

# V&V Reference Report

## L2 ASCDS Version : 10

Observation 15299 - L2 Version 3  
Chandra X-Ray Center

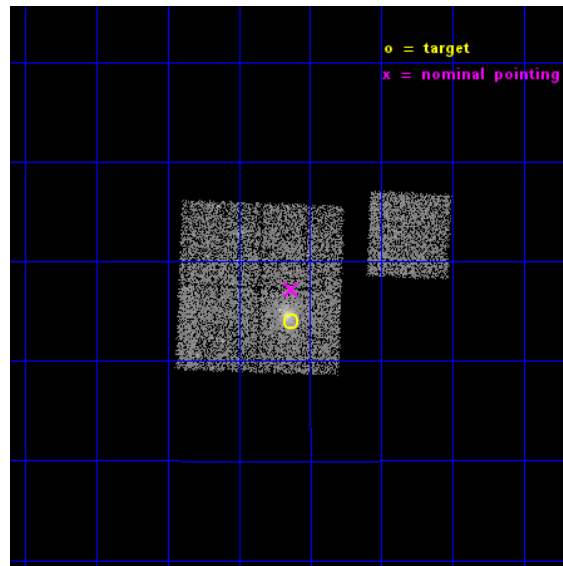
L2 Processing Date : Dec 8 2014

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# 1 Front

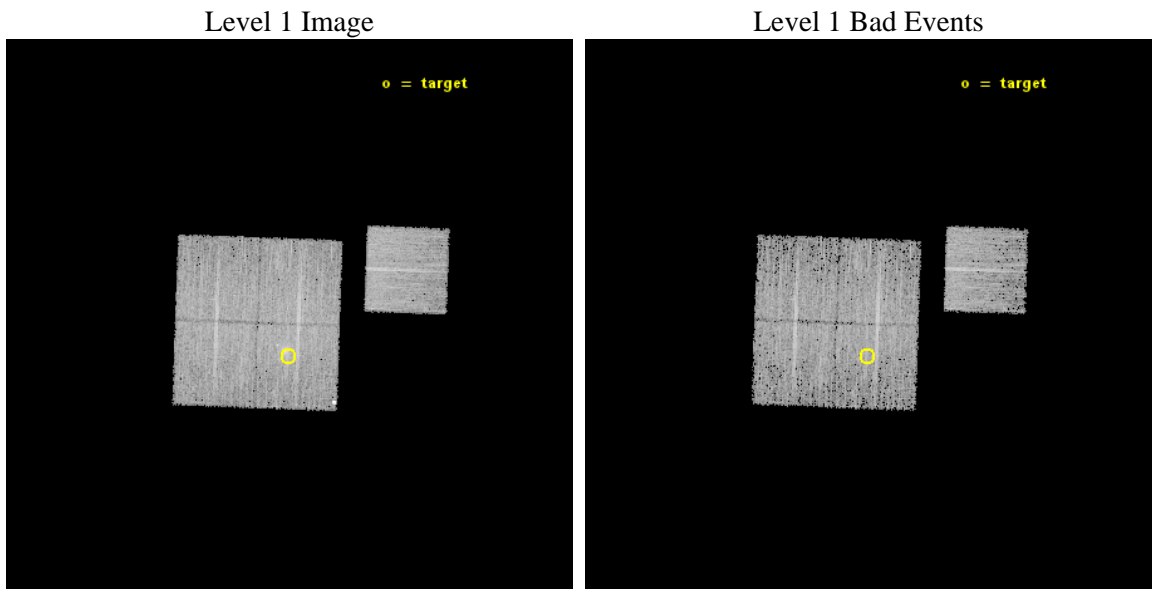
seq_num	801332	Sequence number
obs_id	15299	Observation id
title	Observing Distant Planck Clusters (Type A)	Proposal title
observer	Dr Stephen Murray	Principal investigator
object	PSZ848	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	109.032917	Observer's specified target RA [deg]
dec_targ	5.565389	Observer's specified target Dec [deg]
ra_nom	109.03294344179	Nominal RA [deg]
dec_nom	5.619814926932	Nominal Dec [deg]
roll_nom	92.030518163921	Nominal Roll [deg]
revision	3	Processing version of data
ontime	10083.160763264	Sum of GTIs [s]
livetime	9951.4168447767	Livetime [s]
ontime0	10083.037643254	Sum of GTIs [s]
ontime1	10083.078683257	Sum of GTIs [s]
ontime2	10083.11972326	Sum of GTIs [s]
ontime3	10083.160763264	Sum of GTIs [s]
ontime6	10082.996603251	Sum of GTIs [s]
l2events	27607	Number of level 2 events



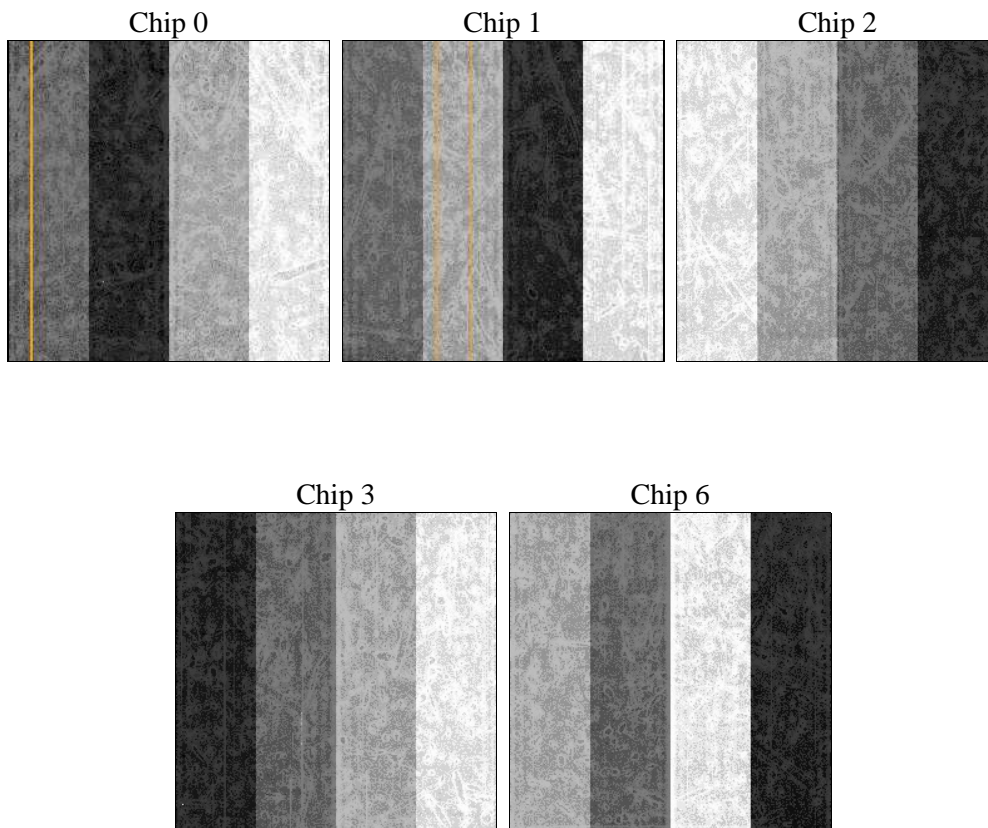
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.133000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	10083.160763264	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	10083.037643254	Sum of GTIs [s]
date	2014-12-08T17:16:46	Date and time of file creation	ontime1	10083.078683257	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	10083.11972326	Sum of GTIs [s]
			ontime3	10083.160763264	Sum of GTIs [s]
			ontime6	10082.996603251	Sum of GTIs [s]
			l1events	232030	Number of level 1 events

### 2.1.4 Events

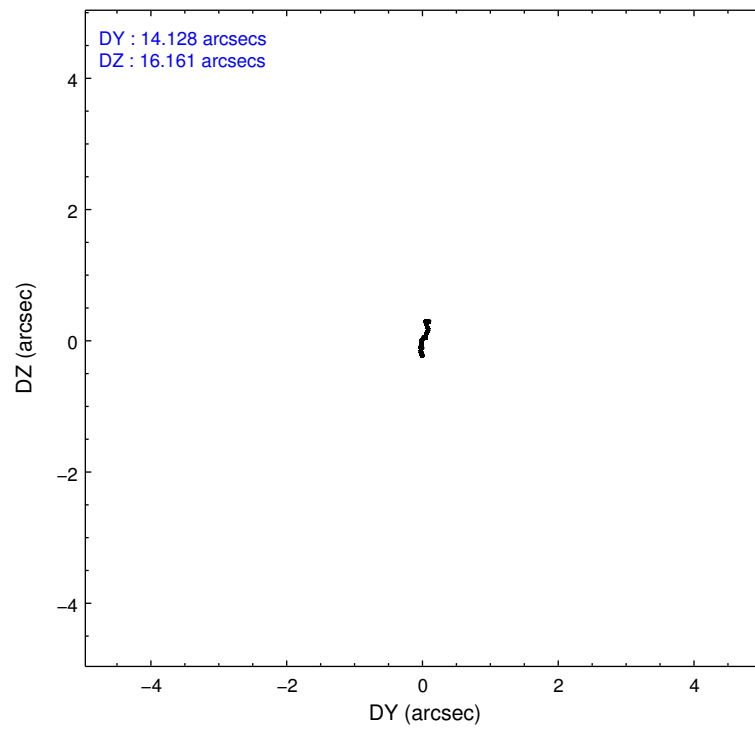
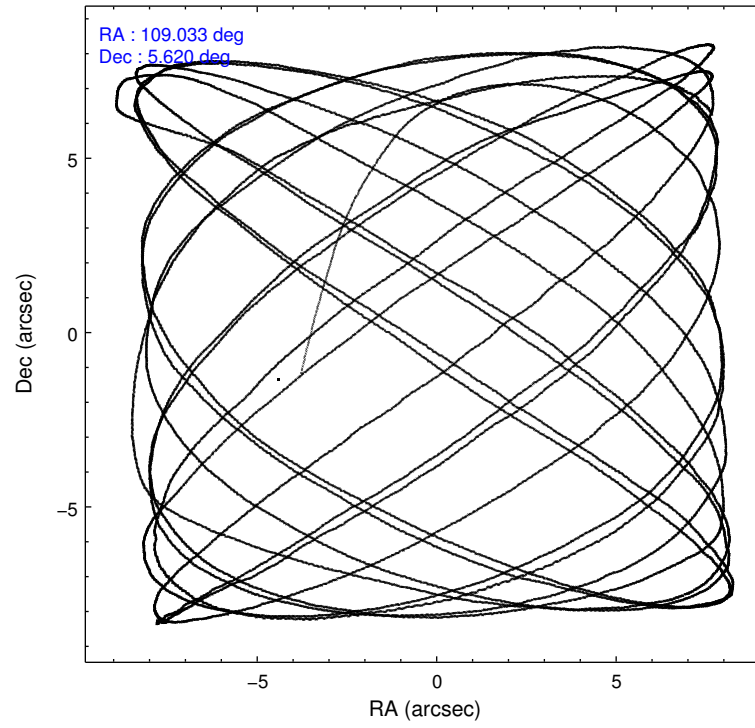
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	43444	44920	46918	48410	48338
rejected events	37639	38391	41209	38801	42690
rejected %	86%	85%	87%	80%	88%

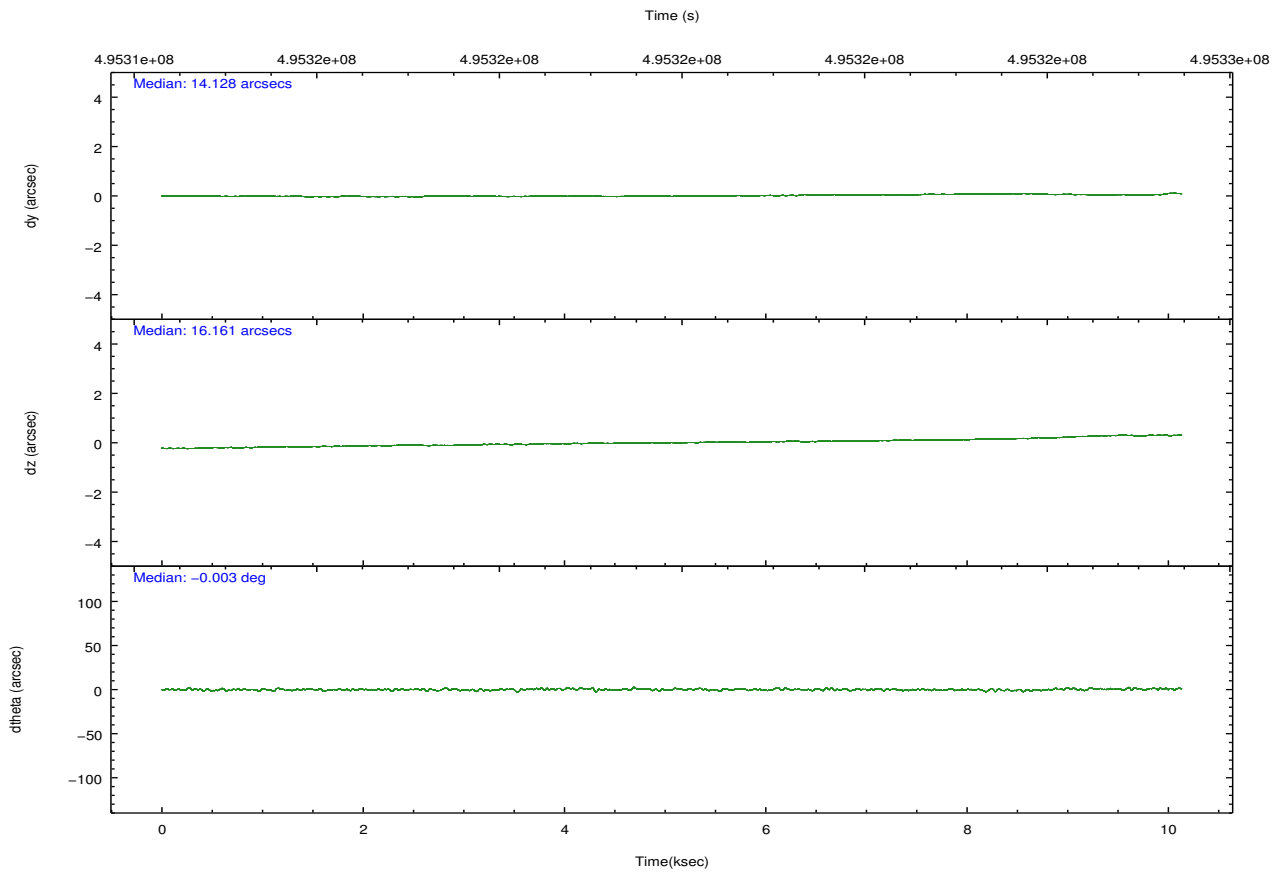
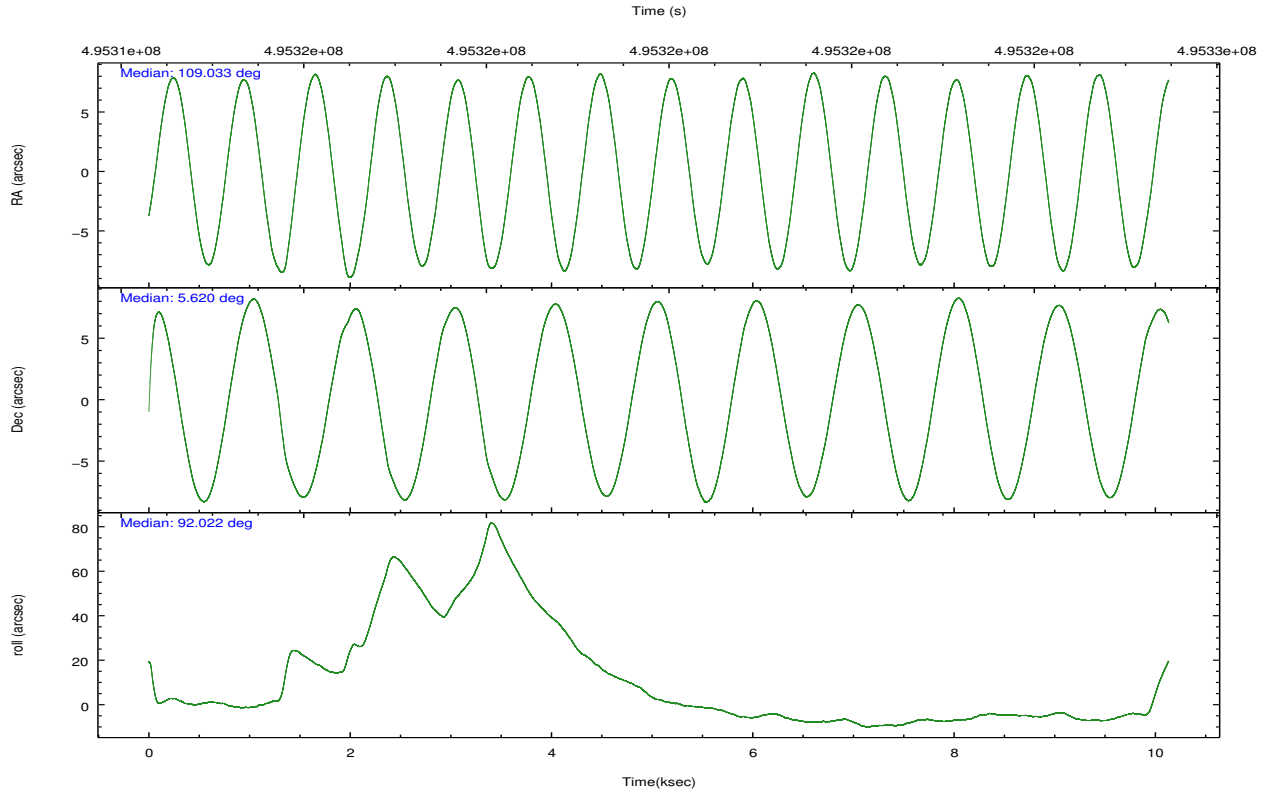
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	2067	2380	2116	5459	1917
	4%	5%	4%	11%	3%
grade 1 events	24	24	29	40	16
	0%	0%	0%	0%	0%
grade 2 events	1434	1572	1382	1490	1280
	3%	3%	2%	3%	2%
grade 3 events	567	656	586	710	594
	1%	1%	1%	1%	1%
grade 4 events	552	601	555	682	566
	1%	1%	1%	1%	1%
grade 5 events	2283	2429	2143	2608	2491
	5%	5%	4%	5%	5%
grade 6 events	1193	1322	1079	1269	1294
	2%	2%	2%	2%	2%
grade 7 events	35324	35936	39028	36152	40180
	81%	80%	83%	74%	83%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	109.047673	109.0329434417893	CCD I2 on	Y	Y
[deg] Pointing Dec	5.596537	5.619814926931969	CCD I3 on	Y	Y
[deg] Pointing Roll	91.820405	92.03051816392129	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-225.840463	-225.8433433320239	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.752	-7.749109670905796	CCD S4 on	N	N
[s] Observation start time (MET)	495314948.184000	495313385.6803	CCD S5 on	N	N
Observation start date	2013-09-11T19:28:01	2013-09-11T19:03:05	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	495324948.184000	495325182.91844	On-chip summing requested	N	N
Observation end date	2013-09-11T22:14:41	2013-09-11T22:19:42	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



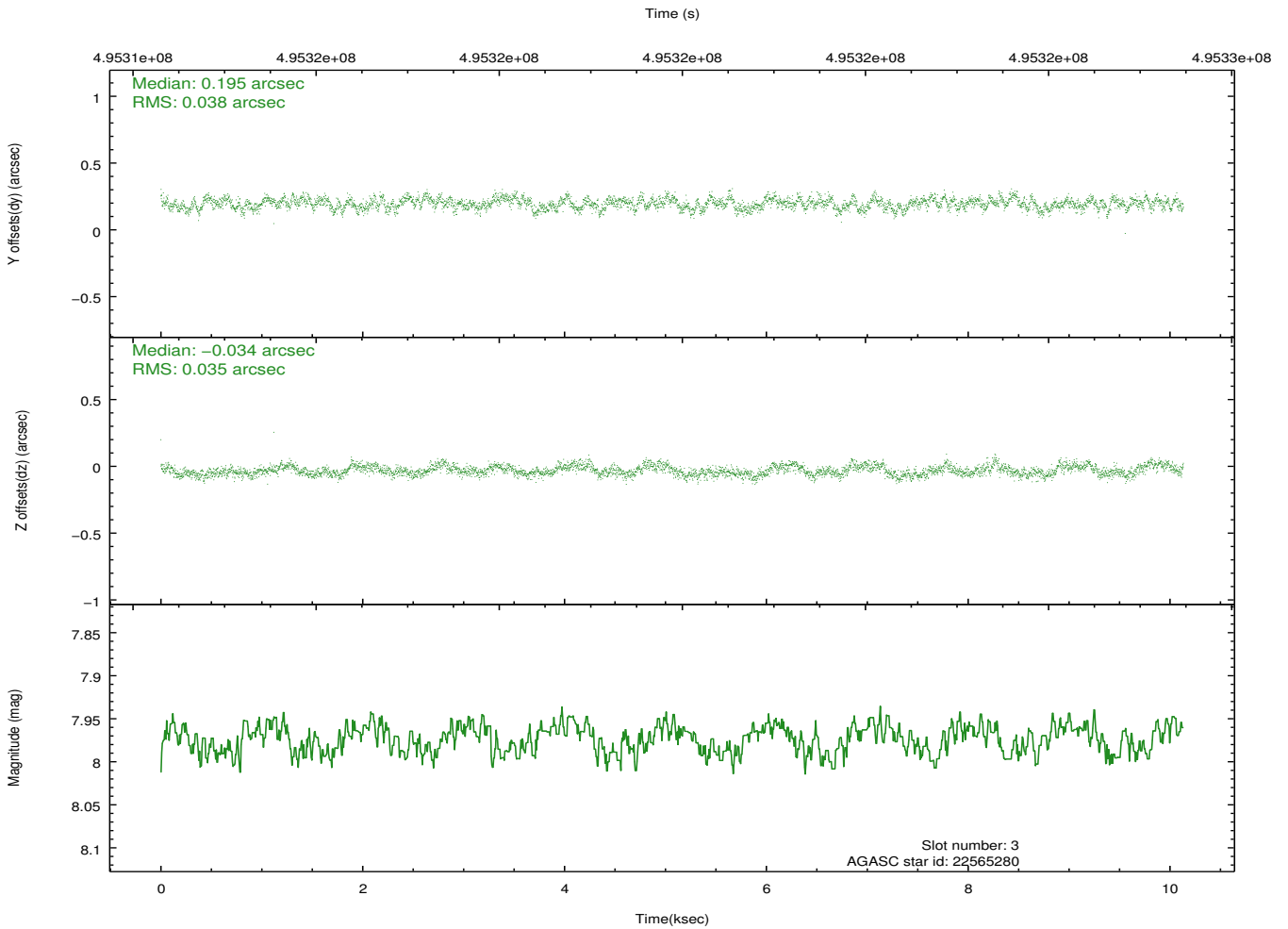
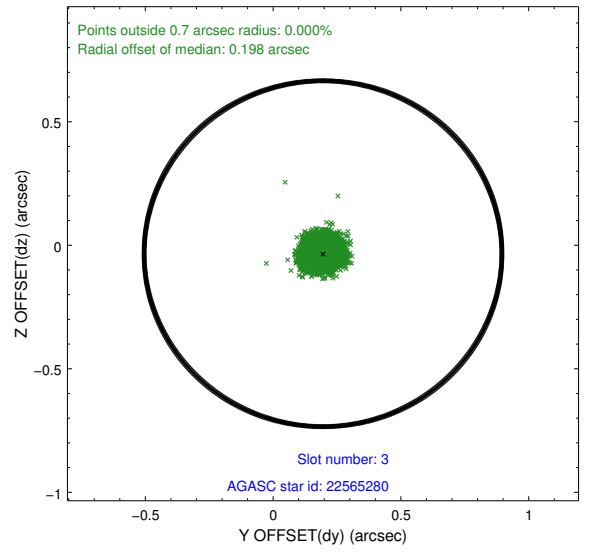
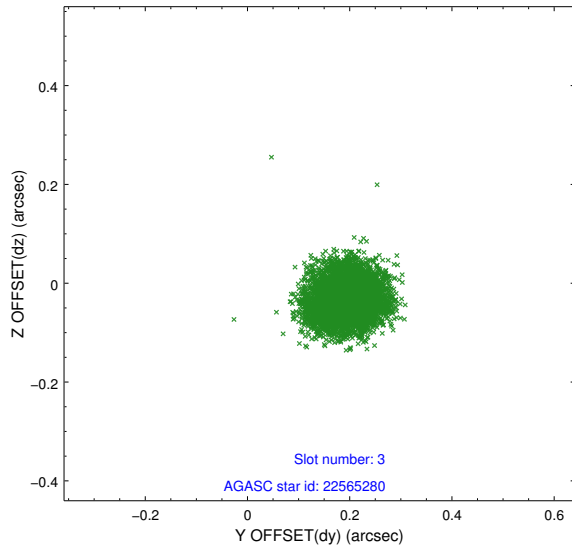


### Slot Statistics

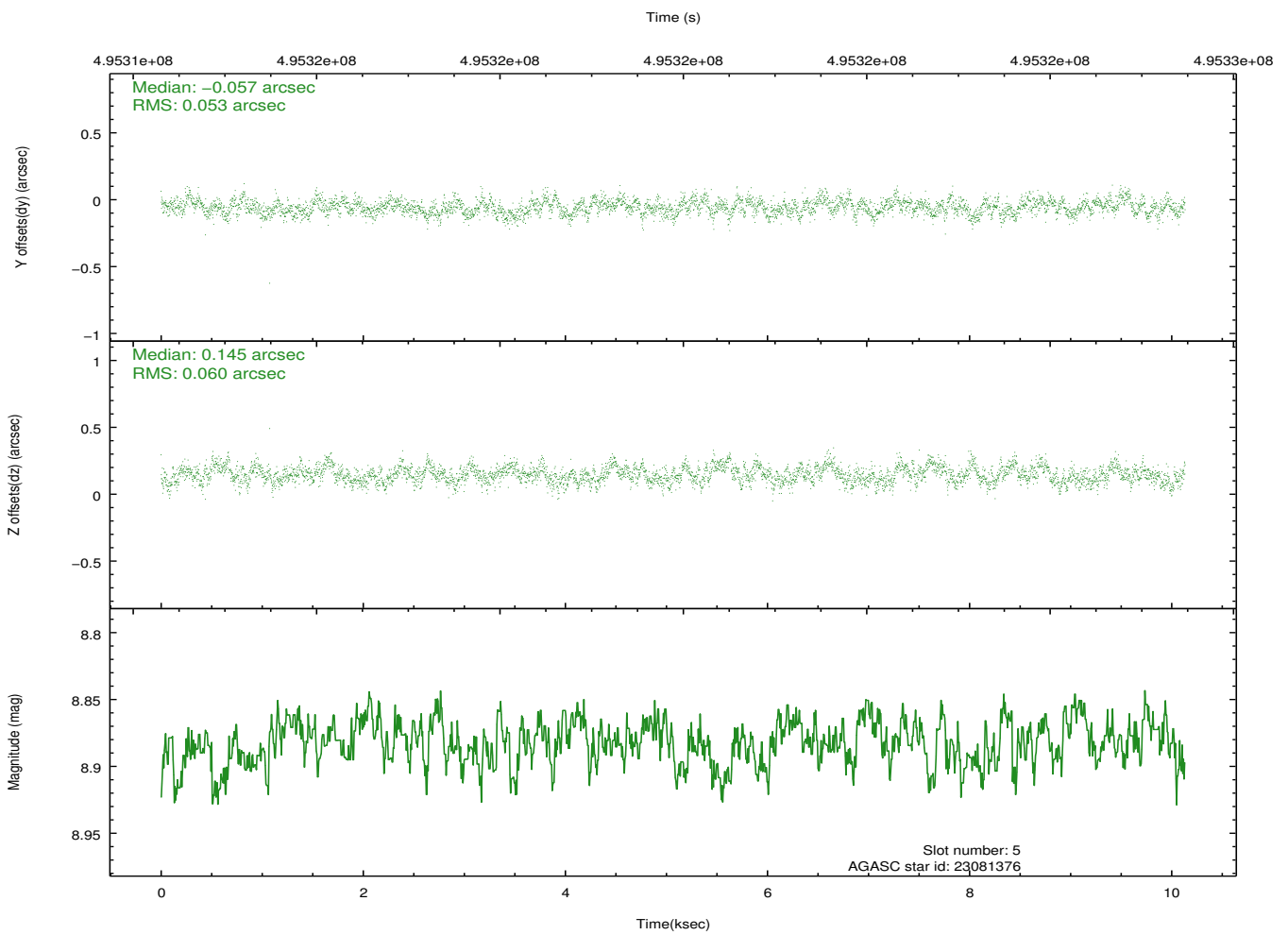
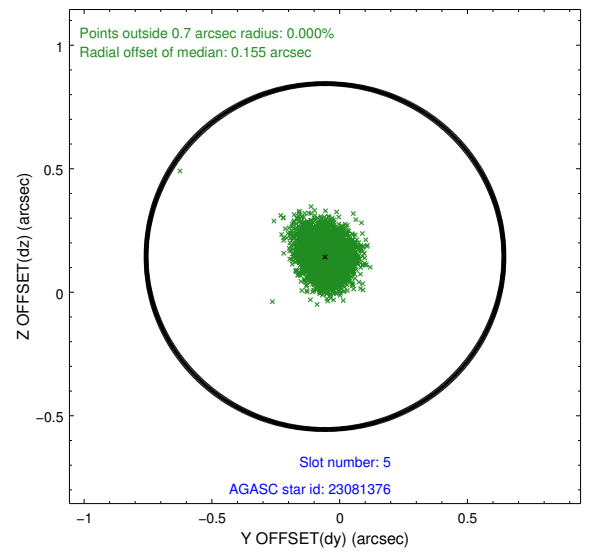
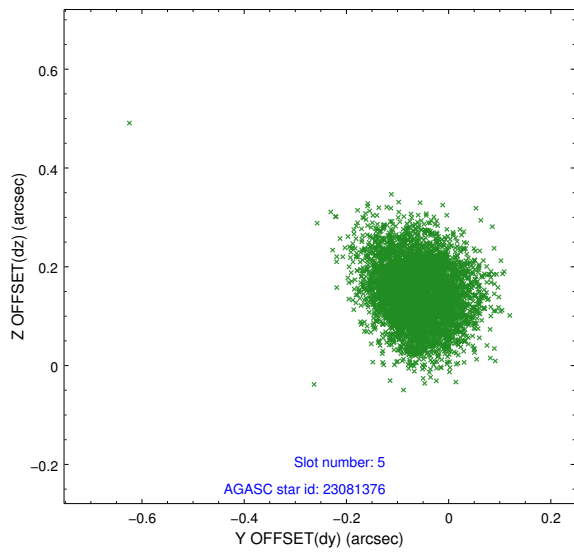
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	6.96	2472	0.122	-0.102	0.012	0.020	0.000000	0.000000	925.34	-998.97
1	FID		ACIS-I-2	6.92	2472	-0.255	0.027	0.008	0.012	0.000000	0.000000	-769.25	-1004.60
2	FID		ACIS-I-4	6.87	2472	0.035	0.142	0.008	0.012	0.000000	0.000000	2144.42	901.75
3	GUIDE	used	22565280	7.97	4943	0.195	-0.034	0.056	0.087	108.912046	5.061022	-1910.89	547.35
4	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	used	23081376	8.88	4939	-0.057	0.145	0.084	0.135	109.642127	5.944068	1184.10	-2166.73
6	GUIDE	used	23092688	8.96	4938	-0.205	-0.260	0.098	0.165	108.813783	5.662260	263.58	829.46
7	GUIDE	used	22553496	8.42	4941	0.070	0.146	0.076	0.125	109.140770	5.361545	-855.63	-306.23

## 2.4 Star Slots

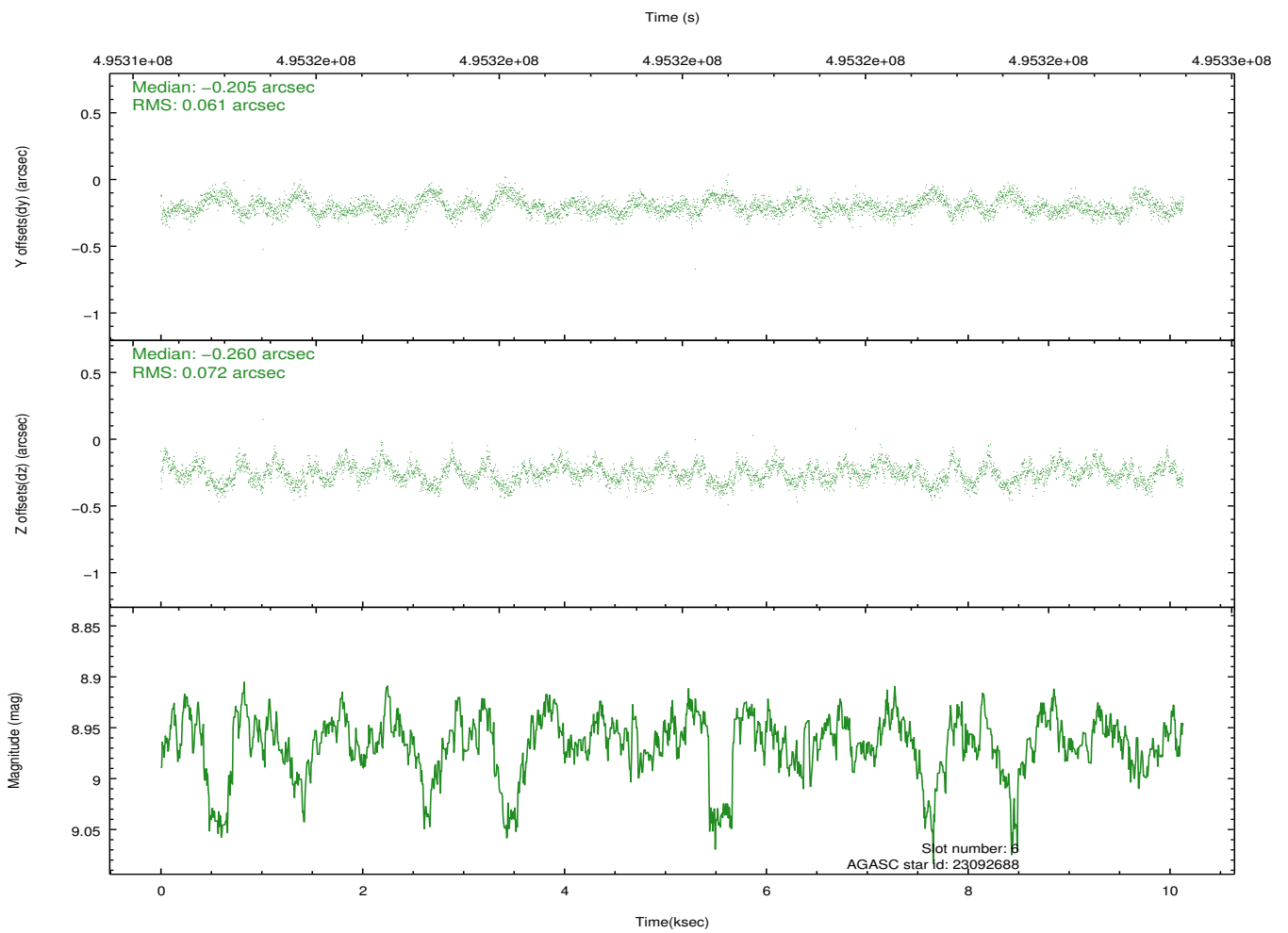
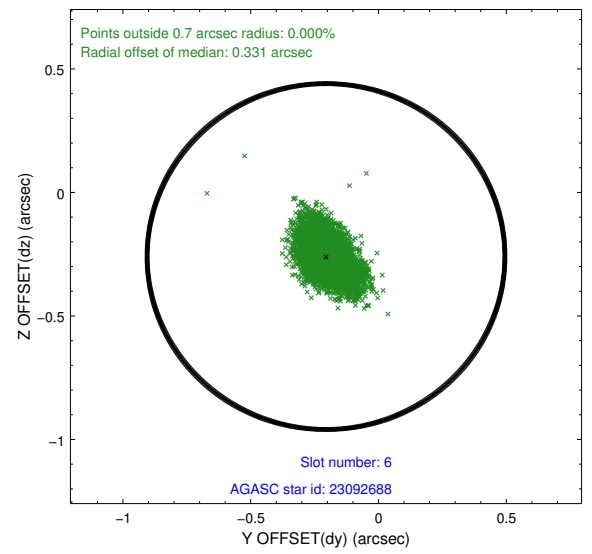
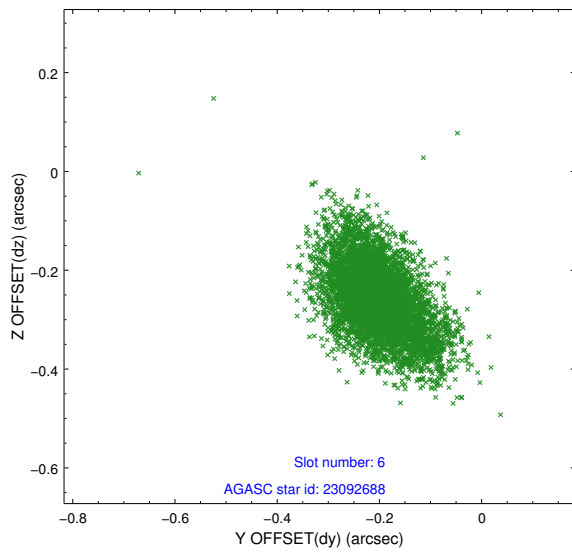
### 2.4.1 Slot 3



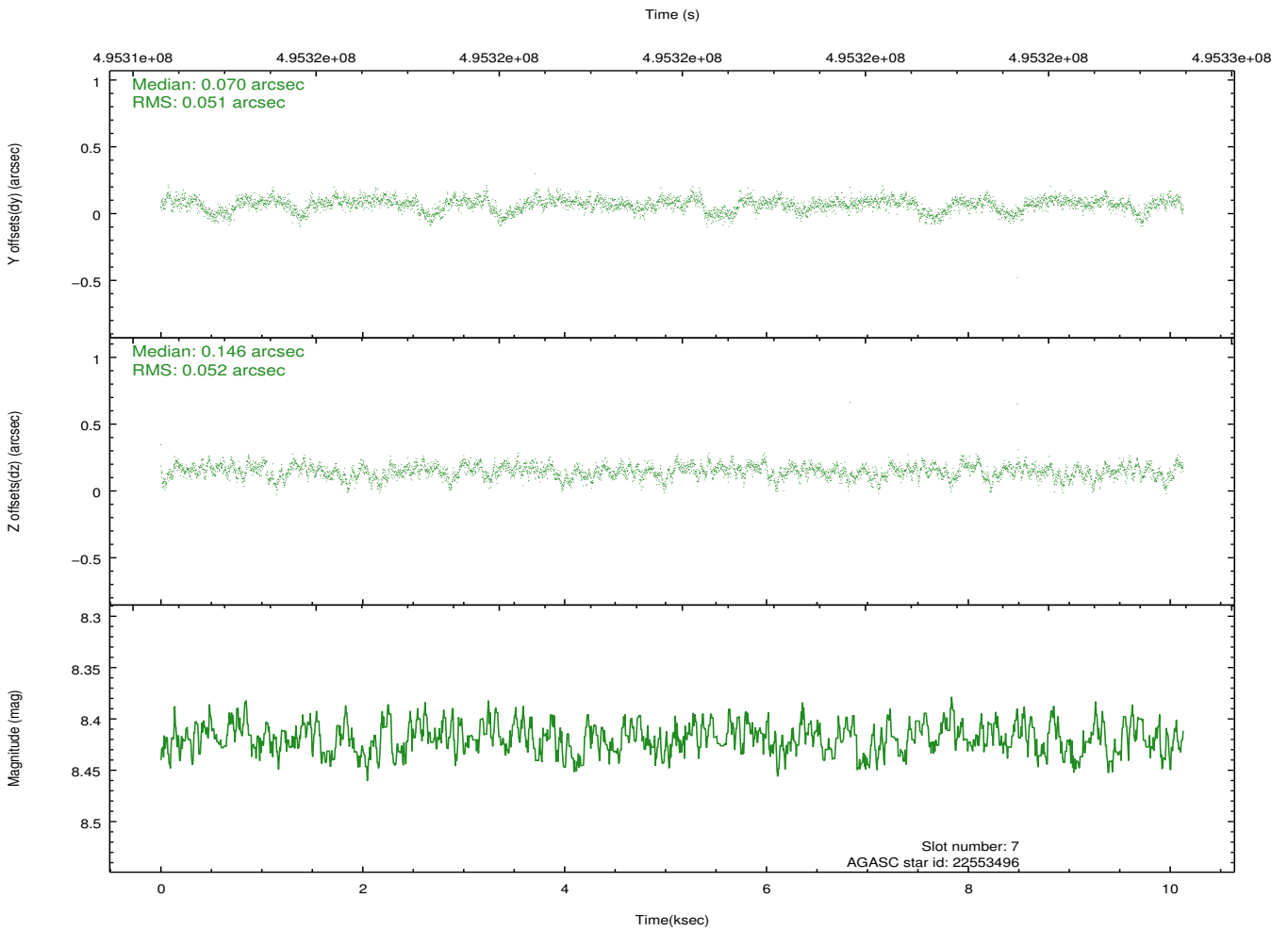
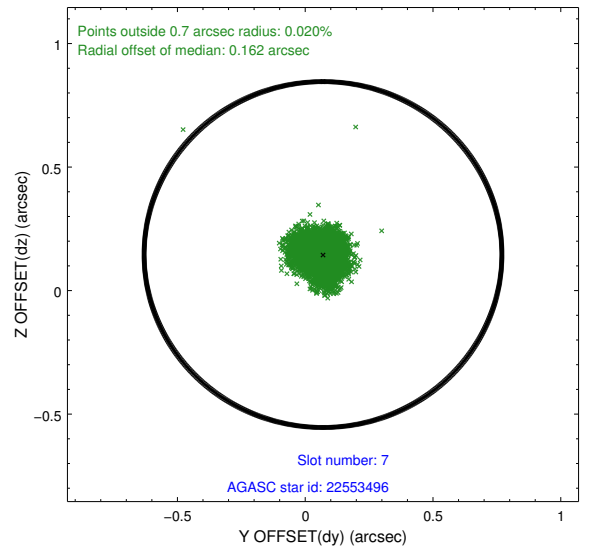
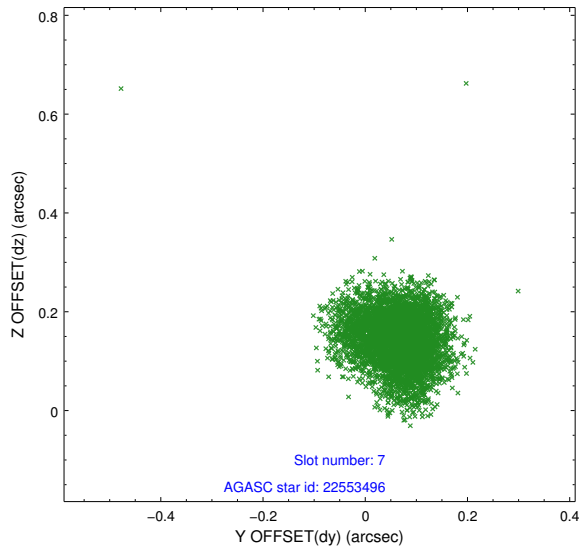
## 2.4.2 Slot 5



### 2.4.3 Slot 6

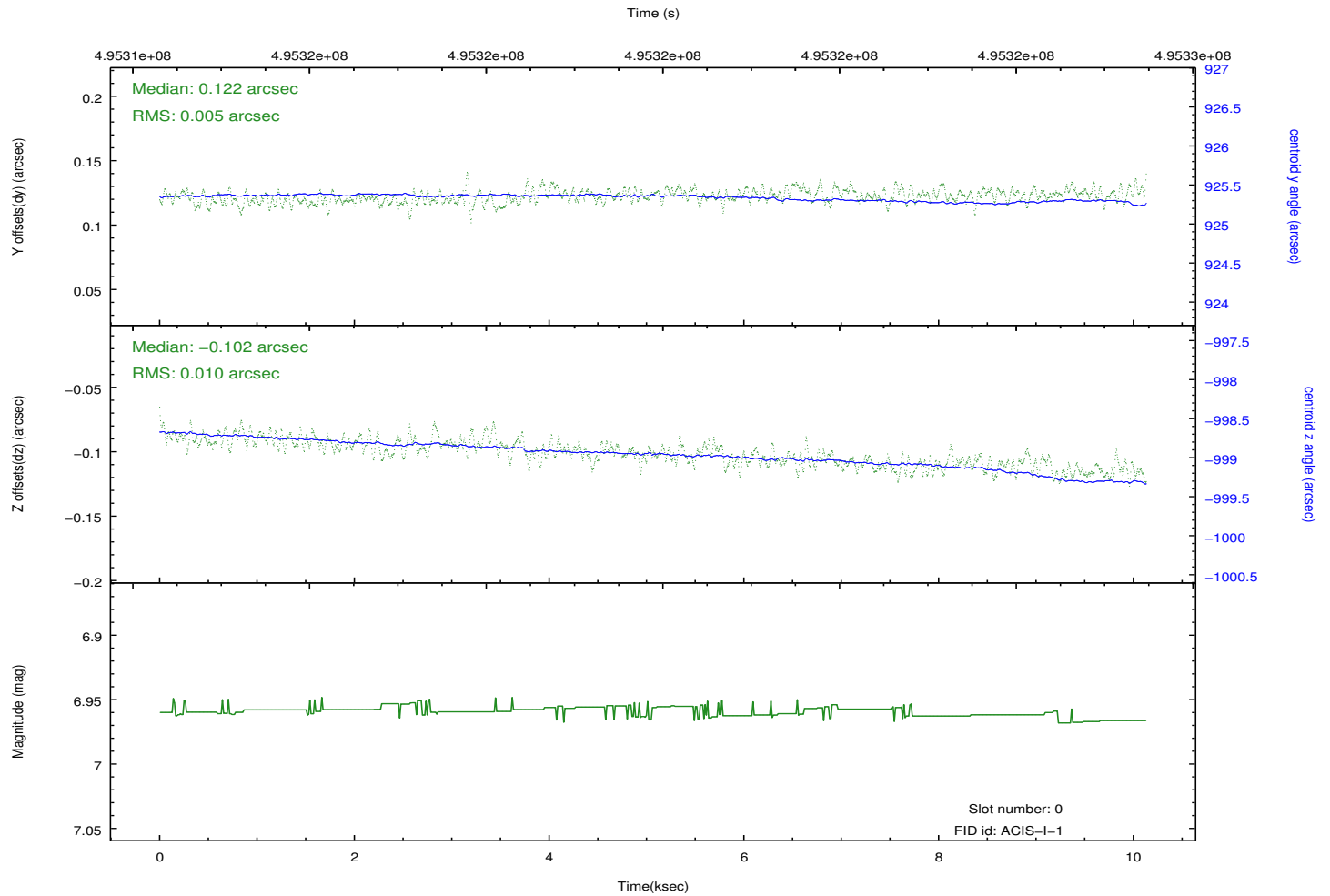
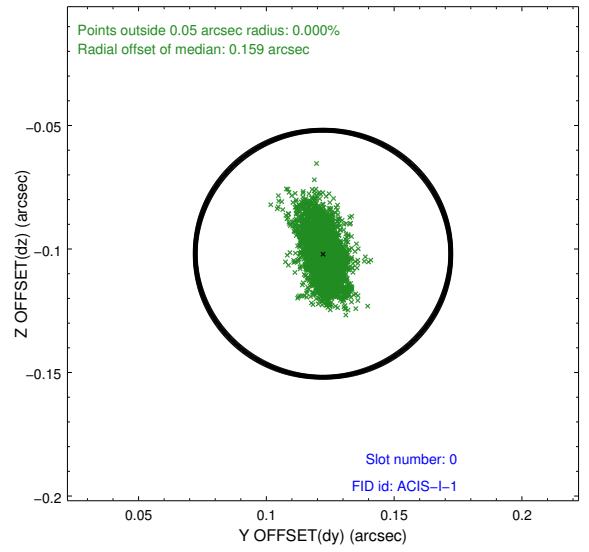
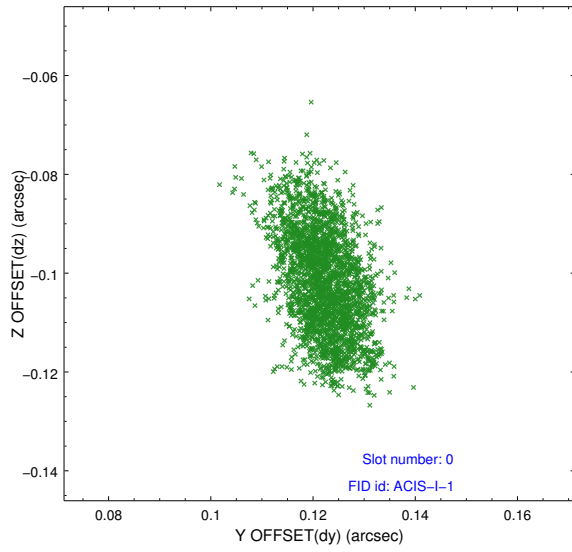


### 2.4.4 Slot 7

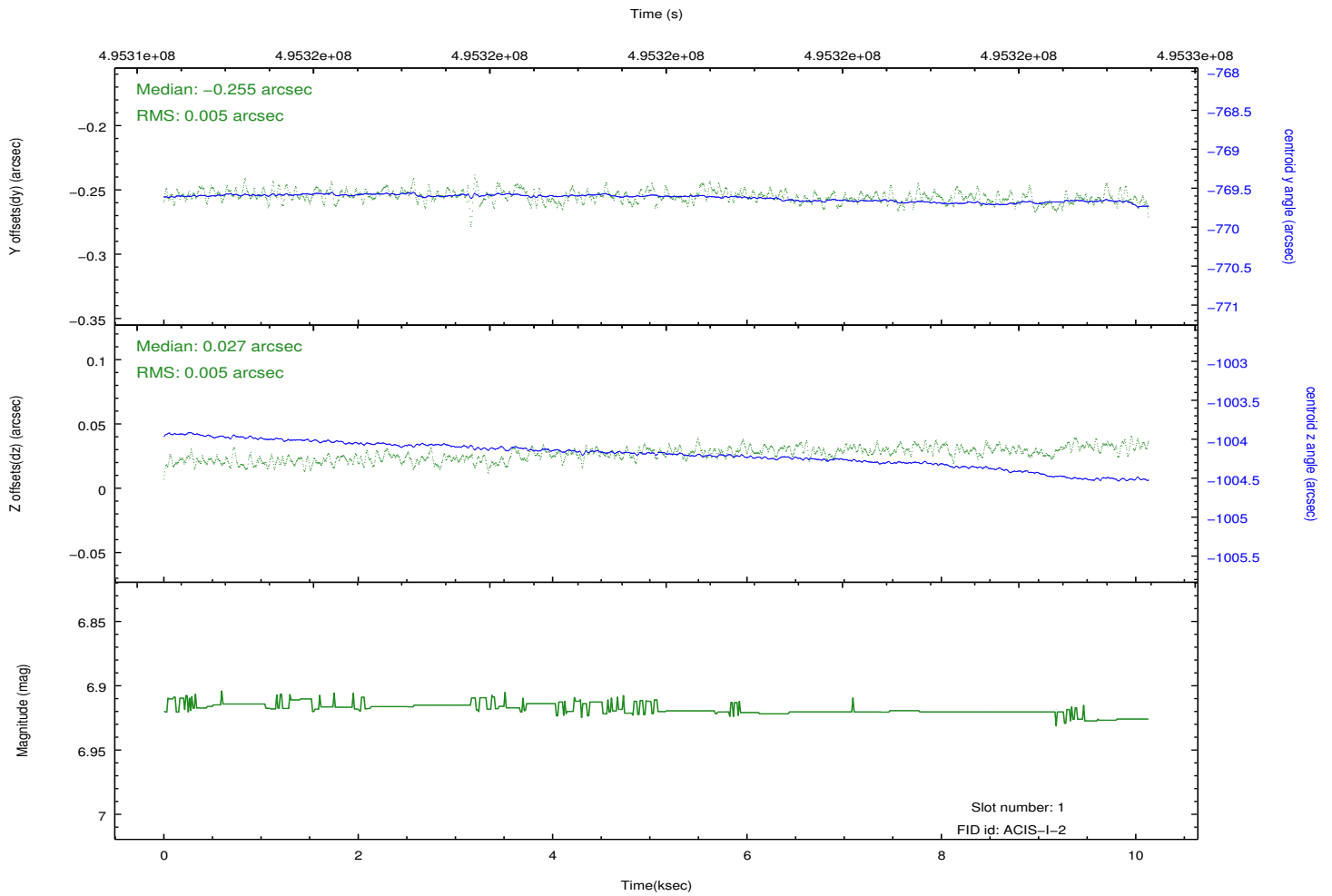
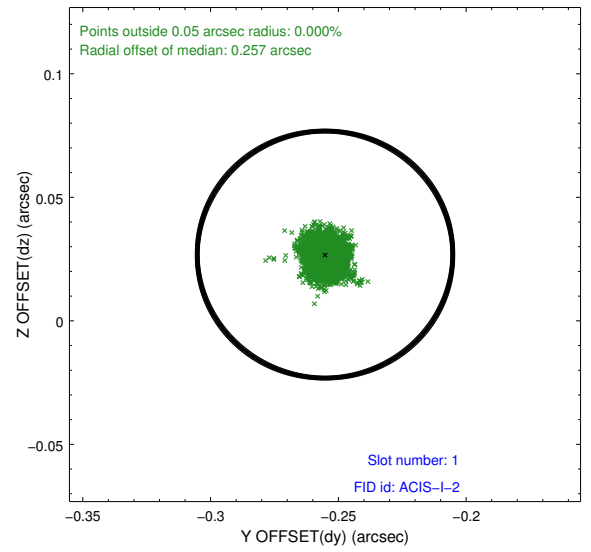
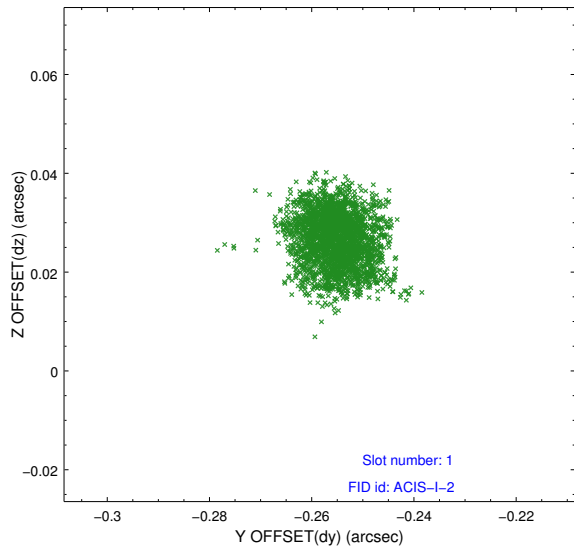


## 2.5 FID Slots

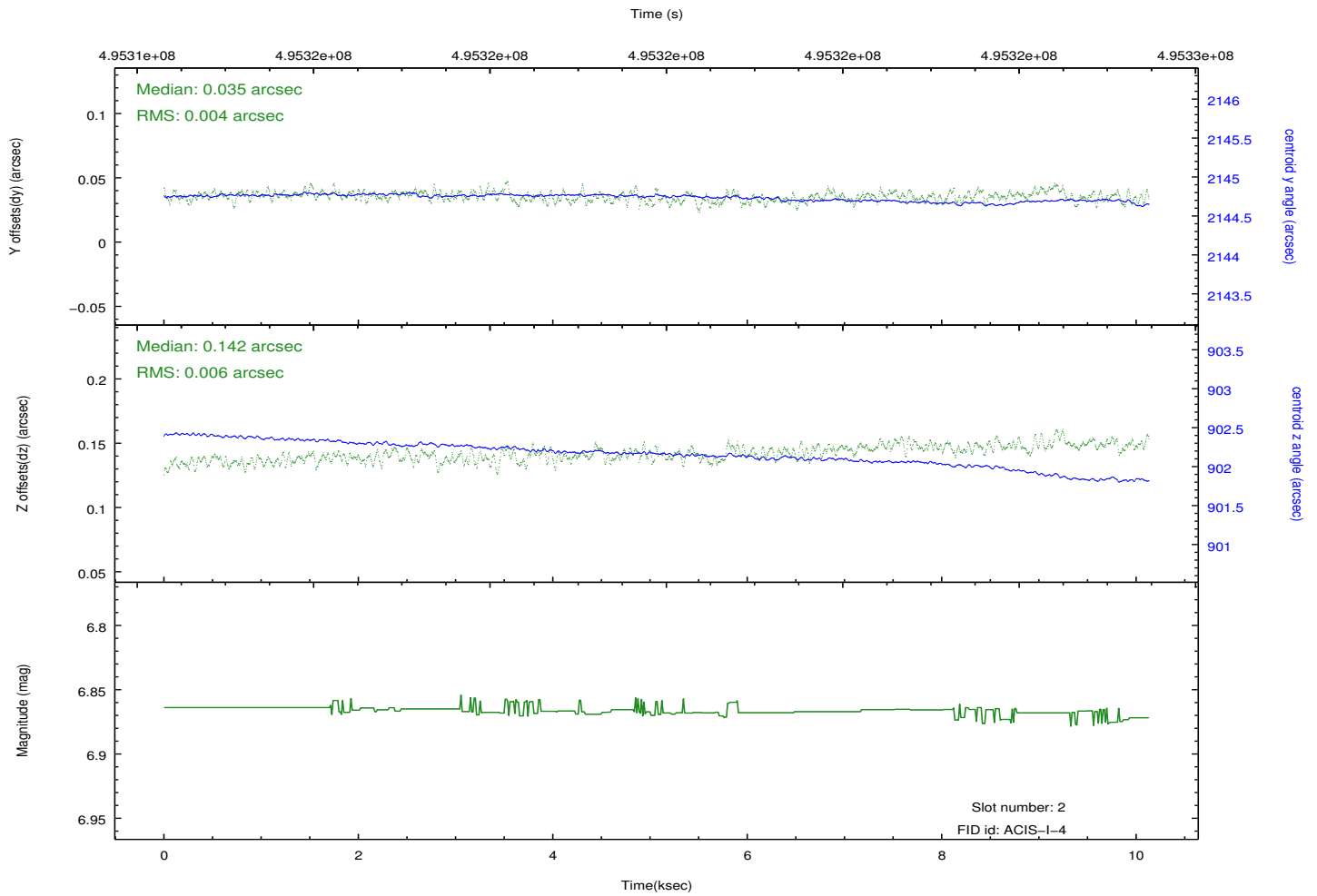
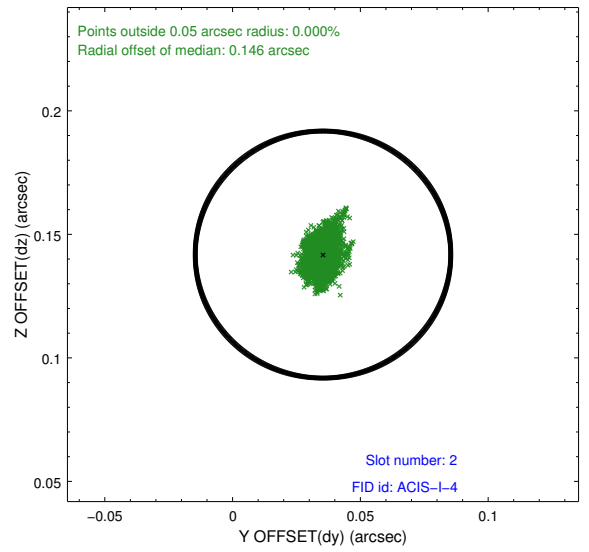
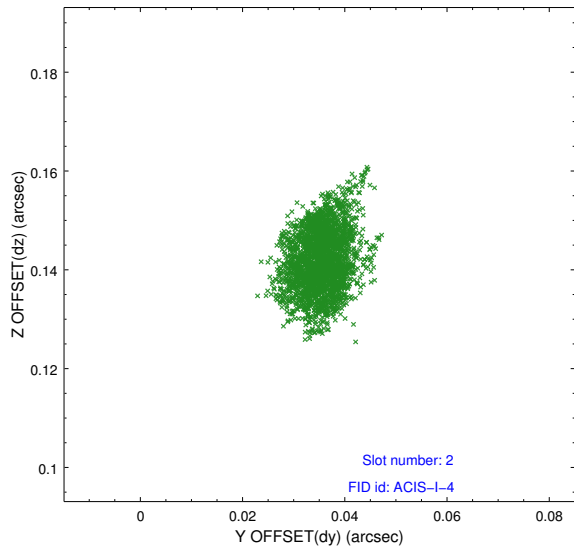
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2014.12.16
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.083160763264

## A.2 Comments

The guide star in slot 4 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.

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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.