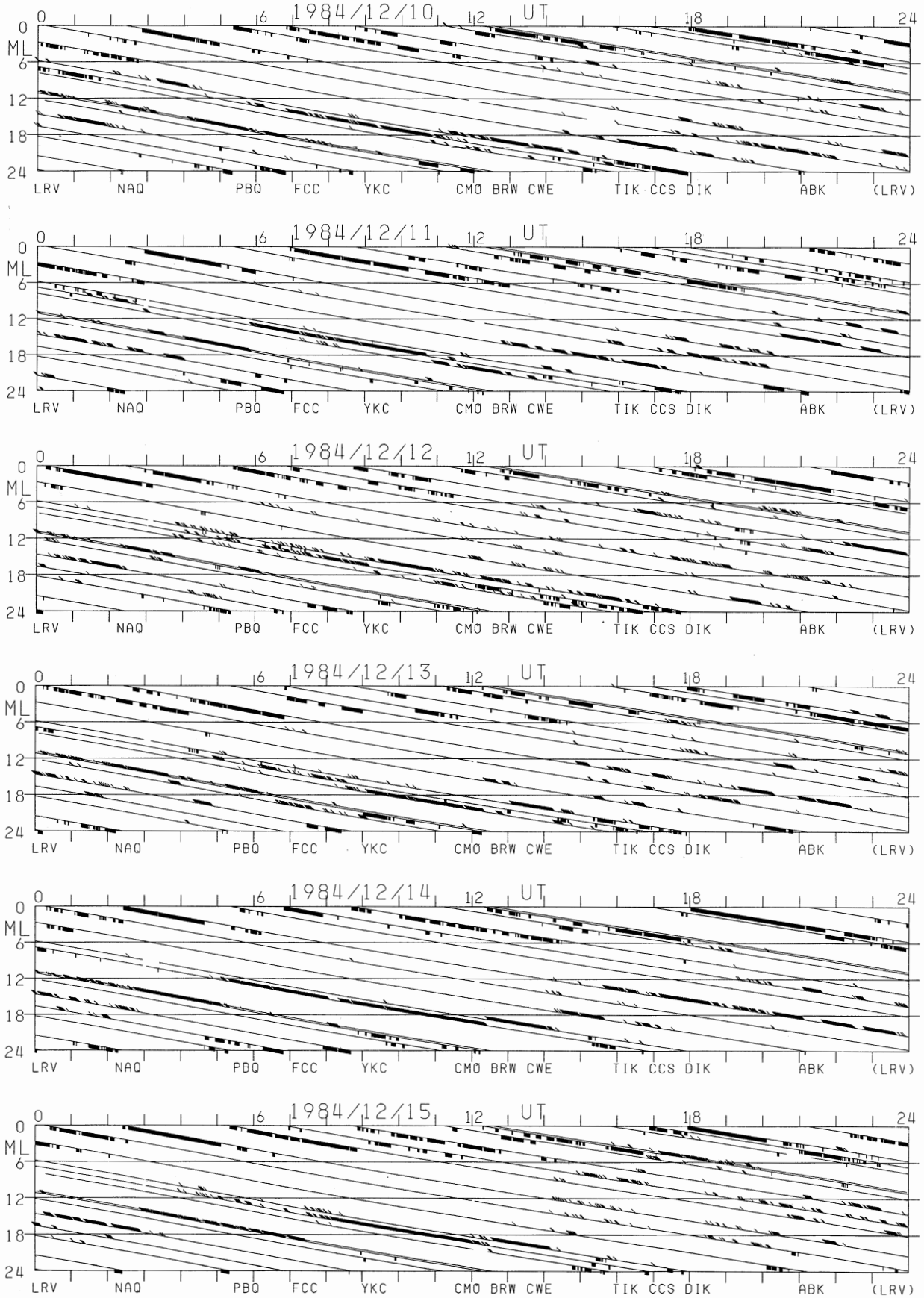
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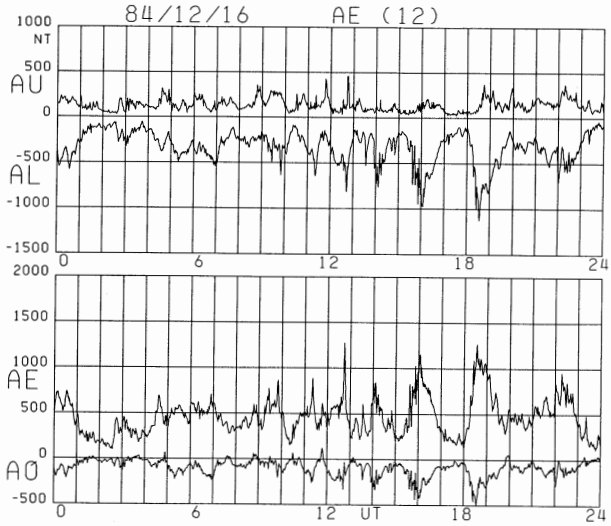
ML
LRV NAQ PBQ FCC YKC CMO BRW CWE TIK CCS DIK ABK (LRV)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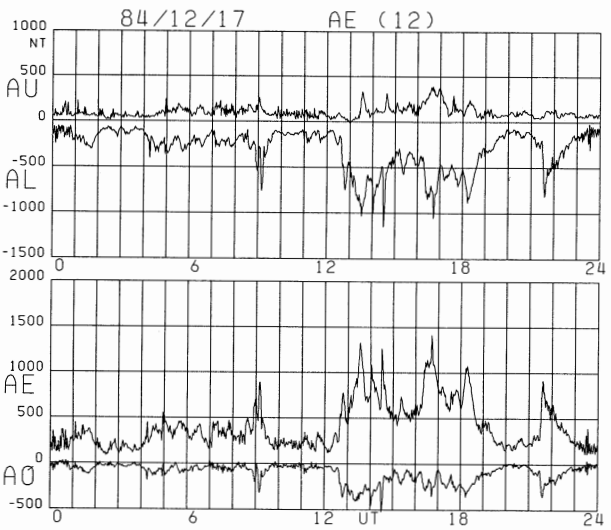
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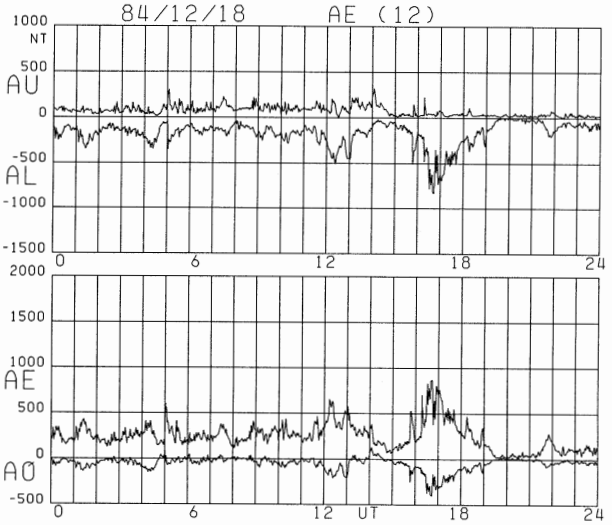
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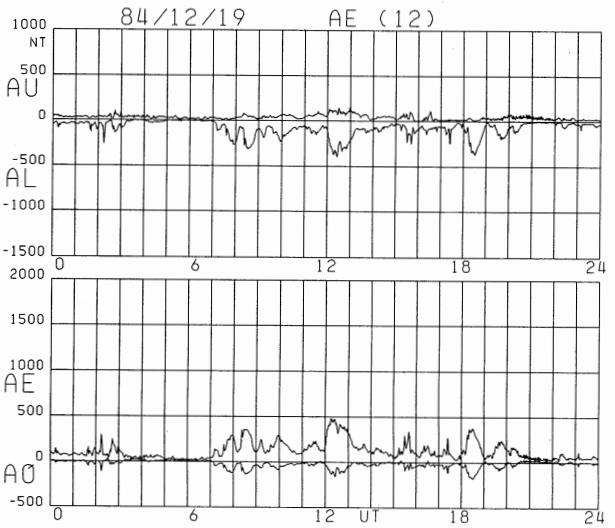
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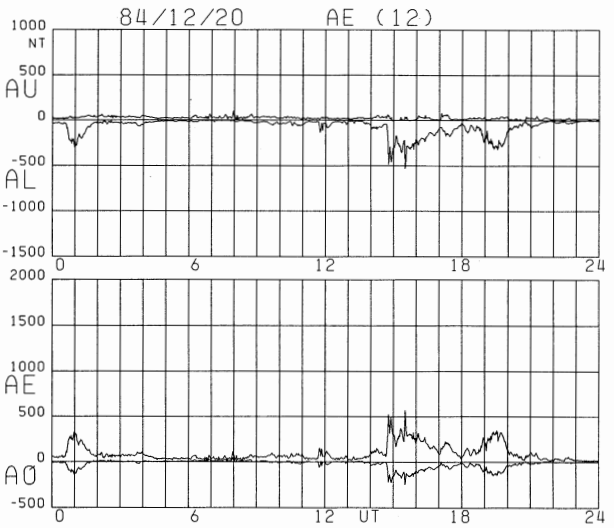
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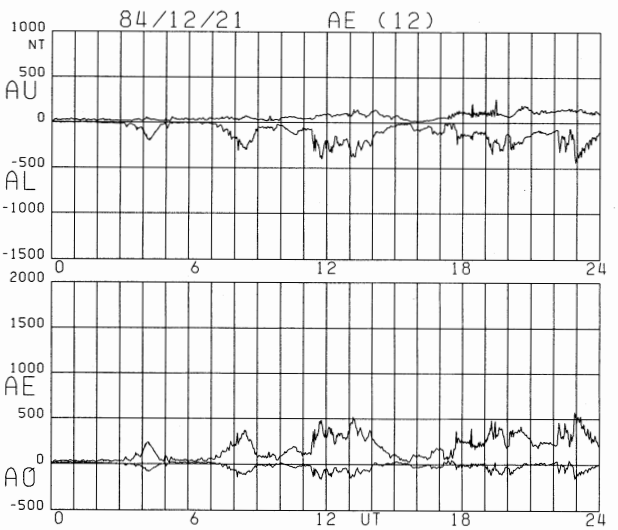
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NT
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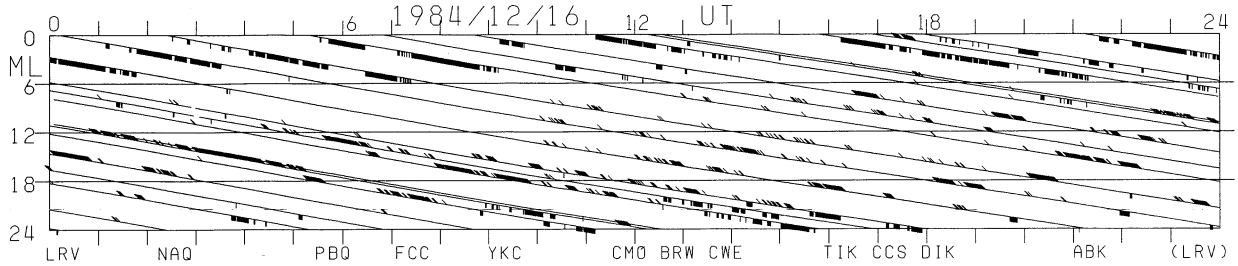
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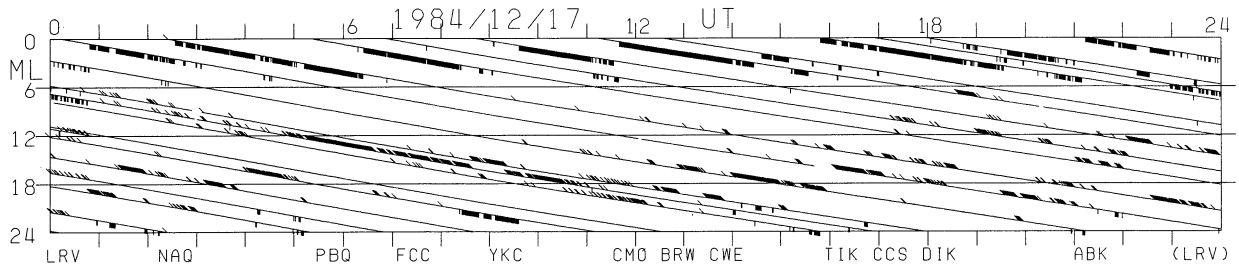
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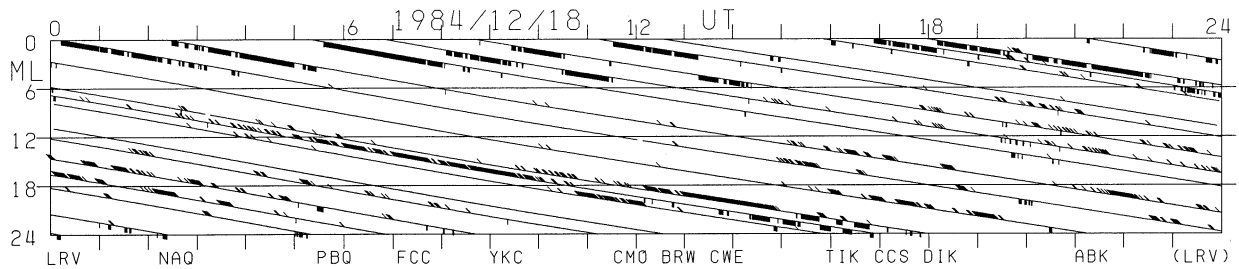
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ML
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6
12
18
24
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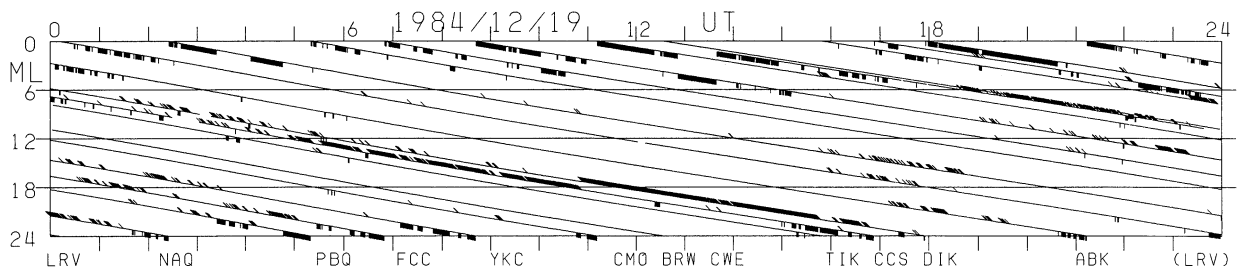
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12
18
24
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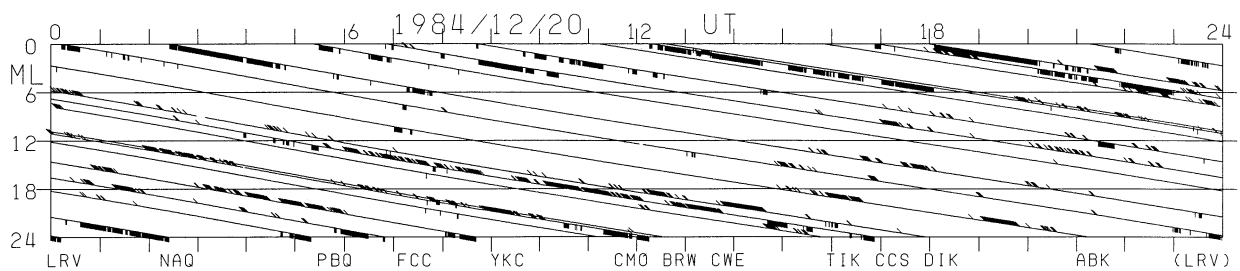
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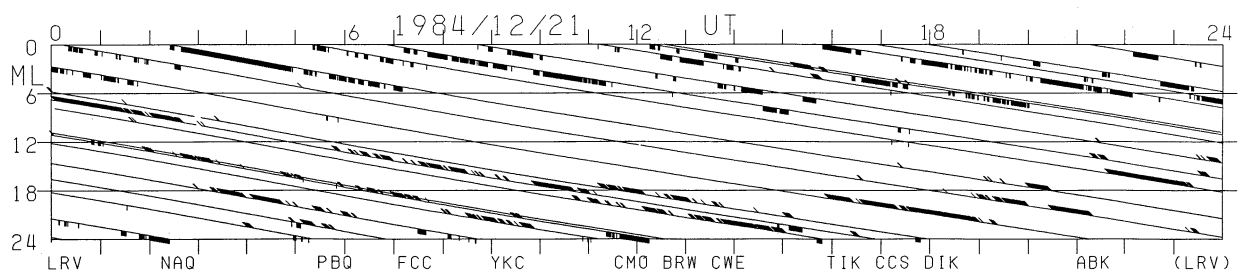
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ML
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12
18
24
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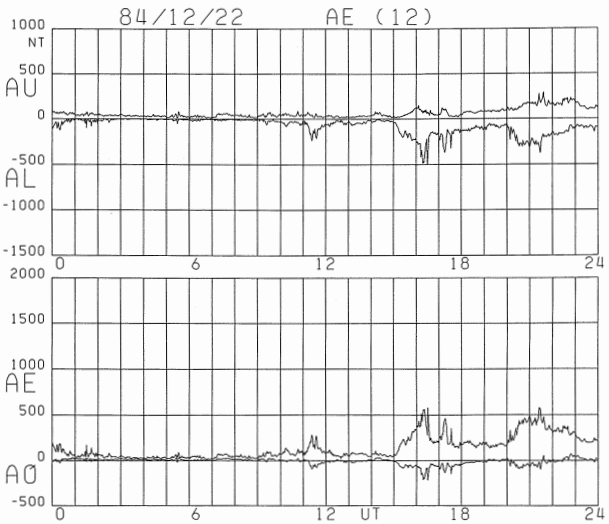
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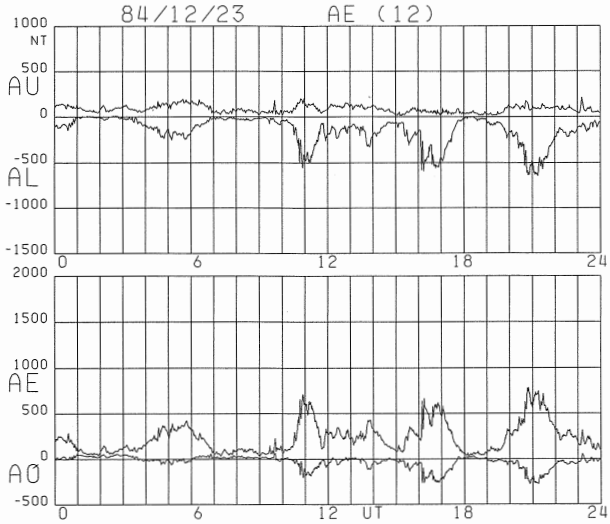
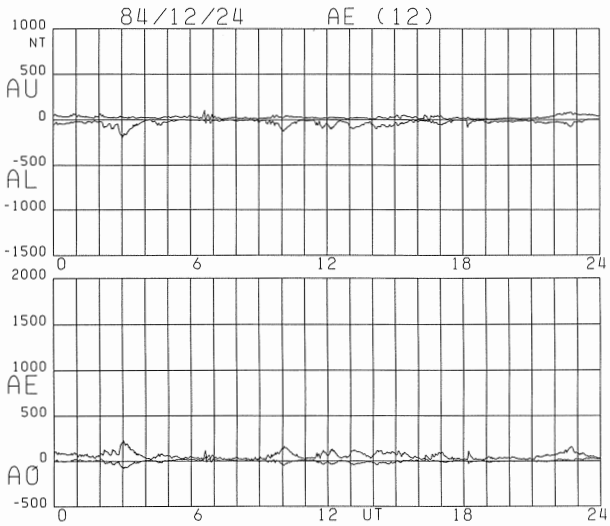
NT
500
AU
0
-500
AL
-1000
-1500
0 6 12 18 24
2000
1500
1000
AE
500
0
AO
-500
0 6 12 UT 18 24


84/12/23 AE (12)
1000
NT
500
AU
0
-500
AL
-1000
-1500
0 6 12 18 24
2000
1500
1000
AE
500
0
AO
-500
0 6 12 UT 18 24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NT
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AU
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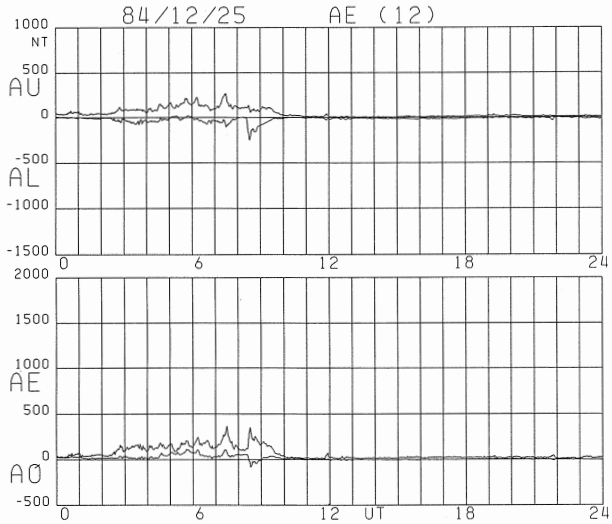
-500
AL
-1000
-1500
0 6 12 18 24
2000
1500
1000
AE
500
0
AO
-500
0 6 12 UT 18 24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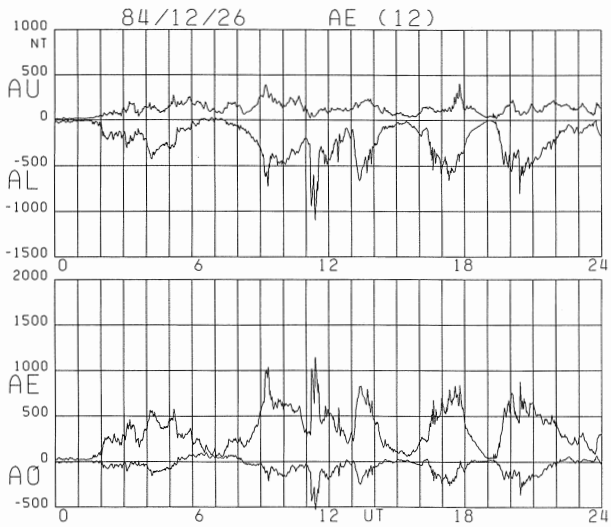
NT
500
AU
0
-500
AL
-1000
-1500
0 6 12 18 24
2000
1500
1000
AE
500
0
AO
-500
0 6 12 UT 18 24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NT
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AU
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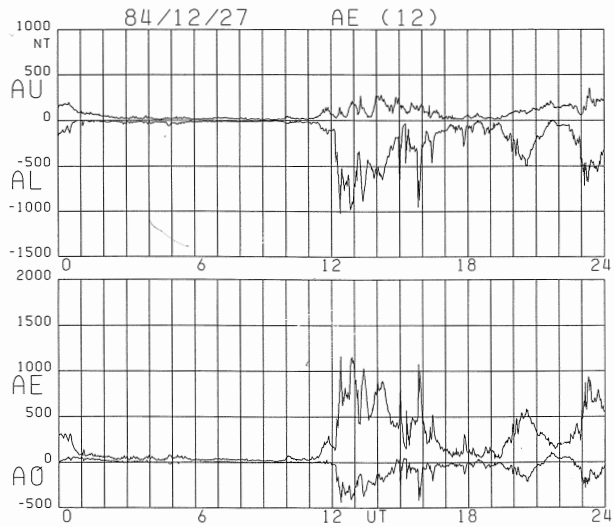
-500
AL
-1000
-1500
0 6 12 18 24
2000
1500
1000
AE
500
0
AO
-500
0 6 12 UT 18 24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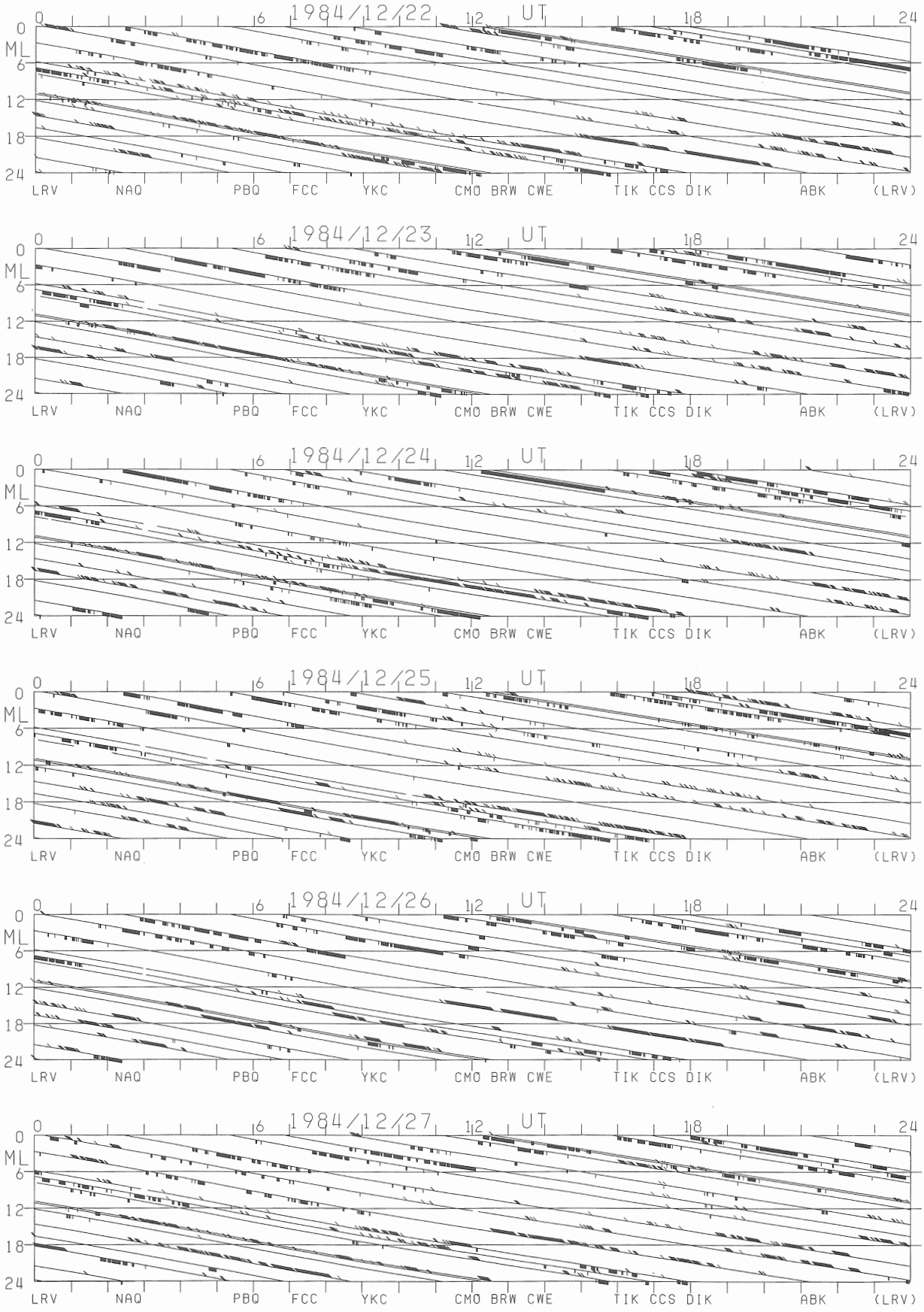
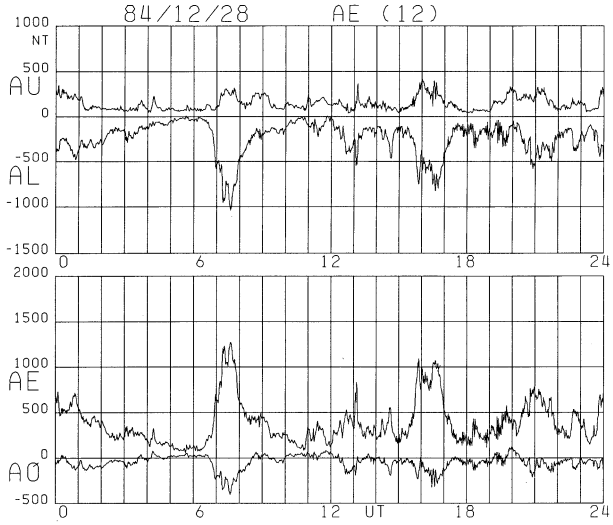
AL
-1000
-1500
0 6 12 18 24
2000
1500
1000
AE
500
0
AO
-500
0 6 12 UT 18 24


1984/12/22 UT
1984/12/23 UT
1984/12/24 UT
1984/12/25 UT
1984/12/26 UT
1984/12/27 UT
0
6
12
18
24
ML
LRV NAQ PBQ FCC YKC CMO BRW CWE TIK CCS DIK ABK (LRV)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NT
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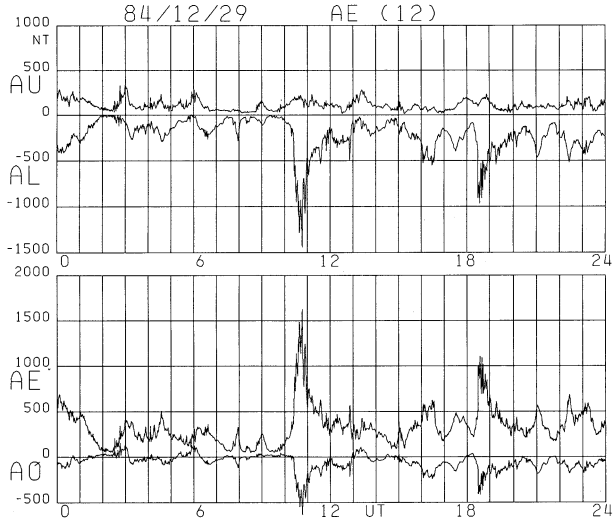
AU
0
-500
AL
-1000
-1500
0
6
12
18
24
2000
1500
1000
AE
500
0
AO
-500
0
6
12 UT
18
24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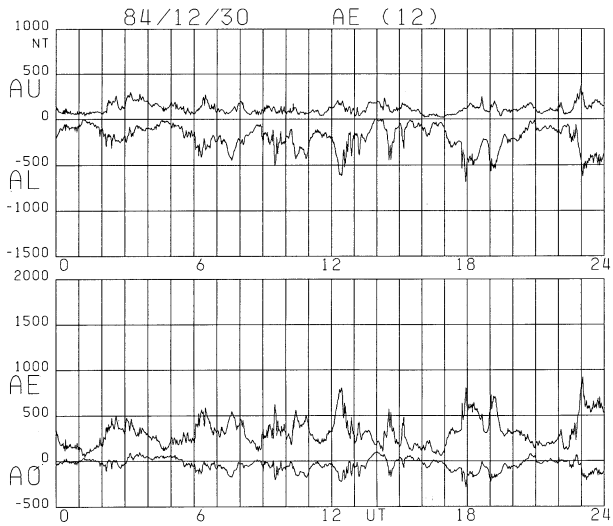
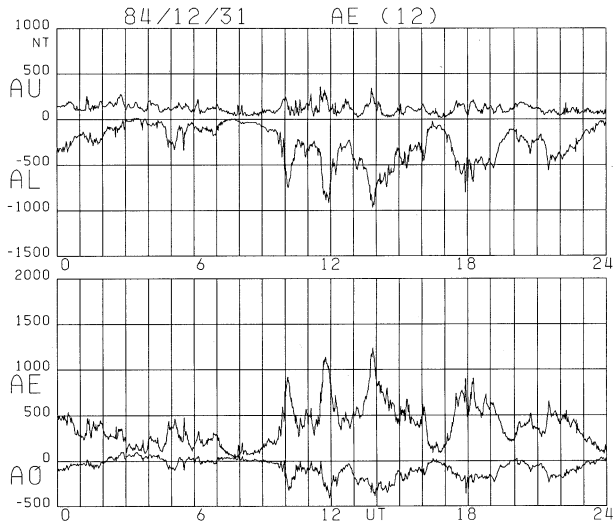
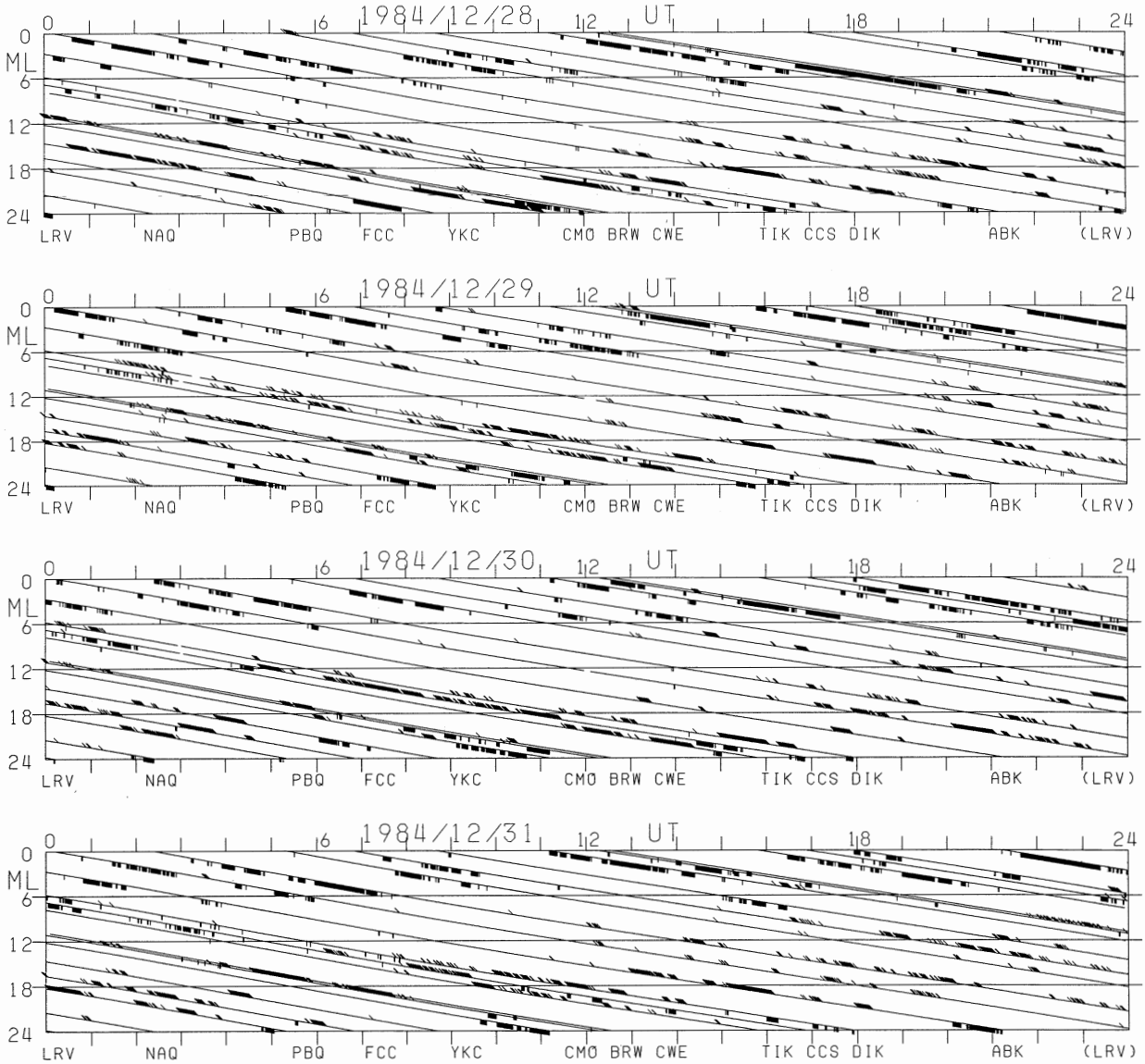
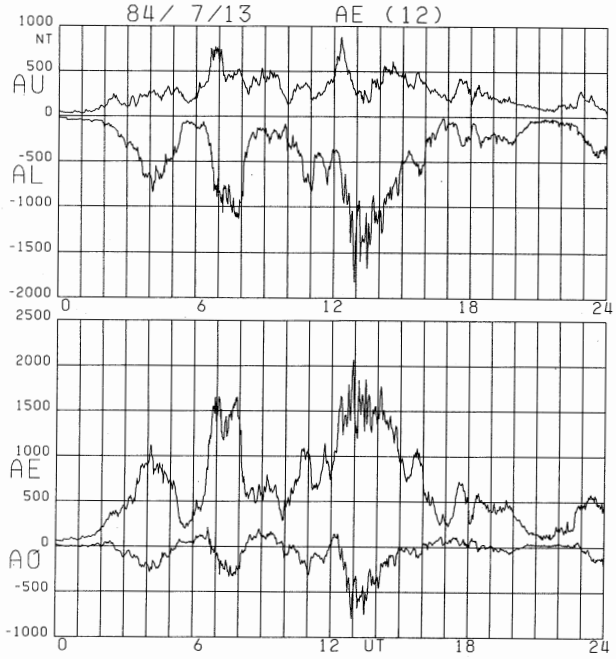
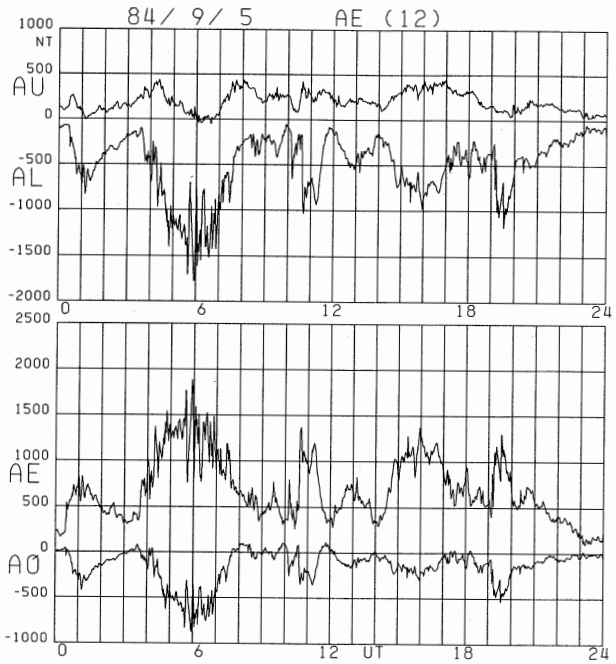
NT
500
AU
0
-500
AL
-1000
-1500
0
6
12
18
24
2000
1500
1000
AE
500
0
AO
-500
0
6
12 UT
18
24

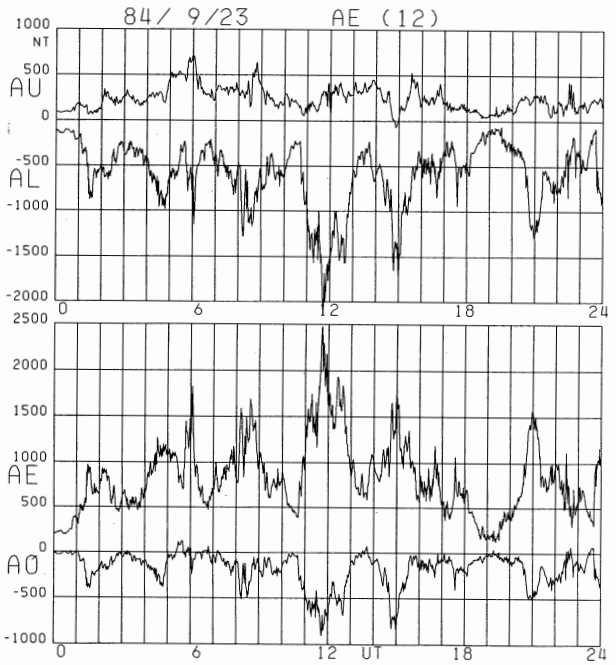

84/12/30 AE (12)
1000
NT
500
AU
0
-500
AL
-1000
-1500
0
6
12
18
24
2000
1500
1000
AE
500
0
AO
-500
0
6
12 UT
18
24

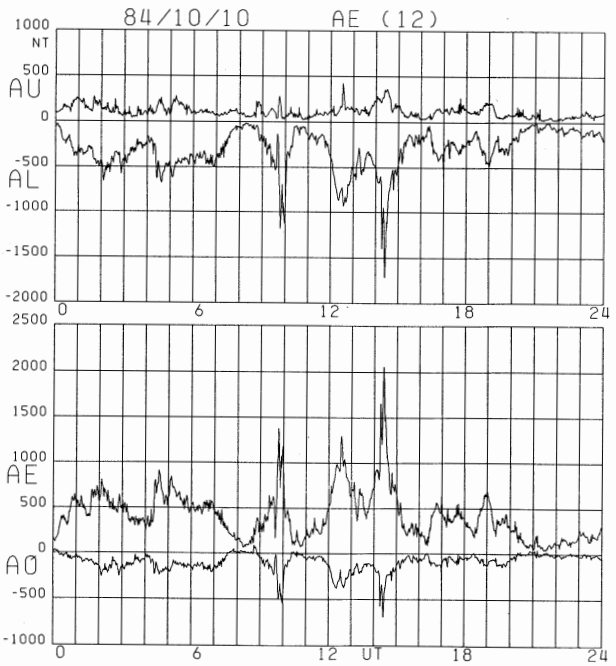

84/12/31 AE (12)
1000
NT
500
AU
0
-500
AL
-1000
-1500
0
6
12
18
24
2000
1500
1000
AE
500
0
AO
-500
0
6
12 UT
18
24


1984/12/28 UT
1984/12/29 UT
1984/12/30 UT
1984/12/31 UT
0
6
12
18
24
ML
LRV
NAQ
PBQ
FCC
YKC
CMO
BRW
CWE
TIK
CCS
DIK
ABK
(LRV)


84/ 7/13 AE (12)
1000
NT
500
AU
0
-500
AL
-1000
-1500
-2000
0
6
12
18
24
2500
2000
1500
1000
AE
500
0
AO
-500
-1000
UT


84/ 9/ 5 AE (12)
1000
NT
500
AU
0
-500
AL
-1000
-1500
-2000
0
6
12
18
24
2500
2000
1500
1000
AE
500
0
AO
-500
-1000
UT


84/ 9/23 AE (12)
1000
NT
500
AU
0
-500
AL
-1000
-1500
-2000
0
6
12
18
24
2500
2000
1500
1000
AE
500
0
AO
-500
-1000
UT


84/10/10 AE (12)
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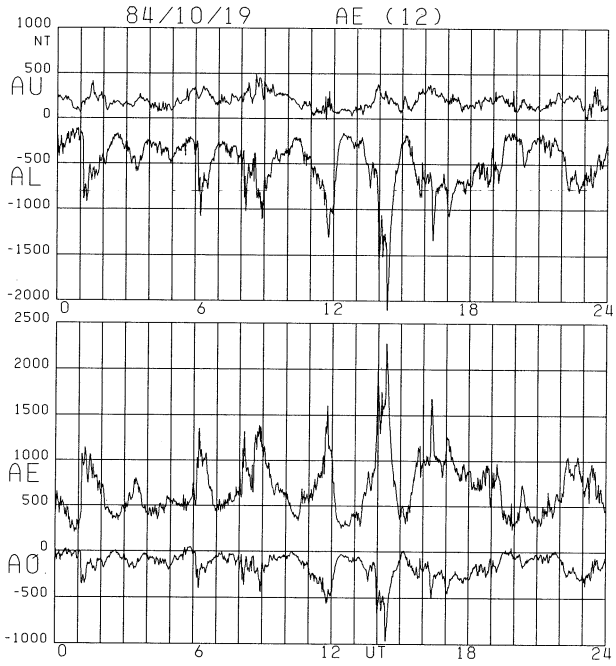
NT
500
AU
0
-500
AL
-1000
-1500
-2000
0
6
12
18
24
2500
2000
1500
1000
AE
500
0
AO
-500
-1000
UT


84/10/19 AE (12)
1000
NT
500
AU
0
-500
AL
-1000
-1500
-2000
0
6
12
18
24
2500
2000
1500
1000
AE
500
0
AO
-500
-1000
0
6
12 UT
18
24

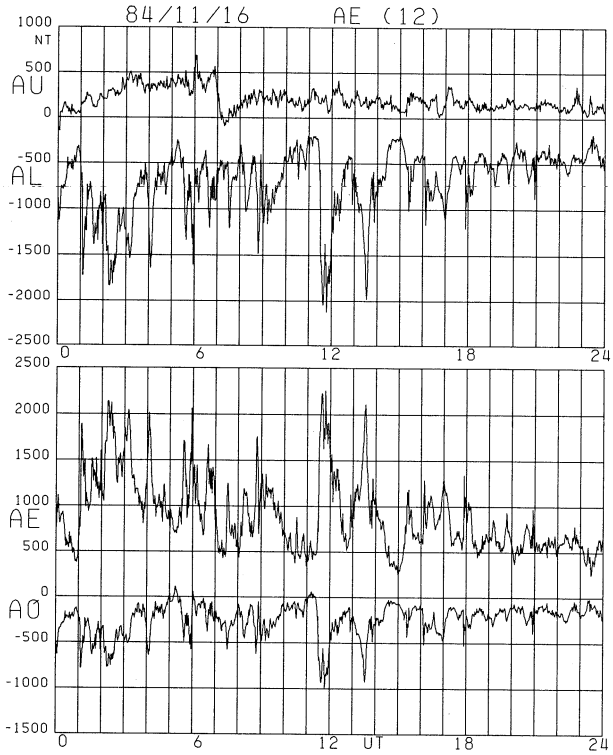
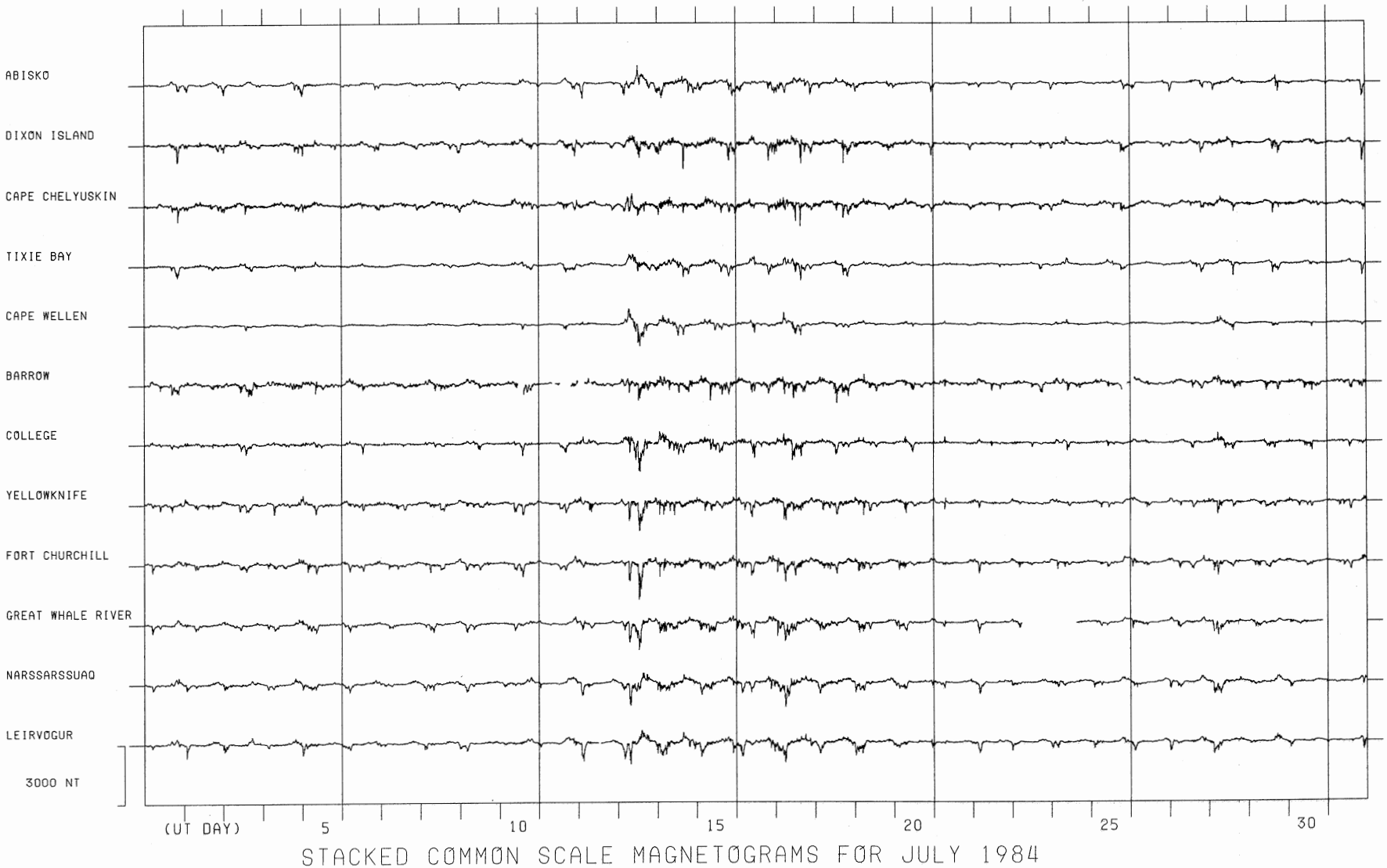
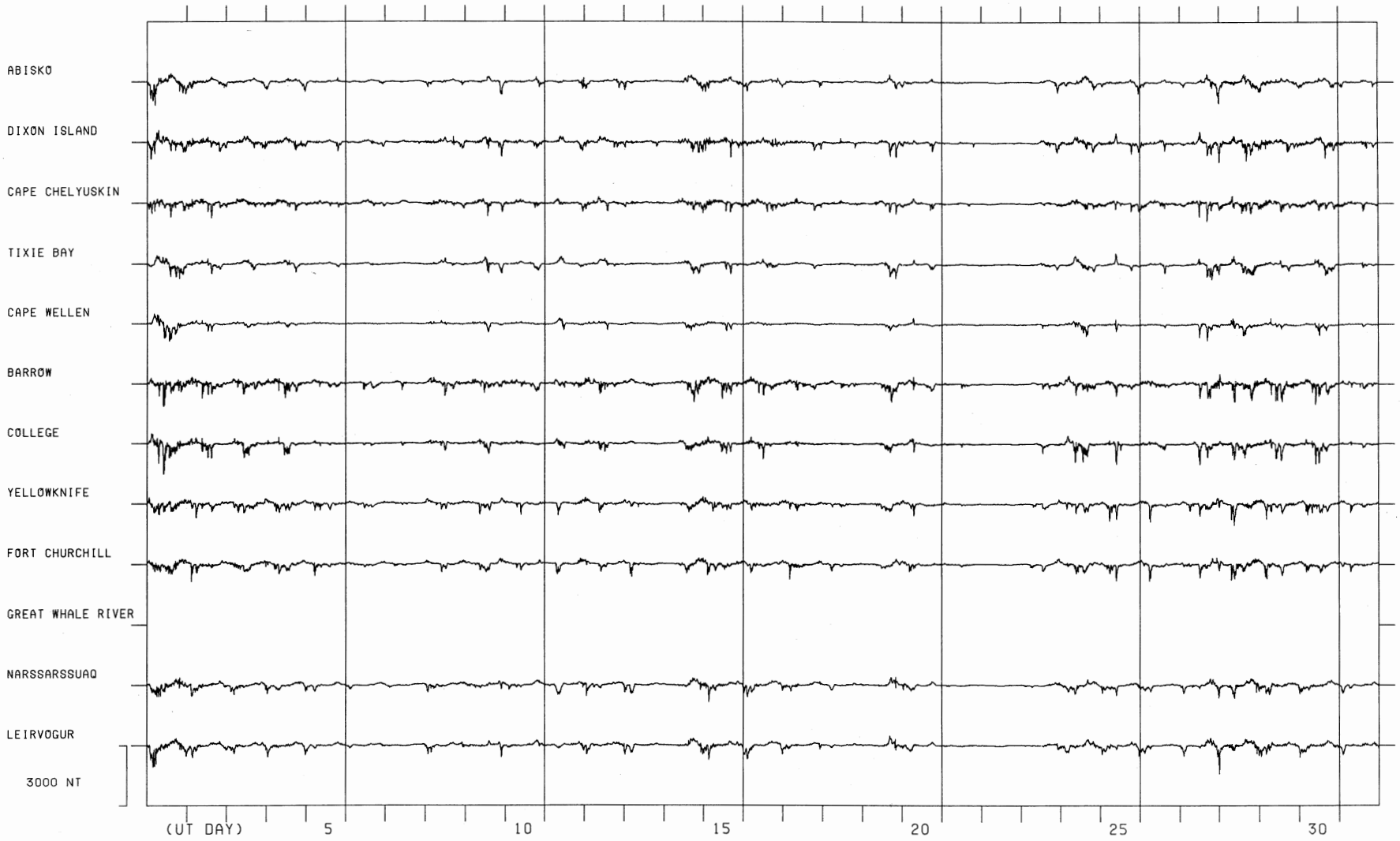

84/11/16 AE (12)
1000
NT
500
AU
0
-500
AL
-1000
-1500
-2000
-2500
0
6
12
18
24
2500
2000
1500
1000
AE
500
0
AO
-500
-1000
-1500
0
6
12 UT
18
24

FIGURE 6

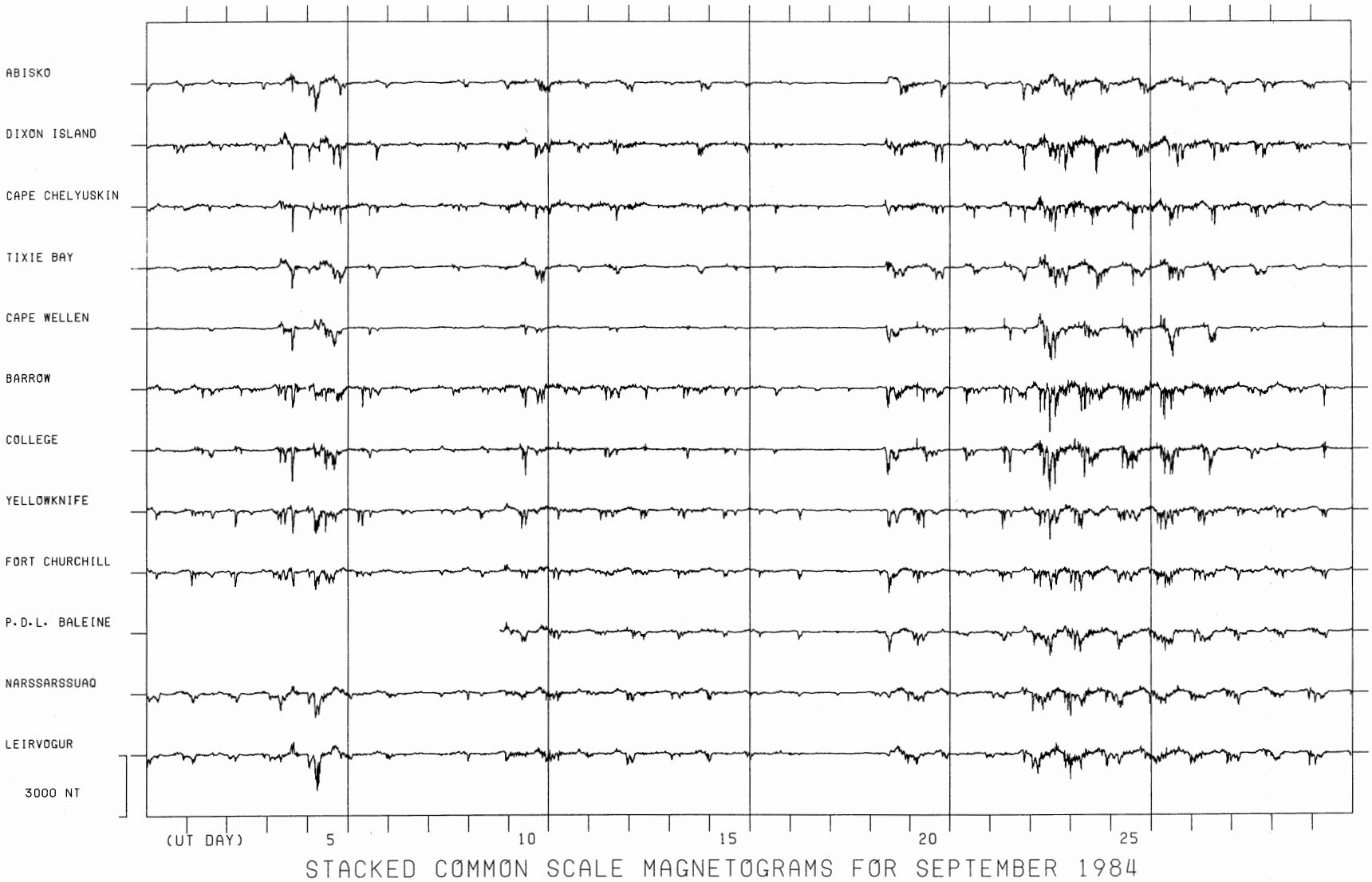
The H traces of magnetograms
from AE(12) stations
in each month
for July-December 1984.



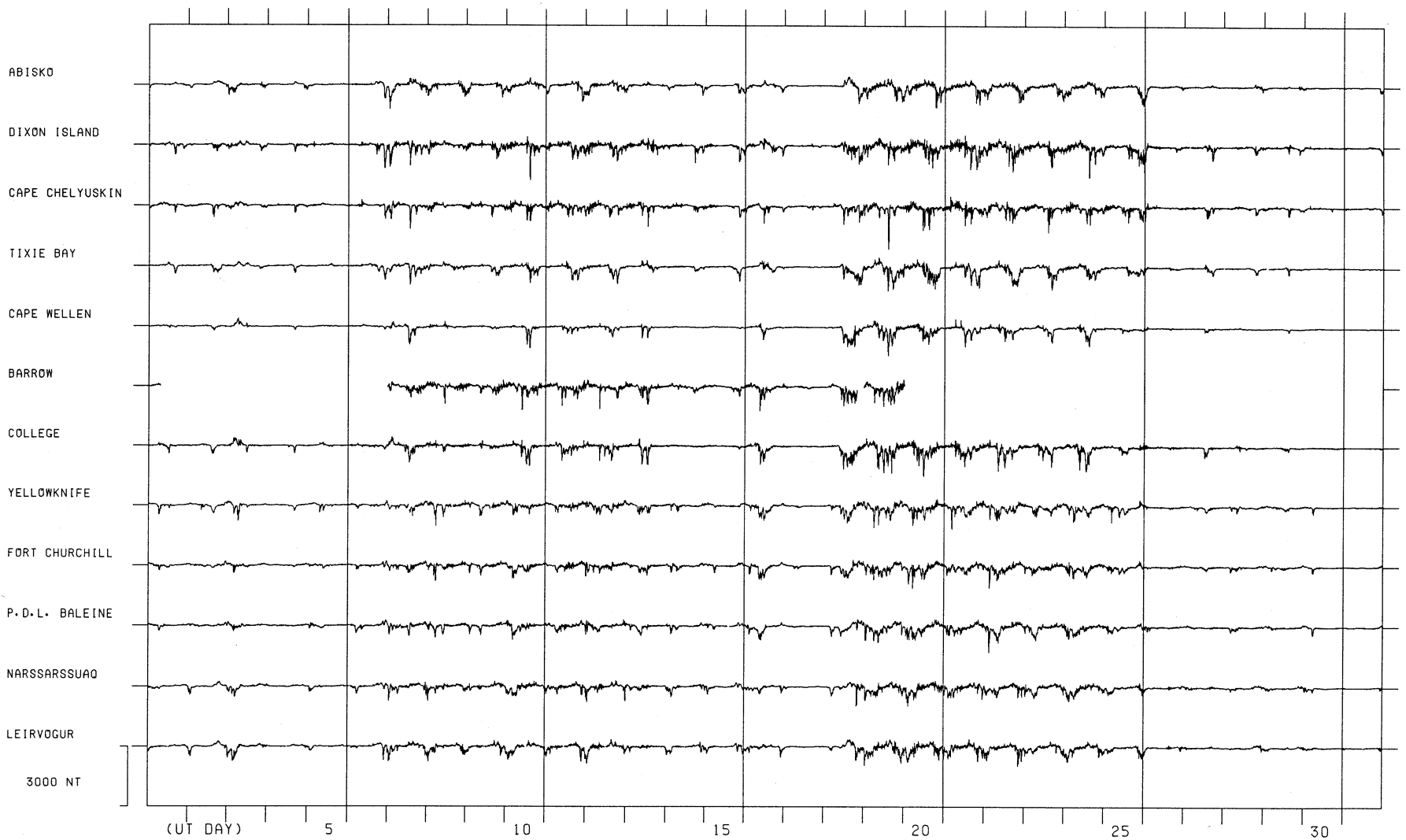
STACKED COMMON SCALE MAGNETOGRAMS FOR JULY 1984



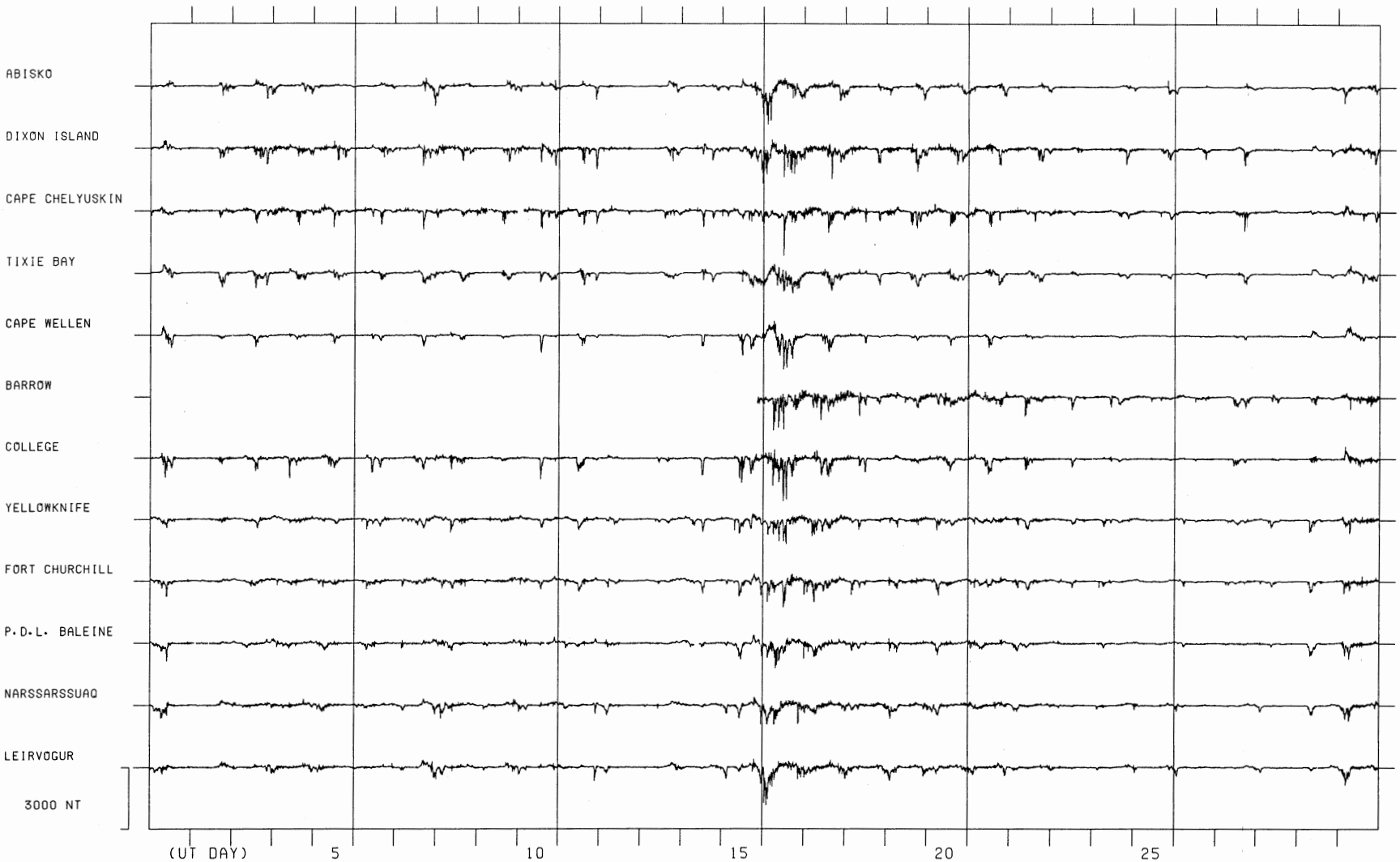
STACKED COMMON SCALE MAGNETOGRAMS FOR AUGUST 1984



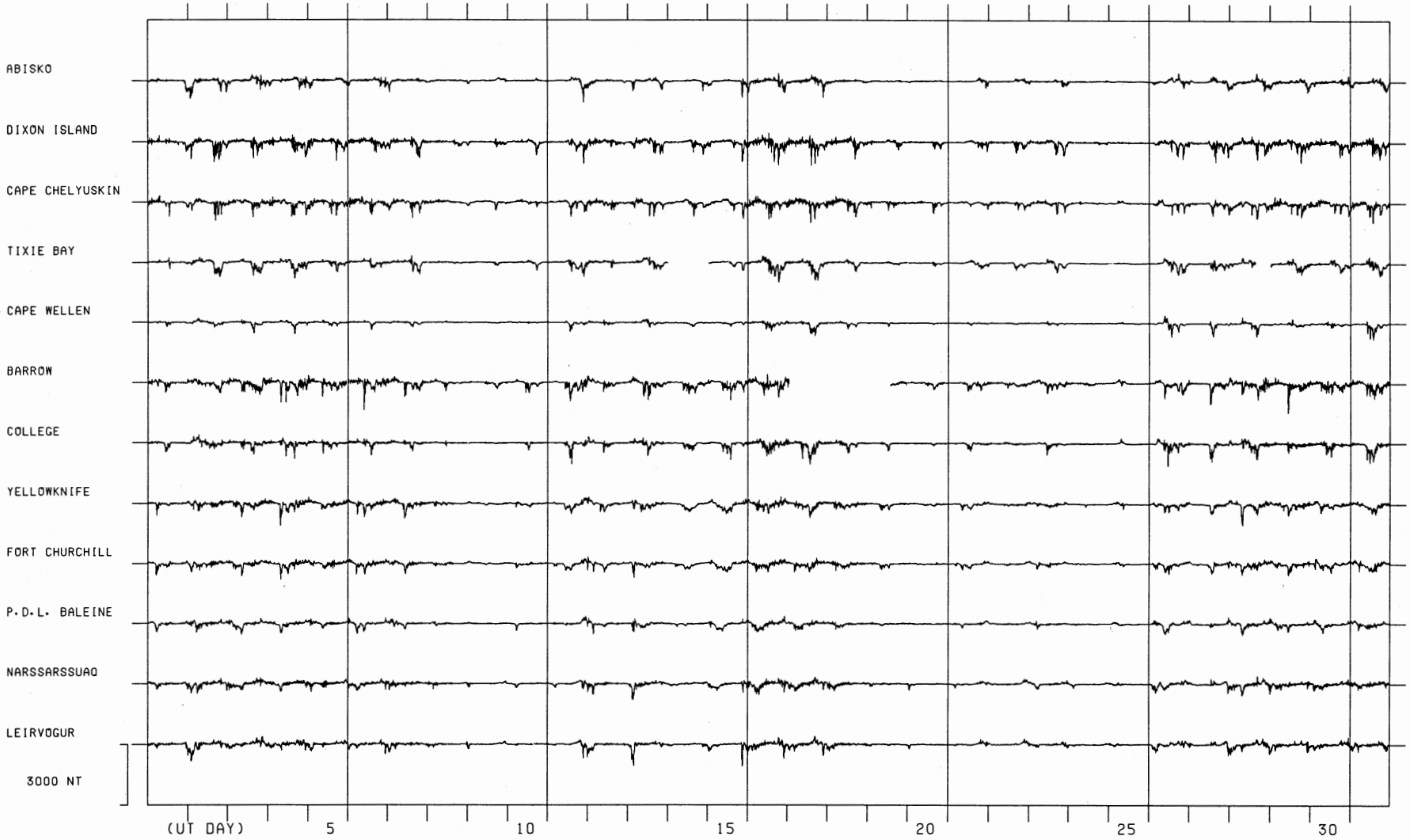
STACKED COMMON SCALE MAGNETOGRAMS FOR SEPTEMBER 1984



STACKED COMMON SCALE MAGNETOGRAMS FOR OCTOBER 1984



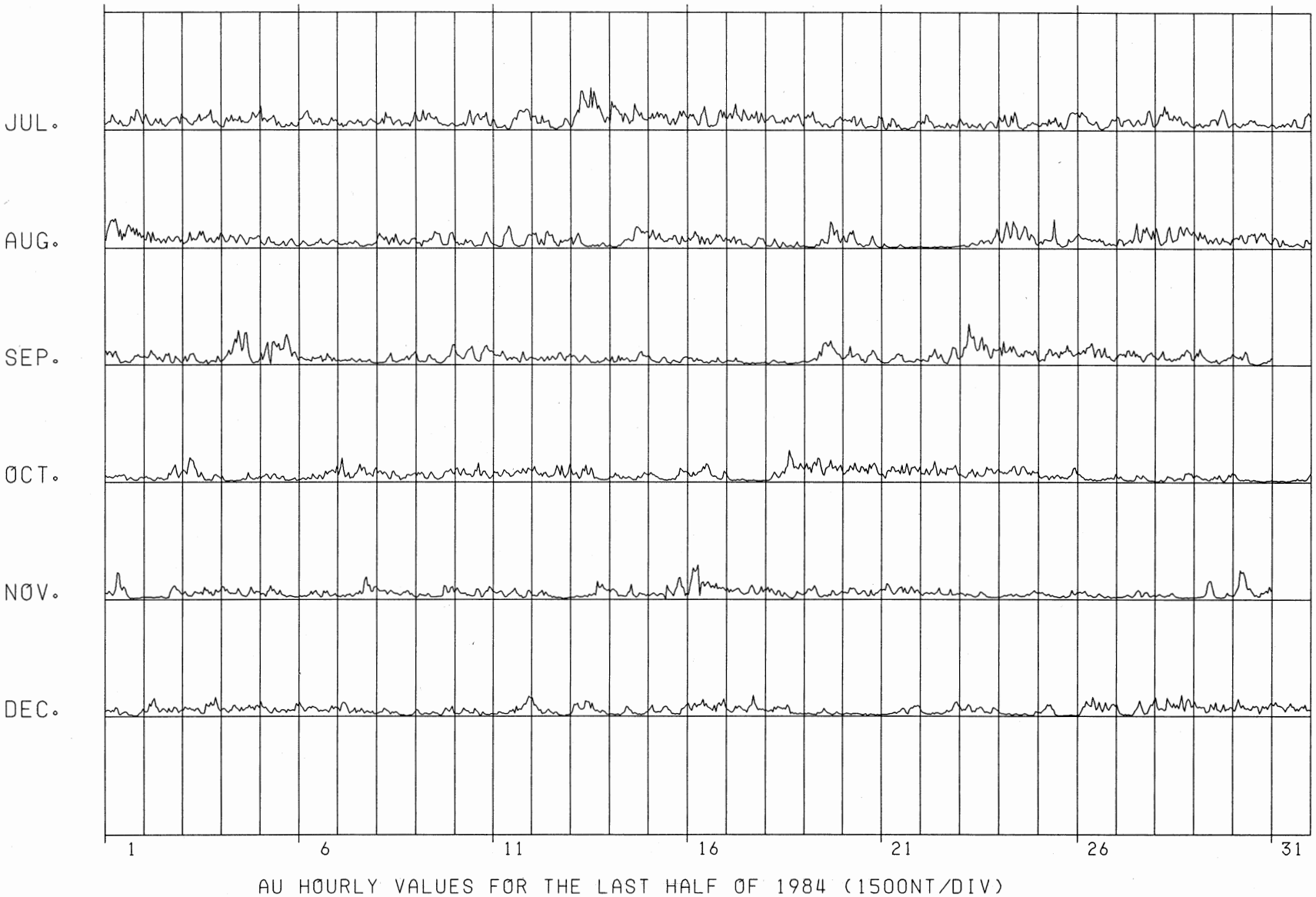
STACKED COMMON SCALE MAGNETOGRAMS FOR NOVEMBER 1984

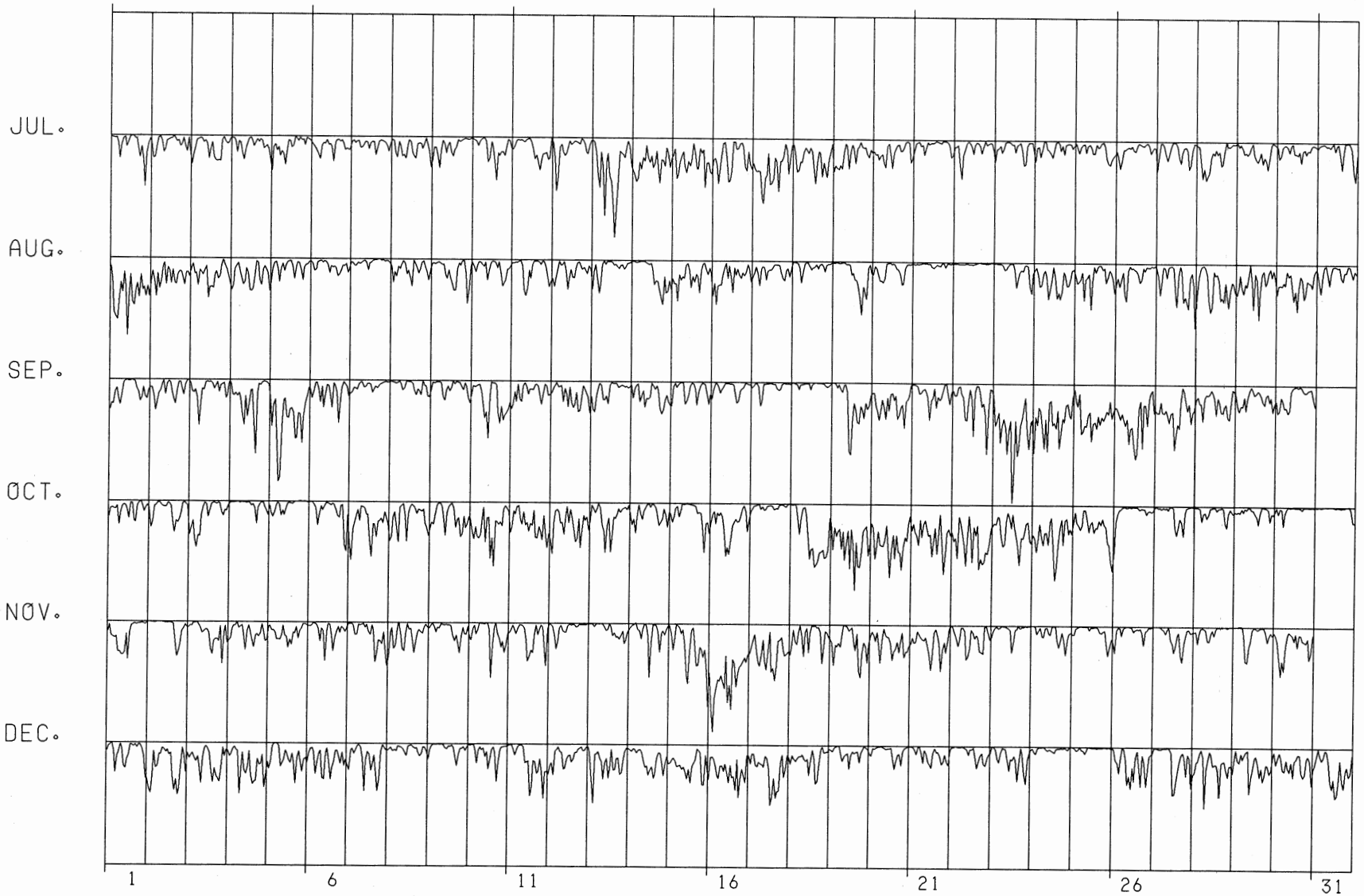


STACKED COMMON SCALE MAGNETOGRAMS FOR DECEMBER 1984

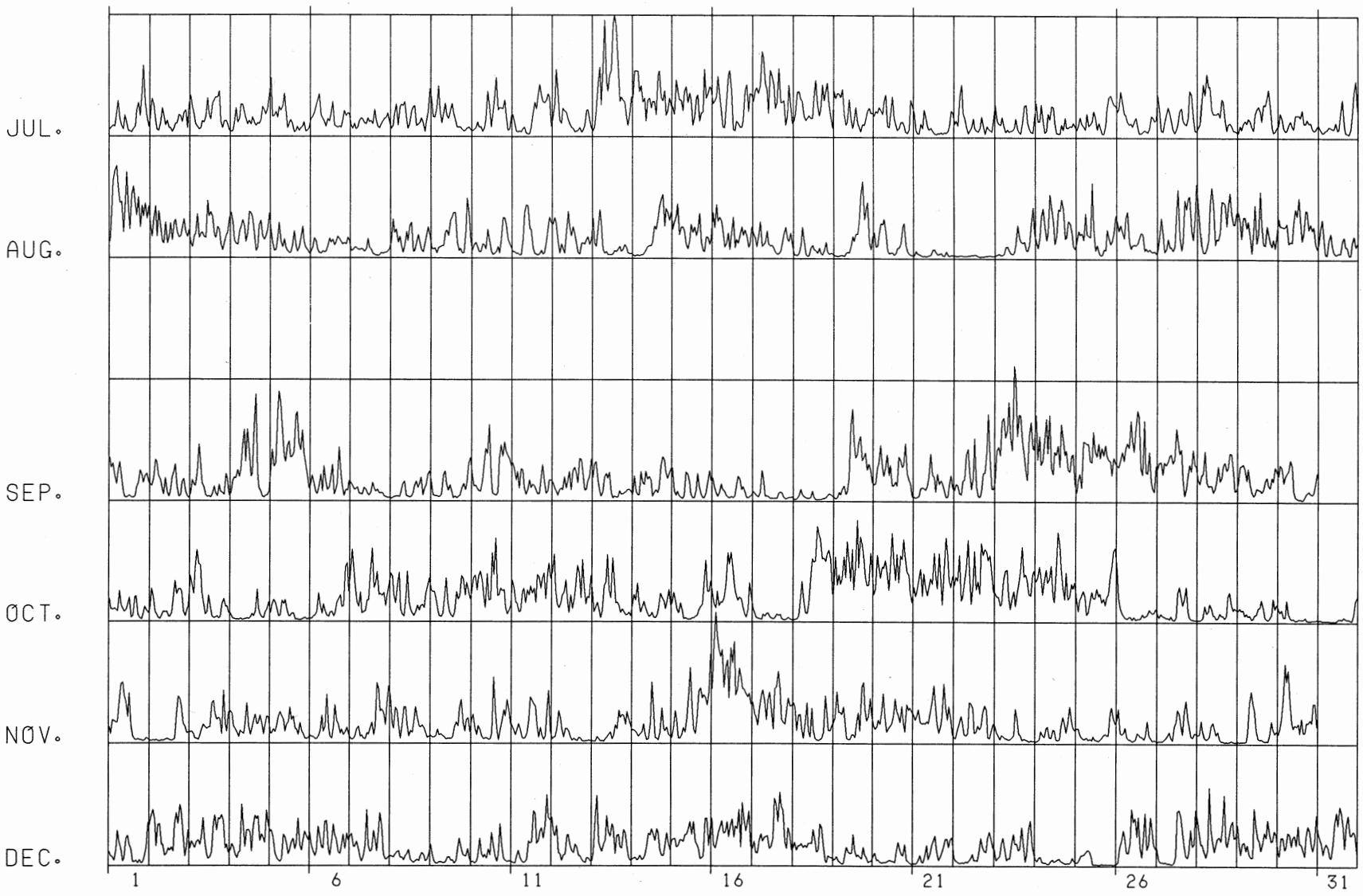
FIGURE 7

Plots of hourly values of each index
(AU, AL, AE and AO)
for July-December 1984.

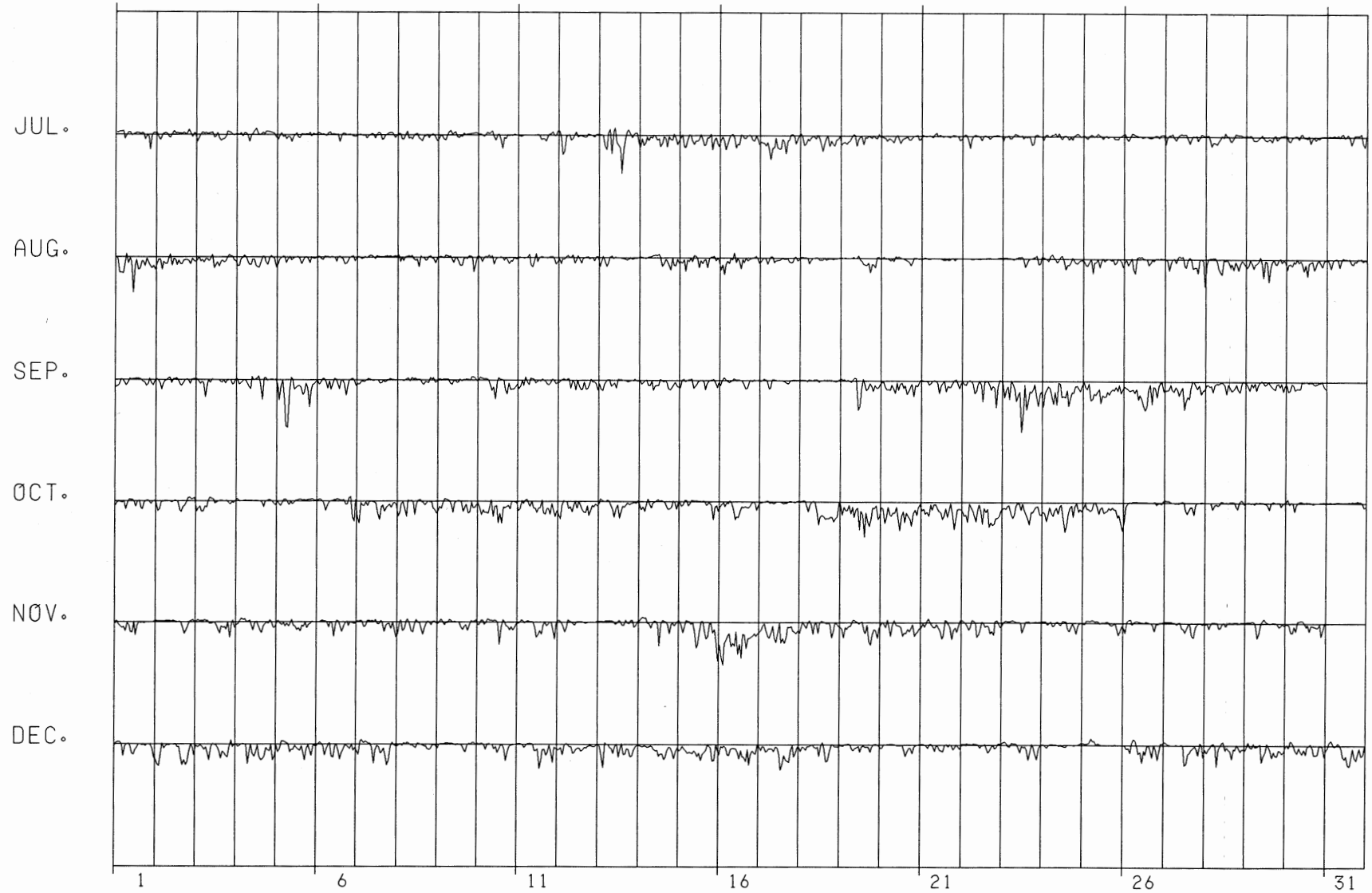

JUL.
AUG.
SEP.
OCT.
NOV.
DEC.
1
6
11
16
21
26
31
AU HOURLY VALUES FOR THE LAST HALF OF 1984 (150ONT/DIV)



AL HOURLY VALUES FOR THE LAST HALF OF 1984 (1500NT/DIV)

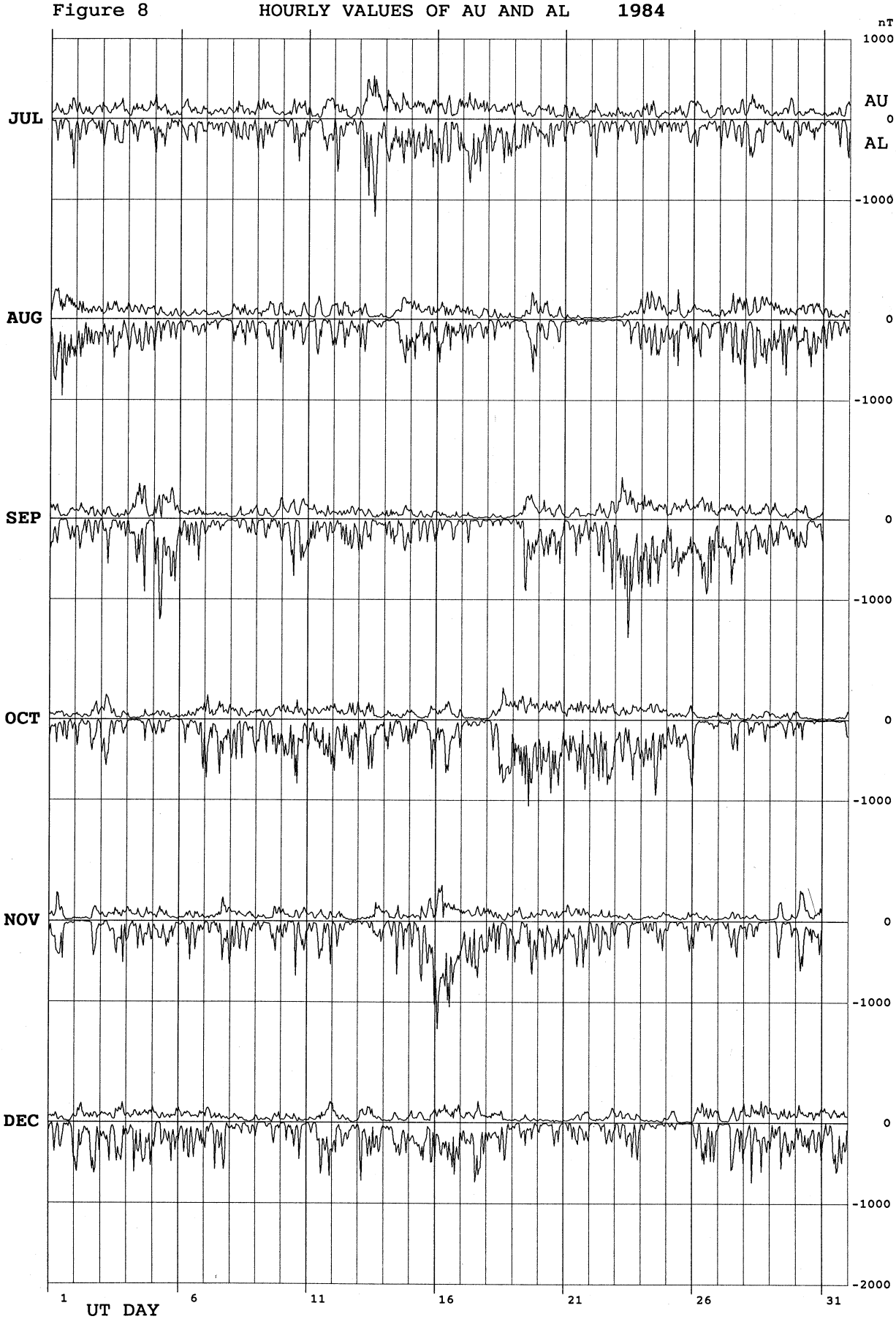


AE HOURLY VALUES FOR THE LAST HALF OF 1984 (1500NT/DIV)



AO HOURLY VALUES FOR THE LAST HALF OF 1984 (1500NT/DIV)

Figure 8 HOURLY VALUES OF AU AND AL 1984



Publications by the World Data Center C2 for Geomagnetism.

1. Data Catalogue

	Published in
Data Catalogue of World Data Center C2 for Geomagnetism	1987

2. Data Books

No. 1	Equivalent current systems of the daily geomagnetic variations in December 1964	1978
No. 2	Electric fields and neutral winds in the ionospheric dynamo region as deduced from the daily geomagnetic variations in December 1964	1979
No. 3	Auroral electrojet indices (AE) for January-June 1978	1981
No. 4	Auroral electrojet indices (AE) for July-December 1978	1981
No. 5	Auroral electrojet indices (AE) for January-June 1979	1982
No. 6	Auroral electrojet indices (AE) for July-December 1979	1982
No. 7	Auroral electrojet indices (AE) for January-June 1980	1983
No. 8	Auroral electrojet indices (AE) for July-December 1980	1983
No. 9	Auroral electrojet indices (AE) for January-June 1981	1984
No.10	Auroral electrojet indices (AE) for July-December 1981	1984
No.11	Auroral electrojet indices (AE) for January-June 1983	1985
No.12	Auroral electrojet indices (AE) for July-December 1982	1985
No.13	Auroral electrojet indices (AE) for July-December 1983	1986
No.14	Auroral electrojet indices (AE) for January-June 1982	1986
No.15	Auroral electrojet indices (AE) for January-June 1984	1987
No.16	Auroral electrojet indices (AE) for July-December 1984	1988

3. Other Publications

Report of Aeromagnetic Survey in Japan	1966
Japanese WMS Magnetic Charts for 1965	1966
WMA Inventory; First Issue	1970
WMA Inventory; Second Issue	1971

(WMA: World Magnetic Archives; WMS: World Magnetic Survey)

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Above publications are available on request. The request should be made by mail to:

WDC-C2 for Geomagnetism
Faculty of Science, Kyoto University
Kyoto 606, Japan

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