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1. INTRODUCTION

The FM2 MOS Calibration was carried out on 8 April - 16 May 1998 at the IAS - Station D'Etalonnage, Campus D'Orsay in France.

The data produced by the MOS instrument was archived by the EST EGSE, together with the housekeeping data of the calibration facility and other derived data.

The Raw Archive were processed by the EST Science Console in order to produce a data set written in the EGSE Reduced Data Format to be analysed by the EPIC Data Analysis Team (CDAT).

This lead to populate an Erdf (Epic Reduced Data Files) Archive containing a set of HK and Science data files for each *exposure* (i.e. for each period among two consecutive idle status of the instrument) and a set of HK data files for each *idle* period.

Each exposure was identified by a *Run ID* number and the related files have been archived in the Erdf/Science/ and Erdf/HK subdirectories, grouped by decade of runs.

A summary of the data taking is given in Annex 2.

1.1. Purpose and scope

The aim of the present document is to describe the test configuration set up and the content of the Erdf DAT Tapes containing all the Erdf data produced during the campaign.

The Erdf DAT tapes content list is given in Annex 1.

1.2. Reference documents

[1]   L. Chiappetti, Basic requirements for processing of EPIC science telemetry, EPIC-EST-SP-005, Issue 1

[2]   EMCS Electrical I/F Specification, EPIC-EST-SP-001, Issue 3, August 1996

[3]   Format of the EPIC GSE Reduced Data Files, EPIC-EST-SP-004, Issue 1.4, February 1997

[4]   GSE Basic I/F and Operational Requirements for the EPIC Calibration at Orsay, EPIC-EST-SP-010, Issue 1.4, 22.08.97

[5]   CCOE Man Machine I/F Requirements for the EPIC Calibration at Orsay, EPIC-EST-SP-011, Issue 1.2, 16.09.97

[6]   MOV-COE synchronisation requirements update, EPIC-EST-TN-003, Issue 2.0, Octrober 1997.

1.3. Change Record

1.0   First issue accompaining the Erdf DAT Tapes, Version 1.

1.4. Definition, acronyms and abbreviations

AIV   Assembly, Integration and Verification

APID   Application Process Identifier

CAL-COE   Calibration Check-Out Equipment

CCOE   Central Check-Out Equipment

CDAT	Calibration and Data Team
EMCS	Epic Mos Camera System
EPCS	Epic Pn Camera System
EPIC	European Photon Imaging Camera
ERDF	EGSE Reduced Data Files
ERMS	Epic Radiation Monitor System
ESA/CCS	European Space Agency Central Check-out System
ETE-COE	End-to-End Check Out Equipment
ETOL	European Test Operation Language
EXP-COE	Experimental Check Out Equipment
FDHS EC	Fast Data Handling Simulator Engineering Console
FDHS LU	Fast Data Handling Simulator Local Unit
FITS	Flexible Image Transport System
FTP	File Transfer Protocol
FWHM	Full Width at Half Maximum
HEW	Half Energy Width
HK	Housekeeping
ISU	Interface Simulator Unit
LAN	Local Area Network
NFS	Network File System
OLA	On-Line Analysis
OOL	Out of Limit
MOVCOE	Movement Checkout Equipment
PCF	Primary Calibration File
QLA	Quick Look Analysis
SID	Structure Identifier
SQL	Structured Query Language
TBD	To Be Defined
TBV	To Be Verified
TBW	To Be Written
TM	Telemetry
XDR	eXternal Data Representation format
XMM	X-ray Multi Mirror

2. TEST SET UP

2.1. MOS Camera Head Configuration

The FM1 MOS under test consisted of 7 CCDs, of which one (CCD#5) was not functioning.

The view from behind the CCD surface is sketched below.
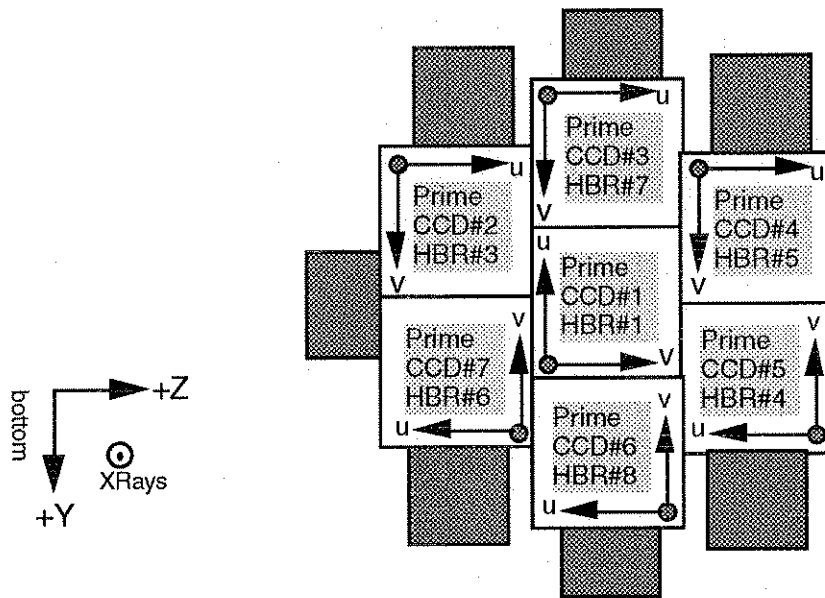
The u_i, v_i node detector coordinates are in pixel. The u coordinate ranges 0 to 609, as it includes two extra regions of 5 pixels on both sides for overscan. The v coordinate ranges 0 to 601, as it includes an extra region of 2 pixels on top.

The coordinates of an event falling in the central pixel of the 5x5 cell used by the EMCR are returned as the coordinates of the top right corner, including the extra pixels (see ref. [1], sect. 1.3.1.1).

2.2. EGSE configuration and data archiving

The data taking was conducted using the EGSE configuration depicted in fig.1 below.
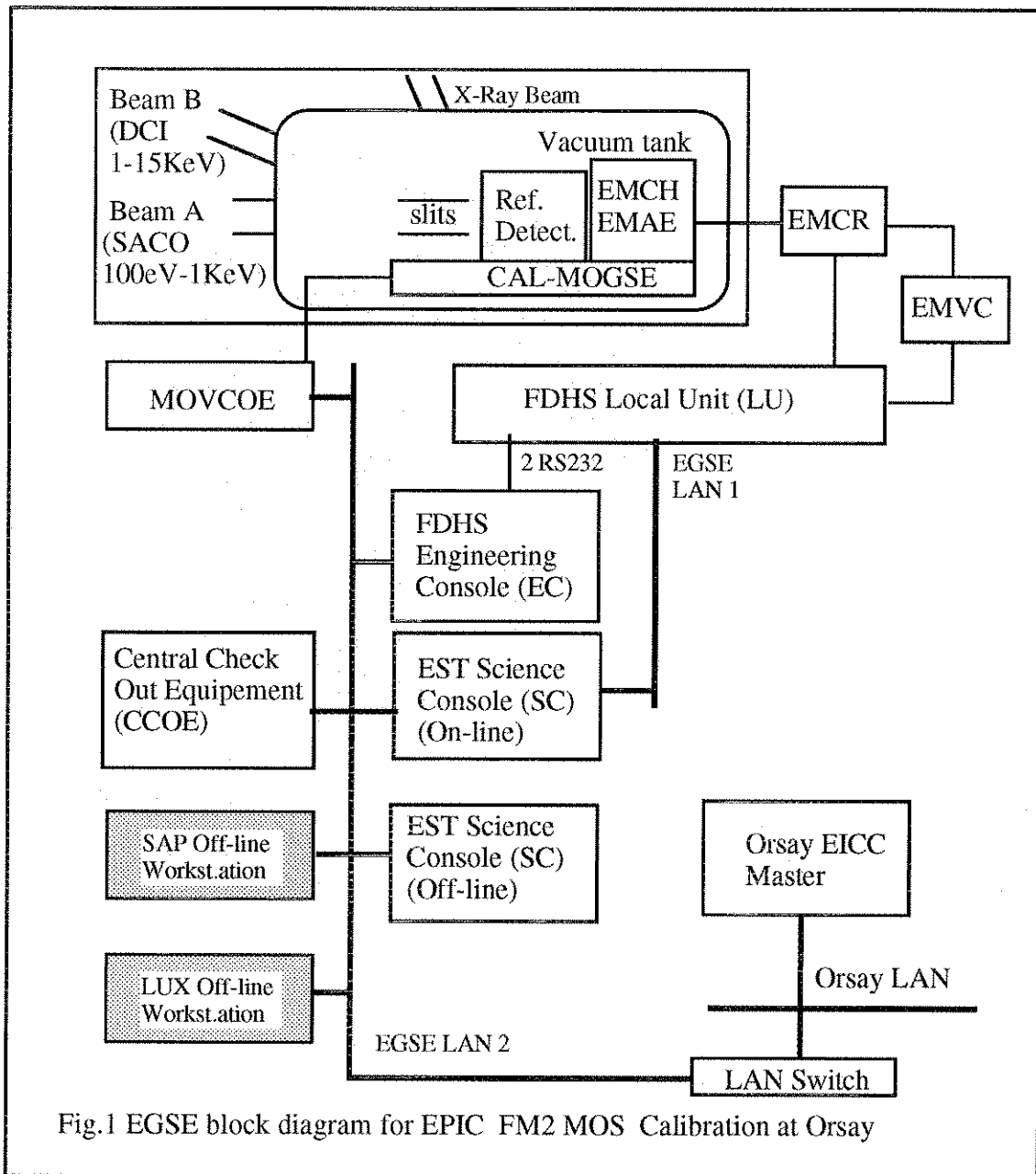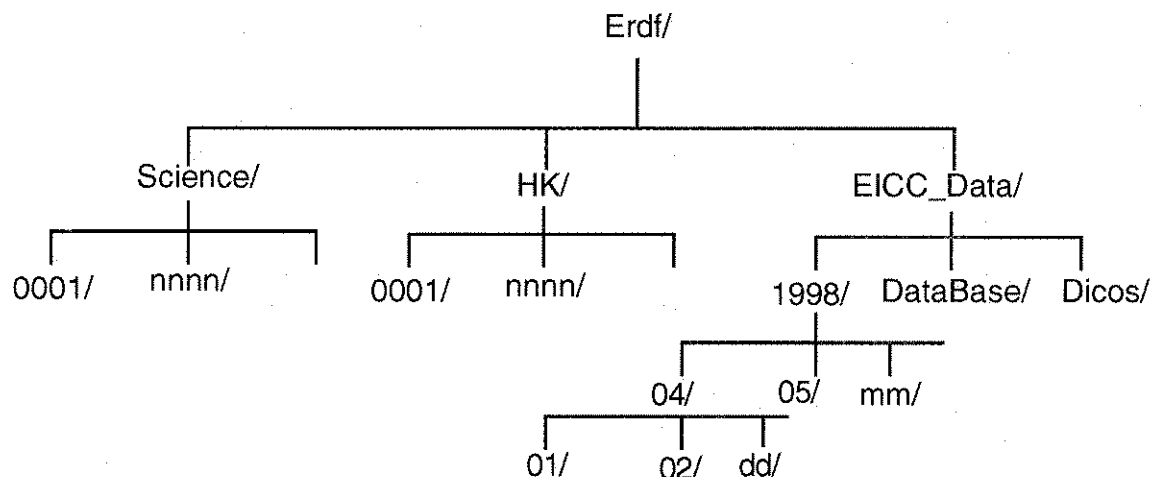

Fig.1 EGSE block diagram for EPIC FM2 MOS Calibration at Orsay

The tests have been conducted from the Central Cechout Equipment (CCOE) which sequenced the operations by means of automated test sequences, implemented as specified in [4] and [5].

The EGSE Reduced Data Files to be included in the DAT tape were stored under the following Erdf directory tree:

```
                              Erdf/
                                |
         ┌──────────────────────┼──────────────────────┐
      Science/                 HK/                  EICC_Data/
    ┌─────┼─────┐          ┌─────┼─────┐          ┌─────┼─────┐
  0001/  nnnn/           0001/  nnnn/          1998/ DataBase/ Dicos/
                                              ┌───┼───┐    │
                                             04/  05/  mm/
                                           ┌──┼──┐
                                          01/ 02/ dd/
```

Science and HK subtrees

These subtrees were devoted, as usual, to the data acquired in near real time from the instrument and from the Orsay facility (On-line Data), namely:

Science: Egse Reduced Science Data Files, as derived in near-realtime from the Instrument Raw TLM Science data.

HK: Instrument Raw TLM HK data files related to an exposure, copied from the Instrument Raw HK data

            Facility Raw HK data files related to an exposure, copied from the Facility Raw HK data files.

The Science and HK files are grouped under subdirectories containing the files related to the Run Id of a given decade, e.g.: 0001/ contains all the files related to Run Id 1,2,3, ...,9,10.

The bulk of the data contained in the Science subdirectory were the FITS files with the photon lists and the auxiliary information produced for each CCD when operated in imaging mode.

The Science subdirectory was available via NFS to the Off-Line Analysis Workstation as soon as the exposure was completed.

The Instrument Raw TLM HK data include all the HK Packets received from the FDHS Eng. Console. The desired class of packet can be extracted on the basis of the Packet Type and the Packet Subtype information contained in the Data Field Header.

At the Orsay FM2 MOS Calibration, at least the following class of HK packets were present:

	Packet Type	Packet Subtype
Housekeeping Telemetry	[1]	[2]

EICC_Data subtree

In order to calibrate the beam flux, a SiLi detector and a Proportional Counter detector (for very low energies) have been used. In addition a SiLi Diode was located in front of the beam in oder to monitor the beam current during the CCD observation.

The spectra and HK data relevant to these detectors have been collected by the EICC Facility computer system, and, at the end of the campaign, have been transferred to the Science Console, where have been stored in the EICC_Data directory tree shown above, grouped by date under the 1998/ subdirectory .

The *Dicos/* and the *Database/* subtrees contains s/w (IDL code) and data which have been used in the EICC computer to browse the archive (for any detail please refer to *Hochedez Jean Francois <hochedez@ias.fr>)* .

The whole tree have been included inthe Erdf Tape #17.

2.3. File Naming

Science and HK subtrees

The following file naming was used under the Science/HK/ tree for the HK data produced during the exposure having Run id nnnnn:

ORSnnnnn_YYMMDD_HHMMSS.rhk   for the MOS Instrument HK

ORSnnnnn_YYMMDD_HHMMSS.omh   for the Orsay (Facility) HK

where nnnnn is the Run ID and YYMMDD and HHMMSS are the time and the date of creation, respectively.

The HK data (either MOS Instrument HK or Orsay Facility HK) produced before exposure n was started (IDLE period among n-1 and n) were identified by adding an "_" in their file name. A double "_" in the name, identified the first IDLE period of a measurement session (i.e. started just after the connection with the FDHS).

The file naming under the Erdf/Science tree is described in [3].

When required, Offset data files have been produced offline by a PC and saved in the same Science decade of the related Transparent Data using the following naming:

ORSnnnnn_YYMMDD.off

In addition, for each event list file, an ASCII file with extension '*.dump'* contains additional information which allows to trace how the frame have been reconstructed from the Raw data stream. Namely:

- first column: the index in the tlm buffer of the word pertaining to the format identified by the second column: H = header, T = Trailer, E = Event, U = unknown
- column 3-12: the format content in exadecimal format
- column 13-14: *tlm#* is the frame number found in the header/trailer
- column 15-16: *asf#* is the frame number derived accumulating the tlm# and archived in the asf file

or:

discarded, in case the trailer was discarded together with the previous events, as its tlm# was different from the tlm# found in the last header

- column 17-18   *t* is the reference time derived from the trailer

In order to verify whether at the start of the exposure any tlm buffer is lost, for the first 10 buffers read from the LAN, a line with a letter *B* in the second column gives the counter incremented by the Science Console every time a new buffer is read from the LAN (*buffer#*) and the counter inserted in the tlm buffer by the FDHS Local Unit (*tlm buffer#*).

EICC_Data subtree

There are two kind of Spectra of the Beam (SiLi or Prop.counter):

1)   spectra which have been   manually recorded; they have a short format naming, e.g.: 98040127.mce;

2)   spectra which have been created automatically by the EICC scripts during profiles or stability phases; they have a long format naming, e.g.: Eicc19980426173126.mce.

In addition, there are Data files from EICC in ascii format (header + data), they have *.fits* extension in the file name, e.g.: Eicc19980401095651.fits

2.4.   Data Format

Science and HK subtrees

The Erdf/Science files have been produced following the FITS format given in [3].

The instrument HK are in the TLM format specified in [2].

The Orsay Facility HK consists of:

1)   The data acquired from the EICC during the Beam Calibration phase, which corresponds to the IDLE period of the camera;

The aim of these data is to provide the parameters which characterise the configuration of the Beam and the result of the Beam Calibration performed with the Si(Li) detector before starting the data taking with the EPIC camera.

2)   The data acquired from the EICC during the EPIC exposure; they provide the HK related to the beam functioning

In both cases, each message received from the EICC is filed in a ASCII file as a single row, after having added the Science Console time stamp.

In Annex 3 is given a sample of the different set of information archived during the Campaign.

3. THE ERDF DAT TAPES

A procedure has been used in order to produce the Erdf DAT Tape containing the Erdf/ subdirectories related to a given set of decades.

As detailed in the following sections, the procedure analyses all the files contained in the selected decades in order to produce the related summary and log files and to create a tape directory which will be saved in the DAT as the first tar file which summaries the content of the tape itself.

The usual procedure has been customised for the Orsay Campaign in order to include the EICC_Data directory tree, if any, as the second tar file in the tape.

3.1. The summary and log files

As a first step, the procedure takes care of adding into each decade subdirectory of the Erdf/Science and Erdf/HK, the summary and log decade files, namely:

Science/nnnn/instr_sc.sum, Science/nnnn/dec_rep.sum; Science/nnnn/instr_sc.log

HK/nnnn/instr_hk.sum; HK/nnnn/instr_hk.log

HK/nnnn/facil_hk.sum; HK/nnnn/facil_hk.log.

The *.sum are tabular ASCII files containing summary data separated by Tabs. The *.log contains the list of the files which have been removed, together with the reason of the removal.

The instr_sc.sum file

The procedure searches in the decade subdirectory for all the files related to a given exposure. Hence, from the files pertaining to a given CCD/Quadrant, the procedure extracts and writes in this file the values of the following FITS keywords:

FILENAME, DATATYPE DATE-OBS, TIME-OBS, DATE-END, TIME-END, FRMTIME, WINDOWX0, WINDOWY0, WINDOWDX, WINDOWDY, NFRAME, NEVENT

where:

FILENAME   =   base file name (e.g. 00541_970424_180503.m1*)
NFRAME   =   number of frame as given by the NAXIS2 keyword of the *asf file
NEVENT   =   number of event as given by the NAXIS2 keyword of the *elf file

For the meaning of the remaining keyword refer to [3].

The dec_rep.sum file

This file has been introduced since this campaign. It contains a subset of the kewords contains in the instr_sc_sum files which are used to populate the description of runs given in Annex 2.

The instr_sc.log files

In case one of the following values is found:

NFRAME   =   0 in *elf
NEVENT   =   0 in *asf

FRTIME = .000000E+00 in the *diag

the related files are removed and an antry is written in this file.

The instr_hk.sum and facil_hk.sum files

These files list the name and the size (in bytes) of each HK file contained in the decade related to the instrument and to the calibration facility, respectively.

The instr_hk.log and facil_hk.log files

These files list the names of the HK files which have been removed as they were empty.

3.2. The tape directory

As second step, the procedure creates the Tapes/Tape.nnn directory, where nnn is the number assigned to the Erdf tape to be produced.

At the time tape production, this directory will be stored in the first tar file of the Erdf DAT Tape in order to allow the user to have a summary on the tape content without having to inspect all the tape.

In this subdirectory, the procedure creates the following files.

The tape_id file

This file contains the ASCII string "TAPEID = nnn" identifying the tape, e.g.:

TAPEID = 001

The tape_files file

The procedure writes into this file one entry for each Erdf subdirectory. Each entry, gives the id of the tape to be created and the sequential number of the tar file where the subdirectory will be saved. E.g.:

TAPEID	FILE #	Tar Dir
001	001	Tapes/Tape.001/
001	002	HK/0040/
001	002	Science/0040/
001	003	HK/0041/
001	003	Science/0041/
001	004	HK/0042/
001	004	Science/0042/

The summary and log files

All the summary and log files contained in each decade are merged and stored in the Tapes/Tape.nnn directory in a file having the same name, i.e.:

instr_sc.sum; dec_rep.sum; instr_sc.log

instr_hk.sum; instr_hk.log

facil_hk.sum; facil_hk.log

contain the information related to the whole tape.

4. DATA DISTRIBUTION

Seventeen Erdf DAT tapes have been produced in order to contain all the data saved in the Erdf/ data tree during the Orsay FM2 MOS Calibration.

The file location of each decade is given Annex 1, were the content of the tape_files files, mentioned in 3 above, is presented.

4.1. How to inspect the Erdf DAT tape and restore the files

The tape can be positioned to the desired tar file using the "*mt*" command and the subdirectory can be extracted using the "*tar*" command.

Some examples (on an DEC OSF Platform) follow (note: the "*no-rewind*" device is specified).

1)   skip the first three End Of File marks :

> *mt -f /dev/nrmt0m fsf 3*

2)   list the content of the next tar file (file # 4 in the DAT Tape):

> *tar tvf /dev/nrmt0m*

drwxr-xr-x   203/650   0 Dec 23 17:52:29 1996 12/

-rwxr-x---   203/650   28800 Dec 4 13:12:34 1996 12/00111_041296_131157.m1ima1elf

-rwxr-x---   203/650   11520 Dec 23 12:06:01 1996 12/00111_041296_131157.m1imaasf

-rwxr-x---   203/650   11520 Dec 4 13:12:41 1996 12/00111_041296_131157.m3ima1elf

-rwxr-x---   203/650   11520 Dec 4 13:12:41 1996 12/00111_041296_131157.m3imaasf

-rwxr-x---   203/650   8640 Dec 4 13:11:57 1996 12/00111_041296_131157.m6ima1elf

-rwxr-x---   203/650   8640 Dec 4 13:11:57 1996 12/00111_041296_131157.m6imaasf

. . . .

3)   skip the End Of File mark of the current file (the file just listed above) and one more End Of File mark in order to position the tape at the beginning of the tar file # 6:

> *mt -f /dev/nrmt0m fsf 2*

4)   list the content of the next tar file (file # 4 in the DAT Tape):

> *tar tvf /dev/nrmt0m*

drwxr-xr-x   203/650   0 Dec 23 18:06:04 1996 14/

```
-rwxr-xr-x  203/650   31680 Dec  4 17:03:46 1996 14/00131_041296_165727.m6ima1elf
-rwxr-xr-x  203/650   11520 Dec  4 17:03:46 1996 14/00131_041296_165727.m6imaasf
-rwxr-xr-x  203/650  192960 Dec  4 17:03:41 1996 14/00131_041296_165727.m1ima1elf
-rwxr-xr-x  203/650   11520 Dec  4 17:03:41 1996 14/00131_041296_165727.m1imaasf
-rwxr-xr-x  203/650   40320 Dec  4 17:03:51 1996 14/00131_041296_165727.m3ima1elf
-rwxr-xr-x  203/650   14400 Dec  4 17:03:51 1996 14/00131_041296_165727.m3imaasf
-rwxr-xr-x  203/650   40320 Dec  4 17:11:06 1996 14/00131_041296_171028.m3ima1elf
. . . . . . . . .
```

5)   skip the End Of File mark of the current file (the file just listed above)   in order to position the tape at the beginning of the tar file # 7:

> *mt -f /dev/nrmt0m fsf*

6)   extract the content of the next tar file (file # 7 in the DAT Tape) restoring all the files in the current directory (i.e. creating the subdirectory 15/):

tar xvf /dev/nrmt0m

```
tar: blocksize = 20
x 15/
x 15/00141_051296_091856.m1ima1elf, 8640 bytes, 17 tape blocks
x 15/00141_051296_091856.m1imaasf, 8640 bytes, 17 tape blocks
x 15/00141_051296_091856.m3ima1elf, 8640 bytes, 17 tape blocks
x 15/00141_051296_091856.m3imaasf, 8640 bytes, 17 tape blocks
x 15/00141_051296_091857.m6ima1elf, 8640 bytes, 17 tape blocks
x 15/00141_051296_091857.m6imaasf, 8640 bytes, 17 tape blocks
x 15/00142_051296_094544.m3ima1elf, 9993600 bytes, 19519 tape blocks
x 15/00142_051296_094544.m3imaasf, 72000 bytes, 141 tape blocks
. . . . . . .
```

ANNEX 1   Erdf DAT TAPE Content List

TAPEID	FILE #	Tar Dir
001	001	Tapes/Tape.001/
001	002	HK/0160/
001	002	Science/0160/
001	003	HK/0161/
001	003	Science/0161/
001	004	HK/0162/
001	004	Science/0162/
001	005	HK/0163/
001	005	Science/0163/
001	006	HK/0164/
001	006	Science/0164/
001	007	HK/0165/
001	007	Science/0165/
001	008	HK/0166/
001	008	Science/0166/
001	009	HK/0167/
001	009	Science/0167/
001	010	HK/0168/
001	010	Science/0168/
002	001	Tapes/Tape.002/
002	002	HK/0168/
002	002	Science/0168/
002	003	HK/0169/
002	003	Science/0169/
002	004	HK/0170/
002	004	Science/0170/
002	005	HK/0171/
002	005	Science/0171/
002	006	HK/0172/
002	006	Science/0172/
002	007	HK/0173/
002	007	Science/0173/
002	008	HK/0174/
002	008	Science/0174/
002	009	HK/0175/
002	009	Science/0175/
002	010	HK/0176/
002	010	Science/0176/
002	011	HK/0177/
002	011	Science/0177/
002	012	HK/0178/
002	012	Science/0178/
002	013	HK/0179/
002	013	Science/0179/
002	014	HK/0180/
002	014	Science/0180/
002	015	HK/0181/
002	015	Science/0181/

003	001	Tapes/Tape.003/
003	002	HK/0181/
003	002	Science/0181/
003	003	HK/0182/
003	003	Science/0182/
003	004	HK/0183/
003	004	Science/0183/
003	005	HK/0184/
003	005	Science/0184/
003	006	HK/0185/
003	006	Science/0185/
003	007	HK/0186/
003	007	Science/0186/
003	008	HK/0187/
003	008	Science/0187/
003	009	HK/0188/
003	009	Science/0188/
003	010	HK/0189/
003	010	Science/0189/
003	011	HK/0190/
003	011	Science/0190/
003	012	HK/0191/
003	012	Science/0191/
003	013	HK/0192/
003	013	Science/0192/
003	014	HK/0193/
003	014	Science/0193/
003	015	HK/0194/
003	015	Science/0194/
003	016	HK/0195/
003	016	Science/0195/
003	017	HK/0196/
003	017	Science/0196/
003	018	HK/0197/
003	018	Science/0197/
003	019	HK/0198/
003	019	Science/0198/
003	020	HK/0199/
003	020	Science/0199/
004	001	Tapes/Tape.004/
004	002	HK/0199/
004	002	Science/0199/
004	003	HK/0200/
004	003	Science/0200/
004	004	HK/0201/
004	004	Science/0201/
004	005	HK/0202/
004	005	Science/0202/
004	006	HK/0203/
004	006	Science/0203/
004	007	HK/0204/
004	007	Science/0204/
004	008	HK/0205/
004	008	Science/0205/
004	009	HK/0206/
004	009	Science/0206/

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004	010	HK/0207/
004	010	Science/0207/
004	011	HK/0208/
004	011	Science/0208/
004	012	HK/0209/
004	012	Science/0209/
004	013	HK/0210/
004	013	Science/0210/
004	014	HK/0211/
004	014	Science/0211/
004	015	HK/0212/
004	015	Science/0212/
004	016	HK/0213/
004	016	Science/0213/
005	001	Tapes/Tape.005/
005	002	HK/0217/
005	002	Science/0217/
005	003	HK/0218/
005	003	Science/0218/
005	004	HK/0219/
005	004	Science/0219/
005	005	HK/0220/
005	005	Science/0220/
005	006	HK/0221/
005	006	Science/0221/
005	007	HK/0222/
005	007	Science/0222/
005	008	HK/0223/
005	008	Science/0223/
005	009	HK/0224/
005	009	Science/0224/
005	010	HK/0225/
005	010	Science/0225/
005	011	HK/0226/
005	011	Science/0226/
005	012	HK/0227/
005	012	Science/0227/
005	013	HK/0228/
005	013	Science/0228/
005	014	HK/0229/
005	014	Science/0229/
005	015	HK/0230/
005	015	Science/0230/
005	016	HK/0231/
005	016	Science/0231/
005	017	HK/0232/
005	017	Science/0232/
005	018	HK/0233/
005	018	Science/0233/
005	019	HK/0234/
005	019	Science/0234/
005	020	HK/0235/
005	020	Science/0235/
006	001	Tapes/Tape.006/
006	002	HK/0235/
006	002	Science/0235/

006	003	HK/0236/
006	003	Science/0236/
006	004	HK/0237/
006	004	Science/0237/
006	005	HK/0238/
006	005	Science/0238/
006	006	HK/0239/
006	006	Science/0239/
006	007	HK/0240/
006	007	Science/0240/
006	008	HK/0241/
006	008	Science/0241/
006	009	HK/0242/
006	009	Science/0242/
006	010	HK/0243/
006	010	Science/0243/
006	011	HK/0244/
006	011	Science/0244/
006	012	HK/0245/
006	012	Science/0245/
006	013	HK/0246/
006	013	Science/0246/
006	014	HK/0247/
006	014	Science/0247/
006	015	HK/0248/
006	015	Science/0248/
006	016	HK/0249/
006	016	Science/0249/
006	017	HK/0250/
006	017	Science/0250/
006	018	HK/0251/
006	018	Science/0251/
006	019	HK/0252/
006	019	Science/0252/
006	020	HK/0253/
006	020	Science/0253/
006	021	HK/0254/
006	021	Science/0254/
006	022	HK/0255/
006	022	Science/0255/
007	001	Tapes/Tape.007/
007	002	HK/0255/
007	002	Science/0255/
007	003	HK/0256/
007	003	Science/0256/
007	004	HK/0257/
007	004	Science/0257/
007	005	HK/0258/
007	005	Science/0258/
007	006	HK/0259/
007	006	Science/0259/
007	007	HK/0260/
007	007	Science/0260/
007	008	HK/0261/
007	008	Science/0261/
007	009	HK/0262/

007	009	Science/0262/
007	010	HK/0263/
007	010	Science/0263/
007	011	HK/0264/
007	011	Science/0264/
007	012	HK/0265/
007	012	Science/0265/
007	013	HK/0266/
007	013	Science/0266/
007	014	HK/0267/
007	014	Science/0267/
008	001	Tapes/Tape.008/
008	002	HK/0268/
008	002	Science/0268/
008	003	HK/0269/
008	003	Science/0269/
008	004	HK/0270/
008	004	Science/0270/
008	005	HK/0271/
008	005	Science/0271/
008	006	HK/0272/
008	006	Science/0272/
008	007	HK/0273/
008	007	Science/0273/
008	008	HK/0274/
008	008	Science/0274/
008	009	HK/0275/
008	009	Science/0275/
008	010	HK/0276/
008	010	Science/0276/
009	001	Tapes/Tape.009/
009	002	HK/0276/
009	002	Science/0276/
009	003	HK/0277/
009	003	Science/0277/
009	004	HK/0278/
009	004	Science/0278/
009	005	HK/0279/
009	005	Science/0279/
009	006	HK/0280/
009	006	Science/0280/
009	007	HK/0281/
009	007	Science/0281/
009	008	HK/0282/
009	008	Science/0282/
009	009	HK/0283/
009	009	Science/0283/
010	002	Science/0284/
010	003	HK/0285/
010	003	Science/0285/
010	004	HK/0286/
010	004	Science/0286/
010	005	HK/0287/
010	005	Science/0287/
010	006	HK/0288/
010	006	Science/0288/

010	007	HK/0289/
010	007	Science/0289/
010	008	HK/0290/
010	008	Science/0290/
010	009	HK/0291/
010	009	Science/0291/
010	010	HK/0292/
010	010	Science/0292/
010	011	HK/0293/
010	011	Science/0293/
010	012	HK/0294/
010	012	Science/0294/
010	013	HK/0295/
010	013	Science/0295/
010	014	HK/0296/
010	014	Science/0296/
011	001	Tapes/Tape.011/
011	002	HK/0297/
011	002	Science/0297/
011	003	HK/0298/
011	003	Science/0298/
011	004	HK/0299/
011	004	Science/0299/
011	005	HK/0300/
011	005	Science/0300/
011	006	HK/0301/
011	006	Science/0301/
011	007	HK/0302/
011	007	Science/0302/
012	001	Tapes/Tape.012/
012	002	HK/0303/
012	002	Science/0303/
012	003	HK/0304/
012	003	Science/0304/
012	004	HK/0305/
012	004	Science/0305/
012	005	HK/0306/
012	005	Science/0306/
012	006	HK/0307/
012	006	Science/0307/
012	007	HK/0308/
012	007	Science/0308/
012	008	HK/0309/
012	008	Science/0309/
012	009	HK/0310/
012	009	Science/0310/
012	010	HK/0311/
012	010	Science/0311/
012	011	HK/0312/
012	011	Science/0312/
012	012	HK/0313/
012	012	Science/0313/
012	013	HK/0314/
012	013	Science/0314/
012	014	HK/0315/
012	014	Science/0315/

012	015	HK/0316/
012	015	Science/0316/
013	001	Tapes/Tape.013/
013	002	HK/0316/
013	002	Science/0316/
013	003	HK/0317/
013	003	Science/0317/
014	001	Tapes/Tape.014/
014	002	HK/0317/
014	002	Science/0317/
014	003	HK/0318/
014	003	Science/0318/
014	004	HK/0319/
014	004	Science/0319/
014	005	HK/0320/
014	005	Science/0320/
014	006	HK/0321/
014	006	Science/0321/
015	001	Tapes/Tape.015/
015	002	HK/0321/
015	002	Science/0321/
015	003	HK/0322/
015	003	Science/0322/
015	004	HK/0323/
015	004	Science/0323/
016	001	Tapes/Tape.016/
016	002	HK/0323/
016	002	Science/0323/
016	003	HK/0324/
016	003	Science/0324/
016	004	HK/0325/
016	004	Science/0325/
017	001	Tapes/Tape.017/
017	002	EICC_Data/
017	003	HK/0325/
017	003	Science/0325/

ANNEX 2 DESCRIPTION OF RUNS IN ORSAY

DATE-OBS	TIME-OBS	TIME-END	RUN_ID	ENERGY (ev)	FILTER	NOTES
07/04/98	19:25:26	19:25:48	01599		CLOSED	test
07/04/98	19:27:53	19:33:21	01600		unknown	test
07/04/98	21:18:45	21:19:03	01603		CLOSED	test
07/04/98	21:39:18	21:40:12	01604		unknown	test

<div align="center">Tests with calibration source</div>

DATE-OBS	TIME-OBS	TIME-END	RUN_ID	ENERGY (ev)	FILTER	NOTES
07/04/98	21:41:15	09:13:18	01605		unknown	imaging test all the night long

<div align="center">Tests with DCI</div>

DATE-OBS	TIME-OBS	TIME-END	RUN_ID	ENERGY (ev)	FILTER	NOTES
09/04/98	10:07:40	10:09:44	01658	1500 ev	OPEN	with grid
09/04/98	10:18:38	10:23:33	01659		OPEN	
09/04/98	10:52:14	10:57:13	01660		OPEN	
09/04/98	10:58:26	11:03:29	01661		A THIN	
09/04/98	11:04:36	11:09:39	01662		B THIN	
09/04/98	11:10:43	11:15:46	01663		C MEDIUM	
09/04/98	11:16:51	11:21:55	01664		D THICK	
09/04/98	11:23:03	11:28:04	01665		OPEN	
09/04/98	11:43:15	11:43:32	01666		CLOSED	
09/04/98	11:47:03	11:47:20	01667		CLOSED	
09/04/98	11:48:19	11:48:39	01668		CLOSED	
09/04/98	11:49:26	11:49:44	01669		CLOSED	
09/04/98	11:50:31	11:50:48	01670		CLOSED	
09/04/98	11:51:34	11:51:51	01671		CLOSED	
09/04/98	13:57:21	14:04:09	01674		OPEN	
09/04/98	14:13:57	14:14:22	01675		OPEN	

<div align="center">AL Edge SCAN with DCI</div>

DATE-OBS	TIME-OBS	TIME-END	RUN_ID	ENERGY (ev)	FILTER	NOTES
09/04/98	14:47:02	14:52:05	01676	1555	OPEN	
09/04/98	14:53:25	14:58:24	01677	"	A THIN	
09/04/98	14:59:28	15:04:31	01678	"	B THIN	
09/04/98	15:05:35	15:10:38	01679	"	C MEDIUM	
09/04/98	15:11:42	15:16:45	01680	"	D THICK	
09/04/98	15:17:49	15:22:54	01681	"	OPEN	
09/04/98	15:24:42	15:29:46	01682	1557	OPEN	
09/04/98	15:31:01	15:36:04	01683	"	A THIN	
09/04/98	15:37:10	15:42:12	01684	"	B THIN	
09/04/98	15:43:21	15:48:20	01685	"	C MEDIUM	
09/04/98	15:49:25	15:54:30	01686	"	D THICK	
09/04/98	15:55:34	16:00:37	01687	"	OPEN	
09/04/98	16:02:34	16:07:38	01688	1558	OPEN	
09/04/98	16:08:57	16:13:56	01689	"	A THIN	
09/04/98	16:15:01	16:20:06	01690	"	B THIN	
09/04/98	16:21:10	16:26:14	01691	"	C MEDIUM	
09/04/98	16:27:17	16:32:21	01692	"	D THICK	
09/04/98	16:33:26	16:38:29	01693	"	OPEN	
09/04/98	16:40:18	16:45:20	01694	1559	OPEN	
09/04/98	16:46:35	16:51:39	01695	"	A THIN	
09/04/98	16:52:44	16:57:47	01696	"	B THIN	
09/04/98	16:58:58	17:03:55	01697	"	C MEDIUM	
09/04/98	17:04:59	17:10:02	01698	"	D THICK	

09/04/98	17:11:07	17:16:10	01699	"	OPEN	
09/04/98	18:44:38	18:49:41	01700	1660	OPEN	
09/04/98	18:51:00	18:55:59	01701	"	A THIN	
09/04/98	18:57:04	19:02:06	01702	"	B THIN	
09/04/98	19:03:11	19:08:16	01703	"	C MEDIUM	
09/04/98	19:09:22	19:14:25	01704	"	D THICK	
09/04/98	19:15:30	19:20:32	01705	"	OPEN	
09/04/98	19:22:36	19:27:40	01706	1561	OPEN	
09/04/98	19:28:56	19:34:00	01707	"	A THIN	beam lost
09/04/98	20:40:04	20:45:08	01708	1560	OPEN	beam lost
09/04/98	20:46:22	20:51:25	01709	"	A THIN	
09/04/98	20:52:32	20:57:34	01710	"	B THIN	
09/04/98	20:58:38	21:03:42	01711	"	C MEDIUM	
09/04/98	21:04:46	21:09:49	01712	"	D THICK	
09/04/98	21:10:53	21:15:56	01713	"	OPEN	
09/04/98	21:17:51	21:22:54	01714	1561	OPEN	
09/04/98	21:24:11	21:29:11	01715	"	A THIN	
09/04/98	21:30:15	21:35:17	01716	"	B THIN	
09/04/98	21:36:22	21:41:24	01717	"	C MEDIUM	
09/04/98	21:42:29	21:47:32	01718	"	D THICK	
09/04/98	21:48:37	21:53:40	01719	"	OPEN	
09/04/98	21:55:36	22:00:39	01720	1562	OPEN	
09/04/98	22:01:55	22:06:57	01721	"	A THIN	
09/04/98	22:08:02	22:13:05	01722	"	B THIN	
09/04/98	22:14:10	22:19:13	01723	"	C MEDIUM	
09/04/98	22:20:19	22:25:20	01724	"	D THICK	
09/04/98	22:26:28	22:31:27	01725	"	OPEN	
09/04/98	22:34:39	22:39:41	01726	1563	OPEN	
09/04/98	22:41:01	22:46:01	01727	"	A THIN	
09/04/98	22:47:07	22:52:10	01728	"	B THIN	
09/04/98	22:53:15	22:58:17	01729	"	C MEDIUM	
09/04/98	22:59:22	23:04:25	01730	"	D THICK	
09/04/98	23:05:30	23:10:34	01731	"	OPEN	
09/04/98	23:12:29	23:17:31	01732	1564	OPEN	
09/04/98	23:18:49	23:23:49	01733	"	A THIN	
09/04/98	23:24:54	23:29:57	01734	"	B THIN	
09/04/98	23:31:04	23:36:07	01735	"	C MEDIUM	
09/04/98	23:37:15	23:42:14	01736	"	D THICK	
09/04/98	23:43:21	23:48:22	01737	"	OPEN	
09/04/98	23:50:22	23:55:25	01738	1565	OPEN	
09/04/98	23:56:43	00:01:43	01739	"	A THIN	
10/04/98	00:02:47	00:07:51	01740	"	B THIN	
10/04/98	00:08:55	00:13:57	01741	"	C MEDIUM	
10/04/98	00:15:02	00:20:04	01742	"	D THICK	
10/04/98	00:21:09	00:26:13	01743	"	OPEN	
10/04/98	00:28:07	00:33:09	01744	1566	OPEN	
10/04/98	00:34:41	00:39:41	01745	"	A THIN	
10/04/98	00:40:48	00:45:50	01746	"	B THIN	
10/04/98	00:46:57	00:51:59	01747	"	C MEDIUM	
10/04/98	00:53:05	00:58:07	01748	"	D THICK	
10/04/98	00:59:13	01:04:17	01749	"	OPEN	
10/04/98	01:08:08	01:13:09	01750	1567	OPEN	
10/04/98	01:14:27	01:19:27	01751	"	A THIN	
10/04/98	01:20:32	01:25:36	01752	"	B THIN	
10/04/98	01:26:42	01:31:45	01753	"	C MEDIUM	
10/04/98	01:32:53	01:37:52	01754	"	D THICK	
10/04/98	01:38:57	01:44:01	01755	"	OPEN	
10/04/98	01:45:58	01:50:55	01756	1568	OPEN	
10/04/98	01:52:10	01:57:14	01757	"	A THIN	
10/04/98	01:58:20	02:03:21	01758	"	B THIN	
10/04/98	02:04:25	02:09:28	01759	"	C MEDIUM	

10/04/98	02:10:33	02:15:37	01760	"	D THICK	
10/04/98	02:16:41	02:21:44	01761	"	OPEN	
10/04/98	02:23:38	02:28:42	01762	1569	OPEN	
10/04/98	02:29:58	02:35:00	01763	"	A THIN	
10/04/98	02:36:09	02:41:08	01764	"	B THIN	
10/04/98	02:42:12	02:47:16	01765	"	C MEDIUM	
10/04/98	02:48:21	02:53:25	01766	"	D THICK	
10/04/98	02:54:30	02:59:33	01767	"	OPEN	
10/04/98	03:01:27	03:06:29	01768	1570	OPEN	
10/04/98	03:07:47	03:12:47	01769	"	A THIN	
unknown	unknown	03:18:56	01770	"	B THIN	
10/04/98	03:21:35	03:26:39	01771	"	C MEDIUM	
10/04/98	03:27:46	03:32:45	01772	"	D THICK	SC fails, no data
10/04/98	03:33:49	03:38:54	01773	"	OPEN	
10/04/98	03:40:45	03:45:48	01774	1571	OPEN	
10/04/98	03:47:03	03:52:07	01775	"	A THIN	
10/04/98	03:53:12	03:58:15	01776	"	B THIN	
10/04/98	03:59:22	04:04:24	01777	"	C MEDIUM	
10/04/98	04:05:29	04:10:32	01778	"	D THICK	
10/04/98	04:12:01	04:17:03	01779	"	OPEN	
10/04/98	04:26:20	04:31:21	01780	1573	OPEN	
10/04/98	04:32:34	04:37:37	01781	"	A THIN	CCOE fails
10/04/98	05:03:05	05:08:06	01782	1573	OPEN	Restart
10/04/98	05:09:21	05:14:24	01783	"	A THIN	
10/04/98	05:15:32	05:20:31	01784	"	B THIN	
10/04/98	05:21:41	05:26:40	01785	"	C MEDIUM	
10/04/98	05:27:45	05:32:48	01786	"	D THICK	
10/04/98	05:34:00	05:39:04	01787	"	OPEN	
14/04/98	11:10:15	11:19:36	01788		OPEN	
14/04/98	13:49:52	13:52:06	01789		OPEN	
14/04/98	13:55:08	13:55:28	01791		OPEN	
14/04/98	13:57:10	13:57:29	01792		OPEN	
14/04/98	13:58:56	13:59:17	01793		OPEN	
14/04/98	14:00:20	14:00:38	01794		OPEN	
14/04/98	14:01:34	14:01:53	01795		OPEN	
14/04/98	14:57:37	15:03:52	01796	2000	OPEN	
14/04/98	15:08:11	15:13:35	01797	"	OPEN	5.5 KV
14/04/98	15:14:33	15:35:55	01798	"	OPEN	5.5 KV, n=83
14/04/98	15:37:16	15:39:34	01799	"	OPEN	5.5 KV, n=82
14/04/98	15:40:15	15:42:31	01800	"	OPEN	5.5 KV, n=81
14/04/98	15:43:16	15:45:49	01801	"	OPEN	5.5 KV, n=78

SACO Beam geometry tests

14/04/98	16:13:31	16:14:23	01802		OPEN	
14/04/98	16:43:27	16:47:11	01803		OPEN	
14/04/98	16:51:05	16:53:20	01804		OPEN	
14/04/98	16:55:13	16:56:35	01805		OPEN	
14/04/98	16:57:30	16:58:53	01806		OPEN	
14/04/98	17:58:36	18:02:57	01807		OPEN	
14/04/98	18:13:23	18:17:30	01808		OPEN	
14/04/98	20:54:26	20:55:36	01809		OPEN	
14/04/98	22:19:39	22:20:16	01810		OPEN	

LOW ENERGY CONTINUM with SACO (SACO_FULL.CFG)

14/04/98	22:28:01	22:33:03	01811	440	OPEN	
14/04/98	23:46:53	23:51:58	01812	"	OPEN	
14/04/98	23:53:16	23:58:16	01813	"	A THIN	
14/04/98	23:59:26	00:04:26	01814	"	B THIN	
15/04/98	00:05:35	00:10:34	01815	"	C MEDIUM	
unknown	unknown	00:21:43	01816	"	D THICK	
15/04/98	00:22:50	00:27:53	01817	"	OPEN	

15/04/98	00:35:37	00:40:38	01818	"	OPEN	
15/04/98	00:41:56	00:46:58	01819	"	A THIN	
15/04/98	00:48:08	00:53:08	01820	"	B THIN	
15/04/98	00:54:14	00:59:15	01821	"	C MEDIUM	
15/04/98	01:00:28	01:10:27	01822	"	D THICK	
15/04/98	01:11:35	01:16:35	01823	"	OPEN	
15/04/98	01:29:44	01:34:43	01824	420	OPEN	
15/04/98	02:13:58	02:18:54	01825	"	OPEN	
15/04/98	02:20:08	02:25:10	01826	"	A THIN	
15/04/98	02:26:18	02:31:19	01827	"	B THIN	
15/04/98	02:32:27	02:37:26	01828	"	C MEDIUM	
15/04/98	02:38:35	02:43:36	01829	"	D THICK	
15/04/98	02:44:42	02:49:45	01830	"	OPEN	
15/04/98	03:00:27	03:05:32	01831	400	OPEN	
15/04/98	04:12:24	04:17:29	01832	"	OPEN	
15/04/98	04:18:49	04:23:46	01833	"	A THIN	
15/04/98	04:24:55	04:29:54	01834	"	B THIN	
15/04/98	04:31:04	04:36:04	01835	"	C MEDIUM	
15/04/98	04:37:13	04:42:12	01836	"	D THICK	
15/04/98	04:43:17	04:48:19	01837	"	OPEN	
15/04/98	05:10:16	05:15:19	01838	380	OPEN	
15/04/98	05:49:58	05:54:58	01839	"	OPEN	
15/04/98	05:56:15	06:01:15	01840	"	A THIN	
15/04/98	06:02:27	06:07:23	01841	"	B THIN	no SCAN
15/04/98	06:08:31	06:13:32	01842	"	C MEDIUM	
15/04/98	06:14:43	06:19:40	01843	"	D THICK	
15/04/98	06:20:48	06:25:50	01844	"	OPEN	

MEDIUM ENERGY CONTINUUM with DCI (DCI_FULL.CFG)

15/04/98	11:30:42	11:35:44	01845	1500	OPEN	
15/04/98	12:06:52	12:10:21	01846	"	A THIN	no SCAN
15/04/98	12:12:49	12:17:48	01847	"	A THIN	
15/04/98	12:18:57	12:23:56	01848	"	B THIN	
15/04/98	12:25:02	12:30:06	01849	"	C MEDIUM	
15/04/98	12:31:11	12:36:16	01850	"	D THICK	
15/04/98	12:37:23	12:42:24	01851	"	OPEN	
15/04/98	12:44:14	12:49:17	01852	"	A THIN	
15/04/98	14:13:23	14:18:26	01853	1550	OPEN	
15/04/98	14:49:11	14:54:14	01854	"	A THIN	
15/04/98	14:55:21	15:00:22	01855	"	B THIN	
15/04/98	15:01:34	15:06:30	01856	"	C MEDIUM	
15/04/98	15:07:37	15:12:38	01857	"	D THICK	
15/04/98	15:13:46	15:18:49	01858	"	OPEN	
15/04/98	15:28:03	15:33:07	01859	1600	OPEN	
15/04/98	16:04:51	16:09:52	01860	"	A THIN	
15/04/98	16:10:58	16:16:01	01861	"	B THIN	
15/04/98	16:17:10	16:22:09	01862	"	C MEDIUM	
15/04/98	16:23:20	16:28:21	01863	"	D THICK	
15/04/98	16:29:26	16:34:28	01864	"	OPEN	
15/04/98	16:42:22	16:47:24	01865	1650	OPEN	
15/04/98	17:18:29	17:23:30	01866	"	A THIN	
15/04/98	17:24:38	17:29:40	01867	"	B THIN	
15/04/98	17:30:47	17:35:48	01868	"	C MEDIUM	
15/04/98	17:37:02	17:41:57	01869	"	D THICK	
15/04/98	17:43:09	17:48:07	01870	"	OPEN	
15/04/98	18:04:59	18:10:00	01871	1525	OPEN	
15/04/98	18:42:12	18:47:15	01872	"	A THIN	
15/04/98	18:48:22	18:53:23	01873	"	B THIN	
15/04/98	18:54:32	18:59:31	01874	"	C MEDIUM	
15/04/98	19:00:38	19:05:40	01875	"	D THICK	
15/04/98	19:06:47	19:11:48	01876	"	OPEN	

15/04/98	19:19:12	19:24:13	01877	1575	OPEN
15/04/98	23:51:59	23:57:01	01878	1725	OPEN
16/04/98	00:33:18	00:38:13	01879	"	A THIN
16/04/98	00:39:20	00:44:22	01880	"	B THIN
16/04/98	00:45:27	00:50:31	01881	"	C MEDIUM
16/04/98	00:51:43	00:56:39	01882	"	D THICK
16/04/98	00:57:45	01:02:50	01883	"	OPEN
16/04/98	01:18:11	01:23:11	01884	1800	OPEN
16/04/98	01:53:52	01:58:49	01885	"	A THIN
16/04/98	02:00:00	02:05:01	01886	"	B THIN
16/04/98	02:06:11	02:11:08	01887	"	C MEDIUM
16/04/98	02:12:18	02:17:17	01888	"	D THICK
16/04/98	02:18:24	02:23:28	01889	"	OPEN
16/04/98	02:29:32	02:34:35	01890	1900	OPEN
16/04/98	03:03:00	03:07:57	01891	"	A THIN
16/04/98	03:09:03	03:14:06	01892	"	B THIN
16/04/98	03:15:14	03:20:13	01893	"	C MEDIUM
16/04/98	03:21:26	03:26:26	01894	"	D THICK
16/04/98	03:27:33	03:32:34	01895	"	OPEN
16/04/98	04:33:08	04:38:08	01896	2000	OPEN
16/04/98	04:39:29	04:44:24	01897	"	A THIN
16/04/98	04:45:36	04:50:32	01898	"	B THIN
16/04/98	04:51:36	04:56:39	01899	"	C MEDIUM
16/04/98	04:57:47	05:02:50	01900	"	D THICK
16/04/98	05:03:57	05:08:59	01901	"	OPEN
16/04/98	05:23:49	05:28:53	01902	2200	OPEN
16/04/98	05:30:13	05:35:11	01903	"	A THIN
16/04/98	05:36:18	05:41:18	01904	"	B THIN
16/04/98	05:42:26	05:47:26	01905	"	C MEDIUM
16/04/98	05:48:35	05:53:37	01906	"	D THICK
16/04/98	05:54:42	05:59:45	01907	"	OPEN
16/04/98	06:07:32	06:12:34	01908	2400	OPEN
16/04/98	06:13:52	06:18:53	01909	"	A THIN
16/04/98	06:20:02	06:25:03	01910	"	B THIN
16/04/98	06:26:10	06:31:12	01911	"	C MEDIUM
16/04/98	06:32:24	06:37:20	01912	"	D THICK
16/04/98	06:38:25	06:43:29	01913	"	OPEN
16/04/98	10:53:11	10:58:15	01914	"	OPEN

Nitrogen Edge with SACO (SACO_FULL.CFG)

16/04/98	11:34:10	11:39:10	01915	431	OPEN
16/04/98	11:40:26	11:45:28	01916	"	A THIN
16/04/98	11:46:40	11:51:39	01917	"	B THIN
16/04/98	11:52:50	11:57:48	01918	"	C MEDIUM
16/04/98	11:59:02	12:03:57	01919	"	D THICK
16/04/98	12:05:04	12:10:06	01920	"	OPEN
16/04/98	12:29:43	12:34:44	01921	410	OPEN
16/04/98	12:48:35	12:53:34	01922	"	OPEN
16/04/98	12:54:52	12:59:51	01923	"	A THIN
16/04/98	13:01:05	13:06:00	01924	"	B THIN
16/04/98	13:07:07	13:12:09	01925	"	C MEDIUM
16/04/98	13:13:22	13:18:18	01926	"	D THICK
16/04/98	13:19:23	13:24:26	01927	"	OPEN
16/04/98	14:22:15	14:27:16	01928	389	OPEN
16/04/98	15:06:17	15:11:23	01929	"	OPEN
16/04/98	15:12:44	15:17:39	01930	"	A THIN
16/04/98	15:18:48	15:23:48	01931	"	B THIN
16/04/98	15:24:54	15:29:57	01932	"	C MEDIUM
16/04/98	15:31:03	15:36:05	01933	"	D THICK
16/04/98	15:37:10	15:42:16	01934	"	OPEN
16/04/98	15:50:39	15:55:44	01935	350	OPEN

16/04/98	16:26:50	16:31:51	01936	"	OPEN	
16/04/98	16:33:10	16:38:11	01937	"	A THIN	
16/04/98	16:39:20	16:44:20	01938	"	B THIN	
16/04/98	16:45:29	16:50:29	01939	"	C MEDIUM	
16/04/98	16:51:41	16:56:38	01940	"	D THICK	
16/04/98	16:57:44	17:02:47	01941	"	OPEN	

Transparent for Offset computation

16/04/98	17:12:53	17:13:12	01942		OPEN	HBR1
unknown	unknown	17:14:22	01943		OPEN	HBR2
16/04/98	17:16:40	17:16:58	01944		OPEN	HBR3
16/04/98	17:18:33	17:18:52	01945		OPEN	HBR5
16/04/98	17:19:51	17:20:09	01946		OPEN	HBR6
16/04/98	17:22:01	17:22:20	01947		OPEN	HBR7
16/04/98	17:23:08	17:23:26	01948		OPEN	HBR8

Nitrogen Edge with SACO (SACO_FULL.CFG)

16/04/98	19:32:40	19:37:42	01949	450	OPEN	
16/04/98	20:44:11	20:49:15	01950	"	OPEN	
16/04/98	20:50:31	20:55:31	01951	"	A THIN	
16/04/98	20:56:41	21:01:43	01952	"	B THIN	
16/04/98	21:02:55	21:07:51	01953	"	C MEDIUM	
16/04/98	21:09:05	21:19:00	01954	"	D THICK	
16/04/98	21:20:04	21:25:07	01955	"	OPEN	
16/04/98	21:35:43	21:40:44	01956	425	OPEN	EICC problems
16/04/98	22:41:51	22:46:54	01957	"	OPEN	
16/04/98	23:23:55	23:28:55	01958	"	OPEN	
16/04/98	23:30:16	23:35:12	01959	"	A THIN	
16/04/98	23:36:20	23:41:22	01960	"	B THIN	
16/04/98	23:42:33	23:47:31	01961	"	C MEDIUM	
16/04/98	23:48:39	23:58:40	01962	"	D THICK	
16/04/98	23:59:48	00:04:47	01963	"	OPEN	
17/04/98	00:13:07	00:18:08	01964	414	OPEN	
17/04/98	00:59:14	01:04:16	01965	"	OPEN	
17/04/98	01:05:34	01:10:36	01966	"	A THIN	
17/04/98	01:11:42	01:16:42	01967	"	B THIN	
17/04/98	01:17:57	01:22:52	01968	"	C MEDIUM	
17/04/98	01:23:57	01:33:59	01969	"	D THICK	
17/04/98	01:35:13	01:40:09	01970	"	OPEN	
17/04/98	01:58:56	02:03:59	01971	406	OPEN	
17/04/98	02:47:18	02:52:19	01972	"	OPEN	
17/04/98	02:53:38	02:58:39	01973	"	A THIN	
17/04/98	02:59:44	03:04:46	01974	"	B THIN	
17/04/98	03:06:00	03:10:55	01975	"	C MEDIUM	
17/04/98	03:12:05	03:22:06	01976	"	D THICK	
17/04/98	03:23:17	03:28:14	01977	"	OPEN	
17/04/98	03:38:44	03:43:45	01978	404	OPEN	
17/04/98	04:16:13	04:21:15	01979	"	OPEN	
17/04/98	04:22:34	04:27:34	01980	"	A THIN	
17/04/98	04:28:38	04:33:41	01981	"	B THIN	
17/04/98	04:34:47	04:39:48	01982	"	C MEDIUM	
17/04/98	04:40:59	04:50:57	01983	"	D THICK	
17/04/98	04:52:11	04:57:06	01984	"	OPEN	
17/04/98	07:41:27	07:51:29	01985	400	OPEN	
17/04/98	09:15:55	09:25:56	01986	"	OPEN	
17/04/98	09:52:59	09:57:59	01987	402	OPEN	SACO Reinjection
17/04/98	11:16:05	11:21:08	01988	"	OPEN	
17/04/98	11:49:03	11:54:04	01989	"	OPEN	
17/04/98	11:55:22	12:00:26	01990	"	A THIN	
17/04/98	12:01:35	12:06:36	01991	"	B THIN	
17/04/98	12:07:48	12:12:44	01992	"	C MEDIUM	
17/04/98	12:13:53	12:23:55	01993	"	D THICK	
17/04/98	12:25:07	12:30:04	01994	"	OPEN	

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17/04/98	12:44:01	12:49:01	01995	395	OPEN	
17/04/98	13:17:10	13:22:07	01996	"	OPEN	
17/04/98	13:23:29	13:28:25	01997	"	A THIN	
17/04/98	13:29:35	13:34:31	01998	"	B THIN	
17/04/98	13:35:40	13:40:41	01999	"	C MEDIUM	
17/04/98	13:41:47	13:51:51	02000	"	D THICK	
17/04/98	13:53:00	13:58:00	02001		OPEN	

DATE-OBS	TIME-OBS	TIME-END	RUN_ID	ENERGY (ev)	FILTER	NOTES
Nitrogen Edge with SACO (SACO_FULL.CFG)					
17/04/98	14:15:50	14:20:46	02002	325	OPEN	
17/04/98	15:06:54	15:11:56	02003	"	OPEN	
17/04/98	15:13:15	15:18:15	02004	"	A THIN	
17/04/98	15:19:24	15:24:24	02005	"	B THIN	
17/04/98	15:25:39	15:30:33	02006	"	C MEDIUM	
17/04/98	15:31:41	15:41:44	02007	"	D THICK	
17/04/98	15:42:57	15:47:52	02008	"	OPEN	
17/04/98	15:55:00	16:00:04	02009	"	OPEN	
	Ge-L with X-Ray Tube					
17/04/98	19:20:07	19:21:18	02010	1.2 Kev	OPEN	
17/04/98	19:24:23	19:39:34	02011		OPEN	
	Transparent Mode					
17/04/98	20:11:14	20:11:31	02012		OPEN	HBR 1
17/04/98	20:13:02	20:13:20	02013		OPEN	HBR 3
17/04/98	20:14:15	20:17:49	02014		OPEN	HBR 5
17/04/98	20:18:55	20:19:12	02015		OPEN	HBR 6
17/04/98	20:21:15	20:21:32	02016		OPEN	HBR 7
17/04/98	20:22:15	20:22:32	02017		OPEN	HBR 8
	Tests					
17/04/98	21:01:40	21:04:50	02018		OPEN	
17/04/98	21:22:58	21:29:21	02019		OPEN	
(6+31) x 10' measurements in P1(60,75), P2(62.77), P3(58,77), P4(58,73), P5(62.73)					(XTUBE_OPEN.CFG)	
17/04/98	21:33:56	21:44:00	02020		OPEN	first run
17/04/98	21:44:30	21:54:34	02021		OPEN	
17/04/98	21:55:06	22:05:08	02022		OPEN	
17/04/98	22:05:39	22:15:43	02023		OPEN	
17/04/98	22:16:14	22:26:17	02024		OPEN	no photon; low pressure in the X-tube; cooling problem in the tank;
	...	...	...		...	
19/04/98	02:02:01	02:12:06	02122		OPEN	sequence halted; last run
	Tests					
19/04/98	10:13:57	10:24:02	02166		OPEN	
19/04/98	10:24:30	10:34:36	02167		OPEN	
20/04/98	17:25:42	17:26:00	02168		OPEN	
20/04/98	17:43:29	17:43:47	02169		OPEN	
unknown	unknown	unknown	02170		unknown	
25/04/98	19:42:09	19:45:40	02171		unknown	
25/04/98	19:48:36	20:48:38	02172		unknown	
25/04/98	20:51:05	21:51:10	02173		unknown	
25/04/98	21:53:37	22:53:40	02174		unknown	
25/04/98	22:56:09	23:56:12	02175		unknown	
25/04/98	23:58:39	00:58:44	02176		unknown	
26/04/98	01:01:11	02:01:13	02177		unknown	
26/04/98	02:03:42	03:03:44	02178		unknown	
26/04/98	03:06:12	04:06:16	02179		unknown	
26/04/98	07:41:00	07:41:21	02180		unknown	

26/04/98	07:43:19	07:43:39	02181		unknown	
26/04/98	07:45:45	07:46:06	02182		unknown	
26/04/98	07:47:28	07:50:12	02183		unknown	
26/04/98	07:51:08	07:53:30	02184		unknown	
26/04/98	07:54:20	07:54:42	02185		unknown	
26/04/98	21:51:14	21:51:15	02186		OPEN	

X-Tube

12x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG)

26/04/98	21:59:58	22:18:22	02187		OPEN	
26/04/98	22:28:18	22:38:20	02188		OPEN	
26/04/98	22:38:53	22:48:56	02189		OPEN	
26/04/98	22:49:27	22:59:32	02190		OPEN	
26/04/98	23:00:04	23:10:08	02191		OPEN	
...	...	...	...	...	...	
27/04/98	08:59:19	09:09:22	02247		OPEN	

1x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG)

27/04/98	09:57:03	10:07:06	02248		OPEN	
27/04/98	10:07:38	10:17:41	02249		OPEN	
27/04/98	10:18:13	10:28:15	02250		OPEN	
27/04/98	10:28:47	10:38:50	02251		OPEN	
27/04/98	10:39:21	10:49:24	02252		OPEN	

X-Tube

27/04/98	18:02:27	18:07:01	02253	Yttrium Line	OPEN	
27/04/98	18:07:56	18:16:53	02254		OPEN	HV=3.9 KV, I=0.6 mA
27/04/98	18:17:16	18:21:18	02255		OPEN	flux tun., 6KV, 0.45 mA

1x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG)

27/04/98	22:11:17	22:21:22	02256		OPEN	
27/04/98	22:21:53	22:31:56	02257		OPEN	
27/04/98	22:32:28	22:42:32	02258		OPEN	
27/04/98	22:43:04	22:53:09	02259		OPEN	
27/04/98	22:53:38	23:03:42	02260		OPEN	

4x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG)

28/04/98	08:46:16	08:56:20	02261		OPEN	
...	...	...	...	...	...	
28/04/98	12:29:56	12:40:00	02280		OPEN	

MEDIUM ENERGY CONTINUUM with DCI (BEAM_OPEN.CFG)

28/04/98	18:00:00	18:05:04	02290	1750	OPEN	
28/04/98	18:09:30	18:14:33	02291	"	OPEN	
28/04/98	18:31:42	18:36:45	02292	"	OPEN	
28/04/98	18:42:05	18:47:08	02293	"	OPEN	
28/04/98	18:59:24	19:04:27	02294	"	OPEN	
28/04/98	19:29:33	19:34:36	02295	"	OPEN	
28/04/98	19:54:32	19:59:35	02296	1800	OPEN	
unknown	unknown	unknown	02297		unknown	CCOE fails
28/04/98	20:40:16	20:46:51	02298		OPEN	CCOE fails
28/04/98	22:28:13	22:33:16	02299		OPEN	EICC fails
28/04/98	22:58:09	23:03:12	02300	1900	OPEN	
28/04/98	23:29:51	23:34:48	02301	"	OPEN	
28/04/98	23:42:47	23:47:51	02302	2000	OPEN	
29/04/98	00:24:03	00:29:07	02303	"	OPEN	
29/04/98	00:37:04	00:42:07	02304	2200	OPEN	
29/04/98	01:09:26	01:14:29	02305	"	OPEN	
29/04/98	01:53:51	01:58:54	02306	2400	OPEN	
unknown	unknown	unknown	02307	"	unknown	chopper fails
29/04/98	03:02:04	03:07:08	02312	"	OPEN	good restart
29/04/98	03:23:51	03:28:54	02313	2600	OPEN	
29/04/98	03:55:02	04:00:03	02314	"	A THIN	
29/04/98	04:00:31	04:05:34	02315	"	A THIN	
29/04/98	04:06:03	04:11:07	02316	"	B THIN	
29/04/98	04:11:36	04:16:39	02317	"	C MEDIUM	

unknown	unknown	unknown	02318		unknown	no FITS data
29/04/98	04:34:36	04:35:18	02319	2800	OPEN	

SiLi EDGE with DCI

29/04/98	05:35:42	05:40:44	02320	1830	OPEN	
29/04/98	05:52:40	05:57:43	02321	"	OPEN	
29/04/98	06:04:49	06:09:54	02322	1835	OPEN	
29/04/98	06:20:09	06:25:12	02323	"	OPEN	
29/04/98	06:38:55	06:43:58	02324	1839	OPEN	
29/04/98	07:09:06	07:14:09	02325	"	OPEN	
29/04/98	07:35:10	07:40:14	02326	1840	OPEN	
29/04/98	07:56:38	08:01:42	02327	"	OPEN	
29/04/98	08:09:13	08:14:15	02328	1841	OPEN	
29/04/98	08:23:16	08:28:21	02329	"	OPEN	
29/04/98	08:33:53	08:38:56	02330	1845	OPEN	
29/04/98	08:47:49	08:52:54	02331	"	OPEN	
29/04/98	08:59:19	09:04:22	02332	1850	OPEN	
29/04/98	09:13:16	09:18:18	02333	"	OPEN	
29/04/98	09:24:15	09:29:19	02334	1860	OPEN	
29/04/98	09:38:22	09:43:25	02335	"	OPEN	
29/04/98	10:10:28	10:15:30	02336	1870	OPEN	
29/04/98	10:30:16	10:35:19	02337	"	OPEN	
29/04/98	10:48:21	10:53:23	02338	1880	OPEN	
29/04/98	11:02:30	11:07:32	02339	"	OPEN	
29/04/98	11:21:39	11:26:42	02340	1836	OPEN	
29/04/98	11:49:32	11:54:35	02341	"	OPEN	
29/04/98	11:56:12	12:01:15	02342	1838	OPEN	
29/04/98	12:24:32	12:29:34	02343	"	OPEN	
29/04/98	12:31:15	12:36:18	02344	1842	OPEN	
29/04/98	12:59:25	13:04:29	02345	"	OPEN	
29/04/98	13:10:25	13:15:28	02346	1843	OPEN	
29/04/98	13:39:12	13:44:14	02347	"	OPEN	
29/04/98	13:46:11	13:51:15	02348	1847	OPEN	
29/04/98	14:22:01	14:34:22	02349	"	OPEN	CCOE hung, longer exp.
29/04/98	16:49:18	16:54:22	02350	1856	OPEN	
29/04/98	17:17:01	17:22:05	02351	"	OPEN	
29/04/98	17:23:37	17:28:39	02352	1865	OPEN	
29/04/98	17:52:37	17:57:40	02353	"	OPEN	
29/04/98	17:59:20	18:04:23	02354	1875	OPEN	
29/04/98	18:27:33	18:32:35	02355	"	OPEN	
29/04/98	18:48:03	18:53:06	02356	1837	OPEN	
29/04/98	19:17:28	19:22:31	02357	"	OPEN	
29/04/98	19:24:19	19:29:23	02358	1844	OPEN	
29/04/98	20:16:54	20:21:58	02359	"	OPEN	
29/04/98	20:24:06	20:29:08	02360	1846	OPEN	
29/04/98	21:04:09	21:09:13	02361	"	OPEN	
29/04/98	21:18:01	21:23:04	02362	1848	OPEN	no good beam cal. data
29/04/98	21:31:14	21:36:17	02363	1848	OPEN	
29/04/98	21:59:29	22:04:32	02364	"	OPEN	
29/04/98	22:06:16	22:11:18	02365	1849	OPEN	
29/04/98	22:34:37	22:39:40	02366	"	OPEN	
29/04/98	22:41:21	22:46:23	02367	1853	OPEN	SiLi cal probl., to be rep.
30/04/98	00:15:44	00:20:47	02368	1853	OPEN	
30/04/98	00:44:07	00:49:11	02369	"	OPEN	
30/04/98	00:57:35	01:02:39	02370	1833	OPEN	
30/04/98	01:17:50	01:22:56	02371	"	OPEN	no good, to be repetead
30/04/98	01:35:42	01:40:45	02372	"	OPEN	
30/04/98	01:42:26	01:47:28	02373	1839	OPEN	
30/04/98	02:10:21	02:15:24	02374	"	OPEN	
30/04/98	02:17:12	02:22:16	02375	1840	OPEN	
30/04/98	02:47:49	02:52:54	02376	"	OPEN	

30/04/98	02:57:14	03:02:17	02377	1841	OPEN	monochrom. problems
30/04/98	03:26:37	03:31:39	02378	1841	OPEN	
30/04/98	03:54:34	03:59:38	02379	"	OPEN	
30/04/98	04:01:23	04:06:25	02380	1851	OPEN	
30/04/98	04:29:24	04:34:26	02381	"	OPEN	
30/04/98	04:36:06	04:41:10	02382	1854	OPEN	
30/04/98	05:05:31	05:10:34	02383	"	OPEN	
30/04/98	05:12:04	05:17:07	02384	1858	OPEN	
30/04/98	05:40:06	05:45:10	02385	"	OPEN	
30/04/98	05:46:52	05:51:55	02386	1862	OPEN	
30/04/98	06:15:00	06:20:06	02387	"	OPEN	
30/04/98	06:21:56	06:26:59	02388	1867	OPEN	
30/04/98	06:49:59	06:55:02	02389	"	OPEN	
30/04/98	06:59:11	07:04:14	02390	1872	OPEN	
30/04/98	07:27:41	07:32:43	02391	"	OPEN	very low flux
30/04/98	07:50:58	07:56:01	02392	1877	OPEN	
30/04/98	08:18:38	08:23:41	02393	"	OPEN	

HIGH ENERGY CONTINUUM with DCI (DCI_FULL.CFG)

30/04/98	08:46:54	08:51:57	02394	2800	OPEN	
30/04/98	09:15:52	09:20:55	02395	"	A THIN	
30/04/98	09:21:23	09:26:28	02396	"	B THIN	
30/04/98	09:26:58	09:32:01	02397	"	B THIN	
30/04/98	09:32:32	09:37:34	02398	"	unknown	
30/04/98	09:38:04	09:43:10	02399	"	unknown	
30/04/98	10:07:39	10:12:43	02400	noise	OPEN	flux too low, monocr. problems
30/04/98	13:11:59	13:17:03	02401	3000	OPEN	
30/04/98	13:41:48	13:46:49	02402	"	A THIN	
30/04/98	13:47:19	13:52:22	02403	"	unknown	
30/04/98	13:52:51	13:57:54	02404	"	unknown	
30/04/98	13:58:23	14:03:26	02405	"	unknown	
unknown	unknown	unknown	02406	"	unknown	
30/04/98	14:14:33	14:15:37	02407	"	OPEN	
unknown	unknown	unknown	02408	"	unknown	
30/04/98	14:29:41	14:34:43	02409	"	OPEN	
30/04/98	21:49:26	21:52:19	02410	"	OPEN	
30/04/98	22:24:31	22:34:35	02411	"	OPEN	
30/04/98	22:37:21	22:47:24	02412	"	OPEN	no scan
30/04/98	23:08:24	23:18:28	02413	"	OPEN	
01/05/98	00:22:45	00:27:47	02414	"	OPEN	
01/05/98	00:52:28	00:57:29	02415		A THIN	wrong scan limits
01/05/98	00:57:59	01:03:03	02416		unknown	
01/05/98	01:03:33	01:08:35	02417		C MEDIUM	
01/05/98	01:09:04	01:14:07	02418		D THICK	
01/05/98	01:14:52	01:19:58	02419		D THICK	wrong FW, should be Op.
01/05/98	01:36:00	01:41:03	02420	3500	OPEN	
01/05/98	02:05:14	02:10:18	02421	"	A THIN	wrong scan limits
01/05/98	02:10:45	02:15:49	02422	"	B THIN	
01/05/98	02:16:16	02:21:20	02423	"	C MEDIUM	
01/05/98	02:21:48	02:26:52	02424	"	D THICK	
01/05/98	02:27:37	02:32:41	02425	"	OPEN	
01/05/98	02:38:24	02:43:29	02426	4000	OPEN	
01/05/98	03:15:50	03:20:51	02427	"	A THIN	wrong scan limits
01/05/98	03:21:23	03:26:26	02428	"	unknown	
01/05/98	03:26:54	03:31:57	02429	"	unknown	
01/05/98	03:32:26	03:37:29	02430	"	C MEDIUM	
01/05/98	05:20:24	05:25:27	02431	"	OPEN	restart after network prob
01/05/98	05:49:31	05:54:34	02432	"	A THIN	
01/05/98	05:55:06	06:00:09	02433	"	unknown	
01/05/98	06:00:38	06:05:41	02434	"	B THIN	

01/05/98	06:06:10	06:11:12	02435	"	unknown	
01/05/98	06:11:59	06:17:04	02436	"	unknown	
01/05/98	06:26:58	06:32:01	02437	4500	OPEN	
01/05/98	06:56:19	07:01:18	02438	"	A THIN	
01/05/98	07:01:47	07:06:50	02439	"	B THIN	
01/05/98	07:07:20	07:12:25	02440	"	C MEDIUM	
01/05/98	07:12:52	07:17:57	02441	"	D THICK	
01/05/98	07:18:41	07:23:45	02442	"	OPEN	
01/05/98	07:29:26	07:34:29	02443	5000	OPEN	
01/05/98	07:59:24	08:04:25	02444	"	OPEN	FW should be A (?)
01/05/98	08:04:54	08:09:57	02445	"	unknown	FW should be B (?)
01/05/98	08:10:26	08:15:28	02446	"	unknown	FW should be C (?)
01/05/98	08:15:58	08:21:00	02447	"	C MEDIUM	FW should be D (?)
01/05/98	08:21:47	08:26:52	02448	"	unknown	FW should be O (?)
01/05/98	10:08:53	10:13:55	02449	5500	OPEN	
01/05/98	10:37:32	10:42:35	02450	"	A THIN	
01/05/98	10:43:03	10:48:06	02451	"	B THIN	
01/05/98	10:48:34	10:53:37	02452	"	C MEDIUM	
01/05/98	10:54:06	10:59:10	02453	"	D THICK	
01/05/98	10:59:54	11:04:59	02454	"	OPEN	
01/05/98	11:36:17	11:41:20	02455	6000	OPEN	
01/05/98	12:16:12	12:21:15	02456	"	A THIN	
01/05/98	12:21:45	12:26:48	02457	"	unknown	Chopper encoder light remained on !!
01/05/98	14:11:03	14:16:03	02469	"	A THIN	
01/05/98	14:16:51	14:21:52	02470	"	unknown	FW should be B (?)
01/05/98	14:22:38	14:27:41	02471	"	B THIN	FW should be C (?)
01/05/98	14:28:28	14:33:29	02472	"	C MEDIUM	FW should be D (?)
01/05/98	14:34:14	14:39:20	02473	"	OPEN	FW should be O (?)
01/05/98	15:04:11	15:09:14	02474	6500	OPEN	
01/05/98	15:34:31	15:39:31	02475	"	OPEN	FW should be A (?)
01/05/98	15:40:18	15:45:20	02476	"	unknown	FW should be B (?)
01/05/98	15:46:06	15:51:08	02477	"	C MEDIUM	
01/05/98	15:51:57	15:57:00	02478	"	unknown	FW should be D (?)
01/05/98	15:57:43	16:02:48	02479	"	OPEN	
01/05/98	16:23:19	16:28:22	02480	7000	OPEN	
01/05/98	16:55:06	17:00:10	02481	"	A THIN	
01/05/98	17:00:57	17:05:58	02482	"	B THIN	
01/05/98	17:06:46	17:11:47	02483	"	C MEDIUM	
01/05/98	17:12:33	17:17:36	02484	"	D THICK	
01/05/98	17:18:22	17:23:26	02485	"	OPEN	
01/05/98	17:38:21	17:43:24	02486	7500	OPEN	
01/05/98	18:11:45	18:16:42	02487	"	A THIN	
01/05/98	18:17:29	18:22:31	02488	"	B THIN	
01/05/98	18:23:21	18:28:19	02489	"	C MEDIUM	
01/05/98	18:29:08	18:34:08	02490	"	D THICK	
01/05/98	18:34:55	18:39:58	02491	"	OPEN	
MEDIUM ENERGY CONTINUUM with SACO (SACO_FULL.CFG)						
01/05/98	23:07:24	23:12:27	02492	1300	OPEN	
01/05/98	23:36:07	23:41:10	02493	"	OPEN	
01/05/98	23:42:18	23:47:19	02494	"	OPEN	FW should be A (?)
01/05/98	23:48:03	23:53:07	02495	"	B THIN	
01/05/98	23:53:55	23:58:55	02496	"	B THIN	FW should be C (?)
01/05/98	23:59:41	00:09:41	02497	"	D THICK	
02/05/98	00:10:37	00:15:42	02498	"	OPEN	
02/05/98	00:27:21	00:32:24	02499	1200	OPEN	
02/05/98	00:55:18	01:00:21	02500	"	OPEN	
02/05/98	01:01:30	01:06:29	02501	"	A THIN	
02/05/98	01:07:16	01:12:20	02502	"	B THIN	
02/05/98	01:13:09	01:18:08	02503	"	C MEDIUM	
02/05/98	01:18:54	01:28:58	02504	"	D THICK	

02/05/98	01:29:53	01:34:58	02505	"	OPEN	
02/05/98	01:43:07	01:48:10	02506	1100	OPEN	
02/05/98	02:11:45	02:16:47	02507	"	OPEN	

Yttrium Line with X-Tube
1x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG) with thresholds= 35

02/05/98	03:12:33	03:15:58	02508		OPEN	test
02/05/98	03:22:02	03:32:06	02509		OPEN	first run
02/05/98	03:32:37	03:42:39	02510		OPEN	
02/05/98	03:43:11	03:53:15	02511		OPEN	
02/05/98	03:53:47	04:03:50	02512		OPEN	
02/05/98	04:04:21	04:14:25	02513		OPEN	last run
02/05/98	04:17:25	04:19:13	02514		OPEN	test

Yttrium Line with X-Tube
5x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG) with EDU thresholds= 35

02/05/98	04:38:57	04:49:01	02515		OPEN	first run
...	...	...	...	...	...	on CCD1 300 ev/frame ERDF ~ 70 MB/hour
02/05/98	09:49:10	09:59:14	02544		OPEN	last run

Yttrium Line with X-Tube
4x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG) with EDU thresholds= 25

| 02/05/98 | 12:43:26 | 12:53:28 | 02545 | | OPEN | first run |
| 02/05/98 | 18:19:46 | 18:29:50 | 02564 | ... | OPEN | last run |

Yttrium Line with X-Tube
2x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG) with EDU thresholds= 20

02/05/98	19:51:21	20:01:25	02565		OPEN	test
			02566			first run
... 02/05/98	... 21:57:50	... 22:07:54	... 02575	...	... OPEN	last run

Yttrium Line with X-Tube
35x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG) with EDU thresholds= 35

| 02/05/98 | 22:48:14 | 22:58:18 | 02576 | | OPEN | first run |
| ... 04/05/98 | ... 05:49:07 | ... 05:59:11 | ... 02750 | ... | ... OPEN | ... last run |

Tests with Calibration Source

04/05/98	09:27:32	09:37:04	02751		unknown	
04/05/98	09:37:38	10:46:25	02752		unknown	EDU thresholds=20
04/05/98	10:48:19	11:56:52	02753		unknown	EDU thresholds=15
04/05/98	12:18:38	13:34:30	02754		unknown	EDU thresholds=13
04/05/98	13:35:04	14:36:11	02755		unknown	
04/05/98	14:51:18	15:44:18	02756		unknown	EDU thresholds=14
04/05/98	15:47:57	15:52:48	02757		unknown	EDU thresholds=70,70 threshold mode
04/05/98	15:54:54	16:30:53	02758		unknown	EDU thresholds=70 threshold mode

HIGH ENERGY CONTINUUM with DCI (DCI_FULL_T.CFG)

04/05/98	22:51:47	22:56:46	02759	10000	OPEN	EDU thresholds=35
04/05/98	23:24:17	23:29:20	02760	"	A THIN	
04/05/98	23:30:05	23:35:09	02761	"	A THIN	
04/05/98	23:35:57	23:40:59	02762	"	C MEDIUM	
04/05/98	23:41:46	23:46:50	02763	"	D THICK	
04/05/98	23:47:43	23:52:46	02764	"	OPEN	
04/05/98	23:54:40	23:59:45	02765	"	OPEN	Threshold Mode, thr=15
05/05/98	00:15:36	00:20:40	02766	9000	OPEN	EDU thresholds=35
05/05/98	00:47:37	00:52:38	02767	"	A THIN	
05/05/98	00:53:28	00:58:28	02768	"	B THIN	

05/05/98	00:59:15	01:04:21	02769	"	C MEDIUM	
05/05/98	01:05:06	01:10:08	02770	"	D THICK	
05/05/98	01:11:04	01:16:08	02771	"	OPEN	
unknown	unknown	unknown	02772	"	unknown	Threshold Mode, thr=20 no FITS
05/05/98	01:59:19	02:04:23	02773	8000	OPEN	EDU thresholds=35
05/05/98	02:28:44	02:33:47	02774	"	A THIN	
05/05/98	02:34:33	02:39:34	02775	"	B THIN	
05/05/98	02:40:20	02:45:23	02776	"	C MEDIUM	
05/05/98	02:46:12	02:51:15	02777	"	D THICK	
05/05/98	02:52:11	02:57:14	02778	"	OPEN	
unknown	unknown	unknown	02779		unknown	Threshold Mode, thr=20 FITS from playback
05/05/98	03:29:41	03:34:40	02780	8500	OPEN	EDU thresholds=35
05/05/98	03:58:00	04:02:59	02781	"	A THIN	
05/05/98	04:03:49	04:08:50	02782	"	B THIN	
05/05/98	04:09:39	04:14:39	02783	"	C MEDIUM	
05/05/98	04:15:29	04:20:31	02784	"	D THICK	
05/05/98	04:21:27	04:26:31	02785	"	OPEN	
05/05/98	04:28:57	04:34:02	02786	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25 MOV COE Problems
05/05/98	05:49:56	05:54:58	02787	9500	OPEN	EDU thresholds=35
05/05/98	06:24:21	06:29:24	02788	"	A THIN	
05/05/98	06:30:11	06:35:13	02789	"	B THIN	
05/05/98	06:35:57	06:41:00	02790	"	unknown	FW should be C
05/05/98	06:41:50	06:46:52	02791	"	D THICK	
05/05/98	06:47:46	06:52:49	02792	"	OPEN	
05/05/98	06:54:35	06:59:39	02793		OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25
		threshold mode (thresholds=25) with X-Tube				
05/05/98	09:46:00	10:10:40	02794		OPEN	
05/05/98	10:11:59	10:42:20	02795		OPEN	
05/05/98	10:42:58	10:52:15	02796		OPEN	
		MEDIUM ENERGY CONTINUUM with SACO (SACO_FULL_T.CFG)				
05/05/98	12:51:37	12:56:39	02797	1300	OPEN	
05/05/98	13:19:28	13:24:31	02798	"	OPEN	
05/05/98	13:25:37	13:30:39	02799	"	unknown	FW should be A
05/05/98	13:31:27	13:36:29	02800	"	B THIN	
05/05/98	13:37:17	13:42:19	02801	"	C MEDIUM	
05/05/98	13:43:07	13:53:08	02802	"	D THICK	
05/05/98	13:54:07	13:59:09	02803	"	OPEN	
05/05/98	17:26:31	17:31:31	02804	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25
05/05/98	17:56:39	18:01:43	02805	1300	OPEN	EDU thresholds=35
05/05/98	18:02:49	18:07:52	02806	"	A THIN	
05/05/98	18:08:38	18:13:42	02807	"	B THIN	
05/05/98	18:14:27	18:19:35	02808	"	C MEDIUM	
05/05/98	18:20:17	18:30:23	02809	"	D THICK	
unknown	unknown	unknown	02810	"	unknown	FW should be O
05/05/98	19:09:07	19:14:08	02811	"	OPEN	Threshold Mode, thr=35
05/05/98	19:47:45	19:52:47	02812	1200	OPEN	EDU thresholds=35
05/05/98	19:53:54	19:58:59	02813	"	A THIN	
05/05/98	19:59:42	20:04:47	02814	"	B THIN	
05/05/98	20:05:36	20:10:38	02815	"	C MEDIUM	very few events, noise ?
05/05/98	20:11:24	20:21:27	02816	"	D THICK	
05/05/98	20:22:23	20:27:27	02817	"	OPEN	
05/05/98	23:01:03	23:06:06	02818	"	OPEN	Threshold Mode, thr=35

05/05/98	23:07:12	23:12:14	02819	"	A THIN	
05/05/98	23:13:01	23:18:04	02820	"	unknown	FW should be B
05/05/98	23:18:51	23:23:53	02821	"	unknown	FW should be C
05/05/98	23:24:40	23:34:43	02822	"	unknown	FW should be D
05/05/98	23:35:40	23:40:42	02823	"	OPEN	
05/05/98	23:42:56	23:48:03	02824	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25
05/05/98	23:57:27	00:02:31	02825	1100	OPEN	EDU thresholds=25
06/05/98	00:03:36	00:08:40	02826	"	unknown	FW should be A
06/05/98	00:09:27	00:14:30	02827	"	B THIN	
06/05/98	00:15:16	00:20:19	02828	"	C MEDIUM	
06/05/98	00:21:07	00:31:12	02829	"	D THICK	
06/05/98	00:32:08	00:37:13	02830	"	OPEN	
06/05/98	00:41:09	00:46:14	02831	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25
06/05/98	00:51:37	00:56:39	02832	"	OPEN	
06/05/98	01:26:27	01:31:31	02833	"	OPEN	
06/05/98	01:33:02	01:38:06	02834	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25
06/05/98	01:40:28	01:45:31	02835	"	OPEN	imaging

HIGH ENERGY CONTINUUM with DCI (DCI_FULL_T.CFG)

06/05/98	11:33:53	11:38:52	02836	15000	OPEN	EDU thresholds=35
06/05/98	12:24:11	12:29:13	02837	"	OPEN	
06/05/98	12:52:31	12:57:35	02838	"	A THIN	
06/05/98	12:58:24	13:03:26	02839	"	B THIN	
06/05/98	13:04:12	13:09:14	02840	"	C MEDIUM	
06/05/98	13:10:02	13:15:04	02841	"	D THICK	
06/05/98	13:16:01	13:21:04	02842	"	OPEN	
06/05/98	13:23:55	13:28:59	02843	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25
06/05/98	13:41:40	13:46:42	02844	11000	OPEN	EDU thresholds=35
06/05/98	14:09:54	14:14:58	02845	"	A THIN	
06/05/98	14:15:42	14:20:48	02846	"	B THIN	
06/05/98	14:21:30	14:26:33	02847	"	C MEDIUM	
06/05/98	14:27:20	14:32:23	02848	"	C MEDIUM	
06/05/98	14:33:19	14:38:22	02849	"	OPEN	
06/05/98	14:41:34	14:46:39	02850	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25
06/05/98	14:55:25	15:00:26	02851	14000	OPEN	EDU thresholds=35
06/05/98	15:23:35	15:28:38	02852	"	A THIN	
06/05/98	15:29:22	15:34:26	02853	"	B THIN	
06/05/98	15:35:15	15:40:16	02854	"	C MEDIUM	
06/05/98	15:41:03	15:46:06	02855	"	D THICK	
06/05/98	15:47:03	15:52:06	02856	"	OPEN	
06/05/98	15:54:06	15:59:11	02857	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25
06/05/98	16:07:20	16:12:23	02858	12000	OPEN	EDU thresholds=35
06/05/98	16:36:36	16:41:37	02859	"	unknown	
06/05/98	16:47:14	16:52:15	02860	"	unknown	
06/05/98	16:53:02	16:58:05	02861	"	C MEDIUM	
06/05/98	16:58:50	17:03:55	02862	"	D THICK	
06/05/98	17:04:51	17:09:54	02863	"	OPEN	
06/05/98	17:12:16	17:17:23	02864	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25

06/05/98	17:25:19	17:30:20	02865	13000	OPEN	EDU thresholds=35
06/05/98	17:53:49	17:58:54	02866	"	unknown	
06/05/98	17:59:37	18:04:41	02867	"	B THIN	
06/05/98	18:05:26	18:10:28	02868	"	C MEDIUM	
06/05/98	18:11:15	18:16:18	02869	"	C MEDIUM	
06/05/98	18:17:16	18:22:18	02870	"	OPEN	
06/05/98	18:24:22	18:29:29	02871	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25
06/05/98	18:40:36	18:45:41	02872	8500	OPEN	EDU thresholds=35
06/05/98	19:11:19	19:16:23	02873	"	A THIN	
06/05/98	19:17:10	19:22:13	02874	"	unknown	
06/05/98	19:23:01	19:28:02	02875	"	unknown	
06/05/98	19:28:49	19:33:54	02876	"	C MEDIUM	
06/05/98	19:34:48	19:39:53	02877	"	OPEN	
06/05/98	19:41:56	19:47:01	02878	"	OPEN	Threshold Mode, EDU 3-5-7 thr=20 EDU 2-4-6 thr=25

LOW ENERGY CONTINUUM with SACO (SACO_FULL_T.CFG)

06/05/98	22:59:13	23:04:16	02879	1100	OPEN	
06/05/98	23:27:52	23:32:55	02880	"	OPEN	
06/05/98	23:34:00	23:39:04	02881	"	unknown	FW should be A
06/05/98	23:39:50	23:44:54	02882	"	unknown	FW should be B
06/05/98	23:45:39	23:50:42	02883	"	B THIN	FW should be C
06/05/98	23:51:27	00:01:30	02884	"	C MEDIUM	FW should be D
07/05/98	00:02:26	00:07:30	02885	"	OPEN	
07/05/98	00:10:26	00:15:32	02886	"	OPEN	Threshold Mode
07/05/98	00:26:40	00:31:46	02887	"	OPEN	
07/05/98	00:51:43	00:56:46	02888	1050	OPEN	
07/05/98	00:57:52	01:02:54	02889	"	unknown	chopper in wrong posit.
07/05/98	01:06:39	01:11:42	02890	"	OPEN	
07/05/98	01:35:46	01:40:49	02891	"	OPEN	
07/05/98	01:41:55	01:47:00	02892	"	A THIN	
07/05/98	01:47:47	01:52:50	02893	"	B THIN	
07/05/98	01:53:37	01:58:40	02894	"	B THIN	FW should be C
07/05/98	01:59:26	02:09:29	02895	"	C MEDIUM	FW should be D
07/05/98	02:10:25	02:15:29	02896	"	OPEN	
07/05/98	02:17:05	02:22:12	02897	"	OPEN	Threshold Mode
07/05/98	02:36:31	02:41:34	02898	1000	OPEN	wrong mode
07/05/98	02:43:18	02:48:21	02899	1000	OPEN	wrong mode
07/05/98	02:50:45	02:55:50	02900	1000	OPEN	imaging, thr=25
07/05/98	03:19:17	03:24:20	02901	"	OPEN	
07/05/98	03:25:26	03:30:29	02902	"	A THIN	
07/05/98	03:31:16	03:36:19	02903	"	unknown	FW should be B
07/05/98	03:37:05	03:42:08	02904	"	unknown	FW should be C
07/05/98	03:42:55	03:52:57	02905	"	unknown	FW should be D
07/05/98	03:53:53	03:58:58	02906	"	OPEN	
07/05/98	04:00:29	04:05:37	02907		OPEN	Threshold Mode
07/05/98	04:12:24	04:17:28	02908	950	OPEN	
07/05/98	04:40:46	04:45:40	02909	"	OPEN	
07/05/98	04:46:46	04:51:55	02910	"	A THIN	
07/05/98	04:52:36	04:57:40	02911	"	B THIN	
07/05/98	04:58:25	05:03:28	02912	"	C MEDIUM	
07/05/98	05:04:17	05:14:20	02913	"	D THICK	
07/05/98	05:15:16	05:20:19	02914	"	OPEN	
07/05/98	05:23:00	05:28:10	02915	"	OPEN	Threshold Mode
07/05/98	05:34:59	05:39:55	02916	900	OPEN	
07/05/98	06:22:34	06:27:36	02917	"	OPEN	
07/05/98	06:28:41	06:33:45	02918	"	A THIN	
07/05/98	06:34:30	06:39:33	02919	"	B THIN	
07/05/98	06:40:18	06:45:21	02920	"	B THIN	FW should be C

07/05/98	06:46:08	06:56:11	02921	"	C MEDIUM	FW should be D
07/05/98	10:42:25	10:47:25	02922	850	OPEN	Imaging Mode, thr.=25
07/05/98	11:10:50	11:15:54	02923	"	OPEN	
07/05/98	11:17:00	11:22:04	02924		unknown	FW should be A
07/05/98	11:22:48	11:27:51	02925		B THIN	
07/05/98	11:28:36	11:33:40	02926		unknown	FW should be C
07/05/98	11:34:24	11:44:28	02927		unknown	FW should be D
07/05/98	11:45:23	11:50:28	02928		OPEN	FW should be O Threshold Mode
unknown	unknown	unknown	02929		unknown	CCOE problems
unknown	unknown	unknown	02930		CLOSED	Transparent, but offset kept: no good
07/05/98	16:19:59	16:20:19	02931		CLOSED	transparent with thr=0 on CCD2
07/05/98	16:24:53	16:25:29	02932		OPEN	test, camera conf. ok
07/05/98	16:30:58	16:36:02	02933		OPEN	
07/05/98	17:12:32	17:17:35	02934		OPEN	SACO problems
unknown	unknown	unknown	02935		unknown	
07/05/98	17:58:46	17:59:24	02937		CLOSED	FW should be O
			Sn-L EDGE SCAN with DCI (DCI_D_OP_D.CFG)			
07/05/98	20:36:20	20:41:20	02938	3980	OPEN	FW should be D
07/05/98	20:42:09	20:52:08	02939	"	OPEN	
07/05/98	20:53:46	20:58:48	02940	"	D THICK	
07/05/98	21:00:50	21:05:50	02941	3970	D THICK	
07/05/98	21:06:38	21:16:40	02942	"	OPEN	
07/05/98	21:18:17	21:23:19	02943	"	D THICK	
07/05/98	21:25:10	21:30:13	02944	3960	D THICK	
07/05/98	21:31:01	21:41:02	02945	"	unknown	FW should be O
07/05/98	21:42:39	21:47:42	02946	"	D THICK	
07/05/98	21:49:41	21:54:45	02947	3950	D THICK	
07/05/98	21:55:32	22:05:34	02948	"	OPEN	
07/05/98	22:07:10	22:12:13	02949	"	D THICK	
07/05/98	22:28:45	22:33:46	02950	3940	D THICK	
07/05/98	22:34:32	22:44:35	02951	"	unknown	FW should be O
07/05/98	22:46:15	22:51:15	02952	"	D THICK	
07/05/98	22:53:24	22:58:25	02953	3935	D THICK	
07/05/98	22:59:12	23:09:15	02954	"	unknown	FW should be O
07/05/98	23:10:51	23:15:53	02955	"	D THICK	
07/05/98	23:18:03	23:23:05	02956	3930	D THICK	
07/05/98	23:23:50	23:33:53	02957	"	D THICK	
07/05/98	23:35:29	23:40:32	02958	"	D THICK	
07/05/98	23:42:36	23:47:40	02959	3920	D THICK	
07/05/98	23:48:30	23:58:32	02960	"	OPEN	
08/05/98	00:00:09	00:05:11	02961	"	D THICK	
08/05/98	00:15:01	00:20:02	02962	3910	D THICK	
08/05/98	00:20:49	00:30:51	02963	"	unknown	FW should be O
08/05/98	00:32:28	00:37:29	02964	"	D THICK	
08/05/98	00:39:39	00:44:41	02965	3900	D THICK	
08/05/98	00:45:29	00:55:31	02966	"	OPEN	
08/05/98	00:57:08	01:02:11	02967	"	D THICK	
			(BEAM_OPEN_T.CFG)			
08/05/98	01:51:39	01:56:42	02968	2800	D THICK	imaging mode
08/05/98	02:00:45	02:05:48	02969	"	OPEN	
08/05/98	02:23:21	02:28:20	02970	2800	OPEN	
08/05/98	02:48:03	02:53:07	02971	"	OPEN	
08/05/98	03:15:35	03:20:40	02972	"	OPEN	
08/05/98	03:23:23	03:28:27	02973	"	OPEN	threshold mode
08/05/98	03:41:49	03:46:49	02974	3300	OPEN	imaging mode
08/05/98	04:09:21	04:14:24	02975	"	OPEN	
08/05/98	04:16:00	04:21:06	02976	"	OPEN	threshold mode, thr=15
08/05/98	04:35:00	04:40:02	02977	3700	OPEN	

08/05/98	05:02:48	05:07:47	02978	"	OPEN	
08/05/98	05:09:07	05:14:11	02979	"	OPEN	threshold mode, thr=15
08/05/98	05:42:53	05:47:54	02980	3920	D THICK	imaging mode, thr=35
08/05/98	05:48:41	05:58:45	02981		OPEN	
08/05/98	06:00:21	06:05:25	02982		D THICK	

with X-Tube

08/05/98	11:19:04	11:27:12	02983		OPEN	8 kV, 0.5 mA
08/05/98	11:29:41	11:35:25	02984		OPEN	15 kV, 0.14 mA
08/05/98	11:38:14	11:46:17	02985		OPEN	4.6 kV, 1.8 mA
08/05/98	11:51:32	11:56:29	02986		OPEN	15 kV, 0.1 mA
08/05/98	11:59:01	13:36:05	02987		OPEN	11.95 kV, 0.095 mA; good flux for threshold mode

with SACO

08/05/98	17:33:24	17:38:24	02988	800	OPEN	
08/05/98	18:03:55	18:08:59	02989	"	OPEN	

with X-Tube

08/05/98	18:37:26	18:52:52	02990		OPEN	
08/05/98	20:02:17	20:27:29	02991		OPEN	
09/05/98	10:50:18	10:50:38	02992		OPEN	
09/05/98	10:54:21	10:54:42	02993		OPEN	
09/05/98	10:55:43	10:56:03	02994		OPEN	

Al EDGE with DCI (BEAM_FULL.CFG)

12/05/98	19:49:08	19:54:10	02997	1500	OPEN	
12/05/98	20:21:12	20:22:36	02998	"	OPEN	chopper position wrong
12/05/98	20:30:29	20:35:22	02999	"	OPEN	
12/05/98	20:44:06	20:49:05	03000	1525	OPEN	
12/05/98	21:12:43	21:17:46	03001	"	OPEN	
12/05/98	21:35:05	21:40:06	03002	1550	OPEN	
12/05/98	22:03:29	22:08:31	03003	"	OPEN	
unknown	unknown	unknown	03004	1600	unknown	
12/05/98	23:01:25	23:06:26	03005	"	OPEN	
12/05/98	23:40:07	23:45:07	03006	1650	OPEN	
13/05/98	00:08:58	00:13:58	03007	"	OPEN	NTP server was not running so far due to nameserver problems
13/05/98	00:24:05	00:29:05	03008	1700	OPEN	
13/05/98	00:53:35	00:58:35	03009	"	OPEN	
13/05/98	01:18:31	01:23:32	03010	1750	OPEN	
13/05/98	01:47:30	01:52:34	03011	"	OPEN	
13/05/98	02:04:07	02:09:09	03012	1575	OPEN	
13/05/98	02:33:11	02:38:16	03013	"	OPEN	

Iron Line with X-Tube
9x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG)

13/05/98	03:09:09	03:19:13	03014		OPEN	first run
...	...	...	...		...	11.9 KV, 0.095 mA
13/05/98	11:00:03	11:10:06	03058		OPEN	last run

Oxygen EDGE with SACO (BEAM_OPEN_2.CFG)

13/05/98	12:10:02	12:14:59	03059	700	OPEN	
13/05/98	13:00:54	13:05:56	03060	"	OPEN	
13/05/98	14:19:19	14:24:19	03061	650	OPEN	
13/05/98	14:47:17	14:52:20	03062	"	OPEN	
13/05/98	15:08:56	15:13:54	03063		OPEN	to be discarded
13/05/98	15:35:43	15:40:45	03064	600	OPEN	
13/05/98	16:04:56	16:09:58	03065	"	OPEN	
13/05/98	16:47:58	16:53:03	03066	500	OPEN	
13/05/98	17:15:54	17:20:54	03067	"	OPEN	
13/05/98	17:56:10	18:01:12	03068	450	OPEN	
13/05/98	18:25:01	18:30:04	03069	"	OPEN	
13/05/98	21:41:34	21:46:35	03070	570	OPEN	
13/05/98	22:09:14	22:14:17	03071	"	OPEN	

13/05/98	22:40:58	22:46:01	03072	560	OPEN	
13/05/98	23:08:54	23:13:55	03073	"	OPEN	
13/05/98	23:37:27	23:42:22	03074	550	OPEN	p=10
13/05/98	23:59:59	00:05:00	03075	"	OPEN	p=20 failed
14/05/98	00:10:50	00:15:49	03076	"	OPEN	p=20
14/05/98	00:37:14	00:42:16	03077	"	OPEN	p=10
14/05/98	01:05:19	01:10:20	03078	"	OPEN	p=20
14/05/98	01:48:32	01:53:32	03079	540	OPEN	p=10
14/05/98	02:16:35	02:21:38	03080	"	OPEN	
14/05/98	02:47:03	02:52:02	03081	535	OPEN	
14/05/98	03:15:06	03:20:08	03082	"	OPEN	
14/05/98	03:55:10	04:00:11	03083	530	OPEN	
14/05/98	04:23:09	04:28:08	03084	"	OPEN	
14/05/98	04:54:38	04:59:40	03085	520	OPEN	
14/05/98	05:22:49	05:27:50	03086	"	OPEN	
14/05/98	05:55:38	06:00:38	03087	545	OPEN	
14/05/98	06:29:30	06:34:29	03088	"	OPEN	last before SACO reinjection
14/05/98	09:13:33	09:18:36	03089	542	OPEN	
14/05/98	10:01:22	10:06:24	03090	"	OPEN	
14/05/98	10:34:33	10:39:35	03091	537	OPEN	
14/05/98	11:03:59	11:09:00	03092	"	OPEN	
14/05/98	11:36:05	11:41:07	03093	532	OPEN	
14/05/98	12:05:19	12:10:20	03094	"	OPEN	
14/05/98	12:34:38	12:39:41	03095	525	OPEN	
14/05/98	13:03:33	13:08:38	03096	"	OPEN	
14/05/98	13:27:20	13:32:25	03097		OPEN	threshold mode, thr=15; flux low as Proportional Counter left in beam last before SACO reinj.
14/05/98	15:27:10	15:32:14	03098	510	OPEN	no data in HBR 6,7
14/05/98	15:58:04	16:03:04	03099	"	OPEN	
(BEAM_FULL_3.CFG)						
14/05/98	16:34:25	16:39:30	03100	500	OPEN	
14/05/98	17:03:06	17:08:05	03101	"	OPEN	
14/05/98	17:09:16	17:14:13	03102	"	A THIN	
14/05/98	17:15:01	17:20:02	03103	"	B THIN	
14/05/98	17:20:47	17:25:50	03104	"	unknown	FW should be C
14/05/98	17:26:36	17:36:37	03105	"	unknown	FW should be D
14/05/98	17:37:33	17:42:35	03106	"	OPEN	
14/05/98	17:58:10	18:03:13	03107	"	OPEN	threshold mode, thr.=15 proportional counter left in front of the beam
14/05/98	18:06:01	18:11:05	03108	500	OPEN	
14/05/98	18:31:33	18:36:35	03109	500	OPEN	added trident in front of the beam imaging mode, thr=25
14/05/98	18:39:09	18:44:13	03110	"	OPEN	
(BEAM_FULL_2.CFG)						
14/05/98	19:42:40	19:47:35	03111	600	OPEN	
14/05/98	19:48:54	19:53:56	03112	"	A THIN	
14/05/98	19:55:00	20:00:04	03113	"	B THIN	
14/05/98	20:01:10	20:06:12	03114	"	C MEDIUM	not completed other FWs for SACO shutdown
HIGH ENERGY CONTINUUM with SACO (BEAM_FULL_1.CFG)						
14/05/98	22:20:03	22:25:07	03115	4000	OPEN	
14/05/98	22:49:52	22:54:51	03116	"	A THIN	
14/05/98	22:55:36	23:00:38	03117	"	B THIN	
14/05/98	23:01:25	23:06:25	03118	"	B THIN	FW should be C
14/05/98	23:07:13	23:12:16	03119	"	unknown	FW should be D
14/05/98	23:13:03	23:18:05	03120	"	OPEN	

unknown	unknown	unknown	03121	6000	unknown	FW should be O, no data
14/05/98	23:45:18	23:50:11	03123		OPEN	
15/05/98	00:27:22	00:32:21	03124	6000	OPEN	p=10
15/05/98	00:57:37	01:02:39	03125	"	A THIN	p=20
15/05/98	01:03:26	01:08:28	03126	"	B THIN	
15/05/98	01:09:15	01:14:16	03127	"	C MEDIUM	
15/05/98	01:15:07	01:20:03	03128	"	D THICK	
15/05/98	01:20:52	01:25:52	03129	"	OPEN	
15/05/98	01:32:14	01:37:19	03130	7000	OPEN	
15/05/98	02:04:57	02:09:57	03131	"	A THIN	
15/05/98	02:10:46	02:15:46	03132	"	unknown	FW should be B
15/05/98	02:16:35	02:21:34	03133	"	C MEDIUM	
15/05/98	02:22:24	02:27:23	03134	"	D THICK	
15/05/98	02:28:10	02:33:14	03135	"	OPEN	
15/05/98	02:45:34	02:50:35	03136	7500	OPEN	
15/05/98	03:14:04	03:19:06	03137	"	A THIN	
15/05/98	03:19:54	03:24:54	03138	"	B THIN	
15/05/98	03:25:38	03:30:39	03139	"	B THIN	FW should be C
15/05/98	03:31:27	03:36:29	03140	"	unknown	FW should be D
15/05/98	03:37:17	03:42:18	03141	"	OPEN	
15/05/98	03:50:34	03:55:35	03142	8000	OPEN	
15/05/98	04:19:03	04:24:02	03143	"	A THIN	
15/05/98	04:24:50	04:29:51	03144	"	B THIN	
15/05/98	04:30:37	04:35:39	03145	"	B THIN	FW should be C
15/05/98	04:36:26	04:41:28	03146	"	D THICK	
15/05/98	04:42:14	04:47:19	03147	"	unknown	FW should be O

Iron Line with X-Tube

4x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG)

15/05/98	05:40:35	05:50:38	03151		OPEN	threshold mode, thr.=15; first run
...	...	...	...		...	
15/05/98	09:03:26	09:13:30	03170		OPEN	last run

CARBON EDGE with SACO (BEAM_OPEN_2.CFG)

15/05/98	12:42:40	12:47:44	03171	Noise	OPEN	SiLi in front of the beam
15/05/98	13:02:30	13:07:30	03172	250	OPEN	scan parameters wrong
15/05/98	13:09:16	13:14:18	03173	250	OPEN	no flux check
15/05/98	13:34:32	13:39:35	03174	250	OPEN	p=10, ok
15/05/98	14:10:18	14:15:20	03175	"	OPEN	
15/05/98	14:46:40	14:51:42	03176	200	OPEN	p=10
15/05/98	15:10:09	15:15:04	03177	200	OPEN	p=10
15/05/98	15:39:45	15:44:42	03178	"	OPEN	p=20+25
unknown	unknown	unknown	03179	150	OPEN	p=10
15/05/98	16:50:21	16:55:20	03180	"	OPEN	p=20+25
15/05/98	17:28:13	17:33:15	03181	270	OPEN	p=10
15/05/98	17:57:59	18:03:00	03182	"	OPEN	p=20+25, last before SACO reinjection

others with SACO (BEAM_FULL_2.CFG)

15/05/98	20:42:10	20:47:12	03183	270	OPEN	
15/05/98	20:48:31	20:53:30	03184	"	A THIN	
15/05/98	20:54:39	20:59:38	03185	"	B THIN	
15/05/98	21:00:44	21:05:46	03186	"	C MEDIUM	
15/05/98	21:06:53	21:16:55	03187	"	D THICK	
15/05/98	21:18:01	21:23:04	03188	"	OPEN	
15/05/98	21:38:36	21:43:40	03189	100	OPEN	Threshold mode, thr.=15
15/05/98	21:49:11	21:54:15	03190	100	OPEN	Imaging mode, thr.=25

(BEAM_OPEN.CFG)

15/05/98	23:46:43	23:51:40	03191	950	OPEN	low data rate
15/05/98	23:59:29	00:01:14	03192	"	OPEN	test
16/05/98	00:16:23	00:21:24	03193	950	OPEN	p=10
16/05/98	00:45:36	00:50:37	03194	"	OPEN	p=20,
16/05/98	01:12:34	01:17:38	03195	1050	OPEN	

16/05/98	01:46:08	01:51:11	03196	"	OPEN	camera switched off by itself

Iron Line with X-Tube

(7+2)x 10' measurements in P1(60,75, P2(62.77), P3(58,77), P4(58,73), P5(62.73) (XTUBE_OPEN.CFG)

16/05/98	03:50:56	03:55:59	03197		OPEN	Threshold mode, thr.=25 camera set up
16/05/98	04:04:56	04:14:59	03198		OPEN	HT=11.9kV, I=0.095mA test for data rate assess. 42 MB Erdf/run; 22 MB Raw/run
16/05/98	04:15:30	04:25:34	03199		OPEN	first run
...	...	...	...		...	
16/05/98	13:11:05	13:21:09	03242		OPEN	last run

ANNEX 3   EICC HK Data Format

Legenda:

Energy =   Required (eV)/CCOE

MOGSE positioning before starting the flux check using the CS (SiLI Detector) in front of the RD (resizing device):

RP-rZ: Rotation Angle to select the Beam

RD-Ty, RD-tZ: positioning of the Resizing Device

CS-tz, CS-tY: vertical and horizontal positioning of the Si(Li) detector

CH-tY, CH-tZ: vertical and horizontal positioning of the Camera Head.

The first time stamp is the EICC CPU time before sending the data and the second one is the Science Console CPU time at the receipt of the data.

SyncCurt =   Synchrotron current (Amp.)
LifeTime =   Lifetime positrons in ring
SyncDiod =   monitoring diod current (relative current measurement after the monochrommator), SACO only.

Attenu =   0   without attenuator in the DCI or SACO
                3   with attenuator in the DCI or SACO
NrjMin =   Range of Int. begin (eV)
NrjMax =   Range of Int.end, for Si(Li) slow (eV)

SACO BEAM

MOS camera Idle period before OPEN 1, data received during the Beam Flux check - Protocol 10 (e.g.: file ORS01935_980416_154238_.omh)	
Run_ID = {E 9 Run_ID:Sunayev}@{I 9 Time} 15:46:24.096	
B_Line = SACO_Line@15:46:23.799	15:46:24.443
Energy = +349938844E-6@15:46:24.270	15:46:24.915
RP-rZ = +250000000E-9@15:46:24.731	15:46:25.376
RD-tY = +158000000E-6@15:46:25.212	15:46:25.857
RD-tZ = +545000000E-7@15:46:25.692	15:46:26.336
CS-tZ = +545000000E-7@15:46:29.147	15:46:29.790
CH-tY = +370000000E-7@15:46:29.618	15:46:30.261
CH-tZ = +639000000E-7@15:46:30.079	15:46:30.723
ACK: SACO_Line is ready@15:46:30.429	15:46:31.072
CS-tY = +190000000E-6@15:46:43.688	15:46:44.330

MOS run period OPEN 1, data received during MOS camera exposure (e.g.: file ORS01935_980416_155044.omh)	
Run_ID = +193500000E-5@15:50:44.429	15:50:45.159
SyncCurt = +24880E-2#1@15:50:45.340	15:50:46.068
LifeTime = +18490E-3#1@15:50:45.911	15:50:46.638
SyncDiod = +27157E-13#1@15:50:46.482	15:50:47.209
SyncCurt = +24840E-2#2@15:50:48.144	15:50:48.871
LifeTime = +18490E-3#2@15:50:48.745	15:50:49.472
SyncDiod = +29902E-13#2@15:50:49.316	15:50:50.042
. . .	. . .

MOS camera Idle period before OPEN 2, data received during the Beam Calibration - Protocol 20 file ORS01936_980416_155604_.omh	
Attenu = +000000000E-9@15:57:07.867	15:57:08.727
NrjMin = +200000000E-6@15:57:08.337	15:57:09.196
NrjMax = +180000000E-4@15:57:08.898	15:57:09.757
ACK: End Of Absolute Scan@16:24:03.439	16:24:03.803
ACK: SetEnergy Completed AndMovCoeReady@16:25:58.732	16:25:59.134
16:25:59.927	

MOS run period OPEN 2, data received during MOS camera exposure file ORS01936_980416_162702.omh	
Run_ID = +193600000E-5@16:27:01.917	16:27:02.330
SyncCurt = +24080E-2#1@16:27:02.938	16:27:03.352
LifeTime = +18790E-3#1@16:27:03.529	16:27:03.942
SyncDiod = +43130E-13#1@16:27:04.170	16:27:04.584
SyncCurt = +24060E-2#2@16:27:05.872	16:27:06.285
LifeTime = +18790E-3#2@16:27:06.463	16:27:06.879
SyncDiod = +43276E-13#2@16:27:07.034	16:27:07.448
SyncCurt = +24060E-2#3@16:27:08.766	16:27:09.179
LifeTime = +18790E-3#3@16:27:09.367	16:27:09.781
SyncDiod = +43276E-13#3@16:27:09.958	16:27:10.371
SyncCurt = +24060E-2#4@16:27:11.641	16:27:12.053
LifeTime = +18790E-3#4@16:27:12.221	16:27:12.634
SyncDiod = +42831E-13#4@16:27:12.802	16:27:13.217
SyncCurt = +24060E-2#5@16:27:14.435	16:27:14.848
LifeTime = +18790E-3#5@16:27:15.005	16:27:15.419
SyncDiod = +42831E-13#5@16:27:15.576	16:27:15.988
. . .	. . .

DCI BEAM (DCI_FULL_2 procedure)

MOS camera Idle period before OPEN 1, data received during the Beam Flux check - Protocol 10 file ORS01908_980416_060009_.omh	
Run_ID = +190800000E-5@06:01:08.930	06:01:09.986
B_Line = DCI__Line@06:01:09.300	06:01:10.349
Energy = +240001543E-5@06:01:09.901	06:01:10.953
RP-rZ = +217000000E-7@06:01:10.392	06:01:11.445
RD-tY = +163000000E-6@06:01:10.903	06:01:11.956
RD-tZ = +972000000E-7@06:01:11.413	06:01:12.467
CS-tZ = +966000000E-7@06:01:11.924	06:01:12.973
CH-tY = +410000000E-7@06:01:12.435	06:01:13.483
CH-tZ = +100000000E-6@06:01:12.926	06:01:13.974
ACK: DCI__Line is ready@06:01:13.276	06:01:14.325
CS-tY = +192500000E-6@06:01:24.256	06:01:25.359
Absolu = {E 9 TrueIntSiLi:Tenma}@{I 9 Time}	06:01:25.769
Synchr = +269400000E-6@06:01:25.167	06:01:26.265
ACK: Flux Checked@06:01:25.588	06:01:26.680
ACK: SetEnergy Completed AndMovCoeReady@06:06:10.692	06:06:11.864
06:06:12.723	

MOS run period OPEN 1, data received during MOS camera exposure file ORS01935_980416_155044.omh	
Run_ID = +190800000E-5@06:07:43.984	06:07:45.196
. . .	. . .
SyncCurt = +26920E-2#2@06:07:47.910	06:07:49.125
LifeTime = +23696E-2#2@06:07:48.480	06:07:49.696
SyncDiod = +12233E-11#2@06:07:49.111	06:07:50.330
SyncCurt = +26920E-2#3@06:07:50.784	06:07:51.999
LifeTime = +23696E-2#3@06:07:51.415	06:07:52.631
SyncDiod = +12233E-11#3@06:07:52.006	06:07:53.220

. . . .

DCI BEAM (DCI_FULL procedure)

MOS camera Idle period before OPEN 1, data received during the Beam Flux check - Protocol 10 file ORS01884_980416_010430_.omh	
Run_ID = +188400000E-5@01:05:27.911	01:05:28.061
B_Line = DCI__Line@01:05:28.261	01:05:28.410
Energy = +180000609E-5@01:05:28.892	01:05:29.040
RP-rZ = +217000000E-7@01:05:29.393	01:05:29.550
RD-tY = +163000000E-6@01:05:29.874	01:05:30.021
RD-tZ = +972000000E-7@01:05:30.334	01:05:30.482
CS-tZ = +966000000E-7@01:05:30.805	01:05:30.953
CH-tY = +410000000E-7@01:05:31.276	01:05:31.423
CH-tZ = +100000000E-6@01:05:31.736	01:05:31.884
ACK: DCI__Line is ready@01:05:32.087	01:05:32.235
CS-tY = +192500000E-6@01:09:54.479	01:09:54.706
Absolu = {E 9 TrueIntSiLi:Tenma}@{I 9 Time}	01:09:55.097
Synchr = +275000000E-6@01:09:55.370	01:09:55.591
ACK: Flux Checked@01:09:55.721	01:09:55.938
ACK: SetEnergy Completed AndMovCoeReady@01:16:47.299	01:16:47.666
01:16:48.456	

MOS run period OPEN 1, data received during MOS camera exposure file ORS01884_980416_011821.omh	
Run_ID = +188400000E-5@01:18:21.071	01:18:21.482
SyncCurt = +27500E-2#1@01:18:21.962	01:18:22.373
LifeTime = +23516E-2#1@01:18:22.573	01:18:22.984
SyncDiod = +12466E-11#1@01:18:23.144	01:18:23.554
SyncCurt = +27480E-2#2@01:18:24.786	01:18:25.197
LifeTime = +23105E-2#2@01:18:25.367	01:18:25.777
SyncDiod = +12526E-11#2@01:18:25.938	01:18:26.348
SyncCurt = +27480E-2#3@01:18:27.590	01:18:28.000
LifeTime = +23105E-2#3@01:18:28.181	01:18:28.590
SyncDiod = +12526E-11#3@01:18:28.772	01:18:29.183
. . .	. . .

MOS camera Idle period before OPEN 2, data received during the Beam Flux check - Protocol 10 file ORS01885_980416_012342_.omh	
Attenu = +000000000E-9@01:24:04.183 NrjMin = +200000000E-6@01:24:04.644 NrjMax = +180000000E-4@01:24:05.104 ACK: End Of Absolute Scan@01:51:17.004 ACK: SetEnergy Completed AndMovCoeReady@01:52:13.425 01:52:13.611 01:52:14.432	01:24:04.679 01:24:05.137 01:24:05.598 01:51:17.199

MOS run period OPEN 2, data received during MOS camera exposure file ORS01885_980416_015352.omh	
Run_ID = +188500000E-5@01:53:52.265 SyncCurt = +27420E-2#1@01:53:53.056 LifeTime = +23761E-2#1@01:53:53.647 SyncDiod = +12707E-11#1@01:53:54.247 SyncCurt = +27420E-2#2@01:53:55.910 LifeTime = +23639E-2#2@01:53:56.481 SyncDiod = +12715E-11#2@01:53:57.051	01:53:52.502 01:53:53.294 01:53:53.885 01:53:54.485 01:53:56.150 01:53:56.718 01:53:57.291
. . .	. . .