

# V&V Reference Report

## L2 ASCDS Version : 10.2.1

Observation 53001 - L2 Version 1  
Chandra X-Ray Center

L2 Processing Date : Feb 13 2014

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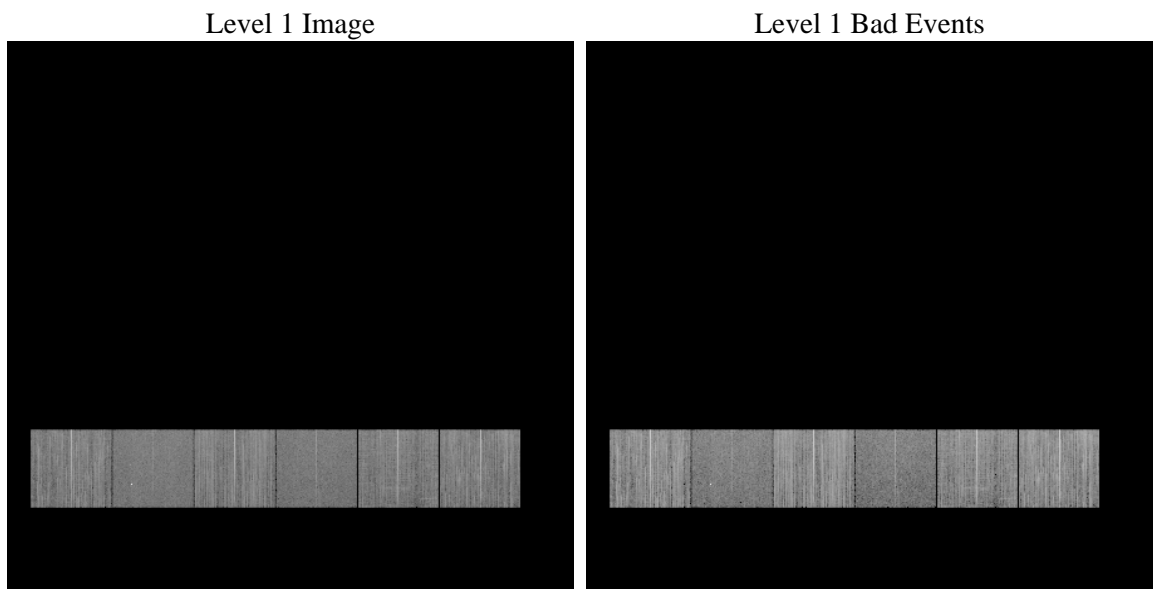
# 1 Front

|          |   |   |
|----------|---|---|
| seq_num  | &#160   | Sequence number                             |
| obs_id   | 53001   | Observation id                              |
| title    | ACIS-456789 diagnostics                         | Proposal title                              |
| observer | CHANDRA engineering request/realtime commanding | Principal investig                          |
| object   | &#160   | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 0.0   | Observer's specified target RA [deg]        |
| dec_targ | 0.0   | Observer's specified target Dec [deg]       |
| ra_nom   | 287.00775865298                                 | Nominal RA [deg]                            |
| dec_nom  | 35.028072706918                                 | Nominal Dec [deg]                           |
| roll_nom | 44.33756356138                                  | Nominal Roll [deg]                          |
| revision | 1   | Processing version of data                  |
| ontime   | 8268.7999692559                                 | Sum of GTIs [s]                             |
| livetime | 8164.0954451716                                 | Livetime [s]                                |
| ontime4  | 8168.3309942484                                 | Sum of GTIs [s]                             |
| ontime5  | 8268.7999692559                                 | Sum of GTIs [s]                             |
| ontime6  | 8174.8130046129                                 | Sum of GTIs [s]                             |
| ontime7  | 8268.7999692559                                 | Sum of GTIs [s]                             |
| ontime8  | 8178.0508492589                                 | Sum of GTIs [s]                             |
| ontime9  | 8168.3311533928                                 | Sum of GTIs [s]                             |
| l2events | 202564  | Number of level 2 events                    |

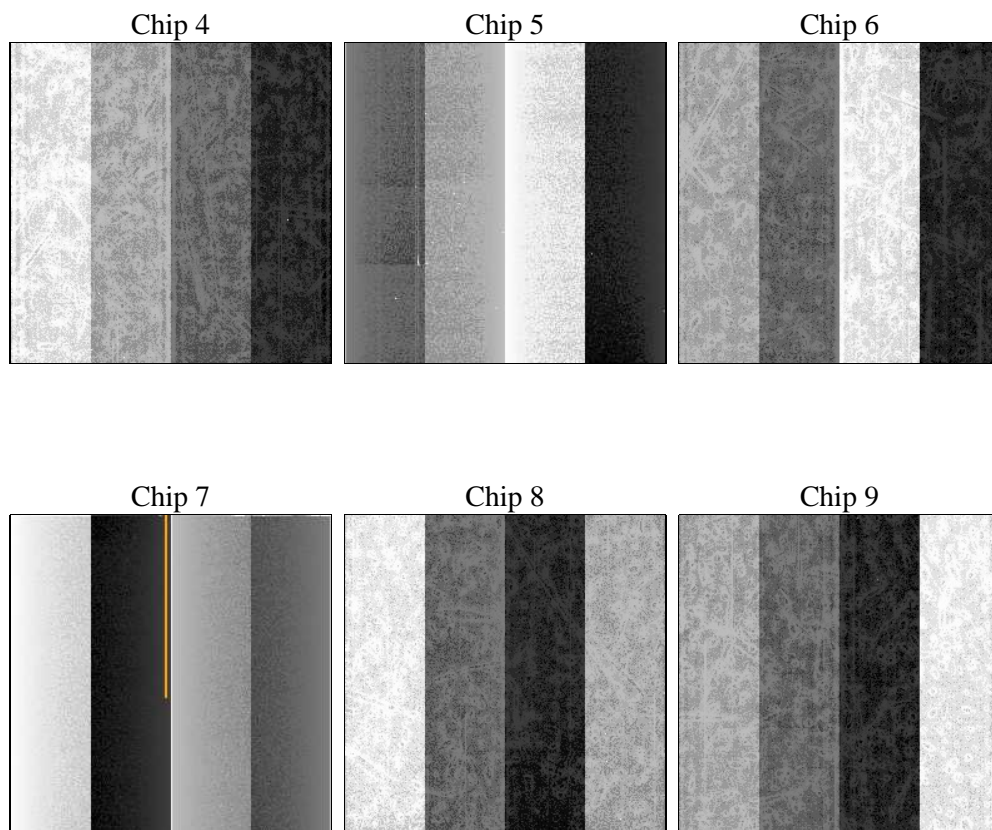
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 0.0             | [s] Scheduled observation exposure time |
| ascdsver | 10.2.1              | Processing system revision     | ontime         | 8268.7999692559 | Sum of GTIs [s]                         |
| caldsver | 4.6.0               | &#160                          | ontime4        | 8168.3309942484 | Sum of GTIs [s]                         |
| date     | 2014-02-13T04:48:58 | Date and time of file creation | ontime5        | 8268.7999692559 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime6        | 8174.8130046129 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 8268.7999692559 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 8178.0508492589 | Sum of GTIs [s]                         |
|          |                     |                                | ontime9        | 8168.3311533928 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 837202          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 4  | ccd 5  | ccd 6  | ccd 7  | ccd 8  | ccd 9  |                | ccd 4  | ccd 5 | ccd 6  | ccd 7 | ccd 8  | ccd 9  |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|-------|--------|-------|--------|--------|
| level 1 events  | 146660 | 125449 | 156272 | 112857 | 140280 | 155684 | grade 0 events | 14164  | 4321  | 11005  | 6503  | 14794  | 12455  |
| rejected events | 119730 | 70703  | 128300 | 62803  | 105275 | 128139 |                | 9%     | 3%    | 7%     | 5%    | 10%    | 8%     |
| rejected %      | 81%    | 56%    | 82%    | 55%    | 75%    | 82%    | grade 1 events | 132    | 149   | 56     | 88    | 75     | 63     |
|                 |        |        |        |        |        |        |                | 0%     | 0%    | 0%     | 0%    | 0%     | 0%     |
|                 |        |        |        |        |        |        | grade 2 events | 5446   | 19234 | 8602   | 12343 | 8495   | 6924   |
|                 |        |        |        |        |        |        |                | 3%     | 15%   | 5%     | 10%   | 6%     | 4%     |
|                 |        |        |        |        |        |        | grade 3 events | 1827   | 2196  | 1429   | 3729  | 2324   | 1637   |
|                 |        |        |        |        |        |        |                | 1%     | 1%    | 0%     | 3%    | 1%     | 1%     |
|                 |        |        |        |        |        |        | grade 4 events | 1834   | 2352  | 1433   | 3701  | 2349   | 1640   |
|                 |        |        |        |        |        |        |                | 1%     | 1%    | 0%     | 3%    | 1%     | 1%     |
|                 |        |        |        |        |        |        | grade 5 events | 2655   | 4964  | 2336   | 6306  | 3370   | 2802   |
|                 |        |        |        |        |        |        |                | 1%     | 3%    | 1%     | 5%    | 2%     | 1%     |
|                 |        |        |        |        |        |        | grade 6 events | 3695   | 26687 | 5526   | 23818 | 7097   | 4913   |
|                 |        |        |        |        |        |        |                | 2%     | 21%   | 3%     | 21%   | 5%     | 3%     |
|                 |        |        |        |        |        |        | grade 7 events | 116907 | 65546 | 125885 | 56369 | 101776 | 125250 |
|                 |        |        |        |        |        |        |                | 79%    | 52%   | 80%    | 49%   | 72%    | 80%    |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-456789         | ACIS-456789          | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | FAINT               | FAINT                | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | SECONDARY           | SECONDARY            | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                 | 0                   | 287.0077586529818    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 0                   | 35.02807270691845    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 0.0                 | 44.33756356138029    | [s] Primary exposure time             | 3.2       | 3.2     |
| [mm] SIM focus pos                | -1.429586           | -1.428180813131781   |                                       |           |         |
| [mm] SIM defocus                  | 0.1037507710433287  | 0.1051558262725154   |                                       |           |         |
| [mm] SIM translation stage pos    | 250.455976          | 250.466033080201     |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | -0.01005468664627074 |                                       |           |         |
| [s] Observation start time (MET)  | 508611994.19691     | 508611993.17191      |                                       |           |         |
| Observation start date            | 2014-02-12T17:06:34 | 2014-02-12T17:06:33  |                                       |           |         |
| [s] Observation end time (MET)    | 508621994.097461    | 508621993.07246      |                                       |           |         |
| Observation end date              | 2014-02-12T19:53:14 | 2014-02-12T19:53:13  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## **2.3 Star Slots**

## **2.4 FID Slots**

## A Summary

### A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Jen Lauer       |
| V&V Date (YYYY-MM-DD)      | 2014.02.14      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 8.2687999692559 |

### A.2 Comments