EDITOR's NOTES (2 December 1996): The digitization of these data (fil1957-fil1991) were part of a data rescue project funded by the NOAA Earth Systems Data and Information Management (ESDIM) program and the NASA Space Physics Data System (SPDS) Data Set Preservation and Supply program (NASA 01026). Data were key entered using ESDIM funds and processed and quality controlled using NASA SPDS funds.

The following text was excerpted from the ANNALS OF THE IGY, VOL V, PART IV SOLAR ACTIVITY, pages 273-280, 1958, and describes the Prominence and Filament database. The INSTRUCTION MANUAL for solar observations was prepared for the International Geophysical Year (IGY) 1957-1958 and adopted by an IAU advisory group. Dr. L. d'Azambuja prepared the "Instruction Manual for the Observation of Sudden Disappearances." Dr. W.O. Roberts prepared the "Instructions for the Observations of Surges."

Excerpted from the ANNALS OF THE IGY, VOL V, PART IV, SOLAR ACTIVITY, pages 273-280, 1958:

6. INSTRUCTION MANUAL FOR THE OBSERVATION OF SUDDEN DISAPPEARANCES

PRINCIPAL CENTER : MEUDON

Among solar phenomena of great interest for the study of solar-terrestrial relationships are the sudden disappearances of filaments and prominences. Such phenomena often start with a certain activation of the filament, which reveals itself as a darkening of the object. Outside the limb the activation generally reveals itself as a brightening of the prominence. Both effects are often connected with a Doppler broadening of the spectral lines.

The Meudon Observatory has kept a record of sudden disappearances for many years. In Cartes Synopiques de la Chromosphere Solaire, Vol II, fasc. I, p. 121, an extensive list is presented for the years 1945, 1946 and 1947. The French Ursigram service communicates such events and they are presented also in the daily solar maps edited by the Meudon Observatory.

Whereas these phenomena could not be followed very often in detail with the spectroheliograph, the Lyot filter has now given us an efficient means for their detailed recording. A very instructive example is presented in L'Astronomie 1956, 70, 401.

Because of the great sightline velocities often connected with the phenomenon it is not always possible to follow the complete event without changing the wavelength of the monochromator. This makes the classification of importance difficult. Moreover, the phenomenon displays itself in a very different way on the disk and outside the limb. In order to get a measure of the amount of matter disappearing, the greatest extension in heliographic degrees of the filament before activation should be used for disk phenomena as the primary basis of classification in accordance with the following scheme:

FOR DISK PHENOMENA:

Greatest extension Disintegration

Importance of filament by rapid outflow

class before activation of matter

===========================================================

1 10-20 Degrees Not Observed

1+ 10-20 Degrees Observed

2 20-40 Degrees Not Observed

2+ 20-40 Degrees Observed

3 >40 Degrees Not Observed

3+ >40 Degrees Observed

============================================================

FOR LIMB PHENOMENA:

For such phenomena, the importance should be judged according to the observer's experience, using the same symbols as above. In case the phenomenon is not a clear activation of an already existing object, the importance figure should be put in brackets, say (1+), (2+), (3+).

The observations should be presented as follows:

IGY OBSERVATIONS OF SUDDEN DISAPPEARANCES

Station......................... Month..................... Year............

=============================================================================

Time Time Time Approx. Greatest

when when when position extension Impor-

Date object disinte- object of of tance Remarks

last gration has center filament

observed first dis- Lat. Mer.

before observed appeared dist.

activa- UT UT

tion

UT

=============================================================================

Data report

=============================================================================

Note.- Figures should be underlined when real start or end has been observed.

Remarks:

1 = Photographic recordings of the phenomenon are available.

2 = A flare was observed in the neighborhood before disintegration started.

3 = A flare was observed shortly after the filament (prominence) had disappeared and with about the same position as the filament.(See C.R. Acad. Sci., 1957, 244, 1724.)

4 = Surges penetrated the object before disintegration started.

5 = Another filament (prominence) approached the object before disintegration started.

The report should be sent not later than the 7th of the following month to Meudon, Boulder and Moscow, and if possible by airmail.

7. LOW RATE CHANGES OF CHROMOSPHERIC STRUCTURES

PRINCIPAL CENTER : MEUDON

For many years the Meudon Observatory has published synoptic maps of the sun showing the form and development of filaments, extent and intensity of faculae, position and approximate size of the spot groups. A special catalogue is provided, together with the maps of filaments.

This work will of course be continued and intensified during the IGY. Instructions will be given by the Meudon Observatory directly to co-operating institutions.

8. LIGHT CURVES OF FLARES BASED ON PHOTOGRAPHIC AND PHOTOELECTRIC MEASUREMENTS

PRINCIPAL CENTER : CRIMEAN ASTROPHYSICAL OBSERVATORY

Editor's Note: Section deleted because it relates to solar flare events and not Prominences and Filaments.

9. INSTRUCTIONS FOR THE OBSERVATION OF SURGES AND ACTIVE PROMINENCE REGIONS

PRINCIPAL CENTER : HIGH ALTITUDE OBSERVATORY, BOULDER, COLORADO, U.S.A.

Among solar phenomena of great importance for judging the solar activity are the surges, which sometimes accompany solar flares and sometimes occur in their absence, and the active region prominences such as active loops, downflowing streamers, sprays, eruptives, etc. which often appear above sunspot groups. Those observatories taking part in the flare patrol and listed in Figs. 1 and 2 of Section II.5 of this Manual will have equipment suitable for collecting information on surges and active region prominences. Institutions with coronagraphs will also be equipped to supply valuable additional information.

9.1 FORMS OF REPORTING

To facilitate the work of the Data Centers, we suggest that participating observatories use accompanying standard form. Copies of this form will be supplied, upon request by the High Altitude Observatory, Boulder, Colorado, U.S.A. A separate sheet of data on this form should be used for each observing day, but more than one sheet may be used if necessary. One copy should be sent to High Altitude Observatory, Boulder, Colorado, U.S.A., one to Moscow and one to Meudon. Reports can be mailed in groups once or twice a month.

(EDITOR'S NOTE: Routine observing reports should now be sent to World DataCenter A for Solar-Terrestrial Physics, NOAA NGDC E/GC2, 325 Broadway,Boulder, CO 80303 USA. These data appear monthly in Solar-Geophysical Data.)

9.2 WAVE-LENGTH

If all observations are made at the same wave-length, indicate this wave-length and the wave-length range under "Wave-length" and "Pass-band". If observations are made at different wave-lengths, the pass-band varied, or a sweep in wave-length carried out, give this information in "Remarks".

9.3 PHENOMENA

DSD = Dark surge on disk, also termed "active dark flocculus". These objects often have the shape of brushes or streamers, or may appear sometimes as very dark clouds. These are recognized as surges by their sudden development, and by their sightline or tangential velocities.

BSL = Bright surge at limb. Typical features are high intensity and narrow shape. A typical surge appears and moves rapidly outward from the solar surface. It may then either fade or it may reverse its direction and return to the photosphere, generally along the same trajectory as that of its outward motion.

APR = Active prominence regions. These regions are portions of the solar limb displaying active prominences characterized by down-flowing knots and streamers, sprays (rapid outwards ejection of scattered prominence material from the limb generally along straight trajectories), frequent surges, and curved loops. The types of objects observed in these regions should be indicated by using letters J through R in the "Remarks" code and their importance classified as explained below.

9.4 IMPORTANCE

Give values for single surges and for active prominence regions according to the following rules recommended by the GSAGI Barcelona 1956 meeting:

SURGES

List importance of single surges, based on apparent length (expressed as a percentage of solar radius). If sightline and tangential velocities are known, include them in the "Remarks". In especially interesting cases a special table of velocities during the surge is desirable. If velocities are estimated or thought to be of low accuracy, use "Remarks" code E or F, if either is appropriate.

Importance Single Surge

(apparent length)

====================================

1 5-10%R

2 10-20%R

3 20-40%R

3+ >40%R

====================================

ACTIVE PROMINENCE REGIONS (APR):

The classification of the importance of these regions involves the consideration of a complex of features; the number of down-flowing streamers, numbers and curvature of loops, and frequency of surges and sprays. The importance figures should be assigned as follows:

Importance General activity of

prominence region

==============================================

1 Clear indication of activity

2 High activity

3 Very high activity

==============================================

The basis of the classification can be more specifically indicated in the remarks column by using the code designation A through X listed under the "Remarks" section. In the case of outstanding events, photographs showing particular details would be much appreciated. When good photographic recordings have been made (and enlargements have not been sent) the appropriate "Remarks" code designation W or X should be used.

9.5 TIME

Give Universal Time of beginning and ending of phenomenon and any other time that helps to describe it. If one time is sufficient to indicate the observation (of phenomena that are constant during the observation) enter its time in the "begin" column and enter dashes (----) in the "end" column.

9.6 POSITION

Use heliographic co-ordinates if feasible (latitude, longitude difference from central meridian). Otherwise, give heliographic position angle and radius vector in hundredths of solar radius, and change the heading of the table.

9.7 DIRECTION OF OUTFLOW

An estimate should be given, when possible, of the direction in which outgoing matter moves. For objects on the disk the approximate direction should be given in the table as N, NE, E, SE, S, SW, W, or NW. At the limb an outgoing motion should be indicated in the table as r (radial) when the deviations are less that 5 degrees from this direction, otherwise rn (north) or rs (south).

9.8 REMARKS

Use the following code designations for describing listed phenomena in those cases where they are appropriate and convenient. If the code designations are inadequate for describing a phenomenon, verbal descriptions, sketches and photographs should be used freely.

FOR ALL PHENOMENA:

A = Phenomenon not associated with flare.

B = Phenomenon associated with 1-, 1, or 1+ flare.

C = Phenomenon associated with 2 or 2+ flare.

D = Phenomenon associated with 3 or 3+ flare.

E = Outgoing sightline velocities > 50km/sec

F = Tangential velocities > 50km/sec

G = Associated with large sunspots.

H = Associated with yellow coronal emisson.

FOR APR ONLY:

J = Loop prominences of small activity.

K = Loop prominences of medium activity.

L = Loop prominences of high activity.

M = Down-flowing streamers (coronal rain) without clear focus of material.

N = Down-flowing streamers with focus of material. Indicate

position of focus in the "Position" column.

P = Sprays at the limb of small magnitude.

Q = Sprays at the limb of medium magnitude.

R = Sprays at the limb of high magnitude.

PHOTOGRAPHIC MATERIAL AVAILABLE:

W = Good individual photographs of the phenomenon. Indicate instruments used, as W1 = Lyot filter or W1c = Lyot filter and coronagraph or Ws = spectroheliograph.

X = Good cinematograms of the phenomenon. Indicate instruments used as in W.

9.9 ADDITIONAL INFORMATION

Please report any important additional information, not specifically called for in the instructions, pertaining to the phenomena listed on the data sheets. Also list and describe any prominence events considered important by the observers that are not otherwise reported to an IGY data center. It is not necessary, however, to duplicate information sent to any other center.