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Solar - Geophysical Data

NO. 505 SEPTEMBER 1986

Part II (Comprehensive Reports)

DATA FOR
MARCH 1986

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NATIONAL GEOPHYSICAL DATA CENTER
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S O L A R - G E O P H Y S I C A L D A T A

NUMBER 505

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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C O N T E N T S

Comprehensive Reports DATA FOR MARCH 1986 Number 505 Part II

CARTE SYNOPTIQUE
ACTIVE REGIONS
CARRINGTON ROTATION 1773

(9 MARCH to 6 APRIL 1986)

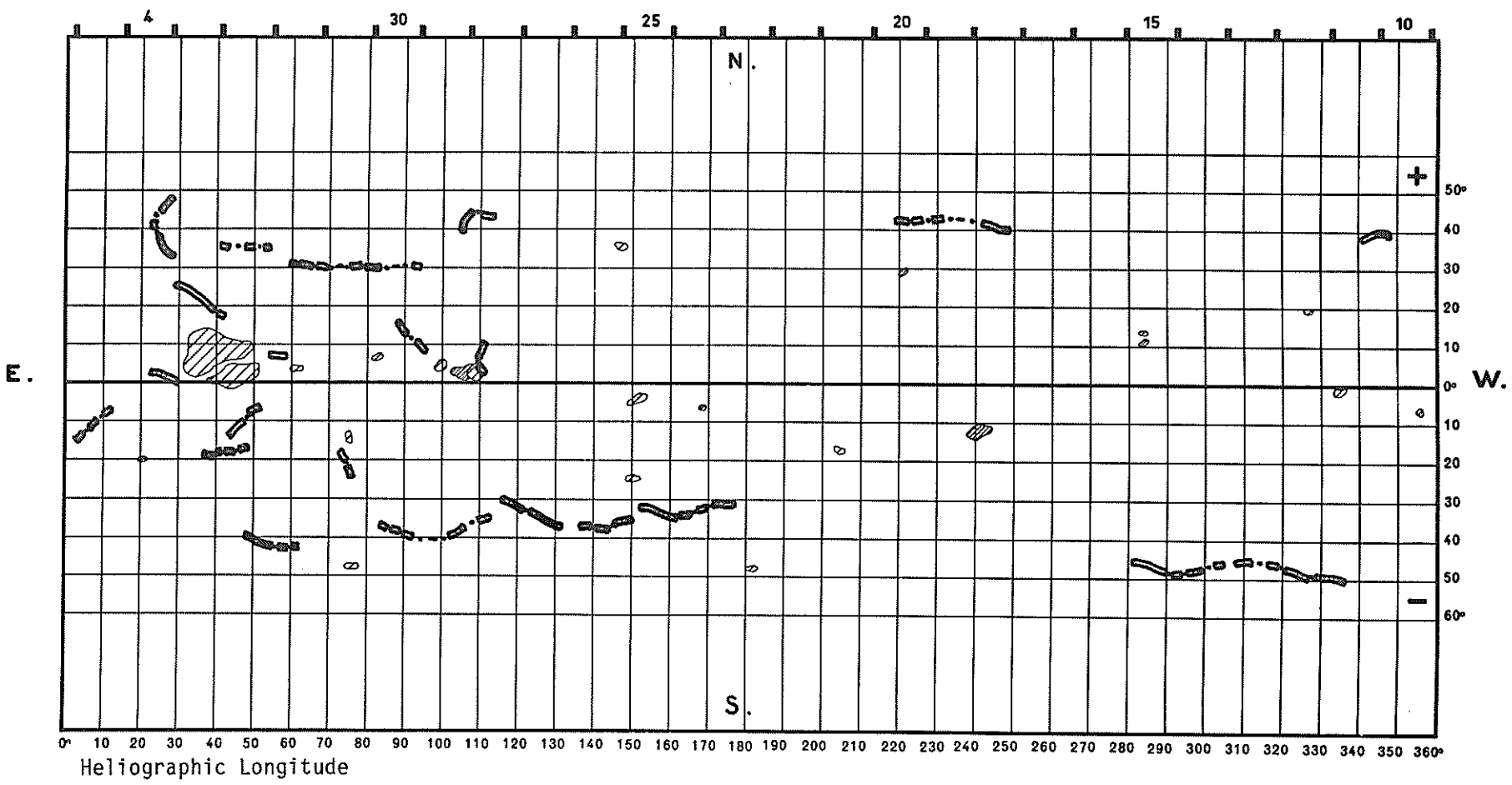
Region No.	Coordinates Lat.	Long.	Imp	Age at CMP (Days)	Spotless Region	Region No. in Rotation 1772	Activity at West Limb
1	1°S	335	1	-4	x		disappeared
2	11°S	241	1	-1	x		stable
3	4°S	151	1	-3	x		disappeared
4	4°N	108	1	-1	x		disappeared
5	3°N	105	1	+6	x		disappeared
6	5°N	99	1	+1	x		disappeared
7	14°S	75	1	+3	x		dispersed
8	3°N	45	1	>6	x	7	dispersed
9	9°N	39	1	>6	x	8	dispersed

CARTE SYNOPTIQUE

CARRINGTON ROTATION NUMBER 1773
(9 March to 6 April 1986)

Meudon Observatory

March 1986



5 Mar 86

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

MARCH 1986

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
0001	PALE	01	0142	0144	0145	S01	E80	4717	03	7.0	3	SF		3	C		12		
0002	LEAR	01	0450	0451	0456	N05	E80	4717	03	7.2	6	SF		3	C		24		
0003	LEAR	01	0640	0642	0650	N03	E78	4717	03	7.1	10	SN		3	C		29		
0004	LEAR	01	0703	0704	0709	N02	E79	4717	03	7.2	6	SF		3	C		24		
0005	LEAR	01	0756	0757	0800	N03	E76	4717	03	7.0	4	SF		3	C		16		
		01	0901		1349	No Flare Patrol													
0006	HOLL	01	1531	1532	1536	S01	E70	4717	03	6.9	5	SF		3	C		17		
0007	HOLL	01	1549	1553	1640	N02	E71	4717	03	7.0	51	SN	C 1.7	4	C		50		F
0008	PALE	01	1857E		1915	N00	E69	4717	03	6.9	18D	SF		2	C		15		F
0009	PALE	01	2004		2011	S01	E70	4717	03	7.1	7	SF		2	C		26		
0010	HOLL	01	2157	2158	2220	N01	E67	4717	03	6.9	23	SF		4	C		16		F
0011	HOLL	01	2222	2235	2306	N01	E68	4717	03	7.0	44	SF		4	C		29		F
0012		02	0542	0604U	0559	S02	E64	4717	03	7.0	17	SF	C 3.1				94		E
	LEAR	02	0542		0559	N01	E64	4717	03	7.0	17	SF	C 3.1	2	C		101		
	ABST	02	0600E	0604U	0611D	S04	E63	4717	03	6.9	11D	SF			P	0604	87		E
		02	1131		1321	No Flare Patrol													
		02	1342		1419	No Flare Patrol													
0013	HOLL	02	1509	1509	1518	N02	E57	4717	03	6.9	9	SF		3	C		16		
0014	HOLL	02	1743	1743	1749	S01	E59	4717	03	7.1	6	SF		3	C		36		F
		02	1821		1822	No Flare Patrol													
0015	PALE	02	1950	1953	2014	S01	E57	4717	03	7.1	24	SF		3	C		65		E
		02	2036		2041	No Flare Patrol													
0016		02	20439	20512	2100	S00	E56	4717	03	7.0	17	SN	C 4.3				74		FH
	HOLL	02	2043	2051	2103	S01	E58	4717	03	7.2	20	SN	C 4.3	3	C		63		F
	PALE	02	2052	2053	2057	N00	E54	4717	03	6.9	5	SN	C 4.3	3	C		84		FH
		02	2104		2131	No Flare Patrol													
		02	2139		2143	No Flare Patrol													
0017		03	05001	0502	0510	S00	E52	4717	03	7.1	10	1N	C 7.5				210	4.0	F
	LEAR	03	0500	0501U	0512	N01	E52	4717	03	7.1	12	1B	C 7.5	3	C		185		F
	PURP	03	0501	0502	0508	S02	E52	4717	03	7.1	7	1F	C 7.5		C	0502	234	4.0	
0018		03	1255	12551	1310	S03	E46	4717	03	7.0	15	1B					212	3.2	D
	LVOV	03	1253E	1256	1304D	S03	E46	4717	03	7.0	11D	1N			C	1256	200	3.0	D
	CATA	03	1255	1255	1310	S03	E45	4717	03	6.9	15	1B		2	C	1255	225	3.3	
		03	1321		1400	No Flare Patrol													
		03	1404		1411	No Flare Patrol													
0019	HOLL	03	1422	1425	1434D	N02	E48	4717	03	7.2	12D	1N		3	C		194		F
		03	1435		1512	No Flare Patrol													
		03	1529		1544	No Flare Patrol													
		03	1615		1623	No Flare Patrol													
		03	1824		1851	No Flare Patrol													
		03	2006		2033	No Flare Patrol													
0020	PALE	03	2035	2035	2050	S02	E42	4717	03	7.0	15	SF		3	C		23		H

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

MARCH 1986

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
		03	2121		2249	No Flare Patrol													
0021	LEAR	03	2338	2338	2348	N00	E41	4717	03	7.0	10	SF		3	C		29		
0022	LEAR	04	0447	0448	0451	N01	E38	4717	03	7.0	4	SF		3	C		53		F
0023	TACH	04	0554E		0601D	S02	E37	4717	03	7.0	7D	SN			C	0554	88	1.1	D
0024		04	0720	0723	0726	S00	E36	4717	03	7.0	6	SF					56	1.0	EF
	LEAR	04	0720	0723	0726	N01	E36	4717	03	7.0	6	SF		3	C		31		F
	HTPR	04	0723E		0723D	S02	E35	4717	03	6.9	6D	SF			C	0723	80	1.0	E
0025		04	09486	09538	1018	S00	E32	4717	03	6.8	30	SF					30	.3	DL
	KHAR	04	0945E	0952U	0956D	N02	E31	4717	03	6.7	11D	SF			V	0952			DL
	HTPR	04	0948	0953	0956	N02	E30	4717	03	6.6	8	SF			C	0953	40	.4	
	HTPR	04	0954	1001	1040	S03	E34	4717	03	6.9	46	SF			C	1001	20	.2	
	KHAR	04	0955E		1028D	S02	E34	4717	03	6.9	33D	SF			V	1013			DL
0026	HTPR	04	0945	0948	1002	N03	W30	4718	03	2.2	17	SF			C	0948	20	.2	E
		04	1703		1723	No Flare Patrol													
		04	1741		1747	No Flare Patrol													
0027	HOLL	04	1930	1936	2007	N01	E28	4717	03	6.9	37	SF		3	C		28		FU
0028	PALE	04	2251	2307	2321	N01	E30	4717	03	7.2	30	SF		3	C		31		H
0029	LEAR	05	0427	0429	0500	N04	E24	4717	03	7.0	33	SN	C 1.2	3	C		113		F
0030		05	07037	0708*	0807	N03	E24	4717	03	7.1	64	1N					213	2.0	EFIL
	LEAR	05	0703	0708	0759	N04	E26	4717	03	7.2	56	1B		3	C		375		F
	ABST	05	0706	0708	0804	S00	E21	4717	03	6.9	58	1B			C	0708	183	2.1	E
	ABST	05	0707	0719	0804	N05	E27	4717	03	7.3	57	SN			C	0719	96	1.1	E
	PEKG	05	0710	0726	0810	N01	E23	4717	03	7.0	60	1N			C		294	3.4	E
	HTPR	05	0800E		0820	N04	E25	4717	03	7.2	20D	SN			C	0803	120	1.2	EIL
0031	HTPR	05	0939	0940	0950	N01	E19	4717	03	6.8	11	SN			C	0940	30	.3	E
0032	HTPR	05	1400	1402	1415	N02	E20	4717	03	7.1	15	SB			C	1402	30	.3	E
0033	HOLL	05	1948	1952	1958	N00	E14	4717	03	6.9	10	SF		3	C		48		F
		05	2040		2121	No Flare Patrol													
0034	PURP	06	0051	0053	0057	N00	E15	4717	03	7.1	6	SF			C	0053	68	.7	E
0035	PURP	06	0246	0247	0305	N01	E15	4717	03	7.2	19	SF			C	0247	44	.5	E
0036		06	0415	04203	0431	N00	E09	4717	03	6.8	16	1N					341	3.6	E
	PEKG	06	0415	0423	0430	N01	E09	4717	03	6.8	15	2N			C		505	5.4	E
	PURP	06	0420E	0420	0430	S01	E09	4717	03	6.8	10D	1N			C	0420	318	3.3	
	MITK	06	0420E	0421	0432	N01	E08	4717	03	6.8	12D	1N			C	0421	200	2.1	E
0037		06	0432	0437	0445	N02	E12	4717	03	7.1	13	2N					758	8.2	BE
	PEKG	06	0432	0437	0445	N01	E12	4717	03	7.1	13	1N			C		368	4.1	E
	TACH	06	0513E		0621D	N03	E13	4717	03	7.2	68D	2F			C	0513	1149	12.3	BE
		06	0623		0628	No Flare Patrol													
0038		06	0900*	09037	0914	N02	E11	4717	03	7.2	14	SB					76	.8	
	ATHN	06	0900	0903	0912	N02	E11	4717	03	7.2	12	SB		3	V	0903	95	1.0	
	CATA	06	0910	0910	0915	N02	E11	4717	03	7.2	5	SB		2	C	0910	56	.6	
		06	1016		1107	No Flare Patrol													
		06	1335		1353	No Flare Patrol													
0039	HOLL	06	1637	1702	1757	N02	E01	4717	03	6.8	80	1F	C 4.6	4	C		287		FU

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

MARCH 1986

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
0040	HOLL	07	0004	0006	0014	N00	W03	4717	03	6.8	10	SN	C 2.0	3	C		27		F
0041	PALE	07	0129	0130	0132	S04	W01	4717	03	7.0	3	SN		2	C		36		F
0042		07	01593	02033	0213	S01	W04	4717	03	6.8	14	SN	C 4.1				181	2.2	DFHK
	VORO	07	0159	0203	0215	S00	W04	4717	03	6.8	16	SN			C	0203	179	1.8	DH
	PALE	07	0200	0203	0217D	S01	W04	4717	03	6.8	17D	SB	C 4.1	3	C		183		FHK
	PEKG	07	0200	0205	0212	S01	W03	4717	03	6.8	12	1N			C		252	2.6	D
	PALE	07	0200	0206	0217D	S01	W04	4717	03	6.8	17D	SB		3	C		109		K
	MITK	07	0202	0203	0212	S01	W04	4717	03	6.8	10	SN			C	0203			DH
0043	ATHN	07	0943	0945	0948	S02	W09	4717	03	6.7	5	SF		3	C	0945	19	.2	
0044	ATHN	07	1253E	1255U	1303	S03	W12	4717	03	6.6	10D	SN		3	C	1255	48	.5	
		07	1436		1446	No Flare Patrol													
		07	1622		1745	No Flare Patrol													
		07	1901		1922	No Flare Patrol													
		07	1929		1936	No Flare Patrol													
		07	1946		2015	No Flare Patrol													
0045	HOLL	07	2355	2355	2358	S01	W10	4717	03	7.2	3	SF		3	C		26		
		08	1454		1500	No Flare Patrol													
0046		09	0112	0112	0122	N02	W24	4717	03	7.2	10	SF					22		FH
	PALE	09	0112	0112	0121	N02	W25	4717	03	7.2	9	SF		3	C		21		F
	LEAR	09	0112	0112	0123	N03	W24	4717	03	7.2	11	SF		3	C		24		FH
0047	KHAR	09	0957E		1015D	N05	W30	4717	03	7.2	18D	SF			V	1000			D
		09	1146		1204	No Flare Patrol													
		09	1400		1411	No Flare Patrol													
		09	2205		2254	No Flare Patrol													
		10	1003		1043	No Flare Patrol													
		10	1102		1111	No Flare Patrol													
		10	1121		1144	No Flare Patrol													
		10	1205		1216	No Flare Patrol													
0048	RAMY	10	1412	1413	1431	N00	W44	4717	03	7.3	19	SN		3	C		29		F
		10	1439		1500	No Flare Patrol													
		10	1715		1721	No Flare Patrol													
		11	0507		0514	No Flare Patrol													
		11	1212		1215	No Flare Patrol													
		11	1421		1438	No Flare Patrol													
		11	1922		2016	No Flare Patrol													
		11	2235		2305	No Flare Patrol													
		11	2327		2341	No Flare Patrol													
0049	ATHN	12	0835	0840	0850	N03	W65	4717	03	7.5	15	SN		3	C	0840	19	.4	
		13	1511		1519	No Flare Patrol													
		13	1544		1555	No Flare Patrol													
		14	0851		0854	No Flare Patrol													
		14	1016		1028	No Flare Patrol													
		14	1034		1039	No Flare Patrol													
		14	1051		1136	No Flare Patrol													
		14	1424		1433	No Flare Patrol													
		14	2123		2400	No Flare Patrol													
		15	0000		0009	No Flare Patrol													
		15	0027		0111	No Flare Patrol													
		15	0230		0231	No Flare Patrol													
		15	1526		1532	No Flare Patrol													
		15	1918		2053	No Flare Patrol													
		15	2130		2140	No Flare Patrol													
		15	2225		2236	No Flare Patrol													
		15	2241		2335	No Flare Patrol													

H - ALPHA SOLAR FLARES

MARCH 1986

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP	Mo	Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Apparent (10^{-6} Disk)	Corr (Sq Deg)	Remarks
		16	1849		2233	No Flare Patrol															
		17	1708		1709	No Flare Patrol															
		17	1717		1731	No Flare Patrol															
		17	1803		1857	No Flare Patrol															
		17	1934		1944	No Flare Patrol															
		17	1956		2003	No Flare Patrol															
		17	2023		2048	No Flare Patrol															
		17	2140		2244	No Flare Patrol															
		18	2141		2142	No Flare Patrol															
		18	2214		2342	No Flare Patrol															
		19	0041		0055	No Flare Patrol															
		19	1452		1507	No Flare Patrol															
		19	1617		1641	No Flare Patrol															
		19	1649		1653	No Flare Patrol															
		20	1722		1723	No Flare Patrol															
		21	0552		0556	No Flare Patrol															
		23	1131		1140	No Flare Patrol															
		24	1558		1605	No Flare Patrol															
		24	2025		2031	No Flare Patrol															
		24	2144		2212	No Flare Patrol															
		25	1519		1526	No Flare Patrol															
		25	1530		1540	No Flare Patrol															
		27	2221		2231	No Flare Patrol															
0050	HTPR	29	1101	1103	1108	N04	W08	4720	03	28.9		7	SF				C	1103	10	.1	E
0051		29	12012	1204	1216	N03	W08	4720	03	28.9		15	SB						82	.7	E
	HTPR	29	1201	1204	1214	N04	W08	4720	03	28.9		13	SB				C	1204	70	.7	E
	RAMY	29	1203	1204	1217	N02	W07	4720	03	29.0		14	SN		3		C		94		
		29	1559		1646	No Flare Patrol															
		31	2334		2348	No Flare Patrol															

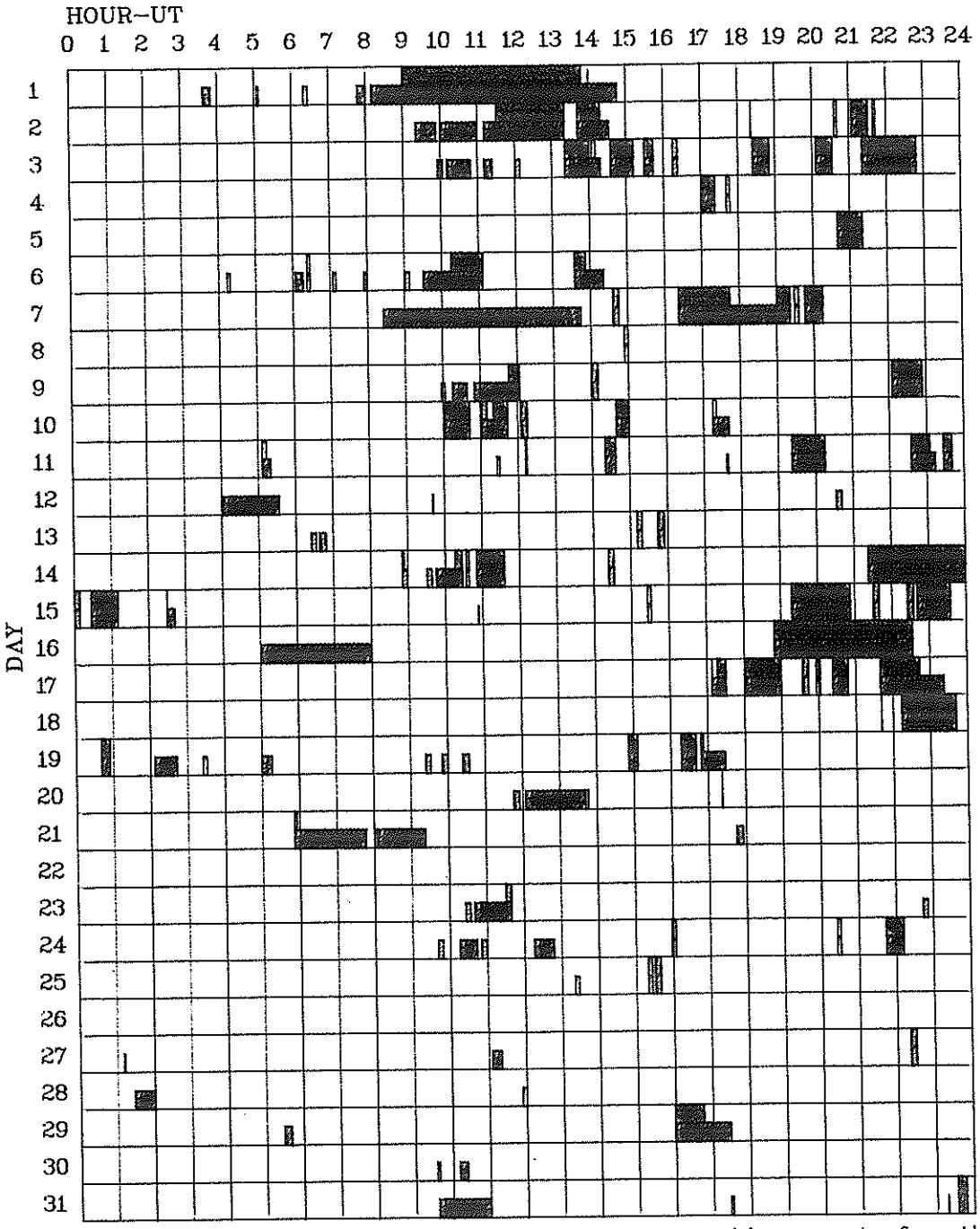
"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of Ca II.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

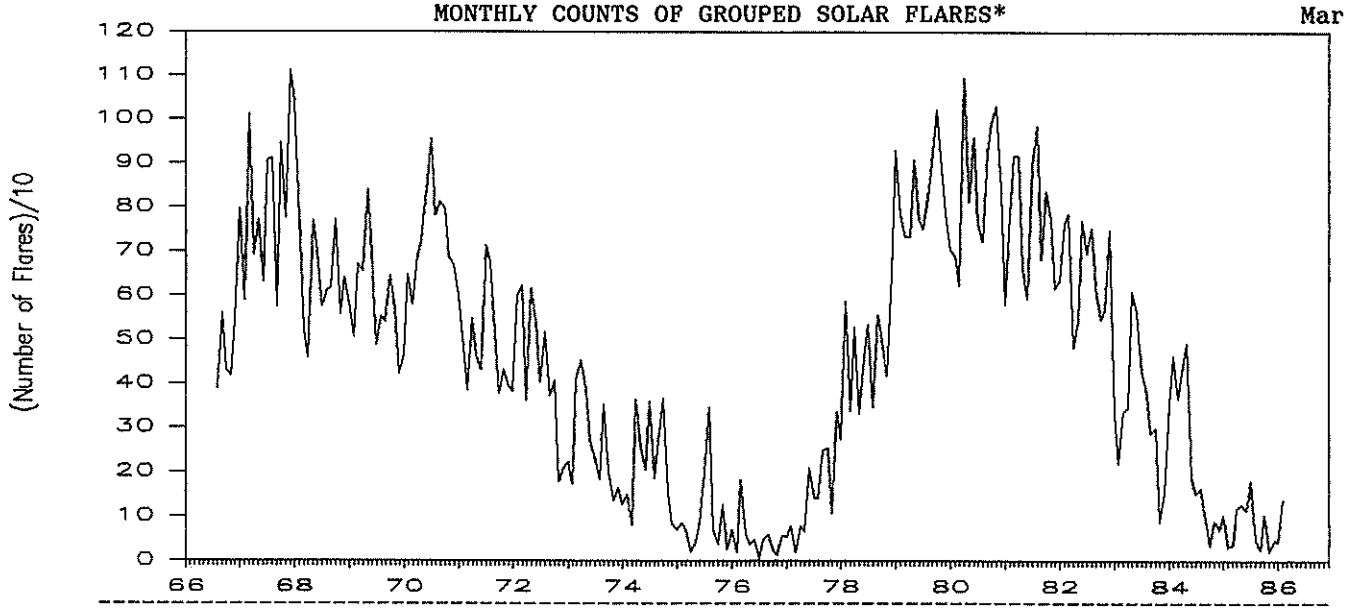
MARCH 1986



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

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

MONTHLY COUNTS OF GROUPED SOLAR FLARES*



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1966								391	558	432	417	543	2341
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	763	783	480	540	769	696	753	616	545	565	749	7890
1983	332	220	337	346	609	561	427	395	289	298	88	152	4054
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	118	126	113	177	48	22	106	19	45	945
1986	43	136	51										230

*Flare counts are preliminary from July 1982 to present.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

MARCH 1986

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
01	200	HIRA	43	NS	0338.0	0500.0	300.0D	4.0	2.0		0
	260	ONDR	44	NS	0810.0E	1320.0	390.0D	25.0			
	200	HIRA	44	NS	2109.0E	0430.0	680.0D	4.0	3.0		WL
	245	LEAR	43	NS	2245.0	0111.1	710.0D	38.0			QL=6 ST=2 TYP=1
	3750	TYKW	32	ABS	0015.0	0145.0	150.0	-2.0	-1.0		
	9400	TYKW	5	S	0058.0	0058.5	2.0	3.0	1.0		
	3750	TYKW	5	S	0058.0	0058.5	4.0	4.0	1.5		
	2000	TYKW	5	S	0058.0	0058.5	3.0	1.0	.3		
	500	HIRA	6	S	0059.6	0100.3	1.3	2.0	1.0		0
	2000	TYKW	32	ABS	0105.0	0145.0	100.0	-1.0	-0.5		
	9400	TYKW	32	ABS	0105.0	0145.0	160.0	-2.0	-1.0		
	3750	TYKW	21	GRF	0400.0	0445.0	110.0	1.5	.7		
	3750	TYKW	5	S	0449.0	0450.2	4.0	2.5	1.0		
	9400	TYKW	5	S	0608.5	0610.3	5.0	3.0	1.0		
	500	HIRA	8	S	0703.9	0704.0	.3	8.0			0
	950	GORK	2	S/F	0703.9	0704.0	.5	3.0			
	650	GORK	4	S/F	0703.9	0704.0	.5	26.0	8.5		
	610	LEAR	8	S	0704.0	0704.1	.3	26.0			QL=6 ST=2 TYP=3
	3100	CRIM	24	R	0720.0	0752.0		3.0			
	808	ONDR	8	S	1102.5	1102.5	.1				
	536	ONDR	42	SER	1228.0	1228.5	1.0	12.0			
	808	ONDR	8	S	1325.5	1325.5	.1				
	536	ONDR	8	S	1326.3	1326.3	.1	12.0			
	1470	POTS	2	S/F	1335.5	1335.8	.5	6.0			
	2800	OTTA	20	GRF	1549.0	1551.0	25.0	2.4	.9		
	3750	TYKW	20	GRF	2217.0	2230.0	80.0	1.5	.7		
	2000	TYKW	20	GRF	2220.0	2230.0	60.0	1.5	.7		
02	200	GORK	44	NS	0502.0E		390.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	30.0			
	260	ONDR	44	NS	0825.0E	1323.0	397.0D	57.0			
	245	LEAR	43	NS	2237.0	0433.8	717.0D	35.0			QL=6 ST=2 TYP=1
	9400	TYKW	20	GRF	0025.0	0028.0	35.0	2.0	1.0		
	3750	TYKW	20	GRF	0025.0	0028.0	45.0	1.0	.5		
	2000	TYKW	5	S	0026.5	0027.8	4.0	1.5	.5		
	9400	TYKW	20	GRF	0120.0	0130.0	60.0	2.0	1.0		
	3750	TYKW	20	GRF	0120.0	0130.0	40.0	1.0	.5		
	2000	TYKW	45	C	0128.5	0129.0	1.5	6.0	1.5		
	1000	TYKW	45	C	0128.7	0128.8	1.0	17.0	2.0		
	9395	PEKG	45	C	0257.0	0257.4	29.0	30.6	10.7		
	9400	TYKW	45	C	0257.0	0257.4	4.0	28.0	7.0		
	3750	TYKW	20	GRF	0330.0	0350.0	70.0	1.0	.5		
	2000	TYKW	20	GRF	0330.0	0355.0	70.0	1.0	.5		
	9300	KISV	8	S	0517.9	0518.2	.5	34.0			
	1000	TYKW	45	C	0530.7	0531.4	2.0	49.0	6.0		
	5900	KISV	23	GRF	0539.8	0541.1	31.0	8.0			
	9100	GORK	22	GRF	0539.9	0542.6	15.5	5.4			
	9400	TYKW	20	GRF	0540.0	0543.0	50.0	4.0	2.0		
	2000	TYKW	20	GRF	0540.0	0545.0	70.0	1.5	.7		
	3750	TYKW	20	GRF	0540.0	0545.0	80.0	4.0	2.0		INTERFERENCE
	9300	KISV	23	GRF	0540.0	0549.0	20.5	9.0			
	650	GORK	41	F	0541.7	0541.9	5.3	2.0			
	650	GORK			0541.7	0543.8		4.0			
	650	GORK			0541.7	0545.4		3.8			
	500	HIRA	6	S	0545.0	0545.0	1.3	9.0	3.0		0
	9100	GORK	20	GRF	0655.8	1030.0U	286.0D	5.5			
	15400	LEAR	8	S	1005.1	1005.1	.4	47.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	1005.1	1005.1	.5	26.0			QL=6 ST=2 TYP=3
	430	TORN	1	S	1109.0	1109.2	.5	10.0	4.0		
	2800	OTTA	21	GRF	1948.0	2000.0	30.0	2.0	1.0		
	2800	OTTA	40	F	1948.7	1949.3	5.0	22.4			
	2800	OTTA	21	GRF	2035.0	2115.0	90.0	3.2	1.6		
	2800	OTTA	240	AR	2035.0	2210.0	95.0	2.8			
	2800	OTTA	4	S/F	2038.0	2043.0	18.0	44.0	11.4		
	1415	SGMR	47	GB	2043.1	2043.1	.4	150.0			QL=6 ST=2 TYP=5
	1415	PALE	47	GB	2043.1	2043.6	.7	189.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	2043.6	2043.6	.4	62.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	2043.6	2043.8	.5	72.0			QL=6 ST=2 TYP=5
	3750	TYKW	20	GRF	2220.0	2228.0	90.0	2.0	1.0		
03	200	GORK	44	NS	0500.0E		480.0D		5.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

MARCH 1986

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
03	204	IZMI	44	NS	0600.0E		360.0D	10.0			
	234	POTS	44	NS	0640.0E	1427.0	509.0D	22.0			
	260	ONDR	44	NS	0735.0E		456.0D	37.0			
	245	LEAR	43	NS	2238.0	0242.6	715.0D	31.0			QL=6 ST=2 TYP=1
	2000	TYKW	32	ABS	0120.0	0220.0	190.0	-2.0	-1.0		
	9400	TYKW	32	ABS	0120.0	0220.0	180.0	-2.0	-1.0		
	3750	TYKW	32	ABS	0120.0	0220.0	190.0	-2.0	-1.0		
	9395	PEKG	28	PRE	0446.0		13.0	7.8	3.1		
	2840	PEKG	28	PRE	0448.0		10.0	3.2	1.8		
	2840	PEKG	3	S	0458.0	0500.4	5.0	34.1	12.4		
	500	HIRA	6	S	0458.7	0500.2	1.5	3.0	1.0		WL
	15000	KISV	2	S/F	0458.9	0500.5	2.5	30.0			
	2000	TYKW	45	C	0459.0	0500.3	4.0	38.0	8.0		
	1000	TYKW	45	C	0459.0	0500.4	5.0	82.0	6.0		
	9395	PEKG	3	S	0459.0	0500.4	3.0	43.2	20.2		
	3750	TYKW	45	C	0459.0	0500.4	6.0	37.0	7.0		
	9400	TYKW	45	C	0459.0	0500.5	3.0	50.0	12.0		
	950	GORK	46	C	0459.0	0459.4	3.2	67.0			
	950	GORK			0459.0	0500.3		55.0			
	5900	KISV	4	S/F	0459.0	0500.4U	2.0	75.0			
	2950	GORK	3	S	0459.1	0500.5	2.7	24.0			
	650	GORK	46	C	0459.2	0500.0	2.2	12.5			
	650	GORK			0459.2	0500.2		15.0			
	9100	GORK	3	S	0459.3	0500.4	2.7	50.0			
	9300	KISV	4	S/F	0500.0	0500.4	1.5	56.0			
	17000	NOBE	1	S	0500.0	0500.5	1.0	19.0			R
	9395	PEKG	29	PBI	0502.0		21.0D	10.4	4.9U		
	9400	TYKW	29	PBI	0502.0		90.0	3.0	1.5		
	2840	PEKG	29	PBI	0503.0		10.1D	3.7	1.3U		
	2000	TYKW	29	PBI	0503.0		110.0	2.0	1.0		
	3750	TYKW	30	PBI	0505.0		160.0	2.0	1.0		
	3750	TYKW	20	GRF	0530.0	0555.0	100.0	1.0	.5		
	500	HIRA	8	S	0716.4	0716.6	.3	35.0			WL
	245	LEAR	8	S	0716.5	0716.8	.6	39.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0716.6	0716.8	.5	24.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0716.6	0716.8	.5	400.0			QL=6 ST=2 TYP=5
	930	BORD	8	S	0759.0	0759.5	.6	148.0	6.0		
	430	TORN	42	SER	1224.5	1334.2	94.5	110.0			
	810	TORN	4	S/F	1251.5	1252.8	3.5	90.0	8.0		
	930	BORD	46	C	1251.5	1254.0	5.5	49.0	5.0		
	2800	OTTA	4	S/F	1251.8	1252.9	6.0	63.0	11.0		
	1415	ATHN	4	S/F	1252.0	1253.0	5.0	47.0			QL=6 ST=2 TYP=3
	3100	CRIM	3	S	1252.0	1253.0	4.0	59.0	20.0		
	2695	ATHN	47	GB	1252.0	1253.0	5.0	65.0			QL=6 ST=2 TYP=5
	8800	ATHN	47	GB	1252.0	1253.0	5.0	83.0			QL=6 ST=2 TYP=5
	4995	ATHN	4	S/F	1252.0	1253.0	5.0	39.0			QL=6 ST=2 TYP=3
	1470	POTS	4	S/F	1252.0	1253.3	5.5	51.0			
	3000	POTS	4	S/F	1252.0	1253.4	6.0	52.0			
	9500	POTS	4	S/F	1252.0	1253.4	6.0	57.0			
	808	ONDR	4	S/F	1252.3	1253.0	3.5				
	9300	KISV	4	S/F	1252.4	1253.2	4.5	60.0			
	5900	KISV	4	S/F	1252.4	1253.2	4.5	52.0			
	15000	KISV	4	S/F	1252.4	1253.2	4.5	40.0			
	2695	SGMR	47	GB	1253.0	1253.1	.5	83.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1253.0	1253.1	.5	92.0			QL=6 ST=2 TYP=5
	536	ONDR	42	SER	1253.5	1256.3	4.0	11.0			
	808	ONDR	8	S	1254.3	1254.4	.3				
	930	BORD	41	F	1305.2	1305.3	.7	109.0	3.0		
	2800	OTTA	21	GRF	1330.0	1415.0	280.0	8.6	3.8		
	930	BORD	46	C	1333.0	1333.5	1.4	198.0	6.0		
	810	TORN	2	S/F	1333.7	1334.3	1.8	30.0	2.0		
	536	ONDR	46	C	1333.8	1334.5	2.0	23.0			
	1470	POTS	3	S	1333.8	1334.5	1.7	7.0			
	9500	POTS	1	S	1333.9	1334.5	1.1	5.0			
	2800	OTTA	1	S	1334.0	1334.5	1.0	5.6	2.4		
	808	ONDR	4	S/F	1334.0	1334.0	1.5				
	3000	POTS	1	S	1334.0	1334.5	1.0	5.0			
	930	BORD	46	C	1352.9	1353.2	1.2	10.0	4.0		
	1470	POTS	2	S/F	1353.3	1354.0	1.3	5.0			
	3000	POTS	3	S	1353.3	1354.1	1.7	13.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
03	2800	OTTA	3	S	1353.3	1354.2	5.0	14.4	3.6		
	810	TORN	1	S	1353.5	1353.7	.7	6.0	2.0		
	9500	POTS	3	S	1353.5	1354.0	3.0	12.0			
	1470	POTS	25	R	1405.0	1410.0	55.0D	6.0			
	3000	POTS	24	R	1405.0	1451.0	55.0D	12.0			
	9500	POTS	20	GRF	1407.0	1428.0	48.0	6.0			
	113	POTS	4	S/F	1417.5	1420.3	5.5	280.0	35.0		
	234	POTS	41	F	1418.3	1422.7	9.6	60.0	5.0		
	30	POTS	4	S/F	1426.0	1427.1	1.8	380.0	20.0		
	500	HIRA	6	S	2344.9	2345.6	1.0	160.0	30.0		WL
04	200	GORK	44	NS	0500.0E		480.0D		5.0		
	260	ONDR	44	NS	0828.0E		492.0D	100.0			
	2000	TYKW	20	GRF	0340.0	0405.0	120.0	1.0	.5		
	3750	TYKW	20	GRF	0340.0	0500.0	260.0	2.0	1.0		
	930	BORD	46	C	0746.8	0747.3	.9	119.0	3.0		
	430	TORN	3	S	1126.2	1127.2	1.2	23.0	10.0		
	2800	OTTA	1	S	1751.0	1751.2	1.0	1.2	.6		
	2800	OTTA	20	GRF	1900.0	1955.0	140.0	3.2	1.4		
	2000	TYKW	20	GRF	2217.0	2220.0	50.0	2.0	1.0		
	2695	PENT	21	GRF	2230.0	2236.0	40.0	2.0	1.0		
	3750	TYKW	5	S	2237.0	2239.9	4.0	4.0	1.5		
	2695	PENT	1	S	2238.0	2240.0	3.0	1.4	.7		
	3750	TYKW	29	PBI	2241.0		30.0	1.5	.7		
05	260	ONDR	44	NS	0730.0E	0951.0	455.0D	4.0			
	245	LEAR	43	NS	2239.0	0545.3	713.0D	37.0			QL=6 ST=2 TYP=1
	3750	TYKW	21	GRF	0018.0	0100.0	240.0	3.0	1.5		
	9400	TYKW	5	S	0101.2	0101.4	0.5	9.0	3.0		
	9400	TYKW	5	S	0114.3	0114.6	1.0	9.0	3.0		
	3750	TYKW	20	GRF	0310.0	0313.0	40.0	1.0	.5		
	2000	TYKW	20	GRF	0310.0	0314.0	40.0	1.0	.5		
	9400	TYKW	45	C	0400.0	0404.4	5.0	5.0	2.0		
	9400	TYKW	29	PBI	0405.0		15.0	3.0	1.5		
	2840	PEKG	1	S	0426.0	0428.7	6.0	8.9	3.2		
	9395	PEKG	3	S	0427.0	0428.6	3.0	11.3	4.2		
	3750	TYKW	5	S	0427.0	0428.8	5.0	6.0	2.5		
	9400	TYKW	45	C	0427.5	0428.7	3.5	10.0	4.0		
	2000	TYKW	45	C	0427.5	0428.8	5.5	8.0	4.0		
	9400	TYKW	29	PBI	0431.0		10.0	2.0	1.0		
	2840	PEKG	29	PBI	0432.0		12.0	3.2	1.2		
	3750	TYKW	29	PBI	0432.0		65.0	2.0	1.0		
	2000	TYKW	30	PBI	0433.0		60.0	2.0	.7		
	2000	TYKW	5	S	0500.0	0503.0	11.0	1.0	.3		
	3000	IZMI	1	S	0622.8	0623.7	1.2	4.0	2.0		
	9400	TYKW	5	S	0628.5	0629.5	3.5	7.0	2.0		
	3750	TYKW	5	S	0629.0	0629.5	13.0U	4.0	1.5U		INTERFERENCE
	9300	KISV	1	S	0629.0	0629.5	5.0	7.0			
	9100	GORK	1	S	0629.0	0629.5	2.7	7.0	3.0		
	5900	KISV	1	S	0629.0	0629.5	4.0	4.0			
	9400	TYKW	28	PRE	0700.0	0702.0	7.0	10.0	3.0		
	5900	KISV	28	PRE	0700.5	0701.9	7.0	3.0			
	9300	KISV	28	PRE	0700.9	0702.1	6.5	8.0			
	9100	GORK	28	PRE	0701.0	0702.1	3.8	7.0			
	3100	CRIM	3	S	0706.2	0707.0D	5.0	163.0D			
	9100	GORK	4	S/F	0706.2	0708.0	3.3	255.0			
	950	GORK	29	PBI	0706.5	0708.3	3.2	3.0			
	650	GORK	1	S	0706.7U	0707.0	3.2U	1.7			
	9400	TYKW	45	C	0707.0	0708.0	8.0	342.0	45.0		
	9395	PEKG	45	C	0707.0	0708.1	9.0	338.0	124.0		
	1000	TYKW			0707.0	0708.4		6.0			
	2000	TYKW	45	C	0707.0	0708.4	10.0	140.0	25.0		
	2840	PEKG	3	S	0707.0	0708.6	13.0	259.0	98.6		
	3750	TYKW	45	C	0707.0	0718.3	11.3	305.0	50.0		
	1415	ATHN	4	S/F	0707.0	0708.0	5.0	41.0			QL=6 ST=2 TYP=3
	8800	ATHN	49	GB	0707.0	0708.0	2.0	610.0			QL=6 ST=2 TYP=6
	4995	ATHN	47	GB	0707.0	0708.0	2.0	420.0			QL=6 ST=2 TYP=5
	2695	ATHN	47	GB	0707.0	0708.0	5.0	230.0			QL=6 ST=2 TYP=5
	5900	KISV	8	S	0707.0	0708.3	2.5	335.0			
	9300	KISV	8	S	0707.2	0708.3	2.5	328.0			
	4995	LEAR	47	GB	0707.3	0708.0	4.5	290.0			QL=6 ST=2 TYP=5

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05	19600	BERN	46	C	0707.4	0708.0	30.0U	215.0			
	8400	BERN	46	C	0707.4	0708.0	30.0U	442.0			
	11800	BERN	46	C	0707.4	0708.0	30.0U	413.0			
	5200	BERN	47	GB	0707.4	0708.1	30.0U	578.0			
	15000	KISV	8	S	0707.4	0708.3	2.5	214.0			
	1000	TYKW	45	C	0707.5	0707.6	3.5	23.0	2.0		
	950	GORK	4	S/F	0707.5	0707.6	1.0	28.0			
	8800	LEAR	47	GB	0707.5	0708.0	2.3	370.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0707.5	0708.3	5.1	260.0			QL=6 ST=2 TYP=5
	3000	IZMI	5	S	0707.5	0708.3	7.3	205.0	100.0		
	17000	NOBE	7	C	0707.6	0708.0	1.7	220.0			R
	1415	LEAR	8	S	0707.6	0708.3	2.0	42.0			QL=6 ST=2 TYP=3
	80000	NOBE	7	C	0707.6	0708.3	7.0	100.0			R
	35000	NOBE	7	C	0707.6	0708.3	7.0	128.0			R
	15400	LEAR	47	GB	0707.8	0708.0	1.3	280.0			QL=6 ST=2 TYP=5
	2950	GORK	3	S	0708.0	0708.8	6.0	52.0			
	17000	NOBE	29	PBI	0708.3	0709.3	10.0	28.0			0
	9100	GORK	29	PBI	0709.5	0710.5	37.0	20.0			
	5900	KISV	29	PBI	0709.5	0710.5	9.0	40.0			
	9300	KISV	29	PBI	0709.7	0710.0	7.0	52.0			
	15000	KISV	29	PBI	0709.9	0710.0	8.0	25.0			
	3100	CRIM	29	PBI	0711.2	0711.2	81.0	26.0	8.0		
	2950	GORK	29	PBI	0713.3	0713.3	77.0	8.0			
	3750	TYKW	29	PBI	0715.0		55.0	8.0	3.5		
	9400	TYKW	29	PBI	0715.0		55.0D	8.0	6.0D		
	2000	TYKW	29	PBI	0717.0		55.0D	7.0	4.0D		
	9300	KISV	1	S	0902.9	0903.3	5.5	10.0			
	808	ONDR	8	S	0929.5	0929.5	.5				
	2800	OTTA	22	GRF	1945.0	2032.0	120.0	2.0	1.4		
	2000	TYKW	20	GRF	2300.0	2311.0	90.0	2.0	1.0		
	2800	OTTA	20	GRF	2305.0	2320.0	55.0D	2.0			
	3750	TYKW	20	GRF	2305.0	2324.0	140.0	2.0	1.0		
06	9400	TYKW	5	S	0245.0	0245.3	1.0	3.0	1.0		
	9395	PEKG	3	S	0414.0	0415.6	3.0	57.6	21.2		
	2840	PEKG	3	S	0414.0	0415.7	5.0	36.3	15.2		
	4995	LEAR	4	S/F	0414.1	0415.8	3.2	48.0			QL=6 ST=2 TYP=3
	9400	TYKW	45	C	0414.5	0415.8	3.5	64.0	16.0		
	2695	LEAR	4	S/F	0414.5	0415.8	2.8	40.0			QL=6 ST=2 TYP=3
	2000	TYKW	45	C	0414.5	0415.9	8.5	44.0	9.0		
	3750	TYKW	5	S	0414.5	0416.2U	4.0	11.0	2.0D		
	8800	LEAR	47	GB	0414.8	0415.8	2.5	74.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	0415.0	0415.9	4.0	14.0	2.0		
	17000	NOBE	1	S	0415.0	0415.7	2.0	21.0			R
	1415	LEAR	4	S/F	0415.0	0415.8	2.3	27.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0415.3	0415.5	.8	13.0			QL=6 ST=2 TYP=3
	500	HIRA	6	S	0415.3	0416.1	1.0	5.0	2.0		0
	8800	PALE	47	GB	0415.5	0415.8	.6	72.0			QL=6 ST=2 TYP=5
	4995	PALE	47	GB	0415.6	0415.8	.4	55.0			QL=6 ST=2 TYP=5
	9395	PEKG	29	PBI	0417.0		11.0	6.4	2.4		
	9400	TYKW	30	PBI	0418.0		170.0	6.0	3.0		
	3750	TYKW	30	PBI	0418.5		170.0	4.0	2.0		
	15400	LEAR	8	S	0418.8	0419.0	.3				QL=6 ST=2 TYP=3
	2840	PEKG	29	PBI	0419.0		142.0	4.4	1.7		
	2000	TYKW	30	PBI	0423.0		165.0	4.0	2.0		
	9400	TYKW	45	C	0431.0	0431.5	1.0	23.0	5.0		
	9400	TYKW	29	PBI	0432.0		7.0	2.0	1.0		
	2000	TYKW	20	GRF	0435.0	0455.0	75.0	2.0	1.0		
	3750	TYKW	20	GRF	0435.0	0520.0	140.0	2.0	1.0		
	9400	TYKW	20	GRF	0500.0	0525.0	100.0	3.0	1.5		
	3100	CRIM	25	R	0703.0	0804.0	277.0	3.0			
	930	BORD	46	C	0758.6	0759.2	.8	89.0	3.0		
	3100	CRIM	1	S	0801.8	0802.0	1.0	.6			
	5900	KISV	2	S/F	0902.8	0903.2	4.0	9.0			
	9100	GORK	2	S/F	0902.8	0903.2	3.3	9.0			
	650	GORK	21	GRF	0942.0	1003.5	27.0	2.0			
	3000	POTS	4	S/F	0955.0	0955.9	15.0	32.0			
	1470	POTS	4	S/F	0955.0	0957.2	17.0	58.0			
	9500	POTS	20	GRF	0955.0	1003.0	20.0	4.0			
	930	BORD	46	C	0955.1	0956.8	2.6	13.0	8.0		
	9100	GORK	2	S/F	0955.2	0955.3	.6	20.0			

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06	5900	KISV	21	GRF	0955.2	0955.6	15.0	7.0			
	245	LEAR	47	GB	0955.3	0955.8	.8	61.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0955.3	0955.8	1.0	68.0			QL=3 ST=2 TYP=5
	2950	GORK	4	S/F	0955.3	0955.9	3.2	40.0			
	650	GORK	4	S/F	0955.3	0956.3	2.2	6.0	3.0		
	1415	LEAR	47	GB	0955.3	0956.8	1.8	70.0			QL=3 ST=2 TYP=5
	950	GORK	4	S/F	0955.3	0956.8	2.6	15.0			
	234	POTS	4	S/F	0955.4	0955.8	1.9	100.0	15.0		
	3000	IZMI	4	S/F	0955.5	0955.9	2.5	22.0	10.0		
	204	IZMI	4	S/F	0955.5	0956.2	1.8	70.0	30.0		
	536	ONDR	4	S/F	0955.5	0956.8	2.5	6.0	5.0		
	808	ONDR	4	S/F	0955.5	0957.0	2.0				
	260	ONDR	46	C	0956.0	0956.5	2.0	40.0			
	930	BORD	8	S	1508.8	1509.0	.4	128.0	3.0		
	930	BORD	41	F	1517.0	1517.4	1.0	69.0	3.0		
	930	BORD	8	S	1541.1	1541.2	.2	11.0	2.0		
	2800	OTTA	21	GRF	1550.0	1705.0	350.0	21.4	5.0		
	930	BORD	46	C	1621.0	1702.0	42.0D	1976.0D			
	410	SGMR	47	GB	1638.0	1638.1	.5	76.0			QL=6 ST=2 TYP=5
	610	SGMR	49	GB	1649.8	1706.8	36.0	17000.0			QL=6 ST=2 TYP=6
	2800	OTTA	8	S	1652.6	1652.6	.1	5.6			
	1415	SGMR	47	GB	1657.6	1657.8	.7	61.0			QL=6 ST=2 TYP=5
	2800	OTTA	40	F	1659.0	1703.0	4.5	10.0			
	410	SGMR	47	GB	1701.3	1717.6	44.2	2199.0			QL=6 ST=2 TYP=5
	610	PALE	49	GB	1706.1E	1706.8	16.4D	5700.0			QL=2 ST=2 TYP=6
	245	SGMR	47	GB	1707.3	1708.0	22.5	76.0			QL=6 ST=2 TYP=5
	410	PALE	49	GB	1712.1E	1717.5	13.7D	1199.0			QL=2 ST=2 TYP=6
	3750	TYKW	5	S	2329.0	2329.6	2.0	3.0	1.5		
	9400	TYKW	5	S	2329.0	2329.6	2.5	5.0	1.5		
	3750	TYKW	29	PBI	2331.0		8.0	1.0	.5		
07	3750	TYKW	20	GRF	0003.0	0010.0	35.0	1.0	.5		
	3750	TYKW	20	GRF	0050.0	0100.0	40.0	1.0	.5		
	3750	TYKW			0201.0	0203.1		11.0			
	1000	TYKW			0201.0	0203.2		6.0			
	2000	TYKW	45	C	0201.0	0203.2	6.0	9.0	1.5		
	3750	TYKW	45	C	0201.0	0205.1	6.0	13.0	5.0		
	1000	TYKW	45	C	0201.5	0201.8	2.5	40.0	2.0		
	9400	TYKW	45	C	0202.0	0203.0	5.0	22.0	7.0		
	9400	TYKW	29	PBI	0207.0		10.0	4.0	2.0		
	2000	TYKW	29	PBI	0207.0		40.0	1.0	.5		
	3750	TYKW	29	PBI	0207.0		25.0	2.0	1.0		
	9400	TYKW	5	S	0728.0	0728.3	2.0	6.0	2.0		
	260	ONDR	42	SER	0914.0	0922.5	8.5	2.0			
	29	UPIC	42	SER	1003.2	1005.0	7.8				
	33	UPIC	42	SER	1003.2	1005.0	7.9				
	260	ONDR	8	S	1014.0	1014.0	.1	2.0			
	536	ONDR	8	S	1324.5	1324.5	.5	17.0			
	930	BORD	41	F	1553.0	1553.5	.6	17.0	3.0		
	3750	TYKW	21	GRF	2320.0	0010.0	120.0	2.0	1.0		
	3750	TYKW	45	C	2353.0	2354.1	4.0	3.0	.7		
09	3100	CRIM	24	R	0810.0	1000.0		4.0			
	260	ONDR	8	S	1210.0	1210.5	1.0	2.0			
10	260	ONDR	8	S	0959.5	0959.5	.2	3.0			
	430	TORN	1	S	1108.3	1108.7	2.0	5.0	2.0		
	808	ONDR	1	S	1205.5	1205.7	1.0				
	2800	OTTA	20	GRF	1950.0	2027.0	80.0	2.0	.8		
12	536	ONDR	8	S	1214.5	1214.5	.1	14.0			
	930	BORD	41	F	1320.6	1322.4	1.8	109.0	2.0		
13	3750	TYKW	32	ABS	0030.0	0220.0	260.0	-2.0	-1.0		
	9400	TYKW	32	ABS	0040.0	0220.0	250.0	-3.0	-1.5		
	2000	TYKW	32	ABS	0050.0	0210.0	230.0	-1.0	-0.5		
	930	BORD	8	S	1427.2	1427.3	.2	22.0	2.0		
14	260	ONDR	8	S	0922.5	0922.5	.1	2.0			
	536	ONDR	8	S	0922.5	0922.5	.1	27.0			
	430	TORN	1	S	1005.4	1005.6	1.2	2.0	1.0		

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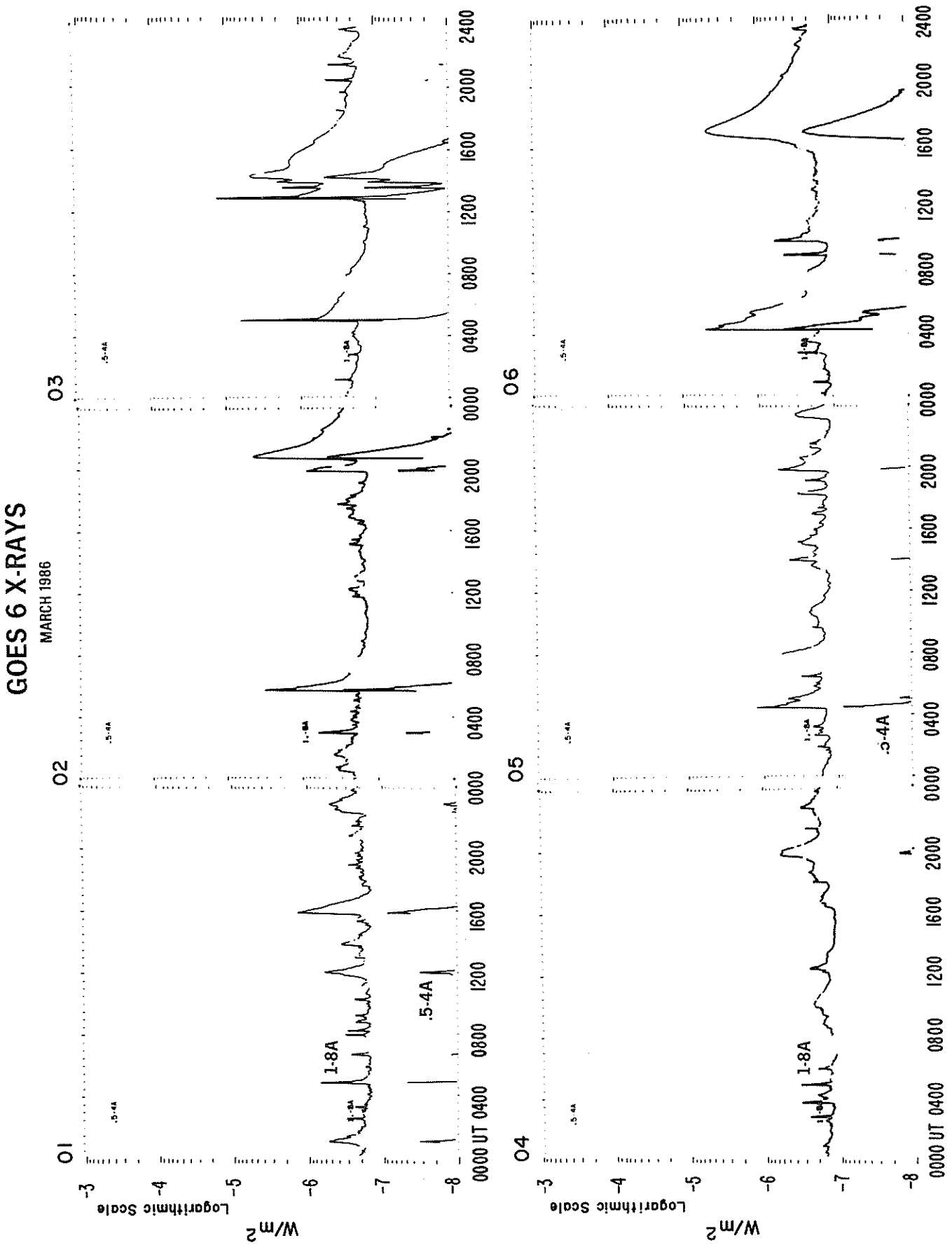
Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
14	260	ONDR	8	S	1015.2	1015.2	.1	1.0			
	808	ONDR	1	S	1110.8	1111.0	.7				
	536	ONDR	8	S	1111.0	1111.0	.1	24.0			
	808	ONDR	1	S	1113.3	1113.5	.5				
	260	ONDR	8	S	1113.5	1113.5	.1	2.0			
	536	ONDR	8	S	1233.0	1233.3	.7	6.0			
15	260	ONDR	8	S	1117.3	1117.5	.2	3.0			
16	930	BORD	42	SER	1027.2	1030.7	8.2	425.0	2.0		
	260	ONDR	8	S	1033.5	1033.5	.1	3.0			
	260	ONDR	8	S	1039.5	1039.5	.1	2.0			
	260	ONDR	8	S	1055.5	1055.5	.1	3.0			
	260	ONDR	8	S	1143.0	1143.0	.1	3.0			
17	260	ONDR	42	SER	1009.3	1018.0	19.7	2.0			
	260	ONDR	8	S	1146.5	1146.5	.1	3.0			
	930	BORD	41	F	1311.0	1311.6	1.0	119.0	3.0		
18	3100	CRIM	24	R	0757.0	1020.0		24.0			
	930	BORD	46	C	0805.0	0805.9	1.0	47.0	4.0		
	260	ONDR	8	S	1124.0	1124.0	.1	3.0			
	930	BORD	46	C	1310.5	1310.8	.6	128.0	4.0		
	1470	POTS	2	S/F	1435.1	1435.6	1.7	4.0			
19	930	BORD	46	C	0813.4	0813.9	.7	69.0	4.0		
	430	TORN	2	S/F	0824.0	0825.2	1.5	10.0	7.0		
	930	BORD	41	F	1201.2	1201.5	1.6	11.0	2.0		
	930	BORD	41	F	1718.4	1718.8	.7	79.0	3.0		
20	536	ONDR	1	S	0947.2	0947.5	.6	5.0			
	536	ONDR	8	S	1042.0	1043.0	1.0	8.0			
	808	ONDR	40	F	1357.0	1357.5	2.5				
21	260	ONDR	42	SER	1214.0	1223.0	9.0	3.0			
	536	ONDR	1	S	1218.5	1218.5	.5	7.0			
	536	ONDR	4	S/F	1407.0	1407.8	1.0	12.0			
	260	ONDR	46	C	1407.0	1408.0	1.2	10.0			
	808	ONDR	8	S	1407.5	1407.7	.5				
	29	UPIC	2	S/F	1612.4	1612.5	.6	.6			
	33	UPIC	4	S/F	1612.5	1612.6	.6				
	33	UPIC	4	S/F	1627.4	1627.6	.6				
	29	UPIC	1	S	1627.5	1627.6	.3U				
25	260	ONDR	42	SER	0940.0	0941.0	2.0	2.0			
	260	ONDR	42	SER	1037.5	1037.5	17.5	3.0			
	260	ONDR	8	S	1231.0	1231.0	.2	3.0			
26	260	ONDR	42	SER	0905.8	0905.8	16.6	3.0			
	260	ONDR	8	S	0954.5	0954.5	.1	3.0			
	260	ONDR	46	C	1048.5	1049.7	1.5	2.0			
27	260	ONDR	42	SER	0953.0	0955.5	17.5	4.0			
28	430	TORN	8	S	0922.7	0923.7	1.2	30.0	9.0		
	930	BORD	41	F	1547.4	1547.8	1.1	14.0	5.0		
29	430	TORN	1	S	0800.0	0800.8	1.0	5.0	2.0		
	430	TORN	2	S/F	1134.0	1134.0	1.0	17.0	4.0		
	260	ONDR	42	SER	1202.5	1210.0	7.5	2.0			
	430	TORN	4	S/F	1314.0	1314.2	5.5	60.0	8.0		
30	430	TORN	8	S	0950.8	0951.0	.3	20.0			
31	260	ONDR	8	S	1009.0	1009.0	.1	2.0			
	260	ONDR	8	S	1207.3	1207.6	.8	3.0			
	430	TORN	8	S	1308.3	1308.5	.6	16.0			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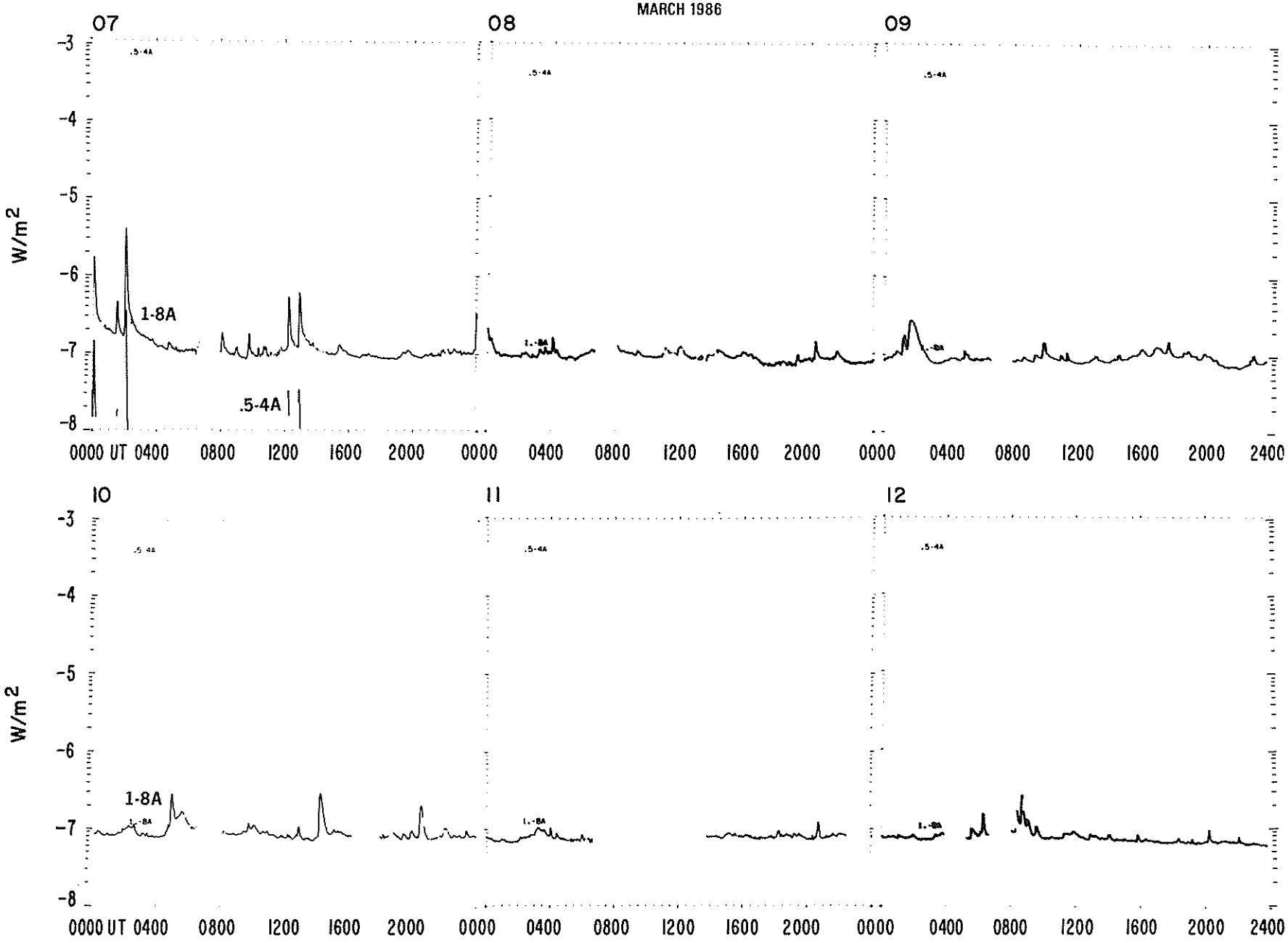
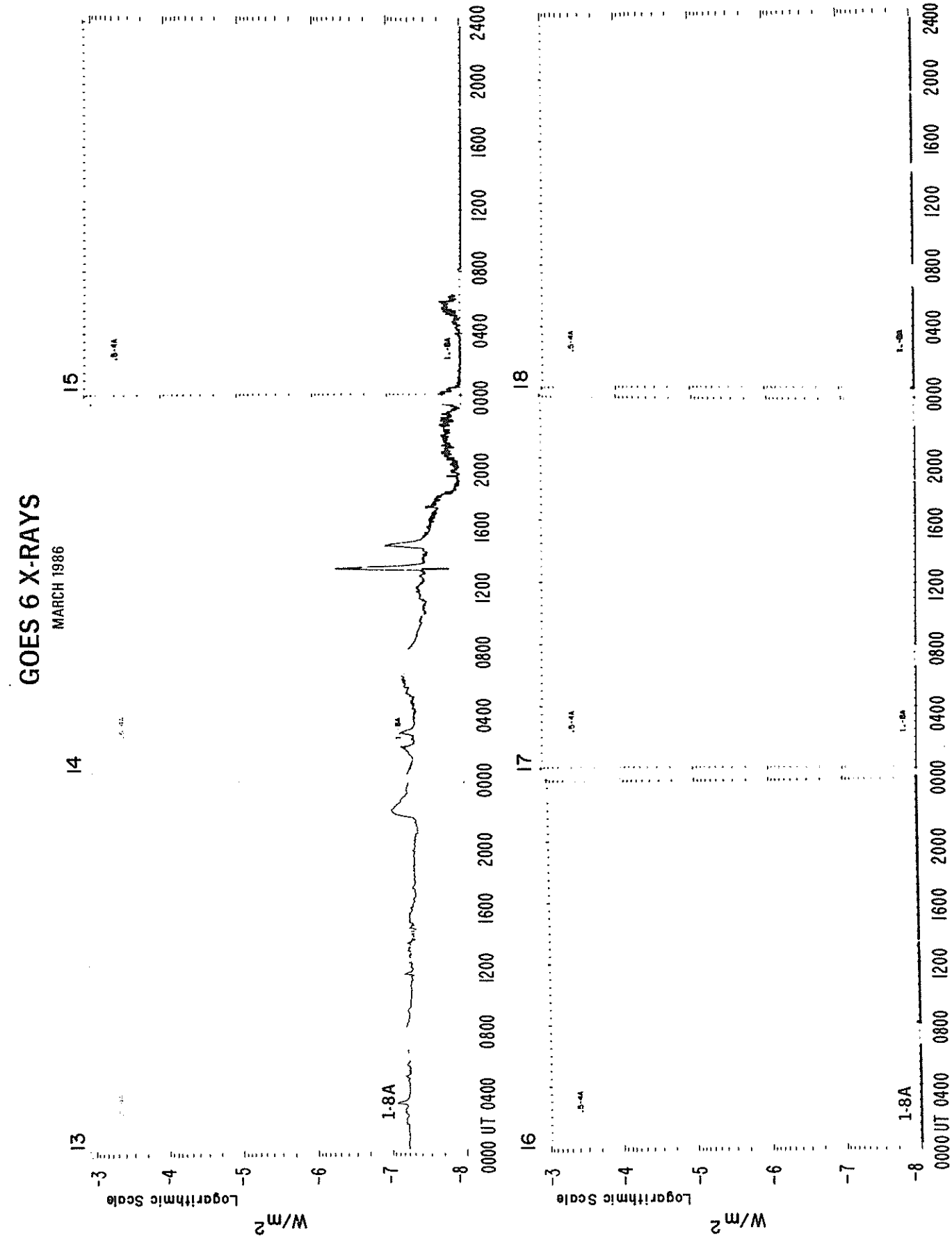
MARCH 1986
01
02
03
04
05
06
1-8A
.5-4A
W/m2
Logarithmic Scale
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 2400

GOES 6 X-RAYS

MARCH 1986



19 Mar 86


GOES 6 X-RAYS
MARCH 1986
13
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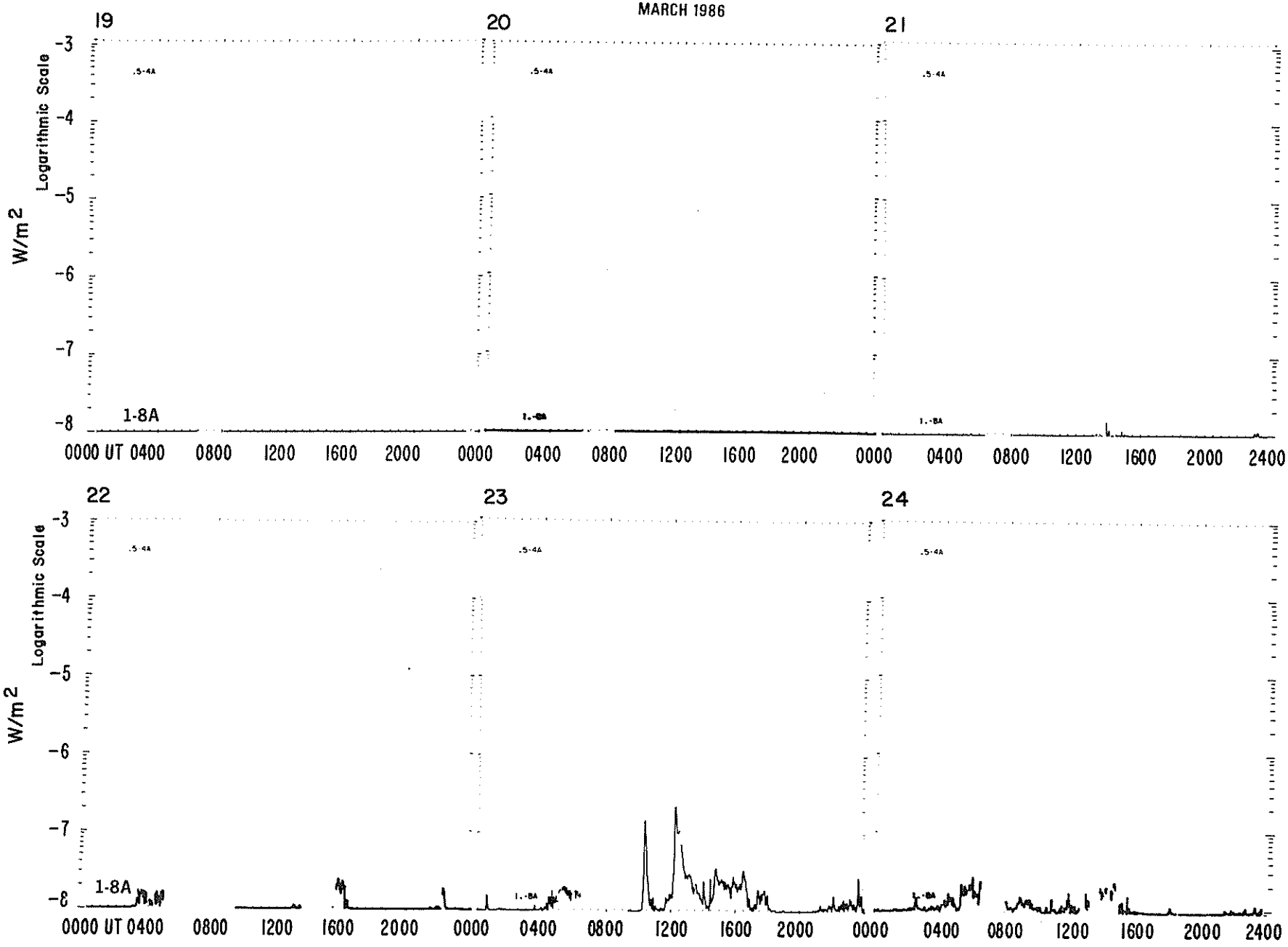
0000 UT 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 2400

GOES 6 X-RAYS

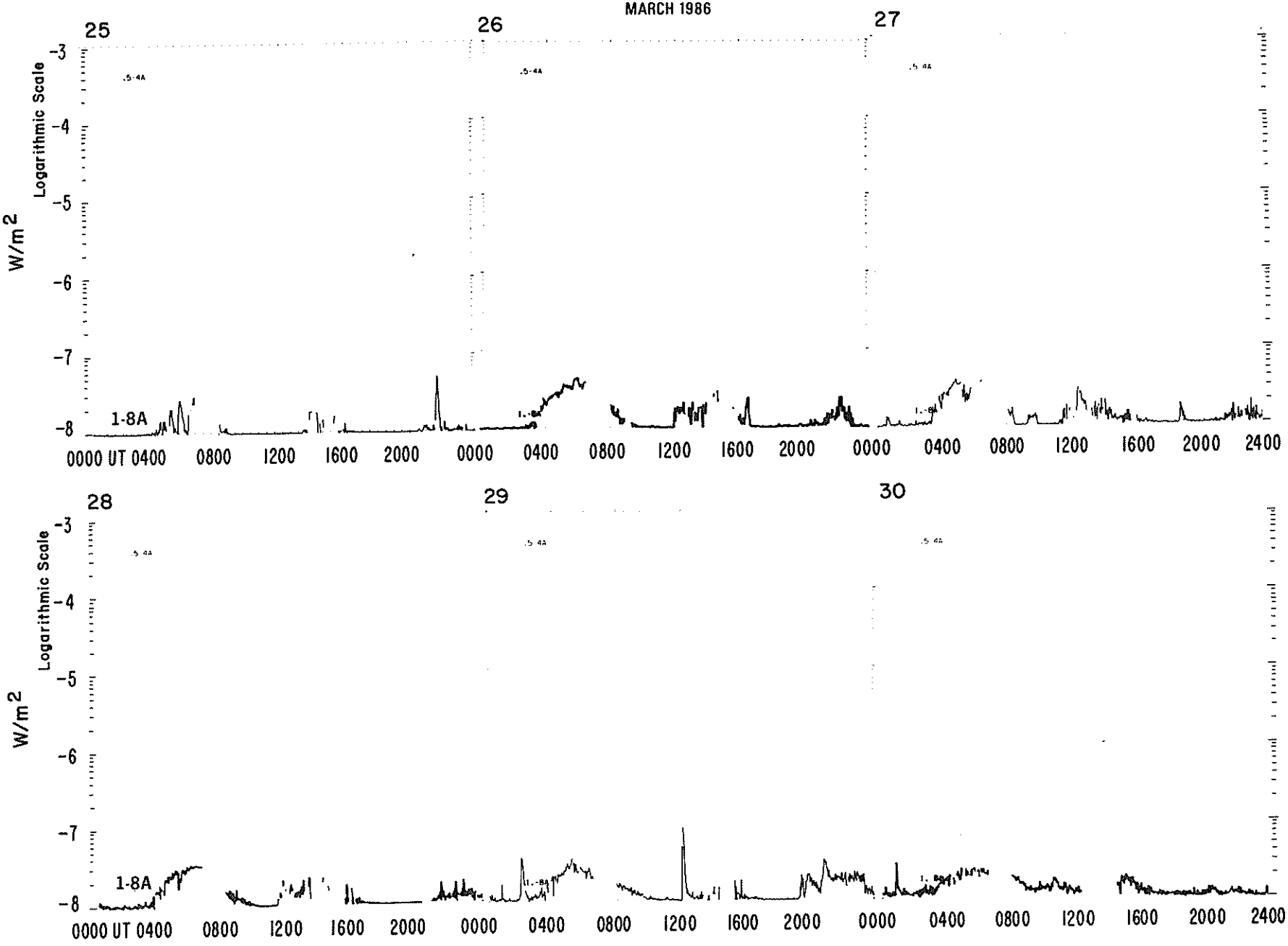
MARCH 1986

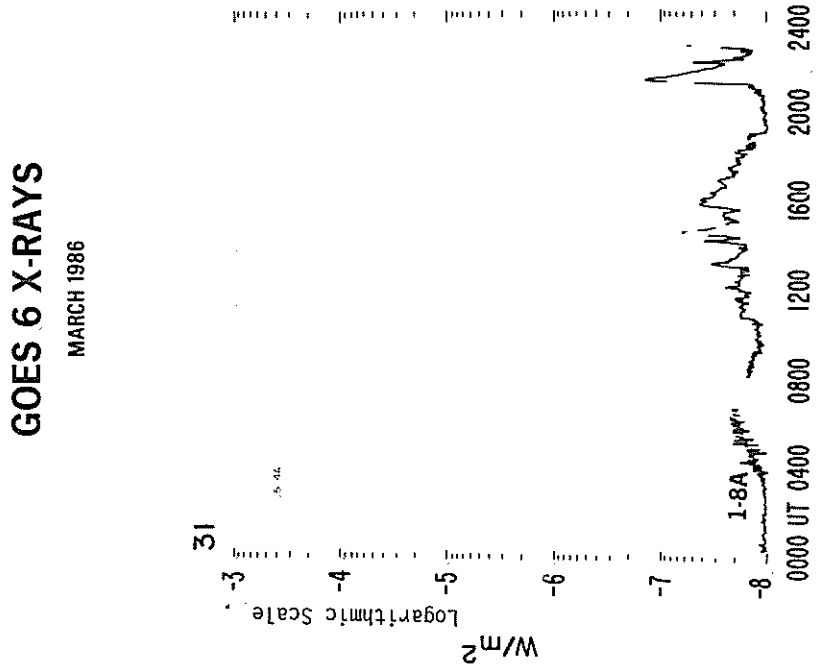


21 Mar 86

GOES 6 X-RAYS

MARCH 1986




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

GOES S O L A R X-RAY F L A R E S

Preliminary Listing

March 1986

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	Imp	Opt	Xray
01	0056	0102	0111						B5.7
01	0228	0231	0233						B3.2
01	0312	0316	0318						B2.4
01	0447	0451	0454	N05	E80	4717	SF		B8.2
01	0637	0641	0645	N03	E78	4717	SN		B2.9
01	0702	0704	0707	N02	E79	4717	SF		B3.1
01	0754	0757	0759	N03	E76	4717	SF		B3.3
01	0811	0814	0817						B3.2
01	0845	0849	0856						B2.4
01	1012	1016	1018						B2.4
01	1157	1202	1207						B6.1
01	1257	1300	1305						B2.4
01	1344	1351	1403						B3.7
01	1517	1520	1523			4717			B2.2
01	1532	1533	1534	S01	E70	4717	SF		B2.2
01	1546	1553	1640	N02	E71	4717	SN		C1.7
01	1854	1858	1900	S00	E69	4717	SF		B3.5
01	2126	2129	2132						B2.6
01	2217	2252	2308	N01	E68	4717	SF		B5.1
02	0254	0258	0303						B6.2
02	0537	0544	0548	N01	E64	4717	1B		C3.1
02	0650	0658	0706						B3.0
02	1504	1510	1514	N02	E57	4717	SF		B2.3
02	1740	1745	1749	S01	E59	4717	SF		B3.2
02	1947	1953	2006	S01	E57	4717	SF		B9.1
02	2034	2049	2109	N00	E54	4717	SN		C4.3
03	0108	0110	0112				SF		B3.0
03	0246	0249	0251			4717			B2.5
03	0500	0501	0512	S03	E52	4717	SB		C7.5
03	1242	1254	1257						M1.3
03	1331	1335	1337						C1.9
03	1351	1419	1435			4717			C4.7
03	1938	1942	1944						B3.4
03	2023	2028	2030			4717			B4.8
03	2124	2128	2130						B4.3
03	2153	2158	2209						B3.0
03	2338	2338	2348	N01	E41	4717	SF		B3.0
04	0047	0055	0058						B1.9
04	0240	0243	0245						B2.6
04	0336	0339	0343						B3.7
04	0447	0448	0451	N01	E38	4717	SF		B3.7
04	0548	0551	0553						B1.9
04	0720	0723	0726	N01	E36	4717	SF		B2.5
04	1216	1220	1225						B2.4
04	1930	1936	2007	N01	E28	4717	SF		B5.9
04	2120	2123	2125						B2.5
04	2237	2242	2251			4717			B3.2
05	0153	0156	0159			4717			B1.9
05	0240	0243	0252			4717			B2.0
05	0312	0315	0318			4717			B2.0
05	0427	0429	0500	N04	E24	4717	SN		C1.2
05	0458	0503	0513			4717			B5.0
05	0626	0630	0633						B3.2
05	0703	0708	0759	N04	E26	4717	1B		B4.5
05	0706	0709	0820			4717			M1.6
05	0936	0940	0943			4717			B2.2
05	1358	1401	1407						B4.5
05	1428	1439	1448						B3.2
05	1654	1658	1705			4717			B2.1
05	1719	1722	1724						B1.8
05	1811	1817	1827						B3.3
05	1905	1909	1911						B2.6
05	1948	1952	1958	S00	E14	4717	SF		B6.0
05	2113	2116	2126						B2.1
05	2129	2132	2134			4717			B2.1
05	2307	2320	2337						B3.3
06	0049	0053	0055						B2.0
06	0242	0246	0248						B3.1
06	0412	0417	0428			4717			C5.6
06	0900	0903	0912	N02	E11	4717	SB		B4.5
06	0954	0959	1006						B5.6
06	1637	1702	1757	N02	E01	4717	1F		C4.6
06	2331	2334	2337						B3.4
06	2356	0001	0003						B7.0
07	0004	0006	0014	S00	W03	4717	SN		C2.0
07	0129	0130	0132	S04	W01	4717	SN		B4.8
07	0158	0202	0225	N00	W05	4717	SB		C4.1
07	0800	0805	0810			4717			B1.9
07	0943	0945	0948	S02	W09	4717	SF		B1.9
07	1210	1214	1218						B5.4
07	1253E	1255	1303	S03	W12	4717	SN		B6.1
07	2355	2355	2358	S01	W10	4717	SF		B3.6
08	0359	0402	0407						B1.5
08	2017	2021	2025						B1.4
09	0112	0112	0123	N03	W24	4717	SF		B1.9
09	0129	0142	0201						B2.8
09	0950	1000	1005						B1.5
10	0450	0457	0504						B2.8
10	1412	1413	1431	N00	W44	4717	SN		B2.9
10	2025	2034	2041						B2.0
11	2305	2313	2317						B1.3
12	0614	0618	0621						B1.5
12	0817	0823	0828			4715			B1.6
12	0835	0840	0850	N03	W65	4717	SN		B2.5
14	1315	1322	1327						B5.0
14	1444	1452	1501						B1.0
23	0958	1020	1026						B1.5
23	1014	1020	1026						B1.4
23	1135	1214	1221						B2.2
23	1204	1214	1220						B2.3
29	1201	1205	1208	N02	W07	4720	SN		B1.4
31	2108	2121	2132						B1.4

Preliminary GOES Satellite Data
Daily Average X-ray Background

April 1985 - March 1986

Day	1985 Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1986 Jan	Feb	Mar
1	B0.3	B1.6	B0.1	B1.1	B0.5	B0.1	B0.0	B0.0	B0.1	B0.0	B0.2	B2.0
2	B0.3	B1.7	B0.5	B1.0	B0.5	B0.1	B0.0	B0.0	B0.1	B0.0	B0.3	B1.5
3	B0.2	C1.1	B0.7	B0.9	B0.4	B0.1	B0.0	B0.1	B0.0	B0.0	**	B1.9
4	B0.4	B7.7	B0.7	B0.8	B0.4	B0.1	B0.0	B0.1	B0.0	B0.0	**	B1.4
5	B0.3	B0.3	B1.8	B1.0	B0.4	B0.2	B0.0	B0.0	B0.0	B0.0	**	B1.6
6	B0.1	B0.8	B2.9	B1.1	B0.4	B0.2	B0.0	B0.1	B0.1	B0.0	**	B1.5
7	B0.0	B1.5	B1.0	B3.2	B0.6	B0.1	B0.1	B0.2	B0.2	B0.0	B7.2	B1.0
8	B0.0	B1.2	B1.0	B4.1	B0.6	B0.1	B0.0	B0.6	B0.5	B0.0	B2.5	B0.8
9	B0.0	B1.8	B1.0	B3.1	B0.5	B0.0	B0.0	B0.5	B0.2	B0.0	B2.0	B0.9
10	B0.0	B1.6	B1.2	B4.1	B0.3	B0.0	B0.0	B0.4	B0.5	B0.0	B2.5	B0.9
11	B0.0	B1.9	B1.0	B3.2	B0.2	B0.0	B0.0	B0.5	B1.0	B0.0	B9.8	B0.8
12	B0.0	B1.2	B1.0	B3.5	B0.1	B0.1	B0.0	B0.4	B1.0	B0.0	B5.7	B0.7
13	B0.0	B2.0	B0.9	B3.4	B0.0	B0.5	B0.0	B0.5	B0.6	B0.3	B6.1	B0.5
14	B0.0	B2.0	B0.7	B1.5	B0.0	B0.2	B0.3	B0.6	B0.4	B0.4	B0.1	B0.3
15	B0.0	B1.9	B0.7	B0.7	B0.0	B0.1	B1.2	B1.3	B0.5	B0.4	B5.7	B0.0
16	B0.0	B2.1	B0.6	B0.2	B0.0	B0.1	B0.9	B0.7	B0.6	B0.5	B2.1	B0.0
17	B0.0	B1.9	B0.5	B0.2	B0.0	B0.0	B1.0	B0.5	B0.5	B1.0	B2.3	B0.0
18	B0.1	B1.8	B0.3	B0.1	B0.0	B0.0	B0.5	B0.4	B0.5	B0.7	B0.0	B0.0
19	B0.1	B1.3	B0.2	B0.1	B0.0	B0.1	B0.6	B0.4	B0.3	B0.6	B0.0	B0.0
20	B0.1	B1.3	B0.1	B0.1	B0.0	B0.1	B0.7	B0.3	B0.3	B4.7	B0.0	B0.0
21	B1.0	B1.4	B0.1	B0.1	B0.1	B0.3	B0.9	B0.3	B0.2	B9.5	B0.0	B1.9
22	B2.9	B0.9	B0.1	B0.1	B0.1	B0.0	B2.4	B0.2	B0.3	B2.9	B0.0	B0.0
23	B3.8	B0.8	B5.5	B0.1	B0.4	B0.0	B1.8	B0.2	B0.2	B2.7	B0.0	B0.1
24	C1.0	B0.8	B1.3	B0.1	B0.1	B0.0	B3.5	B0.2	B0.2	B1.3	B0.0	B0.1
25	B5.5	B0.7	B0.1	B0.5	B0.1	B0.0	B3.4	B0.2	B0.2	B0.8	B0.1	B0.0
26	B2.5	B0.5	B0.1	B1.0	B0.1	B0.1	B2.3	B0.1	B0.2	B0.6	B0.8	B0.1
27	B1.2	B0.5	B0.2	B1.0	B0.1	B0.0	B1.4	B0.1	B0.2	B0.2	B1.0	B0.1
28	B1.0	B0.4	B0.3	B0.8	B0.1	B0.0	B0.8	B0.0	B0.2	B0.0	B1.3	B0.1
29	B1.4	B0.4	B0.9	B0.8	B0.1	B0.1	B0.7	B0.0	B0.2	B0.0		B0.1
30	B0.9	B0.3	B0.7	B0.8	B0.1	B0.0	B0.1	B0.0	B0.1	B0.0		B0.1
31		B0.0		B0.7	B0.5		B0.0		B0.2	B0.0		<B0.1

MASS EJECTIONS FROM THE SUN

MARCH 1986

Sta	Day	Observed UT Start	Max	End	Location RA°	R/R_o	Freq or Wavelength	Kind of Event
KHAR	Mar 04	1105 E		1125	D 075	0.5	H-alpha	S
VORO	Mar 07	0208 E	0215 U	0221	D 332	0.11	H-alpha	S
KHAR	Mar 09	1025 E		1130	D 286	0.57	H-alpha	S
ABST	Mar 11	0621 E	0655 U	0645	D 280	0.61	H-alpha	SP
KHAR	Mar 11	0959 E		1017	D 268	0.84	H-alpha	S

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

REPORTING STATIONS
- ABST = Abastumani
- KHAR = Kharkov
- VORO = Voroshilov

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

ACTIVE PROMINENCES AND FILAMENTS

MARCH 1986

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
01	EPL	0045	0230D	S10	E90	03	7.8	1				V	VORO		
01	ASR	0239E	1003D	N08	E90	03	7.8			9	9	E	LEAR	4717	
01	SDF	1955E	2235D	N05	E45	03	5.2		12	9	9	E	HOLL	4714	
01	ADF	2035E	0048D	N01	E69	03	7.0	1	05	9	9	E	HOLL	4717	
01	AFS	2052E	0048D	N03	E02	03	2.0	2	03	9	9	E	HOLL		
01	AFS	2110E	0316D	N03	E04	03	2.2	1	01	9	9	E	PALE		
01	DSD	2211E	2239D	N03	E03	03	2.1	2	04	9	9	E	HOLL		
01	APR	2225E	0125D	S43	E90	03	9.3	1				V	VORO		
02	SDF	0010E	0048D	S12	E37	03	4.8		07	6	6	E	HOLL	4715	
02	ADF	0130E	0912D	S03	W47	02	26.6	1	06	7	7	E	LEAR	4714	
02	ADF	0134E	0912D	N00	E79	03	8.0	2	09	9	9	E	LEAR	4717	
02	ADF	0134E	0912D	N01	E70	03	7.3	1	04	9	9	E	LEAR	4717	
02	AFS	0136E	0912D	N05	E01	03	2.1	2	02	9	9	E	LEAR		
02	ADF	0202E	0316D	N02	E75	03	7.7	2	07	9	9	E	PALE	4717	
02	ADF	0529E	0912D	S11	E69	03	7.4	2	05	9	8	E	LEAR		
02	ADF	0905E	1130D	N02	E67	03	7.4	1				V	KHAR		
02	ADF	0940E	1005D	S02	E70	03	7.6	1				V	KHAR		
02	ADF	1020E	1130D	S02	E64	03	7.2	1				V	KHAR		
02	ADF	1455E	1820D	N02	E61	03	7.2	2	07	9	9	E	HOLL	4717	
02	AFS	1503E	1820D	N03	W07	03	2.1		02	9	9	E	HOLL	4718	
02	DSD	2052E	0356D	S03	E56	03	7.0		03	9	9	E	PALE	4717	
02	ADF	2331E	0950D	N05	E60	03	7.5	1	11	9	9	E	LEAR	4717	
02	ADF	2332E	0950D	S09	E65	03	7.8	1	11	8	8	E	LEAR		
03	ADF	0109E	0950D	N03	E52	03	6.9	1	04	8	8	E	LEAR	4717	
03	AFS	0339E	0950D	N03	E54	03	7.2	2	03	9	9	E	LEAR	4717	
03	ADF	0350E	0950D	S03	W63	02	26.5	1	18	6	7	E	LEAR	4714	
03	ADF	0903E	0930D	N04	E50	03	7.1	1				V	KHAR		
03	ADF	0910E	0918D	S02	E57	03	7.6	1				V	KHAR		
03	ADF	0935E	1000D	N02	E54	03	7.4	1				V	KHAR		
03	DSD	1656E	1823D	S03	E45	03	7.1		04	9	9	E	HOLL	4717	
03	ADF	1855E	0008D	N00	E49	03	7.4	1	09	9	9	E	PALE	4717	
03	SDF	2001	1724	N00	E28	03	5.9		13	0	0	E	PALE	4715	
03	SDF	2001	1724	S08	E60	03	8.3		06	0	0	E	PALE		
03	DSD	2040	0008D	S02	E42	03	7.0		02	9	9	E	PALE	4717	
03	SDF	2220E	2225D	S14	E38	03	6.8		15	0	0	E	HOLL		
03	AFS	2327E	0951D	N02	E41	03	7.0		03	9	9	E	LEAR	4717	
04	ADF	0048E	0951D	N00	E39	03	6.9	1	05	9	9	E	LEAR	4717	
04	ADF	0048E	0951D	N01	E42	03	7.2	3	03	9	9	E	LEAR	4717	
04	ADF	0550E	1232D	N02	E34	03	6.8	1	03	7	8	E	ATHN	4717	
04	ADF	0550E	1232D	S03	E34	03	6.8	1	04	9	9	E	ATHN	4717	
04	BSL	0920	0935	N11	E90	03	11.1	1-				C	CATA		
04	ADF	0940E	1045D	S04	E33	03	6.9	1				V	KHAR		
04	DSD	1105E	1125D	N02	E31	03	6.8	1				V	KHAR		
04	BSL	1155	1205	N44	W90	02	25.1	1-				C	CATA		
04	AFS	1900E	2250D	N08	E52	03	8.7		01	8	7	E	HOLL		
04	ADF	1959E	0057D	N02	E31	03	7.1	2	07	9	9	E	HOLL	4717	
04	DSD	2315	0309D	N00	E29	03	7.1		02	9	9	E	PALE	4717	
04	DSD	2315	0309D	N02	E26	03	6.9		01	9	9	E	PALE	4717	
04	ADF	2340E	0857D	S10	E34	03	7.5	2	14	8	7	E	LEAR		
05	ADF	0230E	0857D	N03	E34	03	7.6	2	13	9	9	E	LEAR	4717	
05	ADF	0930E	1136D	N01	E28	03	7.5		04	8	8	E	ATHN	4717	
05	ADF	0930E	1136D	N03	E22	03	7.0		07	8	8	E	ATHN	4717	
05	APR	1428E	1445D	N00	W90	02	27.0	2		9	8	E	HOLL		
05	AFS	1441E	1518D	S09	W22	03	4.0		01	8	8	E	HOLL	4715	
05	ADF	1458E	0058D	N00	E14	03	6.7	1	03	9	9	E	HOLL	4717	
05	ADF	1647E	0058D	S01	E19	03	7.1	2	04	9	9	E	HOLL	4717	
06	ADF	0118E	0352D	N01	E18	03	7.4	1	04	9	9	E	PALE	4717	
06	ADF	0118E	0352D	N02	E12	03	6.9	1	06	8	9	E	PALE	4717	
06	ADF	0118E	0352D	S08	E23	03	7.8	2	06	9	9	E	PALE	4717	
06	ADF	0545E	1330D	S05	E16	03	7.4	1	06	9	9	E	ATHN	4717	
06	ADF	0850E	1330D	N07	E07	03	6.9	1	06	7	7	E	ATHN	4717	
06	SSB	1434		143	W00	03	9.8			0	0	E	HOLL		
06	ADF	1434E	0036D	N04	E03	03	6.8	2	11	9	9	E	HOLL	4717	
06	SDF	1545E	1801D	N01	W01	03	6.6	3	06	9	9	E	HOLL	4717	
06	ADF	1810E	2155D	S11	W26	03	4.8	2	05	9	9	E	HOLL	4715	
07	DSD	0007	0222D	S01	W02	03	6.8		01	9	9	E	PALE	4717	

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
07	ADF	0013E	0403D	N00	E06	03	7.4	1	03	9	9	E	PALE	4717	
07	ADF	0013E	0403D	N03	E01	03	7.1	2	05	9	9	E	PALE	4717	
07	ADF	0013E	0403D	S09	E10	03	7.7	1	09	9	9	E	PALE	4717	
07	DSD	0208	0221	S01	W04	03	6.8	1				V	VORO		
07	DSD	0210	0251D	S02	W04	03	6.8		02	9	9	E	PALE	4717	
07	ADF	0830E	1349D	N04	W05	03	7.0	1	07	7	8	E	ATHN	4717	
07	ADF	0830E	1349D	S12	W26	03	5.4	1	07	8	8	E	ATHN	4715	
07	ADF	1632E	2041D	N01	E08	03	8.3	1	02	9	9	E	HOLL	4717	
07	SSB	1639		143	W15	03	10.9			0	0	E	HOLL		
08	ADF	0645E	1335D	S03	W23	03	6.6	1	08	7	7	E	ATHN	4717	
08	ADF	0645E	1335D	S04	W09	03	7.6	1	11	8	8	E	ATHN	4717	
08	ADF	0648E	0832D	N03	W10	03	7.5	2	05	9	9	E	LEAR	4717	
08	ADF	0648E	0832D	N04	W20	03	6.8	2	09	9	9	E	LEAR	4717	
08	ADF	0648E	0832D	S04	W06	03	7.8	2	06	9	9	E	LEAR	4717	
08	ADF	0800E	1335D	S02	W13	03	7.4	1	04	8	8	E	ATHN	4717	
08	APR	0900E	1335D	S24	W90	03	1.4	1		7	9	E	ATHN		
08	ADF	1600E	1855D	N02	W25	03	6.8	2	07	8	8	E	HOLL	4717	
08	SSB	1905		145	W31	03	12.3			0	0	E	RAMY		
08	ADF	1905E	1905D	N04	W21	03	7.2	1	12	8	8	E	RAMY	4717	
08	ADF	1905E	2121D	N04	W22	03	7.1	1	12	8	8	E	RAMY	4717	
08	APR	2356E	0957D	N18	W90	03	2.1			8	8	E	LEAR	4718	
09	ADF	0004E	0957D	N07	W23	03	7.3	1	12	8	8	E	LEAR	4717	
09	ADF	0005E	0957D	S02	W17	03	7.7	2	09	9	9	E	LEAR	4717	
09	ADF	0006E	0957D	N02	W20	03	7.5	2	05	9	9	E	LEAR	4717	
09	DSD	0112	0119D	N02	W23	03	7.3		03	9	9	E	LEAR	4717	Flare Associated
09	SDF	0406E	1730D	S01	W43	03	5.9		03	0	0	E	PALE	4717	
09	BSL	0830	0840	S50	W90	03	1.7	1-				C	CATA		
09	ADF	0845E	1129D	N02	W31	03	7.0		06	8	8	E	ATHN	4717	
09	ADF	0845E	1129D	N03	W24	03	7.6		04	8	8	E	ATHN	4717	
09	APR	0845E	1129D	N15	W90	03	2.5	2		8	6	E	ATHN		
09	ADF	0845E	1129D	S11	W21	03	7.8		11	8	8	E	ATHN	4717	
09	APR	0845E	1129D	S40	W90	03	2.0	2		8	8	E	ATHN		
09	DSD	1025E	1130D	N04	W34	03	6.9	1				V	KHAR		
09	BSL	1135E	1135D	N55	E90	03	17.2	1-				C	CATA		
09	SSB	1225		143	W39	03	13.0			0	0	E	RAMY		
09	AFS	1225E	2200D	N01	W33	03	7.0	1	02	9	9	E	RAMY	4717	
09	ADF	1225E	2200D	N04	W32	03	7.1	2	12	8	8	E	RAMY	4717	
09	ADF	1603E	1910D	N04	W34	03	7.1	1	11	8	9	E	HOLL	4717	
09	AFS	1715E	2200D	N00	E01	03	9.8		01	9	9	E	RAMY		
09	AFS	1737E	0246D	N00	E01	03	9.8		01	8	8	E	PALE		
09	ADF	1753E	0354D	N01	W37	03	7.0	2	02	9	9	E	PALE	4717	
09	SDF	1848E	1848D	S09	W56	03	5.6		05	0	0	E	HOLL		
09	ADF	2318E	0955D	N05	W40	03	7.0	2	06	9	9	E	LEAR	4717	
10	SSB	1248		143	W52	03	14.2			0	0	E	RAMY		
10	SDF	1356E	1356D	S09	W68	03	5.5		05	0	0	E	HOLL		
11	AFS	0442E	0530D	N19	W08	03	10.6		02	9	9	E	LEAR		
11	BSL	0905E	0930	N88	E90	03	19.8	1-				C	CATA		
11	DSD	0959E	1017D	S05	W58	03	7.1	1				V	KHAR		
11	ADF	1033E	1123D	N05	W62	03	6.8	1				V	KHAR		
11	SSB	1303		503	W65	03	11.8			0	0	E	RAMY		
11	ADF	1303E	1736D	N29	W50	03	7.6	1	10	6	5	E	RAMY		
11	AFS	1303E	1736D	S02	W38	03	8.7		01	5	5	E	RAMY		
11	ADF	1303E	1736D	S09	W50	03	7.8	1	05	9	9	E	RAMY	4717	
11	ADF	1303E	1736D	S17	W60	03	7.0	1	02	7	9	E	RAMY		
11	ADF	1303E	1736D	S45	W20	03	9.9	1	09	4	4	E	RAMY		
11	AFS	1745E	0416D	N00	W60	03	7.2		01	9	9	E	PALE	4717	
11	AFS	1745E	0416D	S03	W63	03	7.0		01	9	9	E	PALE	4717	
11	ADF	1747E	0416D	S18	W63	03	6.9	1	04	9	9	E	PALE		
11	SSB	2033		143	W69	03	15.7			0	0	E	HOLL		
11	AFS	2050E	0107D	N02	W41	03	8.8		01	8	8	E	PALE		
12	APR	0650E	0824D	S15	W90	03	5.5	1		9	9	E	ATHN		
12	BSL	0735E	0750D	S20	W90	03	5.4	1				C	CATA		
12	APR	0824E	0859	S15	W90	03	5.5	1		6	7	E	LEAR		
12	AFS	1146E	2131D	N01	W54	03	8.4		01	9	9	E	RAMY		
12	SDF	1410E	1410D	S45	W30	03	10.1		07	0	0	E	RAMY		
12	SDF	1515E	1515D	S10	W71	03	7.3		08	0	0	E	RAMY	4717	

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
12	SDF	1610E	1610D	S09	W68	03	7.6		18	0	0	E	HOLL		
12	SDF	1610E	1610D	S09	W68	03	7.6		21	0	0	E	HOLL		
13	ASR	0140E	0300D	N04	W90	03	6.3			7	9	E	LEAR	4717	
13	APR	0840E	1325D	N23	W90	03	6.4	1		9	9	E	ATHN		
13	BSL	0930	0930D	N71	E90	03	21.6	1-				C	CATA		
13	BSL	1010	1040D	N34	E90	03	20.6	1-				C	CATA		
13	BSL	1050E	1055D	N34	E90	03	20.6	1-				C	CATA		
13	ASR	1405E	2150D	S02	W90	03	6.9	2		9	9	E	RAMY	4717	
13	APR	2350	0147D	N32	W90	03	6.9	2				V	VORO		
14	ASR	0120E	0220D	S01	W90	03	7.3			9	9	E	LEAR	4717	
14	ASR	0810E	0849D	S02	W90	03	7.6			9	9	E	LEAR		
14	BSL	0840	0850D	S44	W90	03	6.9	1-				C	CATA		
14	BSL	1015E	1015D	S04	W90	03	7.7	1-				C	CATA		
14	BSL	1040E	1050D	S04	W90	03	7.7	1				C	CATA		
15	AFS	0136E	0952D	S13	W07	03	14.5	1	02	9	9	E	LEAR		
15	APR	0255E	0952D	S17	W90	03	8.3	1		9	9	E	LEAR		
15	BSL	1030	1030D	S70	W90	03	7.3	1-				C	CATA		
16	SDF	1646E	1646D	S38	W09	03	16.0		03	0	0	E	HOLL		
16	SDF	1647E	1647D	S46	W27	03	14.4		02	0	0	E	HOLL		
17	AFS	0726E	0945D	N20	W20	03	15.8		02	7	7	E	LEAR		
17	SDF	1124E	1124D	S46	W45	03	13.7		04	0	0	E	RAMY		
18	ASR	0613E	0702D	S02	W90	03	11.5			9	9	E	LEAR		
18	BSL	0840	0855	S23	E90	03	25.3	1-				C	CATA		
18	BSL	1010E	1010D	N01	W90	03	11.7	1-				C	CATA		
20	AFS	0014E	0102D	S11	W14	03	18.9		02	9	9	E	HOLL		
20	DSD	0020E	0040D	S11	W14	03	19.0	2	02	9	9	E	HOLL		
20	AFS	0033E	0942D	S10	W13	03	19.0	2	01	9	9	E	LEAR		
20	DSD	0331E	0530D	S09	W14	03	19.1		02	9	9	E	LEAR		
20	DSD	0424E	0942D	S09	W17	03	18.9		03	9	9	E	LEAR		
20	DSD	0720E	1120D	S10	W19	03	18.9		02	9	9	E	ATHN		
20	AFS	0855E	1410D	S11	W20	03	18.9		01	9	9	E	ATHN		
20	ADF	0958E	1200D	S11	W21	03	18.8	1				V	KHAR		
20	AFS	1516	2208D	S11	W24	03	18.8		02	7	7	E	HOLL	4719	
20	AFS	1724E	0418D	S11	W24	03	18.9		01	9	9	E	PALE		
20	ADF	2031E	2139D	S10	W26	03	18.9	1	02	9	9	E	RAMY	4719	
20	DSD	2041E	2138D	S11	W26	03	18.9		01	9	9	E	PALE	4719	
20	SDF	2045E	2139D	S10	W26	03	18.9		06	0	0	E	RAMY	4719	
21	ADF	0015E	0109D	S09	W44	03	17.7	1	02	9	9	E	HOLL	4719	
21	AFS	0040E	0225D	S09	W26	03	19.1	1	02	9	9	E	LEAR	4719	
21	AFS	1135E	2224D	S11	W34	03	18.9		02	8	9	E	RAMY	4719	
21	AFS	1743E	0213D	S11	W39	03	18.8		01	8	8	E	PALE	4719	
21	AFS	2030E	0109D	S10	W40	03	18.8		04	6	6	E	HOLL	4719	
22	ADF	0015E	0109D	S09	W44	03	18.7	1	02	9	9	E	HOLL	4719	
22	DSD	0052	0945D	S10	W43	03	18.8		03	9	9	E	LEAR	4719	
22	DSD	0133E	0359D	S11	W43	03	18.8		02	9	9	E	PALE	4719	
22	AFS	0240E	0412D	S08	W27	03	20.1		02	9	9	E	LEAR		
22	DSD	1530E	1655D	S10	W52	03	18.7	2	02	9	9	E	HOLL	4719	
22	AFS	1947E	0413D	S18	W56	03	18.5	1	01	9	9	E	PALE	4719	
22	AFS	2249E	0110D	S25	E34	03	25.6		01	7	6	E	HOLL		
22	AFS	2346E	0945D	S22	E36	03	25.7		01	6	6	E	LEAR		
23	BSD	0300E	0308	N06	E88	03	29.7		04	9	9	E	LEAR		
23	AFS	0615E	0945D	S12	W60	03	18.7		01	9	9	E	LEAR	4719	
23	BSL	0925	0930	S13	E90	03	30.2	1-				C	CATA		
23	BSL	0925	0930	S38	E90	03	30.7	1-				C	CATA		
23	ADF	0936	0958	S11	W66	03	18.4	1				V	KHAR		
23	BSL	0945	0955	S75	E90	03	31.7	1-				C	CATA		
23	ADF	1111	1117D	S12	W65	03	18.6	1				V	KHAR		
23	AFS	1215E	2026D	N02	E75	03	29.1		01	8	7	E	RAMY		
23	AFS	1215E	2026D	S12	W65	03	18.6		02	9	9	E	RAMY	4719	
23	AFS	1508E	2211D	S09	W66	03	18.7		02	9	9	E	HOLL	4719	
23	AFS	2045E	0111D	N00	E70	03	29.1		01	7	7	E	HOLL	4720	

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
23	AFS	2350E	0940D	N05	E72	03	29.4		01	9	7	E	LEAR	4720	
24	AFS	0144E	0214D	S23	E26	03	26.1		01	7	7	E	PALE		
24	BSL	1000	1005	N89	E90	04	1.8	1-				C	CATA		
24	BSL	1145	1150	N84	W90	03	16.1	1-				C	CATA		
25	BSL	0740E	0750	S13	W90	03	18.5	1-				C	CATA		
25	BSL	0905E	0925D	S07	W90	03	18.6	1-				C	CATA		
25	BSL	0905E	0925D	S83	E90	04	2.8	1				C	CATA		
25	BSL	1200	1200D	N69	E90	04	2.6	1-				C	CATA		
25	BSL	1225E	1225D	N83	E90	04	2.9	1-				C	CATA		
25	AFS	1540E	2001D	N02	E47	03	29.2	2	02	9	9	E	HOLL	4720	
26	BSL	0735	0745	S22	W90	03	19.4	1-				C	CATA		
26	BSL	1150	1200	S83	E90	04	3.9	1-				C	CATA		
26	AFS	1340E	2149D	N02	E29	03	28.7		02	9	9	E	RAMY	4720	
26	AFS	1405E	1455D	N02	E33	03	29.0		02	9	9	E	HOLL	4720	
26	ADF	1450E	1515D	N05	E31	03	28.9	2	04	8	7	E	RAMY	4720	
26	SDF	1450E	1515D	N05	E31	03	28.9		04	0	0	E	RAMY	4720	
26	SDF	1517E	1615D	N05	E33	03	29.1		04	7	7	E	HOLL	4720	
26	ADF	1838E	2231D	N03	E32	03	29.2	1	05	8	8	E	HOLL	4720	
26	ADF	2048E	2149D	N04	E30	03	29.1	2	03	8	8	E	RAMY	4720	
27	BSL	0528	0835	N10	E90	04	3.0	1				C	ABST		
27	BSL	0528	0835	S13	E90	04	3.0	1				C	ABST		
27	BSL	0528	0835	S21	E90	04	3.1	1				C	ABST		
27	ADF	0538E	0925D	N07	E27	03	29.2	2	04	9	9	E	LEAR	4720	
27	APR	0606	0835	N20	E90	04	3.1	1				C	ABST		
27	ADF	0755E	1430D	N07	E24	03	29.1	1	05	7	7	E	ATHN	4720	
27	BSL	1150	1215	S62	W90	03	19.5	1-				C	CATA		
27	ADF	1246E	1759D	N02	E18	03	28.9	2	03	8	9	E	RAMY	4720	
27	SDF	1639E	1642D	N04	E20	03	29.2		02	0	0	E	HOLL	4720	
28	AFS	0310E	0935D	N07	E19	03	29.5		02	9	9	E	LEAR	4720	
28	APR	0540	0900	N28	E90	04	4.3	1				C	ABST		
28	BSL	0635	0712	S21	E90	04	4.2	1				C	ABST		
28	ADF	1335E	1814D	N05	E09	03	29.2	2	02	8	7	E	RAMY	4720	
28	SDF	1538E	1538D	N11	E22	03	30.3		07	0	0	E	HOLL		
28	SDF	1950E	2359D	N23	E13	03	29.8		11	0	0	E	PALE		
28	ADF	2338E	0941D	N05	E06	03	29.4	2	05	9	9	E	LEAR	4720	
28	ADF	2347E	0332D	N01	E09	03	29.7	2	06	9	9	E	PALE	4720	
28	SDF	2352E	2352D	N10	E27	03	31.0		08	0	0	E	LEAR		
29	DSD	0930	1010	N04	W04	03	29.1	1				C	CATA		
29	BSL	0950	1000	S88	E90	04	6.8	1-				C	CATA		
29	AFS	1226E	1558D	N02	W08	03	28.9		01	8	8	E	RAMY	4720	
29	ADF	1443E	1558D	N03	W03	03	29.4	2	02	9	8	E	RAMY	4720	
29	AFS	1743E	0253D	N01	W11	03	28.9		01	8	8	E	PALE	4720	
29	DSD	1745E	0253D	N01	W10	03	29.0		01	9	9	E	PALE	4720	
29	ADF	1833E	0253D	N02	W05	03	29.4	1	04	7	6	E	PALE	4720	
29	ADF	1905E	0234D	S07	E67	04	3.8	2	03	9	9	E	PALE		
29	ADF	2014E	0114D	N02	W11	03	29.0	2	02	9	9	E	PALE	4720	
29	DSD	2217E	0108D	N03	W13	03	28.9		02	9	9	E	HOLL	4720	
29	AFS	2321E	0323D	N04	W14	03	28.9	1	02	7	7	E	LEAR	4720	
30	ADF	0215E	0934D	N03	W08	03	29.5	2	07	9	9	E	LEAR	4720	
30	SDF	0934E	2320D	N20	W05	03	30.0		10	0	0	E	LEAR		
30	ADF	1130E	1927D	N28	E00	03	30.5	2	14	5	6	E	RAMY		
30	SDF	1145E	0550D	N23	W07	03	29.9	1				C	CATA		
30	DSD	1200E	1927D	S07	W79	03	24.6	2	03	9	9	E	RAMY		
30	ADF	1545E	1927D	N03	W17	03	29.4	2	06	6	6	E	RAMY	4720	
30	SDF	1606E	1606D	N26	W04	03	30.3		06	0	0	E	HOLL		
30	AFS	1720E	0410D	N03	W20	03	29.2		01	7	7	E	PALE	4720	
30	ADF	1720E	0410D	N23	W06	03	30.2	1	02	7	6	E	PALE		
30	AFS	1720E	0410D	S12	E12	03	31.6		01	8	8	E	PALE		
30	SDF	2024E	0054D	N22	W10	03	30.1		07	6	6	E	HOLL		
30	ADF	2033E	0054D	N02	W25	03	29.0	1	02	9	9	E	HOLL	4720	
31	ADF	0035E	0726D	N25	W09	03	30.3	1	04	8	6	E	LEAR		
31	AFS	0114E	0936D	N07	W28	03	28.9		02	8	8	E	LEAR	4720	
31	ADF	0505E	0936D	N06	W30	03	29.0	2	08	9	9	E	LEAR	4720	

ACTIVE PROMINENCES AND FILAMENTS

MARCH 1986

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
31	ADF	0600E	1330D	N03	W31	03	28.9	1	03	9	9	E	ATHN	4720	
31	SDF	0726E	0936D	N27	W13	03	30.3		04	6	6	E	LEAR		
31	ADF	1134E	2049D	N07	W38	03	28.6	2	05	8	8	E	RAMY	4720	
31	AFS	1249E	2049D	N02	W40	03	28.5	1	01	9	8	E	RAMY	4720	
31	AFS	1507E	1647D	N25	E00	03	31.6		01	5	3	E	HOLL		
31	SDF	1547E	1547D	N20	W20	03	30.1		12	0	0	E	RAMY	4720	
31	ADF	1920E	0224D	N04	W35	03	29.2	2	02	9	9	E	PALE	4720	

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

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

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

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

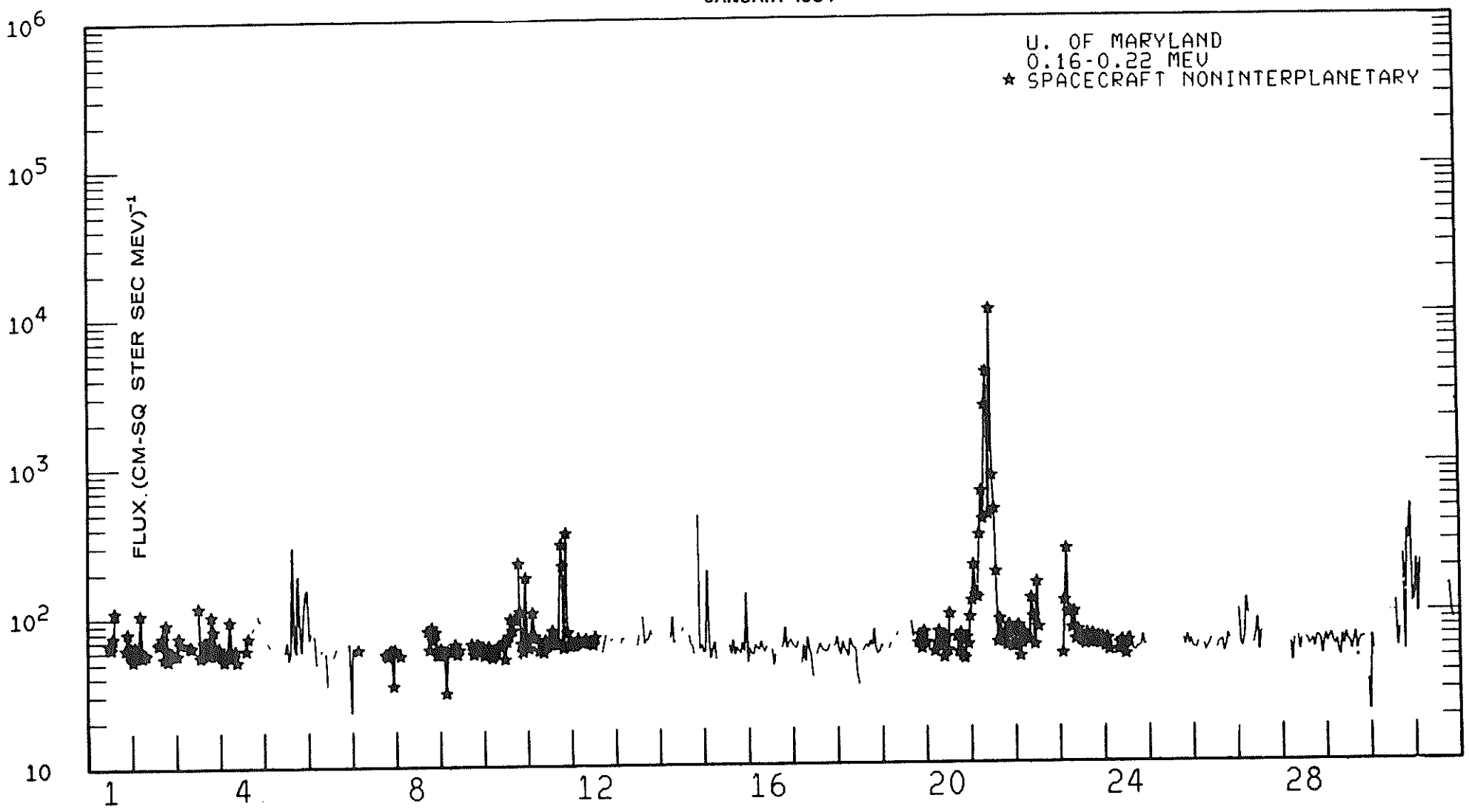
Observation Type: C= Cinematographic, E= Electronic, P= Photographic, V= Visual.

C O N T E N T S

Comprehensive Reports MISCELLANEOUS DATA Number 505 Part II

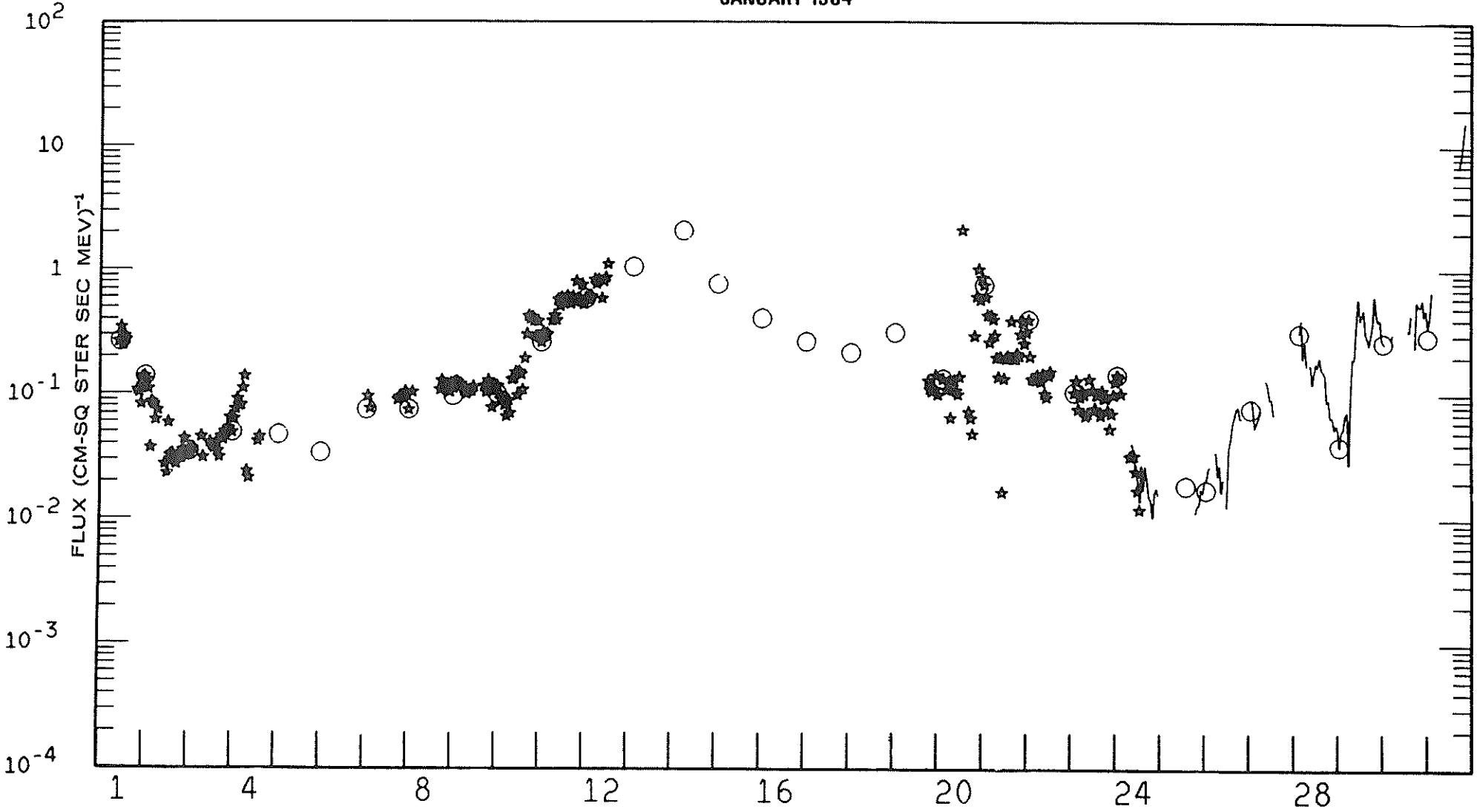
IMP 8 LOW ENERGY PROTONS

JANUARY 1984



IMP 8 INTERMEDIATE ENERGY PROTONS

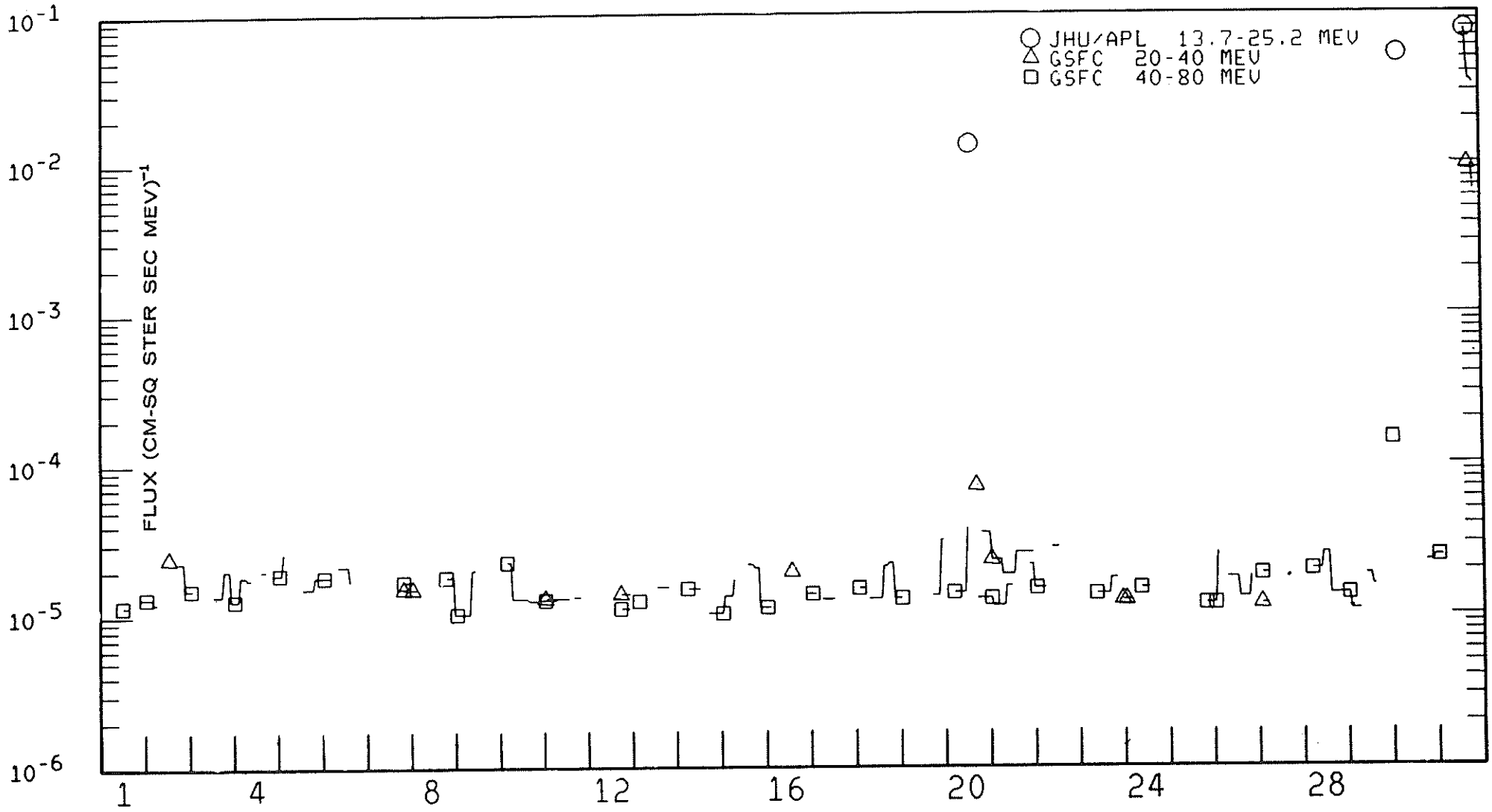
JANUARY 1984



35
Late
Jan 84

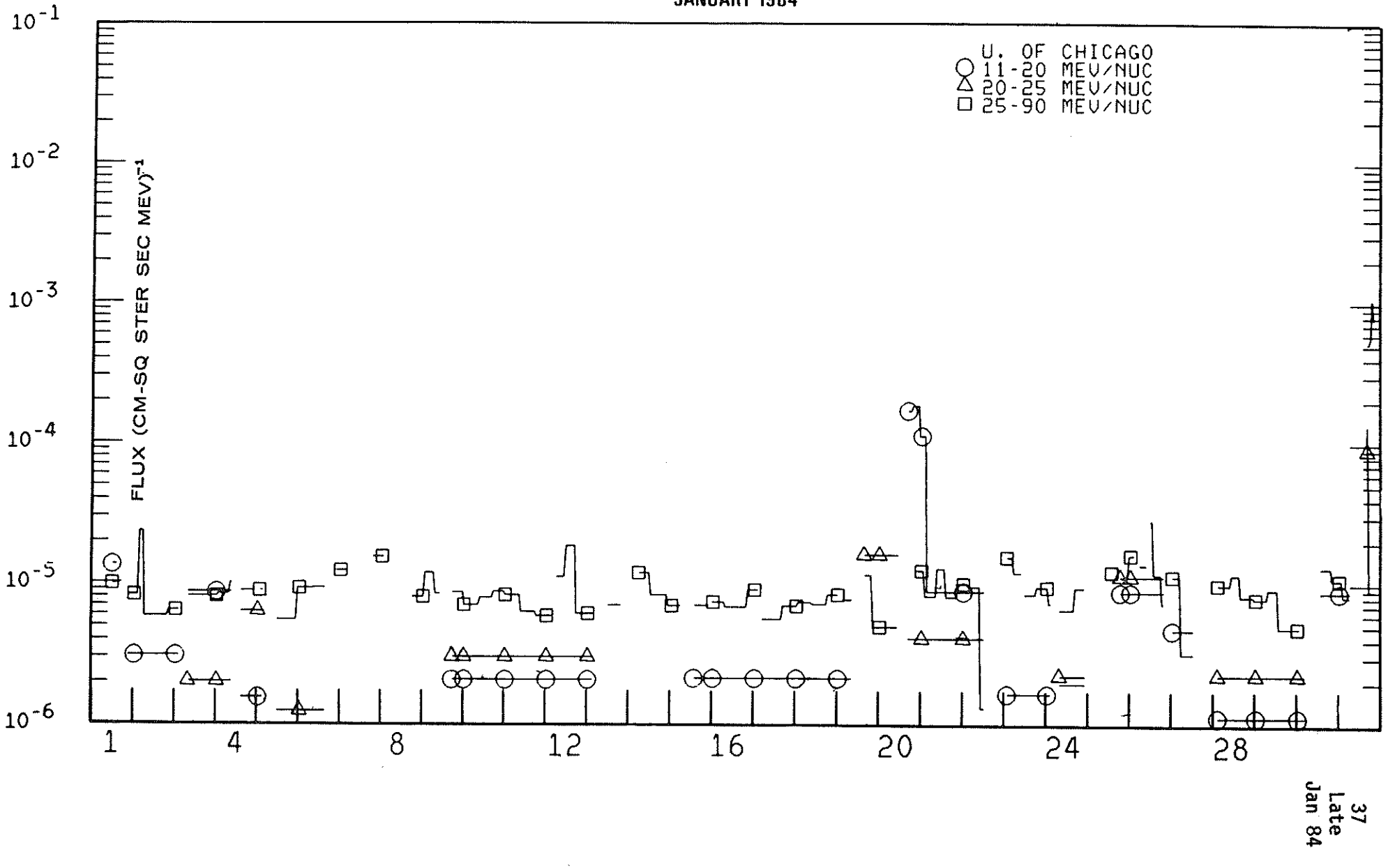
IMP 8 HIGH ENERGY PROTONS

JANUARY 1984

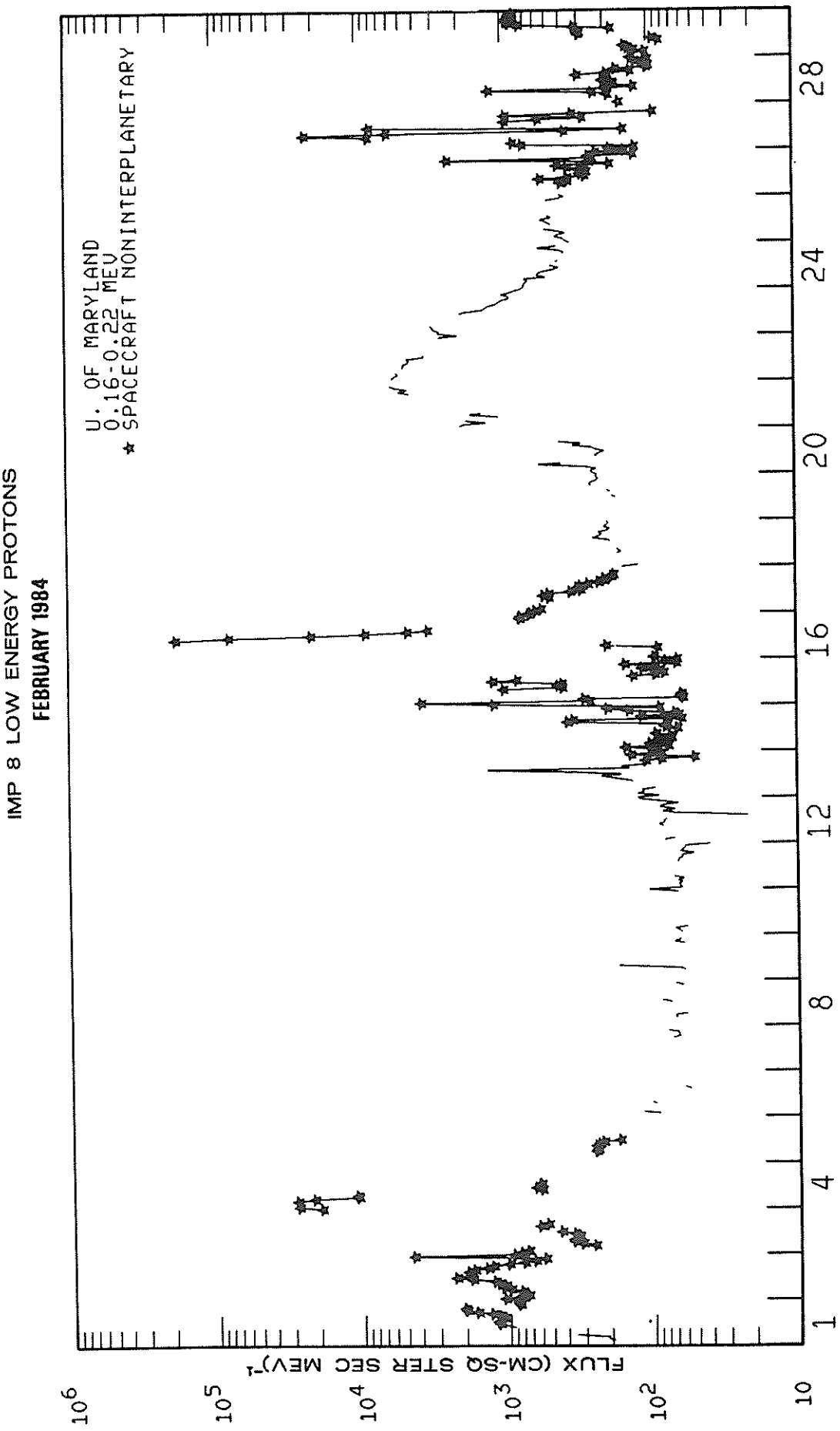


IMP 8 ALPHA PARTICLES

JANUARY 1984

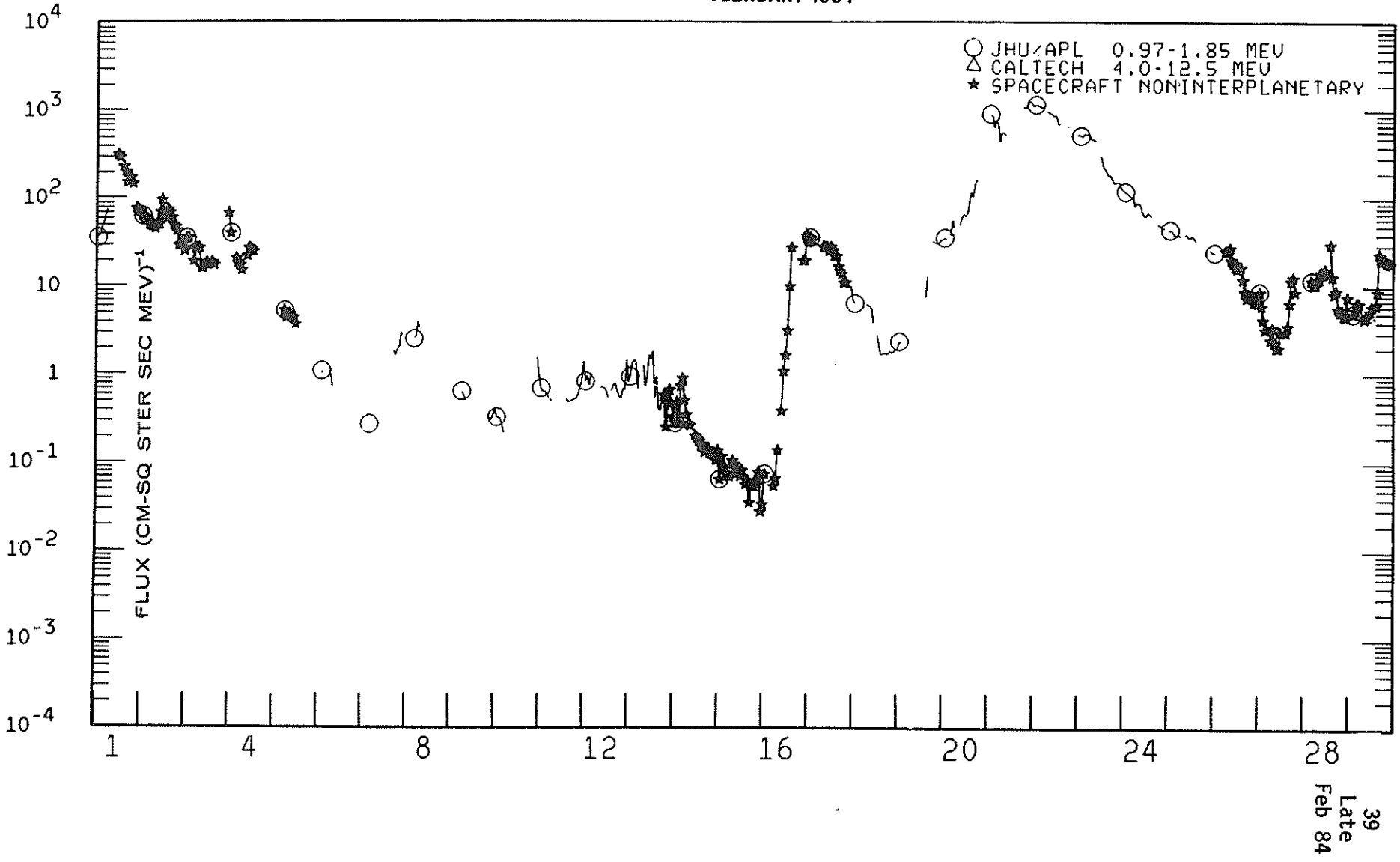


38
Late
Feb 84

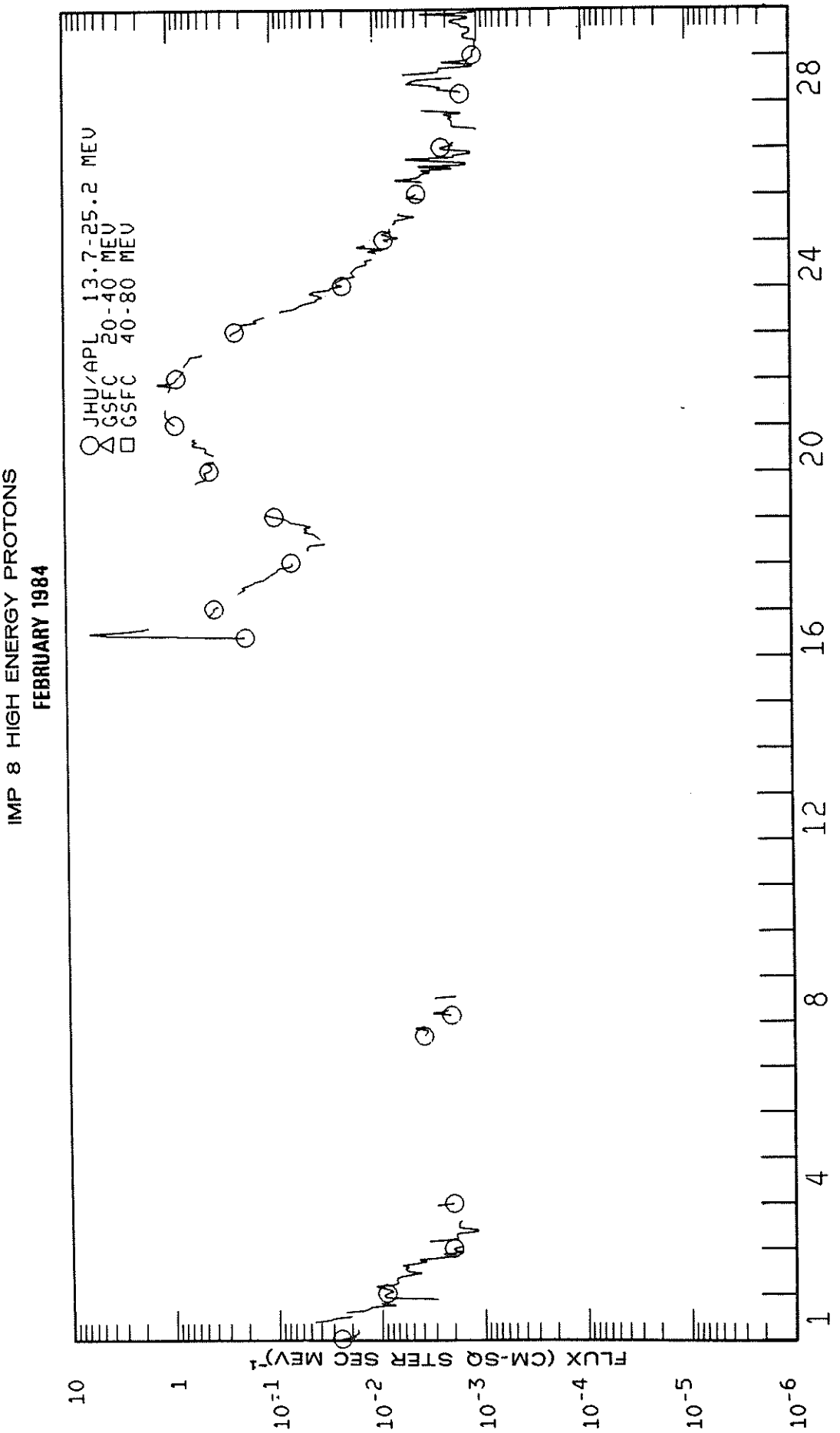


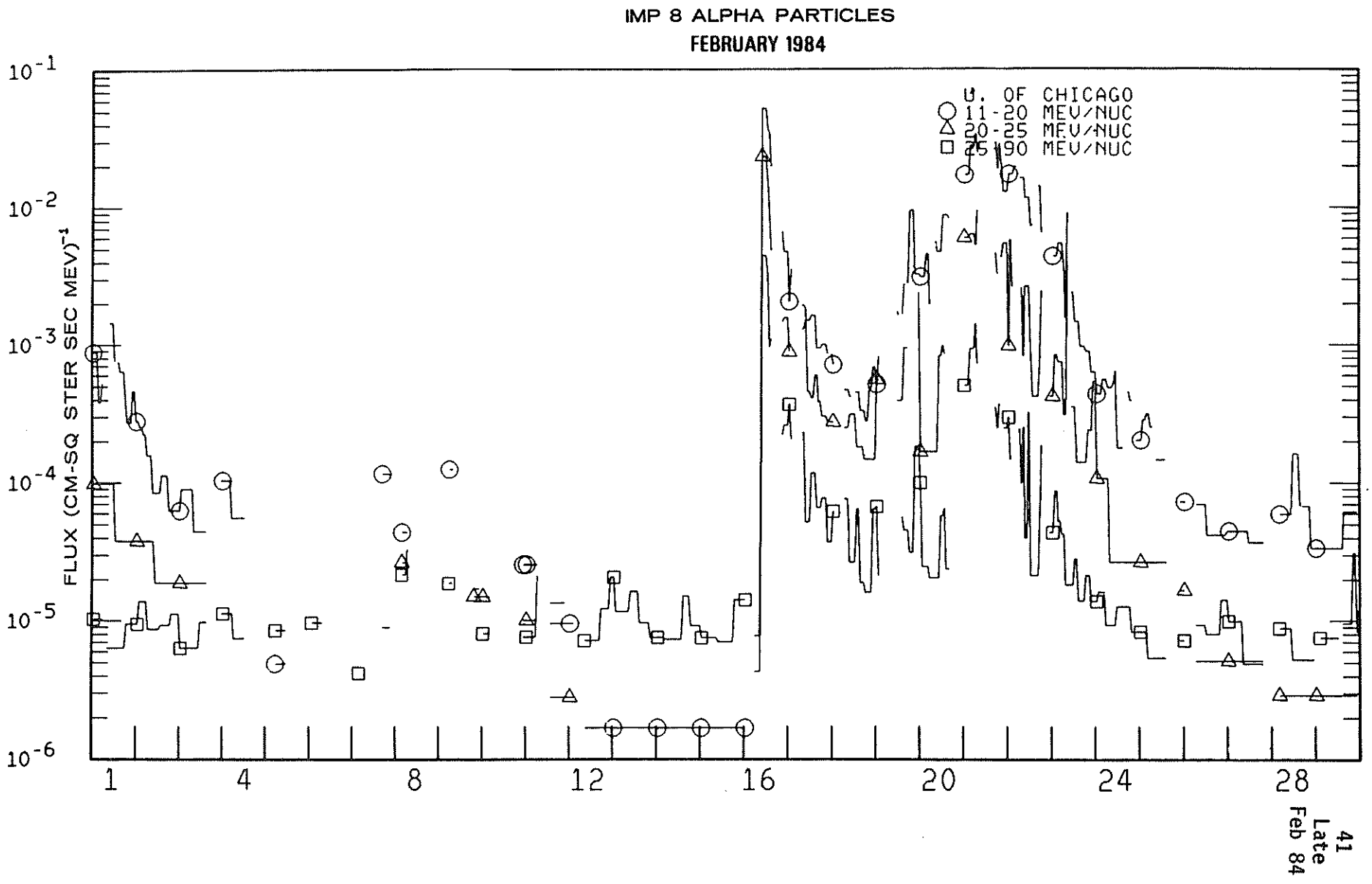
IMP 8 INTERMEDIATE ENERGY PROTONS

FEBRUARY 1984

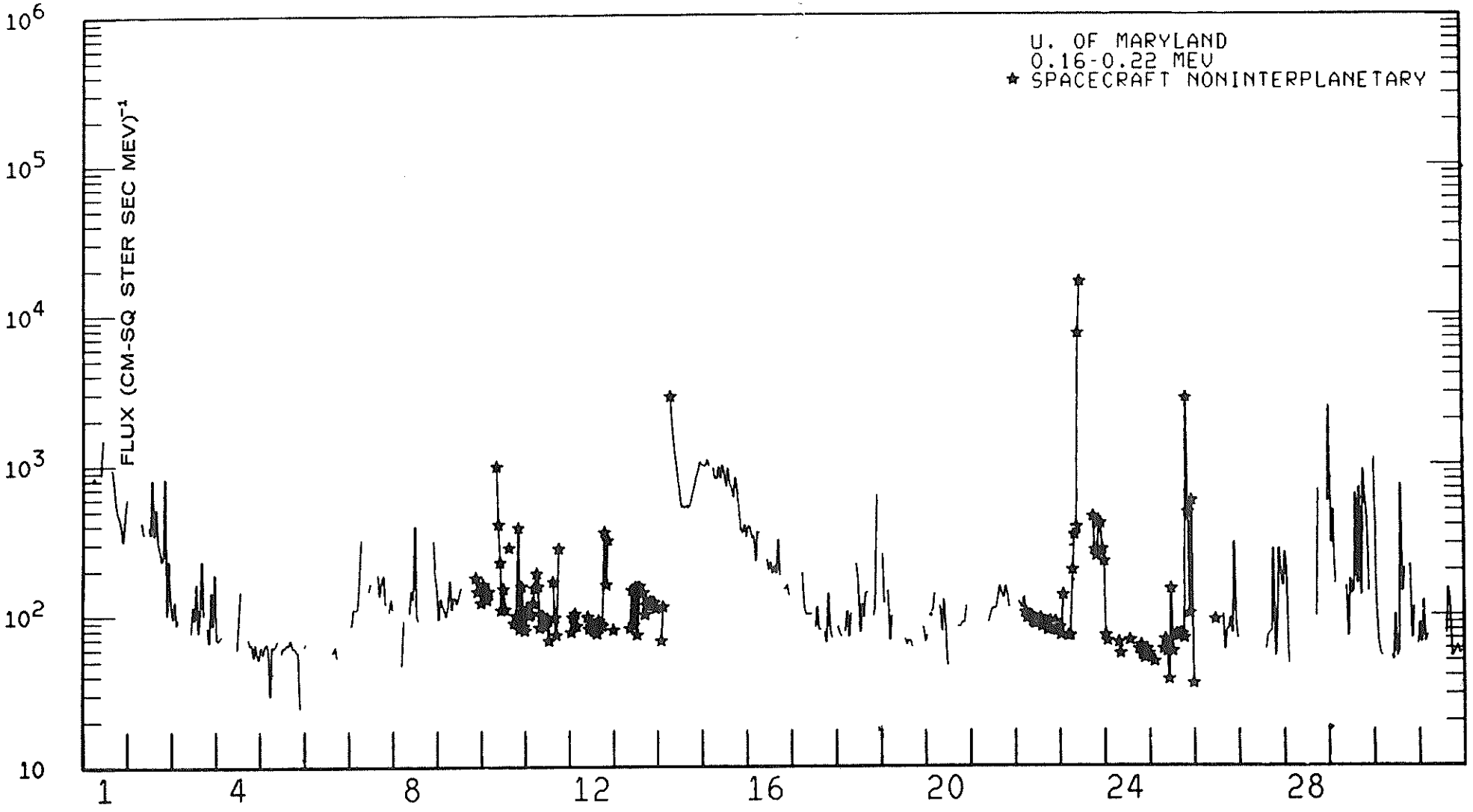


40
Late
Feb 84



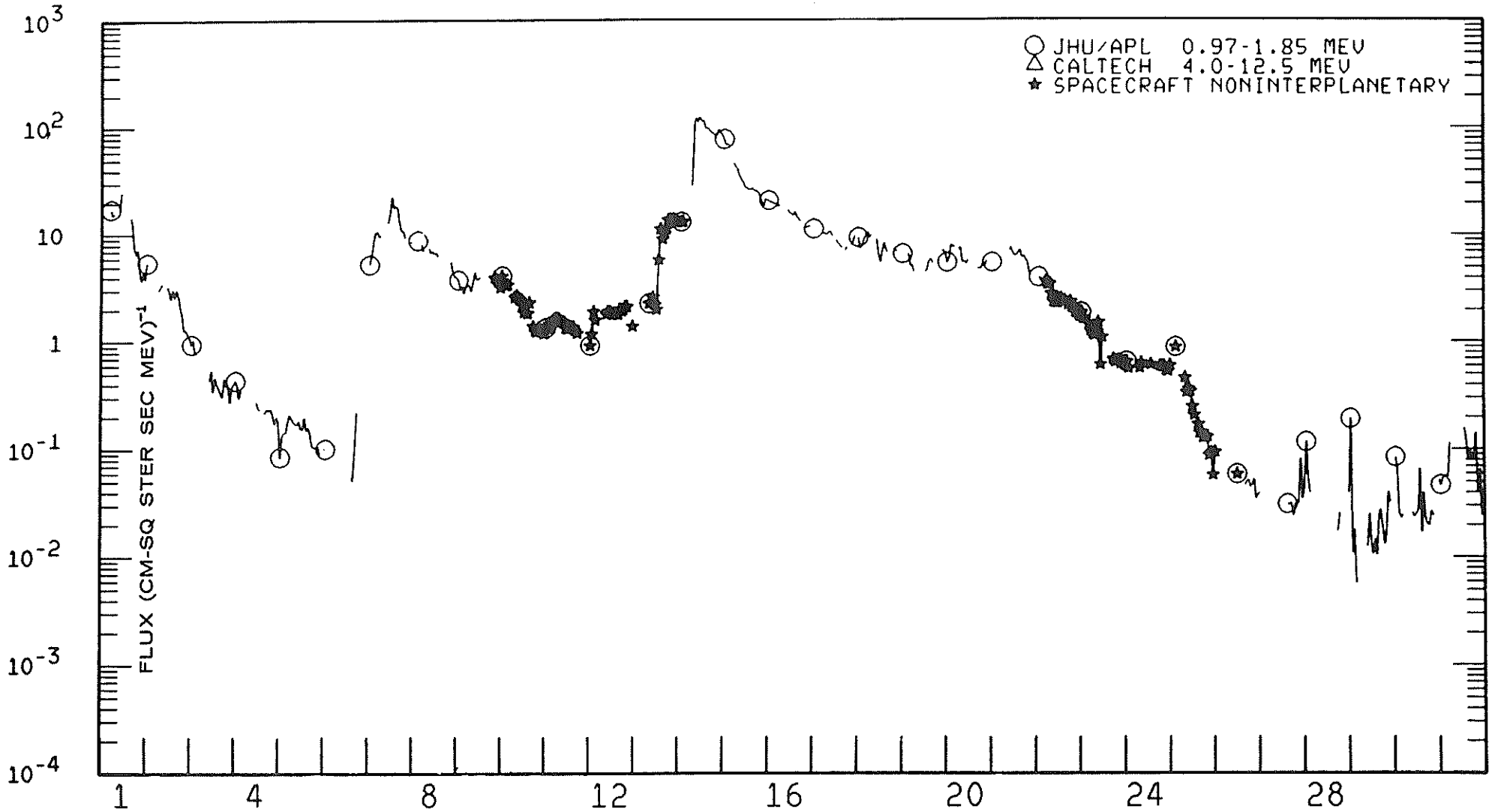

IMP 8 ALPHA PARTICLES
FEBRUARY 1984
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
41
Late
Feb 84

IMP 8 LOW ENERGY PROTONS
MARCH 1984

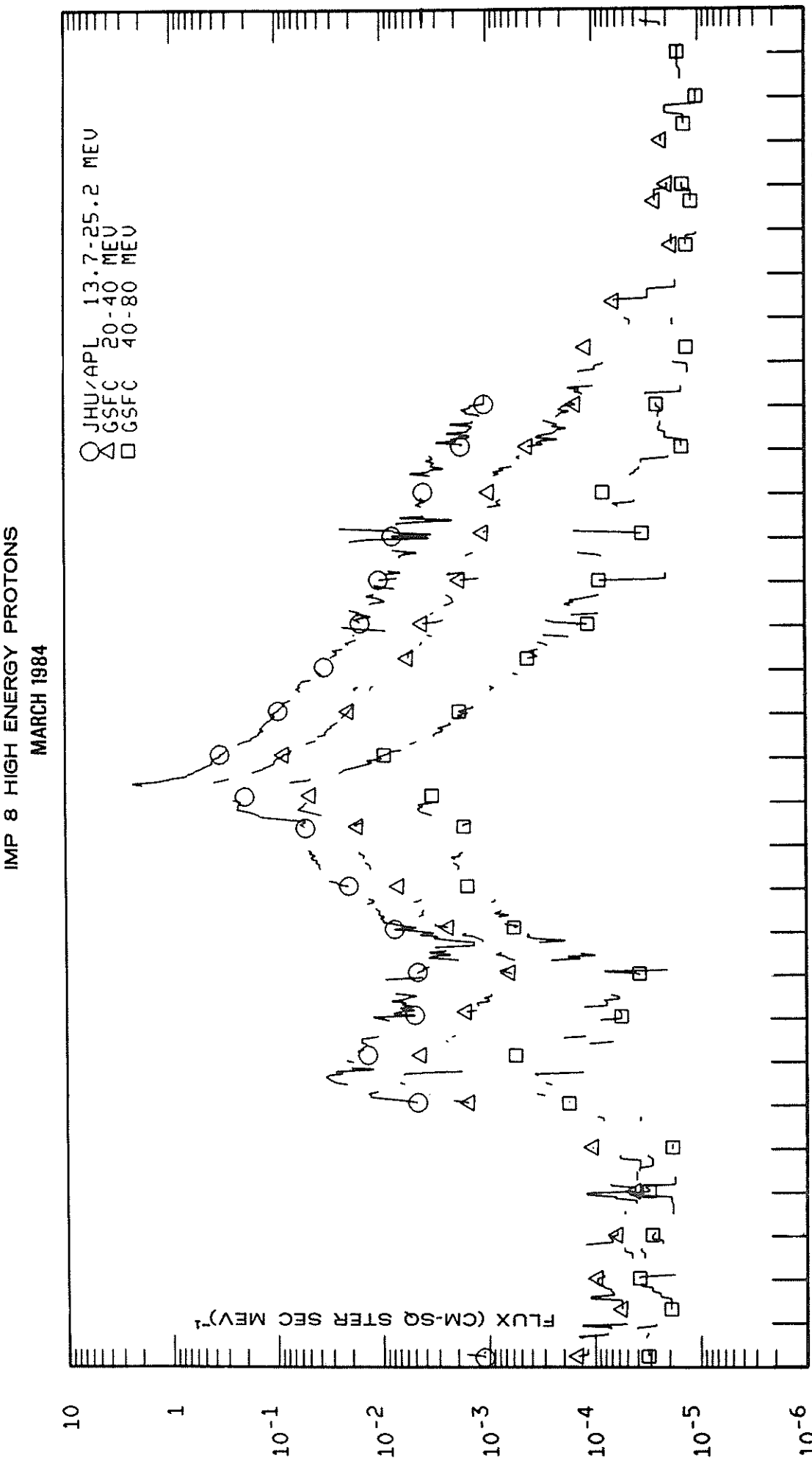


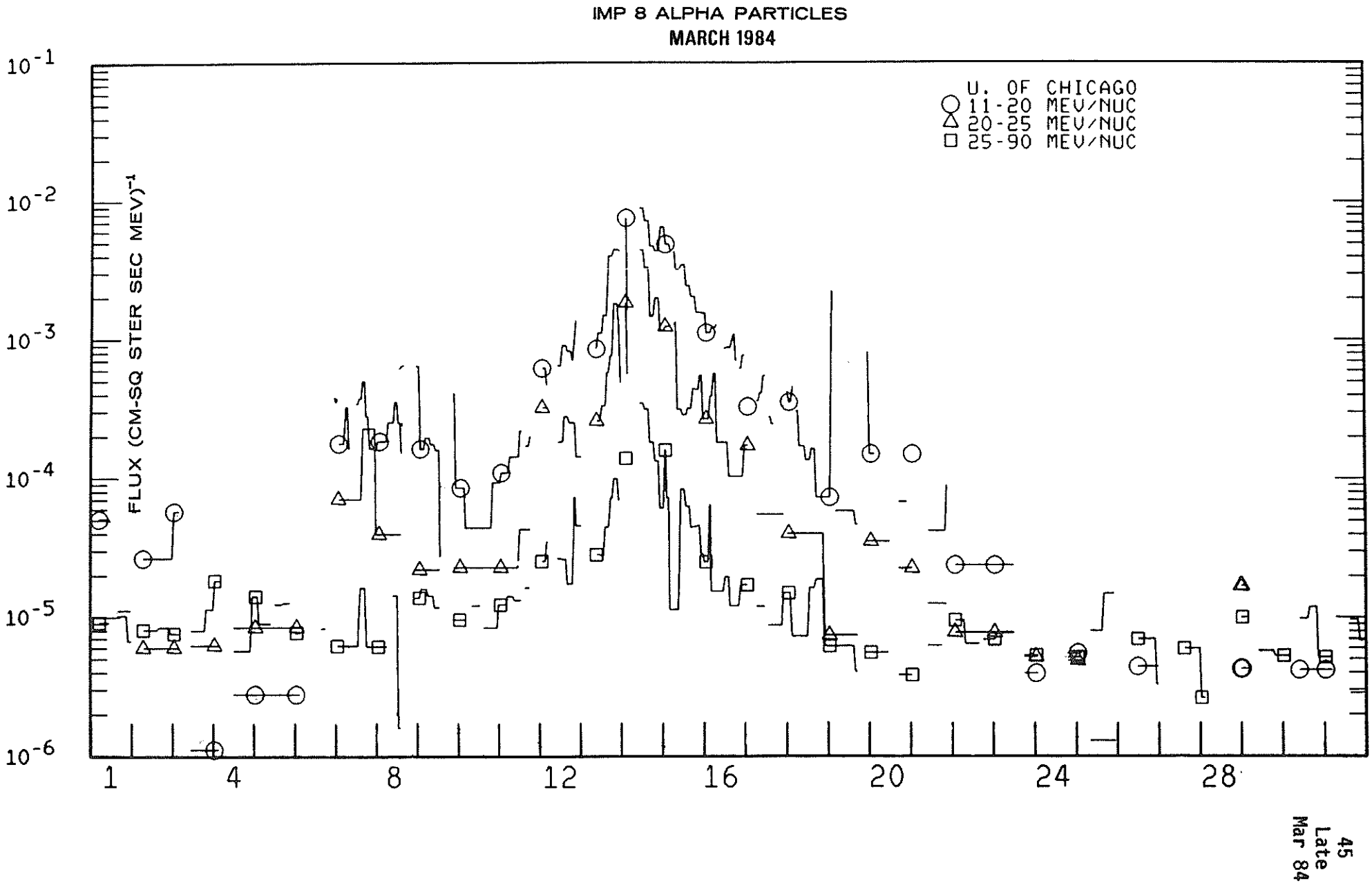
IMP 8 INTERMEDIATE ENERGY PROTONS

MARCH 1984

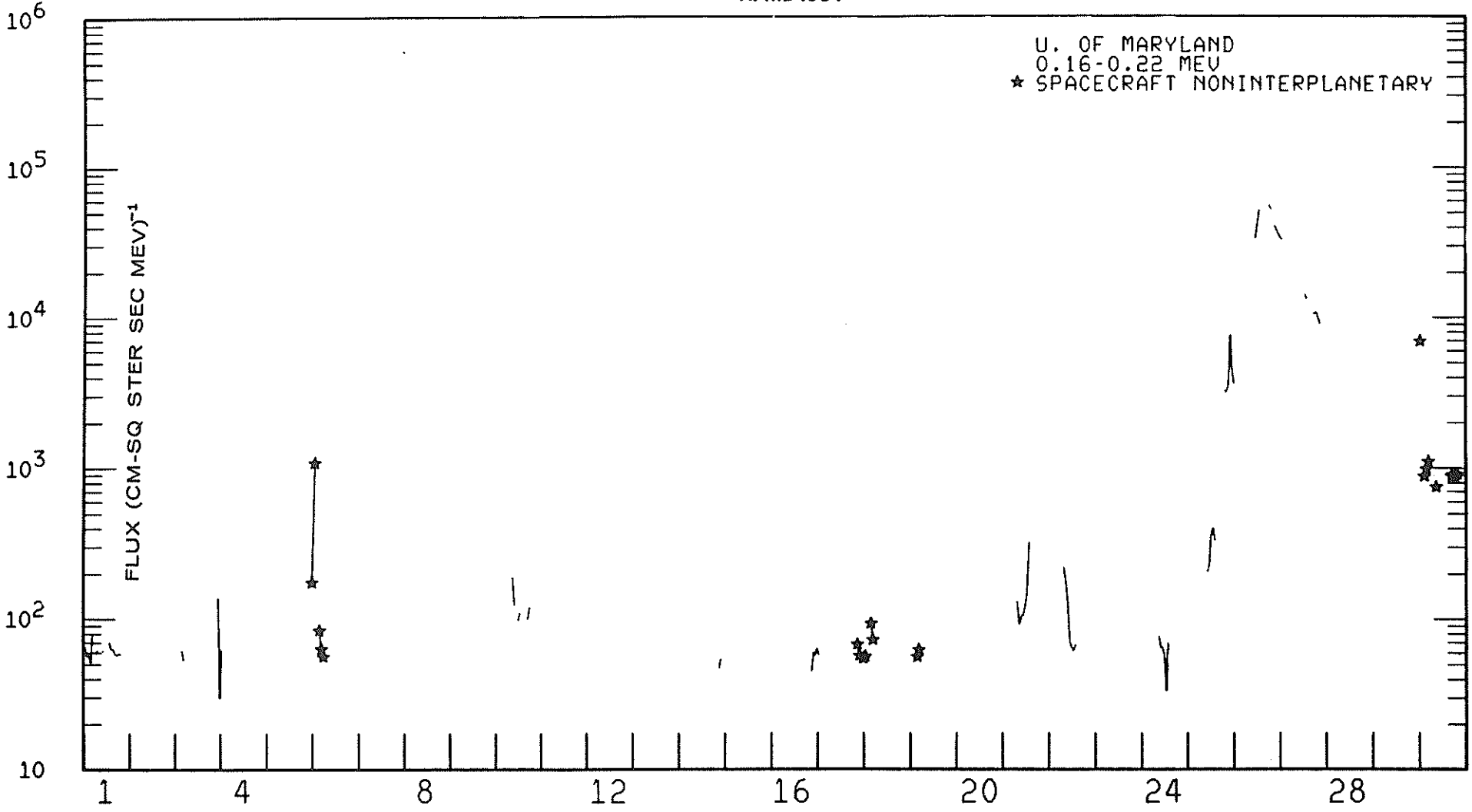


43
Late
Mar 84


IMP 8 HIGH ENERGY PROTONS
MARCH 1984
JHU/APL 13.7-25.2 MEV
GSFC 20-40 MEV
GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)⁻¹
10
1
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
1
4
8
12
16
20
24
28

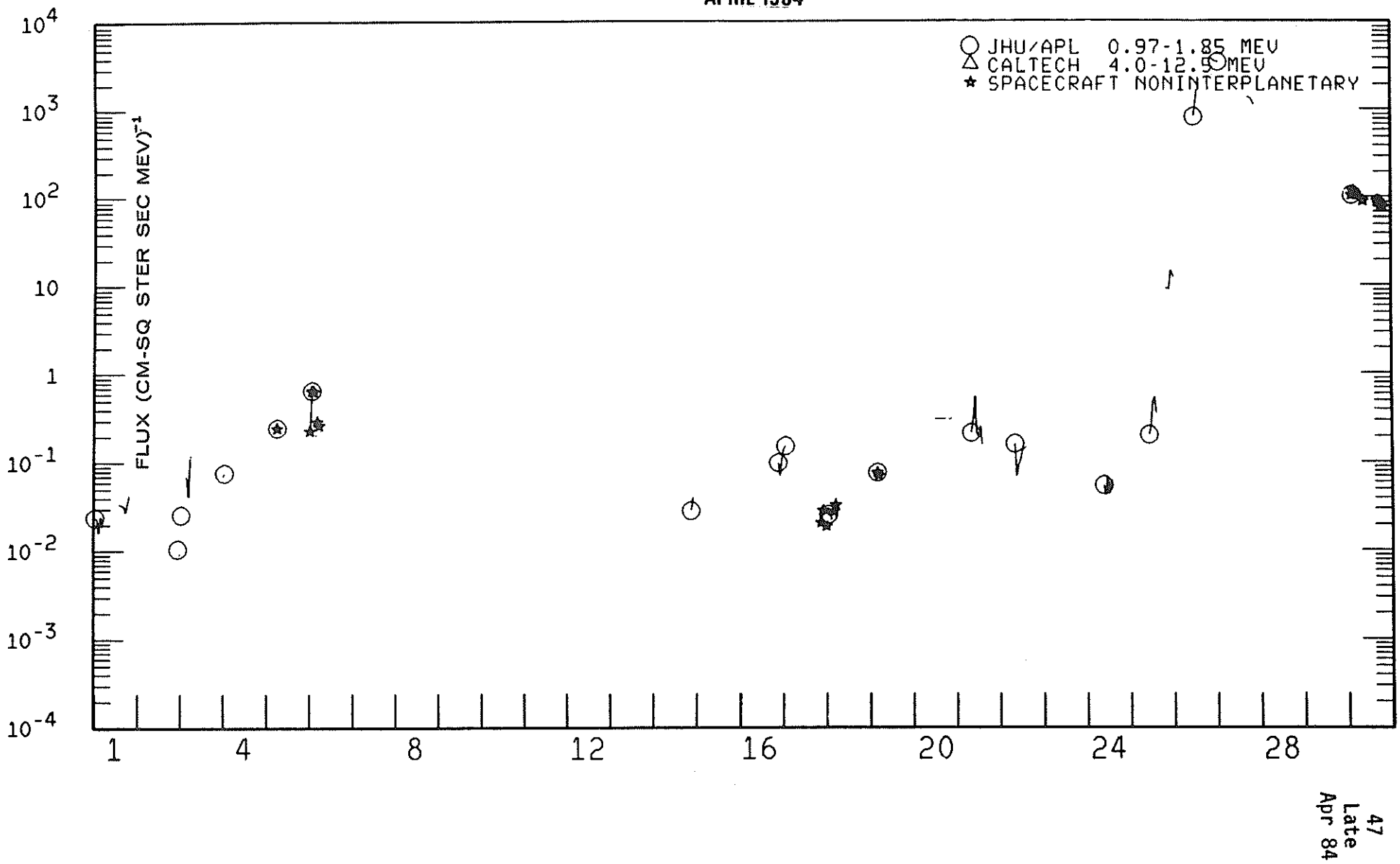

IMP 8 ALPHA PARTICLES
MARCH 1984
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
45
Late
Mar 84

IMP 8 LOW ENERGY PROTONS
APRIL 1984



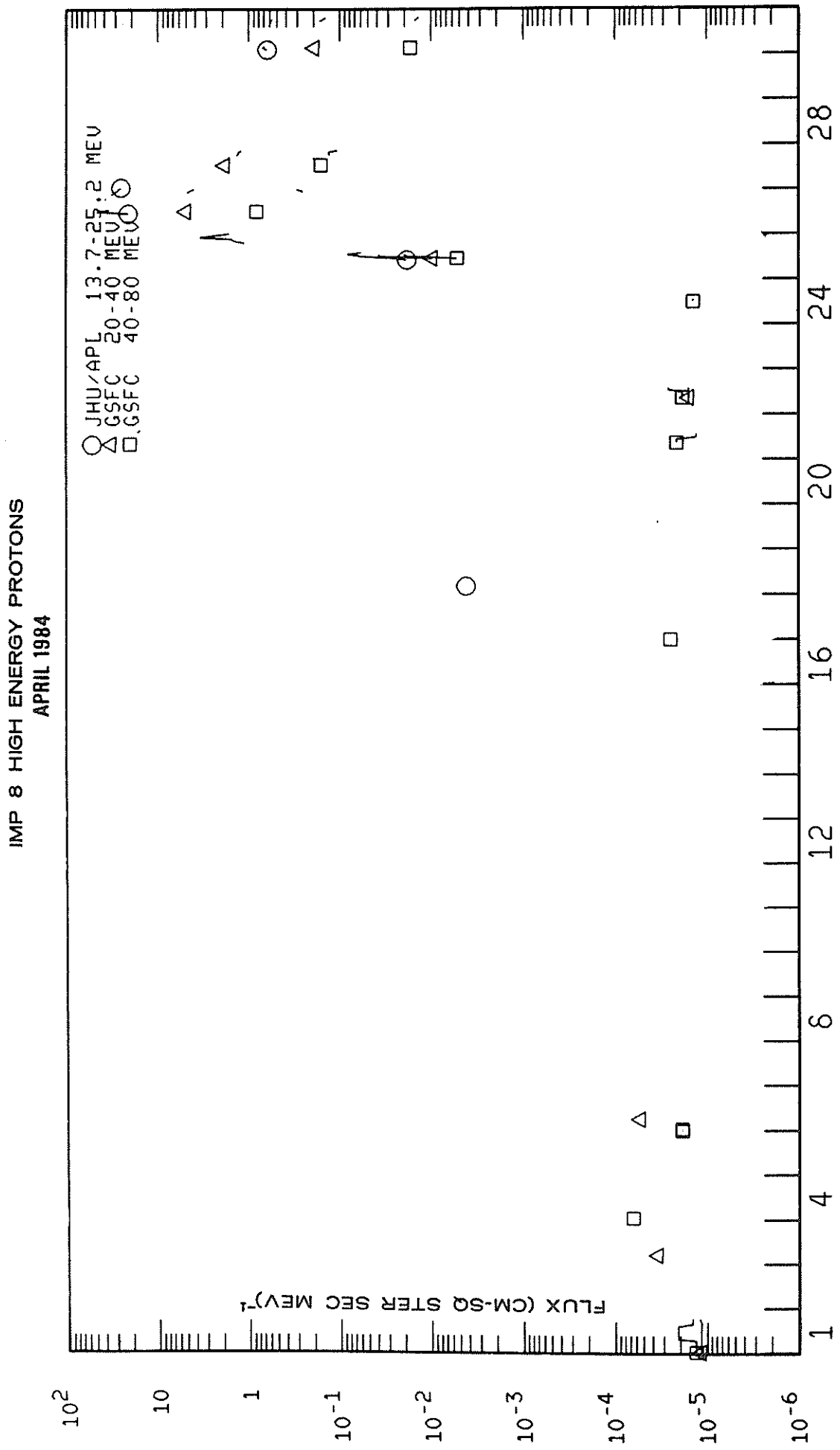
IMP 8 INTERMEDIATE ENERGY PROTONS

APRIL 1984



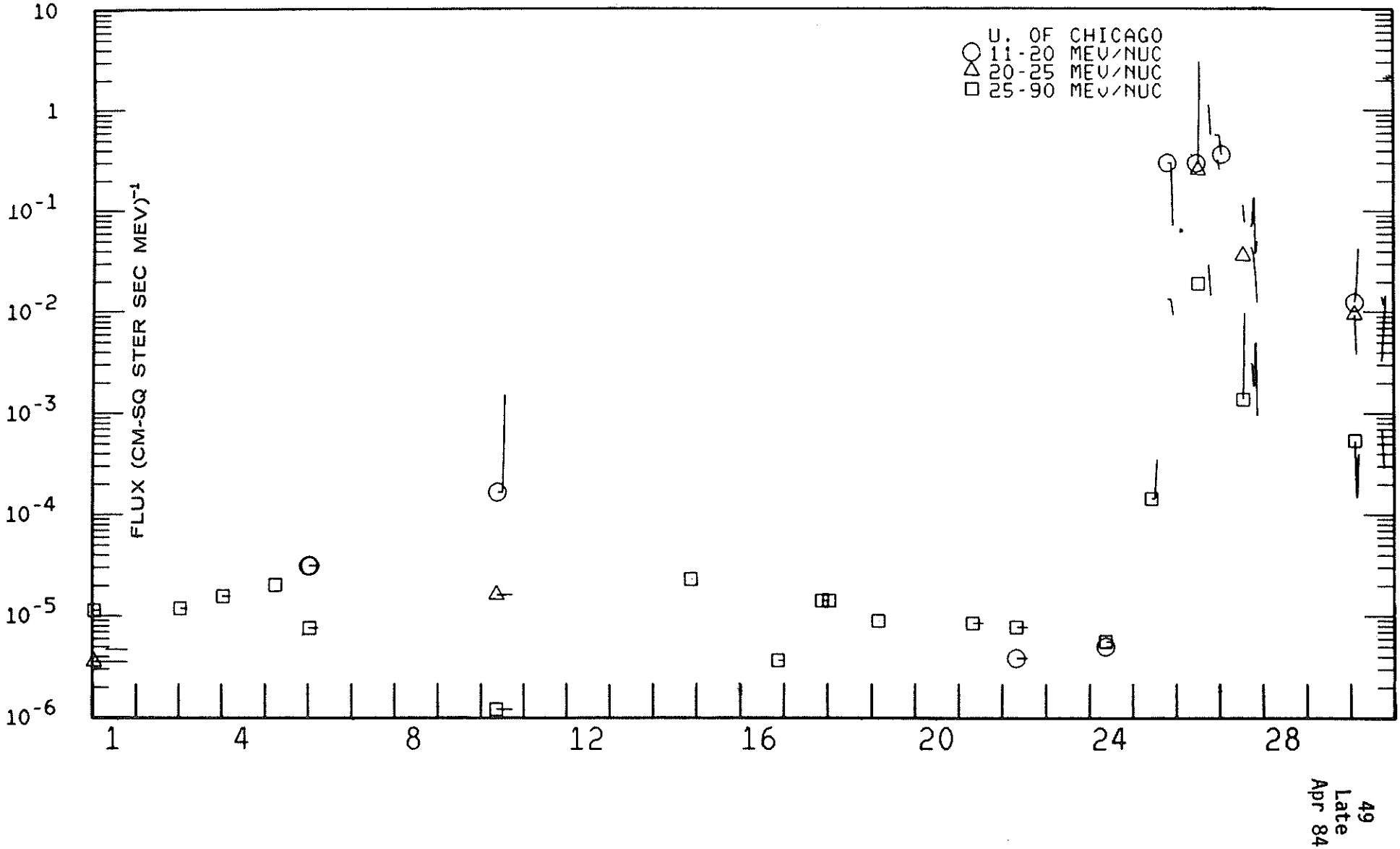
47
Late
Apr 84

48
Late
Apr 84

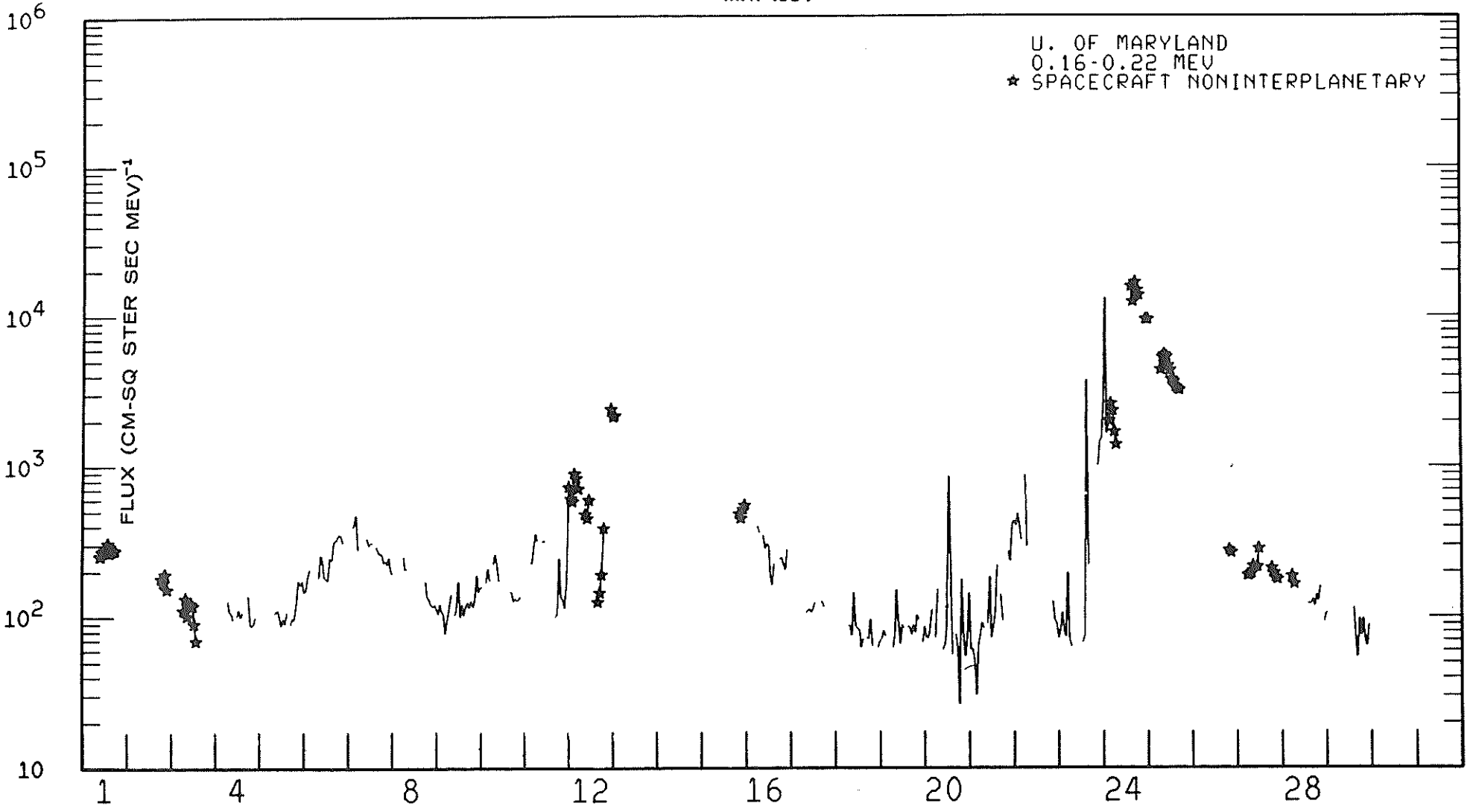


IMP 8 ALPHA PARTICLES

APRIL 1984

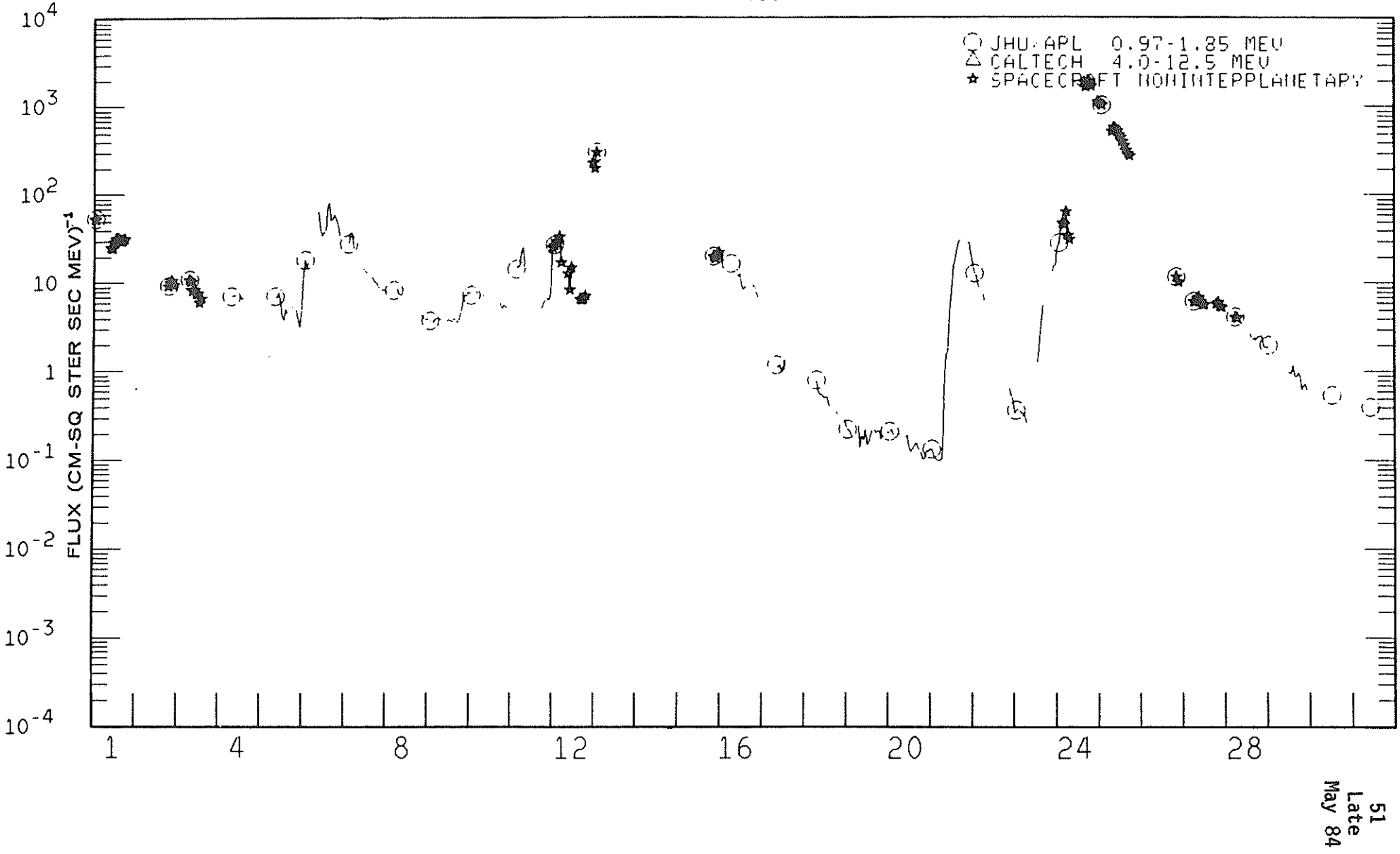


IMP 8 LOW ENERGY PROTONS
MAY 1984

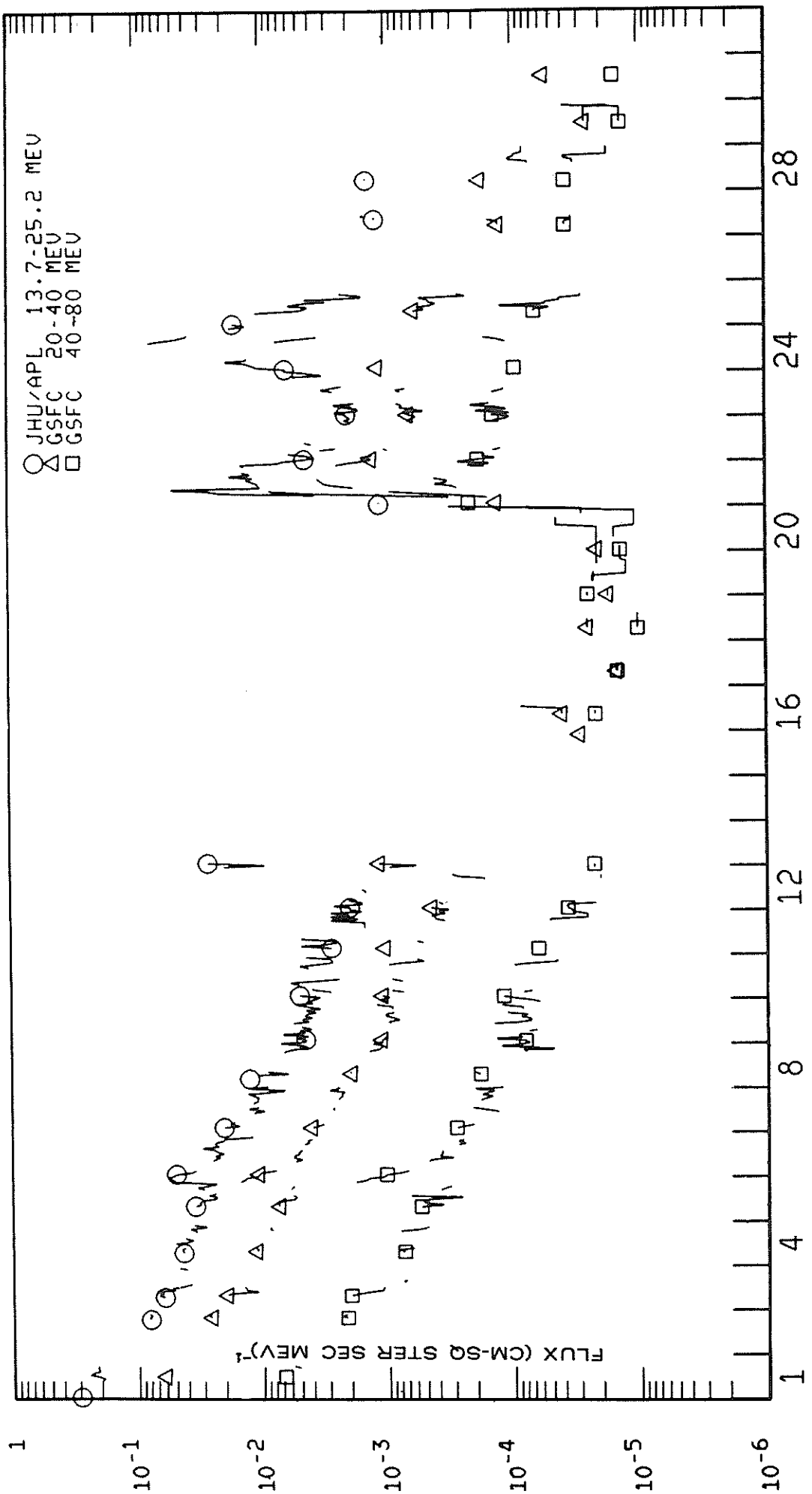


IMP 8 INTERMEDIATE ENERGY PROTONS

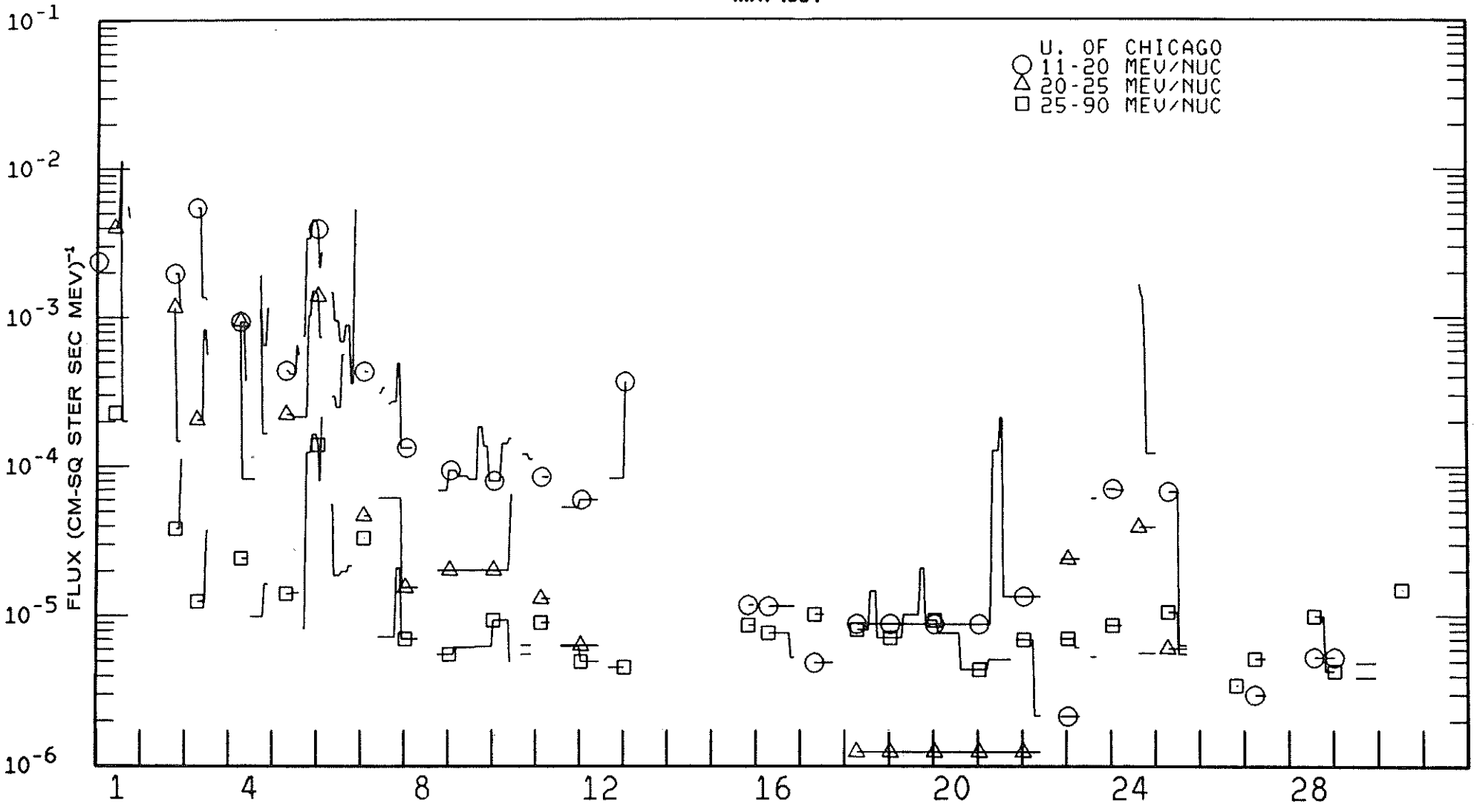
MAY 1984



51
Late
May 84


IMP 8 HIGH ENERGY PROTONS
MAY 1984
JHU/APL 13.7-25.2 MEV
GSFC 20-40 MEV
GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)⁻¹
1
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
1
4
8
12
16
20
24
28

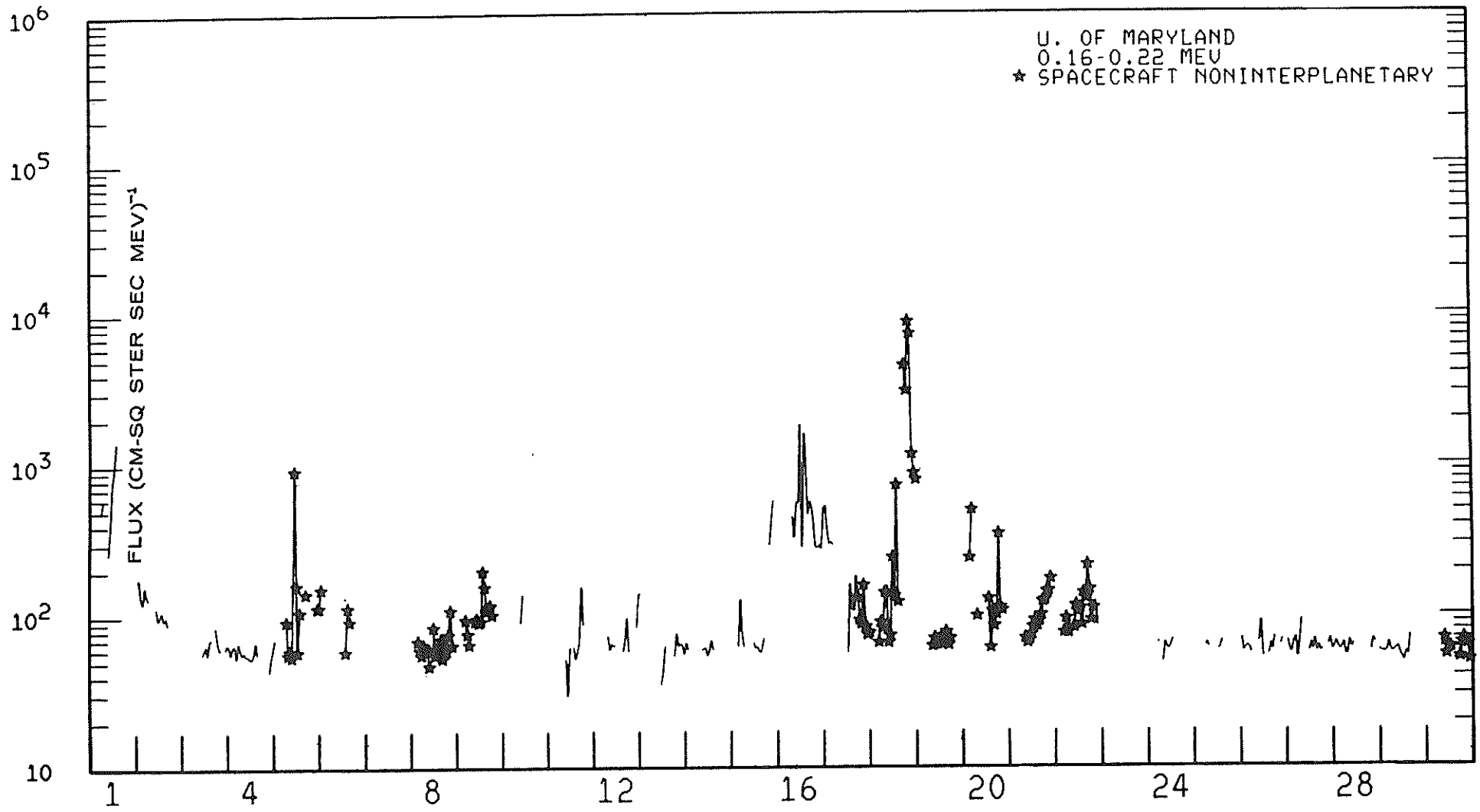
IMP 8 ALPHA PARTICLES
MAY 1984

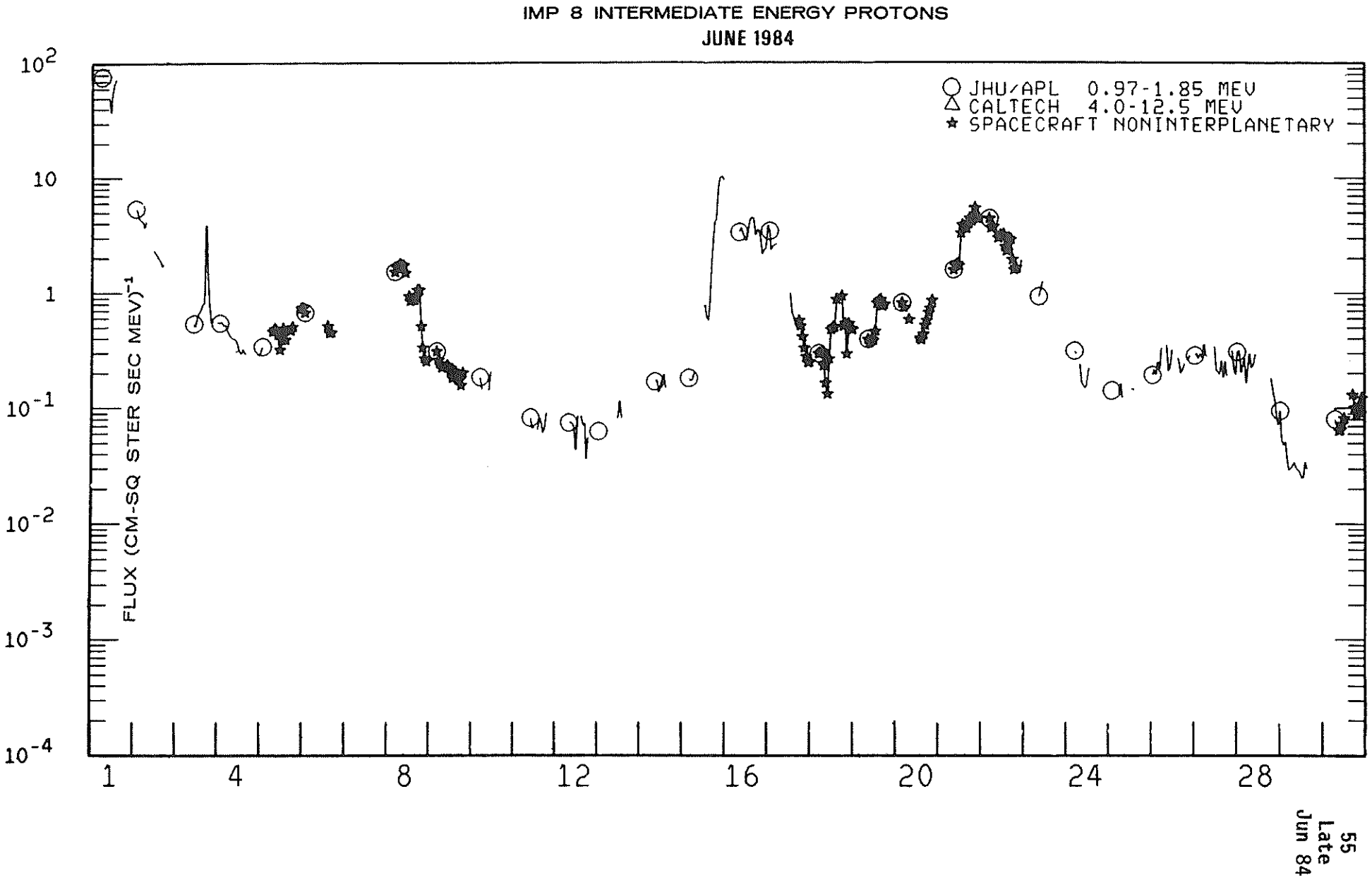


53
Late
May 84

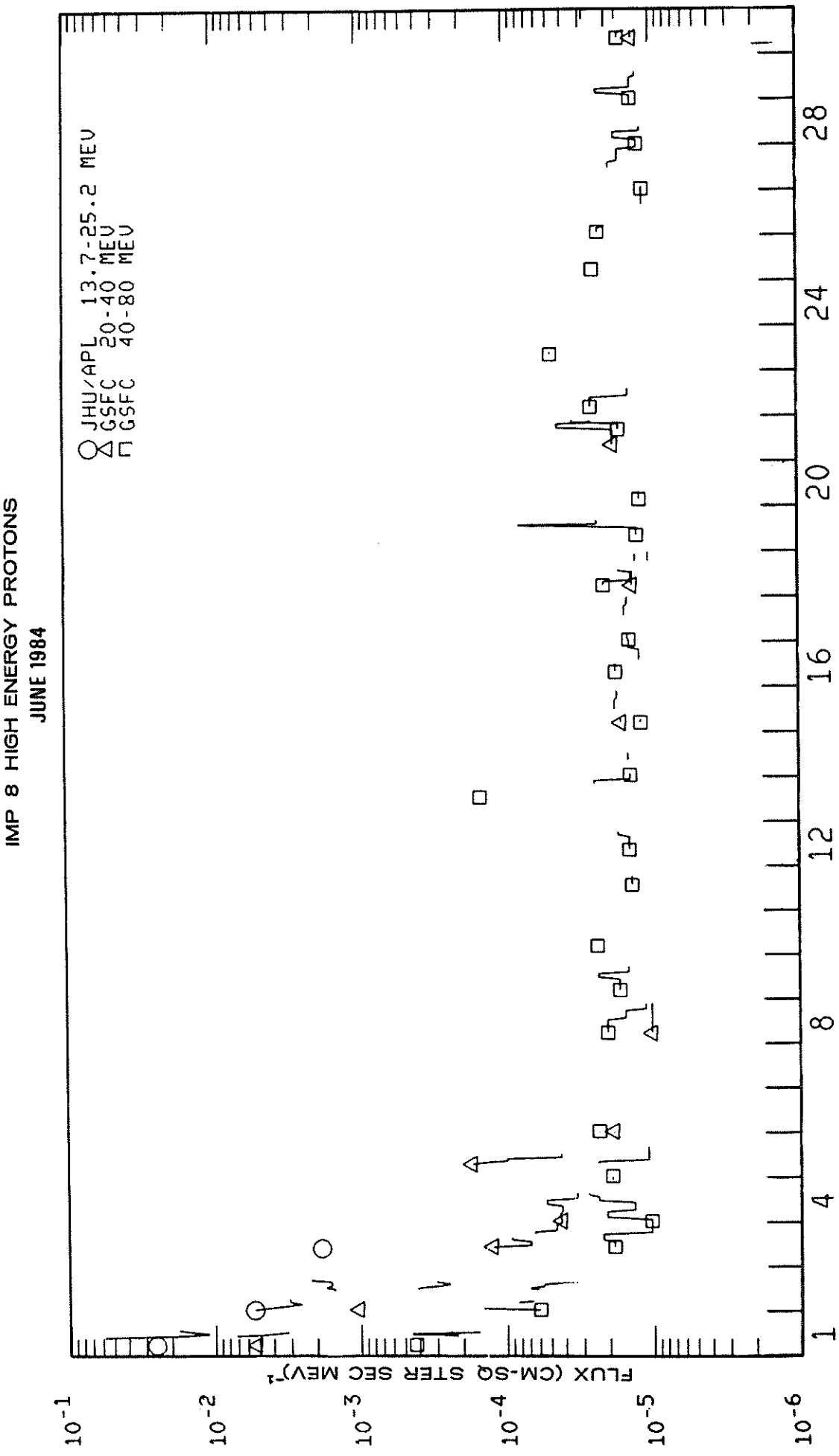
IMP 8 LOW ENERGY PROTONS

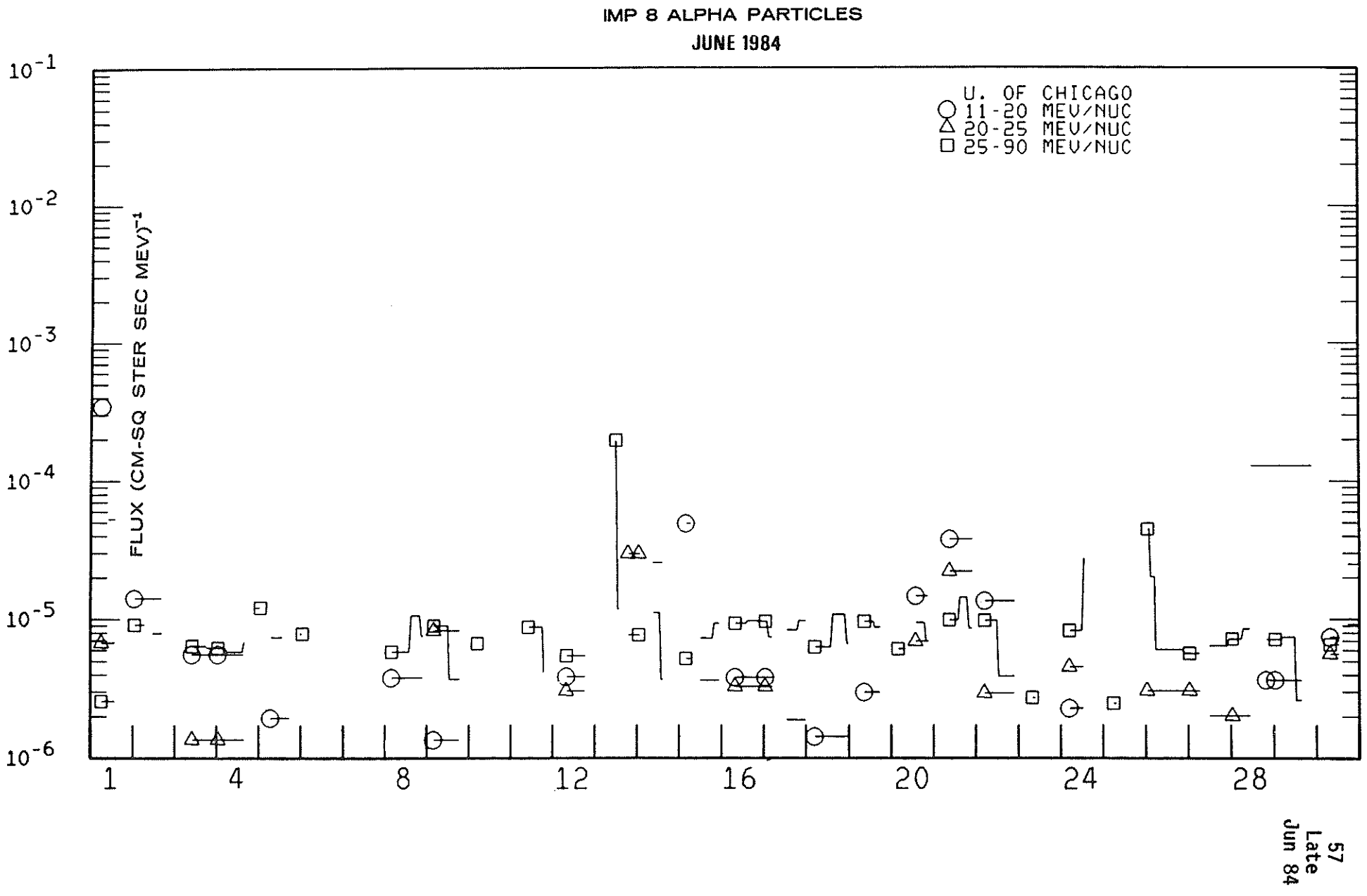
JUNE 1984




IMP 8 INTERMEDIATE ENERGY PROTONS
JUNE 1984
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)⁻¹
10²
10
1
10⁻¹
10⁻²
10⁻³
10⁻⁴
1
4
8
12
16
20
24
28
55
Late
Jun 84

56
Late
Jun 84

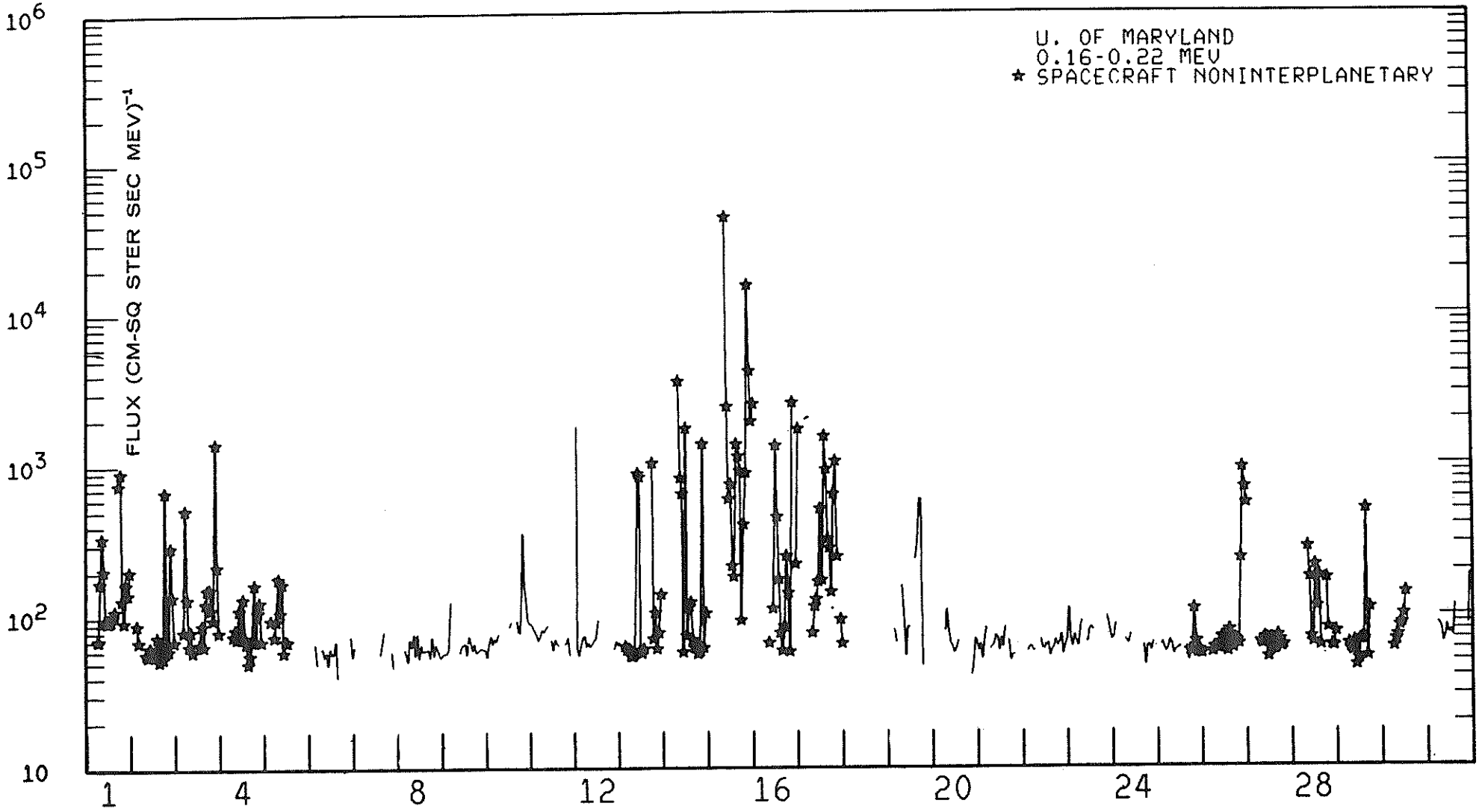



IMP 8 ALPHA PARTICLES
JUNE 1984
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)⁻¹
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
1
4
8
12
16
20
24
28
57
Late
Jun 84

58
Late
Jul 84

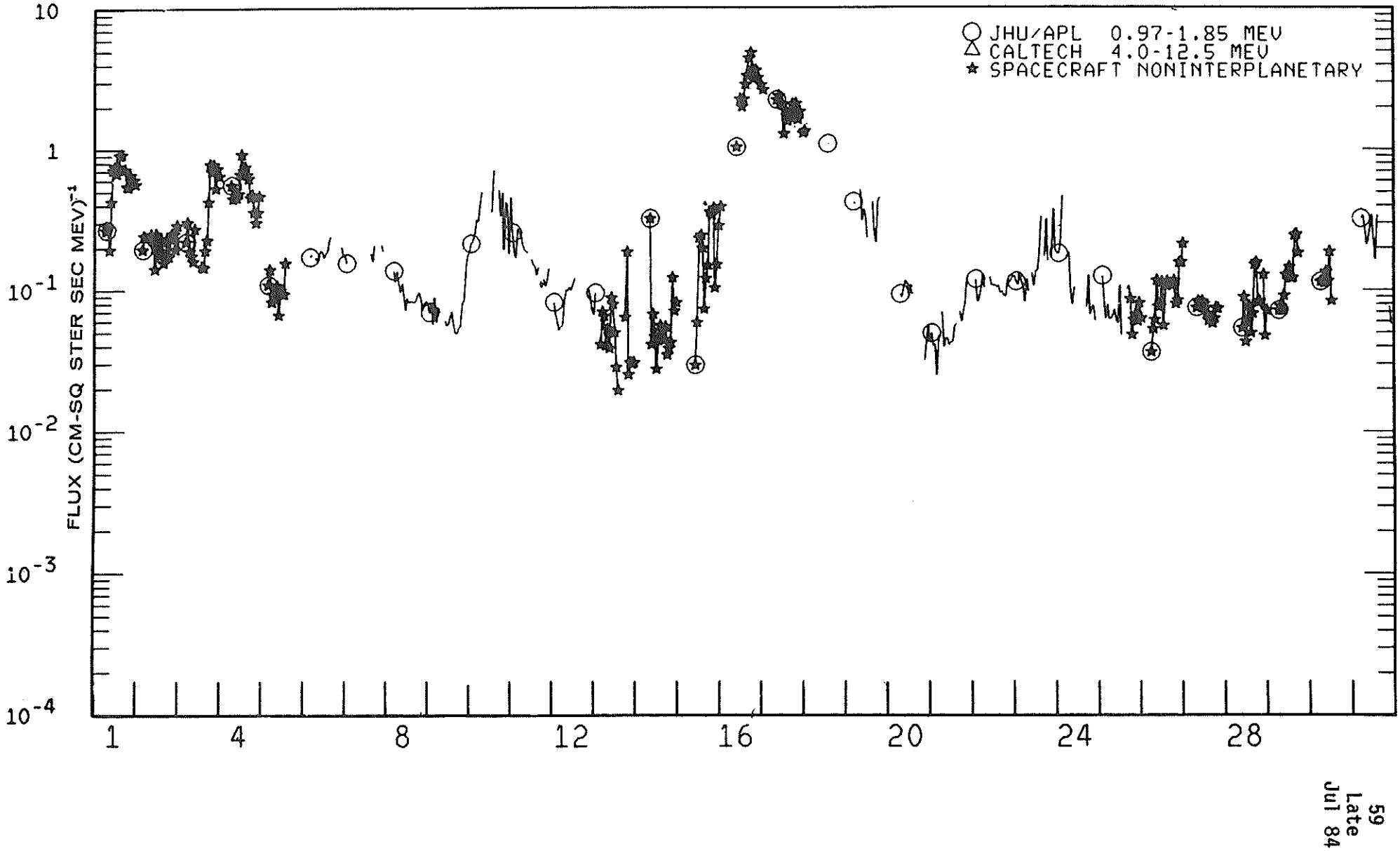
IMP 8 LOW ENERGY PROTONS

JULY 1984



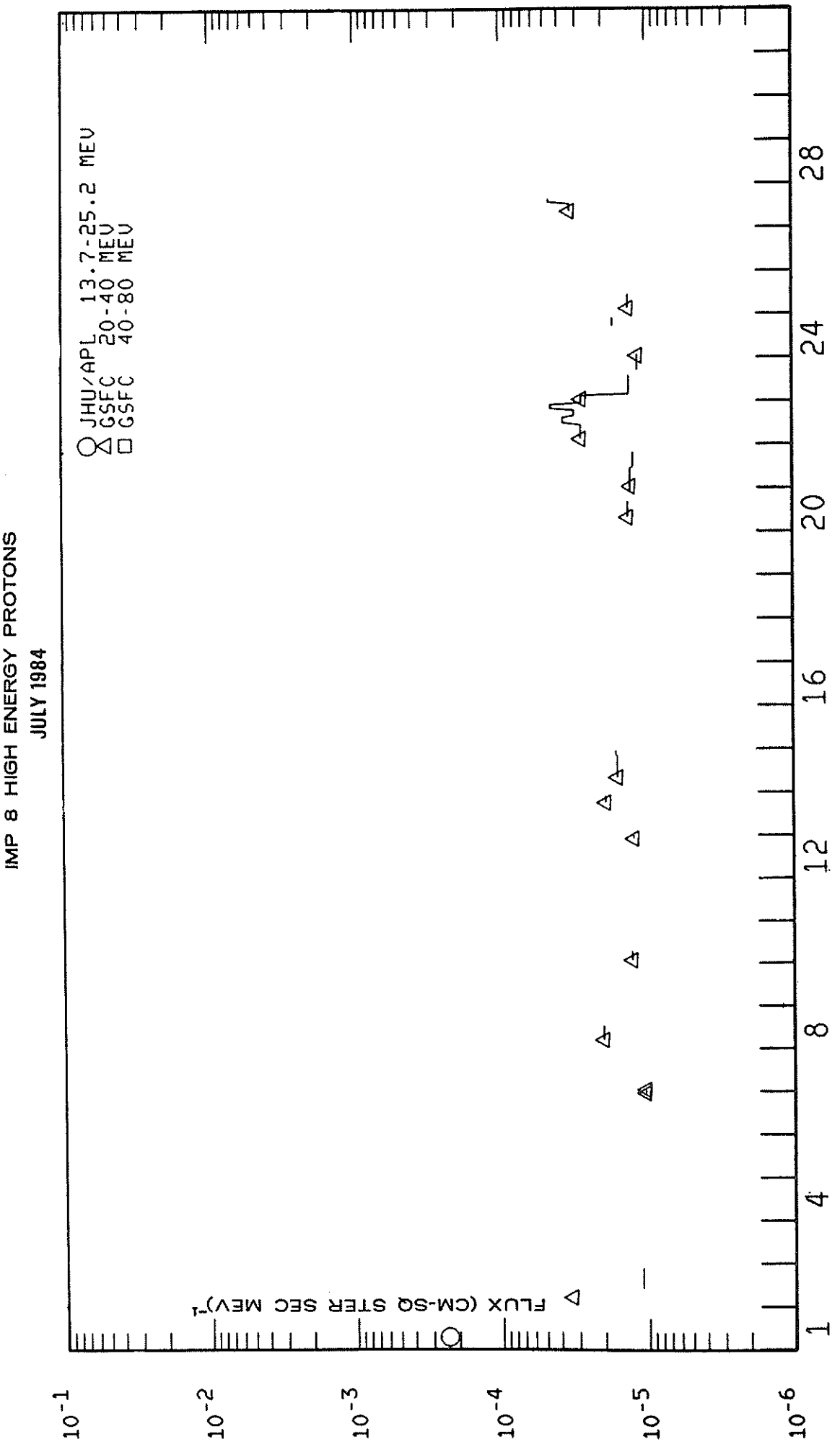
IMP 8 INTERMEDIATE ENERGY PROTONS

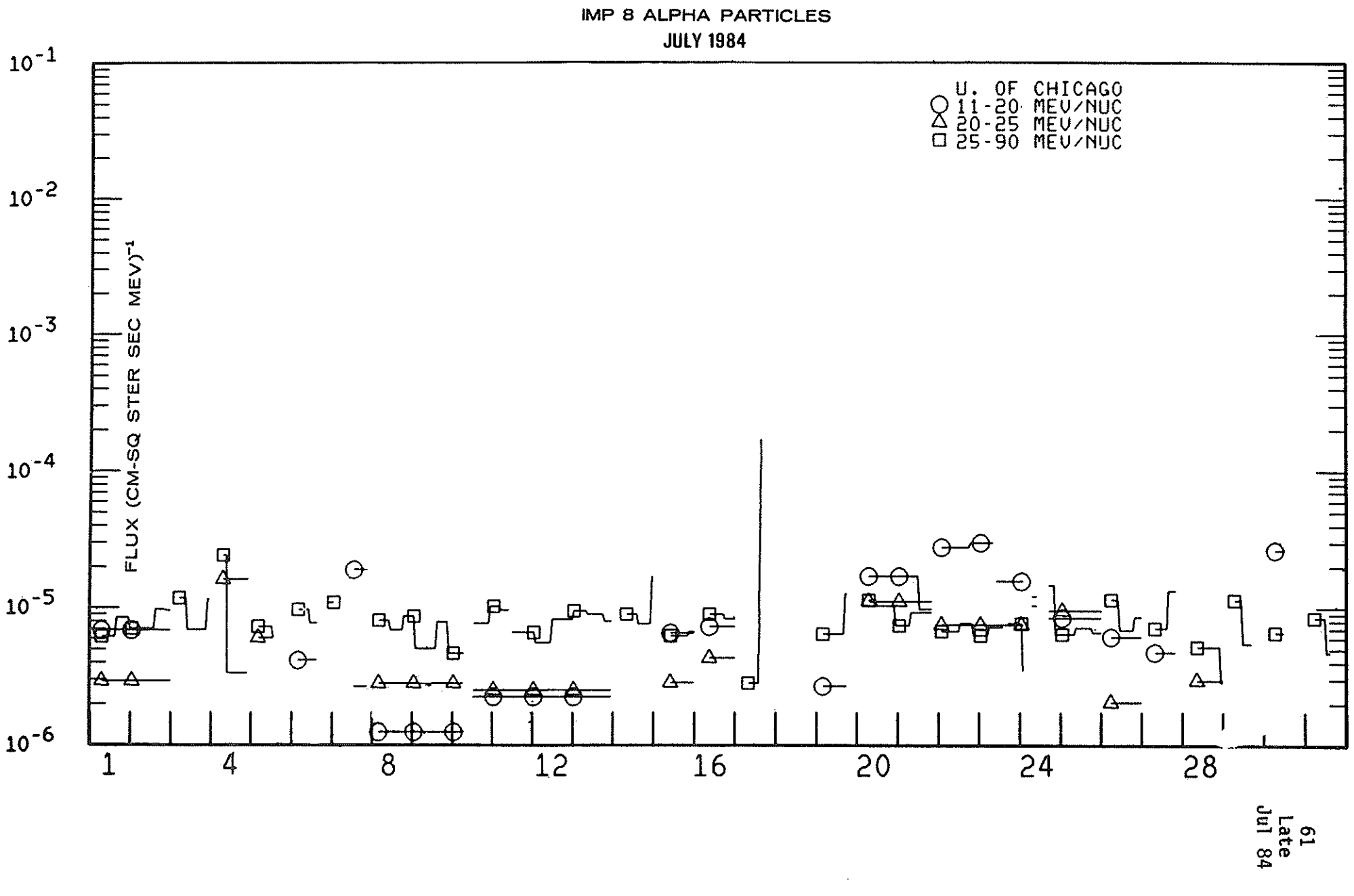
JULY 1984



59
Late
Jul 84

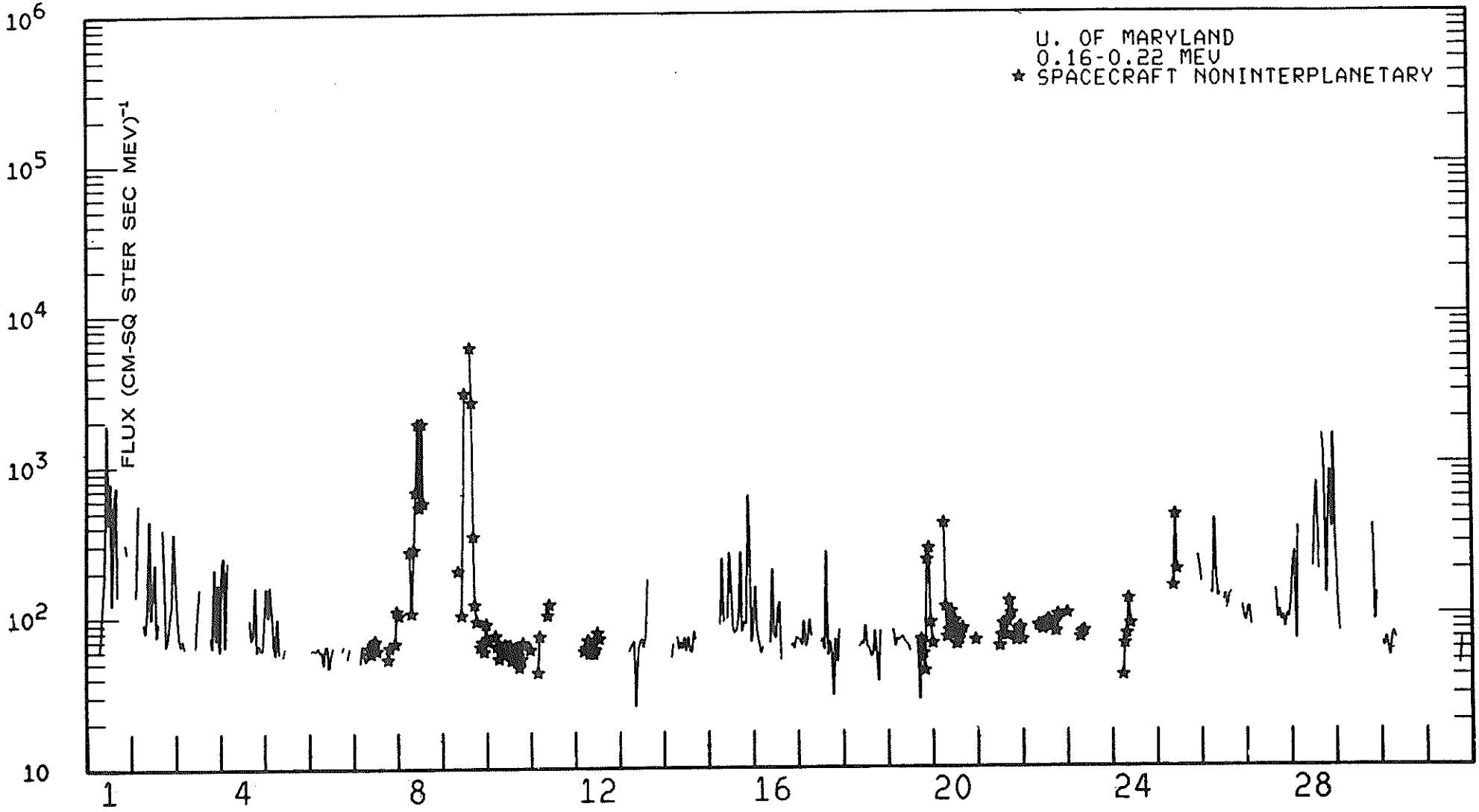
60
Late
Jul 84




IMP 8 ALPHA PARTICLES
JULY 1984
U. OF CHICAGO
11-20 MEV/NUC
20-25 MEV/NUC
25-90 MEV/NUC
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
61
Late
Jul 84

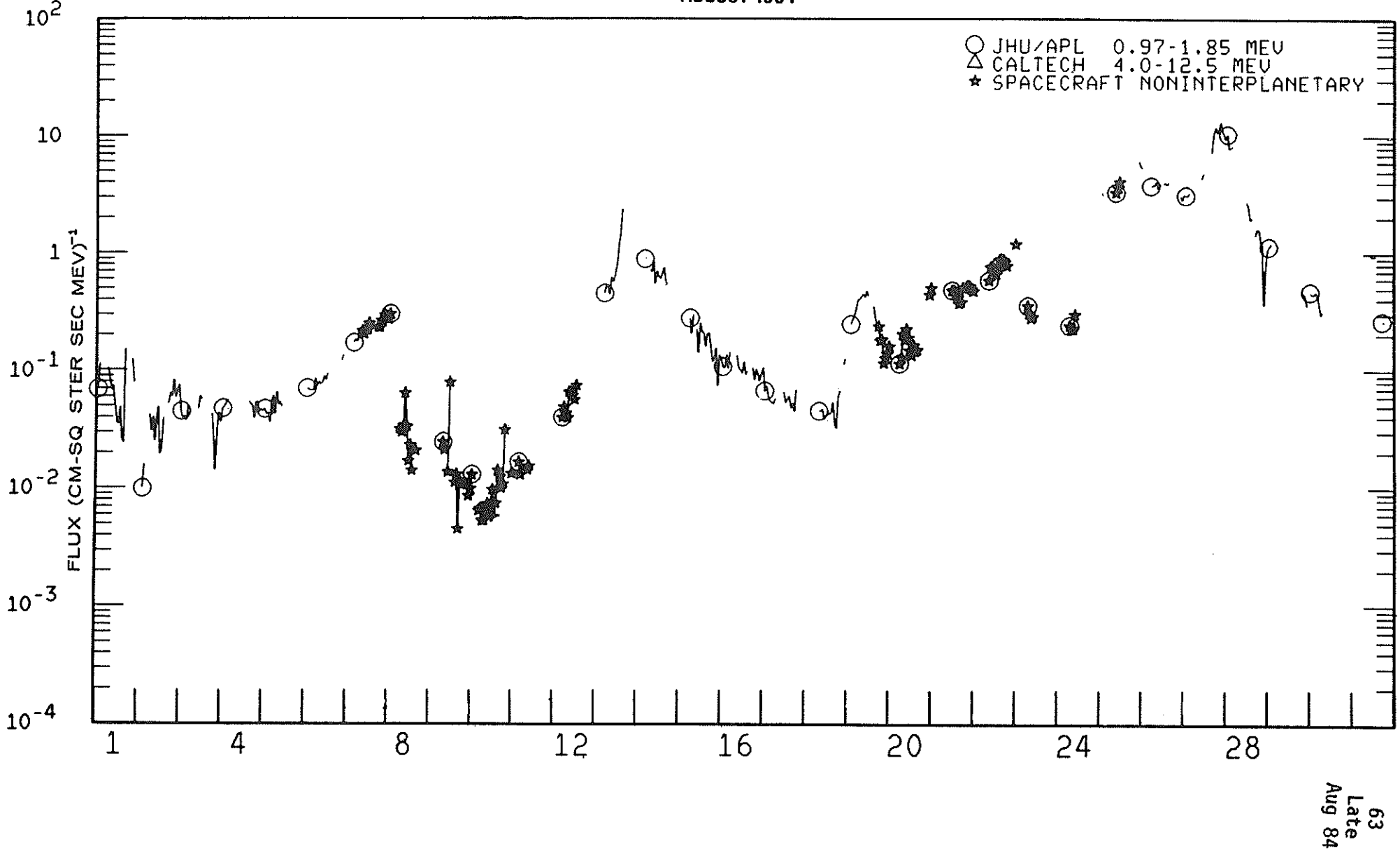
IMP 8 LOW ENERGY PROTONS

AUGUST 1984



IMP 8 INTERMEDIATE ENERGY PROTONS

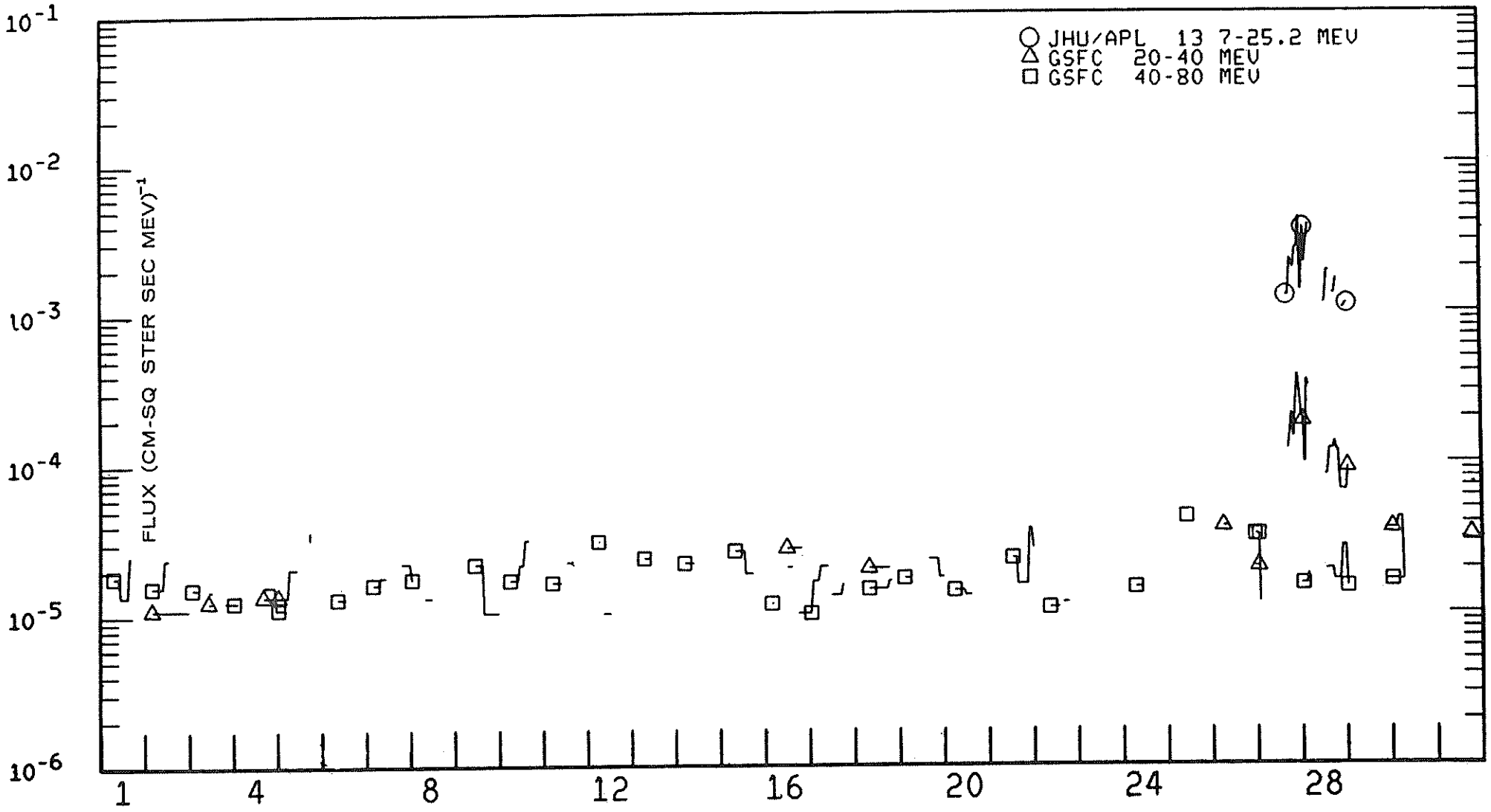
AUGUST 1984



63
Late
Aug 84

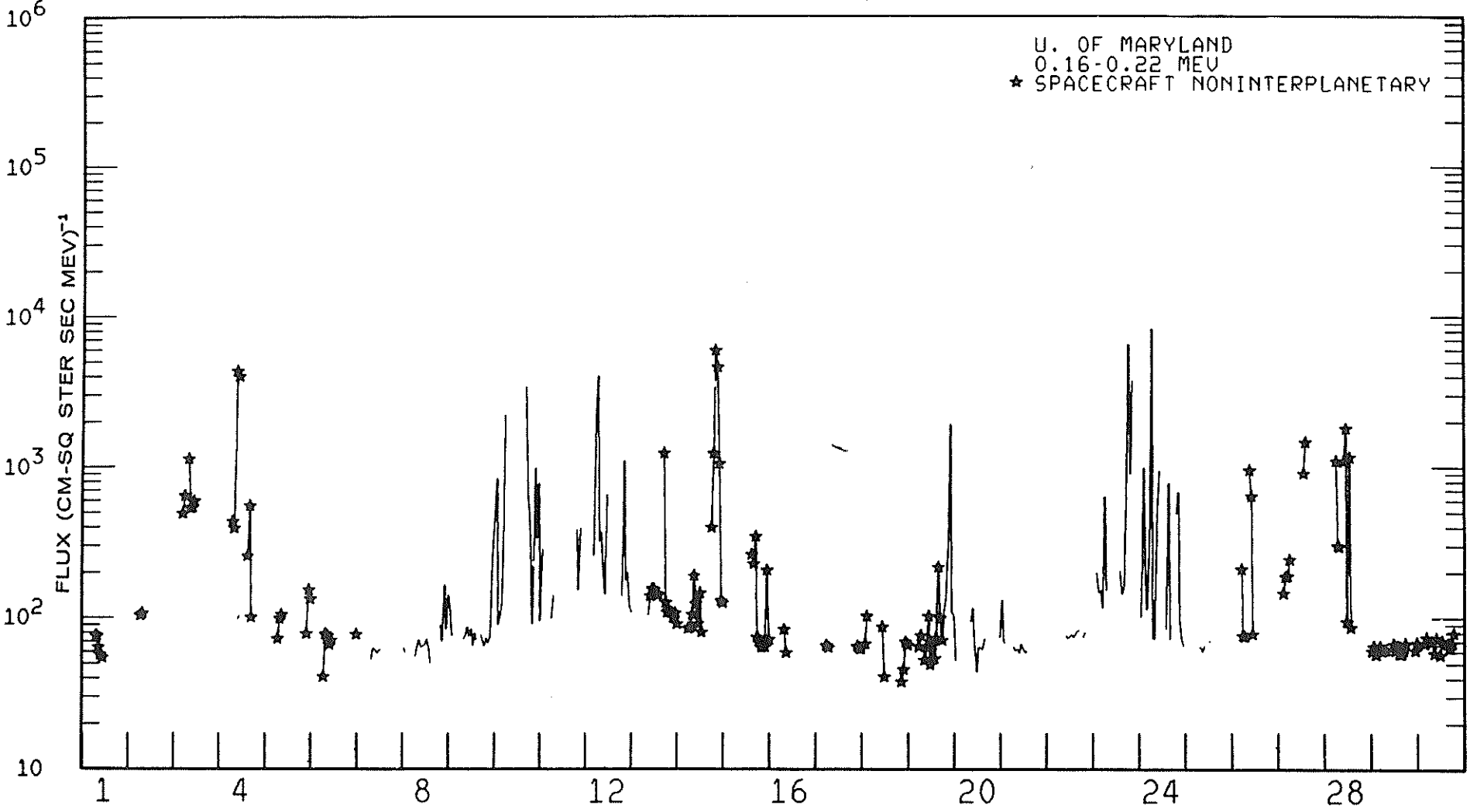
64
Late
Aug 84

IMP 8 HIGH ENERGY PROTONS
AUGUST 1984

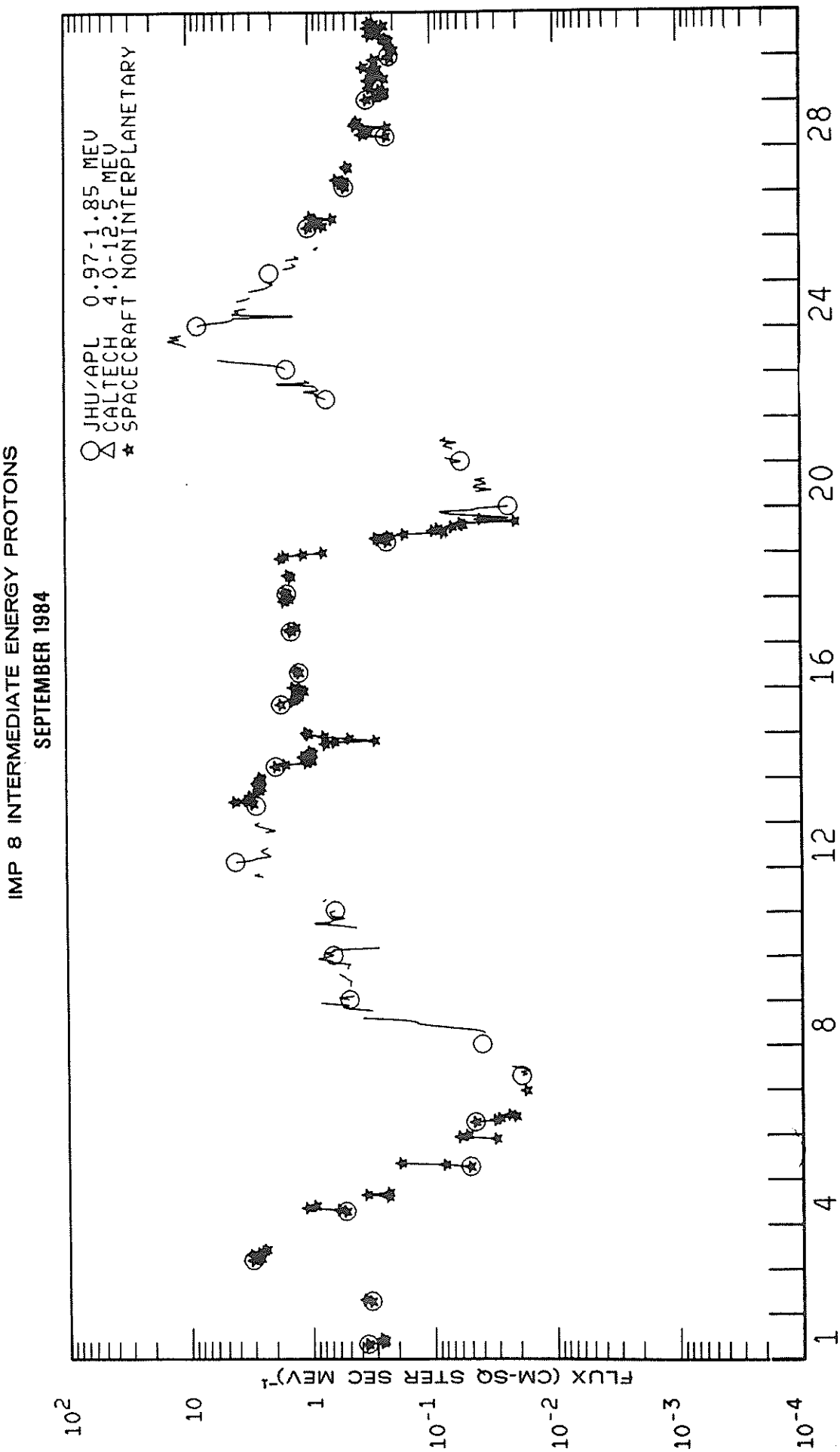


IMP 8 LOW ENERGY PROTONS

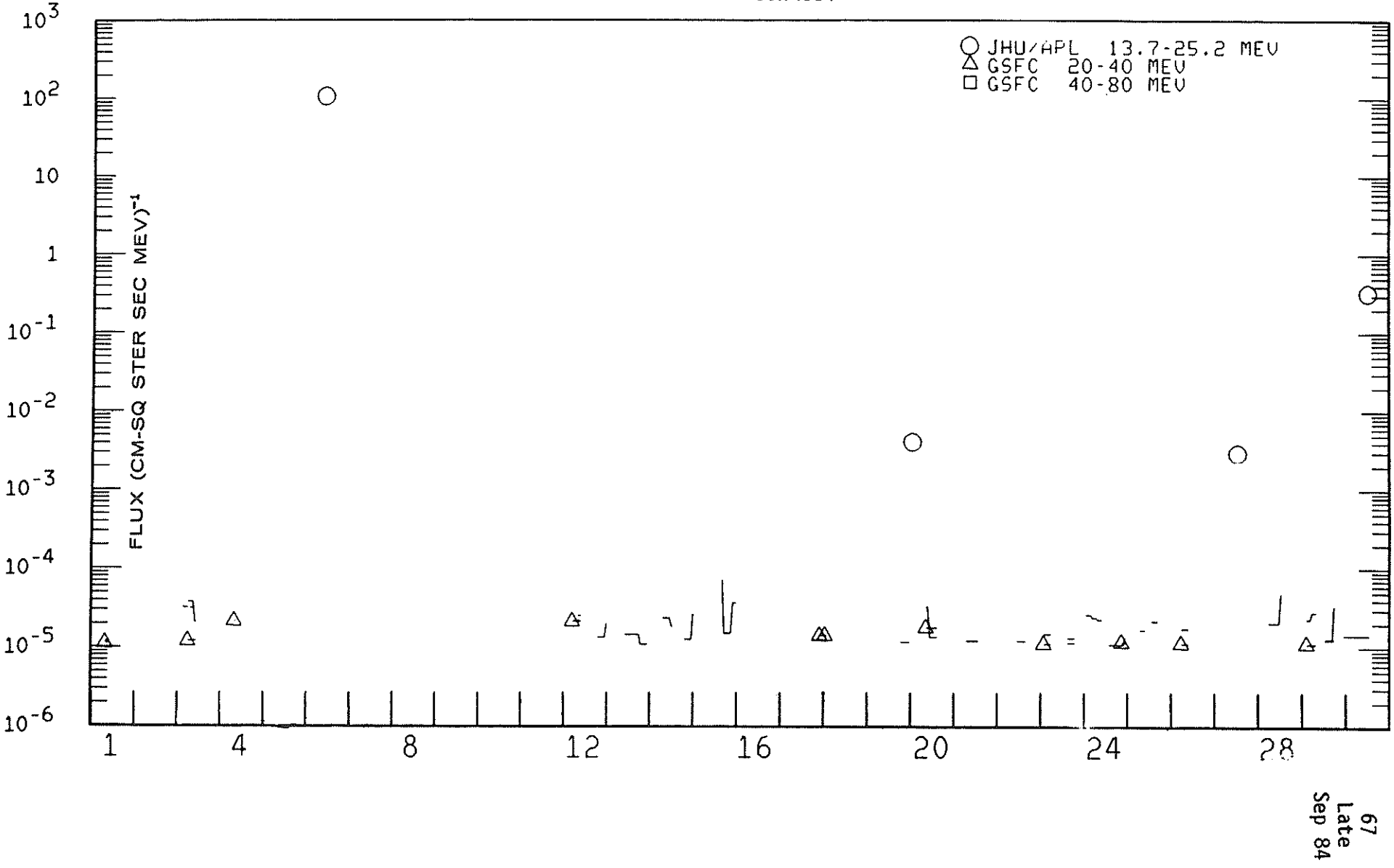
SEPTEMBER 1984



65
Late
Sep 84

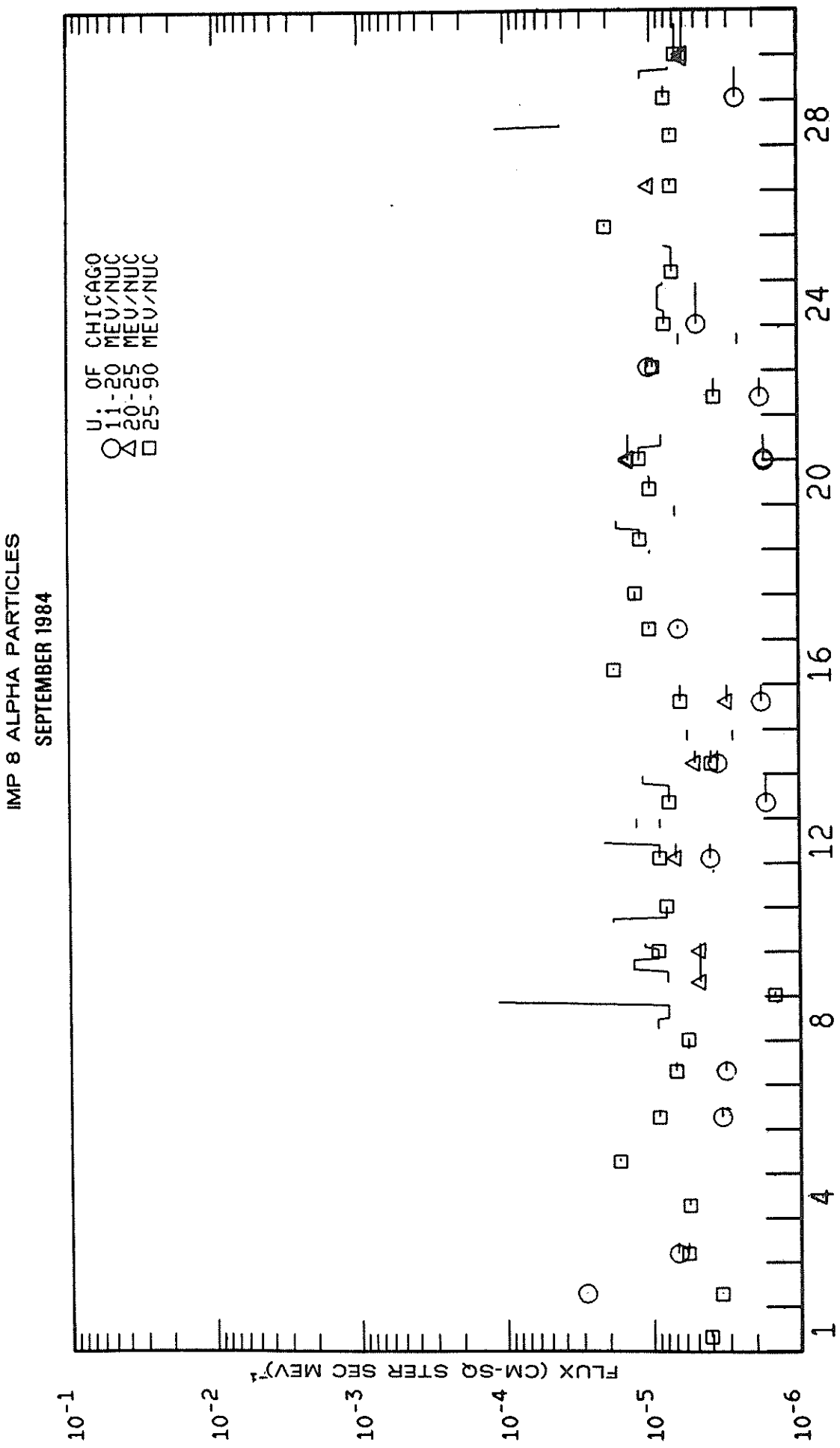

IMP 8 INTERMEDIATE ENERGY PROTONS
SEPTEMBER 1984
JHU/APL 0.97-1.85 MEV
CALTECH 4.0-12.5 MEV
SPACECRAFT NONINTERPLANETARY
FLUX (CM-SQ STER SEC MEV)-1
10^2
10
1
10^-1
10^-2
10^-3
10^-4
1
4
8
12
16
20
24
28

IMP 8 HIGH ENERGY PROTONS
SEPTEMBER 1984



67
Late
Sep 84

68
Late
Sep 84



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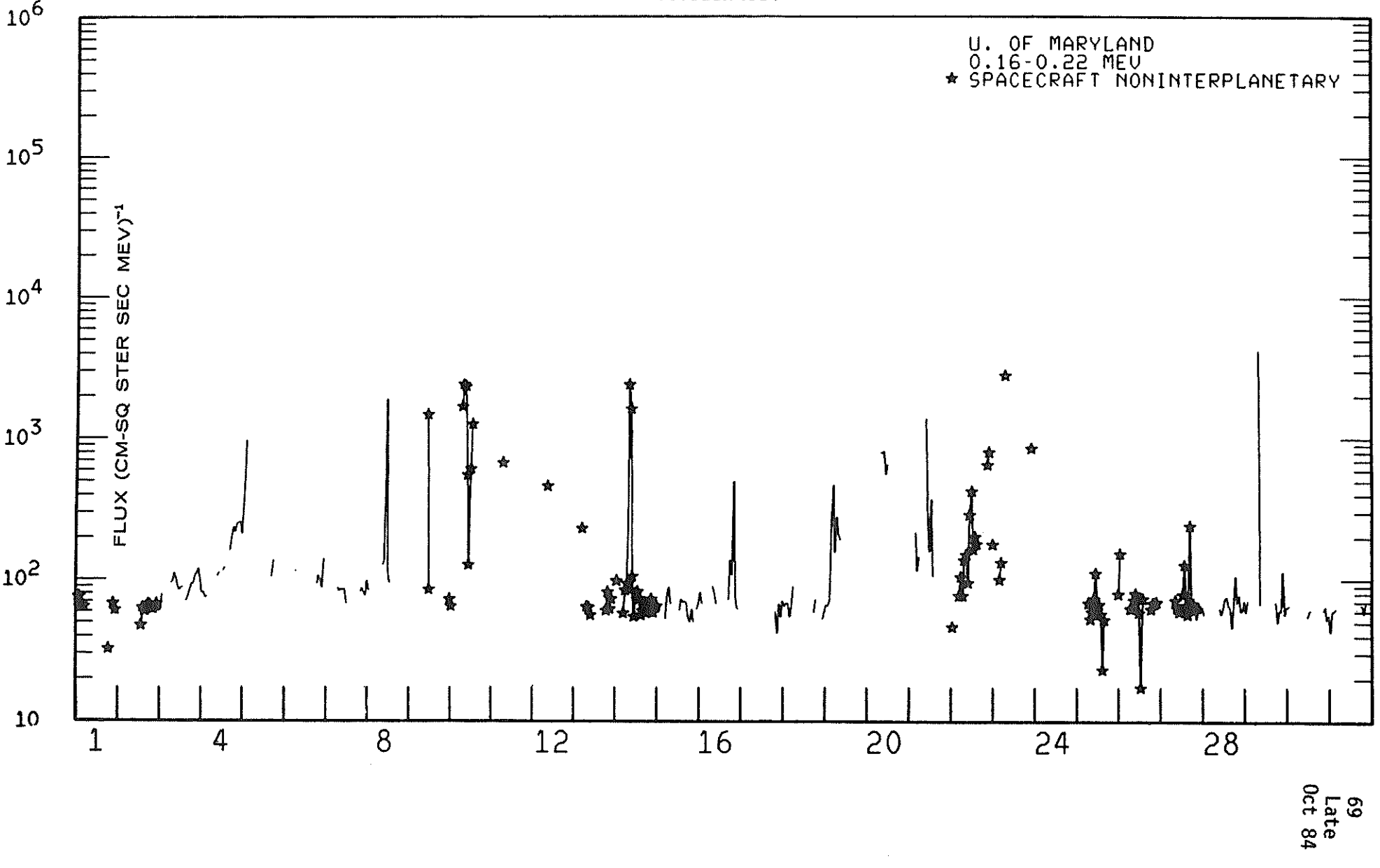
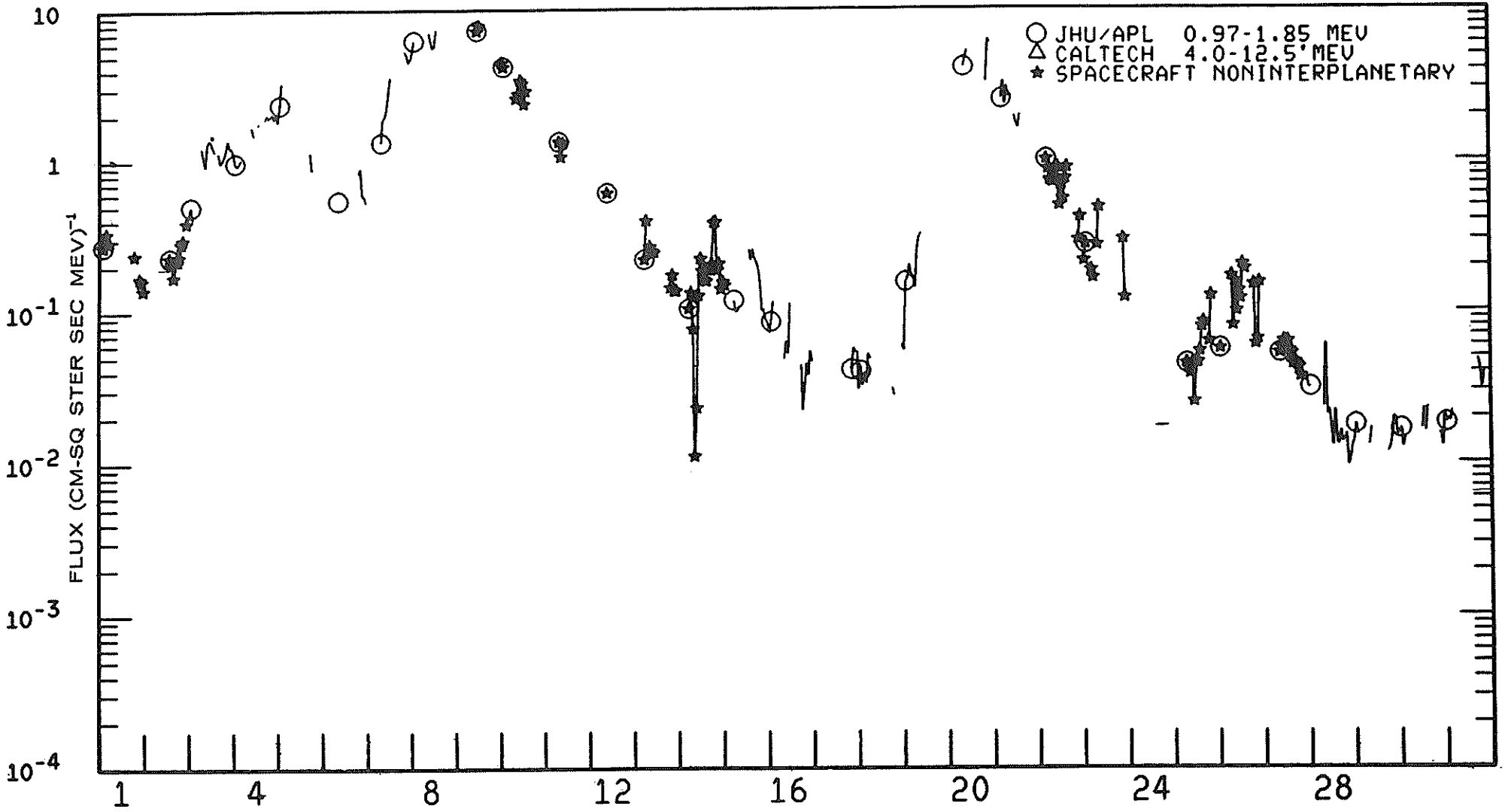
OCTOBER 1984



70
Late
Oct 84

IMP 8 INTERMEDIATE ENERGY PROTONS
OCTOBER 1984



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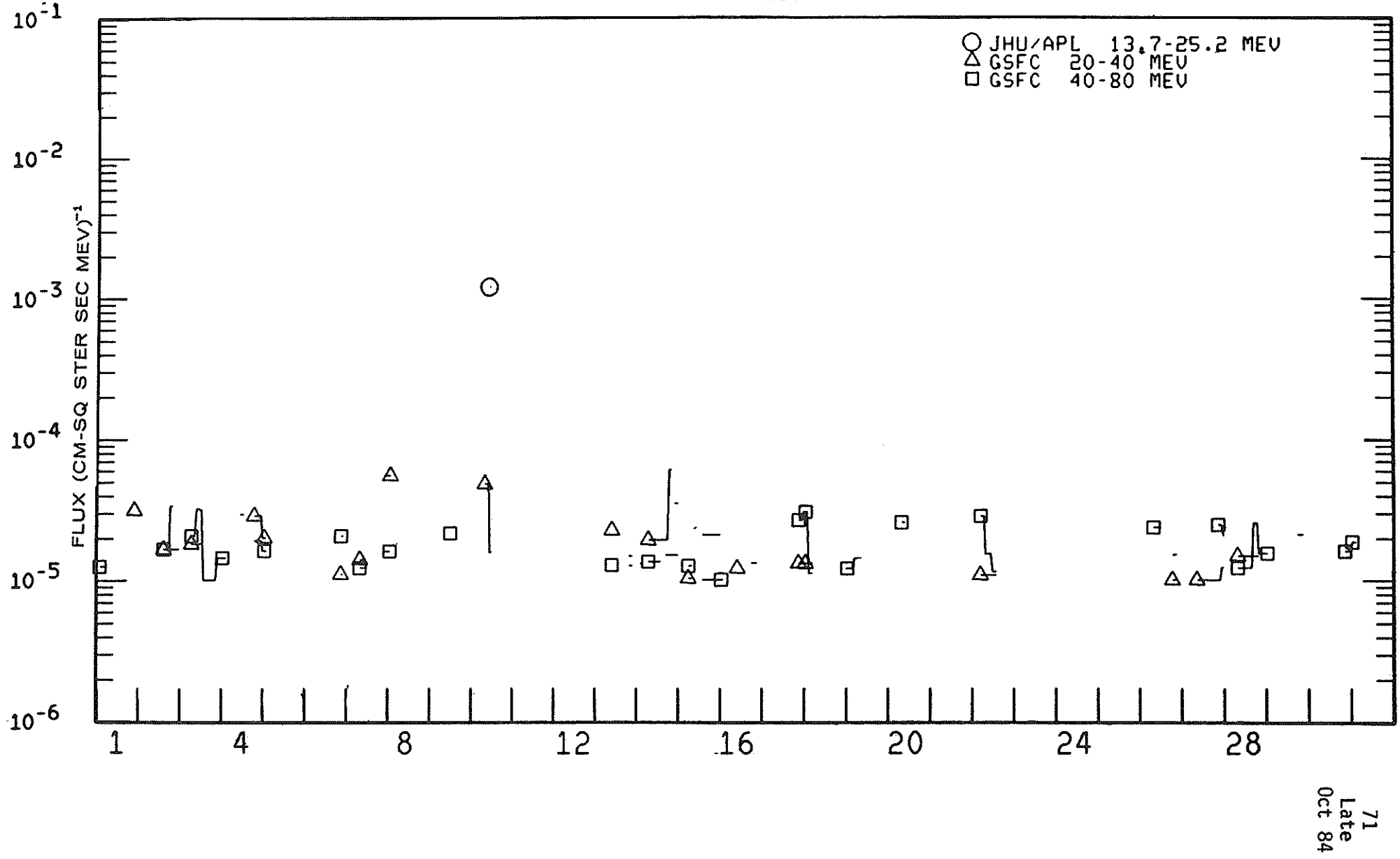
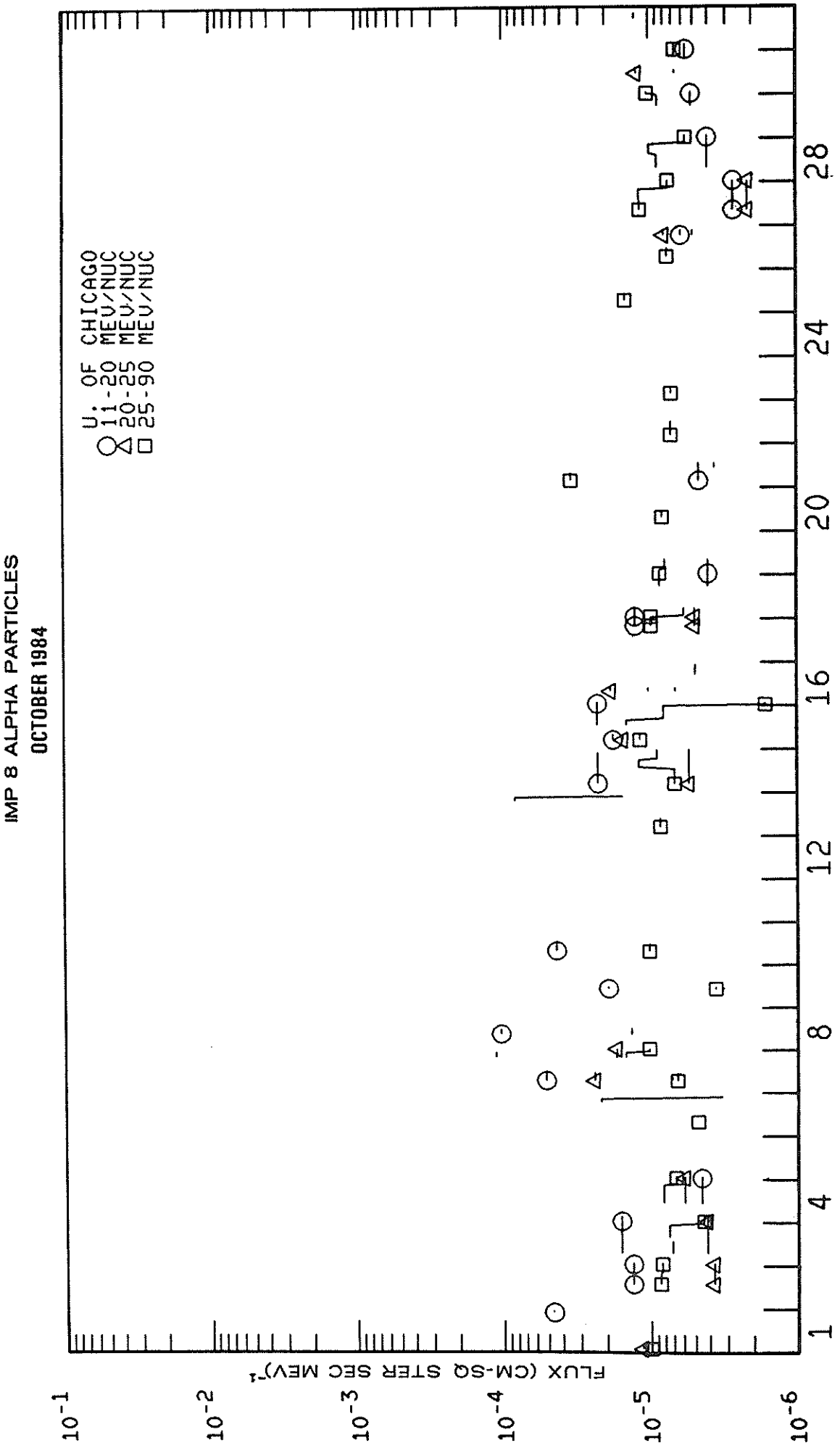
OCTOBER 1984



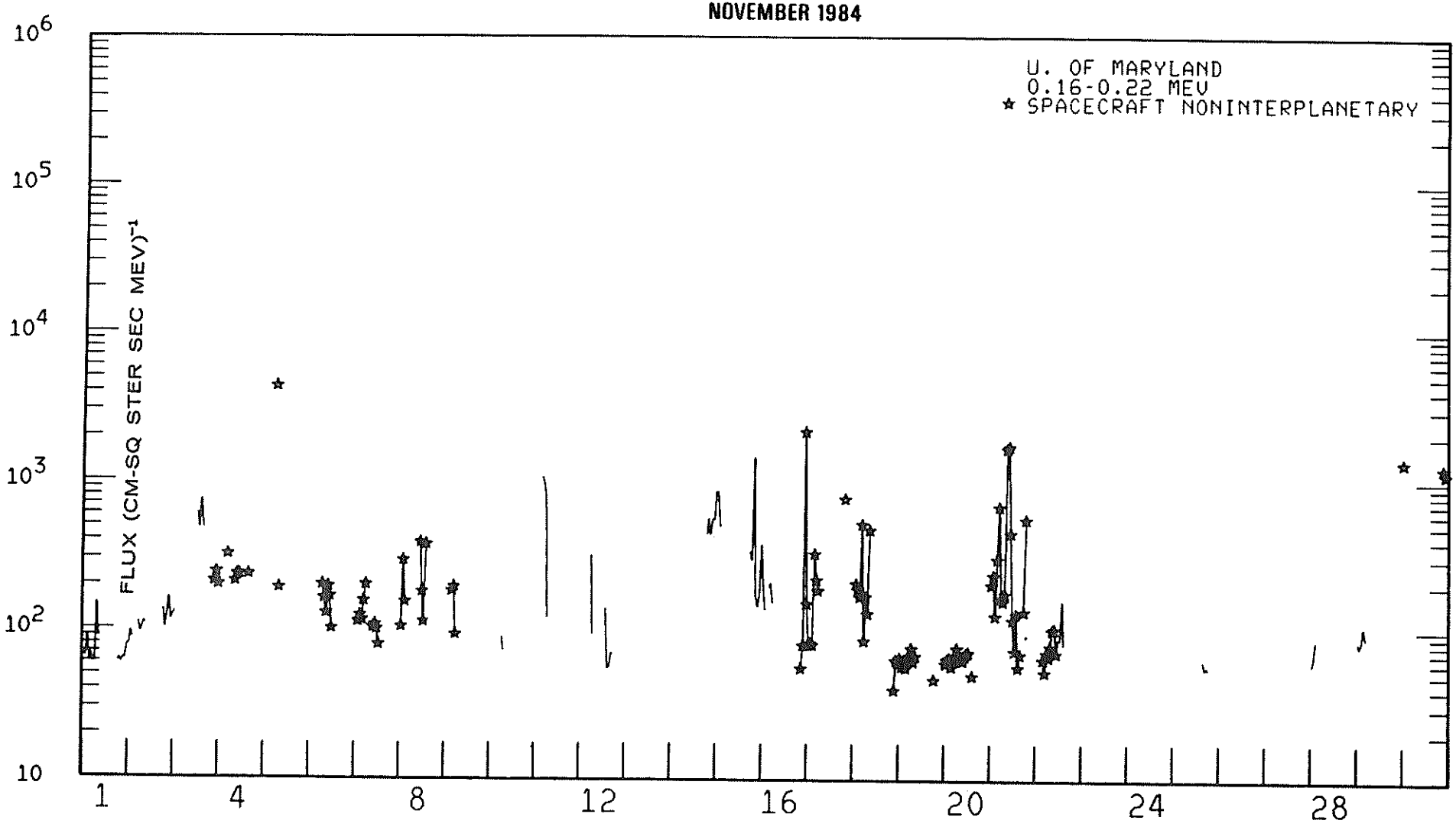
71
Late
Oct 84

72
Late
Oct 84



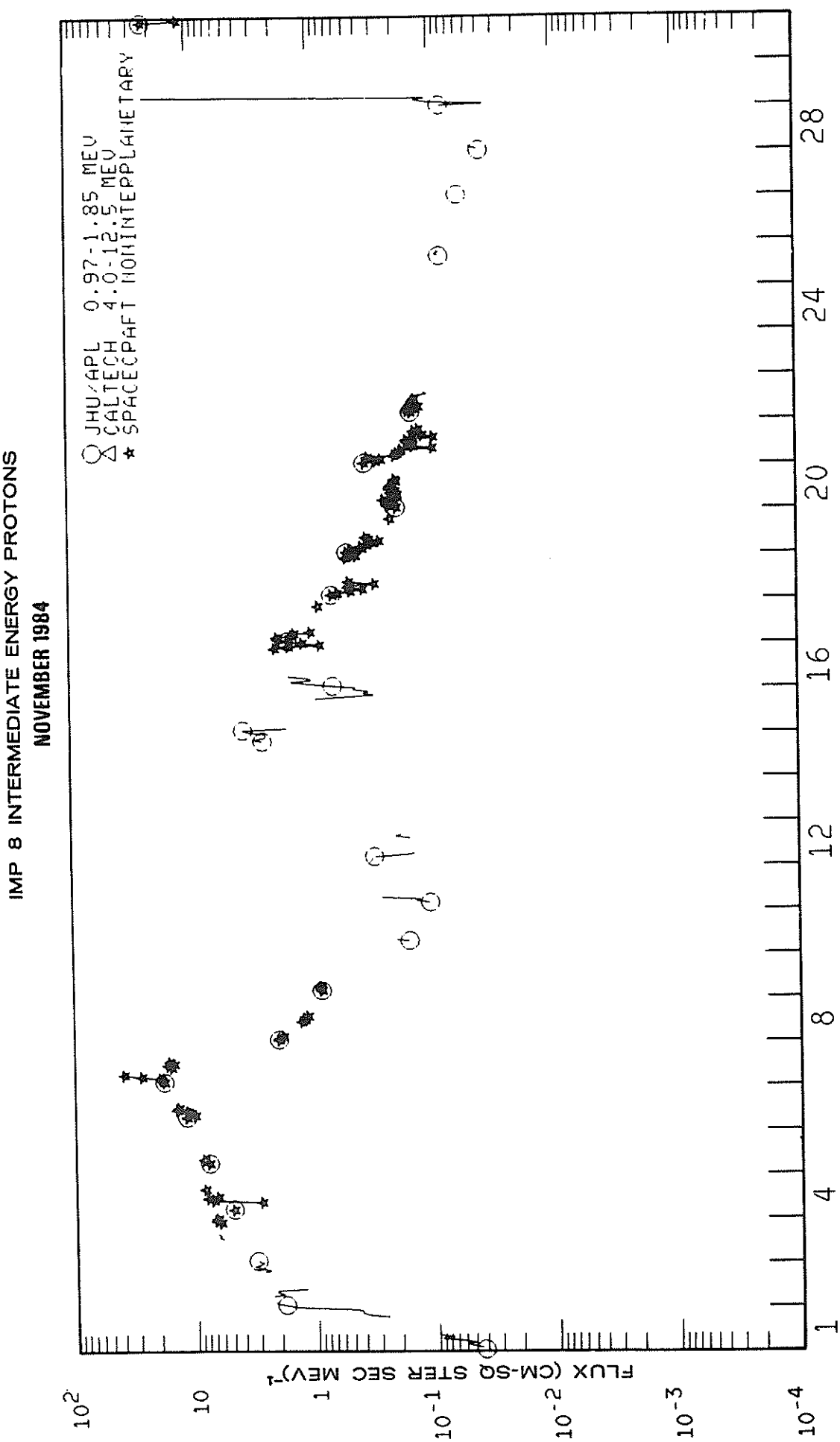
IMP 8 LOW ENERGY PROTONS

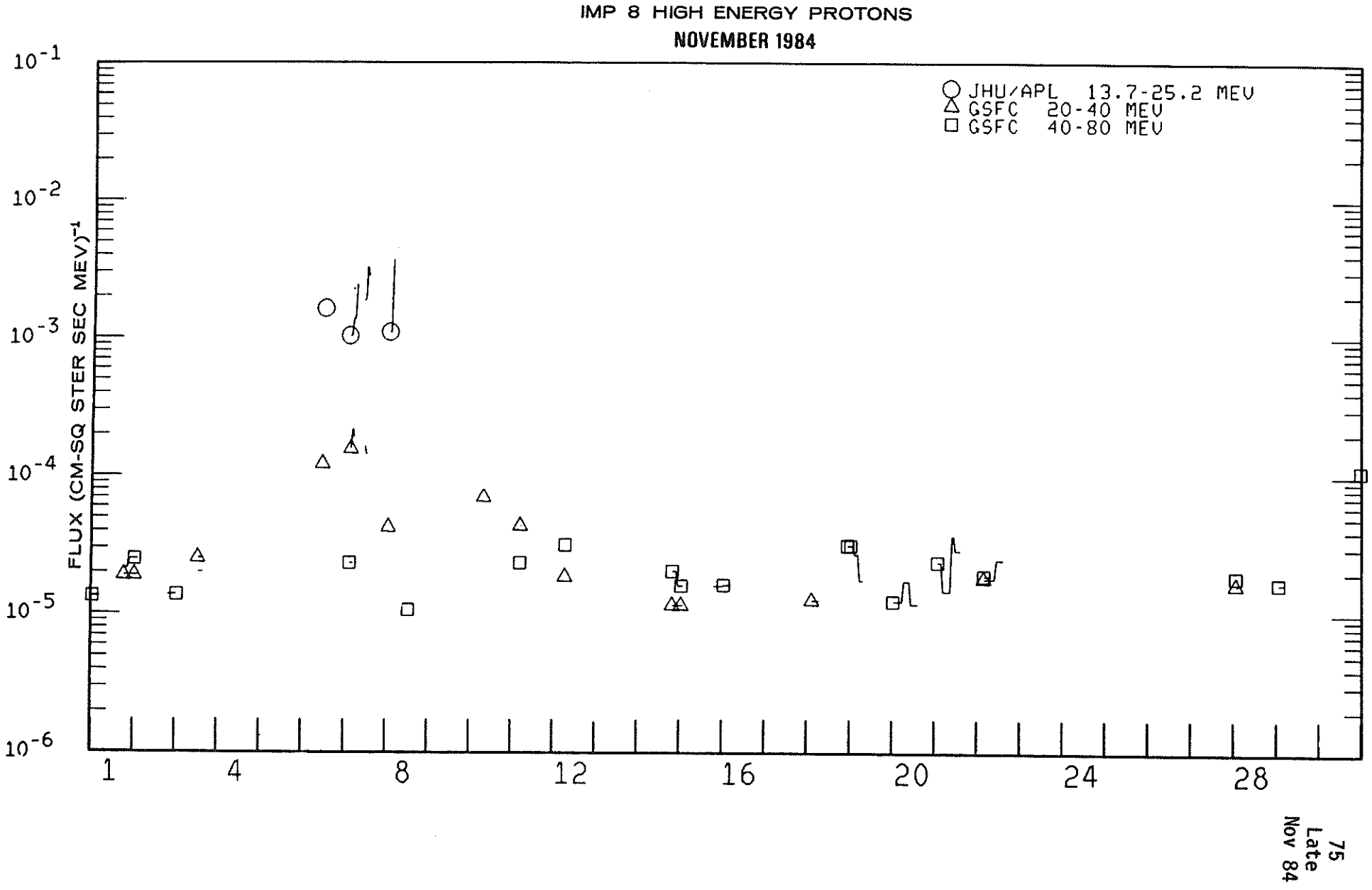
NOVEMBER 1984



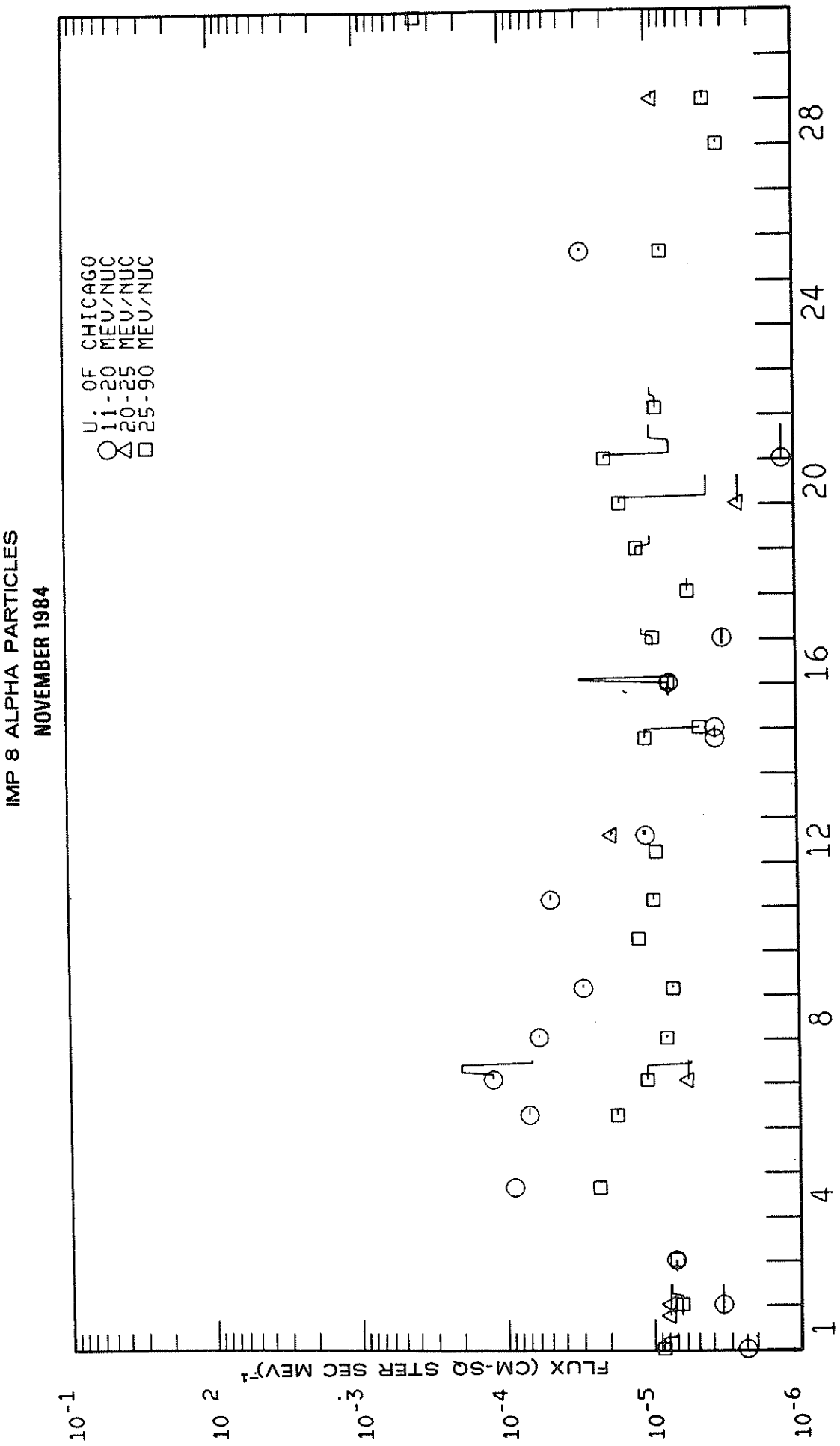
73
Late
Nov 84

74
Late
Nov 84



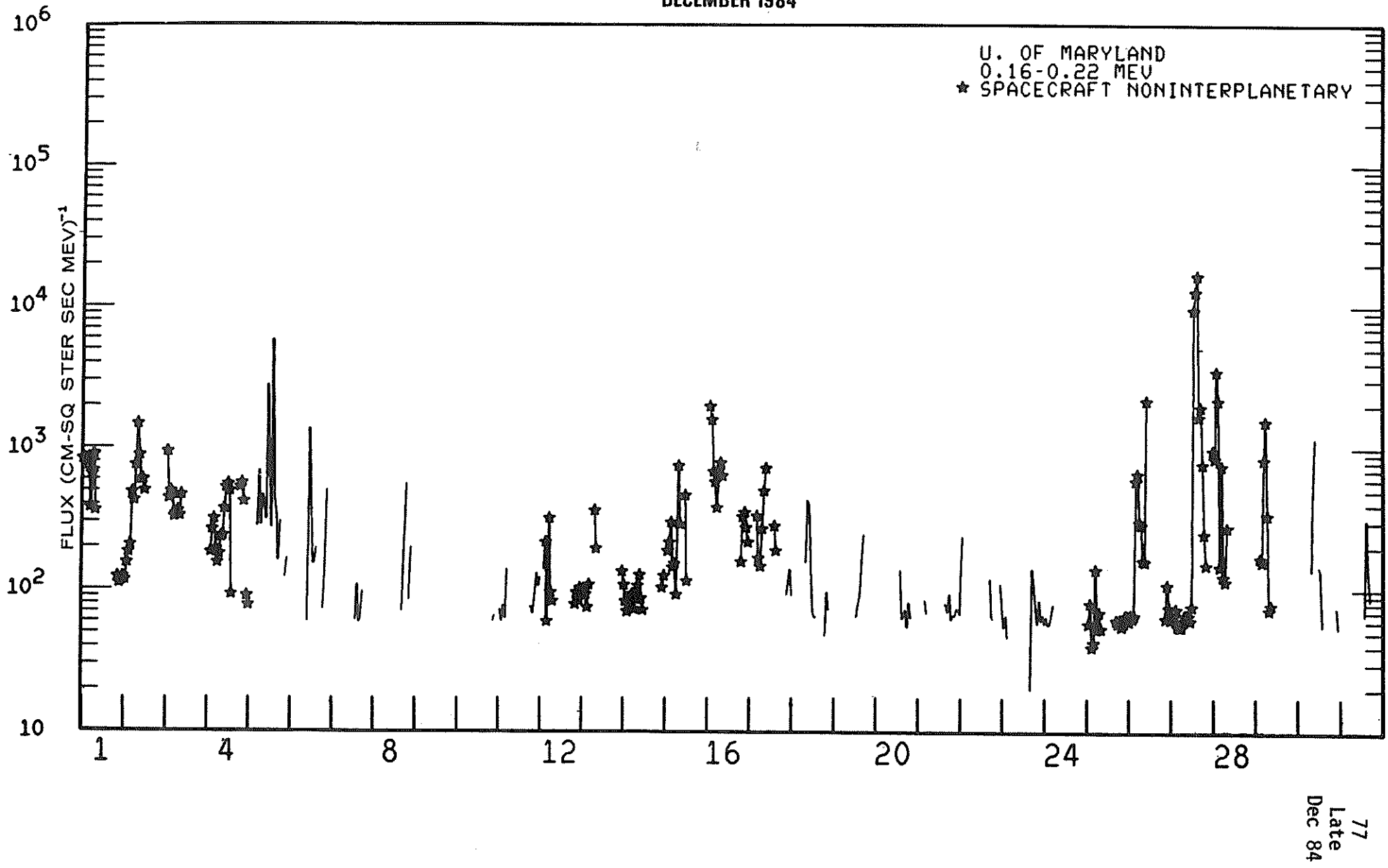

IMP 8 HIGH ENERGY PROTONS
NOVEMBER 1984
JHU/APL 13.7-25.2 MEV
GSFC 20-40 MEV
GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)$^{-1}$
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
1
4
8
12
16
20
24
28
75
Late
Nov 84

76
Late
Nov 84

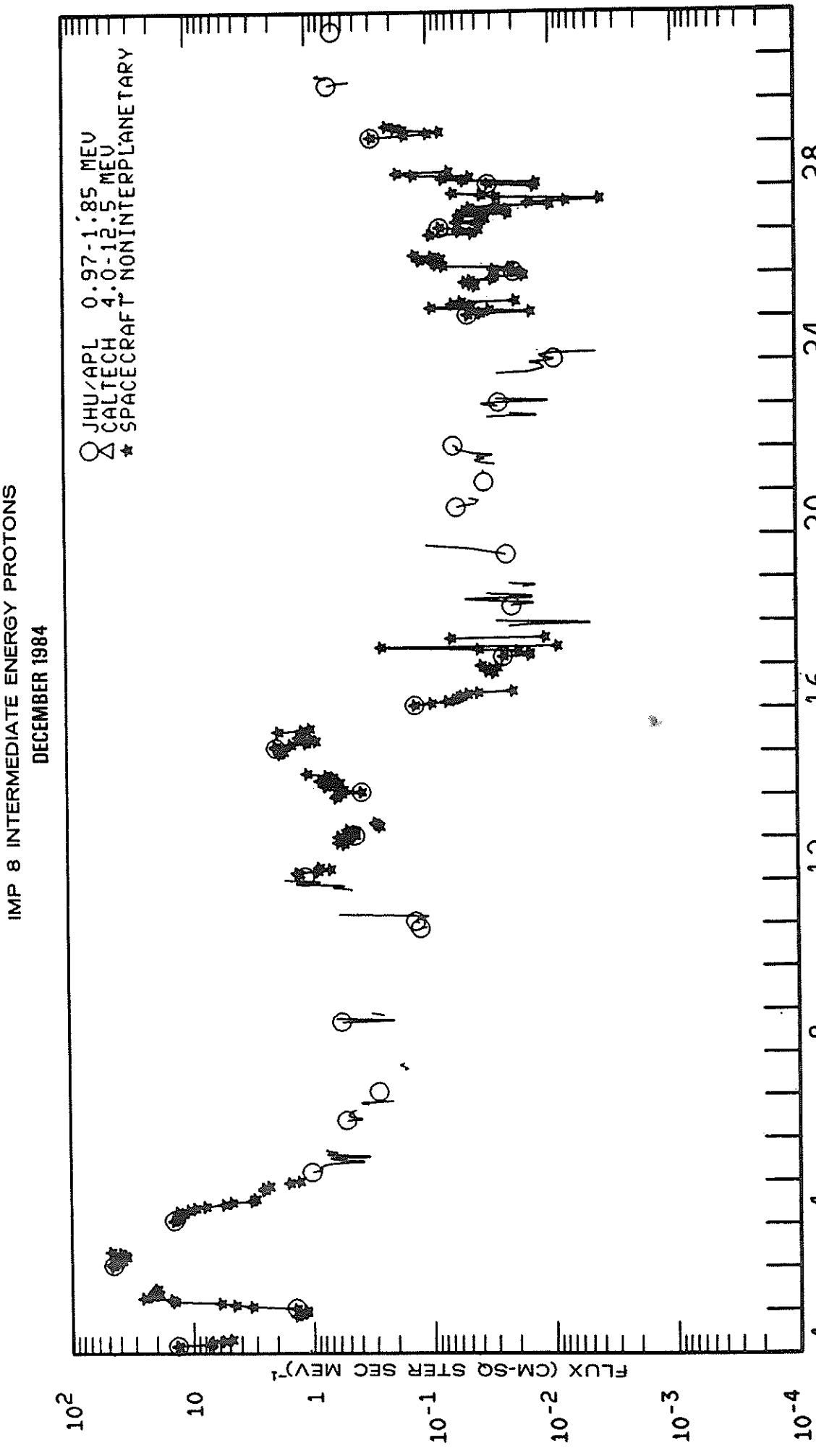


IMP 8 LOW ENERGY PROTONS

DECEMBER 1984

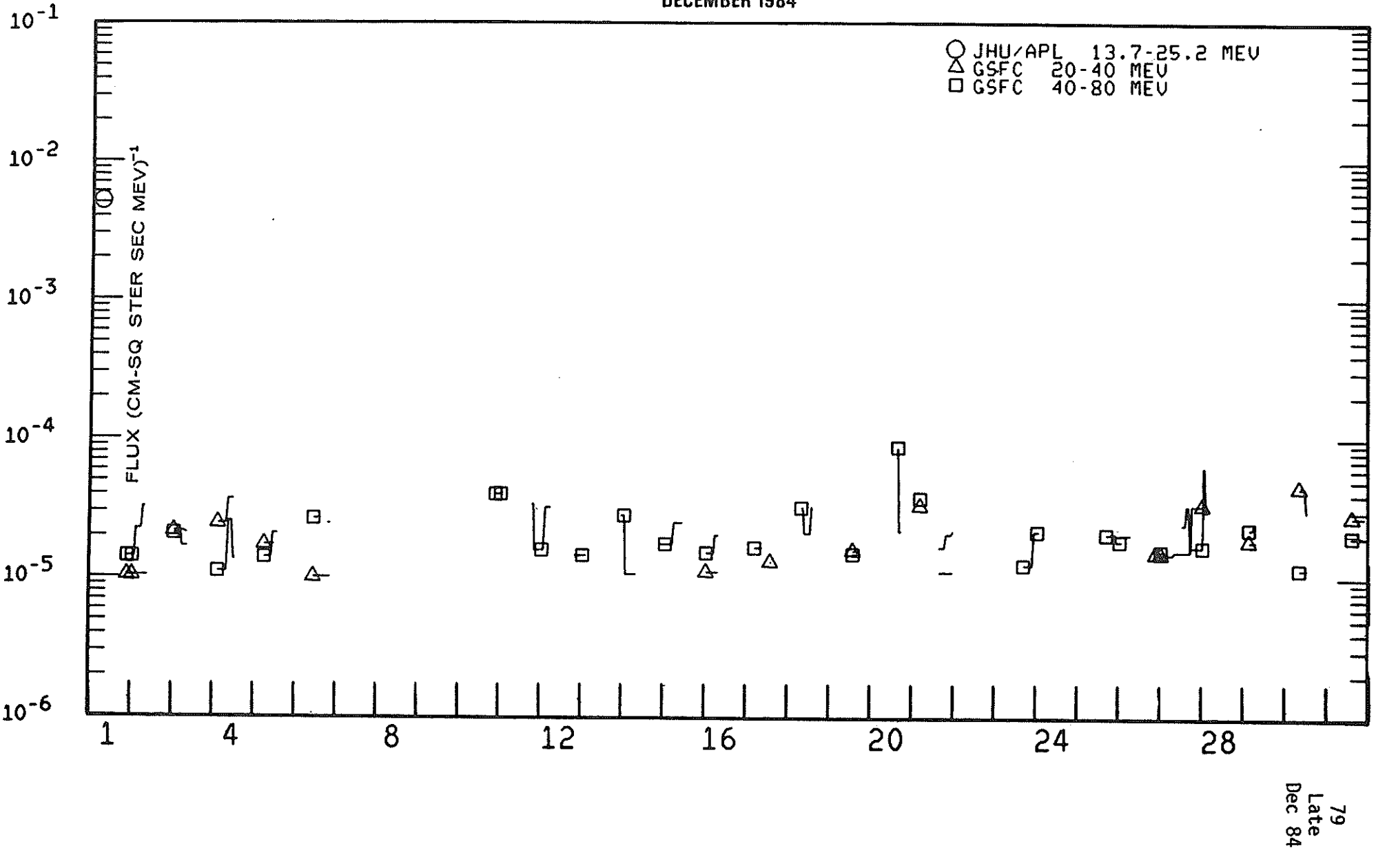


78
Late
Dec 84



IMP 8 HIGH ENERGY PROTONS

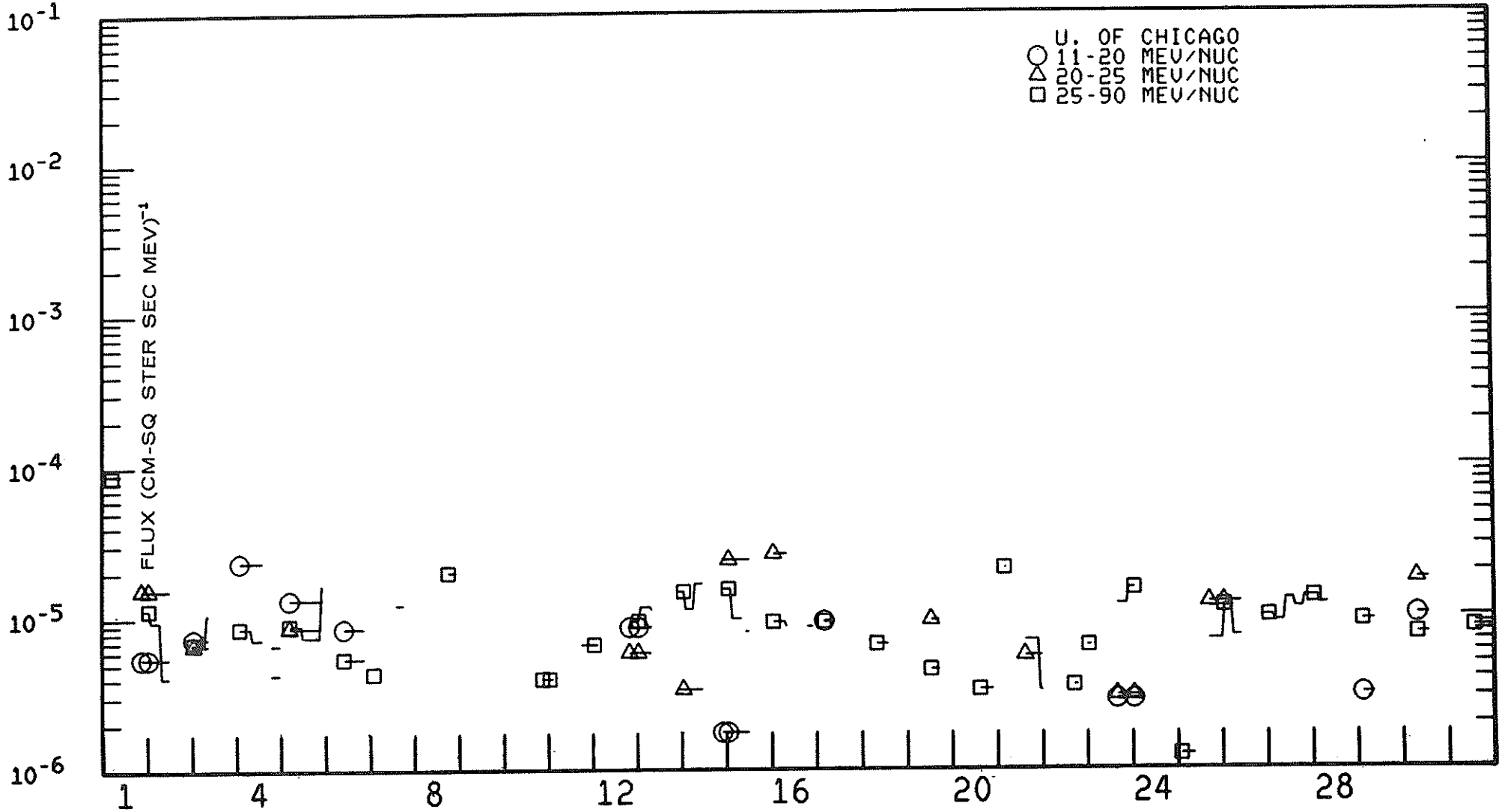
DECEMBER 1984



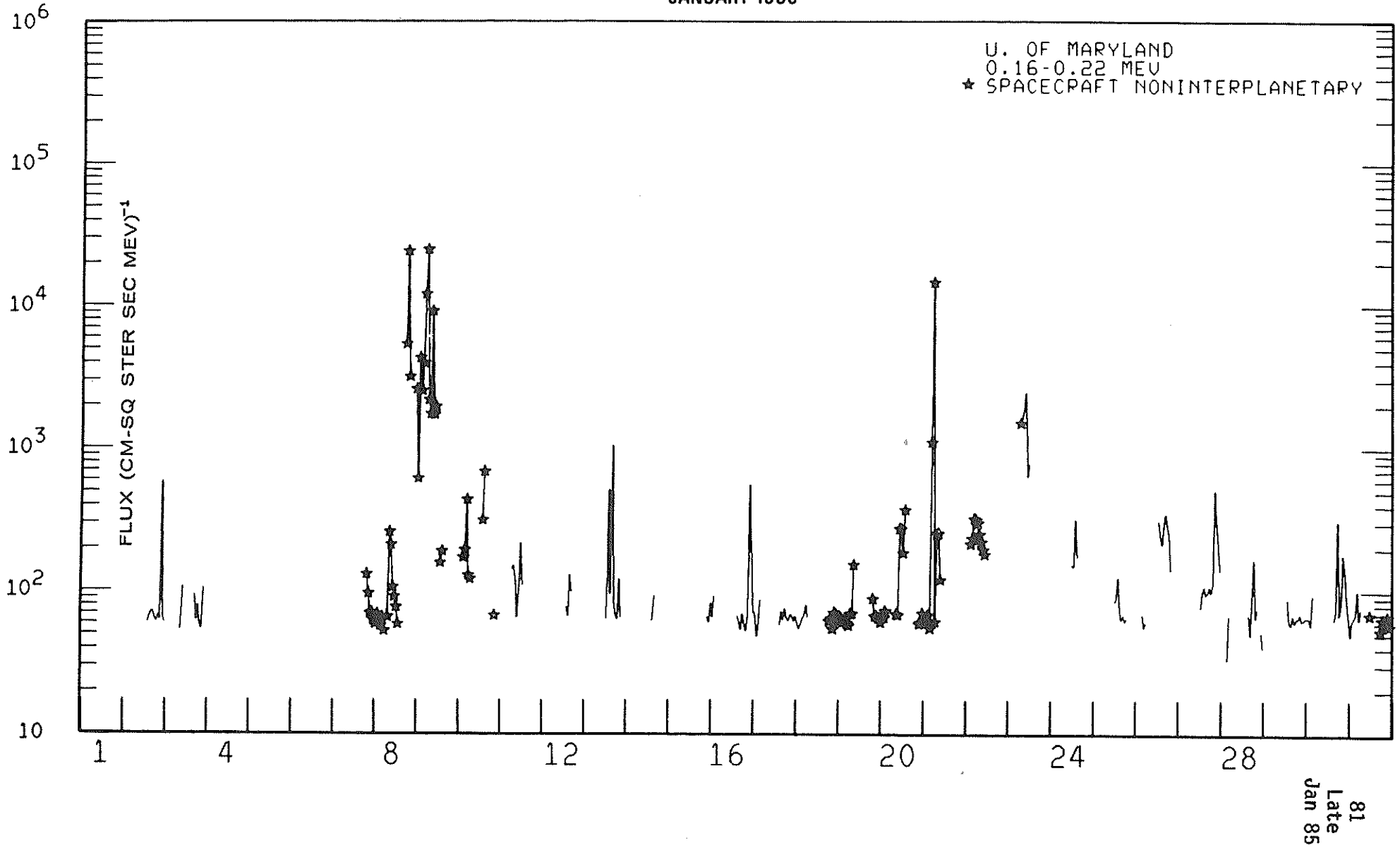
80
Late
Dec 84

IMP 8 ALPHA PARTICLES

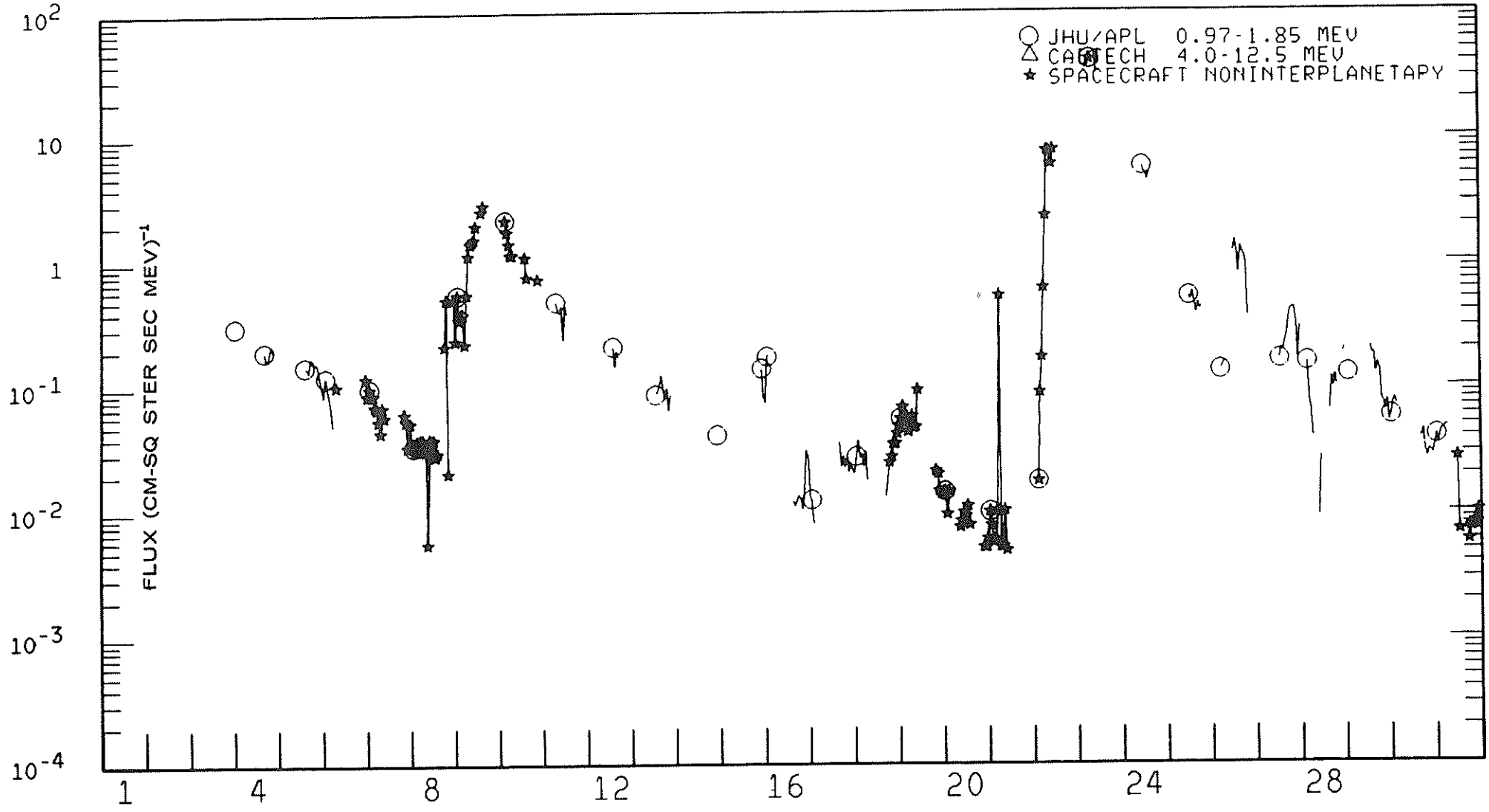
DECEMBER 1984



IMP 8 LOW ENERGY PROTONS
JANUARY 1985

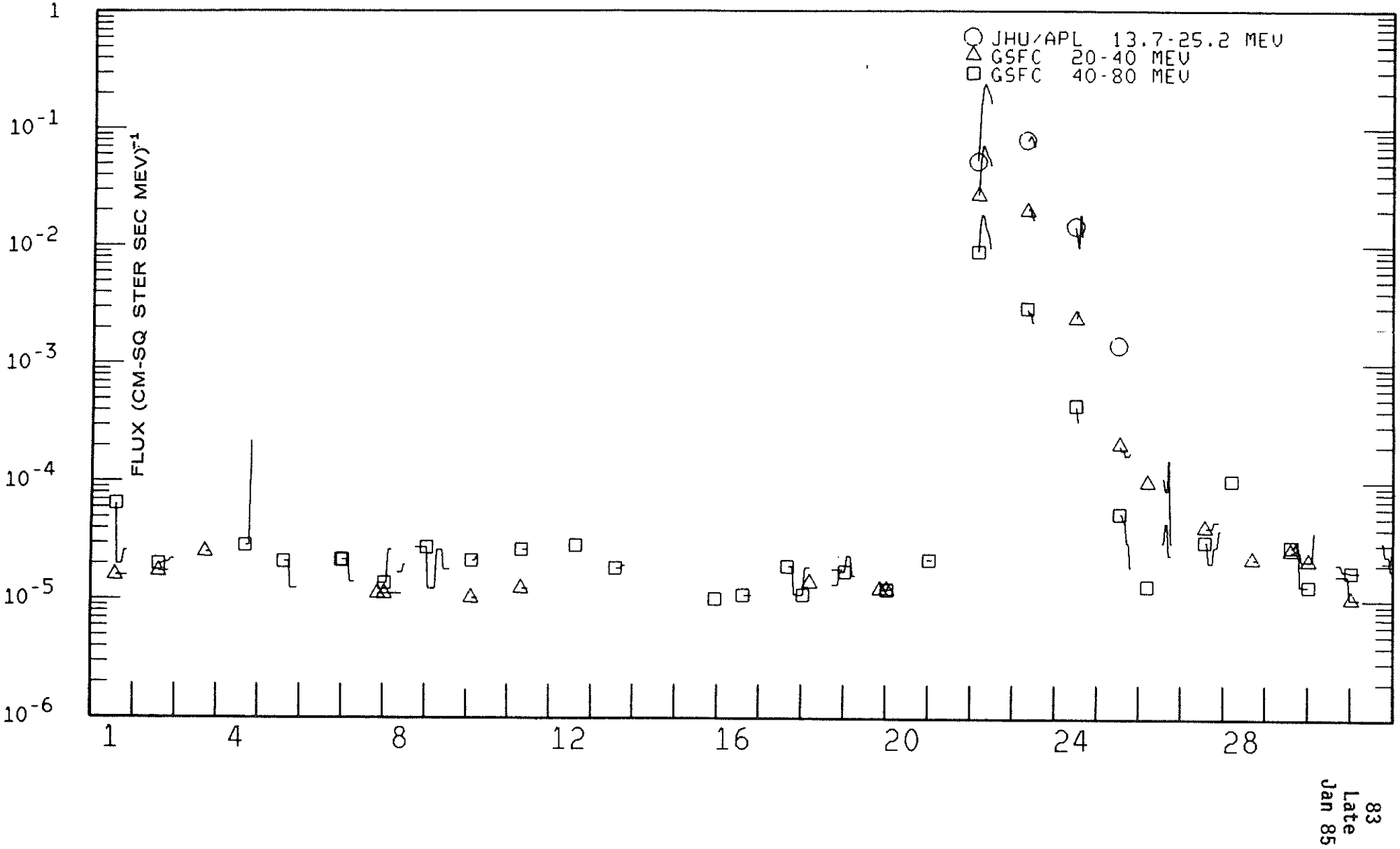


IMP 8 INTERMEDIATE ENERGY PROTONS
JANUARY 1985



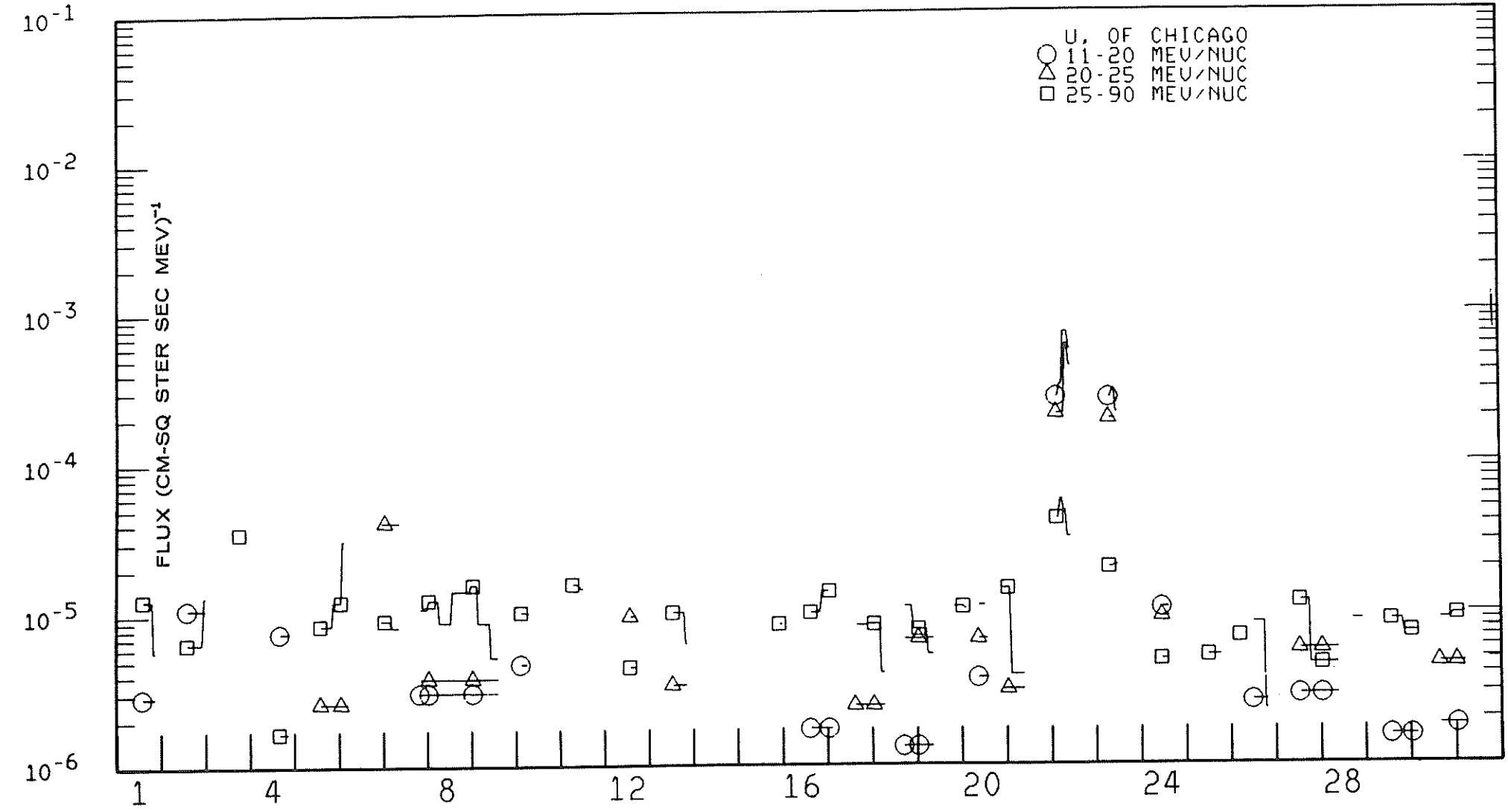
IMP 8 HIGH ENERGY PROTONS

JANUARY 1985

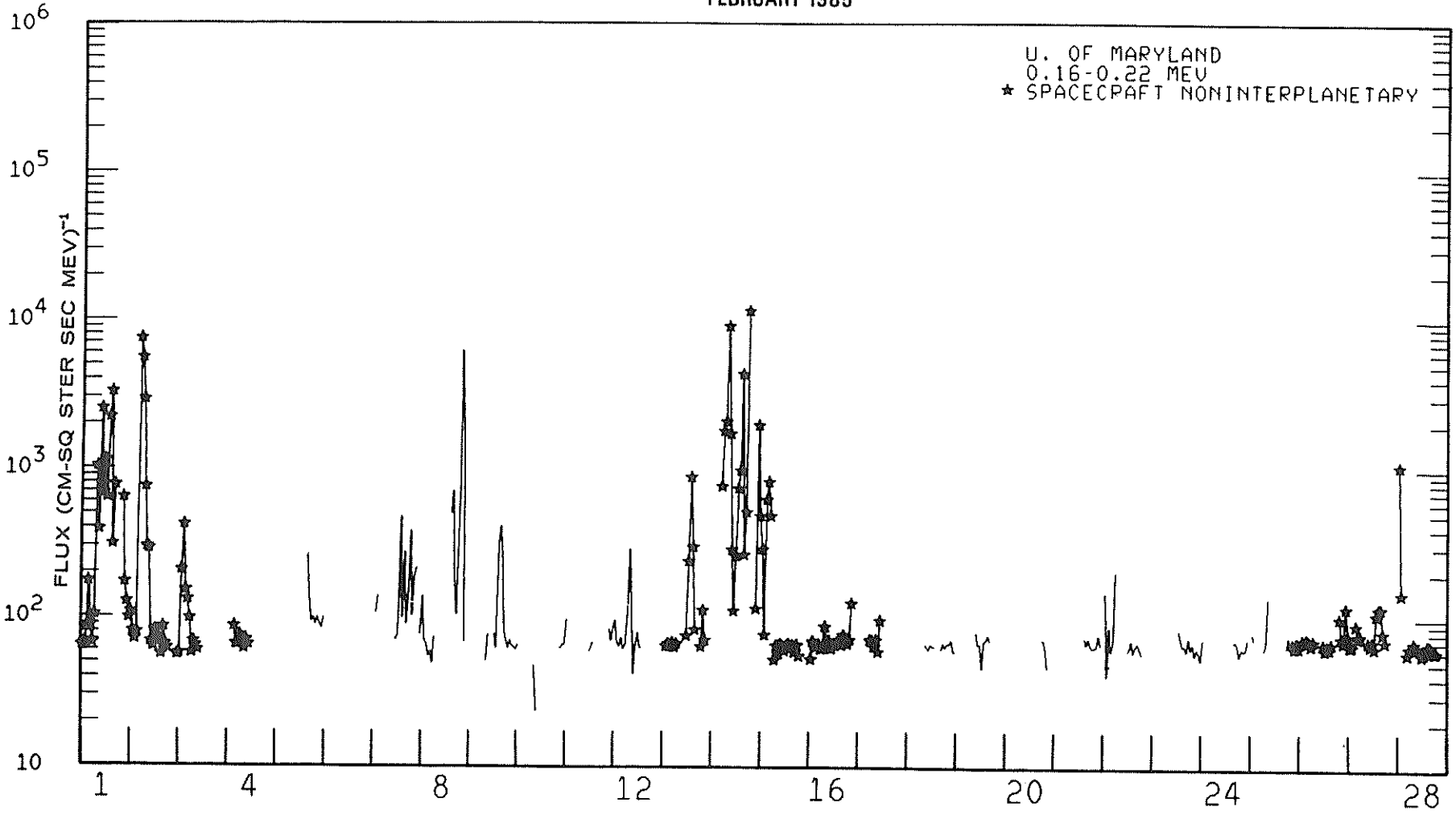


84
Late
Jan 85

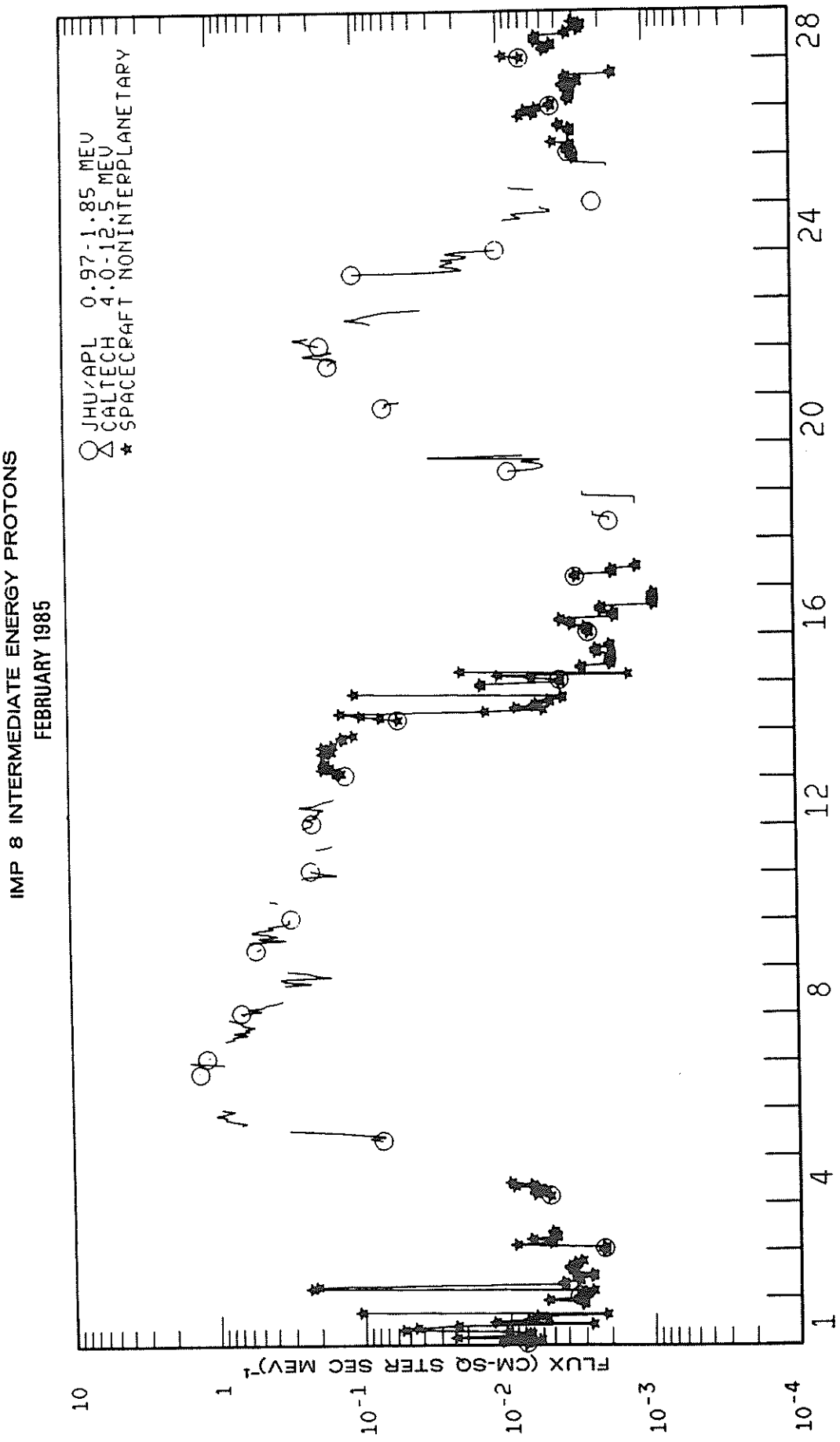
IMP 8 ALPHA PARTICLES
JANUARY 1985

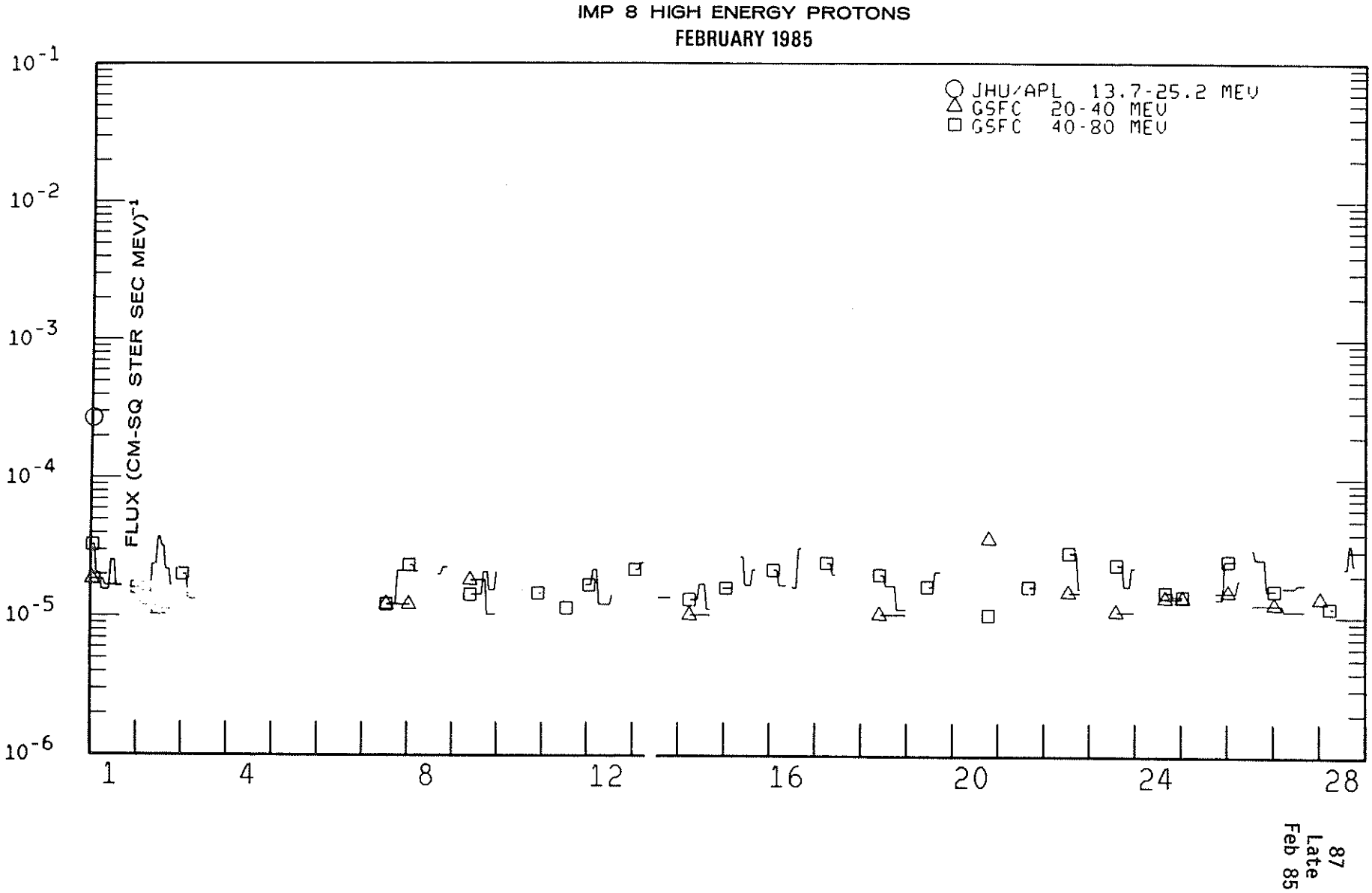


IMP 8 LOW ENERGY PROTONS
FEBRUARY 1985

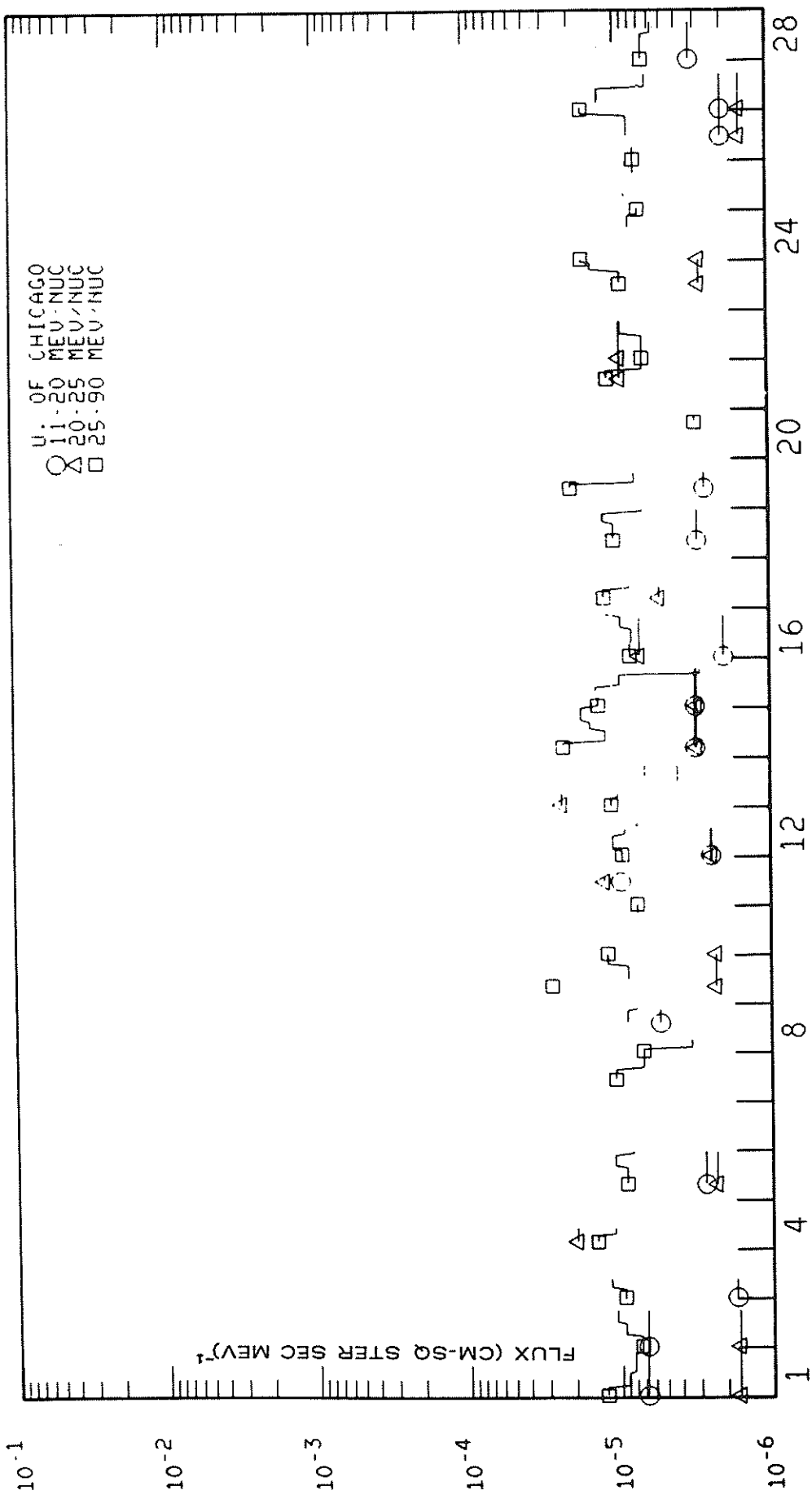


86
Late
Feb 85



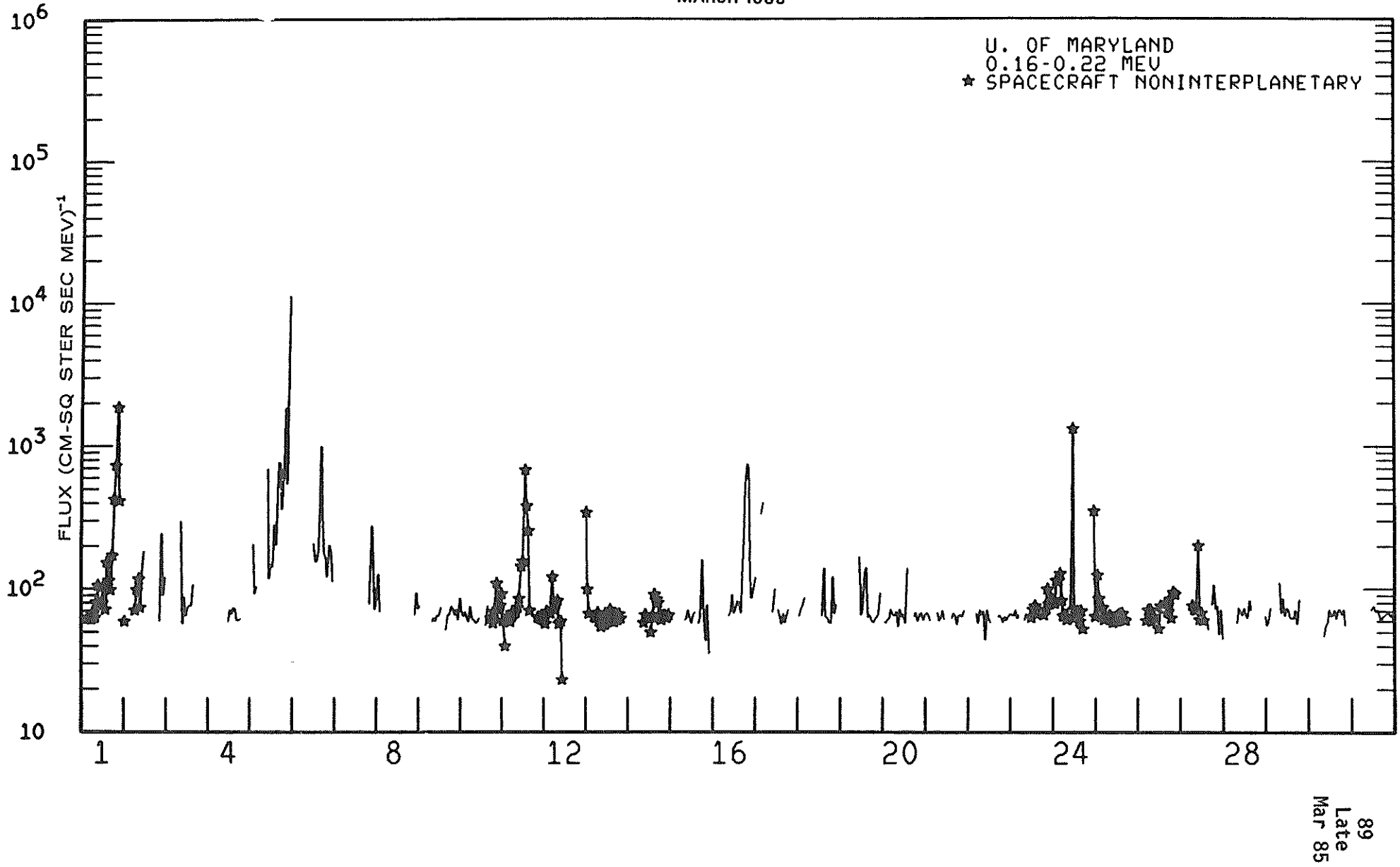

IMP 8 HIGH ENERGY PROTONS
FEBRUARY 1985
JHU/APL 13.7-25.2 MEV
GSFC 20-40 MEV
GSFC 40-80 MEV
FLUX (CM-SQ STER SEC MEV)-1
10-1
10-2
10-3
10-4
10-5
10-6
1
4
8
12
16
20
24
28
87
Late
Feb 85

88
Late
Feb 85



IMP 8 LOW ENERGY PROTONS

MARCH 1985



90
Late
Mar 85

IMP 8 INTERMEDIATE ENERGY PROTONS

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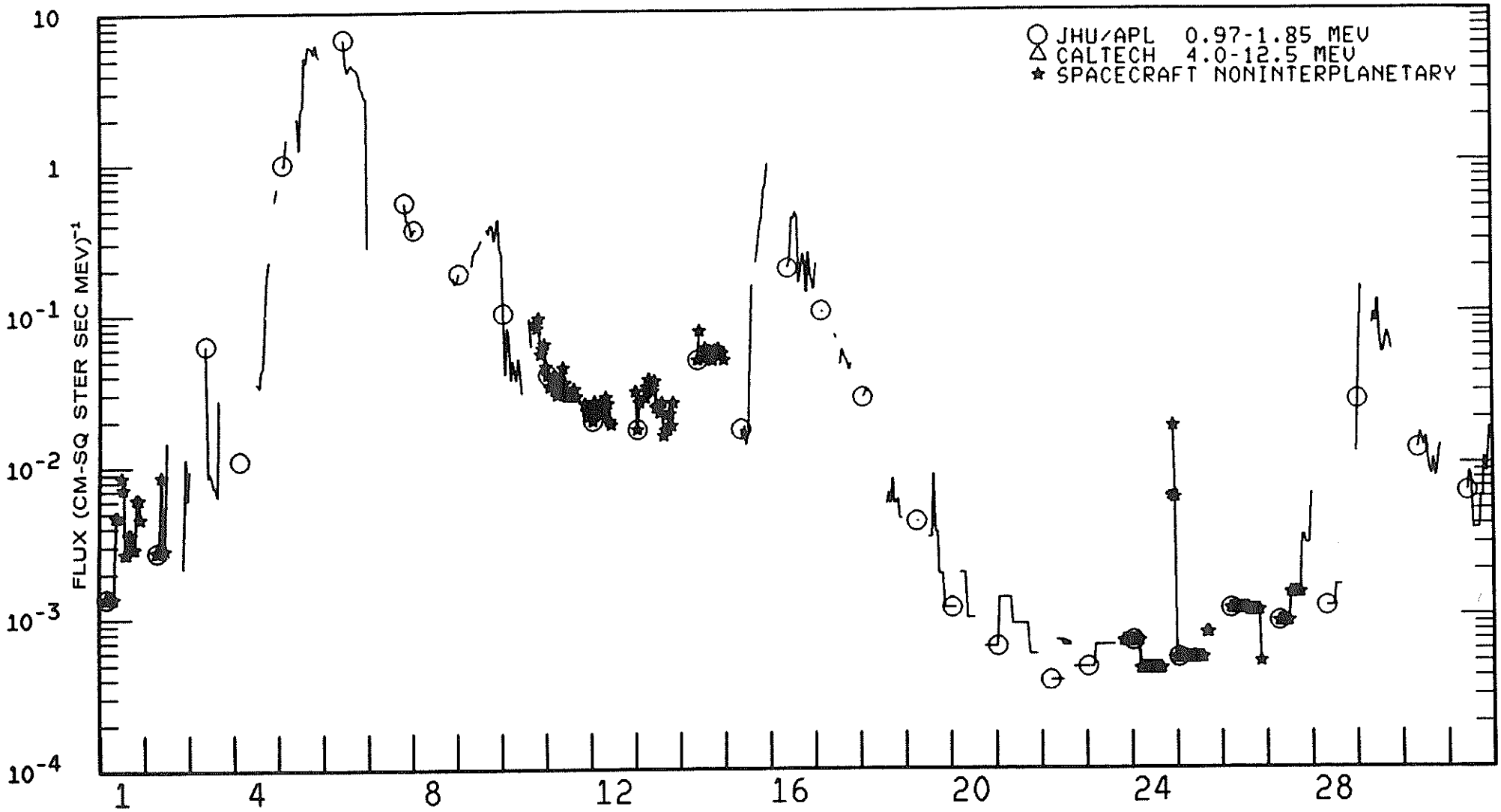

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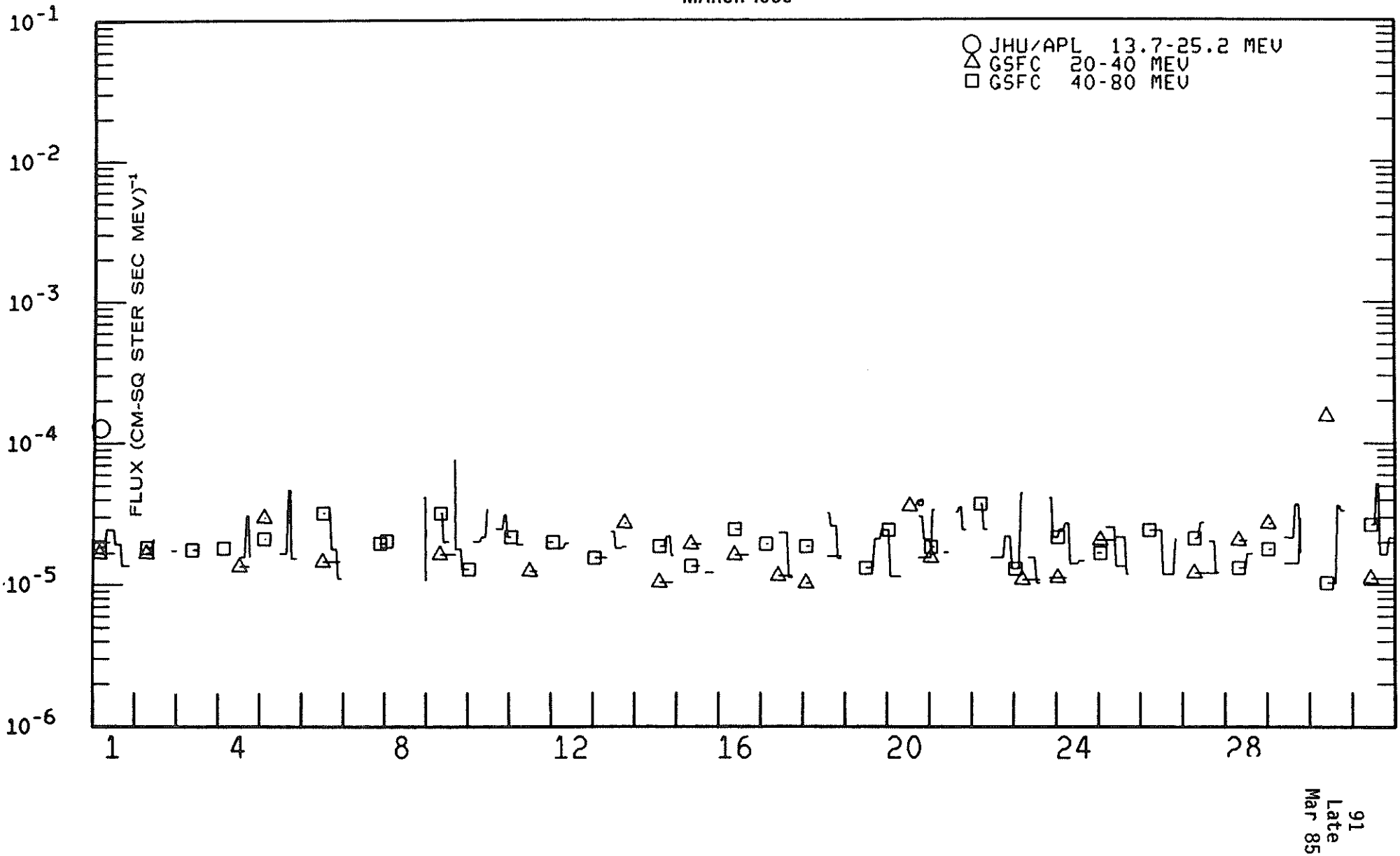
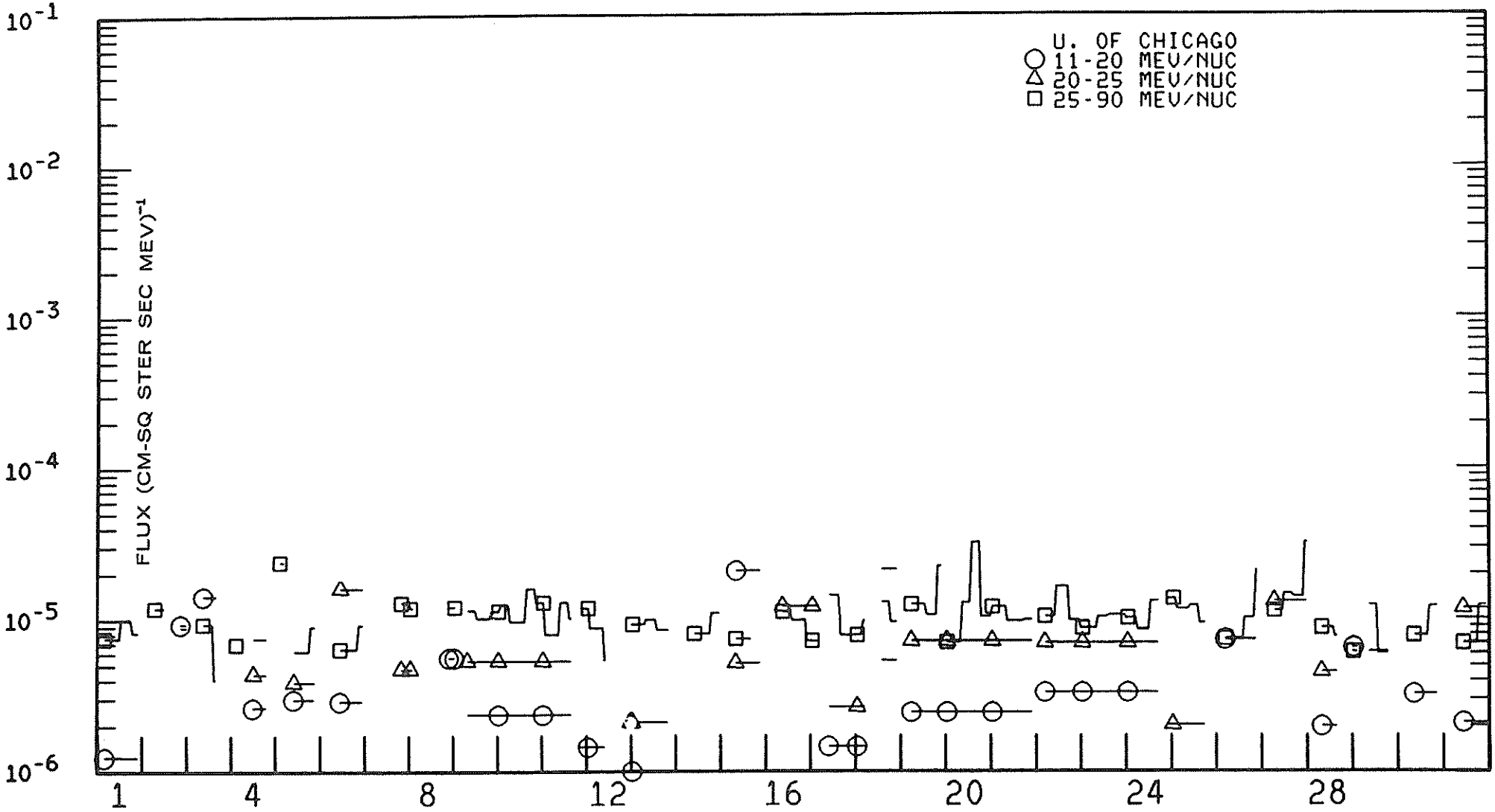
MARCH 1985



92
Late
Mar 85

IMP 8 ALPHA PARTICLES
MARCH 1985



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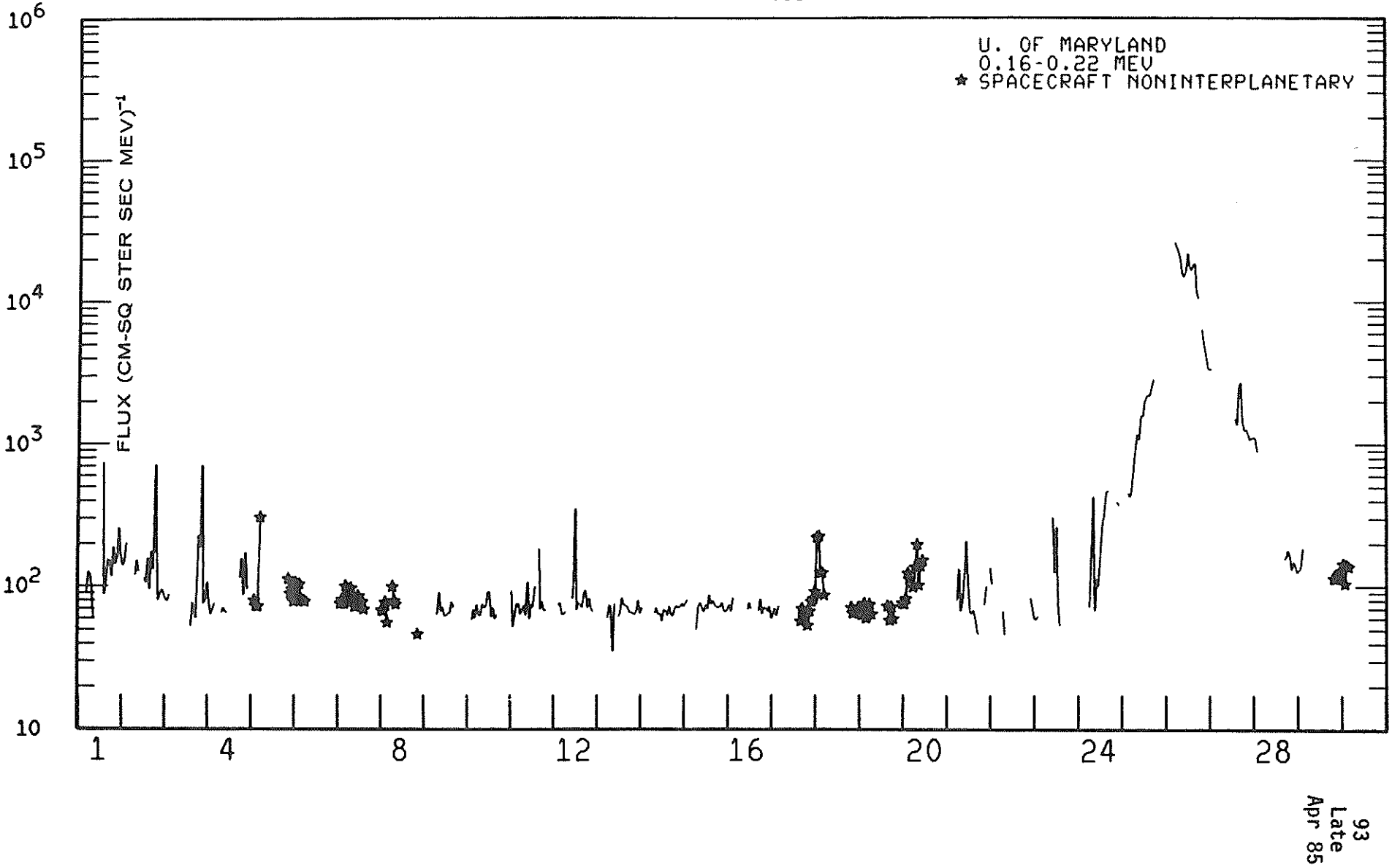
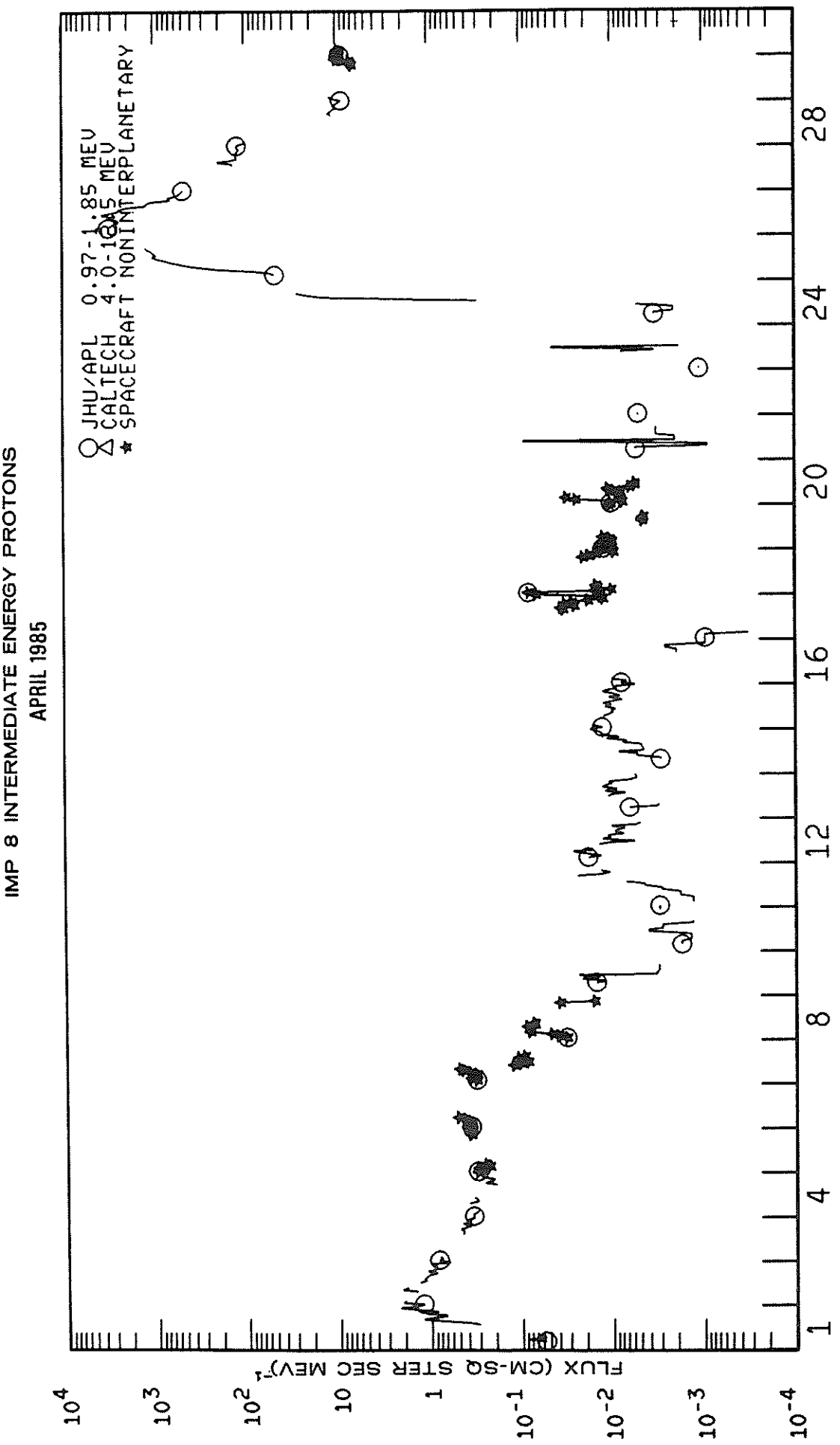
APRIL 1985



94
Late
Apr 85



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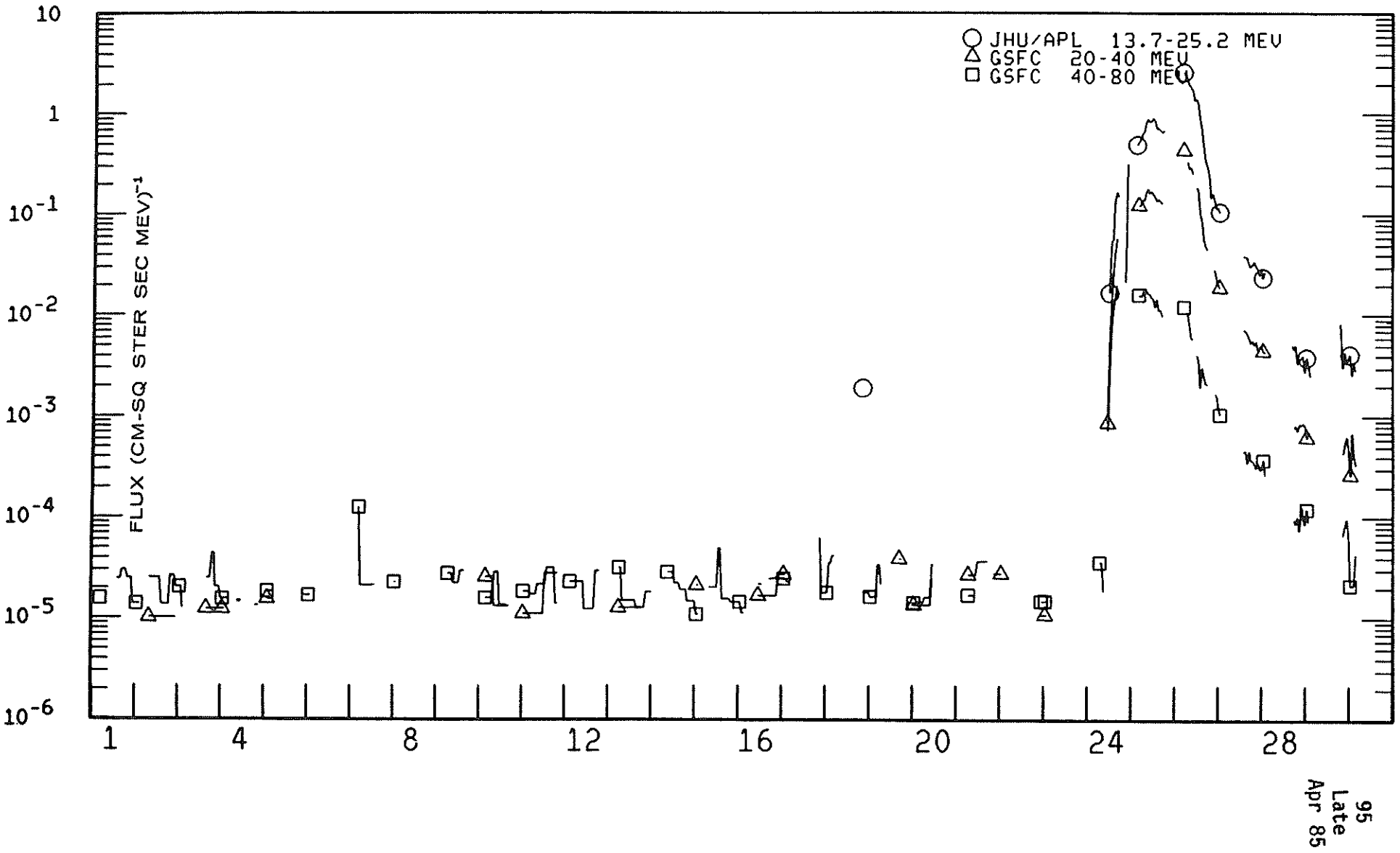
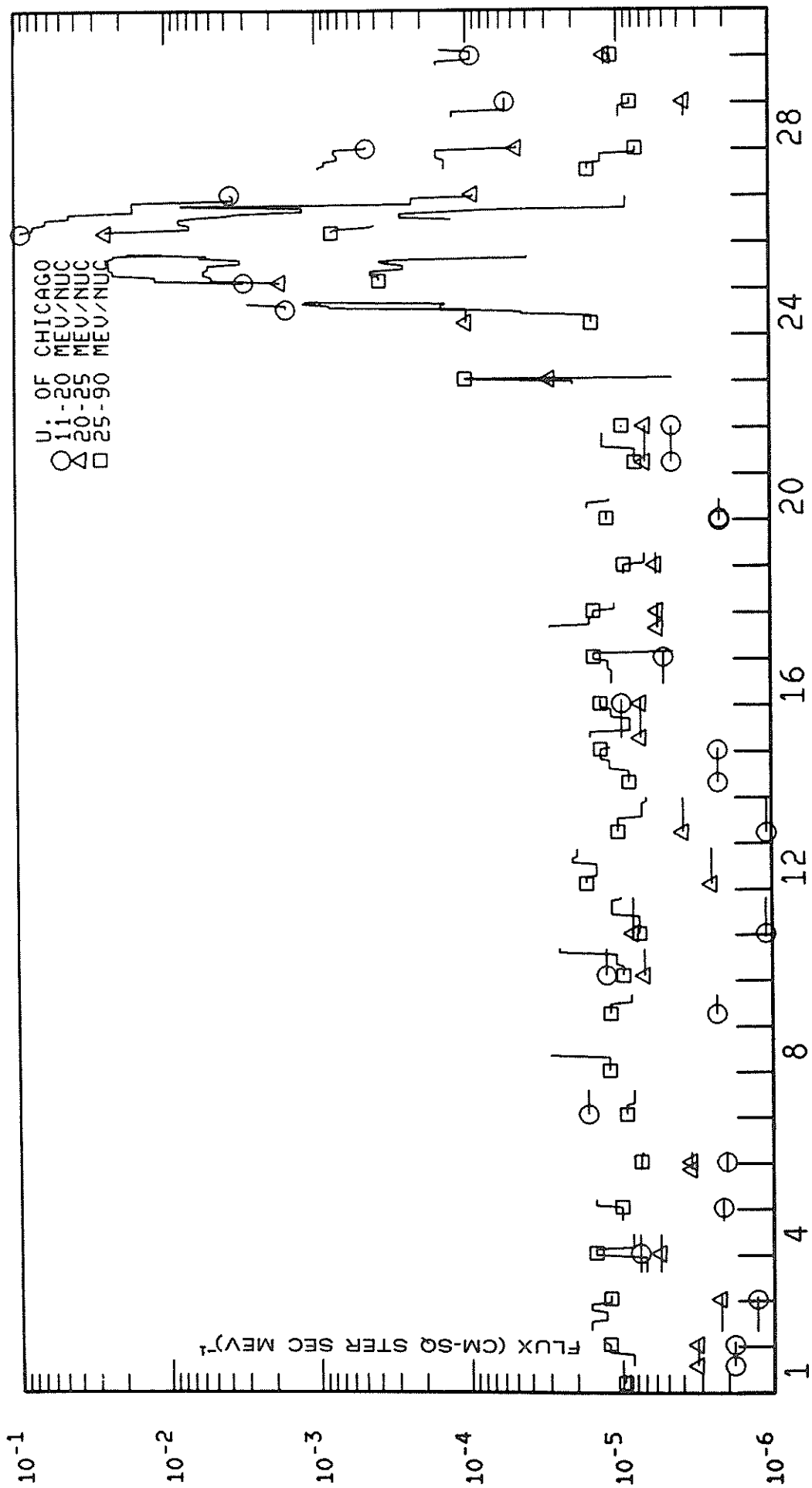
APRIL 1985



96
Late
Apr 85



World Data Center-C2 for Geomagnetism

PROMIS PERIOD
Prompt Report

No. 3

Provisional Auroral electrojet indices (AE11)

for May 1986

AUGUST 1986

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

PROVISIONAL AURORAL ELECTROJET INDICES

FOR MAY 1986

PREPARED FOR PROMIS PERIOD

1. Introduction

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

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

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

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

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

2. Data Used

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

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

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

The H component is calculated from the X and Y components for Yellowknife, Fort Churchill and Poste-de-la-Baleine (formerly Great Whale River). For these stations, if either the X or Y value is missing, the H value is also treated as being missing. The observed H components are

used for other stations except for Kiruna. As Kiruna data show short period instrumental noise, the H component was not calculated to avoid noise enhancement; instead, the X component was used. As the declination at Kiruna is small, differences between variations in the X component and those in the H component are negligible in the result.

3. Results

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

4. Acknowledgements

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

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MASAHISA SUGIURA, and
TOHRU ARAKI

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Sakyo-ku, Kyoto 606
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August 29, 1986

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

*** Note added on the replacement of Great Whale River ***

The station 'Great Whale River' was closed on July 31, 1984, and since September 8, 1984, observation has been conducted at a new station near the village of 'Poste-de-la-Baleine'. The new station is not far from the old station, and is labeled by the same latitude and longitude identifier. The old IAGA code GWC, has been replaced by the new station code PBQ. In our previous reports (Nos. 1 and 2) the data obtained at the new station were used, although we denoted the station as Great Whale River.

Table 1. List of Stations

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

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

Kiruna (X component)	11003	
Dixon Island	6194	
Cape Chelyuskin	+279	(HO+)
Tixie Bay	+ 51	(HO+)
Barrow	9640	
College	12881	
Yellowknife	8811	
Fort Churchill	7816	
Poste-de-la-Baleine	10792	
Narssarssuaq	12197	
Leirvogur	+233	(HO+)

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

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

	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
	1	11	10	14	15	13	31	30	44	43	42	35	43	45	42	48	26	15	22	26	25	45	42	36	45	31
D	2	52	42	54	60	74	124	80	128	126	108	190	238	235	289	534	448	416	471	305	247	326	261	198	173	216
D	3	183	242	229	222	223	220	161	203	141	121	73	62	57	68	74	59	58	60	61	113	99	83	65	58	122
D	4	37	56	67	73	126	167	207	194	139	114	161	103	112	200	89	63	54	54	43	36	39	97	138	110	103
	5	89	103	83	56	55	124	85	77	58	40	32	97	122	79	70	104	162	210	262	249	231	232	154	83	119
D	6	182	153	239	161	238	324	233	291	278	350	261	192	289	368	337	328	238	171	275	218	328	221	227	153	252
	7	136	144	122	54	20	26	129	135	108	95	126	60	74	85	57	98	107	126	163	100	57	39	34	33	89
	8	62	55	29	11	16	25	53	68	80	87	70	81	125	119	86	44	31	28	46	76	58	32	41	57	58
	9	59	55	50	46	64	39	32	60	57	57	40	71	39	55	31	26	24	28	36	29	35	27	43	44	44
	10	81	105	87	46	18	12	17	42	56	37	64	68	67	100	34	46	35	63	56	81	75	42	26	26	53
	11	25	9	33	39	59	63	58	60	36	40	40	55	43	44	31	37	32	34	32	30	49	64	48	44	42
	12	26	47	97	146	101	45	22	29	40	86	127	89	111	76	67	78	30	20	31	19	27	31	41	37	59
	13	20	24	28	37	30	37	35	44	48	41	33	54	72	62	71	52	34	41	57	57	31	46	65	33	44
Q	14	38	44	32	26	46	99	50	54	73	40	29	23	60	46	31	24	39	34	35	34	38	38	36	17	41
Q	15	40	44	41	47	65	63	71	68	50	65	110	92	94	97	76	97	73	43	65	104	150	158	138	116	82
	16	101	99	113	98	121	160	100	159	113	98	129	132	82	132	82	72	120	183	255	281	228	230	211	184	145
	17	218	174	157	208	119	47	35	66	55	57	82	96	113	105	105	81	44	41	39	39	25	62	52	89	88
	18	63	51	48	52	45	45	103	72	141	157	158	113	99	62	34	28	26	36	40	32	28	34	62	73	67
	19	151	135	126	60	60	72	74	35	37	65	66	71	89	102	112	108	152	119	117	80	70	88	83	63	89
	20	47	43	79	67	35	28	42	49	59	74	76	99	74	75	87	54	54	49	42	56	62	56	50	76	60
	21	16	17	17	29	35	33	78	78	103	127	66	74	57	93	67	75	59	46	79	103	81	36	30	40	60
Q	22	16	19	20	20	9	13	24	26	40	31	28	32	45	32	30	32	40	46	49	52	51	65	82	104	38
	23	67	86	52	38	47	62	69	98	111	117	134	141	90	60	47	46	26	28	38	50	35	68	80	87	70
	24	90	77	69	59	67	52	37	43	28	54	67	95	136	122	145	105	42	45	35	37	37	48	41	39	65
	25	36	54	96	126	150	205	231	112	50	36	148	196	70	89	66	44	27	25	35	27	30	50	46	48	83
	26	80	39	34	22	16	98	111	136	87	134	179	89	63	36	67	66	121	101	84	80	49	40	53	68	77
	27	81	114	85	58	31	33	116	106	56	62	80	64	62	61	50	40	35	32	28	39	37	59	112	131	65
Q	28	116	69	45	35	32	21	11	20	17	20	26	32	34	14	26	10	9	15	23	21	21	24	29	32	29
Q	29	38	40	29	20	17	14	13	19	27	34	47	60	50	39	25	12	19	17	21	21	34	52	94	160	38
	30	106	45	36	18	15	23	18	9	16	32	32	53	85	79	65	57	62	114	236	221	202	180	143	118	82
D	31	87	173	212	136	152	262	202	200	181	230	237	192	163	99	89	92	81	110	190	223	170	177	196	156	167
	Mean	75	76	78	67	67	82	81	87	79	85	95	92	92	94	88	79	73	77	90	89	88	86	85	80	83
5Q	Mean	49	43	33	29	33	42	33	37	41	38	48	47	56	45	37	35	36	31	38	46	58	67	75	85	45
5D	Mean	108	133	160	130	162	219	176	203	173	184	184	157	171	204	224	198	169	173	174	167	192	167	164	130	172

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

	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
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D	2	-63	-40	-23	-84	-96	-111	-56	-245	-239	-121	-211	-465	-597	-708	-774	-842	-712	-605	-431	-433	-591	-673	-698	-786	-400
D	3	-706	-805	-612	-440	-501	-608	-486	-418	-231	-275	-194	-94	-67	-83	-161	-125	-66	-102	-91	-80	-160	-85	-67	-57	-271
D	4	-38	-67	-179	-70	-72	-114	-169	-103	-68	-45	-45	-67	-322	-408	-133	-119	-245	-81	-33	-21	-39	-66	-369	-242	-130
	5	-114	-88	-163	-97	-69	-252	-249	-159	-48	-50	-36	-147	-404	-235	-265	-364	-381	-409	-460	-486	-339	-410	-396	-324	-248
D	6	-347	-389	-305	-233	-471	-744	-766	-722	-695	-365	-192	-384	-615	-696	-678	-496	-742	-660	-537	-320	-408	-716	-425	-189	-504
	7	-486	-394	-191	-32	-34	-29	-129	-342	-209	-88	-367	-96	-75	-122	-178	-170	-158	-208	-370	-174	-50	-30	-17	-51	-167
	8	-214	-137	-61	-23	-32	-41	-53	-48	-38	-60	-38	-90	-379	-406	-207	-110	-65	-27	-46	-115	-94	-19	-37	-116	-102
	9	-174	-101	-72	-84	-108	-61	-45	-32	-35	-98	-50	-137	-102	-86	-62	-46	-19	-20	-26	-12	-10	-19	-24	-21	-60
	10	-148	-294	-186	-63	-15	-35	-34	-28	-57	-26	-30	-66	-60	-102	-37	-50	-26	-104	-194	-98	-58	-21	-17	-18	-73
	11	-16	-16	-25	-41	-83	-165	-101	-24	-25	-32	-33	-108	-50	-33	-31	-24	-118	-88	-80	-36	-54	-41	-21	-29	-53
	12	-18	-38	-94	-421	-201	-29	-18	-13	-98	-125	-157	-192	-186	-103	-165	-72	-45	-31	-24	-30	-26	-30	-25	-26	-90
	13	-17	-20	-14	-23	-29	-49	-47	-41	-75	-102	-43	-27	-45	-167	-62	-41	-28	-33	-102	-84	-22	-25	-54	-41	-50
Q	14	-40	-70	-72	-40	-43	-167	-109	-69	-60	-63	-49	-28	-25	-21	-18	-20	-36	-17	-16	-18	-57	-76	-24	-23	-48
Q	15	-23	-27	-36	-31	-105	-68	-40	-38	-110	-120	-81	-68	-94	-75	-71	-74	-180	-87	-35	-42	-61	-97	-86	-48	-71
	16	-38	-36	-40	-45	-40	-59	-98	-85	-42	-65	-148	-136	-57	-186	-202	-190	-306	-298	-369	-308	-228	-108	-182	-352	-151
	17	-237	-253	-277	-219	-102	-35	-23	-36	-38	-28	-28	-83	-136	-395	-392	-191	-33	-12	-22	-19	-17	-49	-41	-37	-113
	18	-11	-12	-13	-14	-38	-31	-77	-66	-212	-164	-111	-168	-187	-53	-25	-34	-27	-20	-17	-13	-16	-21	-63	-70	-61
	19	-82	-123	-80	-85	-149	-84	-137	-57	-32	-19	-30	-15	-29	-35	-180	-221	-314	-242	-191	-57	-21	-24	-23	-46	-95
	20	-20	-34	-67	-166	-48	-23	-48	-50	-70	-99	-52	-52	-35	-32	-43	-47	-52	-41	-33	-34	-39	-103	-46	-27	-52
	21	-17	-18	-18	-15	-22	-36	-128	-99	-186	-230	-112	-32	-30	-166	-111	-87	-92	-88	-48	-60	-136	-25	-16	-15	-74
Q	22	-13	-13	-12	-21	-24	-31	-45	-42	-46	-39	-36	-45	-34	-28	-23	-31	-71	-56	-57	-50	-22	-25	-22	-19	-34
	23	-29	-33	-80	-18	-82	-123	-71	-63	-117	-44	-91	-131	-98	-75	-35	-43	-146	-80	-25	-21	-22	-64	-95	-48	-68
	24	-72	-127	-80	-56	-32	-15	-14	-25	-20	-27	-25	-68	-165	-218	-188	-147	-42	-17	-3	0	-9	-24	-8	-6	-58
	25	-12	-34	-67	-152	-201	-189	-220	-163	-64	-39	-55	-282	-99	-44	-42	-73	-70	-20	-29	-30	-27	-36	-17	-24	-83
	26	-107	-17	-20	-19	-22	-106	-187	-416	-205	-166	-369	-106	-21	-11	-45	-76	-441	-365	-138	-110	-54	-17	-21	-16	-127
	27	-45	-189	-99	-52	-20	-27	-76	-204	-130	-28	-42	-19	-26	-62	-62	-55	-29	-17	-16	-9	-7	-22	-77	-128	-60
Q	28	-161	-100	-79	-53	-33	-33	-21	-25	-16	-12	-34	-27	-63	-13	-30	-32	-19	-23	-13	-31	-25	-34	-31	-32	-39
Q	29	-24	-32	-25	-55	-60	-52	-60	-72	-70	-42	-57	-27	-47	-24	-53	-22	-21	-17	-20	-18	-22	-30	-101	-186	-47
	30	-50	-43	-28	-26	-33	-25	-23	-23	-14	-20	-14	-21	-27	-59	-66	-31	-49	-212	-624	-210	-79	-112	-93	-63	-81
D	31	-66	-109	-397	-239	-117	-300	-426	-325	-188	-214	-249	-153	-250	-222	-148	-153	-157	-188	-240	-382	-132	-130	-133	-247	-215
	Mean	-109	-118	-110	-94	-93	-118	-128	-132	-112	-91	-97	-108	-140	-158	-148	-130	-152	-135	-139	-106	-91	-102	-104	-106	-118
5Q	Mean	-52	-48	-44	-40	-53	-70	-55	-49	-60	-55	-51	-39	-52	-32	-39	-35	-65	-40	-28	-31	-37	-52	-52	-61	-47
5D	Mean	-244	-282	-303	-213	-251	-375	-380	-362	-284	-204	-178	-232	-370	-423	-378	-347	-384	-327	-266	-247	-266	-334	-338	-304	-304

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

	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
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D	2	116	84	77	144	171	236	137	375	366	230	402	704	833	998	1309	1291	1129	1077	737	680	919	936	897	961	617
D	3	890	1048	843	664	725	830	649	622	372	397	268	158	125	153	235	185	125	162	152	194	260	169	133	116	395
D	4	76	123	247	144	200	283	378	299	208	160	206	171	435	608	223	183	300	135	77	59	79	164	508	353	234
	5	204	193	247	153	125	377	335	237	107	91	69	245	527	315	336	468	543	620	722	735	571	643	551	407	368
D	6	530	542	545	395	711	1070	1000	1015	975	717	453	577	904	1064	1015	825	980	832	813	539	737	938	653	342	757
	7	623	540	315	86	55	56	260	478	319	184	494	157	151	208	236	268	267	335	534	274	108	69	51	85	256
	8	277	194	91	36	49	67	108	117	119	149	110	172	504	527	295	155	97	56	93	192	153	52	79	174	161
	9	235	158	124	131	174	101	78	93	94	156	92	210	142	143	94	73	43	49	63	43	46	47	68	66	105
	10	230	401	273	111	34	47	51	71	114	64	95	135	127	203	73	97	61	167	251	179	134	64	44	45	128
	11	43	26	59	80	143	229	159	85	62	73	74	165	94	78	63	62	151	123	112	66	104	105	70	74	96
	12	44	86	192	568	302	74	40	42	139	213	285	283	297	180	234	152	75	52	55	50	54	61	67	63	150
	13	38	45	43	60	60	87	83	86	124	145	77	83	118	230	134	94	63	74	160	141	53	72	119	75	94
Q	14	79	115	105	66	91	268	160	124	134	104	80	52	86	68	51	45	76	52	52	53	95	115	60	41	90
Q	15	65	72	79	79	171	132	112	107	162	186	193	161	189	173	149	173	254	131	101	146	212	256	225	164	154
	16	140	136	154	144	162	220	200	246	156	164	278	270	140	319	286	263	426	481	625	589	457	339	394	537	297
	17	456	427	436	429	223	82	59	103	94	86	111	180	250	501	498	273	79	53	62	59	44	112	94	127	202
	18	75	64	62	66	84	77	181	140	355	323	270	282	286	116	60	63	54	57	58	46	44	55	126	144	129
	19	234	259	207	146	211	158	212	93	71	85	97	87	120	138	293	330	467	362	308	138	92	112	107	109	185
	20	69	78	147	234	84	52	91	100	131	174	129	152	109	108	131	102	107	91	75	91	102	159	97	104	113
	21	33	37	36	45	58	71	208	178	290	359	179	107	88	259	179	164	152	134	127	163	217	62	48	56	135
Q	22	30	33	34	42	33	45	70	68	87	71	65	78	80	61	54	64	113	102	107	102	73	91	105	125	72
	23	97	120	133	57	130	186	142	163	230	163	227	274	189	136	84	90	173	108	64	72	57	133	176	136	139
	24	163	205	151	117	100	68	52	69	49	81	94	164	302	340	334	254	86	64	40	38	46	73	49	46	124
	25	50	89	164	280	352	395	452	277	115	75	205	479	170	135	110	119	98	45	64	58	58	87	64	72	167
	26	188	57	55	42	39	205	299	553	294	301	549	197	86	48	113	143	562	466	223	190	103	58	75	85	205
	27	126	305	185	112	51	61	193	311	187	91	123	85	89	124	113	97	65	49	45	48	45	82	189	261	127
Q	28	278	171	124	88	66	55	32	45	34	34	62	60	98	28	58	43	29	39	36	53	46	59	61	66	69
Q	29	64	73	56	77	78	67	74	92	98	77	105	89	98	64	78	35	41	34	42	40	57	82	196	346	86
	30	156	90	65	45	49	48	42	32	31	53	47	75	114	139	133	90	111	327	860	432	282	292	238	182	164
D	31	154	283	610	376	271	563	630	526	370	445	487	345	414	322	238	247	239	299	431	606	303	307	330	405	383
	Mean	186	196	189	162	162	202	211	221	192	178	193	202	233	253	238	210	226	213	230	197	181	189	191	188	202
5Q	Mean	103	92	79	70	87	113	89	87	103	94	101	88	110	78	78	72	102	71	67	78	96	120	129	148	94
5D	Mean	353	416	464	344	415	596	558	567	458	389	363	391	542	629	604	546	554	501	442	415	459	502	504	435	477

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

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D	2	-5	0	14	-12	-10	6	12	-57	-55	-6	-10	-112	-180	-209	-119	-196	-147	-66	-62	-92	-132	-205	-249	-306	-91
D	3	-260	-280	-190	-108	-138	-193	-161	-107	-44	-76	-60	-15	-4	-6	-42	-32	-4	-21	-15	16	-30	0	0	0	-74
D	4	0	-5	-55	1	26	25	19	45	35	34	57	17	-104	-103	-21	-27	-95	-13	4	6	0	14	-115	-65	-13
	5	-12	7	-39	-20	-6	-63	-80	-40	5	-4	-1	-24	-140	-77	-96	-129	-109	-99	-98	-117	-54	-88	-120	-120	-63
D	6	-82	-117	-32	-35	-115	-209	-266	-215	-208	-7	34	-95	-161	-163	-170	-83	-251	-243	-130	-50	-39	-247	-98	-17	-125
	7	-174	-124	-33	10	-6	-1	0	-102	-50	3	-119	-17	0	-17	-59	-35	-25	-40	-102	-36	2	4	8	-8	-38
	8	-75	-40	-15	-5	-7	-7	0	10	20	13	15	-4	-126	-142	-59	-32	-16	0	0	-19	-17	6	1	-28	-22
	9	-57	-22	-11	-18	-21	-10	-6	13	10	-19	-4	-32	-30	-15	-14	-9	2	3	5	8	12	3	9	11	-8
	10	-33	-94	-49	-8	1	-10	-7	7	0	5	17	1	3	0	-1	-1	4	-19	-68	-8	8	9	4	4	-9
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Q	14	-1	-12	-19	-6	1	-33	-28	-7	6	-11	-9	-1	17	12	6	2	1	8	9	7	-8	-18	5	-2	-3
Q	15	8	8	2	7	-19	-2	14	14	-29	-26	14	11	0	10	2	11	-53	-21	14	29	43	30	26	34	5
	16	31	30	35	26	39	49	1	36	35	16	-10	-1	12	-26	-59	-58	-92	-57	-57	-12	0	60	14	-83	-2
	17	-9	-39	-59	-5	8	5	5	14	8	13	27	6	-11	-144	-143	-54	5	14	8	9	4	6	5	26	-12
	18	25	19	17	18	3	6	12	3	-34	-3	23	-26	-42	4	4	-2	0	7	11	9	5	6	0	1	2
	19	33	5	21	-11	-44	-5	-31	-10	2	22	17	27	29	33	-33	-55	-80	-60	-36	11	24	31	29	8	-2
	20	13	4	5	-49	-6	2	-3	0	-5	-11	11	23	19	21	22	3	1	4	4	10	11	-23	2	24	3
	21	0	0	0	6	5	-1	-24	-10	-40	-50	-22	21	13	-36	-21	-5	-16	-20	14	21	-27	4	6	12	-7
Q	22	1	2	3	0	-7	-8	-9	-7	-2	-3	-3	-6	5	2	3	0	-14	-4	-3	1	14	19	29	41	2
	23	18	25	-13	9	-17	-30	-1	17	-3	36	21	4	-3	-6	5	1	-59	-25	6	14	6	2	-7	19	0
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	25	11	9	14	-12	-25	7	5	-25	-6	0	46	-42	-14	22	11	-14	-21	2	2	-1	1	7	14	11	0
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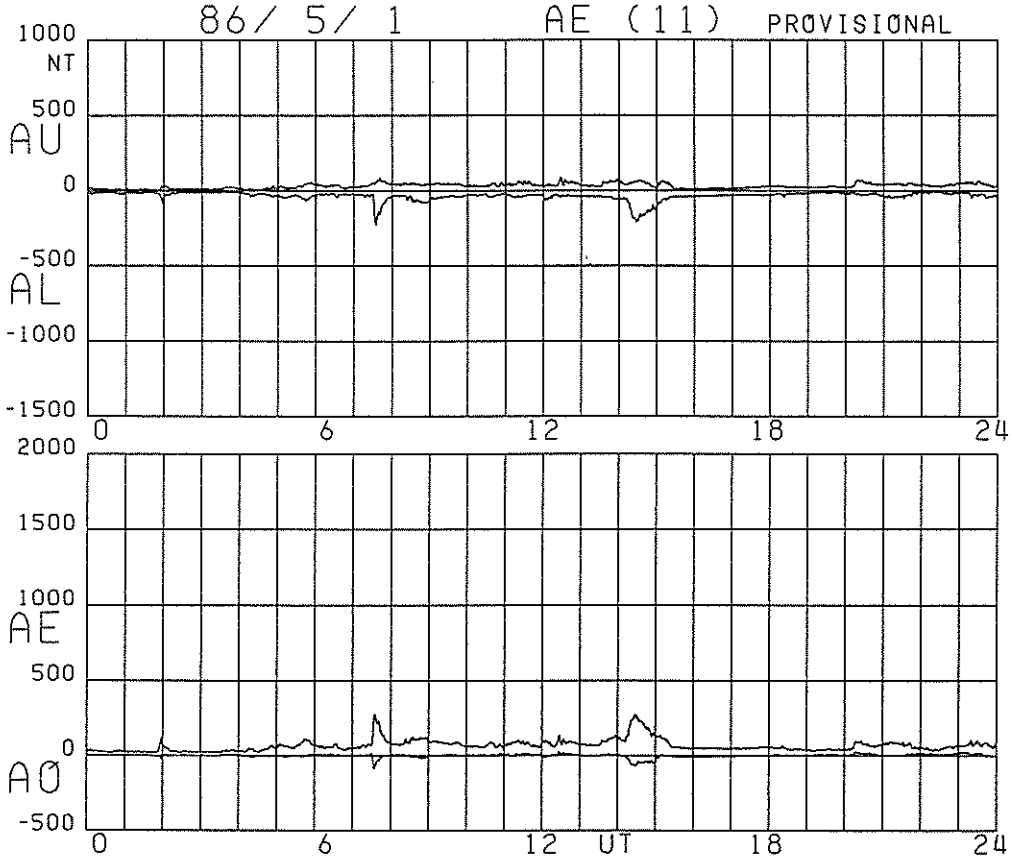
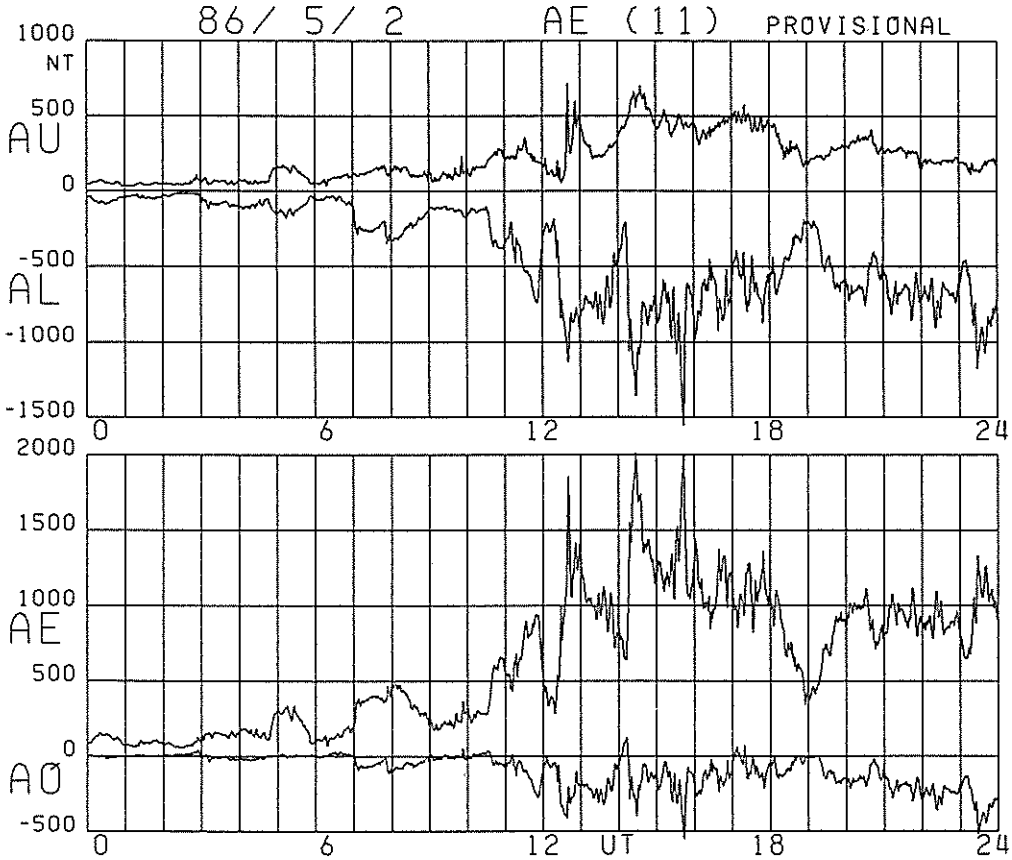
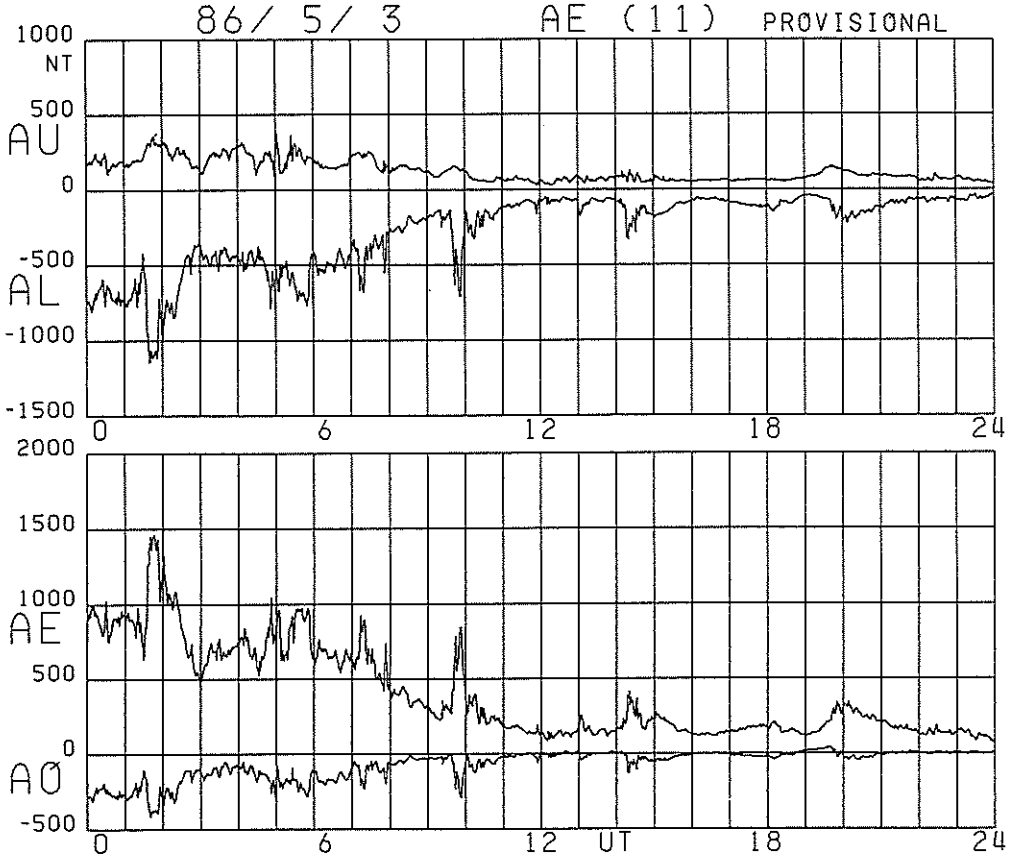
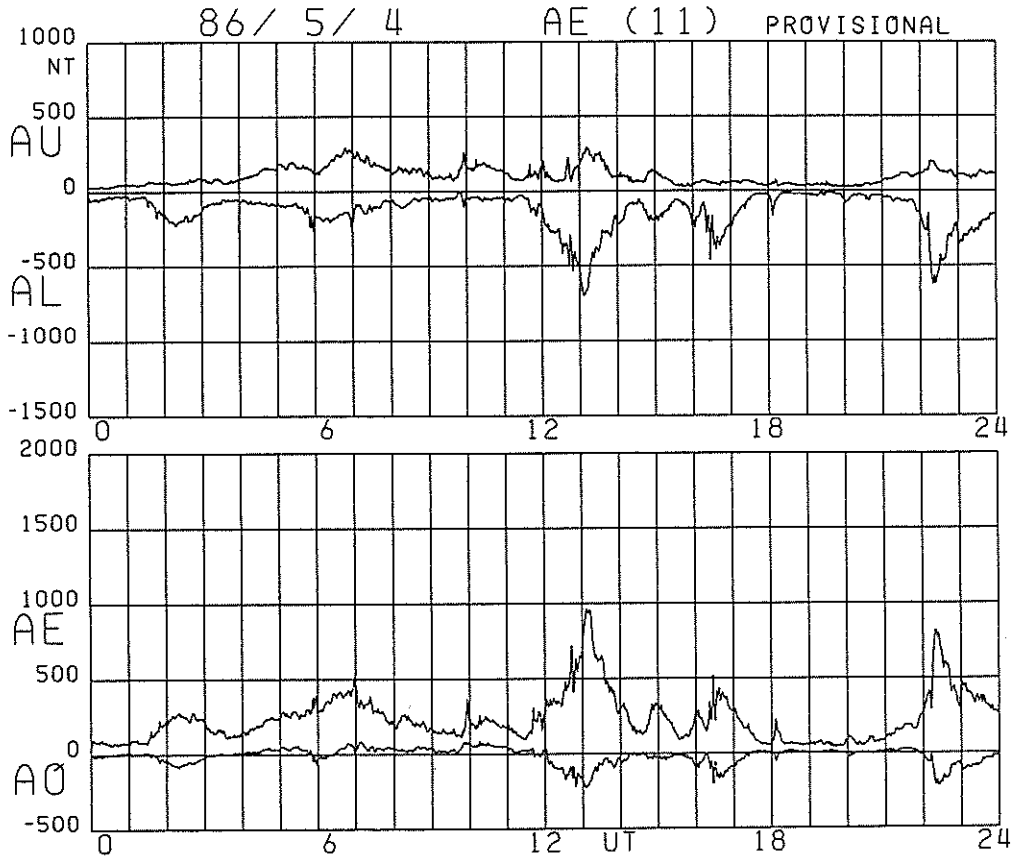
	27	17	-37	-7	2	5	3	19	-48	-36	16	18	22	17	0	-5	-6	2	7	5	14	14	17	17	1	2
Q	28	-22	-15	-16	-9	0	-5	-4	-2	0	3	-3	2	-13	0	-1	-10	-4	-3	4	-4	-1	-4	0	0	-4
Q	29	6	3	1	-16	-20	-18	-22	-26	-21	-3	-4	16	1	7	-13	-4	-1	0	0	1	5	10	-3	-12	-4
	30	27	1	4	-3	-8	0	-1	-6	0	5	8	15	29	9	0	12	6	-49	-193	5	60	33	24	27	0
D	31	9	31	-92	-51	16	-18	-111	-61	-3	7	-6	18	-43	-60	-28	-29	-37	-38	-25	-79	18	23	31	-44	-23
	Mean	-17	-21	-16	-13	-12	-17	-23	-21	-16	-2	0	-7	-23	-31	-29	-24	-39	-28	-24	-8	-1	-8	-9	-13	-17
5Q	Mean	-1	-2	5	-4	-9	-13	-9	-5	-9	-8	-1	4	2	6	0	0	-14	-4	4	6	10	7	11	12	-1
5D	Mean	-67	-74	-71	-41	-44	-77	-101	-79	-55	-9	3	-37	-98	-108	-76	-73	-106	-76	-45	-39	-36	-83	-86	-86	-65





Prov.AE 8605 Fig.1- 1





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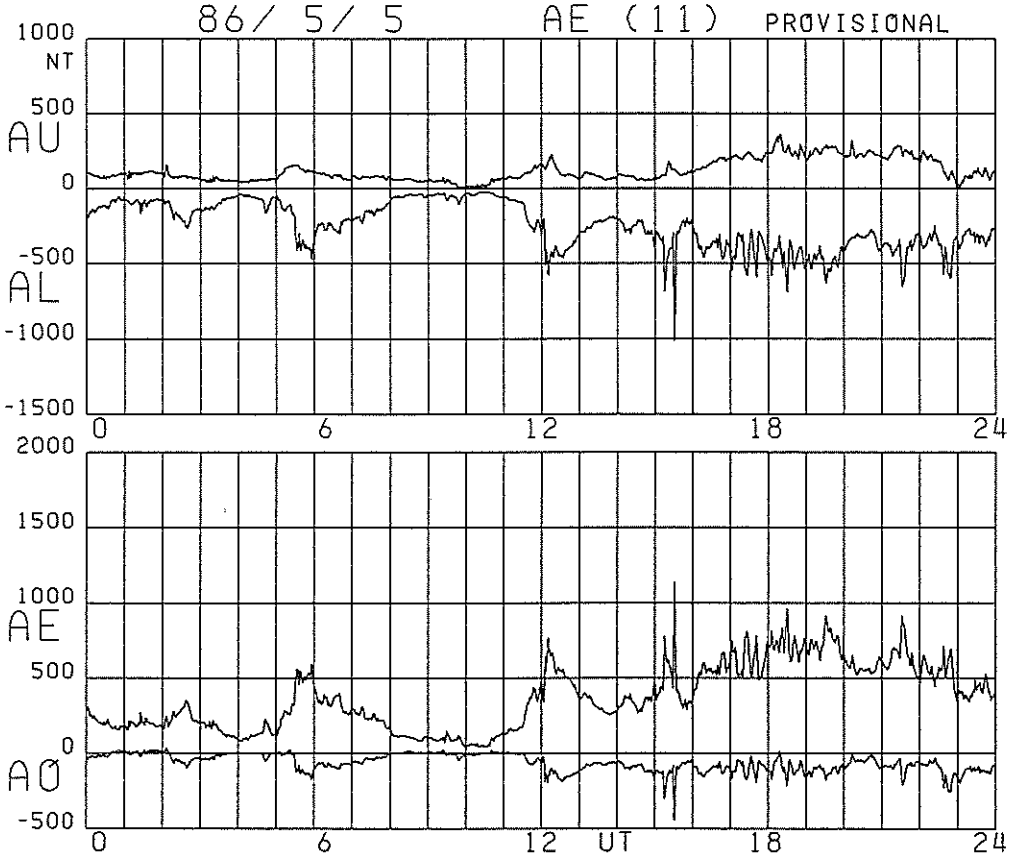

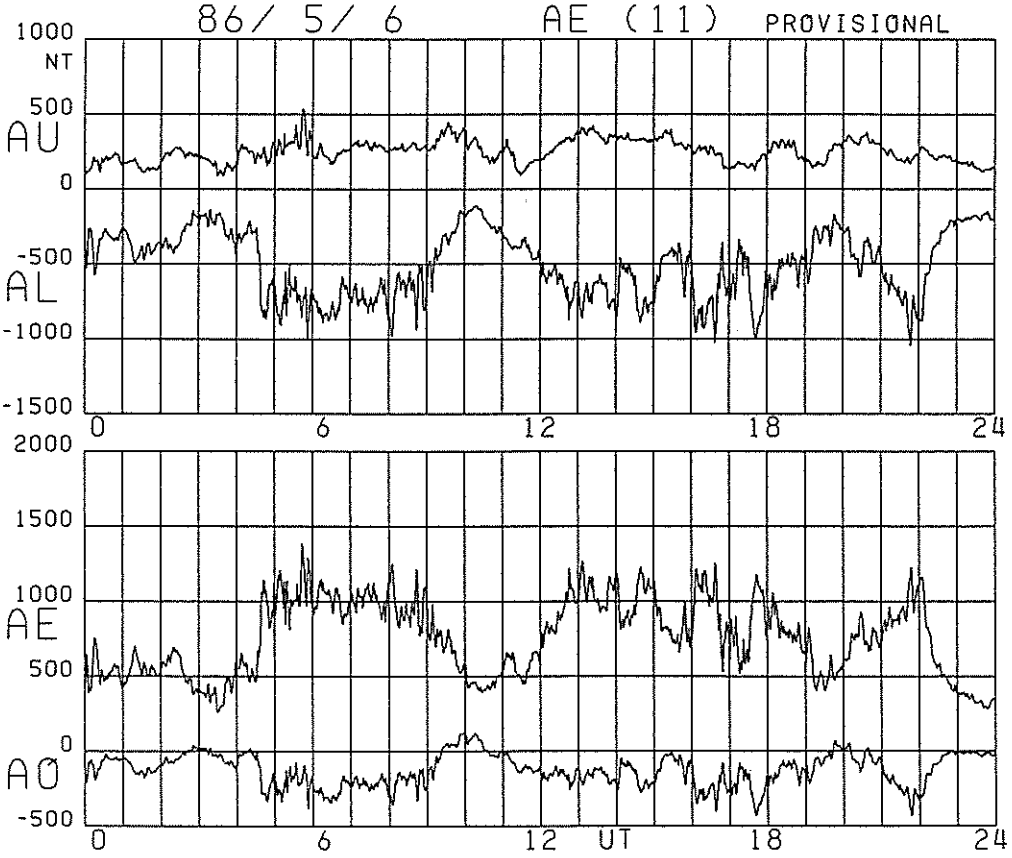

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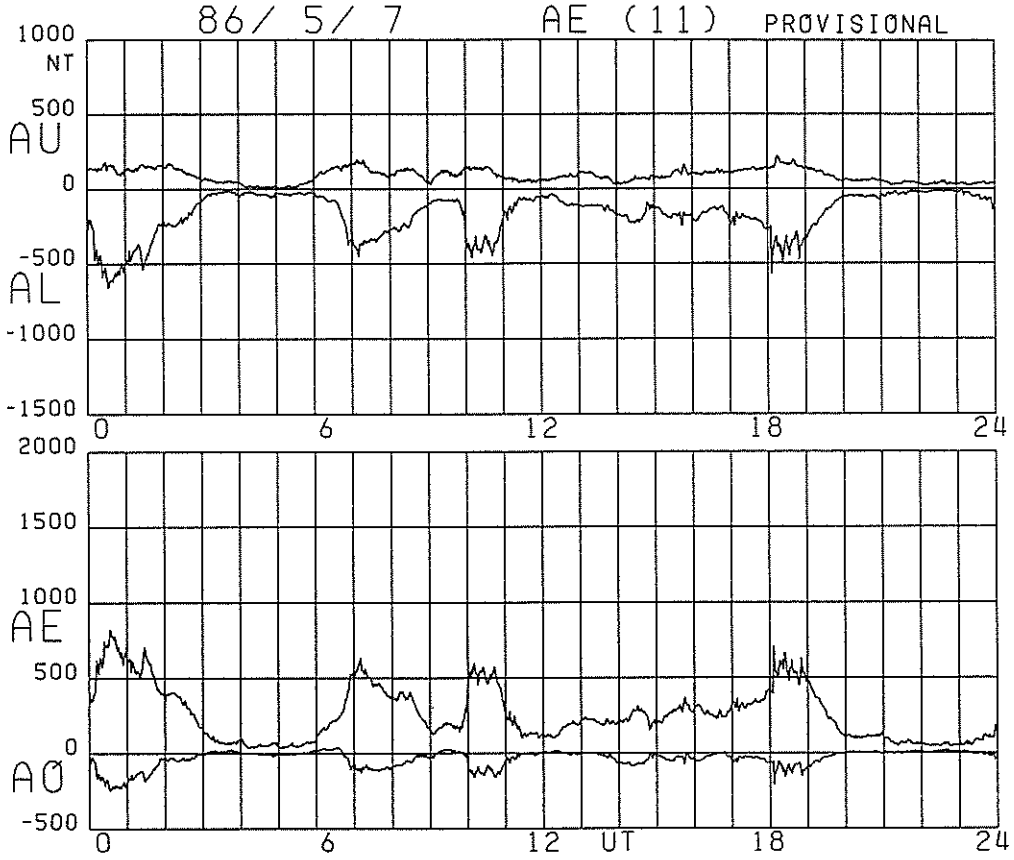

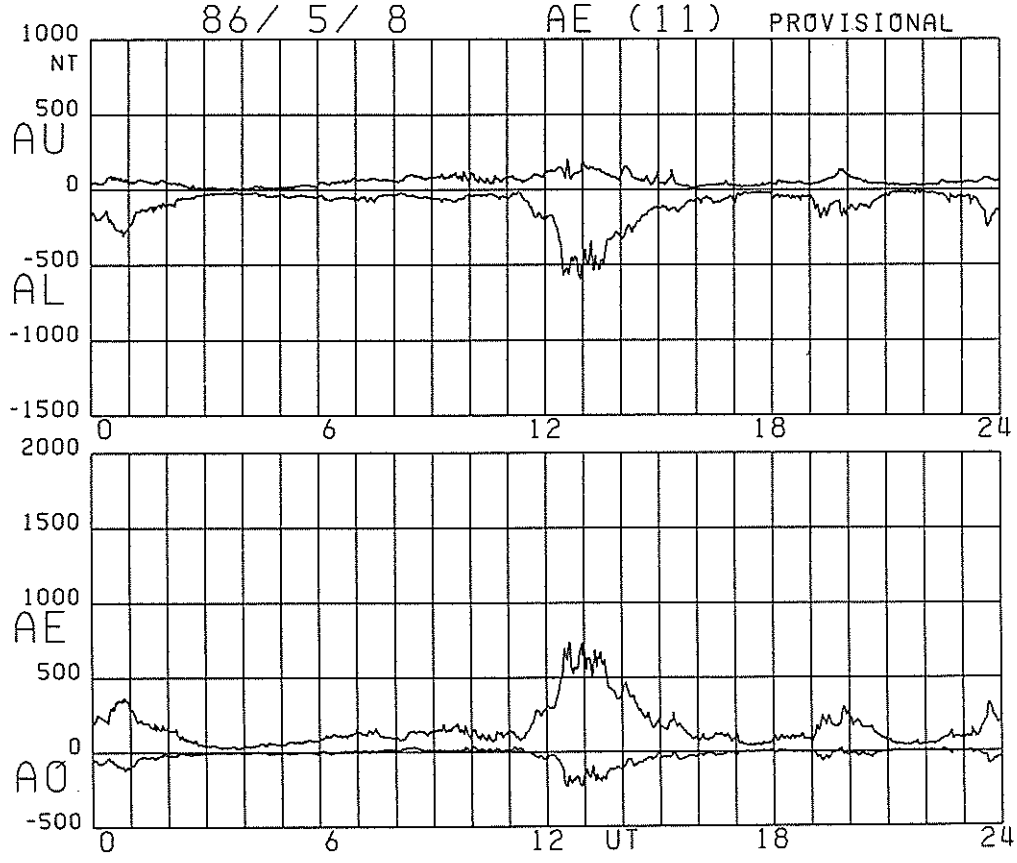

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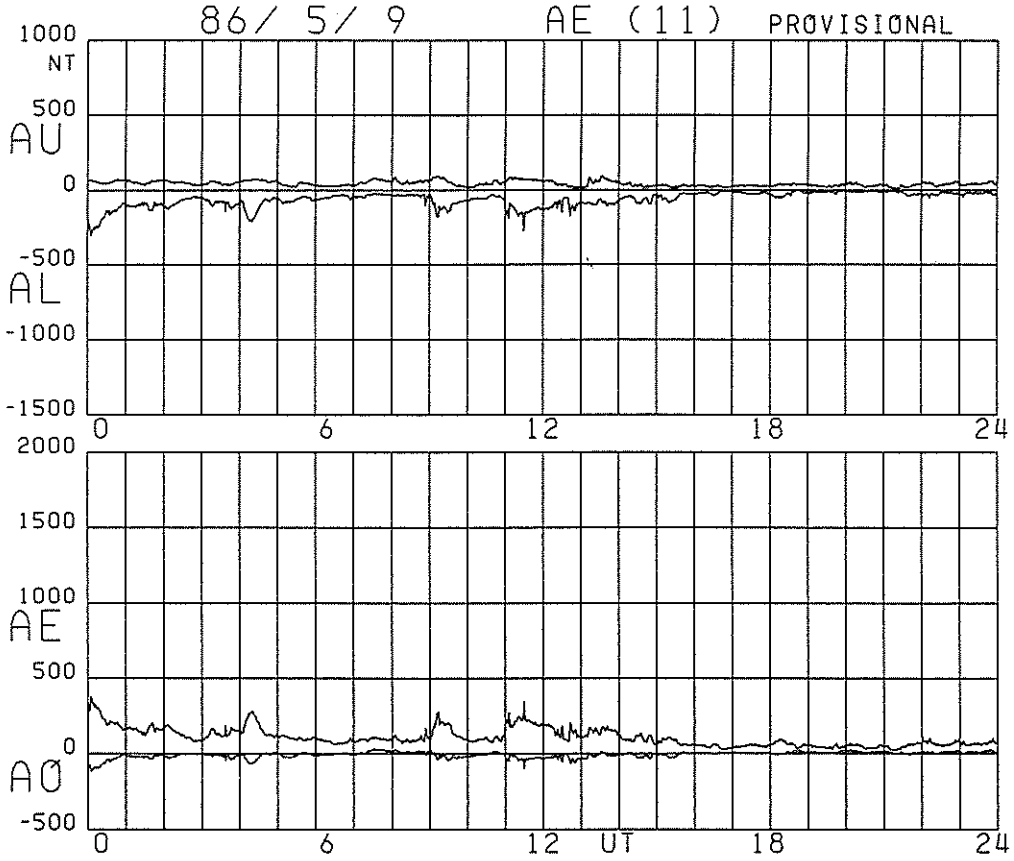

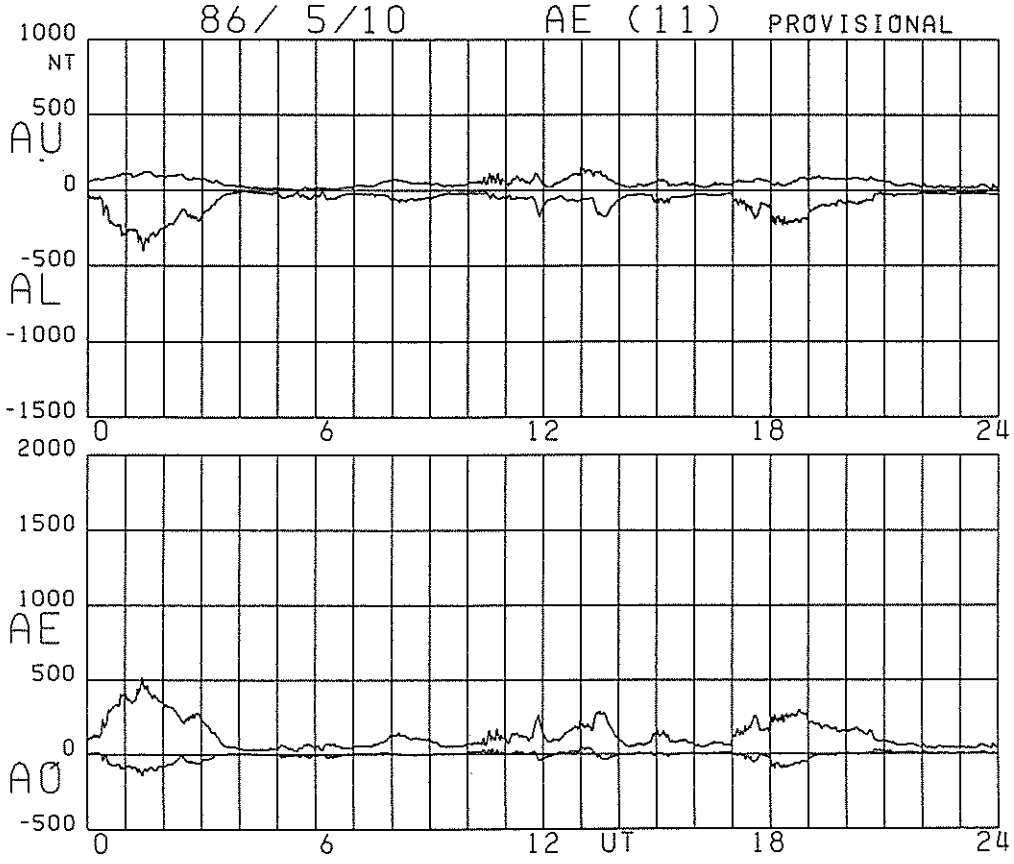

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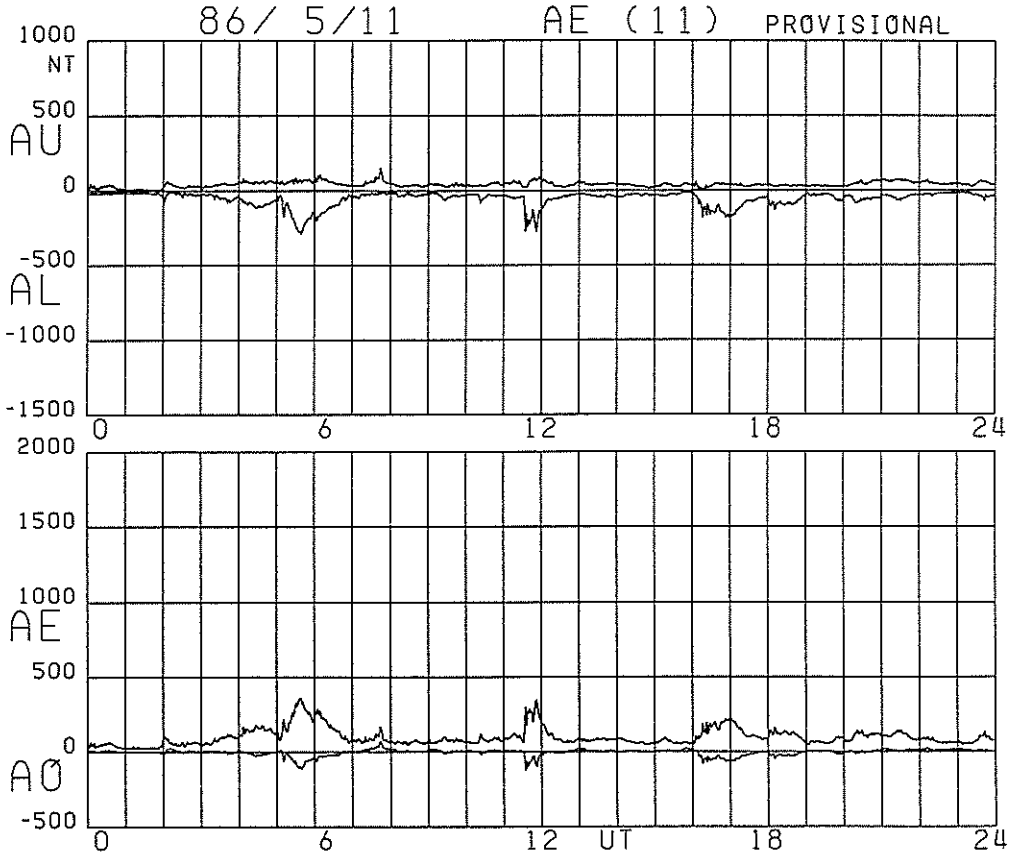

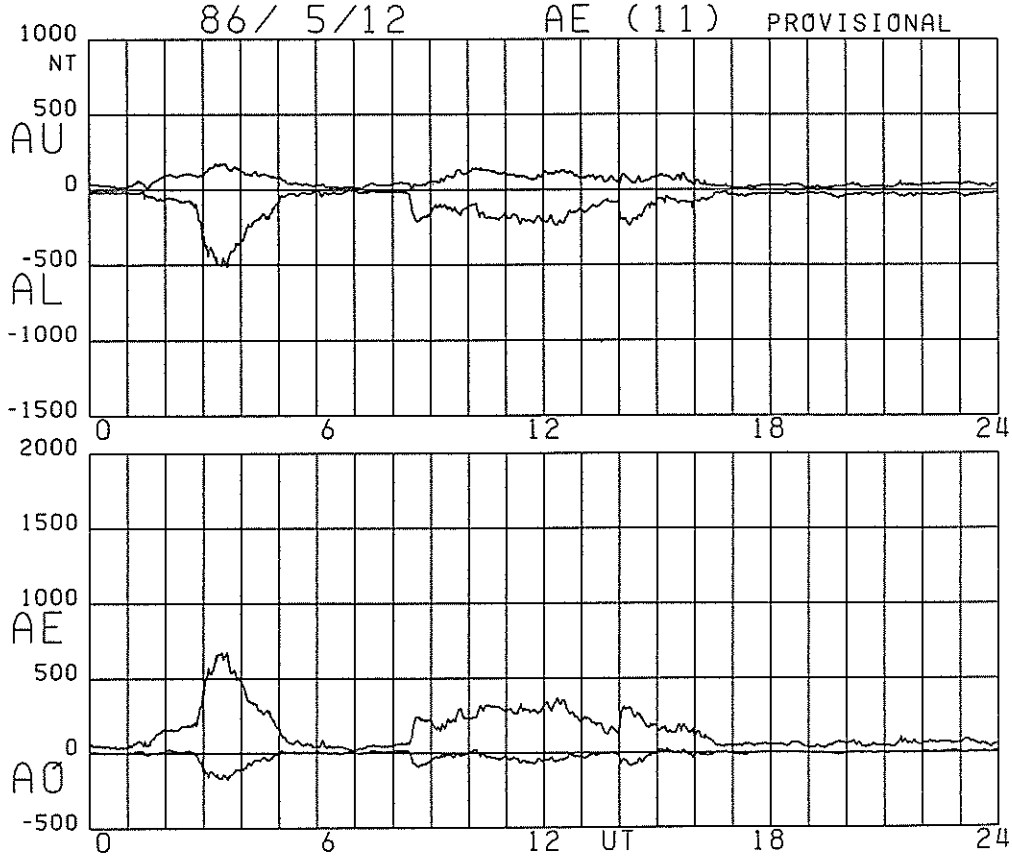

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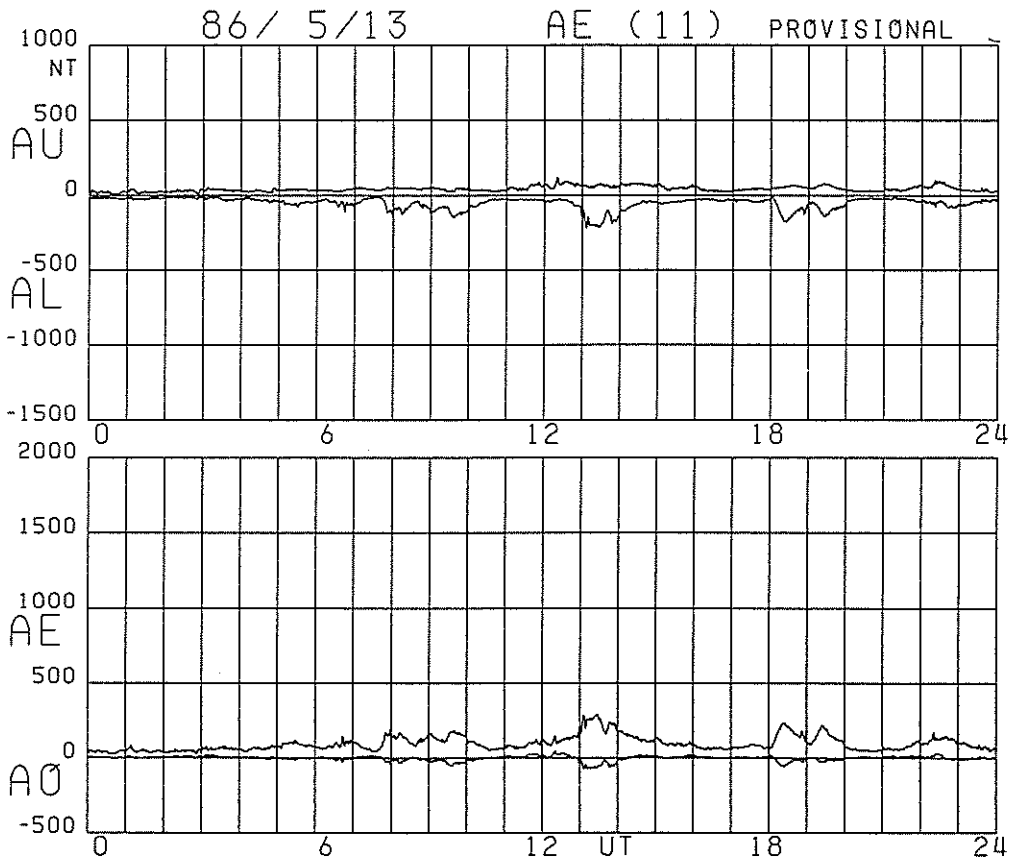

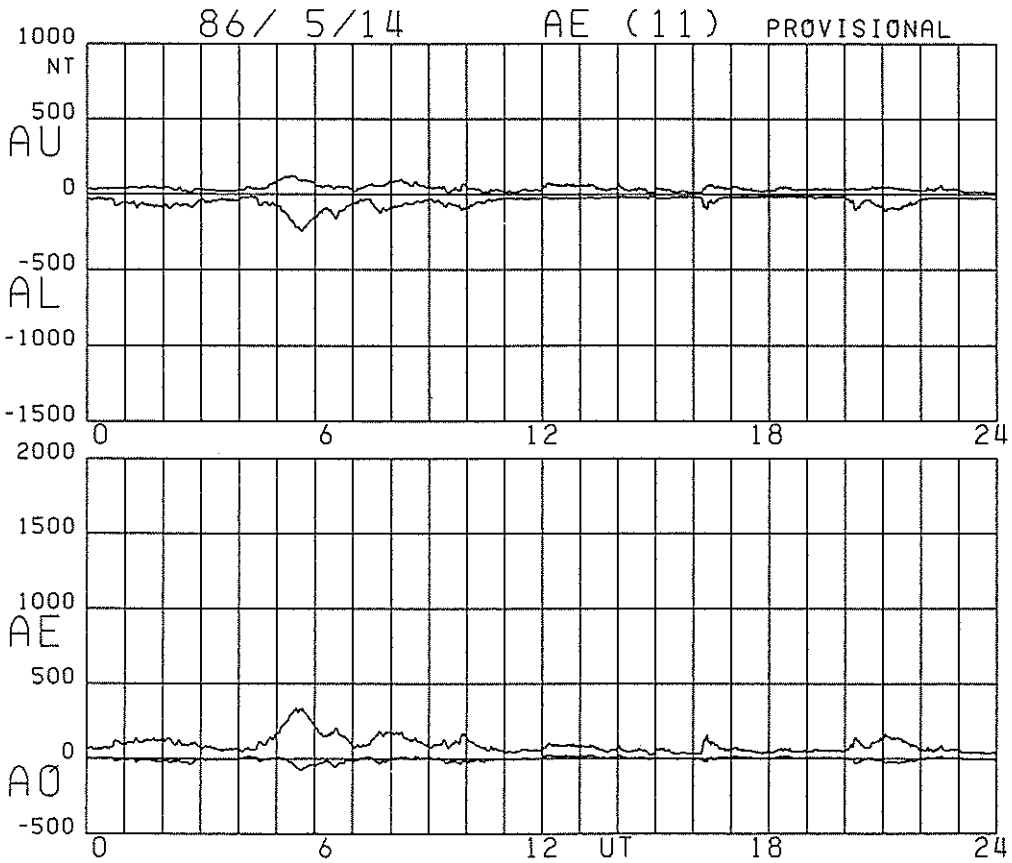

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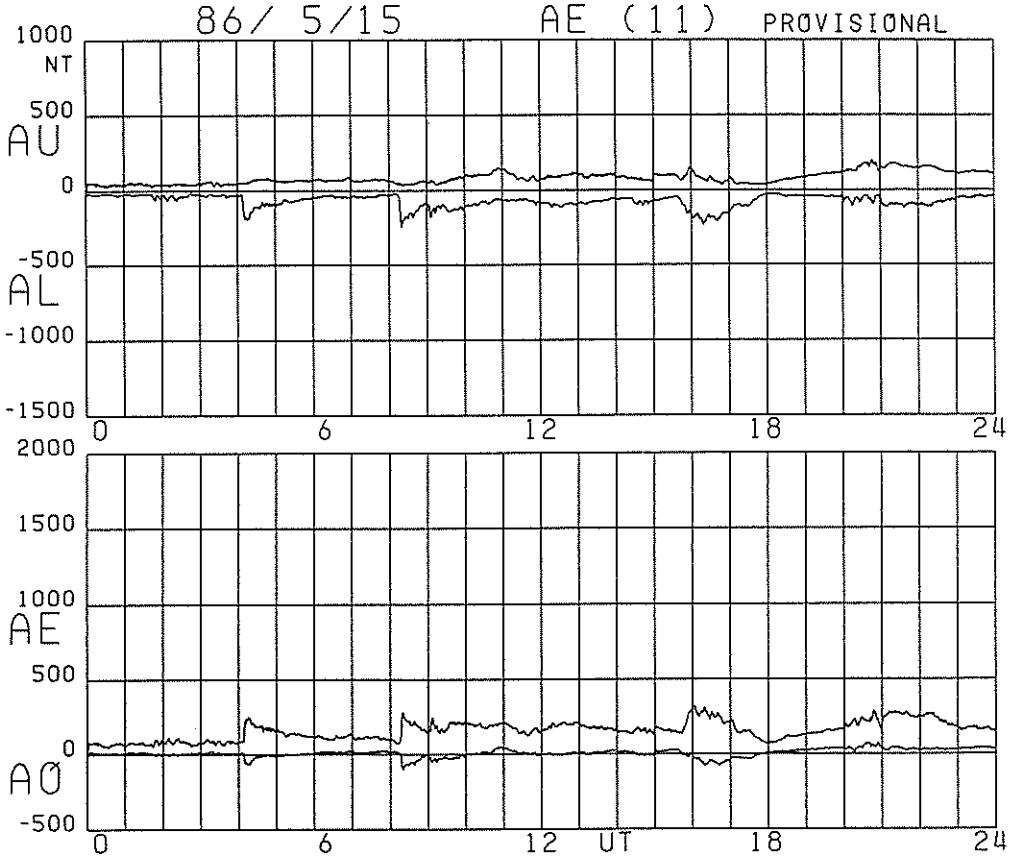
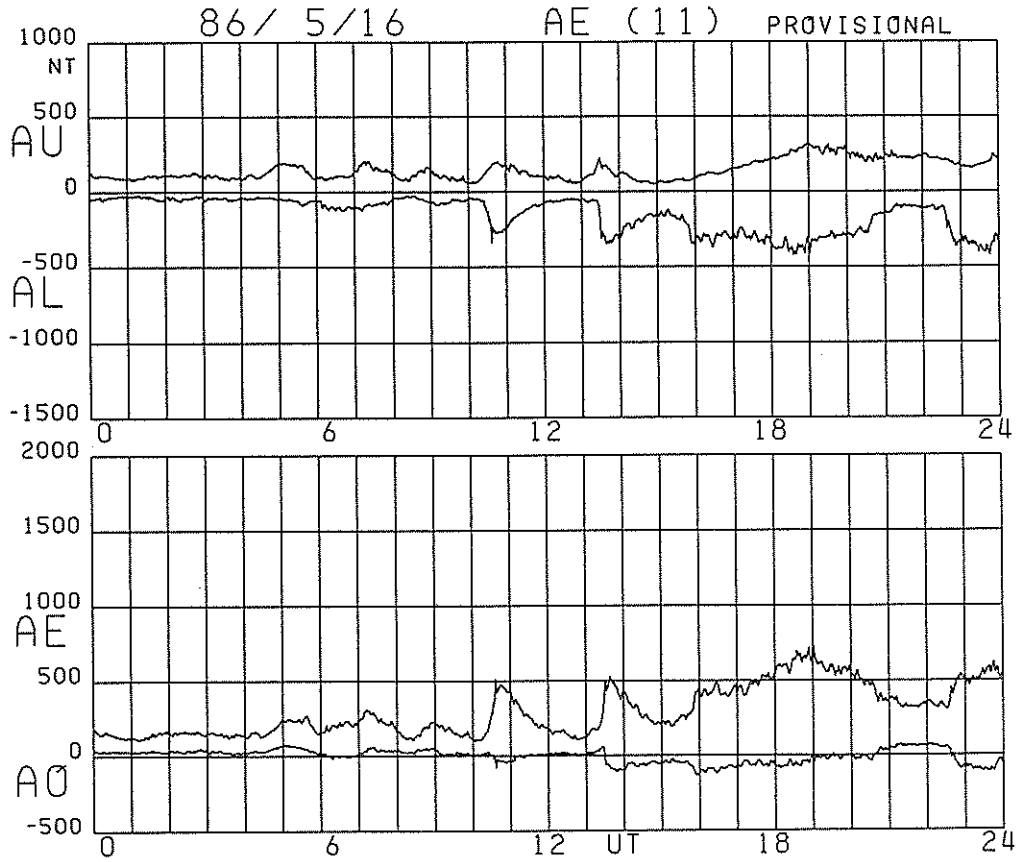
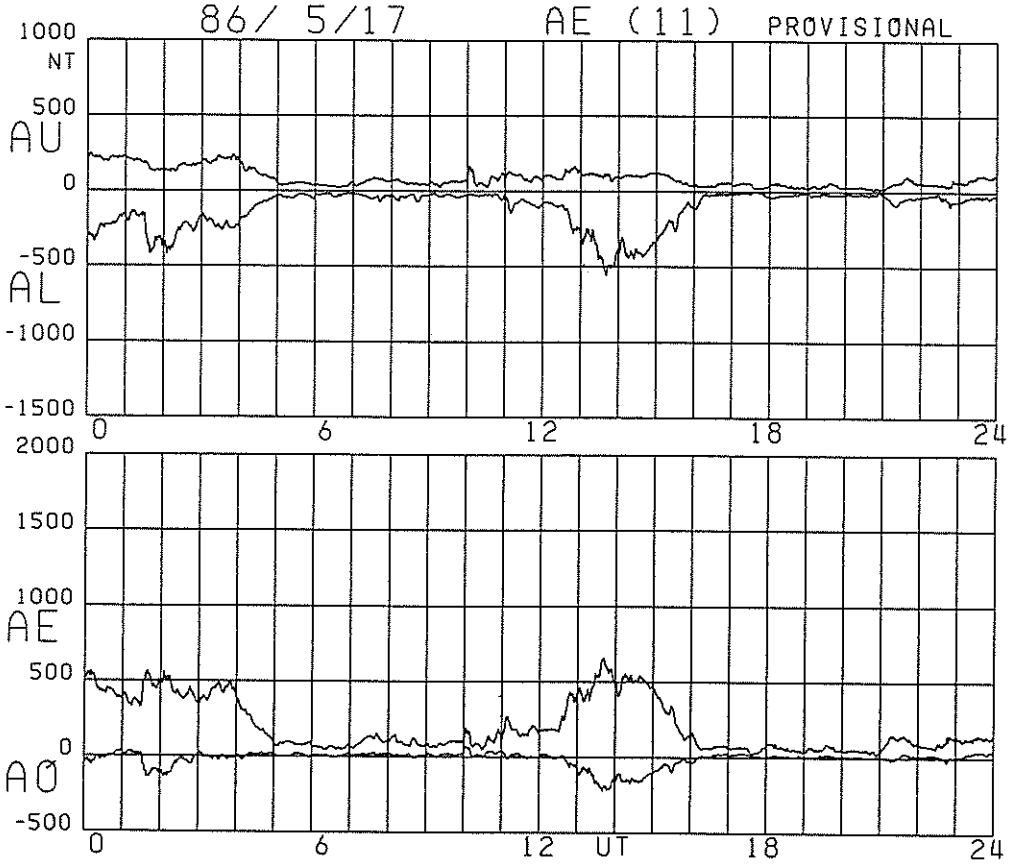
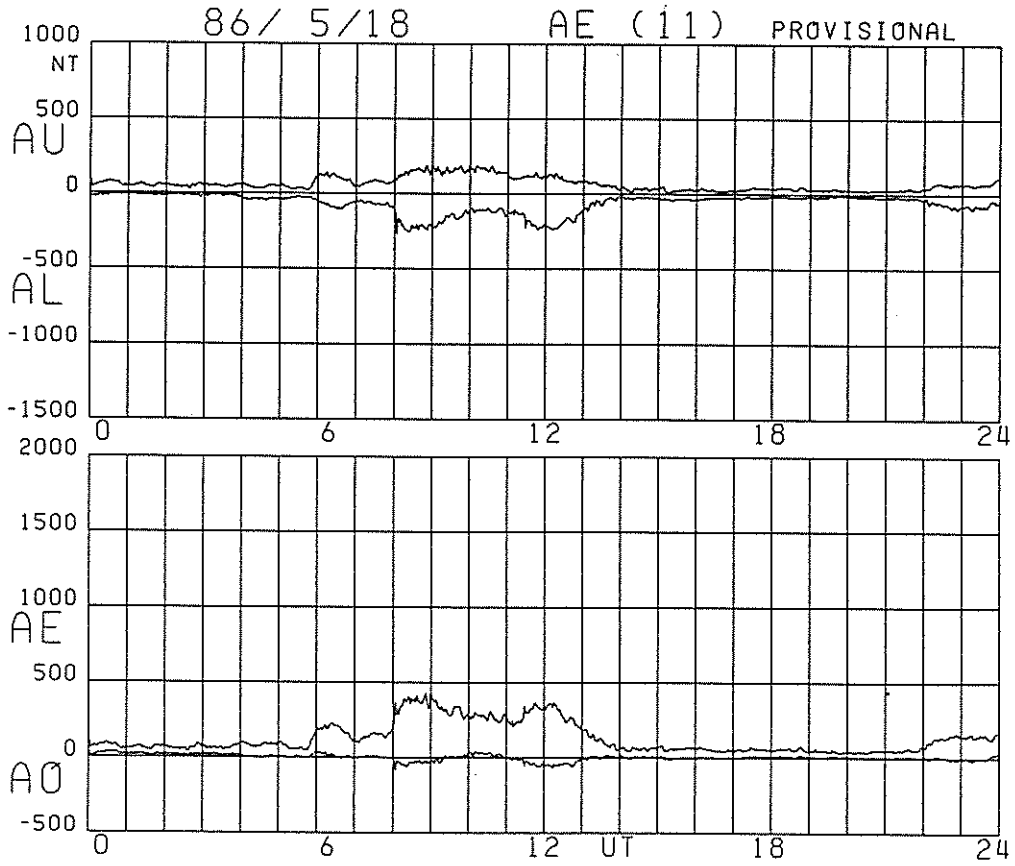


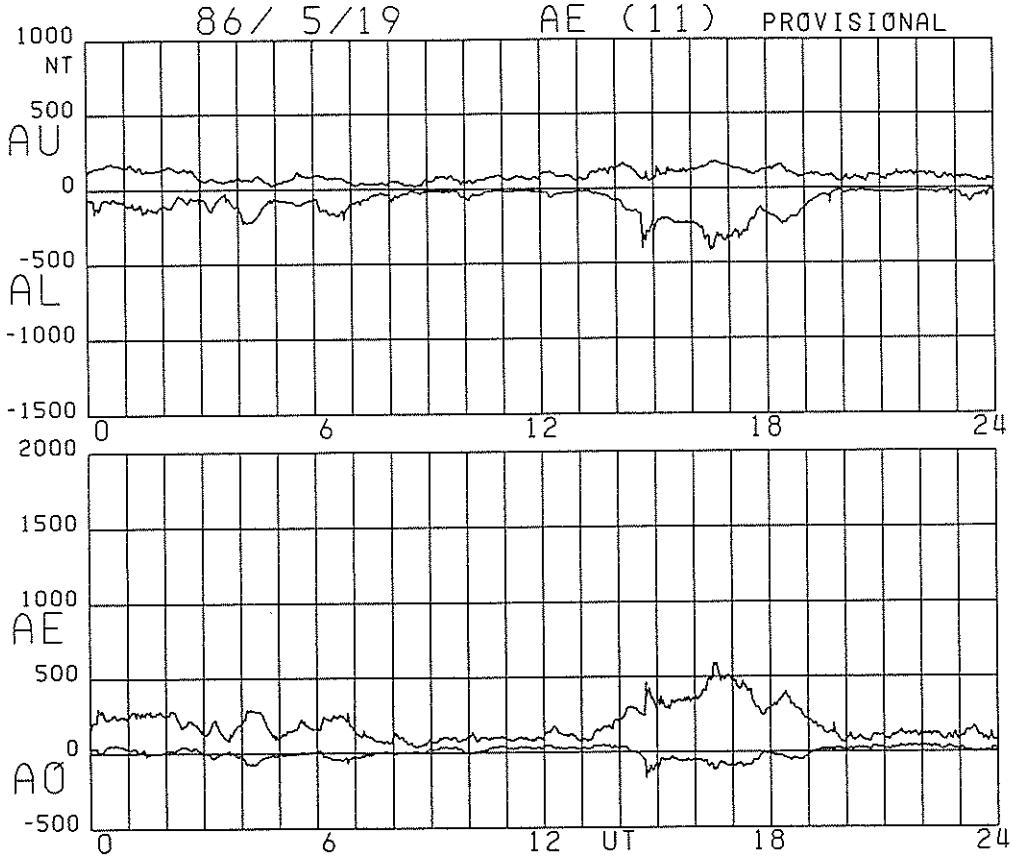


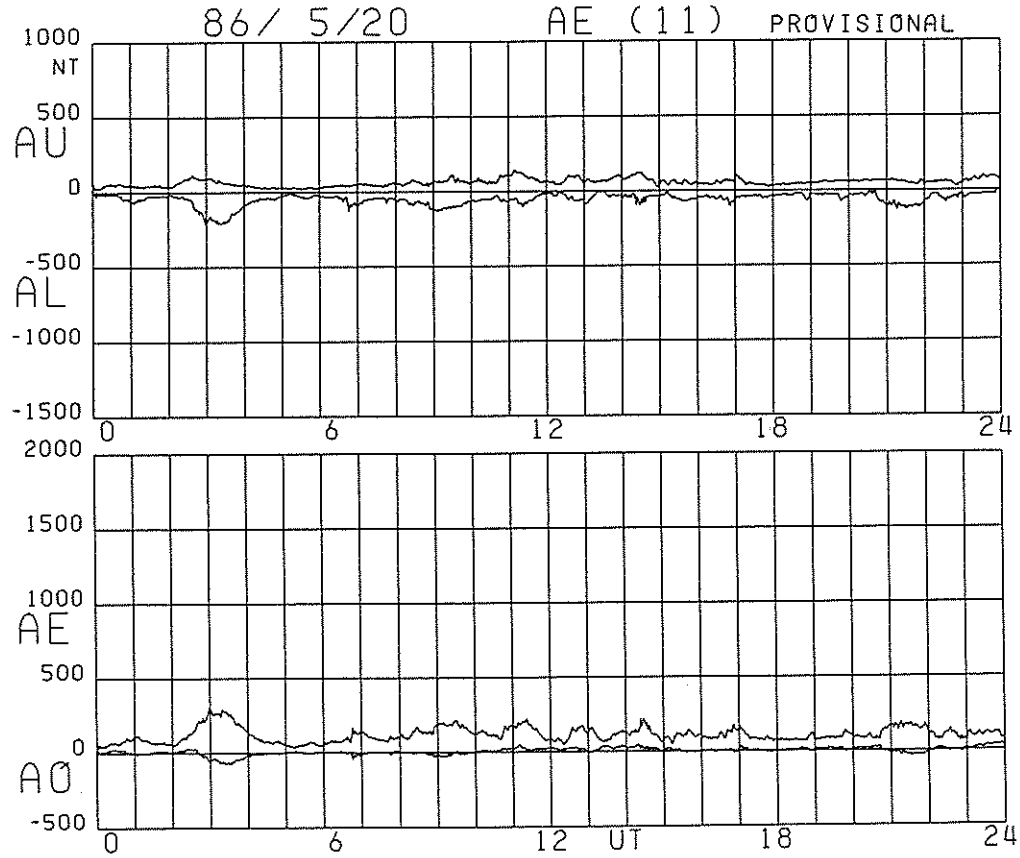
Prov.AE 8605 Fig.1- 8





Prov.AE 8605 Fig.1- 9





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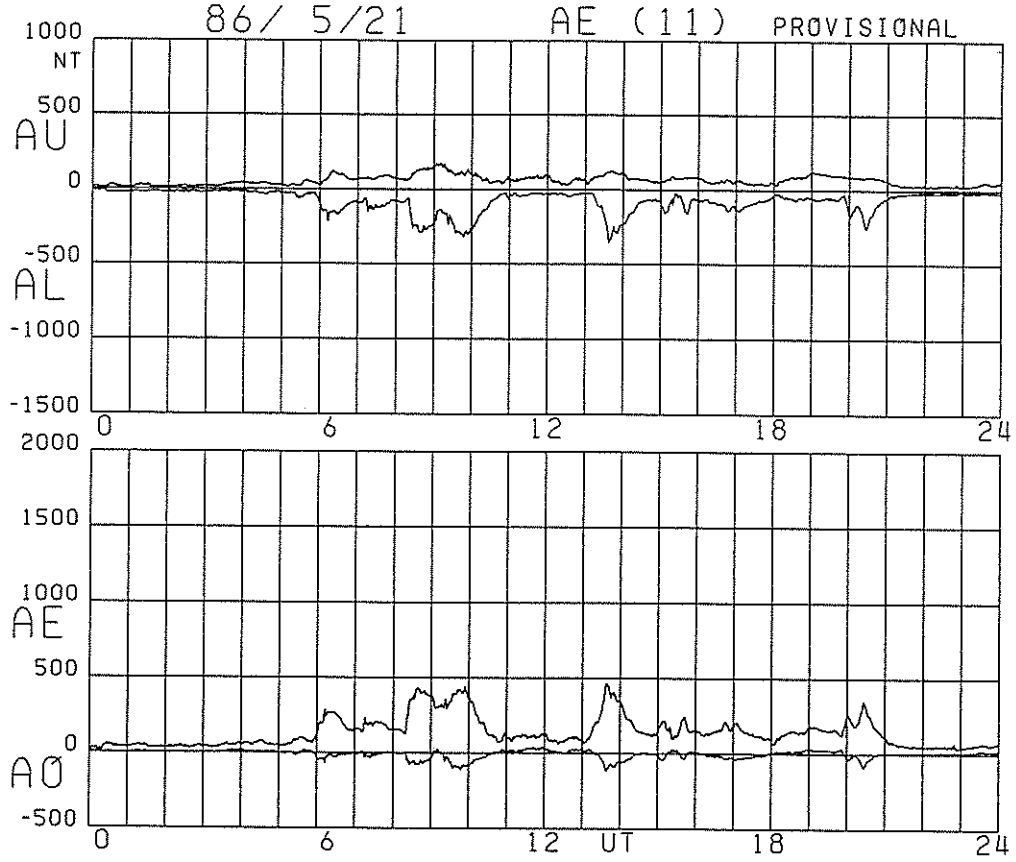

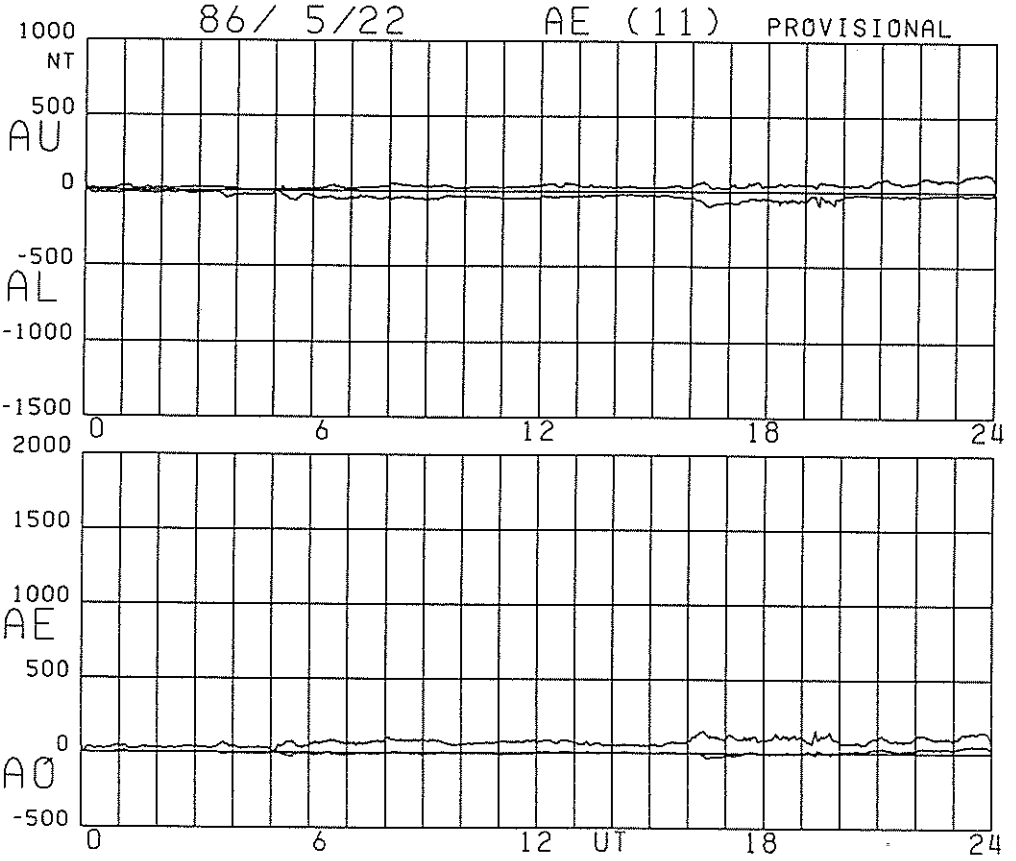

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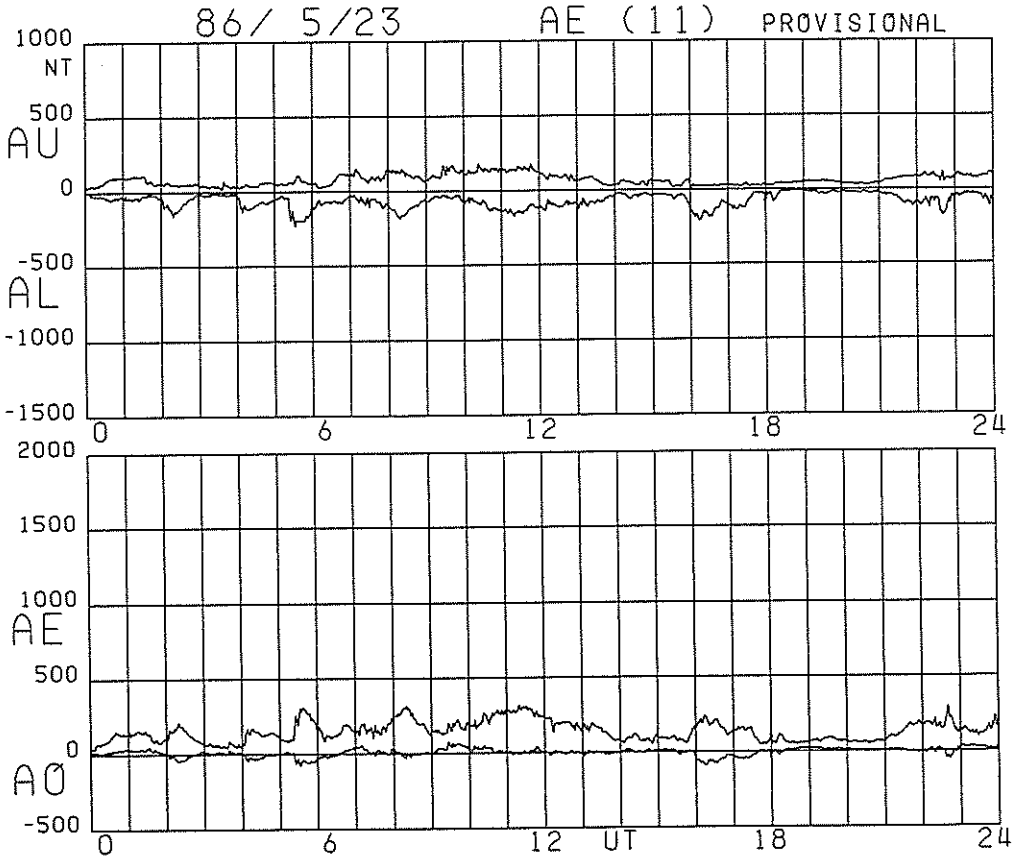

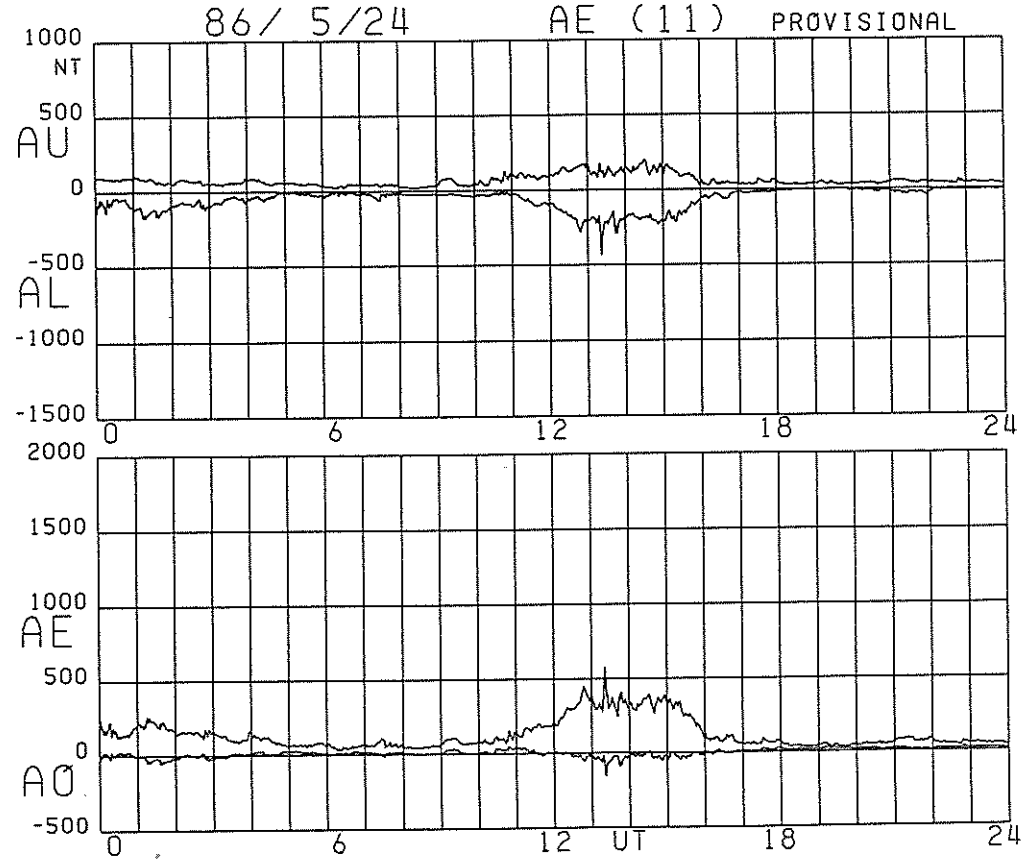

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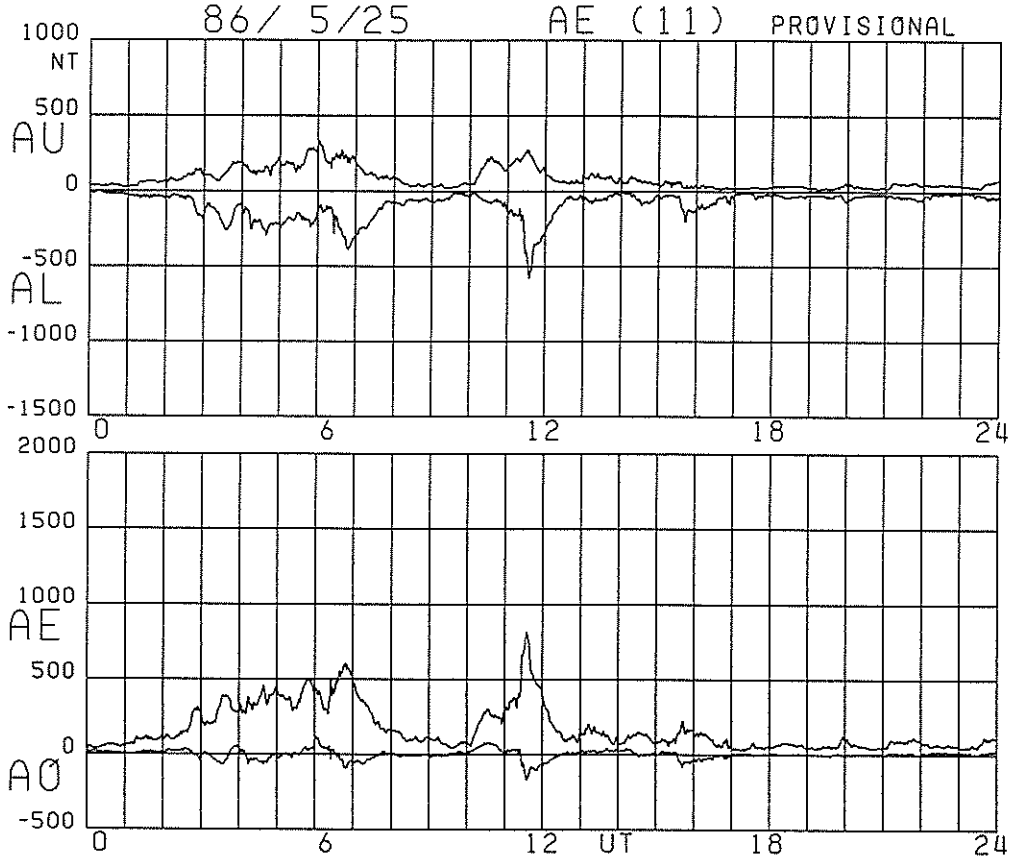

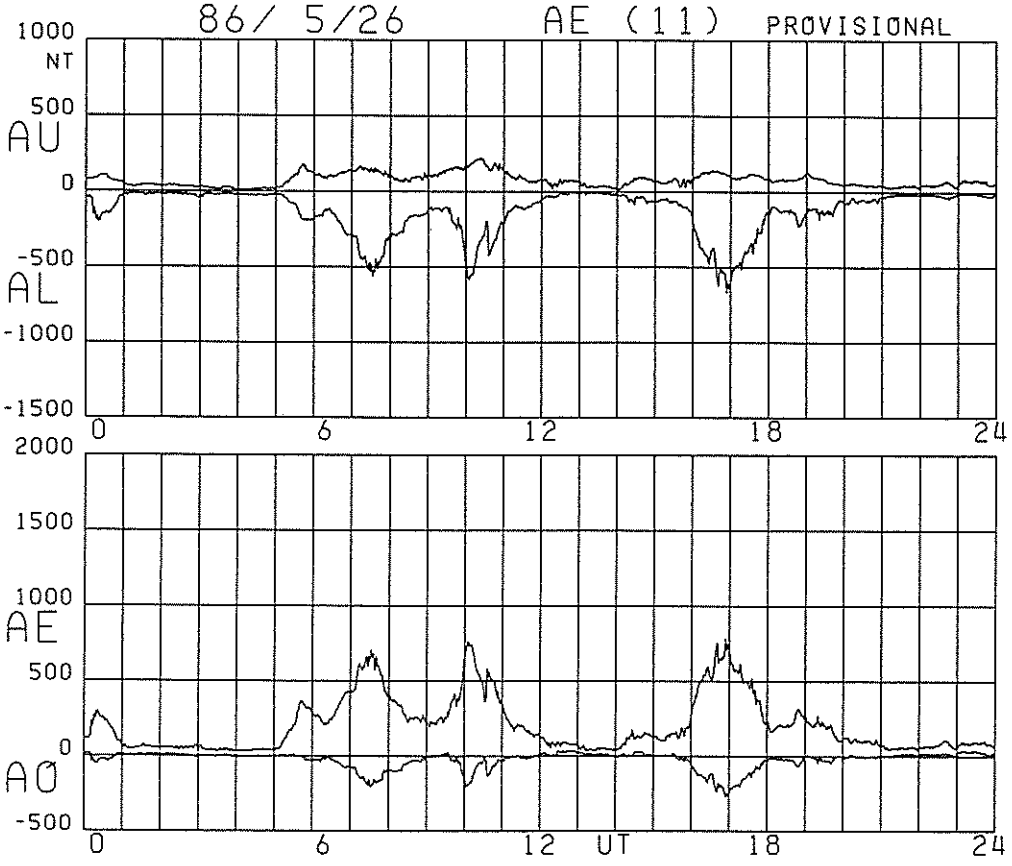

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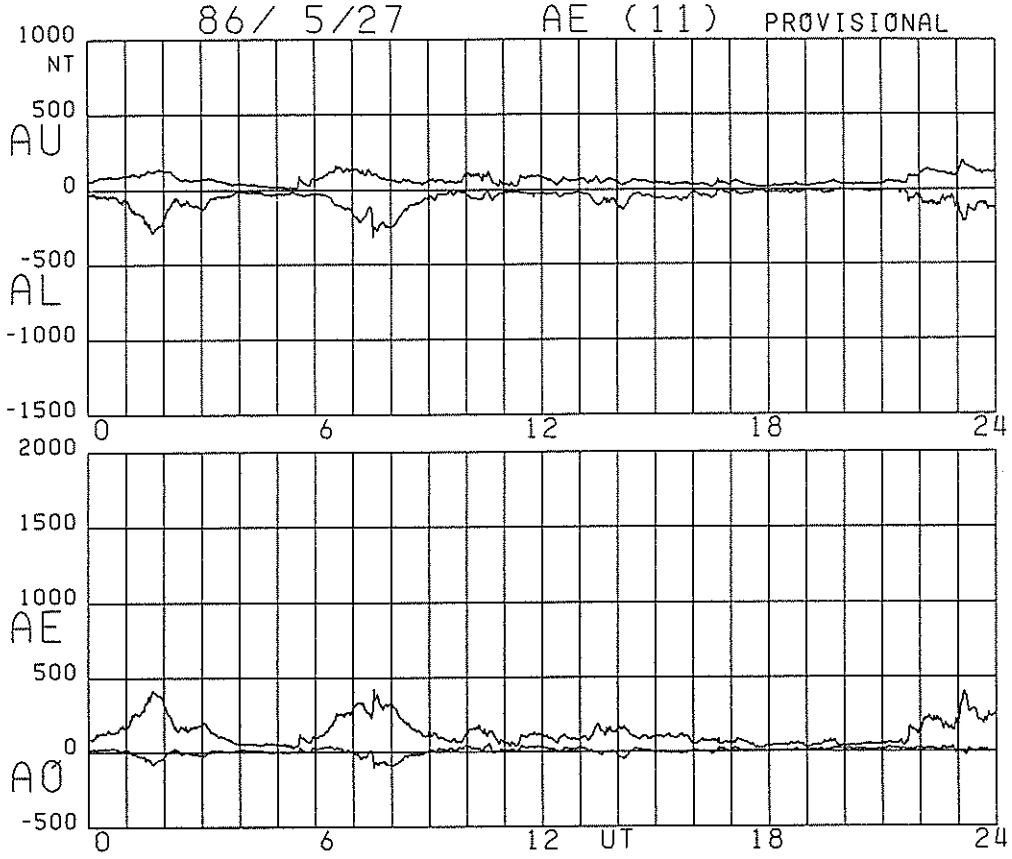

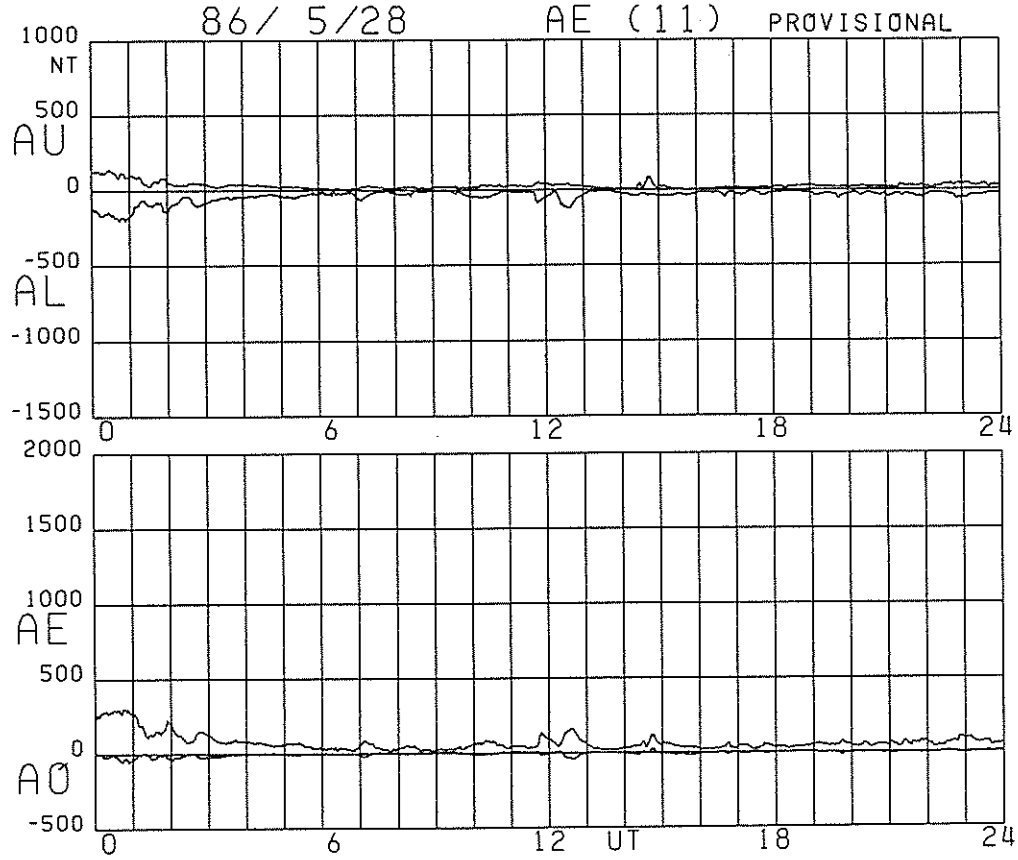

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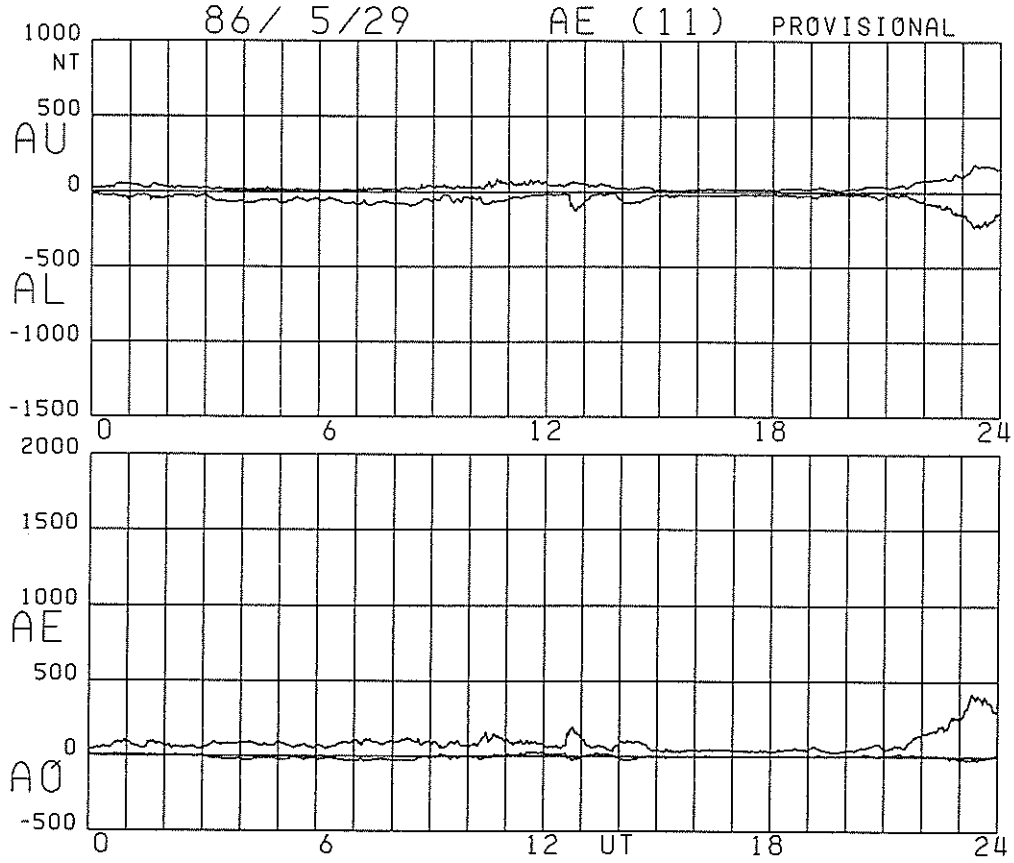
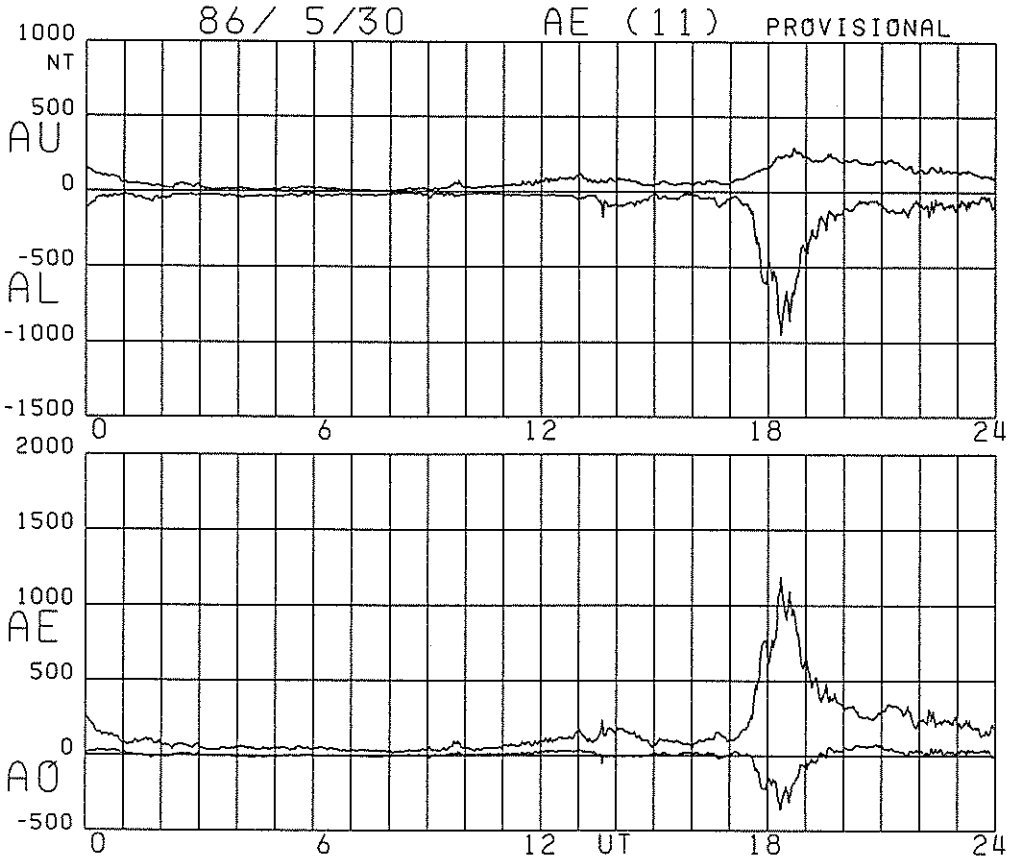
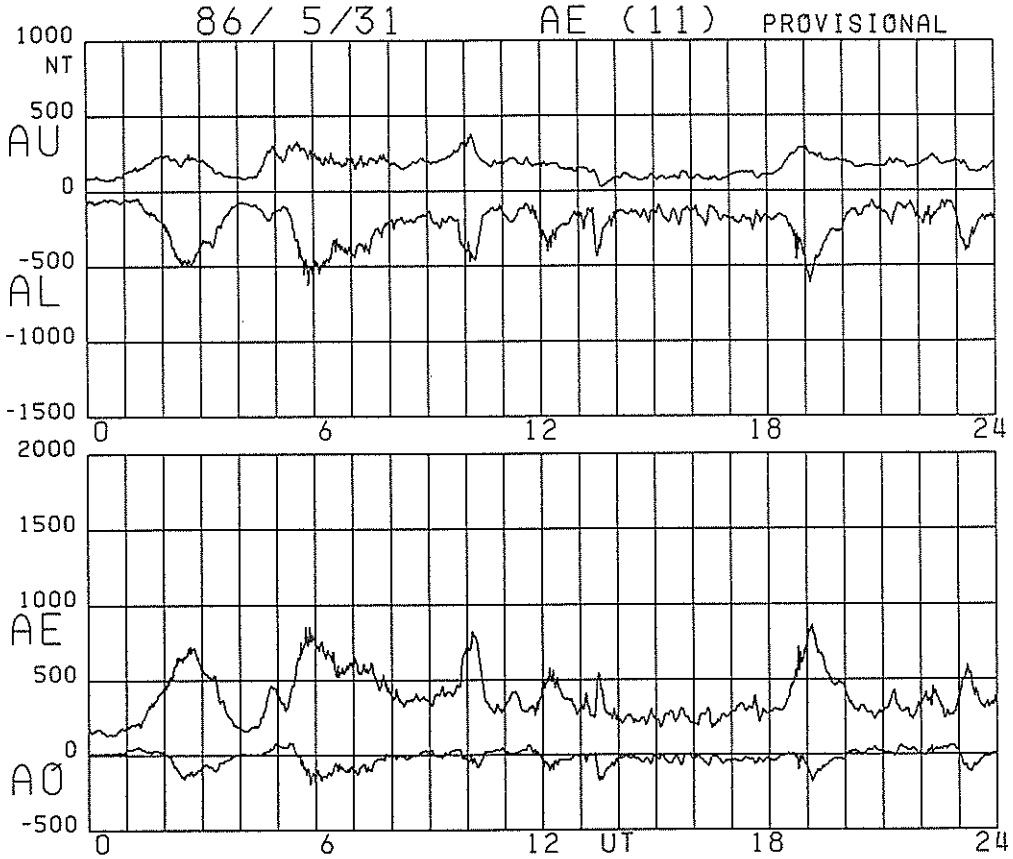




Prov.AE 8605 Fig.1-15



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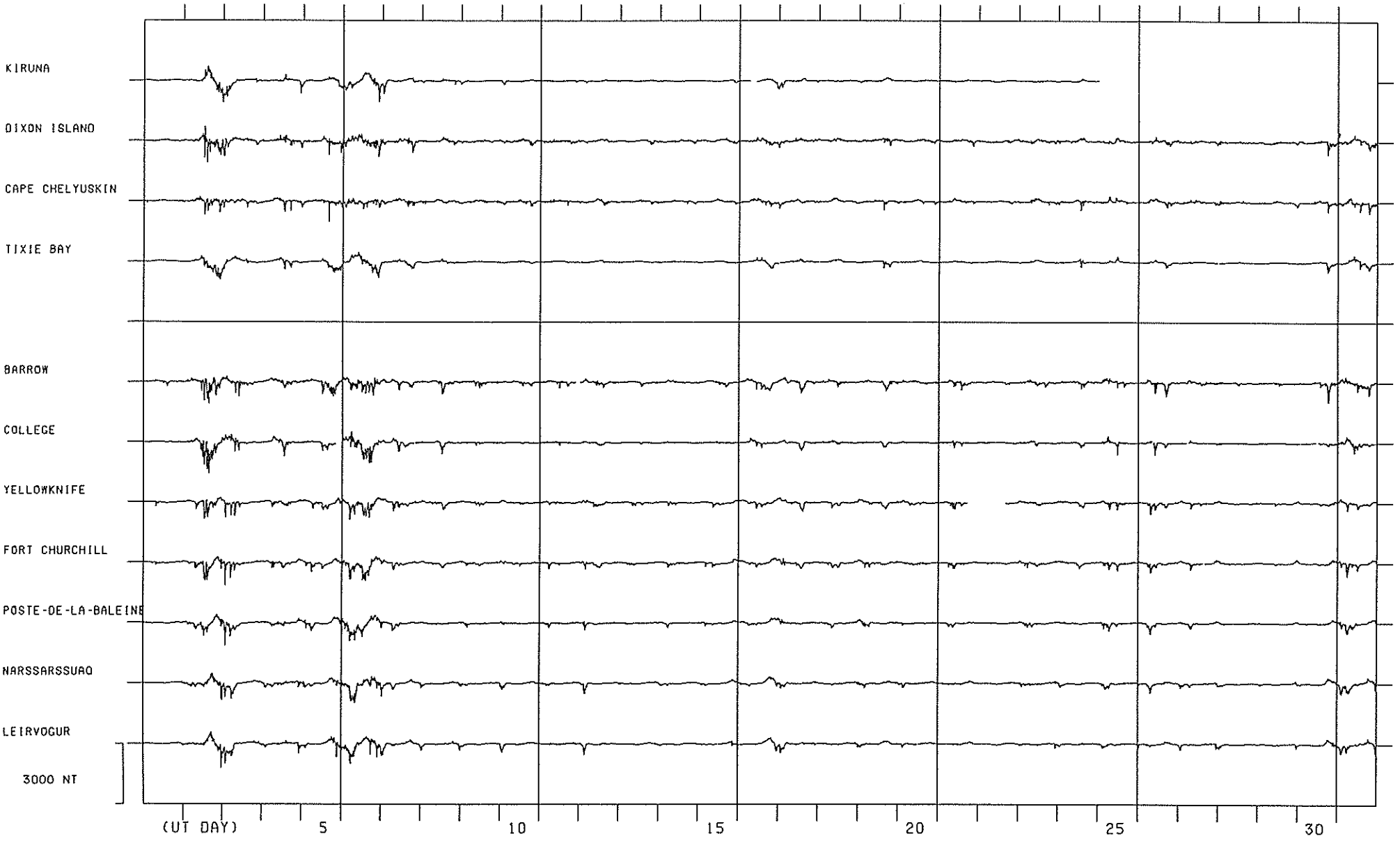

STACKED COMMON SCALE MAGNETOGRAMS FOR MAY 1986 PROVISIONAL

Prov.AE 8605 Fig.3

World Data Center-C2 for Geomagnetism

PROMIS PERIOD
Prompt Report

No. 4

Provisional Auroral electrojet indices (AE11)

for June 1986

SEPTEMBER 1986

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

PROVISIONAL AURORAL ELECTROJET INDICES

FOR JUNE 1986

PREPARED FOR PROMIS PERIOD

1. Introduction

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

For a quick distribution of the results, provisional AE indices are derived and distributed on a monthly basis as shown below.

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

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

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

2. Data Used

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

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

Hand-traced copies of magnetograms were received from Dixon Island, Cape Chelyuskin, Tixie Bay, and Cape Wellen. Certain selections have been made with the data. For instance, data from Cape Wellen are not used as their contribution to the AE indices is not frequent. All the data from Dixon Island were storm magnetograms; we used these records assuming the base line to be stable and paper shrinkage to be negligible throughout this month. We adjusted the scaling when the base line on the hand-traced copy of a magnetogram is not a straight line. Data from Tixie Bay and Cape Chelyuskin consisted of normal and storm magnetograms, without overlapping period; we adjusted values derived from the storm magnetograms to conform with those derived from the normal magnetograms by comparing values for different quiet periods. Although such an adjustment may be somewhat arbitrary, we find no other good solutions in these cases. Also, where time marks are doubtful, estimated time marks were used.

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

3. Results

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

4. Acknowledgements

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

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September 3, 1986

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

*** Note added on the replacement of Great Whale River ***

The station 'Great Whale River' was closed on July 31, 1984, and since September 8, 1984, observation has been conducted at a new station near the village of 'Poste-de-la-Baleine'. The new station is not far from the old station, and is labeled by the same latitude and longitude identifier. The old IAGA code GWC, has been replaced by the new station code PBQ. In our previous reports (Nos. 1 and 2) the data obtained at the new station were used, although we denoted the station as Great Whale River.

Table 1. List of Stations

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

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

Kiruna (X component)	11005	
Dixon Island	6199	
Cape Chelyuskin	+284	(HO+)
Tixie Bay	+51	(HO+)
Barrow	9631	
College	12886	
Yellowknife	8812	
Fort Churchill	7825	
Poste-de-la-Baleine	10799	
Narssarssuaq	12197	
Leirvogur	+232	(HO+)

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

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

	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
D	1	195	144	211	148	167	216	139	104	191	165	164	78	67	62	57	67	118	188	197	130	132	160	243	220	148
	2	99	149	101	89	84	82	70	39	83	94	75	55	77	90	68	57	42	63	84	96	131	93	110	137	86
	3	148	160	108	123	167	176	116	102	104	159	130	98	71	97	58	60	52	67	54	106	178	94	78	75	108
	4	89	125	153	153	151	62	31	94	132	168	248	255	153	102	52	50	33	34	74	111	117	50	44	44	105
Q	5	78	56	42	24	24	17	18	71	120	149	110	55	36	32	24	33	23	33	47	36	35	33	53	93	52
	6	138	192	167	155	101	52	96	52	36	70	118	58	52	107	119	155	128	106	107	104	68	47	41	30	96
D	7	15	32	22	22	97	42	112	127	137	241	295	128	44	68	77	58	75	55	75	69	113	147	90	58	92
	8	53	51	68	88	101	156	142	134	161	164	139	46	39	30	25	22	17	25	30	42	64	119	152	202	86
	9	168	122	107	80	63	32	27	24	38	36	36	32	45	58	59	100	87	130	147	146	147	114	115	134	85
D	10	183	224	173	147	131	169	167	208	203	272	223	106	91	87	77	55	45	46	58	96	80	74	71	127	130
	11	175	167	104	120	99	83	49	55	99	111	68	90	65	73	96	73	26	21	33	24	26	24	22	45	73
	12	33	64	63	64	92	100	53	80	41	29	63	82	102	51	47	55	59	39	69	86	113	121	122	137	73
	13	63	45	69	66	58	79	138	89	67	42	42	62	68	64	51	64	51	88	112	123	110	105	78	39	74
	14	57	71	64	83	57	92	78	68	52	60	78	65	67	51	38	29	27	43	72	117	232	128	63	28	72
Q	15	28	36	24	35	68	74	103	90	68	73	91	115	87	63	74	76	75	62	50	41	25	20	17	11	59
	16	17	25	31	22	30	36	57	77	56	53	46	36	48	94	138	76	58	48	74	121	104	97	66	45	61
	17	39	34	34	70	46	32	48	72	50	48	66	131	104	85	92	42	35	53	52	70	57	50	50	67	59
	18	88	110	184	185	169	120	91	45	48	43	126	135	122	86	75	66	65	69	60	36	31	37	28	31	85
	19	32	50	38	19	18	17	13	14	19	12	32	55	52	63	49	63	59	31	44	50	92	123	92	112	48
	20	84	39	41	32	63	124	94	50	45	54	53	58	62	71	99	116	62	49	60	61	79	60	58	86	67
	21	156	130	97	91	85	61	165	102	137	166	203	142	58	41	33	11	22	36	52	107	82	48	45	38	88
	22	71	111	99	152	98	51	35	27	28	26	45	54	63	110	112	84	74	47	65	67	58	60	86	82	71
Q	23	91	147	132	98	105	156	144	83	48	46	24	25	40	34	40	25	26	26	31	41	50	28	23	19	62
	24	17	22	21	43	66	102	168	164	141	61	91	84	101	73	79	74	82	80	62	47	39	40	30	45	72
Q	25	48	55	47	21	26	18	42	51	27	15	24	41	49	33	40	42	26	27	40	48	44	29	25	30	35
Q	26	30	49	25	22	12	62	63	98	40	47	103	83	63	47	28	16	19	25	35	46	59	97	93	91	52
D	27	50	52	96	102	193	177	208	142	51	140	135	132	106	120	130	94	96	243	241	339	280	293	217	123	157
D	28	161	277	212	341	221	265	123	65	66	48	33	26	41	59	68	34	26	40	48	78	101	70	97	88	108
	29	70	28	38	37	32	20	48	39	46	69	124	132	174	142	104	120	96	201	128	94	140	146	137	192	98
	30	110	150	187	103	67	37	17	27	27	55	64	71	93	66	84	69	81	60	40	40	63	106	107	154	78
	Mean	86	97	91	91	89	90	88	79	78	90	101	84	74	71	69	62	56	67	74	85	95	87	81	86	82
5Q	Mean	55	68	54	40	47	65	74	78	60	66	70	63	55	41	41	38	33	34	40	42	42	41	42	48	51
5D	Mean	120	145	142	152	161	173	149	129	129	173	170	94	69	79	81	61	72	114	123	142	141	148	143	123	126

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

	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
D	1	-262	-451	-718	-243	-216	-164	-56	-57	-182	-250	-205	-142	-130	-91	-164	-102	-95	-343	-365	-111	-52	-129	-296	-315	-214
	2	-161	-128	-168	-204	-174	-123	-104	-80	-154	-87	-67	-23	-89	-160	-70	-95	-116	-122	-110	-71	-124	-87	-139	-190	-119
	3	-172	-290	-285	-116	-116	-346	-230	-160	-68	-161	-133	-114	-86	-117	-144	-164	-95	-53	-29	-55	-232	-168	-66	-57	-144
	4	-61	-87	-181	-276	-259	-84	-23	-57	-223	-152	-231	-325	-197	-190	-143	-56	-36	-44	-130	-104	-178	-45	-31	-27	-131
Q	5	-76	-87	-38	-15	-20	-29	-49	-33	-137	-189	-119	-36	-19	-15	-18	-35	-44	-71	-107	-59	-33	-25	-42	-77	-57
	6	-160	-192	-149	-123	-61	-30	-38	-85	-52	-46	-92	-37	-25	-128	-327	-368	-297	-297	-183	-121	-86	-13	-13	-19	-123
D	7	-19	-26	-23	-23	-17	-29	-51	-163	-297	-189	-242	-156	-39	-50	-229	-336	-208	-88	-61	-25	-49	-221	-138	-14	-112
	8	-25	-31	-92	-121	-191	-285	-242	-331	-301	-321	-103	-48	-19	-27	-30	-29	-36	-37	-29	-22	-60	-154	-283	-256	-128
	9	-271	-206	-150	-138	-86	-27	-20	-23	-33	-27	-42	-52	-57	-58	-158	-130	-161	-257	-305	-256	-148	-114	-110	-106	-122
D	10	-158	-193	-135	-100	-257	-253	-224	-579	-402	-341	-180	-80	-169	-174	-98	-40	-55	-84	-72	-104	-62	-46	-47	-141	-166
	11	-295	-210	-44	-86	-148	-81	-26	-28	-144	-219	-154	-76	-55	-29	-87	-129	-44	-20	-17	-13	-12	-17	-22	-43	-83
	12	-36	-54	-113	-114	-131	-239	-103	-34	-24	-27	-35	-60	-144	-42	-32	-24	-50	-129	-68	-71	-56	-153	-136	-159	-85
	13	-38	-35	-52	-181	-140	-63	-69	-295	-65	-16	-16	-83	-71	-55	-58	-111	-120	-169	-108	-174	-95	-66	-48	-29	-90
	14	-90	-58	-84	-84	-77	-176	-87	-46	-16	-91	-98	-108	-163	-104	-56	-41	-25	-29	-62	-52	-219	-196	-100	-20	-87
Q	15	-14	-23	-24	-40	-64	-72	-136	-102	-48	-54	-98	-128	-132	-46	-29	-260	-307	-102	-22	-30	-17	-20	-23	-25	-76
	16	-22	-19	-20	-21	-21	-24	-28	-40	-57	-163	-94	-38	-30	-28	-73	-127	-114	-119	-36	-63	-100	-53	-29	-33	-56
	17	-20	-20	-26	-37	-49	-21	-26	-70	-18	-22	-69	-150	-285	-128	-180	-252	-93	-94	-59	-148	-69	-38	-47	-28	-81
	18	-62	-104	-217	-284	-177	-136	-62	-56	-40	-28	-101	-229	-146	-81	-39	-73	-86	-158	-53	-23	-24	-41	-19	-18	-94
	19	-26	-41	-36	-29	-21	-17	-20	-19	-25	-32	-33	-34	-26	-28	-23	-31	-28	-28	-24	-34	-112	-151	-120	-87	-43
	20	-133	-21	-19	-44	-23	-80	-132	-111	-26	-37	-29	-44	-58	-109	-130	-138	-108	-99	-108	-103	-91	-106	-85	-94	-80
	21	-224	-178	-65	-94	-160	-31	-109	-132	-199	-144	-251	-252	-50	-25	-21	-19	-27	-39	-77	-157	-124	-23	-19	-32	-102
	22	-121	-268	-139	-244	-162	-43	-33	-16	-18	-31	-71	-106	-58	-56	-94	-179	-178	-111	-50	-42	-60	-56	-67	-73	-95
Q	23	-65	-162	-165	-72	-68	-114	-51	-20	-21	-51	-54	-29	-16	-17	-13	-13	-17	-26	-35	-161	-86	-33	-22	-20	-56
	24	-22	-25	-25	-33	-77	-173	-115	-93	-66	-31	-39	-44	-58	-53	-87	-86	-135	-140	-68	-30	-26	-22	-19	-44	-63
Q	25	-32	-41	-27	-20	-22	-22	-13	-52	-34	-26	-26	-29	-27	-48	-70	-93	-90	-40	-16	-55	-23	-20	-20	-27	-36
Q	26	-24	-34	-21	-24	-22	-21	-35	-68	-62	-33	-42	-59	-42	-34	-41	-68	-25	-17	-22	-61	-95	-126	-135	-75	-49
D	27	-33	-35	-51	-306	-299	-167	-156	-102	-27	-70	-215	-143	-68	-152	-207	-83	-140	-391	-698	-574	-500	-448	-323	-347	-231
D	28	-410	-346	-389	-490	-631	-395	-191	-38	-17	-31	-33	-32	-26	-112	-144	-115	-73	-68	-65	-90	-150	-106	-122	-191	-178
	29	-93	-52	-44	-66	-38	-39	-50	-35	-91	-105	-43	-91	-198	-327	-349	-114	-217	-419	-210	-85	-52	-113	-247	-329	-142
	30	-210	-161	-394	-246	-78	-28	-33	-11	-17	-55	-55	-53	-51	-95	-109	-144	-262	-118	-49	-55	-66	-109	-100	-266	-115
	Mean	-111	-119	-129	-129	-126	-110	-83	-97	-95	-100	-99	-93	-84	-85	-107	-115	-109	-123	-107	-98	-100	-96	-95	-104	-105
5Q	Mean	-42	-69	-55	-34	-39	-51	-56	-55	-60	-70	-67	-56	-47	-32	-34	-93	-96	-51	-40	-73	-50	-44	-48	-44	-54
5D	Mean	-176	-210	-263	-232	-284	-201	-135	-187	-185	-176	-175	-110	-86	-115	-168	-135	-114	-194	-252	-180	-162	-190	-185	-201	-180

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

	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
D	1	458	597	930	391	385	381	196	162	374	416	370	222	198	155	222	170	214	532	562	242	185	290	540	536	364
	2	261	279	270	295	260	207	175	121	238	183	143	79	168	251	139	154	159	186	194	168	256	181	250	328	206
	3	321	451	394	241	285	523	347	263	174	321	264	213	158	216	203	225	148	121	84	161	410	262	145	133	253
	4	151	214	336	430	411	147	56	152	356	322	480	582	352	293	196	108	70	80	205	216	296	97	77	72	237
Q	5	155	144	81	40	45	46	68	105	259	339	230	92	56	48	43	70	68	105	155	96	69	58	96	171	110
	6	299	385	317	279	163	83	134	138	88	116	211	96	79	236	448	524	425	403	291	226	155	61	55	51	219
D	7	35	59	45	46	115	72	165	292	436	432	538	286	84	120	307	395	284	143	136	95	162	368	229	73	205
	8	79	83	160	209	293	442	386	467	464	486	243	96	59	59	55	52	54	62	60	65	125	273	436	458	215
	9	440	329	259	219	150	59	48	48	72	65	79	85	103	117	218	231	249	387	452	403	296	229	225	241	209
D	10	342	418	309	249	389	423	393	788	605	615	405	188	261	262	177	96	101	131	131	201	143	121	119	269	297
	11	471	378	149	207	247	165	76	84	245	331	223	167	121	104	185	204	71	42	51	39	39	42	45	89	157
	12	70	119	176	178	224	341	158	115	66	57	100	144	248	94	80	81	110	168	138	158	169	275	259	296	159
	13	102	82	122	248	200	144	209	385	134	60	60	146	140	121	110	177	172	257	220	298	205	171	128	68	165
	14	148	130	149	168	136	269	167	116	69	152	178	175	231	156	95	71	53	72	135	170	451	325	164	50	160
Q	15	44	60	50	75	133	148	241	193	118	128	190	244	221	110	105	337	383	164	73	71	43	40	41	36	135
	16	40	45	52	44	52	60	86	119	114	218	141	76	80	124	213	204	173	168	110	184	204	150	96	79	118
	17	60	55	61	108	96	54	76	144	70	71	136	282	390	215	273	294	129	148	111	218	127	89	98	96	142
	18	151	215	403	470	347	257	154	102	90	73	228	365	270	168	115	139	151	227	114	60	56	80	49	50	181
	19	59	92	75	50	40	35	35	35	46	44	66	90	80	93	73	96	89	59	69	85	205	275	212	199	92
	20	218	61	61	77	87	206	228	162	73	92	84	104	122	182	230	255	171	149	169	165	171	168	144	180	148
	21	381	309	163	186	246	93	275	236	338	311	456	395	109	67	55	30	49	76	130	266	207	73	65	71	191
	22	193	380	239	398	261	96	69	44	47	59	117	161	122	168	208	264	252	158	116	109	119	117	154	156	167
Q	23	157	310	298	170	174	271	196	104	70	98	80	56	57	52	54	40	44	53	67	203	137	63	46	40	118
	24	40	47	46	77	144	277	285	259	209	93	132	130	161	128	167	161	218	220	131	78	65	63	50	90	136
Q	25	81	96	75	42	49	41	56	104	62	42	52	71	77	82	111	137	118	67	57	103	68	51	46	58	73
Q	26	55	83	47	46	35	84	100	166	103	81	146	143	107	83	70	84	44	43	58	108	154	223	229	167	102
D	27	84	87	148	410	493	345	365	246	79	211	351	276	175	274	338	178	237	634	940	914	781	742	541	471	388
D	28	571	624	602	832	853	661	316	104	84	80	66	58	69	172	213	151	100	109	114	169	253	177	220	280	287
	29	164	80	83	103	71	60	100	75	138	176	168	224	374	471	453	235	314	620	339	180	194	261	385	522	241
	30	321	312	582	349	145	66	50	39	46	112	120	125	146	163	195	214	344	180	90	97	129	215	208	421	194
	Mean	198	217	222	221	217	201	173	178	175	192	201	179	160	159	178	179	166	192	183	184	195	184	178	191	189
5Q	Mean	98	138	110	74	87	118	132	134	122	137	139	121	103	75	76	133	131	86	82	116	94	87	91	94	107
5D	Mean	298	357	406	385	447	376	287	318	315	350	346	206	157	196	251	198	187	309	376	324	304	339	329	325	308

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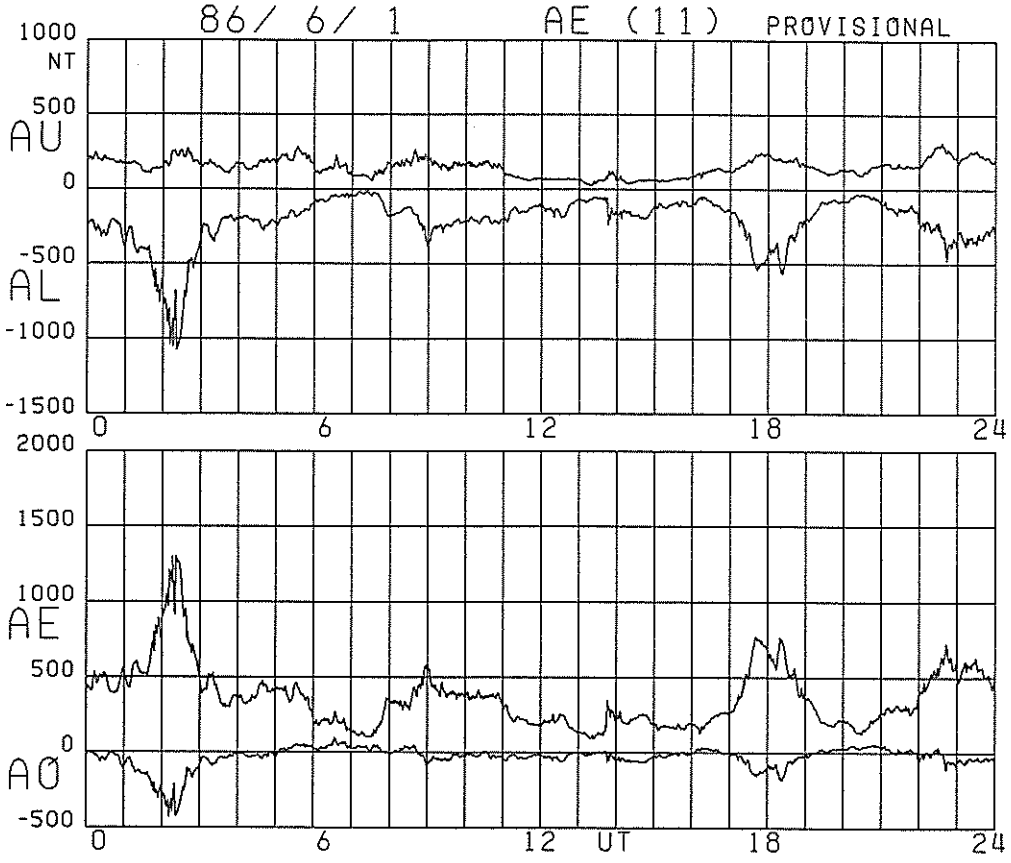
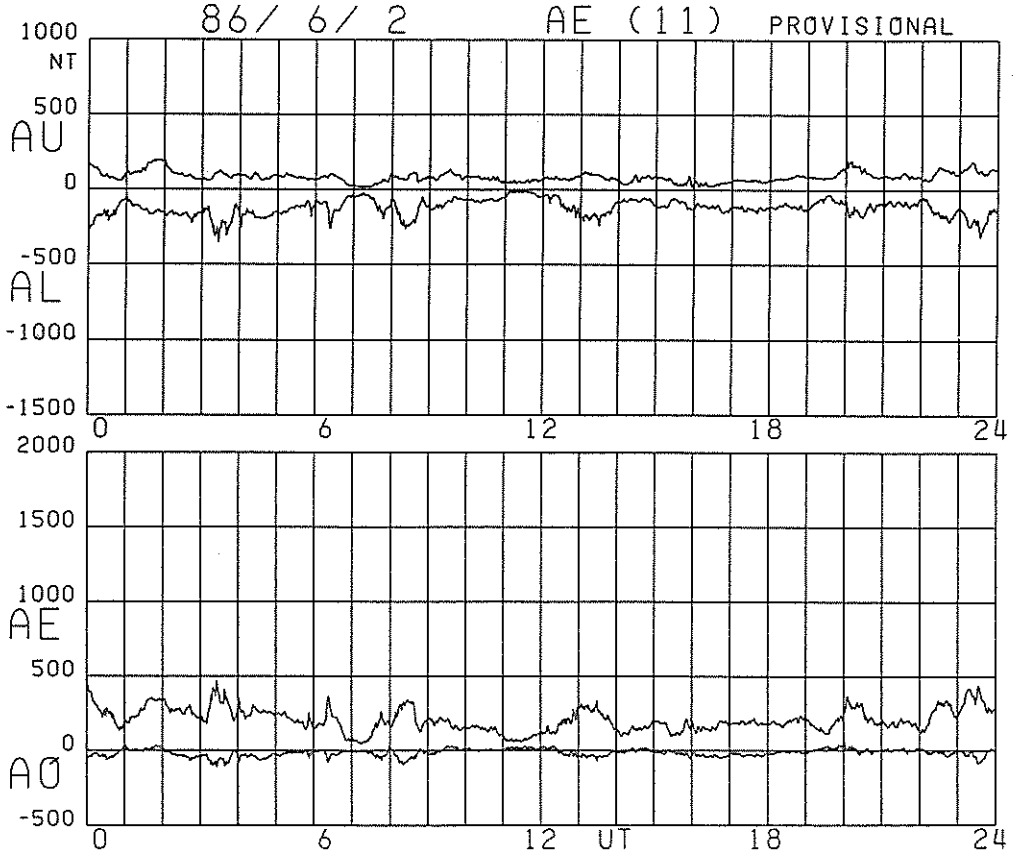
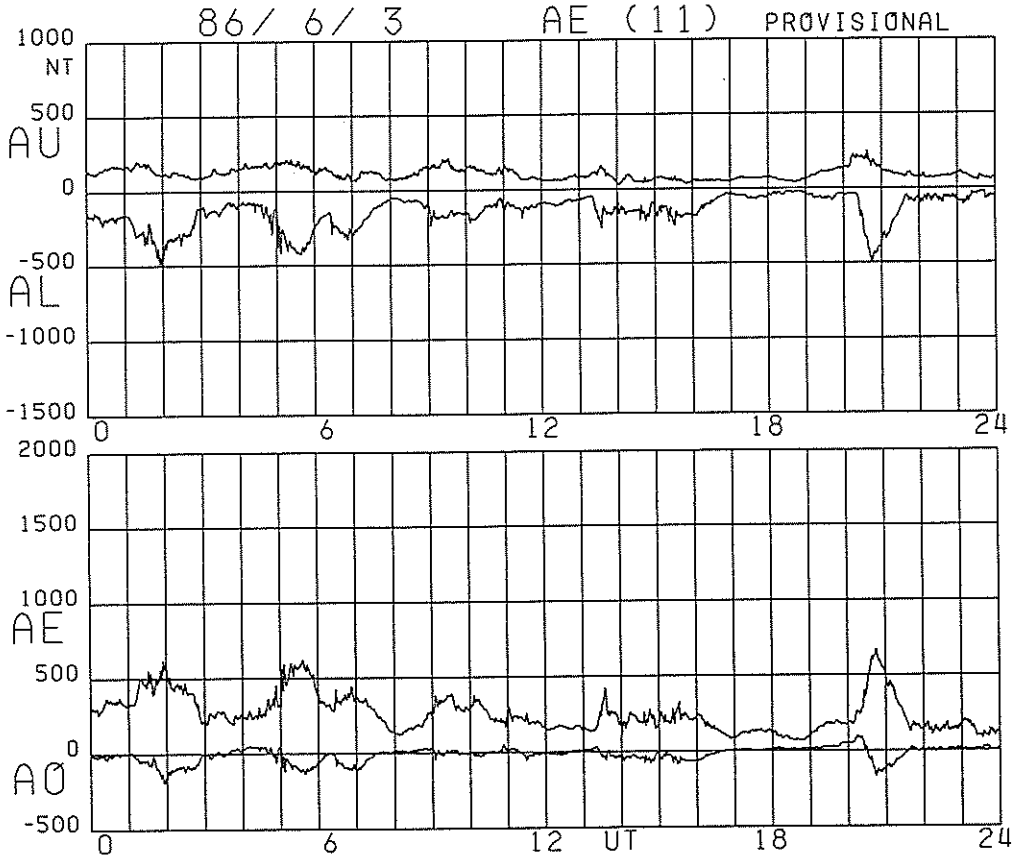
AO Index (Hourly mean values, unit nT) June 1986

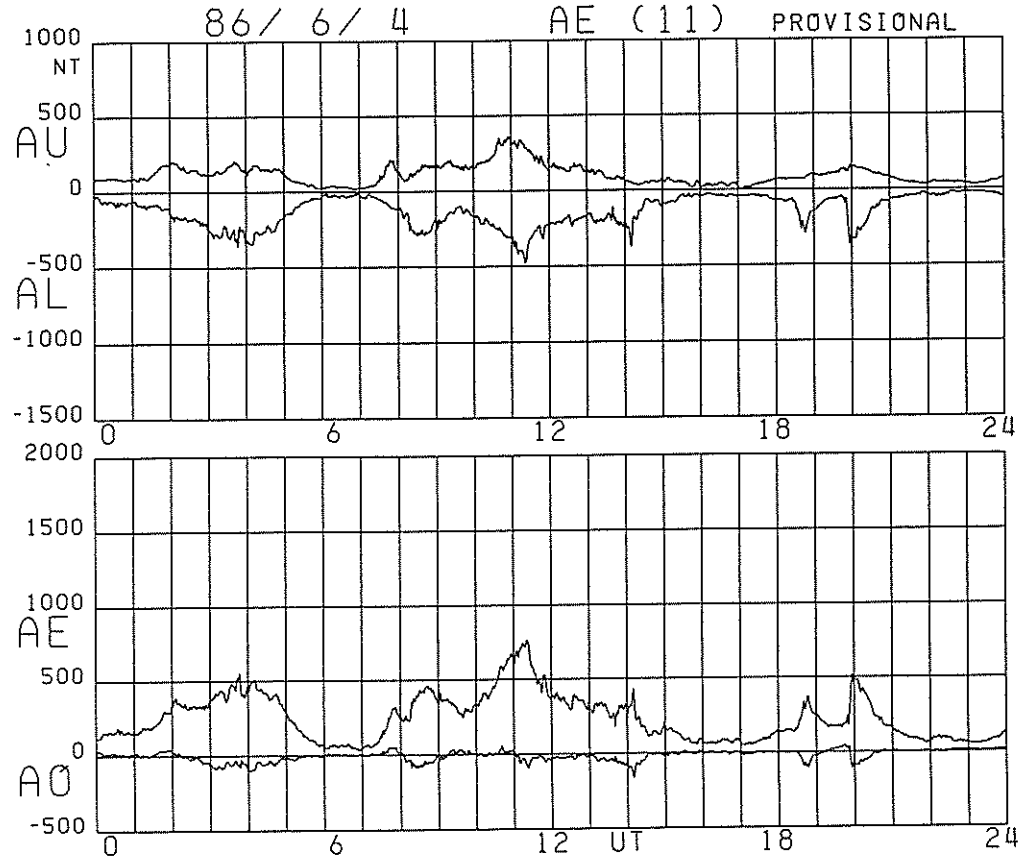
	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
D	1	-33	-153	-253	-47	-23	25	40	23	4	-42	-20	-31	-30	-13	-52	-17	11	-77	-83	9	39	14	-26	-46	-32
	2	-31	10	-33	-57	-44	-19	-16	-19	-35	3	3	15	-5	-33	0	-18	-36	-28	-12	12	3	3	-14	-26	-15
	3	-11	-65	-88	3	25	-84	-56	-28	17	-1	-1	-7	-6	-9	-42	-51	-21	6	12	25	-26	-36	5	8	-18
	4	13	18	-13	-61	-53	-10	3	17	-44	7	8	-34	-21	-43	-45	-2	0	-4	-27	3	-30	2	6	7	-12
Q	5	0	-15	1	4	2	-5	-14	18	-8	-19	-4	8	7	7	2	0	-10	-18	-29	-11	1	3	5	7	-2
	6	-10	0	8	15	19	10	28	-16	-7	11	13	10	13	-10	-103	-105	-84	-95	-37	-8	-8	17	13	5	-13
D	7	-1	2	0	0	39	6	30	-17	-79	25	26	-13	2	8	-75	-138	-66	-15	6	21	31	-36	-23	21	-10
	8	13	9	-12	-16	-44	-63	-49	-98	-69	-77	17	-1	9	1	-2	-3	-9	-5	0	9	1	-17	-64	-26	-20
	9	-51	-41	-21	-28	-11	2	3	0	2	4	-3	-9	-5	0	-48	-14	-36	-63	-78	-54	0	0	2	13	-18
D	10	11	14	18	23	-62	-41	-27	-184	-98	-34	20	12	-38	-43	-10	7	-4	-18	-6	-3	9	13	11	-7	-18
	11	-59	-21	29	15	-24	1	11	13	-22	-53	-42	6	5	21	4	-26	-8	0	7	4	6	3	0	0	-5
	12	-1	4	-24	-25	-19	-68	-24	22	7	1	13	10	-20	4	7	15	4	-44	0	7	28	-15	-6	-11	-5
	13	12	4	7	-57	-40	7	34	-102	0	12	12	-10	-1	4	-3	-22	-34	-40	1	-25	7	19	14	4	-8
	14	-16	6	-10	0	-9	-41	-4	9	17	-15	-9	-21	-47	-25	-8	-5	1	6	5	32	6	-33	-18	4	-7
Q	15	6	6	0	-2	1	1	-15	-5	9	9	-3	-6	-22	8	21	-90	-114	-20	14	5	3	0	-2	-6	-8
	16	-1	2	4	0	4	5	14	17	0	-54	-23	0	8	32	32	-24	-27	-35	18	28	2	21	18	5	2
	17	8	6	3	16	-1	5	10	0	15	12	-1	-9	-90	-20	-43	-104	-28	-19	-3	-38	-5	5	1	18	-10
	18	12	2	-16	-48	-3	-8	13	-5	3	6	12	-47	-11	2	17	-3	-10	-44	3	6	3	-1	4	6	-4
	19	2	3	0	-4	-1	0	-3	-2	-3	-9	0	10	12	17	12	15	15	1	9	7	-9	-13	-13	11	2
	20	-24	8	10	-5	20	21	-19	-30	9	7	11	6	1	-18	-15	-10	-22	-24	-23	-20	-5	-22	-13	-4	-6
	21	-33	-24	15	-1	-37	14	27	-14	-30	10	-23	-54	3	7	6	-3	-1	0	-12	-24	-20	12	12	2	-7
	22	-25	-78	-19	-45	-31	3	1	5	4	-2	-13	-25	2	26	8	-46	-51	-31	7	12	0	1	9	3	-11
Q	23	12	-7	-16	12	17	20	45	31	12	-2	-14	-1	11	8	13	5	3	0	-1	-59	-17	-2	0	0	3
	24	-2	-1	-1	5	-5	-34	26	35	37	14	25	19	21	10	-3	-5	-26	-29	-2	8	6	8	4	0	4
Q	25	7	6	9	0	1	-2	14	0	-3	-4	0	5	10	-7	-14	-24	-31	-6	11	-3	10	4	1	1	0
Q	26	2	7	1	0	-4	20	14	14	-10	6	30	11	10	6	-6	-25	-2	3	6	-7	-16	-13	-20	7	1
D	27	8	8	21	-100	-52	5	26	19	11	34	-39	-5	18	-15	-38	5	-21	-73	-227	-117	-109	-77	-52	-111	-36
D	28	-123	-34	-88	-74	-204	-64	-33	13	24	8	0	-2	6	-25	-37	-39	-22	-13	-8	-5	-23	-17	-12	-51	-34
	29	-11	-11	-2	-14	-3	-9	0	2	-21	-17	39	20	-11	-92	-122	2	-60	-108	-40	4	43	16	-54	-68	-21
	30	-49	-5	-103	-71	-5	4	-7	7	4	0	4	8	21	-14	-11	-36	-90	-28	-3	-6	-1	-1	3	-55	-18
	Mean	-12	-11	-19	-18	-18	-9	2	-9	-8	-5	1	-4	-4	-6	-18	-25	-25	-27	-16	-6	-2	-4	-6	-9	-11
	5Q Mean	5	0	-1	2	3	6	8	11	0	-2	1	3	3	4	3	-26	-30	-8	0	-15	-3	-1	-3	1	-1
	5D Mean	-27	-32	-60	-39	-60	-13	7	-29	-27	-1	-2	-7	-8	-17	-42	-36	-20	-39	-63	-19	-10	-20	-20	-38	-26



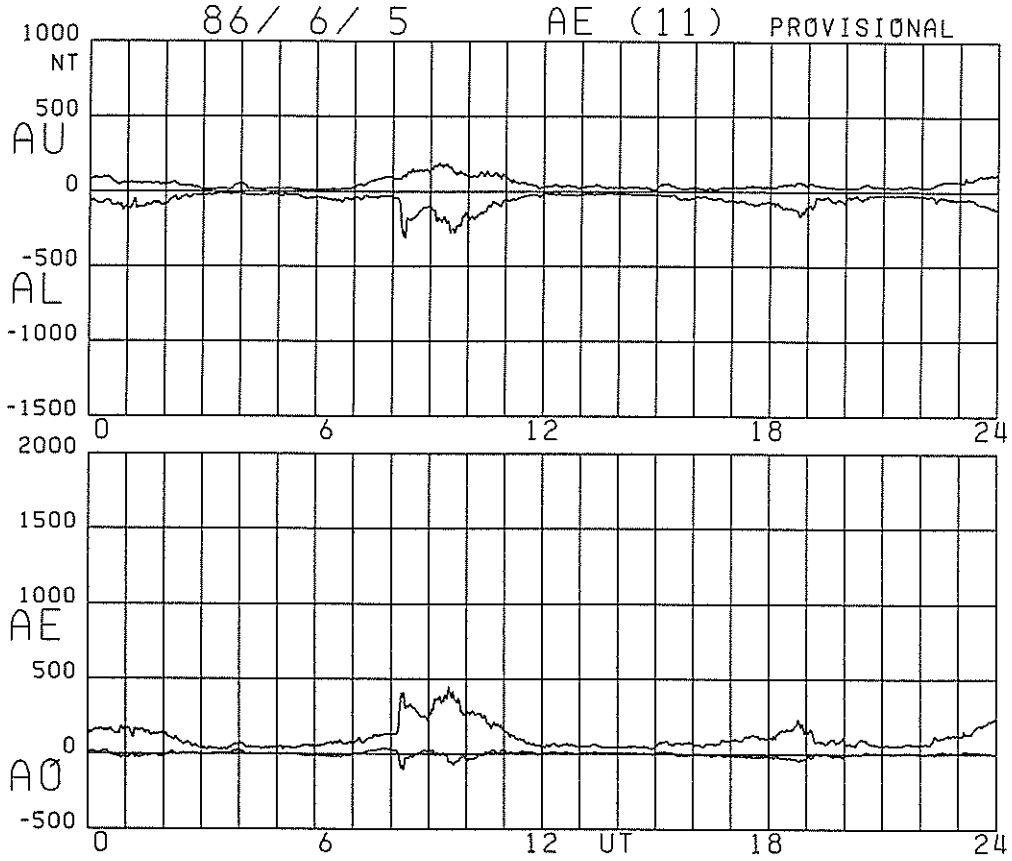


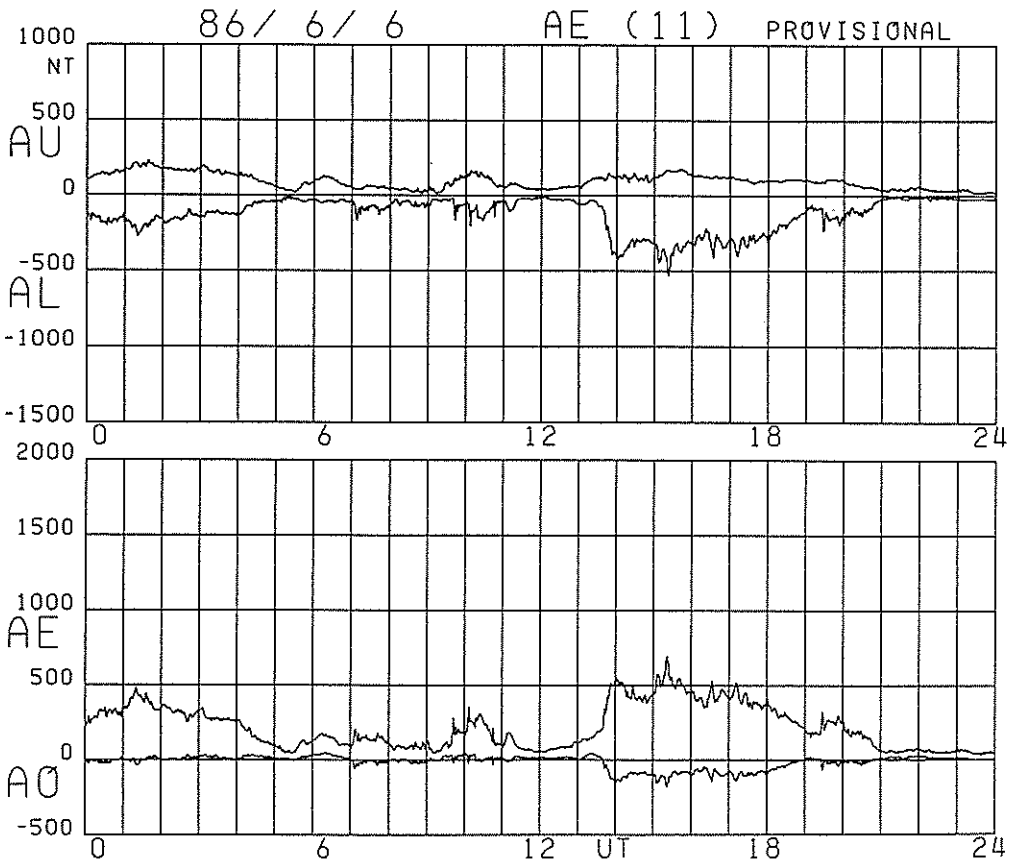
Prov.AE 8606 Fig.1- 1



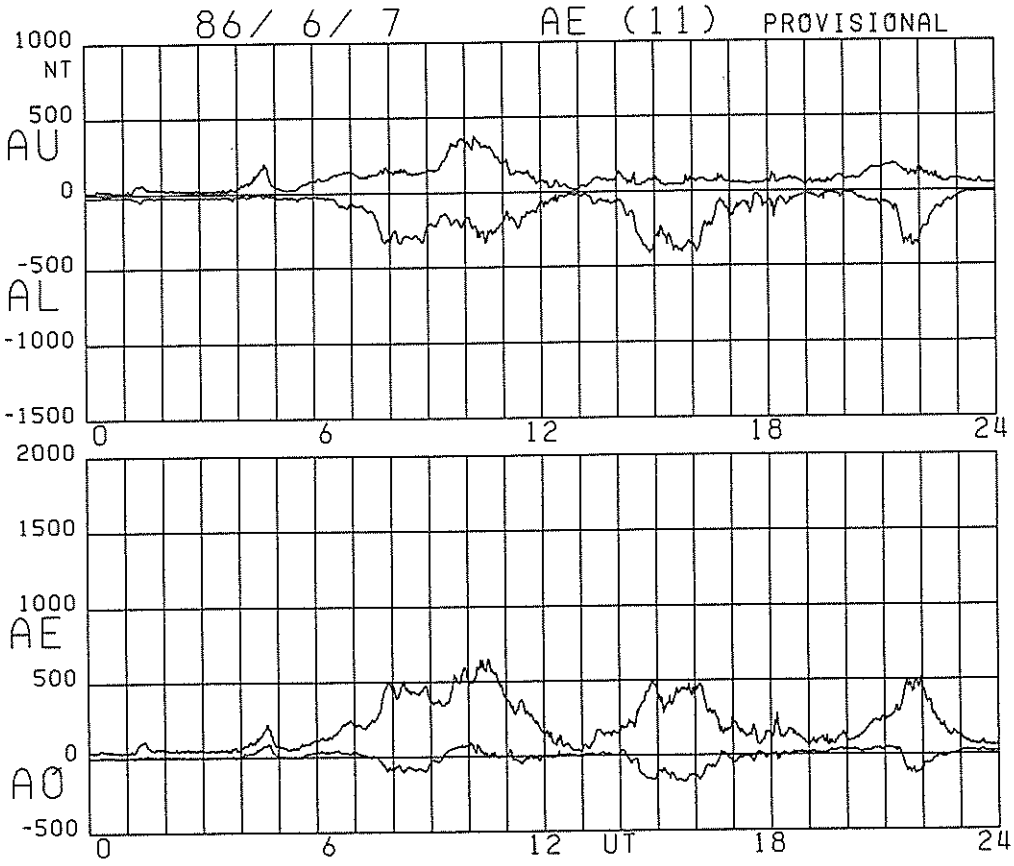


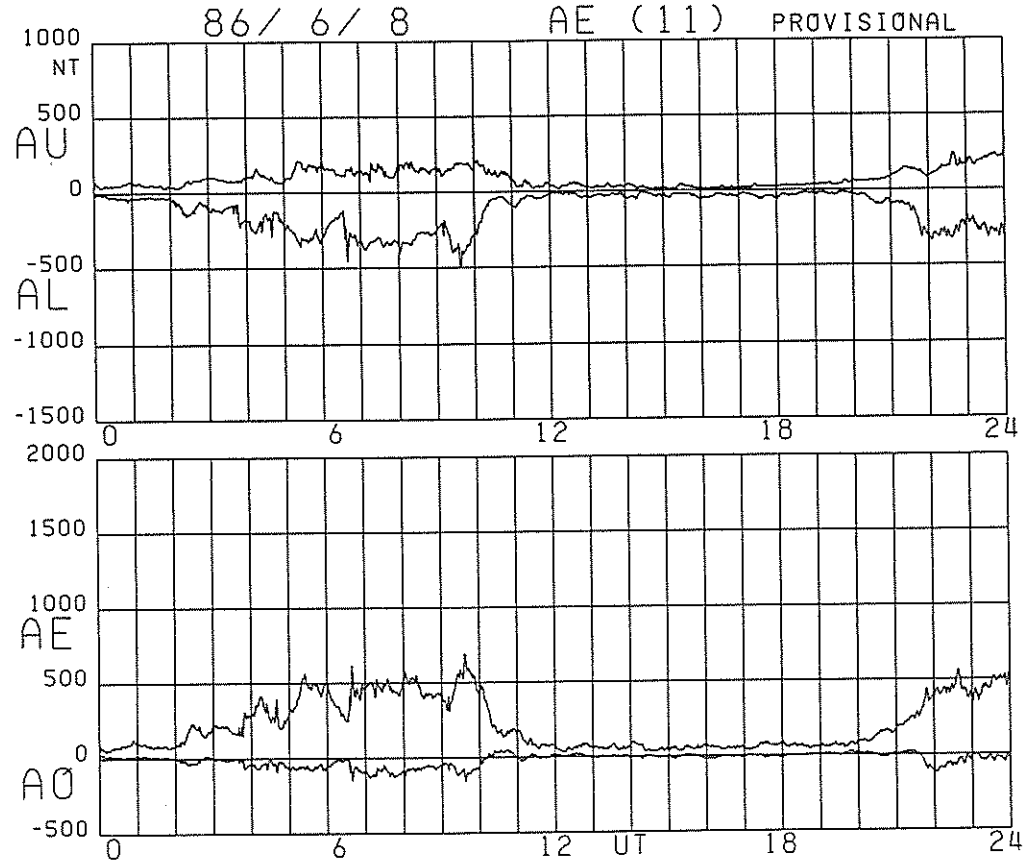
Prov.AE 8606 Fig.1- 2



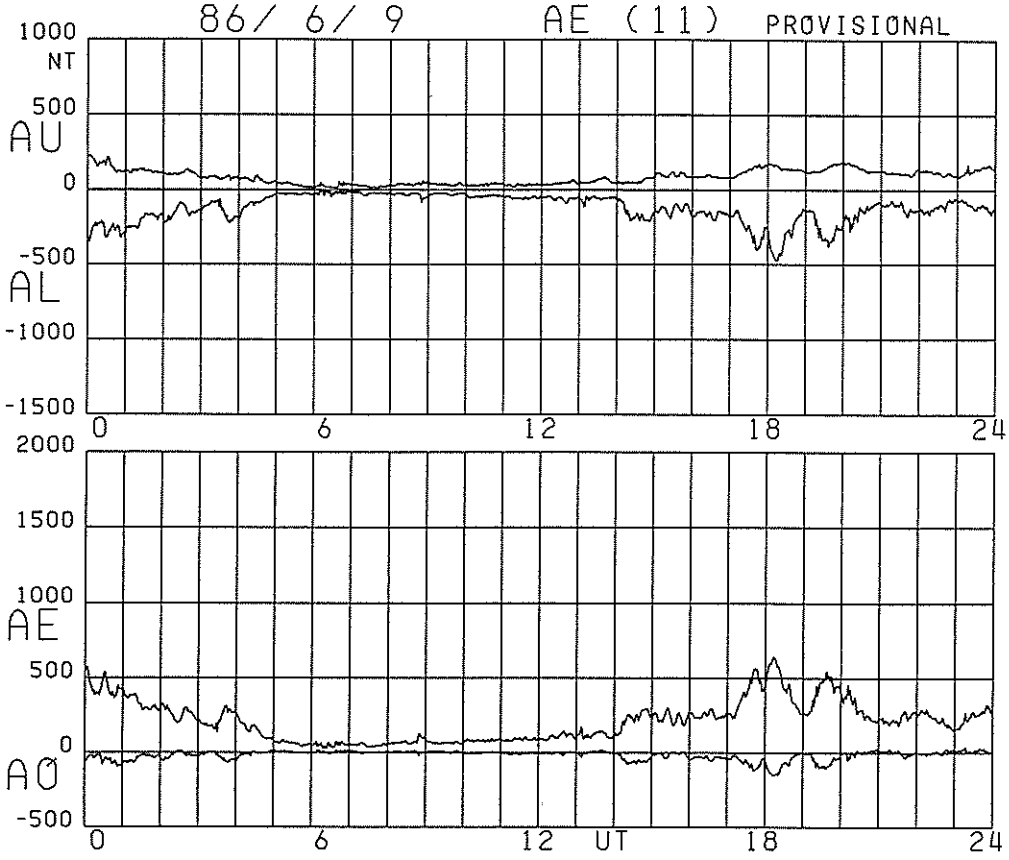


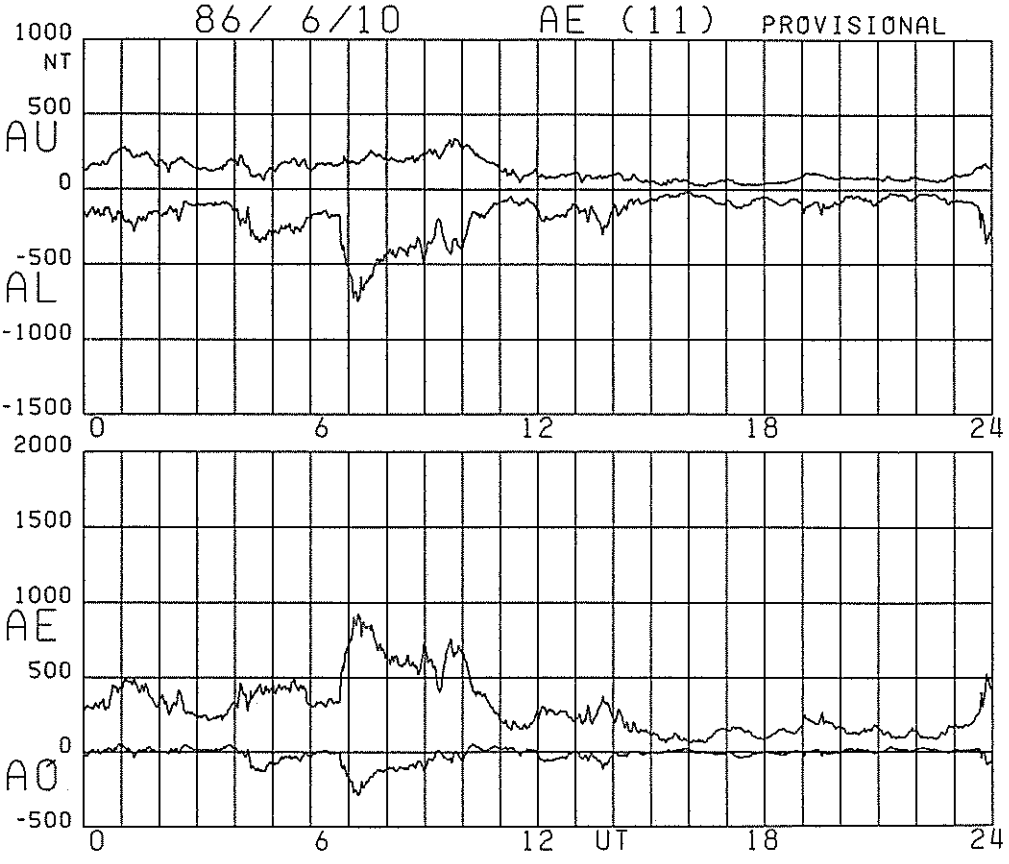
Prov.AE 8606 Fig.1- 3



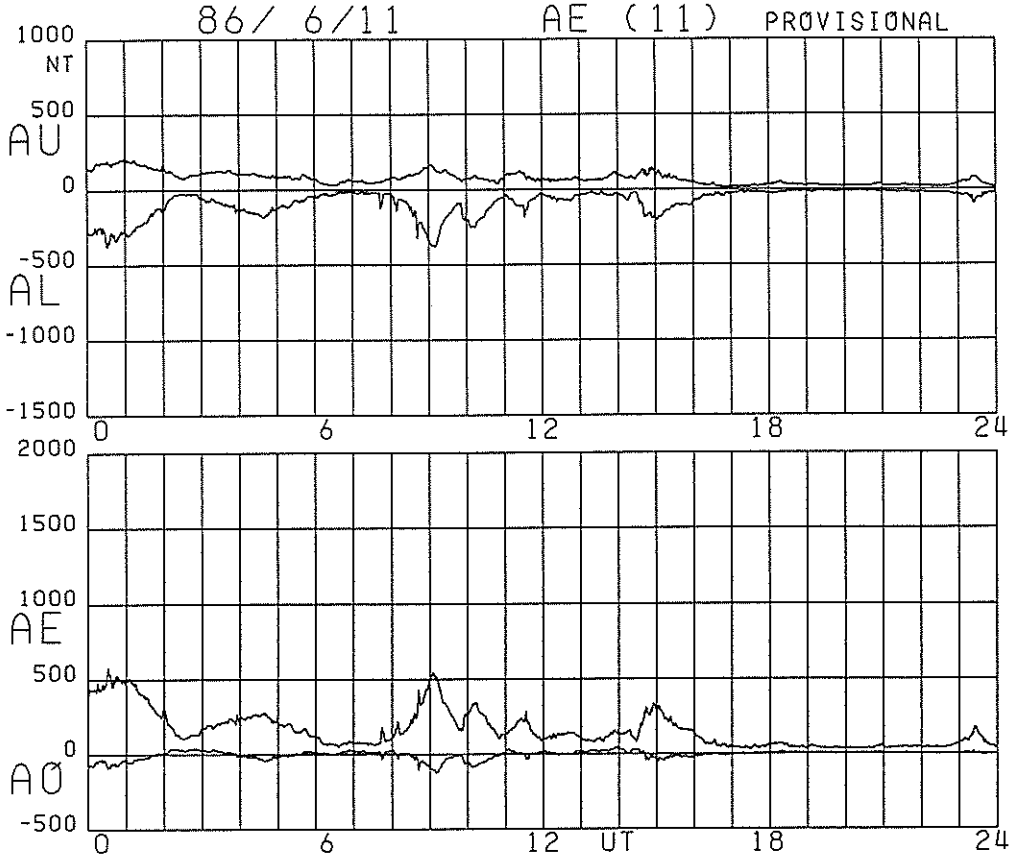


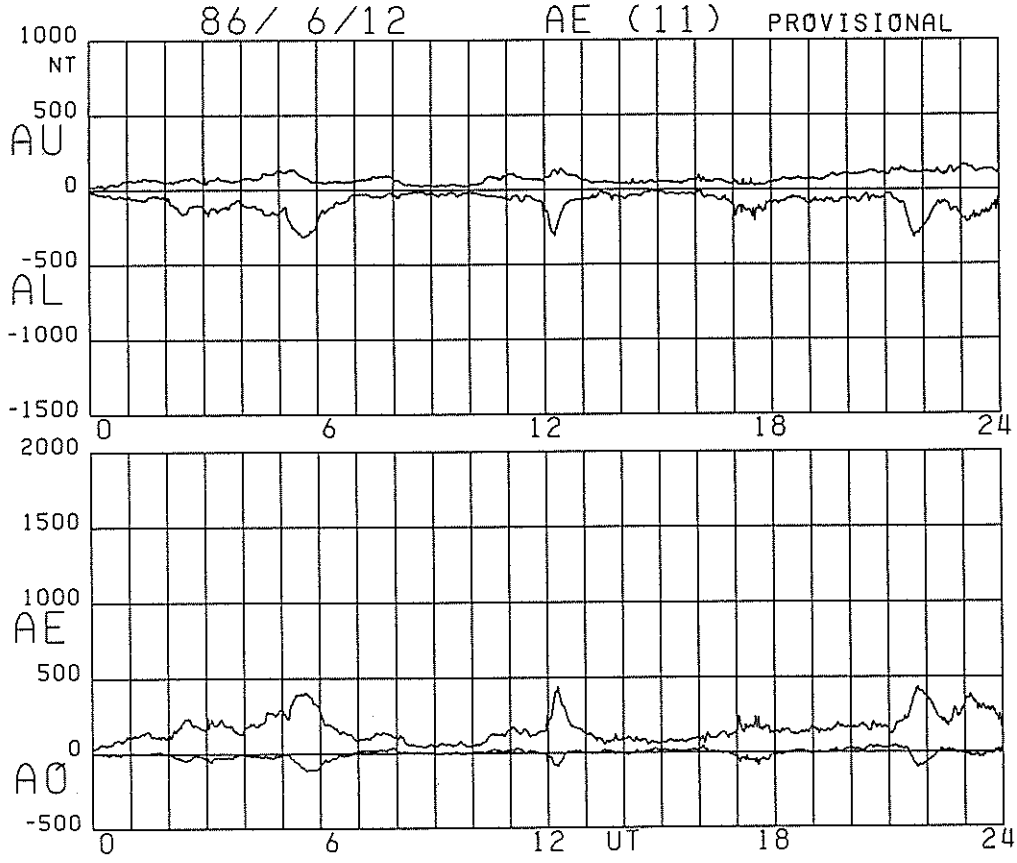
Prov.AE 8606 Fig.1- 4



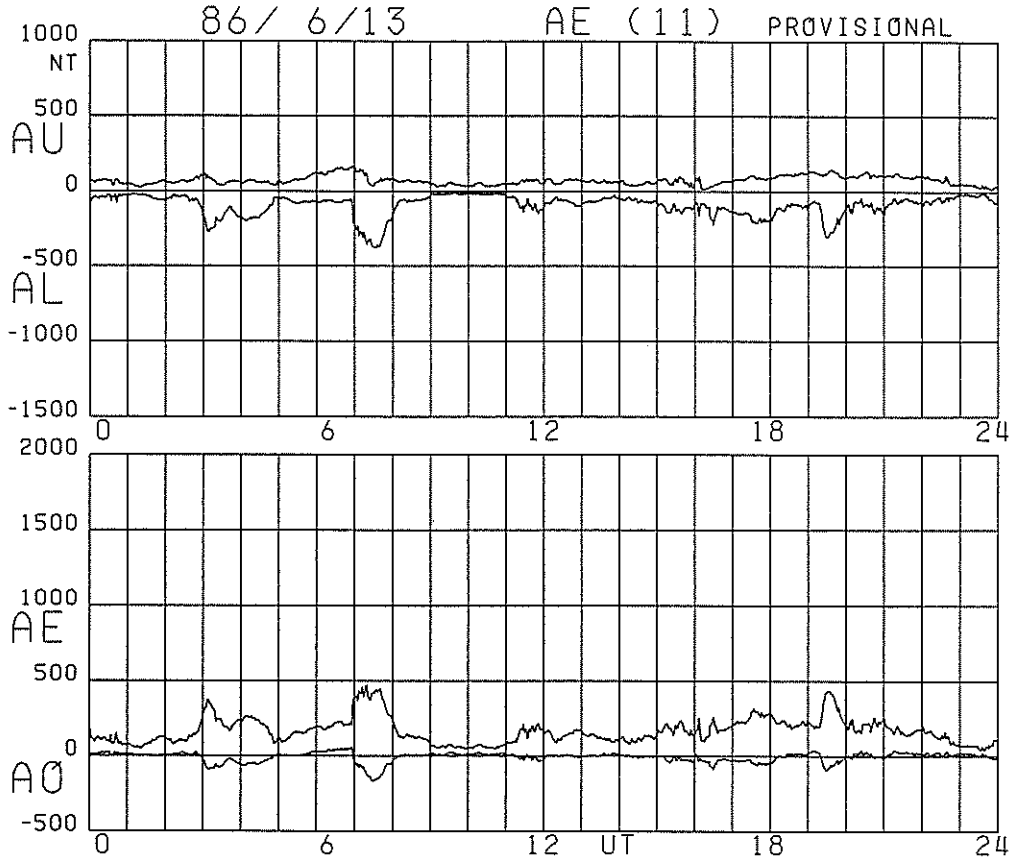


Prov.AE 8606 Fig.1- 5





Prov.AE 8606 Fig.1- 6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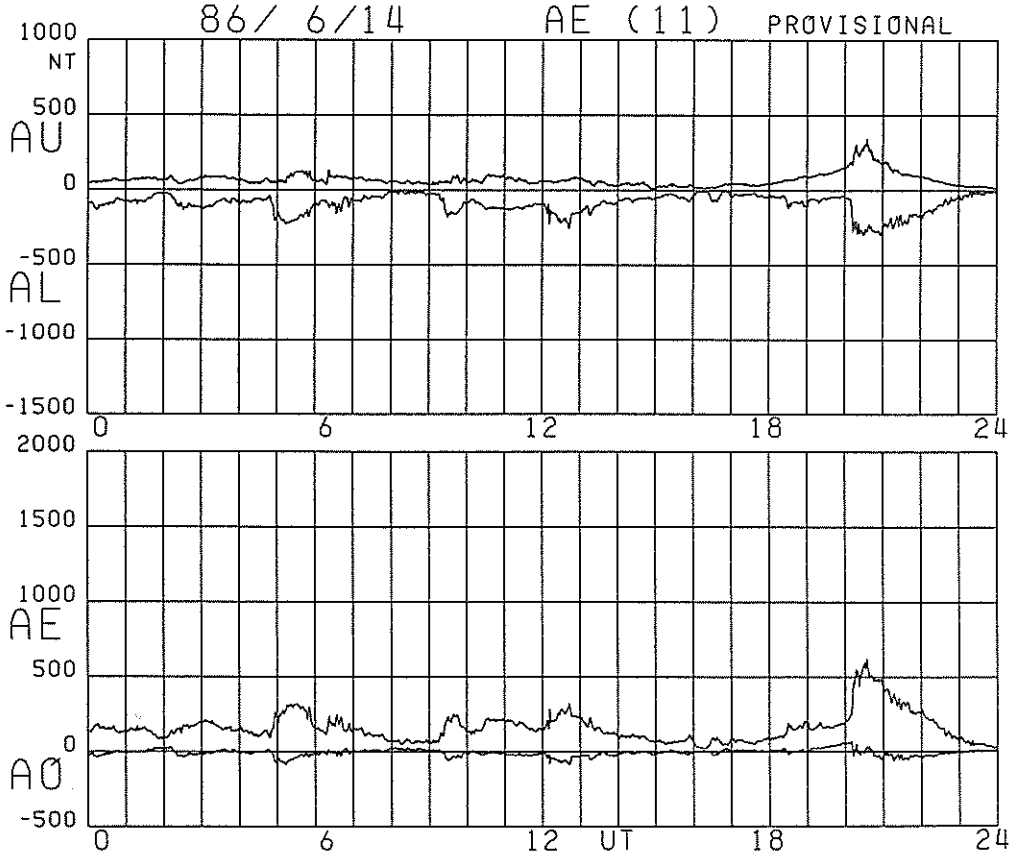
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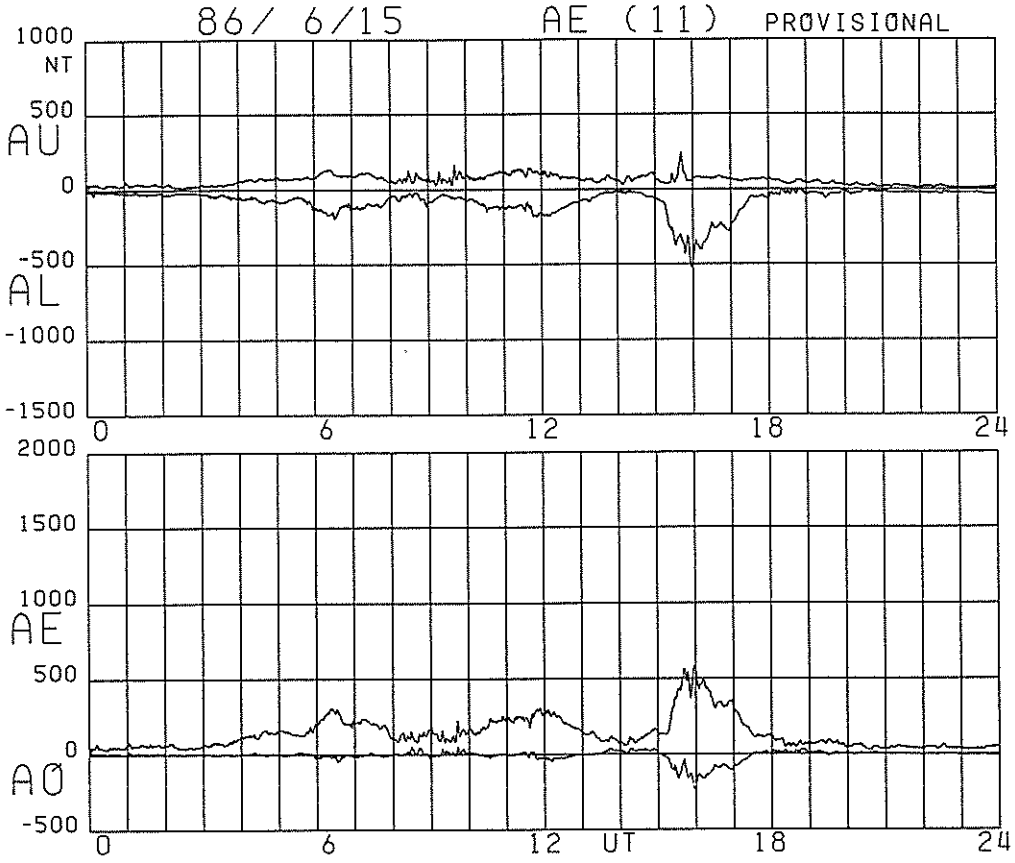
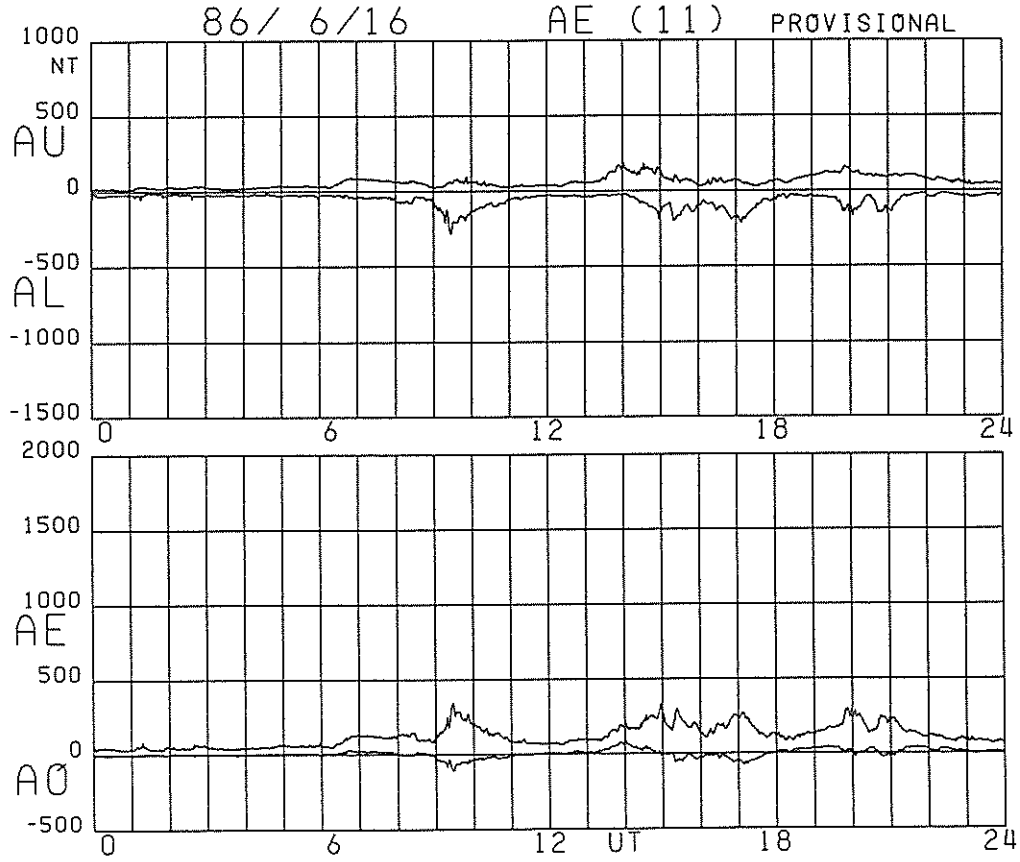
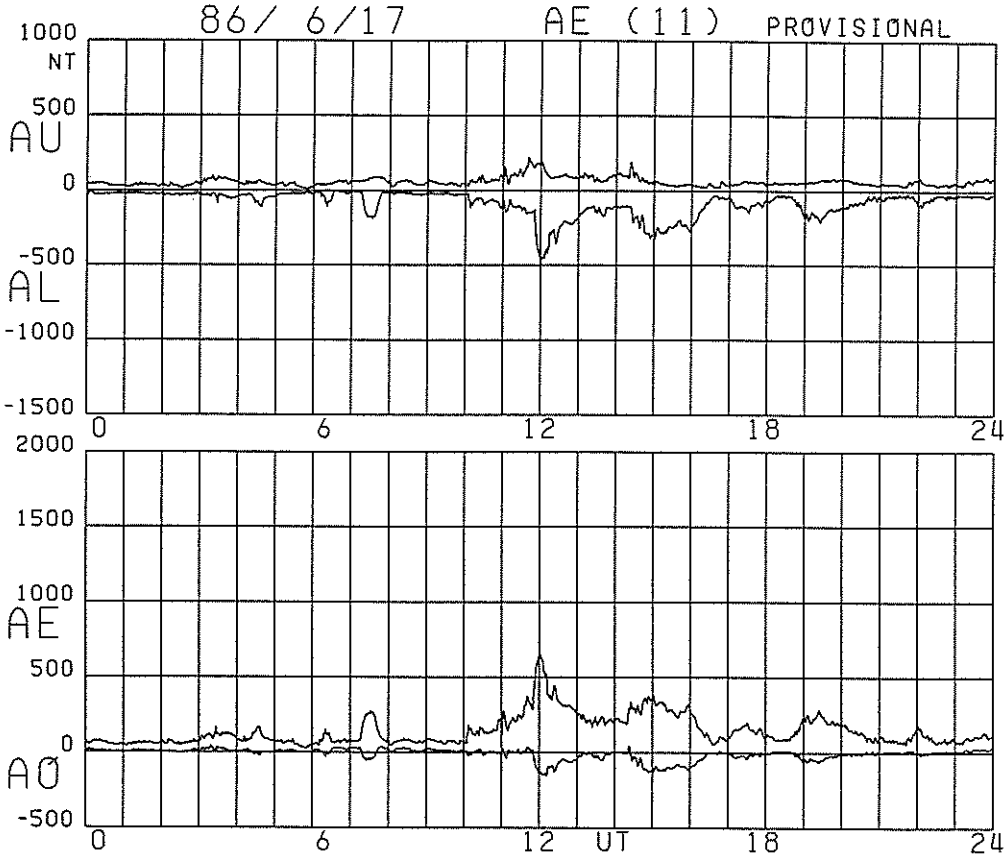




Prov.AE 8606 Fig.1- 8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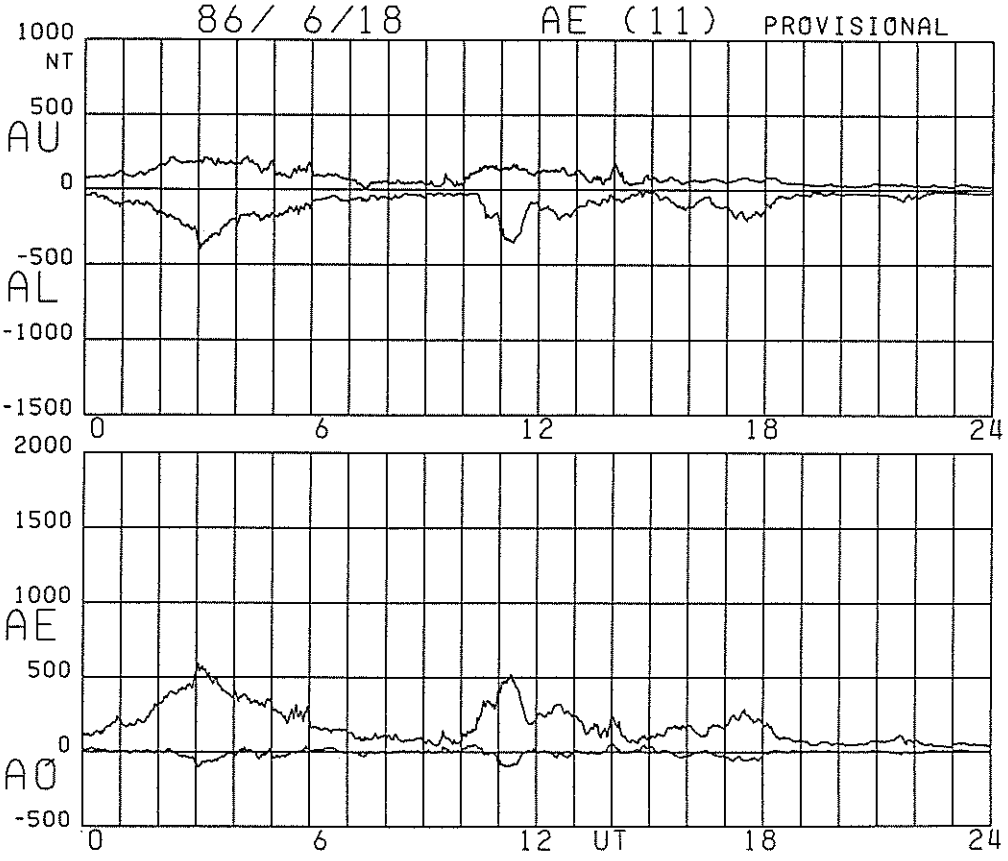
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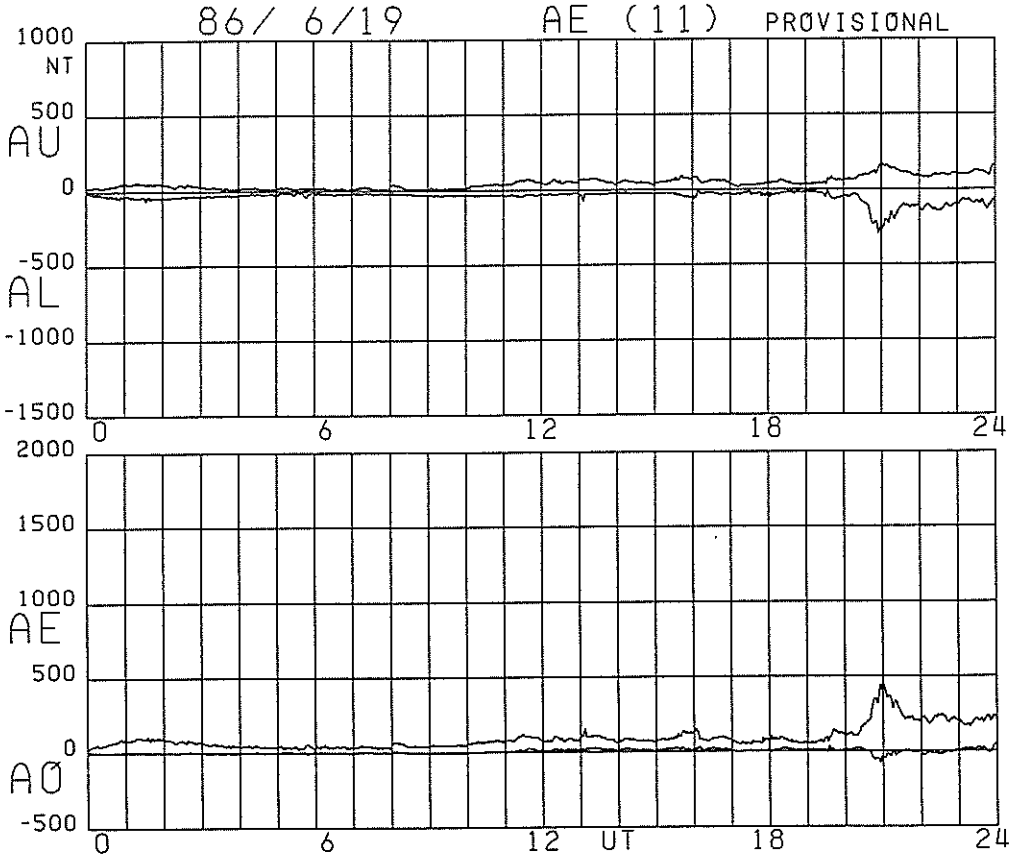
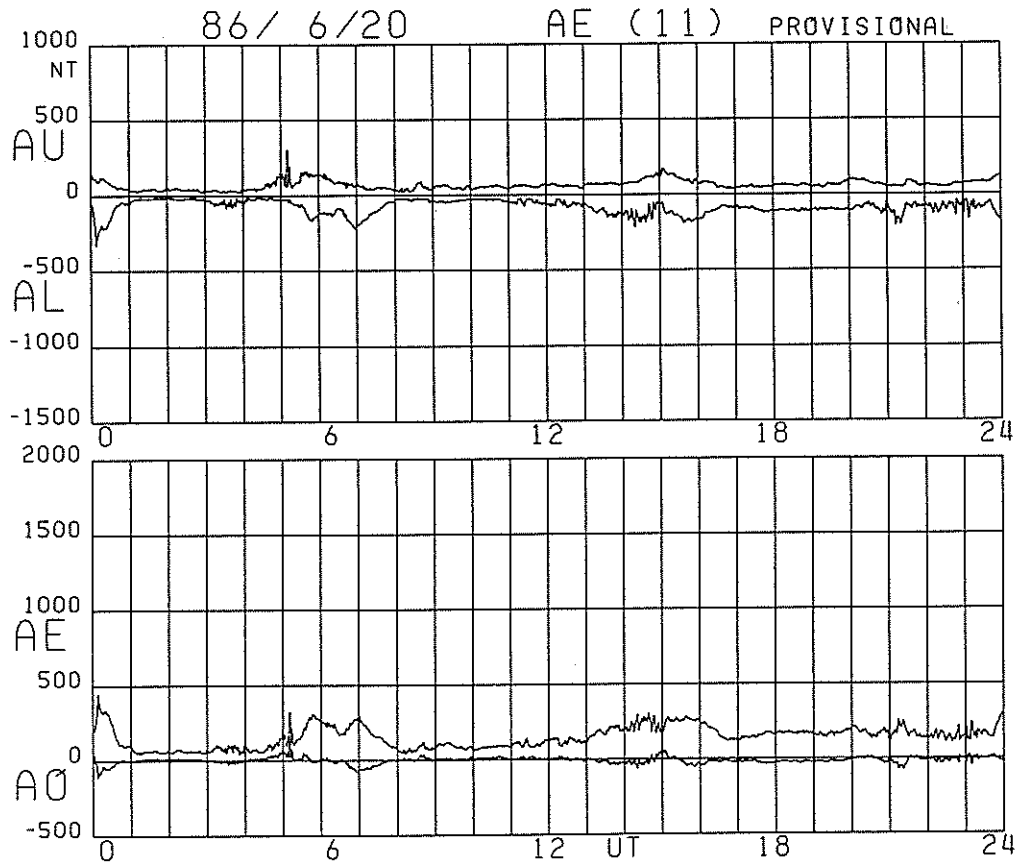
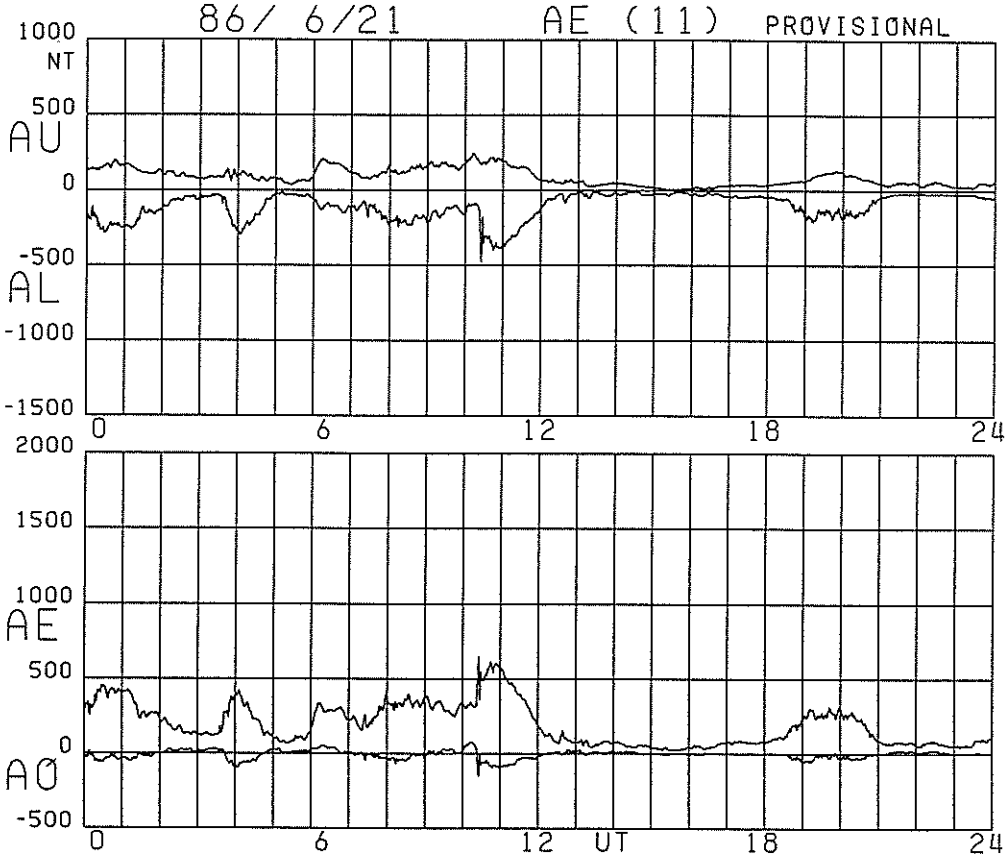
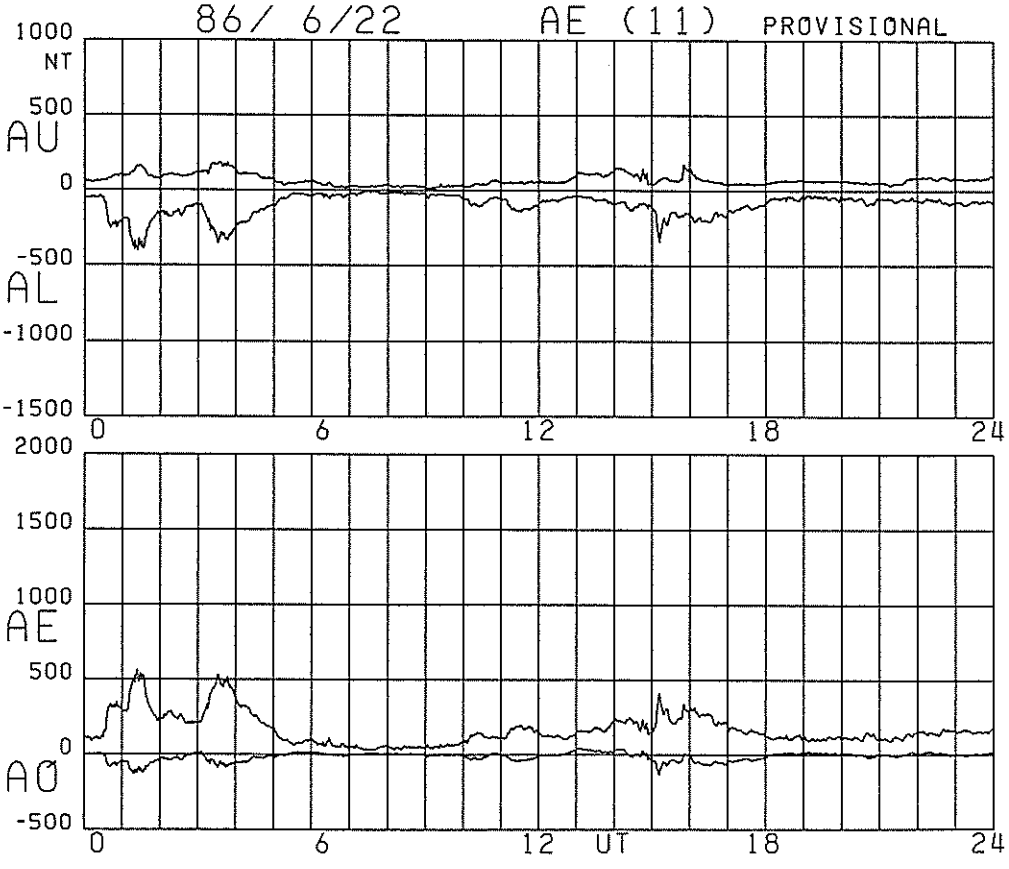




Prov.AE 8606 Fig.1-10





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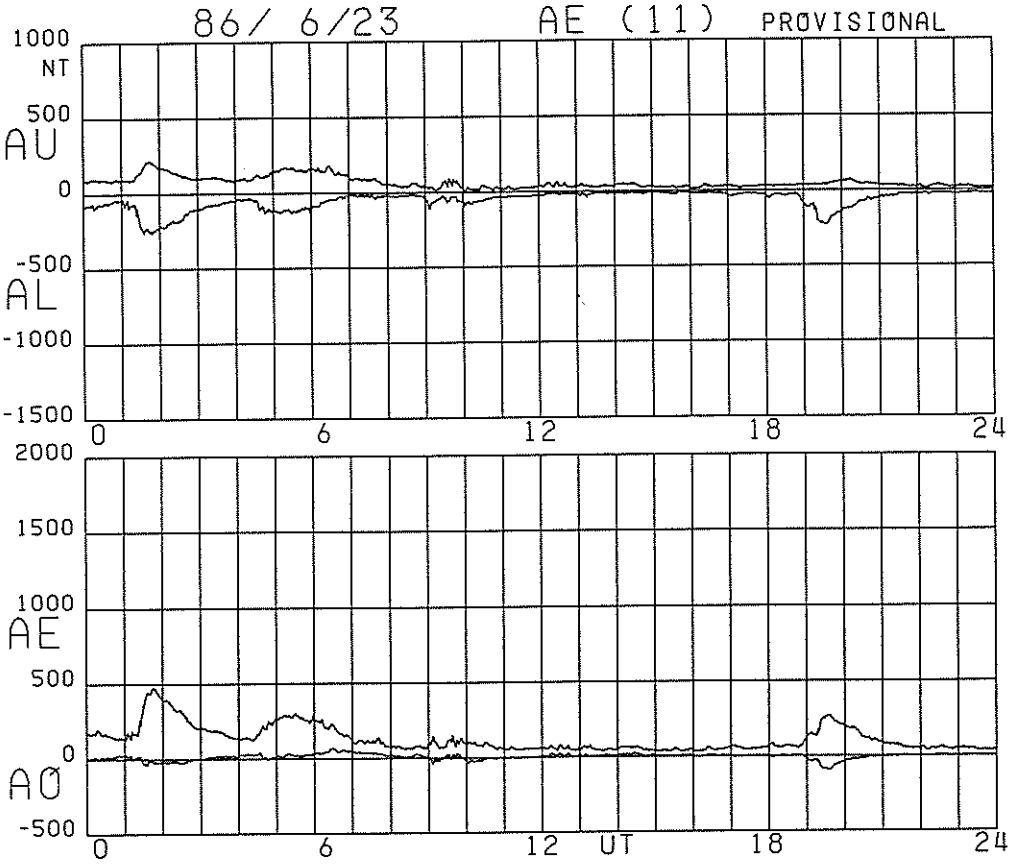

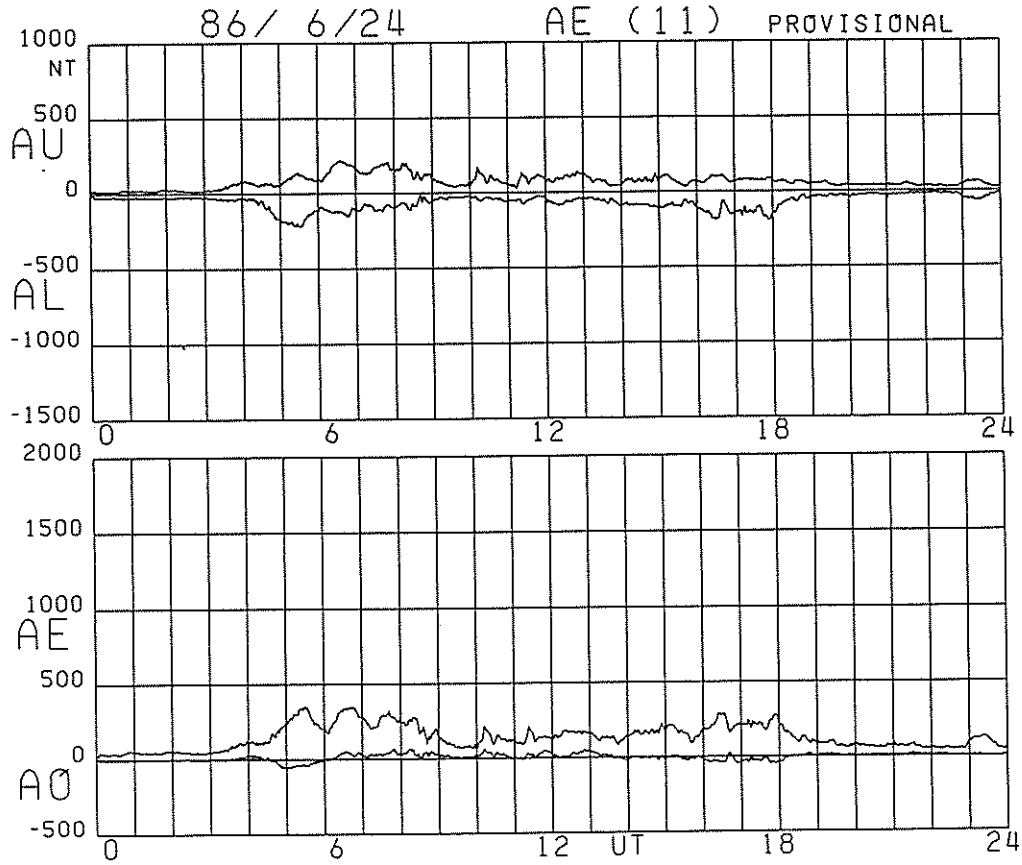

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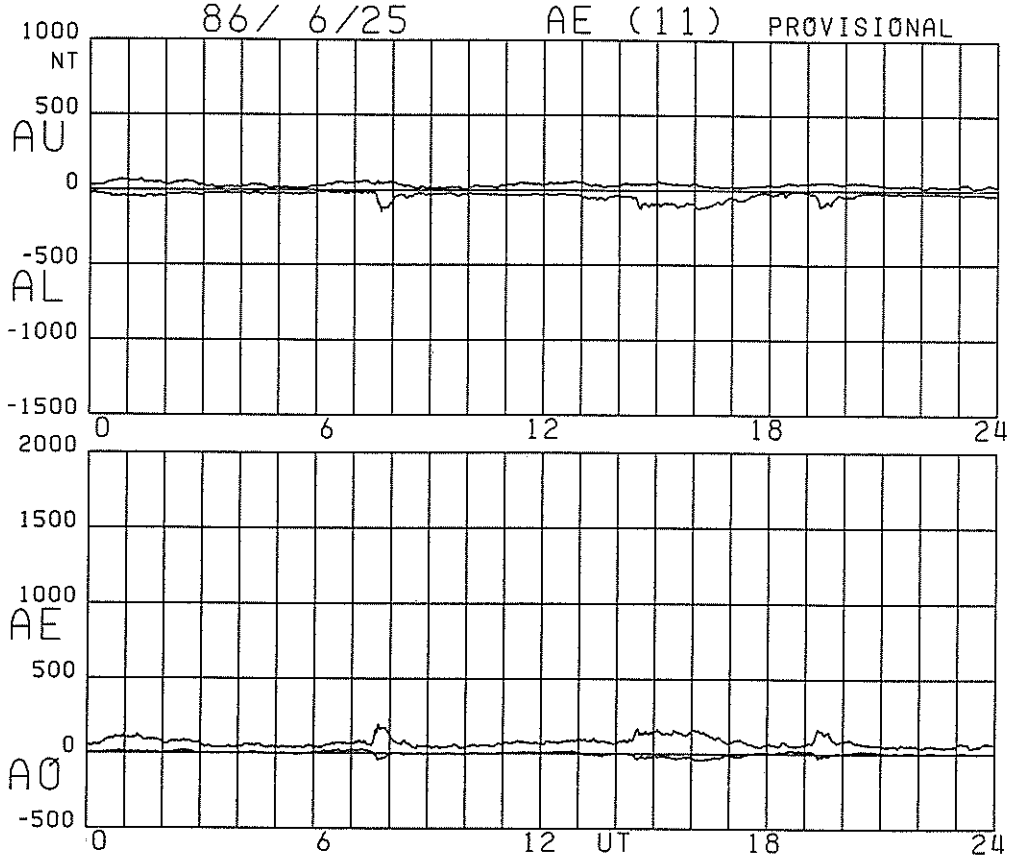
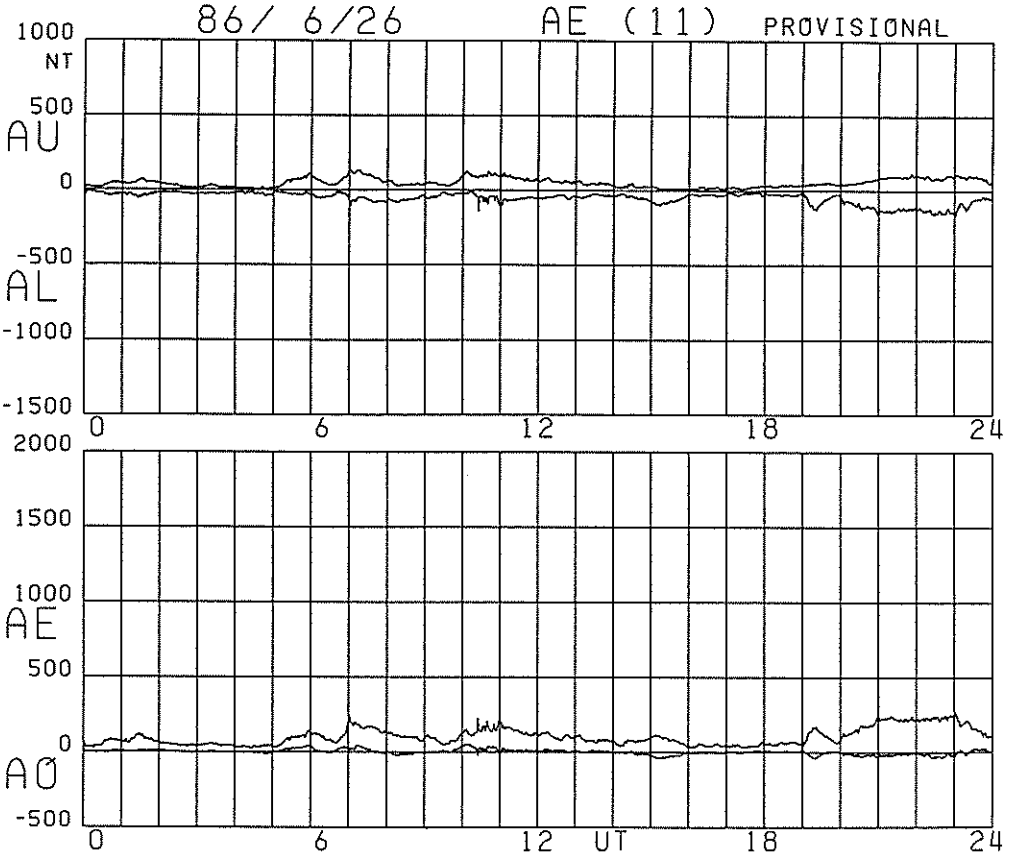
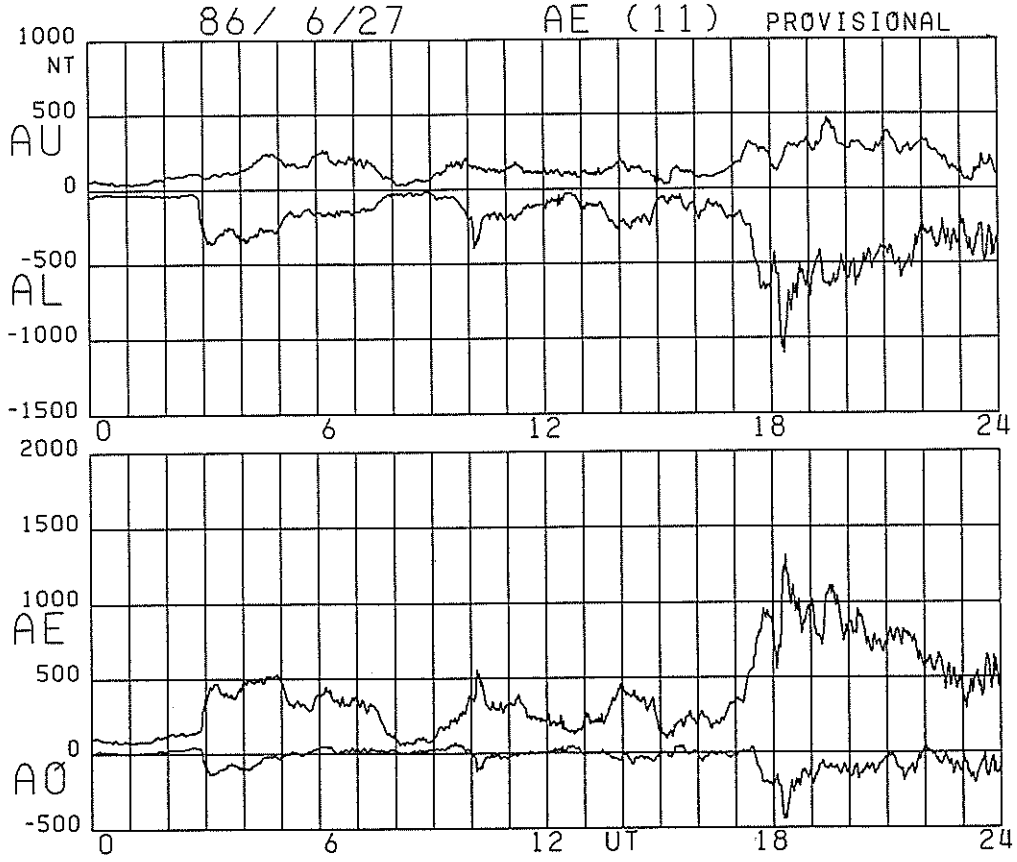
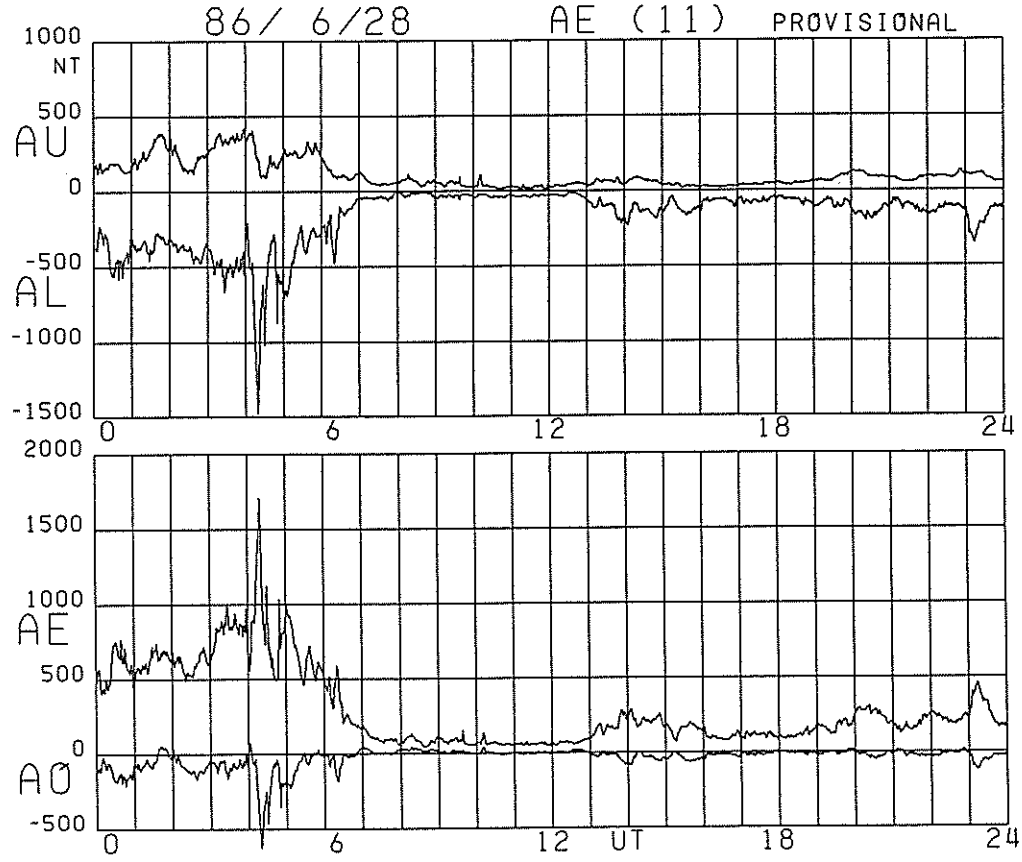




Prov.AE 8606 Fig.1-13





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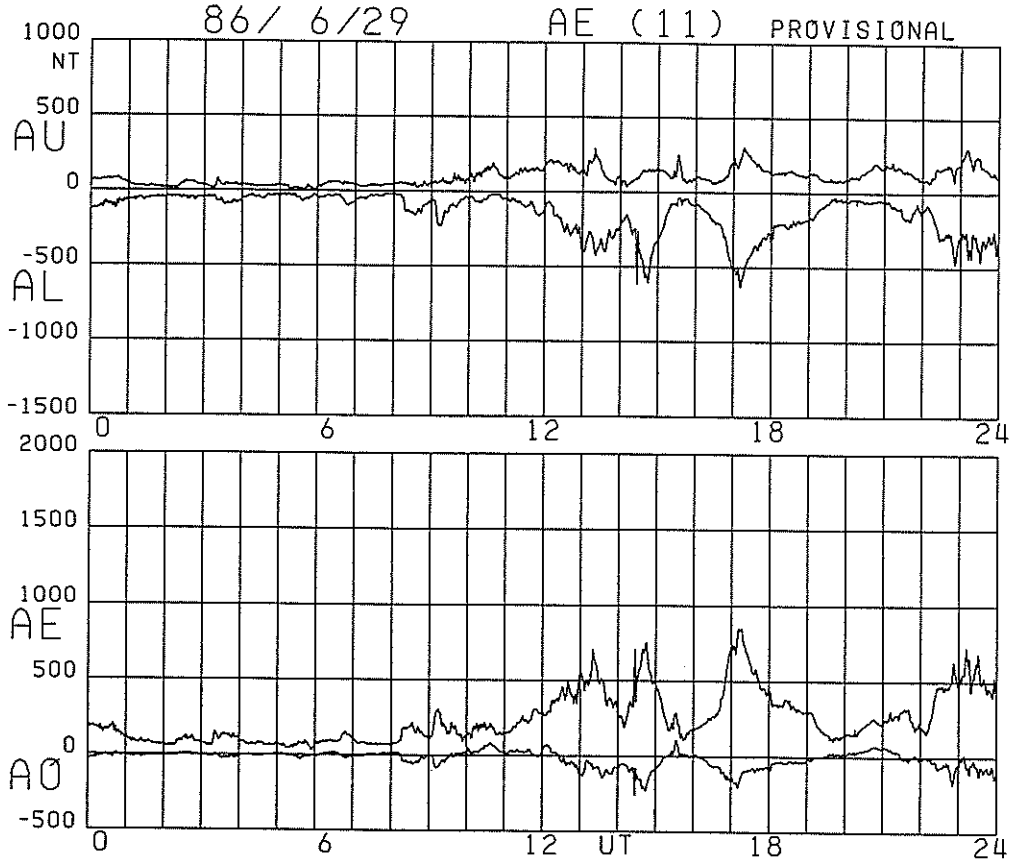

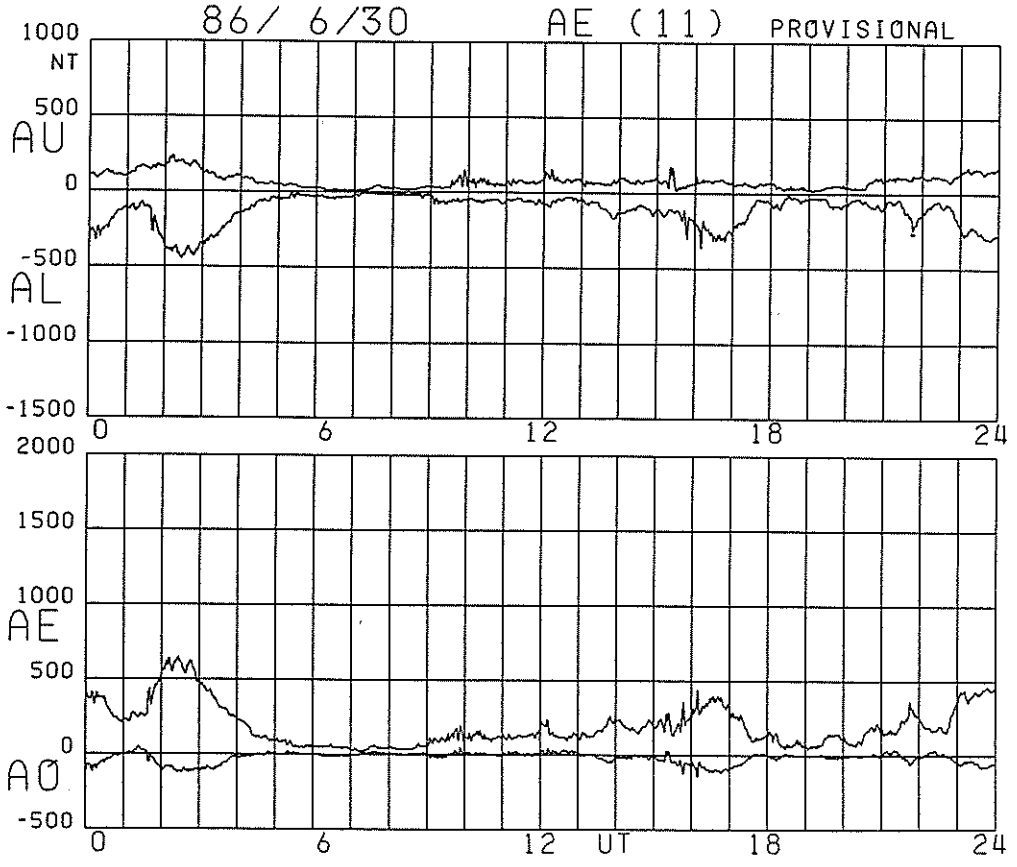

Prov.AE 8606 Fig.1-15

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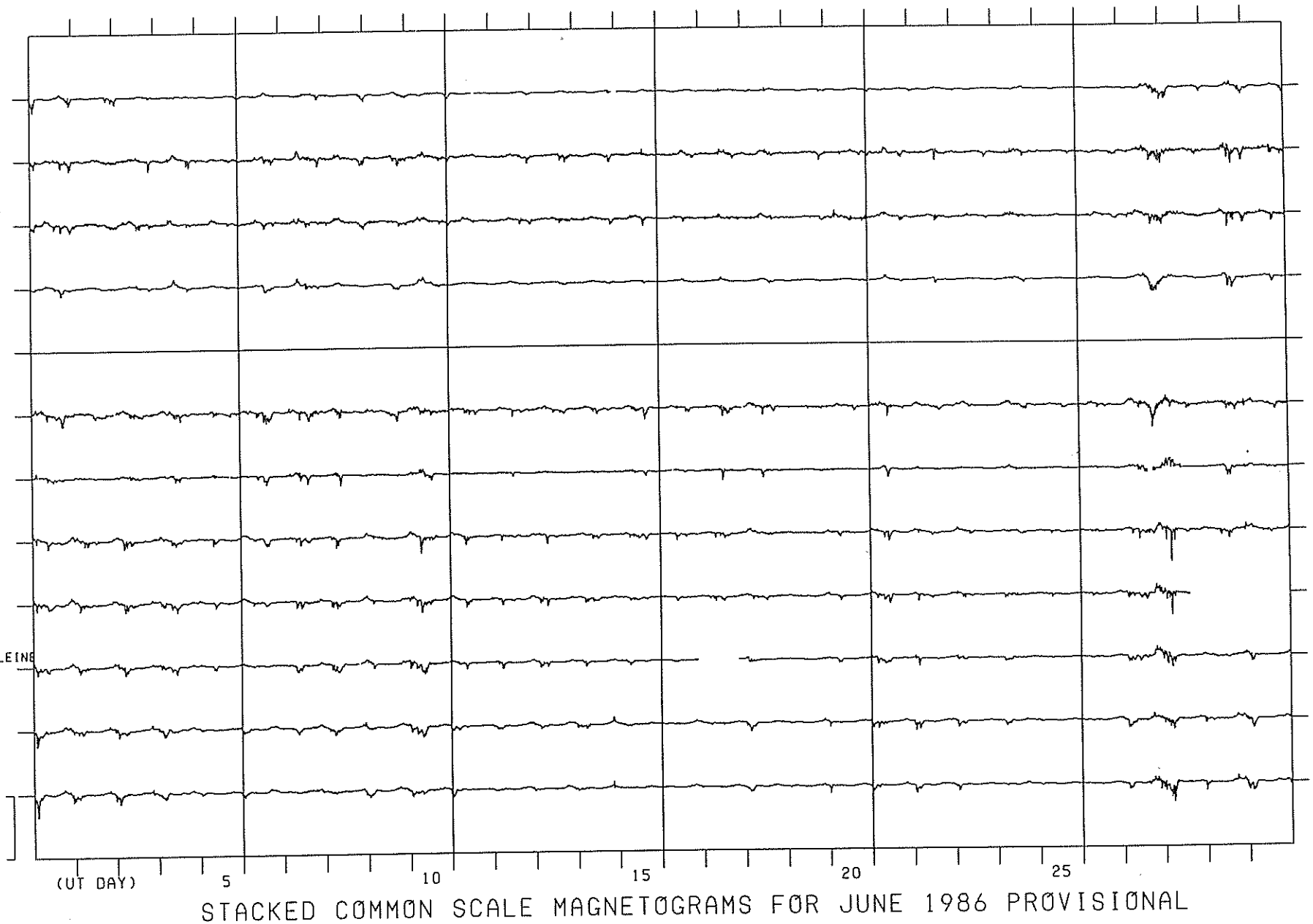

STACKED COMMON SCALE MAGNETOGRAMS FOR JUNE 1986 PROVISIONAL

Prov. AE 8606 Fig. 3

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

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