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Solar - Geophysical Data

NO. 382 JUNE 1976

Part II (Comprehensive Reports)

DATA FOR
DECEMBER 1975
NOVEMBER 1975
& MISCELLANEA

**NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO**

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SOLAR - GEOPHYSICAL DATA

No. 382

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CONTENTS

Part I (Prompt Reports)

	Page
Index for 1975 and 1976	2
Data for May 1976	3-22
Data for April 1976	23-116

Part II (Comprehensive Reports)

Index for 1975 and 1976	2
Data for December 1975	3-16
Data for November 1975	17-26
Miscellaneous Data	27-41
Energetic Solar Particles and Plasma -- IMP 7 and 8 - October and November 1975	
Reduced Magnetograms - November 1975	

DECEMBER 1975 DATA

Contents

	Page
<u>Solar Flares</u>	
H α Solar Flares (Standardized Data)	4-7
Daily Flare Indices	7
No-Flare-Patrol Chart	8
<u>Solar Radio Waves</u>	
Worldwide Outstanding Occurrences at Fixed Frequencies	9-11
<u>Energetic Solar Particles and Plasma</u> (See Miscellaneous Section for October and November 1975 data)	12-16
<u>Magnetograms of Geomagnetic Storm</u> (See Miscellaneous Section for November 1975 storms)	

4
Dec 75

H α SOLAR FLARES

DECEMBER 1975

OBSERVATORY	OBSERVED UT				LOCATION			DURATION MIN.	IMPOR- TANCE	OBS.		MEASUREMENTS			REMARKS		
	DATE 1975 DEC	START	MAX. PHASE	END	APPROX		CENTRAL DISTANCE			GCMATH PLAGE REGION	CMP DAY	COND.	TYPE	TIME UT		MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.
					LAT.	MER. DIST.											
	01	1032	1111		NO FLARE	PATROL											
	01	1207	1222		NO FLARE	PATROL											
	01	1354	1401		NO FLARE	PATROL											
	01	1523	1533		NO FLARE	PATROL											
	01	1537	1547		NO FLARE	PATROL											
	01	1617	1714		NO FLARE	PATROL											
	01	1726	1750		NO FLARE	PATROL											
	01	1802	1805		NO FLARE	PATROL											
	01	1807	1817		NO FLARE	PATROL											
	01	1827	2002		NO FLARE	PATROL											
	01	2019	2027		NO FLARE	PATROL											
	02	1202	1355		NO FLARE	PATROL											
	02	1410	1435		NO FLARE	PATROL											
	02	1440	1734		NO FLARE	PATROL											
	02	2217	2233		NO FLARE	PATROL											
GRP63054	03	0419	0429+2	0450	N02	E14	.243	13964	4.2	31	-F			50	.5	FU	
CULG	03	0419	0431	0433	N01	E14	.242	13964	4.2	34	-F			40	.4		
MANI	03	0429E	0429U	0440C	N02	E14	.243	13964	4.2	110	-F	3	C	0431	40	.4	U
MITK	03	0439E		0447	N02	E13	.226	13964	4.2	90	-N		P	0439	60	.6	E
	03	1142	1240		NO FLARE	PATROL											
	03	1245	1305		NO FLARE	PATROL											
	03	2256	2349		NO FLARE	PATROL											
	04	0235	0243		NO FLARE	PATROL											
	04	0247	0316		NO FLARE	PATROL											
	04	0329	0340		NO FLARE	PATROL											
	04	0545	0546		NO FLARE	PATROL											
	04	1520	1525		NO FLARE	PATROL											
	04	1535	1546		NO FLARE	PATROL											
55 BOUL	04	2031	2033	2040	N04	E00	.061	13964	4.9	9	-F	2	C	2033	117	1.2	
	04	2225	2310		NO FLARE	PATROL											
GRP63056	05	0740	0752+2	0848	N06	W06	.143	13964	4.9	68	18						EJL
ABST	05	0740	0754	0857	N06	W06	.143	13964	4.9	75	18		C	0754	349	3.6	EJ
KODA	05	0747E	0752	0841	N07	W07	.167	13964	4.8	540	28		P	0805	505	5.2	CEL
	05	0910	0921		NO FLARE	PATROL											
	05	0937	0940		NO FLARE	PATROL											
	05	1110	1119		NO FLARE	PATROL											
	05	1125	1132		NO FLARE	PATROL											
57 MCMA	05	1620	1623	1632	N03	W17	.296	13964	4.4	12	-F		C	1623	25	.3	G
	05	1759	1835		NO FLARE	PATROL											
	06	0318	0335		NO FLARE	PATROL											
	06	0429	0520		NO FLARE	PATROL											
58 ABST	06	0837	0838	0845	N04	W26	.442	13964	4.4	8	-N		C	0838	87	.9	DH
	06	0932	0945		NO FLARE	PATROL											
59 MONT	06	1117	1119	1121	N04	W29	.488	13964	4.3	4	-F		C	1119	20		
	06	1438	1544		NO FLARE	PATROL											
	06	1557	1633		NO FLARE	PATROL											
	06	1716	1721		NO FLARE	PATROL											
GRP63060	06	1740+3	1745+1	1750	N04	W32	.533	13964	4.3	10	-F				30	.4	EL
MCMA	06	1740		17540	N03	W32	.531	13964	4.3	140	-N		C	1747	35	.4	EL
BOUL	06	1741	1745	1750	N04	W32	.533	13964	4.3	9	-F	1	C	1745	32	.4	
PALE	06	1743	1746	1747	N05	W32	.534	13964	4.3	4	-F	3	C		16		DE
61 CULG	06	1949	2010	2027	N04	W33	.547	13964	4.4	34	-F		C	2010	50	.6	
62 CULG	06	2231	2343	0027	N05	W35	.577	13964	4.3	116	-F		P	2343	20	.2	
GRP63063	07	0110+6	0117+5	0131	N04	W36	.590	13964	4.3	21	-N						EHJ
CULG	07	0110	0117	0129	N04	W36	.590	13964	4.3	19	-N		C	0117	80	.9	
VORO	07	0116	0122	0133	N04	W36	.590	13964	4.4	17	1N		C	0122	188	2.4	EHJ
GRP63064	07	0136+5	0143+2	0150	N04	W37	.604	13964	4.3	14	-F				50	.6	DHJ
MANI	07	0136E	0144U	0150	N05	W37	.605	13964	4.3	140	-N	3	P	0144	50	.6	H
CULG	07	0137	0143	0148	N04	W37	.604	13964	4.3	11	-F		C	0143	40	.5	
VORO	07	0141	0145	0150	N04	W36	.590	13964	4.4	9	-F		C	0145	134	1.7	DHJ

H α SOLAR FLARES

DECEMBER 1975

OBSERVATORY	OBSERVED UT				LOCATION			DURATION MIN.	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS		
	DATE 1975 DEC	START	MAX. PHASE	END	APPROX.		CENTRAL DISTANCE			MATH PLAGE REGION	CNR DAY	COND.	TYPE	TIME UT		MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.
					LAT.	MER. DIST.											
78 80UL	24	1757	1808	NO FLARE	PATROL												
	24	1943	1946	2008	S12 W29	.506	13994	22.6	25	-F	2	C	1946	42	.5		
	25	1245	1246	NO FLARE	PATROL												
	25	1413	1508	NO FLARE	PATROL												
	25	2137	2133	NO FLARE	PATROL												
	25	2321	2335	NO FLARE	PATROL												
	26	1506	1503	NO FLARE	PATROL												
	26	1521	1528	NO FLARE	PATROL												
	26	2208	2220	NO FLARE	PATROL												
	26	2236	2335	NO FLARE	PATROL												
	27	1016	1020	NO FLARE	PATROL												
	27	1105	1109	NO FLARE	PATROL												
	27	1117	1125	NO FLARE	PATROL												
	27	1522	1528	NO FLARE	PATROL												
	27	1531	1535	NO FLARE	PATROL												
	27	1554	1613	NO FLARE	PATROL												
	27	1713	1905	NO FLARE	PATROL												
	28	1534	1552	NO FLARE	PATROL												
	28	1615	1633	NO FLARE	PATROL												
	29	1646	1707	NO FLARE	PATROL												
	28	1936	1959	NO FLARE	PATROL												
	29	2314	2339	NO FLARE	PATROL												
	29	2343	2349	NO FLARE	PATROL												
	30	0425	0458	NO FLARE	PATROL												
	30	0510	0520	NO FLARE	PATROL												
	30	0535	0555	NO FLARE	PATROL												
	30	1535	1612	NO FLARE	PATROL												
	30	1642	1936	NO FLARE	PATROL												
	30	1939	1953	NO FLARE	PATROL												
	30	2041	2056	NO FLARE	PATROL												
	30	2112	2118	NO FLARE	PATROL												
30	2220	2236	NO FLARE	PATROL													
30	2246	2300	NO FLARE	PATROL													
30	2327	2330	NO FLARE	PATROL													
31	0525	0535	NO FLARE	PATROL													
31	1447	1516	NO FLARE	PATROL													
31	2009	2033	NO FLARE	PATROL													
31	2142	2330	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 a 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.

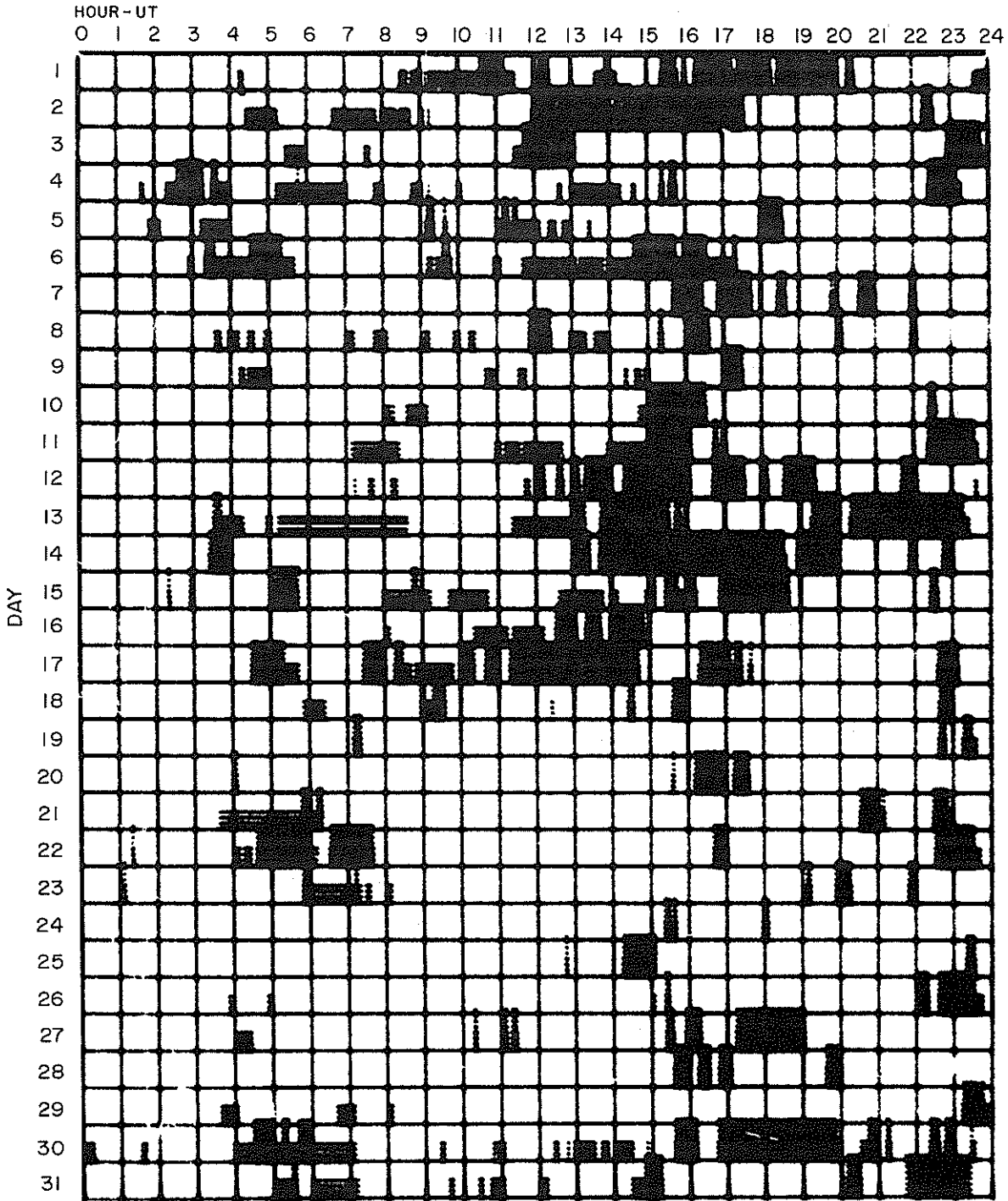
- N = Continuous spectrum shows effects of polarization.
- O = Observations have been made in the calcium II lines H and K.
- P = Flare shows helium D₃ in emission.
- Q = Flare shows the Balmer continuum in emission.
- R = Marked asymmetry in H α line suggests ejection of high velocity material.
- S = Brightness follows disappearance of filament (same position).
- T = Region active all day.
- U = Two bright branches, parallel (||) or converging (Y).
- V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
- W = Great increase in area after time of maximum intensity.
- X = Unusually wide H α line.
- Y = System of loop-type prominences.
- Z = Major sunspot umbra covered by flare.

DAILY FLARE INDICES								
Includes all Flares								
Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
751201	0.00	19.4	751211	.91	21.5	751221	0.00	22.8
751202	0.00	18.5	751212	0.00	18.9	751222	0.00	20.0
751203	1.37	21.8	751213	0.00	17.8	751223	3.39	23.1
751204	5.51	22.2	751214	0.00	17.5	751224	6.80	23.6
751205	52.78	22.9	751215	5.70	20.5	751225	0.00	22.8
751206	17.64	20.9	751216	0.00	22.2	751226	0.00	22.7
751207	12.36	21.6	751217	0.00	16.8	751227	0.00	21.3
751208	23.99	22.7	751218	0.00	22.7	751228	0.00	22.7
751209	.86	23.5	751219	0.00	23.4	751229	0.00	23.5
751210	.88	22.4	751220	0.00	22.7	751230	0.00	18.3
						751231	0.00	21.2

When no Flare Index is given, it is 0 for that day.

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

DECEMBER 1975



Observatories included in total patrol:

- | | | | | |
|------------|----------------|----------------|-------------|-------------|
| Abastumani | Culgoora | Kharkov | Meudon | Tehran |
| Arcetri | Haute Provence | Kodaikanal | Mitaka | Upice |
| Athens | Herstmonceux | Locarno | Monte Mario | Voroshilov |
| Boulder | Huancayo | Lvov | Palehua | Wendelstein |
| Bucharest | Hurbanovo | Manila | Ramey | Zürich |
| Catania | Istanboul | McMath-Hulbert | Tachkent | |

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
DECEMBER 1975

DEC 1975	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	POLARIZATION OR REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
1	9240 ARCE	3	1336.5	1337	1.3				
	9240 ARCE	41	1336.5	1337	11.5				
	9240 ARCE	1	1342 U	1342.7	1.4U				
	9240 ARCE	1	1346.1	1346.4	0.7				
	9240 ARCE	1	1347.4	1346.6	0.6				
2	500 HIRA	3 S	0621	0621.6	0.7	39	23		
	500 HIRA	3 S	0622.2	0622.2	0.4	31	16		
	3100 CRIM	24 R	0827	1131		3			
	9240 ARCE	3	0902.4	0902.5	0.8				
	9240 ARCE	40	1027.5	1028.4	2.6				
	9240 ARCE	1	1426.3	1426.7	1				
	9240 ARCE	1	1431.3	1431.5	0.8				
3	100 HIRA	45 C	0022.7	0023.4	1	600	250		SLWR
	100 HIRA	45 C	0048	0048.6	1	350	100		SRSL
	260 ONDR	43 NS	0810 E		360 D	17			
	127 TORN	41 F	0957.4	1000.3	8	12	2		
4	260 ONDR	8 S	0911.8	0911.8	0.2	10			
	9240 ARCE	2	1034.6	1034.7	0.7				
	9240 ARCE	41	1034.6	1041.7	8.3				
	9240 ARCE	1	1035.8	1035.9	1.6				
	9240 ARCE	45	1040.9	1041.7	2				
	9240 ARCE		1040.9	1041.2	0.7				
	9240 ARCE		1041.6	1041.7	1.3				
	9240 ARCE	29	1350.4		5 U				
	9240 ARCE	3	1350	1350.2	0.4				
	9240 ARCE	3	1403	1403.4	1.4				RECORD DISTUR
	2800 OTTA	240 R	1702	1720	18	1.2	0.6		
2800 OTTA	24P R	1720		220 D	1.2				
5	510 POTS	45 C	0731	0750	55	28	4		
	1415 MANI	4 S/F	0743.1	0748.2	36.9	18.8	9		
	2695 MANI	4 S/F	0743.1	0748.6	34.9	19.6	5.6		
	4995 MANI	4 S/F	0743.2	0750	34.8	16.6	4.6		
	8800 MANI	4 S/F	0743.5	0750	35.5	24.5	11.2		
	2695 ATHN	4 S/F	0744.3	0749.8	28	18	5.4		
	4995 ATHN	3 S	0744.4	0750	29.5	10.7	3.2		
	606 MANI	41 F	0746.4	0810.5	33.6	108	16.5		
	8800 ATHN	3 S	0746.5	0750.8	25.5	11	3.3		
	550 KIEV	6 S	0747 E	0749.2	4.5	38	19		
	234 POTS	45 C	0748	0831	120	22	4		
	113 POTS	45 C	0751	0805	105	50	7		
	550 KIEV	46 C	0752	0806.5	23.7	25	41		
	550 KIEV		0752	0759.7	6 U	20			
	550 KIEV		0752	0755.5	1	12			
	550 KIEV		0752	0811	1.3	11			
	127 TORN	45 C	0755 U	0805.5U	18	60 D	10 U		OFF SCALE
	127 TORN	25 R	0755 U	0840.5	380 D	45			
	127 TORN	43 NS	0755 U		380 D				
	260 ONDR	43 NS	0820 E		150	21	8		
	100 GORK	44 NS	0906 E		144 D		5		
	200 GORK	44 NS	0913 E		137 D		5		
	1470 BERL	4	0800 E	0806.5	19 D	15			
3000 BERL	4	0800 E	0806.7	18 D	10				
221 ABST	45 C	0826	0830.8	8	23	12			
2800 OTTA	20 GRF	1900	1918	50	1.2	0.6			
6	100 GORK	44 NS	0625 E		185		5		
	200 GORK	44 NS	0625 E		213		5		
	127 TORN	44 NS	0730 E		40 D				INCOMPLETE
	550 KIEV	41 F	0956.8	0958.7	2.5	11			
	550 KIEV	6 S	1003	1018.6	1.2	17			
	260 ONDR	4 S/F	1018.2	1018.3	0.5	84			
	200 GORK	8 S	1018.3	1018.8	1.2	65	40		
	1470 BERL	2	1116.5	1118.6	3.5	3.8	1.2		
	260 ONDR	4 S/F	1118.6	1119	1	37			
	33 UPIC	46 C	1118.6	1120.1	2.2				
	29 UPIC	46 C	1118.7	1119.7	2				
	200 GORK	8 S	1118.7	1119.6	2.3	150 D			
	127 TORN	5 S	1118.8	1119.5	2	30 D	15 D		OFF SCALE
	113 POTS	45 C	1118.9	1119.2	0.9	300	30		
	100 GORK	8 S	1118.9	1119.6	1.8	400			
	2800 OTTA	20 GRF	1740	1746	20	0.8	0.4		
	410 SGMR	6 S	1743.8	1745.5	2.8	25.4	10.1		
245 SGMR	6 S	1744.6	1745.5	2.4	1.8	.7			
200 HIRA	45 C	2242	2242.3	1	30	15		WL	
7	207 VORO	43 NS	0000	0120	110	10			
	100 HIRA	41 F	0111	0117 U	11	2000 D			MR
	200 HIRA	41 F	0111	0116.6U	11	370 D			SL
	500 HIRA	45 C	0115.6	0117	1.5	30	9		
	606 MANI	4 S/F	0116.6	0118	2.4	21.6	4.3		

10
Dec 75

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
DECEMBER 1975

DEC 1975	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	POLARIZATION OR REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
8	▲ 1415 MANI	4 S/F	0117	0117.4	4.4	11.7	3.7		
	200 HIRA	45 C	0136	0136.5	1.5	100	60		SL
	100 HIRA	45 C	0136	0136.5	1.5	500	250		WRHL
	3750 TYKW	5 S	0136	0136.4	4	1.5	0.50		OR
	2000 TYKW	5 S	0136	0136.4	2	1.7	0.5		
	207 VORO	4 S/F	0136	0137	2	110			
	221 ABST	45 C	0604	0605	8	27	11		
	100 HIRA	45 C	0604.8	0606.7	2.3	240	150		MRHL
	200 HIRA	45 C	0605	0605.4	2	30	15		WL
	221 ABST	6 S	0731.8	0732	0.5	59			
	260 ONDR	42 SER	0959	1006.5	17	4			
	33 UPIC	8 S	1135.8	1135.9	0.3				
	29 UPIC	8 S	1135.9	1136	0.3				
	245 SGMR	43 NS	1358.7	1531.2	338.4	37.8			
	550 KIEV	41 F	1026	1027	4.4	29			
	260 ONDR	8 S	1321.3	1321.3	0.2	6			
	2800 OTTA	27 RF	1330	1330	380	4	3		
	2800 OTTA	24 R	1330	1355	25	4	2		
	2400 OTTA	24P R	1355	1355	165	4			
	606 SGMR	2 S/F	1419.3	1420.2	5.1	7.9	2.4		
410 SGMR	6 S	1419.8	1420.2	4.4	31.5	9.5			
2800 OTTA	26 FAL	1700	1950	170	-2	-1			
9	550 KIEV	6 S	0656	0657.5	1	24			
	9240 ARCE	2	1150.4	1150.5	1.2				
10	720 SYDN	4 S	0201.8	0203	1.8				
	720 SYDN	4 S	0205.3	0205.5	0.3				
	726 SYDN	3 S	0211.5	0211.7	1.5				
	720 SYDN	40 F	0227	0228	1.8				
	720 SYDN	2 S/F	0315.7	0315.9	0.3				
	720 SYDN	3 S	0330.2	0334	4.2				
	720 SYDN	40 F	0431.5	0432.2	2.5				
	9240 ARCE	1	0854.6	0854.7	0.7				
	9240 ARCE	1	0901.2	0901.3	1.2				
	127 TORN	40 F	1308	1310.3	4	10			
9240 ARCE	3	1452.6	1453.2	1.8					
11	720 SYDN	40 F	0240	0311.7	43				
	9240 ARCE	22	1211.6	1232.8	74				
12	550 KIEV	41 F	0756	0756.2	2.7	15			
	260 ONDR	4 S/F	0828	0828.7	1.5	6	1.5		
	260 ONDR	8 S	1145.6	1145.6	0.3	115			
13	9240 ARCE	22	1220.9	1234.7	65				
14	260 ONDR	8 S	0949.2	0949.2	0.2	22			
15	9240 ARCE	1	1102.7	1102.8	0.8				
16	720 SYDN	40 F	0344.7	0353.1	12.3				
17	720 SYDN	40 F	0204.6	0208.7	4.5				
18	9240 ARCE	23	1205	1253.3	118				
	9240 ARCE	2	1307.2	1307.6	1				
	9240 ARCE	4	1508.3	1509	1.5				AT SUNSET
19	9240 ARCE	21	0952	1005	77				
	1420 ARCE	20	1002.2	1035.8	83				
	9240 ARCE	1	1030.2	1030.3	0.7				
21	127 TORN	40 F	0941.5	0945.1	6	6	2		
22	720 SYDN	4 S	0200.2	0200.4	0.7				
	720 SYDN	3 S	0219.4	0219.6	1.4				
	4995 ATHN	1 S	0640.3	0641	1	2.3	.7		
	8800 ATHN	1 S	0640.4	0641	1.3	9	2.7		
	8800 ATHN	20 GPF	0730.2	0735.7	10.6	4.5	2.7		
9240 ARCE	3	1434.1	1434.8	1.2					
23	550 KIEV	1 S	0846.8	0847.2	0.5	3			
	550 KIEV	2 S/F	0850.2	0850.3	1	4			
	2695 BOUL	1 S	1936.5	1937	2.5	3	1		
24	2300 OTTA	24 R	1740	1745	5	0.8	0.4		
	2800 OTTA	27 RF	1740	1745	135	0.8	0.7		
	2800 OTTA	24P R	1745	1745	120	0.8			
	2800 OTTA	26 FAL	1945	1955	10	-0.8	-0.4		
25	2695 BOUL	1 S	1937	1938.5	2.5	4	1		
	4995 BOUL	1 S	1939	1940	2	4	1		
26	550 KIEV	6 S	0839.8	0840.3	1.2	2			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

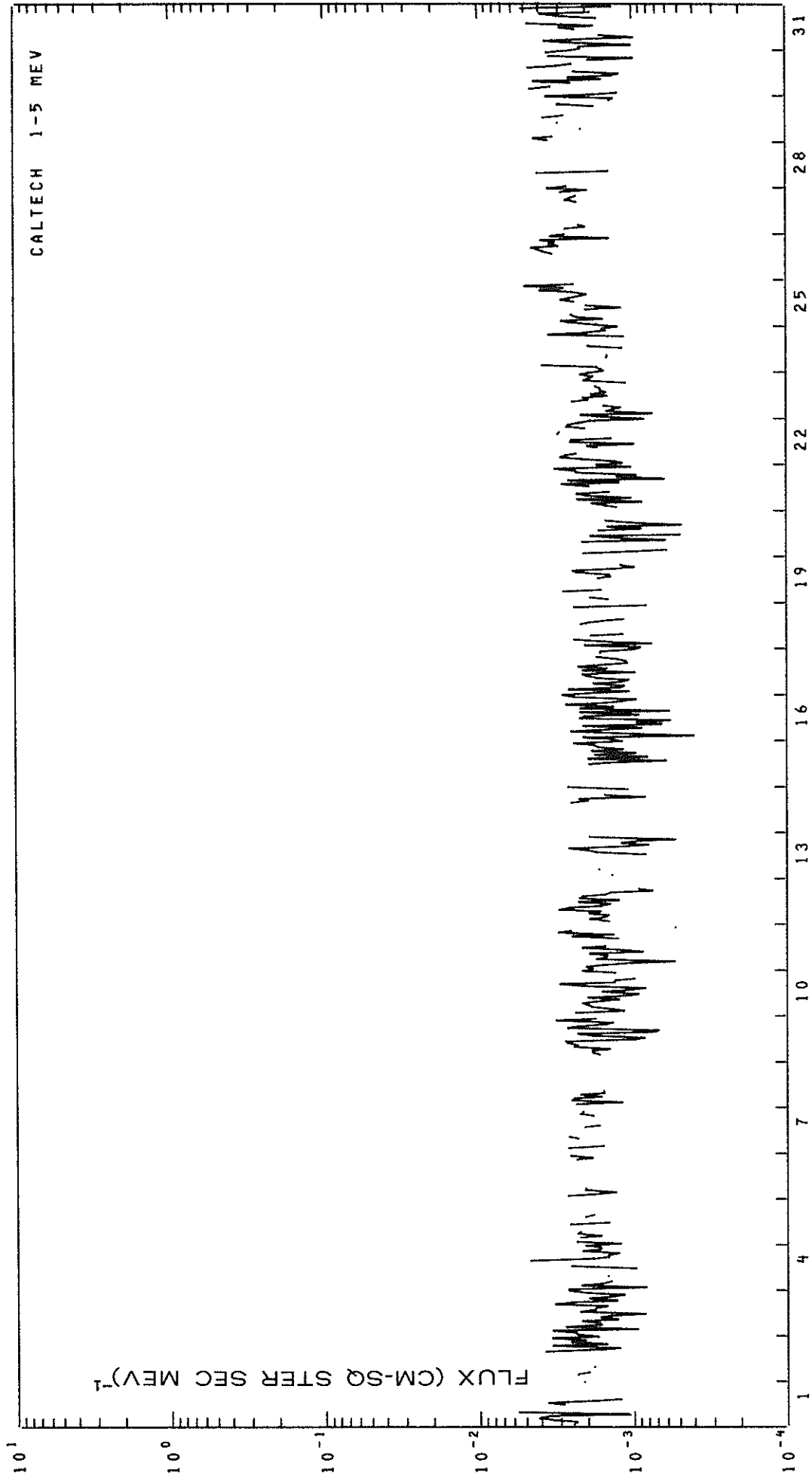
DECEMBER 1975

DEC 1975	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ W m}^{-2} \text{ Hz}^{-1}$		INT	POLARIZATION OR REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
27	3100 CRIM	45 C	0706.5	0708	8	2	1		
	3100 CRIM		0706.5	0713.5		3			
	1470 BERL	40	1329.4	1330	3.6	2.7			
	3000 BERL		1329.5	1330	3.5	6.9			
9500 BERL	40	1329.5	1330	3.5	13				
29	720 SYDN	3 S	0122	0122.1	0.8				
	720 SYDN	1 S	0136.5	0136.8	6				
31	260 ONDR	8 S	1053.5	1054.2	1	10	2		
	4995 BOUL	1 S	1839.5	1840.5	2.5	6	3		
	2695 BOUL	45 C	1839.5	1841.5	5	2	1		
	4995 BOUL	1 S	1939.5	1941	2.5	8	3		
	2695 BOUL	1 S	1940.5	1942.5	2.5	2	1		

Reports received from the following observatories:

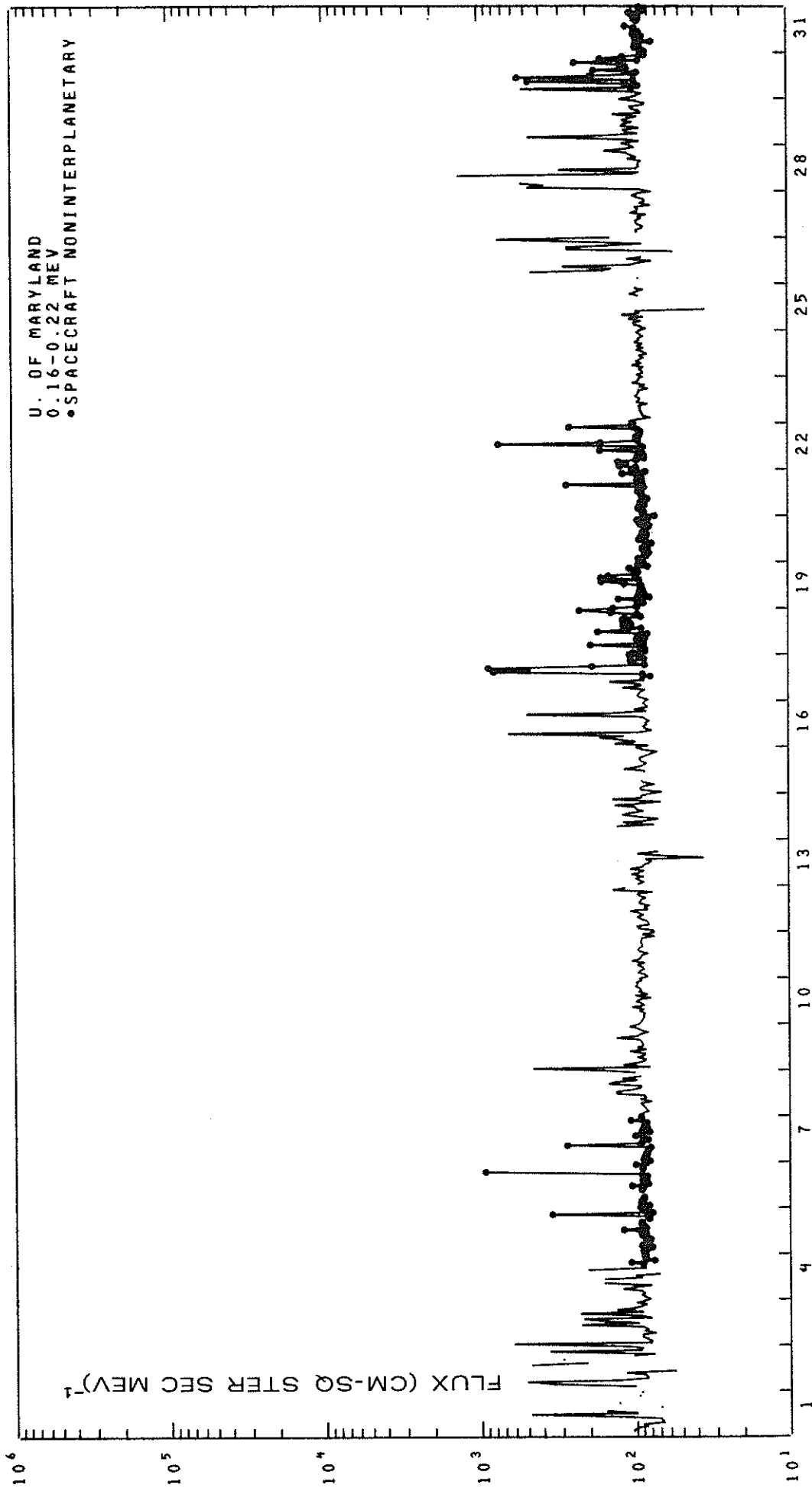
ABST = Abastumani	DWIN = Dwingeloo	KIEV = Kiev	OTTA = Ottawa	SYDN = Sydney
ARCE = Arcetri	GORK = Gorky			TORN = Torun
BERL = Berlin-Adlershof	HIRA = Hiraiso	MANI = Manila	PENT = Penticton	TYKW = Toyokawa
BORD = Bordeaux	HUAN = Huancayo	MCMA = McMath-Hulbert	POTS = Potsdam	TRST = Trieste
BOUL = Boulder		ONDR = Ondrejov	SAOP = Sao Paulo	UPIC = Upice
CRIM = Simferopol			SGMR = Sagamore Hill	VORO = Voroshilov (Ussurisk)

IMP 7 AND 8 ELECTRONS
DECEMBER, 1975



IMP 7 AND 8 LOW ENERGY PROTONS

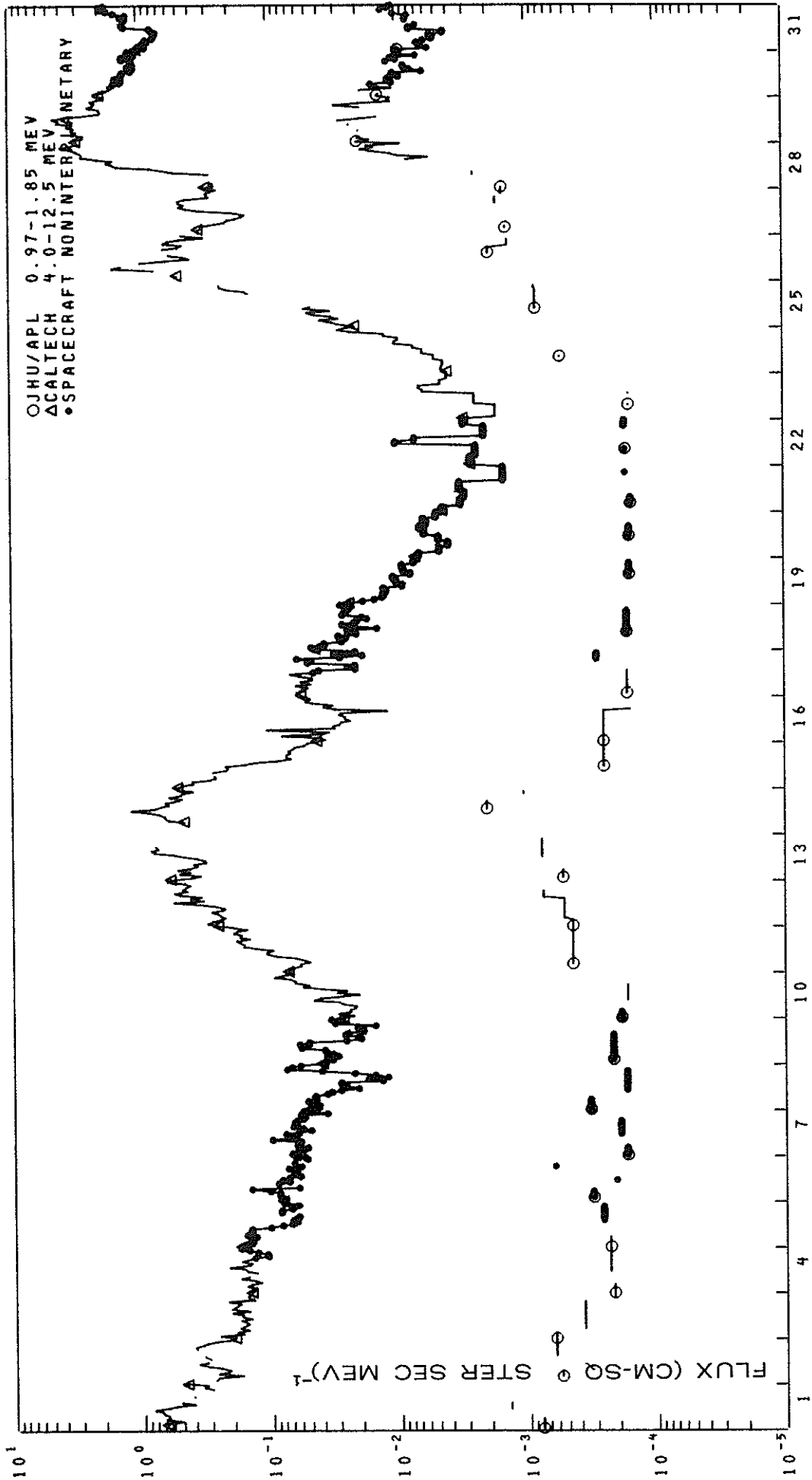
DECEMBER, 1975



13
Dec 75

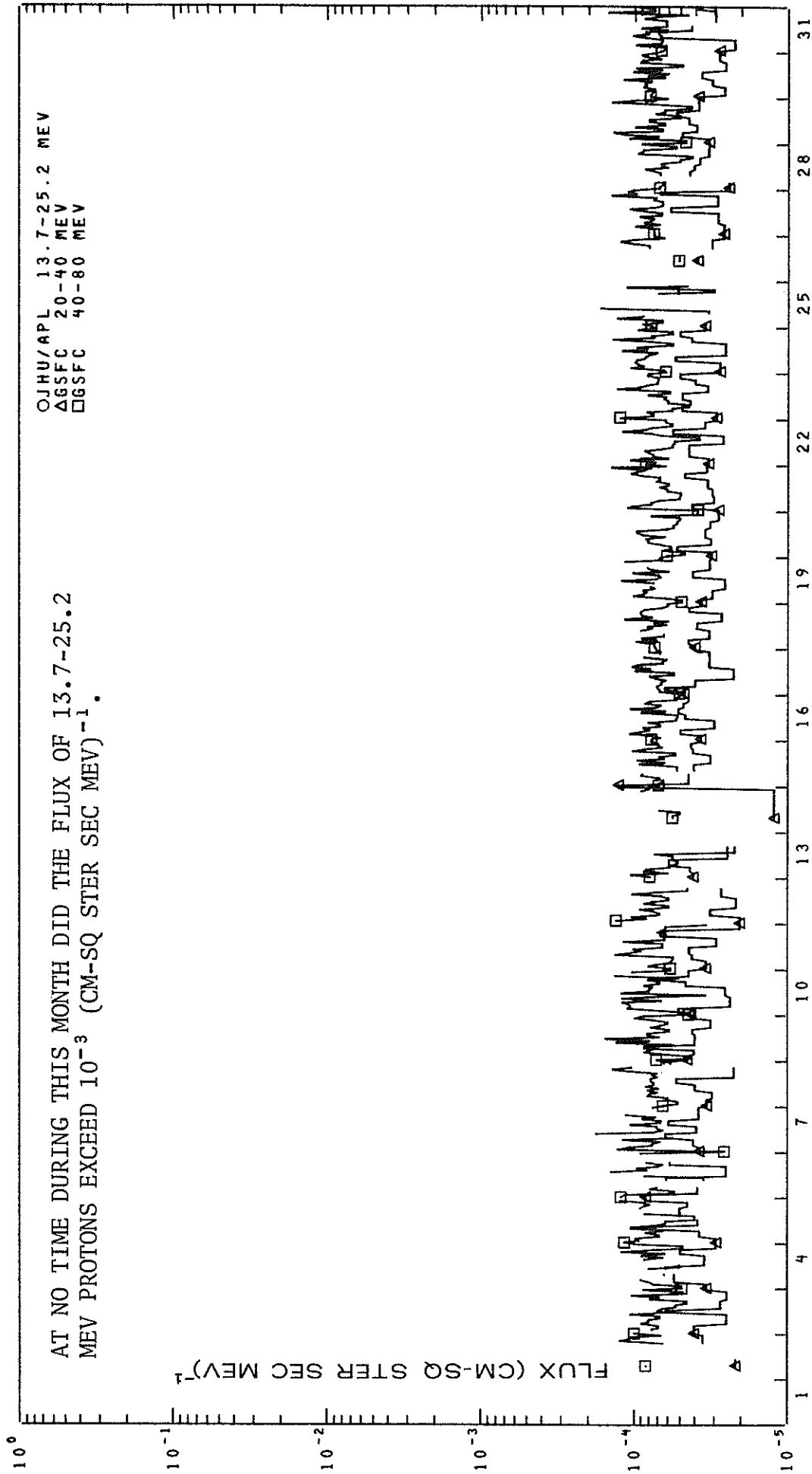
IMP 7 AND 8 INTERMEDIATE ENERGY PROTONS

DECEMBER, 1975



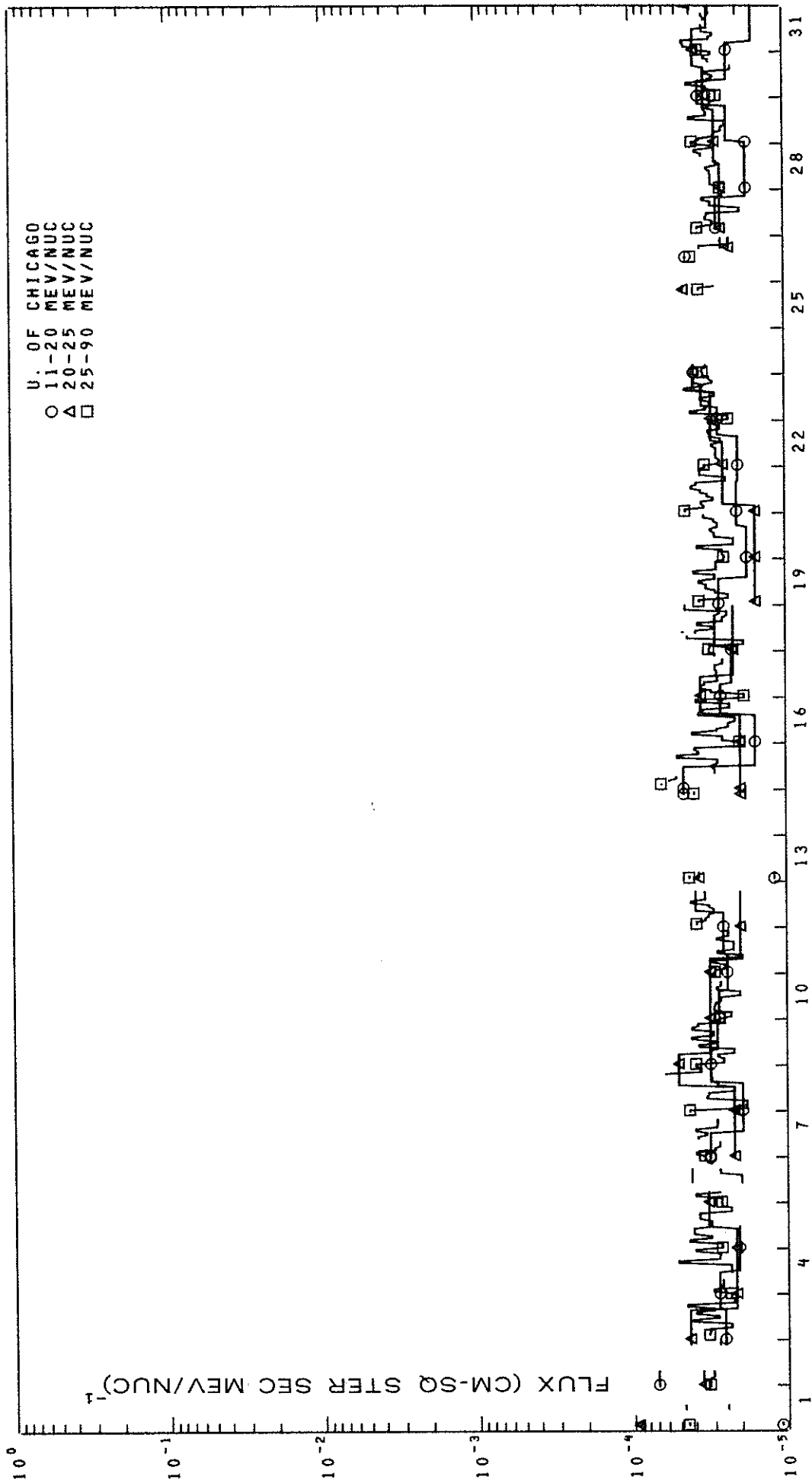
IMP 7 AND 8 HIGH ENERGY PROTONS

DECEMBER, 1975



IMP 7 AND 8 ALPHA PARTICLES

DECEMBER, 1975



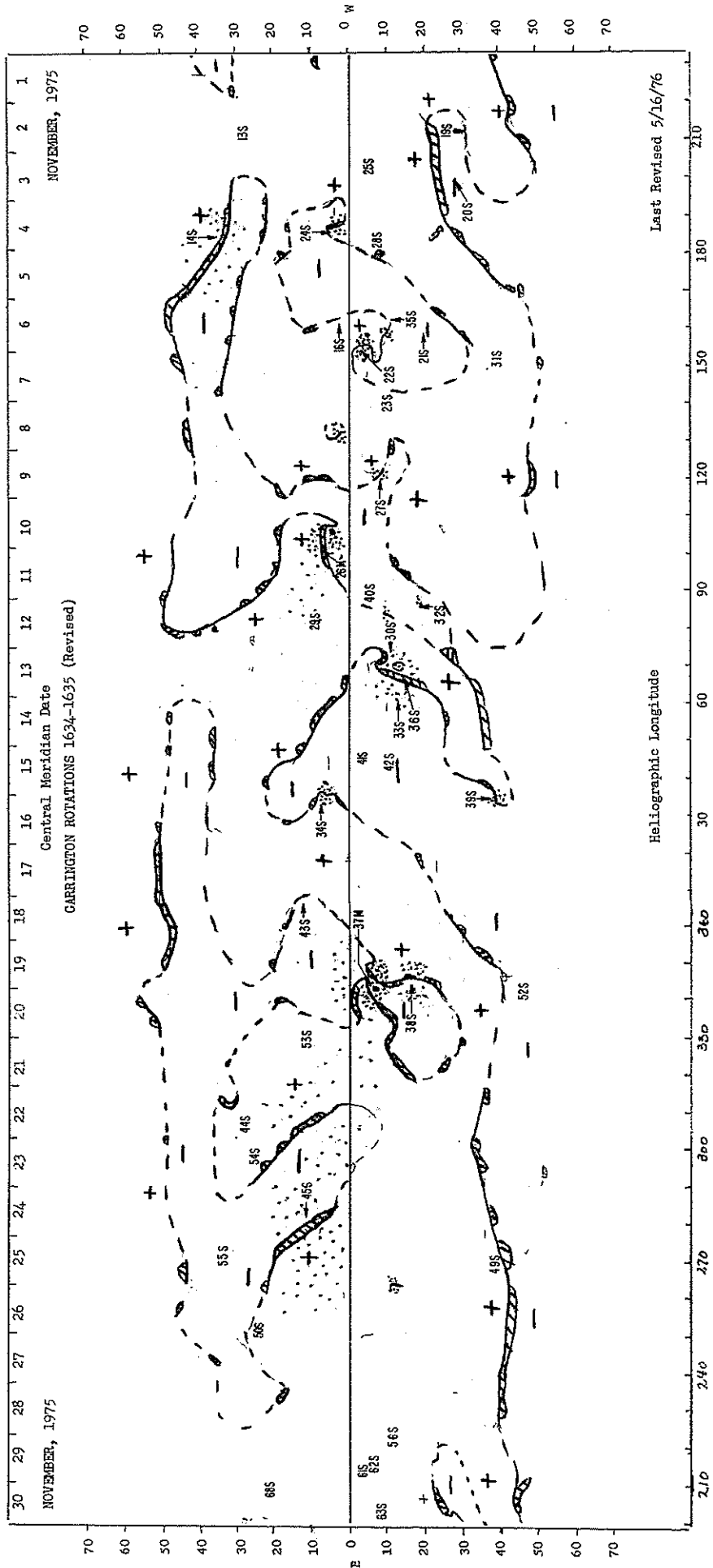
NOVEMBER 1975 DATA

Contents

	Page
<u>Hα Synoptic Chart</u> (revised)	18
<u>Abbreviated Calendar Record</u>	19-26
<u>Regional Flare Index</u>	26

ABBREVIATED CALENDAR RECORD H α SYNOPSIS CHART

NOVEMBER 1975



Last Revised 5/16/76

NOVEMBER, 1975

NOVEMBER, 1975

Central Meridian Date
GARRINGTON ROTATIONS 1634-1635 (Revised)

Heliographic Longitude

ABBREVIATED CALENDAR RECORD

Nov. 1, 1975		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
FLARES																											
Bursts	cm																										
	dm																										
	m																										
	Dkm																										
SID																											
X-Rays																											
Ap 7Q	Kp	1+		1+		2-		2+		2-		1a		1-		3+											
	sc																										
Aurora	USSR																										
	W.E.	$\phi = 60^\circ$ 2250 (glow) central Scotland																									
Cosmic Rays																											
Green Corona	E Limb 7 days earlier: NE-		SE-		W Limb 7 days later: NW-		SW-																				
Indices	Rz: 0 (Final)	10 cm flux: 72		Flare: 0/22.8		Ca: no data		Ip: 0		Ia: 1																	
Solar Regions																											
Sunspots																											

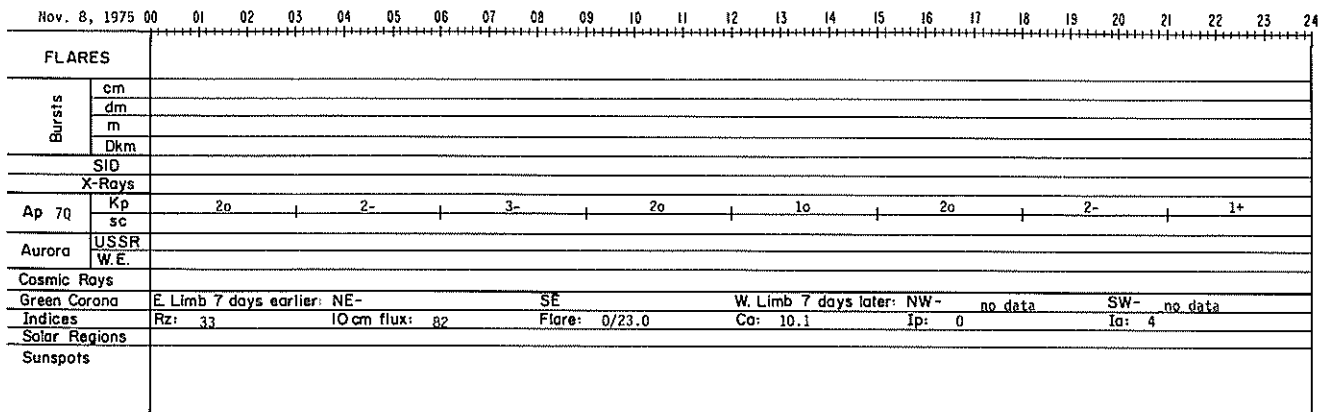
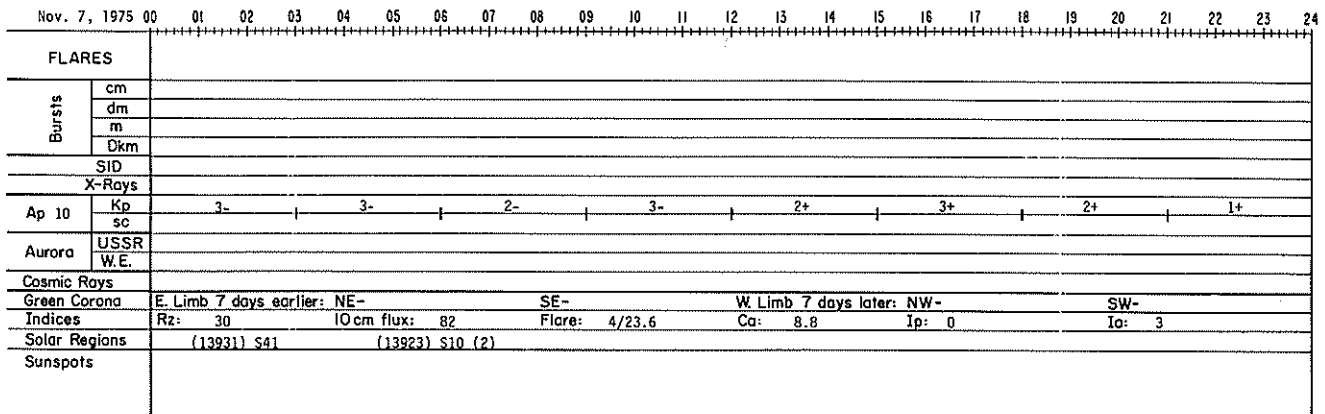
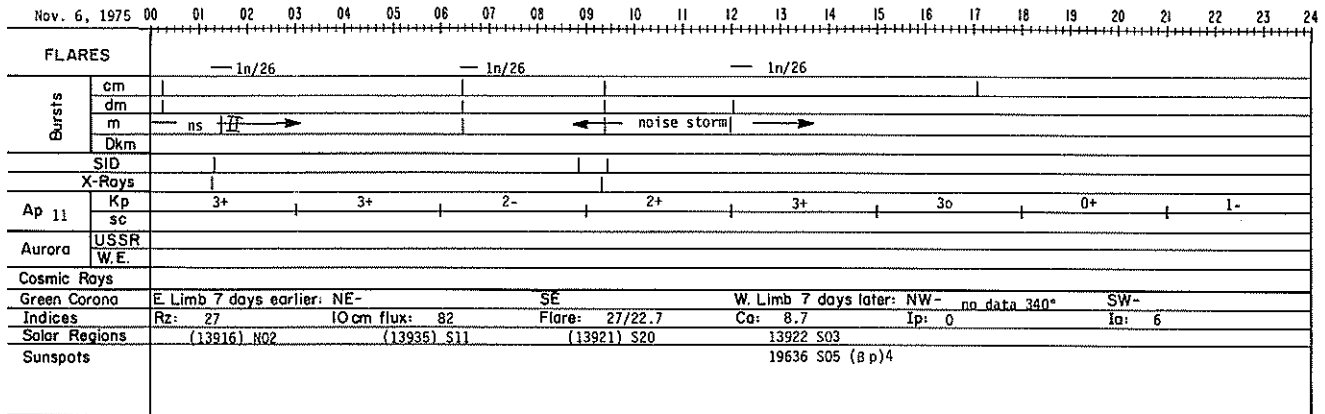
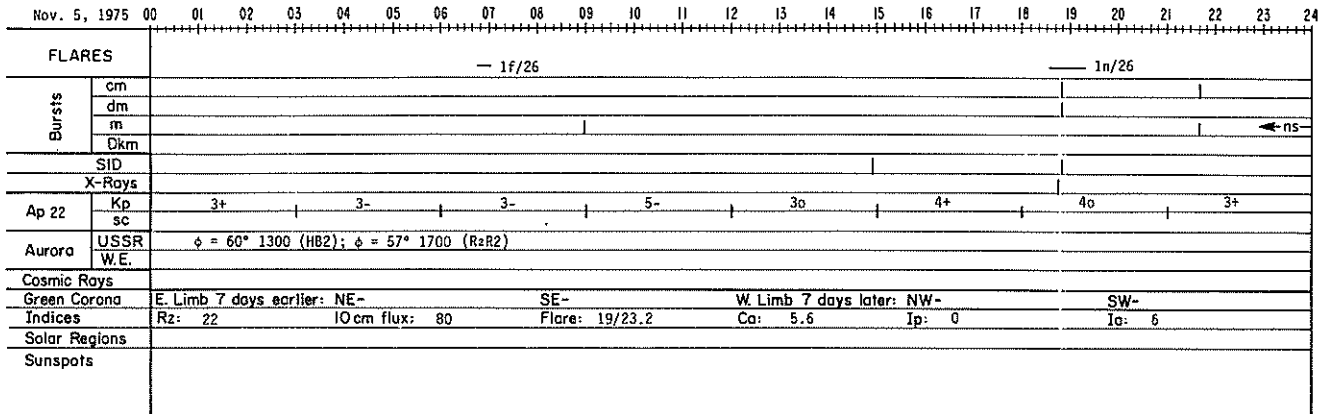
Nov. 2, 1975		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
FLARES																											
Bursts	cm																										
	dm																										
	m																										
	Dkm																										
SID																											
X-Rays																											
Ap 36D	Kp	2+		3a		2a		3+		4-		4a		7-		6a											
	sc																										
Aurora	USSR																										
	W.E.	$\phi = 60^\circ$ 1830-0600 central Scotland; $\phi = 56^\circ$ 1830 (glow) central England; $\phi = 59^\circ$ (glow) central Scotland																									
Cosmic Rays																											
Green Corona	E Limb 7 days earlier: NE-		SE		W Limb 7 days later: NW-		SW-																				
Indices	Rz: 0	10 cm flux: 73		Flare: 0/24.0		Ca: 3.5		Ip: 0		Ia: 2																	
Solar Regions	(13919) S30		(13913) N28																								
Sunspots																											

Nov. 3, 1975		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
FLARES																											
Bursts	cm																										
	dm																										
	m																										
	Dkm																										
SID																											
X-Rays																											
Ap 65D	Kp	6a		6-		6-		5+		5a		6a		6-		5+											
	sc																										
Aurora	USSR	$\phi = 61^\circ$ 1200 (R2B2); $\phi = 60^\circ$ 1100-1800 (HB2); $\phi = 58^\circ$ 1900 (RR2)																									
	W.E.	$\phi = 60^\circ$ 0000-0600 central Scotland; $\phi = 59^\circ$ 0150(R) central Scotland; $\phi = 60^\circ$ 0250(R) central Scotland with early part of display *																									
Cosmic Rays																											
Green Corona	E Limb 7 days earlier: NE-		SE-		W Limb 7 days later: NW-		SW-																				
Indices	Rz: 7	10 cm flux: 74		Flare: 0/21.0		Ca: no data		Ip: 0		Ia: 6																	
Solar Regions	(13925) S05		(13920) S28																								
Sunspots																											

* Aurora N.E. continued: obscured by cloud; $\phi = 59^\circ$ 1750-1810 (R glow) and 1810-2200 (glow) central Scotland.

Nov. 4, 1975		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
FLARES																											
Bursts	cm																										
	dm																										
	m																										
	Dkm																										
SID																											
X-Rays																											
Ap 41D	Kp	5+		5+		5a		5a		5a		4+		4a		3-											
	sc																										
Aurora	USSR	$\phi = 60^\circ$ 1400-1800 (HB2)																									
	W.E.																										
Cosmic Rays																											
Green Corona	E Limb 7 days earlier: NE-		SE		W Limb 7 days later: NW-		SW-																				
Indices	Rz: 18	10 cm flux: 77		Flare: 9/24.0		Ca: 2.4		Ip: 0		Ia: 7																	
Solar Regions	13924 N04		13914 N34 (2)		(13928) S08																						
Sunspots	19637 N04 (6f)2																										

20
Nov 75

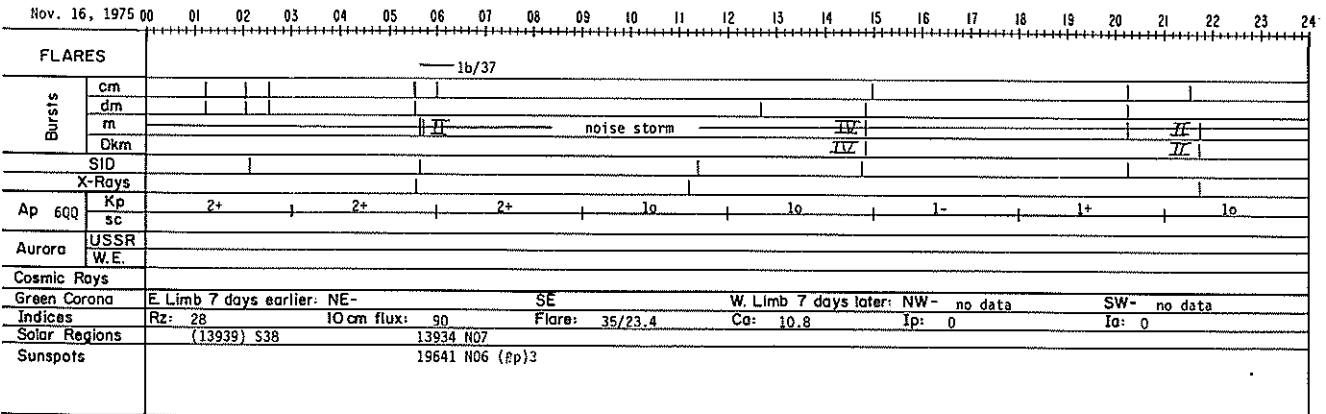
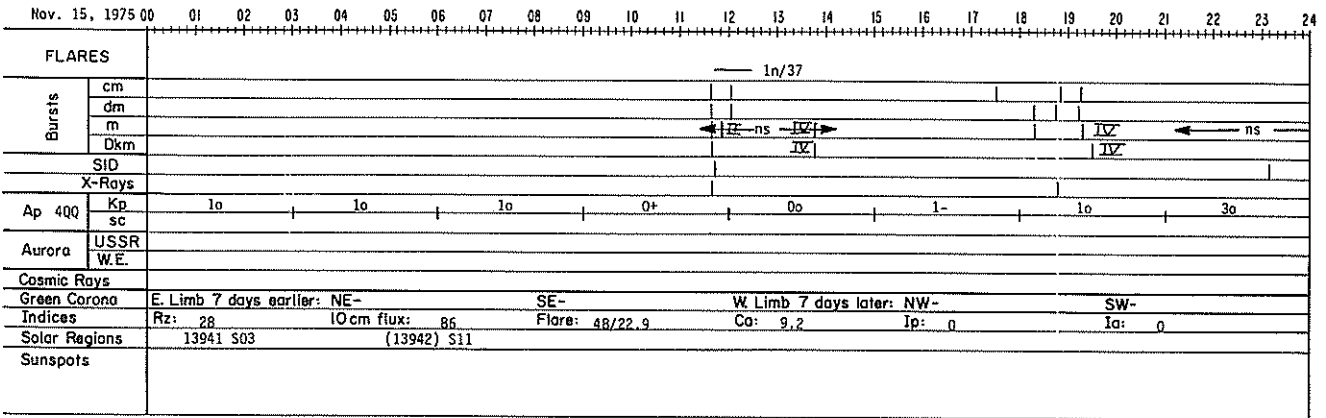
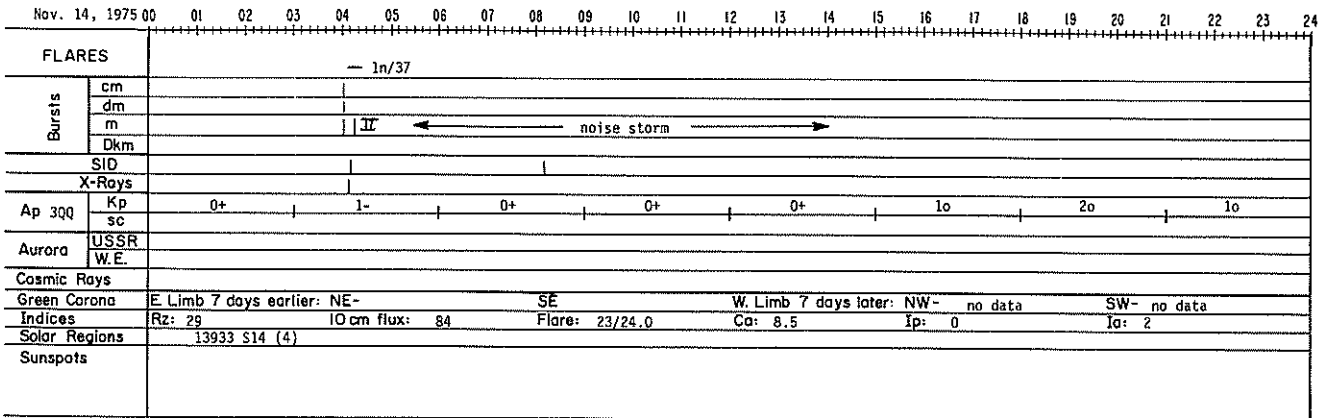
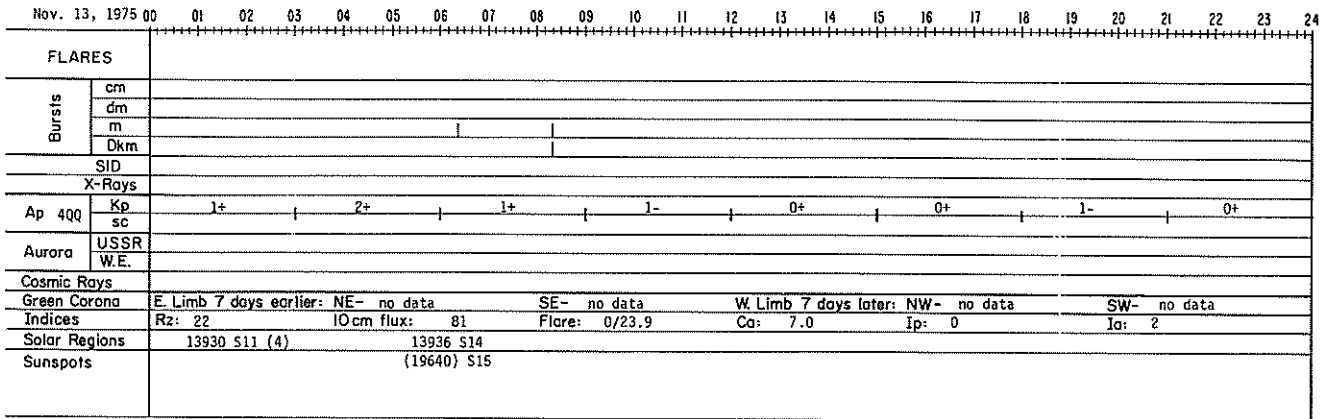


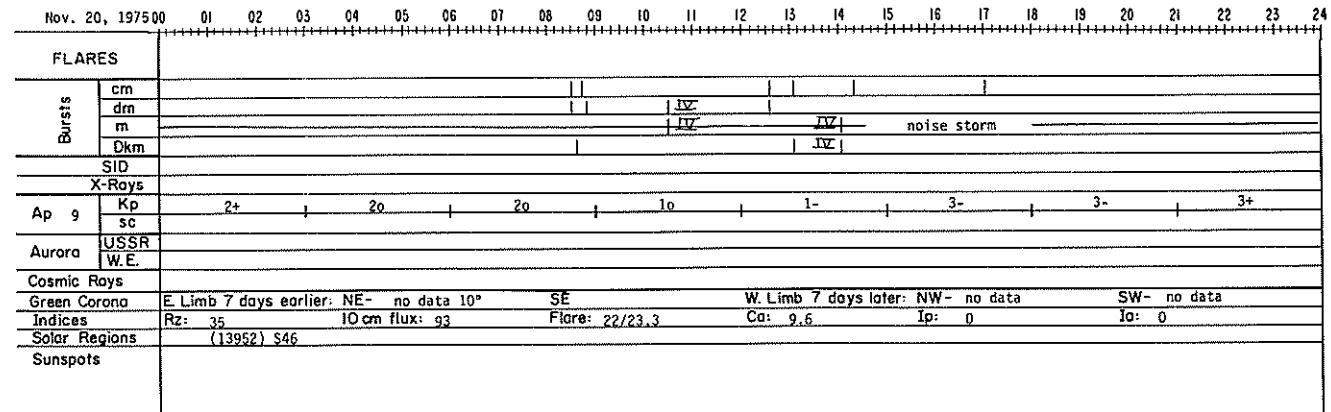
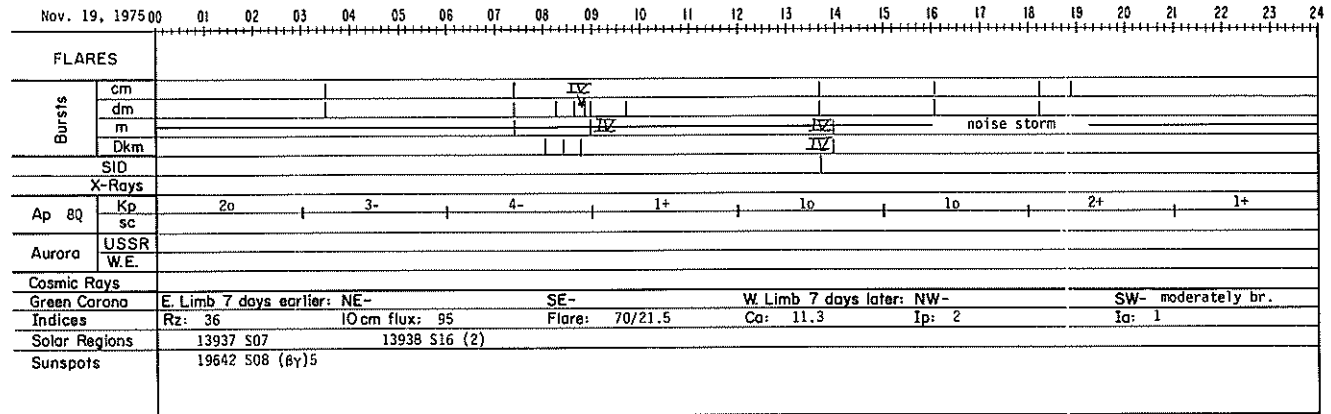
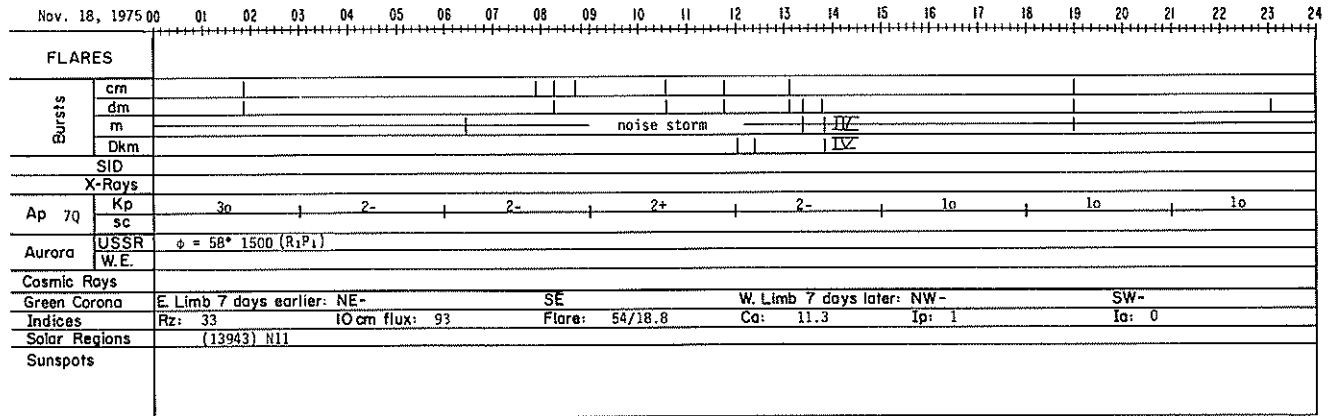
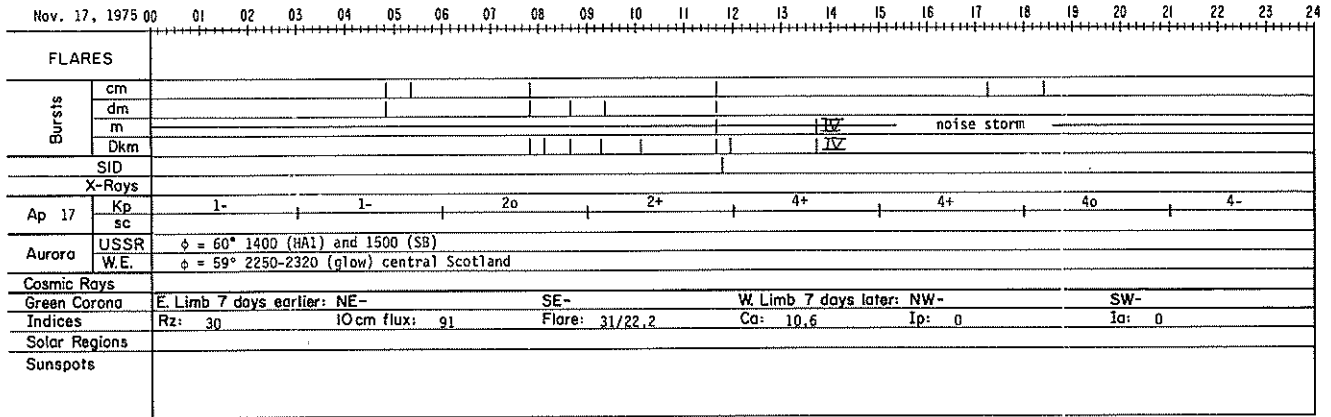
Nov. 9, 1975		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24										
FLARES																																				
Bursts	cm																																			
	dm																																			
	m																																			
	Dkm																																			
SID																																				
X-Rays																																				
Ap 37	Kp	2o 3+ 5- 4- 4o 6- 6+ 4-																																		
	sc																																			
Aurora	USSR	$\phi = 60^\circ$ 1500-1800 (HB 1-2)																																		
	W.E.	$\phi = 64^\circ$ overhead, visible to $\phi = 59^\circ$ 1747-2400 (RA and B and R glow with rays fading by 1950) central Scotland. Increasing cloud *																																		
Cosmic Rays																																				
Green Corona	E Limb 7 days earlier: NE- no data 5°							SE- no data 140°							W Limb 7 days later: NW- no data							SW- no data														
Indices	Rz: 30	10 cm flux: 80							Flare: 1/21.6							Ca: 9.4							Ip: 0							Ia: 2						
Solar Regions	13927 S08																																			
Sunspots	(19639) S08 (ap)1																																			
* Aurora W.E. continued: hampered full observation but aurora remained visible at $\phi = 60^\circ$ to 2400.																																				

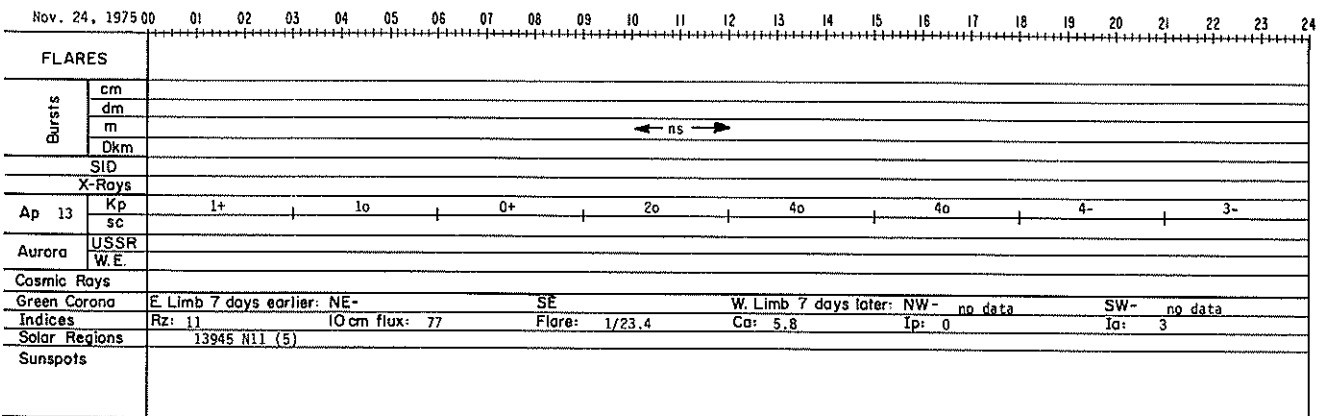
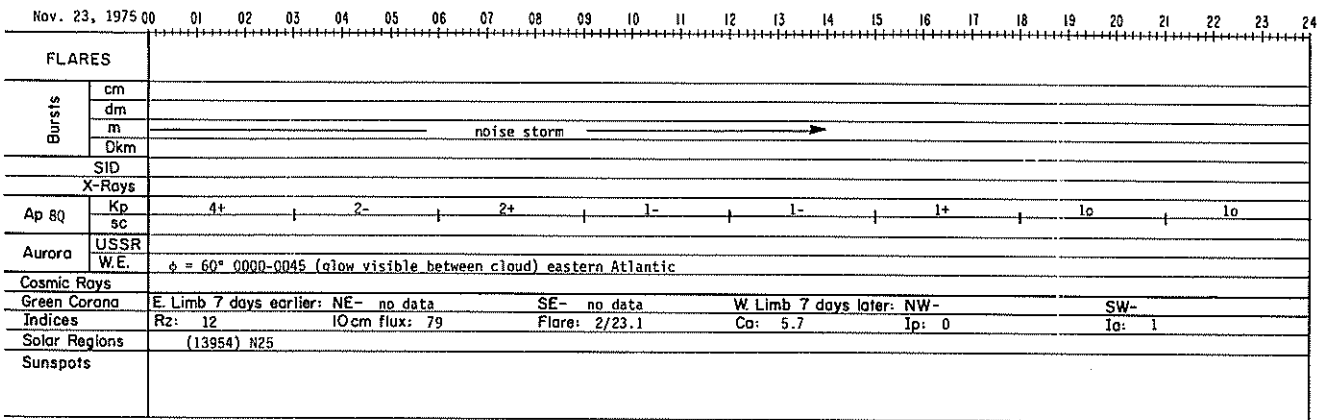
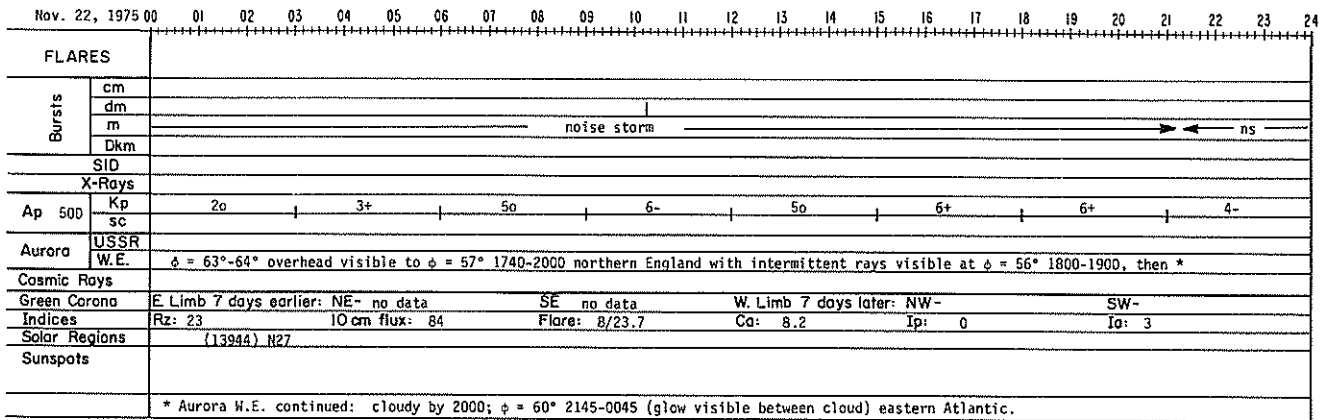
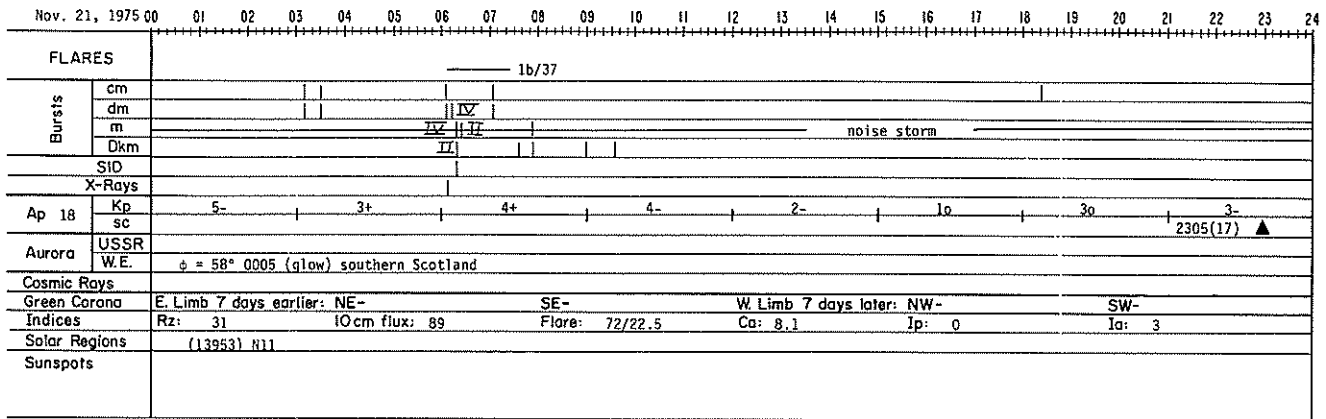
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FLARES																																				
Bursts	cm																																			
	dm																																			
	m																																			
	Dkm																																			
SID																																				
X-Rays																																				
Ap 20	Kp	3o 2- 2- 3- 3- 3- 4o 6-																																		
	sc																																			
Aurora	USSR	$\phi = 58^\circ$ 1900 (R1R2) and 2100 (HB2); $\phi = 57^\circ$ 2200 (R2R3)																																		
	W.E.	$\phi = 59^\circ$ 2150 (PR) and $\phi = 60^\circ$ 2150-2400 (glow) central Scotland																																		
Cosmic Rays																																				
Green Corona	E Limb 7 days earlier: NE-							SE							W Limb 7 days later: NW-							SW-														
Indices	Rz: 26	10 cm flux: 80							Flare: 27/22.3							Ca: 9.5							Ip: 0							Ia: 0						
Solar Regions	13926 N06 (2)																																			
Sunspots	19638 N03 (ap)5																																			

Nov 11, 1975		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24										
FLARES																																				
Bursts	cm																																			
	dm																																			
	m																																			
	Dkm																																			
SID																																				
X-Rays																																				
Ap 13	Kp	4o 3- 2+ 3- 2o 3- 3o 3-																																		
	sc																																			
Aurora	USSR																																			
	W.E.																																			
Cosmic Rays																																				
Green Corona	E Limb 7 days earlier: NE-							SE-							W Limb 7 days later: NW-							SW-														
Indices	Rz: 30	10 cm flux: 80							Flare: 7/23.8							Ca: 11.2							Ip: 0							Ia: 4						
Solar Regions	(13940) S05																																			
Sunspots																																				

Nov. 12, 1975		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24										
FLARES																																				
Bursts	cm																																			
	dm																																			
	m																																			
	Dkm																																			
SID																																				
X-Rays																																				
Ap 9	Kp	4- 3- 2o 2- 1+ 2o 2o 2-																																		
	sc																																			
Aurora	USSR																																			
	W.E.																																			
Cosmic Rays																																				
Green Corona	E Limb 7 days earlier: NE-							SE							W Limb 7 days later: NW- no data							SW- no data														
Indices	Rz: 24	10 cm flux: 82							Flare: 14/23.7							Ca: 9.7							Ip: 0							Ia: 1						
Solar Regions	(13932) S19											(13929) N09																								
Sunspots																																				







Nov. 25, 1975 00		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
FLARES																																	
Bursts	cm																																
	dm																																
	m																																
	Dkm																																
SID																																	
X-Rays																																	
Ap 15	Kp	4+		3-		3o		3o		3o		3o		3o		2o		2+															
	sc																																
Aurora	USSR																																
	W.E.																																
Cosmic Rays																																	
Green Corona	E. Limb 7 days earlier: NE-							SE-							W. Limb 7 days later: NW-							no data				SW-				no data			
Indices	Rz: 9	IO cm flux: 76							Flare: 0/22.8							Ca: no data							Ip: 0				Ia: 2						
Solar Regions	(13955) N33							(13949) S39																									
Sunspots																																	

Nov. 26, 1975 00		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
FLARES																														
Bursts	cm																													
	dm																													
	m																													
	Dkm																													
SID																														
X-Rays																														
Ap 14	Kp	1o		2+		4+		4+		4-		1-		1o		2-														
	sc																													
Aurora	USSR																													
	W.E.																													
Cosmic Rays																														
Green Corona	E. Limb 7 days earlier: NE- no data							SE- no data							W. Limb 7 days later: NW-							SW-								
Indices	Rz: 7	IO cm flux: 74							Flare: 0/18.5							Ca: no data							Ip: 0				Ia: 3			
Solar Regions	(13950) N24																													
Sunspots																														

Nov. 27, 1975 00		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
FLARES																														
Bursts	cm																													
	dm																													
	m																													
	Dkm																													
SID																														
X-Rays																														
Ap 500	Kp	2+		1-		2o		1+		1o		1+		1o		2-														
	sc																													
Aurora	USSR																													
	W.E.																													
Cosmic Rays																														
Green Corona	E. Limb 7 days earlier: NE- no data							SE- no data							W. Limb 7 days later: NW- no data **							SW-								
Indices	Rz: 0	IO cm flux: 73							Flare: 0/18.8							Ca: no data							Ip: 0				Ia: 5			
Solar Regions																														
Sunspots																														
** 305°, 320°, 325°, 335°, 355°																														

Nov. 28, 1975 00		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
FLARES																														
Bursts	cm																													
	dm																													
	m																													
	Dkm																													
SID																														
X-Rays																														
Ap 9	Kp	3-		1+		3o		2+		3o		2+		2-		1o														
	sc																													
Aurora	USSR																													
	W.E.																													
Cosmic Rays																														
Green Corona	E. Limb 7 days earlier: NE- no data							SE- no data							W. Limb 7 days later: NW-							SW-								
Indices	Rz: 0	IO cm flux: 72							Flare: 0/23.2							Ca: 2.2							Ip: 0				Ia: 1			
Solar Regions																														
Sunspots																														

26
Nov 75

Nov. 29, 1975 00		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
FLARES																											
Bursts	cm																										
	dm																										
	m																										
	Dkm																										
SID																											
X-Rays																											
Ap 29	Kp	20			3-				5-						4-				5-								
	sc																										
Aurora	USSR	$\phi = 57^\circ 1600, 1700, 1900-2200 (R,R^2)$																									
	W.E.	$\phi = 60^\circ 1700-0300 (glow) \text{ and } 1700 (R) \text{ central Scotland; } \phi = 58^\circ 1920-0030 \text{ southern Scotland; } \phi = 63^\circ 2115 \text{ overhead, visible } *$																									
Cosmic Rays																											
Green Corona	E. Limb 7 days earlier: NE-						SE-						W. Limb 7 days later: NW-						SW-								
Indices	Rz: 0	IOcm flux: 73					Flare: 0/21.5					Ca: no data					Ip: 0					Ia: 2					
Solar Regions	(13956) S12					(13962) S07					(13961) S03																
Sunspots																											
* to $\phi = 58^\circ (B)$ eastern Atlantic.																											

Nov. 30, 1975 00		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
FLARES																												
Bursts	cm																											
	dm																											
	m																											
	Dkm																											
SID																												
X-Rays																												
Ap 36D	Kp	50			5-				4+						4-				50									
	sc																											
Aurora	USSR	$\phi = 60^\circ 0000-0300 (glow) \text{ and } 0050-0200 (R) \text{ central Scotland; } \phi = 58^\circ 0000-0030 (R) \text{ southern Scotland; } \phi = 60^\circ 1850-2400 (glow \text{ with } *$																										
	W.E.																											
Cosmic Rays																												
Green Corona	E. Limb 7 days earlier: NE- no data						SE- no data						W. Limb 7 days later: NW- no data						SW- no data									
Indices	Rz: 0	IOcm flux: 73					Flare: 0/21.3					Ca: no data					Ip: 0					Ia: 6						
Solar Regions	(13968) N20					(13963) S09					(19644) S10 Bp																	
Sunspots																												
* occasional R) central Scotland; $\phi = 58^\circ 1850-2400 (glow) \text{ southern Scotland.}$																												

ADDENDA: Aurora USSR

1975

Aug. 31 : $\phi = 60^\circ 2000-2100 (HA1)$

Sep. 6 : $\phi = 57^\circ 1400-1500 (R,R1)$
 7 : $\phi = 59^\circ 1500-1600 (HA2)$
 8 : $\phi = 60^\circ 2000-2100 (HA1)$
 9 : $\phi = 58^\circ 0100-0200 (SR1); \phi = 57^\circ 1500-1600 (R_2R1),$
 1700 (HB1), 2000-2300 (R_{1,2}R1-2)
 10 : $\phi = 57^\circ 0000 (R_1R1); \phi = 58^\circ 1300-1400 (HB2);$
 $\phi = 59^\circ 1400-1600 (HA2); \phi = 60^\circ 1800-2000, 2100 (HA2)$
 11 : $\phi = 59^\circ 1100-1400 (SA1); \phi = 57^\circ 1500-1600 (HB);$
 $\phi = 58^\circ 1600-1700 (HP2 \text{ and } HA2)$
 12 : $\phi = 59^\circ 1800-1900 (HA2); \phi = 60^\circ 2000-2100 (HA1)$
 27 : $\phi = 59^\circ 1500-1700 (HA2)$
 28 : $\phi = 57^\circ 1600 (SP1)$

Oct. 3 : $\phi = 58^\circ 2200-0100 (HA1)$
 4 : $\phi = 59^\circ 0000 (R_2A3), 1700-1800 (HA1-2);$
 $60^\circ 1800-2400 (HA1-2)$
 5 : $\phi = 59^\circ 0000 (R_2A_2), 1800 (R_1R)$
 6 : $\phi = 58^\circ 2000 (R_1R)$
 7 : $\phi = 60^\circ 1800-2100 (R_1B1); \phi = 58^\circ 2200 (R_2V_2)$
 8 : $\phi = 58^\circ 0000 (HB1); \phi = 60^\circ 1800-2000 (HA1-2),$
 2200 (R₁B2); $\phi = 59^\circ 2100 (R_2B_4)$
 9 : $\phi = 59^\circ 1500, 1800 (HA2), 2100 (R_1A2), 2300 (R_2B_2)$
 10 : $\phi = 59^\circ 1800 (HB1)$
 11 : $\phi = 59^\circ 1700-1800 (HA1)$
 12 : $\phi = 60^\circ 1800-1900 (HB1), 1700-1900 (HA2)$

REGIONAL FLARE INDEX INCLUDES ALL FLARES

MC MATH FLARE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
13922	S 4	75/11/06.9	75/11/04	75/11/04	3.38	3.38	1
13927	S 8	75/11/09.5	75/11/04	75/11/04	.84	.84	1
13926	N 6	75/11/10.9	75/11/04	75/11/15	105.31	8.14	46
13936	S14	75/11/13.5	75/11/12	75/11/12	5.28	5.28	1
13934	N 7	75/11/16.2	75/11/14	75/11/19	24.07	4.31	9
13937	S 7	75/11/19.9	75/11/14	75/11/24	332.59	30.24	67

Note:

Because of differences in method of calculation, the dates of Central Meridian Passage for the McMath Plage Regions vary somewhat from those given elsewhere. Any region not listed here produced no flares during its disk passage.

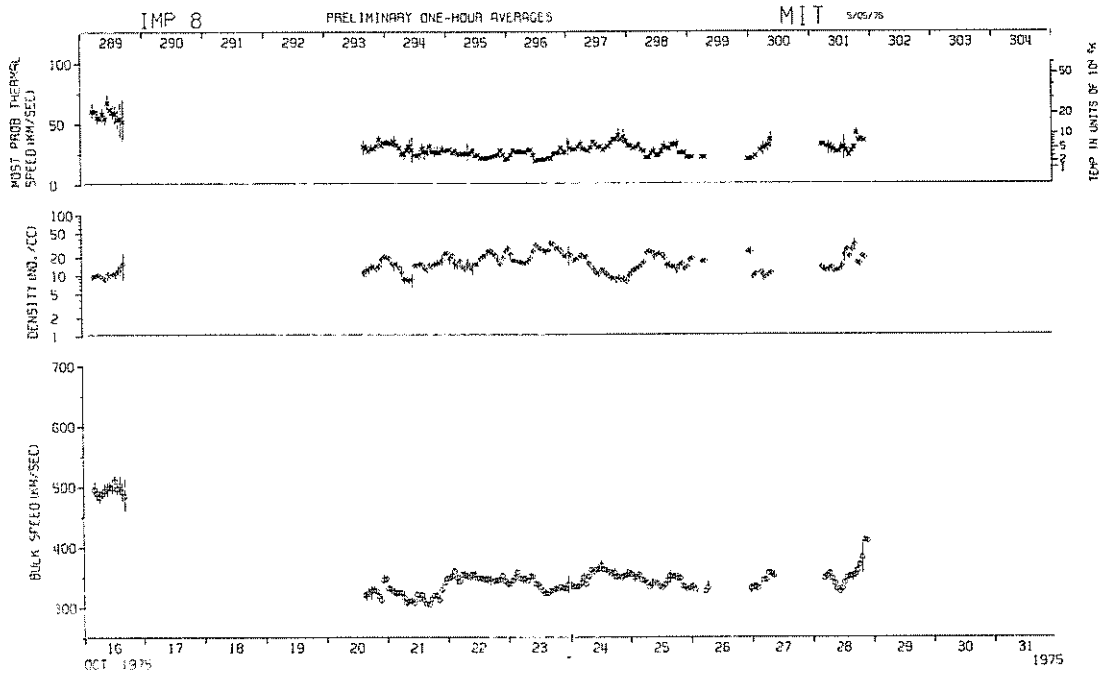
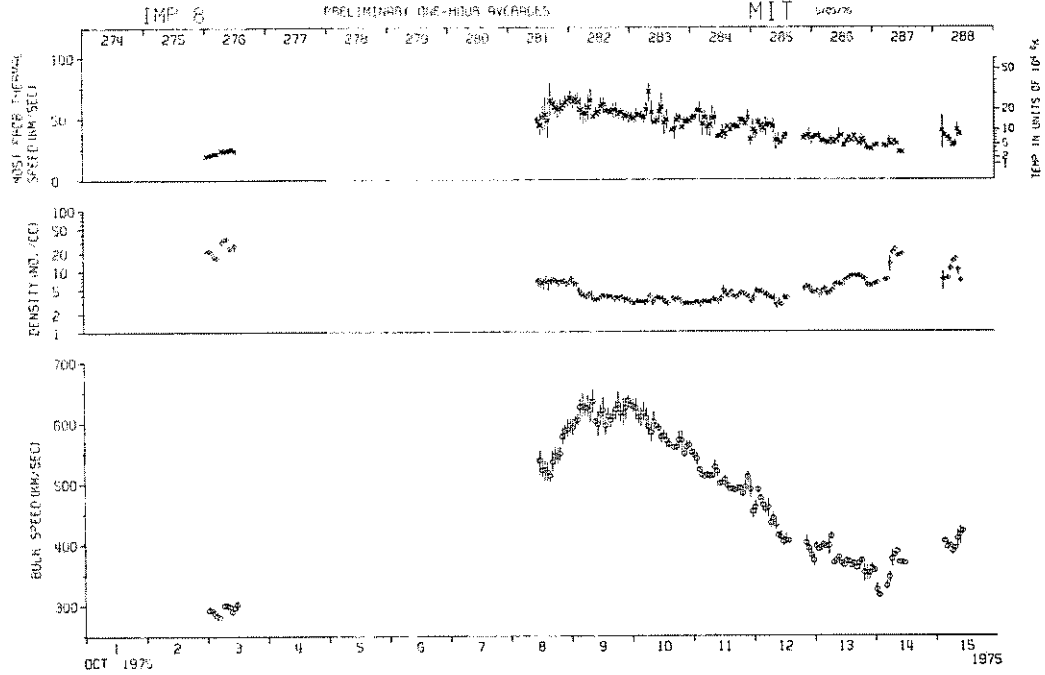
MISCELLANEOUS DATA

Contents

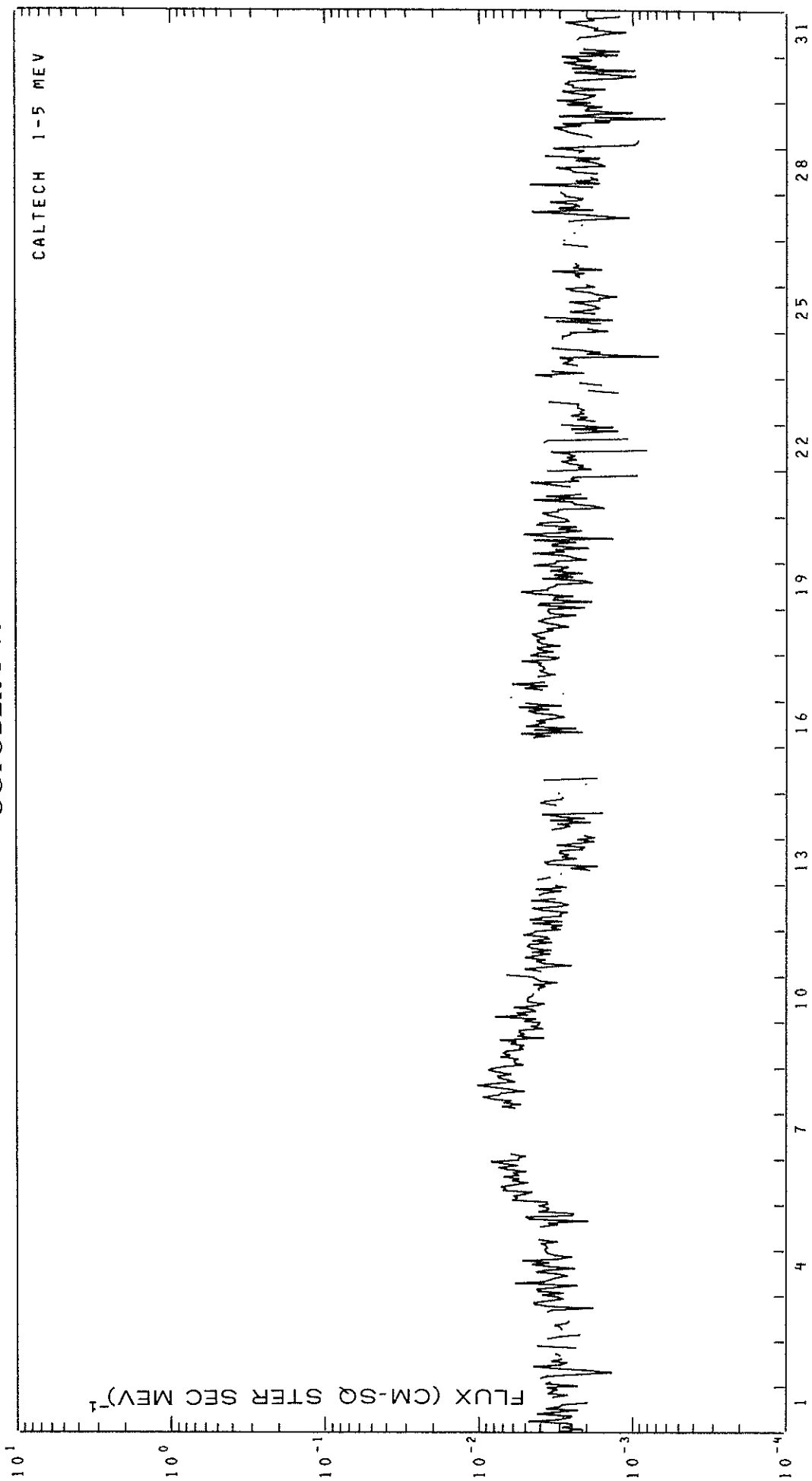
	Page
<u>Energetic Solar Particles and Plasma</u>	
<u>October 1975</u>	
IMP 8 Solar Wind Plasma	28
IMP 7 and 8 Electrons	29
IMP 7 and 8 Low Energy Protons	30
IMP 7 and 8 Intermediate Energy Protons	31
IMP 7 and 8 High Energy Protons	32
IMP 7 and 8 Alpha Particles	33
<u>November 1975</u>	
IMP 8 Solar Wind Plasma	34
IMP 7 and 8 Electrons	35
IMP 7 and 8 Low Energy Protons	36
IMP 7 and 8 Intermediate Energy Protons	37
IMP 7 and 8 High Energy Protons	38
IMP 7 and 8 Alpha Particles	39
<u>Reduced Magnetograms - November 1975</u>	40-41

IMP 7 AND 8 SOLAR WIND PLASMA

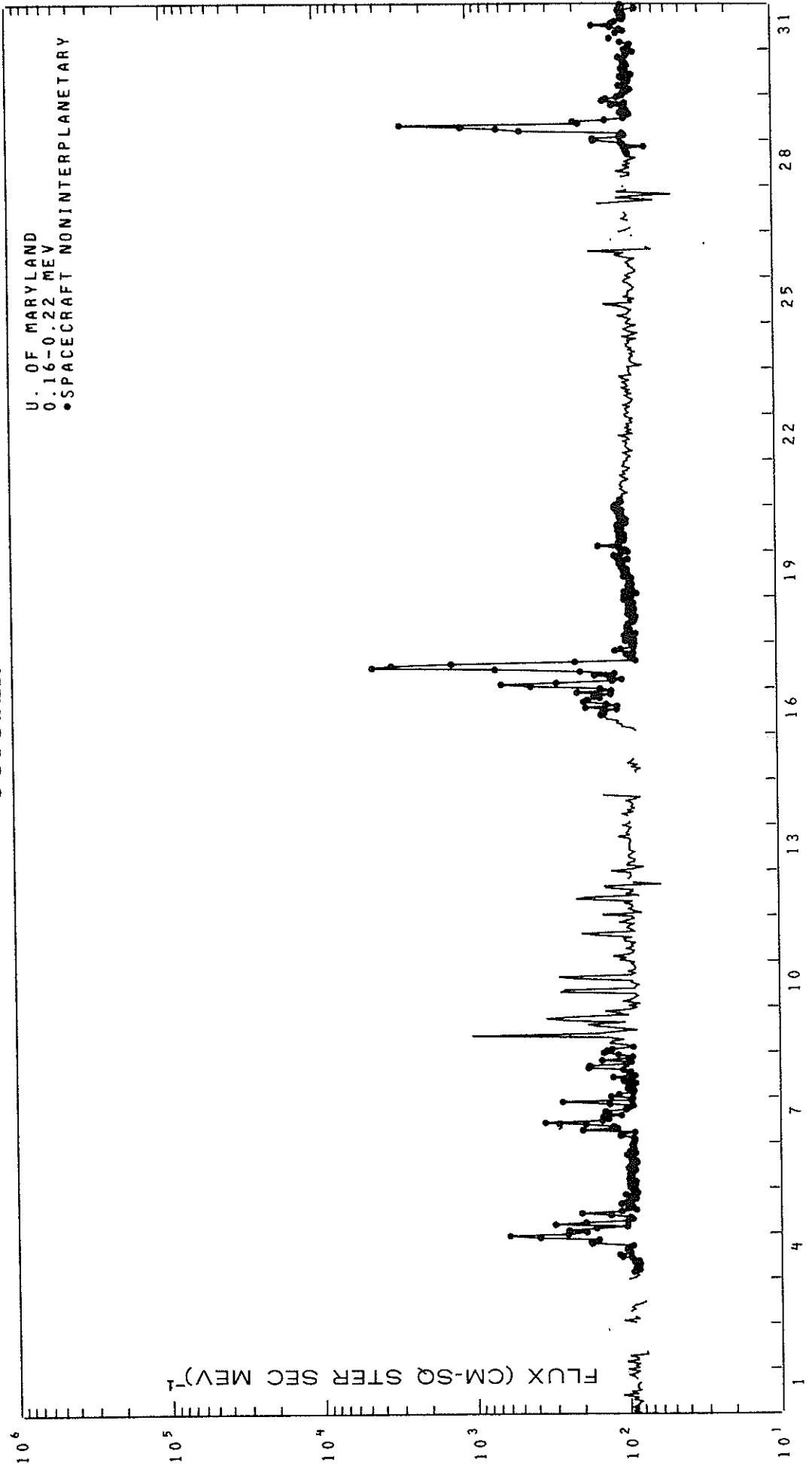
OCTOBER 1975



IMP 7 AND 8 ELECTRONS
OCTOBER 1975

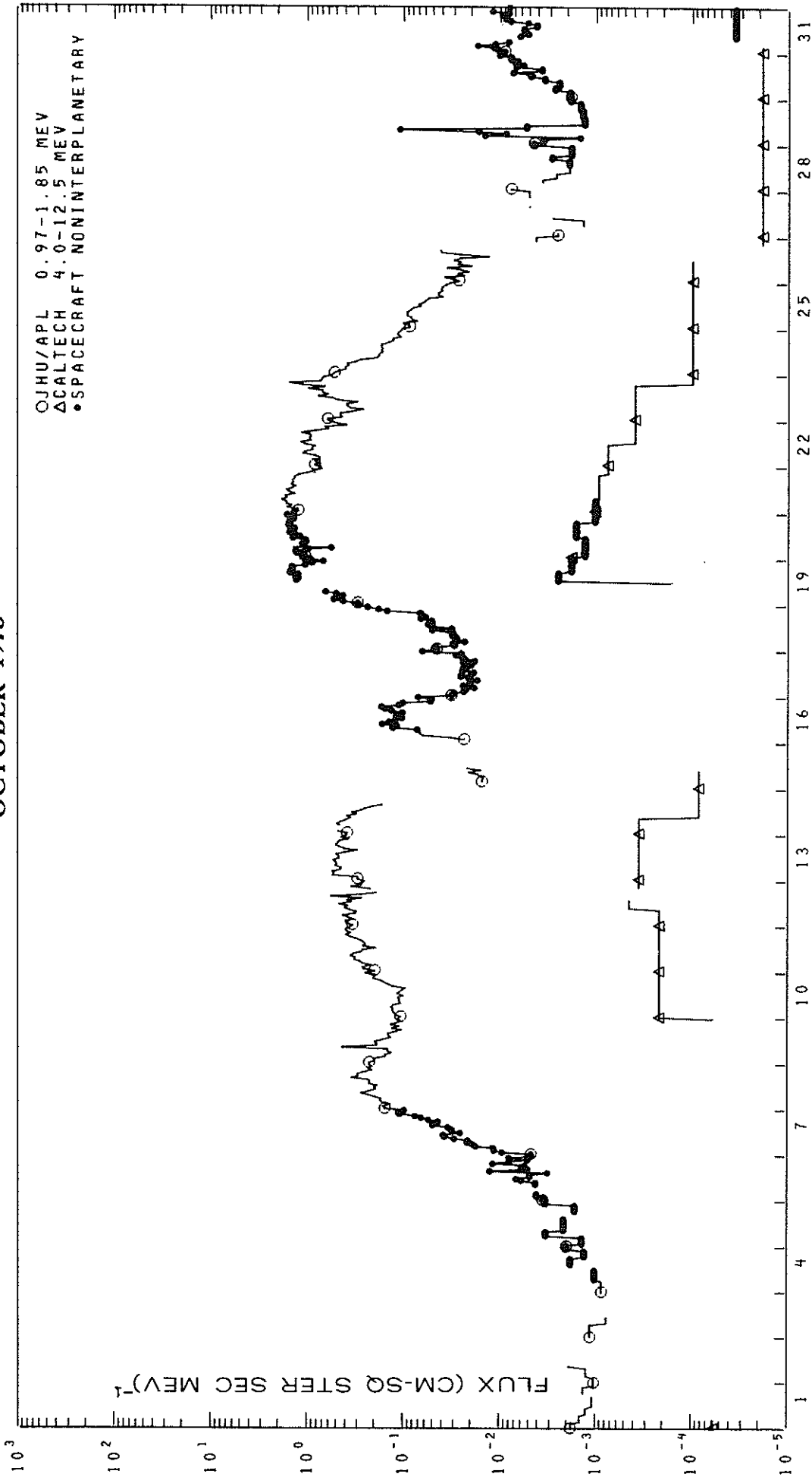


IMP 7 AND 8 LOW ENERGY PROTONS
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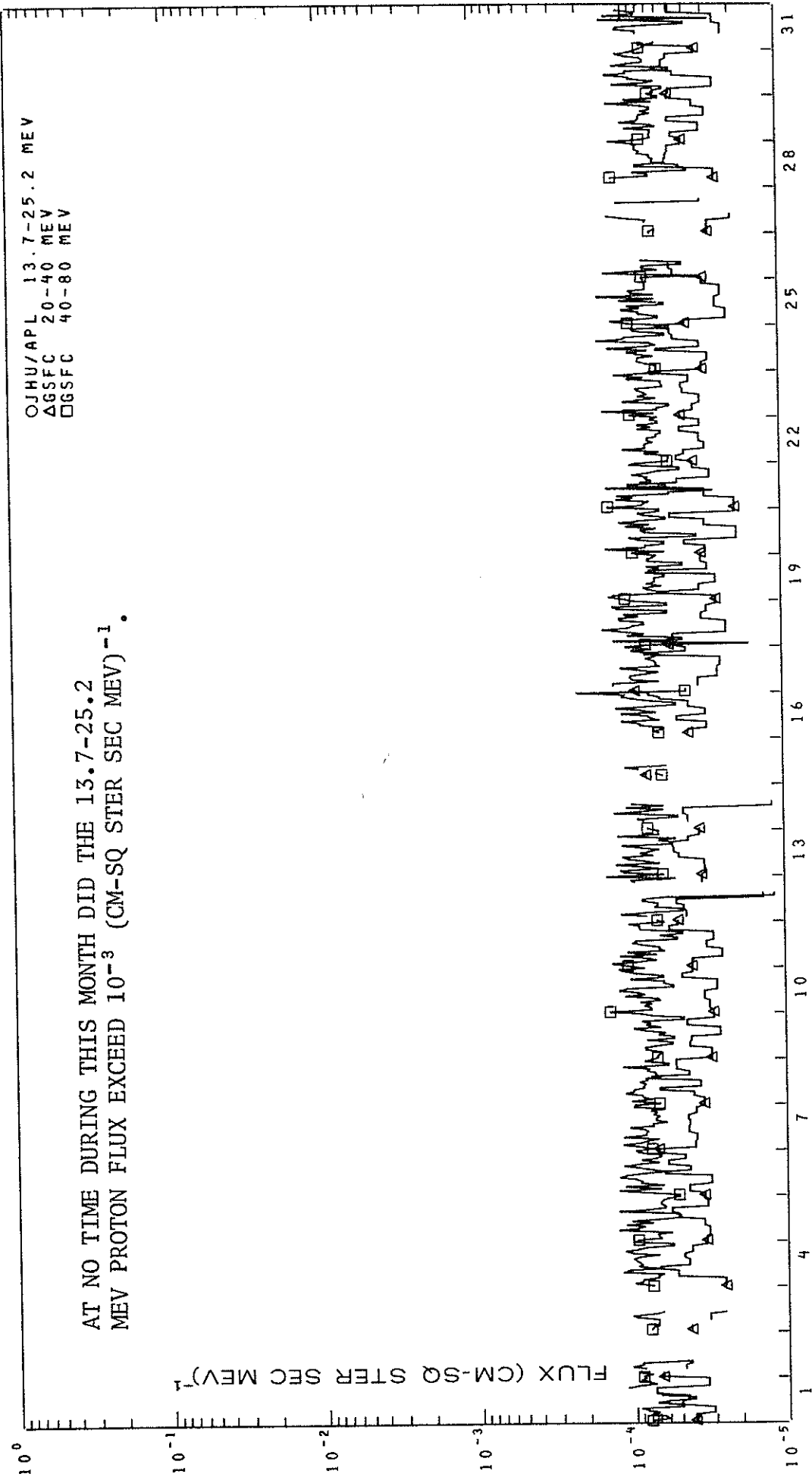


IMP 7 AND 8 INTERMEDIATE ENERGY PROTONS

OCTOBER 1975

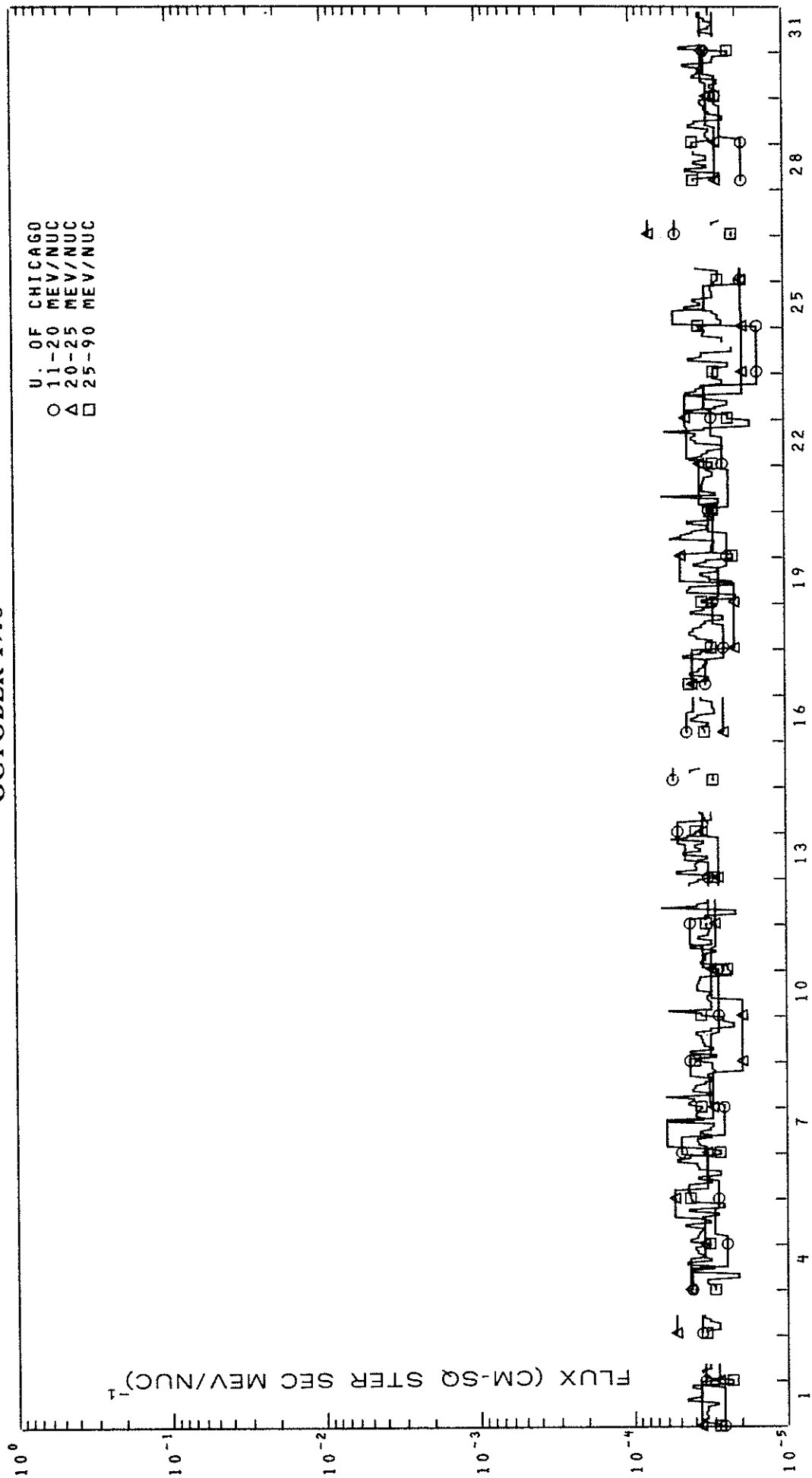


IMP 7 AND 8 HIGH ENERGY PROTONS
OCTOBER 1975



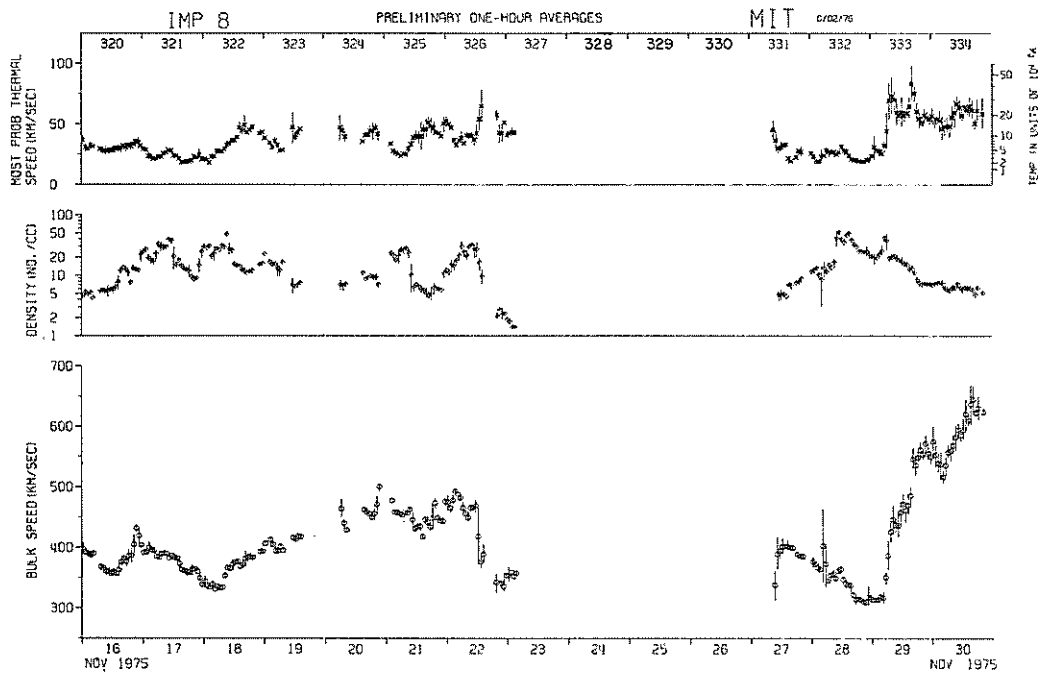
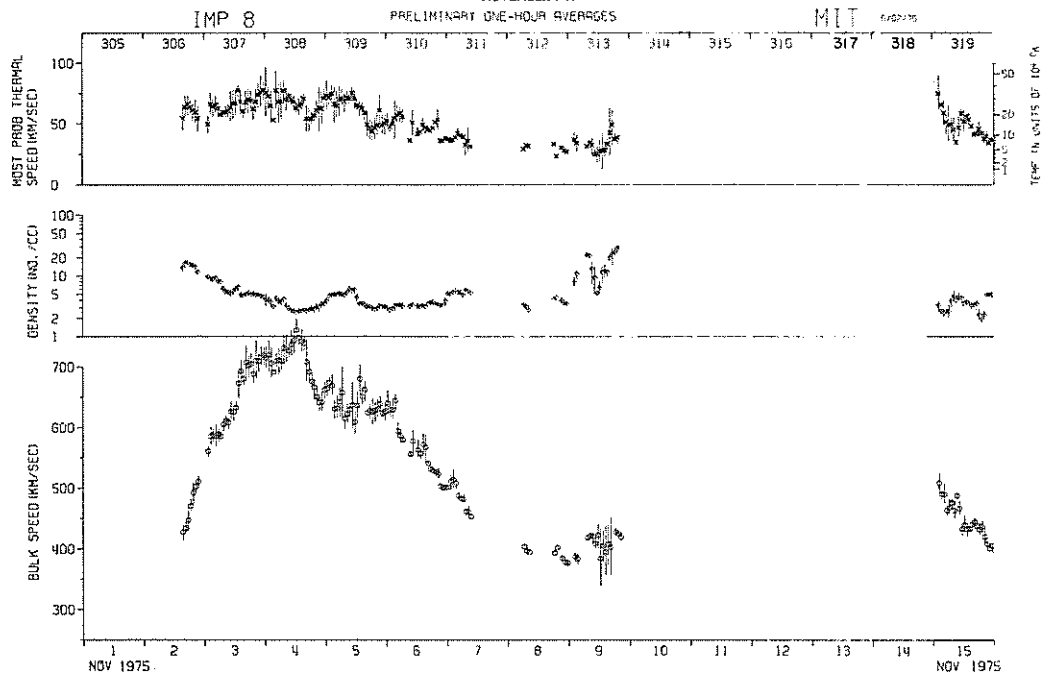
IMP 7 AND 8 ALPHA PARTICLES

OCTOBER 1975



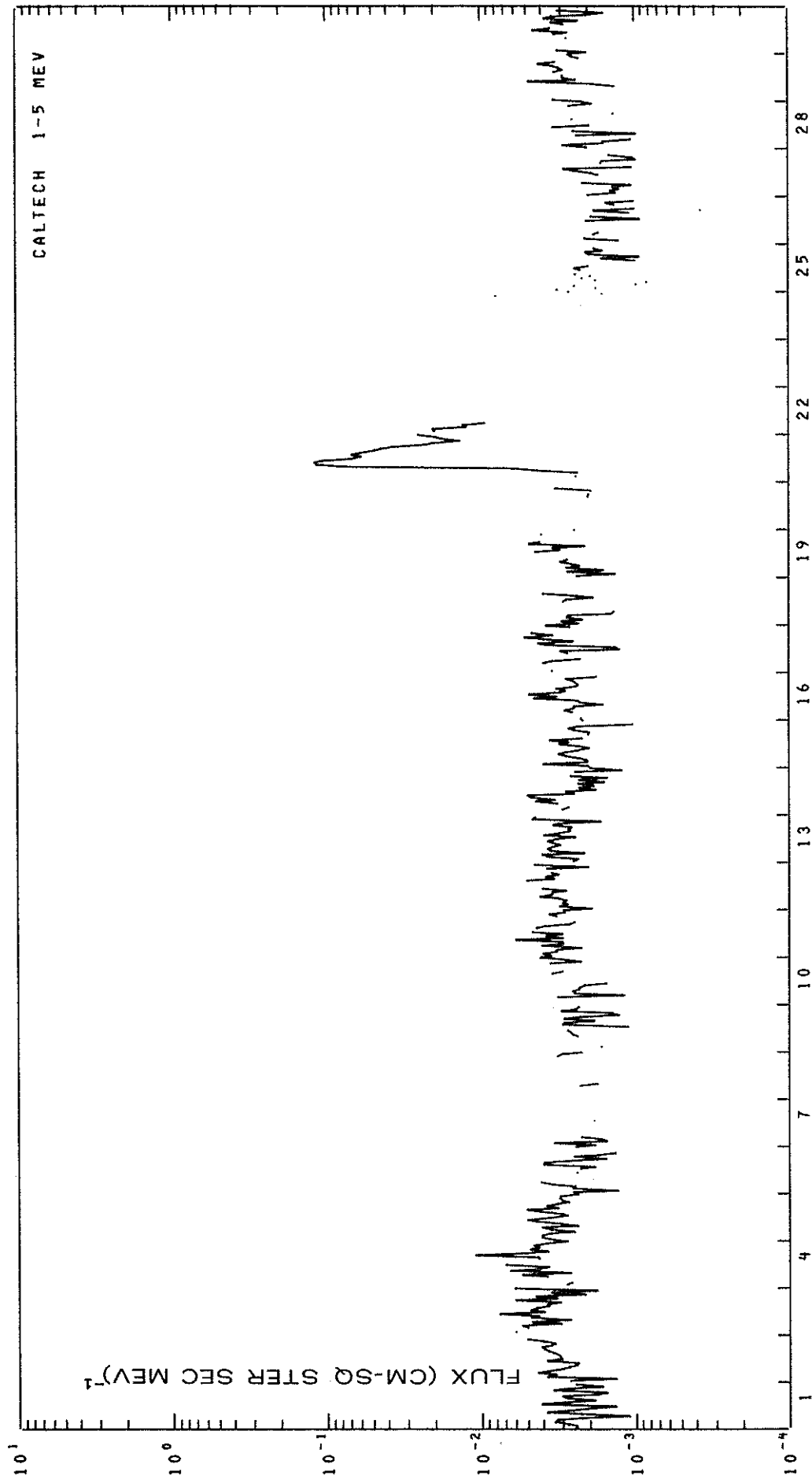
IMP 7 AND 8 SOLAR WIND PLASMA

NOVEMBER 1975



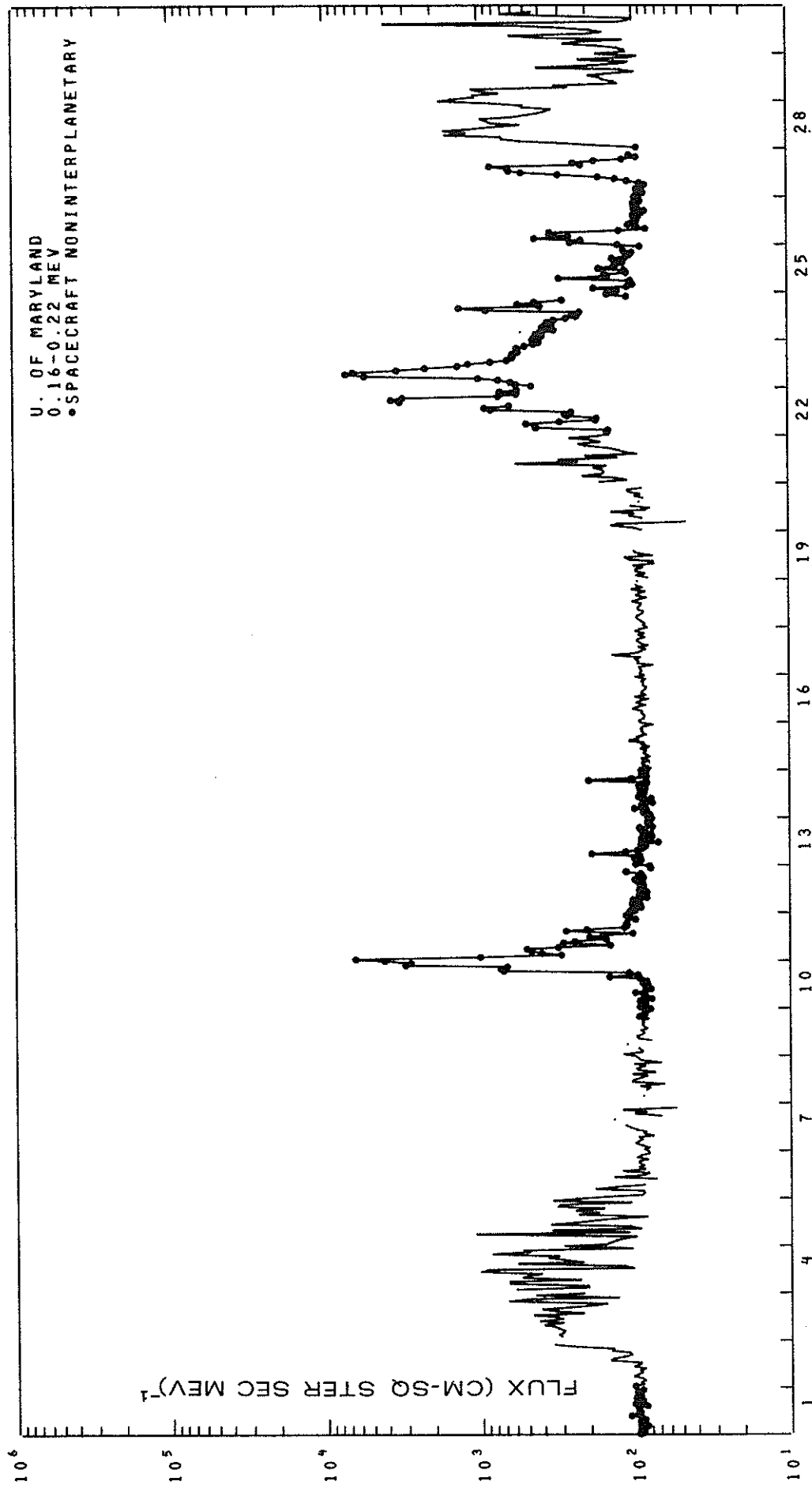
IMP 7 AND 8 ELECTRONS

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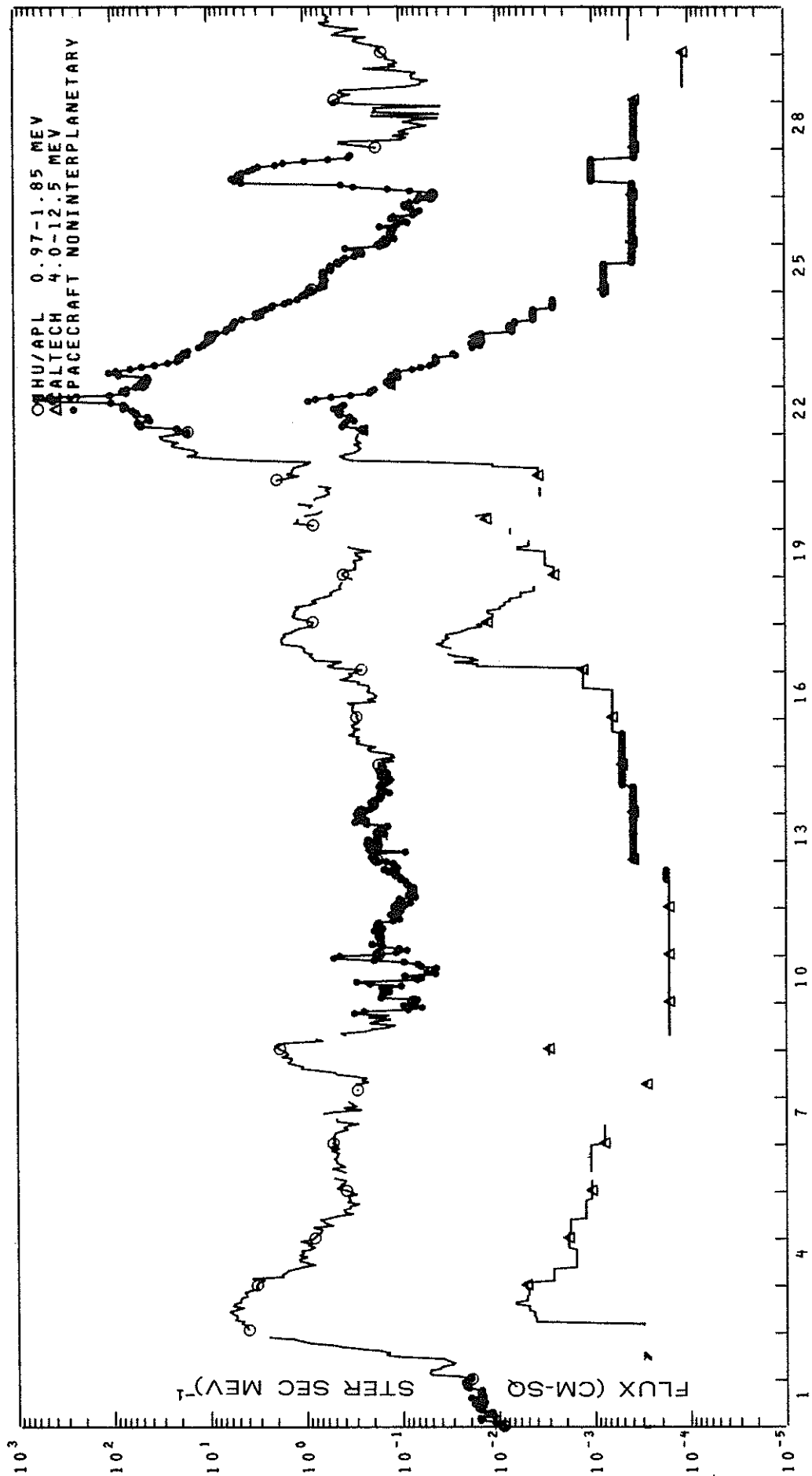
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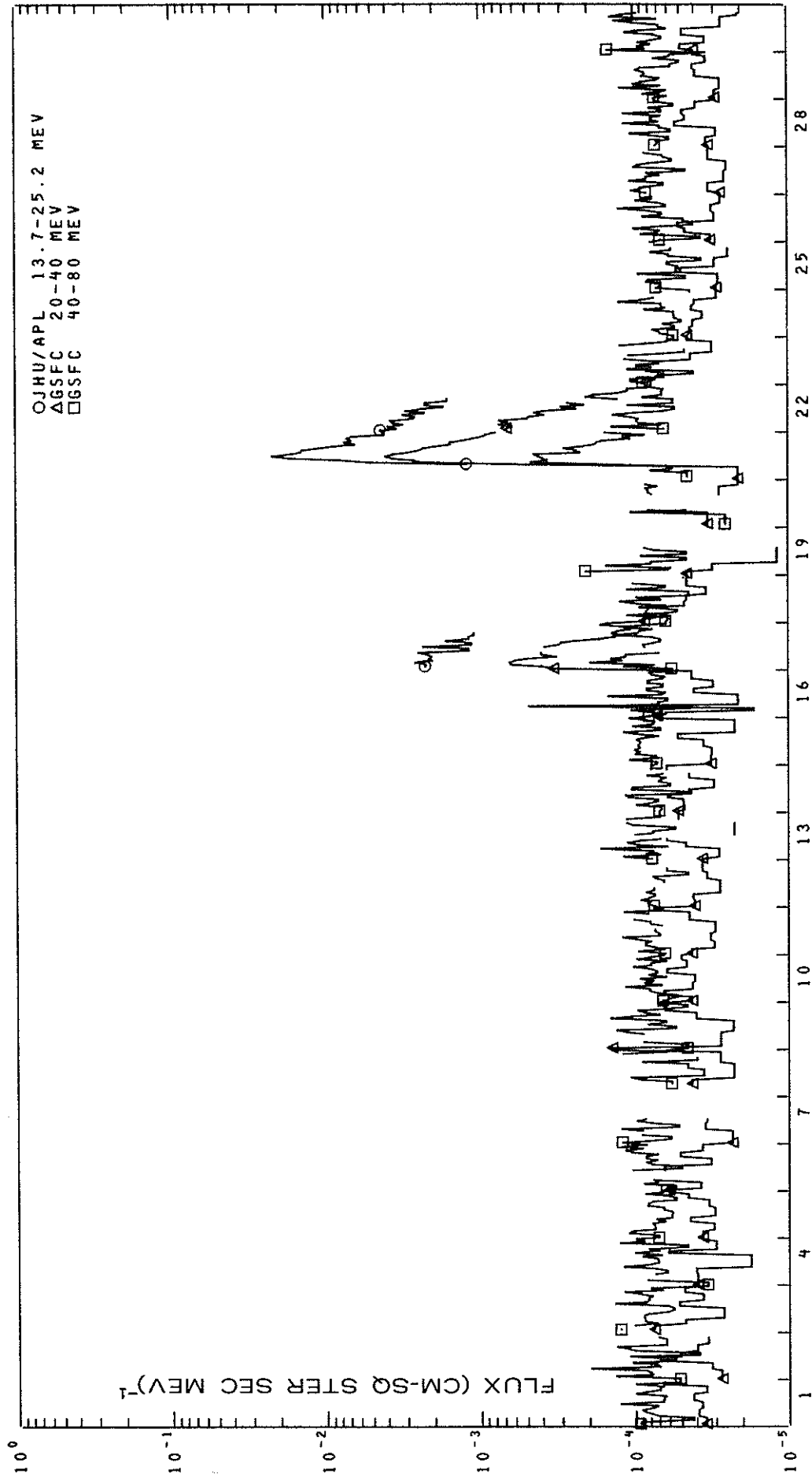
IMP 7 AND 8 INTERMEDIATE ENERGY PROTONS

NOVEMBER, 1975



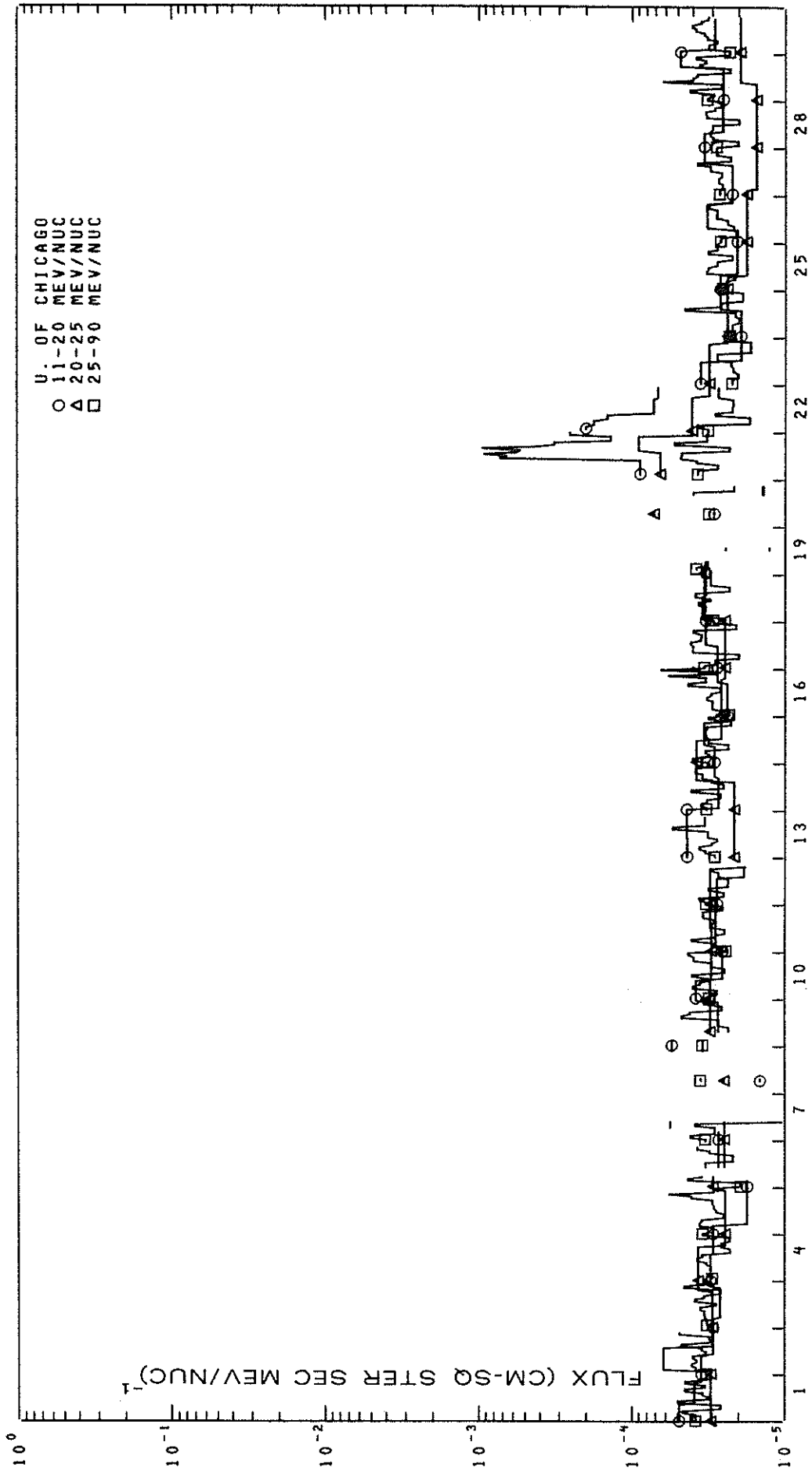
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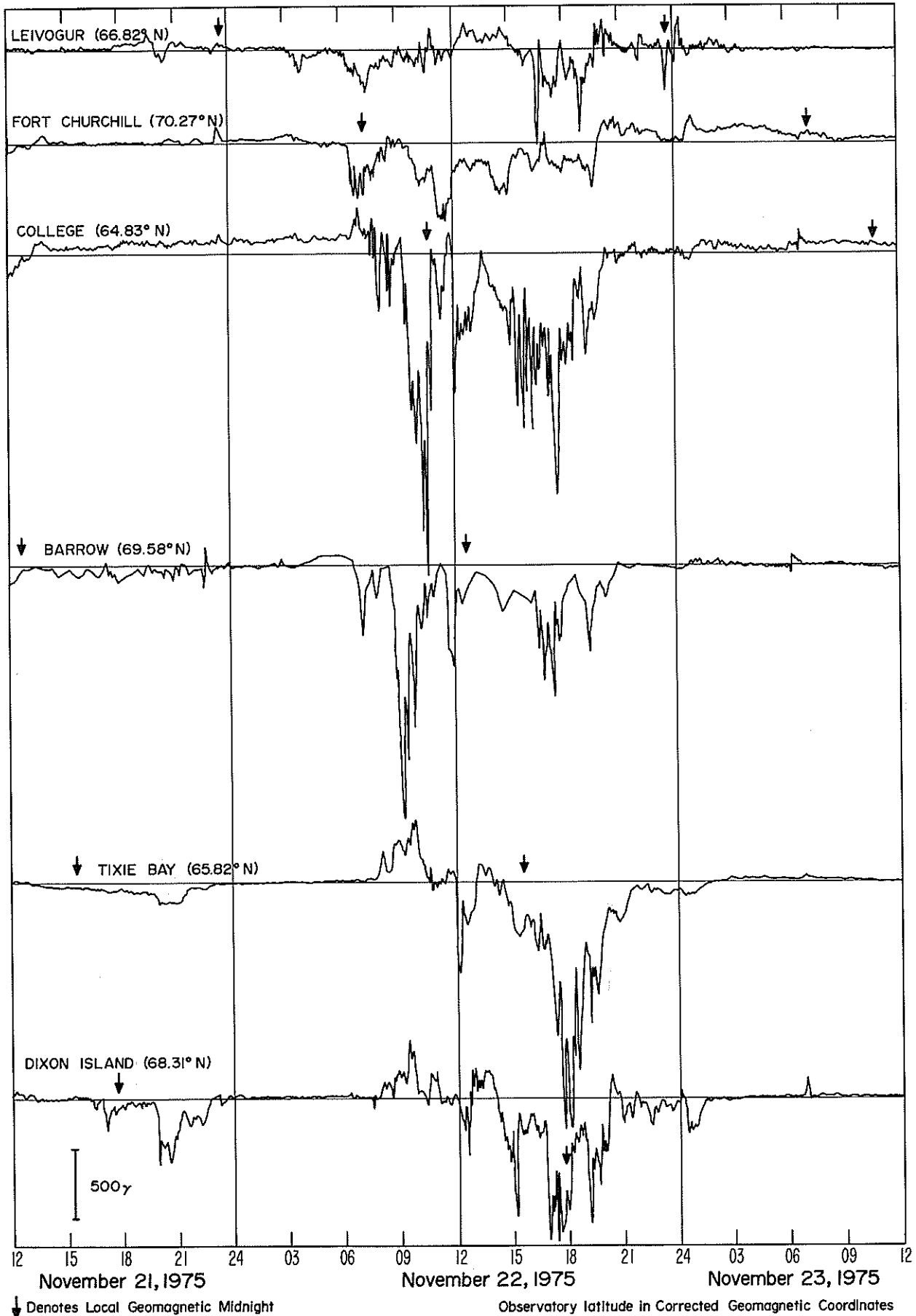
IMP 7 AND 8 ALPHA PARTICLES

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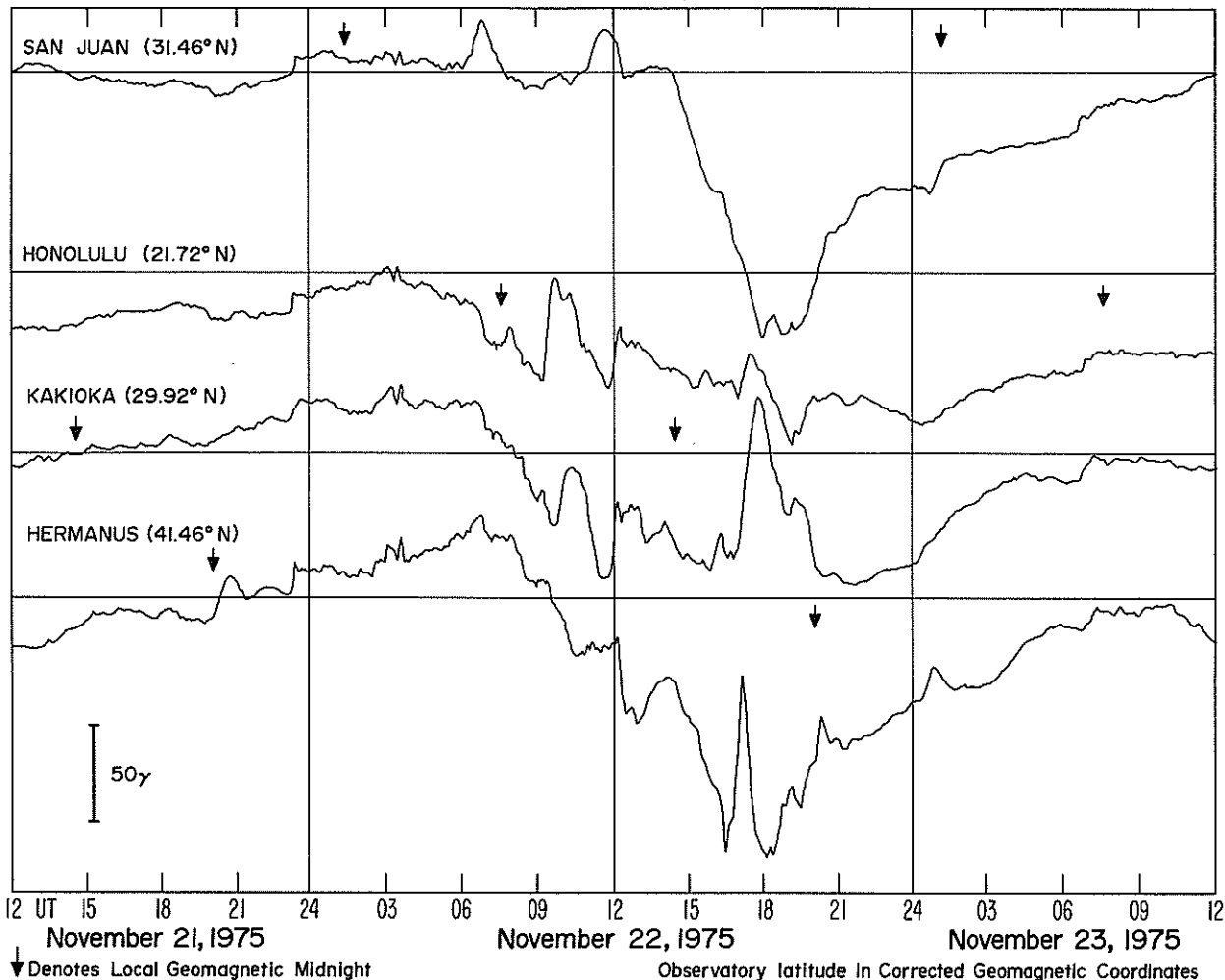
H-COMPONENT MAGNETOGRAMS OF GEOMAGNETIC STORMS

November 21-23, 1975

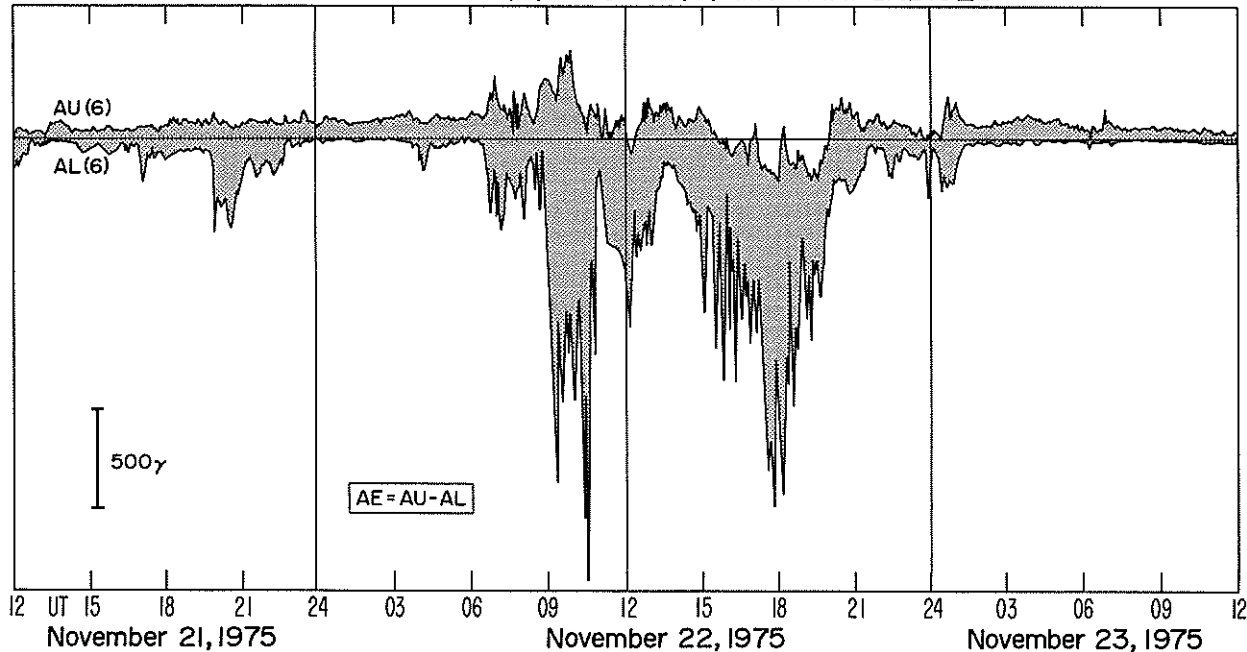


H-COMPONENT MAGNETOGRAMS OF GEOMAGNETIC STORMS

November 21-23, 1975



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