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4. CATALOG MATERIALS.

1. Introduction:

The documentation for this data set was originally on paper kept in NSSDC's Data Set Catalogs (DSCs). The offline tape datasets have now been migrated from the original magnetic tape to magnetic disk (starting in mid-2004). Accordingly, statements in the format descriptions that address such tape relevant factors as blocking and bit density are no longer applicable. The paper documentation in the DSCs have been scanned and made into digital images of the pages, then collected into a single PDF file for each Data Set Catalog.

The inventory information in these DSCs is current as of July 1, 2004. But this inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system, and the user should go to that interface (JIN) if further information is desired on possible later changes to the inventory information. The information existing in the DSCs is now not needed for locating data files, but we did not go to the trouble of removing that inventory information.

2. CHANGE LOG

Version	Date	Person	Page	Description of Change
01	10/ 19/2004	J. Manuel	1-6	Added to document

3. LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:
[NOTE: ANY OF THE INFORMATION FIELDS MIGHT BE BLANK.]
[THE "MATERIALS FOR DISTRIBUTION" FIELD IS HERE CALLED JUST "MATERIALS"]

"Remarks" for spacecraft SCNAME1":
http://nssdc.gsfc.nasa.gov/database/MasterCatalog?sc=1977-102A--remark--

"Materials" for spacecraft SCNAME1":
http://nssdc.gsfc.nasa.gov/database/MasterCatalog?sc=1977-102A--mat--

"Remarks" for SCNAME1 experiment EXNAME1:
http://nssdc.gsfc.nasa.gov/database/MasterCatalog?sc=1977-102A&ex=09--remark--

"Materials" for SCNAME experiment EXNAME1:
http://nssdc.gsfc.nasa.gov/database/MasterCatalog?sc=1977-102&ex=09--mat--

"Remarks" for EXNAME1 data set DSNAME1:
http://nssdc.gsfc.nasa.gov/database/MasterCatalog?ds=SPHE-00677--remark--

"Materials" for EXNAME1 data set DSNAME1:
http://nssdc.gsfc.nasa.gov/database/MasterCatalog?ds=SPHE-00677--mat--

"Remarks" for EXNAME1 data set DSNAME2:
http://nssdc.gsfc.nasa,gov/database/MasterCatalog?ds=SPHE-00677--remark--

"Materials" for EXNAME1 data set DSNAME2:
http://nssdc.gsfc.nasa.gov/database/MasterCatalog?ds=SPHE-00677--mat--

"Remarks" for EXNAME1 data set DSNAME3:

"Materials" for EXNAME1 data set DSNAME3:

"Remarks" for SCNAME1 experiment EXNAME2:

"Materials" for SCNAME1 experiment EXNAME2:

"Remarks" for EXNAME2 data set DSNAME1:
"Materials" for EXNAME2 data set DSNAME1:

"Remarks" for EXNAME2 data set DSNAME2:
"Materials" for EXNAME2 data set DSNAME2:

DATA SET CATALOG # 29

Zurich sunspot Data Kp, Ap, CINDEX

CORRCRL 1 tape

MEMORANDUM

TO : AFCRL Digitized Solar Activity Data Files
Zurich Sunspot Data Files

DATE: April 25, 1968

FROM : Kenneth Michlovitz ← KM

SUBJECT: NSSDC Magnetic Tape D-00177

The subject tape contains one files. The first file is the AFCRL data covering the interval January 1955 through February 1967. All of the fields in the card format (Attachment 1) are not filled in for the complete data interval. Data available are as follows:

Data Type	Interval
Magnetic C Index	January 1, 1955 - February 28, 1967
Magnetic Kp Index ✓	January 1, 1955 - February 28, 1967
Magnetic Ap Index	January 1, 1955 - February 28, 1967
Relative Zurich Sunspot Number	January 1, 1955 - February 28, 1967
Greenwich Sunspot Area (Corrected)	January 1, 1955 - December 31, 1955
Greenwich Sunspot Area of the Central Zone (Corrected)	January 1, 1955 - December 31, 1956
Flare Index (HAO)	December 23, 1955 - December 22, 1959
Green Coronal Line Emission Index (CRPL/ITSA)	January 1, 1956 - December 31, 1959
Solar Flux (10 cm, Ottawa)	November 1, 1956 - November 30, 1960

The second part of the tape contains monthly and annual means of Zurich Relative Sunspot Numbers for the interval January 1749 - December 1966. The card format of these is given in Attachment 2.

A copy of the complete listing of the tape is on file in the Computer Services Branch.

KM:pd
Attachment 1 and 2
cc: Mr. J. R. Johns
Mr. D. C. Tidwell
Mr. P. McHugh

ATTACHMENT 1

DIGITIZED SOLAR ACTIVITY DATA

MASTER DECK
FORMAT DESCRIPTION

Card Column	Data	Format
1-3	Magnetic Character Figure (C Index)	XXX
4-6	Relative Zurich Central Zone (Sunspot Position)	XXX
7-9	Magnetic K_p Index	XXX
10-12	Magnetic A_p Index	XXX
13-15	Relative Zurich Sunspot Number	XXX
16-19	Greenwich Sunspot Area (Corrected)	XXXX
20-23	Greenwich Sunspot Area of the Central Zone (Corrected)	XXXX
25-29	Flare Index (HAO)	XXXXX
31-33	Green Corinal Line Emission Index (CRPL)	XXX
35-37	Solar Flux (10 cm, Ottawa)	XXX
73-80	Date (Year, month and day)	XXXXXXXX

NOTE: All fields have not been punched in each card. See printout for data currently available.

ATTACHMENT 2

ZURICH RELATIVE SUNSPOT NUMBERS

MONTHLY AND ANNUAL MEANS

MASTER DECK
FORMAT DESCRIPTION

CARD COLUMN	DATA	FORMAT
1-4	Year	XXXX
5	Blank	-
6-10	Mean Sunspot Numbers - JAN	XXX.X
11-15	Mean Sunspot Numbers - FEB	XXX.X
16-20	Mean Sunspot Numbers - MAR	XXX.X
21-25	Mean Sunspot Numbers - APR	XXX.X
26-30	Mean Sunspot Numbers - MAY	XXX.X
31-35	Mean Sunspot Numbers - JUN	XXX.X
36-40	Mean Sunspot Numbers - JUL	XXX.X
41-45	Mean Sunspot Numbers - AUG	XXX.X
46-50	Mean Sunspot Numbers - SEP	XXX.X
51-55	Mean Sunspot Numbers - OCT	XXX.X
56-60	Mean Sunspot Numbers - NOV	XXX.X
61-65	Mean Sunspot Numbers - DEC	XXX.X
66-70	Mean Sunspot Numbers - YEAR	XXX.X

PART VII

SOLAR PHYSICS

DATA DESCRIPTION

Solar data available at present through the facilities of the Data Center include relative sunspot numbers, sunspot magnetic field data, calcium plages, coronal line emission indices, flare reports, radio emissions, and solar activity summaries. Data on the ionospheric effects of solar flares are included in Part V of this Catalog. The major contributors of these data are:

Catania Astrophysical Observatory, Italy
High Altitude Observatory, Colorado
Kislovodsk Observatory, USSR
McMath-Hulbert Observatory, Michigan
Mount Wilson Observatory, California
Pic-du-Midi Observatory, France
Rome Astronomical Observatory, Italy
Sacramento Peak Observatory, New Mexico
United States Naval Observatory, Washington, D. C.

SUNSPOT DATA

RELATIVE SUNSPOT NUMBERS

Data include the daily American relative sunspot numbers, R_A', and the provisional daily Zurich relative sunspot numbers, R_Z.

The relative sunspot number is an index of the activity of the entire visible solar disk and is determined each day without reference to preceding days. Each isolated cluster of sunspots is termed a sunspot group, and it may consist of one or a large number of distinct spots whose size can range from 10 or more square degrees of the solar surface down to the limit of resolution. The relative sunspot number is defined as $R = K(10g + s)$, where g is the number of sunspot groups and s is the total number of distinct spots. The constant K (usually less than unity) is a calibration scale factor for the observing instrument and is intended to effect the conversion to the scale originated by R. Wolf in 1849. The counts are made visually with small, suitably protected telescopes.

Final values of R_z appear in the IAU Quarterly Bulletin on Solar Activity, the Journal of Geophysical Research, and Solar-Geophysical Data (a monthly publication of ESSA/ITSA). They usually differ slightly from the provisional values, whereas the American numbers, R_A', are not revised.

Data are available in tabular form for the period of Jan. 1957 through Oct. 1967, and were obtained from Solar-Geophysical Data.

FRAUNHOFER INSTITUT MAPS OF THE SUN

Daily maps of the sun have been received from the Fraunhofer Institut, Freiburg im Breisgau, German Federal Republic. Data include:

1. Sunspots
2. Plages
3. Filaments, prominences, and their sudden disappearances
4. Corona
5. Flares

Data are available for Jan. 1957 through June 1961 and Jan. 1962 through Oct. 1967.

POSITIONS, CLASSIFICATIONS, AND AREAS

Daily total areas of sunspot groups as well as heliographic position, classification, and area of sunspot groups have been received in tabular form from Catania Astrophysical Observatory, Catania, Italy; Rome Astronomical Observatory, Rome, Italy; and U. S. Naval Observatory, Washington, D.C.

Available data are as listed.

Station	Data Available
Catania Astrophysical Observatory	Jan. 1958 - Dec. 1959
Rome Astronomical Observatory	Jan. 1959 - Feb. 1962;
	Apr. 1962 - Aug. 1966
	Oct. 1966 - July 1967
U.S. Naval Observatory	Jan. 1948 - Dec. 1961,
	Jan. 1964 - May 1965

TAPE # D-00177

CIndex	Kp | Ap | Rz | GSA | GSAC2	YEAR
004	013006022004000000	19550
003	013006017003100000	19550
002	009004012003000000	19550
007	019010020002600000	19550
00[illegible]	011006032004200003	19550
005	016008040006900007	19550
004	016007054016300079	19550
004	010005054015900059	19550
013	026020035013600047	19550
002	008004033012100000	19550
012	019016030011700000	19550
007	012009029009700000	19550
008	023015028009700000	19550
007	014007027006700000	19550
000	002001017005700000	19550
004	014007016005300000	19550
017	034043015006200000	19550
017	036059011003900000	19550
017	040053010004300000	19550
009	023016007000300000	19550
005	015009008000300000	19550
001	011005008000200000	19550
010	021012014000200000	19550
001	009004022001600001	19550
001	007004021002100000	19550
000	004002025003000001	19550
009	016011025002900000	19550
003	015008019002300000	19550
006	013007022002000000	19550
005	015007022004400030	19550
003	009005022004500030	19550
001	006003019003600029	19550

YEAR	N°	DA			
1955	01	01	REC	1. LENGTH	80
19550102			REC	2. LENGTH	80
19550103			REC	3. LENGTH	80
19550104			REC	4. LENGTH	80
19550105			REC	5. LENGTH	80
19550106			REC	6. LENGTH	80
19550107			REC	7. LENGTH	80
19550108			REC	8. LENGTH	80
19550109			REC	9. LENGTH	80
19550110			REC	10. LENGTH	80
19550111			REC	11. LENGTH	80
19550112			REC	12. LENGTH	80
19550113			REC	13. LENGTH	80
19550114			REC	14. LENGTH	80
19550115			REC	15. LENGTH	80
19550116			REC	16. LENGTH	80
19550117			REC	17. LENGTH	80
19550118			REC	18. LENGTH	80
19550119			REC	19. LENGTH	80
19550120			REC	20. LENGTH	80
19550121			REC	21. LENGTH	80
19550122			REC	22. LENGTH	80
19550123			REC	23. LENGTH	80
19550124			REC	24. LENGTH	80
19550125			REC	25. LENGTH	80
19550126			REC	26. LENGTH	80
19550127			REC	27. LENGTH	80
19550128			REC	28. LENGTH	80
19550129			REC	29. LENGTH	80
19550130			REC	30. LENGTH	80
19550131			REC	31. LENGTH	80
19550201			REC	32. LENGTH	80

003	01000502800380029
005	01701003300440000
012	02501803400630002
009	02401603200760002
009	02301402800400000
009	02201503400390000
010	02001202400260000
005	02001202800300000
002	01300602700350000
011	01901502700270000
008	02201302600160000
007	01901202700160000
008	02001101000070000
004	01200800800030000
005	01200601600050002
003	01200600900010001
005	01400800000000000
002	01200600000000000
006	01600800000000000
009	02101400700320000
009	02401600900360000
012	02802201900500000
009	01901102600450000
008	02101302800380000
005	01500902800360020
003	01000502800330033
014	03003202600320010
001	00700402300220012
001	00600402000190012
001	00700301600120000
002	00800401500080000

19550202	REC	33. LENGTH	80
19550203	REC	34. LENGTH	80
19550204	REC	35. LENGTH	80
19550205	REC	36. LENGTH	80
19550206	REC	37. LENGTH	80
19550207	REC	38. LENGTH	80
19550208	REC	39. LENGTH	80
19550209	REC	40. LENGTH	80
19550210	REC	41. LENGTH	80
19550211	REC	42. LENGTH	80
19550212	REC	43. LENGTH	80
19550213	REC	44. LENGTH	80
19550214	REC	45. LENGTH	80
19550215	REC	46. LENGTH	80
19550216	REC	47. LENGTH	80
19550217	REC	48. LENGTH	80
19550218	REC	49. LENGTH	80
19550219	REC	50. LENGTH	80
19550220	REC	51. LENGTH	80
19550221	REC	52. LENGTH	80
19550222	REC	53. LENGTH	80
19550223	REC	54. LENGTH	80
19550224	REC	55. LENGTH	80
19550225	REC	56. LENGTH	80
19550226	REC	57. LENGTH	80
19550227	REC	58. LENGTH	80
19550228	REC	59. LENGTH	80
19550301	REC	60. LENGTH	80
19550302	REC	61. LENGTH	80
19550303	REC	62. LENGTH	80
19550304	REC	63. LENGTH	80

1926	71.6	70.0	64.5	38.5	64.3	73.5	58.3	61.6	60.8	71.5	60.5	79.4	63.9
1927	81.6	93.0	69.6	93.5	79.1	59.1	54.9	[illegible]	68.4	63.1	67.2	45.2	69.0
1928	83.5	73.5	85.4	80.6	76.9	91.4	98.0	83.8	89.7	61.4	56.3	59.0	77.8
1929	66.9	64.1	50.2	52.8	58.2	71.9	70.2	65.8	34.4	58.0	81.1	108.0	65.0
1930	65.3	49.2	35.0	38.2	36.8	28.8	21.9	24.9	32.1	34.9	35.6	25.8	35.7
1931	14.6	43.1	30.0	31.2	24.6	15.3	17.4	13.0	19.6	10.0	18.7	17.8	21.2
1932	12.1	10.6	11.2	11.2	17.9	22.2	9.6	6.8	4.0	8.3	8.2	11.0	11.1
1933	12.3	22.2	10.1	2.9	3.2	5.2	2.8	6.2	5.1	3.0	0.6	0.3	5.7
1934	3.4	7.8	8.3	11.3	19.7	6.7	9.3	8.3	4.0	5.7	8.7	15.4	8.7
1935	18.9	20.5	23.1	12.2	27.3	45.7	33.9	30.1	42.1	53.2	64.2	61.5	36.1
1936	62.8	74.3	77.1	74.9	54.6	70.0	52.3	87.0	76.0	89.0	115.4	123.4	79.7
1937	132.5	128.5	83.9	109.3	116.7	130.3	145.1	137.7	100.7	124.9	74.4	88.8	114.4
1938	98.4	119.2	85.5	101.0	127.4	97.5	165.3	115.7	89.6	99.1	122.2	92.7	109.6
1939	80.3	77.4	69.6	109.1	118.3	101.0	97.6	105.8	112.6	88.1	68.1	42.1	88.8
1940	50.5	59.4	83.3	60.7	54.4	83.0	67.5	106.5	66.5	55.0	58.4	68.3	67.8
1941	45.6	49.5	46.4	32.3	29.5	59.8	66.9	60.0	65.9	46.3	38.3	33.7	47.5
1942	35.6	52.6	54.2	60.7	25.2	11.4	17.7	20.2	17.2	19.2	30.7	22.5	30.6
1943	12.4	23.9	27.4	26.1	14.1	7.6	13.2	19.4	10.0	7.8	10.2	18.8	15.3
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.0	28.4	9.6
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.9	33.2
1946	47.6	80.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7	92.6
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.9	116.5	151.6
1948	108.5	80.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0	135.2
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.5	135.1
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1	83.9
1951	55.5	53.9	55.9	92.9	108.5	100.6	61.5	61.6	83.1	51.6	52.4	45.8	69.4
1952	40.7	22.7	26.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3	31.4
1953	26.5	3.9	10.0	27.9	12.6	21.8	8.6	23.5	19.3	8.2	1.6	2.5	13.9
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6	4.4
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9	38.0
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1	141.7

71.5 60.5 79.4 63.9 REC 4621. LENGTH 80

63.1 67.2 45.2 69.0 REC 4622. LENGTH 80

61.4 56.3 59.0 77.8 REC 4623. LENGTH 80

[illegible].0 81.1108.0 65.0 REC 4624. LENGTH 80

[illegible].4 35.6 25.8 35.7 REC 4625. LENGTH 80

[illegible].3 18.7 17.8 21.2 REC 4626. LENGTH 80

8.9 8.2 11.0 11.1 REC 4627. LENGTH 80

3.3 0.6 0.3 5.7 REC 4628. LENGTH 80

5.7 8.7 15.4 8.7 REC 4629. LENGTH 80

53.2 64.2 61.5 36.1 REC 4630. LENGTH 80

[illegible].0115.4123.4 79.7 REC 4631. LENGTH 80

[illegible].9 74.4 88.8114.4 REC 4632. LENGTH 80

[illegible].1122.2 92.7109.6 REC 4633. LENGTH 80

[illegible].1 68.1 42.1 88.8 REC 4634. LENGTH 80

5.0 58.4 68.3 67.8 REC 4635. LENGTH 80

6.3 38.3 33.7 47.5 REC 4636. LENGTH 80

9.2 30.7 22.5 30.6 REC 4637. LENGTH 80

7.3 10.2 18.8 16.3 REC 4638. LENGTH 80

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[illegible].3 95.8138.0136.2 REC 4643. LENGTH 80

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[illegible].6 52.4 45.8 69.4 REC 4646. LENGTH 80

[illegible].8 22.1 34.3 31.4 REC 4647. LENGTH 80

[illegible].2 1.6 2.5 13.9 REC 4648. LENGTH 80

[illegible].0 9.2 7.6 4.4 REC 4649. LENGTH 80

[illegible].5 89.2 76.9 38.0 REC 4650. LENGTH 80

[illegible].3201.3192.1141.7 REC 4651. LENGTH 80

1957 165.0130.2157.4175.2164.6200.7187.2158.0235.8253.8210.9239.41

1958 202.5164.9190.7196.0175.3171.5191.4200.2201.2181.5152.3187.518

1959 217.4143.1185.7163.3172.0168.7185.6199.6185.2111.6126.0125.015

1960 148.3105.0102.2122.9119.6110.2121.7134.1127.2 82.8 89.6 85.611

1961 57.9 46.1 53.0 61.4 51.0 77.4 70.2 56.8 63.6 37.7 32.6 39.9 5

1962 38.7 50.3 45.6 46.4 43.7 42.0 21.8 21.8 51.3 39.5 26.9 23.2 3

1963 19.8 24.4 17.1 29.3 43.0 35.9 19.8 33.2 38.8 35.3 23.9 14.9 2

1964 15.3 17.7 16.5 8.8 9.5 9.1 3.1 9.3 4.7 6.1 7.4 15.1 1

1965 17.5 14.2 11.7 6.8 24.1 15.9 11.9 8.9 16.8 20.1 15.8 17.0 1

1966 28.2 24.4 25.3 48.7 45.3 47.7 56.7 51.2 50.2 57.2 57.2 70.4 4

"

.8253.8210.9239.4189.9	REC 4652. LENGTH 80
.2181.3152.3187.6184.8	REC 4653. LENGTH 80
.2111.4124.0125.8159.0	REC 4654. LENGTH 80
.2 82.8 89.6 85.6112.3	REC 4655. LENGTH 80
.6 37.7 32.6 39.9 53.9	REC 4656. LENGTH 80
.3 39.5 26.9 23.2 37.5	REC 4657. LENGTH 80
.8 35.3 23.4 14.9 27.9	REC 4658. LENGTH 80
.7 6.1 7.4 15.1 10.2	REC 4659. LENGTH 80
.8 20.1 15.8 17.9 15.1	REC 4660. LENGTH 80
.2 57.2 57.2 70.4 47.0	REC 4661. LENGTH 80
	REC 4662. LENGTH 80