

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 13599 - L2 Version 2  
Chandra X-Ray Center

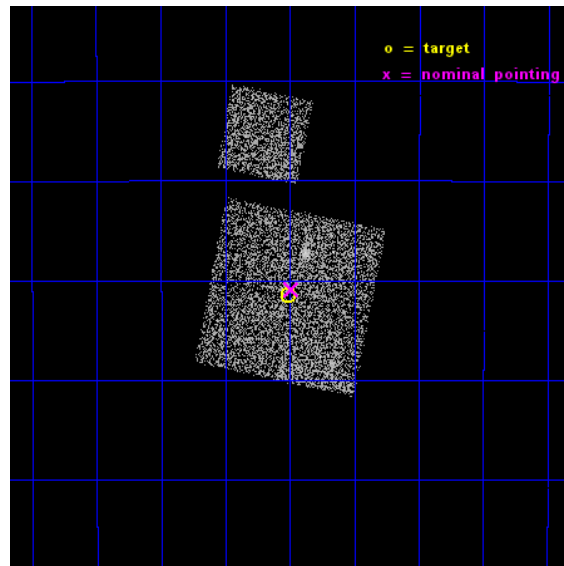
L2 Processing Date : Nov 27 2014

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# 1 Front

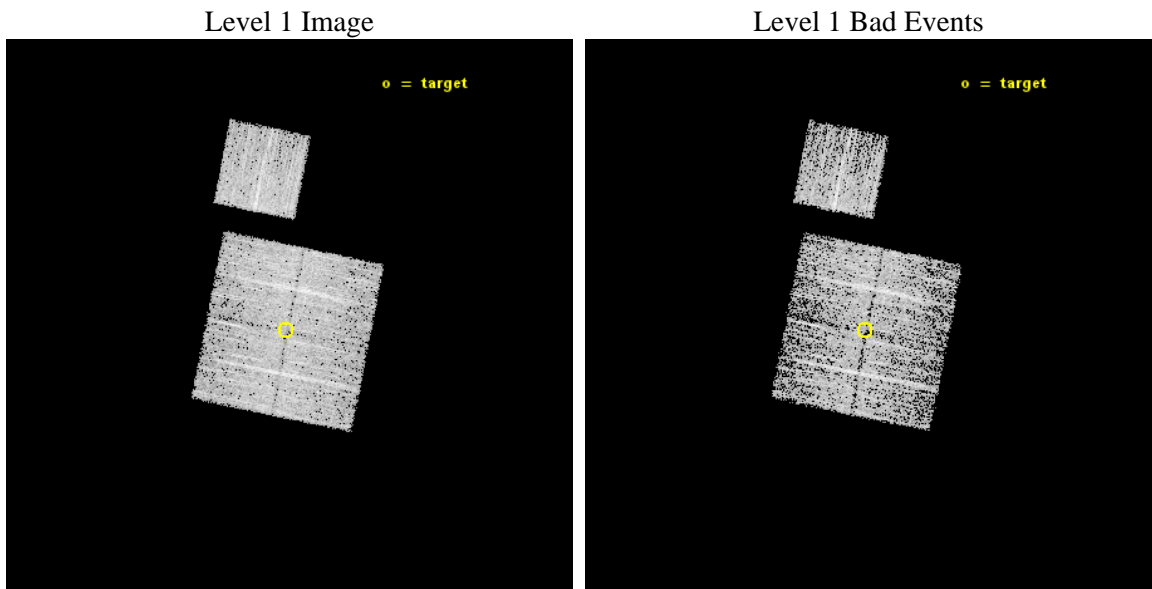
seq_num	801160	Sequence number
obs_id	13599	Observation id
title	To The Outer Limits of Clusters with Chandra and Suzaku	Proposal t
observer	Dr. Eric Miller	Principal investigator
object	A2667	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	358.00257	Observer's specified target RA [deg]
dec_targ	-25.858488	Observer's specified target Dec [deg]
ra_nom	357.99725016913	Nominal RA [deg]
dec_nom	-25.848476839546	Nominal Dec [deg]
roll_nom	11.460459646626	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4776.8503989577	Sum of GTIs [s]
livetime	4714.4373318292	Livetime [s]
ontime0	4776.8093688488	Sum of GTIs [s]
ontime1	4776.8503989577	Sum of GTIs [s]
ontime2	4776.891438961	Sum of GTIs [s]
ontime3	4776.9324789643	Sum of GTIs [s]
ontime6	4776.7683189511	Sum of GTIs [s]
l2events	13159	Number of level 2 events



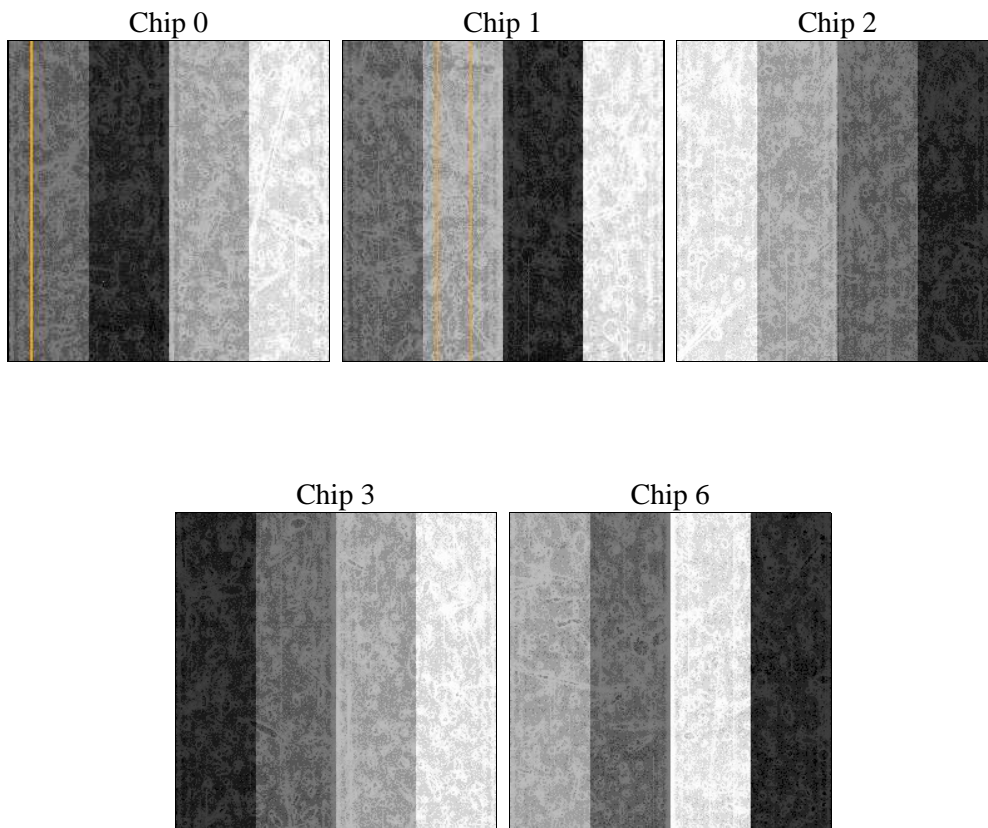
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	4776.8503989577	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	4776.8093688488	Sum of GTIs [s]
date	2014-11-27T04:25:28	Date and time of file creation	ontime1	4776.8503989577	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	4776.891438961	Sum of GTIs [s]
			ontime3	4776.9324789643	Sum of GTIs [s]
			ontime6	4776.7683189511	Sum of GTIs [s]
			l1events	123233	Number of level 1 events

### 2.1.4 Events

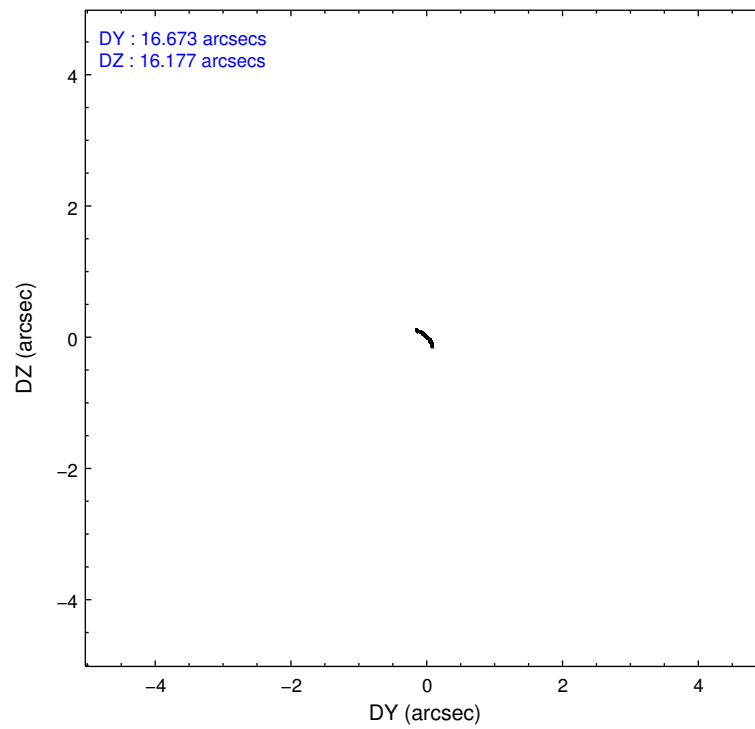
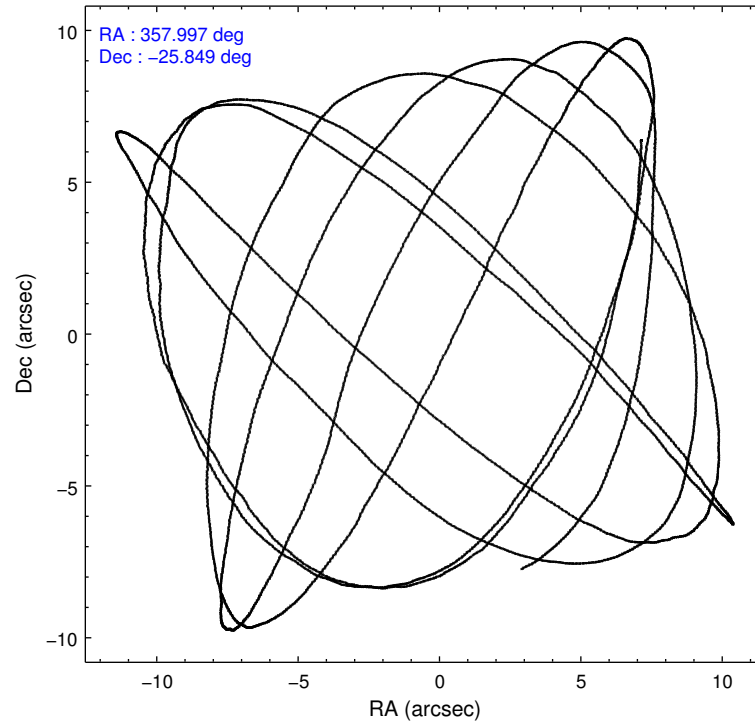
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	23674	23849	25226	24598	25886
rejected events	20642	20271	22293	21620	22917
rejected %	87%	84%	88%	87%	88%

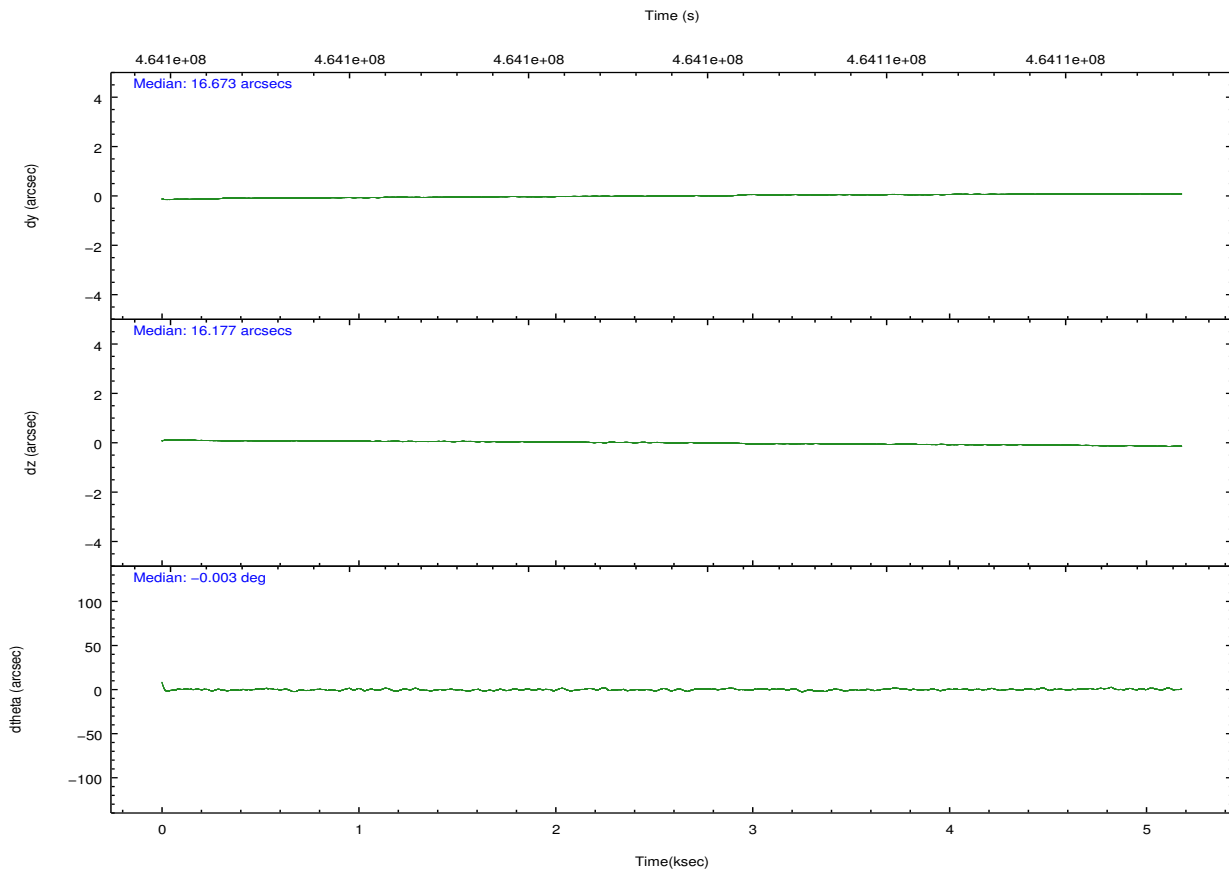
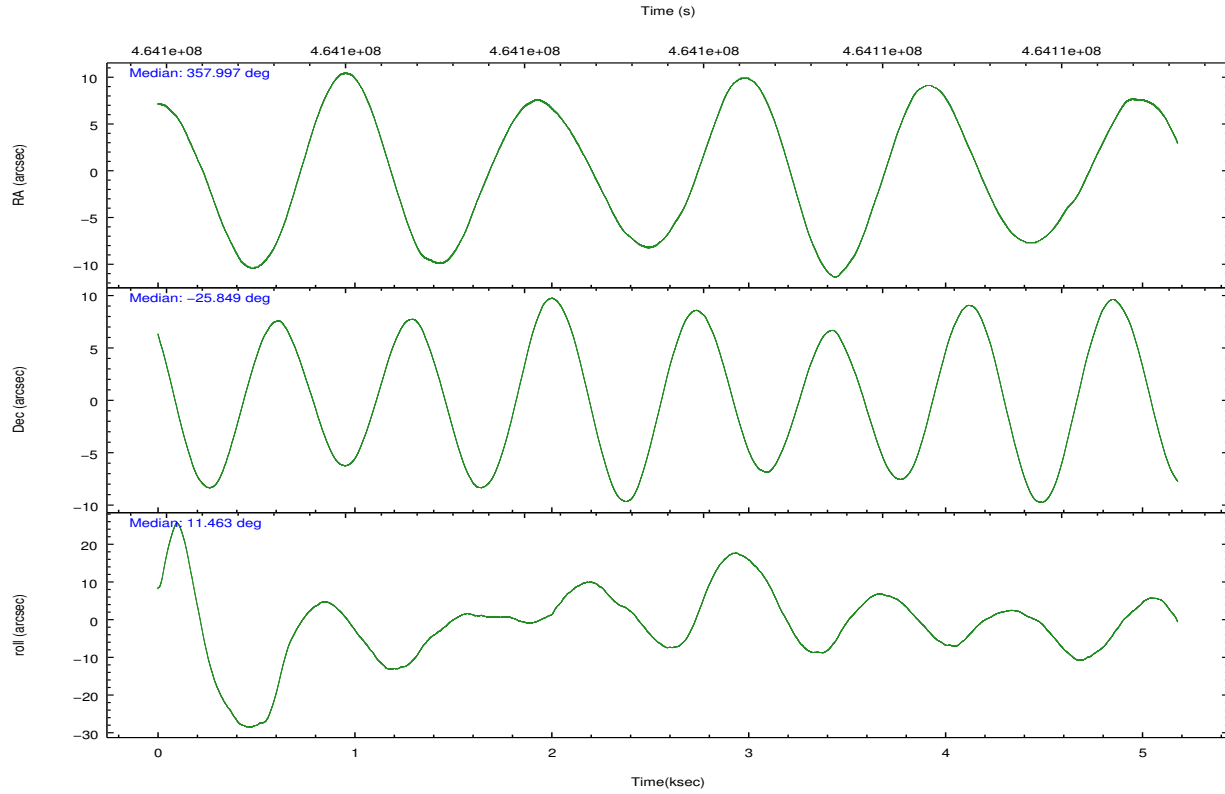
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	1033	1418	1091	1127	991
	4%	5%	4%	4%	3%
grade 1 events	17	13	17	14	8
	0%	0%	0%	0%	0%
grade 2 events	792	829	685	667	664
	3%	3%	2%	2%	2%
grade 3 events	312	331	291	304	271
	1%	1%	1%	1%	1%
grade 4 events	297	346	317	310	321
	1%	1%	1%	1%	1%
grade 5 events	1191	1239	1146	1362	1240
	5%	5%	4%	5%	4%
grade 6 events	599	656	549	570	726
	2%	2%	2%	2%	2%
grade 7 events	19433	19017	21130	20244	21665
	82%	79%	83%	82%	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	357.974366	357.9972501691257	CCD I2 on	Y	Y
[deg] Pointing Dec	-25.866771	-25.84847683954562	CCD I3 on	Y	Y
[deg] Pointing Roll	11.241774	11.46045964662622	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	-233.592463	-233.5874344608287	CCD S3 on	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	464102387.184000	464102010.99225	CCD S5 on	N	N
Observation start date	2012-09-15T13:18:40	2012-09-15T13:13:30	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	464107387.184000	464107913.96757	On-chip summing requested	N	N
Observation end date	2012-09-15T14:42:00	2012-09-15T14:51:53	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





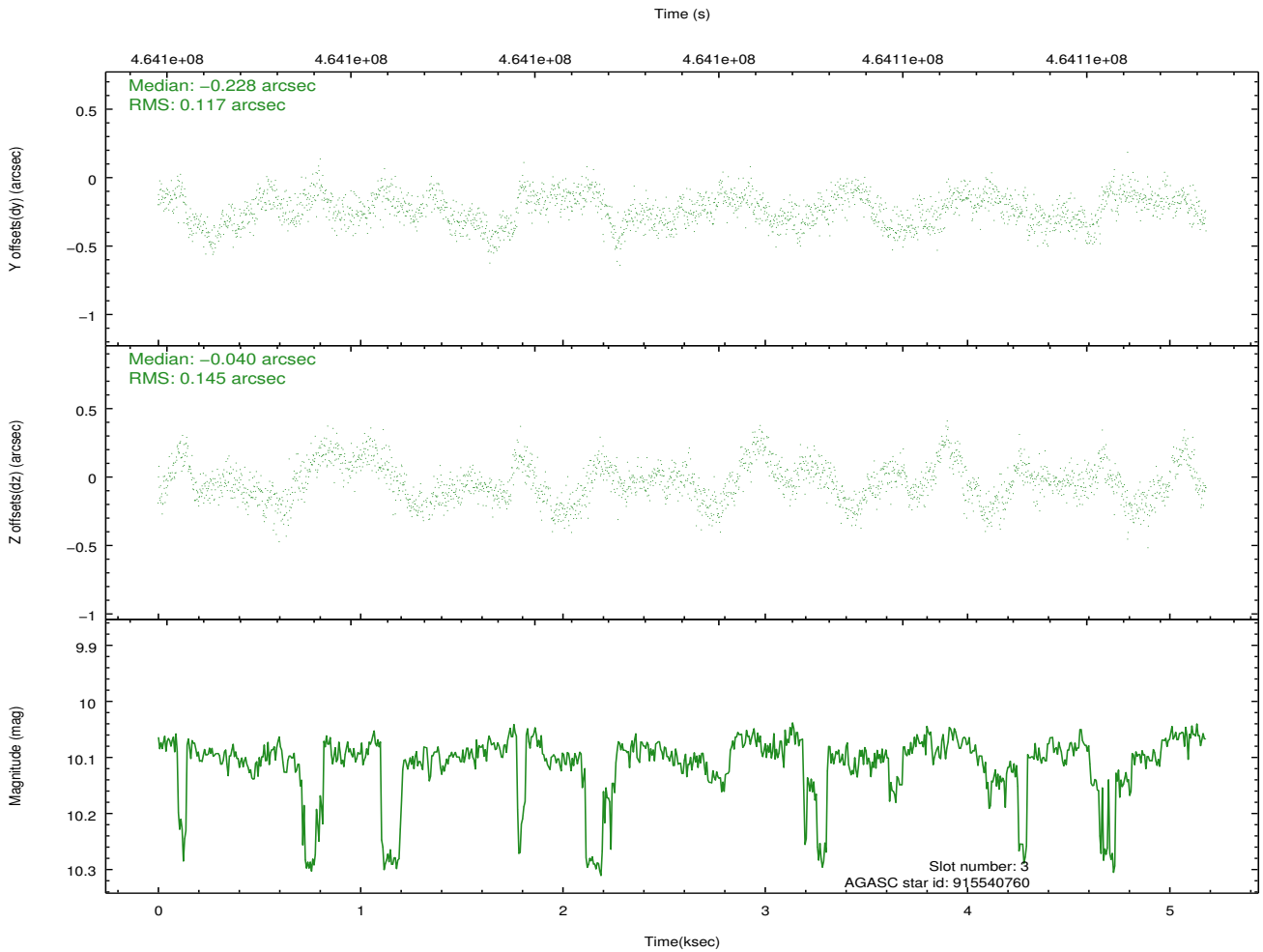
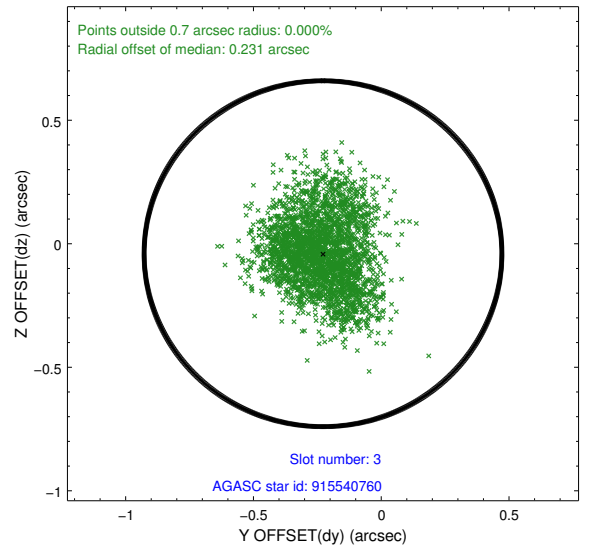
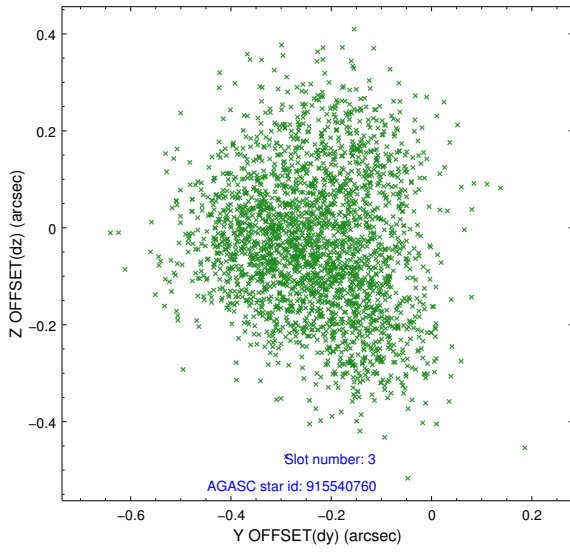
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	6.97	1264	-0.198	-0.108	0.006	0.010	0.000000	0.000000	-771.62	-846.28
1	FID		ACIS-I-4	6.97	1264	0.117	0.121	0.008	0.013	0.000000	0.000000	2142.20	1059.56
2	FID		ACIS-I-6	7.05	1264	-0.017	0.050	0.009	0.016	0.000000	0.000000	390.11	1702.99
3	GUIDE	used	915540760	10.10	2499	-0.228	-0.040	0.202	0.316	357.353543	-25.648317	-1823.98	1159.68
4	GUIDE	used	915541272	9.92	2527	-0.202	0.140	0.194	0.330	358.336379	-25.689400	1274.04	395.93
5	GUIDE	used	915543864	10.06	2512	0.158	0.034	0.247	0.361	357.439253	-25.791763	-1648.61	599.91
6	GUIDE	used	915543912	10.25	2510	0.215	-0.105	0.244	0.382	358.432554	-25.418809	1774.68	1289.05
7	GUIDE	used	915546416	9.88	2513	0.043	-0.015	0.225	0.339	357.544948	-25.638088	-1205.90	1077.17

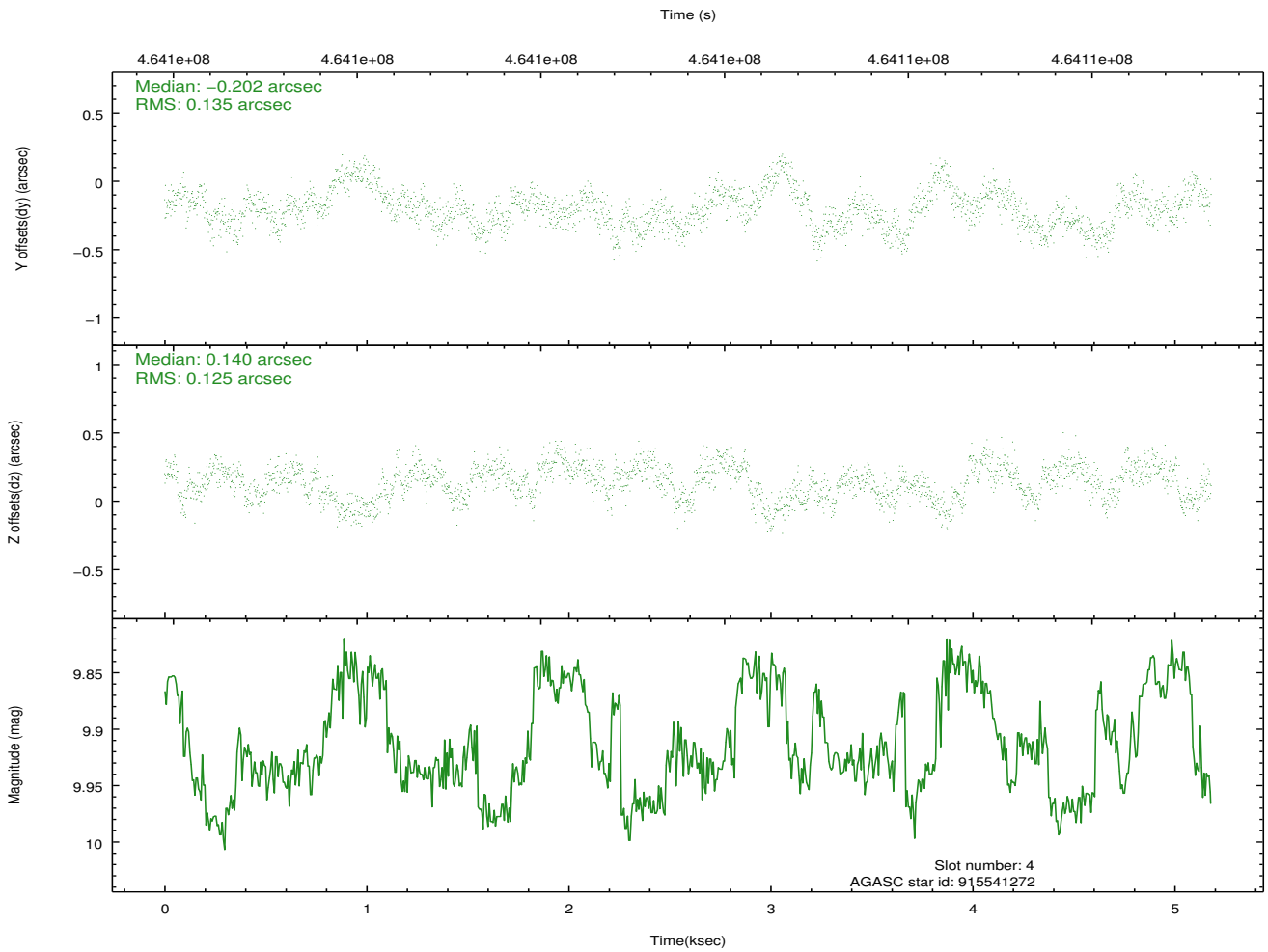
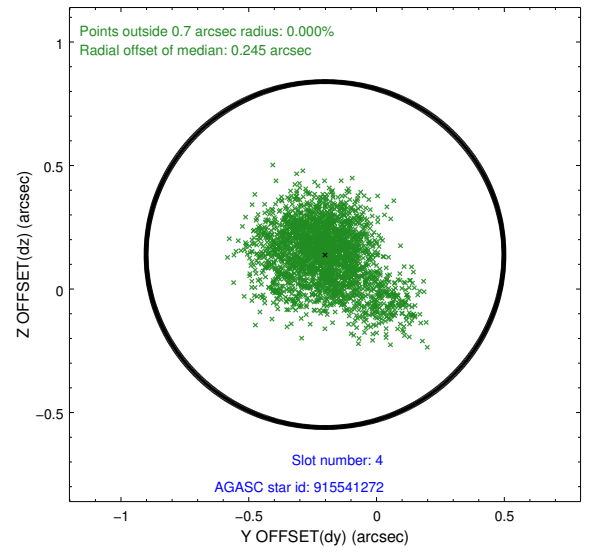
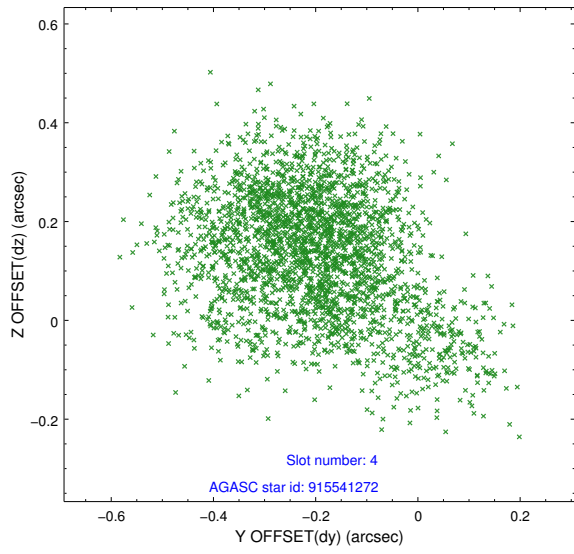
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## 2.4 Star Slots

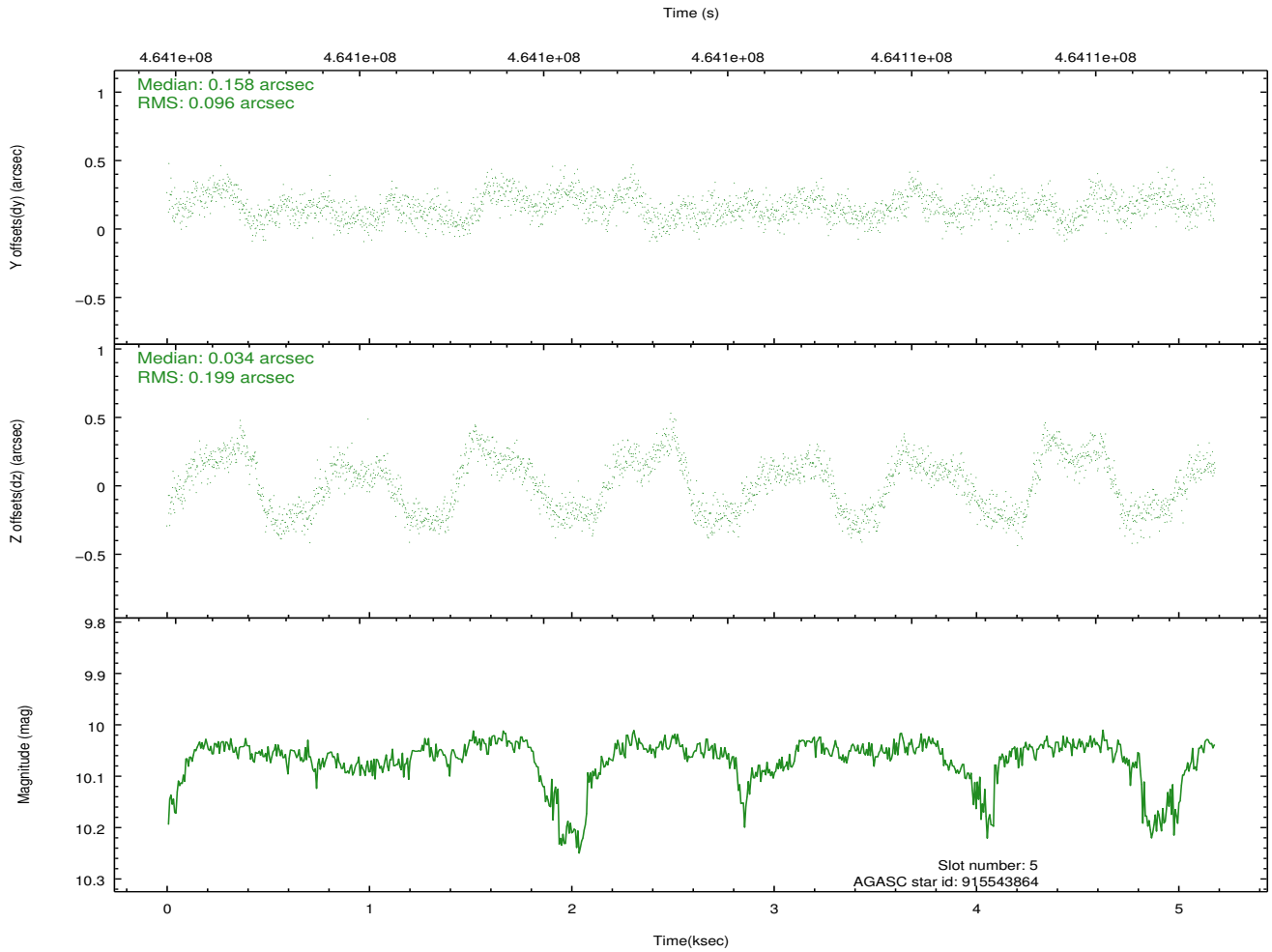
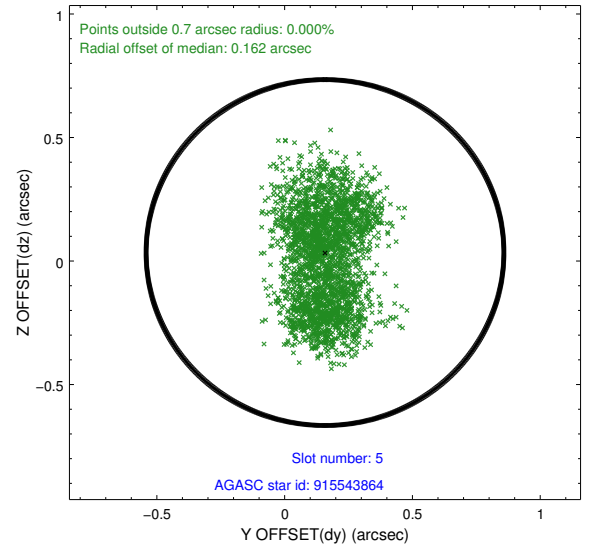
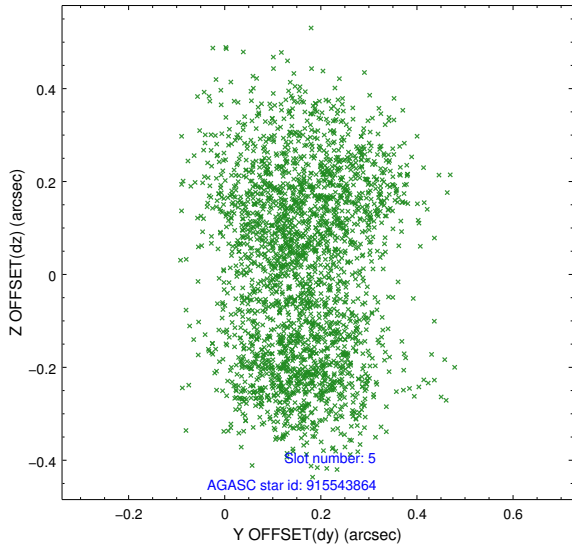
### 2.4.1 Slot 3



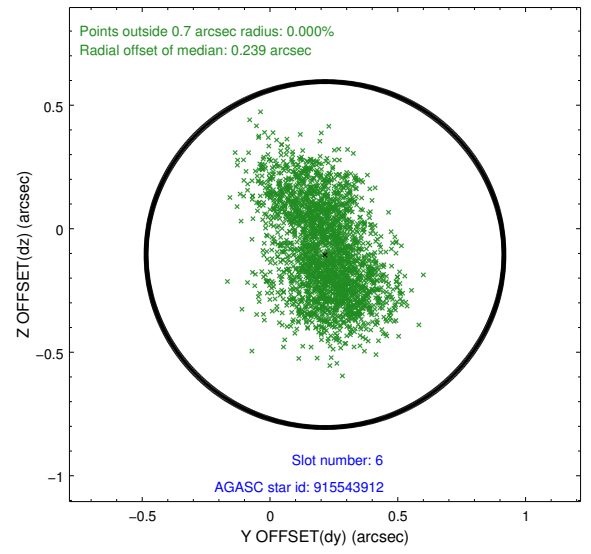
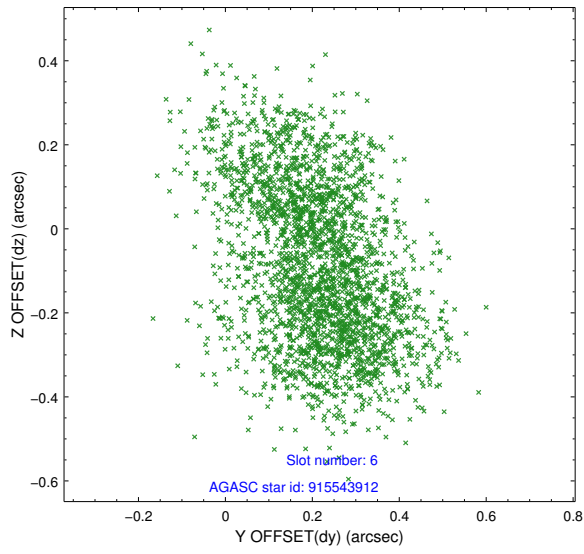
## 2.4.2 Slot 4



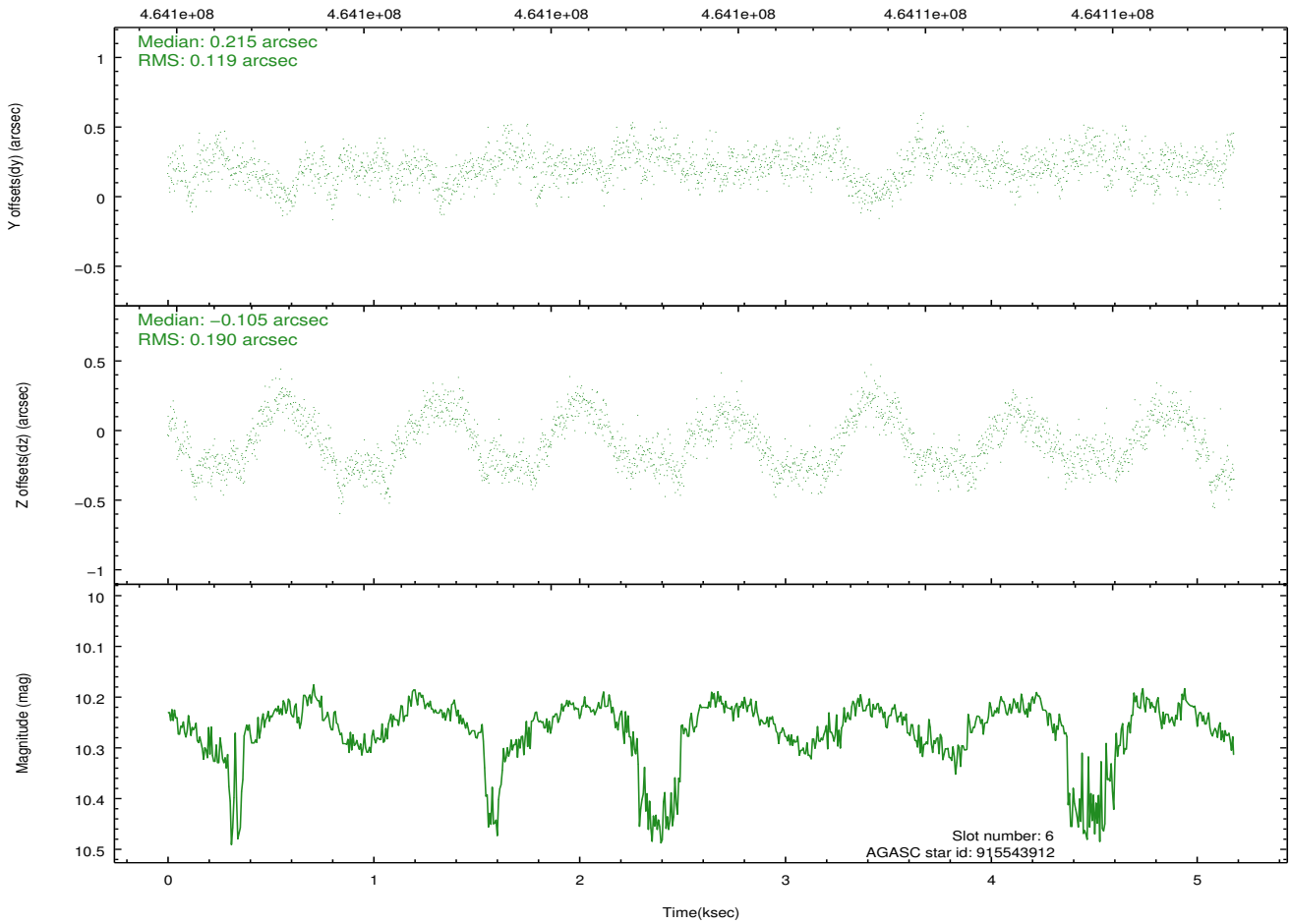
### 2.4.3 Slot 5



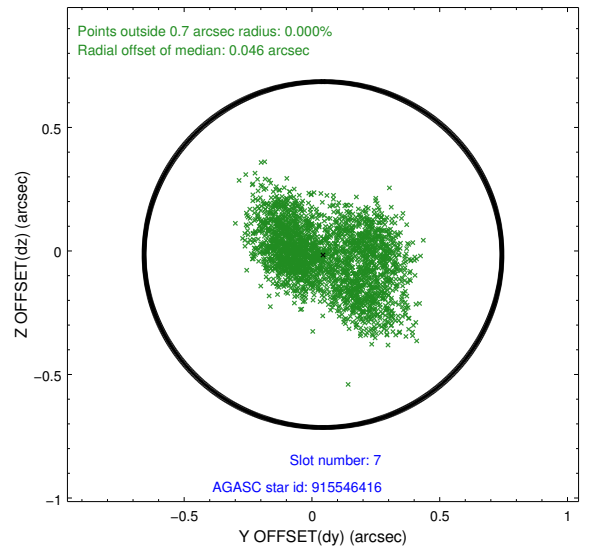
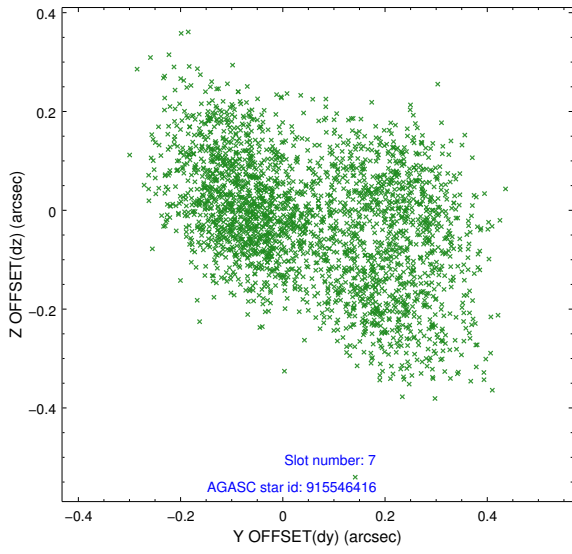
## 2.4.4 Slot 6



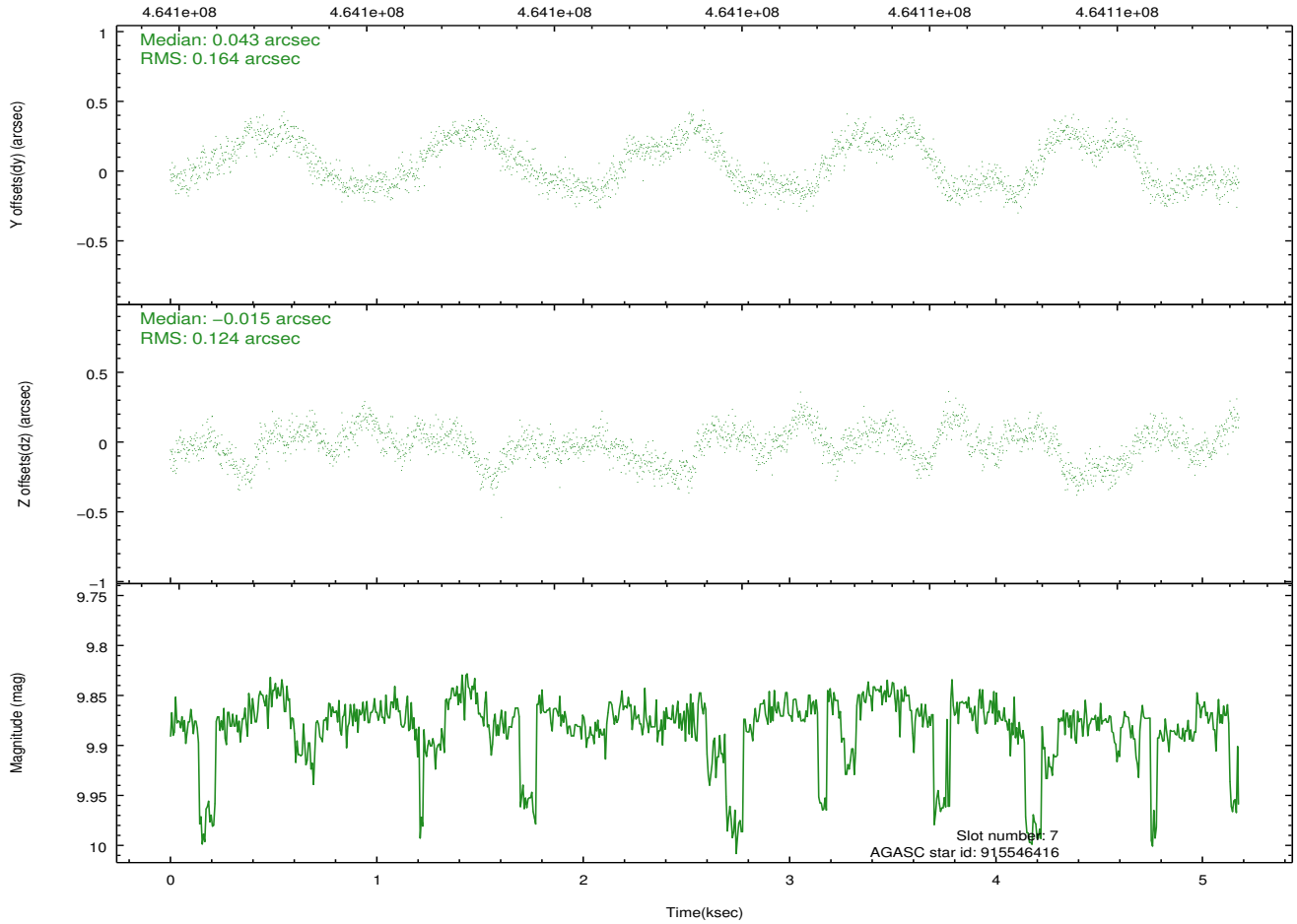
Time (s)



### 2.4.5 Slot 7

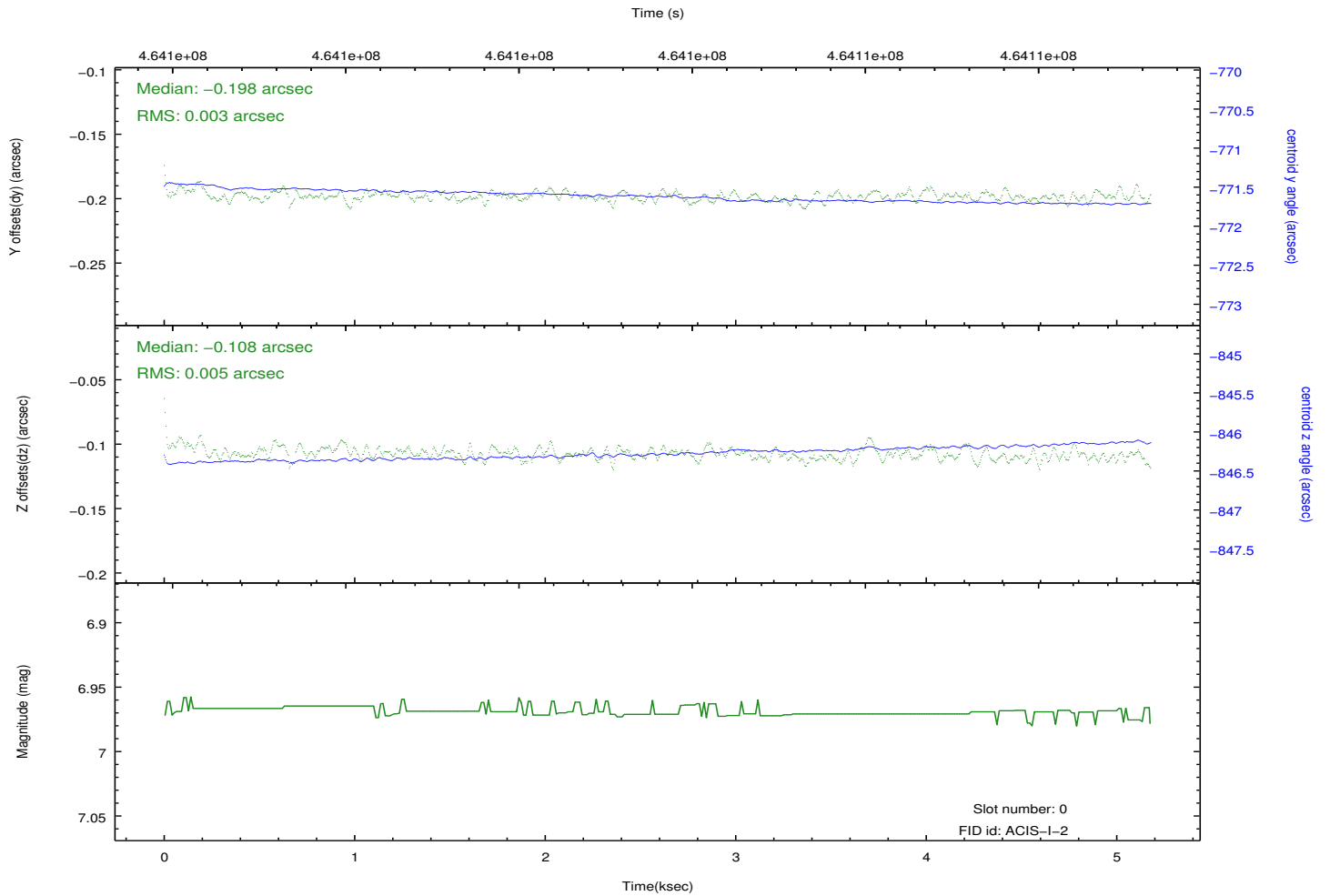
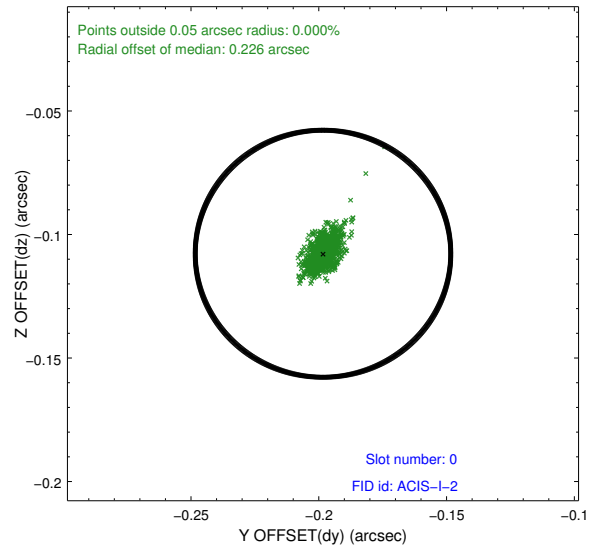
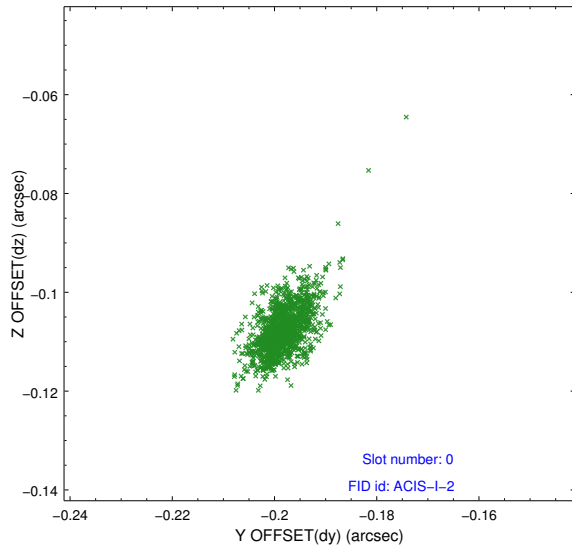


Time (s)

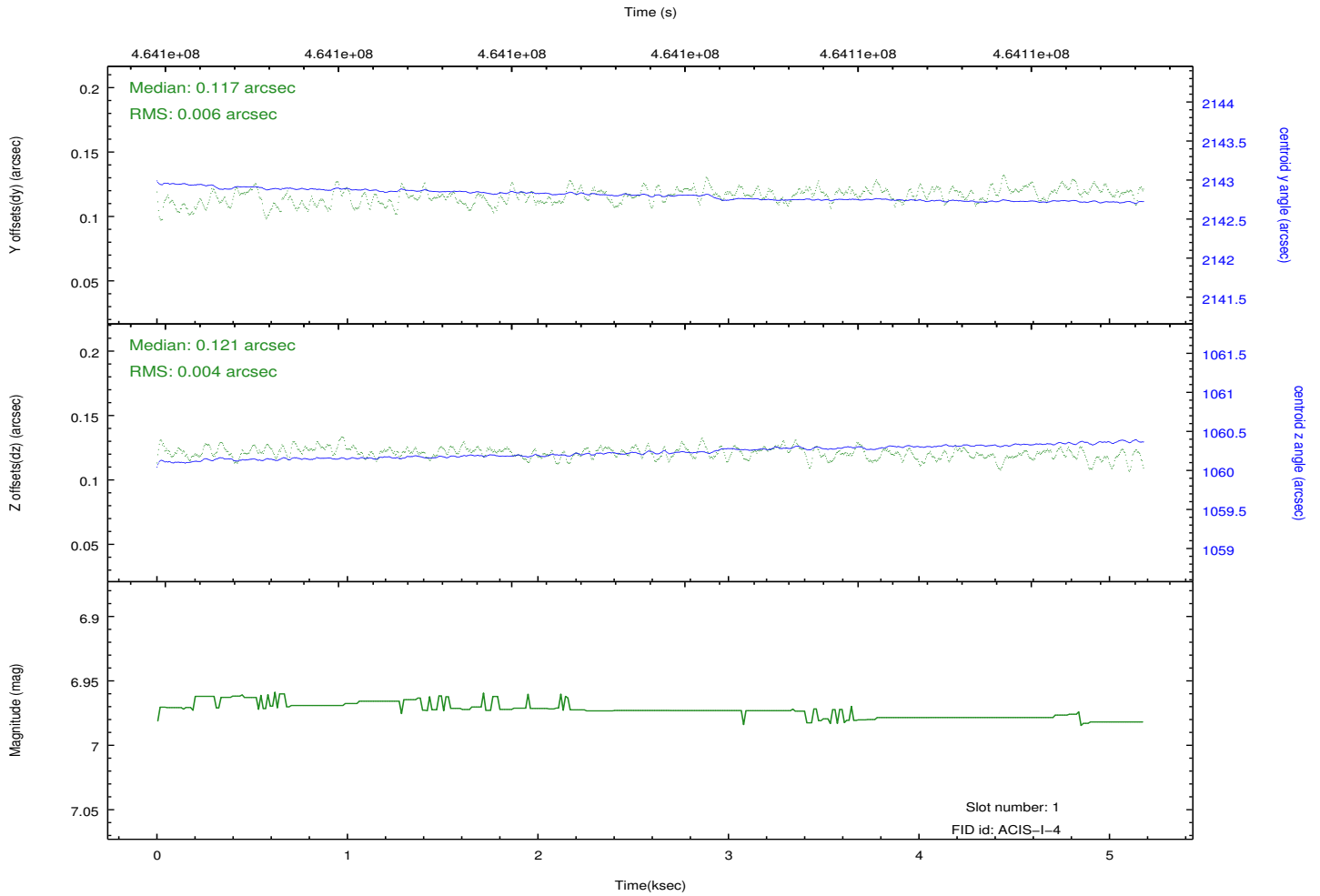
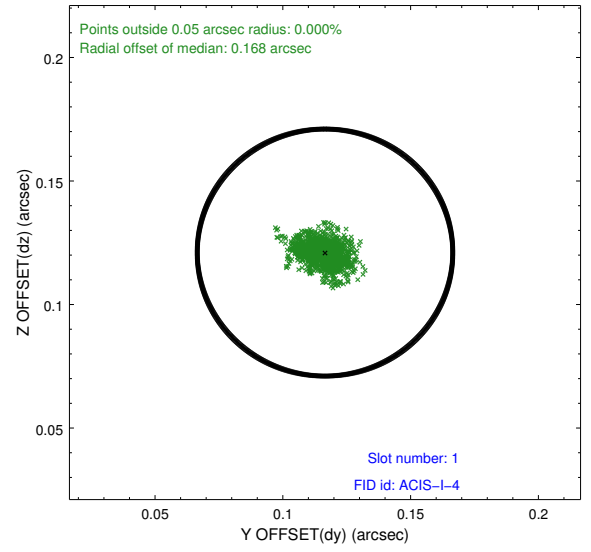
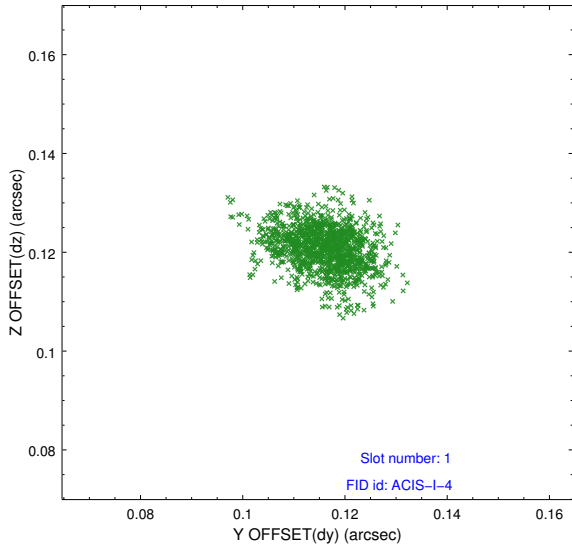


## 2.5 FID Slots

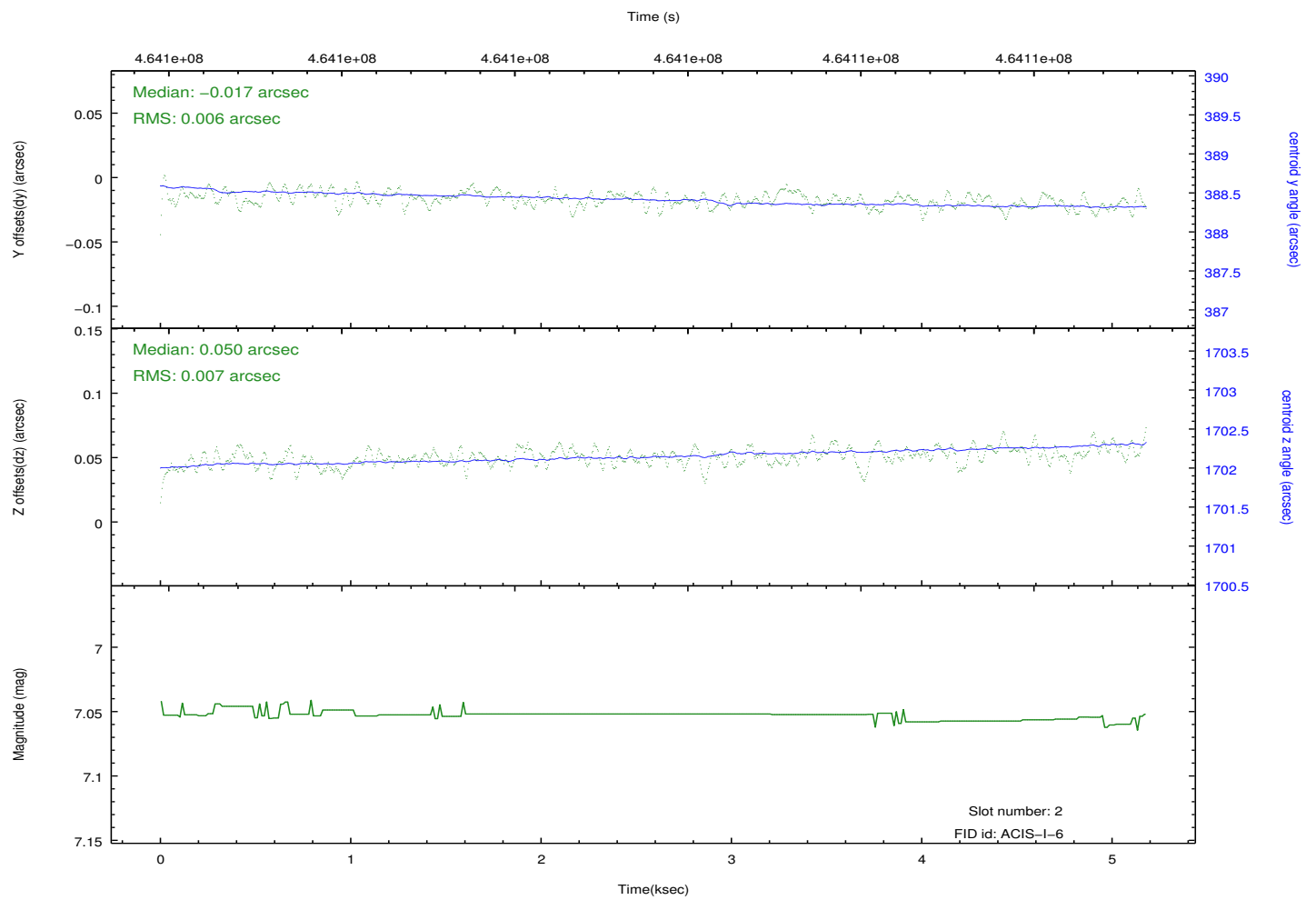
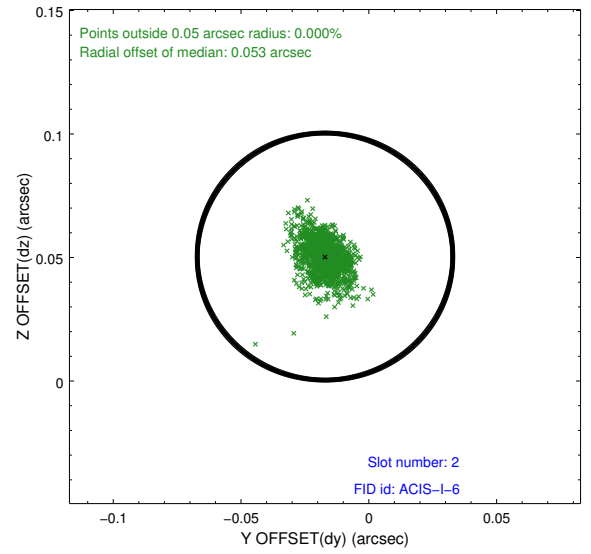
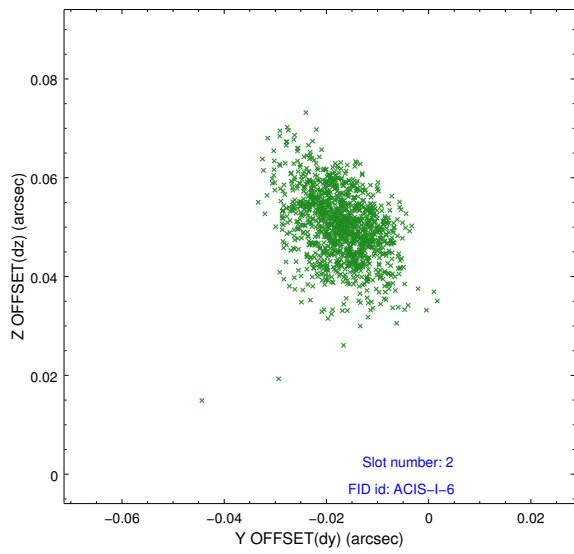
### 2.5.1 Slot 0



## 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)	2014.12.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.7768503989577

## 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.