U.S. DEPARTMENT OF COMMERCE
Philip M. Klutznick, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Richard A. Frank, Administrator
ENVIRONMENTAL DATA AND INFORMATION SERVICE
Thomas D. Potter, Director

Solar - Geophysical Data

NO. 434 OCTOBER 1980

Part II (Comprehensive Reports)

DATA FOR
APRIL 1980

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado 80303.

For sale through the National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO 80303. Subscription Price: $40.00 annually for both part I (Prompt Reports) and part II (Comprehensive Reports) or $21.00 annually for either part. Annual supplement containing explanation is included. For foreign mailing add $32.00 for both parts or $16.00 for either part. Single issue price is $1.75 for either part and $1.50 for the extra issue. Make checks and money orders payable to: Department of Commerce, NOAA/NGSDC.
Note: $2.00 handling charge per order.

To standardize referencing these reports in the open literature, the following format is recommended:
Solar-Geophysical Data, 426 Part I (or Part II), pages, February 1980, U.S. Department of Commerce (Boulder, Colorado, U.S.A. 80303).

SOLAR-GEOPHYSICAL DATA

No. 434

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

CONTENTS

Part I (Prompt Reports)

	PAGE
Index for 1979-1980	2
Data for September 1980	3-40
Data for August 1980	41-155
Late Data	157-188
Daily Solar Activity Centers Errata: Regions June 1980	
Solar Radio Emission Spectral July 1980	
Cosmic Rays Alert/ Deep River July 1980	
Geomagnetic Indices	
Hourly Equatorial Dst Values June - July 1980	
Sudden Commencements July 1980	

Part II (Comprehensive Reports)

Index for 1979-1980	2
Data for April 1980	3-10
Note on Delay of Solar Flare Data	4
Miscellaneous Data	11-57
Synoptic Solar Maps Nov 30, 1979 - Jan 24, 1980	
Active Regions Dec 27, 1979 - Jan 24, 1980	
Solar Flares July 1979	
Energetic Solar Particles Dec 1979	
IMP 8 Electrons, Protons and Alpha Particles	
Regional Flare Index June 1979	
Mass Ejections from the Sun March 1980	

DETAILED COVERAGE FOR 1979-80 PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1979 Sep	Oct	Nov	Dec	1980 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
A.	SOLAR AND INTERPLANETARY PHENOMENA													
A.1	Sunspot Drawings	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	
A.2a	Zurich Provisional Relative Sunspot Numbers Rz	422A 11	423A 11	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9	430A 11	431A 11	432A 11	433A 11	434A 11
A.2b	Zurich Final Sunspot Numbers Rz	428A 9	428A 9	428A 9	428A 9									
A.2c	American Relative Sunspot Numbers RA	422A 11	423A 11	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9	430A 11	431A 11	432A 11	433A 11	434A 11
A.3a	Mt. Wilson Magnetograms	423A 50	424A 50	425A 48	426A 50	427A 50	427A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	423A110	424A112	425A108	428A150	427A112	428A102	429A104	430A112	431A110	432A110	433A110	434A108	
A.3c	Kitt Peak Magnetograms	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	
A.3d	Mean Solar Magnetic Field (Stanford)	422A 42	423A 40	424A 40	425A 36	426A 38	427A 38	428A 34	429A 35	430A 44	431A 41	432A 42	433A 40	434A 38
A.3e	Stanford Magnetograms	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	
A.4	H-alpha Filtergrams	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	
A.5	Calcium Plage Drawings - Mt. Wilson	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	
A.5a	Calcium Plage (Mt. Wilson) and Sunspot Regions	423A110	424A112	425A108	428A150	427A112	428A102	429A104	430A112	431A110	432A110	433A110	434A108	
A.5b	Mt. Wilson Daily Calcium Plage Indices	423A124	424A125	425A121	426A112	427A122	428A112	429A115	430A123	431A121	432A128	433A127	434A125	
A.6	H-alpha Synoptic Charts	423A 44	424A 44	425A 40	426A 42	427A 42	428A 38	429A 39	430A 48	431A 44	432A 46	433A 44		
A.6b	Synoptic Chart and Active Regions (Paris)	429B 38	430B 30	432B 42	432B 43	434B 14								
A.6c	Stanford Solar Magnetic Field Synoptic Charts	423A 46	424A 46	425A 42	426A 44	427A 44	428A 40	429A 40	430A 49	431A 45	432A 47	433A 45	434A 43	
A.6d	Kitt Peak Solar Magnetic Field Synoptic Charts	423A 48	424A 48	425A 44	426A 46	427A 46	428A 42	429A 41	430A 50		432A 48	433A 46	434A 44	
A.6e	Mass Ejections from the Sun							434B 56						
A.7f	Helium D3 Chromosphere (Big Bear)	422A 38	423A 41	425B 28	425A 37	426A 39	427A 39	428A 35	429A 36	430A 41	432A167	432A 37	433A 35	
A.7g	Helium Synoptic Maps (KPNO)	423B 75	425A 46	425A 47	426A 48	427A 48		431A162	430A 51	431A 46	432A 49	433A 47	434A 45	
A.7h	Coronal Line Emission (Sac Peak)	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	422A 11	423A 11	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9	430A 11	431A 11	432A 11	433A 11	434A 11
A.8ac	2800 MHz - Daily Values of Adj. Solar Flux (ARO-Ottawa)	422A 11	423A 11	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9	430A 11	431A 11	432A 11	433A 11	434A 11
A.8g	Daily Values of Adjusted Solar Flux (AFGL)	422A 11	423A 11	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9	430A 11	431A 11	432A 11	433A 11	434A 11
A.9cb	8.6 mm Radio Maps of the Sun (NOSC - La Posta)	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48		433A 48	434A 46	
A.9d	2 cm Radio Maps of the Sun (NOSC - La Posta)	423A 50	424A 50	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48		433A 48	434A 46	
A.10a	169 MHz - Interferometric Observations (Nancay)	422A 25	423A 27	424A 25	426A148	426A 23	427A 23	428A 20	429A 22	430A 26	432A166	432A 24	433A 22	434A 25
A.10c	21 cm East-West Solar Scans (Fleurs)	422A 28	423A 30	424A 28	425A 27	426A 26	427A 26	429A150	429A 25	430A 29	431A 28	432A 27	433A 25	434A 28
A.10d	43 cm East-West Solar Scans (Fleurs)	422A 29	423A 31	424A 29	425A 28	426A 27	427A 27	429A151	429A 26	430A 30	431A 29	432A 28	433A 26	434A 29
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	422A 27	423A 29	424A 27	425A 26	426A 25	427A 25	428A 22	430A175	430A 28	431A 27	432A 26	433A 24	434A 27
A.10f	3 cm East-West Solar Scans (Toyokawa)	422A 26	423A 28	424A 26	425A 25	426A 24	427A 24	428A 21	429A 23	430A 27	431A 26	432A 25	433A 23	434A 26
A.11g	Solar X-ray (SMS/GOES) (graphs)	427B 28	428B 24	429B 26	430B 16	431B 27	432B 30	433B 26	434B 6					
A.12bb	Cosmic Ray Protons (Pioneers 8 & 9)	424B 39	---	---	---	426A 32	427A 33	428A 28	429A 32	431A160	431A 38	432A 38	---	
A.12e	Energetic Solar Particles (IMP H & J)	430B 24	429B 32	429B 37	434B 50									
A.13a	Solar Wind (Pioneers 6 & 7)	---	---	---	---	---	427A 32	428A 27	429A 32	---	431A 38	432A 39	433A 36	
A.13ab	Solar Wind (Pioneers 8 & 9)	424B 39	---	---	---	426A 32	427A 33	428A 28	429A 32	431A160	431A 38	432A 38	433A 37	
A.13d	Solar Wind from IPS Measurements	422A 39	424B 36	424A 37	426A146	426A 34	427A 35	428A 30	430A164	430A 37	431A 36	432A 34	433A 31	434A 34
A.13e	Solar Plasma (IMP H & J)	427B 27	428B 23	429B 25	430B 15	432B 36	432B 29		434B 5					
A.13f	Solar Wind (Pioneer 12 (Venus))	422A 37	423A 37	424A 36	425A 32	426A 33	427A 34	428A 29	429A 33	431A161	431A 39	432A 39	433A 37	
A.17	Interplanetary Magnetic Field (Pioneer 9)	424B 39	---	---	---	426A 32	427A 33	428A 28	429A 32	431A160	431A 38	432A 38	433A 37	
A.17	Interplanetary Magnetic Field (Pioneer 12)	423B 73	424B 38	425B 29	426A116	---	---	429A119	430A127	431A125	432A132	433A131	---	
A.17c	Inferred IP Magnetic Field	422A 40	423A 38	424A 38	425A 34	426A 36	427A 36	428A 32	430A 42	430A 42	432A 40	432A 40	433A 38	
A.18	Interplanetary Electric Field (Pioneer 9)	424B 39	---	---	---	426A 32	427A 33	428A 28	429A 32	431A160	431A 38	432A138	---	
B.	IONOSPHERIC (AND RADIO WAVE PROPAGATION) PHENOMENA													
B.52	Graphs of Transmission Frequency Range	423A174	424A154	425A152	426A142	427A154	428A140	429A146	430A160	431A156	432A162	433A154	434A154	
B.53	Quality Figures Based on Frequency Ranges	423A173	424A153	425A151	426A141	427A153	428A139	429A148	430A159	431A155	432A164	433A156	434A153	
C.	FLARE-ASSOCIATED EVENTS													
C.1a	Optical Observations Flares	422A 14	423A 15	424A 15	425A 15	426A 15	427A 14	428A 15	429A 14	430A 16	431A 16	432A 16	433A 16	434A 16
C.1ba	Optical Observations Flares (Standardized Data)													
C.1d	Flare Patrol Observations	423B 72	423A 26	424A 24	425A 24	427A158	427A 22	---	---	430A 46	431A 25	432A 23	433A 21	434A 24
C.1d	Flare Patrol Observations													
C.1e	Flare Indices (by day)													
C.1f	Flare Indices (by Region)													
C.3	Solar Radio Waves - Outstanding Occurrences	427B 5	428B 5	429B 5	430B 5	431B 5	432B 5	433B 5						
	Solar Radio Waves - Fixed Frequencies - Selected	422A 30	423A 32	424A 30	425A 29	426A 28	427A 28	428A 23	429A 27	430A 31	431A 30	432A 29	433A 27	434A 30
C.4a	Solar Radio Spectral Obs. (Fort Davis)	423A143	426A149	426A153	426A117	427A126	428A116	429A120	430A128	431A126	432A133	433A132	434A129	
C.4d	Solar Radio Spectral Obs. (Culgoora)	423A143	424A130	425A125	426A117	427A126	428A116	429A120	430A128	431A126	432A133	433A132	434A129	
C.4e	Solar Radio Spectral Obs. (Weissenau)	423A143	424A130	425A125	426A117	427A126	428A116	429A120	430A128	431A126	432A133	434A177	434A129	
C.4f	Solar Radio Spectral Obs. (Sagamore Hill)	---	---	---	---	---	---	429A120	430A128	431A126	433A158	433A132	434A129	
C.4h	Solar Radio Spectral Obs. (Dwingeloo)	424A143	425A130	426A125	427A117	427A126	429A116	439A120	430A128	431A126	432A133	433A132	434A129	
C.4i	Solar Radio Spectral Obs. (Bleien)	423A143	424A130	425A125	426A117	427A126	428A116	429A120	430A128	431A126	432A133	434A177	434A129	
C.4j	Solar Radio Spectral Obs. (Manila)	---	424A130	425A125	426A117	427A126	---							
C.4k	Solar Radio Spectral Obs. (Learmonth)	423A143		425A125		427A126	428A116	429A120	430A128	431A126	433A158	433A132	434A129	
C.4l	Solar Radio Spectral Obs. (Palehua)	423A143		425A125		427A126	428A116	429A120	430A128	431A126	433A158	433A132	434A129	
C.5e	Solar X-ray (SMS/GOES) (graphs)	427B 28	428B 24	429B 26	430B 16	431B 27	432B 30	433B 26	434B 6					
C.6	Sudden Ionospheric Disturbances	423A125	424A126	425A122	426A113	427A123	428A113	429A116	430A124	431A122	432A129	433A128	434A126	
D.	GEOMAGNETIC AND MAGNETOSPHERIC PHENOMENA													
D.1a	Geomagnetic Indices Kp, Kn, Ks, Km, Ap, aa, Cp	423A166	424A147	425A144	426A133	427A148	429A154	429A142	430A155	431A151	432A158	433A150	434A147	
D.1ba	27-day Chart of Kp Indices	423A168	424A149	425A146	426A135	427A150	428A137	429A144	430A157	431A153	432A160	433A152	434A149	
D.1c	27-day Chart of C9	426A136	426A136	426A136	426A136									
D.1ca	aa graph 1868 - present	426A137	426A137	426A137	426A137									
D.1d	Principal Magnetic Storms	423A171	424A152	425A149	426A140	427A151	428A138	429A145	430A158	431A154	432A161	433A153	434A152	
D.1e	Reduced Magnetograms													
D.1f	Sudden Commencement and Solar Flare Effects	423A172	425B 33	425A150	427A164	427A152	431A168	431A168	431A169	433A168	433A168	434A188		
D.1g	Equatorial Indices Dst	423A170	424A151	425A148	426A139	428A147	429A155	431A166	431A167	433A167	434A186	434A187		
D.1h	Geomagnetic Substorm Log (Boulder)	422A 43	423A 42	424A 41	425A 38	426A 40	427A 40	428A 36	429A 37	430A 45	431A 42	432A 43	433A 41	434A 40
F.	COSMIC RAYS													
F.1a	Cosmic Ray Neutron Counts (Deep River)	423A161	425B 32	427A159	427A159	428A146	429A153	429A137	430A154	432A170	433A165	434A183	434A146	
F.1b	Cosmic Ray Neutron Counts (Climax)	423A161	425B 32	425A143	426A132	428A146	428A134	430A167	430A154	431A150	433A165	433A147		
F.1e	Cosmic Ray Neutron Counts (Alert)	423A161	425B 32	427A159	427A159	428A146	429A153	429A137	430A154	432A170	433A165	434A183	434A146	
F.1h	Cosmic Ray Neutron Counts (Thule)	423A161	424A146	425A143	426A132	427A147	428A134	429A137	430A154	431A150	432A155	433A147		
F.1i	Cosmic Ray Neutron Counts (Kiel)	423A161	427A159	425A143	426A132	427A147	428A134	429A137	430A154	431A150	432A155	433A147	434A146	
F.1j	Cosmic Ray Neutron Counts (Tokyo)	423A161	427A159	425A143	426A132	427A147	428A134	429A137	430A154	431A150	430A155	433A147	434A146	
F.1k	Cosmic Ray Neutron Counts (Kula)					---	---	---	---	---	---	---	---	
F.1l	Cosmic Ray Neutron Counts (Huancayo)	425B 32	425B 32	426A177	427A159	428A146	430A167	430A167	431A163	433A165				
H.	MISCELLANEOUS													
H.60	IUWDS Alert Decisions	422A 4	423A 4	424A 4	425A 4	426A 4	427A 4	428A 4	429A 4	430A 5	431A 5	432A 5	433A 5	434A 5
H.62	Abbreviated Calendar Record													

Notes:

"423A 50" listed under 1979 Sep means that the sunspot drawings for Sep 1979 were contained in *Solar-Geophysical Data* Number 423 - Part I, beginning on page 50.

A = Part I, B = Part II.

----- = no data available.
blank = data not yet received.

SGD 434 Part II (Comprehensive)

APRIL 1980 DATA

Contents

	Page
Active Regions (Data not available at time of publication.)	
Synoptic Solar Maps (Data not available at time of publication.)	
Solar Flares (Data not available at time of publication.)	SEE NOTE ON PAGE 4.
H-alpha Solar Flares (Standardized Data)	
Daily Flare Indices	
Intervals of No Flare Patrol Observation	
Solar Radio Emission (Data not available at time of publication.)	
Outstanding Occurrences (Fixed Frequencies)	
Energetic Solar Particles and Plasma	
IMP 8 Solar Wind Plasma	5
IMP 8 Electrons, Protons and Alpha Particles (Data not available at time of publication.)	
Solar X-ray Radiation	
SMS-GOES	6-10

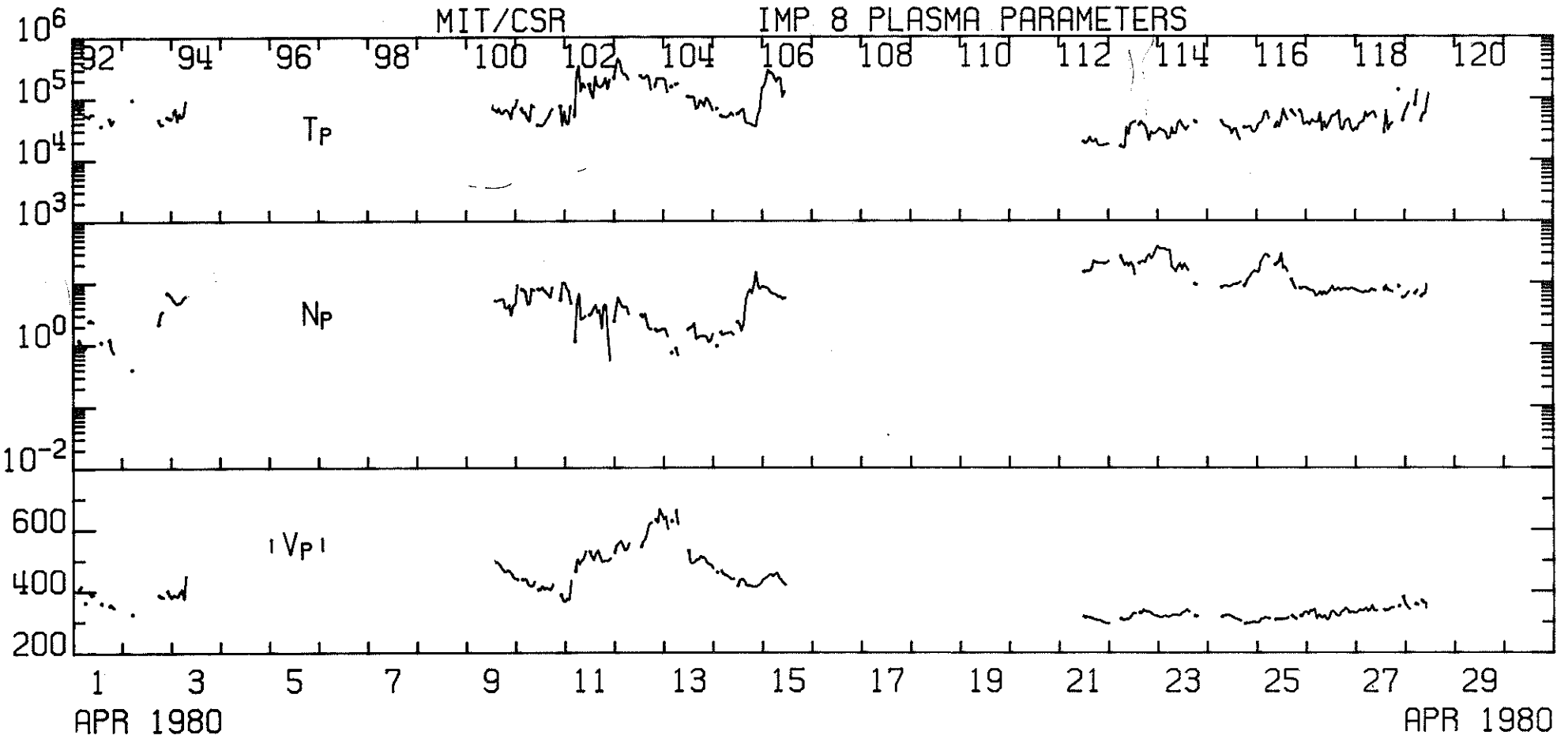
NOTE ON DELAY OF GROUPED SOLAR FLARE DATA:

Beginning with the July 1980 issue of *Solar-Geophysical Data*, we planned to publish the final listing of solar flares 13 months, rather than 6 months, from the date of observation. Although this schedule has not been met since the July 1980 issue was published, we and our colleagues at the Meudon Observatory plan to return to the 13-month delay as soon as possible. This new schedule will cause the Daily Flare Index and the Regional Flare Index to appear 13 and 14 months from the date of observation. At the same time we are suspending indefinitely publication of the Abbreviated Calendar Record. We deeply regret this situation, but the volume of data recorded during sunspot maximum and computer conversion problems at the Meudon Observatory and at NGSDC have forced these greater delays on us.

For researchers who need the comprehensive solar flare data more promptly, NGSDC has available "preliminary" listings from August through October 1979. These complete tabulations lack the final Meudon corrections, and will only be published after they have been made. Nevertheless, printouts for the August-October 1979 period are available on request, if they be recognized as "preliminary" when used in research projects. A fee may be charged for reproducing these data. Please contact the editor, Helen E. Coffey, at (303) 497-6223 or telex SOLTERWARN BLDR 45897.

IMP 8 SOLAR WIND PLASMA

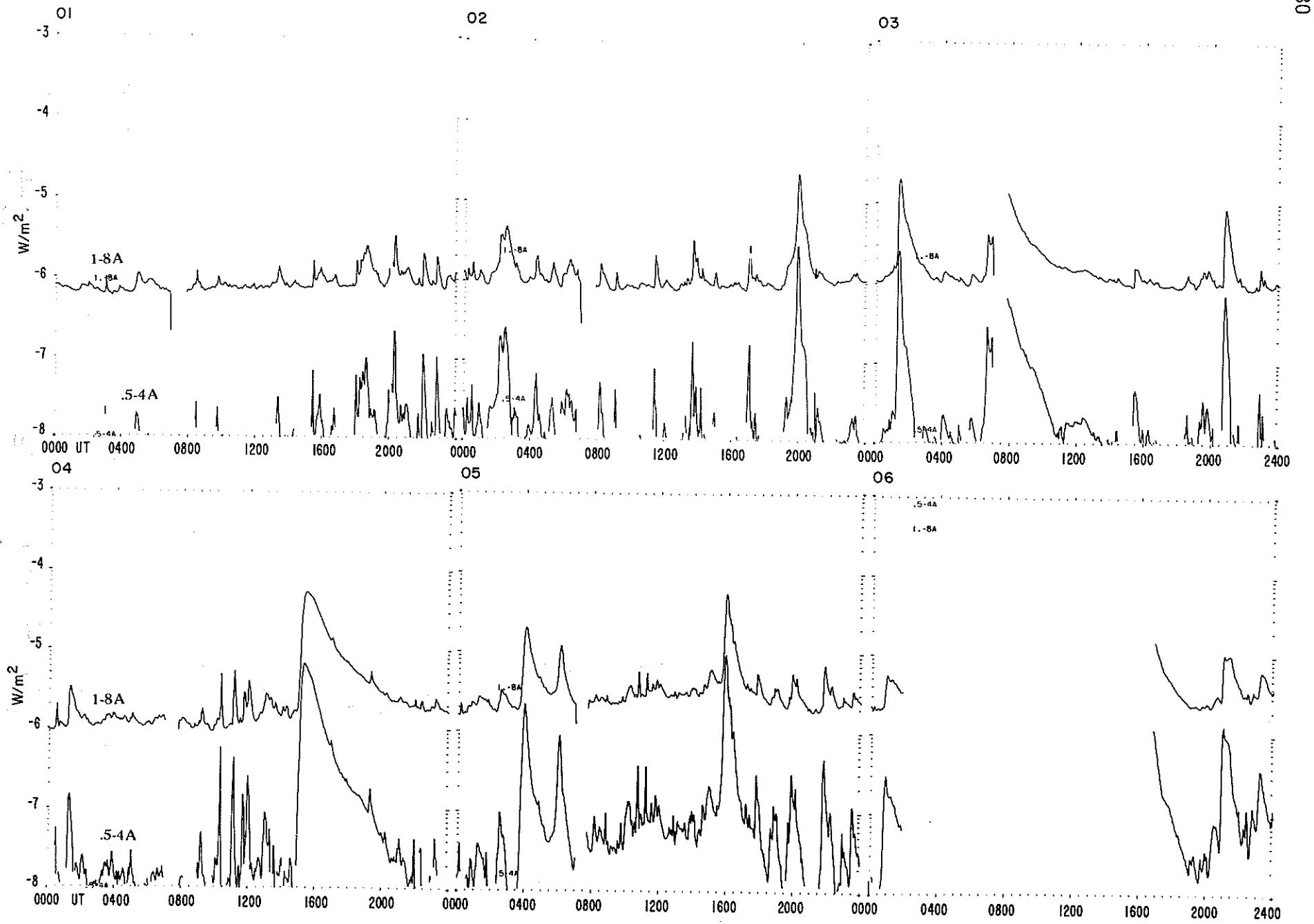
APRIL 1980



5
Apr 80

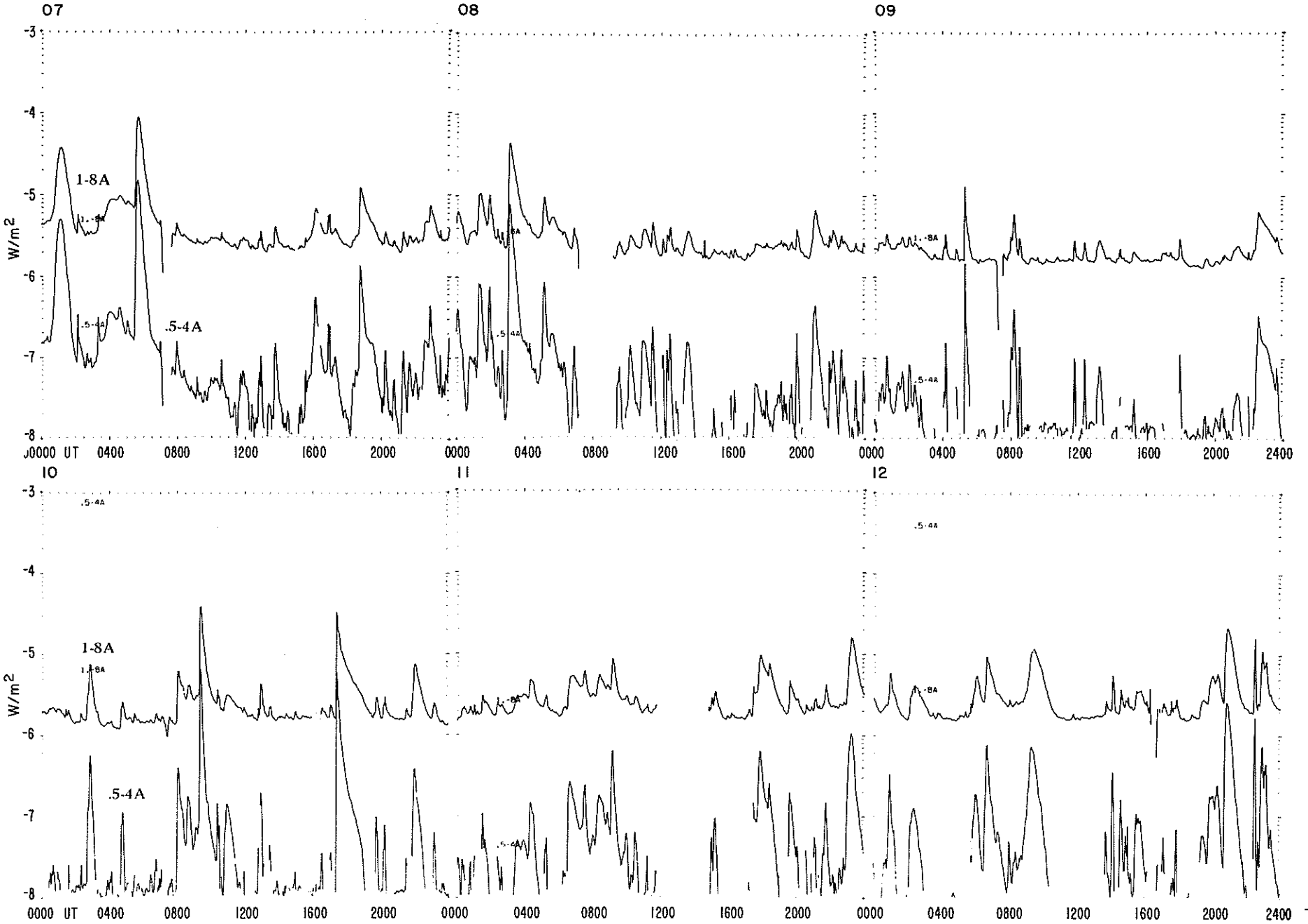
SMS-GOES X-RAYS

APRIL 1980



SMS-GOES X-RAYS

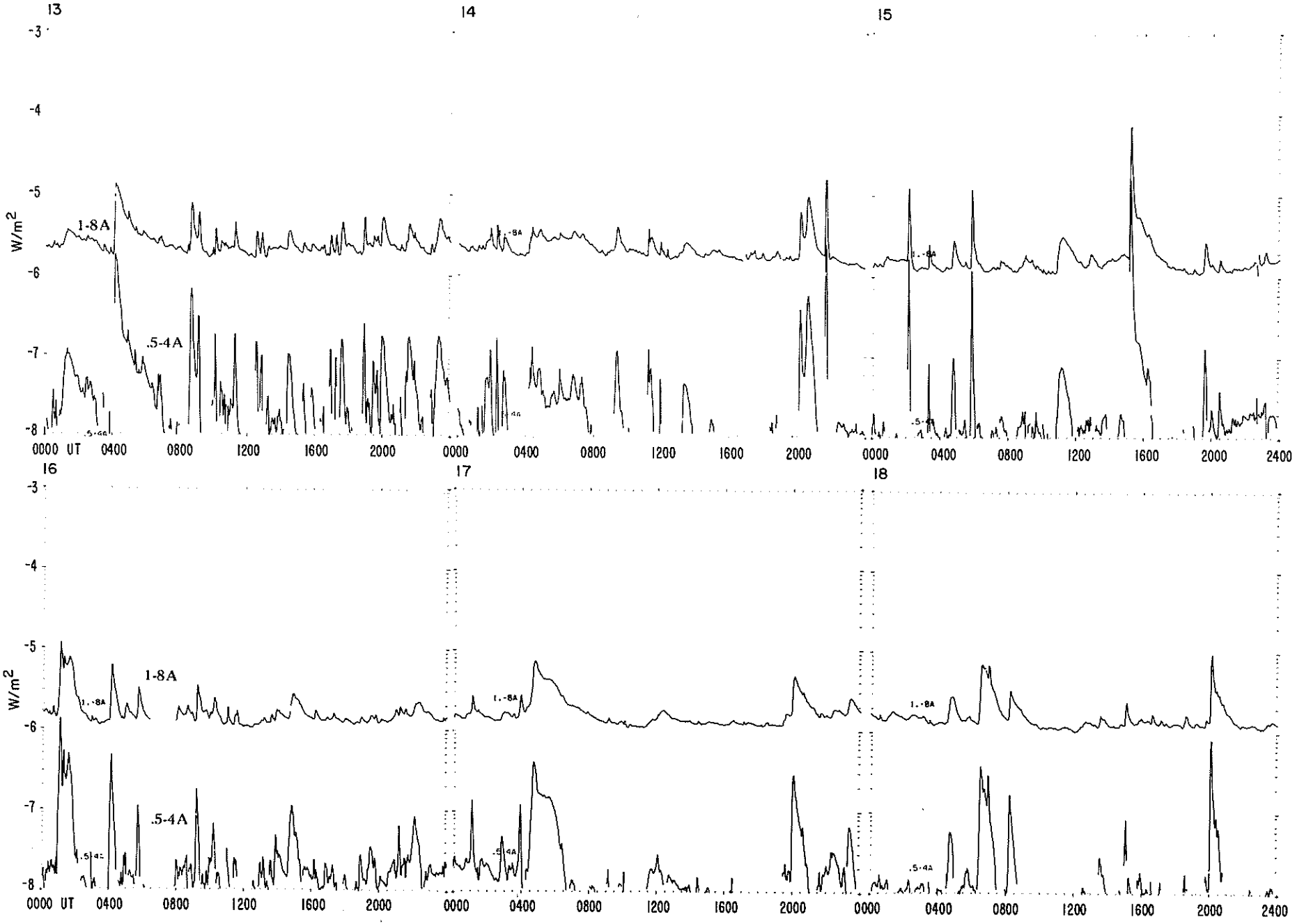
APRIL 1980



7 Apr 80

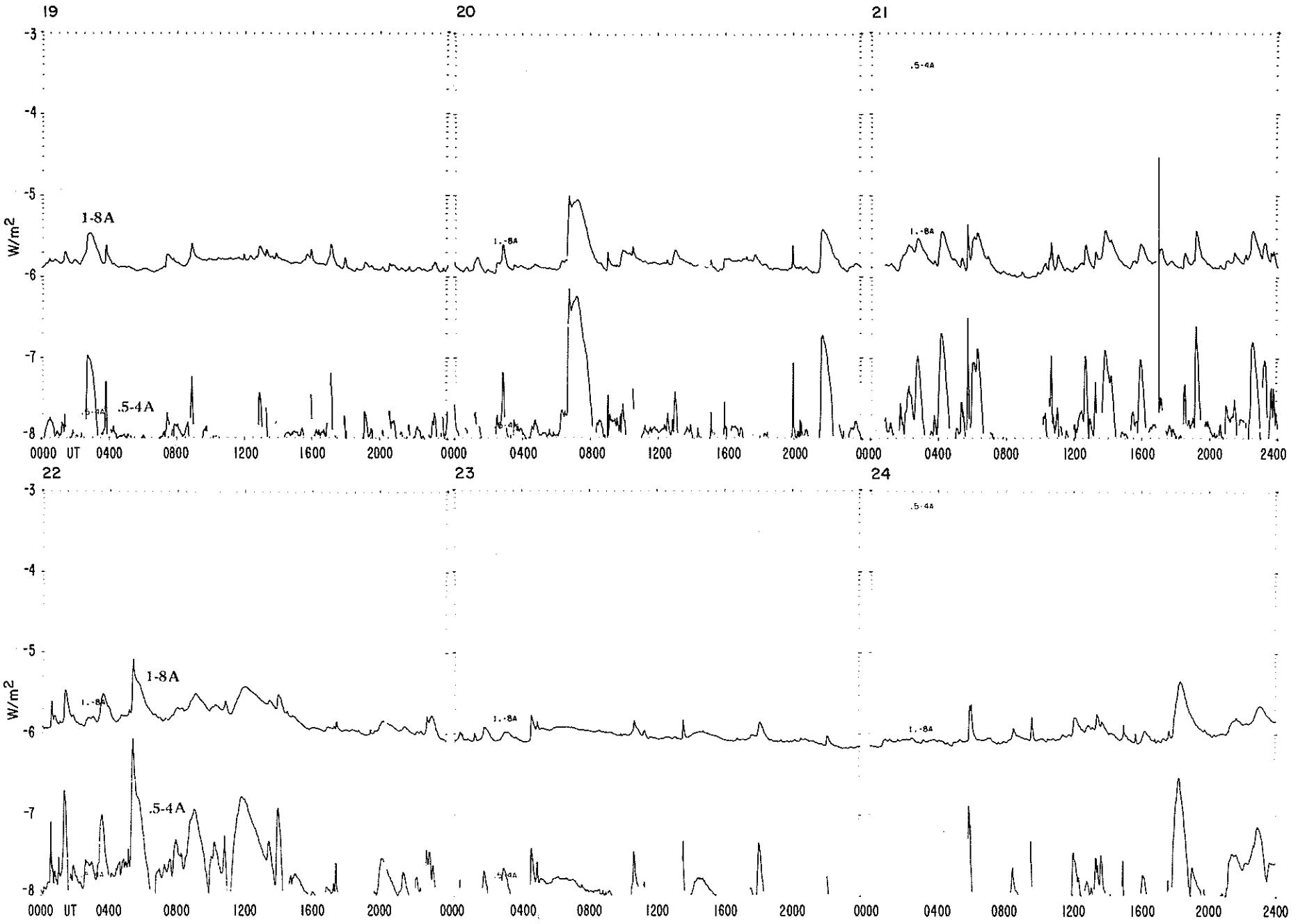
SMS-GOES X-RAYS

APRIL 1980



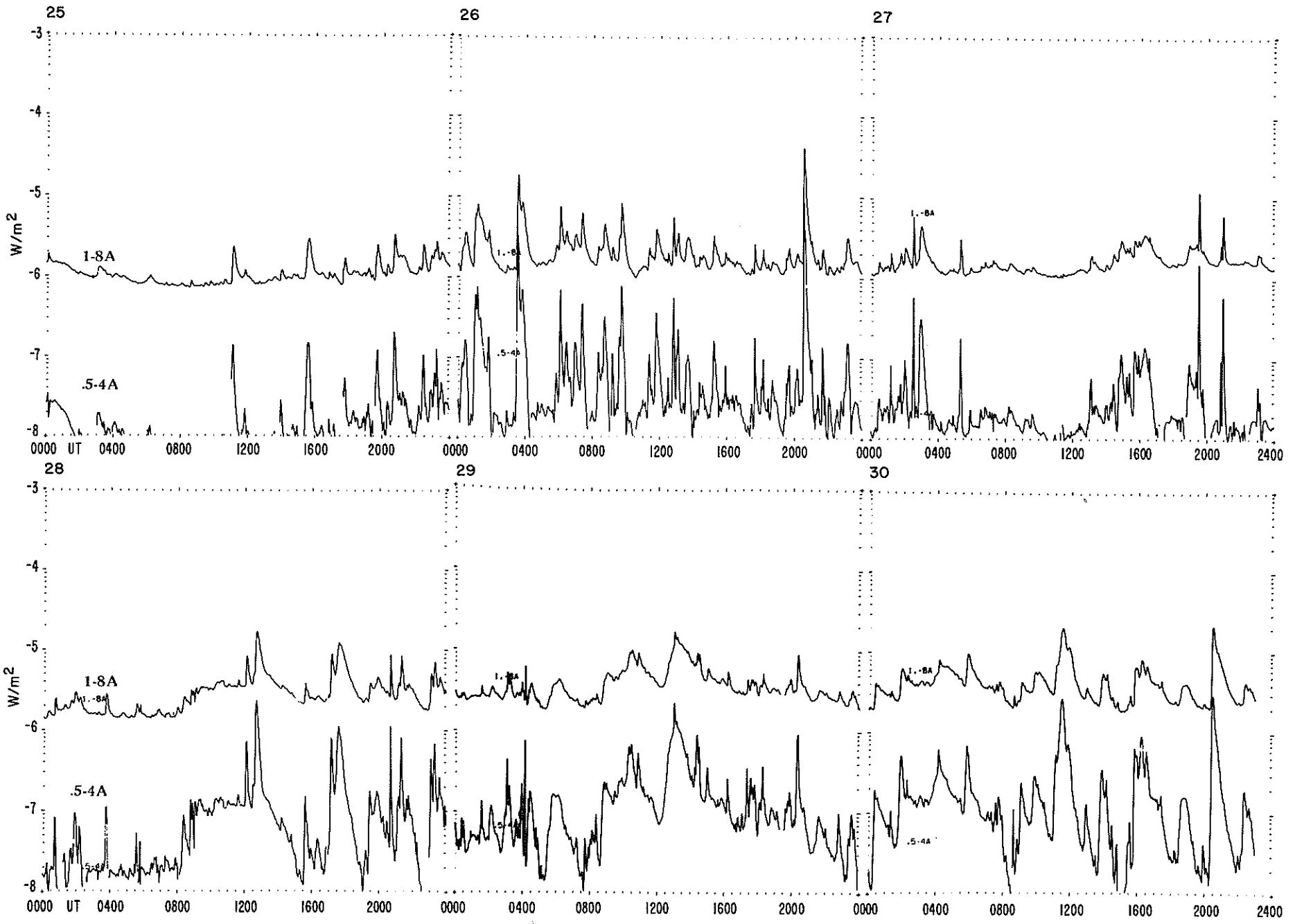
SMS-GOES X-RAYS

APRIL 1980



SMS-GOES X-RAYS

APRIL 1980



SGD 434 Part II (Comprehensive)

MISCELLANEOUS DATA

Contents

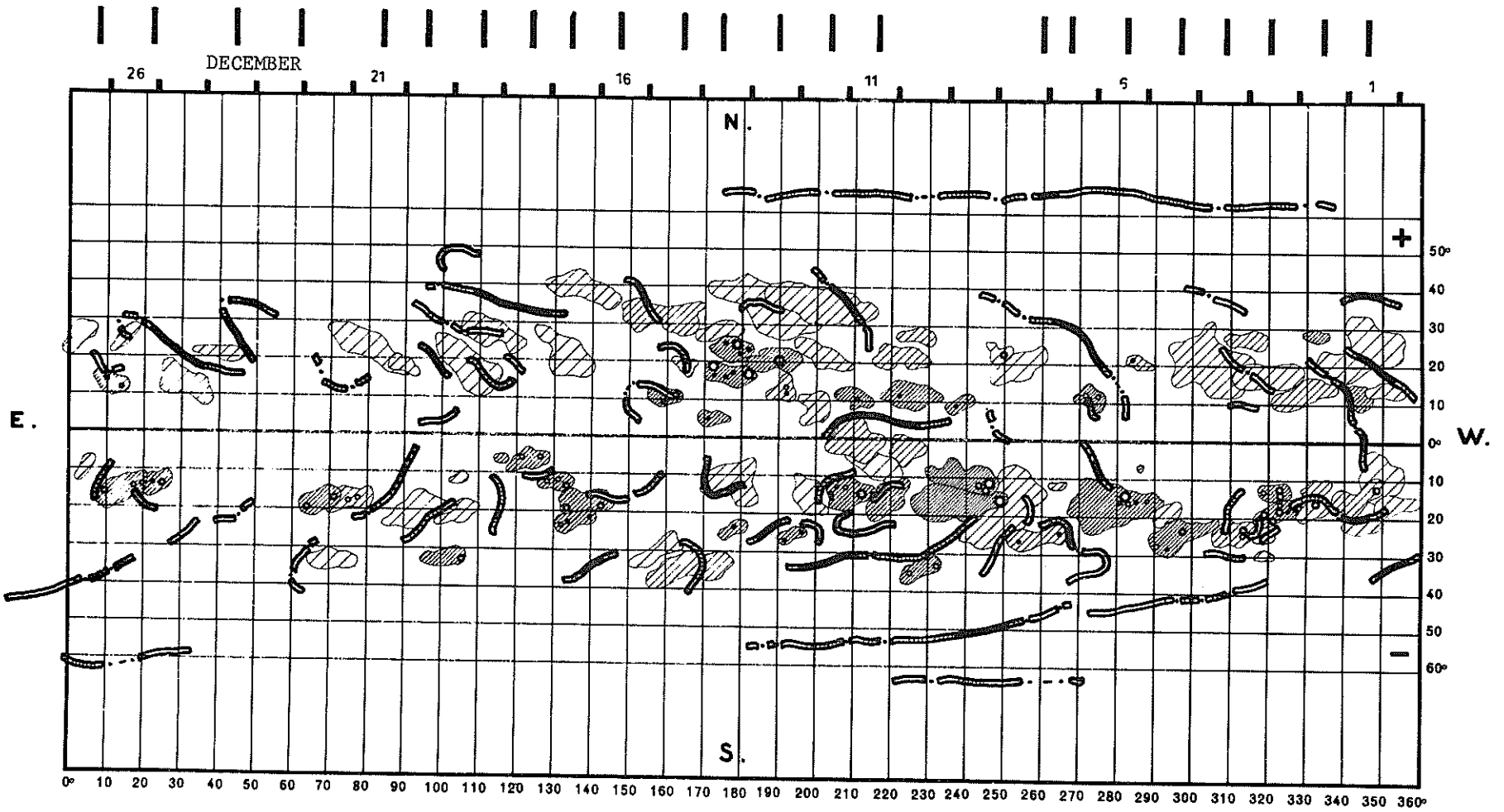
	Page
Synoptic Solar Maps Nov 30, 1979 - Jan 24, 1980	12-13
Active Regions Dec 27, 1979 - Jan 24, 1980	14
Solar Flares July 1979	
H-alpha Solar Flares (Standardized data)	15-48
Daily Flare Indices	48
Intervals of No Flare Patrol Observation	49
Energetic Solar Particles	
IMP 8 Electrons, Protons and Alpha Particles Dec 1979	50-54
Regional Flare Index June 1979	55
Mass Ejections from the Sun March 1980	56-57

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1689

NOVEMBER 30 – DECEMBER 27, 1979

MEUDON OBSERVATORY

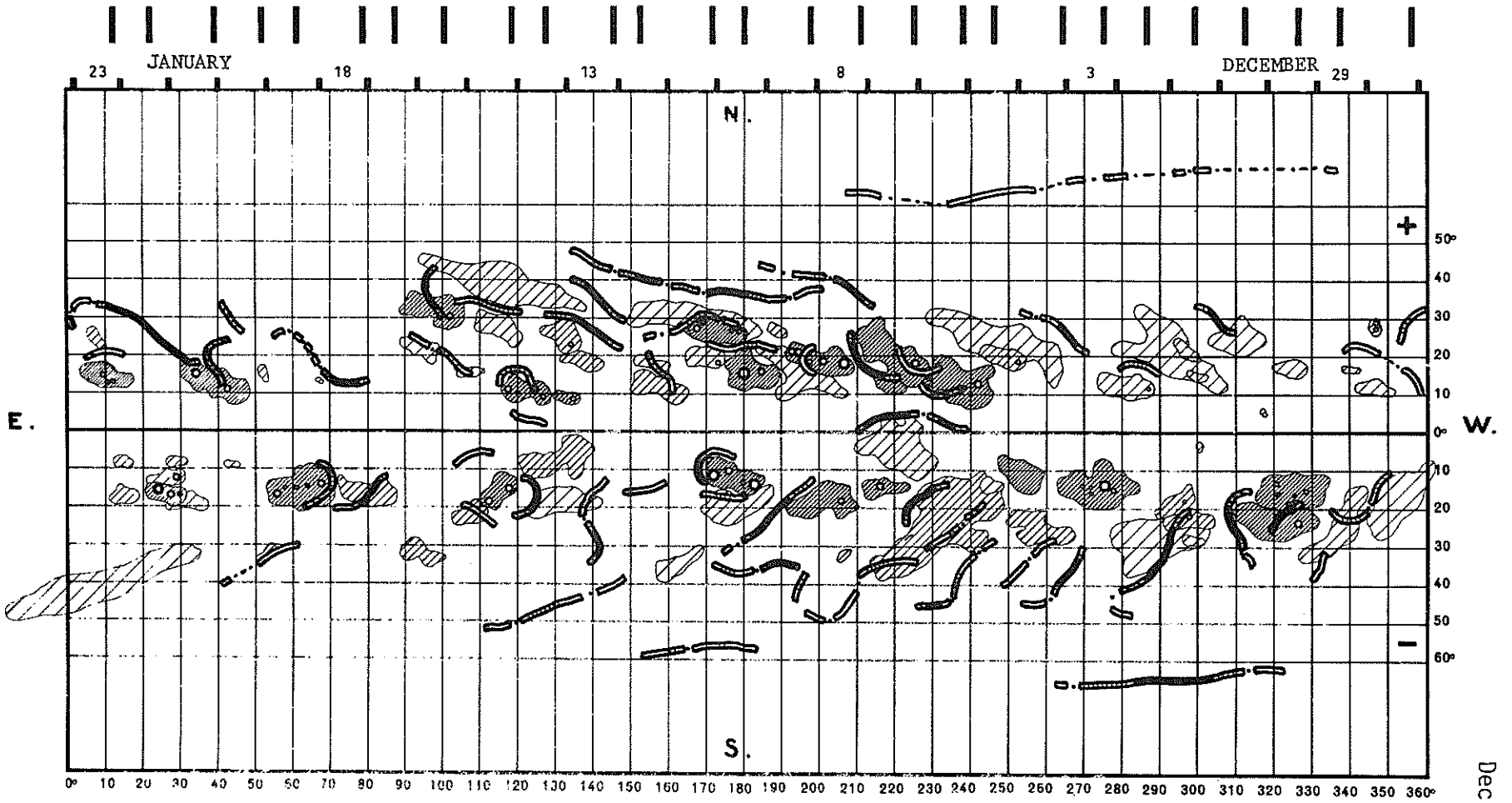


SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1690

DECEMBER 27, 1979 - JANUARY 24, 1980

MEUDON OBSERVATORY



13
Misc
Dec 79-Jan 80

ACTIVE REGIONS
CARRINGTON ROTATION 1690
(December 27, 1979 to January 24, 1980)

Region No.	Coordinates Lat.	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1688	Activity at West Limb
1	12°N	348°	1	>6	x	3	dispersed
2	28 N	348	2	-4			?
3	25 S	338	1	>6	x		dispersed
4	16 S	325	3	>6		7-9-10	decreasing
5	17 N	325	1	>6	x		dispersed
6	24 S	321	3	>6			decreasing
7	28 S	299	1	>6	x		dispersed
8	23 S	298	2	>6			decreasing
9	21 N	297	1	>6	x		dispersed
10	19 S	294	2	>6			decreasing
11	12 N	281	2	>6		21	decreasing
12	14 S	274	5	>6			decreasing
13	25 S	259	1	>6	x	23	decreasing
14	11 S	253	1	>6	x		decreasing
15	19 N	249	2	+2			decreasing
16	13 N	237	3	>6			decreasing
17	24 S	232	1	>6	x	29	dispersed
18	05 S	222	1	>6	x		dispersed
19	19 N	220	3	>6			decreasing
20	12 N	219	2	-3			stable
21	15 S	218	2	>6			decreasing
22	18 S	201	2	>6			decreasing
23	18 N	200	5	+5			stable
24	15 N	195	1	>6	x		dispersed
25	26 N	189	1	+3	x		decreasing
26	15 N	183	4	>6			decreasing
27	20 S	179	1	>6	x		decreasing
28	13 S	178	5	+5			decreasing
29	26 N	174	3	0			decreasing
30	19 N	170	2	>6		47	decreasing
31	12 N	158	1	>6	x	53	decreasing
32	17 N	156	1	>6	x		dispersed
33	18 N	138	1	>6	x		decreasing
34	08 N	133	2	-2			decreasing
35	25 N	133	2	>6			decreasing
36	08 S	130	1	>6	x	59	decreasing
37	10 N	123	3	>6			decreasing
38	16 S	116	4	>6			decreasing
39	38 N	116	1	>6	x		dispersed
40	27 N	116	1	>6	x		dispersed
41	22 S	108	1	>6	x		dispersed
42	15 N	107	1	+1	x		dispersed
43	32 N	98	2	>6			decreasing
44	32 S	95	1	>6	x		dispersed
45	18 S	80	1	>6	x	66	dispersed
46	16 S	63	4	>6			decreasing
47	14 N	52	1	-2	x		decreasing
48	12 N	40	4	>6			decreasing
49	20 S	33	1	>6	x		dispersed
50	09 S	29	1	+5	x		disappeared
51	13 S	27	2	>6		70	decreasing
52	18 S	27	3	+2			stable
53	18 S	15	1	>6	x	71	dispersed
54	09 S	14	1	+6	x		disappeared
55	13 N	10	2	>6			decreasing
56	13 N	8	1	+4	x	73	disappeared

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRP75776	01	0023>9	0033	0104	N16	E38	.638	16117	3.9	41	-N						FU	
			0058															
CULG	01	0023	0033	0058	N15	E36	.609	16117	3.7	35	-F		C	0033	50	.6	T	
HOLL	01	0046	0058	0110	N18	E41	.681	16117	4.1	24	-B	3	C		53		U F	
777 CULG	01	0103	0207	0240	S27	E63	.924	16112	5.8	97	1F		C	0207	150	3.9	KTF	ZX
778 CULG	01	0106	0110	0125	S41	W07	.699		30.5	19	-F		C	0110	50	.7	G	ZX
779 CULG	01	0112	0114	0130	S10	W51	.792	16100	27.2	18	-F		C	0114	70	.9		ZX
780 CULG	01	0114	0131	0155	N15	E23	.434	16108	2.8	41	-F		C	0131	120	1.4	UY	ZX
781 CULG	01	0121	0125	0134	N22	W70	.942	16093	25.8	13	-F		C	0125	60			ZX
782 CULG	01	0249	0251	0257	S15	E59	.875	16118	5.5	8	-N		C	0251	40	.8	T	ZX
783 CULG	01	0259	0315	0420	S27	E63	.924	16112	5.8	81	2N		C	0315	300	7.7	TLH	ZX
GRP75784	01	0327	0341	0353D	N03	E62	.882	16115	5.8	26	1N				190	4.0	EU	
CULG	01	0327	0341	0430	N03	E60	.865	16115	5.6	63	1N		C	0341	160	3.3	U	
TACH	01	0335E		0353	N03	E65	.906	16115	6.0	18	1N		V	0335	221		E	
GRP75785	01	0401	0404	0530	N16	E34	.587	16117	3.7	89	-F						FHK	
			0505															
CULG	01	0401	0404	0530	N17	E35	.604	16117	3.8	89	-F		C	0404	50	.7	FKH	
CULG	01	0503	0505	0530	N16	E34	.587	16117	3.8	27	-F	*	C	0505	80	1.0		
786 CULG	01	0415	0417	0422	N15	W03	.217	16104	1.0	7	-N		C	0417	120	1.2		ZX
787 CULG	01	0508	0513	0538	N03	E39	.629	16111	4.1	30	-F		C	0513	70	.9		ZX
788 CULG	01	0525	0528	0533	S05	W56	.834	16100	27.0	8	-F		C	0528	10	.2		ZX
789 CULG	01	0536	0540	0555	S28	E63	.926	16112	6.0	19	-F		C	0540	60		T	ZX
GRP75790	01	0624	0625	0650D	N07	E90	1.000	16122	8.0	26	1N						ADJV	
ABST	01	0624	0625	0644D	N06	E90	1.000	16122	8.0	20D	1N		P	0625	131		ADJV	
CATA	01	0640E	0640	0650D	N08	E90	1.000	16122	8.0	10D	1N	2	P	0640	56			
791 ABST	01	0638	0639	0644D	N18	E90	1.000	16121	8.0	6D	? N		P	0639	87		ADV	ZX
	IMP.1	NO : MANI		CATA														
GRP75792	01	0655	0657+4	0715D	S15	E58	.867	16118	5.6	20	-N						FJ	
ABST	01	0655	0657	0709D	S16	E59	.877	16118	5.7	14D	1N		P	0657	174	3.8	FJ	
MANI	01	0659E	0701	0715D	S15	E58	.867	16118	5.6	16D	-F	3	C		40		F	
GRP75793	01	0741	0745+1	0757	S14	E58	.865	16118	5.7	16	-F						DJ	
ABST	01	0741	0746	0755	S15	E58	.867	16118	5.7	14	1N		C	0746	87	2.1	DJ	
MANI	01	0745E	0745U	0757	S14	E58	.865	16118	5.7	12D	-F	3	C		30			
ISTA	01	0750E		0800	S13	E57	.855	16118	5.6	10D	-F		V				D	
GRP75794	01	0750E		0830	N23	E90	1.000	16121	8.1	40	-F						AE	
TELV	01	0744	0748	0755	N22	E90	1.000	16121	8.1	11	-N	3	C					
ISTA	01	0750E		0830	N23	E90	1.000	16121	8.1	40D	-F		V				AE	
GRP75795	01	0755>9	0818	0838	N07	E90	1.000	16122	8.1	43	-B						AJK	
			0830+0															
ISTA	01	0755		0835	N10	E90	1.000	16122	8.1	40	-B		V				AEK	
ABST	01	0810	0818	0825	N06	E90	1.000	16122	8.1	15	1N		C	0818	87		ADJ	
CATA	01	0820	0830	0840D	N07	E90	1.000	16122	8.1	20D	1B	2	P	0830	56			
KANZ	01	0830E	0830	0847	N07	E90	1.000	16122	8.1	17D	-N	1						
796 ABST	01	0810	0814	0835	N18	E36	.621	16117	4.0	25	1N		C	0814	174	2.2	EJ	ZX
797 ABST	01	0818	0821	0825	N18	E45	.727	16117	4.7	7	-F		C	0821	87	1.3	DJ	ZX
798 ABST	01	0827	0838	0843D	N17	W79	.980	16093	25.4	16D	? F		P	0838	87		FJ	ZX
	IMP.1	NO : CATA		KANZ														
799 KANZ	01	0834	0842	0853	S14	E55	.839	16118	5.5	19	-N	2						ZX
GRP75800	01	0856+4	0902+0	0930	N19	E38	.650	16117	4.2	34	-N				100	1.3	J	
ABST	01	0856	0902	0942D	N19	E38	.650	16117	4.2	46D	-B		P	0902	131	1.6	FJ	
ATHN	01	0900	0902	0918	N15	E38	.367	16117	4.2	18	-F	1		0902	66	.6		
KANZ	01	0902E		0902D	N19	E36	.626	16117	4.1		-B	2					D	

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
801 ABST	01	0921	0927	0935	S15	E58	.867	16118	5.7	14	?B		C	0927	131	2.8	EJ	ZX
	IMP.1 NO : CATA																	
802 KHAR	01	1110E		1138D	S12	E55	.835	16118	5.6	28D	-F		P	1115	110	1.7	BO	ZX
803 KHAR	01	1115E	1119	1140D	N10	E89	1.000	16122	8.1	25D	-N		P	1115	80		D	ZX
804 KHAR	01	1117	1118	1125D	N16	E31	.548	16117	3.8	8D	-F		V	1118			DH	ZX
805 KHAR	01	1145E	1148	1148D	S11	E57	.851	16118	5.8	3D	1N		V	1148			D	ZX
	01	1148	1301	NO FLARE PATROL														
806 HUAN	01	1309	1317	1321	N06	E87	.998	16122	8.1	12	-F	1	C	1317	25		D	ZX
807 HUAN	01	1354	1355	1358	N06	E87	.998	16122	8.1	4	-N	1	C	1355	20		D	ZX
808 HUAN	01	1411	1413	1418	N18	E87	.998	16121	8.1	7	-F	1	C	1413	20		D	ZX
	01	1451	1454	NO FLARE PATROL														
809 HUAN	01	1527	1529	1533	N08	E85	.996	16122	8.0	6	-N	1	C	1529	25		D	ZX
810 HUAN	01	1619	1620	1629	N19	E39	.661	16117	4.6	10	-N	2	C	1620	40	.5	E	ZX
811 HOLL	01	1748	1749	1759	S15	E53	.823	16118	5.7	11	-B	3	C		46		F	ZX
812 HOLL	01	1825	1830	1834	N18	E32	.571	16117	4.2	9	-B	3	C		19		F	ZX
813 HOLL	01	1829	1850	1851	S14	E52	.811	16118	5.7	22	-B	3	C		32			ZX
GRP75814	01	1919+0	1921+2	1933	S26	E56	.877	16112	6.0	14	-N				60	1.2		
HOLL	01	1919	1921	1935	S27	E57	.887	16112	6.1	16	-B	3	C		53		FDE	
HUAN	01	1919	1923	1931	S26	E56	.877	16112	6.0	12	-N	2	C	1923	65	1.3	E	
815 HOLL	01	2007	2012	2019	N11	E80	.984	16122	7.8	12	-N	3	C					ZX
GRP75816	01	2026+4	2030+1	2047	S27	E55	.873	16112	6.0	21	-N							
HOLL	01	2026	2031	2054	S27	E55	.873	16112	6.0	28	-B	3	C		79		F	
PALE	01	2030	2030	2040	S28	E55	.876	16112	6.0	10	-N	3	C		26		DE	
GRP75817	01	2101+1	2101+1	2115	N18	E29	.533	16117	4.1	14	-B				40	.5		
HOLL	01	2101	2101	2115	N18	E30	.546	16117	4.1	14	-B	3	C		42		DE	
PALE	01	2102	2102	2115	N19	E28	.527	16117	4.0	13	-B	3	C		39		DE	
818 PALE	01	2146	2146	2210	N19	E28	.527	16117	4.0	24	-N	3	C		22		DE	ZX
GRP75819	01	2307E	2307+1	2315	N14	W12	.280	16104	1.1	8	-B				70	.7	H	
PALE	01	2307E	2308U	2315D	N12	W12	.259	16104	1.1	8D	-B	3	C		61		DE	
MANI	01	2307E	2307U	2312	N14	W12	.280	16104	1.1	5D	-B	2	C		60			
CULG	01	2312E	2312U	2340	N16	W13	.315	16104	1.0	28D	-N		P	2312	100	1.1	H	
820 CULG	02	0200	0203	0211	S10	W70	.945	16100	26.8	11	-N		C	0203	20			ZX
821 CULG	02	0210	0211U	0211D	N19	E24	.476	16117	3.9	1D	-N		P	0211	30	.4		ZX
822 CULG	02	0222E	0222E	0255	S25	E43	.768	16112	5.3	33D	-N		P	0222	80	1.3		ZX
823 CULG	02	0222E	0224U	0241	N18	E34	.595	16117	4.6	19D	-N	*	P	0224	40	.5		ZX
824 CULG	02	0302	0305	0321	S14	E47	.761	16118	5.7	19	-F		C	0305	30	.5	T	ZX
825 CULG	02	0307	0310	0326	N09	E90	1.000	16122	8.9	19	-F		C	0310	20			ZX
GRP75826	02	0309+5	0314+3	0331	N15	W15	.327	16104	1.0	22	-N							
CULG	02	0309	0317	0340D	N16	W16	.349	16104	30.9	31D	-N		P	0317	80	.9	F	
PALE	02	0314	0314	0321	N14	W15	.317	16104	1.0	7	-N	3	C		33		DE	
	02	0328	0330	NO FLARE PATROL														
827 CULG	02	0338	0339U	0340D	N18	E34	.595	16117	4.7	20	-F		P	0339	30	.4		ZX
828 CULG	02	0439	0441	0448	S24	W22	.565	16103	30.5	9	-F		C	0441	10	.1		ZX
GRP75829	02	0453	0503+3	0534	N06	E78	.977	16122	8.1	41	1N				200		DJ	
CULG	02	0453	0503	0534	N06	E78	.977	16122	8.1	41	1F		C	0503	140			
ABST	02	0505E	0506	0511D	N07	E78	.977	16122	8.1	6D	2N		P	0506	262		DJ	

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP75830	02	0859+1	0902+0	0914	N16	W17	.362	16104	1.1	15	-B				80	.9	H	
MONT	02	0859	0902	0916	N16	W19	.387	16104	30.9	17	-N		C	0902	50		H	
ATHN	02	0900	0902	0918	N15	W18	.366	16104	1.0	18	-B	3	C		64		DE	
MANI	02	0900	0902	0910	N16	W15	.337	16104	1.3	10	-B	3	V		100			
MANI	02	0903E	0903U	0911	N16	W17	.362	16104	1.1	8D	-N	3	P		100	1.1		
831 KHAR	02	1018E		1058D	N14	W20	.385	16104	30.9	40D	-F		P	1018				ZX
832 KHAR	02	1103E		1103D	N16	E16	.349	16117	3.7		-F		P	1103	100	1.0	D	ZX
	02	1216	1225	NO FLARE PATROL														
	02	1232	1321	NO FLARE PATROL														
GRP75833	02	1406+3	1410+1	1417	N14	W20	.385	16104	1.1	11	-F						D	
LVOV	02	1406	1410	1419	N13	W20	.37E	16104	1.1	13	-N		C	1410	150	1.7	D	
HUAN	02	1409	1411	1415	N15	W20	.392	16104	1.1	6	-F	1	C	1411	25	.3	D	
	02	1520	1658	NO FLARE PATROL														
GRP75834	02	1857+2	1902+2 1912	1936	S28	E42	.776	16112	5.9	39	1B				130	2.1	H	
MCMA	02	1845E		1955	S28	E42	.776	16112	5.9	70D	1B		P	1903	125	2.1	E	
HUAN	02	1857	1904	1936	S27	E42	.770	16112	5.9	39	1N	1	C	1904	125	2.0	E	
PALE	02	1859	1902	1929	S29	E43	.789	16112	6.0	30	-B	3	C		135		H F	
RAMY	02	1912	1912	1919D	S29	E41	.773	16112	5.9	7D	1B	3	C		235		F	
835 HOLL	02	1946	1955	2004	N14	W26	.469	16104	30.9	18	-N	3	C		34		F	ZX
GRP75836	02	2010+0	2021+2	2046	N09	E65	.905	16122	7.7	36	-N				60	1.4		
HOLL	02	2010	2023	2037	N09	E66	.912	16122	7.8	27	-B	3	C		46		F	
MCMA	02	2010E	2021	2055	N10	E65	.905	16122	7.7	45D	-N		C	2021	80	1.9	E	
837 MCMA	02	2035E		2047D	N16	W26	.480	16104	30.9	12D	-F		P	2042	30	.4	D	ZX
838 BIGB	02	2149	2153	2209	S10	E00	.224		2.9	20	-F	2	C	2153	100	1.0		ZX
839 HOLL	02	2150	2153	2157	N11	E72	.950	16122	8.3	7	-B	3	C		45			ZX
840 CULG	02	2259	2311U	2354	N12	E02	.161	16126	3.1	55	-F		C	2311	60	.6	S	ZX
841 CULG	02	2314	2443	0200	S00	E35	.575	16115	5.6	166	?N		C	2443	350	4.5	FS	ZX
	IMP.1 NO : PALE																	
842 CULG	02	2339	2351	0009	S20	E29	.596	16112	5.2	30	?F		P	2351	180	2.4		ZX
	IMP.1 NO : BIGB																	
843 CULG	03	0053	0102	0140	S09	W85	.997	16100	26.7	47	-N		C	0102	60		T	ZX
844 CULG	03	0058	0106	0111	N25	E56	.849	16120	7.2	13	-N		C	0106	80	1.5		ZX
845 CULG	03	0117	0125	0145	N17	E14	.335	16117	4.1	28	-F		C	0125	90	1.0	T	ZX
846 CULG	03	0138	0141	0148	N05	E18	.310	16111	4.4	10	-F		C	0141	30	.3		ZX
847 CULG	03	0140	0152	0203	S15	E34	.619	16118	5.6	23	-F		C	0152	120	1.6		ZX
848 CULG	03	0254	0303	0337	N08	E64	.898	16122	7.9	43	1F		C	0303	130	2.6		ZX
849 CULG	03	0350	0357	0435	N08	E64	.898	16122	8.0	45	1F		C	0357	120	2.4		ZX
850 CULG	03	0400	0407	0418	N19	E13	.348	16117	4.1	18	-F		C	0407	120	1.3	T	ZX
851 CULG	03	0413	0426	0438	S17	E14	.413	16112	4.2	25	-F		C	0426	30	.4	HT	ZX
852 CULG	03	0443	0452	0524	S16	E32	.601	16118	5.6	41	-F		C	0452	130	1.7	F	ZX
853 CULG	03	0526	0533	0543	S30	E34	.724	16112	5.8	17	-N		C	0533	80	1.2		ZX
854 CULG	03	0555	0605	0613	S17	E13	.404	16112	4.2	18	-F		C	0605	50	.6	T	ZX
855 CULG	03	0603	0617	0637D	N06	E90	1.000	16123	10.0	34D	-N		C	0617	40			ZX
856 ABST	03	0703	0705	0710	N24	E90	1.000	16123	10.0	7	?N		C	0705	87		DJ	ZX
	IMP.1 NO : HTPR																	
857 HTPR	03	0940E		0955	N05	E05	.093	16111	3.8	15D	-F		C	0940	30	.3	E	ZX

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
858 KHAR	03	1024E	1024	1030D	N12	E58	.849	16122	7.8	6D	-F		V	1024			D	ZX
859 KHAR	03	1031E	1032	1038D	N10	E60	.865	16122	7.9	7D	-F		V	1032			DHL	ZX
860 KHAR	03	1058E	1100	1108D	N11	E59	.857	16122	7.9	10D	-F		V	1100			EH	ZX
GRP75861	03	1115E	1116	1133	N13	E56	.831	16122	7.7	18	-F						L	
			1128															
KHAR	03	1115E	1116	1130D	N15	E57	.842	16122	7.7	15D	-F		P	1116			DL	
KHAR	03	1127	1128	1133	N11	E55	.820	16122	7.6	6	-F	*	P	1128	65	1.0	DL	
GRP75862	03	1125E	1132	1145D	N19	E07	.298	16117	4.0	20	-F						E	
HTPR	03	1125E		1130D	N19	E08	.305	16117	4.1	5D	-F		C	1126	30	.3	E	
KHAR	03	1127E	1132	1145D	N20	E07	.313	16117	4.0	18D	-F		P	1132			E	
863 KHAR	03	1137	1138	1144	N08	W14	.255	16126	2.4	7	-F		P	1138			D	ZX
864 KHAR	03	1150		1155D	N08	W14	.255	16126	2.4	5D	-F		P	1150			D	ZX
GRP75865	03	1220+1	1222+2	1300	N08	E57	.838	16122	7.8	40	-B				110	2.0	EK	
			1230+3															
HTPR	03	1220	1230	1300	N08	E56	.828	16122	7.7	40	-B		C	1230	100	1.7	E	
TELV	03	1220	1222	1256	N15	E57	.842	16122	7.8	36	1N		C	1233	120	2.3	K	
RAMY	03	1221	1224	1227D	N09	E57	.838	16122	7.8	6D	-B	3	C		134		F	
KHAR	03	1223E	1233	1300D	N08	E57	.838	16122	7.8	37D	1N		P				E	
GRP75866	03	1527+3	1530+1	1538	N14	E01	.190	16117	3.7	11	-N							
HTPR	03	1527	1530	1540	N15	E01	.207	16117	3.7	13	-B		C	1530	180	1.8		
HUAN	03	1530	1531	1535	N14	E02	.193	16117	3.8	5	-F	1	C	1531	65	.6		
867 HTPR	03	1615	1618	1630	N09	W15	.276	16126	2.6	15	-F		C	1618	20	.2	E	ZX
868 HTPR	03	1730	1736	1750	N07	E61	.873	16122	8.3	20	-F		C	1736	10	.2		ZX
GRP75869	03	1819+4	1823	1839	N15	00	.207	16117	3.8	20	-F				50	.5		
PALE	03	1819	1823	1840	N17	E02	.243	16117	3.9	21	-N	3	C		52		DE F	
HUAN	03	1823		1837	N14	W01	.190	16117	3.7	14	-F	1	C	1824	60	.6	E	
GRP75870	03	1911	1912	1916	N15	00	.207	16117	3.8	5	-N				80	.8		
HUAN	03	1911	1912	1915	N14	W01	.190	16117	3.7	4	-N	1	C	1912	60	.6		
PALE	03	1914E	1914U	1917	N17	E02	.243	16117	4.0	3D	-N	3	C		99		DE F	
871 HUAN	03	1925		1934	N14	W02	.193	16117	3.7	9	-F	1	C	1927	30	.3	E	ZX
GRP75872	03	1958+1	2003	2019	N04	W01	.024	16111	3.8	21	-F							
PALE	03	1958	2003	2019	N05	W01	.038	16111	3.8	21	-N	3	C		51		DE F	
HUAN	03	1959		2012D	N04	W02	.038	16111	3.7	13D	-F	1	P				E	
GRP75873	03	2042+0	2045+1	2108	N17	E02	.243	16117	4.0	26	-N						J	
VORO	03	2042	2046	2108	N17	E03	.246	16117	4.1	26	1F		C	2046	206	2.1	EJ	
PALE	03	2042	2045	2108	N17	E01	.241	16117	3.9	26	-N	3	C		81		DE F	
874 VORO	03	2146	2146	2151	N17	E02	.243	16117	4.1	5	-N		C	2146	27	.3	D	ZX
875 VORO	03	2150	2153	2202	N14	W40	.656	16104	30.9	12	-N		C	2153	108	1.4	E	ZX
GRP75876	03	2208+4	2210+0	2215	N14	W02	.193	16117	3.8	7	-N				90	.9	EHU	
CULG	03	2208	2210	2214	N16	W03	.229	16117	3.7	6	-B		C	2210	100	1.0	H	
PALE	03	2209	2210	2216	N14	W02	.193	16117	3.8	7	-N	3	C		79		U H	
VORO	03	2212		2215	N13	W02	.176	16117	3.8	3	-N		P	2212	90	.9	ECH	
GRP75877	03	2225+7	2231+4	2259	N07	E55	.818	16122	8.1	34	-N				30	.5	D	
CULG	03	2225	2231	2340	N07	E55	.818	16122	8.1	75	-N	*	C	2231	40	.7		
VORO	03	2229	2235	2254	N07	E56	.828	16122	8.1	25	-N	*	C	2235	27	.4	D	
PALE	03	2232	2232	2259	N07	E55	.818	16122	8.1	27	-N	*	C		21			
878 CULG	03	2228	2235	2248	N09	E35	.578	16119	6.6	20	-F		C	2235	30	.5	T	ZX
879 CULG	03	2241	2252	2310	S30	E25	.653	16112	5.8	29	-N		C	2252	50	.7		ZX
GRP75880	03	2255+9	2308+4	2337	N04	W02	.038	16111	3.8	42	2N				550	5.5	FGIL	
CULG	03	2255	2308	2349	N05	W04	.077	16111	3.7	54	2B	*	C	2308	550	5.7	FI	
VORO	03	2301	2312	2337	N04	W02	.038	16111	3.8	36	2F	*	C	2312	556	5.6	EGL	
PALE	03	2304	2309U	2333	N03	W02	.035	16111	3.8	29	-N	*	C		158		F	
881 CULG	03	2257	2306	2321	N16	E79	.980	16123	9.9	24	-F	*	C	2306	40			ZX

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRP75882	03	2257+2	2303+2	2318	N18	00	.258	16117	4.0	21	-N				70	.7	E	
CULG	03	2257	2303	2320	N19	W01	.275	16117	3.9	23	-N		C	2303	80	.8		
VORO	03	2259	2305	2316	N18	E00	.258	16117	4.0	17	-N		C	2305	72	.7	E	
883 CULG	03	2331	2332	2350	N09	E35	.578	16119	6.6	19	-N		C	2332	40	.5	T	ZX
GRP75884	03	2354>9	0005+2	0021	N09	E50	.766	16122	7.7	27	-F				50	.8		
HOLL	04	0006	0007	0022	N09	E51	.777	16122	7.8	16	-N	3	C		31			
CULG	03	2354	2405	0020	N09	E50	.766	16122	7.7	26	-F		C	2405	70	1.2		
885 CULG	04	0035	0037	0057D	S30	E81	.994	16125	10.1	22D	-N		C	0037	40		WT	ZX
	04	0107	0120	NO FLARE PATROL														
GRP75886	04	0203	0221	0320	N07	E44	.694	16122	7.4	77	2N						IJ	
CULG	04	0203	0221	0320	N08	E45	.707	16122	7.5	77	2N		C	0221	490	7.1	FI	
VORO	04	0210E		0217D	N06	E44	.642	16122	7.4	7D	1F		P	0217	179	2.5	EJ	
887 CULG	04	0238	0242	0301	S30	E80	.992	16125	10.1	23	-B		C	0242	30		WT	ZX
888 PALE	04	0421	0421	0431	N07	E50	.765	16122	7.9	10	-N	3	C		43		FDE	ZX
889 CULG	04	0524E	0531	0546	S18	E85	.998	16124	10.6	22D	-N		C	0531	20			ZX
890 CULG	04	0553	0556	0621	S32	E80	.993	16125	10.2	28	-F		C	0556	40		K	ZX
GRP75891	04	0601+7	0609+4	0647	N08	E47	.731	16122	7.8	46	1B				240	3.5	EL	
CULG	04	0601	0609	0621D	N08	E46	.719	16122	7.7	20D	1B		C	0609	320	5.0	L	
CATA	04	0605E	0613	0630D	N07	E47	.731	16122	7.8	25D	1B	2	P	0613	281	4.2		
HTPR	04	0606E		0635D	N08	E45	.707	16122	7.6	29D	1B		C	0608	220	3.1	E	
MITK	04	0608		0649D	N09	E49	.755	16122	7.9	41D	1N		C	0609	210	3.3	E	
ATHN	04	0615E	0615	0645	N07	E47	.919	16122	7.8	30D	-N	1		0615	82	1.0		
GRP75892	04	0615+0	0615+3	0713	S17	E83	.995	16124	10.5	58	-N				40		DK	
			0701															
ATHN	04	0615E	0615	0636	S20	E78	.984	16124	10.1	21D	-N	*		0615	33	1.3		
HTPR	04	0615	0618	0715	S16	E80	.988	16124	10.3	60	-B	*	C	0618	60			
CULG	04	0615	0618	0621D	S18	E85	.998	16124	10.6	6D	-N	*	C	0618	40			
ISTA	04	0645E		0825	S14	E83	.995	16124	10.5	100D	-N	*	V				DK	
MONT	04	0654E	0701	0711	S16	E86	.999	16124	10.7	17D	-F	*	C	0701	40		D	
GRP75893	04	0730>9	0743+2	0753	S16	E80	.988	16124	10.3	23	-N				30			
HTPR	04	0730	0743	0750	S16	E80	.988	16124	10.3	20	-N	*	C	0743	30			
CATA	04	0745	0745	0755	S16	E80	.988	16124	10.3	10	-B	*	C	0745	28			
GRP75894	04	0752+6	0758+1	0836	N17	W02	.241	16117	4.2	44	-F						EKU	
			0819															
TELV	04	0752	0759	0844	N17	W06	.259	16117	3.9	52	1F		C	0820	245	2.5	KU	
HTPR	04	0753	0758	0830	N18	E01	.256	16117	4.4	37	-F		C	0758	20	.2	E	
MONT	04	0755	0819	0841	N18	W03	.261	16117	4.1	46	-N		C	0819	110		E	
ISTA	04	0758		0815	N17	W01	.239	16117	4.3	17	-N		V				E	
GRP75895	04	0805+5	0815+3	0824	S16	E80	.988	16124	10.3	19	-N				50		D	
YUNN	04	0805	0815	0830	S16	E80	.988	16124	10.3	25	1N	*	C		64			
HTPR	04	0806	0816	0824	S16	E79	.986	16124	10.3	18	-B	*	C	0816	40			
MONT	04	0810	0818	0822	S16	E86	.999	16124	10.8	12	-F	*	C	0818	40		D	
GRP75896	04	0829+6	0845>9	0947	N08	E46	.719	16122	7.8	78	1B				170	2.5	EI	
			0937															
HTPR	04	0829	0903	0955	N08	E44	.695	16122	7.7	86	1B	*	C	0903	160	2.3	EI	
ATHN	04	0830	0850	0922	N07	E45	.905	16122	7.7	52	1B	4	C		143			
ISTA	04	0830	0855	0930	N09	E50	.766	16122	8.1	60	1B	*	V				F	
MONT	04	0834	0855	0958	N08	E47	.731	16122	7.9	84	-N	*	C	0855	150			
CATA	04	0835	0845	0940D	N09	E45	.708	16122	7.7	65D	1B	*	P	0845	224	3.2		
KHAR	04	0850E	0858	0955D	N07	E46	.719	16122	7.8	65D	1B	*	P	0904	165	2.6	E	
YUNN	04	0935	0937	1008	N07	E46	.719	16122	7.8	33	1B	*	C		193			
ZURI	04	0939E	0939	0941D	N05	E46	.718	16122	7.9	2D	1N	*	P	0939	150	2.3		
897 YUNN	04	0937	0940	1000	S28	E84	.998	16125	10.7	23	?N		C		94			ZX
	IMP.1	NO :	HTPR	CATA	MONT	TELV	ZURI											

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRP75898	04	0939+8	0954+4 1004+1	1045	N17	W43	.700	16104	1.2	66	1N				360	5.1	GJ	
TELV	04	0939	1004	1100	N15	W44	.706	16104	1.1	81	1B		C	1004	300	4.3		
YUNN	04	0940	0954	1045	N17	W42	.688	16104	1.3	65	2N		C		482			
KHAR	04	0945E		0955D	N17	W44	.711	16104	1.1	10D	1F		P				E	
MONT	04	0947	0958	1041	N16	W42	.685	16104	1.3	54	1N		C	0958	250			
CATA	04	0950E	1005	1025D	N18	W43	.703	16104	1.2	35D	2N	2	P	1005	393	5.6		
ABST	04	1033E	1036	1045D	N20	W40	.675	16104	1.4	12D	1N		P	1036	174	2.5	FJG	
GRP75899	04	1028>9	1041+1	1102	N15	W07	.237	16117	3.9	34	-F				140	1.4	EJU	
TELV	04	1028	1042	1102	N15	W10	.265	16117	3.7	34	-F		C	1042	120	1.2	U	
ABST	04	1038	1041	1045D	N16	W04	.232	16117	4.1	7D	-N		P	1041	174	1.9	EJ	
900 RAMY	04	1134E	1137	1140D	S28	E79	.990	16125	10.4	6D	-B	3	V		60			ZX
	04	1145	1150	NO FLARE PATROL														
901 ZURI	04	1150E	1151	1151D	S17	E78	.983	16124	10.3	1D	-N		P	1151	50			ZX
	04	1151	1154	NO FLARE PATROL														
	04	1300	1326	NO FLARE PATROL														
902 MCMA	04	1343	1344	1347	N17	E47	.745	16121	8.1	4	-F		C	1344	40	.6	D	ZX
903 MCMA	04	1349	1358	1420	N10	E46	.721	16122	8.0	31	-N		C	1358	25	.4	D	ZX
904 MCMA	04	1411	1412	1427	N16	W08	.260	16117	4.0	16	-N		C	1412	40	.4	E	ZX
905 MCMA	04	1412	1414	1447	N13	W23	.419	16126	2.9	35	-F		C	1414	60	.7	E	ZX
GRP75906	04	1441+1	1443+2	1506	N10	E44	.697	16122	7.9	25	-B				70	1.0	E	
RAMY	04	1441	1443	1445D	N11	E44	.698	16122	7.9	4D	-B	3	V		68			
MCMA	04	1441	1443	1505	N10	E44	.697	16122	7.9	24	-B		C	1443	60	.9	E	
HUAN	04	1442		1445D	N10	E44	.697	16122	7.9	3D	-N	2	P	1443	45	.6	E	
HOLL	04	1442	1445	1506	N11	E44	.698	16122	7.9	24	-B	3	C		79		OE	
ZURI	04	1443E	1443	1459D	N10	E43	.685	16122	7.8	16D	1N		P	1443	180	2.6		
907 MCMA	04	1606	1609	1622	N14	W50	.772	16104	30.9	16	-N		C	1609	50	.8	DH	ZX
GRP75908	04	1635+1	1637+2	1647	N13	W50	.770	16104	30.9	12	-F				30	.5		
MCMA	04	1635	1639	1650	N14	W50	.772	16104	30.9	15	-N		C	1639	40	.7	E	
HUAN	04	1636	1637	1643	N13	W51	.781	16104	30.9	7	-F	1	C	1637	20	.3	D	
GRP75909	04	1639+3	1644	1659	N08	E43	.683	16122	7.9	20	-F				30	.4	E	
MCMA	04	1639	1644	1659	N09	E44	.696	16122	8.0	20	-N		C	1644	30	.4	E	
HUAN	04	1642		1644D	N08	E43	.683	16122	7.9	2D	-F	1	P	1642	30	.4	E	
910 MCMA	04	1701	1715	1730	S28	E16	.570	16112	5.9	29	-N		C	1715	60	.7	E	ZX
911 MCMA	04	1712	1745	1902	N16	W13	.311	16117	3.7	110	-N		C	1745	125	1.4	EF	ZX
912 MCMA	04	1750	1753	1756D	S29	E76	.983	16125	10.4	6D	-N		C	1753	20	.9	D	ZX
	04	1804	1811	NO FLARE PATROL														
GRP75913	04	1903+4	1920+3 1942	2110	N11	E36	.595	16122	7.5	127	1B				370	4.6	ILY	
MCMA	04	1903	1942	2120D	N13	E35	.587	16122	7.4	137D	2B		C	1942	500	6.3	FILY	
HUAN	04	1904		1908D	N08	E43	.683	16122	8.0	4D	-F	1	P				E	
RAMY	04	1905	1920	1922D	N11	E39	.635	16122	7.7	17D	2B	3	V		482		F	
PALE	04	1907	1923	2059	N10	E33	.551	16122	7.3	112	1B	3	C		270		FOE	
HUAN	04	1917E		1943D	N14	E33	.564	16122	7.3	26D	1N	1	P	1934	290	3.5	OE	
GRP75914	04	1937+3	1942+1	1950	S28	E69	.957	16125	10.0	21	-B				50		E	
PALE	04	1937E	1943U	1955	S28	E70	.961	16125	10.1	18D	-B	3	C		35		F	
MCMA	04	1937	1942	2001	S31	E71	.968	16125	10.1	24	-B		C	1942	40	1.6	E	
HUAN	04	1937		1943D	S29	E69	.958	16125	10.0	6D	-N	1	P				E	
RAMY	04	1940	1943	1945D	S27	E69	.956	16125	10.0	5D	-B	3	V		58			
915 CULG	04	2151E	2151U	2338	N10	E30	.508	16119	7.2	107D	?N		P	2232	340	4.4	IBF	ZX
	IMP.1	NO ; PALE																
916 PALE	04	2216	2217	2222	N20	E65	.910	16123	9.8	6	-N	3	C		23		U F	ZX
917 CULG	04	2232E	2232U	2234	N07	E41	.656	16122	8.0	2D	-N		C	2232	130	1.7		ZX

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRP75918	05	0649+8	0654+5	0727	S29	E11	.559	16112	6.1	38	1N				190	2.3	E	
MITK	05	0649E	0656	0735D	S29	E12	.563	16112	6.2	46D	-N		C	0656			E	
HTPR	05	0650	0654	0715	S27	E10	.527	16112	6.0	25	-N		C	0654	180	2.0	E	
MONT	05	0651	0656	0706D	S30	E14	.586	16112	6.3	15D	1N		C	0656	250			
ATHN	05	0657	0659	0719	S31	E03	.565	16112	5.5	22	-N	1		0659	98	1.1		
CATA	05	0700E	0700	0740D	S29	E12	.563	16112	6.2	40D	1N	2	P	0700	196	2.4		
GRP75919	05	0744+0	0745 0752	0804	N19	W15	.366	16117	4.2	20	-F						E	
YUNN	05	0744	0745	0800	N20	W15	.378	16117	4.2	16	1F		C		177			
KANZ	05	0744E	0752	0804	N19	W15	.366	16117	4.2	20D	-F	2						
MONT	05	0757E	0757	0810	N19	W14	.356	16117	4.3	13D	-F		C	0757	50		E	
GRP75920	05	0927+1	0931+0	1018	S14	E02	.299	16118	5.5	51	-N				80	.8	E	
KANZ	05	0927	0931	1004D	S15	E03	.318	16118	5.6	37D	-N	2						
HTPR	05	0928		1001D	S14	E02	.299	16118	5.5	33D	-N		C	0933	70	.7	E	
MONT	05	0928	0931	1018	S14	E02	.299	16118	5.5	50	-N		C	0931	100			
GRP75921	05	0929+2	0931+2	0940	S18	W14	.428	16112	4.3	11	-F				50	.6	E	
HTPR	05	0929	0933	0940	S18	W14	.428	16112	4.3	11	-F		C	0933	50	.6	E	
MONT	05	0930	0931	0941	S17	W14	.415	16112	4.3	11	-F		C	0931	50		E	
KANZ	05	0931	0931	0939	S18	W14	.428	16112	4.3	8	-F	2						
922 MCMA	05	1428	1432	1436	S29	E66	.945	16125	10.6	8	-F		C	1432	30	.8	E	ZX
GRP75923	05	1758+3	1802+1	1819	S14	W03	.301	16118	5.5	21	-B				70	.7		
MCMA	05	1758E	1803	1820	S14	W03	.301	16118	5.5	22D	-B		C	1803	70	.8	E	
PALE	05	1801	1802	1817	S14	W03	.301	16118	5.5	16	-B	3	C		65		F	
GRP75924	05	1834+2	1834+4	1855	S28	E61	.916	16125	10.3	21	-N				30			
MCMA	05	1834	1835	1855	S29	E62	.924	16125	10.4	21	-N		C	1835	25	.7	D	
PALE	05	1834	1834	1840	S28	E58	.898	16125	10.1	6	-N	3	C		29			
HOLL	05	1836	1838	1857	S27	E61	.914	16125	10.4	21	-B	3	C		27		F	
GRP75925	05	1952+1	1954+3	2020	S28	E60	.910	16125	10.3	28	-N				50	1.2		
MCMA	05	1952	1957	2020	S29	E60	.913	16125	10.3	28	-N		C	1957	50	1.3	E	
HOLL	05	1952	1954	2032	S28	E59	.904	16125	10.3	40	-B	3	C		52		F	
BIGB	05	1953	1954	2007	S25	E60	.904	16125	10.3	14	1N	2	C	1954	140	2.9		
GRP75926	05	2025+2	2036+0	2109	N21	E52	.804	16123	9.8	44	1N				130	2.2		
HOLL	05	2025	2036	2109	N22	E52	.806	16123	9.8	44	1B	3	C		163		F	
MCMA	05	2027	2036	2103D	N21	E53	.814	16123	9.8	36D	-N		C	2036	100	1.7	E	
GRP75927	05	2116+1	2116+1	2127	N16	W26	.478	16117	3.9	11	-N				20	.2	F	
PALE	05	2116	2116	2124D	N16	W26	.478	16117	3.9	8D	-N	3	C		19		F	
HOLL	05	2117	2117	2127	N16	W26	.478	16117	3.9	10	-B	3	C		24		F	
928 HOLL	05	2129	2131	2140	N16	W42	.685	16108	2.7	11	-B	3	C		43			ZX
GRP75929	05	2144+5	2152+2 2203	2253	N15	W33	.567	16117	3.4	69	-N				130	1.6	FU	
HOLL	05	2144	2154	2303	N15	W33	.567	16117	3.4	79	-B	3	C		115		U F	
HOLL	05	2144	2203	2303	N15	W33	.567	16117	3.4	79	-N	3	C		61		U F	
BIGB	05	2149	2152	2216	N13	W33	.560	16117	3.4	27	-N	2	P	2152	150	1.8		
BIGB	05	2213	2223	2258	N16	W37	.623	16117	3.2	45	-B	2	C	2223	130	1.7		
PALE	05	2235	2235	2244	N16	W28	.505	16117	3.8	9	-N	3	C		42		F	
PALE	05	2245	2245	2248	N16	W28	.505	16117	3.8	3	-N	3	C		32		F	
930 HOLL	05	2221	2229	2236	S26	E55	.872	16125	10.1	15	-B	3	C		82			ZX
931 HOLL	05	2321	2323	2333	N15	W65	.906	16104	1.1	12	-N	3	C		14			ZX
GRP75932	06	0007+0	0017 0024	0038	S16	W04	.339	16118	5.7	31	-N						F	
BIGB	06	0007	0017	0045	S17	W04	.355	16118	5.7	38	-N	2	C	0017	90	.9		
HOLL	06	0007	0024	0031	S16	W04	.339	16118	5.7	24	-B	3	C		34		F	
GRP75933	06	0025+0	0028+1	0037	N15	W68	.926	16104	30.9	12	-N							
HOLL	06	0025	0028	0037	N15	W68	.926	16104	30.9	12	-B	3	C		24			
BIGB	06	0025	0029	0037	N15	W68	.926	16104	30.9	12	-N	2	C	0029	60			
934 HOLL	06	0132	0134	0200D	N18	W27	.503	16117	4.0	28D	-B	2	C		96		F	ZX
935 ABST	06	0454E	0454	0458D	S17	W07	.367	16118	5.7	4D	-F		P	0454	140	1.5	BEJ	ZX
936 CATA	06	0750	0825	0915	S30	E44	.806	16125	9.6	85	?B	2	C	0825	281	4.8		ZX

IMP.1 NO : HTPR

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
937 MCMA	06	1401E	1401	1406	N13	E16	.317	16122	7.8	50	-F		C	1401	50	.5	EL	ZX
GRP75938	06	1432+2	1437+4	1459	N22	E43	.715	16123	9.8	27	-N				35	.5		
MCMA	06	1432	1437	1503	N22	E45	.736	16123	10.0	31	-N		C	1437	40	.6	E	
HOLL	06	1434	1441	1455	N22	E42	.704	16123	9.8	21	-B	3	C		30		F	
GRP75939	06	1459+1	1500+1	1509	S30	W05	.555	16112	6.2	10	-F				45	.5	E	
BIGB	06	1459	1500	1510	S31	W05	.570	16112	6.2	11	-N	2	C	1500	60	.6		
HTPR	06	1500	1501	1507	S30	W06	.557	16112	6.2	7	-F		C	1501	30	.3	E	
GRP75940	06	1604+1	1606 1614	1621	N18	W36	.618	16117	4.0	17	-F						E	
MCMA	06	1604	1614	1630D	N18	W36	.618	16117	4.0	26D	-F		C	1614	50	.7	E	
HOLL	06	1605	1606	1611	N18	W37	.630	16117	3.9	6	-N	3	C		20			
941 MCMA	06	1605E	1618	1643D	S15	W15	.401	16118	5.5	38D	-N		C	1618	60	.7	E	ZX
942 MCMA	06	1642	1647	1656D	N09	E13	.243	16122	7.7	14D	-F		C	1647	20	.2	D	ZX
943 BIGB	06	1724	1725	1728	N12	W77	.973	16104	31.0	4	-F	2	C	1725	40		A	ZX
944 HOLL	06	1817	1818	1825	N22	E40	.682	16123	9.8	8	-N	3	C		37			ZX
945 MCMA	06	1843	1844	1856	S18	W13	.422	16118	5.8	13	-N		C	1844	50	.6	E	ZX
946 HOLL	06	2019	2031U	2050	N22	E41	.693	16123	9.9	31	-B	3	C		85			ZX
947 BIGB	06	2121	2123	2131	N15	W80	.983	16104	30.9	10	-F	2	C	2123	40		A	ZX
948 HOLL	06	2142	2143	2207	N12	E13	.267	16122	7.9	25	-N	3	C		29			ZX
949 HOLL	06	2214	2214	2229D	S27	E42	.773	16125	10.1	15D	-N	3	C		26		F	ZX
950 PURP	07	0250	0300	0320	N11	W07	.177	16119	6.6	30	? N		C				G	ZX
	IMP.1	NO :	CULG	PALE														
GRP75951	07	0438+6	0438 0448	0516	N17	W54	.815	16117	3.1	38	1N						E	
PURP	07	0438E	0438	0450	N17	W47	.743	16117	3.7	12D	1N		P					
TACH	07	0444	0448	0516	N18	W54	.817	16117	3.1	32	1B		C	0448	177	3.1	E	
MITK	07	0457	0500	0520D	N17	W54	.815	16117	3.2	23D	1N		C	0500	130	2.2	E	
GRP75952	07	0744+1	0752 0819	0859	S30	E45	.814	16125	10.7	75	1N						EH	
MITK	07	0744E	0752	0825	S30	E45	.814	16125	10.7	41D	1N		C	0752	170	2.8	E	
BUCA	07	0745		0811D	S28	E42	.780	16125	10.5	26D	-N		C	0800	107	1.7	E	
ISTA	07	0802E		0840D	S30	E46	.822	16125	10.8	38D	1B		V				F	
MONT	07	0816E	0819	0918	S29	E43	.793	16125	10.6	62D	1B		C	0819	300		H	
ZURI	07	0845E	0858	0930	S32	E49	.852	16125	11.0	45D	-F		P	0858	90	1.8		
953 ZURI	07	1028	1032	1038	S28	W17	.581	16112	6.2	10	-F		C	1032	100	1.3		ZX
GRP75954	07	1122+1	1123+1	1130	N28	E55	.845	16127	11.6	8	-N				30	.6	DH	
MCMA	07	1122	1124	1130	N28	E58	.869	16127	11.8	8	-N		C	1124	25	.5	DH	
RAMY	07	1123	1123	1129	N29	E52	.824	16127	11.4	6	-B	3	C		30			
GRP75955	07	1135+1	1140+2	1150	S16	E38	.673	16124	10.3	15	-N						E	
CATA	07	1135	1140	1150D	S17	E38	.679	16124	10.3	15D	-N	2	P	1140	140	1.9		
MCMA	07	1136	1142	1150	S16	E38	.673	16124	10.3	14	-N		C	1142	50	.7	E	
GRP75956	07	1257+0	1259+1	1312	N04	W48	.742	16111	3.9	15	-B						D	
RAMY	07	1257	1300	1313	N04	W48	.742	16111	3.9	16	-B	3	C		145			
MCMA	07	1257	1259	1310	N05	W48	.742	16111	3.9	13	-B		C	1259	50	.8	D	
957 HOLL	07	1531	1532	1544	S27	E38	.740	16125	10.5	13	-N	3	C		21			ZX
958 HOLL	07	1531	1534	1541	S14	W28	.542	16118	5.5	10	-N	*	C		22			ZX
959 HOLL	07	1942	1951	2006	S23	W41	.743	16112	4.7	24	-B	3	C		39		F	ZX
GRP75960	07	2200+2	2205+4	2221	S16	E30	.581	16124	10.2	21	-N				80	1.0		
VORO	07	2200		2227	S15	E30	.574	16124	10.2	27	1F		P	2219	224	2.8	E	
PALE	07	2201	2205	2220	S17	E30	.588	16124	10.2	19	-B	3	C		67		DE F	
BIGB	07	2202	2209	2221	S16	E31	.592	16124	10.2	19	-B	2	C	2209	100	1.2		

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRP75961	07	2220+9	2230+5	2252	N10	W11	.220	16119	7.1	32	-N				70	.7	EH	
VORO	07	2220	2234	2252	N10	W11	.220	16119	7.1	32	1F		P	2234	448	4.7	EH	
BIGB	07	2220	2235	2300	N10	W12	.235	16119	7.0	40	-N	2	C	2235	70	1.2		
PALE	07	2229	2230	2235	N08	W09	.174	16119	7.3	6	-N	3	C		47		F	
MITK	07	2239		2252	N11	W13	.257	16119	7.0	13	-N		P	2239			E	
962 VORO	07	2233	2234	2247	N07	W55	.818	16111	3.8	14	?F		C	2234	134	2.3	DG	ZX
	IMP.1	NO : BIGB		PALE														
GRP75963	08	0009+1	0017	0101	S15	E30	.574	16124	10.3	52	1N							
			0033															
PALE	08	0009	0033	0042	S17	E30	.589	16124	10.3	33	-N	3	C		44		DE	
BIGB	08	0010	0017	0101E	S15	E30	.574	16124	10.3	51D	1B	2	P	0017	210	2.5		
YUNN	08	0054	0055	0103	S15	E30	.574	16124	10.3	9	1F		C		209			
964 PALE	08	0105	0105	0108	N20	E22	.454	16123	9.7	3	-N	3	C		22		DE	ZX
965 VORO	08	0158E		0232	N21	E24	.486	16123	9.9	34D	?F		P	0159	206	2.3	CEJ	ZX
	IMP.1	NO : PALE		CULG														
966 ABST	08	0518	0522	0525	S17	E25	.532	16124	10.1	7	-F		C	0522	87	1.1	EJ	ZX
967 ABST	08	0545	0547	0550	N22	E46	.746	16127	11.7	5	-F		C	0547	87	1.2	DJ	ZX
968 ISTA	08	0655		0710	S15	E28	.550	16124	10.4	15	-N		V				E	ZX
GRP75969	08	0704	0705	0710	N26	E45	.750	16127	11.7	6	1N				190	2.9	EJV	
ABST	08	0704	0705	0710	N27	E46	.763	16127	11.7	6	1N		C	0705	174	2.5	EJV	
YUNN	08	0708	0708	0710	N26	E44	.740	16127	11.6	2	1F		C		225			
970 ISTA	08	0832		0840	N22	E18	.428	16123	9.7	8	-F		V				D	ZX
971 ABST	08	0852	0854	0900	N27	E46	.763	16127	11.8	8	-N		C	0854	131	1.8	EJ	ZX
972 YUNN	08	1035	1035	1045	N26	E42	.720	16127	11.6	10	?N		C		273			ZX
	IMP.1	NO : CATA																
GRP75973	08	1040+5	1044+1	1100	N11	W05	.155	16122	8.1	20	-N				130	1.3		
TELV	08	1040	1044	1059	N12	W06	.179	16122	8.0	19	-N		C	1044	120	1.2		
CATA	08	1045	1045	1100	N11	W04	.146	16122	8.1	15	-N	2	C	1045	140	1.4		
974 CATA	08	1105	1115	1120	N11	W08	.188	16122	7.9	15	-N	2	C	1115	56	.6		ZX
GRP75975	08	1130	1139	1224	N18	E14	.340	16123	9.5	54	1N				320	3.4	EU	
TELV	08	1130	1139	1218	N19	E10	.313	16123	9.2	48	1N		C	1139	360	3.8	U	
MCMA	08	1136E		1230D	N18	E15	.351	16123	9.6	54D	-N		C	1155	125	1.4	E	
CATA	08	1145E	1145	1157D	N17	E14	.329	16123	9.5	12D	1B	2	P	1145	281	3.0		
	08	1230	1237	NO FLARE PATROL														
GRP75976	08	1340	1341	1348D	N28	E41	.719	16127	11.6	8	-N						EU	
MCMA	08	1340	1341	1348	N28	E43	.739	16127	11.8	8	-N		C	1341	30	.4	E	
HOLL	08	1344E	1344U	1429	N29	E40	.715	16127	11.6	45D	-B	3	C		184		UDE	
GRP75977	08	1428+1	1433+4	1532	S28	E25	.639	16125	10.5	64	1B				170	2.2	U	
			1444+6															
HOLL	08	1428	1433	1531	S28	E21	.609	16125	10.2	63	-B	3	C		167		UDE	
MCMA	08	1429	1450	1530D	S30	E27	.674	16125	10.6	61D	-N		C	1450	100	1.4	E	
RAMY	08	1431E	1437U	1532	S28	E25	.639	16125	10.5	61D	-B	2	C		171		U F	
KANZ	08	1441E	1444	1500D	S28	E25	.639	16125	10.5	19D	-N	1						
GRP75978	08	1529+3	1532+1	1543	N28	E39	.700	16127	11.6	14	-N				35	.5	F	
KANZ	08	1529	1533	1543	N27	E39	.694	16127	11.6	14	-F	2						
HOLL	08	1531	1533	1543	N29	E39	.705	16127	11.6	12	-B	3	C		41		F	
RAMY	08	1532	1532	1537	N28	E40	.710	16127	11.6	5	-N	2	C		25			
GRP75979	08	1641+5	1647+1	1701	S28	W51	.851	16112	4.9	20	-N				70	1.3		
BIGB	08	1641	1647	1700	S29	W50	.848	16112	4.9	19	-N	1	P	1647	100	1.6		
RAMY	08	1646	1648	1702	S27	W52	.855	16112	4.8	16	-N	2	C		45			
GRP75980	08	1717+0	1718+0	1743	N10	W82	.989	16126	2.6	26	-N							
			1734															
MCMA	08	1717	1718	1725D	N11	W82	.989	16126	2.6	8D	-F		C	1718			E	
HOLL	08	1717	1718	1747	N10	W80	.983	16126	2.7	30	-B	3	C				F	
RAMY	08	1729	1734	1739	N09	W82	.989	16126	2.6	10	-N	2	C		19			

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRP75981	08	1722>9	1747	1806	N29	E38	.696	16127	11.6	44	-N				30	.4	F	
			1756+3															
PALE	08	1722	1756	1803	N27	E36	.664	16127	11.4	41	-N	*	C		24		F	
HOLL	08	1738	1759	1810	N29	E38	.696	16127	11.6	32	-B	*	C		39			
RAMY	08	1745	1747	1806	N29	E38	.696	16127	11.6	21	-N	*	C		23			
GRP75982	08	1723+6	1727+2	1740	N23	E16	.420	16123	9.9	17	-N				30	.3	E	
MCMA	08	1723		1749D	N23	E16	.420	16123	9.9	26D	-F		P	1725	25	.3	E	
HOLL	08	1726	1727	1737	N22	E15	.398	16123	9.9	11	-N	3	C		26			
RAMY	08	1729	1729	1740	N23	E17	.429	16123	10.0	11	-N	3	C		40			
GRP75983	08	1833+0	1835+1	1843	N28	E36	.670	16127	11.5	10	-N				20	.3	F	
PALE	08	1833	1835	1842	N27	E35	.653	16127	11.4	9	-N	3	C		18		F	
HOLL	08	1833	1836	1844	N29	E37	.686	16127	11.5	11	-B	3	C		24			
GRP75984	08	1849+1	1853+1	1910	N23	W17	.429	16120	7.5	21	-N				100	1.1	F	
BIGB	08	1849	1853	1911	N24	W18	.451	16120	7.4	22	-N	1	P	1853	130	1.4		
HOLL	08	1850	1854	1908	N23	W17	.429	16120	7.5	18	-N	3	C		82		F	
985 BIGB	08	1918	1921	1954	S33	W34	.752	16112	6.3	36	-B	2	C	1921	120	1.5	G	ZX
986 HOLL	08	1926	1930	1942	N23	W17	.429	16120	7.5	16	-N	3	C		26			ZX
987 HOLL	08	1949	1953	2004	S25	W55	.870	16112	4.7	15	-N	*	C		22			ZX
GRP75988	08	2008+4	2028+2	2115	N29	E38	.696	16127	11.7	67	1B				320	4.5	GKZ	
PALE	08	2008	2030	2112	N27	E35	.653	16127	11.5	64	1B	3	C		335		DE F	
HOLL	08	2012	2030	2116	N29	E38	.696	16127	11.7	64	1B	3	C		348		ZDE	
RAMY	08	2012	2028	2101D	N29	E38	.696	16127	11.7	49D	1B	3	C		214			
BIGB	08	2027	2029	2115	N31	E38	.708	16127	11.7	48	1B	2	P	2029	390	3.8	GK	
989 RAMY	08	2012	2023	2047	S24	W56	.875	16112	4.6	35	-B	3	C		38			ZX
GRP75990	08	2151+1	2152+1	2201	N29	E33	.647	16127	11.4	10	-B				30	.4	GK	
BIGB	08	2151	2153	2200	N29	E33	.647	16127	11.4	9	-B	2	P	2153	90	1.1	GK	
PALE	08	2152E	2153U	2201D	N27	E34	.643	16127	11.5	9D	-N	3	C		32		DE	
HOLL	08	2152	2152	2208	N30	E33	.654	16127	11.4	16	-B	3	C		19			
GRP75991	08	2200+1	2209+5	2313	N09	W13	.242	16122	7.9	73	-B				110	1.1		
			2222															
BIGB	08	2200	2222	2313	N09	W12	.226	16122	8.0	73	-B	2	P	2222	170	1.8		
PALE	08	2201E	2209U	2242D	N09	W13	.242	16122	7.9	41D	-N	3	C		79		FDE	
HOLL	08	2201	2214	2258	N08	W13	.236	16122	7.9	57	-B	3	C		143		F	
BIGB	08	2252	2255	2329	N11	W14	.271	16122	7.9	37	-B	2	C	2255	50	.5		
GRP75992	08	2217+5	2223+1	2229	N28	E37	.680	16127	11.7	12	-B				110	1.5	G	
CULG	08	2217	2223	2230	N28	E38	.690	16127	11.8	13	1N		C	2223	140	2.0	T	
PALE	08	2218E	2224U	2236D	N27	E33	.633	16127	11.4	18D	-B	3	C		96		DE	
HOLL	08	2220	2224	2228	N29	E37	.686	16127	11.7	8	-B	3	C		43		DE	
BIGB	08	2222	2223	2227	N29	E37	.686	16127	11.7	5	-B	2	C	2223	120	1.5	G	
993 CULG	09	0000	0008	0023	N09	W15	.272	16122	7.9	23	-F		C	0008	60	.6		ZX
994 CULG	09	0018	0025	0112	N13	W73	.954	16117	3.5	54	-F		C	0025	30			ZX
995 PALE	09	0033E	0035U	0100D	N27	E32	.622	16127	11.4	27D	-N	3	C		46		DE	ZX
996 CULG	09	0033	0042	0101	N10	W35	.578	16119	6.4	28	-F		C	0042	60	.7	F	ZX
GRP75997	09	0036+0	0038+0	0112	N22	E11	.361	16123	9.8	36	-N						J	
CULG	09	0036	0038	0112	N23	E12	.383	16123	9.9	36	-N		C	0038	70	.8	J	
BIGB	09	0036	0038	0059E	N22	E10	.354	16123	9.8	23D	-N	1	P	0038	180	1.8		
998 CULG	09	0123	0126	0134D	N10	W34	.564	16119	6.5	11D	-N		C	0126	140	1.7		ZX
	09	0135	0143	NO FLARE PATROL														
	09	0215	0222	NO FLARE PATROL														
	09	0258	0303	NO FLARE PATROL														
999 TACH	09	0330	0333	0338D	N28	W33	.639		6.7	8	?F		V	0333	159	2.1	D	ZX
	IMP.1	NO : MITK																
0 ABST	09	0723E	0728	0739D	N10	W37	.605	16119	6.5	16D	-F		P	0728	87	1.1	D	ZX
GRP76001	09	0723>9	0743	0833	N28	E32	.629	16127	11.7	70	-F						D	
			0826															
ABST	09	0723E	0743	0835D	N29	E34	.656	16127	11.9	72D	-F	*	P	0743	105	1.4	D	
KANZ	09	0822	0826	0830	N28	E31	.619	16127	11.7	8	-F	*						

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	REMARKS	
2 ABST	09	0809E	0815	0816D	N23	W26	.525	16120	7.4	7D	-F		P	0815	87	1.0	D	ZX
GRP76003	09	0830>9	0838	0855D	S17	W50	.804	16118	5.6	25	1N							
			0845															
KANZ	09	0830	0838	0843D	S16	W50	.801	16118	5.6	13D	1N	2						
CATA	09	0840	0845	0855D	S18	W50	.807	16118	5.6	15D	1N	2	P	0845	168	2.9		
4 TELV	09	0903	0913	0958	N15	W34	.578	16119	6.8	55	-F		C	0913	120	1.4		ZX
GRP76005	09	0914+2	0917+2	0944	N19	E05	.277	16123	9.8	30	-N				110	1.1	EJV	
TELV	09	0902	0919	0948	N19	E03	.268	16123	9.6	46	-N	*	C	0919	80	.8		
MONT	09	0914	0918	0940	N19	E05	.277	16123	9.8	26	-N	*	C	0918	110			
ABST	09	0916	0917	0938D	N19	E05	.277	16123	9.8	22D	1N	*	P	0917	279	3.0	EJV	
6 YUNN	09	0956	0958	1012	S18	W52	.826	16118	5.5	16	?N		C		243			ZX
	IMP.1	NO : MONT		TELV														
	09	1145	1203	NO FLARE PATROL														
	09	1225	1235	NO FLARE PATROL														
GRP76007	09	1347>9	1347	1414	N12	W22	.395	16122	7.9	27	-B							
			1359															
RAMY	09	1347	1347U	1404D	N12	W23	.410	16122	7.8	17D	-N	2	C		27			
ZURI	09	1357	1359	1411	N13	W21	.386	16122	8.0	14	-B		C	1359	130	1.5		
HOLL	09	1404E	1404U	1416	N11	W22	.391	16122	7.9	12D	-B	3	C		26			
8 HOLL	09	1450	1452	1458	N11	W17	.315	16122	8.3	8	-N	3	C		20		F	ZX
9 BIGB	09	1547	1549	1613	N23	E04	.337	16123	10.0	26	-N	2	C	1549	90	.9		ZX
10 BIGB	09	1630	1639	1657	N07	W44	.694	16115	6.4	27	-F	2	C	1639	60	.9		ZX
GRP76011	09	1844	1902	1915D	S29	E13	.574	16125	10.8	31	-B						FU	
			1912+0															
HOLL	09	1844	1912	2103	S29	E11	.565	16125	10.6	139	1B	3	C		234		U F	
PALE	09	1850E	1912U	1915D	S30	E15	.597	16125	10.9	25D	-B	3	C		63		U F	
PALE	09	1850E	1902U	1915D	S30	E15	.597	16125	10.9	25D	-F	3	C		121		U F	
GRP76012	09	1929+1	1935+6	2045	S30	E13	.587	16125	10.8	76	1N				180	2.2	FU	
HOLL	09	1844	1935	2103	S29	E11	.565	16125	10.6	139	1N	3	C		266		U F	
RAMY	09	1929	1941	2045D	S30	E13	.587	16125	10.8	76D	-N	2	C		121		U	
BIGB	09	1930	1936	2039	S30	E15	.597	16125	10.9	69	-N	3	C	1936	180	1.9		
13 HOLL	09	2023	2024	2028	N22	W37	.646	16120	7.1	5	-B	3	C		39			ZX
GRP76014	09	2032+6	2036+3	2112	N22	W01	.314	16123	9.8	40	-B				140	1.5	F	
HOLL	09	2032	2037	2114	N23	W01	.331	16123	9.8	42	-B	3	C		105		F	
RAMY	09	2033	2036	2045D	N22	E00	.314	16123	9.9	12D	-B	2	C		100		F	
BIGB	09	2038	2039	2110	N22	W01	.314	16123	9.8	32	1N	3	C	2039	200	2.1		
15 HOLL	09	2050	2051	2058	S23	W67	.943	16112	4.8	8	-N	3	C		16			ZX
GRP76016	09	2115+4	2117+3	2144	N18	W20	.411	16121	8.4	29	1N				260	2.9		
BIGB	09	2115	2117	2146	N18	W22	.436	16121	8.2	31	1N	3	C	2117	250	2.8		
HOLL	09	2119	2120	2141	N18	W19	.398	16121	8.5	22	1B	3	C		270		DE	
17 HOLL	09	2124	2125	2131	N29	E24	.560	16127	11.7	7	-N	3	C		24			ZX
GRP76018	09	2155	2157	2241	N22	W01	.314	16123	9.8	46	-B							
			2214															
HOLL	09	2155	2157	2231	N22	E00	.314	16123	9.9	36	-B	3	C		57			
CULG	09	2204E	2214	2250	N22	W03	.318	16123	9.7	46D	-F		P	2214	40	.4		
19 CULG	09	2212	2218U	2241	S32	E08	.595	16125	10.5	29	-F		P	2218	40	.8		ZX
20 CULG	09	2315	2316	2333	S15	W07	.341	16124	9.4	18	-F		P	2316	30	.3		ZX
GRP76021	09	2330+0	2330+4	2344	N12	W28	.484	16122	7.9	14	-N				50	.6	F	
BIGB	09	2330	2331	2340	N12	W28	.624	16122	7.9	10	-N	*	C	2331	70	.8		
MANI	09	2330E	2330U	2338D	N12	W28	.484	16122	7.9	8D	-B	3	V		50		F	
CULG	09	2333U	2334	2348	N14	W28	.492	16122	7.9	15D	-N		P	2334	60	.7		
PALE	09	2333E	2334U	2338D	N13	W29	.502	16122	7.8	5D	-N	3	C		21			
22 BIGB	10	0001	0003	0006	S30	E05	.561	16125	10.4	5	-N	3	C	0003	30	.3		ZX
23 CULG	10	0120	0126	0143	N08	W58	.846	16115	5.7	23	?B		C	0126	140	2.5	H	ZX
	IMP.1	NO : HOLL		PALE														

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS AREA Millionths of Disk	CORR AREA Sq. Deg.	REMARKS	
24 PALE	10	0146	0148	0156	N13	W29	.501	16122	7.9	10	-N	3	C		20		F	ZX
25 YUNN	10	0223	0224	0225	N08	W57	.837	16115	5.8	2	? N		C		113			ZX
	IMP.1 NO : MITK PALE																	
26 CULG	10	0411	0421	0436	S29	E02	.543	16125	10.3	25	-F		C	0421	20	.2		ZX
27 CULG	10	0420E	0422U	0432	N21	W03	.300	16123	10.0	12D	-N		P	0422	40	.4	CT	ZX
GRP76028	10	0441>9	0446	0519D	N10	W30	.506	16122	7.9	38	-F						DJK	
			0513															
CULG	10	0441	0446	0519	N10	W29	.491	16122	8.0	38	-F		C	0446	30	.3	KT	
ABST	10	0511	0513	0607D	N11	W32	.537	16122	7.8	56D	1F		P	0513	175	2.1	DJ	
29 CULG	10	0502	0503	0516	N18	W19	.397	16121	8.8	14	-F		C	0503	20	.2		ZX
30 ABST	10	0546	0548	0550	N23	W39	.673	16120	7.3	4	-F		C	0547	131	1.8	FJ	ZX
GRP76031	10	0553	0617	0654	N20	W05	.291	16123	9.9	61	-N						EJ	
ABST	10	0553	0617	0702	N21	W07	.317	16123	9.7	69	-F		C	0617	87	.9	DJ	
ABST	10	0553	0617	0702	N20	W03	.283	16123	10.0	69	-F		C	0617	87	.9	DJ	
ISTA	10	0620E		0645	N20	W06	.296	16123	9.8	25D	-B		V				E	
32 ABST	10	0706	0711	0732	N10	W30	.506	16122	8.0	26	-N		P	0711	87	.9	DJ	ZX
33 KHAR	10	0800E		0840D	N11	E48	.744	16133	13.9	40D	-F		P	0816	40	.6	FGHLT	ZX
34 KHAR	10	0810E		0827D	S15	W01	.323	16124	10.3	17D	-F		P				E	ZX
35 KHAR	10	0816E		0816D	N08	W34	.560	16122	7.8		-F	*	P	0816	100	1.4		ZX
36 KHAR	10	0816E		0816D	S28	W69	.959	16112	5.2		-F		P				D	ZX
GRP76037	10	0851	0858+4	0935	N11	E48	.744	16133	14.0	44	-F						EGJL	
ABST	10	0851	0902	0935	N12	E50	.767	16133	14.1	44	-N		C	0902	96	1.5	DJ	
KHAR	10	0852E	0858	0900D	N11	E48	.744	16133	14.0	8D	-F		V	0858			EGLT	
KHAR	10	0907E		0917D	N11	E48	.744	16133	14.0	10D	-F		P	0907	20	.3	EGLT	
38 KHAR	10	0905E		0917D	N29	E16	.491	16127	11.6	12D	-F		P	0905			E	ZX
39 MONT	10	0949	0953	1008	N23	W07	.348	16123	9.9	19	-N		C	0953	110			ZX
GRP76040	10	1048+2	1051+9	1106	N22	W10	.352	16123	9.7	18	-F				80	.9	E	
TELV	10	1048	1051	1105	N22	W11	.360	16123	9.6	17	-F		C	1051	120	1.2		
HTPR	10	1049	1055	1106	N21	W08	.323	16123	9.9	17	-F		C	1055	60	.7	E	
CATA	10	1050	1100	1105D	N22	W10	.352	16123	9.7	15D	-N	1	P	1100	67	.7		
41 ZURI	10	1208	1220	1232D	N20	W11	.332	16123	9.7	24D	? N		P	1220	370	4.0		ZX
	IMP.1 NO : HTPR																	
GRP76042	10	1303+1	1306+0	1330	N22	W09	.345	16123	9.9	27	-N						E	
			1313+1															
HTPR	10	1303	1306	1324	N22	W07	.332	16123	10.0	21	-F		C	1306	80	.9	E	
ZURI	10	1304	1306	1310D	N20	W11	.332	16123	9.7	6D	-N		P	1306	150	1.7		
RAMY	10	1304	1314	1346	N25	W08	.383	16123	9.9	42	-B	3	C		112		F	
MCMA	10	1308E		1335	N23	W09	.360	16123	9.9	27D	-N		P	1310	50	.5	BE	
HOLL	10	1310	1313	1318	N22	W09	.345	16123	9.9	8	-B	3	C		38			
43 BIGB	10	1448	1451	1503	N22	W09	.345	16123	9.9	15	-N	3	C	1451	70	.7	E	ZX
44 HOLL	10	1517	1521	1525	N23	W11	.374	16123	9.8	8	-N	3	C		25			ZX
45 HOLL	10	1729	1741	1759	N23	W43	.716	16120	7.5	30	-N	3	C		22			ZX
46 HOLL	10	1944	1946	1953	N26	E11	.416	16127	11.6	9	-N	3	C		42			ZX
47 MCMA	10	1958E	2002	2008	N23	W11	.374	16123	10.0	10D	-F		C	2002	40	.4	E	ZX
GRP76048	10	2036	2039	2054	N22	W11	.360	16123	10.0	18	-N				50	.5		
HOLL	10	2036	2039	2053	N22	W12	.368	16123	10.0	17	-B	3	C		61		F	
MCMA	10	2037E		2055	N23	W11	.374	16123	10.0	18D	-N		C	2039	50	.5	E	
GRP76049	10	2123	2129	2212	N23	W12	.382	16123	10.0	49	-B						F	
			2155															
HOLL	10	2123	2129	2157	N23	W12	.382	16123	10.0	34	-B	3	C		90		F	
CULG	10	2153E	2155	2226	N23	W13	.390	16123	9.9	33D	1F		C	2155	180	2.0		

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRP76050	10	2240+5	2247+3	2256	S15	W09	.355	16124	10.3	16	-F				35	.4		
CULG	10	2240	2247	2255	S15	W10	.363	16124	10.2	15	-F		C	2247	50	.5	T	
HOLL	10	2245	2250	2257	S16	W09	.370	16124	10.3	12	-N	3	C		21			
GRP76051	10	2308+0	2310+3	2328	N23	W13	.390	16123	10.0	20	-N				180	2.0	F	
BIGB	10	2308	2313	2318	N23	W13	.390	16123	10.0	10	-N	3	C	2313	180	1.9		
HOLL	10	2308	2310	2328	N22	W15	.395	16123	9.8	20	-B	3	C		58		F	
CULG	10	2316E	2316U	2340	N23	W13	.390	16123	10.0	24D	1N		P	2316	250	2.7	CT	
52 CULG	10	2316E	2321	2351	S35	E85	.999	16137	17.3	35D	? N		P	2321	100		CG	ZX
	IMP.1	NO	HOLL	BIGB														
53 CULG	11	0023	0028	0037	N05	W71	.944	16115	5.7	14	-F		C	0028	30			ZX
GRP76054	11	0122+8	0127	0215	N22	W15	.394	16123	9.9	53	-N						H	
			0140+1															
CULG	11	0122	0151	0216	N22	W13	.375	16123	10.1	54	-N		C	0151	80	.9		
HOLL	11	0127	0140	0150D	N22	W15	.394	16123	9.9	23D	-B	2	C		79		F	
HOLL	11	0127	0127	0150D	N22	W15	.394	16123	9.9	23D	-F	2	C		28		F	
PURP	11	0130	0141	0200	N20	W15	.370	16123	9.9	30	1N		C					
VORO	11	0141E		0215	N23	W15	.406	16123	9.9	34D	-N		C	0142	179	2.0	EH	
GRP76055	11	0142+3	0148+0	0203	N27	E07	.407	16127	11.6	21	-F						F	
CULG	11	0142	0148	0203	N27	E08	.412	16127	11.7	21	-F		C	0148	120	1.3		
HOLL	11	0145	0148	0150D	N27	E06	.403	16127	11.5	5D	-N	2	C		54		F	
56 CULG	11	0325	0353U	0413	S21	W52	.836		7.2	48	-F		C	0353	20	.4	G	ZX
57 CULG	11	0357	0417	0502U	N24	E15	.419	16127	12.3	65D	-F		C	0417	70	.8	FL	ZX
58 ABST	11	0536	0540	0543D	N10	W44	.695	16122	7.9	7D	-F		P	0540	87	1.2	D	ZX
GRP76059	11	0628>9	0717	0845D	S26	E90	1.000	16137	18.0	137	1N						AFJK	
			0830															
ABST	11	0628	0717	0817D	S25	E90	1.000	16137	18.0	109D	1N		P	0717	87		AFJK	
CATA	11	0810	0830	0845D	S27	E90	1.000	16137	18.1	35D	1N	2	P	0830	73			
60 ZURI	11	0846	0848	0852	N10	E35	.577	16133	14.0	6	-N		C	0848	80	1.0		ZX
61 ZURI	11	0904	0904	0906	N10	E35	.577	16133	14.0	2	-N		C	0904	80	1.0		ZX
GRP76062	11	1028+2	1029+3	1036	N21	W21	.448	16123	9.9	8	-N						E	
MONT	11	1028	1029	1035	N22	W21	.458	16123	9.9	7	-N		C	1029	80		E	
KANZ	11	1028	1032	1032D	N21	W19	.425	16123	10.0	4D	-N	1						
ZURI	11	1030	1030	1036	N20	W21	.439	16123	9.9	6	1N		C	1030	310	3.5		
63 ZURI	11	1046	1048	1050	N12	E29	.497	16133	13.6	4	-F		C	1048	80	1.0		ZX
	11	1150	1153	NO FLARE PATROL														
	11	1156	1204	NO FLARE PATROL														
64 RAMY	11	1405	1425	1433	S27	E88	1.000	16137	18.2	28	-N	3	C					ZX
65 RAMY	11	1436	1438	1508	N11	W23	.405	16123	9.9	32	-N	3	C		23			ZX
66 KANZ	11	1449E	1452	1516	S28	E78	.989	16137	17.5	27D	-N	1						ZX
GRP76067	11	1516+0	1518+0	1530	N06	E09	.160	16130	12.3	14	-F						EG	
BIGB	11	1516	1518	1530	N06	E10	.177	16130	12.4	14	-N	2	C	1518	60	.7	G	
KANZ	11	1516	1518	1529	N06	E09	.160	16130	12.3	13	-F	2					EG	
68 KANZ	11	1539	1545	1554	S28	W13	.563	16125	10.7	15	-F	2						ZX
69 HOLL	11	1831	1833	1855	N29	W01	.424	16127	11.7	24	-N	3	C		75		F	ZX
GRP76070	11	2005+9	2014+1	2024	N21	W58	.855	16120	7.5	19	-N				25	.5		
BIGB	11	2005	2015	2026	N19	W60	.870	16120	7.3	21	-N	1	C	2015	30	.6		
HOLL	11	2014	2014	2021	N23	W57	.850	16120	7.6	7	-N	3	C		19			
71 BIGB	11	2015	2016	2019	N18	W30	.538	16123	9.6	4	-F	2	C	2016	210	2.5		ZX
72 BIGB	11	2146	2148	2152	S01	W86	.998	16115	5.5	6	-N	3	C	2148	60		A	ZX

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP76073	11	2306+9	2314+3	2341	N12	W31	.526	16123	9.6	35	-N				110	1.3	FJ	
CULG	11	2306U	2314	2316D	N13	W31	.529	16123	9.6	10D	-N		P	2314	120	1.4	J	
BIGB	11	2309	2314	2348	N12	W31	.526	16123	9.6	39	-B	3	C	2314	130	1.6		
HOLL	11	2311	2317	2341	N12	W31	.526	16123	9.6	30	-B	2	C		98		F	
PALE	11	2315	2315	2320	N12	W31	.526	16123	9.6	5	-N	3	C		33		F	
74 HOLL	11	2354	2359	0008	N18	W47	.744	16121	8.5	14	-N	2	C		34			ZX
75 HOLL	11	2358	2400	0012	N07	W77	.973	16115	6.2	14	-B	2	C				F	ZX
GRP76076	12	0021+1	0022+2	0046	N20	W28	.524	16123	9.9	25	-B						FZ	
			0032+1															
HOLL	12	0021	0023	0106	N20	W28	.524	16123	9.9	45	-B	2	C		104		F	
BIGB	12	0022	0024	0059E	N20	W28	.524	16123	9.9	37D	1B	3	C	0024	200	2.3		
PALE	12	0022	0022	0028	N21	W33	.592	16123	9.5	6	-B	3	C		43		F	
MANI	12	0030E	0032	0035	N20	W26	.499	16123	10.1	5D	-B	3	V		100		Z	
PALE	12	0031	0033	0035	N21	W33	.592	16123	9.5	4	-N	3	C		39		F	
PURP	12	0034	0035	0045	N20	W27	.512	16123	10.0	11	1N		P					
77 HOLL	12	0022	0023	0120	N12	W31	.525	16123	9.7	58	-B	2	C		66		F	ZX
78 HOLL	12	0119	0120	0130	N07	W78	.977	16115	6.2	11	-N	2	C					ZX
79 PALE	12	0142	0144	0151	N05	W77	.973	16115	6.3	9	-N	3	C				F	ZX
80 PALE	12	0155	0156	0208	N06	W78	.977	16115	6.2	13	-N	3	C				F	ZX
81 PURP	12	0256	0258	0304	N04	W81	.987	16115	6.0	8	?F		C					ZX
	IMP.1 NO : PALE																	
82 PALE	12	0330	0331	0339	N05	W80	.984	16115	6.1	9	-N	3	C		25			ZX
83 PALE	12	0406	0407	0412	S26	E78	.988	16137	18.0	6	-N	3	C					ZX
84 YUNN	12	0544	0546	0555	N09	W82	.989	16115	6.1	11	?N		C		113			ZX
	IMP.1 NO : TACH																	
85 ISTA	12	0710		0720	N07	W78	.977	16115	6.4	10	-N		V				D	ZX
86 ISTA	12	0720		0722	N16	W31	.541	16123	10.0	2	-N		V				D	ZX
87 BIGB	12	1445	1448	1454	N06	W87	.998	16115	6.1	9	-N	2	C	1448	30		A	ZX
GRP76088	12	1612+1	1618+0	1635	S26	E68	.952	16137	17.8	23	-F				40		E	
BIGB	12	1612	1618	1635	S25	E69	.956	16137	17.9	23	-F	2	C	1618	50			
MCMA	12	1613	1618	1629D	S28	E67	.950	16137	17.7	16D	-N		C	1618	30	.9	E	
89 MCMA	12	1636		1639D	N23	W38	.660	16123	9.8	3D	-F		C	1639	30	.4	E	ZX
90 MCMA	12	1745	1751	1758	S28	E65	.941	16137	17.6	13	-F		C	1751	30	.9	E	ZX
91 MCMA	12	1752	1803	1837D	N23	W40	.683	16123	9.7	45D	-F		C	1803	30	.4	D	ZX
92 BIGB	12	2106	2109	2120	N09	E14	.255	16133	13.9	14	-N	2	C	2109	180	1.9		ZX
GRP76093	13	0110+3	0116+2	0137	S26	E61	.915	16137	17.6	27	1N						FU	
			0125															
CULG	13	0110	0125	0137	S28	E63	.931	16137	17.8	27	1F		C	0125	160			
HOLL	13	0113	0116	0136D	S25	E58	.894	16137	17.4	23D	-B	3	C		83		U F	
MANI	13	0117E	0118	0122	S25	E60	.907	16137	17.6	5D	-N	3	V		80	1.3		
PALE	13	0118E	0118U	0140	S27	E65	.939	16137	17.9	22D	1B	3	C		147		F	
94 CULG	13	0130	0137	0149	N22	W41	.689	16123	10.0	19	-F		C	0137	30	.4		ZX
GRP76095	13	0136>9	0142	0154D	N12	E74	.959		18.6	18	-F						FS	
			0151															
CULG	13	0136	0142	0230	N12	E75	.964		18.7	54	-N		C	0142	100		S	
PALE	13	0151	0151	0154	N13	E74	.959		18.6	3	-F	3	C				F	
GRP76096	13	0315+8	0331+3	0412	N12	E14	.275	16133	14.2	57	1N						FLSU	
			0355															
CULG	13	0315	0334	0550	N12	E13	.260	16133	14.1	155	1N		C	0334	440	4.5	SF	
PALE	13	0322	0331	0412	N12	E14	.275	16133	14.2	50	-N	3	C		151		U F	
TACH	13	0322		0330	N11	E11	.223	16133	14.0	8	1N		V	0322	442	4.6	FL	
YUNN	13	0323	0325	0325D	N12	E14	.275	16133	14.2	2D	1N		C		193			
PURP	13	0344	0355	0410	N11	E14	.267	16133	14.2	26	1N		P					

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
97 CULG	13	0358	0405	0425	S28	E39	.759	16136	16.1	27	-F		C	0405	10	.2		ZX
98 CULG	13	0513	0530	0618	S33	E44	.827	16136	16.5	65	?N		C	0530	140	2.5	S	ZX
	IMP.1	NO :	TACH	CATA														
99 MCMA	13	1327	1331	1354	S31	E55	.891	16137	17.7	27	-F		C	1331	20	.5	E	ZX
100 MCMA	13	1427E	1430	1452	N20	W51	.789	16123	9.8	25D	-F		C	1430	60	1.0	E	ZX
GRP76101	13	1654	1714	1745	N20	W51	.789	16123	9.9	51	-N				25	.4	E	
			1731															
HOLL	13	1654	1731	1745	N20	W52	.799	16123	9.8	51	-B	3	C		24			
MCMA	13	1713E		1719D	N20	W51	.789	16123	9.9	6D	-F		P	1713	25	.4	E	
HOLL	13	1714	1714	1721	N19	W51	.787	16123	9.9	7	-B	3	C		20			
102 MCMA	13	1749E		1754D	N20	W51	.789	16123	9.9	5D	-F		P	1750	60	1.0	E	ZX
103 HUAN	13	1921	1925	1928	N08	W84	.994	16122	7.5	7	-F	1	C	1925	15		D	ZX
GRP76104	14	0313+3	0317+1	0327	S28	E44	.801	16137	17.4	14	-N				80	1.3		
CULG	14	0313	0318	0335D	S29	E44	.806	16137	17.4	22D	-N		P	0318	60	1.0		
PALE	14	0316	0317	0326	S28	E45	.809	16137	17.5	10	-N	2	C		84		FDE	
YUNN	14	0316	0318	0327	S28	E44	.801	16137	17.4	11	1N		C		193			
105 ABST	14	0535E	0541	0632	N24	W90	1.000	16120	7.5	57D	?N		P	0541	87		ADGJ	ZX
	IMP.1	NO :	TACH															
106 ABST	14	0556	0558	0603	N21	W55	.828	16123	10.1	7	-N		C	0558	87	1.7	DJ	ZX
107 ABST	14	0619	0627	0631	N31	W35	.675	16127	11.6	12	-F		C	0627	87	1.2	DJ	ZX
108 ABST	14	0626	0628	0635	S27	E48	.828	16137	17.9	9	-F		C	0628	87	1.5	DJ	ZX
109 ABST	14	0626	0631	0635	N21	W59	.863	16123	9.8	9	-N		C	0631	87	1.6	DJ	ZX
110 ISTA	14	0725		0743	N17	W56	.832	16123	10.1	18	-N		V				D	ZX
111 ABST	14	0834	0837	0848	N27	E66	.919	16139	19.3	14	-N		C	0837	87		DJ	ZX
112 ABST	14	0841	0844	0855	N19	W56	.834	16123	10.2	14	?N		C	0844	174	3.4	FJ	ZX
	IMP.1	NO :	CATA	MONT														
113 ABST	14	0933	0937	0950	N19	W60	.869	16123	9.9	17	?N		C	0937	174	3.4	FJ	ZX
	IMP.1	NO :	CATA	MONT														
114 ABST	14	0943	0944	0950	S27	E44	.796	16137	17.7	7	-N		C	0944	87	1.4	DV	ZX
115 HOLL	14	1349	1350	1356	S26	E40	.756	16137	17.6	7	-B	3	C		17		F	ZX
GRP76116	14	1526	1531	1643	N19	W63	.892	16123	9.9	77	-B						U	
			1542															
HOLL	14	1526	1531	1643	N19	W63	.892	16123	9.9	77	-N	3	C		50		U	
HOLL	14	1526	1542	1643	N19	W63	.892	16123	9.9	77	-B	3	C		39		U	
117 RAMY	14	1635	1637	1700	N27	E57	.856	16139	19.0	25	-N	3	C		15			ZX
GRP76118	14	1748>9	1754	1809	N17	W64	.898	16123	9.9	21	-N						F	
			1807															
RAMY	14	1748	1754	1805	N18	W65	.906	16123	9.9	17	-N	3	C		19			
PALE	14	1759	1807	1813	N17	W64	.898	16123	9.9	14	-N	3	C		66		F	
119 PALE	14	1833	1844	1846	N18	W65	.906	16123	9.9	13	-N	3	C		34		F H	ZX
GRP76120	14	1841+1	1843+0	1851	N28	E58	.865	16139	19.1	10	-N							
BIGB	14	1841	1843	1852	N28	E59	.873	16139	19.2	11	1N	3	C	1843	210	4.2		
PALE	14	1842	1843	1850	N29	E58	.867	16139	19.1	8	-N	3	C		74		FDE	
GRP76121	14	1846+4	1851+0	1936	N19	W65	.906	16123	9.9	50	-N				25		F	
			1930															
RAMY	14	1846	1851	1940	N18	W65	.906	16123	9.9	54	-N	3	C		19			
PALE	14	1850	1851	1856	N21	W65	.908	16123	9.9	6	-N	3	C		28		F	
PALE	14	1928	1930	1931	N18	W66	.913	16123	9.9	3	-N	3	C		21		F	
122 MCMA	14	1923E		1924D	N27	E58	.864	16139	19.2	10	-N		P	1923	30	.6	E	ZX

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA .Sq. Deg.	REMARKS	
GRP76123	14	2113+2	2117+1	2124	N29	E56	.852	16139	19.1	11	-B				30	.6		
RAMY	14	2113	2118	2124	N29	E56	.852	16139	19.1	11	-B	3	C		30			
PALE	14	2115	2117	2123	N29	E57	.860	16139	19.2	8	-B	3	C		34		FDE	
GRP76124	14	2206+1	2210+4	2238	N18	W69	.932	16123	9.7	32	1N				160		U	
CULG	14	2153E	2211	2245	N18	W70	.938	16123	9.7	52D	1N		C	2211	240		F	
HOLL	14	2206	2210	2238	N18	W71	.943	16123	9.6	32	1B	3	C		119		UDE	
PALE	14	2206	2214	2223	N18	W67	.919	16123	9.9	17	1N	3	C		209		FDE	
RAMY	14	2207	2208U	2208D	N17	W69	.932	16123	9.7	1D	-N	2	C		17			
125 CULG	14	2242	2250U	2322	N27	E55	.840	16139	19.1	40	-F		C	2250	40	.8	T	ZX
GRP76126	14	2312	2320+5	0034	S30	E37	.757	16137	17.7	82	1F						EHL	
CULG	14	2312	2320	0034	S33	E37	.778	16137	17.7	82	1N		C	2320	260	4.0	LH	
VORO	14	2320E		2338D	S31	E35	.749	16137	17.6	18D	1F		P	2327	188	2.8	E	
MANI	14	2320E	2325U	2335D	S29	E37	.750	16137	17.7	15D	-N	2	C		100			
MANI	14	2320E	2325U	2335D	S29	E37	.750	16137	17.7	15D	-F	2	V		100	1.4		
127 CULG	14	2336	2345	0012	N20	W68	.927	16123	9.9	36	?F		C	2345	100			ZX
	IMP.1	NO : BIGB	HOLL															
128 CULG	14	2338	2343U	2354	N30	E55	.847	16139	19.1	16	-F		C	2343	20	.4		ZX
GRP76129	15	0058	0122+3	0154	N19	W70	.938	16123	9.8	56	-N						K	
CULG	15	0058	0125	0154	N20	W70	.938	16123	9.8	56	1F		P	0125	170		KT	
PALE	15	0122E	0122U	0130D	N18	W70	.938	16123	9.8	8D	-N	3	C		44		DE	
130 CULG	15	0119	0123	0132	N26	W44	.735	16127	11.8	13	-F		C	0123	50	.8	T	ZX
131 CULG	15	0248	0302U	0337	N11	W14	.265	16133	14.1	49	-N		C	0302	100	1.1	S	ZX
132 ABST	15	0528	0531	0554	S28	E34	.719	16137	17.8	26	-F		P	0531	131	1.9	EJ	ZX
GRP76133	15	0609E	0609	0623	N25	W46	.752	16127	11.8	14	-N						DJ	
ABST	15	0609E	0609	0625	N25	W46	.752	16127	11.8	16D	-N		P	0609	87	1.4	DJ	
CATA	15	0610E	0610	0620	N25	W46	.752	16127	11.8	10D	-N	2	P	0610	28	.4		
134 ABST	15	0609E	0612	0630	N17	W80	.982	16123	9.3	21D	?N		P	0612	131		DJ	ZX
	IMP.1	NO : CATA																
GRP76135	15	0644+6	0649	0715	N18	W73	.954	16123	9.8	31	1N				160		FJ	
			0655+4															
ABST	15	0644	0649	0652D	N17	W76	.968	16123	9.6	8D	1N		P	0649	174		FJ	
CATA	15	0650	0655	0710	N17	W73	.954	16123	9.8	20	1N	2	C	0655	168			
WEND	15	0652E		0720D	N19	W72	.949	16123	9.9	28D	1N		C	0654	150		F	
ATHN	15	0654E	0659	0708	N20	W70	.938	16123	10.0	14D	-N	1		0659	49	1.3		
KANZ	15	0718E		0750	N19	W75	.963	16123	9.7	32D	-F	2						
GRP76136	15	0745+1	0747	0817	S29	E32	.711	16137	17.7	32	-F						DJK	
			0754															
ABST	15	0745	0747	0755D	S29	E35	.735	16137	17.9	10D	-N		P	0747	87	1.3	DJK	
KANZ	15	0746	0754	0817	S30	E29	.696	16137	17.5	31	-F	2						
137 ABST	15	0832	0833	0836	N26	W37	.663	16127	12.6	4	-N		C	0833	87	1.2	DV	ZX
138 ABST	15	0848	0849	0915	N37	W36	.724		12.7	27	-N		C	0849	87	1.3	DGV	ZX
GRP76139	15	0848+9	0849	0908	N31	W23	.564		13.6	20	-F						GV	
			0857+3															
ABST	15	0848	0849	0853	N33	W23	.585		13.6	5	-N		C	0849	87	1.2	DGV	
CATA	15	0850	0900	0940	N30	W23	.554		13.6	50	-F	1	C	0900	56	.6		
KANZ	15	0857	0857	0908	N31	W21	.548		13.8	11	-F	2					E	
GRP76140	15	1001+3	1006	1014	N27	E50	.796	16139	19.2	13	-N						J	
ABST	15	1001	1006	1014	N27	E50	.796	16139	19.2	13	-N		C	1006	87	1.5	DJ	
KANZ	15	1004		1008D	N27	E51	.805	16139	19.2	4D	-N	2					E	
141 BIGB	15	1701E	1710	1715	N17	W79	.979	16123	9.8	14D	-N	3	C	1710	30		K	ZX
142 BIGB	15	1722	1723	1735	N13	W85	.995	16123	9.3	13	-N	3	C	1723	30		A	ZX
GRP76143	15	1736+8	1738	1755	N17	W79	.979	16123	9.8	19	-B						DK	
			1745+1															
BIGB	15	1736	1738	1741	N16	W79	.979	16123	9.8	5	-N	3	C	1738	40		K	
MCMA	15	1737E	1745	1855	N18	W83	.990	16123	9.5	78D	-B		C	1745			D	
RAMY	15	1744	1745	1753	N17	W74	.959	16123	10.2	9	-B	3	C					
BIGB	15	1744	1746	1755	N16	W79	.979	16123	9.8	11	-N	3	C	1746	40		K	

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
144 BIGB	15	1830	1832	1847	N19	W80	.982	16123	9.8	17	-N	3	C	1832	30			ZX
145 BIGB	15	1947	1948	1953	N27	E49	.787	16139	19.5	6	-F	3	C	1948	30	.5		ZX
146 MCMA	15	1955E		2003D	N18	W83	.990	16123	9.6	80	-F		C	1956			D	ZX
GRP76147	15	2023	2031	2042	N19	W80	.982	16123	9.8	19	-N						D	
MCMA	15	2023	2031	2045	N21	W85	.994	16123	9.5	22	-N		C	2031			D	
RAMY	15	2035E	2035U	2038	N18	W76	.968	16123	10.2	30	-N	2	C		22			
GRP76148	15	2200+0	2201+0	2204	S28	E18	.597	16137	17.3	4	-N				60	.7	D	
CULG	15	2200	2201	2204	S29	E18	.609	16137	17.3	4	-N		C	2201	60	.8		
VORO	15	2200	2201	2204	S28	E19	.604	16137	17.3	4	-N		C	2201	63	.7	D	
GRP76149	15	2205+3	2210	2212	N20	W81	.985	16123	9.8	7	-F						DJ	
CULG	15	2205	2209U	2209D	N21	W83	.990	16123	9.7	40	-F		P	2209	10			
VORO	15	2208	2210	2212	N20	W80	.982	16123	9.9	4	-F		C	2210	36		DJ	
GRP76150	15	2243	2251	2318	N17	W85	.994	16123	9.6	35	1N				90		DHK	
CULG	15	2243	2251	2334	N17	W85	.994	16123	9.6	51	1N		C	2251	70		K	
VORO	15	2249E		2301	N17	W85	.994	16123	9.6	120	1F		C	2250	116		CH	
VORO	15	2304E		2318	N17	W85	.994	16123	9.6	140	-N		P	2304	27		CDH	
151 CULG	15	2305	2308	2320	N27	E48	.778	16139	19.6	15	-F		C	2308	30	.5	HT	ZX
GRP76152	15	2316	2322+5	0005	S28	E35	.728	16144	18.6	49	-9						UZ	
HOLL	15	2316	2327	0005	S28	E35	.728	16144	18.6	49	1B	3	C		199		Z U	
PALE	15	2317E	2322U	2330D	S29	E36	.743	16144	18.7	130	-N	3	C		71		FDE	
153 CULG	15	2356	2357	0006	N24	W49	.778	16127	12.3	10	-F		C	2357	10	.2		ZX
GRP76154	16	0000+2	0003+0	0005	S28	E17	.592	16137	17.3	5	-F				35	.4	DH	
CULG	16	0000	0003	0005	S29	E17	.604	16137	17.3	5	-N		C	0003	20	.3		
VORO	16	0002	0003	0005	S28	E18	.598	16137	17.4	3	-F		C	0003	54	.6	DH	
GRP76155	16	0038+1	0040+1	0050	N18	W85	.994	16123	9.7	12	1N				130		EH	
CULG	16	0038	0041	0114	N18	W85	.994	16123	9.7	36	1B		C	0041	130		H	
VORO	16	0039	0041	0047	N18	W85	.994	16123	9.7	8	1N		C	0041	134		EH	
MANI	16	0040E	0040U	0050D	N16	W89	.999	16123	9.4	100	-N	3	V					
156 CULG	16	0042	0048	0114	N22	W02	.304		15.9	32	-F		C	0048	60	.6	GH	ZX
157 CULG	16	0348E	0354	0451	N12	W28	.480	16133	14.1	630	-N		C	0354	140	1.6	CSU	ZX
GRP76158	16	0525+2	0536+7	0552	N19	W84	.998	16123	9.6	27	1B				180		AEJ	
ABST	16	0525	0536	0551	N20	W90	1.000	16123	9.5	26	1N		C	0536	175		AEJ	
CULG	16	0527	0540	0552	N18	W87	.997	16123	9.7	25	1B		C	0540	80			
ABST	16	0536	0543	0549	N22	W88	.998	16123	9.6	13	1B		C	0543	175		ACJ	
GRP76159	16	0705>9	0727+4	0733	N18	W88	.998	16123	9.7	28	1N						ADJ	
ABST	16	0705	0727	0748	N18	W88	.998	16123	9.7	43	2N		C	0727	349		ADJ	
YUNN	16	0729	0731	0733	N19	W84	.992	16123	10.0	4	1B		C		129			
MONT	16	0730E	0730	0732	N18	W90	1.000	16123	9.6	20	-F		C	0730	50			
GRP76160	16	0809+6	0814+1	0829	N19	W85	.994	16123	10.0	20	1N						ADJ	
ABST	16	0809	0814	0828	N20	W80	.982	16123	10.3	19	1N		C	0814	175		ADJ	
CATA	16	0815	0815	0830	N19	W90	1.000	16123	9.6	15	1N	2	C	0815	67			
161 ABST	16	0914	0915	0917	N30	E31	.628	16139	18.7	3	-F		C	0915	87	1.1	DJV	ZX
162 ZURI	16	1024	1026	1050	N17	E48	.751	16147	20.0	26	-N		C	1026	40	.6		ZX
GRP76163	16	1350+0	1351+1	1355	N28	E28	.582	16139	18.7	5	-F						E	
ZURI	16	1350E	1352	1354	N28	E28	.582	16139	18.7	40	-N		P	1352	90	1.2		
MCMA	16	1350	1351	1356	N28	E28	.582	16139	18.7	6	-F		C	1351	25	.3	E	
164 ZURI	16	1434	1438	1440	N09	W42	.668	16133	13.5	6	-F		C	1438	50	.7		ZX
165 HUAN	16	1917	1918	1919	N28	E27	.572	16139	18.8	2	-F	1	C	1918	15	.2	C	ZX
GRP76166	16	2045		2055	S30	E01	.565	16136	16.9	10	-F							
HUAN	16	2045		2052	S30	E03	.567	16136	17.1	7	-F	1	P				D	
MCMA	16	2049E		2058D	S30	E00	.565	16136	16.9	90	-F		P	2055	60	.7	E	
167 VORO	16	2132	2133	2137	N12	W45	.709	16133	13.5	5	-F		C	2133	18	.2	D	ZX

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg	REMARKS	
GRP76168	16	2137+0	2138+2	2146	N27	E34	.636	16139	19.5	9	-N				60	.8	DH	
BIGB	16	2137	2140	2146	N27	E35	.647	16139	19.5	9	-N	3	C	2140	50	.6		
VORO	16	2137	2138	2145	N28	E33	.633	16139	19.4	8	-N		C	2138	72	.9	DH	
169 VORO	17	0237	0238	0240	N25	E31	.590	16139	19.4	3	-F		C	0238	54	.7	D	ZX
	17	0252	0304	NO FLARE PATROL														
170 CULG	17	0314E	0316	0336U	N21	E16	.385		18.3	22D	-N		P	0316	90	1.0	CGL	ZX
171 ABST	17	0509	0510	0512	N11	W49	.754	16133	13.5	3	-F		C	0510	87	1.3	DV	ZX
172 ABST	17	0615	0625	0636	N12	W64	.896		12.5	21	-F		C	0625	87		DJ	ZX
GRP76173	17	0629+6	0634+6	0643	N10	E90	1.000	16153	24.0	14	-N						ADJ	
ABST	17	0629	0634	0639D	N10	E90	1.000	16153	24.0	10D	1N		P	0634	140		ADJ	
ISTA	17	0632E		0640	N12	E90	1.000	16153	24.0	8D	-B		V				A	
CATA	17	0635	0640	0645	N09	E90	1.000	16153	24.0	10	-F	1	C	0640	28			
GRP76174	17	0652	0658	0706	N14	W47	.734	16133	13.8	14	-F						DJ	
ABST	17	0652	0658	0709	N16	W48	.749	16133	13.7	17	-N		C	0658	87	1.3	DJ	
ISTA	17	0655E		0702	N12	W46	.720	16133	13.8	7D	-F		V				D	
GRP76175	17	0720E		0745	N10	W50	.764	16133	13.6	25	-N							
ISTA	17	0720E		0740	N09	W50	.764	16133	13.6	20D	-N		V				D	
ISTA	17	0735		0745	N11	W50	.765	16133	13.6	10	-N		V				D	
176 RAMY	17	1126	1127	1152	S25	W54	.867	16150	13.4	26	-N	3	C		18			ZX
	17	1837	1839	NO FLARE PATROL														
177 HUAN	17	1903		1916D	N11	W58	.846	16133	13.4	13D	-F	1	P	1911	20	.3	D	ZX
GRP76178	17	1913+0	1917	1945	S08	E42	.691	16148	21.0	32	-F				45	.6	E	
PALE	17	1913	1917	1945	S10	E43	.710	16148	21.0	32	-N	1	C		30			
HUAN	17	1913		1916	S08	E41	.679	16148	20.9	3	-F	1	P	1915	55	.7	E	
MCMA	17	1930E		1947D	S08	E42	.691	16148	21.0	17D	-F		C	1930	40	.6	E	
	17	2246	2249	NO FLARE PATROL														
	17	2253	2301	NO FLARE PATROL														
	17	2324	2329	NO FLARE PATROL														
179 PURP	18	0001E	0001	0001D	S29	W07	.563	16137	17.5		?N		P					ZX
	IMP.1 NO : HOLL																	
GRP76180	18	0145+2	0148	0240	S28	W12	.568	16137	17.2	55	-N						FS	
			0206															
CULG	18	0145E	0206	0245D	S28	W17	.595	16137	16.8	60D	-N		P	0206	130	1.6	CSF	
PURP	18	0147	0148	0234	S29	W07	.563	16137	17.5	47	1N		P					
181 CULG	18	0230	0231	0239	N14	W58	.847	16133	13.8	9	-F		C	0231	20	.4		ZX
182 ABST	18	0515	0516	0524	N32	E54	.842	16156	22.3	9	-F		C	0516	52	1.0	DV	ZX
183 HTPR	18	0542	0545	0550	S28	W07	.549	16137	17.7	8	-F		C	0545	30	.3	E	ZX
184 CULG	18	0623E		0623D	N08	E85	.995	16153	24.6		?F		P	0623	80			ZX
	IMP.1 NO : ABST HTPR KIEV CATA																	
GRP76185	18	0721+0	0723+0	0726	S20	W42	.744	16154	15.2	5	-F						D	
PURP	18	0721	0723	0725	S20	W44	.763	16154	15.0	4	1F		P					
HTPR	18	0721	0723	0726	S18	W42	.733	16154	15.2	5	-F		C	0723	10	.1		
ISTA	18	0721		0728	S21	W40	.729	16154	15.3	7	-N		V				D	
GRP76186	18	0737+5	0743+2	0802	S07	E35	.599	16148	20.9	25	-N						J	
HTPR	18	0737	0743	0800	S08	E33	.577	16148	20.8	23	-F		C	0743	70	.8	E	
ABST	18	0739	0744	0803	S07	E35	.599	16148	20.9	24	-N		C	0744	140	1.8	DJ	
ZURI	18	0739	0743	0819	S07	E34	.586	16148	20.9	40	-N		C	0743	70	.9		
MONT	18	0740	0744	0805	S06	E36	.608	16148	21.0	25	-N		C	0744	100			
CATA	18	0740	0745	0800D	S06	E35	.572	16148	20.9	20D	1N	2	P	0745	168	2.1		
ISTA	18	0742		0758	S07	E37	.625	16148	21.1	16	1N		V				EF	
ATHN	18	0742	0744	0801	S09	E50	.784	16148	22.1	19	-N	1		0744	49	.8		
187 ISTA	18	0810		0814	S03	E46	.726	16148	21.8	4	-F		V				E	ZX
188 ABST	18	0828	0828	0832	S30	W07	.577	16137	17.8	4	-F		P	0828	87	1.1	D	ZX

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
189 ZURI	18	0831	0841	0851	S22	W68	.949	16150	13.3	20	-F		C	0841	40			ZX
190 ZURI	18	0855	0859	0901D	S28	W09	.555	16137	17.7	60	-F		P	0859	70	.9		ZX
191 ABST	18	0907	0908	0913	S27	W09	.541	16137	17.7	6	-F		C	0908	87	1.1	DV	ZX
GRP76192	18	1011+7	1013+7	1022	S29	W08	.566	16137	17.8	11	-F						E	
HTPR	18	1011	1013	1022	S28	W10	.559	16137	17.7	11	-F		C	1013	20	.2	E	
MONT	18	1018	1020	1021	S29	W08	.566	16137	17.8	3	-F		C	1020	60		E	
KANZ	18	1018	1018	1022	S29	W08	.566	16137	17.8	4	-F	1						
193 KANZ	18	1203	1203	1218	N29	E48	.783	16156	22.1	15	-F	2						ZX
194 HTPR	18	1239	1240	1244	N27	E15	.448	16139	19.7	5	-F		C	1240	10	.1		ZX
195 ZURI	18	1443	1449	1451D	N28	W27	.570	16160	16.6	80	-F		P	1449	50	.6		ZX
GRP76196	18	1717+2	1719+1	1740	N28	W28	.580	16160	16.6	23	-F				35	.4	EG	
BIGB	18	1717	1720	1739	N27	W28	.572	16160	16.6	22	-F	3	C	1720	40	.5	G	
KANZ	18	1719	1719	1734D	N28	W28	.580	16160	16.6	15D	-F	2					G	
HTPR	18	1720E		1740	N28	W28	.580	16160	16.6	20D	-F		C	1721	30	.3	E	
GRP76197	18	1815+0	1816+0	1825	N21	W04	.290		18.5	10	-N				30	.3	DG	
MCMA	18	1815	1816	1818D	N22	W04	.306		18.5	30	-N		C	1816	30	.3	D	
BIGB	18	1815	1816	1825	N21	W05	.294		18.4	10	-N	3	C	1816	30	.3	G	
198 BIGB	18	1902	1906	1927	S14	W90	1.000	16157	12.0	25	-N	3	P	1906	60			ZX
199 VORO	18	2247	2252	2308	N12	W64	.896	16133	14.1	21	-B		C	2252	45	.5	E	ZX
200 CULG	19	0135	0139	0157	S32	W19	.655	16137	17.6	22	-F		C	0139	30	.4		ZX
GRP76201	19	0226+2	0230+0	0235	S29	W20	.626	16137	17.6	9	-F				40	.5	E	
CULG	19	0226	0230	0235	S28	W21	.622	16137	17.5	9	-F		C	0230	30	.4		
VORO	19	0228	0230	0235	S30	W19	.632	16137	17.7	7	-N		C	0230	45	.5	E	
202 VORO	19	0241	0243	0251	S19	W53	.841	16154	15.1	10	-N		C	0243	63	1.1	C	ZX
GRP76203	19	0710E	0720+3	0736	S02	E35	.582	16148	21.9	26	-N				25	.3	E	
ISTA	19	0710E	0723	0736	S02	E37	.610	16148	22.1	26D	-B		V				E	
KANZ	19	0711E	0720	0738	S03	E34	.571	16148	21.8	27D	-N	2						
MANI	19	0723E	0723U	0735D	S04	E35	.588	16148	21.9	12D	-N	3	V		30			
HTPR	19	0724E		0734	S02	E36	.596	16148	22.0	10D	-F		C	0724	20	.2		
GPP76204	19	0810+2	0811+1	0816	S27	W23	.625	16137	17.6	6	-N						E	
HTPR	19	0810	0811	0815	S27	W23	.625	16137	17.6	5	-F		C	0811	20	.2		
ISTA	19	0810		0816	S28	W23	.636	16137	17.6	6	-B		V				E	
KANZ	19	0812	0812	0816	S27	W25	.641	16137	17.5	4	-N	1						
205 KANZ	19	0840	0847	0903	S04	E33	.561	16148	21.8	23	-F	2						ZX
206 MONT	19	0841	0846	0849	N28	W49	.788	16132	15.7	8	-N		C	0846	110			ZX
GRP76207	19	0910+0	0912+3	0917	S32	W20	.660	16137	17.9	7	-F				45	.6	E	
CATA	19	0910E	0915	0920D	S32	W21	.666	16137	17.8	10D	-F	1	P	0915	56	.7		
HTPR	19	0910	0912	0914	S32	W20	.660	16137	17.9	4	-F		C	0912	30	.3	E	
GRP76208	19	0918+0	0921	0940	S03	E34	.571	16148	21.9	22	-F						E	
			0930															
HTPR	19	0918	0930	0942	S02	E35	.582	16148	22.0	24	-F		C	0930	20	.2	E	
KANZ	19	0918	0921	0937	S04	E33	.561	16148	21.9	19	-N	2						
GRP76209	19	0940+1	0941+4	0948	S26	W25	.631	16137	17.5	8	-F				50	.6		
HTPR	19	0940	0945	0949	S27	W24	.633	16137	17.6	9	-F		C	0945	20	.2		
MONT	19	0940	0942	0947	S26	W25	.631	16137	17.5	7	-F		C	0942	50			
KANZ	19	0941	0945	0949	S26	W25	.631	16137	17.5	8	-F	1						
ZURI	19	0941E	0941	0947	S27	W25	.641	16137	17.5	6D	-N		P	0941	80	1.1		
210 ZURI	19	1009	1009	1013	S03	E33	.557	16148	21.9	4	-F		C	1009	70	.9		ZX

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq Deg	REMARKS	
GRP76211	19	1054+1	1055+4	1107	S03	E33	.557	16148	21.9	13	-B						HJR	
TELV	19	1054	1056	1112	S07	E33	.573	16148	21.9	18	-B		C	1056	80	.9		
KANZ	19	1055	1059	1107	S03	E33	.557	16148	21.9	12	-B	3					H	
CATA	19	1055	1055	1110	S02	E33	.545	16148	21.9	15	1B	2	C	1055	196	2.4		
HTPR	19	1055		1058D	S03	E33	.557	16148	21.9	3D	-B		C	1056	120	1.4	E	
ZURI	19	1055	1055	1103	S03	E33	.557	16148	21.9	8	-B		C	1059	80	1.0		
MONT	19	1055	1056	1106	S03	E34	.571	16148	22.0	11	1B		C	1056	250		H	
ATHN	19	1056E	1056U	1100D	S03	E32	.543	16148	21.9	4D	-B	4	C		143		FOE	
ABST	19	1057E	1058	1104	S03	E34	.571	16148	22.0	7D	-N		P	1058	131	1.6	BDJ	
212 ABST	19	1103	1115	1130	N14	W26	.458	16161	17.5	27	-F		P	1115	87	1.0	D	ZX
213 ABST	19	1112E	1113	1117	N29	E01	.412	16139	19.5	5D	-F		P	1113	87	1.0	D	ZX
214 KANZ	19	1225	1225	1237	S29	W21	.633	16137	17.9	12	-F	1						ZX
215 ZURI	19	1239	1239	1243	N09	E56	.826	16153	23.7	4	-F		C	1239	50	.9		ZX
GRP76216	19	1331+3	1333+2	1347	S02	E17	.313	16148	20.8	16	-N				60	.6	D	
LVOV	19	1331	1334	1341	S03	E18	.335	16148	20.9	10	-F		C	1334	150	1.6	D	
MCMA	19	1332	1335	1348	S02	E17	.313	16148	20.8	16	-N		C	1335	40	.4	D	
ZURI	19	1333	1333	1345D	S02	E17	.313	16148	20.8	12D	-N		P	1333	60	.7		
KANZ	19	1334	1334	1353	S02	E17	.313	16148	20.8	19	-B	2						
	19	1503	1514	NO FLARE PATROL														
217 MCMA	19	1540E	1541	1548	S03	E29	.500	16148	21.8	8D	-N		C	1541	100	1.2	E	ZX
218 MCMA	19	1556	1558	1601D	S03	E29	.500	16148	21.8	5D	-B		C	1558	30	.4	EH	ZX
GRP76219	19	1703+1	1704+4	1714	S03	E28	.485	16148	21.8	11	-N				90	1.0	EH	
BIGB	19	1703	1704	1715	S01	E29	.493	16148	21.9	12	-N	3	C	1704	30	.4	E	
HUAN	19	1704	1706	1714	S03	E28	.485	16148	21.8	10	-N	2	C	1706	80	.9		
MCMA	19	1704E		1705D	S03	E29	.500	16148	21.9	1D	-N		P	1704	100	1.2	EH	
PALE	19	1705E	1708	1713	S03	E27	.470	16148	21.7	8D	-B	3	C		96		F	
GRP76220	19	1808+0	1809+3	1819	S03	E29	.500	16148	21.9	11	-N				40	.5	EH	
HUAN	19	1808	1812	1820	S03	E29	.500	16148	21.9	12	-N	1	C	1812	35	.4		
PALE	19	1808	1809	1818	S02	E29	.496	16148	21.9	10	-B	3	C		38		DE H	
MCMA	19	1815E		1815D	S03	E28	.485	16148	21.9		-N		P	1815	40	.5	E	
221 HUAN	19	1918	1921	1922	N12	E58	.846	16153	24.2	4	-F	1	C	1921	20	.3	D	ZX
GRP76222	19	1922+1	1930	1933	S03	E27	.470	16148	21.8	11	-N				45	.5	H	
HUAN	19	1922		1930D	S03	E27	.470	16148	21.8	8D	-N	1	P	1924	35	.4		
PALE	19	1923	1930	1933	S03	E27	.470	16148	21.8	10	-B	3	C		59		F	
MCMA	19	1926E		1930D	S03	E27	.470	16148	21.8	4D	-N		P	1930	30	.3	EH	
223 HUAN	19	1946		1954D	N28	W42	.722	16160	16.7	8D	-N	1	P	1948	20	.2	D	ZX
	19	2010	2012	NO FLARE PATROL														
	19	2015	2027	NO FLARE PATROL														
	19	2030	2048	NO FLARE PATROL														
	19	2057	2113	NO FLARE PATROL														
224 PALE	19	2129	2129	2143D	N14	W27	.472	16161	17.9	14D	-N	3	C		22			ZX
	19	2130	2149	NO FLARE PATROL														
225 CULG	19	2204	2207	2216	S03	E25	.440	16148	21.8	12	-N		C	2207	140	1.6	H	ZX
	19	2226	2230	NO FLARE PATROL														
226 PALE	19	2248E	2256U	2313D	S04	E18	.342	16148	21.3	25D	-N	3	C		38		DE H	ZX
227 PURP	20	0106E	0108	0150	S20	W03	.422	16155	19.8	44D	?N		P					ZX
	IMP.1 NO : PALE																	
GRP76228	20	0143	0148	0221	S05	E23	.422	16148	21.8	38	-B						HK	
CULG	20	0143	0148	0217	S03	E24	.426	16148	21.9	34	-N		C	0148	120	1.3	KH	
PURP	20	0151E	0151	0225	S07	E22	.421	16148	21.7	34D	1B		P				H	
229 CULG	20	0224	0226	0230	S30	W32	.724	16137	17.7	6	-F		C	0226	30	.5		ZX
230 CULG	20	0328	0334U	0436	S29	W45	.818	16136	16.8	68	?N		P	0334	350	5.4	SVF	ZX
	IMP.2 NO : PALE																	

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
231 CULG	20	0352E	0352E	0436	S28	E35	.732		22.8	44D	-F		P	0352	40	.6	GL	ZX
232 CULG	20	0352	0355	0434	N12	W28	.479	16161	18.1	42	-F		C	0355	40	.6	G	ZX
233 CULG	20	0407E	0409U	0410D	S03	E24	.426	16148	22.0	3D	-F		C	0409	40	.4	C	ZX
GRP76234	20	0455+4	0459+1	0510	N34	W15	.535	16139	19.1	15	-N				110	1.3	DHV	
CULG	20	0455	0459	0516	N34	W14	.530	16139	19.2	21	-N		C	0459	140	1.6	H	
ABST	20	0459	0500	0503	N34	W16	.541	16139	19.0	4	-N		C	0500	87	1.0	DV	
235 ABST	20	0459	0500	0515	N13	W33	.553	16161	17.7	16	-F		C	0500	87	1.0	DV	ZX
236 CULG	20	0512E	0513	0521D	S21	W36	.691	16137	17.5	9D	-N		P	0513	120	1.9	C	ZX
237 ABST	20	0521	0523	0535	N11	W31	.520	16161	17.9	14	-F		C	0523	87	1.0	D	ZX
GRP76238	20	0521+3	0528 0544	0559	S20	00	.419	16155	20.2	38	-F						F	
CULG	20	0521	0544	0551	S20	E00	.419	16155	20.2	30	-F	*	C	0544	70	.8		
ABST	20	0524	0528	0606	S20	E01	.419	16155	20.3	42	-N	*	C	0528	131	1.5	F	
239 ABST	20	0527	0528	0546	N29	W44	.745	16160	16.9	19	-N		C	0528	87	1.3	CJK	ZX
GRP76240	20	0537+5	0537 0543+1	0553	S04	E22	.401	16148	21.9	16	-N						DH	
CULG	20	0537E	0537	0553	S03	E23	.411	16148	22.0	16D	-N		C	0537	110	1.2	H	
ABST	20	0540	0544	0550	S04	E22	.401	16148	21.9	10	-N		C	0544	87	1.0	D	
PURP	20	0542	0543	0553	S07	E20	.394	16148	21.7	11	1N		C					
241 CULG	20	0613	0616	0618D	S03	E20	.366	16148	21.8	5D	-F		C	0616	20	.2		ZX
242 ABST	20	0725	0727	0741	N27	W15	.445	16139	19.2	16	-N		C	0727	87	1.0	D	ZX
243 ABST	20	0749	0806	0822	N14	W35	.583	16161	17.7	33	-N		C	0806	87	1.1	DK	ZX
GRP76244	20	0834+7	0848+6 0927	0931D	N28	W48	.778	16160	16.8	57	-N						EGJO	
KHAR	20	0834E	0848	1005D	N26	W49	.781	16160	16.7	91D	1N		P	0856	200	3.3	EGO	
ABST	20	0841	0854	0930	N31	W47	.780	16160	16.8	49	-N		C	0854	87	1.4	D	
ABST	20	0920	0927	0931	N28	W48	.778	16160	16.8	11	-N		C	0927	114	1.8	DJ	
GRP76245	20	0922+5	0925+2	0935	N12	E47	.731	16153	23.9	13	-N				70	1.0	E	
TELV	20	0922	0927	0937	N12	E47	.738	16153	23.9	15	-N		C	0927	80	1.2		
CATA	20	0925E	0925	0935	N11	E44	.694	16153	23.7	10D	-N	2	P	0925	56	.8		
KHAR	20	0927	0927	0935	N13	E47	.732	16153	23.9	8	-F		P	0927			E	
GRP76246	20	0930+7	0935+6	0952	S03	E20	.366	16148	21.9	22	-N				130	1.4	EHJ	
TELV	20	0930	0938	0951	S05	E20	.379	16148	21.9	21	-N		C	0938	50	.5		
ABST	20	0934	0941	0947	S03	E19	.350	16148	21.8	13	-N		P	0941	122	1.3	EJ	
LOCA	20	0935E	0935	1005	S03	E20	.366	16148	21.9	30D	1N		V	0935	234	2.6	H	
KHAR	20	0937	0938	0952	S01	E20	.355	16148	21.9	15	-N		P	0938	150	1.9	E	
GRP76247	20	1052+3	1056+4	1104	N07	E44	.692	16153	23.8	12	-N				70	1.0		
TELV	20	1052	1056	1103	N04	E44	.693	16153	23.8	11	-N		C	1056	80	1.1		
CATA	20	1055	1100	1105	N11	E44	.694	16153	23.8	10	-N	2	C	1100	56	.8		
	20	1150	1200	NO FLARE PATROL														
248 RAMY	20	1250E	1305U	1313D	N13	W40	.647	16161	17.5	23D	-N	2	C		81			ZX
249 RAMY	20	1305E	1311U	1313D	N27	W49	.784	16160	16.9	8D	-N	2	C		113			ZX
GRP76250	20	1321E	1343	1451D	N28	W50	.796	16160	16.8	90	-N						E	
ZURI	20	1321E	1343	1451D	N29	W50	.800	16160	16.8	90D	1N		P	1343	190	3.2		
HUAN	20	1336E		1406D	N28	W50	.796	16160	16.8	30D	-F	1	P	1340	55	.9	E	
251 ZURI	20	1359	1403	1415	N14	W39	.636	16161	17.7	16	-N		C	1403	120	1.6		ZX
GRP76252	20	1405+0	1409	1415	S03	E16	.305	16148	21.8	10	-N				60	.6	E	
ZURI	20	1405	1409	1415	S03	E16	.305	16148	21.8	10	-N		C	1409	90	1.0		
HUAN	20	1405		1406D	S04	E16	.313	16148	21.8	1D	-N	1	P	1405	40	.4	E	
	20	1458	1521	NO FLARE PATROL														
	20	1533	1554	NO FLARE PATROL														
253 HUAN	20	1559		1612	N09	E52	.785	16153	24.6	13	-F	1	C	1607	35	.5	E	ZX

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
254 PALE	20	1645	1650	1705	N27	W52	.811	16160	16.8	20	-N	3	C		67		F	ZX
255 PALE	20	1658	1658	1703	N13	W40	.647	16161	17.7	5	-N	3	C		24		F	ZX
GRP76256	20	1715	1716	1725D	N14	W39	.636	16161	17.8	10	-N							
PALE	20	1715	1716	1725	N14	W38	.623	16161	17.9	10	-N	3	C		43		F	
MCMA	20	1716E		1759D	N15	W41	.664	16161	17.6	43D	-N		P	1716	125	1.7	E	
GRP76257	20	1826	1827	1836	N29	W53	.825	16160	16.8	10	-N				35	.6		
PALE	20	1826	1827	1836	N28	W53	.823	16160	16.8	10	-B	3	C		34		F	
MCMA	20	1827E		1835	N30	W53	.828	16160	16.8	8D	-N		P	1827	35	.7	E	
GRP76258	20	1931	1940	1955	N14	W40	.649	16161	17.8	24	-N							
PALE	20	1931	1940	1954	N14	W39	.636	16161	17.9	23	-N	3	C		34		F	
MCMA	20	1949E		1955D	N15	W42	.676	16161	17.7	6D	-F		C	1949	40	.6	E	
GRP76259	20	1931	1947	2004	N28	W53	.823	16160	16.8	33	1B						E	
PALE	20	1931	1947	2004	N26	W53	.818	16160	16.8	33	1B	3	C		135		FDE	
PALE	20	1931	1947	1948	N28	W54	.831	16160	16.8	17	1B	3	C		135		F	
MCMA	20	1949E		1955D	N30	W53	.828	16160	16.9	6D	-B		C	1949	30	.6	E	
	20	2026	2039	NO FLARE PATROL														
260 MCMA	20	2031E		2031D	N15	W44	.700	16161	17.6		-F		P	2031	30	.4	G	ZX
	20	2052	2157	NO FLARE PATROL														
	20	2253	2302	NO FLARE PATROL														
	20	2341	0005	NO FLARE PATROL														
	21	0106	0115	NO FLARE PATROL														
	21	0130	0200	NO FLARE PATROL														
261 YUNN	21	0130	0130	0130D	N28	W58	.862	16160	16.7		1N		C		161			ZX
	21	0215	0217	NO FLARE PATROL														
262 PALE	21	0228E	0228U	0228D	N14	W43	.686	16161	17.9		-B	2	C		78		F	ZX
263 YUNN	21	0240	0240	0255	N16	W44	.702	16161	17.8	15	?N		C		193			ZX
	IMP.1 NO : PALE																	
GRP76264	21	0335	0338	0352	N15	W47	.735	16161	17.6	17	1N				210	3.1	DJ	
YUNN	21	0335	0338	0350	N16	W48	.747	16161	17.5	15	1B		C		225			
TACH	21	0336E		0354	N15	W46	.723	16161	17.7	18D	1F		V	0336	212	3.1	CDJ	
265 YUNN	21	0428	0432	0442	N16	W45	.713	16161	17.8	14	1B		C		345			ZX
266 HTPR	21	0602	0606	0614	N28	W27	.567	16139	19.2	12	-F		C	0606	20	.2	E	ZX
GRP76267	21	0643+2	0655	0705	N15	W48	.746	16161	17.7	22	-N						E	
HTPR	21	0643	0655	0659	N15	W52	.789	16161	17.4	16	-F		C	0655	30	.5	E	
ISTA	21	0643		0705	N14	W48	.745	16161	17.7	22	-N		V				E	
BUCA	21	0645		0730	N15	W48	.746	16161	17.7	45	-N		C	0648	85	1.3		
GRP76268	21	0735>9	0751	0757	S19	W14	.463	16155	20.3	22	-F						E	
ISTA	21	0735		0755	S19	W12	.448	16155	20.4	20	-F		V				E	
HTPR	21	0745	0751	0757	S20	W19	.517	16155	19.9	12	-F		C	0751	20	.2	E	
KANZ	21	0749E		0757	S19	W14	.463	16155	20.3	8D	-F	2					B	
269 ABST	21	0919E	0927	0944D	N27	W64	.904	16160	16.6	25D	?N		P	0927	131		FJ	ZX
	IMP.1 NO : HTPR CATA																	
270 ABST	21	0950E	0952	1001D	N27	W63	.897	16160	16.7	11D	?N		P	0952	105		FJ	ZX
	IMP.1 NO : HTPR ZURI																	
GRP76271	21	1020+1	1021+4	1027	N29	W62	.893	16160	16.8	7	-N				50	1.2		
CATA	21	1020	1025	1030	N29	W64	.906	16160	16.6	10	-B	*	C	1025	45	1.0		
HTPR	21	1020	1022	1026	N29	W60	.879	16160	16.9	6	-F	*	C	1022	20	.4		
ZURI	21	1021	1021	1027D	N32	W62	.897	16160	16.8	6D	-F	*	P	1021	70	1.7		
GRP76272	21	1020+7	1022	1038	N29	E05	.416	16156	21.8	18	-F							
			1030															
HTPR	21	1020	1022	1038	N29	E04	.414	16156	21.7	18	-F		C	1022	20	.2	E	
KANZ	21	1027	1030	1033D	N29	E07	.423	16156	22.0	6D	-N	2					D	
GRP76273	21	1031+2	1035	1039	N16	W47	.736	16161	17.9	8	-N							
HTPR	21	1031	1035	1039	N15	W47	.735	16161	17.9	8	-N		C	1035	30	.4		
KANZ	21	1033		1033D	N17	W47	.738	16161	17.9		-N	2						

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
274 ATHN	21	1035E	1037U	1043	N28	W60	.877	16160	16.9	8D	-B	3	C		48		DE	ZX
275 HTPR	21	1106	1109	1120	N14	W55	.818	16161	17.3	14	-N		C	1109	60	1.0	E	ZX
276 KANZ	21	1141E		1158	N30	E10	.452	16156	22.2	17D	-N	2						ZX
GRP76277	21	1233+2	1234+3	1243	S19	W18	.496	16155	20.2	10	-N				50	.6	E	
HTPR	21	1233	1234	1240	S19	W21	.524	16155	19.9	7	-F		C	1234	50	.5	E	
RAMY	21	1235	1237	1243	S19	W18	.496	16155	20.2	8	-N	3	C		51			
MCMA	21	1235	1236	1245	S20	W18	.508	16155	20.2	10	-N		C	1236	35	.4	E	
GRP76278	21	1320+1	1321	1426	N15	W51	.778	16161	17.7	66	1B				130	2.1	EKSZ	
			1349+5															
MCMA	21	1320	1321	1325	N17	W49	.760	16161	17.9	5	-N		C	1321	50	.8	E	
RAMY	21	1321	1335	1626	N14	W48	.745	16161	18.0	185	-N	3	C		89		Z F	
RAMY	21	1321	1354	1626	N14	W48	.745	16161	18.0	185	1B	*	C		168		Z F	
MCMA	21	1330	1351	1423D	N16	W52	.790	16161	17.7	53D	1B	*	C	1351	125	2.1	EKS	
MCMA	21	1330	1410	1423	N16	W52	.790	16161	17.7	53	1B	*	C					
HTPR	21	1345	1349	1405	N15	W55	.819	16161	17.4	20	-B	*	C	1349	50	.9	E	
KANZ	21	1420E		1428D	N16	W52	.790	16161	17.7	8D	-N	*						
279 RAMY	21	1324	1328	1334	S30	W50	.859	16137	17.8	10	-N	3	C		20			ZX
GRP76280	21	1337+1	1339+0	1348	N31	E31	.631	16163	23.9	11	-N						E	
HTPR	21	1337	1339	1345	N30	E30	.521	16163	23.8	8	-N		C	1339	100	1.1		
MCMA	21	1338	1339	1350	N32	E32	.648	16163	24.0	12	-N		C	1339	30	.4	E	
GRP76281	21	1341+3	1344+2	1358	N30	E05	.432	16156	21.9	17	-B				50	.6	EL	
HTPR	21	1341	1344	1358	N30	E04	.429	16156	21.9	17	-B		C	1344	40	.4	E	
MCMA	21	1343	1345	1405	N30	E05	.432	16156	21.9	22	-B		C	1345	50	.6	EL	
RAMY	21	1344	1346	1357	N28	E05	.401	16156	21.9	13	-B	3	C		70		F	
282 RAMY	21	1355	1359	1412	N27	W56	.845	16160	17.4	17	-N	3	C		21			ZX
GRP76283	21	1503E	1511	1545D	N16	W53	.800	16161	17.7	42	-N						EK	
MCMA	21	1503E	1511	1542D	N16	W52	.790	16161	17.7	39D	-N		C	1511	80	1.4	EK	
KANZ	21	1545E		1545D	N16	W55	.820	16161	17.5		-N	*						
GRP76284	21	1547+1	1550+1	1609	N15	W56	.828	16161	17.5	22	-F				30	.5		
HTPR	21	1547	1550	1615	N15	W56	.828	16161	17.5	28	-F	*	C	1550	20	.3		
BIGB	21	1548	1551	1602	N15	W56	.828	16161	17.5	14	-N	*	C	1551	40	.7		
285 RAMY	21	1604	1606	1610	S29	W55	.889	16137	17.5	6	-N	3	C		22			ZX
286 RAMY	21	1604	1606	1615	N25	W65	.909	16160	16.8	11	-N	3	C		12			ZX
287 MCMA	21	1611E	1613	1617D	N30	E03	.427	16156	21.9	6D	-N		C	1613	30	.3	E	ZX
288 HTPR	21	1740	1743	1803	N15	W57	.838	16161	17.5	23	-F		C	1743	20	.3		ZX
289 HOLL	21	1859	1900	1908	N15	W55	.819	16161	17.7	9	-B	3	C		44		F	ZX
290 HOLL	21	2004	2011	2012D	N16	W59	.856	16161	17.4	8D	?B	3	C		187		U F	ZX
	IMP.1 NO : BIGB																	
291 BIGB	21	2125	2134	2139	N15	W58	.847	16161	17.5	14	-N	3	C	2134	80	1.6		ZX
292 HOLL	21	2228	2229	2231	N15	W59	.856	16161	17.5	3	-B	3	C		289			ZX
293 CULG	21	2336E	2337U	2337D	N33	E05	.477	16156	22.4	1D	-F		P	2337	30	.3	L	ZX
294 VORO	22	0047	0048	0054	N15	W60	.864	16161	17.5	7	-N		C	0048	99	1.9	DJ	ZX
GRP76295	22	0121	0121	0137	S07	E14	.316	16166	23.1	16	-N						D	
			0129															
VORO	22	0121	0121	0135	S07	E14	.316	16166	23.1	14	-N		C	0121	108	1.1	D	
CULG	22	0125E	0129	0139D	S07	E15	.328	16166	23.2	14D	-N		P	0129	60	.6		
296 VORO	22	0127	0135	0245	N16	W59	.856	16161	17.6	78	?F		C	0135	278	5.3	EJK	ZX
	IMP.2 NO : CULG																	
297 CULG	22	0400	0404	0407U	N30	W10	.450	16156	21.4	7D	-F		C	0404	20	.2		ZX
298 TACH	22	0400E	0418	0431D	N16	W59	.856	16161	17.7	31D	?F		V	0418	398	7.1	E	ZX
	IMP.2 NO : CULG																	

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP76299	22	0542+1	0544+1	0550	N30	W06	.433	16156	21.8	8	-N				70	.8	D	
CULG	22	0542	0545	0550	N30	W06	.433	16156	21.8	8	-N		C	0545	70	.8		
TACH	22	0543	0544	0549	N31	W06	.448	16156	21.8	6	-N		C	0544	71	.8	D	
GRP76300	22	0600E	0657 0806	0808D	N14	W64	.896	16161	17.4	128	1N						FJK	
ISTA	22	0600E		0710	N14	W61	.872	16161	17.7	70D	1N	*	V				BEF	
ABST	22	0651E	0827	0921	N16	W64	.896	16161	17.5	150D	1B	*	P	0827	131		FJK	
ABST	22	0652	0657	0717	N14	W58	.846	16161	17.9	25	1N	*	C	0657	114	2.1	DJ	
ABST	22	0803	0806	0808	N13	W70	.936	16161	17.1	5	-N	*	C	0806	87		DJ	
301 ISTA	22	0600E		0615	N12	W48	.742	16165	18.7	15D	-N		V				DB	ZX
302 ABST	22	0718	0721	0724	N13	W48	.743	16165	18.7	6	-N		C	0721	87	1.3	DJ	ZX
303 ABST	22	0845	0847	0905	N13	W49	.755	16165	18.7	20	-N		C	0847	131	2.0	DJ	ZX
304 ABST	22	0845	0851	0905	N14	W11	.244		21.5	20	-N		C	0851	122	1.3	DJ	ZX
	22	1008	1010	NO FLARE PATROL														
	22	1025	1026	NO FLARE PATROL														
	22	1105	1115	NO FLARE PATROL														
	22	1155	1245	NO FLARE PATROL														
305 HUAN	22	1303		1319	N15	W57	.837	16161	18.3	16	-N	1	C	1310	65	1.2	E	ZX
GRP76306	22	1333>9		1440D	N13	W65	.903	16161	17.7	71	-N							
RAMY	22	1333E	1445	1518	N13	W65	.903	16161	17.7	105D	-B	3	C		37		F	
HUAN	22	1358		1444	N14	W65	.903	16161	17.7	46	-F	1	C	1425			E	
307 RAMY	22	1336	1341	1342	N11	W51	.775	16165	18.7	6	-N	3	C		17			ZX
GRP76308	22	1614+4	1633+0	1655	N14	W65	.903	16161	17.8	41	-N				50		HU	
HUAN	22	1614		1630	N15	W65	.903	16161	17.8	16	-F	1	P	1619			E	
HOLL	22	1618	1633	1715	N14	W65	.903	16161	17.8	57	-B	3	C		67		U	
RAMY	22	1629	1633	1655	N13	W65	.903	16161	17.8	26	-B	3	C		33		F H	
GRP76309	22	1732+7	1740+2	1756	N13	W67	.917	16161	17.7	24	-B						F	
HOLL	22	1732	1740	1756	N15	W70	.936	16161	17.5	24	-B	2	C		55		F	
RAMY	22	1739	1742	1755	N12	W65	.903	16161	17.9	16	-B	3	C		24		F	
GRP76310	22	1800E	1808	1828	N13	W66	.910	16161	17.8	28	-N				35			
MCMA	22	1743E		1810D	N15	W68	.924	16161	17.6	27D	-N		P	1810	40	1.0	E	
RAMY	22	1800	1808	1828	N12	W65	.903	16161	17.9	28	-N	3	C		32		F	
311 MCMA	22	1810E		1810D	S05	E05	.193	16166	23.1		-N		P	1810	30	.3	E	ZX
GRP76312	22	2002	2004+4 2019	2026	N15	W70	.936	16161	17.6	24	-N				35			
HOLL	22	2002	2004	2026	N15	W70	.936	16161	17.6	24	-B	2	C		45		DE	
HOLL	22	2002	2019	2026	N15	W70	.936	16161	17.6	24	-B	2	C		40		DE	
PALE	22	2005E	2008U	2008D	N15	W70	.936	16161	17.6	3D	-N	2	C		17		FDE	
313 PALE	22	2119E	2122U	2142	N15	W67	.917	16161	17.9	23D	-N	2	C		33		DE	ZX
314 CULG	22	2329	2334	2341	S27	W76	.984	16137	17.3	12	-F		C	2334	30			ZX
315 CULG	22	2331	2335	2348	N33	W14	.514	16156	21.9	17	-N		C	2335	150	1.7	F	ZX
316 CULG	23	0007	0012	0039U	N16	W73	.953	16161	17.5	32D	-F		C	0012	60		T	ZX
317 CULG	23	0022	0026	0032	S27	W85	.999	16137	16.6	10	-F		C	0026	10			ZX
318 CULG	23	0147	0151	0201	S09	W33	.584	16148	20.6	14	-F		C	0151	40	.5		ZX
GRP76319	23	0158>9	0215+0	0232	N15	W73	.953	16161	17.6	34	1N				110		FU	
YUNN	23	0158		0205	N16	W74	.958	16161	17.5	7	1N		C	0205	96			
CULG	23	0202	0215	0234	N15	W73	.953	16161	17.6	32	1F		C	0215	120		T	
PALE	23	0208	0215	0230	N14	W73	.953	16161	17.6	22	1B	3	C		106		U F	
GRP76320	23	0215+1	0216+1	0228	N32	W15	.506	16156	22.0	13	-B						HU	
CULG	23	0215	0217	0226	N33	W15	.519	16156	22.0	11	1N		C	0217	180	2.1		
PALE	23	0216	0216	0229	N32	W15	.545	16156	22.0	13	-B	3	C		49		U H	
321 PALE	23	0221	0227	0241	N29	W85	.993	16160	16.7	20	-N	3	C					ZX
322 CULG	23	0232	0233	0250	S28	W85	.999	16137	16.7	18	?N		C	0233	60			ZX
	IMP.1 NO : PALE																	

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP76323	23	0350E	0350 0357	0401	N29	W82	.986	16160	17.0	11	-N						D	
MANI	23	0350E	0350U	0400	N28	W83	.989	16160	16.9	100	-N	3	V		50			
TACH	23	0354E	0357	0402	N30	W81	.984	16160	17.1	80	1F		V	0357	133		D	
324 CULG	23	0400	0403	0417	N10	E02	.093	16153	23.3	17	-N		C	0403	70	.7		ZX
325 CULG	23	0432	0436U	0503	S28	W87	1.000	16137	16.7	31	-F		C	0436	40			ZX
GRP76326	23	0457E	0647 0743	0800D	N28	W90	.999	16160	16.5	183	2N						AHJKO	
ABST	23	0457E	0647	0948	N29	W90	.999	16160	16.5	291D	2N		P	0647	183		AFJK	
KHAR	23	0715E	0743	0800D	N28	W88	.997	16160	16.7	45D	1N		P	0738			EHKOT	
ISTA	23	0745E		0757D	N28	W90	.999	16160	16.6	12D	-N		V				A	
327 ABST	23	0504E	0508	0518	N16	W80	.982	16161	17.2	14D	?F		P	0508	131		FJ	ZX
	IMP.1	NO : CULG		MITK	TACH													
328 ABST	23	0522	0524	0531D	N15	W80	.982	16161	17.2	9D	?F		P	0524	122		EJ	ZX
	IMP.1	NO : CULG		MITK	TACH													
329 CULG	23	0546	0547	0551	S25	W87	1.000	16137	16.7	5	-F		C	0547	10			ZX
330 ABST	23	0546	0548	0554D	N17	W79	.978	16161	17.3	8D	?N		P	0548	131		EJ	ZX
	IMP.1	NO : CULG		MITK	TACH													
331 ABST	23	0550	0551	0554	N32	W12	.488	16156	22.3	4	-N		C	0551	87	1.0	OJV	ZX
332 ABST	23	0559	0604	0700	N15	W80	.982	16161	17.2	61	?N		C	0604	131		EJ	ZX
	IMP.1	NO : CULG		MITK														
333 ABST	23	0633	0637	0641	N13	W63	.888	16165	18.5	8	-F		C	0637	87		FJ	ZX
334 ABST	23	0637	0644	0648	N33	W18	.539	16156	21.9	11	-F		C	0644	122	1.5	DJ	ZX
335 ABST	23	0709	0710	0711D	N14	W64	.896	16165	18.5	2D	-F		P	0710	87		OJV	ZX
336 KHAR	23	0715E		0745D	N11	W76	.967	16161	17.6	30D	-N		P				EOT	ZX
337 ISTA	23	0745E		0755	S15	E01	.343		23.4	10D	-N		V				E	ZX
GRP76338	23	0750>9	0802+4	0810	N13	W76	.967	16161	17.6	20	-N						EJ	
KHAR	23	0750E		0810D	N11	W76	.967	16161	17.6	20D	-N	*	V	0805			ET	
ZURI	23	0800	0802	0808	N14	W77	.971	16161	17.6	8	-N	*	C	0802	40			
ISTA	23	0802E		0810	N14	W74	.960	16161	17.8	8D	-N	*	V				D	
ABST	23	0805E	0806	0824	N13	W80	.982	16161	17.3	19D	1N	*	P	0806	131		EJ	
GRP76339	23	0754	0812+2	0827	N32	W19	.534	16156	21.9	33	-N				140	1.7	EHJL	
ZURI	23	0754	0814	0846	N33	W18	.539	16156	22.0	52	-N		C	0814	160	2.0		
KHAR	23	0802E		0810D	N32	W20	.542	16156	21.8	8D	-F		V	0808			EHLT	
ABST	23	0806	0812	0827	N32	W20	.542	16156	21.8	21	-N		C	0812	140	1.6	FJ	
MONT	23	0812	0814	0822	N33	W18	.539	16156	22.0	10	-F		C	0814	60		E	
GRP76340	23	0815+3	0821+7	0837	N30	W85	.993	16160	17.0	22	-N				50		AD	
YUNN	23	0815	0821	0840	N32	W84	.991	16160	17.0	25	13		C		79			
ZURI	23	0818	0822	0834	N30	W84	.991	16160	17.0	16	1N		C	0822	60			
MONT	23	0818	0823	0831	N30	W86	.995	16160	16.9	13	-F		C	0823	50		D	
ISTA	23	0826		0838	N28	W90	.999	16160	16.6	12	-N		V				A	
ATHN	23	0827E	0828U	0838	N29	W84	.991	16160	17.1	11D	-B	3	C		32			
GRP76341	23	0852+0	0854+0	0904	N32	W14	.500	16156	22.3	12	-F				80	.9	DJ	
ABST	23	0852	0854	0900	N33	W14	.513	16156	22.3	8	-N		C	0854	67	1.0	CJ	
ZURI	23	0852	0854	0908	N32	W14	.500	16156	22.3	16	-F		P	0854	80	1.0		
342 ZURI	23	0906E	0906	0908	N14	W77	.971	16161	17.6	2D	-N		P	0906	60			ZX
343 KHAR	23	0907E		0940D	N29	W90	.999	16160	16.6	33D	-N		P				HT	ZX
344 KHAR	23	0913E		0923D	N13	W65	.903	16165	18.5	10D	-F		P				D	ZX
GRP76345	23	0934	0937+0	1000	N15	E63	.888	16167	28.1	26	-N				90	2.0	D	
TELV	23	0934	0937	1000	N14	E64	.897	16167	28.2	26	-B	*	C	0937	60	1.4	D	
KHAR	23	0935E	0937	0955D	N16	E62	.881	16167	28.0	20D	1F	*	P	0938	120			

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP76346	23	0934+1	0948+2	1002	N15	W79	.978	16161	17.5	28	1N						OJ	
KHAR	23	0934E		1007D	N15	W79	.978	16161	17.5	33D	1N		P	0934			T	
ABST	23	0935	0948	1002D	N15	W80	.982	16161	17.4	27D	2N		P	0948	175		DJ	
MONT	23	0947	0950	0954	N15	W76	.967	16161	17.7	7	-F		C	0950	50		D	
GRP76347	23	0954+4	1000+4	1026	N32	W18	.527	16156	22.1	32	-N				140	1.7	EHJ	
ABST	23	0954	1000	1002D	N33	W19	.546	16156	22.0	8D	-N		P	1000	175	2.0	EJ	
MONT	23	0955	1002	1024	N31	W18	.515	16156	22.1	29	-N		C	1002	100		E	
KHAR	23	0958	1004	1027D	N32	W18	.527	16156	22.1	29D	-F		V	1004			EHT	
GRP76348	23	1050+0	1054+1	1114	N13	W65	.903	16165	18.6	24	-N				70	1.7	D	
			1110															
MONT	23	1050	1054	1102	N14	W66	.910	16165	18.5	12	-F		C	1054	50		D	
KHAR	23	1050E	1055	1120D	N13	W65	.903	16165	18.6	30D	1N		P	1053	100			
ZURI	23	1106	1110	1114	N13	W65	.903	16165	18.6	8	-N		C	1110	90	2.1		
349 ATHN	23	1053	1054	1100D	N29	W59	.871	16139	19.0	70	-N	1		1054	33	.5		ZX
350 KHAR	23	1057E		1103D	N29	W88	.997	16160	16.9	6D	-F		V				DHT	ZX
GRP76351	23	1114	1114	1124D	N32	W18	.527	16156	22.1	10	-N						E	
ZURI	23	1114	1114	1124D	N33	W19	.546	16156	22.0	10D	-N		P	1114	50	.6		
KHAR	23	1115E		1120D	N32	W18	.527	16156	22.1	5D	-F		V	1115			ET	
	23	1124	1130	NO FLARE PATROL														
	23	1155	1210	NO FLARE PATROL														
	23	1231	1303	NO FLARE PATROL														
	23	1329	1336	NO FLARE PATROL														
352 ZURI	23	1411E	1413	1443	N14	W80	.982	16161	17.6	32D	?N		P	1413	120			ZX
	IMP.1 NO : HOLL																	
353 KANZ	23	1507	1510	1510D	N32	W32	.646	16156	21.2	3D	-F	1						ZX
354 HOLL	23	1636	1640	1649	N31	W22	.547	16156	22.0	13	-N	4	C		23			ZX
GRP76355	23	1645+1	1648+2	1712	S05	W07	.212	16166	23.2	27	-N				110	1.1	U	
HOLL	23	1645	1650	1715	S05	W07	.212	16166	23.2	30	-B	4	C		142		UDE	
BIGB	23	1646	1648	1708	S06	W07	.226	16166	23.2	22	-N	3	C	1648	80	.8		
GRP76356	23	1848+4	1848	1923	N32	W24	.575	16156	22.0	35	-F				40	.5	F	
			1904+3															
PALE	23	1848	1904	1923	N23	W24	.490	16156	22.0	35	-N	3	C		34		F	
PALE	23	1848	1848	1851	N23	W24	.490	16156	22.0	3	-N	3	C		34		F	
BIGB	23	1852	1907	1918E	N32	W24	.575	16156	22.0	26D	-F	3	C	1907	50	.6		
	23	1952	2000	NO FLARE PATROL														
357 PALE	23	2111	2127	2153	N31	W26	.583	16156	21.9	42	-N	3	C		75		U F	ZX
	23	2113	2125	NO FLARE PATROL														
358 PALE	23	2319	2320	2324	N30	W26	.573	16156	22.0	5	-N	3	C		42		F	ZX
GRP76359	24	0058+9	0109+0	0224	N31	W28	.600	16156	21.9	86	-B							
			0156															
PALE	24	0058	0109	0132	N31	W29	.610	16156	21.9	34	-B	3	C		119		FDE	
PURP	24	0107	0109	0220	N31	W28	.600	16156	21.9	73	1N		C					
PALE	24	0152	0156	0227	N31	W29	.610	16156	21.9	35	-B	3	C		72		F	
GRP76360	24	0441	0520	0554	N32	W30	.627	16156	21.9	73	1F							
CULG	24	0441	0520	0542	N33	W28	.618	16156	22.1	61	1F		C	0520	180	2.4		
HTPR	24	0532E		0606	N31	W33	.742	16156	21.8	34D	-F		C	0533	20	.3		
GRP76361	24	0506+2	0514	0522D	N14	E86	.996	16171	30.7	16	1N						E	
CULG	24	0506U	0524U	0604U	N13	E88	.999	16171	30.8	58D	1N		C	0524	60			
TACH	24	0508	0514	0522	N16	E85	.994	16171	30.6	14	1B		C	0514	53		E	
362 ABST	24	0610E	0612	0616	N31	W28	.600	16156	22.2	6D	-N		P	0612	131	1.7	E	ZX
363 ABST	24	0626	0628	0632D	N13	W75	.962	16165	18.6	6D	?N		P	0628	87		E	ZX
	IMP.1 NO : HTPR MITK CATA																	
364 ABST	24	0628	0630	0639	S15	E47	.774	16169	27.8	11	?N		C	0630	131	2.1	D	ZX
	IMP.1 NO : HTPR MITK CATA																	

Hα SOLAR FLARES

JULY 1979

OBSERV-ATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURA-TION MIN.	IMPOR-TANCE	OBS COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP76365	24	0650>9	0707 0727	0735	N31	W31	.628	16156	22.0	45	1N						D	
PURP	24	0650	0707	0735	N31	W32	.638	16156	21.9	45	1N		C					
ABST	24	0725	0727	0731D	N32	W31	.636	16156	22.0	60	-N		P	0727	105	1.4	D	
GRP76366	24	0742+9	0758+7 0815	0835	N31	W31	.628	16156	22.0	53	-B				140	1.8	FJKU	
ABST	24	0742	0804	0846	N31	W31	.628	16156	22.0	64	1B		C	0804	175	2.3	FJK	
ISTA	24	0745E	0800	0825	N31	W31	.628	16156	22.0	40D	1B		V				K	
HTPR	24	0748	0815	0840	N31	W34	.751	16156	21.8	52	-B		C	0815	150	2.1	EO	
MONT	24	0751	0758	0832	N32	W30	.627	16156	22.1	41	-B		C	0758	110			
KANZ	24	0752E		0830D	N33	W31	.644	16156	22.0	38D	-B	2						
CATA	24	0755	0805	0845	N30	W32	.630	16156	21.9	50	1B	2	C	0805	168	2.2	T	
ATHN	24	0759	0801	0826	N31	W30	.619	16156	22.1	27	-B	3	C		80		F	
367 KHAR	24	0855		0905D	S02	W33	.555	16148	21.9	10D	-F		V	0858			D	ZX
368 ABST	24	0856	0859	0912D	N32	W33	.655	16156	21.9	16D	-N		P	0859	114	1.5	DJ	ZX
369 KHAR	24	0858	0858	0905D	S30	W90	1.001	16137	17.6	7D	-F		V	0858			D	ZX
GRP76370	24	0938>9	0949+1	0959	N08	W10	.179	16153	23.7	21	-N						EJ	
ABST	24	0938E	0949	0955	N08	W11	.196	16153	23.6	17D	-N		P	0949	157	1.6	EJ	
HTPR	24	0948	0950	1002	N08	W10	.179	16153	23.7	14	-B		C	0950	70	.7	E	
GRP76371	24	1017+8	1028 1100+2	1142	N31	W33	.648	16156	22.0	85	1N				180	2.4	EO	
KHAR	24	1017E	1100	1200D	N30	W34	.650	16156	21.9	103D	1N		P	1102	250	3.5	EO	
HTPR	24	1025	1028	1140	N31	W35	.760	16156	21.8	75	-F		C	1100	60	.8	E	
ZURI	24	1056	1102	1116D	N31	W33	.648	16156	22.0	20D	1N		P	1102	180	2.5		
MCMA	24	1140E		1142D	N32	W33	.655	16156	22.0	2D	-F		P	1140	80	1.1	E	
372 KHAR	24	1020E		1039D	N14	W90	1.000	16161	17.7	19D	-F		V	1031			E	ZX
373 KHAR	24	1137E		1148D	N17	E80	.981	16171	30.5	11D	-F		V	1137			H	ZX
374 HTPR	24	1221	1227	1235	N31	W46	.769	16156	21.1	14	-F		C	1227	30	.4		ZX
GRP76375	24	1421+5	1438	1454	N31	W36	.676	16156	21.9	33	-F				35	.5	E	
HTPR	24	1421	1438	1457	N31	W37	.778	16156	21.8	36	-N		C	1438	40	.5	E	
HUAN	24	1426		1450	N32	W36	.683	16156	21.9	24	-F	1	C	1435	30	.4	E	
376 HUAN	24	1447		1452	N08	W13	.229	16153	23.6	5	-F	1	C	1450	15	.2	D	ZX
GRP76377	24	1507+0	1512+4 1531	1607	N31	W35	.667	16156	22.0	60	-N				70	1.0	E	
HUAN	24	1507		1603	N32	W36	.683	16156	21.9	56	-N	1	C	1515	50	.7	E	
BIGB	24	1507	1512	1608	N31	W35	.667	16156	22.0	61	-N	3	C	1512	70	.9		
HTPR	24	1507	1516	1605	N31	W36	.769	16156	21.9	58	-N		C	1516	80	1.1	E	
RAMY	24	1525E	1531U	1609	N30	W33	.640	16156	22.2	44D	-B	3	C		73		F	
GRP76378	24	1614+1	1616+0	1622	N29	W41	.713	16156	21.6	8	-N				70	1.0		
BIGB	24	1614	1616	1631	N29	W41	.713	16156	21.6	17	-N	3	C	1616	50	.7		
RAMY	24	1615	1616	1622	N29	W36	.664	16156	22.0	7	-N	3	C		95		F	
HUAN	24	1615		1618	N31	W42	.733	16156	21.5	3	-F	1	C				E	
GRP76379	24	1850>9	1903	1913D	N13	E68	.923	16171	29.9	23	-N							
RAMY	24	1850E	1916U	2018D	N14	E71	.942	16171	30.1	88D	-N	2	C		20			
BIGB	24	1901	1903	1913	N12	E65	.903	16171	29.7	12	-N	3	C	1903	50			
380 BIGB	24	1857	1859	1906	N14	E00	.154	16153	24.8	9	-N	3	C	1859	50	.5		ZX
381 HOLL	24	1900	1902	1906	N10	W18	.317	16153	23.4	6	-N	3	C		25		F	ZX
382 RAMY	24	1912E	1958U	2018D	S15	E17	.442	16164	26.1	66D	-N	2	C		30			ZX
383 BIGB	24	2155	2200	2209	N12	E63	.887	16171	29.6	14	-N	3	C	2200	30	.7		ZX
384 CULG	24	2246	2312U	2330	N33	W38	.707	16156	22.1	44	-N		C	2312	120	1.7		ZX
GRP76385	25	0040>9	0128+3	0200D	N31	W40	.713	16156	22.0	80	1B				140	2.1	UZ	
HOLL	25	0040	0128	0132D	N31	W41	.723	16156	22.0	52D	-B	3	C		113		Z U	
PALE	25	0106	0131	0200D	N31	W39	.704	16156	22.1	54D	1B	3	C		180		FDE	
386 PALE	25	0125	0126	0144	N16	E73	.952	16171	30.5	19	-N	3	C				FDE	ZX
	25	0152	0202	NO FLARE PATROL														

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
	25	0215	0232	NO FLARE PATROL														
387 PALE	25	0220	0245	0321	N31	W40	.713	16156	22.1	61	-N	3	C		49		FDE	ZX
388 CULG	25	0242	0259U	0517	S17	E03	.381	16164	25.3	155	-F		C	0259	60	.6	SFK	ZX
389 PALE	25	0249	0256	0326	N16	E72	.947	16171	30.5	37	?B	3	C		110		FDE	ZX
	IMP.1	NO :	CULG	MITK														
390 ABST	25	0453E	0456	05000	N33	W44	.760	16156	21.9	70	?F		P	0456	166	2.6	E	ZX
	IMP.1	NO :	TACH	CULG														
391 ABST	25	0735	0736	0739	N08	W24	.407	16153	23.5	4	-F		P	0736	87	1.0	D	ZX
GRP76392	25	0750E	0750	0756	S15	E13	.406	16164	26.3	6	-F							
ZURI	25	0750E	0750	0756	S15	E12	.398	16164	26.2	60	-F		P	0750	80	.9		
MANI	25	0752E	0752U	0756D	S15	E14	.415	16164	26.4	40	-N	2	V		20			
393 HTPR	25	0802	0805	0810	S16	E12	.412	16164	26.2	8	-F		C	0810	20	.2	D	ZX
GRP76394	25	0826>9	0838+1	0933	S16	E12	.412	16164	26.3	67	-N				60	.7	EKV	
			0851+3															
WENO	25	0826		0941	S14	E13	.393	16164	26.3	75	-N		C		50	.5	E	
KANZ	25	0826		0930	S16	E11	.404	16164	26.2	64	-N	1					F	
HTPR	25	0829	0852	0940	S14	E11	.376	16164	26.2	71	-N		C	0852	40	.4	EK	
WENO	25	0830		0933	S13	E09	.347	16164	26.0	63	-N		C				D	
WENO	25	0834		08420	S19	E17	.492	16164	26.6	80	-F		C					
HTPR	25	0835	0839	0845	S19	E18	.500	16164	26.7	10	-F		C	0839	30	.4	E	
MONT	25	0835	0839	0928	S15	E09	.376	16164	26.0	53	-N		C	0839	80		E	
ZURI	25	0836	0838	0844	S18	E18	.488	16164	26.7	8	-N		C	0838	50	.6		
ZURI	25	0836	0854	0926	S15	E12	.398	16164	26.3	50	-N		C	0854	180	2.1		
ABST	25	0837	0838	0856	S18	E18	.488	16164	26.7	19	-F		C	0838	131	1.5	EV	
ABST	25	0838	0841	0847	S14	E12	.384	16164	26.3	9	-N		C	0841	87	.9	D	
ABST	25	0838	0851	0929	S14	E07	.349	16164	25.9	51	-N		C	0851	87	1.0	D	
ABST	25	0849	0904	09360	S15	E11	.390	16164	26.2	470	-N		P	0904	87	1.0	D	
395 KANZ	25	1105		11560	S15	E04	.352	16164	25.8	510	-F	1						ZX
396 WENO	25	1211		1257	N11	E61	.871	16171	30.1	46	-N		C		60	1.3		ZX
GRP76397	25	1431+1	1432+0	1445	N15	E63	.888	16171	30.3	14	-N				20	.4		
BIGB	25	1431	1432	1446	N16	E65	.903	16171	30.5	15	-B	3	C	1432	20			
HUAN	25	1431E		1435	N15	E66	.910	16171	30.6	40	-F	1	P	1432	15		D	
RAMY	25	1432	1432	1444	N16	E61	.872	16171	30.2	12	-B	3	C		16		F	
HOLL	25	1432	1432	1446	N15	E62	.880	16171	30.3	14	-B	3	C		19		FDE	
GRP76398	25	1600+2	1604+3	1612	S06	W33	.571	16166	23.2	12	-B				50	.6	F	
WENO	25	1600		1610D	S06	W29	.516	16166	23.5	100	-N		C	1604	60	.7		
HOLL	25	1601	1607	1619	S06	W33	.571	16166	23.2	18	-B	3	C		59		F	
RAMY	25	1602	1606	1612	S07	W33	.575	16166	23.2	10	-B	3	C		39			
BIGB	25	1602	1604	1610	S06	W33	.571	16166	23.2	8	-B	3	C	1604	30	.4		
GRP76399	25	1737+1	1739+0	1756	S07	W35	.602	16166	23.1	19	-N						F	
HOLL	25	1737	1739	1756	S08	W35	.606	16166	23.1	19	-B	3	C		75		F	
BIGB	25	1738	1739	1755	S06	W35	.598	16166	23.1	17	-N	3	C	1739	30	.4		
400 BIGB	25	2048	2056	2103	S22	E90	1.001	16174	1.6	15	-N	3	C	2056	40			ZX
401 BIGB	25	2300	2301	2317	N32	W60	.882	16156	21.5	17	-N	3	C	2301	40	.8		ZX
402 HOLL	25	2307	2311	0007	N32	W40	.719		23.0	60	-B	3	C		100		F	ZX
403 BIGB	26	0003	0004	0006	N33	W56	.856	16156	21.8	3	-F	3	C	0004	30	.6		ZX
	26	0147	0235	NO FLARE PATROL														
404 PALE	26	0235E	0237U	02530	S15	W01	.347	16164	26.0	180	-N	2	C		30		DE	ZX
	26	0237	0240	NO FLARE PATROL														
405 TACH	26	0340E		0353	S15	E18	.454	16169	27.5	130	1F		V	0340	442	5.1	E	ZX
406 HTPR	26	0525F		0550	S15	E18	.454	16169	27.6	250	-F		C	0525	40	.4	BE	ZX
GRP76407	26	0655+1	0658	0725	S13	W02	.316	16164	26.1	30	-N							
HTPR	26	0655	0658	0725	S14	W03	.334	16164	26.1	30	-F		C	0658	30	.3	E	
ICTA	26	0656		0725	S13	W02	.316	16164	26.1	29	-B		V				F	

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
408 ISTA	26	0708		0713	S14	E18	.443	16169	27.6	5	-N		V				E	ZX
409 KANZ	26	0730E		0740	S13	W04	.321	16164	26.0	10D	-N	2						ZX
GRP76410	26	0730+5	0735+1	0749	S14	E17	.433	16169	27.6	19	-N						E	
KANZ	26	0730E	0735	0747	S14	E16	.422	16169	27.5	17D	-B	*					E	
HTPR	26	0731	0736	0755	S16	E17	.456	16169	27.6	24	-N	*	C	0736	20	.2	E	
ISTA	26	0732		0748	S14	E17	.433	16169	27.6	16	-N	*	V				E	
BUCA	26	0735		0750	S14	E17	.433	16169	27.6	15	-F	*	C	0738	107	1.2	E	
GRP76411	26	0901+4	0905+0	0912	N09	E25	.424	16167	28.3	11	-N						D	
TELV	26	0901	0905	0914	N07	E27	.452	16167	28.4	13	-N		C	0905	60	.7		
KANZ	26	0905	0905	0909	N12	E24	.417	16167	28.2	4	-N	2					C	
GRP76412	26	0921+8	0929+3	0948	S15	W07	.366	16164	25.9	27	-N				100	1.1		
KANZ	26	0921	0929	0953	S15	W08	.371	16164	25.8	32	-N	2						
MONT	26	0923	0930	0948	S14	W05	.341	16164	26.0	25	-N		C	0930	110			
ATHN	26	0929	0932	0944	S16	W07	.381	16164	25.9	15	-N	1		0932	98	1.0		
GRP76413	26	0933+5	0935	1019	N15	E54	.808	16171	30.4	46	-N						FL	
			0949+3															
ATHN	26	0933	0935	1013	N13	E51	.775	16171	30.2	40	-B	4	C		80		F	
MONT	26	0935	0952	1019	N15	E56	.827	16171	30.6	44	-N		C	0952	70			
KANZ	26	0938	0949	1024	N15	E54	.808	16171	30.5	46	-N	2						
LOCA	26	0940E	0940	1015	N15	E52	.788	16171	30.3	35D	1N		V	0940	244	4.2		
KHAR	26	1004E		1022D	N16	E55	.819	16171	30.5	18D	1N		P	1009	180	3.3	L	
414 KHAR	26	1015	1015	1018	S07	W44	.714	16166	23.1	3	-F		V	1015			DT	ZX
GRP76415	26	1042+2	1047>9	1119	N16	E17	.339	16167	27.7	37	-F						EH	
MONT	26	1042	1047	1100D	N16	E17	.339	16167	27.7	18D	-F		C	1047	50		E	
KANZ	26	1044	1052	1108	N16	E16	.326	16167	27.6	24	-N	2						
KHAR	26	1054E	1057	1130D	N17	E17	.348	16167	27.7	36D	1F		P	1100	240	2.7	EH	
GRP76416	26	1120+2	1123+0	1134	S06	W43	.700	16166	23.2	14	-F						H	
KHAR	26	1120E	1123	1133D	S07	W44	.714	16166	23.2	13D	-F		P	1123	100	1.5	HT	
KANZ	26	1122	1123	1134	S05	W43	.697	16166	23.2	12	-F	2						
417 KHAR	26	1131	1132	1140D	S15	E85	.998	16175	1.9	9D	-F		P	1131			O	ZX
	26	1150	1308	NO FLARE PATROL														
	26	1321	1333	NO FLARE PATROL														
GRP76418	26	1414	1416	1420	S18	E58	.881	16174	30.9	6	-F				20	.4	D	
HOLL	26	1414	1416	1420	S17	E56	.863	16174	30.8	6	-N	3	C		21			
HUAN	26	1415E		1419	S20	E60	.900	16174	31.1	4D	-F	1	P	1417	15		C	
GRP76419	26	1439+5	1453	1514D	N15	E53	.798	16171	30.6	35	-N				40	.7	D	
BIGB	26	1439	1453	1549	N16	E53	.799	16171	30.6	70	-N	3	C	1453	40	.7		
WEND	26	1443E		1456D	N15	E52	.788	16171	30.5	13D	-N		C	1450	45	.8		
HUAN	26	1444		1514	N15	E55	.818	16171	30.7	30	-F	1	C	1450	20	.3	C	
420 BIGB	26	2030	2037	2042	S29	E90	1.001	16179	2.6	12	-N	3	C	2037	40			ZX
GRP76421	26	2058+7	2107+5	2128	S13	W11	.363	16164	26.0	30	-N				80	.9	FU	
PALE	26	2058	2107	2128D	S15	W11	.391	16164	26.0	30D	-N	3	C		98		F	
HOLL	26	2058	2112	2131	S13	W11	.363	16164	26.0	33	-B	3	C		75		U F	
BIGB	26	2105	2108	2122	S13	W11	.363	16164	26.1	17	-N	3	C	2108	60	.6		
422 HOLL	26	2237	2238	2243	N15	E45	.710	16171	30.3	6	-B	3	C		49		FDE	ZX
423 HOLL	27	0037	0039	0045	S15	W14	.417	16164	26.0	8	-B	3	C		48			ZX
GRP76424	27	0053+8	0101+3	0116	N16	E44	.700	16171	30.3	23	-N				60	.9		
			0110															
PALE	27	0053E	0102U	0116	N17	E44	.702	16171	30.3	23D	-B	3	C		53		FDE	
HOLL	27	0055	0101	0113D	N17	E44	.702	16171	30.3	18D	-B	3	C		60		DE	
BIGB	27	0101	0104	0118	N16	E45	.712	16171	30.4	17	-N	3	C	0104	60	.9		
PURP	27	0103	0110	0116	N13	E43	.683	16171	30.3	13	-F		C					
GRP76425	27	0128E	0214+4	0311	N13	E45	.707	16171	30.4	103	1N						S	
PALE	27	0128E	0214U	0322	N17	E45	.714	16171	30.4	114D	-B	3	C		91		FDE	
CULG	27	0149U	0215U	0300U	N13	E46	.719	16171	30.5	71D	1F		C	0215	280	4.0	FS	
PURP	27	0207	0218	0300	N13	E43	.683	16171	30.3	53	1F		C					
426 CULG	27	0208	0236	0344	S20	W27	.598	16164	25.1	96	-F		C	0236	80	1.0		ZX

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
427 CULG	27	0234E	0240	0251	S21	E80	.992	16174	2.1	17D	-F		P	0240	20			ZX
428 HTPR	27	0542E		0630	N18	E48	.749	16171	30.8	48D	-F		C	0542	30	.5	D	ZX
429 ISTA	27	0806		0810	S15	W17	.445	16164	26.1	4	-F		V				D	ZX
GRP76430	27	0851+4	0907+8	0936	N13	E38	.619	16171	30.2	45	-N						JK	
			0920															
ABST	27	0851	0857	0903	N14	E37	.606	16171	30.1	12	1F		C	0857	175	2.3	DJ	
HTPR	27	0853E	0911	0945	N13	E38	.619	16171	30.2	52D	-N		C	0911	80	1.0	EKT	
MONT	27	0853	0914	0934	N14	E38	.621	16171	30.2	41	-N		C	0914	150			
CATA	27	0855	0915	0925D	N13	E37	.606	16171	30.1	30D	1B	2	P	0915	224	2.9		
ABST	27	0855	0911	0911D	N15	E40	.649	16171	30.4	16D	-N		P	0911	131	1.8	FJ	
ABST	27	0859	0910	0915D	N13	E36	.592	16171	30.1	16D	1F		P	0910	175	2.2	FJ	
PURP	27	0904	0920	0935	N13	E39	.632	16171	30.3	31	1N		C					
ATHN	27	0906	0908	1014	N14	E39	.634	16171	30.3	68	-B	3	C		95		F	
LOCA	27	0907E	0907	0930	N13	E37	.606	16171	30.2	23D	-N		V	0907	102	1.3		
KANZ	27	1005E		1011D	N14	E36	.594	16171	30.1	6D	-F	1						
GRP76431	27	0934+1	0936+1	0951	S07	W56	.841	16166	23.2	17	-F				40	.7	H	
MONT	27	0934	0936	0949	S07	W54	.822	16166	23.3	15	-F		C	0936	50		H	
ATHN	27	0935	0937	0952	S07	W59	.867	16166	23.0	17	-N	1		0937	33	.5		
	27	1150	1319	NO FLARE PATROL														
432 HTPR	27	1155	1157	1220	N13	E33	.551	16171	30.0	25	-B		C	1157	90	1.1	EHKT	ZX
GRP76433	27	1230	1310	1420	N13	E34	.565	16171	30.1	110	-F						EK	
			1353															
HTPR	27	1230	1310	1425	N14	E35	.581	16171	30.1	115	-F		C	1310	40	.5	EKT	
MCMA	27	1321E		1353D	N13	E35	.578	16171	30.2	32D	-N		C	1322	50	.6	E	
KANZ	27	1337E		1414	N14	E34	.567	16171	30.1	37D	-F	1					E	
HTPR	27	1345	1353	1425	N12	E31	.520	16171	29.9	40	-F		C	1353	10	.1	D	
434 HOLL	27	1344	1352	1411	N12	W48	.741	16153	24.0	27	-N	3	C		17			ZX
435 BIGB	27	1459	1504	1518	N22	E90	.999	16181	3.4	19	-N	3	C	1504	30			ZX
436 CULG	27	2257	2315	2332	S13	W07	.336	16169	27.4	35	-F		C	2315	60	.8		ZX
GRP76437	27	2317+5	2326	2346	N13	E36	.592	16171	30.7	29	-F				90	1.1	D	
CULG	27	2317	2326	2346	N12	E37	.604	16171	30.7	29	-N	*	C	2326	60	.8		
VORO	27	2322		2339D	N15	E35	.584	16171	30.6	17D	-F	*	P	2329	134	1.6	D	
438 CULG	27	2318	2327	2337	S15	W35	.646	16164	25.3	19	-F		C	2327	60	.8		ZX
439 CULG	28	0025	0042	0124	N13	E35	.578	16171	30.6	59	?F		C	0042	180	2.3		ZX
	IMP.1	NO :	BIG3	VORO														
440 CULG	28	0047	0052	0120	S21	W36	.696	16164	25.3	33	-F		C	0052	50	.7	F	ZX
GRP76441	28	0143>9	0149	0218	S17	W40	.713	16164	25.1	35	-F				100	1.4		
			0204+2															
CULG	28	0143	0149	0203	S12	W39	.676	16164	25.1	20	-F		C	0149	60	.8		
CULG	28	0202	0204	0222	S18	W41	.728	16164	25.0	20	-F		C	0204	80	1.1		
VORO	28	0203	0206	0213	S20	W40	.729	16164	25.1	10	-F		C	0206	116	1.6		
GRP76442	28	0326+8	0335+3	0400	N15	E29	.501	16171	30.3	34	1N						F	
CULG	28	0326	0338	0433	N13	E30	.508	16171	30.4	67	1N		C	0338	240	2.8	F	
PALE	28	0334	0335	0358	N16	E29	.505	16171	30.3	24	-N	3	C		50		F	
TACH	28	0336E		0400	N15	E28	.487	16171	30.3	24D	1N		V	0340	406	4.8	E	
443 CULG	28	0426	0429	0435	S10	W31	.567	16164	25.9	9	-F		C	0429	60	.7		ZX
444 CULG	28	0433	0435	0454	S28	E58	.907	16174	1.5	21	-N		C	0435	60	1.5	FK	ZX
445 CULG	28	0457	0501	0516	S13	W12	.374	16169	27.3	19	-N		C	0501	120	1.3		ZX
446 CULG	28	0510	0515	0523	N14	E00	.148	16167	28.2	13	-F		C	0515	40	.4	F	ZX
447 CULG	28	0525	0529	0536	N25	W01	.335	16167	28.2	11	-N		C	0529	30	.3	G	ZX
448 CULG	28	0556	0558	0608	N13	E33	.550	16171	30.7	12	-F		C	0558	20	.2		ZX
GRP76449	28	0659+6	0705	0720	S25	E56	.886	16174	1.5	21	-N				60	1.2		
CULG	28	0659	0703U	0703D	S28	E55	.888	16174	1.4	4D	-N		P	0703	50	1.2		
CATA	28	0705	0705	0720	S23	E57	.887	16174	1.6	15	-N	2	C	0705	84	1.8		

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS COND	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	REMARKS	
GRP76450	28	0740>9	0754+5 0807	0826	S26	E48	.831	16174	31.9	46	-N				80	1.4	E	
YUNN	28	0740	0759	0810	S27	E48	.835	16174	31.9	30	1N		C		132			
HTPR	28	0744	0757	0830	S27	E47	.827	16174	31.8	46	-F		C	0757	40	.7	E	
MONT	28	0748	0754	0824	S26	E49	.838	16174	1.0	36	-F		C	0754	60		E	
CATA	28	0750	0755	0825	S25	E48	.826	16174	31.9	35	1N	2	C	0755	112	2.0		
ZURI	28	0801E	0807	0827	S26	E47	.823	16174	31.9	260	-N		P	0807	90	1.7		
451 ABST	28	0959	1000	10010	S15	W76	.978		22.7	20	?F		P	1000	87		D	ZX
	IMP.1	NO :	HTPR	ZURI	MONT	CATA												
452 HTPR	28	1006	1008	1014	N14	E23	.410	16171	30.1	8	-F		C	1008	40	.4		ZX
GRP76453	28	1049+1	1052+3 1117	1124	S25	E54	.872	16174	1.5	35	-F						E	
HTPR	28	1049	1052	1101	S26	E55	.882	16174	1.6	12	-F		C	1052	30	.6	E	
CATA	28	1050	1055	1125	S24	E54	.868	16174	1.5	35	-F	2	C	1055	84	1.7		
HTPR	28	1110	1117	1122	S26	E55	.882	16174	1.6	12	-F		C	1117	20	.4	E	
454 HTPR	28	1154	1157	1201	S25	E54	.872	16174	1.5	7	-F		C	1157	10	.2	D	ZX
455 HTPR	28	1214	1215	1232	S25	E54	.872	16174	1.6	18	-F		C	1215	10	.2	DK	ZX
456 HTPR	28	1328	1331	1345	S25	E51	.850	16174	1.4	17	-F		C	1331	20	.4	E	ZX
457 HTPR	28	1344	1347	1405	N12	E23	.401	16171	30.3	21	-F		C	1347	50	.6		ZX
458 HOLL	28	1348	1350	1447	S14	W16	.424	16169	27.4	59	-B	3	C		45			ZX
GRP76459	28	1418+1	1422	1432	S15	W36	.658	16164	25.9	14	-N							
HOLL	28	1418	1422	1434	S15	W36	.658	16164	25.9	16	-B	3	C		101			
HUAN	28	1419		1429	S15	W36	.658	16164	25.9	10	-F	1	C					
GRP76460	28	1442+0	1442+2	1448	S23	E51	.842	16174	1.4	6	-N				25	.4	D	
HOLL	28	1442	1442	1448	S21	E50	.826	16174	1.4	6	-B	3	C		32			
HUAN	28	1442	1444	1448	S25	E53	.864	16174	1.6	6	-F	1	C	1444	20	.3	D	
GRP76461	28	1454+6	1455 1507	1529	N16	E25	.449	16171	30.5	35	-N						U	
HOLL	28	1454	1455	1535	N15	E23	.415	16171	30.3	41	-B	3	C		58		U F	
HUAN	28	1457		1521	N16	E25	.449	16171	30.5	24	-N	1	C				E	
BIGB	28	1500	1507	1529	N17	E25	.455	16171	30.5	29	-N	3	C	1507	170	1.9		
GRP76462	28	1556+0	1558	1611	N15	E22	.401	16171	30.3	15	-N						EU	
HOLL	28	1556	1558	1616	N15	E21	.386	16171	30.2	20	-B	3	C		86		UDE	
HUAN	28	1556		1606	N15	E23	.415	16171	30.4	10	-F	1	C				E	
463 HOLL	28	1652	1652	1658	S21	E49	.818	16174	1.4	6	-N	3	C		19			ZX
GRP76464	28	1704+5	1710+4	1741	S13	W18	.412	16169	27.5	37	-B						U	
HTPR	28	1704	1710	1740	S14	W18	.558	16169	27.4	36	-N		C	1710	120	1.3	U	
HOLL	28	1707	1710	1745	S13	W17	.423	16169	27.4	38	1B	3	C		425		UDE	
BIGB	28	1709	1711	1742	S13	W15	.327	16169	27.6	33	-B	3	C	1711	170	1.8		
PALE	28	1713E	1714U	1734	S14	W15	.415	16169	27.6	210	1B	3	C		315		U F	
GRP76465	28	1749+1	1751+3 1806	1823	S13	W34	.622	16164	26.2	34	-B				60	.8		
HOLL	28	1749	1754	1826	S13	W34	.622	16164	26.2	37	-B	*	C		67		F	
BIGB	28	1750	1753	1758	S12	W35	.628	16164	26.1	8	-N	*	C	1753	50	.8		
PALE	28	1750	1751	18080	S13	W35	.634	16164	26.1	180	-B	*	C		56		FDE	
BIGB	28	1804	1806	1823	S12	W35	.628	16164	26.1	19	-N	*	C	1806	80	1.0		
HUAN	28	1805		1813	S15	W34	.635	16164	26.2	8	-F	*	C	1806	45	.5	E	
GRP76466	28	1750+2	1752+2	1759	S16	E53	.835	16175	1.7	9	-F				20	.4	D	
HTPR	28	1750	1754	1805	S17	E53	.838	16175	1.7	15	-F	*	C	1754	10	.2	D	
BIGB	28	1750	1752	1759	S16	E54	.844	16175	1.8	9	-F	3	C	1752	30	.5		
PALE	28	1752	1752	1756	S15	E52	.823	16175	1.6	4	-N	3	C		17		DE	
GRP76467	28	2204+5	2211+1	2247	S13	W19	.445	16169	27.5	43	1B				220	2.4	F	
CULG	28	2204	2212	2319	S13	W20	.456	16169	27.4	75	1N		C	2212	300	3.4	F	
HOLL	28	2207	2212	2246	S14	W19	.455	16169	27.5	39	1B	3	C		275		FDE	
BIGB	28	2207	2212	2248	S13	W17	.423	16169	27.6	41	-B	3	C	2212	160	1.7		
PALE	28	2209	2211	2232	S15	W19	.466	16169	27.5	23	-B	3	C		111		F	

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.	REMARKS	
GRP76468	28	2220+2	2223+5	2235	S23	E47	.809	16174	1.5	15	-N				80	1.3		
CULG	28	2220	2226	2244	S25	E48	.826	16174	1.5	24	1N		C	2226	130	1.2		
BIGB	28	2221	2223	2234	S23	E49	.826	16174	1.6	13	-B	3	C	2223	60	.9		
HOLL	28	2222	2224	2236	S21	E46	.791	16174	1.4	14	-B	3	C		114			
PALE	28	2227E	2228U	2231	S23	E47	.809	16174	1.5	40	-N	3	C		21			
GRP76469	28	2301+2	2311+2	0005	S13	W40	.692	16164	26.0	64	-F				30	.4		
HOLL	28	2301	2311	2359	S15	W40	.702	16164	26.0	58	-N	*	C		21			
CULG	28	2303	2313	0011	S12	W40	.688	16164	26.0	68	-F	*	C	2313	40	.6		
470 CULG	28	2302	2309	2321	N33	E47	.784	16178	1.5	19	-N		C	2309	80	1.3	G	ZX
GRP76471	28	2355+3	0001+1	0014	S22	E46	.796	16174	1.4	19	1B				250	4.0	H	
BIGB	29	0000E	0000	0010	S23	E47	.809	16174	1.5	100	-B	3	C	0000	110	1.7		
CULG	28	2355	2401	0014	S25	E47	.818	16174	1.5	19	1B		C	2401	270	4.6	H	
HOLL	28	2357	2402	0004D	S21	E45	.782	16174	1.4	70	1B	3	C		228		FDE	
PALE	28	2358	2400	0020C	S22	E46	.796	16174	1.4	220	1B	3	C		192		H. F	
472 CULG	29	0035	0105	0201	N03	E57	.838	16176	2.3	86	?F		C	0105	160	2.9		ZX
	IMP.1	NO :	BIGB	MITK														
473 CULG	29	0146	0154	0225	N18	W18	.367	16167	27.7	39	-F		C	0154	150	1.6	GF	ZX
474 CULG	29	0249	0256	0303	N13	E14	.270	16171	30.2	14	-F		C	0256	80	.8		ZX
GRP76475	29	0321+5	0331+1	0416	S14	W42	.720	16164	26.0	55	1N						EKUY	
			0339+1															
YUNN	29	0321	0332	0355	S15	W41	.714	16164	26.1	34	1B		C		321			
CULG	29	0322	0339	0610	S13	W42	.715	16164	26.0	168	1B		C	0339	320	4.5	KUYT	
MITK	29	0326		0407	S15	W42	.724	16164	26.0	41	-N		C	0332			EU	
TACH	29	0328E	0331	0433D	S16	W37	.675	16164	26.4	65D	3F		V	0331	1061	13.6	CEU	
PURP	29	0331	0340	0408	S12	W42	.711	16164	26.0	37	2N		P		528	7.5		
476 CULG	29	0456	0510	0520	N15	E15	.301	16171	30.3	24	-N		C	0510	80	.8		ZX
GRP76477	29	0521	0527	0548	N34	E42	.745	16178	1.4	27	-N				50	.8	GH	
CULG	29	0521	0527	0551	N33	E43	.749	16178	1.4	30	-N		C	0527	70	1.1	HG	
CATA	29	0530E	0530	0545	N36	E42	.755	16178	1.4	15D	-N	2	P	0530	39	.6		
478 CULG	29	0522	0524	0536	S12	W28	.543	16169	27.1	14	-F		C	0524	40	.5	HT	ZX
479 CULG	29	0610	0614	0622	N18	W21	.407	16167	27.7	12	-F		C	0614	80	.9	GL	ZX
480 ABST	29	0831E	0831	0834D	N13	E13	.256	16171	30.3	3D	-F		P	0831	87	.9	D	ZX
481 KANZ	29	1214	1214	1226	S23	E37	.720	16174	1.3	12	-F	2						ZX
482 KANZ	29	1218	1222	1226	S11	W55	.840	16164	25.4	8	-F	2						ZX
483 KANZ	29	1333	1333	1337	S13	W28	.551	16169	27.5	4	-F	2						ZX
484 KANZ	29	1341	1345	1353	N13	W22	.390	16167	27.9	12	-F	2						ZX
485 MCMA	29	1413	1415	1418	S15	W47	.776	16164	26.1	5	-N		C	1415	30	.5	D	ZX
GRP76486	29	1620+4	1624+3	1651	N17	E10	.260	16171	30.4	31	-F							
WEND	29	1620		1708	N17	E12	.283	16171	30.6	48	-F		C	1635	75	.8		
WEND	29	1620		1705	N18	E07	.246	16171	30.2	45	-F		C	1635	50	.6		
BIGB	29	1623	1624	1651	N17	E10	.260	16171	30.4	28	-F	3	C	1624	150	1.6		
HOLL	29	1624	1627	1631	N15	E11	.248	16171	30.5	7	-N	3	C		33			
487 WEND	29	1734E		17390	S21	E38	.716	16174	1.6	5D	-N		C	1734	45	.6		ZX
488 CULG	29	2126E	2126E	2151	S15	W52	.824	16164	26.0	25D	-F		P	2126	30	.5	FKT	ZX
489 BIGB	29	2141	2143	2147	S06	E90	1.000		5.7	6	-N	3	C	2143	40			ZX
490 BIGB	29	2147	2149	2244	N16	E35	.586	16177	1.5	57	-F	3	C	2149	40	.5	G	ZX
GRP76491	29	2300>9	2314+1	0010	S15	W54	.842	16164	25.9	70	-F						F	
CULG	29	2300	2315U	0010	S15	W54	.842	16164	25.9	70	-F		C	2315	70	1.3	T	
PALE	29	2312	2314	2322D	S15	W54	.842	16164	25.9	10D	-N	3	C		16		F	
492 CULG	29	2330	2342	0002	S25	W48	.827		26.4	32	-F		C	2342	40	.7	G	ZX
493 HOLL	29	2357	2402	0025	S21	E45	.783	16174	2.4	28	?B	3	C		228		FDE	ZX
	IMP.1	NO :	CULG	BIGB	PALE													

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	REMARKS	
494 CULG	30	0003	0019	0033	N15	W69	.929	16153	24.8	30	-F		C	0019	30		LG	ZX
495 CULG	30	0134	0138	0146	N15	E34	.569	16177	1.6	12	-F		C	0138	50	.6		ZX
GRP76496	30	0218+5	0242+4 0255+2	0437	N23	E14	.375	16171	31.1	139	2N				780	8.5	FIJSU	
CULG	30	0218	0255U	0705D	N23	E15	.384	16171	31.2	287D	3N		P	0255	1200	13.6	SUFJ	
YUNN	30	0223	0246	0445	N23	E14	.375	16171	31.1	142	2B		C		642			
MITK	30	0227E	0242	0305	N27	E13	.418	16171	31.1	38D	2F		C	0242	780	8.9	EFU	
PALE	30	0234E	0257U	0334D	N23	E15	.384	16171	31.2	60D	-B	3	C		161		U S	
PURP	30	0236	0246	0456	N22	E14	.263	16171	31.2	140	3N		C		1509	16.5	S	
TACH	30	0315E	0316	0359D	N22	E11	.334	16171	31.0	44D	3F		V	0316	2210	23.3	CITU	
PALE	30	0354E	0354U	0446D	N23	E15	.384	16171	31.3	52D	1B	3	C		228		U S	
497 CULG	30	0237	0308	0321D	S09	W59	.871	16164	25.7	44D	-F		C	0308	20	.4		ZX
498 CULG	30	0542	0559	0616	N18	E03	.220	16171	30.5	34	-N		C	0559	90	.9	S	ZX
499 CULG	30	0649E	0701	0705D	S15	W59	.883	16164	25.9	16D	-F		P	0701	80	1.6		ZX
500 ABST	30	0810E	0810	0820D	N15	W01	.164	16171	30.3	10D	-F		P	0810	87	.9	OJ	ZX
GRP76501	30	0853+2	0855+0	0925	S16	W54	.845	16164	26.3	32	1N				210	3.8		
MONT	30	0853	0855	0935	S16	W55	.853	16164	26.2	42	1N		C	0855	250			
CATA	30	0855	0855	0915	S17	W53	.839	16164	26.4	20	1B	2	C	0855	168	3.1		
502 MONT	30	0855	0857	0924	N14	W01	.147	16171	30.3	29	-F		C	0857	50			ZX
503 KHAR	30	0944E		1002D	S14	W59	.881	16164	26.0	18D	?F		P	0953	120	2.6	E	ZX
	IMP.1	NO :	CATA	MONT														
504 KANZ	30	1059	1103	1106	N33	E22	.562	16178	1.1	7	-F	1					G	ZX
505 KANZ	30	1311	1315	1319	S23	E26	.619	16174	1.5	8	-F	1						ZX
506 HUAN	30	1849		1901	S17	W65	.928	16164	25.9	12	-F	1	C	1852	40			ZX
GRP76507	30	1910+3	1913+1	1923	S17	W65	.928	16164	25.9	13	-B				80		U	
HOLL	30	1910E	1913	1925	S17	W62	.908	16164	26.1	15D	-B	2	C		73		U	
HOLL	30	1910E	1913	1925	S21	W68	.950	16164	25.7	15D	-B	2	C		73		U	
BIGB	30	1912	1913	1923	S15	W64	.918	16164	26.0	11	-B	3	P	1913	80	1.9		
HUAN	30	1913	1914	1922	S17	W65	.928	16164	25.9	9	-N	2	C	1914	60			
GRP76508	30	2049>9	2118+1	2132	S16	W63	.913	16164	26.1	43	-N				45	1.1		
HOLL	30	2049	2119	2132	S17	W62	.908	16164	26.2	43	-B	3	C		38			
BIGB	30	2117	2118	2131	S15	W64	.918	16164	26.1	14	-N	3	C	2118	50	1.2		
GRP76509	30	2113+1	2114+1	2127	N14	W07	.188	16171	30.4	14	-N				60	.6		
BIGB	30	2113	2115	2126	N15	W08	.212	16171	30.3	13	-N	3	C	2115	70	.8		
HOLL	30	2114	2114	2128	N14	W07	.188	16171	30.4	14	-B	3	C		63			
510 BIGB	30	2148	2149	2200	S15	W65	.925	16164	26.0	12	-B	3	C	2149	20			ZX
511 CULG	30	2254	2304	2318	S18	W70	.956	16164	25.7	24	-F		C	2304	60			ZX
GRP76512	31	0007+1	0010 0026+2	0043	S16	W68	.944	16164	25.9	36	1N						LU	
CULG	31	0007	0027	0043	S16	W70	.954	16164	25.8	36	2N		C	0027	250		FL	
HOLL	31	0008	0028	0042	S16	W69	.949	16164	25.8	34	1B	3	C		115		U F	
HOLL	31	0008	0010	0042	S16	W69	.949	16164	25.8	34	-N	3	C		47		U F	
PALE	31	0022	0026U	0052D	S16	W68	.944	16164	25.9	30D	-N	3	C		16		DE	
BIGB	31	0026	0027	0033	S15	W66	.931	16164	26.1	7	-B	2	C	0027	40			
513 CULG	31	0234	0239	0253	S18	W80	.991	16164	25.1	19	-F		C	0239	30		K	ZX
514 CULG	31	0404	0406	0416	S15	W72	.962	16164	25.8	12	-N		C	0406	70			ZX
515 ISTA	31	0630		0632	S23	E16	.540	16174	1.5	2	-N		V				D	ZX
516 PURP	31	0817	0820	0837	S15	W52	.824	16169	27.4	20	1F		C					ZX
517 TELV	31	0928	0934	0947	N25	E05	.340	16171	31.8	19	-F		C	0934	180	1.8		ZX
	31	1100	1150	NO FLARE PATROL														
518 TELV	31	1302	1309	1330	N18	E30	.526	16181	2.8	28	-N		C	1309	80	.9		ZX

Hα SOLAR FLARES

JULY 1979

OBSERVATORY	OBSERVED UT DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS AREA Millh of Disk	CORR AREA Sq. Deg.	REMARKS
GRP76519	31	1633+3	1636+1	1644	S24	E13	.534	16174	1.7	11	-F				30	.3	D
HTPR	31	1633	1636	1645	S25	E13	.547	16174	1.7	12	-F		C	1636	30	.4	D
BIGB	31	1636	1637	1643	S23	E14	.527	16174	1.7	7	-N	2	C	1637	30	.3	
520 BIGB	31	1722	1725	1738	N15	E13	.272	16177	1.7	16	-F	2	C	1725	20	.2	ZX
521 BIGB	31	1800	1801	1802	N17	W21	.398	16171	30.2	2	-N	2	C	1801	40	.4	ZX
522 CULG	31	2158	2201	2207	N02	W57	.838		27.6	9	-F		C	2201	20	.4	G ZX
523 CULG	31	2216	2219U	2219D	N18	E08	.252	16177	1.5	30	-N		C	2219	40	.4	ZX
524 CULG	31	2338	2345	2358	S10	W55	.839	16169	27.9	20	-F		C	2345	10	.2	ZX
GRP76525	31	2359	0001	0004	S24	E04	.499	16174	1.3	5	-N						
CULG	31	2359	2401	0004	S24	E04	.499	16174	1.3	5	-N		C	2401	20	.2	
CULG	31	2359	2401	0004	S24	E04	.499	16174	1.3	5	-N		C	2401	20	.2	

"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 CaII.
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.

DAILY FLARE INDICES
Includes all Flares

JULY 1979

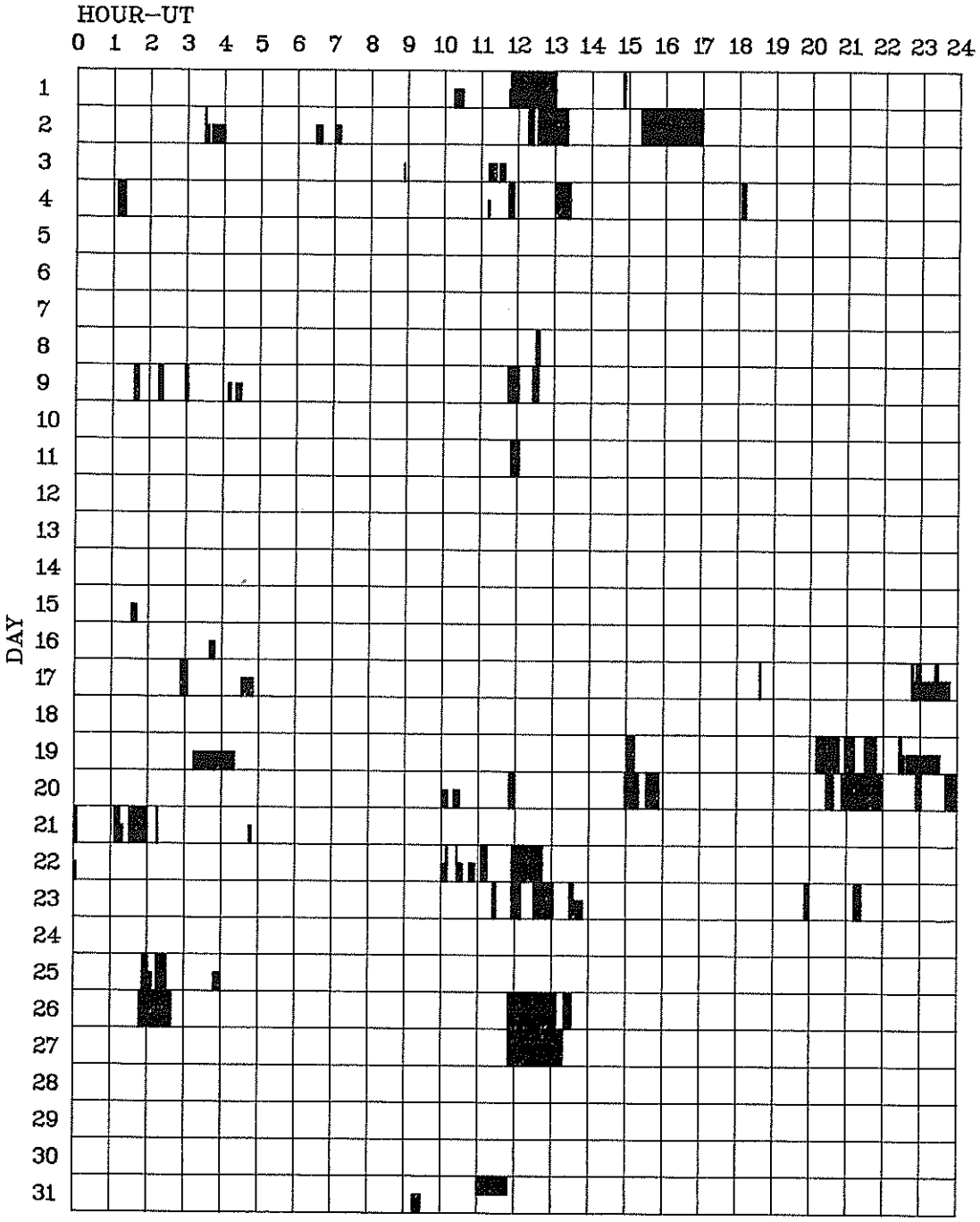
Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
790701.	185.04	22.7	790712.	26.81	24.0	790723.	171.26	22.7
790702.	98.00	21.4	790713.	39.39	24.0	790724.	117.29	24.0
790703.	295.29	24.0	790714.	49.99	24.0	790725.	50.72	23.6
790704.	376.83	23.1	790715.	56.00	24.0	790726.	83.03	21.7
790705.	55.89	24.0	790716.	63.19	24.0	790727.	55.57	22.5
790706.	53.65	24.0	790717.	19.86	23.5	790728.	158.56	24.0
790707.	41.48	24.0	790718.	45.45	24.0	790729.	72.89	24.0
790708.	227.43	23.9	790719.	75.33	22.6	790730.	381.75	24.0
790709.	158.86	23.2	790720.	123.95	21.3	790731.	52.01	23.2
790710.	112.59	24.0	790721.	106.84	23.3			
790711.	73.85	23.8	790722.	45.97	23.0			

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

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JULY 1979



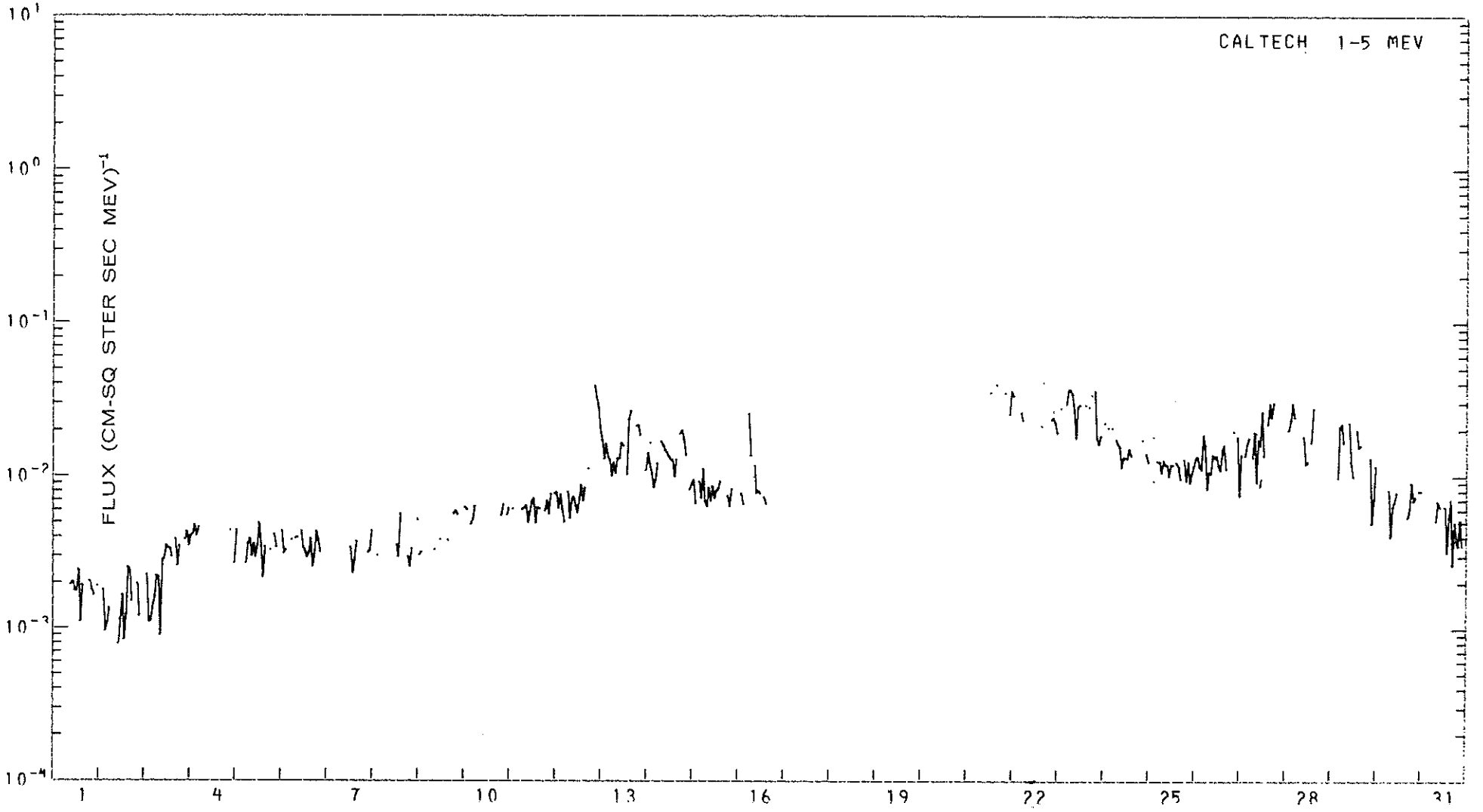
Observatories included in total patrol:

Abastumani	Haute Provence	Kharkov	Mitaka	Tashkent
Athens	Holloman	Kiev	Monte Mario	Voroshilov
Big Bear	Huancayo	Locarno	Palehua	Wendelstein
Bucharest	Istanbul	Lvov	Purple Mt.	Yunnan
Catania	Kandilli	Manila	Ramey	Zürich
Culgoora	Kanzelhöhe	McMath-Hulbert	Tel Aviv	

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

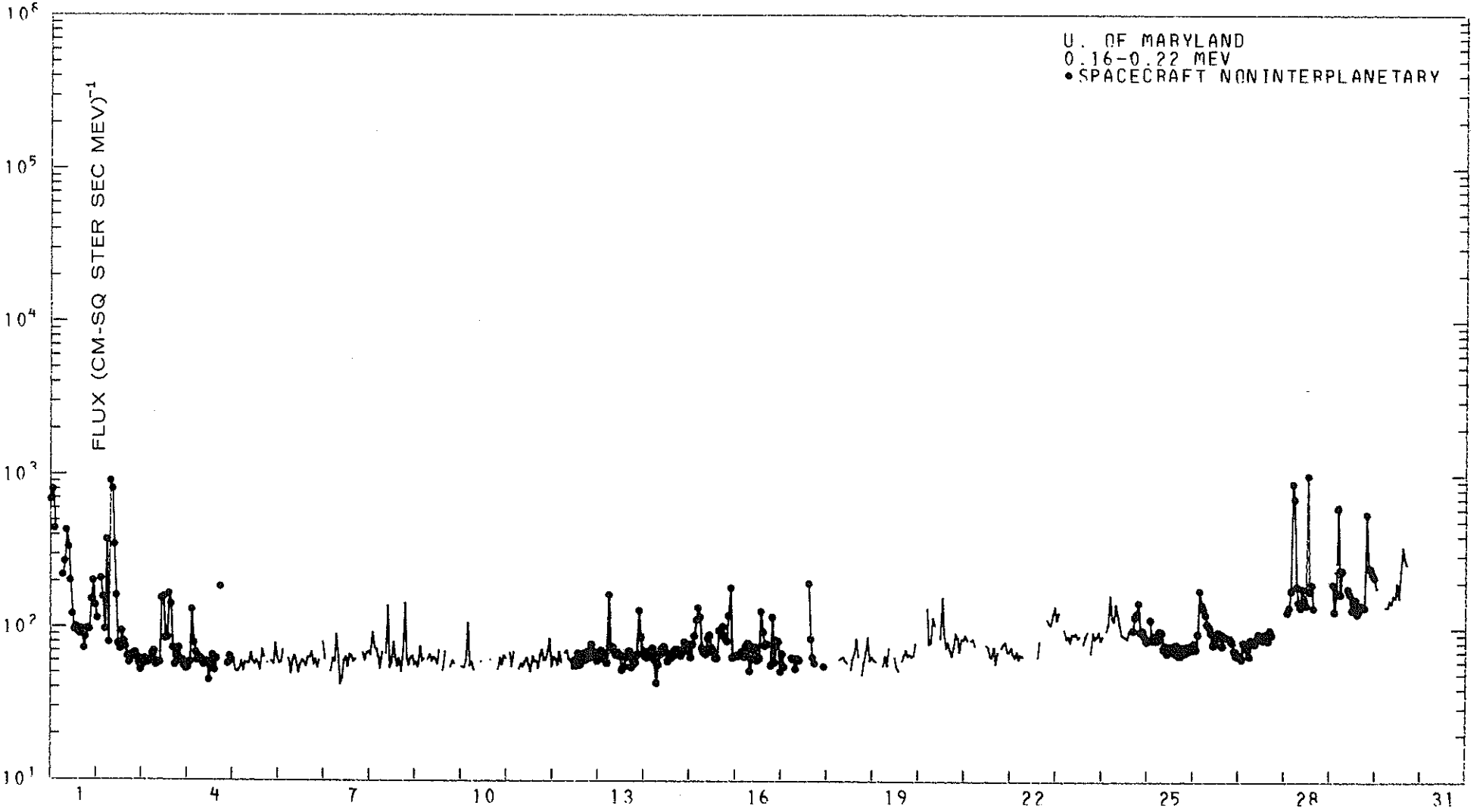
IMP 8 ELECTRONS

DECEMBER 1979



IMP 8 LOW ENERGY PROTONS

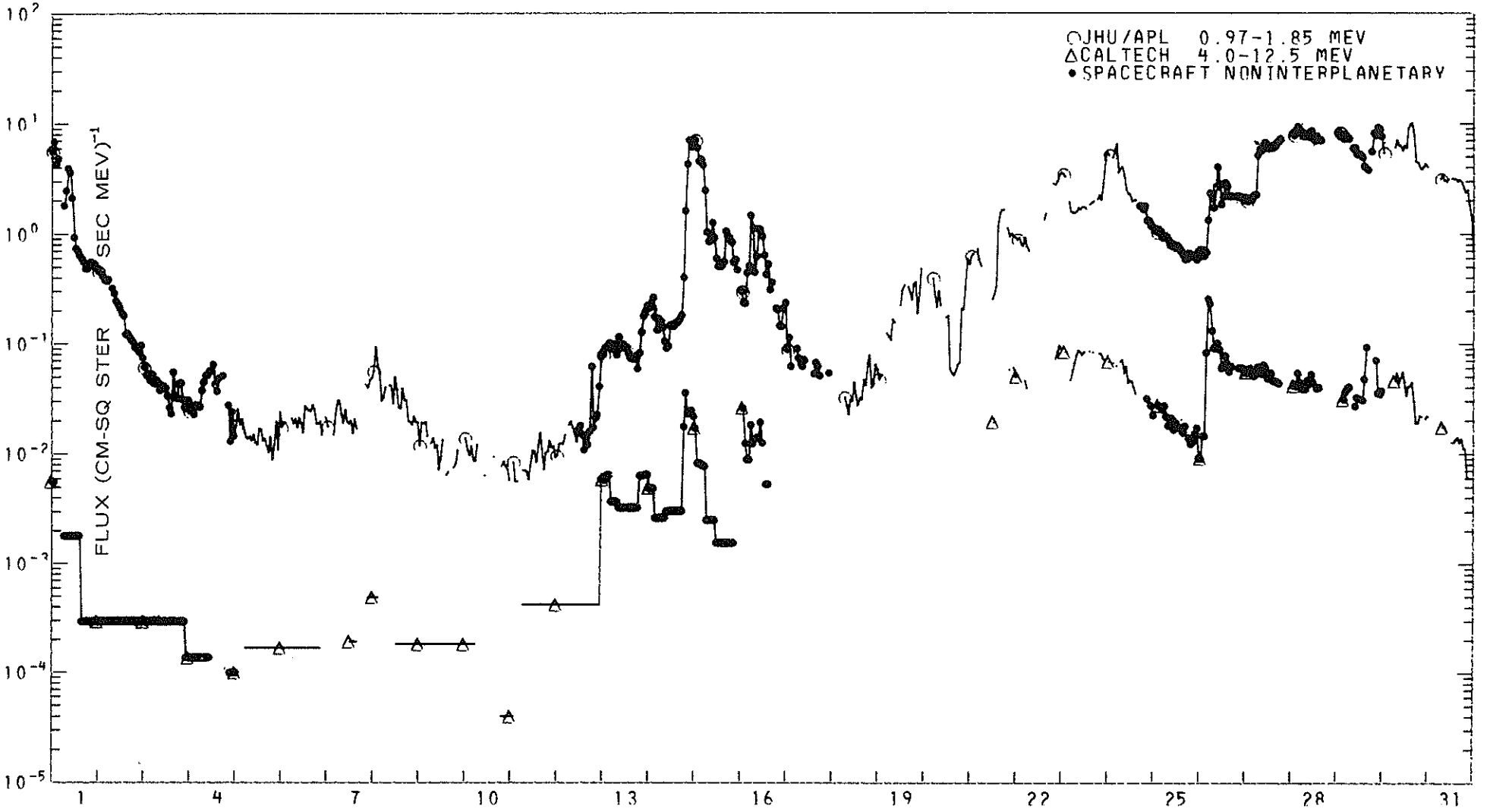
DECEMBER 1979



51
Misc
Dec 79

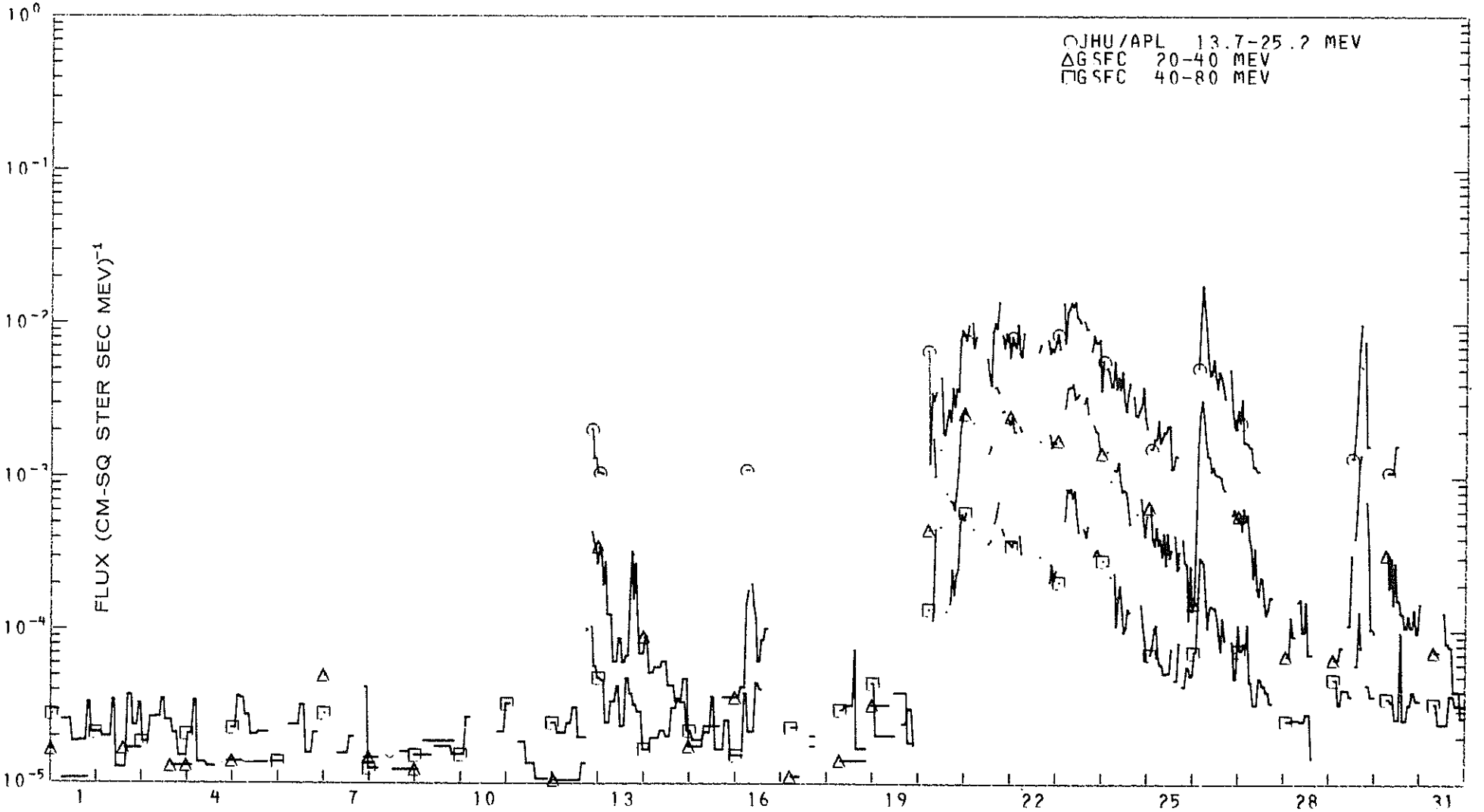
IMP 8 INTERMEDIATE ENERGY PROTONS

DECEMBER 1979



IMP 8 HIGH ENERGY PROTONS

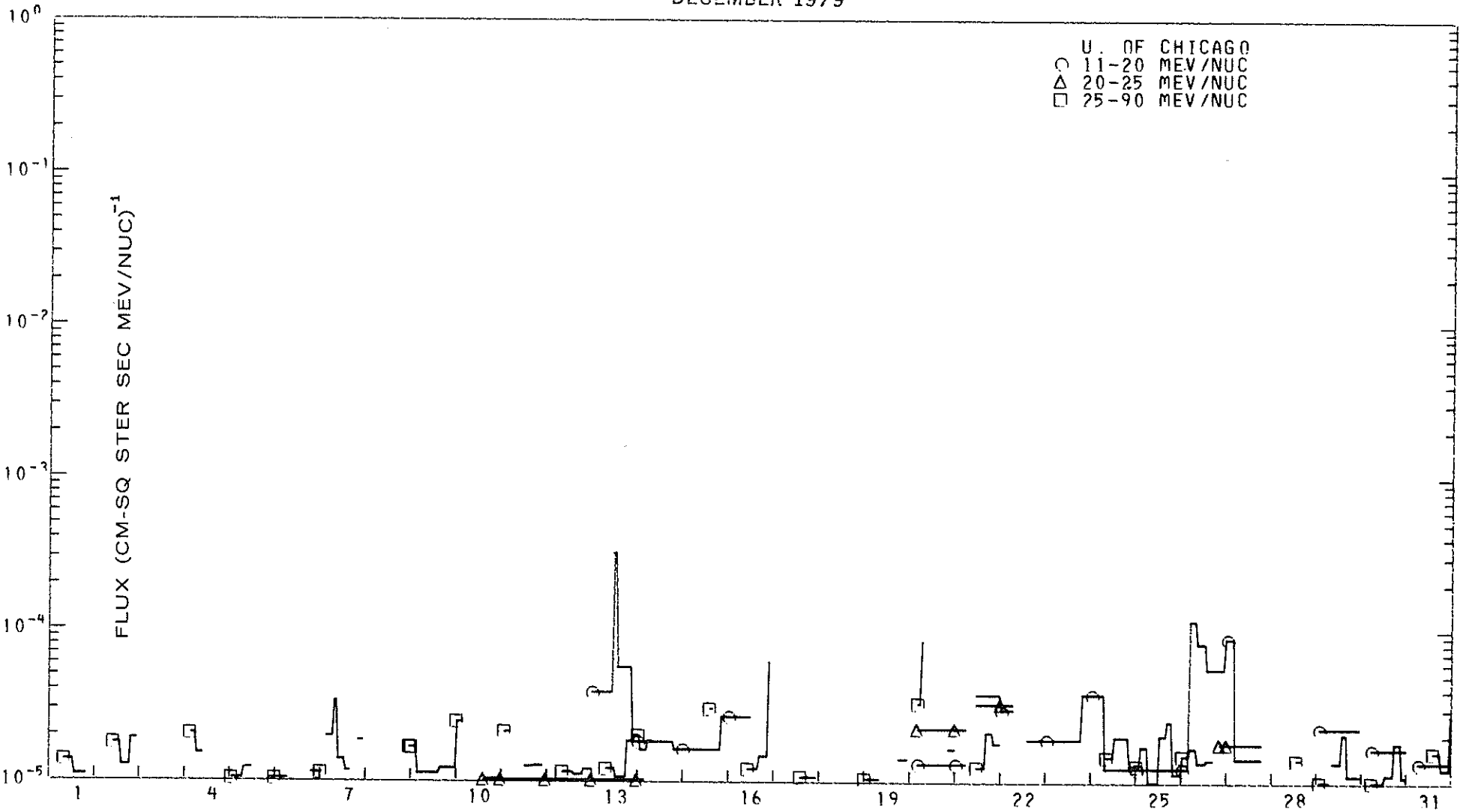
DECEMBER 1979



53
Misc
Dec 79

IMP 8 ALPHA PARTICLES

DECEMBER 1979



REGIONAL FLARE INDEX

Includes all Flares

JUNE 1979

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
16061	S17	79/06/03.6	79/06/05	79/06/07	9.94	3.31	5
16046	N17	79/06/04.0	79/05/27	79/06/10	141.23	9.42	58
16062	N10	79/06/05.9	79/06/04	79/06/06	10.68	3.56	2
16051	N20	79/06/06.3	79/05/30	79/06/13	4028.28	268.55	138
16056	N 8	79/06/07.2	79/06/01	79/06/13	29.26	2.25	13
16060	S 9	79/06/07.3	79/06/07	79/06/07	5.28	5.28	1
16052	S21	79/06/07.8	79/05/31	79/06/14	341.97	22.80	95
16063	S35	79/06/08.0	79/06/04	79/06/05	3.81	1.91	2
16057	N 4	79/06/08.8	79/06/07	79/06/13	43.36	6.19	11
16058	N17	79/06/09.8	79/06/08	79/06/16	57.67	6.41	11
16069	S15	79/06/10.0	79/06/08	79/06/15	16.85	2.11	4
16064	N34	79/06/11.9	79/06/07	79/06/18	0.00	0.00	3
16067	N16	79/06/12.0	79/06/06	79/06/19	266.64	19.05	77
16065	S17	79/06/12.9	79/06/05	79/06/19	154.40	10.29	66
16070	N24	79/06/15.3	79/06/09	79/06/15	36.38	5.20	13
16078	N 7	79/06/15.6	79/06/17	79/06/21	44.12	8.82	7
16074	S16	79/06/17.6	79/06/14	79/06/16	10.56	3.52	3
16073	N24	79/06/17.8	79/06/13	79/06/22	234.75	23.47	40
16082	N 8	79/06/17.8	79/06/17	79/06/21	39.11	7.82	10
16079	S18	79/06/18.9	79/06/16	79/06/16	3.38	3.38	1
16076	N15	79/06/19.2	79/06/13	79/06/25	9.92	.76	6
16091	N27	79/06/19.4	79/06/11	79/06/20	25.38	2.54	19
16092	N15	79/06/20.2	79/06/13	79/06/25	14.57	1.12	15
16083	S25	79/06/21.6	79/06/19	79/06/19	14.48	14.48	4
16107	S28	79/06/21.6	79/06/26	79/06/28	1.70	.57	2
16102	N12	79/06/22.1	79/06/25	79/06/28	8.97	2.24	9
16085	S22	79/06/22.5	79/06/19	79/06/28	119.43	11.94	31
16086	N19	79/06/23.3	79/06/21	79/06/26	15.89	2.65	5
16101	S23	79/06/23.5	79/06/19	79/06/19	.90	.90	1
16088	S 7	79/06/24.1	79/06/18	79/06/28	79.60	7.24	22
16089	S29	79/06/25.1	79/06/21	79/06/23	15.04	5.01	7
16106	N22	79/06/25.2	79/06/24	79/06/29	16.32	2.72	4
16093	N13	79/06/26.1	79/06/23	79/07/01	91.08	10.12	19
16109	S 8	79/06/26.2	79/06/29	79/06/29	1.94	1.94	1
16100	S14	79/06/27.7	79/06/23	79/07/03	97.44	8.86	20
16098	N25	79/06/28.1	79/06/26	79/06/29	6.82	1.70	2
16103	S17	79/06/30.3	79/07/02	79/07/02	3.71	3.71	1

MASS EJECTIONS FROM THE SUN

MARCH 1980

Station	Date 1980	Observed UT Start	Max	End	Location RA°	R/Ro	Wavelength	Type of Event
WEND	Mar 01	0811E		1055D	261	1.02	H-alpha	A
HARV	Mar 02	1636		1647			Meter	II
BIGB	Mar 02	1951	1956	2021D	077	0.991	H-alpha	S
HARV	Mar 02	2005		2010			Meter	II
HARV	Mar 02	2015		2017			Meter	II
HALE	Mar 03	2101E	2115	2130	242	1.0	H-alpha	SP
LEAR	Mar 04	0355.8		0412.8			Meter	II
CULG	Mar 04	0356		0357			Meter	II Weak
CULG	Mar 04	0359.5		0413			Meter	II
DWIN	Mar 04	1349.0		1351.0			Decimeter	IV
BIBB	Mar 04	1636E	1647U	1655D	244	1.0	H-alpha	S
BIGB	Mar 04	1945	1959	2019	079	0.982	H-alpha	A
BIGB	Mar 04	2242	2242	2252	241.5	1.0	H-alpha	S
LEAR	Mar 05	2334.9		2348.5			Meter	II
CULG	Mar 05	2335		2347	220→260	1.6→ 2.0	43-160 MHz	II*
BIGB	Mar 07	1933	1938	1947	260	0.989	H-alpha	SP
BIGB	Mar 08	1824	1835	2105	102	1.0	H-alpha	S
DWIN	Mar 09	0914.6		0916.1			Decimeter	IV
BIGB	Mar 09	1740	1747	1755	290	0.964	H-alpha	SP
BIGB	Mar 09	2316	2329	2351	110.5	1.0	H-alpha	S
BIGB	Mar 14	2022	2027	2036	251	1.0	H-alpha	SP
HAOC	Mar 15	1714		1847	107	1.8		EL; slow, deceleration
BIGB	Mar 15	2057	2059	2117	082	1.0	H-alpha	SP
BIGB	Mar 16	2145	2202	2355	121	1.0	H-alpha	SP
HAOC	Mar 18	0340		0600	000	5.0		CB, R; thin ray
DWIN	Mar 19	0805.7		0808.2			Decimeter	IV Pulsations
WEIS	Mar 19	0808.3		0809.5			200-500 MHz	II Harmonic
DWIN	Mar 19	1438.0		1440.5			Decimeter	IV
HARV	Mar 19	2002		2008			Meter	II
WEND	Mar 20	0955E		1214D	268-278	1.05	H-alpha	A
BIGB	Mar 20	1640	1648	1659	067	1.0	H-alpha	S
BIGB	Mar 23	1739	1742	1751	082	1.0	H-alpha	A
HAOC	Mar 24	1612			100			Spread 33°
BIGB	Mar 24	2102	1209	2151	263	1.0	H-alpha	Q
LEAR	Mar 25	0410.0		0457.2			Meter	II
CULG	Mar 25	0424		0431	140→120	1.0→2.8	43-80 MHz	II*
UDAI	Mar 25	0425	0440	0550	SW limb		H-alpha	S
MITK	Mar 25	0435E		0458D	245	1.0	H-alpha	A
HARV	Mar 25	2100		2110			Meter	II
CULG	Mar 25	2100.5		2111			Meter	II
LEAR	Mar 26	0011.5		0025.6			Meter	II
CULG	Mar 26	0012		0025	110→115	1.3→2.3	43-160 MHz	II*
PALE	Mar 26	0013.1		0016.5			Meter	II
PALE	Mar 26	0016.8		0024.5			Meter	IV
HAOC	Mar 26	0045		0135	091	2.4		D
BIGB	Mar 26	1836	1908	2000	297	1.0	H-alpha	S
BIGB	Mar 26	2021	2043	2108	299	1.0	H-alpha	S
BIGB	Mar 26	2112	2116	2128	299	1.0	H-alpha	S
BIGB	Mar 26	2129	2138	2201	299	1.0	H-alpha	S
HAOC	Mar 26	2155		2546	218			R
HARV	Mar 26	2322		2325			Meter	II
CULG	Mar 26	2322		2329	240	0.4→1.2	80 MHz	II*

MASS EJECTIONS FROM THE SUN

MARCH 1980

Station	Date 1980	Observed UT Start	Max	End	Location RA°	R/Ro	Wavelength	Type of Event
DWIN	Mar 27	1134.1		1137.0			Decimeter	IV
BLEN	Mar 27	1235.0		1353.4			Decimeter; meter	IV Pulsations; fiber
DWIN	Mar 27	1251		1332			Decimeter	IV Fast drift; fiber
HARV	Mar 27	1840		1843			Meter	II
HARV	Mar 27	1909		1916			Meter	IV
BIGB	Mar 27	2006	2016	2043	301-304	1.0	H-alpha	S
BLEN	Mar 28	0955.5		1006.6			Meter	II
WEIS	Mar 28	0957.5		1013.7			30-400 MHz	II Harmonic
LEAR	Mar 28	0958.2		1000.4			Meter	II
HALE	Mar 28	2105		0005	351	1.16	H-alpha	Q
HARV	Mar 28	2200		2219			Decimeter; meter	IV
CULG	Mar 29	0409.5		0410.5			Decimeter	II
DWIN	Mar 29	0735.6		0737.5			Decimeter	IV
DWIN	Mar 29	0744.8		0749.5			Decimeter	IV Fiber bursts
BLEN	Mar 29	0745.2		0750.0			Decimeter; meter	II Fast drift
DWIN	Mar 29	0816.0		0817.1			Decimeter	IV
DWIN	Mar 29	0858.1		0859.1			Decimeter	IV
DWIN	Mar 29	0911.0		1015			Decimeter	IV Pulsations
BLEN	Mar 29	0937.3		1023.8			Decimeter; meter	IV Fast drift
DWIN	Mar 29	1041.1		1043.5			Decimeter	IV
DWIN	Mar 29	1139.2		1142.1			Decimeter	IV
DWIN	Mar 29	1249.0		1253.6			Decimeter	IV Fast drift
DWIN	Mar 29	1357.1		1401.5			Decimeter	IV Pulsations
DWIN	Mar 29	1441.5		1450.0			Decimeter	IV
BIGB	Mar 29	1635	1650	1659	302	1.0	H-alpha	SP
HAOC	Mar 30	1406E		1425	064	3.0		EL; 820 km/s
SGMR	Mar 30	1613.5		1622.8			Meter	IV
CULG	Mar 30	2237		2251			Meter	II
HOAC	Mar 31	1702E		1840	133	4.4		EL; spread >55°
HALE	Mar 31	1751	2223	0030	076-101	1.24	H-alpha	Q?

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

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

REPORTING STATIONS
BIGB = Big Bear
BLEN = Bleien
CULG = Culgoora
DWIN = Dwingeloo
HALE = Haleakala
HAOC = High Altitude Observatory's SMM Coronagraph/Polarimeter
HAOK = High Altitude Observatory's MARK-III Coronameter at Mauna Loa
HARV = Harvard (Fort Davis)
LEAR = Learmonth
MANI = Manila
MITK = Mitaka
NRLC = Naval Research Laboratory's White-Light Coronagraph Experiment on P78-1
PALE = Palehua
SGMR = Sagamore Hill
WEIS = Weissenau
WEND = Wendelstein
UDAI = Udaipur

NOTE: At the time this table was assembled, only a small fraction of the data taken by satellite-borne coronagraph had been analyzed. Thus, many events tabulated here are defined solely by ground-based observatory reports.

*Movement may be caused by ionospheric refraction.

UAG Series of Reports

Between 6 and 12 UAG Reports are published at irregular intervals each year. Subscriptions may be ordered through the National Geophysical and Solar-Terrestrial Data Center, Environmental Data and Information Service, NOAA, Boulder, CO 80303, USA. The annual subscription price is $25.20 ($17.30 additional for foreign mailing). Each year the single copy prices total less than $25.20, the expiration data for all subscriptions will be extended. Back issues may be purchased at the prices shown below plus a $3.00 handling charge per order; some reports, though, are available only on microfiche. Orders must include check or money order payable in U.S. currency to the Department of Commerce, NOAA/NGSDC.

UAG-1 "IQSY Night Airglow Data," by L.L. Smith, F.E. Roach, and J.M. McKennan, ESSA Aeronomy Laboratory, Boulder, CO, July 1968, 305 pp, $1.75.

UAG-2 "A Reevaluation of Solar Flares, 1964-1966," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, August 1968, 28 pp, $0.30.

UAG-3 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 6 July 1966 through 8 September 1968," by James W. Warwick and George A. Dulk, University of Colorado, Boulder, CO, October 1968, 35 pp, $0.55.

UAG-4 "Abbreviated Calendar Record 1966-1967," by J. Virginia Lincoln, Hope I. Leighton and Dorothy K. Kropp, ESSA now NOAA, Aeronomy and Space Data Center, Boulder, CO, January 1969, 170 pp, $1.25.

UAG-5 "Data on Solar Event of May 23, 1967 and its Geophysical Effects," compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, February 1969, 120 pp, $0.65.

UAG-6 "International Geophysical Calendars 1957-1969," by A.H. Shapley and J. Virginia Lincoln, ESSA Research Laboratories, now NOAA, Boulder, CO, March 1969, 25 pp, $0.30.

UAG-7 "Observations of the Solar Electron Corona: February 1964 - January 1968," by Richard T. Hansen, High Altitude Observatory, NCAR, Boulder, CO, and Kamuela, HI, October 1969, 12 pp, $0.15.

UAG-8 "Data on Solar-Geophysical Activity October 24 - November 6, 1968," Parts 1 and 2, compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, March 1970, 312 pp, $1.75 (includes Parts 1 and 2).

UAG-9 "Data on Cosmic Ray Event of November 18, 1968 and Associated Phenomena," compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, April 1970, 109 pp, $0.55.

UAG-10 "Atlas of Ionograms," edited by A.H. Shapley, ESSA Research Laboratories now NOAA, Boulder, CO, May 1970, 243 pp, $1.50.

UAG-12 "Solar-Geophysical Activity Associated with the Major Geomagnetic Storm of March 8, 1970," Parts 1, 2 and 3, compiled by J. Virginia Lincoln and Dale B. Bucknam, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, April 1971, 466 pp, $3.00 (includes Parts 1-3).

UAG-13 "Data on the Solar Proton Event of November 2, 1969 through the Geomagnetic Storm of November 8-10, 1969," compiled by Dale B. Bucknam and J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA now NOAA, Boulder, CO, May 1971, 76 pp, $0.90.

UAG-14 "An Experimental, Comprehensive Flare Index and Its Derivation for 'Major" Flares, 1955-1969," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, July 1971, 25 pp, $0.30.

UAG-16 "Temporal Development of the Geophysical Distribution of Auroral Absorption for 30 Substorm Events in each of IQSY (1964-65) and IASY (1960)," by F.T. Berkey, University of Alaska, Fairbanks, AK; V.M. Driatskiy, Arctic and Antarctic Research Institute, Leningrad, USSR; K. Henriksen, Auroral Observatory, Tromson, Norway; D.H. Jelly, Communications Research Center, Ottawa, Canada; T.I. Shchuka, Arctic and Antarctic Research Institute, Leningrad, USSR; A. Theander, Kiruna Geophysical Observatory, Kiruna, Sweden; and J. Yliniemi, University of Oulu, Oulu, Finland, September 1971, 131 pp, $0.70 (microfiche only).

UAG-17 "Ionospheric Drift Velocity Measurements at Jicamarca, Peru (July 1967 - March 1970)," by Ben B. Balsley, NOAA Aeronomy Laboratory, Boulder, CO, and Ronald F. Woodman, Jicamarca Radar Observatory, Instituto Geofisico del Peru, Lima, Peru, October 1971, 45 pp, $0.55 (microfiche only).

UAG-18 "A Study of Polar Cap and Auroral Zone Magnetic Variations," by K. Kawasaki and S.-I. Asasofu, University of Alaska, Fairbanks, AK, June 1972, 21 pp, $0.20.

UAG-19 "Reevaluation of Solar Flares 1967," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, and Marta Rovira de Miceli, San Miguel Observatory, Argentina, June 1972, 15 pp, $0.15.

UAG-21 "Preliminary Compilation of Data for Retrospective World Interval July 26 - August 14, 1972," by J. Virginia Lincoln and Hope I. Leighton, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, November 1972, 128 pp, $0.70.

UAG-22 "Auroral Electrojet Magnetic Activity Indices (AE) for 1970," by Joe Haskell Allen, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, November 1972, 146 pp, $0.75.

UAG-23 "U.R.S.I. Handbook of Ionogram Interpretation and Reduction," Second Edition, November 1972, edited by W.R. Piggott, Radio and Space Research Station, Slough, UK, and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, November 1972, 324 pp, $1.75.

UAG-23A "U.R.S.I. Handbook of Ionogram Interpretation and Reduction," Second Edition, Revision of Chapters 1-4, edited by W.R. Piggott, Radio and Space Research Station, Slough, UK, and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, November 1972, 135 pp, $2.14.

UAG-24 "Data on Solar-Geophysical Activity Associated with the Major Ground Level Cosmic Ray Events of 24 January and 1 September 1971," Parts 1 and 2, compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, December 1972, 462 pp, $2.00 (includes Parts 1 and 2).

UAG-25 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 9 September 1968 through 9 December 1971," by James W. Warwick, George A. Dulk and David G. Swann, University of Colorado, Boulder, CO, February 1973, 35 pp, $0.35.

UAG-26 "Data Compilation for the Magnetospherically Quiet Periods February 19-23 and November 29 - December 3, 1970," compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, May 1973, 129 pp, $0.70.

UAG-27 "High Speed Streams in the Solar Wind," by D.S. Intriligator, University of Southern California, Los Angeles, CA, June 1973, 16 pp, $0.15.

UAG-28 "Collected Data Reports on August 1972 Solar-Terrestrial Events," Parts 1, 2 and 3, edited by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, July 1973, 932 pp, $4.50.

UAG-29 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1968," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, October 1973, 148 pp, $0.75.

UAG-30 "Catalogue of Data on Solar-Terrestrial Physics," prepared by NOAA Environmental Data Service, Boulder, CO, October 1973, $1.50. Supersedes UAG-11, 15, and 20 catalogs.

UAG-31 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1969," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1974, 142 pp, $0.75.

UAG-32 "Synoptic Radio Maps of the Sun at 3.3 mm for the Years 1967-1969," by Earle B. Mayfield, Kennon P. White III, and Fred I. Shimabukuro, Aerospace Corp., El Segundo, CA, April 1974, 26 pp, $0.35.

UAG-33 "Auroral Electrojet Magnetic Activity Indices AE(10) for 1967," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, May 1974, 142 pp, $0.75.

UAG-34 "Absorption Data for the IGY/IGC and IQSY," compiled and edited by A.H. Shapley, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; W.R. Piggott, Appleton Laboratory, Slough, UK; and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, June 1974, 381 pp, $2.00.

UAG-35 "Catalogue of Digital Geomagnetic Variation Data at World Data Center A for Solar-Terrestrial Physics," prepared by NOAA Environmental Data Service, Boulder, CO, July 1974, 20 pp, $0.20.

UAG-36 "An Atlas of Extreme Ultraviolet Flashes of Solar Flares Observed via Sudden Frequency Deviations During the ATM-SKYLAB Missions," by R.F. Donnelly and E.L. Berger, NOAA Space Environment Laboratory; Lt. J.D. Busman, NOAA Commissioned Corps; B. Henson, NASA Marshall Space Flight Center; T.B. Jones, University of Leicester, UK; G.M. Lerfald, NOAA Wave Propagation Laboratory; K. Najita, University of Hawaii; W.M. Retallack, NOAA Space Environment Laboratory and W.J. Wagner, Sacramento Peak Observatory, October 1974, 95 pp, $0.55.

UAG-37 "Auroral Electrojet Magnetic Activity Indices AE(10) for 1966," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, December 1974, 142 pp, $0.75.

UAG-38 "Master Station List for Solar-Terrestrial Physics Data at WDC-A for Solar-Terrestrial Physics," by R.W. Buhmann, World Data Center A for Solar-Terrestrial Physics, Boulder, CO; Juan D. Roederer, University of Denver, Denver, CO; and M.A. Shea and D.F. Smart, Air Force Cambridge Research Laboratories, Hanscom AFB, MA, December 1974, 110 pp, $1.60.

UAG-39 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1971," by Joe Haskell Allen, Carl W. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1975, 144 pp, $2.05.

UAG-40 "H-Alpha Synoptic Charts of Solar Activity for the Period of Skylab Observations, May 1973 - March 1974," by Patrick S. McIntosh, NOAA Space Environment Laboratory, Boulder, CO, February 1975, 32 pp, $0.56.

UAG-41 "H-Alpha Synoptic Charts of Solar Activity During the First Year of Solar Cycle 20 October 1964 - August 1965," by Patrick S. McIntosh, NOAA Space Environment Laboratory, Boulder, CO and Jerome T. Nolte, American Science and Engineering, Inc., Cambridge, MA, March 1975, 25 pp, $0.48.

UAG-42 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-80 MHz, 10 December 1971 through 21 March 1975," by James W. Warwick, George A. Dulk and Anthony C. Riddle, University of Colorado, Boulder, CO, April 1975, 49 pp, $1.15.

UAG-43 "Catalog of Observation Times of Ground-Based Skylab-Coordinated Solar Observing Programs," compiled by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, May 1975, 159 pp, $3.00.

UAG-44 "Synoptic Maps of Solar 9.1 cm Microwave Emission from June 1962 to August 1973," by Werner Graf and Ronald N. Bracewell, Stanford University, Stanford, CA, May 1975, 183 pp, $2.55.

UAG-45 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1972," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, May 1975, 144 pp, $2.10 (microfiche only).

UAG-46 "Interplanetary Magnetic Field Data 1963-1964," by Joseph H. King, National Space Science Data Center, NASA Goddard Space Flight Center, Greenbelt, MD, June 1975, 382 pp, $1.95.

UAG-47 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1973," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, June 1975, 144 pp, $2.10 (microfiche only).

UAG-48A "Synoptic Observations of the Solar Corona during Carrington Rotations 1580-1596 (11 October 1971 - 15 January 1973)," [Reissue of UAG-48 with quality images], by R.A. Howard, M.J. Koomen, D.J. Michels, R. Tousey, C.R. Detwiler, D.E. Roberts, R.T. Seal, and J.D. Whitney, U.S. Naval Research Laboratory, Washington, DC, and R.T. Hansen and S.F. Hansen, C.J. Garcia and E. Yasukawa, High Altitude Observatory, NCAR, Boulder, CO, February 1976, 200 pp, $4.27.

UAG-49 "Catalog of Standard Geomagnetic Variation Data," prepared by NOAA Environmental Data Service, Boulder, CO, August 1975, 125 pp, $1.85.

UAG-50 "High-Latitude Supplement to the URSI Handbook on Ionogram Interpretation and Rediction," edited by W.R. Piggott, British Antarctic Survey, c/o Appleton Laboratory, Slough, UK, October 1975, 294 pp, $4.00.

UAG-51 "Synoptic Maps of Solar Coronal Hole Boundaries Derived from He II 304A Spectroheliograms from the Manned Skylab Missions," by J.D. Bohlin and D.M. Rubenstein, U.S. Naval Research Laboratory, Washington, DC, November 1975, 30 pp, $0.54.

UAG-52 "Experimental Comprehensive Solar Flare Indices for Certain Flares, 1970-1974," by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan Pontiac, MI, November 1975, 27 pp, $0.60.

UAG-53 "Description and Catalog of Ionospheric F-Region Data, Jicamarca Radio Observatory (November 1966 - April 1969), by W.L. Clark and T.E. Van Zandt, NOAA Aeronomy Laboratory, Boulder, CO, and J.P. McClure, University of Texas as Dallas, Dallas, TX, April 1976, 10 pp, $0.33.

UAG-54 "Catalog of Ionosphere Vertical Soundings Data," prepared by NOAA Environmental Data Service, Boulder, CO, April 1976, 130 pp, $2.10.

UAG-55 "Equivalent Ionospheric Current Representations by a New Method, Illustrated for 8-9 November 1969 Magnetic Disturbances," by Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, CO; H.W. Kroehl, Data Studies Division, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; M. Kanamitsu, Advanced Study Program, National Center for Atmospheric Research, Boulder, CO; Joe Haskell Allen, Data Studies Division, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; and S.-I Akasofu, Geophysical Institute, University of Alaska, Fairbanks, AK, April 1976, 91 pp, $1.60 (microfiche only).

UAG-56 "Iso-intensity Contours of Ground Magnetic H Perturbations for the December 16-18, 1971, Geomagnetic Storm," Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, CO, April 1976, 37 pp, $1.39.

UAG-57 "Manual on Ionospheric Absorption Measurements," edited by K. Rawer, Institut fur Physikalische Weltraumforschung, Freiburg, GFR, June 1976, 302 pp, $4.27.

UAG-58 "ATS6 Radio Beacon Electron Content Measurements at Boulder, July 1974 - May 1975," by R.B. Fritz, NOAA Space Environment Laboratory, Boulder, CO, September 1976, 61 pp, $1.04.

UAG-59 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1974," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, December 1976, 144 pp, $2.16.

UAG-60 "Geomagnetic Data for January 1976 (AE(7) Indices and Stacked Magnetograms)," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, July 1977, 57 pp, $1.07.

UAG-61 "Collected Data Reports for STIP Interval II 20 March - 5 May 1976, edited by Helen E. Coffey and John A. McKinnon, World Data Center A for Solar-Terrestrial Physics, Boulder, CO, August 1977, 313 pp, $2.95.

UAG-62 "Geomagnetic Data for February 1976 (AE(7) Indices and Stacked Magnetograms)," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, September 1977, 55 pp, $1.11.

UAG-63 "Geomagnetic Data for March 1976 (AE(7) Indices and Stacked Magnetograms)," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, September 1977, 57 pp, $1.11.

UAG-64 "Geomagnetic Data for April 1976 (AE(8) Indices and Stacked Magnetograms)," by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1978, 55 pp, $1.00.

UAG-65 "The Information Explosion and Its Consequences for Data Acquisition, Documentation, Processing," by G.K. Hartmann, Max-Planck-Institut fur Aeronomie, Lindau, GFR, May 1978, 36 pp, $0.75.

UAG-66 "Synoptic Radio Maps of the Sun at 3.3 mm 1970-1973," by Earle B. Mayfield and Fred I. Shimabukuro, Aerospace Corp., El Segundo, CA, May 1978, 30 pp, $0.75.

UAG-67 "Ionospheric D-Region Profile Data Base, A Collection of Computer-Accessible Experimental Profiles of the D and Lower E Regions," by L.F. McNamara, Ionospheric Prediction Service, Sydney, Australia, August 1978, 30 pp, $0.88 (microfiche only).

UAG-68 "A Comparative Study of Methods of Electron Density Profile Analysis," by L.F. McNamara, Ionospheric Prediction Service, Sydney, Australia, August 1978, 30 pp, $0.88 (microfiche only).

UAG-69 "Selected Disturbed D-Region Electron Density Profiles. Their relation to the undisturbed D region," by L.F. McNamara, Ionospheric Prediction Service, Sydney, Australia, October 1978, 50 pp, $1.29 (microfiche only).

UAG-70 "Annotated Atlas of the H-alpha Synoptic Charts for Solar Cycle 20 (1964-1974) Carrington Solar Rotations 1487-1616," by Patrick S. McIntosh, NOAA Space Environment Laboratory, Boulder, CO, February 1979, 327 pp, $3.50.

UAG-71 "Magnetic Potential Plots over the Northern Hemisphere for 26-28 March 1976," A.D. Richmond, NOAA Space Environment Laboratory, Boulder, CO; H.W. Kroehl, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; M.A. Henning, Lockheed Missils and Space Co., Aurora, CO; and Y. Kamide, Kyoto Sangyo University, Kyoto, Japan, April 1979, 118 pp, $1.50.

UAG-72 "Energy Release in Solar Flares, Proceedings of the Workshop on Energy Release in Flares, 26 February - 1 March 1979, Cambridge, Massachusetts, U.S.A.," edited by David M. Rust, American Science and Engineering, Inc., Cambridge, MA, and A. Gordon Emslie, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, July 1979, 68 pp, $1.50 (microfiche only).

UAG-73 "Auroral Electrojet Magnetic Activity Indices AE(11-12) for January - June 1975," by J.H. Allen, C.C. Abston, J.E. Salazar and J.A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, August 1979, 114 pp, $1.75.

UAG-74 "ATS-6 Radio Beacon Electron Content Measurements at Ootacamund, India, October - July 1976," by S.D. Bouwer, K. Davies, R.F. Donnelly, R.N. Grubb, J.E. Jones and J.H. Taylor, NOAA Space Environment Laboratory, Boulder, CO, and R.G. Rastogi, M.R. Deshpande, H. Chandra and G. Sethia, Physical Research Laboratory, Ahmedabad, India, March 1980, 58 pp, $2.50.

UAG-75 "The Alaska IMS Meridian Chain: Magnetic Variations for 9 March - 27 April 1978," by H.W. Kroehl and G.P. Kosinski, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; S.-I Akasofu, G.J. Romick, C.E. Campbell and G.K. Corrick, University of Alaska, Fairbanks, AK; and C.E. Hornback and A.M. Gray, NOAA Space Environment Laboratory, Boulder, CO, June 1980, 107 pp, $3.00.

UAG-76 "Auroral Electrojet Magnetic Activity Indices AE(12) for July - December 1975," by J.H. Allen, C.C. Abston, J.E. Salazar and J.A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, August 1980, 116 pp, $2.50.

UAG-77 "Synoptic Solar Magnetic Field Maps for the Interval Including Carrington Rotations 1601-1680, May 5, 1973 - April 26, 1979," by J. Harvey, B. Gillespie, P. Miedaner and C. Slaughter, Kitt Peak National Observatory, Tucson, AZ, August 1980, 66 pp, $2.50.

UAG-78 "The Equatorial Latitude of Auroral Activity During 1972-1977," by N.R. Sheeley, Jr. and R.A. Howard, E. O. Hulbert Center for Space Research, U.S. Naval Research Laboratory, Washington, DC and B.S. Dandekar, Air Force Geophysics Laboratory, Hanscom AFB, MA, October 1980, 61 pp, $3.00.

WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

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."