#617

OAO-3

STAR DATA AND RELATED S/W

72-065A-01G

OAO-3

STAR DATA SORTED BY TARGET STAR

72-065A-01G

THIS DATA SET HAS BEEN RESTORED. THERE WERE ORIGINALLY FIVE 9-TRACK, 6250 BPI TAPES. THREE OF THESE WERE WRITTEN IN BINARY, AND TWO WERE WRITTEN IN EBCDIC. THERE ARE FIVE RESTORED TAPES, DR004811-13 ARE WRITTEN IN BINARY AND DR004814-15 ARE 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 360 COMPUTER AND WERE RESTORED ON AN IBM 9021. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPANS ARE AS FOLLOWS:

DR#	DS#	DD#	FILES	TIME SPAN
DR004811	DS004811	D059926	60	STARS 001-060
DR004812	DS004812	D059927	139	STARS 061-200
DR004813	DS004813	D059928	356	STARS 201-556
DR004814	DS004814	D059929	4 ~~13~~	SOFTWARE PROGRAM
DR004815	DS004815	D059930	15 ~~4~~	SOFTWARE PROGRAM

REQ. AGENT	ACQ. SCIENTIST
RWP	MEV

OAO-3

Star data and related software

72-065A-01G

This data set catalog consists of 5 magnetic tapes. The D tapes are 9-track, 6250 bpi, and have a variable number of files. The first 3 tapes (D59926-28) in the data set are binary and contain star data files. Tape number 4 (D59929) is EBCDIC and contains a description of the tape as well as programs usable on the data. Tape number 5 (D59930) is EBCDIC and also contains various software files. Tape number 5 should not be copied on the Modcomp due to the fact that at least one of these files are written with odd bytes. The C tapes are 3480 cartridges. Hardcopy documentation for this data set consists of this page. Tape numbers 4 and 5 contain some documentation and these tapes should be perused for information

D#	C#	FILES	TIME SPAN
D-59926	C-28803	60	Stars 001 - 060
D-59927	C-28804	140	Stars 061 - 200
D-59928	C-28805	356	Stars 201 - 556
D-59929	C-28806	4	Software Programs
D-59930	C-28807	15	Software Programs

D59929

File 1

THE SECOND FILE ON THIS TAPE IS A FORTRAN SOURCE LISTING SUITABLE FOR REDUCING A COPERNICUS STAR DATA SET. THE LISTING IS IN 80-COLUMN CARD IMAGES AND CODED IN EBCDIC. INSTRUCTIONS FOR USE OF THIS PROGRAM IS INCLUDED IN AN INITIAL COMMENT SECTION IN FILE 2. PLEASE PRINT THE FILE AND READ COMMENTS FOR ADDITIONAL INFORMATION.

THE THIRD FILE ON THIS TAPE CONTAINS A LISTING OF COMMENTS THAT APPLY TO VARIOUS STARS AND REDUCTION ANOMALIES. EACH COMMENT IS PRECEDED BY A CODE NUMBER THAT IS USED FOR REFERENCE IN THE LISTING PRODUCED BY THE DECODER PROGRAM (TAPE FILE NO.2). THE RECORDS ARE 80 BYTES LONG AND ARE CODED IN EBCDIC. THESE COMMENTS WERE MEANT TO BE READ BY COPERNICUS ASTRONOMERS AND WILL PROBABLY NOT BE VERY USEFUL FOR OTHERS. THE PRESENCE OF A COMMENT SHOULD ALERT THE USER TO POSSIBLE PROBLEMS WITH THE DATA.

THE FOURTH FILE ON THIS TAPE CONTAINS DATA FOR THE STARS OBSERVED BY COPERNICUS. THE RECORDS IN THIS FILE ARE 80 (EBCDIC) BYTES LONG, TWO RECORDS FOR EACH STAR. THE TWO RECORDS CONTAIN 25 PIECES OF INFORMATION (IF AVAILABLE). THE IDENTIFICATION OF THE 25 DATA ARE
1) HD NO., 2) COMMON STAR NAME.(N.B.,ITEMS 1 AND 2 OFTEN RUN TOGETHER), 3),4),5) RIGHT ASCENSION HOUR, MINUTE, AND SECOND. 6),7),8) DECLINATION DEGREE, MINUTE, AND SECOND, 9),10),11) GALACTIC LONGITUDE DEGREE, MINUTE, AND SECOND, 12),13),14) GALACTIC LATITUDE DEGREE, MINUTE, AND SECOND, 15) SPECTRAL TYPE AND LUMINOSITY, 16) VISUAL APPARENT MAGNITUDE, 17) VISUAL ABSOLUTE MAGNITUDE, 18) (B-V) COLOR, 19) E(B-V) COLOR EXCESS, 20) V SIN I, 21) RADIAL VELOCITY, 22) INTERSTELLAR VELOCITY, 23) VELOCITY OF THE LOCAL STANDARD OF REST, 24) DISTANCE IN PARSECS, 25) COPERNICUS STAR NO.
N.B. ITEMS 19 AND 20 SOMETIMES RUN TOGETHER.
N.B. VELOCITIES ARE IN KM/SEC.

FILES 3 AND 4 SHOULD BE LISTED FOR THE USER'S REFERENCE.

Below is a listing of the files on tape number 5 (D-59930)

File	Data Set	Recfm	Blksize	Lrecl
1	Fortran	FB	6400	80
2	Fortran2	FB	6400	80
3	Jenkins	FB	6400	80
4	PL1	FB	6400	80
5	Gorp	FB	6400	80
6	Proclib	FB	6400	80
7	Histseq	FB	6400	80
8	Comments	F	800	800
9	Backgrnd	F	2660	2660
10	Inputs	FB	800	800
11	Stars	F	160	160
12	Rdftext	VBA	963	137
13	Formats	FB	1250	25
14	Temperat	VBS	6004	6000
15	Wave	VBS	7294	7290

D-59930
Partial Listing

```
$NOP
$NOP
$NOP ========================================= _IST OF RP0A01
$EXE TPLIST 80

INPUT PARAMETERS ARE:  ED SR=1=1 15 1 1

 TAPE NO.   1              FILE NO.   1
 RECORD   1                LENGTH   64
C                                                                    0007 0720C       READ IN PARM
S FOR THIS RUN; START OF MAIN LOOP                                  73 1    1 CONTINUE
                                                  7 74        KEY =
                    750       NSIZE =                                                                0007
 76        SCALEY=-1.                                                                          YMIN=-1.0
                                                                                  TPLOT=.FALSE.
                                                                        HELIO=.FALSE.
                                                MAXFIL=1
    77 1       LAMBDA=0.0                                                                    0790       SCALE
 = -1.                                                                  0007 083       DO 2 K = 1,5
                                                          7 82 0     2 TUBE(K) = .FALSE.
                                    0007 0830       DATA = .FALSE.
    8 084 0       GRAPH = .TRUE.                                                                0008 0870       B
KGND=2                                                                                    LINE = .TRUE.
                                                                  8 089 0       OVFLO=.FALSE.
                                  0008 0910       SKP8 = .TRUE.
                 93 0       WVLCOR = .FALSE.
   CARDS = .FALSE.                                                                    94 0       STARN = 0.0
                                                                        95 0       PUNCH = .FALSE.
                                                  97 0C          THIS RESETS THE 'TUBES SELECTED' PRINT LINE
                  99 0       DO 2 0 I=1,5                                                                  100
 2      TUBEC(I) = TUBEV(I)                                                                 1 1 1       TUBTOT=.FALS
E.                                                                    1 20C
                                                  0081 0 0C
                    1 4       READ (NIN,1 0 ,END=2 0 ) TITLE                                                  00
91 5    1 0 FORMAT (2 A4)                                                                  0091 6 0       WRITE (N
OUT,1 6)                                                                  0009107 106    FORMAT(1H1,132(1H-))
                                                  1 8 0       DO 108 K=1,5
                                1 9 1 8    WRITE(NOUT,1 1) NANN,DAT,PARM
     11 1 1    FORMAT(' ', 2X,'COPERNICUS SCAN RETRIEVAL UTILITY PROGRAM  - IODAT                1A ('
,I4,')',15X,'RUN DATE: ',A8,5X,'DATASET :',1X,30A1)                  1120107    FORMAT('0',132(1H-)/' '
,25(1H>),1X,2 A4,1X,25(1H<)/' ',132(1H-)///)     113 0       WRITE(NOUT,107) TITLE
                                  114                 READ(NIN,1 2) WMIN,WMAX
         115 1 2    FORMAT(2F1 .0)                                                                    116 0
READ (NIN,FLAGS)                                                                    0009117 0       SKIP=.FALSE.
                                                                                IF((SCALEY.NE.-1.0).AND.(YMIN.NE.-1.0)
) SKIP=.TRUE.                                C
                 118 0       IF(.NOT.GRAPH) WRITE(NOUT,9977)                                                  129099
77  FORMAT(' *** NOTE  *** PLOTTED OUTPUT WAS DELETED.')                                  130 0C
                                                                  0010131 0C  CHECK THAT AT LEAST ONE TUBE HAS HAD
.TRUE. SPECIFIED FOR IT ON THE  0 1 132 C &FLAGS NAMELIST CARD.
                  0 1 133 C                                                                                 001013
4        DO 5 K=1,5                                                                          135 0       TUBTOT=TUBT
OT.OR.TUBE(K).AND.(K.NE.5)                                                            IF(.NOT.TUBE(K)) TUBEC(K)=SPAC
E                                                          137 0     5 CONTINUE
                                  0 1 138 0C                                                                    00
1114  C  SET X-AXIS SCALING FOR THE CALCOMP GRAPHS ACCORDING TO WHICH                  0011141 0C       PHOTO
MULTIPLIER TUBE IS BEING USED.                                                    0111142 0C
                                                  0011143 0       IF(SCALE .NE. -1.0) GO TO 7
                                  0011144 0       IF(V2) SCALE = 2.0
   1114 5 0       IF(U2) SCALE = 1.0                                                                0011146 0       IF(
V1) SCALE =  .2                                                                          11147 0       IF(U1) SCALE =  .1
                                                          0011148 0       IF(LAMBDA.NE.0.0.OR.TPLOT) SCALE=10.0
                                          C                                  KM/SEC
        1215 0       7 CONTINUE                                                                    0012151 0C
                                                                                        152 0C
                                                  153 0C        IF NO RESLTN VALUE IS FOUND IN THE
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```
 INPUT STREAM (&FLAGS)            15 C            SET DEFAULT VALUES OF RESLTN ACCORDING TO WHICH
                 155 C                                                                                 156
    IF(RESLTN .NE. -1.0) GO TO 8                                                    157        IF(V2) RESLTN
= .2                                                                    158        IF(U2) RESLTN = .1
                                        159        IF(V1) RESLTN = . 2
                 16        IF(U1) RESLTN = . 1                                                                1
61 8      CONTINUE                                                                          162 C
                                                                    163

 TAPE NO.    3              FILE NO.    3
 RECORD    1                LENGTH    64
      SUBROUTINE PROG(IRCODE,LENGTH,PARM)                                    STC00010C
                                                        STC00020C          COPERNICUS     S T A C K
      (MAIN PROGRAM)                  STC 3 C
                 STC 4 C      DUMMY MAIN ROUTINE FOR RESERVING STORAGE FOR STACK.                    STC
 5 C      IF NSIZE=1200,STACK REQUIRES 24 K AND WILL HANDLE 1200                STC00060C      MESH POIN
TS IN THE STACKED DATA (# MESH POINTS=(WLHIGH                STC00070C      -WLLOW/RESOLUTION)). A MINI
VERSION OF STACK HAS NSIZE=15                STC 8 C      AND REQUIRES 2 K.
                 STC 9 C
STC 1 C                                                                                    STC0011C       REAL*
8 WAVE(12 ),SUM(12 ),BSUM(12 ),SUMSQ(12 )                    STC 120       LOGICAL*1 PARM(LENGTH)
                                    STC 13       LOGICAL*1 DATA,WAVCHG,SKP8,TUBE
                        STC 14       LOGICAL*4 CARDS,OVFLO
    STC 15       INTEGER*2 MBCK,MCHANG,NJUMP,BKGND                                    STC00160       I
NTEGER*2 NSCANS(12 )                                                    STC00171       REAL*4 ERROR(12 ),O
UTPUT(12 ),ERROR2(12 ),OUTU2(12 ),          STC 18       X  WAVEU2(12 ),WAVE4(12 ),WTVEL(12 )
                        STC 19       COMMON /INTO/ WMIN,WMAX,STARN,TUBE(5),DATA,WAVCHG,SKP8,BK
GND,     STC 200       1     MBCK,MCHANG,NJUMP,CARDS,MAXFIL,OVFLO,NSIZE2                    STC00210
   DIMENSION FACTOR(2,3 ),MBACK(2,3 ),NWATCH(2,3 ),NSKIP(2,3 ),  STC 220       1            CHGVEL
(3 )                                STC 23                EQUIVALENCE (WAVE4(1),WAVE(1)),(WTV
EL(1),WAVE(6 1))                STC 24       EQUIVALENCE (SUM(1),OUTPUT(1))
            STC 25       NSIZE=12 0                                                    STC0026
        NSIZE2=3                                                                STC 27       CALL  FMAINE
(NSIZE,WAVE,SUM,BSUM,SUMSQ,ERROR,OUTPUT,ERROR2,          STC 28       X  OUTU2,WAVEU2,NSCANS,WAVE4,WTV
EL,LENGTH,PARM,FACTOR,MBACK,NWATCH,STC 29       2  NSKIP,CHGVEL)
                STC 3       STOP                                                                    STC
 31                                                                                    STC 32       END
                                                                    STC 33       SUBROUTINE PROG(IRCODE,LENG
TH,PARM)                                                STC00010C
                        STC 020C          COPERNICUS     S T A C K                (MAIN PROGRAM)
 STC 3 C                                                                                    STC 4 C       DUMM
Y MAIN ROUTINE FOR RESERVING STORAGE FOR STACK.                    STC 5 C      IF NSIZE=12 0,STACK REQ
UIRES 24 K AND WILL HANDLE 12 0                STC 6 C      MESH POINTS IN THE STACKED DATA (# MESH PO
INTS=(WLHIGH                STC 7 C      -WLLOW/RESOLUTION)). A MINI VERSION OF STACK HAS NSIZE=150
     STC 8 C      AND REQUIRES 2 K.                                                    STC 9 C
                                                                    STC00110C
                                                STC 11       REAL*8 WAVE(12 ),SUM(12 ),BSUM(12 )
,SUMSQ(12 )                    STC 12       LOGICAL*1 PARM(LENGTH)
         STC 13       LOGICAL*1 DATA,WAVCHG,SKP8 ,TUBE                                    STC 14
    LOGICAL*4 CARDS,OVFLO                                                    STC00150       INTEGER*2 MBCK,
MCHANG,NJUMP,BKGND                                STC 16       INTEGER*2 NSCANS(12 )
                                STC 17       REAL*4 ERROR(12 ),OUTPUT(12 ),ERROR2(12 ),OUTU2(12
 ),          STC 18       X  WAVEU2(12 ),WAVE4(12 ),WTVEL(12 )                                    STC001
9        COMMON /INTO/ WMIN,WMAX,STARN,TUBE(5),DATA,WAVCHG,SKP8,BKGND,     STC 200       1     MBCK,MC
HANG,NJUMP,CARDS,MAXFIL,OVFLO,NSIZE2                STC 21       DIMENSION FACTOR(2,3 ),MBACK(
2,3 ),NWATCH(2,3 ),NSKIP(2,3 ),  STC 22       1            CHGVEL(3 )
                STC 23       EQUIVALENCE (WAVE4(1),WAVE(1)),(WTVEL(1),WAVE(6 1))                    ST
C 24       EQUIVALENCE (SUM(1),OUTPUT(1))                                    STC 25       NSIZE=1
2 0                                                STC 26       NSIZE2=3
                                STC 27       CALL  MAINE(NSIZE,WAVE,SUM,BSUM,SUMSQ,ERROR,O
UTPUT,ERROR2,          STC 28       X  OUTU2,WAVEU2,NSCANS,WAVE4,WTVEL,LENGTH,PARM,FACTOR,MBACK,NWATC
H,STC 29       2  NSKIP,CHGVEL)                                                    STC00310       STO
P
                                                STC 31
                                STC 32       END
                        STC 33       SUBROUTINE PROG(IRCODE,LENGTH,PARM)
          1 C                                                                                    020C
```