Data Set Catalog #224

OAO-2, Spectrometer Wavelength/Data/Energy
68-110A-02E 4 tapes

Table of Contents

1. Introduction

2. Errata/Change Log

3. LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM

4. Catalog Materials

    a. Associated Documents

    b. Core Catalog Materials

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1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and 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. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

http://nssdc.gsfc.nasa.gov/nmc/

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

a. Associated Documents To find associated documents you will need to know the document ID number and then click here.
http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/

b. Core Catalog Materials

OAO 2

REDUCED SPET DATA - DELETED

68-110A-02E

This data set has been restored. There were originally five 7-track, 556 BPI tapes written in BCD. There are two restored tapes written in ASCII. The DR tapes are 3480 cartridges and the DS tapes are 9-track, 6250 BPI. The original tapes were created on an IBM 7094 computer and the restored tapes were created on an IBM 9021 computer. The DR and DS numbers along with the corresponding D numbers are as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR005958	DS005958	D010868	1	12/24/68 - 08/09/69 (a)
		D014368	2	01/31/69 - 04/25/70
		D010869	3	08/09/69 - 11/13/69
DR005959	DS005959	D010870	1	11/13/69 - 04/19/70
		D010871	2	04/19/70 - 08/13/71 (b)

(a) D010868: Read error occurred in record 13950 of file 1.
(b) D010871: Read errors occurred in records 5743, 5744, 8668, 13472 of file 1.

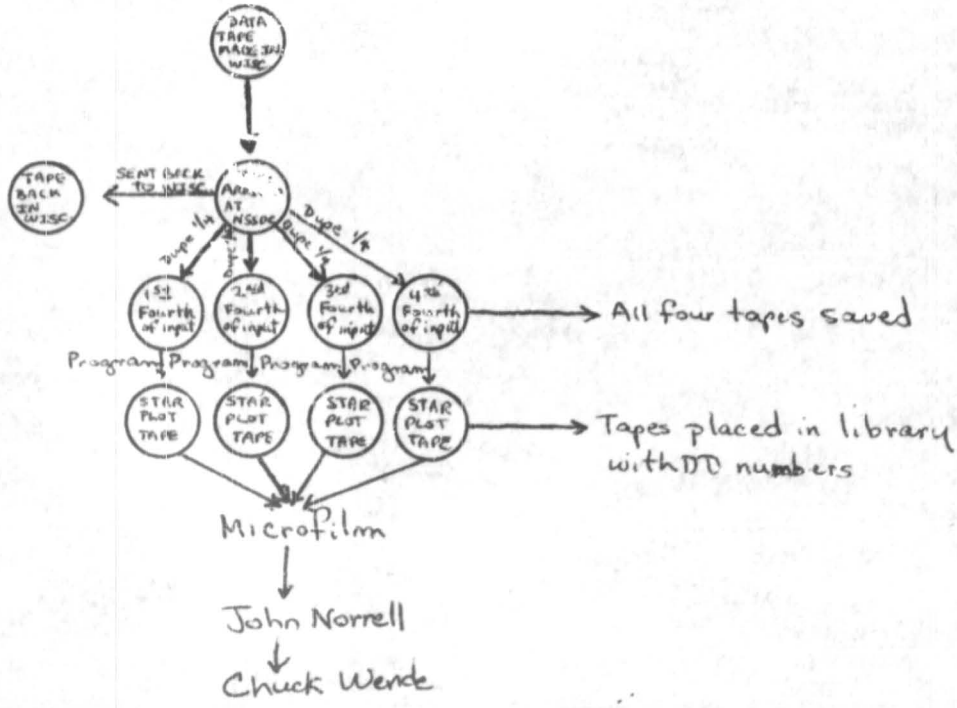
REQ. AGENT	RASH NO.	ACQ. AGENT
DZD	RB0323	CDW

OAO-A2

68-110A-02E

This data set catalogue consists of four OAO-A2 spectrometer - wavelength/data/energy tapes, which essentially contain star positions and energy readings. The data set was generated from an experimenter tape sent by the University of Wisconsin, using the following procedure:

The input tape was broken down into four tapes (one quarter of the input apiece) in order to facilitate the processing of the large volume of information contained on the original tape. A program was then written by John Norrell (A7.01.002) to create plot tapes from the original input. These plot tapes are the tapes contained in this data set. The output plot tapes were then microfilmed and the film given to Chuck Wende for his use. The output plot tapes were given D numbers, and placed in the library. They are 556 BPI, BCD, 7 track, 1 file, 7094 tapes. The original input tape was sent back to Wisconsin, because it was a preliminary version, and we are expecting a replacement by the end of 1973. The information flow was as follows:



D#	C#	TIME SPAN
D-10868	C-08209	NOT TIME ORDERED
D-10869	C-08210	NOT TIME ORDERED
D-10870	C-08211	NOT TIME ORDERED
D-10871	C-08212	NOT TIME ORDERED

Prof John McNall
U of Wisconsin

608 - 262 - 1022
- 3071

May 2, 1972

MEMORANDUM FOR THE RECORD

SUBJECT: Submission of OAO-2 Data from the W.E.P. to the NSSDC.

The following plan of action was the result of a meeting held on April 26, 1972 which was attended by Wisconsin, OAO Project, NASA/Headquarters, and NSSDC personnel (see appended list of attendees).

Data to be submitted to the NSSDC include:

1) - Copies of the Wisconsin reduced data tapes (DROOP tapes). These accumulate at a rate of about 2.5 reels per week of OAO operation and currently total about 400 reels of 7-track, bcd magnetic tape.

2) - Microfilm copies of the contents of the DROOP tapes, to which will be appended archives, maps and other relevant material. These microfilms will be in the form of 16mm cartridges and accumulate at a rate of about 50 cartridges per year of OAO operation.

3) - An index to the above two data sets, cross referencing the data by right ascension / declination, spectral type, etc.

4) - Microfilm plots of the reduced spectrometer scans: These plots include as a function of wavelength both the spectrometer count rates and the unfolded stellar magnitudes. These data also will appear in tabular form in one corner of the plot.

5) - A machine sensible copy (either magnetic tape or punch cards) of the spectrometer data tabulated in item 4) above.

6) - Summaries of well observed selected objects, in machine sensible form (i.e., punch cards). This data set will be a validated subset of the data in sets 1) and 2) above.

7) - A user's handbook covering the above data sets. This handbook will describe the instruments, provide calibrations, and give enough detail so that a user can interpret properly both spectrometer and photometer data and can determine from the DROOP data whether a particular measurement is valid.

The scheduling and division of labor involved in the above submissions are as follows:

1) - DROOP tapes will be copied at Wisconsin, and one copy of each shall be sent to the NSSDC commencing about June 1, 1972. Wisconsin will maintain a copy of all tapes, and an archival copy of all tapes will be maintained in the Wisconsin state

archives. These data will be sent to the NSSDC in chronological order (i.e., according to ascending orbit number). Due to the low amount of activity forecast on this data set, it will not be reordered with all observations of the same object located contiguously, but observations will be accessed by orbit number. The NSSDC will supply Wisconsin with the magnetic tapes needed to produce the NSSDC copies.

2) - Microfilm copies of the contents of the DROOP tapes will arrive concurrently with the DROOP tapes themselves.

3) - The index to the above two data sets will be submitted with the first DROOP tapes. This index will be on magnetic tape and will index all observations to date. It will be updated periodically as new observations are made, and it will, for the most part, reference more observations than are as yet submitted to the NSSDC. This index will reference observations by the number of the orbit on which they were made, and it is to be consistent with this approach that the NSSDC will receive DROOP tapes from Wisconsin in order of ascending orbit number.

Sample data came 6/22/72 JPL

4) - Microfilm plots of the spectrometer scans will be produced at GSFC on the Stromberg-Carlson 4060 using programs generated by Wisconsin (flux unfolding algorithm) and the NSSDC (basic plotting routine) and data supplied by Wisconsin on punch cards. The Wisconsin programs and some sample data are expected at the NSSDC during the first week of May, 1972, and the NSSDC expects to have processed all of the plot data by September 1, 1972, when Wisconsin will be supplied with copies of the microfilm as well as a hardcopy set of the data. A copy of these data will be stored in the NSSDC and will be available to requesters. Wisconsin will then begin writing an atlas of these scans which should be ready for publication by December 1, 1972. This atlas will not include redundant scans of the same object, and thus will be a subset of these data.

5) - NSSDC will generate a machine sensible copy of the data used to generate the above plots when the plotting programs are being run.

6) - Summaries of well observed selected objects will be sent to the NSSDC by Wisconsin, with a reasonable subset (the order of 1000 objects) to be submitted by August 1, 1972.

7) - Wisconsin will write a user's handbook, and the NSSDC will be responsible for its publication. This document will be reviewed by Dr. Wende prior to final submission for publication. The handbook should be ready for publication (i.e., technically complete and correct, if not grammatically perfect) by August 1, 1972. This document then will be checked by the NSSDC publications staff for grammar and style and will be laid out by them and sent to the printer. The handbook is expected to be about 100 pages long.

When a reasonable amount of the Wisconsin data is deposited in the NSSDC and the necessary accompanying documentation is ready (target period - Fall, 1972), the NSSDC will prepare, with NASA/Headquarters and Wisconsin coordination, a Data Announcement Bulletin (DAB). This announcement will be sent to the I.A.U. for inclusion in the I.A.U. Bulletin and probably will be sent to the members of the American Astronomical Society as well. Wisconsin OAO data will not be available for distribution from the NSSDC until this time.

Wisconsin will continue to submit their data to the NSSDC at a timely rate until copies of all the data reside there.

James I. Vette

James I. Vette

Charles D. Wende

Charles D. Wende

cc: Attendees.

OAO - NSSDC Meeting of April 26, 1972, at GSFC.

List of Attendees:

NASA/ Headquarters, code SG:

H. D. Calahan
D. R. Hallenbeck
N. G. Roman

NASA/ GSFC:

L. A. Koschmeder, code 410
J. E. Kupperian, code 410
J. M. Mead, code 672

University of Wisconsin:

R. L. Bottemiller
A. D. Code
H. C. Heacox
J. F. McNall

NASA/ GSFC - NSSDC:

G. J. Dashner, code 601
J. I. Vette, code 601
C. D. Wende, code 601

DASHNER

OAO - NSSDC Meeting of April 26, 1972, at GSFC.

List of Attendees:

NASA/ Headquarters, code SG:

[illegible]. [illegible]. Calahan
[illegible]. [illegible]. Hallenbeck
[illegible]. [illegible]. Roman

NASA/ GSFC:

[illegible]. A. Koschmeder, code 410
[illegible]. [illegible]. Kupperian, code 410
[illegible]. [illegible]. Mead, code 672

University of Wisconsin:

[illegible]. L. Bottemiller
A. [illegible]. Code
H. [illegible]. Heacox
J. F. McNall

NASA/ GSFC - NSSDC:

[illegible]. [illegible]. Dashner, code 601
[illegible]. [illegible]. Vette, code 601
C. D. Wende, code 601

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No problem

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Charles D. Wende

Charles D. Wende

cc: Attendees.

```
S ZET PUP  8  1.83 -39 51.4  2.2 O5       F      2.25  -0.28 P=  0 Y=  0    248S 9   00
ECL  LONG 137 51 24  LAT -58 20 43      GAL  LONG 255 58 22  LAT - 4 42  8           00
AZ-ZD 183.29  62.25 TO 206.93  54.32 ROLL   72.31 SLIT 197.69 SUN 111.79             00
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 .54  .52  .48  .52  .52  .52  .48  .50  .50  .50  .48  .48  .48  .46  .46  .46      00
 .44  .44  .42  .42  .44  .44  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00      00
 .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00      00
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S ALF VIR 13 22.74 -10 52.6  1.0 B1   V          0.96  -0.25 P=  3 Y=  0    797S10   00
ECL  LONG 203 10 35  LAT - 2  0 44      GAL  LONG 316 11 30  LAT  50 51 33           00
AZ-ZD 110.90 105.75 TO 101.97  68.78 ROLL  112.46 SLIT 157.54 SUN 108.43             00
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2.18 2.28 2.38 2.42 2.50 2.48 2.50 2.44 2.34 2.32 2.18 2.18 2.14 1.94 1.94 1.96      00
1.94 1.92 1.90 1.90 1.88 1.94 1.90 1.90 1.86 1.82 1.80 1.76 1.68 1.70 1.70 1.66      00
1.56 1.58 1.58 1.58 1.60 1.52 1.52 1.50 1.50 1.56 1.54 1.48 1.48 1.48 1.44 1.44      00
1.42 1.40 1.42 1.36 1.34 1.34 1.32 1.30 1.28 1.26 1.24 1.22 1.20 1.18 1.18 1.16      00
1.12 1.12 1.08 1.06 1.08 1.06 1.06 1.02 1.02 1.00  .98  .98  .96  .90  .90  .92      00
S JUPITER 12 22.97 -  C 52.3 -2.5 G2  V                        P=  3 Y=  0    799S 1   00
ECL  LONG 185 37  0  LAT   1 28 52      GAL  LONG 289 27 48  LAT  61  2 39           00
AZ-ZD  94.62  97.48 TO  91.83  53.67 ROLL  112.72 SLIT 157.28 SUN 126.13             00
C SP1(E3,SN) DIRECTION(S) STEPS(097)   GMT  1/31/69  20 23 04 (SET=3203)  DAY        00
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 .04  .08  .08  .08  .10  .10  .12  .12  .14  .12  .12  .12  .12  .12  .12  .12      00
 .10  .12  .10  .12  .14  .10  .12  .14  .20  .16  .18  .30  .34  .34  .36  .32      00
 .24  .34  .24  .22  .40  .32  .44  .56  .78  .70  .74  .70  .66  .66  .82  .86      0
 .90  .86 1.02 1.02  .96 1.10 1.14 1.10 1.10 1.38 1.46 1.60 1.52 1.50 1.46 1.42      00
1.60 1.58 1.48 1.54 1.52 1.60 1.62 1.68 1.74 1.46 1.54 1.62 1.70 1.82 2.02 1.94      00
S ALF VIR 13 22.74 -10 52.6  1.0 B1   V          0.96  -0.25 P=  3 Y=  0    805R11   00
ECL  LONG 203 10 35  LAT - 2  0 44      GAL  LONG 316 11 30  LAT  50 51 33           00
AZ-ZD 110.18 105.88 TO 102.79  69.44 ROLL  112.44 SLIT 157.56 SUN 109.07             00
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1.04 1.12 1.14 1.14 1.14 1.12 1.08 1.18 1.16 1.28 1.32 1.48 1.46 1.58 1.70 1.80      00
1.98 2.06 2.28 2.24 2.34 2.30 2.32 2.28 2.18 2.12 2.06 2.02 1.94 1.90 1.84 1.82      00
1.82 1.82 1.82 1.78 1.80 1.82 1.80 1.76 1.74 1.72 1.68 1.64 1.62 1.62 1.58 1.56      00
1.50 1.52 1.52 1.50 1.44 1.50 1.46 1.44 1.42 1.42 1.38 1.40 1.40 1.40 1.34 1.34      00
1.32 1.32 1.32 1.28 1.28 1.26 1.22 1.22 1.20 1.18 1.16 1.16 1.12 1.12 1.10 1.10      00
1.06 1.06 1.02 1.04 1.02  .98 1.00  .96  .96  .94  .92  .90  .90  .86  .86  .86      00
S ALF VIR 13 22.74 -10 52.6  1.0 B1   V          0.96  -0.25 P=  3 Y=  0    809R11   00
ECL  LONG 203 10 35  LAT - 2  0 44      GAL  LONG 316 11 30  LAT  50 51 33           00
AZ-ZD 105.16  99.52 TO 107.05  63.74 ROLL  112.43 SLIT 157.57 SUN 109.35             00
C SP1(E3,SN) DIRECTION(L) STEPS(097)   GMT  2/ 1/69  14 48 44 (SET=3375)  NIGHT      00
0.02   49.0      1  96  2       ANALOG                                               00
1.12 1.16 1.10 1.16 1.12 1.12 1.08 1.16 1.22 1.30 1.32 1.50 1.52 1.64 1.72 1.86      00
2.04 2.08 2.22 2.30 2.38 2.32 2.32 2.30 2.18 2.14 2.04 2.04 1.96 1.88 1.84 1.82      00
1.84 1.82 1.80 1.80 1.80 1.80 1.78 1.76 1.72 1.70 1.66 1.64 1.60 1.60 1.58 1.56      00
1.48 1.50 1.48 1.46 1.48 1.44 1.42 1.42 1.40 1.40 1.36 1.40 1.36 1.36 1.32 1.32      00
1.34 1.32 1.28 1.26 1.26 1.24 1.20 1.18 1.18 1.18 1.14 1.12 1.10 1.08 1.08 1.08      00
1.04 1.04 1.02  .98  .98  .98  .96  .96  .96  .92  .90  .90  .90  .84  .84  .84      00
S ALF VIR 13 22.74 -10 52.6  1.0 B1   V          0.96  -0.25 P=  3 Y=  0    809R13   00
ECL  LONG 203 10 35  LAT - 2  0 44      GAL  LONG 316 11 30  LAT  50 51 33           00
AZ-ZD 112.48  58.41 TO 179.18  44.78 ROLL  112.43 SLIT 157.57 SUN 109.37             00
C SP1(E3,SN) DIRECTION(S) STEPS(097)   GMT  2/ 1/69  15 05 31 (SET=3475)  DAY        00
0.02   51.0      1  96  2      ANALOG                          DK/LT                 00
 .96 1.02 1.10 1.14 1.08 1.14 1.12 1.10 1.08 1.16 1.22 1.24 1.32 1.46 1.50 1.64      00
1.70 1.86 2.04 2.08 2.22 2.30 2.34 2.30 2.28 2.26 2.16 2.12 2.04 2.02 1.94 1.88      00
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1.82 1.80 1.80 1.80 1.80 1.80 1.80 1.80 1.78 1.74 1.76 1.72 1.66 1.62 1.62 1.60   00
1.54 1.54 1.46 1.50 1.46 1.48 1.46 1.44 1.42 1.40 1.40 1.38 1.38 1.36 1.36 1.36   00
1.34 1.32 1.32 1.30 1.28 1.26 1.26 1.22 1.22 1.20 1.16 1.16 1.14 1.12 1.10 1.10   00
1.08 1.08 1.04 1.06 1.02 1.02  .98  .98  .98  .94  .96  .92  .90  .90  .90  .84   00
S ALF VIR 13 22.55 -10 53.7  1.0 B1   V          0.96  -0.25 P=  0 Y=  0   818Q 2  00
ECL  LONG 203  8 24  LAT - 2  2 48      GAL  LONG 316  6 48  LAT  50 51  3        00
AZ-ZD 109.23 106.24 TO 103.19  71.88 ROLL  112.39 SLIT 157.61 SUN 110.03          00
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0.02              1  94  2      ANALOG            MG2 INDETERMINATE  NIGHT        00
1.14 1.14 1.12 1.16 1.14 1.12 1.10 1.18 1.20 1.28 1.32 1.46 1.48 1.62 1.72 1.84   00
2.02 2.06 2.22 2.26 2.34 2.30 2.30 2.28 2.20 2.14 2.06 2.02 1.94 1.88 1.82 1.82   00
1.82 1.82 1.80 1.80 1.78 1.78 1.76 1.74 1.72 1.70 1.68 1.62 1.60 1.58 1.54 1.56   00
1.48 1.48 1.48 1.56 1.44 1.42 1.42 1.42 1.36 1.40 1.36 1.36 1.34 1.34 1.32 1.30   00
1.30 1.30 1.28 1.22 1.24 1.22 1.22 1.20 1.16 1.16 1.22 1.10 1.10 1.08 1.08 1.08   00
1.04 1.02 1.00 1.00 1.00  .98  .94  .94  .92  .98  .88  .88  .90  .82  .00  .00   00
S ALF VIR 13 22.55 -10 53.7  1.0 B1   V          0.96  -0.25 P=  0 Y=  0   819R 1  00
ECL  LONG 203  8 24  LAT - 2  2 48      GAL  LONG 316  6 48  LAT  50 51  3        00
AZ-ZD 107.81  64.74 TO 163.81  44.89 ROLL  112.39 SLIT 157.61 SUN 110.04          00
C SP1(E3,SN) DIRECTION(S) STEPS(096)   GMT  2/ 2/69  06 05 26 (SET=2246)  NIGHT   00
0.02      51.0    1  95  2      ANALOG                                            00
 .94 1.04 1.14 1.18 1.12 1.18 1.14 1.16 1.12 1.20 1.26 1.30 1.40 1.50 1.54 1.70   00
1.76 1.92 2.12 2.14 2.28 2.36 2.40 2.38 2.36 2.34 2.20 2.20 2.10 2.06 1.98 1.92   00
1.86 1.84 1.86 1.84 1.86 1.82 1.80 1.80 1.82 1.78 1.78 1.74 1.70 1.64 1.62 1.62   00
1.60 1.58 1.48 1.52 1.48 1.48 1.46 1.46 1.44 1.44 1.42 1.42 1.38 1.40 1.36 1.36   00
1.38 1.34 1.34 1.32 1.28 1.26 1.28 1.26 1.22 1.20 1.18 1.16 1.16 1.14 1.12 1.10   00
1.08 1.06 1.04 1.06 1.00 1.02 1.00  .98  .96  .94  .98  .84  .90  .92  .92  .88   00
S ALF VIR 13 22.74 -10 52.6  1.0 B1   V          0.96  -0.25 P=  3 Y=  0   823R10  00
ECL  LONG 203 10 35  LAT - 2  0 44      GAL  LONG 316 11 30  LAT  50 51 33        00
AZ-ZD 103.27  72.84 TO 147.67  46.83 ROLL  112.40 SLIT 157.60 SUN 110.35          00
C SP1(E3,SN) DIRECTION(S) STEPS(097)   GMT  2/ 2/69  14 23 32 (SET=6022)  NIGHT   00
0.02   53.0      1  96  2      GUESSED MG 2      ANALOG                           00
 .98 1.04 1.16 1.18 1.16 1.18 1.18 1.16 1.12 1.22 1.24 1.38 1.34 1.48 1.54 1.66   00
1.78 1.90 2.08 2.14 2.28 2.34 2.42 2.40 2.28 2.36 2.26 2.18 2.10 2.06 2.02 1.94   00
1.88 1.86 1.86 1.86 1.86 1.82 1.82 1.88 1.84 1.80 1.78 1.74 1.74 1.68 1.62 1.66   00
1.60 1.56 1.54 1.52 1.48 1.50 1.56 1.46 1.44 1.42 1.42 1.40 1.42 1.36 1.40 1.38   00
1.38 1.32 1.32 1.32 1.30 1.28 1.26 1.24 1.22 1.22 1.18 1.18 1.16 1.14 1.10 1.12   00
1.10 1.06 1.06 1.06 1.04 1.02 1.00  .98  .98  .94  .94  .94  .90  .90  .90  .86   00
S EPS PER  3 54.29  39 49.2  2.9 B0.5V          2.89  -0.18 P=  4 Y=  0   889R10  00
ECL  LONG  64 55 44  LAT  19  4 24      GAL  LONG 157 21 19  LAT -10  8 58        00
AZ-ZD 305.19  69.48 TO 325.42  93.37 ROLL  -38.07 SLIT 308.07 SUN 105.83          00
C SP1(E3,SN) DIRECTION(L) STEPS(077)   GMT  2/ 7/69  03 05 42 (SET=6503)  NIGHT   00
0.02     44.0     1  76  2      GUESSED MG 2      ANALOG                           00
 .16  .18  .18  .20  .20  .20  .16  .18  .18  .18  .20  .18  .20  .22  .22  .26   00
 .26  .26  .28  .28  .30  .32  .32  .32  .34  .32  .32  .30  .30  .30  .30  .30   00
 .28  .30  .28  .30  .28  .30  .28  .30  .28  .28  .30  .26  .28  .28  .28  .28   00
 .28  .26  .26  .26  .26  .26  .24  .26  .24  .22  .24  .24  .24  .22  .24  .24   00
 .22  .24  .22  .24  .24  .24  .24  .20  .24  .22  .20  .20  .20  .00  .00  .00   00
 .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00   00
S ZET PER  3 50.79  31 40.7  2.8 B1            2.84   0.13 P=  4 Y=  0   895M13  00
ECL  LONG  62 22 19  LAT  11 16 54      GAL  LONG 162 17 50  LAT -16 45 41        00
AZ-ZD 324.08  45.83 TO 296.55  58.78 ROLL  -35.32 SLIT 305.32 SUN 103.47          00
C SP1(E3,SN) DIRECTION(S) STEPS(077)   GMT  2/ 7/69  14 29 51 (SET=3565)  NIGHT   00
0.02              1  76  2      QUESTIOMABLE    MG 2 INDET.    ANALOG             00
 .08  .08  .08  .08  .06  .08  .06  .08  .06  .06  .08  .08  .06  .06  .06  .08   00
 .08  .08  .08  .10  .10  .10  .10  .12  .10  .12  .10  .12  .10  .12  .10  .12   00
 .12  .12  .12  .12  .14  .12  .12  .12  .14  .14  .14  .16  .12  .14  .14  .12   00
 .14  .12  .12  .16  .14  .14  .16  .16  .16  .14  .16  .14  .14  .16  .12  .14   00
 .16  .16  .14  .16  .14  .14  .14  .16  .14  .16  .14  .14  .10  .00  .00  .00   00
 .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00   00
S ZET PER  3 50.79  31 40.7  2.8 B1            2.84   0.13 P=  4 Y=  0   895M16  00
ECL  LONG  62 22 19  LAT  11 16 54      GAL  LONG 162 17 50  LAT -16 45 41        00
AZ-ZD 295.48  65.75 TO 312.93  93.27 ROLL  -35.32 SLIT 305.32 SUN 103.46          00
C SP1(E3,SN) DIRECTION(L) STEPS(077)   GMT  2/ 7/69  14 44 32 (SET=3655)  NIGHT   00
1.0              20  76        QUESTIONABLE DIGITAL  LOW COUNTS  MG 2 INDET.      00
```

```
   1    1    1    1    0    1    0    1    0    0    1    2    1    1    0    2  00
   1    1    1    3    3    2    3    2    2    2    2    2    2    2    2    3  00
   3    2    2    4    3    3    3    2    3    2    3    4    3    4    3    3  00
   4    3    4    4    3    4    2    2    3    2    3    3    5    4    5    3  00
   4    3    3    3    4    3    4    2    4    3    4    4    0    0    0    0  00
   0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0  00
S ETA AUR  5  2.77  41  8.0  3.1 B3  V   S      3.17  -0.18 P=  4 Y=  0   901A 1  00
ECL  LONG  78 41 51  LAT  13 14 59      GAL  LONG 165 21 16  LAT   0 12 55        00
AZ-ZD 338.26  42.57 TO 304.83  48.57 ROLL  -48.93 SLIT 318.93 SUN 118.08          00
C SP1(E3,SN) DIRECTION(S) STEPS(077)   GMT  2/ 7/69  22 53 56 (SET=7370)  NIGHT  00
2.0    50.0      2  76          QUESTIONABLE   SAA AT LONG END  LOW COUNTS        00
   2    4    3    1    3    3    2    3    3    3    3    4    4    6    4    3  00
   7    7    7    8    8    6    8    7    7    6    6    6    5    4    6    5  00
   6    5    4    7    7    5    6    5    6    6    5    5    5    6    5    6  00
   4    3    4    5    5    5    6    5    5    5    5    6    7    5    6    7  00
   6    5    7    6    5    7    7    7    6    6    6    5    0    0    0    0  00
   0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0  00
S BET TAU  5 22.93  28 31.4  1.6 B7  III        1.65  -0.13  -0.49  SP 1  905R17  00
ECL  LONG  81 49 47  LAT   5 20 33      GAL  LONG 178  0 15  LAT - 3 48 13        00
AZIMUTH 324 58 27   ZD  28  7 20        SUN DIST 122.34  (ECLIPTIC) 237.50        00
C SP1(E3,SN) DIRECTION(L) STEPS(077)   GMT  2/ 8/69  07 16 21 (SET=3165)   NIGH  00
  .04            1  76  2     WAVELENGTHS INDETERMINATE                ANALOG     00
 .20  .20  .24  .24  .24  .24  .28  .28  .32  .32  .34  .34  .36  .38  .36  .36  00
 .36  .40  .38  .34  .34  .30  .32  .30  .32  .30  .32  .32  .34  .30  .30  .32  00
 .32  .32  .34  .34  .32  .32  .32  .32  .30  .32  .32  .32  .32  .32  .32  .32  00
 .32  .32  .34  .32  .32  .34  .34  .32  .34  .32  .32  .34  .32  .32  .32  .32  00
 .32  .30  .32  .30  .30  .30  .30  .30  .30  .30  .30  .30  .30  .00  .00  .00  00
 .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  00
S BET TAU  5 22.93  28 31.4  1.6 B7  III        1.65  -0.13  -0.49  SP 1  907R 8  00
ECL  LONG  81 49 47  LAT   5 20 33      GAL  LONG 178  0 15  LAT - 3 48 18        00
AZIMUTH   0 10 39   ZD  34 42 49        SUN DIST 122.27  (ECLIPTIC) 237.57        00
C SP1(E3,SN) DIRECTION(S) STEPS(078)   GMT  2/ 8/69  08 50 31 (SET=3734)   NIGH  00
  .04            1  74  2     WAVELENGTHS INDETERMINATE                ANALOG     00
 .22  .22  .22  .24  .26  .26  .26  .28  .30  .34  .34  .36  .36  .38  .40  .38  00
 .40  .40  .36  .38  .36  .34  .32  .32  .32  .32  .32  .32  .30  .32  .32  .30  00
 .34  .32  .34  .34  .34  .34  .32  .34  .32  .32  .32  .32  .34  .34  .32  .32  00
 .32  .32  .32  .34  .36  .36  .34  .34  .34  .34  .34  .34  .34  .36  .32  .32  00
 .34  .32  .34  .32  .32  .32  .32  .30  .32  .34  .42  .42  .42  .22  .00  .00  00
 .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  .00  00
S BET CMA  6 20.43 -17 58.7  2.0 B1  II         1.98  -0.24 P=  4 Y=  0   974A 6  00
ECL  LONG  96 28 21  LAT -41 18 25      GAL  LONG 226  5 55  LAT -14 18  9        00
AZ-ZD 160.93  33.54 TO 213.74  56.82 ROLL  -16.48 SLIT 286.48 SUN 120.34          00
C SP1(E3,SN) DIRECTION(L) STEPS(077)   GMT  2/13/69  02 31 13 (SET=6600)  DAY    00
0.02    40.0      1  76  2                          ANALOG                        00
0.50 0.56 0.60 0.62 0.68 0.70 0.78 0.84 0.86 0.90 0.94 0.96 0.94 0.96 0.94 0.88  00
0.88 0.86 0.82 0.78 0.76 0.76 0.74 0.76 0.76 0.76 0.76 0.76 0.76 0.72 0.72 0.72  00
0.70 0.70 0.68 0.66 0.68 0.66 0.64 0.60 0.62 0.62 0.64 0.62 0.60 0.60 0.60 0.62  00
0.58 0.58 0.58 0.58 0.60 0.56 0.56 0.56 0.54 0.54 0.54 0.52 0.54 0.52 0.50 0.50  00
0.50 0.50 0.48 0.50 0.46 0.46 0.46 0.44 0.44 0.44 0.42 0.44                      00
                                                                                 00
S BET CMA  6 20.43 -17 58.7  2.0 B1  II         1.98  -0.24 P=  4 Y=  0   974A 7  00
ECL  LONG  96 28 21  LAT -41 18 25      GAL  LONG 226  5 55  LAT -14 18  9        00
AZ-ZD 217.18  59.50 TO 250.62  93.16 ROLL  -16.48 SLIT 286.48 SUN 120.33          00
C SP1(E3,SN) DIRECTION(S) STEPS(078)   GMT  2/13/69  02 43 32 (SET=6657)  NIGHT  00
0.02    41.0      1  77  2                          ANALOG                        00
0.52 0.50 0.58 0.58 0.62 0.68 0.70 0.78 0.82 0.86 0.90 0.94 0.96 0.96 0.94 0.96  00
0.84 0.86 0.84 0.82 0.80 0.78 0.76 0.76 0.76 0.74 0.76 0.72 0.74 0.74 0.74 0.74  00
0.74 0.72 0.70 0.68 0.66 0.68 0.66 0.64 0.62 0.64 0.64 0.62 0.62 0.62 0.60 0.60  00
0.60 0.58 0.56 0.58 0.60 0.58 0.56 0.56 0.56 0.54 0.54 0.54 0.52 0.52 0.52 0.50  00
0.50 0.50 0.48 0.50 0.48 0.50 0.46 0.46 0.44 0.44 0.44 0.42 0.44 0.               00
                                                                                 00
S ALF CMA  6 42.97 -16 38.0 -1.5 A1  V         -1.46   0.00 P=  4 Y=  0   980M11  00
ECL  LONG 103 23 24  LAT -39 38 21      GAL  LONG 227 15  31 LAT - 8 51 55        00
AZ-ZD 137.40  35.99 TO 203.23  50.52 ROLL  -14.10 SLIT 284.10 SUN 125.42          00
```

S COM D 23 37.64 52 37.3 8.0 A5 P= 0 Y= 0 71695 1

-0.00 50.00 1 53 0

HD ****** SP1 S GMT 4/15/70 17 35 21 DAY

Microfilm Output - 4
D 10871

1773.39	762.00	*****
1794.38	716.00	*****
1815.37	665.00	*****
1836.36	627.00	*****
1857.35	583.00	*****
1878.34	551.00	*****
1899.33	518.00	*****
1920.32	489.00	*****
1941.31	455.00	*****
1962.30	429.00	92.73
1983.29	400.00	83.21
2004.28	375.00	74.22
2025.27	348.00	64.19
2046.26	324.00	55.07
2067.25	300.00	47.50
2088.24	293.00	41.28
2109.23	277.00	34.62
2130.22	264.00	29.83
2151.21	255.00	26.50
2172.20	242.00	23.23
2193.19	239.00	21.55
2214.18	230.00	20.23
2235.17	[illegible]7.00	18.40
2256.16	125.00	10.76
2277.15	24.00	2.10
2298.14	17.00	1.49
2319.13	14.00	1.25

REC	1,	LENGTH	84
REC	2,	LENGTH	84
REC	3,	LENGTH	54
REC	4,	LENGTH	24
REC	5,	LENGTH	24
REC	6,	LENGTH	24
REC	7,	LENGTH	24
REC	8,	LENGTH	24
REC	9,	LENGTH	24
REC	10,	LENGTH	24
REC	11,	LENGTH	24
REC	12,	LENGTH	24
REC	13,	LENGTH	24
REC	14,	LENGTH	24
REC	15,	LENGTH	24
REC	16,	LENGTH	24
REC	17,	LENGTH	24
REC	18,	LENGTH	24
REC	19,	LENGTH	24
REC	20,	LENGTH	24
REC	21,	LENGTH	24
REC	22,	LENGTH	24
REC	23,	LENGTH	24
REC	24,	LENGTH	24
REC	25,	LENGTH	24
REC	26,	LENGTH	24
REC	27,	LENGTH	24
REC	28,	LENGTH	24
REC	29,	LENGTH	24
REC	30,	LENGTH	24

3453.82	0.96	0.64	REC	1,	LENGTH	24
3474.18	0.96	0.64	REC	2,	LENGTH	24
3494.54	0.88	0.59	REC	3,	LENGTH	24
3514.90	0.92	0.62	REC	4,	LENGTH	24
3535.26	0.90	0.61	REC	5,	LENGTH	24
3555.62	0.86	0.58	REC	6,	LENGTH	24