

# V&V Reference Report

## L2 ASCDS Version : 10.1.1

Observation 16350 - L2 Version 3  
Chandra X-Ray Center

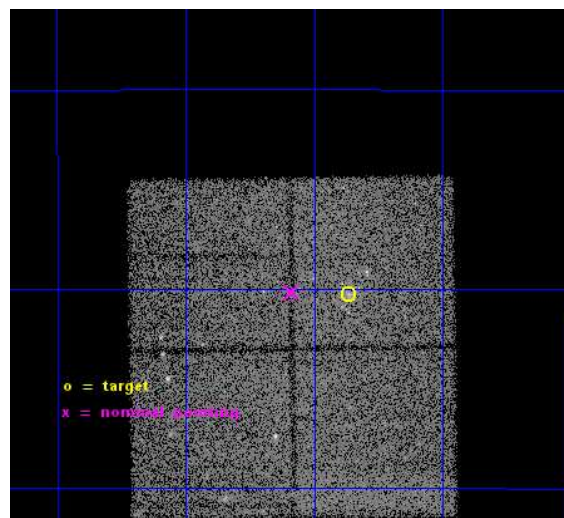
L2 Processing Date : Dec 8 2014

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# 1 Front

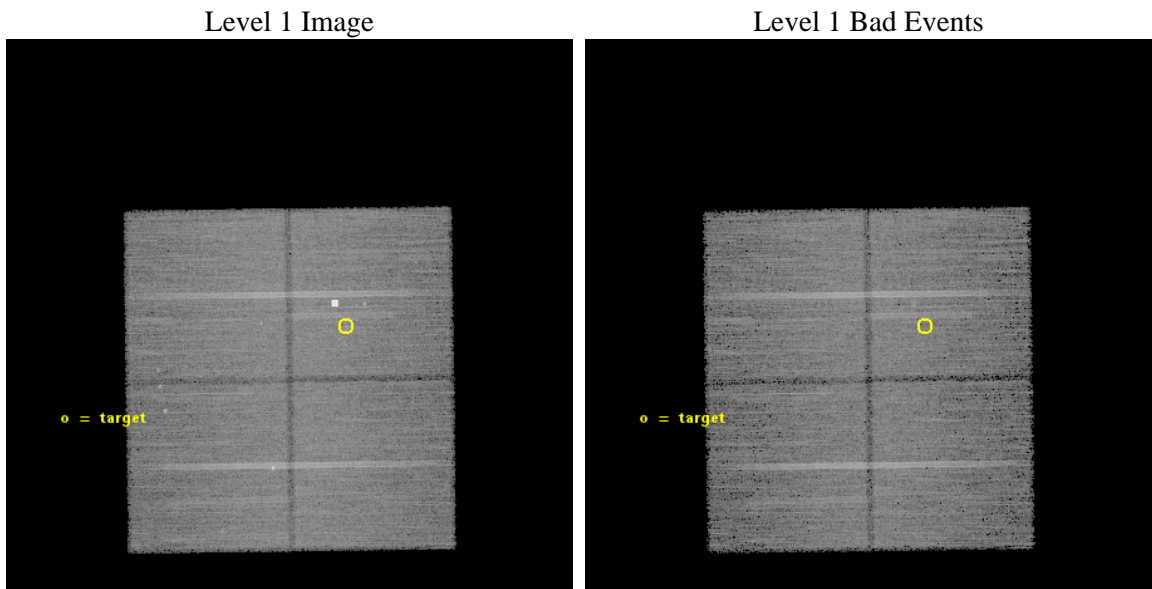
seq_num	601150	Sequence number
obs_id	16350	Observation id
title	Searching for evidence of dwarf galaxy collisions with large spiral galaxies through X-ray emission	Proposal title
observer	Professor Gordon Garmire	Principal investigator
object	NGC1398	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	54.717083	Observer's specified target RA [deg]
dec_targ	-26.337778	Observer's specified target Dec [deg]
ra_nom	54.772214278474	Nominal RA [deg]
dec_nom	-26.336194086211	Nominal Dec [deg]
roll_nom	359.24474398875	Nominal Roll [deg]
revision	3	Processing version of data
ontime	49323.426366031	Sum of GTIs [s]
livetime	48678.979489181	Livetime [s]
ontime0	49323.30324614	Sum of GTIs [s]
ontime1	49323.344296038	Sum of GTIs [s]
ontime2	49326.526366413	Sum of GTIs [s]
ontime3	49323.426366031	Sum of GTIs [s]
l2events	97296	Number of level 2 events



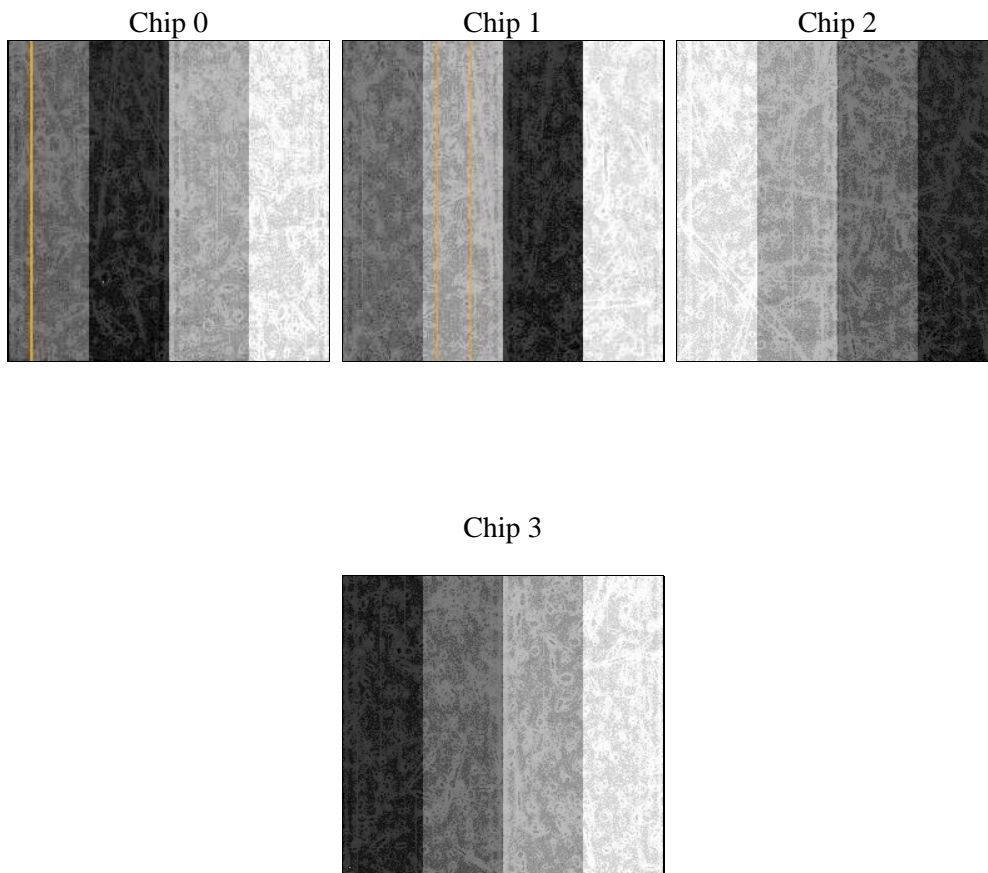
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	49234.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	49323.426366031	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	49323.30324614	Sum of GTIs [s]
date	2014-12-08T17:47:22	Date and time of file creation	ontime1	49323.344296038	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	49326.526366413	Sum of GTIs [s]
			ontime3	49323.426366031	Sum of GTIs [s]
			l1events	910100	Number of level 1 events

### 2.1.4 Events

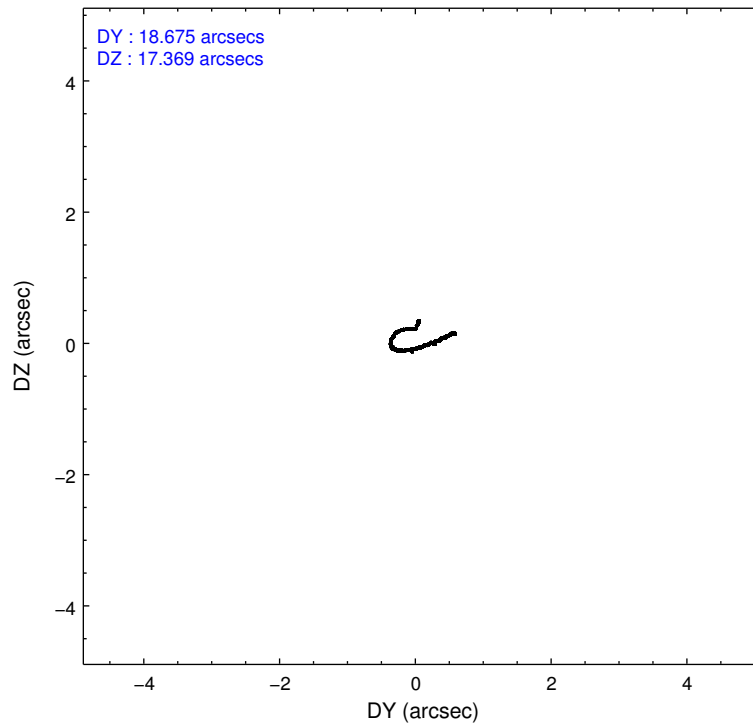
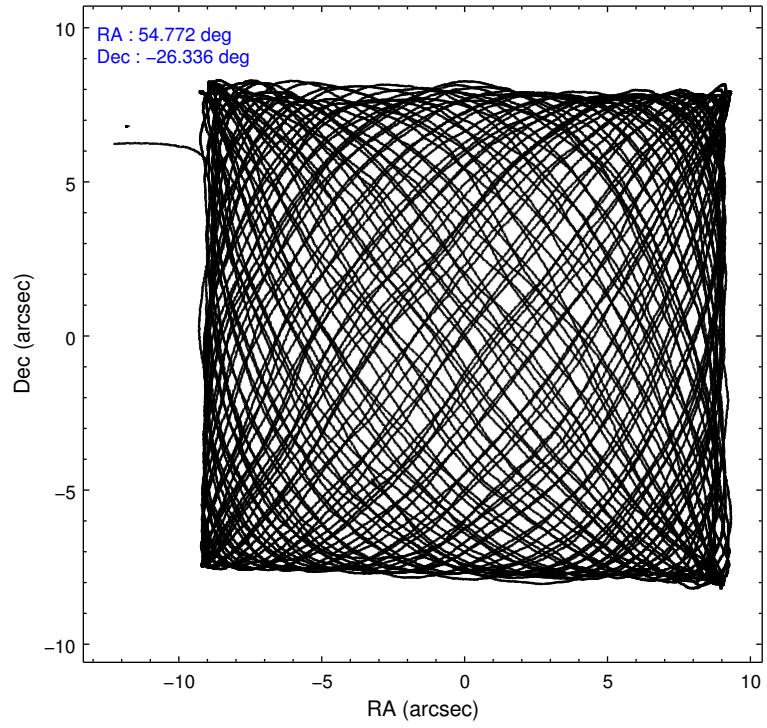
	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	213819	216119	235726	244436
rejected events	184357	185431	208241	203443
rejected %	86%	85%	88%	83%

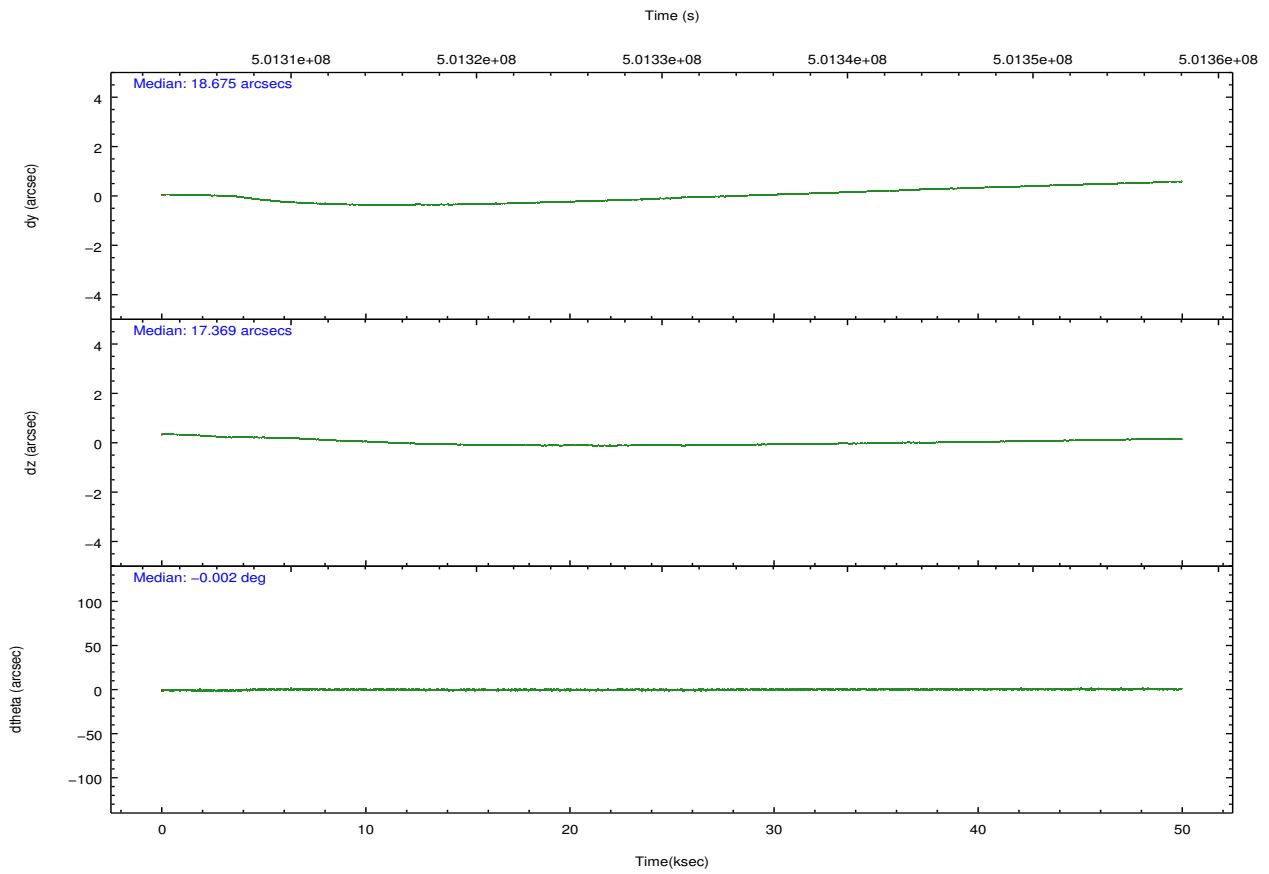
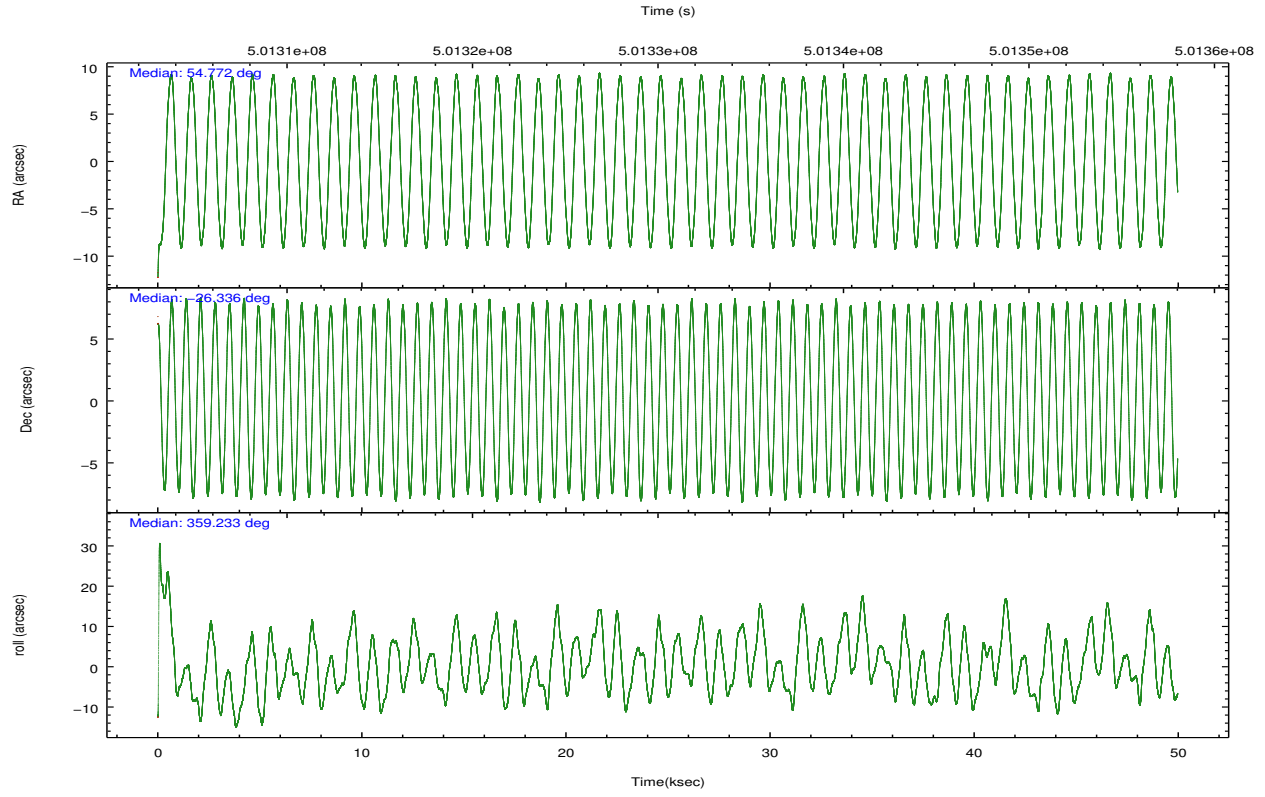
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	10843	10376	9804	23395
	5%	4%	4%	9%
grade 1 events	128	125	124	187
	0%	0%	0%	0%
grade 2 events	7089	7500	6619	6096
	3%	3%	2%	2%
grade 3 events	2932	3062	2840	2926
	1%	1%	1%	1%
grade 4 events	2826	2940	2846	2900
	1%	1%	1%	1%
grade 5 events	11127	11973	10604	12966
	5%	5%	4%	5%
grade 6 events	5774	6813	5378	5678
	2%	3%	2%	2%
grade 7 events	173100	173330	197511	190288
	80%	80%	83%	77%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-0123	ACIS-0123	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	54.745506	54.77221427847358	Subarray requested	NONE	NONE
[deg] Pointing Dec	-26.349717	-26.33619408621128	Alternating exposures requested	N	N
[deg] Pointing Roll	359.024221	359.2447439887508	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-227.592463	-227.5933067819097			
[mm] SIM translation stage offset	-6	-5.999146221020027			
[s] Observation start time (MET)	501306275.184000	501305020.4331			
Observation start date	2013-11-20T03:43:28	2013-11-20T03:23:40			
[s] Observation end time (MET)	501355509.184000	501356429.31092			
Observation end date	2013-11-20T17:24:02	2013-11-20T17:40:29			
Read mode	TIMED	TIMED			

## 2.3 Aspect





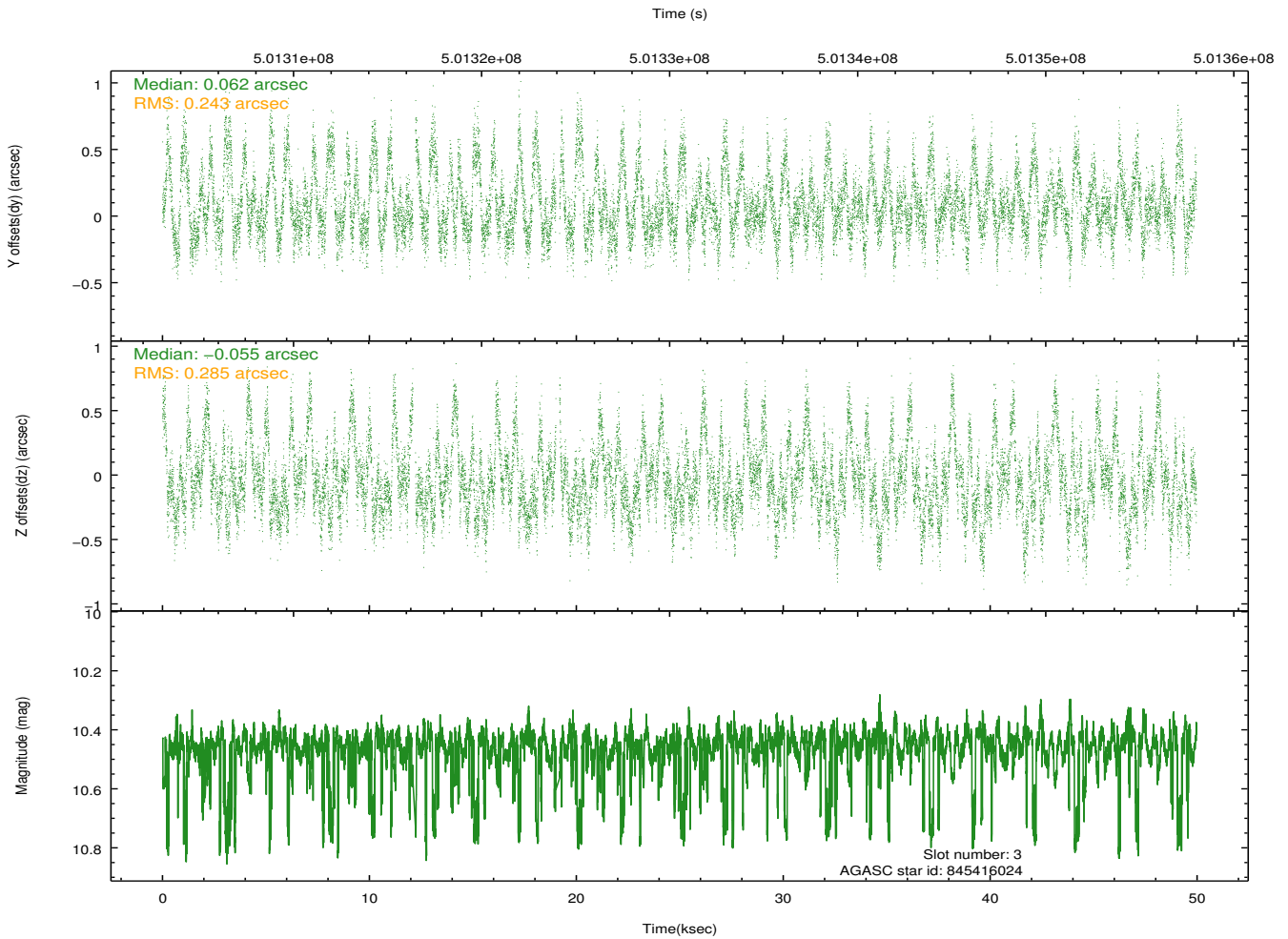
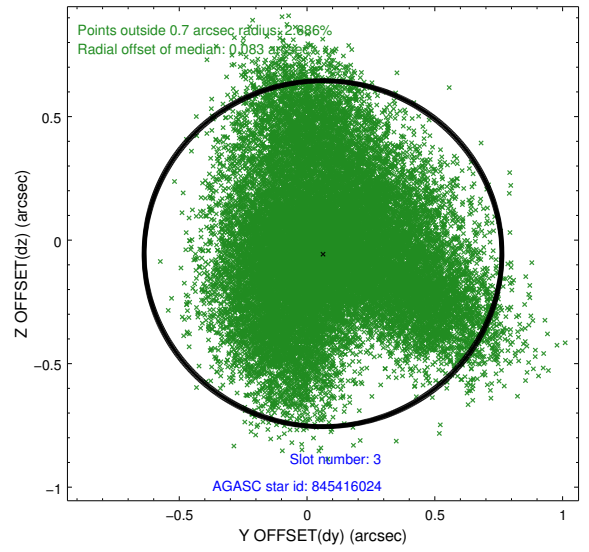
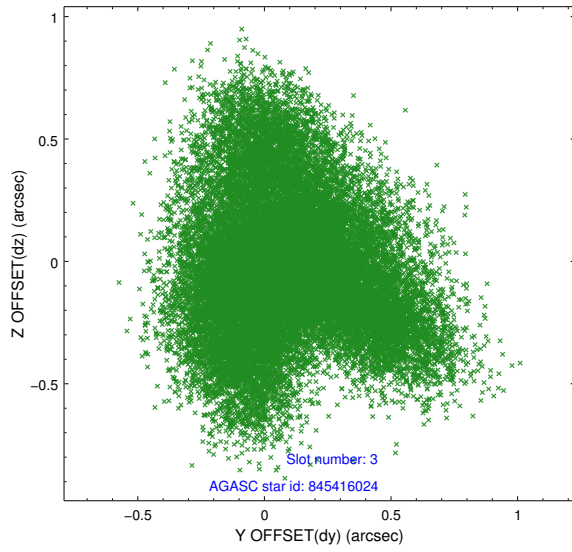
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.14	12187	0.120	-0.106	0.008	0.013	0.000000	0.000000	920.68	-964.29
1	FID		ACIS-I-5	7.13	12187	-0.313	0.084	0.008	0.014	0.000000	0.000000	-1827.88	933.38
2	FID		ACIS-I-6	7.14	12186	0.101	0.092	0.008	0.013	0.000000	0.000000	386.21	1577.88
3	GUIDE	used	845416024	10.45	23307	0.062	-0.055	0.408	0.646	55.071312	-26.915016	1081.54	-2018.02
4	GUIDE	used	845417040	9.38	24360	-0.107	0.163	0.200	0.336	54.985949	-26.222354	768.99	471.41
5	GUIDE	used	845417648	10.18	24133	0.206	0.322	0.182	0.295	54.196601	-26.637654	-1747.58	-1070.25
6	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
7	GUIDE	used	845422048	9.99	24337	-0.189	-0.475	0.280	0.460	55.055626	-25.718234	966.87	2288.85

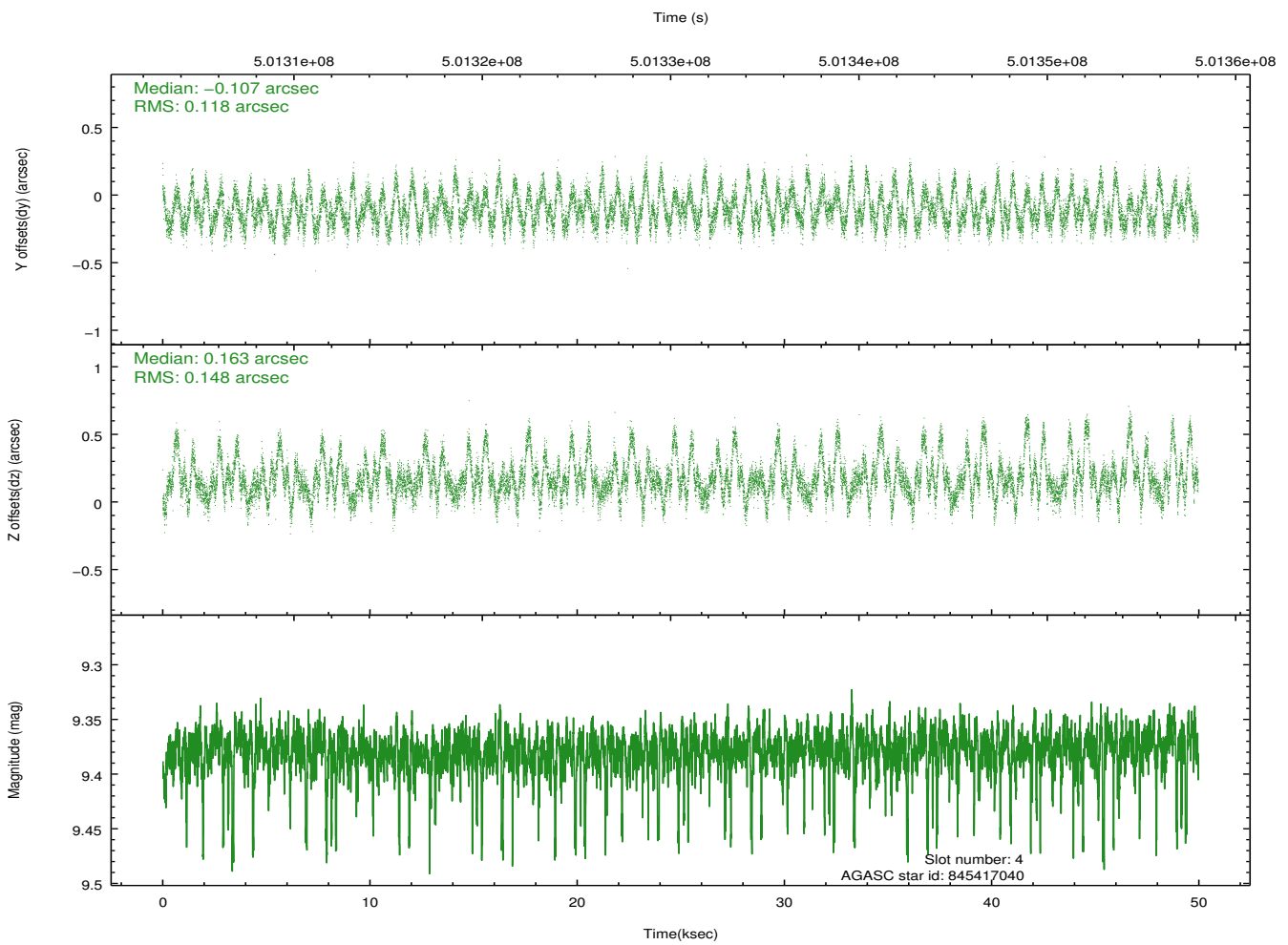
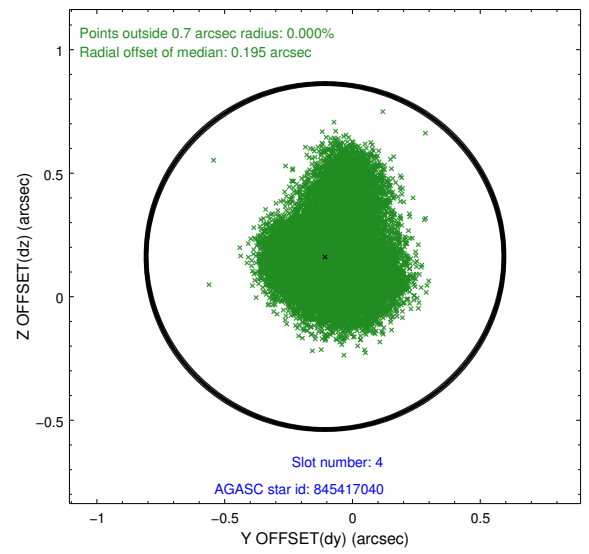
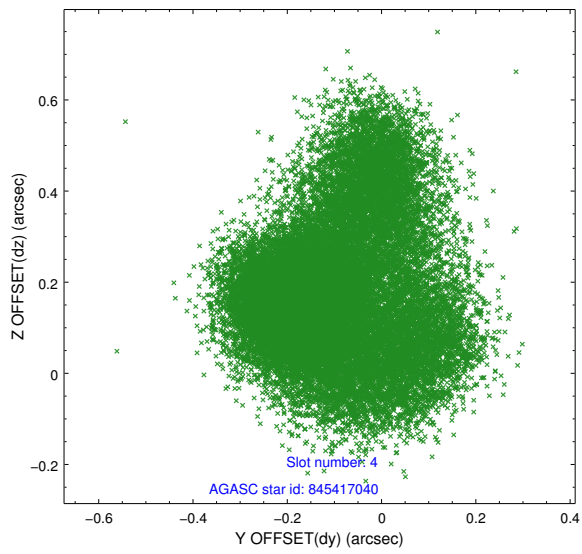
∞

## 2.4 Star Slots

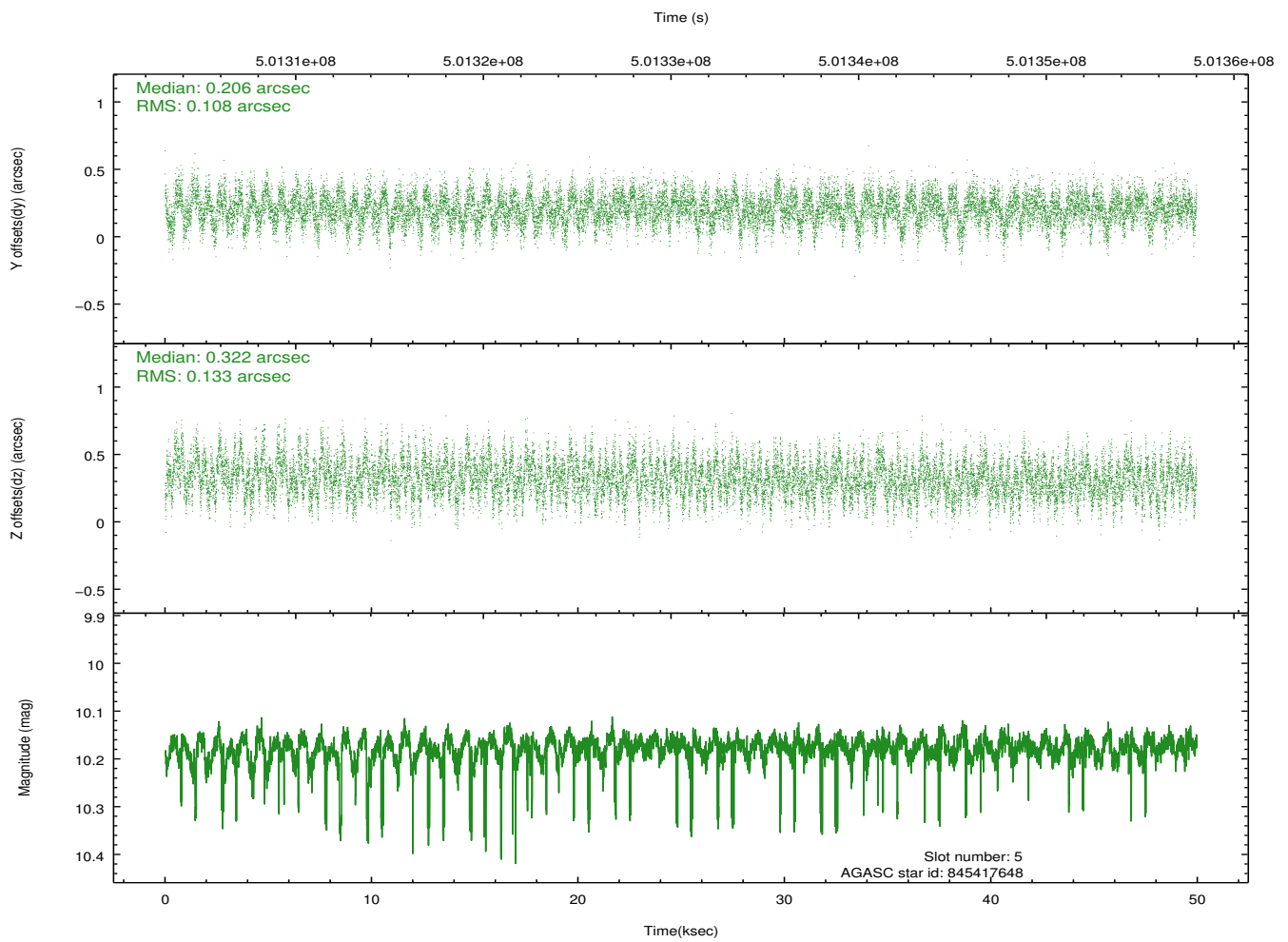
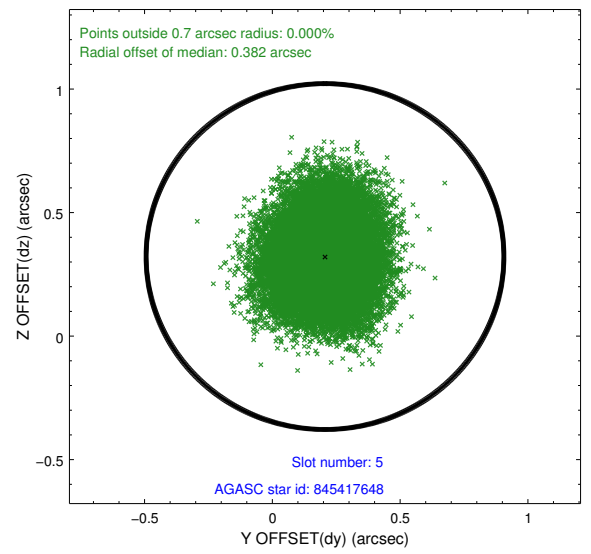
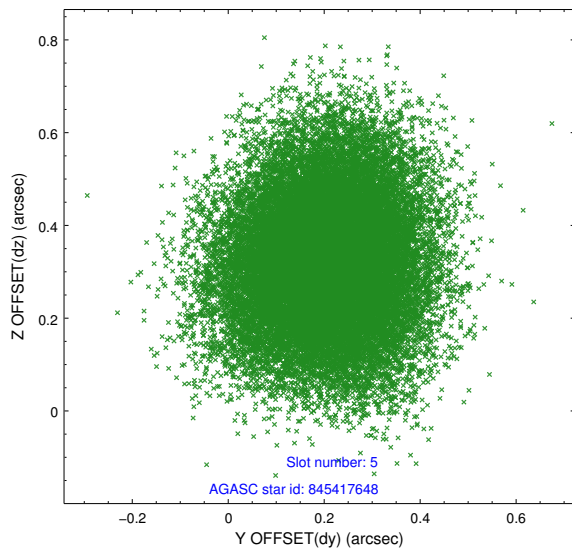
### 2.4.1 Slot 3



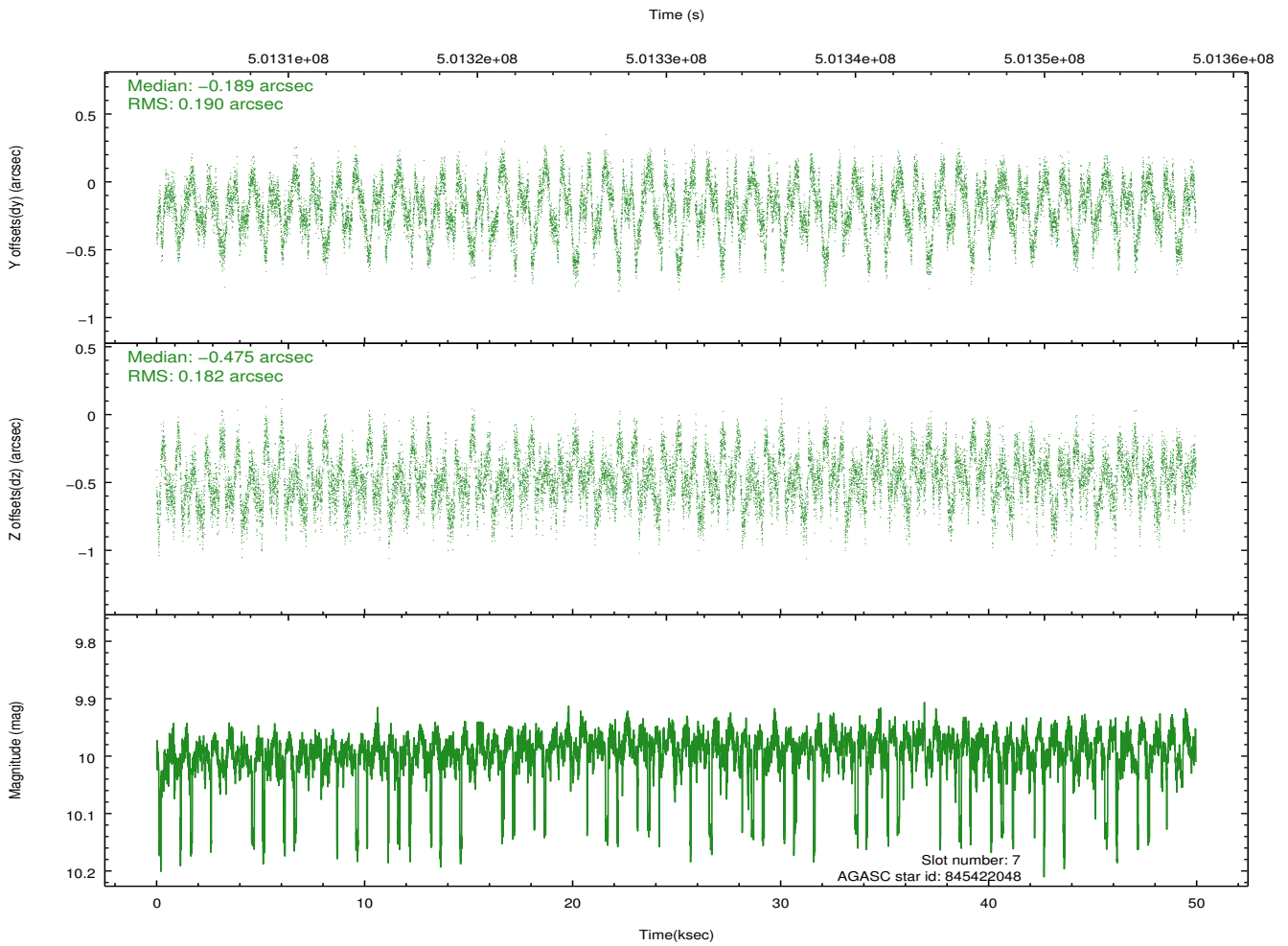
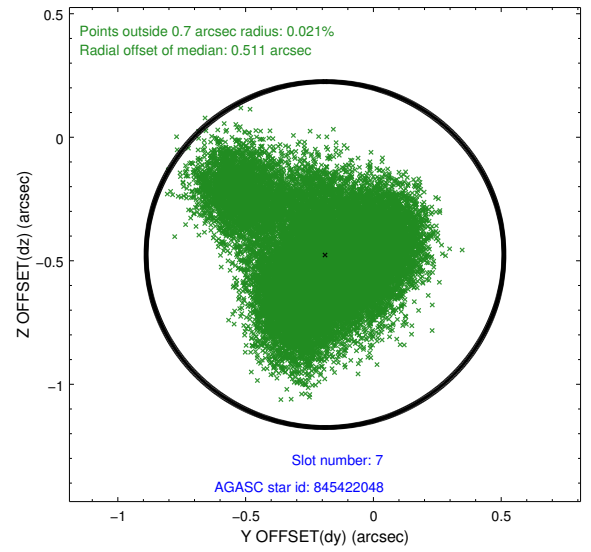
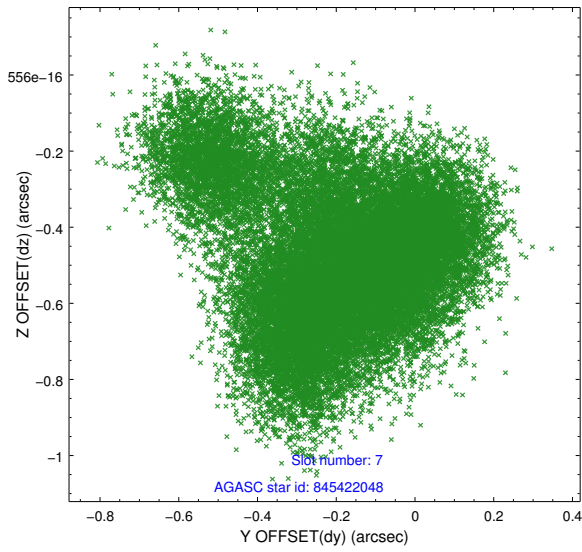
## 2.4.2 Slot 4



### 2.4.3 Slot 5

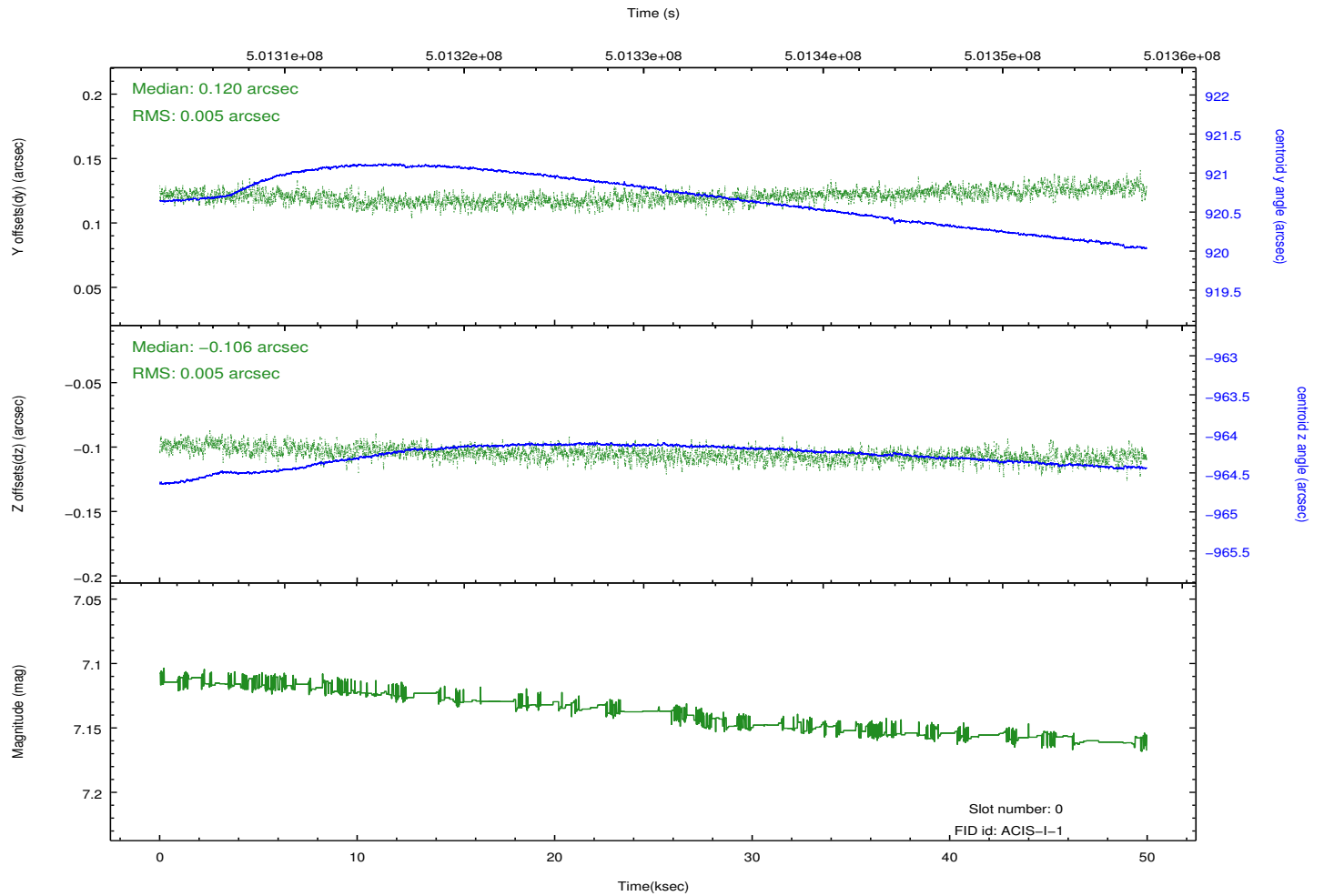
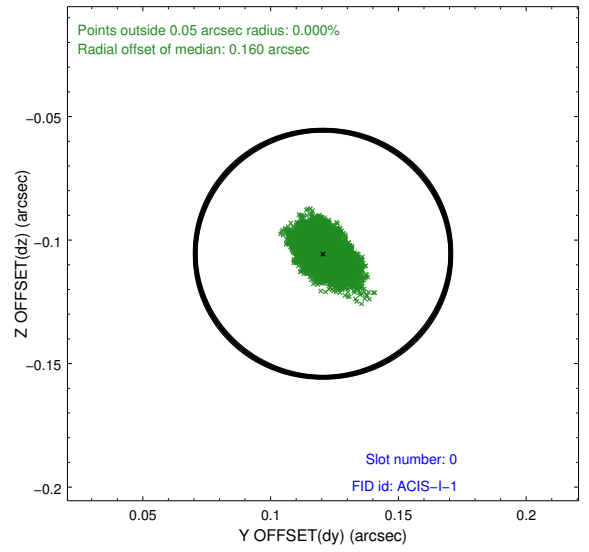
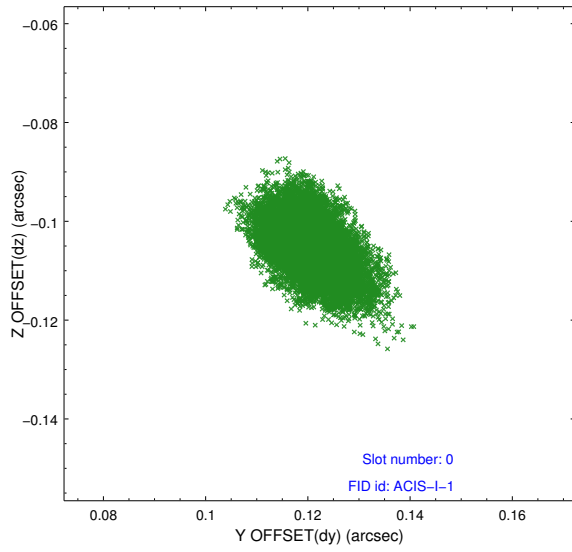


### 2.4.4 Slot 7

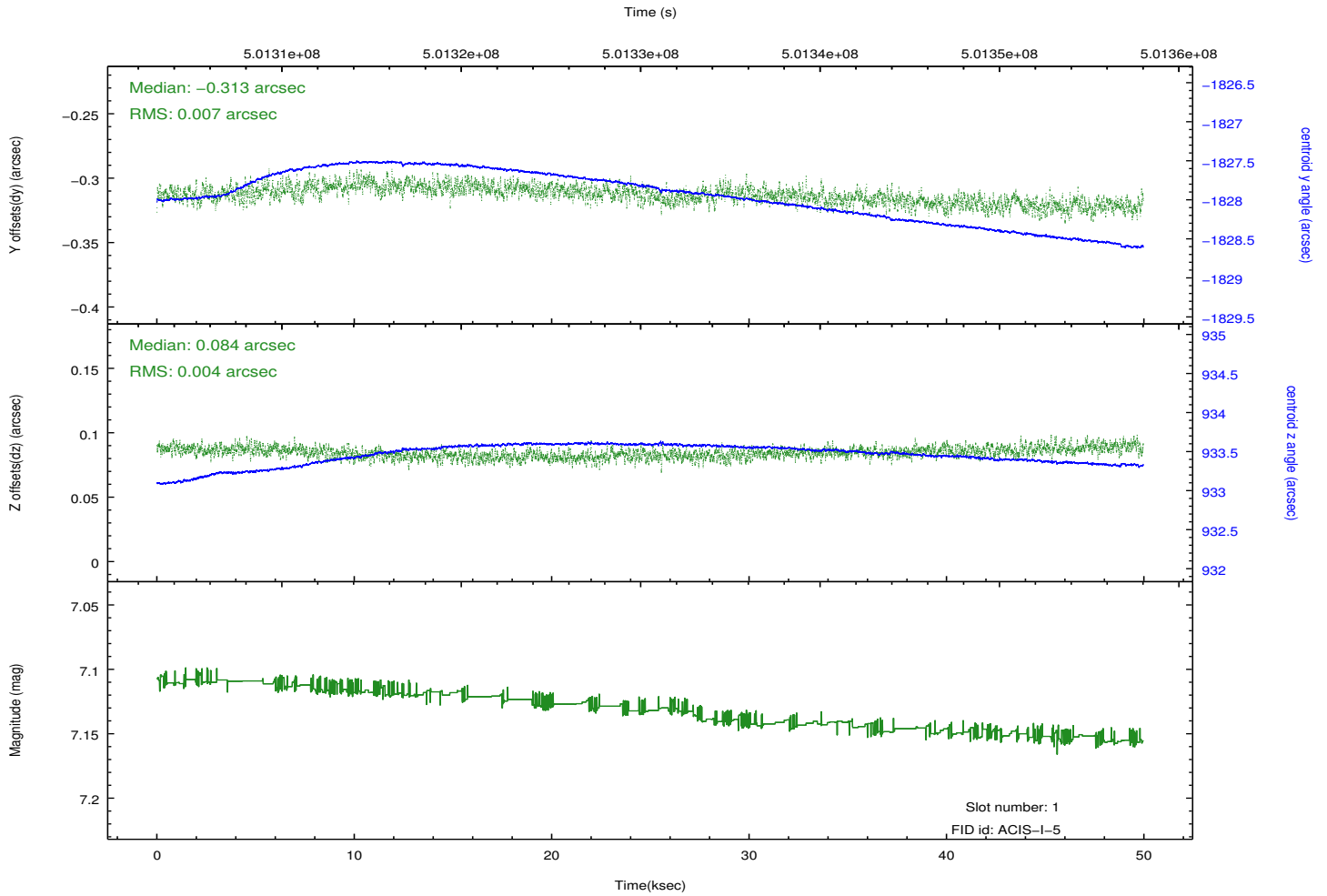
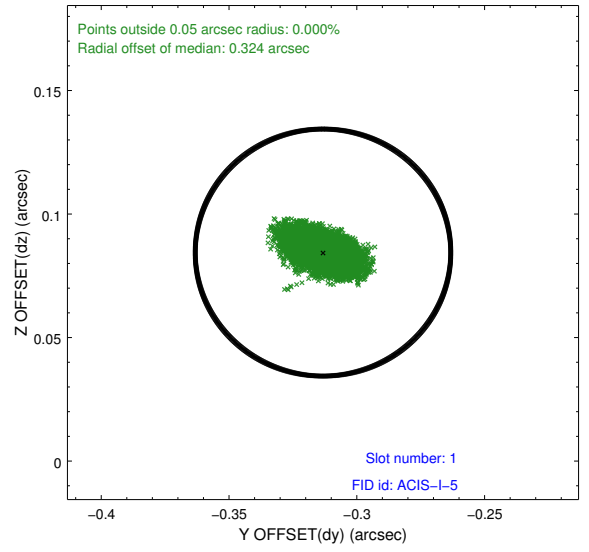
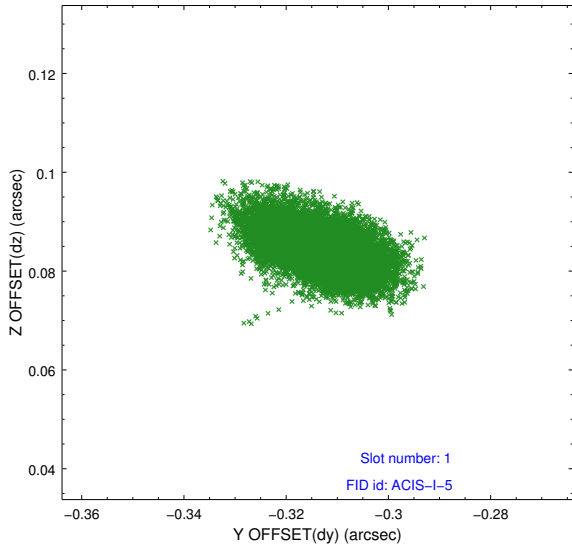


## 2.5 FID Slots

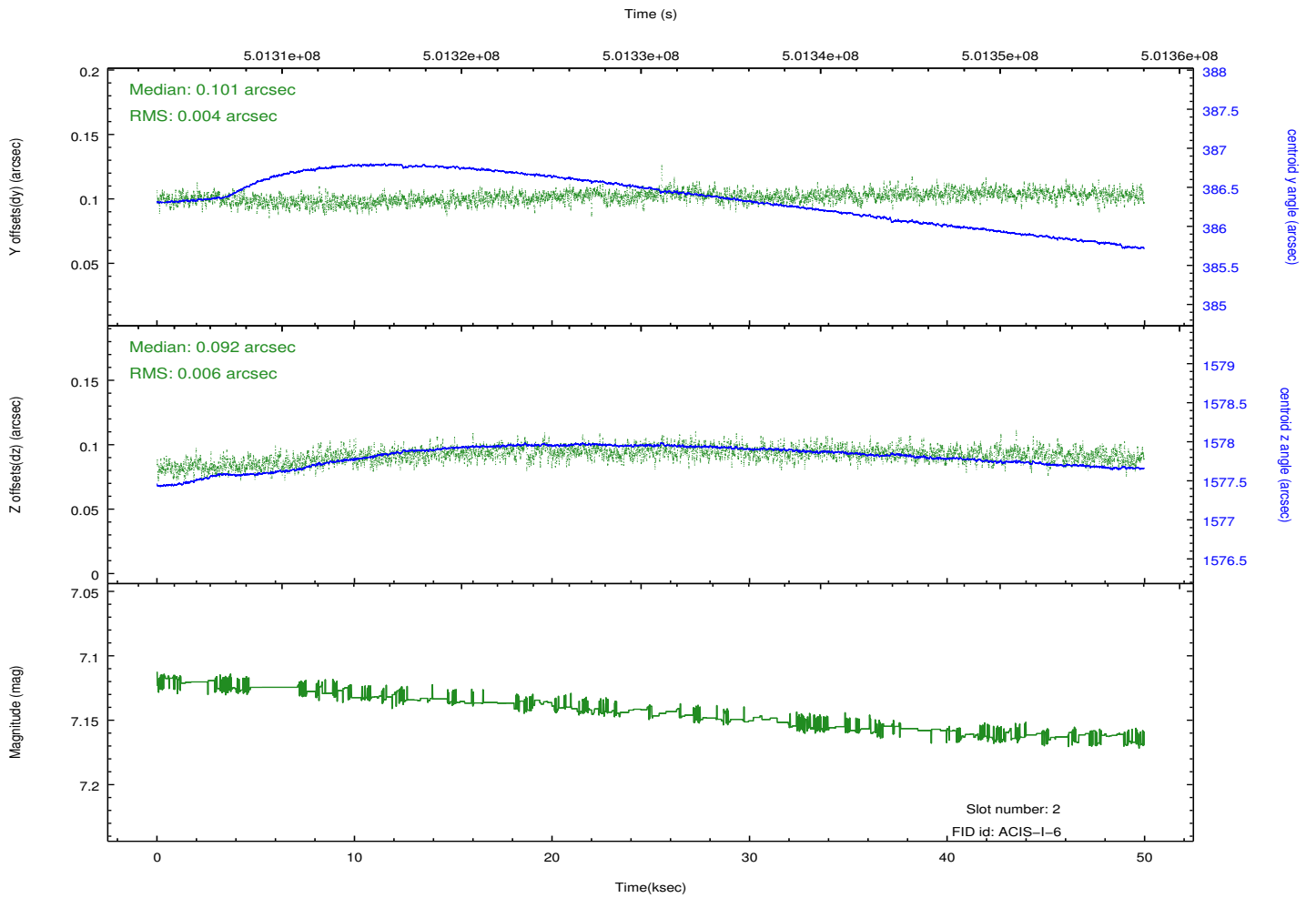
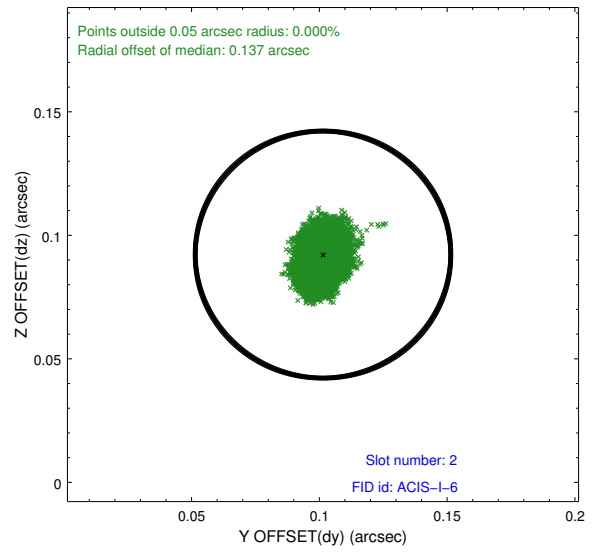
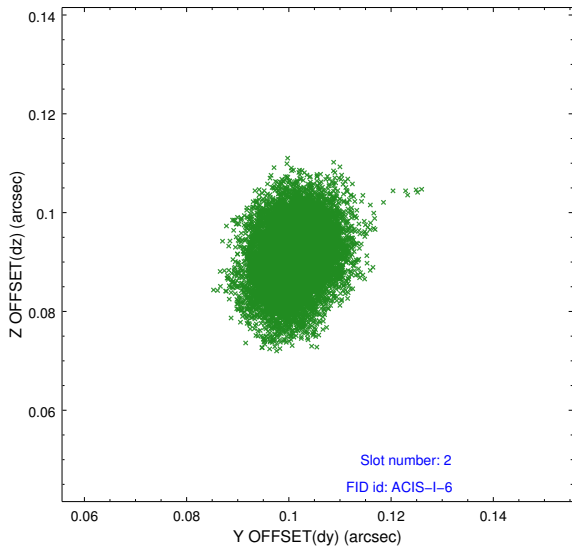
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.16
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	49.323426366031

## A.2 Comments

The guide star in slot 6 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this star from the solution.

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.