

# V&V Reference Report

## L2 ASCDS Version : 10.2.1

Observation 16043 - L2 Version 2  
Chandra X-Ray Center

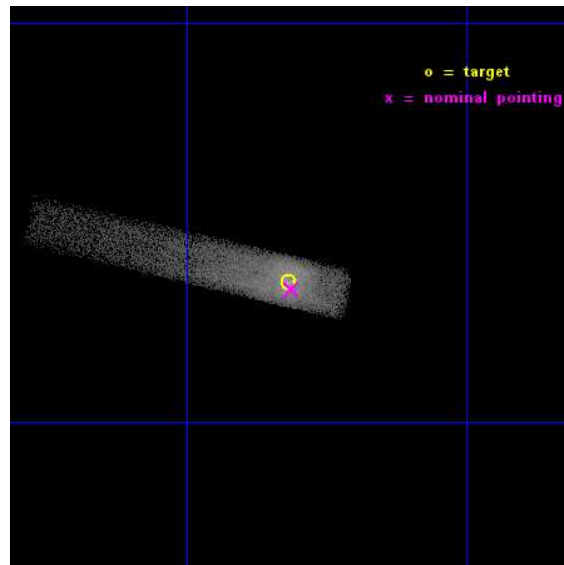
L2 Processing Date : Dec 10 2014

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# 1 Front

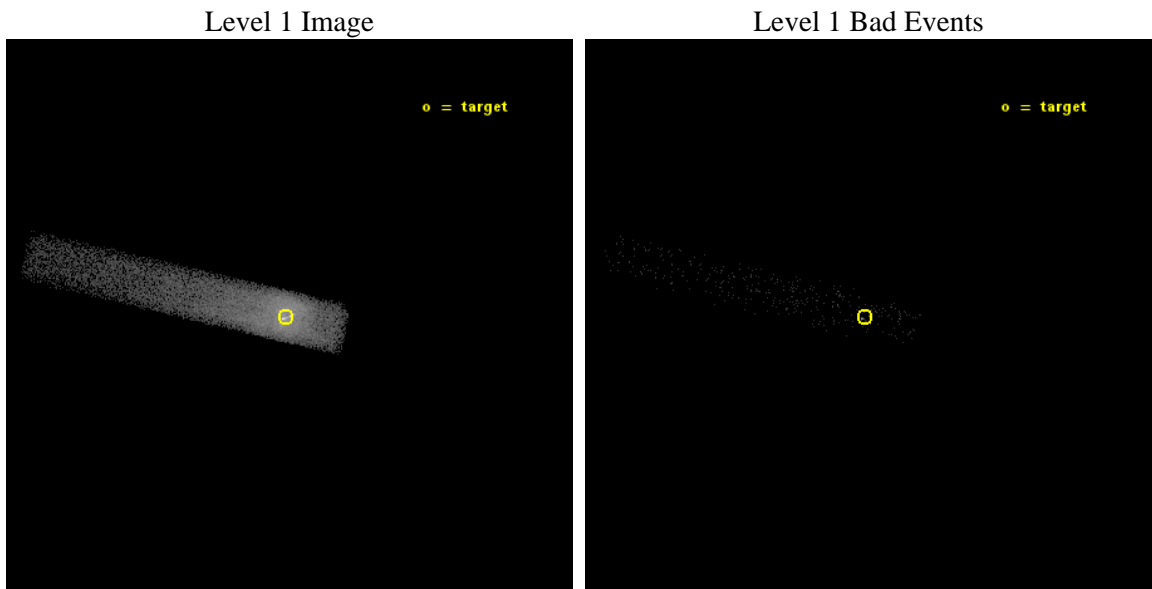
seq_num	702937	Sequence number
obs_id	16043	Observation id
title	Keeping Tabs on the Unique Jet in M87 During Cycle 15	Proposal tit
observer	Dr. Daniel Harris	Principal investigator
object	M87	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	187.704167	Observer's specified target RA [deg]
dec_targ	12.391667	Observer's specified target Dec [deg]
ra_nom	187.70307182632	Nominal RA [deg]
dec_nom	12.388737757232	Nominal Dec [deg]
roll_nom	192.76579263038	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5069.1996978521	Sum of GTIs [s]
livetime	4597.4965516526	Livetime [s]
ontime7	5069.1996978521	Sum of GTIs [s]
l2events	39620	Number of level 2 events



## 2 OBI

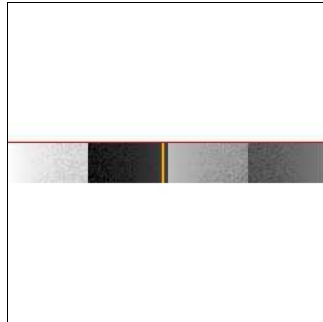
### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias

Chip 7



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	5069.1996978521	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime7	5069.1996978521	Sum of GTIs [s]
date	2014-12-10T16:35:23	Date and time of file creation	l1events	42524	Number of level 1 events
revision	2	Processing version of data			

### 2.1.4 Events

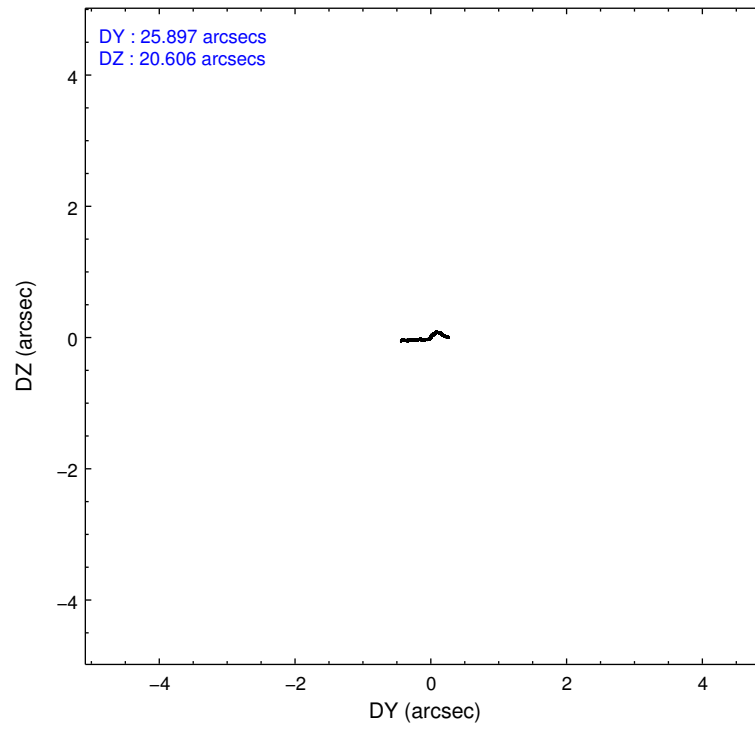
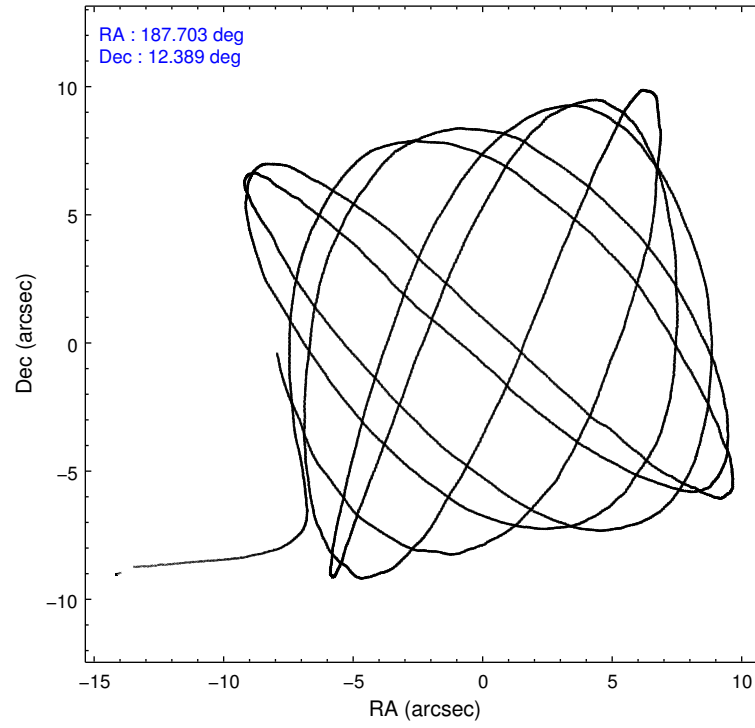
	<b>ccd 7</b>
level 1 events	42524
rejected events	2582
rejected %	6%

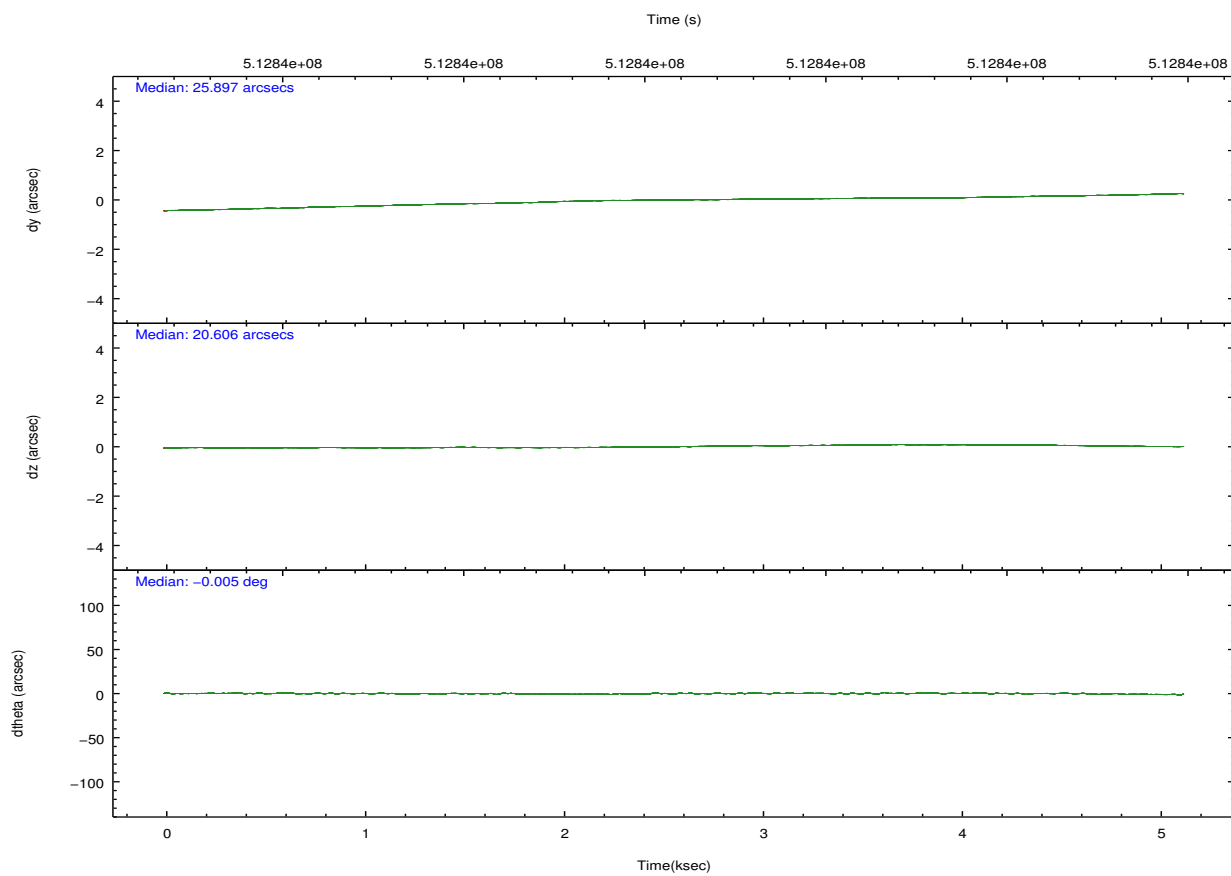
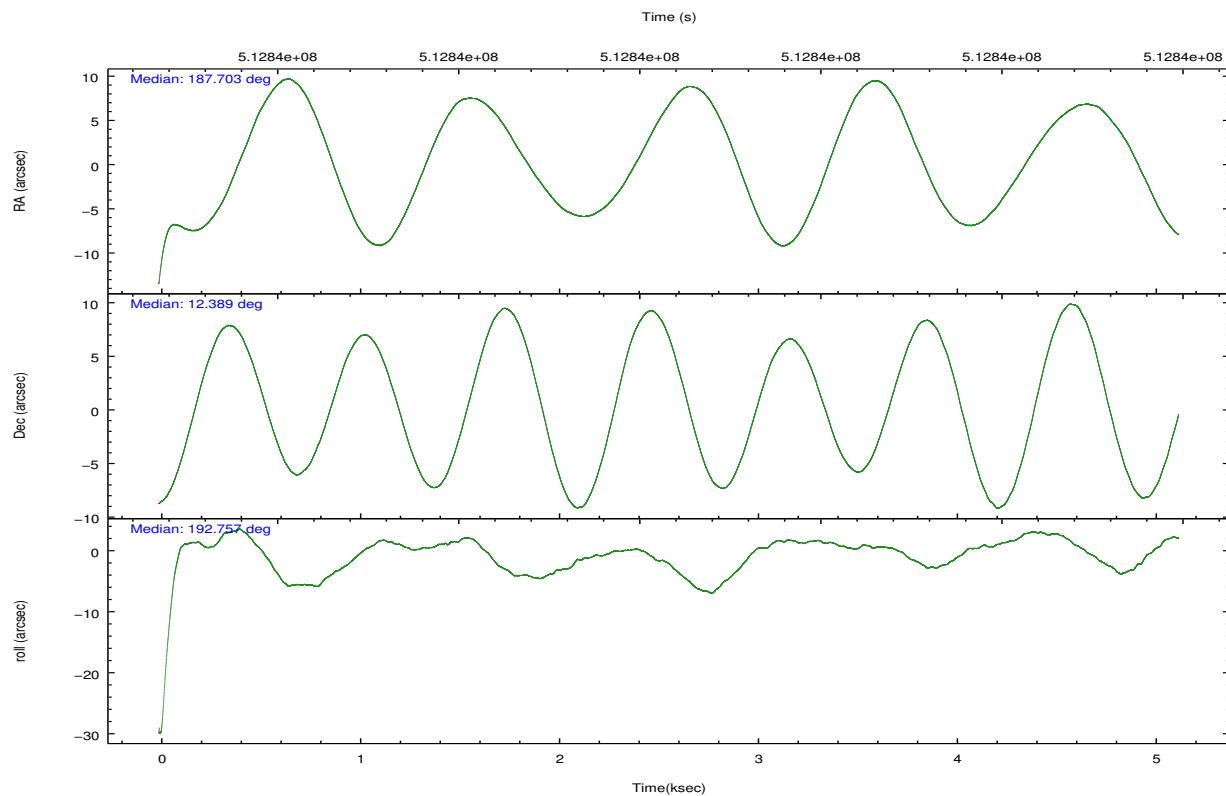
	<b>ccd 7</b>
grade 0 events	11780
	27%
grade 1 events	32
	0%
grade 2 events	10669
	25%
grade 3 events	4791
	11%
grade 4 events	4528
	10%
grade 5 events	698
	1%
grade 6 events	8184
	19%
grade 7 events	1842
	4%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-7	ACIS-7	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	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	187.723416	187.703071826317	Subarray requested	CUSTOM	1/8
[deg] Pointing Dec	12.407657	12.38873775723231	Subarray start row	449	449
[deg] Pointing Roll	192.604874	192.7657926303819	Subarray row count	128	128
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	0.4
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	512837713.184000	512836666.71713			
Observation start date	2014-04-02T14:54:06	2014-04-02T14:37:46			
[s] Observation end time (MET)	512842713.184000	512843329.2175			
Observation end date	2014-04-02T16:17:26	2014-04-02T16:28:49			
Read mode	TIMED	TIMED			

## 2.3 Aspect



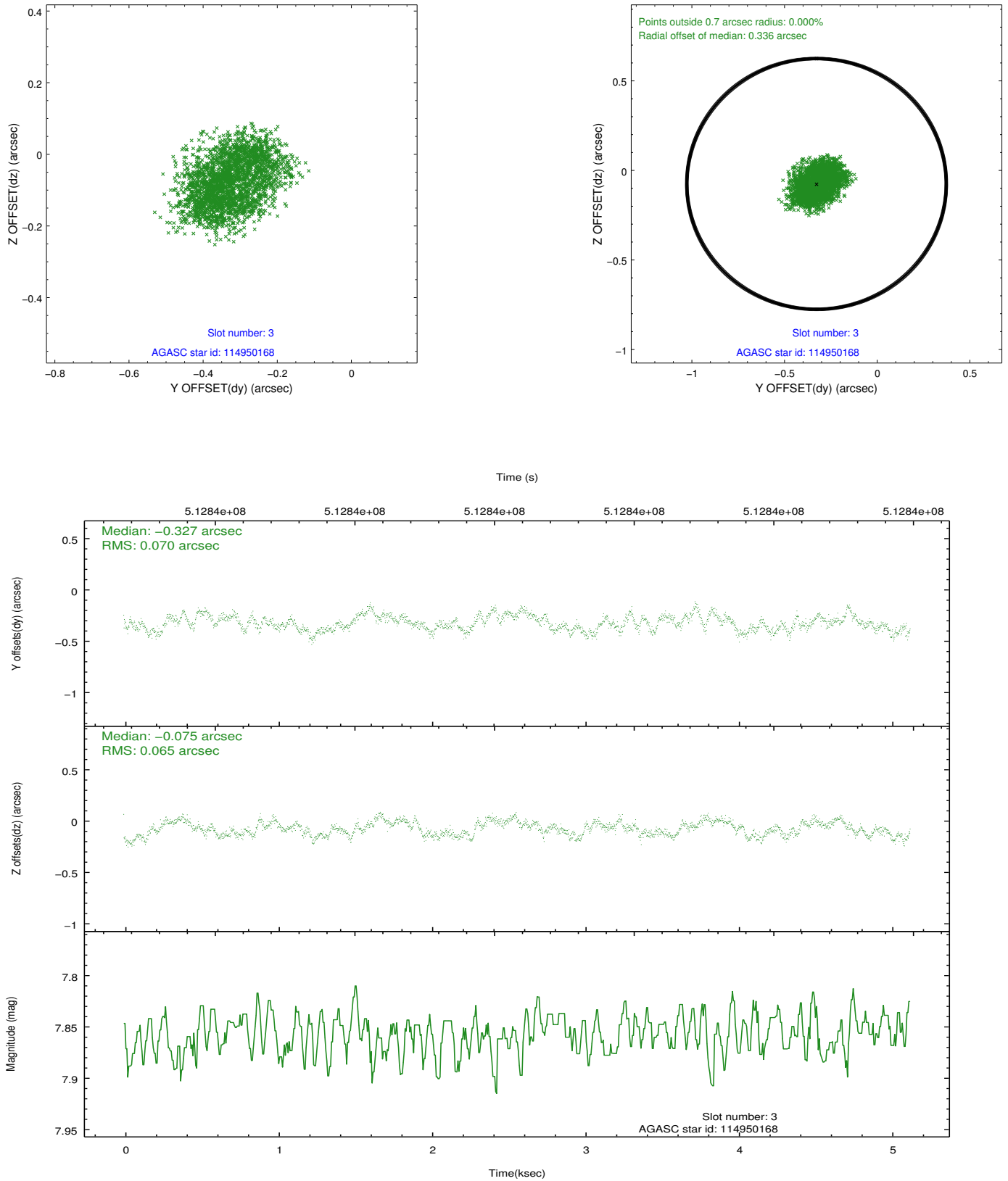


### Slot Statistics

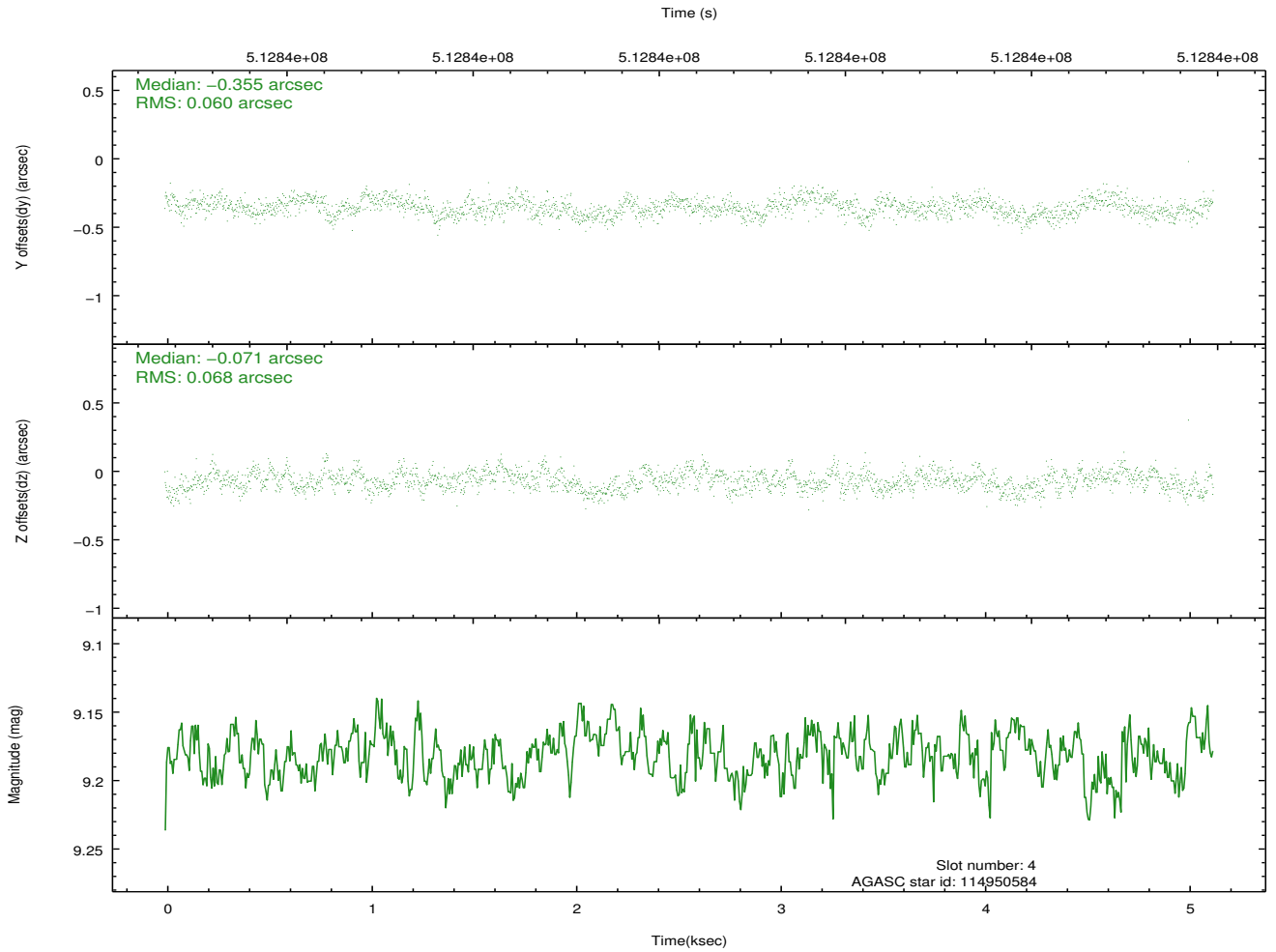
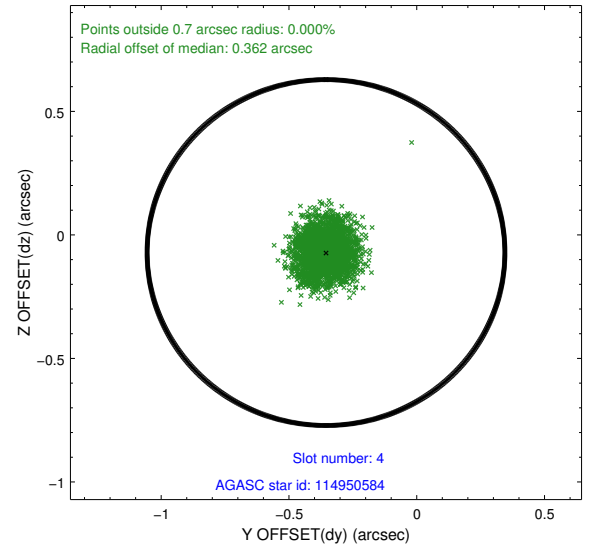
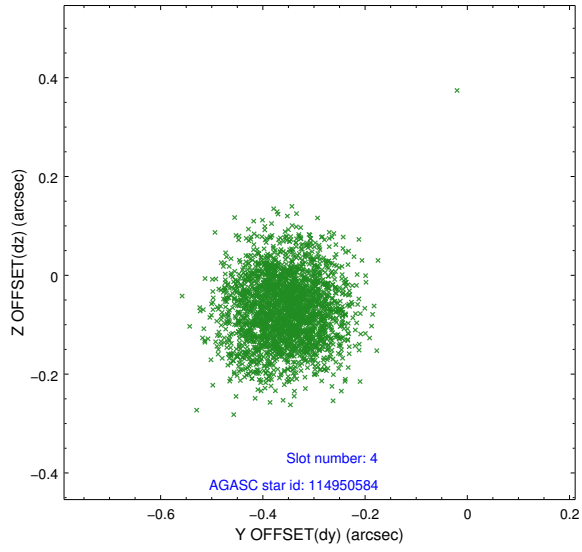
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.91	1251	-0.188	-0.001	0.007	0.011	0.000000	0.000000	-779.27	-1742.15
1	FID		ACIS-S-4	7.00	1251	0.357	0.091	0.006	0.010	0.000000	0.000000	2133.97	165.23
2	FID		ACIS-S-5	7.03	1251	-0.201	-0.081	0.007	0.012	0.000000	0.000000	-1830.65	160.02
3	GUIDE	used	114950168	7.86	2502	-0.327	-0.075	0.104	0.156	187.143398	12.117441	2219.47	572.17
4	GUIDE	used	114950584	9.18	2496	-0.355	-0.071	0.096	0.153	187.487323	11.827248	1268.51	1857.25
5	GUIDE	used	114952792	9.49	2499	-0.081	0.207	0.130	0.208	187.070263	12.344747	2292.31	-281.69
6	GUIDE	used	114955056	8.34	2501	0.722	0.027	0.097	0.150	187.914001	12.127854	-433.22	1128.60
7	GUIDE	used	114956608	9.58	2498	0.049	-0.070	0.189	0.309	187.452443	11.725979	1468.39	2186.50

## 2.4 Star Slots

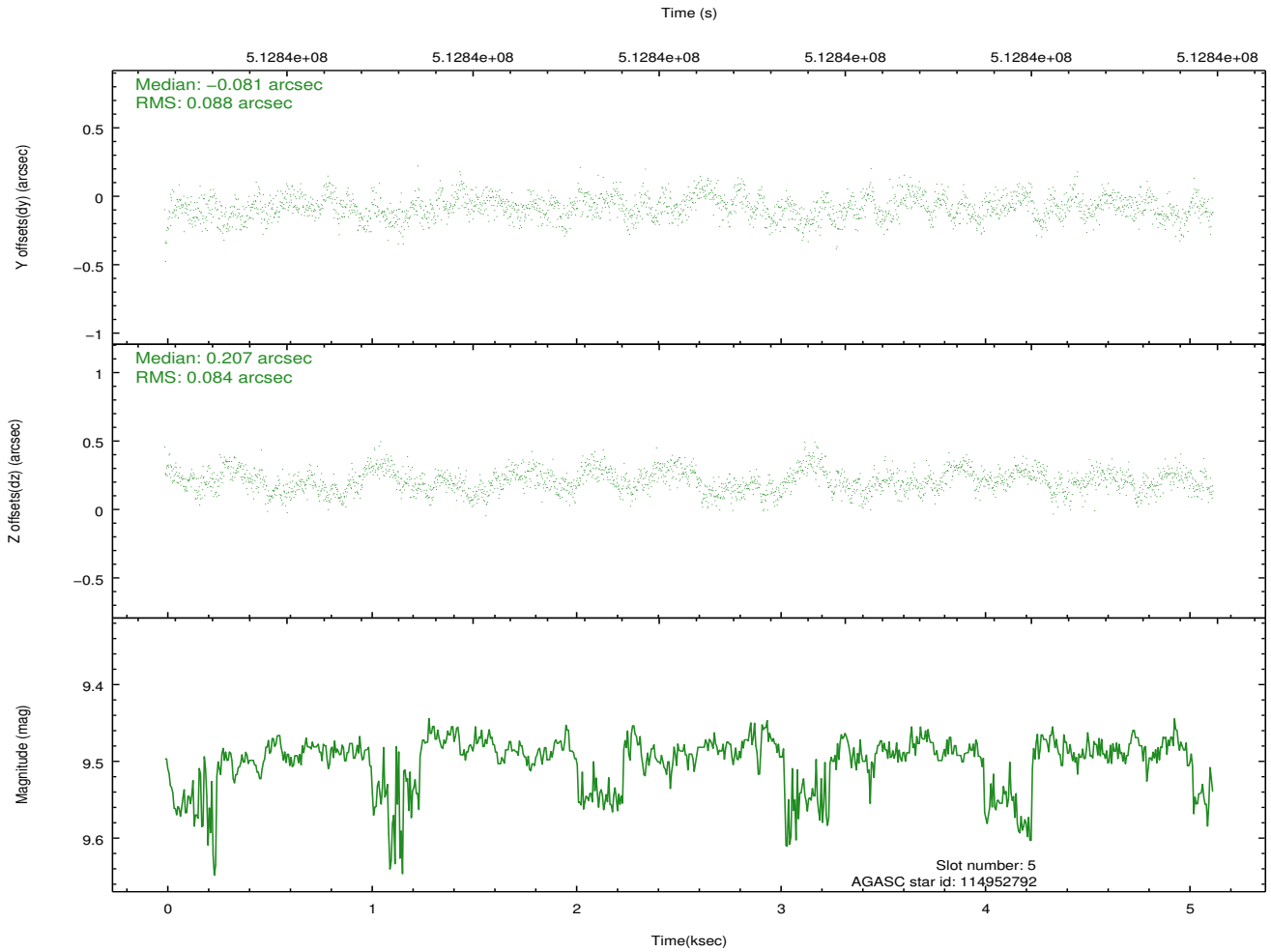
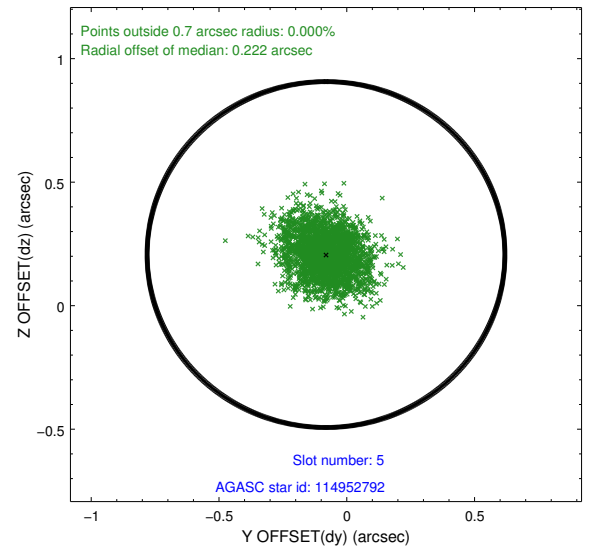
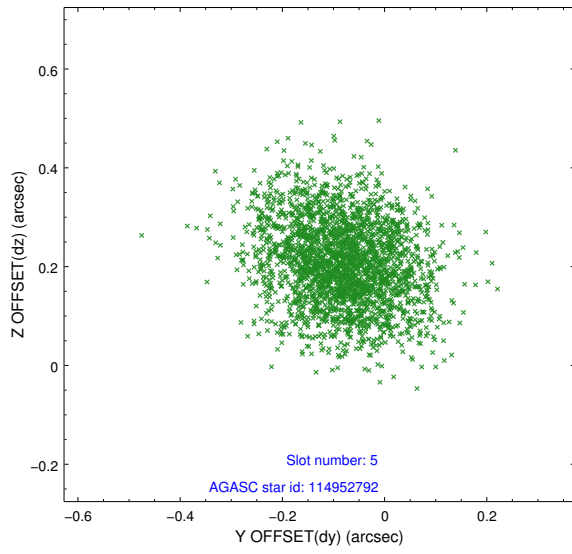
### 2.4.1 Slot 3



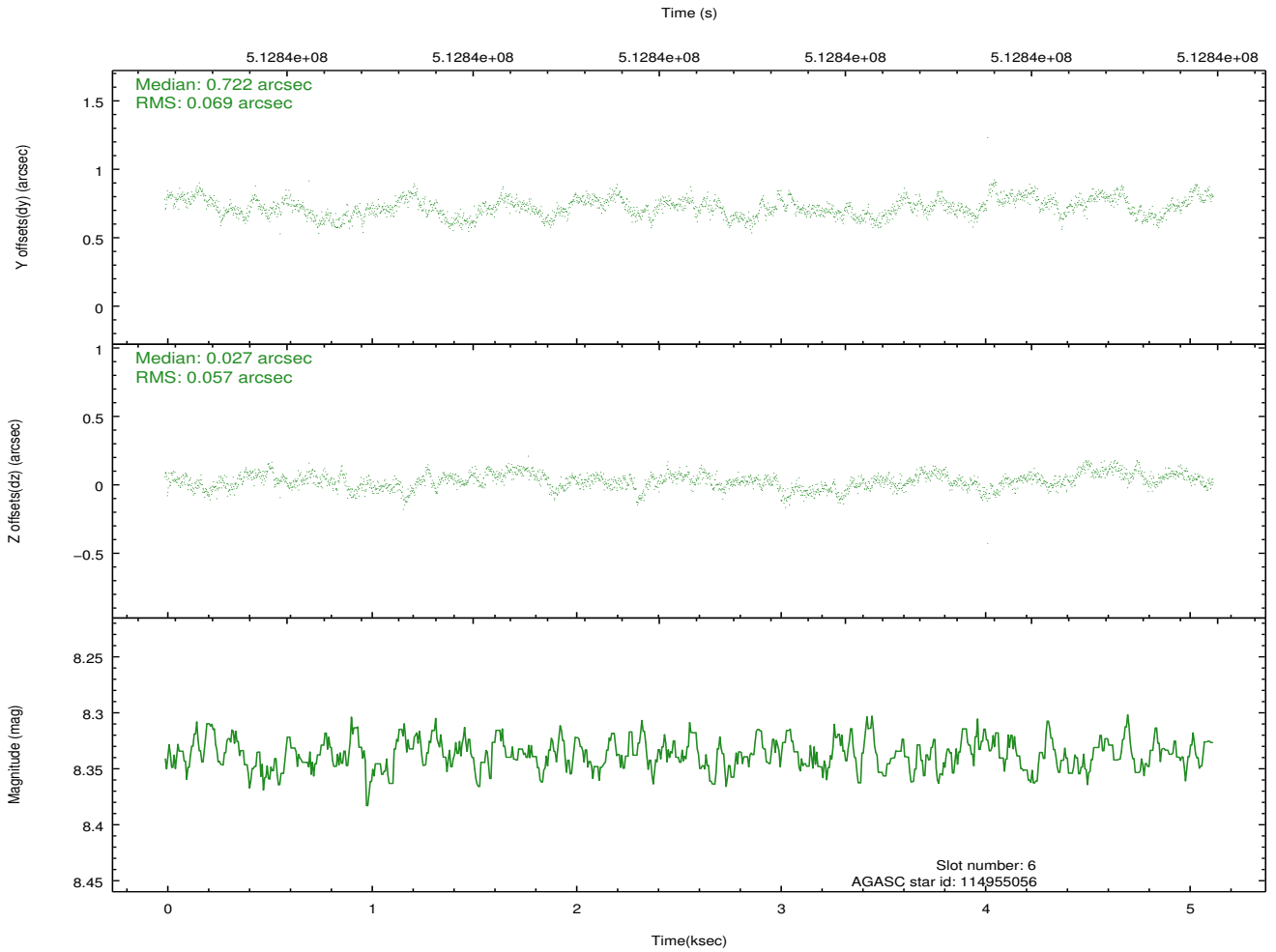
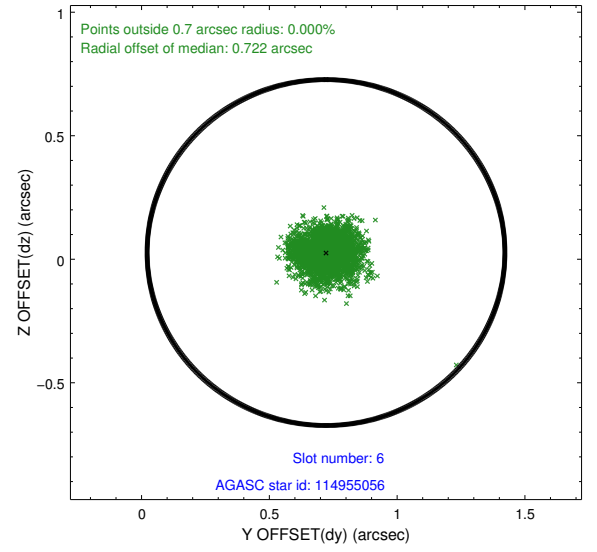
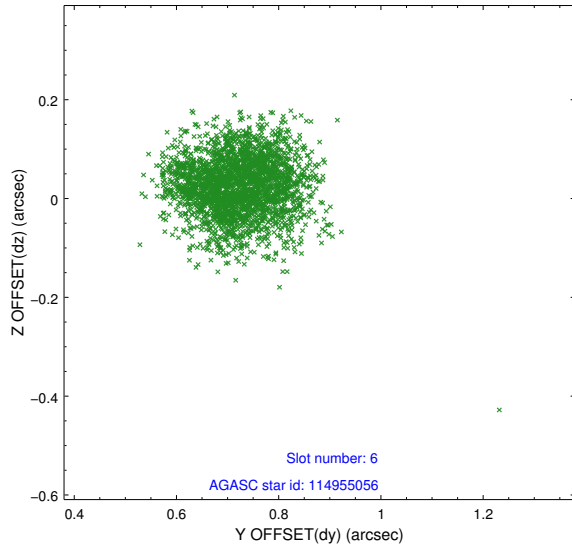
## 2.4.2 Slot 4



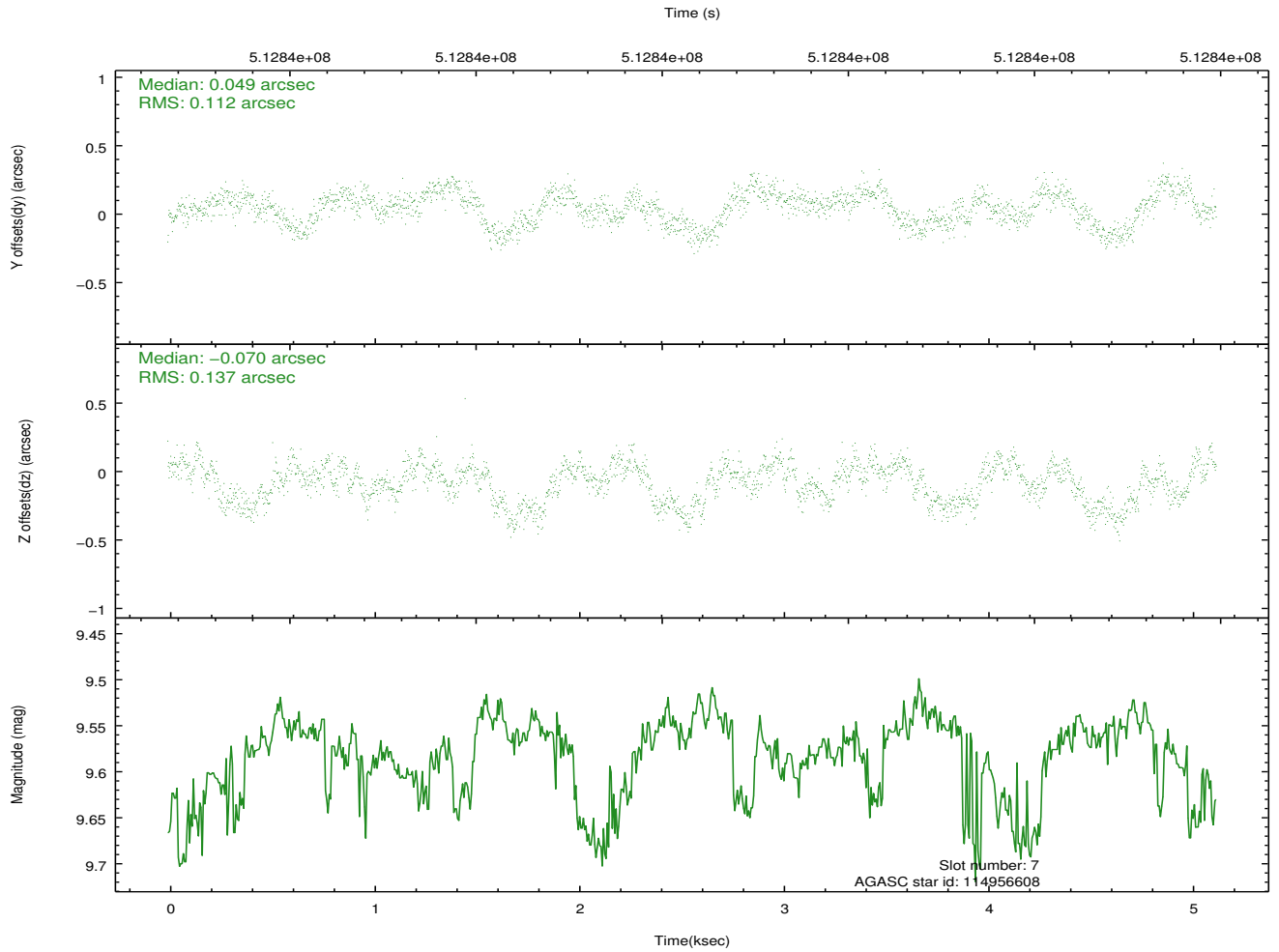
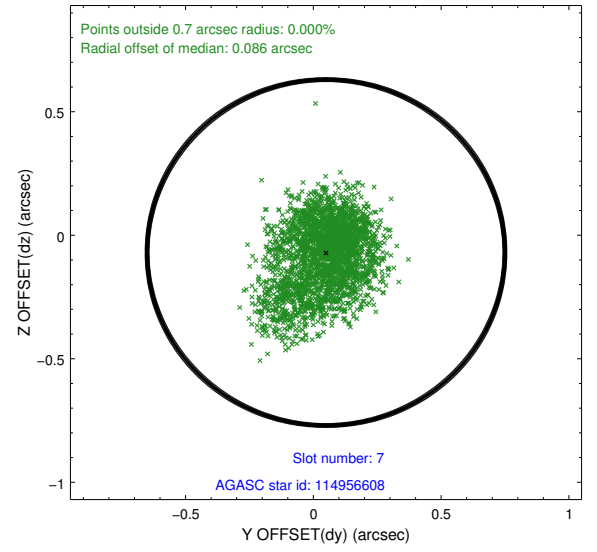
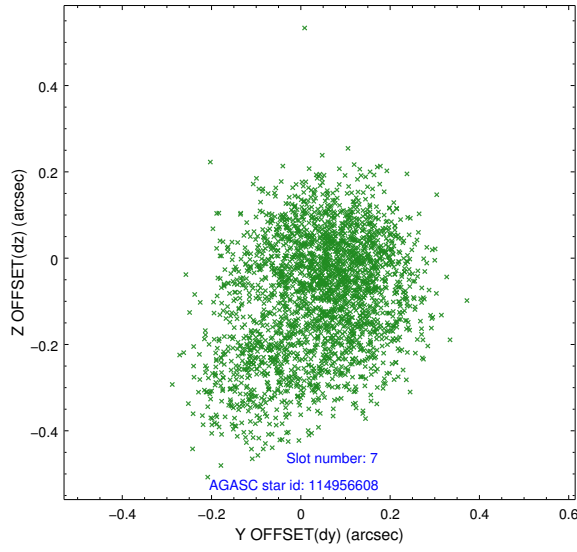
### 2.4.3 Slot 5



## 2.4.4 Slot 6

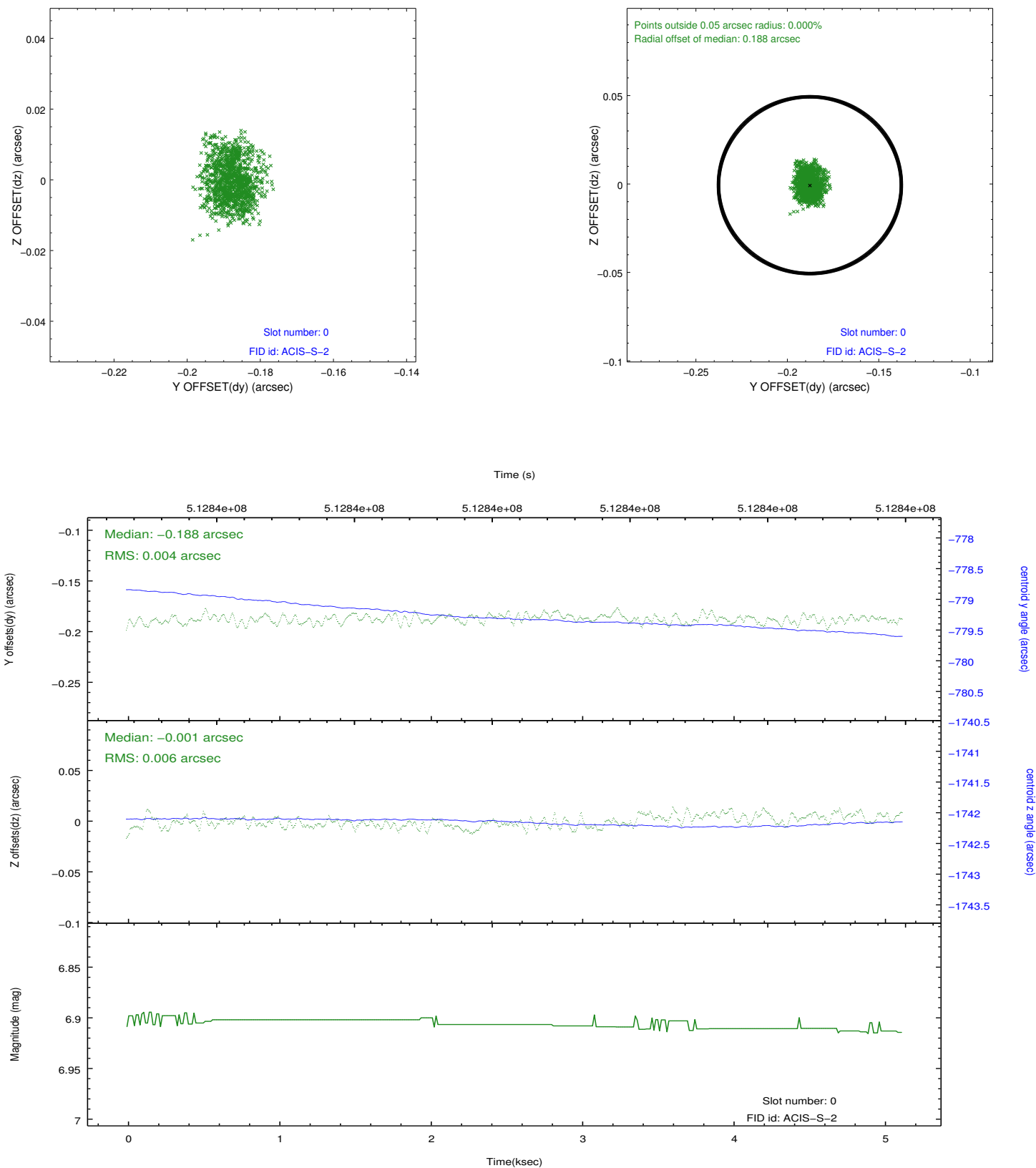


## 2.4.5 Slot 7

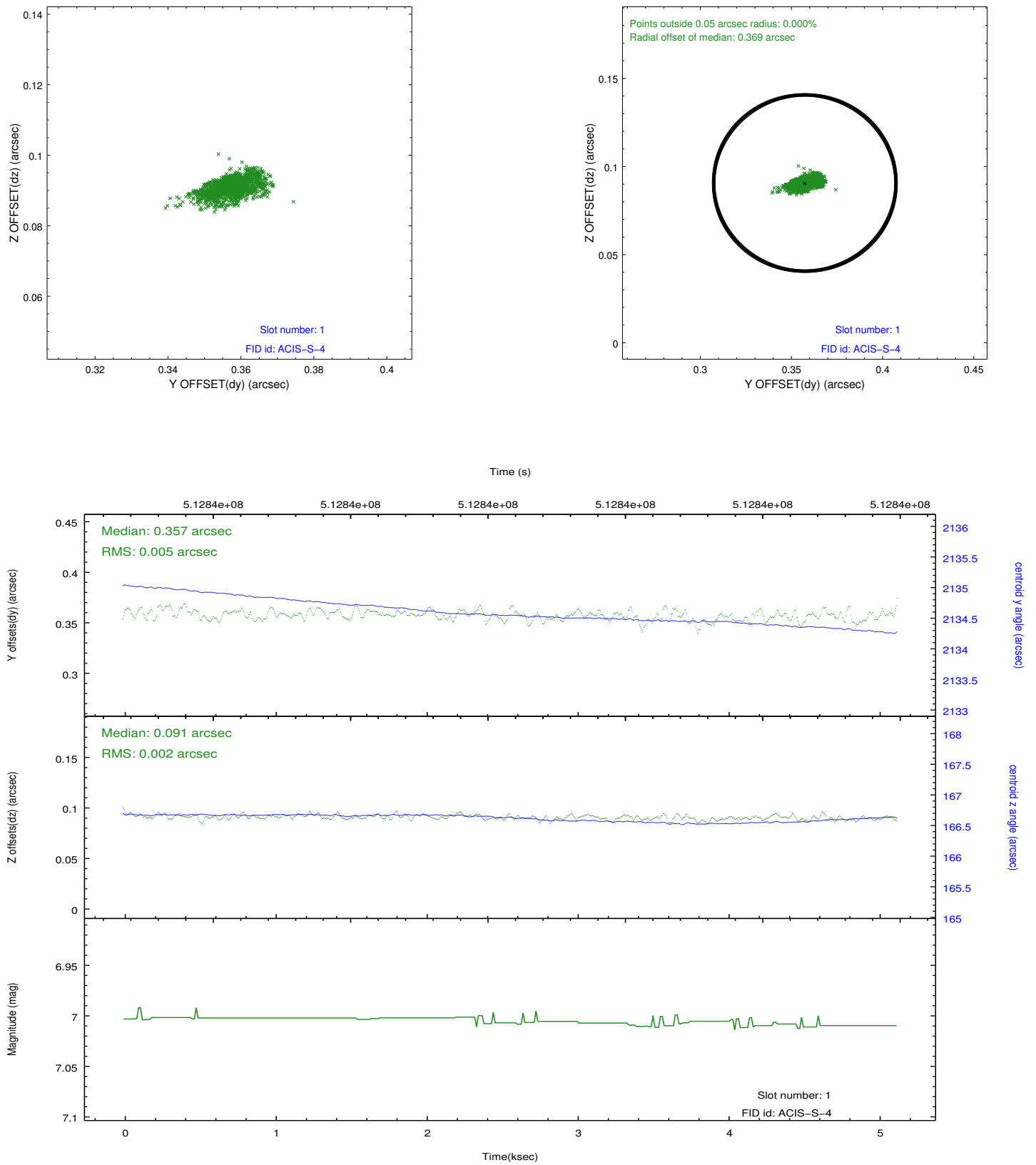


## 2.5 FID Slots

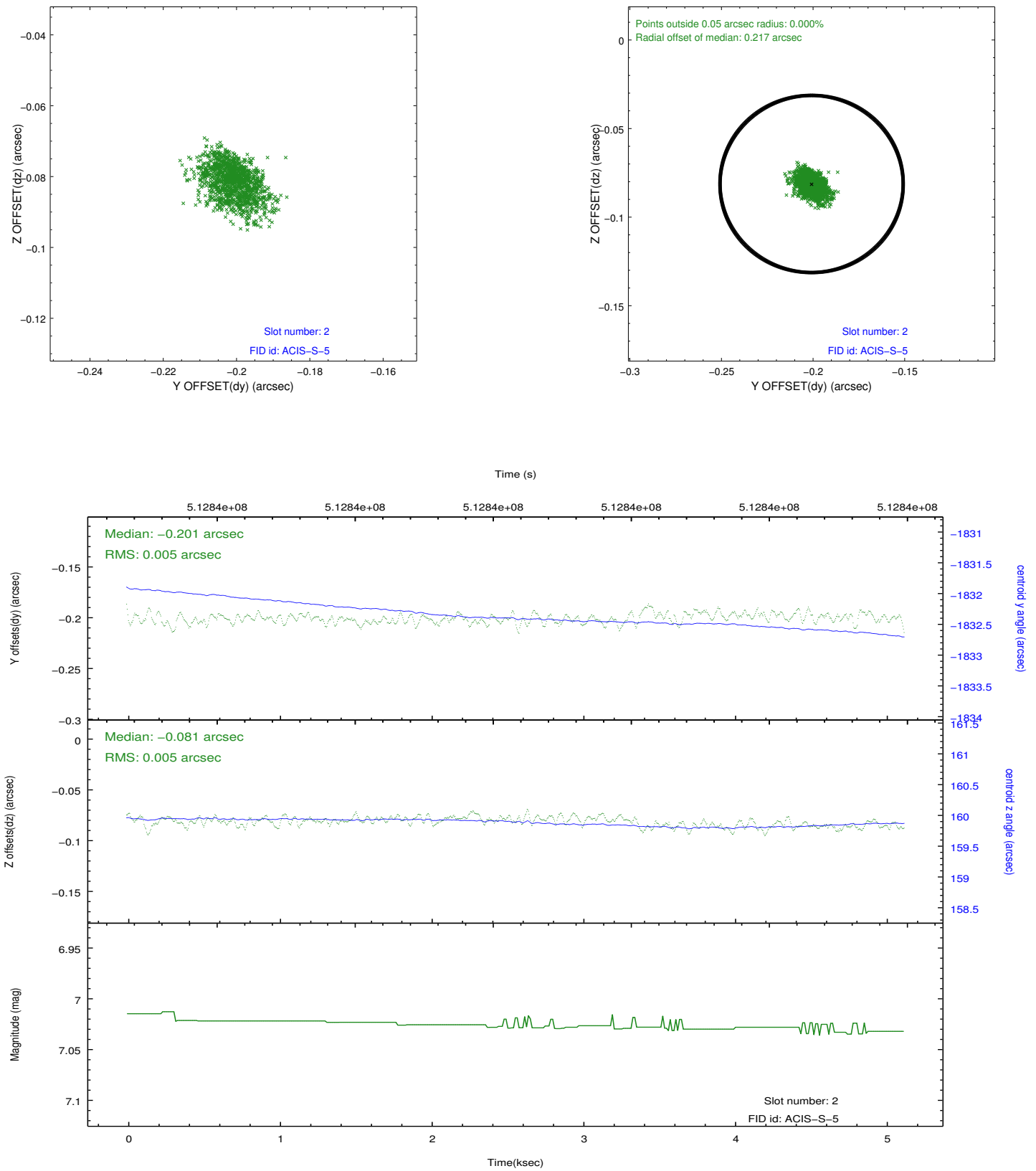
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2014.12.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0691996978521

## A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.