

# V&V Reference Report

## L2 ASCDS Version : 7.6.7.1

Observation 59936 - L2 Version 002  
Chandra X-Ray Center

L2 Processing Date : Apr 8 2006

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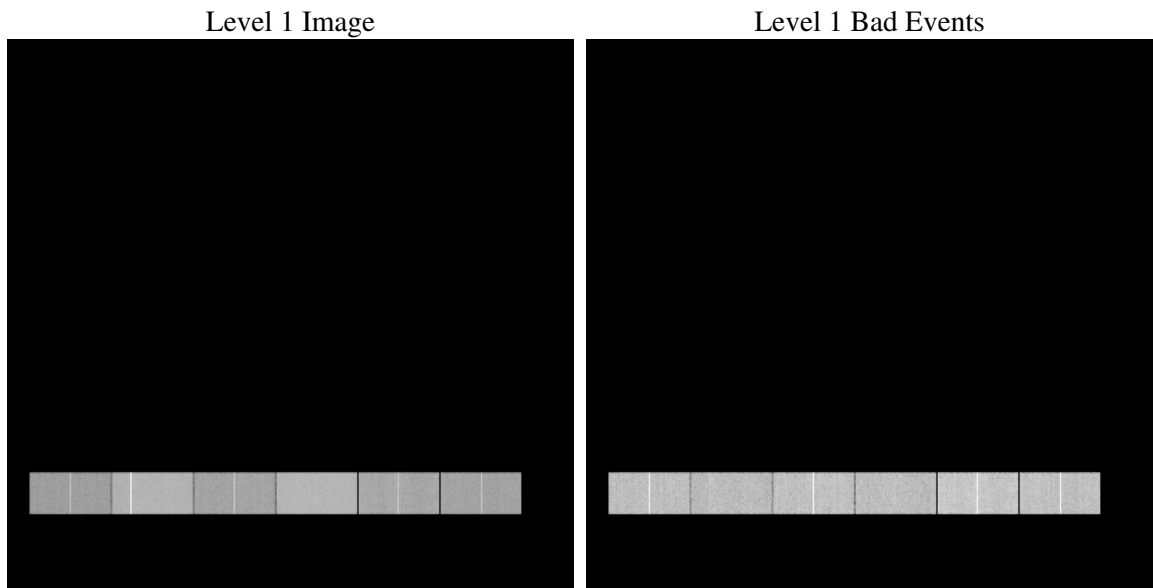
# 1 Front

|          |   |
|----------|---|
| seq_num  | &#160   |
| obs_id   | 59936   |
| title    | ACIS-456789 diagnostics                         |
| observer | CHANDRA engineering request/realtime commanding |
| object   | &#160   |
| ra_targ  | 0.0   |
| dec_targ | 0.0   |
| ra_nom   | 100.89986040132                                 |
| dec_nom  | 7.0286049201939                                 |
| roll_nom | 57.346286791963                                 |
| revision | 2   |
| ontime   | 8314.0  |
| livetime | 8281.5234375                                    |
| ontime4  | 5141.7536695302                                 |
| ontime5  | 8314.0  |
| ontime6  | 5684.5677031875                                 |
| ontime7  | 8314.0  |
| ontime8  | 5770.6594379842                                 |
| ontime9  | 5628.9347171485                                 |
| l2events | 758717  |

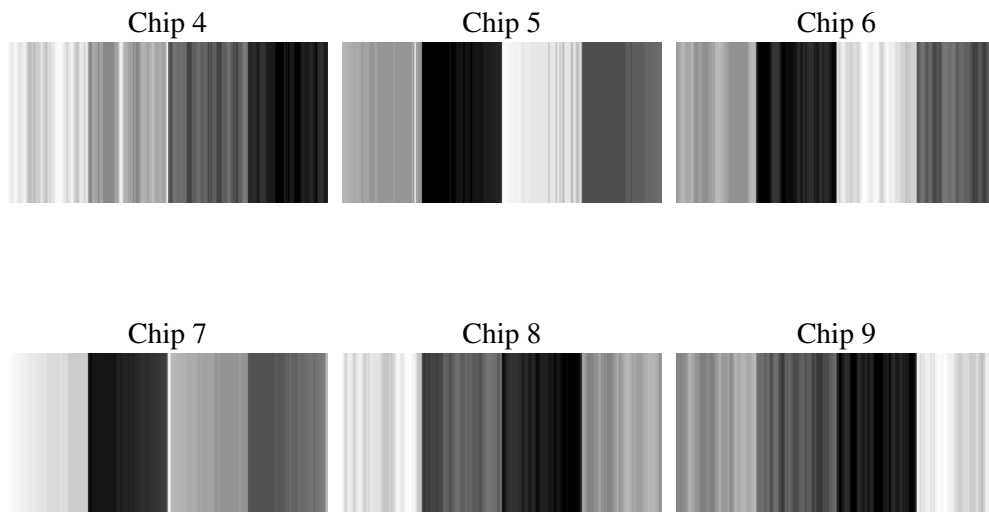
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |
|----------|---------------------|
| obi_num  | 0                   |
| ascdsver | 7.6.7.1             |
| caldsver | 3.2.1               |
| date     | 2006-04-08T23:46:19 |
| revision | 2                   |

|                |                 |
|----------------|-----------------|
| sched_exp_time | 0.0             |
| ontime         | 8406.3691979349 |
| ontime4        | 5194.7251248062 |
| ontime5        | 8406.3691979349 |
| ontime6        | 5741.9167086482 |
| ontime7        | 8406.3691979349 |
| ontime8        | 5829.4676136076 |
| ontime9        | 5685.0091634393 |
| l1events       | 1437702         |

### 2.1.4 Events

|                 | ccd 4  | ccd 5  | ccd 6  | ccd 7  | ccd 8  | ccd 9  |
|-----------------|--------|--------|--------|--------|--------|--------|
| level 1 events  | 172344 | 325224 | 202064 | 316619 | 225967 | 195484 |
| rejected events | 96334  | 86058  | 103682 | 89817  | 118831 | 101855 |
| rejected %      | 55%    | 26%    | 51%    | 28%    | 52%    | 52%    |

|                | ccd 4 | ccd 5  | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|----------------|-------|--------|-------|-------|-------|-------|
| grade 0 events | 13898 | 33505  | 14481 | 29036 | 22760 | 16056 |
|                | 8%    | 10%    | 7%    | 9%    | 10%   | 8%    |
| grade 1 events | 96    | 74     | 81    | 113   | 149   | 93    |
|                | 0%    | 0%     | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 78824 | 116439 | 93031 | 82980 | 91040 | 87419 |
|                | 45%   | 35%    | 46%   | 26%   | 40%   | 44%   |
| grade 3 events | 2214  | 3424   | 2412  | 12181 | 3777  | 2379  |
|                | 1%    | 1%     | 1%    | 3%    | 1%    | 1%    |
| grade 4 events | 2349  | 3353   | 2277  | 11795 | 3789  | 2472  |
|                | 1%    | 1%     | 1%    | 3%    | 1%    | 1%    |
| grade 5 events | 2615  | 6304   | 2685  | 7627  | 3408  | 2784  |
|                | 1%    | 1%     | 1%    | 2%    | 1%    | 1%    |
| grade 6 events | 23670 | 85192  | 31162 | 93296 | 32034 | 28695 |
|                | 13%   | 26%    | 15%   | 29%   | 14%   | 14%   |
| grade 7 events | 48678 | 76933  | 55935 | 79591 | 69010 | 55586 |
|                | 28%   | 23%    | 27%   | 25%   | 30%   | 28%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual                | Parameter                       | Planned   | Actual  |
|-----------------------------------|---------------------|-----------------------|---------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                  | Obspar format version number    | 6         | 6       |
| Detector                          | ACIS-456789         | ACIS-456789           | Obspar file type                | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                  | Obspar update status            | NONE      | UPDATED |
| Data mode                         | CC33_FAINT          | CC33_FAINT            | On-chip summing requested       | N         | N       |
| Observation mode                  | SECONDARY           | SECONDARY             | Subarray requested              | NONE      | NONE    |
| Pointing RA                       | 0                   | 100.8998604013166     | Alternating exposures requested | N         | N       |
| Pointing Dec                      | 0                   | 7.02860492019388      | Primary exposure time           | 0         | 0       |
| Pointing Roll                     | 0.0                 | 57.34628679196273     |                                 |           |         |
| SIM focus pos (mm)                | -0.684267           | -0.7809083437167272   |                                 |           |         |
| SIM defocus (mm)                  | 0                   | 0.7524282956875696    |                                 |           |         |
| SIM translation stage pos (mm)    | -190.132523         | 250.4635187648994     |                                 |           |         |
| SIM translation stage offset (mm) | 0                   | -0.007540371344731511 |                                 |           |         |
| Observation start time            | 218671765.435583    | 218671764.41056       |                                 |           |         |
| Observation start date            | 2004-12-05T22:09:25 | 2004-12-05T22:09:24   |                                 |           |         |
| Observation end time              | 218693075.186543    | 218693074.16152       |                                 |           |         |
| Observation end date              | 2004-12-06T04:04:35 | 2004-12-06T04:04:34   |                                 |           |         |
| Read mode                         | CONTINUOUS          | CONTINUOUS            |                                 |           |         |

## 2.3 Aspect



## **2.4 Star Slots**

## **2.5 FID Slots**



# A Summary

## A.1 Status

|                            |               |
|----------------------------|---------------|
| V&V Scientist              | Beth Sundheim |
| V&V Date (YYYY-MM-DD)      | 2006.04.10    |
| V&V Edition                | 1             |
| V&V Disposition and Status | OK            |
| V&V Charge Time            | 8.314         |

## A.2 Comments

The fits keyword value of TIMEDEL in the Level 1 and Level 2 event file headers are incorrect in this version of the processing.

The

value in the event files should be 0.00285 s. This value is appropriate

since the TIMES between events can be separated by only 0.00285 s.

The value of the keyword TIMEDEL in the exr0 and stat1 files is 1.4592 s, which is the correct value for these files. The data in the event files are correct. The correct value of TIMEDEL=0.00285 was used

to calculate the arrival time of each event, but the TIMEDEL value was changed in a subsequent step of the code to the incorrect value of 1.4592 s,

which was then recorded in the header. There is the potential for the event

times to become corrupted if the user reproceses the data. To fix this problem,

the user should update the value of TIMEDEL in the header of their event-data

file. They can do this using, e.g., dmhedit:

```
dmhedit infile='acisfxxxxx_000N002_evt1.fits' filelist=None
operation=add
key=TIMEDEL value=0.00285
```